APPENDIX B

TSCA CONTAINMENT CELL CONSTRUCTION INFORMATION

Golder Associates Inc.

1630 Heritage Landing, Suite 103
St. Charles, MO USA 63303
Telephone (636) 936-1554
Fax (636) 936-1135

Golder Associates

September 19, 2001

Our Ref: 013-9659

COPY

Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Attention: Mr. Mike Light

RE: CONSTRUCTION QUALITY ASSURANCE REPORT AND CERTIFICATION CONSTRUCTION THROUGH PRIMARY LINER SYSTEM INSTALLATION SAUGET AREA 1 TSCA CONTAINMENT CELL CAHOKIA, ILLINOIS

Dear Mr. Light:

Attached are the Construction Quality Assurance (QA) documents associated with the first construction phase of the Sauget Area 1 TSCA Containment Cell in Cahokia, Illinois (Sauget Area 1 Cell). The documents and QA certification cover construction through installation of the Primary Liner System.

The attached documentation is provided in three volumes, with a fourth package containing the as-built figures. The documents are organized in seven general Parts:

- Part 1 – Personnel
- Part 2 – Geosynthetics
- Part 3 – Earthworks
- Part 4 – QA Reports
- Part 5 – Photographic Logs
- Part 6 – Design Modifications, Clarifications, Requests for Information, and Submittal Approvals Pertaining to Cell Construction through Primary Liner System Installation
- Part 7 – Figures

The Final Certification Report will be produced upon completion of the project, and will include project QA narrative, the attached documentation, and documentation relating to the remaining portions of work.

Golder Associates Inc. (Golder) has provided on-Site QA services throughout construction of the Sauget Area 1 Cell, through construction of the Primary Liner System. Elements constructed and certified in this letter include:

- Conformance testing of geosynthetic and earth materials;
- Subgrade preparation;
- Construction of the cell berms;
- Installation of capillary break layer, including rip-rap, Meremac gravel and geotextile;
- Installation of 6-inch tracked-in-place fill;
- Installation of the Secondary Liner System, including geosynthetic clay liner (GCL), 60 mil high density polyethylene (HDPE) liner, geonet, and geotextile;
- Installation of 12-inch tracked-in-place fill;
- Installation of the Primary Liner System, including 60 mil HDPE liner, geonet, geotextile, and 18-inch thick protective sand layer and toe drain system;
- Associated anchor trenches and access ramps;
- Capillary layer collection sump and riser, leachate detection system and leachate collection system.

This letter serves as certification that the cell, through construction of the Primary Liner System, was constructed in substantial accordance with the project Design Plans and Specifications, except as noted to the Construction Manager and as detailed in the attached documents. This certification makes no judgment regarding efficacy or performance of the design.

Golder Associates Inc. appreciates the opportunity to work with Solutia Inc. Please contact the undersigned at (636) 936-1554 if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

Mark R. Sandfort, P.E.
Senior Engineer
Associate

STATE OF MISSOURI
MARK R. SANDFORT
NUMBER E-28685
REGISTERED PROFESSIONAL ENGINEER

Attachments

GOLDER'S COPY

SOLUTIA, INC.
CONSTRUCTION QUALITY ASSURANCE
Construction Through Primary Liner System
Sauget Area 1 TSCA Containment Cell

Volume 1 of 3

Prepared for:

Solutia, Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

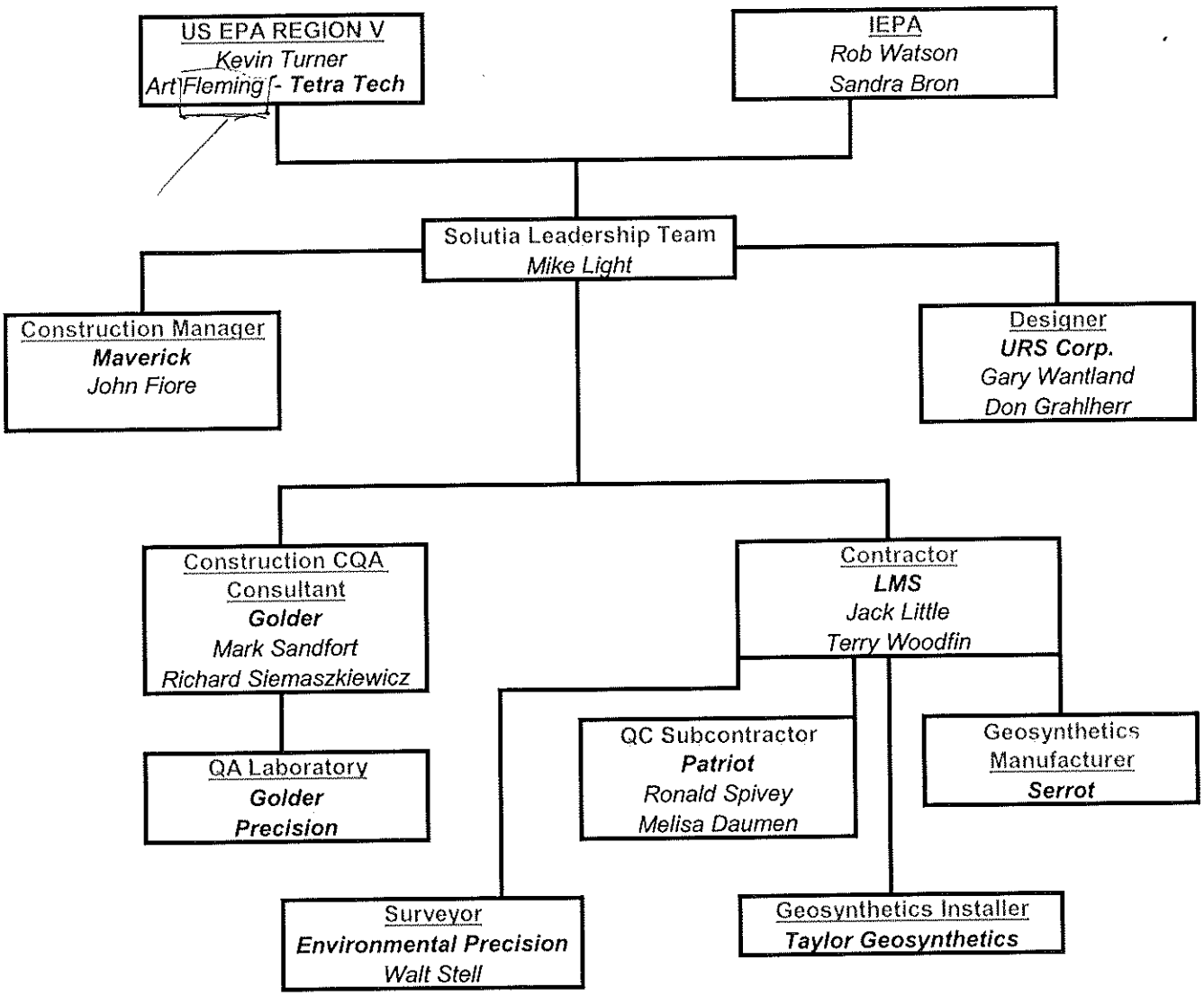
Prepared by:

Golder Associates Inc.
1630 Heritage Landing, Suite 103
St. Charles, Missouri 63303

Part 1 - PERSONNEL

SOLUTIA INC.
SAUGET AREA 1

CONSTRUCTION QUALITY ASSURANCE ORGANIZATION CHART



Part 2 – GEOSYNTHETICS

2.1 PRECONSTRUCTION QA/QC

2.1.1 Geosynthetics Inventory Control Logs

2.1.1.1 Geomembrane 60 mil HDPE

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE: GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL: 6/19/2001
MATERIAL MANUFACTURER: SERROT
PRODUCT IDENTIFICATION: 60 MIL HDPE, DOUBLE SIDED SMOOTH
TRUCK TYPE: FLAT BED

DATE OF INVENTORY: 6/19/2001
INVENTORY MONITOR: DT
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			WIDTH	LENGTH	THICKNESS				
✓1	23118B	763	23'	520'	60 MIL	Y	N		
✓2	23119B	763	23'	520'	60 MIL	Y	Y		
✓3	23120B	763	23'	520'	60 MIL	Y	N	Y	FACTORY QA
✓4	23123B	763	23'	520'	60 MIL	Y	N		
✓5	23125B	763	23'	520'	60 MIL	Y	Y		
✓6	23126B	763	23'	520'	60 MIL	Y	N		
✓7	23130B	763	23'	520'	60 MIL	Y	N		
✓8	23131B	763	23'	520'	60 MIL	Y	N		
9	23133B	763	23'	520'	60 MIL	Y	Y		
10	23136B	763	23'	520'	60 MIL	Y	N	Y	FACTORY QA
✓11	23137B	763	23'	520'	60 MIL	Y	N		
✓12	23141B	763	23'	520'	60 MIL	Y	N		
✓13	23142B	763	23'	520'	60 MIL	Y	N		
✓14	23147B	763	23'	520'	60 MIL	Y	Y		
15									
16									
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REVIEWED BY: _____ DATE: _____

SERROT INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

L OF LADING - NON NEGOTIABLE

☒ Manufacturing Division

☐ Construction Division

Date JUNE 12, 2001

Shippers No C01248

Project No 163-01-01

Received at the point of origin on the date specified, from the consignor mentioned herein, the property herin described, in apparent good order, except as noted (contents and conditions of package unknown) marked, consigned and destined as indicated below, which the carrier agrees to carry and to deliver to the consignee at the said destination, if on its own authorized route or otherwise to cause to be carried by another carrier on the route to said destination, subject to the rates and classification in effect on the date of shipment. It is mutually agreed, as to each carrier of all or any of the goods over all or any portion of the route to destination, and as to each party of any time interested in all or any of the goods, that every service to be performed here under shall be subject to all the conditions not prohibited by law, whether printed or written, including conditions set aside by the standard bill of lading , in power at the date of issuing, which are hereby agreed by consignor and accepted for himself and his assigns.
The Contract for the carriage of the goods listed in this bill of lading is governed by regulation in force in the jurisdiction at the time and place of shipment and is subject to the conditions set out in such regulations.

CONSIGNEE	(Please do not abbreviate the consignee's Name) TAYLOR CONSTRUCTION & GEOSYNTHETICS PO LT 2122-173		CONSIGNEE'S P.O. NO. 20758OD / 8592
COMPLETE DELIVERY ADDRESS	(Street and Number, help us deliver your shipment) C/O SOLUTIA INC. / LMS CONTRACTING; 15 JUDITH LN		
DESTINATION	(City)) CAHOKIA	(Province/State) IL	(Postal Code/Zip Code) 62206
CARRIER / ROUTE	CONTACT: LEE TAYLOR @ 317-745-2202; DRIVER TO CALL 48 HRS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		

PIECES	PROPER SHIPPING NAME AND SPECIAL MARKS	WEIGHT
12	ROLLS OF HD600 GEOMEMBRANE	43,515 LBS
	CORES	540 LBS
4	20# SPOOLS OF HDPE EXTRUSION ROD (B#754)	80 LBS
	24 NYLON SLINGS - DO NOT REMOVE FROM ROLLS	
	SEAL NUMBER(S)	
TOTAL 16	Dimension of Shipment	TOTAL WEIGHT 44,135 LBS

FREIGHT CHARGES (Please mark one)

☐ Collect

☒ Prepaid

☒ 3rd Party Billed to GSA Shpt #11319

☐ Customer Pick Up

Declared Valuation $

Maximum liability $4.41 per kilogram computed on the total weight of the shipment unless declared valuation states otherwise.

Special agreement between shipper and carrier, advise here: ETA: 6/19/2001 - LOAD TO DELIVER IN A.M.

NOTICE OF CLAIM
(a) No carrier is liable for loss, damage or delay to any goods under the Bill of Lading unless notice there of setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.
(b) The final statement of the claim must be filed within nine (9) months from the date of shipment together with a copy of the paid freight bill.

COLUMBIA GEOSYSTEMS	CARRIER KIOWA INTERNATIONAL	CONSIGNEE
PER	PER Thomas Daugherty	PER
	UNIT NO. 301	

SERROT INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

BILL OF LADING - NON NEGOTIABLE

☒ Manufacturing Division

☐ Construction Division

Date JUNE 12, 2001

Shippers No C01250

Project No 163-01-01

Received at the point of origin on the date specified, from the consignor mentioned herein, the property herin described, in apparent good order, except as noted (contents and conditions of package unknown) marked, consigned and destined as indicated below, which the carrier agrees to carry and to deliver to the consignee at the said destination, if on its own authorized route or otherwise to cause to be carried by another carrier on the route to said destination, subject to the rates and classification in effect on the date of shipment. It is mutually agreed, as to each carrier of all or any of the goods over all or any portion of the route to destination, and as to each party of any time interested in all or any of the goods, that every service to be performed here under shall be subject to all the conditions not prohibited by law, whether printed or written, including conditions set aside by the standard bill of lading , in power at the date of issuing, which are hereby agreed by consignor and accepted for himself and his assigns.

The Contract for the carriage of the goods listed in this bill of lading is governed by regulation in force in the jurisdiction at the time and place of shipment and is subject to the conditions set out in such regulations.

CONSIGNEE	(Please do not abbreviate the consignee's Name) TAYLOR CONSTRUCTION & GEOSYNTHETICS PO LT 2122-173		CONSIGNEE'S P.O. NO. 20758OD / 8592
COMPLETE DELIVERY ADDRESS	(Street and Number, help us deliver your shipment) C/O SOLUTIA INC. / LMS CONTRACTING; 15 JUDITH LN		
DESTINATION	(City)) CAHOKIA	(Province/State) IL	(Postal Code/Zip Code) 62206
CARRIER / ROUTE	CONTACT: LEE TAYLOR @ 317-745-2202; DRIVER TO CALL 48 HRS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		

PIECES	PROPER SHIPPING NAME AND SPECIAL MARKS	WEIGHT
2	ROLLS OF HS601 GEOMEMBRANE	7,365 LBS
2	ROLLS OF HD600 GEOMEMBRANE	7,255 LBS
	CORES	180 LBS
	8 NYLON SLINGS - DO NOT REMOVE FROM ROLLS	
	SEAL NUMBER(S)	
TOTAL 4	Dimension of Shipment	TOTAL WEIGHT 14,800 LBS

FREIGHT CHARGES (Please mark one)

☐ Collect

☒ Prepaid

☒ 3rd Party Billed to GSA Shpt #11321

☐ Customer Pick Up

Declared Valuation $

Maximum liability $4.41 per kilogram computed on the total weight of the shipment unless declared valuation states otherwise.

Special agreement between shipper and carrier, advise here: ETA: 6/19/2001 - LOAD TO DELIVER IN A.M.

NOTICE OF CLAIM

(a) No carrier is liable for loss, damage or delay to any goods under the Bill of Lading unless notice there of setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.

(b) The final statement of the claim must be filed within nine (9) months from the date of shipment together with a copy of the paid freight bill.

COLUMBIA GEOSYSTEMS	CARRIER KIOWA INTERNATIONAL	CONSIGNEE
PER	PER Thomas Lawrey	PER
	UNIT NO. 301	

SERROT INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

:: . 12/06/01

Shipping / Packing List

Page : 1

STOMER: 163-01-01

Bill of Lading: C01248

STINATION: CAHOKIA, IL

	Roll Number	Weight (LBS)	Square Feet	Dimensions (FT)	QC
1 PS	060 400 23118B	3,630	11,960.00	23.00 x 520.00	✓
2 PS	060 400 23119B	3,628	11,960.00	23.00 x 520.00	✓
3 PS	060 400 23120B	3,625	11,960.00	23.00 x 520.00	✓
4 PS	060 400 23123B	3,625	11,960.00	23.00 x 520.00	✓
5 PS	060 400 23126B	3,636	11,960.00	23.00 x 520.00	✓
6 PS	060 400 23130B	3,632	11,960.00	23.00 x 520.00	✓
7 PS	060 400 23131B	3,631	11,960.00	23.00 x 520.00	✓
8 PS	060 400 23136B	3,628	11,960.00	23.00 x 520.00	✓
9 PS	060 400 23137B	3,630	11,960.00	23.00 x 520.00	✓
0 PS	060 400 23141B	3,615	11,960.00	23.00 x 520.00	✓
1 PS	060 400 23142B	3,621	11,960.00	23.00 x 520.00	✓
2 PS	060 400 23147B	3,614	11,960.00	23.00 x 520.00	✓
	TOTAL	43,515	143,520.00		

/4 – 20# SPOOLS OF HDPE EXTRUSION ROD (B#754) 80 LBS

COLUMBIA GEOSYSTEMS
Adolf Nas
June 12/01
Q.C. DEPARTMENT

SERROT INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

ate : 12/06/01

Shipping / Packing List

Page : 1

JSTOMER: 163-01-01

Bill of Lading: C01250

ESTINATION: CAHOKIA, IL

	Roll Number	Weight (LBS)	Square Feet	Dimensions (FT)	QC
1 PS	060 400 23125B	3,625	11,960.00	23.00 x 520.00	✓
2 PS	060 400 23133B	3,630	11,960.00	23.00 x 520.00	✓
3 SS	060 L00 24069B	3,688	11,960.00	23.00 x 520.00	✓
4 SS	060 L00 24070B	3,677	11,960.00	23.00 x 520.00	✓
	TOTAL	14,620	47,840.00		

COLUMBIA GEOSYSTEMS
Adolf Ng
June 12/01
DEPARTMENT

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE OTHER

DATE OF ARRIVAL: 8/10/2001
MATERIAL MANUFACTURER: SERROT
PRODUCT IDENTIFICATION: HDPE 60 MIL SMOOTH / SMOOTH
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 8/10/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	24304B		520	23	60 MIL	Y	Y		
2									
3									
4									
5									
6									
7									
8									
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REVIEWED BY: _____ DATE: _____

SENROY INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

BILL OF LADING - NON NEGOTIABLE

☒ Manufacturing Division

☐ Construction Division

Date AUG. 8, 2001

Shippers No C01419

Project No 163-01-04

Received at the point of origin on the date specified, from the consignor mentioned herein, the property herin described, in apparent good order, except as noted (contents and conditions of package unknown) marked, consigned and destined as indicated below, which the carrier agrees to carry and to deliver to the consignee at the said destination, if on its own authorized route or otherwise to cause to be carried by another carrier on the route to said destination, subject to the rates and classification in effect on the date of shipment. It is mutually agreed, as to each carrier of all or any of the goods over all or any portion of the route to destination, and as to each party of any time interested in all or any of the goods, that every service to be performed here under shall be subject to all the conditions not prohibited by law, whether printed or written, including conditions set aside by the standard bill of lading , in power at the date of issuing, which are hereby agreed by consignor and accepted for himself and his assigns.

The Contract for the carriage of the goods listed in this bill of lading is governed by regulation in force in the jurisdiction at the time and place of shipment and is subject to the conditions set out in such regulations.

CONSIGNEE	(Please do not abbreviate the consignee's Name) TAYLOR GEOSYNTHETICS PO LT 2122-190		CONSIGNEE'S P.O. NO. 22464OD / 9247
COMPLETE DELIVERY ADDRESS	(Street and Number, help us deliver your shipment) C/O LMS CONTRACTING 15 JUDITH LN		
DESTINATION	(City)) CAHOKIA	(Province/State) IL	(Postal Code/Zip Code) 62206
CARRIER / ROUTE	CONTACT: LEE TAYLOR @ 317-745-2202; DRIVER TO CALL 48 HRS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		

PIECES	PROPER SHIPPING NAME AND SPECIAL MARKS	WEIGHT
1	ROLL OF HD600 GEOMEMBRANE LINER	3,637 LBS
1	ROLL OF HS601 GEOMEMBRANE LINER	3,628 LBS
	CORES	90 LBS
	2 NYLON SLINGS - DO NOT REMOVE FROM ROLLS	
	SEAL NUMBER(S)	
TOTAL 2	Dimension of Shipment	TOTAL WEIGHT 7,355 LBS

FREIGHT CHARGES (Please mark one)

☐ Collect

☒ Prepaid

☒ 3rd Party Billed to GSA Shpt #11506

☐ Customer Pick Up

Declared Valuation $

Maximum liability $4.41 per kilogram computed on the total weight of the shipment unless declared valuation states otherwise.

Special agreement between shipper and carrier, advise here: ETA: 8/10/2001

NOTICE OF CLAIM

(a) No carrier is liable for loss, damage or delay to any goods under the Bill of Lading unless notice there of setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.

(b) The final statement of the claim must be filed within nine (9) months from the date of shipment together with a copy of the paid freight bill.

COLUMBIA GEOSYSTEMS	CARRIER DECK X	CONSIGNEE
PER	PER R William	PER
	UNIT NO.	

ate : 08/08/01

Shipping / Packing List

Page : 1

JSTOMER: 163-01-04

Bill of Lading: C01419

ESTINATION: CAHOKIA, IL

	Roll Number	Weight (LBS)	Square Feet	Dimensions (FT)	QC
1 SS	060 L00 23920B	3,628	11,960.00	23.00 x 520.00	✓
2 PS	060 400 24304B	3,637	11,960.00	23.00 x 520.00	✓
	TOTAL	7,265	23,920.00		

COLUMBIA GEOSYSTEMS
Adolf Nagy
Aug 8/01
Q.C. DEPARTMENT

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL: 6/19/2001
MATERIAL MANUFACTURER: SERROT
PRODUCT IDENTIFICATION: 60 MIL HDPE, TEXTURED / SMOOTH
TRUCK TYPE: FLAT BED

DATE OF INVENTORY: 6/19/2001
INVENTORY MONITOR: DT
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			WIDTH	LENGTH	THICKNESS				
1	24069B	780	23'	520'	60 MIL	Y	N	Y	FACTORY QA
2	24070B	780	23'	520'	60 MIL	Y	Y		
3	24071B	780	23'	520'	60 MIL	Y	N		
4	24072B	780	23'	520'	60 MIL	Y	N		
5	24073B	780	23'	520'	60 MIL	Y	Y	Y	FACTORY QA
6	24074B	780	23'	520'	60 MIL	Y	N		
7	24075B	780	23'	520'	60 MIL	Y	N		
8	24076B	780	23'	520'	60 MIL	Y	N		
9	24077B	780	23'	520'	60 MIL	Y	N	Y	FACTORY QA
10	24078B	780	23'	520'	60 MIL	Y	Y		
11	24079B	780	23'	520'	60 MIL	Y	N		
12	24080B	780	23'	520'	60 MIL	Y	N		
13	24081B	780	23'	520'	60 MIL	Y	N	Y	FACTORY QA
14	24082B	781	23'	520'	60 MIL	Y	Y	Y	FACTORY QA
15									
16									
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REVIEWED BY: _____ DATE: _____

SERROT INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

.L OF LADING - NON NEGOTIABLE

☒ Manufacturing Division

☐ Construction Division

Date JUNE 12, 2001

Shippers No C01249

Project No 163-01-01

Received at the point of origin on the date specified, from the consignor mentioned herein, the property herin described, in apparent good order, except as noted (contents and conditions of package unknown) marked, consigned and destined as indicated below, which the carrier agrees to carry and to deliver to the consignee at the said destination, if on its own authorized route or otherwise to cause to be carried by another carrier on the route to said destination, subject to the rates and classification in effect on the date of shipment. It is mutually agreed, as to each carrier of all or any of the goods over all or any portion of the route to destination, and as to each party of any time interested in all or any of the goods, that every service to be performed here under shall be subject to all the conditions not prohibited by law, whether printed or written, including conditions set aside by the standard bill of lading , in power at the date of issuing, which are hereby agreed by consignor and accepted for himself and his assigns.
The Contract for the carriage of the goods listed in this bill of lading is governed by regulation in force in the jurisdiction at the time and place of shipment and is subject to the conditions set out in such regulations.

CONSIGNEE	(Please do not abbreviate the consignee's Name) TAYLOR CONSTRUCTION & GEOSYNTHETICS PO LT 2122-173		CONSIGNEE'S P.O. NO. 20758OD / 8592
COMPLETE DELIVERY ADDRESS	(Street and Number, help us deliver your shipment) C/O SOLUTIA INC. / LMS CONTRACTING; 15 JUDITH LN		
DESTINATION	(City) CAHOKIA	(Province/State) IL	(Postal Code/Zip Code) 62206
CARRIER / ROUTE	CONTACT: LEE TAYLOR @ 317-745-2202; DRIVER TO CALL 48 HRS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		

PIECES	PROPER SHIPPING NAME AND SPECIAL MARKS	WEIGHT
12	ROLLS OF HS601 GEOMEMBRANE	43,770 LBS
	CORES	540 LBS
4	20# SPOOLS OF HDPE EXTRUSION ROD (B#754)	80 LBS
	24 NYLON SLINGS - DO NOT REMOVE FROM ROLLS	
	SEAL NUMBER(S)	
TOTAL 16	Dimension of Shipment	TOTAL WEIGHT 44,390 LBS

FREIGHT CHARGES (Please mark one)

☐ Collect

☒ Prepaid

☒ 3rd Party Billed to GSA Shpt #11320

☐ Customer Pick Up

Declared Valuation $

Maximum liability $4.41 per kilogram computed on the total weight of the shipment unless declared valuation states otherwise.

Special agreement between shipper and carrier, advise here: ETA: 6/19/2001 - LOAD TO DELIVER IN A.M.

NOTICE OF CLAIM
(a) No carrier is liable for loss, damage or delay to any goods under the Bill of Lading unless notice there of setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.
(b) The final statement of the claim must be filed within nine (9) months from the date of shipment together with a copy of the paid freight bill.

COLUMBIA GEOSYSTEMS PER	CARRIER DECK X #61059. PER (16) UNIT NO. 6/12/01	CONSIGNEE PER

SERROT INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

.L OF LADING - NON NEGOTIABLE

☒ Manufacturing Division

☐ Construction Division

Date JUNE 12, 2001

Shippers No C01250

Project No 163-01-01

Received at the point of origin on the date specified, from the consignor mentioned herein, the property herin described, in apparent good order, except as noted (contents and conditions of package unknown) marked, consigned and destined as indicated below, which the carrier agrees to carry and to deliver to the consignee at the said destination, if on its own authorized route or otherwise to cause to be carried by another carrier on the route to said destination, subject to the rates and classification in effect on the date of shipment. It is mutually agreed, as to each carrier of all or any of the goods over all or any portion of the route to destination, and as to each party of any time interested in all or any of the goods, that every service to be performed here under shall be subject to all the conditions not prohibited by law, whether printed or written, including conditions set aside by the standard bill of lading , in power at the date of issuing, which are hereby agreed by consignor and accepted for himself and his assigns.

The Contract for the carriage of the goods listed in this bill of lading is governed by regulation in force in the jurisdiction at the time and place of shipment and is subject to the conditions set out in such regulations.

CONSIGNEE	(Please do not abbreviate the consignee's Name) TAYLOR CONSTRUCTION & GEOSYNTHETICS PO LT 2122-173		CONSIGNEE'S P.O. NO. 20758OD / 8592
COMPLETE DELIVERY ADDRESS	(Street and Number, help us deliver your shipment) C/O SOLUTIA INC. / LMS CONTRACTING; 15 JUDITH LN		
DESTINATION	(City)) CAHOKIA	(Province/State) IL	(Postal Code/Zip Code) 62206
CARRIER / ROUTE	CONTACT: LEE TAYLOR @ 317-745-2202; DRIVER TO CALL 48 HRS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		

PIECES	PROPER SHIPPING NAME AND SPECIAL MARKS	WEIGHT
2	ROLLS OF HS601 GEOMEMBRANE	7,365 LBS
2	ROLLS OF HD600 GEOMEMBRANE	7,255 LBS
	CORES	180 LBS
	8 NYLON SLINGS - DO NOT REMOVE FROM ROLLS	
	SEAL NUMBER(S)	
TOTAL 4	Dimension of Shipment	TOTAL WEIGHT 14,800 LBS

FREIGHT CHARGES (Please mark one)

☐ Collect

☒ Prepaid

☒ 3rd Party Billed to GSA Shpt #11321

☐ Customer Pick Up

Declared Valuation $

Maximum liability $4.41 per kilogram computed on the total weight of the shipment unless declared valuation states otherwise.

Special agreement between shipper and carrier, advise here: ETA: 6/19/2001 - LOAD TO DELIVER IN A.M.

NOTICE OF CLAIM

(a) No carrier is liable for loss, damage or delay to any goods under the Bill of Lading unless notice there of setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.

(b) The final statement of the claim must be filed within nine (9) months from the date of shipment together with a copy of the paid freight bill.

COLUMBIA GEOSYSTEMS	CARRIER KIOWA INTERNATIONAL	CONSIGNEE
PER	PER Thomas Laughty	PER
	UNIT NO. 301	

SERROT INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

at : 12/06/01

Shipping / Packing List

Page : 1

JSTOMER: 163-01-01

Bill of Lading: C01249

ESTINATION: CAHOKIA, IL

	Roll Number	Weight (LBS)	Square Feet	Dimensions (FT)	QC
1	SS 060 L00 24071B	3,673	11,960.00	23.00 x 520.00	✓
2	SS 060 L00 24072B	3,669	11,960.00	23.00 x 520.00	✓
3	SS 060 L00 24073B	3,662	11,960.00	23.00 x 520.00	✓
4	SS 060 L00 24074B	3,650	11,960.00	23.00 x 520.00	✓
5	SS 060 L00 24075B	3,656	11,960.00	23.00 x 520.00	✓
6	SS 060 L00 24076B	3,642	11,960.00	23.00 x 520.00	✓
7	SS 060 L00 24077B	3,636	11,960.00	23.00 x 520.00	✓
8	SS 060 L00 24078B	3,645	11,960.00	23.00 x 520.00	✓
9	SS 060 L00 24079B	3,634	11,960.00	23.00 x 520.00	✓
10	SS 060 L00 24080B	3,633	11,960.00	23.00 x 520.00	✓
11	SS 060 L00 24081B	3,635	11,960.00	23.00 x 520.00	✓
12	SS 060 L00 24082B	3,635	11,960.00	23.00 x 520.00	✓
	TOTAL	43,770	143,520.00		

4 20# SPOOLS OF HDPE EXTRUSION ROD (B#754) 80 LBS

COLUMBIA GEOSYSTEMS
June 12/01
P.C. DEPARTMENT

SERROT INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

ıte : 12/06/01

Shipping / Packing List

Page : 1

JSTOMER: 163-01-01

Bill of Lading: C01250

ESTINATION: CAHOKIA, IL

	Roll Number	Weight (LBS)	Square Feet	Dimensions (FT)	QC
1 PS	060 400 23125B	3,625	11,960.00	23.00 x 520.00	✓
2 PS	060 400 23133B	3,630	11,960.00	23.00 x 520.00	✓
3 SS	060 L00 24069B	3,688	11,960.00	23.00 x 520.00	✓
4 SS	060 L00 24070B	3,677	11,960.00	23.00 x 520.00	✓
	TOTAL	14,620	47,840.00		

COLUMBIA GEOSYSTEMS
Adolf Nar
June 12/01
DEPARTMENT

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE OTHER

DATE OF ARRIVAL: 8/10/2001
MATERIAL MANUFACTURER: SERROT
PRODUCT IDENTIFICATION: HDPE 60 MIL SMOOTH / TEXTURED
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 8/10/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	23920B		520	23	60 MIL	Y	Y		
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

REVIEWED BY: _____ DATE: _____

SENNOT INTERNATIONAL, INC.

Columbia Geosystems Ltd., a subsidiary

BILL OF LADING - NON NEGOTIABLE

☒ Manufacturing Division

☐ Construction Division

Date AUG. 8, 2001

Shippers No C01419

Project No 163-01-04

Received at the point of origin on the date specified, from the consignor mentioned herein, the property herin described, in apparent good order, except as noted (contents and conditions of package unknown) marked, consigned and destined as indicated below, which the carrier agrees to carry and to deliver to the consignee at the said destination, if on its own authorized route or otherwise to cause to be carried by another carrier on the route to said destination, subject to the rates and classification in effect on the date of shipment. It is mutually agreed, as to each carrier of all or any of the goods over all or any portion of the route to destination, and as to each party of any time interested in all or any of the goods, that every service to be performed here under shall be subject to all the conditions not prohibited by law, whether printed or written, including conditions set aside by the standard bill of lading , in power at the date of issuing, which are hereby agreed by consignor and accepted for himself and his assigns.

The Contract for the carriage of the goods listed in this bill of lading is governed by regulation in force in the jurisdiction at the time and place of shipment and is subject to the conditions set out in such regulations.

CONSIGNEE	(Please do not abbreviate the consignee's Name) TAYLOR GEOSYNTHETICS PO LT 2122-190		CONSIGNEE'S P.O. NO. 22464OD / 9247
COMPLETE DELIVERY ADDRESS	(Street and Number, help us deliver your shipment) C/O LMS CONTRACTING 15 JUDITH LN		
DESTINATION	(City)) CAHOKIA	(Province/State) IL	(Postal Code/Zip Code) 62206
CARRIER / ROUTE	CONTACT: LEE TAYLOR @ 317-745-2202; DRIVER TO CALL 48 HRS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		

PIECES	PROPER SHIPPING NAME AND SPECIAL MARKS	WEIGHT
1	ROLL OF HD600 GEOMEMBRANE LINER	3,637 LBS
1	ROLL OF HS601 GEOMEMBRANE LINER	3,628 LBS
	CORES	90 LBS
	2 NYLON SLINGS - DO NOT REMOVE FROM ROLLS	
	SEAL NUMBER(S)	
TOTAL 2	Dimension of Shipment	TOTAL WEIGHT 7,355 LBS

FREIGHT CHARGES (Please mark one)

☐ Collect

☒ Prepaid

☒ 3rd Party Billed to GSA Shpt #11506

☐ Customer Pick Up

Declared Valuation $

Maximum liability $4.41 per kilogram computed on the total weight of the shipment unless declared valuation states otherwise.

Special agreement between shipper and carrier, advise here: ETA: 8/10/2001

NOTICE OF CLAIM

(a) No carrier is liable for loss, damage or delay to any goods under the Bill of Lading unless notice there of setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.

(b) The final statement of the claim must be filed within nine (9) months from the date of shipment together with a copy of the paid freight bill.

COLUMBIA GEOSYSTEMS	CARRIER DECK X	CONSIGNEE
PER	PER R William	PER
	UNIT NO.	

ıte : 08/08/01

Shipping / Packing List

JSTOMER: 163-01-04

Bill of Lading: C01419

ESTINATION: CAHOKIA, IL

	Roll Number	Weight (LBS)	Square Feet	Dimensions (FT)	QC
1 SS	060 L00 23920B	3,628	11,960.00	23.00 x 520.00	✓
2 PS	060 400 24304B	3,637	11,960.00	23.00 x 520.00	✓
	TOTAL	7,265	23,920.00		

COLUMBIA GEOSYSTEMS
Adolf Ng
Aug 8/01
Q.C. DEPARTMENT

2.1.1.2 GCL

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE GCL
DATE OF ARRIVAL: 6/28/2001
MATERIAL MANUFACTURER: BENTOFIX TECHNOLOGIES INC.
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 6/28/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD, TARPED
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	41321	21062203	150'	15.5'		Y	N	Y	FACTORY QA
2	41240	21062003	150'	15.5'		Y	N	Y	FACTORY QA
3	41244	21062003	150'	15.5'		Y	N		
4	41245	21062003	150'	15.5'		Y	N		
5	41246	21062003	150'	15.5'		Y	N		
6	41257	21062003	150'	15.5'		Y	N	Y	FACTORY QA
7	41258	21062003	150'	15.5'		Y	N		
8	41259	21062003	150'	15.5'		Y	N		
9	41260	21062003	150'	15.5'		Y	N		
10	41261	21062003	150'	15.5'		Y	N		
11	41262	21062003	150'	15.5'		Y	N		
12	41263	21062003	150'	15.5'		Y	N		
13	41264	21062003	150'	15.5'		Y	N		
14	41265	21062003	150'	15.5'		Y	N		
15	41266	21062003	150'	15.5'		Y	N		
16	41267	21062003	150'	15.5'		Y	N		
17	41277	21062003	150'	15.5'		Y	Y	Y	FACTORY QA
18	41278	21062003	150'	15.5'		Y	N		
19									
20									
21									
22									
23									
24									
25									

REVIEWED BY: _____ DATE: _____

COMBINATION SHORT FORM OF STRAIGHT BILL OF LADING EXPRESS SHIPPING CONTRACT ADOPTED BY RAIL, FREIGHT AND EXPRESS

) AT SHIPPER'S REQUEST

ived, subject to the classifications and tariffs in effect on the date of issue of this Original Bill of Lading,or, received subject to the Rules for the Carriage of Express and Non-Carload ht Traffic and Tariffs in effect on the date of issue of this Original shipping contract (Bill of Lading), goods described below, in apparent good order, except as noted (contents and tion of contents of packages unknown), marked, consigned, and destined as indicated below, which said Company agrees to carry to its usual place of delivery at said destination, if on ad, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said goods over all or any portion of said route to nation, and as to each party at any time interested in all or any of said goods, that every service to be performed hereunder shall be subject to all the terms and conditions (which are by incorporated by reference and have the same force and effect as if the same were severally, fully and specifically set forth herein).

p by the Board of Transport Commissioners for Canada by General Order No. T-5 dated February 1, 1965 set forth in the Canadian Freight Classification and also available at all vay agency stations and freight offices upon request, when said goods are carried by a rail carrier; or
the bill of lading of the water carrier as provided in its tariff of Rules and Regulations when said goods are carried by a water carrier; or
the bill of lading set forth in or prescribed by the relevant tariffs, classification, statutes and regulations pertaining to motor carrier's services when said goods are carried by a motor er; or
the bill of lading form prescribed by O.C. 986-79 - 4 April 1979, when said goods originating in Quebec are to be carried by a motor carrier;
approved by the The Board of Transport Commissioners for Canada by General Order No. T-43, set forth in the Rules for the Carriage of Express and Non-Carload Freight Traffic and available at all express and railway agency stations and express and freight offices upon request, when said goods are carried by a rail carrier and which are agreed to by the per and accepted for himself and his assigns.

E OF CARRIER		POINT OF ORIGIN	DATE	CARRIER'S NO.
All Points	Transport	BARRIE, ONTARIO, CANADA	27-Jun-01	

SIGNEE	SHIPPER
Solutia Inc.	c/o LMS Contracting BENTOFIX TECHNOLOGIES, INC.

SIGNEE STREET ADDRESS	MAIL ADDRESS (NOT FOR PURPOSES OF DELIVERY)
15 Judith Lane	

TINATION (CITY-TOWN)	
Cahokia, IL	62206 USA

E	CAR INITIAL	CAR NO. TRAILER NO. CONTAINER NO.	All Points

IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE,

TO BE PREPAID

~~COLLECT~~

RECEIVED $

TO APPLY IN PREPAYMENT OF THE CHARGES ON THE PROPERTY DESCRIBED HEREON.

AGENT OR CASHIER

PIECES / PACKAGES	DESCRIPTION OF ARTICLES AND SPECIAL MARKS	WEIGHT (Subject to Correction)	RATE
JSTOMER	ORDER NBR. 20757OD	Serrot So #8592 SU	
	INVOICE NBR. 10147		
rolls	BENTOFIX MATERIAL	44111	lbs
18 bags	GRANULAR BENTONITE		
	SITE CONTACT:		
	Lee Taylor @ 317-745-2202		
	CALL 24 HOURS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		
	ALL FLATBED LOADS MUST BE TARPED		

FOR CARRIER'S USE CHARGES

ADVANCE AND/OR BEYOND	$
MISC.	$
BASIC	$
PIECE	$
VALUE	$
TOTAL	$

ial agreement between consignor carrier, please advise here

TO BE DELIVERED: Thurs. June 28 *by 12:00 pm*

SHIPPER SHOW AMOUNT OF C.O.D.

C O D

AMOUNT $

FEE $

☐ COLLECT ☐ PREPAID

TOTAL $

OR MOTOR CARRIER SERVICE

DELARED VALUATION
Maximum liability of $4.41/Kg($2.00/lb) calculated on the total weight of the shipment unless declared valuation states otherwise. $

NOTICE OF CLAIM
a) No carrier is liable for loss, damage or delay to any goods carried under the Bill of Lading unless notice thereof setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.

b) The final statement of the claim must be filed with nine (9) months from the date of shipment together with a copy of the paid freight bill.

WHERE REQUIRED BY THE TARUFF, SHIPPER MUST SHOW DIMENSIONS OF SHIPMENT.

OF PACKAGES	DIM. OF SHIPMENT	TOTAL CUBIC FEET	DIMENSIONAL WEIGHT	TOTAL WEIGHT	NO. XL PCS/PKGS
18 bags	50 lbs			44111 lbs	
18 rolls	150' x 15.5'				

VALUATION / EVALUATION

☐ $50 or .50/lb ☐ $1.00/lb ☐ $1.50/lb ☐ $2.00/l

DECLARED VALUE OF SHIPMENT

$

SHIPPER'S NO.

010044

BENTOFIX TECHNOLOGIES, INC.

ER

23 Truman Road Barrie, Ontario Canada L4M 6E7

ERMANENT POST OFFICE ADDRESS OF SHIPPER

AGENT

PER

... THIS BILL OF LADING-EXPRESS SHIPPING CONTRACT IS TO BE SIGNED BY SHIPPER AND CARRIER.)

BENTOFIX TECHNOLOGIES INC.

Shipment Contents

BOL #: 10044 **Shipment Date:** 6/27/2001

Lot #	Roll #		Length (ft)		Width (ft)
21062003	41240		150.00		15.50
	41244		150.00		15.50
	41245		150.00		15.50
	41246		150.00		15.50
	41257		150.00		15.50
	41258		150.00		15.50
	41259		150.00		15.50
	41260		150.00		15.50
	41261		150.00		15.50
	41262		150.00		15.50
	41263		150.00		15.50
	41264		150.00		15.50
	41265		150.00		15.50
	41266		150.00		15.50
	41267		150.00		15.50
	41277		150.00		15.50
	41278		150.00		15.50
		Lot Total	**2,550.00**	ft	
21062203	41321		150.00		15.50
		Lot Total	**150.00**	ft	
		Grand Total	**2,700.00**	ft	

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE GCL
DATE OF ARRIVAL: 6/28/2001
MATERIAL MANUFACTURER: BENTOFIX TECHNOLOGIES INC.
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 6/28/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD,TARPED
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	41273	21062003	150'	15.5'		Y	N	Y	FACTORY QA
2	41274	21062003	150'	15.5'		Y	N		
3	41275	21062003	150'	15.5'		Y	N		
4	41276	21062003	150'	15.5'		Y	N		
5	41279	21062003	150'	15.5'		Y	N		
6	41280	21062003	150'	15.5'		Y	N		
7	41285	21062003	150'	15.5'		Y	N	Y	FACTORY QA
8	41286	21062003	150'	15.5'		Y	N		
9	41320	21062203	150'	15.5'		Y	N	Y	FACTORY QA
10	41322	21062203	150'	15.5'		Y	Y		
11	41323	21062203	150'	15.5'		Y	N		
12	41324	21062203	150'	15.5'		Y	N		
13	41326	21062203	150'	15.5'		Y	N		
14	41332	21062203	150'	15.5'		Y	N		
15	41333	21062203	150'	15.5'		Y	N		
16	41334	21062203	150'	15.5'		Y	N		
17									
18									
19									
20									
21									
22									
23									
24									
25									

REVIEWED BY: _____ DATE: _____

COMBINATION SHORT FORM OF STRAIGHT BILL OF LADING EXPRESS SHIPPER CONTRACT ADOPTED BY RAIL, FREIGHT AND EXPRESS CARRIERS SUBJECT TO THE CONDITIONS HEREIN

ED AT SHIPPER'S REQUEST

eived, subject to the classifications and tariffs in effect on the date of issue of this Original Bill of Lading,or, received subject to the Rules for the Carriage of Express and Non-Carload ght Traffic and Tariffs in effect on the date of issue of this Original shipping contract (Bill of Lading), goods described below, in apparent good order, except as noted (contents and dition of contents of packages unknown), marked, consigned, and destined as indicated below, which said Company agrees to carry to its usual place of delivery at said destination, if on oad, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said goods over all or any portion of said route to ination, and as to each party at any time interested in all or any of said goods, that every service to be performed hereunder shall be subject to all the terms and conditions (which are eby incorporated by reference and have the same force and effect as if the same were severally, fully and specifically set forth herein).

opr / the Board of Transport Commissioners for Canada by General Order No. T-5 dated February 1, 1965 set forth in the Canadian Freight Classification and also available at all lway .icy stations and freight offices upon request, when said goods are carried by a rail carrier; or
the bill of lading of the water carrier as provided in its tariff of Rules and Regulations when said goods are carried by a water carrier; or
the bill of lading set forth in or prescribed by the relevant tariffs, classification, statutes and regulations pertaining to motor carrier's services when said goods are carried by a motor rier; or
the bill of lading form prescribed by O.C. 986-79 - 4 April 1979, when said goods originating in Quebec are to be carried by a motor carrier;
approved by the The Board of Transport Commissioners for Canada by General Order No. T-43, set forth in the Rules for the Carriage of Express and Non-Carload Freight Traffic and available at all express and railway agency stations and express and freight offices upon request, when said goods are carried by a rail carrier and which are agreed to by the oper and accepted for himself and his assigns.

E OF CARRIER	POINT OF ORIGIN	DATE	CARRIER'S NO.
Huronia Transport	BARRIE, ONTARIO, CANADA	26-Jun-01	

SIGNEE	SHIPPER
Solutia Inc	c/o LMS Contracting BENTOFIX TECHNOLOGIES, INC.

SIGNEE STREET ADDRESS	MAIL ADDRESS (NOT FOR PURPOSES OF DELIVERY)
15 Judith Lane	

TINATION (CITY-TOWN)

Cahokia, IL 62206 USA

E CAR INITIAL CAR NO. TRAILER NO. CONTAINER NO. Silvercreek

IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE,

TO BE PREPAID

~~COLLECT~~

RECEIVED $

TO APPLY IN PREPAYMENT OF THE CHARGES ON THE PROPERTY DESCRIBED HEREON.

AGENT OR CASHIER

PIECES / PACKAGES	DESCRIPTION OF ARTICLES AND SPECIAL MARKS	WEIGHT (Subject to Correction)	RATE
JSTOMER	ORDER NBR. ~~207570D~~	~~Serrot So #8592 SU~~	
	INVOICE NBR. 10145		
	Taylor Construction Geosynthetics- Customer PO # LT 2107-178	WM	
rolls	BENTOFIX MATERIAL	43239	lbs
11 bags	GRANULAR BENTONITE		
1 pc	SPREADER BAR ASSEMBLY crane accessory		
	SITE CONTACT:		
	Lee Taylor @ 317-745-2202		
	~~**CALL 24 HOURS PRIOR TO DELIVERY TO SCHEDULE UNLOADING**~~		
	ALL FLATBED LOADS MUST BE TARPED		

FOR CARRIER'S USE CHARGES

ADVANCE AND/OR BEYOND	$	
MISC.	$	
BASIC	$	
PIECE	$	
VALUE	$	
TOTAL	$	

ial agreement between consignor carrier, please advise here

TO BE DELIVERED: Thurs. June 28

SHIPPER SHOW AMOUNT OF C.O.D.

AMOUNT $

C FEE $

O ☐ COLLECT ☐ PREPAID

D TOTAL $

DELARED VALUATION
Maximum liability of $4.41/Kg($2.00/lb) calculated on the total weight of the shipment unless declared valuation states otherwise. $

NOTICE OF CLAIM

a) No carrier is liable for loss, damage or delay to any goods carried under the Bill of Lading unless notice thereof setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.

b) The final statement of the claim must be filed with nine (9) months from the date of shipment together with a copy of the paid freight bill.

WHERE REQUIRED BY THE TARUFF, SHIPPER MUST SHOW DIMENSIONS OF SHIPMENT.

PACKAGES	DIM. OF SHIPMENT	TOTAL CUBIC FEET	DIMENSIONAL WEIGHT	TOTAL WEIGHT	NO. XL PCS.PKGS
11 bags	50 lbs				
1 rolls	150' x 15' x 5'			43239 lbs	

VALUATION / EVALUATION

☐ $50 or .50/lb ☐ $1.00/lb ☐ $1.50/lb ☐ $2.00/lb

DECLARED VALUE OF SHIPMENT

$

SHIPPER'S NO.

D10042

OTA IPF

AGENT

BENTOFIX TECHNOLOGIES, INC.

R

PER

3 Truman Road Barrie, Ontario Canada L4M 6E7

RMANENT POST OFFICE ADDRESS OF SHIPPER

THIS BILL OF LADING CONTRACT MUST BE SIGNED BY SHIPPER AND CARRIER

DOC. NUMBER

BENTOFIX TECHNOLOGIES INC.

Shipment Contents

BOL #: 10042 **Shipment Date:** 6/26/2001

Lot #	Roll #		Length (ft)	Width (ft)
21052802	40071		150.00	15.50
		Lot Total	**150.00** ft	
21062003	41273		150.00	15.50
	41274		150.00	15.50
	41275		150.00	15.50
	41276		150.00	15.50
	41279		150.00	15.50
	41280		150.00	15.50
	41285		150.00	15.50
	41286		150.00	15.50
		Lot Total	**1,200.00** ft	
21062203	41320		150.00	15.50
	41322		150.00	15.50
	41323		150.00	15.50
	41324		150.00	15.50
	41326		150.00	15.50
	41332		150.00	15.50
	41333		150.00	15.50
	41334		150.00	15.50
		Lot Total	**1,200.00** ft	
		Grand Total	**2,550.00** ft	

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE GCL
DATE OF ARRIVAL: 6/29/2001
MATERIAL MANUFACTURER: BENTOFIX TECHNOLOGIES INC.
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 6/29/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD, TARPED
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	29681	11062503	150'	15.5'		Y	N	Y	FACTORY QA
2	29682	11062503	150'	15.5'		Y	Y		
3	29684	11062503	150'	15.5'		Y	N		
4	29685	11062503	150'	15.5'		Y	N		
5	29698	11062503	150'	15.5'		Y	N	Y	FACTORY QA
6	29701	11062503	150'	15.5'		Y	N		
7	29705	11062503	150'	15.5'		Y	N		
8	29710	11062503	150'	15.5'		Y	N		
9	29711	11062503	150'	15.5'		Y	N		
10	29712	11062503	150'	15.5'		Y	N		
11	29727	11062503	150'	15.5'		Y	N	Y	FACTORY QA
12	29736	11062503	150'	15.5'		Y	N		
13	29761	11062503	150'	15.5'		Y	N	Y	FACTORY QA
14	29763	11062503	150'	15.5'		Y	N		
15	29779	11062603	150'	15.5'		Y	N	Y	FACTORY QA
16	29780	11062603	150'	15.5'		Y	Y		
17	29783	11062603	150'	15.5'		Y	N		
18	41281	21062003	150'	15.5'		Y	N	Y	FACTORY QA
19	41325	21062203	150'	15.5'		Y	N	Y	FACTORY QA
20									
21									
22									
23									
24									
25									

REVIEWED BY: _____ DATE: _____

COMBINATION SHORT FORM OF STRAIGHT BILL OF LADING EXPRESS SHIPPING CONTRACT ADOPTED BY RAIL, FREIGHT AND EXPRESS CARRIERS SUBJECT TO THE JURISDICTION OF THE CANADIAN TRANSPORT COMMISSION.

SUED AT SHIPPER'S REQUEST

Received, subject to the classifications and tariffs in effect on the date of issue of this Original Bill of Lading,or, received subject to the Rules for the Carriage of Express and Non-Carload Freight Traffic and Tariffs in effect on the date of issue of this Original shipping contract (Bill of Lading), goods described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said Company agrees to carry to its usual place of delivery at said destination, if c s road, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said goods over all or any portion of said route to destination, and as to each party at any time interested in all or any of said goods, that every service to be performed hereunder shall be subject to all the terms and conditions (which are hereby incorporated by reference and have the same force and effect as if the same were severally, fully and specifically set forth herein).

ved by the Board of Transport Commissioners for Canada by General Order No. T-5 dated February 1, 1965 set forth in the Canadian Freight Classification and also available at al Railway agency stations and freight offices upon request, when said goods are carried by a rail carrier; or
. of the bill of lading of the water carrier as provided in its tariff of Rules and Regulations when said goods are carried by a water carrier; or
. of the bill of lading set forth in or prescrbed by the relevant tariffs, classification, statutes and regulations pertaining to motor carrier's services when said goods are carried by a motor carrier; or
. of the bill of lading form prescribed by O.C. 986-79 - 4 April 1979, when said goods originating in Quebec are to be carried by a motor carrier;
. or approved by the The Board of Transport Commissioners for Canada by General Order No. T-43, set forth in the Rules for the Carriage of Express and Non-Carload Freight Traffic and also available at all express and railway agency stations and express and freight offices upon request, when said goods are carried by a rail carrier and which are agreed to by the shipper and accepted for himself and his assigns.

NAME OF CARRIER: Huronia Transport
POINT OF ORIGIN: BARRIE, ONTARIO, CANADA
DATE: 27-Jun-01
CARRIER'S NO.:

CONSIGNEE: Solutia Inc
SHIPPER: c/o LMS Contracting BENTOFIX TECHNOLOGIES, INC.

CONSIGNEE STREET ADDRESS: 15 Judith Lane
MAIL ADDRESS (NOT FOR PURPOSES OF DELIVERY):

DESTINATION (CITY-TOWN): Cahokia, IL 62206 USA

ROUTE:
CAR INITIAL:
CAR NO. / TRAILER NO. / CONTAINER NO.: Challenger

PIECES / PACKAGES	DESCRIPTION OF ARTICLES AND SPECIAL MARKS	WEIGHT (Subject to Correction)	RATE
CUSTOMER	ORDER NBR. 20757OD	Serrot So #8592 SU	
	INVOICE NBR. 10153		
19 rolls	BENTOFIX MATERIAL	45,975	lbs
21 bags	GRANULAR BENTONITE		
	SITE CONTACT:		
	Lee Taylor @ 317-745-2202		
	CALL 24 HOURS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		
	ALL FLATBED LOADS MUST BE TARPED		

IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE

TO BE PREPAID

XXXXXXXX

RECEIVED $

TO APPLY IN PREPAYMENT OF THE CHARGES ON THE PROPERTY DESCRIBED HEREON.

AGENT OR CASHIER

FOR CARRIER'S USE CHARGES

ADVANCE AND/OR BEYOND	$
MISC.	$
BASIC	$
PIECE	$
VALUE	$
TOTAL	$

Special agreement between consignor and carrier, please advise here

TO BE DELIVERED: Fri. June 29

FOR MOTOR CARRIER SERVICE

DELARED VALUATION
Maximum liability of $4.41/Kg($2.00/lb) calculated on the total weight of the shipment unless declared valuation states otherwise. $

NOTICE OF CLAIM

a) No carrier is liable for loss, damage or delay to any goods carried under the Bill of Lading unless notice thereof setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.

b) The final statement of the claim must be filed with nine (9) months from the date of shipment together with a copy of the paid freight bill.

SHIPPER SHOW AMOUNT OF C.O.D.

C O D
AMOUNT $
FEE $
☐ COLLECT ☐ PREPAID
TOTAL $

WHERE REQUIRED BY THE TARUFF, SHIPPER MUST SHOW DIMENSIONS OF SHIPMENT.

TO... OF PACKAGES	DIM. OF SHIPMENT	TOTAL CUBIC FEET	DIMENSIONAL WEIGHT	TOTAL WEIGHT	NO. XL PCS/PKGS
21 bags	50 lbs				
19 rolls	150' x 15.5'			45,975 lbs	

VALUATION / EVALUATION
☐ $50 or .50/lb ☐ $1.00/lb ☐ $1.50/lb ☐ $2.00/l

DECLARED VALUE OF SHIPMENT $

SHIPPER'S NO. D10050

SHIPPER: BENTOFIX TECHNOLOGIES, INC.
PER:
23 Truman Road Barrie, Ontario Canada L4M 6E7
PERMANENT POST OFFICE ADDRESS OF SHIPPER

AGENT
PER

BENTOFIX TECHNOLOGIES INC.

Shipment Contents

BOL #: 10050 **Shipment Date:** 6/27/2001

Lot #	Roll #		Length (ft)		Width (ft)
11062503	29681		150.00		15.50
	29682		150.00		15.50
	29684		150.00		15.50
	29685		150.00		15.50
	29698		150.00		15.50
	29701		150.00		15.50
	29705		150.00		15.50
	29710		150.00		15.50
	29711		150.00		15.50
	29712		150.00		15.50
	29727		150.00		15.50
	29736		150.00		15.50
	29761		150.00		15.50
	29763		150.00		15.50
		Lot Total	**2,100.00**	ft	
11062603	29779		150.00		15.50
	29780		150.00		15.50
	29783		150.00		15.50
		Lot Total	**450.00**	ft	
21062003	41281		150.00		15.50
		Lot Total	**150.00**	ft	
21062203	41325		150.00		15.50
		Lot Total	**150.00**	ft	
		Grand Total	**2,850.00**	ft	

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE GCL
DATE OF ARRIVAL: 7/3/2001
MATERIAL MANUFACTURER: BENTOFIX TECHNOLOGIES, INC.
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 7/3/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD, TARPED
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	29226	11061303	150'	15.5'		Y	N	Y	FACTORY QA
2	29233	11061303	150'	15.5'		Y	N		
3	29234	11061303	150'	15.5'		Y	N		
4	29235	11061303	150'	15.5'		Y	N		
5	29236	11061303	150'	15.5'		Y	N		
6	29240	11061303	150'	15.5'		Y	N	Y	FACTORY QA
7	29241	11061303	150'	15.5'		Y	N		
8	29242	11061303	150'	15.5'		Y	N		
9	29243	11061303	150'	15.5'		Y	N		
10	29247	11061303	150'	15.5'		Y	N		
11	29248	11061303	150'	15.5'		Y	N		
12	29249	11061303	150'	15.5'		Y	N		
13	41217	21062003	150'	15.5'		Y	N	Y	FACTORY QA
14	41225	21062003	150'	15.5'		Y	N	Y	FACTORY QA
15	41229	21062003	150'	15.5'		Y	N		
16	41230	21062003	150'	15.5'		Y	N		
17	41231	21062003	150'	15.5'		Y	N		
18	41233	21062003	150'	15.5'		Y	N		
19	41236	21062003	150'	15.5'		Y	N		
20									
21									
22									
23									
24									
25									

REVIEWED BY: _____ DATE: _____

ADOPTED BY RAIL, FREIGHT AND EXPRESS CARRIERS SUBJECT TO THE JURISDICTION OF THE CANADIAN TRANSPORT COMMISSION.

AT SHIPPER'S REQUEST

ved, subject to the classifications and tariffs in effect on the date of issue of this Original Bill of Lading,or, received subject to the Rules for the Carriage of Express and Non-Carload t Traffic and Tariffs in effect on the date of issue of this Original shipping contract (Bill of Lading), goods described below, in apparent good order, except as noted (contents and ion of contents of packages unknown), marked, consigned, and destined as indicated below, which said Company agrees to carry to its usual place of delivery at said destination, if on d, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said goods over all or any portion of said route to ation, and as to each party at any time interested in all or any of said goods, that every service to be performed hereunder shall be subject to all the terms and conditions (which are y incorporated by reference and have the same force and effect as if the same were severally, fully and specifically set forth herein).

ro the Board of Transport Commissioners for Canada by General Order No. T-5 dated February 1, 1965 set forth in the Canadian Freight Classification and also available at all ay y stations and freight offices upon request, when said goods are carried by a rail carrier; or
he bill of lading of the water carrier as provided in its tariff of Rules and Regulations when said goods are carried by a water carrier; or
he bill of lading set forth in or prescribed by the relevant tariffs, classification, statutes and regulations pertaining to motor carrier's services when said goods are carried by a motor r; or
he bill of lading form prescribed by O.C. 986-79 - 4 April 1979, when said goods originating in Quebec are to be carried by a motor carrier;
approved by the The Board of Transport Commissioners for Canada by General Order No. T-43, set forth in the Rules for the Carriage of Express and Non-Carload Freight Traffic and available at all express and railway agency stations and express and freight offices upon request, when said goods are carried by a rail carrier and which are agreed to by the er and accepted for himself and his assigns.

OF CARRIER	POINT OF ORIGIN	DATE	CARRIER'S NO.
Landstar Transport	BARRIE, ONTARIO, CANADA	28-Jun-01	

GNEE: Solutia Inc

SHIPPER: c/o LMS Contracting BENTOFIX TECHNOLOGIES, INC.

GNEE STREET ADDRESS: 15 Judith Lane

MAIL ADDRESS (NOT FOR PURPOSES OF DELIVERY)

NATION (CITY-TOWN): Cahokia, IL 62206 USA

CAR INITIAL

CAR NO. / TRAILER NO. / CONTAINER NO.: Landstar

IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE,

TO BE PREPAID

XXXXXXXX

PIECES / PACKAGES	DESCRIPTION OF ARTICLES AND SPECIAL MARKS	WEIGHT (Subject to Correction)	RATE
STOMER	ORDER NBR. 20757OD	Serrot So #8592 SU	
	INVOICE NBR. 10164		
19 rolls	BENTOFIX MATERIAL	45112	lbs
2 bags	GRANULAR BENTONITE		
	SITE CONTACT:		
	Lee Taylor @ 317-745-2202		
	CALL 24 HOURS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		
	ALL FLATBED LOADS MUST BE TARPED		

RECEIVED $

TO APPLY IN PREPAYMENT OF THE CHARGES ON THE PROPERTY DESCRIBED HEREON.

AGENT OR CASHIER

FOR CARRIER'S USE CHARGES

ADVANCE AND/OR BEYOND	$	
MISC.	$	
BASIC	$	
PIECE	$	
VALUE	$	
TOTAL	$	

agreement between consignor ier, please advise here

TO BE DELIVERED: Fri. June 29 before 3:00 pm

SHIPPER SHOW AMOUNT OF C.O.D.

AMOUNT $

C FEE $

O ☐ COLLECT ☐ PREPAID

D TOTAL $

MOTOR CARRIER SERVICE

DELARED VALUATION
Maximum liability of $4.41/Kg($2.00/lb) calculated on the total weight of the shipment unless declared valuation states otherwise. $

OTICE OF CLAIM
No carrier is liable for loss, damage or delay to any goods carried under the Bill of Lading unless notice thereof setting out particulars of the origin, stination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the iginating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) onths from the date of shipment.

The final statement of the claim must be filed with nine (9) months from the date of shipment together with a copy of the paid freight bill.

WHERE REQUIRED BY THE TARUFF, SHIPPER MUST SHOW DIMENSIONS OF SHIPMENT.

NO. PACKAGES	DIM. OF SHIPMENT	TOTAL CUBIC FEET	DIMENSIONAL WEIGHT	TOTAL WEIGHT	NO. XL PCS PKGS
21 bags	50 lbs				
19 rolls	150' x 15.5'			45112 lbs	

VALUATION / EVALUATION

☐ $50 or .50/lb ☐ $1.00/lb ☐ $1.50/lb ☐ $2.00/lb

DECLARED VALUE OF SHIPMENT $

SHIPPER'S NO. 12001

AGENT

PER

NTOFIX TECHNOLOGIES, INC.

Truman Road Barrie, Ontario Canada L4M 6E7

ANENT POST OFFICE ADDRESS OF SHIPPER

THIS BILL OF LADING-EXPRESS SHIPPING CONTRACT IS TO BE SIGNED BY SHIPPER AND CARRIER

BENTOFIX TECHNOLOGIES INC.

Shipment Contents

BOL #: 10061 **Shipment Date:** 6/28/2001

Lot #	Roll #	Length (ft)	Width (ft)
11061303	29226	150.00	15.50
	29233	150.00	15.50
	29234	150.00	15.50
	29235	150.00	15.50
	29236	150.00	15.50
	29240	150.00	15.50
	29241	150.00	15.50
	29242	150.00	15.50
	29243	150.00	15.50
	29247	150.00	15.50
	29248	150.00	15.50
	29249	150.00	15.50
	Lot Total	**1,800.00** ft	
21062003	41217	150.00	15.50
	41225	150.00	15.50
	41229	150.00	15.50
	41230	150.00	15.50
	41231	150.00	15.50
	41233	150.00	15.50
	41236	150.00	15.50
	Lot Total	**1,050.00** ft	
	Grand Total	**2,850.00** ft	

GEOSYNTHETIC INVENTORY CONTROL LOG

JECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE GCL

DATE OF ARRIVAL: 8/6/2001
MATERIAL MANUFACTURER: SERROT
PRODUCT IDENTIFICATION: BENTOFIX
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 8/6/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD/ TARPED
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	43035	21072303	150	15.5		Y			
2	43036	21072303	150	15.5		Y			
3	43037	21072303	150	15.5		Y			
4	43044	21072403	150	15.5		Y			
5									
6									
7									
8									
10									
11									
12									
13									
14									
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20									
21									
22									
23									
24									
25									

REVIEWED BY: _____ DATE: _____

BENTOFIX TECHNOLOGIES, INC.

23 Truman Road
Barrie, Ontario Canada L4M 6E7
Tel: (705)725-1938 Fax: (705)725-8860

PACKING LIST

Solutia Inc 15 Judith Lane Cahokia, IL 62206 USA LMS Contracting	Date Shipped: 08/03/01 Customer PO #: 22277OD Serrot So Nbr: 9164 SU Bill of Lading #: 10276

TRANSPORT CO. RBM **TRAILER #** RBM

QUANTITY	DESCRIPTION & SIZE	WEIGHT	NO. OF PIECES
	BENTOFIX MATERIAL NSL		
9300.00 ft^2	SIZE: 150.00 ' x 15.5' @ 4 rolls		4 rolls + 4 bags
	GRANULAR BENTONITE		
200 lbs	SIZE: 50 lbs x 4 bags		
		TOTAL 9399 LBS	

BENTOFIX TECHNOLOGIES INC.

Shipment Contents

BOL #: 10276 **Shipment Date:** 8/3/2001

Lot #	Roll #		Length (ft)		Width (ft)
21072303	43035		150.00		15.50
	43036		150.00		15.50
	43037		150.00		15.50
		Lot Total	**450.00**	ft	
21072403	43044		150.00		15.50
		Lot Total	**150.00**	ft	
		Grand Total	**600.00**	ft	

2.1.1.3 Geotextile

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL: 6/19/2001
MATERIAL MANUFACTURER: SYNTHETIC INDUSTRIES
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLAT BED

DATE OF INVENTORY: 6/19/2001
INVENTORY MONITOR: DT
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			WIDTH	LENGTH	WEIGHT				
1	4074A	A52	15'	300'	16 oz	Y			
2	4076A	A52	15'	300'	16 oz	Y			
3	4078A	A52	15'	300'	16 oz	Y			
4	4079A	A52	15'	300'	16 oz	Y			
5	4082A	A52	15'	300'	16 oz	Y			
6	4086A	A52	15'	300'	16 oz	Y			
7	4087A	A52	15'	300'	16 oz	Y			
8	4090A	A52	15'	300'	16 oz	Y			
9	4092A	A52	15'	300'	16 oz	Y			
10	4093A	A52	15'	300'	16 oz	Y			
11	4095A	A52	15'	300'	16 oz	Y			
12	4099A	A52	15'	300'	16 oz	Y			
13	4100A	A52	15'	300'	16 oz	Y		Y	FACTORY QA
14	4102A	A52	15'	300'	16 oz	Y			
15	4104A	A52	15'	300'	16 oz	Y			
16	4107A	A52	15'	300'	16 oz	Y			
17	4109A	A52	15'	300'	16 oz	Y			
18	4110A	A52	15'	300'	16 oz	Y			
19	4112A	A52	15'	300'	16 oz	Y			
20	4114A	A52	15'	300'	16 oz	Y			
21	4119A	A52	15'	300'	16 oz	Y			
22	4123A	A52	15'	300'	16 oz	Y			
23	4124A	A52	15'	300'	16 oz	Y			
24	4125A	A52	15'	300'	16 oz	Y			
25	4139A	A52	15'	300'	16 oz	Y			

REVIEWED BY: _____ DATE: _____

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL: 6/19/2001
MATERIAL MANUFACTURER: SYNTHETIC INDUSTRIES
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLAT BED

DATE OF INVENTORY: 6/19/2001
INVENTORY MONITOR: DT
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			WIDTH	LENGTH	WEIGHT				
1	5853A	A51	15'	300'	16 oz	Y	Y		
2	2524A	A52	15'	300'	16 oz	Y	Y		
3	4075A	A52	15'	300'	16 oz	Y	Y		
4	4117A	A52	15'	300'	16 oz	Y			
5	4211A	A52	15'	300'	16 oz	Y	Y		
6	4437A	A52	15'	300'	16 oz	Y	Y		
7	4450A	A52	15'	300'	16 oz	Y	Y		
8	5862A	A51	15'	300'	16 oz	Y			
9	5863A	A51	15'	300'	16 oz	Y			
10	5866A	A51	15'	300'	16 oz	Y			
11	5868A	A51	15'	300'	16 oz	Y			
12	5870A	A51	15'	300'	16 oz	Y			
13	2251A	A52	15'	300'	16 oz	Y			
14	2266A	A52	15'	300'	16 oz	Y			
15	510325A		15'	300'	16 oz	Y			THESE TWO CAME IN
16	510340A		15'	300'	16 oz	Y		Y	PLACE OF 2286/4161
17	2306A	A52	15'	300'	16 oz	Y			THEY ARE FROM THE
18	4038A	A52	15'	300'	16 oz	Y			SAME BATCH #51535
19	4045A	A52	15'	300'	16 oz	Y			
20	4057A	A52	15'	300'	16 oz	Y			
21	4059A	A52	15'	300'	16 oz	Y			
22	4060A	A52	15'	300'	16 oz	Y		Y	FACTORY QA
23	4062A	A52	15'	300'	16 oz	Y			
24	4065A	A52	15'	300'	16 oz	Y			
25	4066A	A52	15'	300'	16 oz	Y			

REVIEWED BY: _____ DATE: _____

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL: 6/19/2001
MATERIAL MANUFACTURER: SYNTHETIC INDUSTRIES
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLAT BED

DATE OF INVENTORY: 6/19/2001
INVENTORY MONITOR: DT
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			WIDTH	LENGTH	weight				
1	4145A	A52	15'	300'	16 oz	Y			
2	4152A	A52	15'	300'	16 oz	Y			
3	4155A	A52	15'	300'	16 oz	Y			
4	4156A	A52	15'	300'	16 oz	Y			
5	4158A	A52	15'	300'	16 oz	Y			
6	4468A	A52	15'	300'	16 oz	Y			
7	4209A	A52	15'	300'	16 oz	Y			
8	4210A	A52	15'	300'	16 oz	Y			
9	4217A	A52	15'	300'	16 oz	Y	Y		
10	4218A	A52	15'	300'	16 oz	Y			
11	4219A	A52	15'	300'	16 oz	Y			
12	4427A	A52	15'	300'	16 oz	Y			
13	4432A	A52	15'	300'	16 oz	Y			
14	4438A	A52	15'	300'	16 oz	Y			
15	4440A	A52	15'	300'	16 oz	Y			
16	4441A	A52	15'	300'	16 oz	Y			
17	4442A	A52	15'	300'	16 oz	Y			
18	4443A	A52	15'	300'	16 oz	Y			
19	4444A	A52	15'	300'	16 oz	Y			
20	4445A	A52	15'	300'	16 oz	Y			
21	4447A	A52	15'	300'	16 oz	Y			
22	4448A	A52	15'	300'	16 oz	Y			
23	4449A	A52	15'	300'	16 oz	Y			
24	4452A	A52	15'	300'	16 oz	Y			
25	4456A	A52	15'	300'	16 oz	Y			
26	4458A	A52	15'	300'	16 oz	Y			

REVIEWED BY: _____ DATE: _____

GEOTEXTILE

SOLUTIA INC.

1701 15' X 300'

A515853A
A515862A
A515863A
A515866A
A515868A
A515870A
A522251A
A522266A
A522286A
A522306A
A522524A
A524036A
A524045A
A524057A
A524059A
A524060A
A524062A
A524065A
A524066A
A524074A
A524076A
A524078A
A524078A
A524079A
A524082A
A524086A
A524087A
A524090A
A524092A
A524093A
A524095A
A524099A
A524100A
A524102A
A524104A
A524107A
A524109A
A524110A

NOT DELIVERED.

A524112A
A524114A
A524117A
A524119A
A524123A
A524124A
A524125A
A524139A
A524145A
A524152A
A524155A
A524156A
A524158A
A524161A
A524209A
A524210A
A524211A
A524217A
A524218A
A524219A
A524427A
A524432A
A524437A
A524438A
A524440A
A524441A
A524442A
A524443A
A524444A
A524445A
A524447A
A524448A
A524449A
A524450A
A524452A
A524456A
A524458A
A524468A

NOT DELIVERED

76

510325A
510340A

DELIVERED NOT ON LIST

TOTAL P.02

2.1.1.4 Geonet

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE: GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL: 6/28/2001
MATERIAL MANUFACTURER: SERROT
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 6/28/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	4035611	4351	300'	15'		Y	N		
2	4035622	4351	300'	15'		Y	N		
3	4035633	4351	300'	15'		Y	N		
4	4035641	4351	300'	15'		Y	N		
5	4035642	4351	300'	15'		Y	N		
6	4035658	4351	300'	15'		Y	N		
7	4035659	4351	300'	15'		Y	N		
8	4035660	4351	300'	15'		Y	N		
[illegible]	4035662	4351	300'	15'		Y	N		
[illegible]	4035663	4351	300'	15'		Y	Y		
11	4035664	4351	300'	15'		Y	N		
12	4035665	4351	300'	15'		Y	Y		
13	4035666	4351	300'	15'		Y	N		
14	4035667	4351	300'	15'		Y	N		
15	4035669	4351	300'	15'		Y	N		
16	4035670	4351	300'	15'		Y	N		
17	4035673	4351	300'	15'		Y	N		
18	4035682	4351	300'	15'		Y	N		
19	4035684	4351	300'	15'		Y	N		
20	4035685	4351	300'	15'		Y	N		
21	4035687	4351	300'	15'		Y	N		
22	4035688	4351	300'	15'		Y	N		
23	4035689	4351	300'	15'		Y	N		
24	4035691	4351	300'	15'		Y	N		
25									

REVIEWED BY: _____ DATE: _____

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL: 6/28/2001
MATERIAL MANUFACTURER: SERROT
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 6/28/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	4035612	4351	300'	15'		Y	N		
2	4035613	4351	300'	15'		Y	N		
3	4035614	4351	300'	15'		Y	N		
4	4035617	4351	300'	15'		Y	N		
5	4035618	4351	300'	15'		Y	N		
6	4035619	4351	300'	15'		Y	N		
7	4035620	4351	300'	15'		Y	N		
8	4035623	4351	300'	15'		Y	N		
9	4035624	4351	300'	15'		Y	N		
	4035625	4351	300'	15'		Y	N		
11	4035626	4351	300'	15'		Y	N		
12	4035627	4351	300'	15'		Y	N		
13	4035628	4351	300'	15'		Y	N		
14	4035632	4351	300'	15'		Y	N		
15	4035634	4351	300'	15'		Y	N		
16	4035643	4351	300'	15'		Y	Y		
17	4035644	4351	300'	15'		Y	N		
18	4035645	4351	300'	15'		Y	N		
19	4035661	4351	300'	15'		Y	N		
20	4035668	4351	300'	15'		Y	N		
21	4035671	4351	300'	15'		Y	N		
22	4035672	4351	300'	15'		Y	N		
23	4035683	4351	300'	15'		Y	N		
24	4035690	4351	300'	15'		Y	Y		
25									

REVIEWED BY: _____ DATE: _____

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL: 6/29/2001
MATERIAL MANUFACTURER: SERROT
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 6/29/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	4035615	4351	300'	15'		Y	N		
2	4035616	4351	300'	15'		Y	N		
3	4035621	4351	300'	15'		Y	N		
4	4035629	4351	300'	15'		Y	N		
5	4035630	4351	300'	15'		Y	N		
6	4035631	4351	300'	15'		Y	N		
7	4035635	4351	300'	15'		Y	Y		
8	4035636	4351	300'	15'		Y	N		
	4035637	4351	300'	15'		Y	N		
	4035638	4351	300'	15'		Y	N		
11	4035639	4351	300'	15'		Y	N		
12	4035640	4351	300'	15'		Y	N		
13	4035646	4351	300'	15'		Y	N		
14	4035650	4351	300'	15'		Y	N		
15	4035651	4351	300'	15'		Y	N		
16	4035654	4351	300'	15'		Y	Y		
17	4035655	4351	300'	15'		Y	N		
18	4035656	4351	300'	15'		Y	N		
19	4035676	4351	300'	15'		Y	N		
20	4035677	4351	300'	15'		Y	N		
21	4035679	4351	300'	15'		Y	N		
22	4035680	4351	300'	15'		Y	N		
23	4035681	4351	300'	15'		Y	N		
24	4035686	4351	300'	15'		Y	Y		
25									

REVIEWED BY: _____ DATE: _____

GEOSYNTHETIC INVENTORY CONTROL LOG

PROJECT NUMBER: 013-9569
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA /QA / SAUGET
CONTRACTOR: TAYLOR / LMS

MATERIAL TYPE : GEOMEMBRANE GEONET GEOTEXTILE OTHER
DATE OF ARRIVAL: 6/29/2001
MATERIAL MANUFACTURER: SERROT
PRODUCT IDENTIFICATION:
TRUCK TYPE: FLATBED

DATE OF INVENTORY: 6/29/2001
INVENTORY MONITOR: RS
CONDITION IN TRUCK: GOOD
UNLOADING METHOD: LULL

	ROLL NUMBER	BATCH OR LOT NO.	MATERIAL DIMENSIONS			QC CERT Y / N	CONF. SAMP. Y / N	OTHER	REMARKS
			LENGTH	WIDTH	THICKNESS OR WEIGHT				
1	4035647	4351	300'	15'		Y	N		
2	4035648	4351	300'	15'		Y	N		
3	4035649	4351	300'	15'		Y	N		
4	4035652	4351	300'	15'		Y	N		
5	4035653	4351	300'	15'		Y	Y		
6	4035657	4351	300'	15'		Y	N		
7	4035675	4351	300'	15'		Y	N		
8	4035678	4351	300'	15'		Y	N		
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

REVIEWED BY: _____ DATE: _____

2.1.2 Geosynthetics QC Certificates and Factory QA

2.1.2.1 Geomembrane 60 mil HDPE

Columbia Geosystems' computerized database program controls all inventory for production rolls and QC/QA data. Our customers will receive the following standard documentation covering all pertinent information for the project unless otherwise requested.

#1 SHIPPING PACKING LIST (Bill of Lading)

This list contains nominal thickness, resin code, a five digit roll number, roll weight, square footage and dimensions. The Shipping Packing list was designed to assist our shipping department in quickly viewing nominal thickness and resin code against ordered materials. The Q.C. stamp indicates that our Quality Control Department has inspected the load for any damage and verified the correctness of the loaded material.

#2 POLYETHYLENE CERTIFICATE OF ANALYSIS

This certifies the relevant test methods, resin specifications, resin supplier lot number, Columbia's internal resin batch designation number and resin test results as verified in our laboratory.

#3 GEOMEMBRANE CERTIFICATE OF ANALYSIS

This certifies the test methods, test values and test frequency for the geomembrane.

#4 GEOMEMBRANE STANDARD TESTING CERTIFICATION

This provides a listing of test roll numbers and all relevant test results from our laboratory. Each test roll certifies manufactured rolls based on nominal thickness and full-length rolls. Columbia's test frequency is based on a maximum of 50,000 ft^2 rounded to the nearest full roll.

- For 20 mil – the test roll will certify itself.
- For 30 mil – the test roll will certify itself and the **preceding** roll.
- For 40 mil – the test roll will certify itself and the **preceding** two rolls.
  Example, test roll 21755B will certify itself and 21754B & 21753B.
- For 60 mil – the test roll will certify itself and the **preceding** three rolls.
- For 80 mil – the test roll will certify itself and the **preceding** four rolls.
- For 100 mil – the test roll will certify itself and the **preceding** four rolls.

The test results, where applicable, will be recorded as average values.
The roll numbers on the test certification can be deciphered as follows:

Example: 623A00-42355
623A00-21755B

Where 623 = Columbia's internal resin batch designation.
A00 = shift designation and year of production.
42355 = consecutive roll number produced on Line A.
21755B = consecutive roll number produced on Line B.

Note: Roll numbers that appear on the Geomembrane Standard Testing Certification may not appear on the Shipping Packing List. This is due to a Test Roll certifying an actual shipped roll which falls within its testing group.

POLYETHYLENE CERTIFICATE OF ANALYSIS

Project : 163-01-01
Customer : TAYLOR CONSTRUCTION & GEOSYNTHETICS TYPE:PHILLIPS

Project Name : SOLUTIA INC., IL

Columbia Ref : 163-01-01
We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds Columbia Geosystem's specifications, below. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 792/1505. Where appropriate, carbon content was determined according to ASTM D 4218. The average test results are listed in the table below.

RESIN SPECIFICATIONS

Melt flow index				1.0 g/10 minutes Maximum	
Density - HDPE				0.930 g/cc Minimum	
Density - LLDPE				0.926 g/cc Maximum	
Lot Number	Columbia Batch #	Melt Flow Index g/10	Density g/cc	Carbon Content %	OIT Min.
8201624	763	0.069	0.936	N/A	N/A
8210202	780	0.062	0.936	N/A	N/A
8210413	781	0.068	0.937	N/A	N/A

Adolf Vaz
C. TECHNICIAN

June 14/2001
DATE

Page 1.1

Chevron Phillips Chemical Company LP

Houston Chemical Complex
P.O. Box 792, Pasadena, TX 77501

January 29, 2001

PSN# 2390-01

FAX: 403-235-6864

Columbia Geosystems
1415 28th Street N.E.
Calgary AB, Canada T2A 2P6

Greg Sharrun

This letter will certify that the Marlex* resin shown below, as supplied by Chevron Phillips Chemical Company, conforms to our manufacturing specification.

Type:	HHM TR-400G
Lot Number:	8201624
P.O. Number:	6791
Date Shipped:	01/29/01
Package:	PSPX 6118
Quantity:	181800 LBS.
HLMI Flow Rate,ASTM D1238:	10.7 G/10 MIN
Density, ASTM D1505:	.936 G/CC
Melt Index, ASTM D1238:	.060 G/10 MIN
Production Date:	11/06/00

Paul S. Newbold
Sr. Certification Systems Specialist

For COA questions call Carol Meza, 713-475-3625

* Reg. U.S. Pat. Off.

cc: QA-File-RC

CGL BATCH # 763

A/L

Chevron Phillips Chemical Company LP

Houston Chemical Complex
P.O. Box 792, Pasadena, TX 77501

March 28, 2001

PSN# 7751-01

FAX: 403-235-6864

Columbia Geosystems
1415 28th Street N.E.
Calgary AB, Canada T2A 2P6

Greg Sharrun

This letter will certify that the Marlex* resin shown below, as supplied by Chevron Phillips Chemical Company, conforms to our manufacturing specification.

Type:	HHM TR-400G
Lot Number:	8210202
P.O. Number:	7266
Date Shipped:	03/28/01
Package:	PSPX 2509
Quantity:	186750 LBS.
HLMI Flow Rate,ASTM D1238:	9.8 G/10 MIN
Density, ASTM D1505:	.938 G/CC
Melt Index, ASTM D1238:	.070 G/10 MIN
Production Date:	02/20/01

Paul S. Newbold
Sr. Certification Systems Specialist

For COA questions call Carol Meza, 713-475-3625

* Reg. U.S. Pat. Off.

cc: QA-File-RC

CGL BATCH # 780

A/L

Chevron Phillips Chemical Company LP

Houston Chemical Complex
P.O. Box 792, Pasadena, TX 77501

April 01, 2001

PSN# 8061-01

FAX: 403-235-6864

Columbia Geosystems
1415 28th Street N.E.
Calgary AB, Canada T2A 2P6

Greg Sharrun

This letter will certify that the Marlex* resin shown below, as supplied by Chevron Phillips Chemical Company, conforms to our manufacturing specification.

Type:	HHM TR-400G
Lot Number:	8210413
P.O. Number:	7272
Date Shipped:	04/01/01
Package:	PSPX 6135
Quantity:	186900 LBS.
HLMI Flow Rate,ASTM D1238:	10.5 G/10 MIN
Density, ASTM D1505:	.937 G/CC
Melt Index, ASTM D1238:	.070 G/10 MIN
Production Date:	03/30/01

Paul S. Newbold
Sr. Certification Systems Specialist

For COA questions call Carol Meza, 713-475-3625

* Reg. U.S. Pat. Off.

cc: QA-File-RC

CGL BATCH # 781

A/L

GEOMEMBRANE CERTIFICATE OF ANALYSIS

Customer : TAYLOR CONSTRUCTION & GEOSYNTHETICS

Project Name : SOLUTIA INC., IL

Columbia Ref # : 163-01-01

We hereby certify that the polyethylene geomembrane for the above-identified shipment meets or exceeds Columbia Geosystems' specifications below. Testing was performed at the indicated frequency.

Columbia Geosystems' manufacturing lines are equipped with spark testers for pinhole detection. The raw polymeric material is first quality polyethylene resin.

HD600 SMOOTH GEOMEMBRANE SPECIFICATIONS

Property	Test Method	Test Value	Test Frequency
Thickness (ave)	ASTM D5199	60 mil	Per Roll
Thickness (min)		54 mil	
•Lowest individual of 25 values			
Tensile Properties	ASTM D638 Type IV		47,840 ft²*
•Yield Strength	(2 ipm)	2100 psi(126 lb/in)	
•Break Strength		3800 psi(228 lb/in)	
•Yield Elongation	(1.3" GL)	12 %	
•Break Elongation	(2.0" GL)	700 %	
Tear Resistance	ASTM D1004	700 ppi (42 lb)	47,840 ft²*
Puncture Resistance	ASTM D4833	1800 ppi(108 lb)	47,840 ft²*
Carbon Dispersion	ASTM D5596/3015	CAT 1 or 2	47,840 ft²*
Carbon Content	ASTM D4218/1603	2 - 3 %	47,840 ft²*
Dimensional Stab.	ASTM D1204	+/- 2.0 %	Resin Batch*
Density	ASTM D792/1505	0.940 g/cc	Resin Batch*
NTCL, single point	ASTM D5397 (App)	200 hours	Resin Batch*
OIT - Standard	ASTM D3895	100 minutes	Resin Batch*

Note* approximately
47,840 ft² = 14,500 lbs
Resin Batch = 180,000 lbs

Adolf Vaz
Quality Control Supervisor

June 14/2001
Date

GEOMEMBRANE CERTIFICATE OF ANALYSIS

Customer : TAYLOR CONSTRUCTION & GEOSYNTHETICS

Project Name : SOLUTIA INC., IL

Columbia Ref # : 163-01-01

We hereby certify that the polyethylene geomembrane for the above-identified shipment meets or exceeds Columbia Geosystems' specifications below. Testing was performed at the indicated frequency.

Columbia Geosystems' manufacturing lines are equipped with spark testers for pinhole detection. The raw polymeric material is first quality polyethylene resin.

HS601 SINGLE-SIDED GEOMEMBRANE SPECIFICATIONS

Property	Test Method	Test Value	Test Frequency
Thickness (ave)	ASTM D5199	60 mil	Per roll
Thickness (min)		54 mil	
•Lowest individual of 25 values			
•Asperity Height	GM12	10 mil	
Tensile Properties	ASTM D638 Type IV		47,840 ft²*
•Yield Strength	(2 ipm)	2100 psi(126 lb/in)	
•Break Strength		1500 psi(90 lb/in)	
•Yield Elongation	(1.3" GL)	12 %	
•Break Elongation	(2.0" GL)	100 %	
Tear Resistance	ASTM D1004	700 ppi(42 lb)	47,840 ft²*
Puncture Resistance	ASTM D4833	1500 ppi(90 lb)	47,840 ft²*
Carbon Dispersion	ASTM D5596/3015	CAT 1 or 2	47,840 ft²*
Carbon Content	ASTM D4218/1603	2 - 3 %	47,840 ft²*
Dimensional Stab.	ASTM D1204	+/- 2.0 %	Resin Batch*
Density	ASTM D792/1505	0.940 g/cc	Resin Batch*
NTCL, single point	ASTM D5397 (App)	200 hours	Resin Batch*
OIT - Standard	ASTM D3895	100 minutes	Resin Batch*

Note* approximately
47,840 ft² = 14,500 lbs
Resin Batch = 180,000 lbs

Adolf Vaz
Quality Control Supervisor

June 14/2001
Date

QUALITY ASSURANCE

Weld Rod

Resin Type	: HDPE
Resin Designation	: HHM TR-400G
Manufacturer's Resin Batch #	: 8201543
Columbia Geosystems Resin Batch #	: 754

Test Results:

Density	ASTM D792/1505	0.946 g/cc
O.I.T. 200° C, Al pan	ASTM D3895	155 minutes
Carbon Content	ASTM D4218	2.40 %
Carbon Dispersion	ASTM D5596	CAT 1

Columbia Geosystems Ltd. certifies that the welding rod is made from the above referenced HG geomembrane resin and is of the same type and quality as the geomembrane sheet supplied to the project.

Columbia Geosystems Ltd.

Adolf Vaz

Adolf Vaz
Quality Control Supervisor

GEOMEMBRANE STANDARD TESTING CERTIFICATION

PROJECT # 163-01-01

Roll Number	Thick Min mil	Thick Ave mil	Density g/cc	Carbon Cont. %	Carbon Disp	Stress Yield MD psi	Stress Yield TD psi
763C01-23120B	58.0	60.3	0.945	2.53	CAT 1	2697	2767
763C01-23124B	57.0	60.3		2.51	CAT 1	2725	2948
763C01-23128B	59.0	61.3	0.946	2.64	CAT 1	2730	2830
763D01-23132B	58.0	60.8		2.62	CAT 1	2702	2826
763D01-23136B	58.0	60.7	0.946	2.56	CAT 1	2691	2831
763A01-23140B	58.0	60.8		2.58	CAT 1	2681	2885
763A01-23144B	58.0	60.4	0.947	2.56	CAT 1	2818	2944
763B01-23148B	58.0	60.5		2.55	CAT 1	2857	2893
780B01-24069B	59.0	66.1	0.948	2.32	CAT 1	2804	2946
780A01-24073B	58.0	65.3		2.47	CAT 1	2711	2888
780A01-24077B	58.0	65.1	0.947	2.66	CAT 1	2673	2706
780B01-24081B	58.0	65.3		2.64	CAT 1	2579	2679

Page 1.1 Cont...

GEOMEMBRANE STANDARD TESTING CERTIFICATION

PROJECT # 163-01-01

Roll Number	Dimen Stabili TD %	Tear Resist MD ppi	Tear Resist TD ppi	Punct Resist ASTM ppi	Asper. Height Out mil
763C01-23120B	0.00	937	890	2256	
763C01-23124B		911	854	2310	
763C01-23128B		909	866	2248	
7 `D01-23132B	-0.03	939	901	2134	
763D01-23136B		886	942	2297	
763A01-23140B	-0.04	902	947	2283	
763A01-23144B	0.11	908	920	2203	
763B01-23148B		924	861	2239	
780B01-24069B		931	865	2260	26.7
780A01-24073B	0.11	886	860	2253	24.7
780A01-24077B		937	874	2303	24.9
780B01-24081B	-0.02	908	863	2290	21.9

Page 1.3 Cont...

GEOMEMBRANE STANDARD TESTING CERTIFICATION

PROJECT # 163-01-01

Roll Number	Stress Break MD psi	Stress Break TD psi	Strain Yield MD %	Strain Yield TD %	Strain Break MD %	Strain Break TD %	Dimen Stabili MD %
763C01-23120B	4990	5473	19.1	17.3	796	916	-0.19
763C01-23124B	5260	5382	17.2	15.5	847	909	
763C01-23128B	5046	5320	17.3	15.9	817	903	
763D01-23132B	5074	5362	18.4	17.2	807	895	-0.15
[illegible]D01-23136B	5282	5269	18.2	16.9	834	889	
763A01-23140B	5133	5244	17.7	16.7	809	871	-0.20
763A01-23144B	5291	5463	16.9	16.0	846	920	-0.11
763B01-23148B	5165	5468	17.0	15.7	830	919	
780B01-24069B	3430	2975	16.7	15.6	537	444	
780A01-24073B	3486	3186	17.7	16.0	550	529	-0.11
780A01-24077B	3449	3206	17.8	16.0	537	551	
780B01-24081B	3580	2886	17.8	16.9	578	499	-0.20

Page 1.2 Cont...

GEOMEMBRANE STANDARD TESTING CERTIFICATION

PROJECT # 163-01-01

Roll Number	Thick Min mil	Thick Ave mil	Density g/cc	Carbon Cont. %	Carbon Disp	Stress Yield MD psi	Stress Yield TD psi
781B01-24082B	57.0	64.9	0.948	2.52	CAT 1	2605	2717

Page 2.1 Cont...

GEOMEMBRANE STANDARD TESTING CERTIFICATION

PROJECT # 163-01-01

Roll Number	Stress Break MD psi	Stress Break TD psi	Strain Yield MD %	Strain Yield TD %	Strain Break MD %	Strain Break TD %	Dimen Stabili MD %
781B01-24082B	3227	3145	17.1	16.4	509	532	

Page 2.2 Cont...

GEOMEMBRANE STANDARD TESTING CERTIFICATION

PROJECT # 163-01-01

Roll Number	Dimen Stabili TD %	Tear Resist MD ppi	Tear Resist TD ppi	Punct Resist ASTM ppi	Asper. Height Out mil
781B01-24082B		933	859	2357	17.4

Adolf Nax
TECHNICIAN

June 14/2001
DATE

Page 2.3

Quality Control Certification

Customer: Taylor Construction & Geosynthetics
Project Name: Solutia Inc, IL
Columbia Ref #: 163-01-01

Columbia Geosystems Ltd., certifies that the geomembrane shipped to the above referenced project will meet or exceed the specification values for properties as follows, when tested to ASTM/GM test methods. The geomembrane were produced from Columbia Resin Batch # 763, 780 & 781.

Property	Test Method	Value
Stress Crack Resistance	D5397 (Appendix)	200 hours
Low Temperature Brittleness	D746	-107°F
Oven Aging - 90 days at 85° C	D5721/D3895	55 % OIT retained
UV Resistance -1600 hrs exposure	GM11/D5885	50 % OIT retained

The minimum average and lowest individual thickness per ASTM D5199 & asperity height value per GM12 for each of the roll are stated below:

Roll # Smooth	Thickness-mil Ave	Thickness-mil Low	Roll # Textured	Thickness-mil Ave	Thickness-mil Low	Asperity - mil Height
23118B	60.8	58.0	24069B	66.1	59.0	26.7
23119B	60.5	58.0	24070B	66.1	59.0	24.5
23120B	60.3	58.0	24071B	65.1	59.0	22.9
23123B	60.3	57.0	24072B	65.6	58.0	24.5
23125B	60.5	57.0	24073B	65.3	58.0	24.7
23126B	60.5	57.0	24074B	64.8	59.0	23.2
23130B	60.7	58.0	24075B	64.7	59.0	24.1
23131B	60.7	58.0	24076B	64.9	59.0	21.0
23133B	60.7	58.0	24077B	65.1	58.0	24.9
23136B	60.7	58.0	24078B	65.5	58.0	23.6
23137B	60.7	58.0	24079B	65.3	58.0	27.7
23141B	60.6	58.0	24080B	65.2	57.0	26.6
23142B	60.3	57.0	24081B	65.3	58.0	21.9
23147B	60.6	58.0	24082B	64.9	57.0	17.4

Adolf Vaz
Quality Control Supervisor

June 14, 2001
Date

POLYETHYLENE CERTIFICATE OF ANALYSIS

Project : 163-01-04
Customer : TAYLOR CONSTRUCTION & GEOSYNTHETICS TYPE:PHILLIPS

Project Name : SOLUTIA INC., IL

Columbia Ref : 163-01-04
We hereby certify that the polyethylene resin for the above identified shipment, meets or exceeds Columbia Geosystem's specifications, below. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 792/1505. Where appropriate, carbon content was determined according to ASTM D 4218. The average test results are listed in the table below.

RESIN SPECIFICATIONS

Melt flow index	1.0 g/10 minutes Maximum
Density - HDPE	0.930 g/cc Minimum
Density - LLDPE	0.926 g/cc Maximum

Lot Number	Columbia Batch #	Melt Flow Index g/10	Density g/cc	Carbon Content %	OIT Min.
8210334	778	0.098	0.937	N/A	N/A
8210338	783	0.100	0.936	N/A	N/A

Adolf Vaz
C. TECHNICIAN

Aug 10/2001
DATE

Page 1.1

Chevron Phillips Chemical Company LP

Houston Chemical Complex
P.O. Box 792, Pasadena, TX 77501

March 28, 2001

PSN# 7752-01

FAX: 403-235-6864

Columbia Geosystems
1415 28th Street N.E.
Calgary AB, Canada T2A 2P6

Greg Sharrun

This letter will certify that the Marlex* resin shown below, as supplied by Chevron Phillips Chemical Company, conforms to our manufacturing specification.

Type:	HHM TR-400G
Lot Number:	8210334
P.O. Number:	7266
Date Shipped:	03/28/01
Package:	PSPX 1619
Quantity:	185350 LBS.
HLMI Flow Rate,ASTM D1238:	13.5 G/10 MIN
Density, ASTM D1505:	.938 G/CC
Melt Index, ASTM D1238:	.100 G/10 MIN
Production Date:	03/16/01

Paul S. Newbold
Sr. Certification Systems Specialist

For COA questions call Carol Meza, 713-475-3625

* Reg. U.S. Pat. Off.

cc: QA-File-RC

CGL BATCH # 778

A/L

Chevron Phillips Chemical Company LP

Houston Chemical Complex
P.O. Box 792, Pasadena, TX 77501

April 02, 2001

PSN# 8082-01

FAX: 403-235-6864

Columbia Geosystems
1415 28th Street N.E.
Calgary AB, Canada T2A 2P6

Greg Sharrun

This letter will certify that the Marlex* resin shown below, as supplied by Chevron Phillips Chemical Company, conforms to our manufacturing specification.

Type:	HHM TR-400G
Lot Number:	8210338
P.O. Number:	7272
Date Shipped:	04/02/01
Package:	PSPX 8118
Quantity:	184650 LBS.
HLMI Flow Rate,ASTM D1238:	13.1 G/10 MIN
Density, ASTM D1505:	.938 G/CC
Melt Index, ASTM D1238:	.110 G/10 MIN
Production Date:	03/17/01

Paul S. Newbold
Sr. Certification Systems Specialist

For COA questions call Carol Meza, 713-475-3625

* Reg. U.S. Pat. Off.

cc: QA-File-RC

CGL BATCH # 783

A/L

GEOMEMBRANE CERTIFICATE OF ANALYSIS

Customer : TAYLOR CONSTRUCTION & GEOSYNTHETICS

Project Name : SOLUTIA INC., IL

Columbia Ref # : 163-01-04

We hereby certify that the polyethylene geomembrane for the above-identified shipment meets or exceeds Columbia Geosystems' specifications below. Testing was performed at the indicated frequency.

Columbia Geosystems' manufacturing lines are equipped with spark testers for pinhole detection. The raw polymeric material is first quality polyethylene resin.

HD600 SMOOTH GEOMEMBRANE SPECIFICATIONS

Property	Test Method	Test Value	Test Frequency
Thickness (ave)	ASTM D5199	60 mil	Per Roll
Thickness (min)		54 mil	
•Lowest individual of 25 values			
Tensile Properties	ASTM D638 Type IV		47,840 ft²*
•Yield Strength	(2 ipm)	2100 psi(126 lb/in)	
•Break Strength		3800 psi(228 lb/in)	
•Yield Elongation	(1.3" GL)	12 %	
•Break Elongation	(2.0" GL)	700 %	
Tear Resistance	ASTM D1004	700 ppi (42 lb)	47,840 ft²*
Puncture Resistance	ASTM D4833	1800 ppi(108 lb)	47,840 ft²*
Carbon Dispersion	ASTM D5596/3015	CAT 1 or 2	47,840 ft²*
Carbon Content	ASTM D4218/1603	2 - 3 %	47,840 ft²*
Dimensional Stab.	ASTM D1204	+/- 2.0 %	Resin Batch*
Density	ASTM D792/1505	0.940 g/cc	Resin Batch*
NTCL, single point	ASTM D5397 (App)	200 hours	Resin Batch*
OIT - Standard	ASTM D3895	100 minutes	Resin Batch*

Note* approximately
47,840 ft² = 14,500 lbs
Resin Batch = 180,000 lbs

Adolf Vaz
Quality Control Supervisor

Aug 10/2001
Date

GEOMEMBRANE CERTIFICATE OF ANALYSIS

Customer : TAYLOR CONSTRUCTION & GEOSYNTHETICS

Project Name : SOLUTIA INC., IL

Columbia Ref # : 163-01-04

We hereby certify that the polyethylene geomembrane for the above-identified shipment meets or exceeds Columbia Geosystems' specifications below. Testing was performed at the indicated frequency.

Columbia Geosystems' manufacturing lines are equipped with spark testers for pinhole detection. The raw polymeric material is first quality polyethylene resin.

HS601 SINGLE-SIDED GEOMEMBRANE SPECIFICATIONS

Property	Test Method	Test Value	Test Frequency
Thickness (ave)	ASTM D5199	60 mil	Per roll
Thickness (min)		54 mil	
•Lowest individual of 25 values			
•Asperity Height	GM12	10 mil	
Tensile Properties	ASTM D638 Type IV		47,840 ft²*
•Yield Strength	(2 ipm)	2100 psi(126 lb/in)	
•Break Strength		1500 psi(90 lb/in)	
•Yield Elongation	(1.3" GL)	12 %	
•Break Elongation	(2.0" GL)	100 %	
Tear Resistance	ASTM D1004	700 ppi(42 lb)	47,840 ft²*
Puncture Resistance	ASTM D4833	1500 ppi(90 lb)	47,840 ft²*
Carbon Dispersion	ASTM D5596/3015	CAT 1 or 2	47,840 ft²*
Carbon Content	ASTM D4218/1603	2 - 3 %	47,840 ft²*
Dimensional Stab.	ASTM D1204	+/- 2.0 %	Resin Batch*
Density	ASTM D792/1505	0.940 g/cc	Resin Batch*
NTCL, single point	ASTM D5397 (App)	200 hours	Resin Batch*
OIT - Standard	ASTM D3895	100 minutes	Resin Batch*

Note* approximately
47,840 ft² = 14,500 lbs
Resin Batch = 180,000 lbs

Adolf Vaz
Quality Control Supervisor

Aug 10/2001
Date

GEOMEMBRANE STANDARD TESTING CERTIFICATION

PROJECT # 163-01-04

Roll Number	Thick Min mil	Thick Ave mil	Density g/cc	Carbon Cont. %	Carbon Disp	Stress Yield MD psi	Stress Yield TD psi
778A01-23920B	59.0	65.3	0.948	2.50	CAT 1	2770	2788
783D01-24304B	59.0	61.5	0.948	2.62	CAT 1	2753	2814

Page 1.1 Cont...

GEOMEMBRANE STANDARD TESTING CERTIFICATION

PROJECT # 163-01-04

Roll Number	Stress Break MD psi	Stress Break TD psi	Strain Yield MD %	Strain Yield TD %	Strain Break MD %	Strain Break TD %	Tear Resist MD ppi
778A01-23920B	3272	2671	16.4	15.2	544	465	875
783D01-24304B	4833	5187	17.4	15.5	814	911	883

Page 1.2 Cont...

GEOMEMBRANE STANDARD TESTING CERTIFICATION

PROJECT # 163-01-04

Roll Number	Tear Resist TD ppi	Punct Resist ASTM ppi	Dimen Stabili MD %	Dimen Stabili TD %
778A01-23920B	802	2213		
783D01-24304B	813	2187	-0.18	0.24

Adolf Nor
TECHNICIAN

Aug 10/2001
DATE

Columbia Geosystems Ltd. 1415 – 28 St. N.E., Calgary, Alberta T2A 2P6 Tel. (403) 273-5152 Fax. (403) 235-6864

Quality Control Certification

Customer: Taylor Construction & Geosynthetics
Project Name: Solutia Inc, IL
Columbia Ref #: 163-01-04

Columbia Geosystems Ltd., certifies that the geomembrane shipped to the above referenced project will meet or exceed the specification values for properties as follows, when tested to ASTM/GM test methods. The geomembrane were produced from Columbia Resin Batch # 778 & 783.

Property	Test Method	Value
Stress Crack Resistance	D5397 (Appendix)	200 hours
Low Temperature Brittleness	D746	-107°F
Oven Aging - 90 days at 85° C	D5721/D3895	55 % OIT retained
UV Resistance -1600 hrs exposure	GM11/D5885	50 % OIT retained

The Asperity height value per GM12 for the supplied roll is stated below:

Roll # Textured	Asperity - mil Height
23920B	25.0

Adolf Vaz
Quality Control Supervisor

August 10, 2001
Date

2.1.2.2 GCL

BENTOFIX TECHNOLOGIES, INC.

BENTOFIX MANUFACTURING CERTIFICATION

CUSTOMER: FLUID SYSTEMS

SHIP DATE: 06-26-2001

PROJECT: SOLUTIA INC.

NO. ROLLS/BOL#: 17/10042

ORDER NO.: 20757OD

PRODUCT TYPE: BENTOFIX NSL

Bentofix Technologies, Inc. hereby certifies that the Bentofix Geosynthetic Clay Liner purchased and shipped for the above referenced project meets or exceeds Bentofix Technologies, Inc.'s specifications for Bentofix.

The Bentofix product has been continuously inspected for the presence of needles and is certified to be needle free.

The tests listed for the bentonite component have been performed on each batch of bentonite. The Swell Index according to ASTM D5890, the Moisture Content according to ASTM D4643 and the Fluid Loss according to ASTM D5891 were tested at least once per 100,000 lbs of bentonite.

The tests listed for the finished geocomposite product have been performed at least once every 3,716 sq. mt. [40,000 sq. ft.] for the Bentonite Mass Per Unit Area according to ASTM D5993 and the Grab Tensile/Elongation and Peel Strength according to ASTM D4632.

The tests listed for the finished geocomposite product have been performed at least once every 18,580 sq. mt. [200,000 sq. ft.] for the geotextile components.

The finished geocomposite water permeability was tested at least once every 9,290 sq. mt. [100,000 sq. ft.] according to method ASTM D5084. The Index Flux was tested at least once per week according to ASTM D5887 and meets the required specification of < 1 x 10-8 m3/m2/sec.

The lot and roll numbers for this project are as follows:

LOT# 21052802
ROLL# 40071

LOT# 21062003
ROLL# 41273, 41274, 41275, 41276, 41279, 41280, 41285, 41286

LOT# 21062203
ROLL# 41320, 41322, 41323, 41324, 41326, 41332, 41333, 41334

KEVIN NEWMAN
Quality Control Manager

06/27/2001
DATE

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

t #	Roll #	Date Produced	Product	Length	Width	BOL#
21052802	40071	May 28, 2001	BENTOFIX NS	150.00 45.72	15.5 ft 4.72 m	10042

Finished Product

Type	BENTOFIX NS			
Mass	5,372	g/m²	1.098	lbs/ft²
Tensile Strength				
Length	60	Kg	132.00	lbs
Elongation				
Length	84	%		
Peels	7.90	Kg	17.38	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.4	%		

Top Layer

Type	NON-WOVEN			
Layer #	010524205B-2			
Mass	268	g/m²	0.055	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8543627			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	422333-1			
Montmorillonite	90	%		
Swell Index	29	ml		
Moisture Content	8.4	%		
Moisture Absorption	811	%		
Mass of Bentonite	4,994	g/m²	1.021	lbs/ft²
Fluid Loss	14.8	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

t #	Roll #	Date Produced	Product	Length	Width	BOL#
21062003	41273	June 21, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10042

Finished Product

Type	BENTOFIX NSL			
Mass	5,042	g/m²	1.031	lbs/ft²
Tensile Strength				
Length	56	Kg	123.20	lbs
Elongation				
Length	82	%		
Peels	7.20	Kg	15.84	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.9	%		

Top Layer

Type	NON-WOVEN			
Layer #	010606205B-1			
Mass	250	g/m²	0.051	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8388760			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458706-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.9	%		
Moisture Absorption	775	%		
Mass of Bentonite	4,682	g/m²	0.957	lbs/ft²
Fluid Loss	14.2	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

#	Roll #	Date Produced	Product	Length	Width	BOL#
21062003	41285	June 21, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10042

Finished Product

Type	BENTOFIX NSL			
Mass	4,769	g/m²	0.975	lbs/ft²
Tensile Strength				
Length	67	Kg	147.40	lbs
Elongation				
Length	86	%		
Peels	8.10	Kg	17.82	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.9	%		

Top Layer

Type	NON-WOVEN			
Layer #	010607205B			
Mass	252	g/m²	0.052	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8388760			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458706-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.9	%		
Moisture Absorption	775	%		
Mass of Bentonite	4,407	g/m²	0.901	lbs/ft²
Fluid Loss	14.2	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

Lot #	Roll #	Date Produced	Product	Length	Width	BOL#
21062203	41320	June 22, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10042

Finished Product

Type	BENTOFIX NSL			
Mass	4,897	g/m²	1.001	lbs/ft²
Tensile Strength				
Length	70	Kg	154.00	lbs
Elongation				
Length	94	%		
Peels	8.90	Kg	19.58	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.5	%		

Top Layer

Type	NON-WOVEN			
Layer #	010607205B-1			
Mass	234	g/m²	0.048	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8388180			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	422775-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.5	%		
Moisture Absorption	835	%		
Mass of Bentonite	4,553	g/m²	0.931	lbs/ft²
Fluid Loss	12.8	ml		

BENTOFIX TECHNOLOGIES, INC.

BENTOFIX MANUFACTURING CERTIFICATION

CUSTOMER: FLUID SYSTEMS **SHIP DATE:** 06-27-2001

PROJECT: SOLUTIA INC. **NO. ROLLS/BOL#:** 18/10044

ORDER NO.: 20757OD **PRODUCT TYPE:** BENTOFIX NSL

Bentofix Technologies, Inc. hereby certifies that the Bentofix Geosynthetic Clay Liner purchased and shipped for the above referenced project meets or exceeds Bentofix Technologies, Inc.'s specifications for Bentofix.

The Bentofix product has been continuously inspected for the presence of needles and is certified to be needle free.

The tests listed for the bentonite component have been performed on each batch of bentonite. The Swell Index according to ASTM D5890, the Moisture Content according to ASTM D4643 and the Fluid Loss according to ASTM D5891 were tested at least once per 100,000 lbs of bentonite.

The tests listed for the finished geocomposite product have been performed at least once every 3,716 sq. mt. [40,000 sq. ft.] for the Bentonite Mass Per Unit Area according to ASTM D5993 and the Grab Tensile/Elongation and Peel Strength according to ASTM D4632.

The tests listed for the finished geocomposite product have been performed at least once every 18,580 sq. mt. [200,000 sq. ft.] for the geotextile components.

The finished geocomposite water permeability was tested at least once every 9,290 sq. mt. [100,000 sq. ft.] according to method ASTM D5084. The Index Flux was tested at least once per week according to ASTM D5887 and meets the required specification of < 1 x 10-8 m3/m2/sec.

The lot and roll numbers for this project are as follows:

LOT# 21062003

ROLL# 41240, 41244, 41245, 41246, 41257, 41258, 41259, 41260, 41261, 41262, 41263, 41264, 41265, 41266, 41267, 41277, 41278

LOT# 21062203

ROLL# 41321

KEVIN NEWMAN
Quality Control Manager

06/28/2001
DATE

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

t #	Roll #	Date Produced	Product	Length	Width	BOL#
21062003	41240	June 21, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10044

Finished Product

Type	BENTOFIX NSL			
Mass	5,231	g/m²	1.069	lbs/ft²
Tensile Strength				
Length	66	Kg	145.20	lbs
Elongation				
Length	101	%		
Peels	11.30	Kg	24.86	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.9	%		

Top Layer

Type	NON-WOVEN			
Layer #	010607205B-1			
Mass	234	g/m²	0.048	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8535353			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458706-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.9	%		
Moisture Absorption	775	%		
Mass of Bentonite	4,887	g/m²	0.999	lbs/ft²
Fluid Loss	14.2	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

ot #	Roll #	Date Produced	Product	Length	Width	BOL#
21062003	41257	June 21, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10044

Finished Product

Type	BENTOFIX NSL			
Mass	5,288	g/m²	1.081	lbs/ft²
Tensile Strength				
Length	62	Kg	136.40	lbs
Elongation				
Length	106	%		
Peels	10.80	Kg	23.76	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.9	%		

Top Layer

Type	NON-WOVEN			
Layer #	010606205B-1			
Mass	250	g/m²	0.051	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8433075			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458706-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.9	%		
Moisture Absorption	775	%		
Mass of Bentonite	4,928	g/m²	1.007	lbs/ft²
Fluid Loss	14.2	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

ɔt #	Roll #	Date Produced	Product	Length	Width	BOL#
21062003	41277	June 21, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10044

Finished Product

Type	BENTOFIX NSL			
Mass	5,042	g/m²	1.031	lbs/ft²
Tensile Strength				
Length	56	Kg	123.20	lbs
Elongation				
Length	82	%		
Peels	7.20	Kg	15.84	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.9	%		

Top Layer

Type	NON-WOVEN			
Layer #	010606205B-1			
Mass	250	g/m²	0.051	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8388760			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458706-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.9	%		
Moisture Absorption	775	%		
Mass of Bentonite	4,682	g/m²	0.957	lbs/ft²
Fluid Loss	14.2	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

nt #	Roll #	Date Produced	Product	Length	Width	BOL#
21062203	41321	June 22, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10044

Finished Product

Type	BENTOFIX NSL			
Mass	4,897	g/m²	1.001	lbs/ft²
Tensile Strength				
Length	70	Kg	154.00	lbs
Elongation				
Length	94	%		
Peels	8.90	Kg	19.58	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.5	%		

Top Layer

Type	NON-WOVEN			
Layer #	010607205B-1			
Mass	234	g/m²	0.048	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8388180			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	422775-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.5	%		
Moisture Absorption	835	%		
Mass of Bentonite	4,553	g/m²	0.931	lbs/ft²
Fluid Loss	12.8	ml		

BENTOFIX TECHNOLOGIES, INC.

BENTOFIX MANUFACTURING CERTIFICATION

CUSTOMER: FLUID SYSTEMS

SHIP DATE: 06-27-2001

PROJECT: SOLUTIA INC.

NO. ROLLS/BOL#: 19/10050

ORDER NO.: 20757OD

PRODUCT TYPE: BENTOFIX NSL

Bentofix Technologies, Inc. hereby certifies that the Bentofix Geosynthetic Clay Liner purchased and shipped for the above referenced project meets or exceeds Bentofix Technologies, Inc.'s specifications for Bentofix.

The Bentofix product has been continuously inspected for the presence of needles and is certified to be needle free.

The tests listed for the bentonite component have been performed on each batch of bentonite. The Swell Index according to ASTM D5890, the Moisture Content according to ASTM D4643 and the Fluid Loss according to ASTM D5891 were tested at least once per 100,000 lbs of bentonite.

The tests listed for the finished geocomposite product have been performed at least once every 3,716 sq. mt. [40,000 sq. ft.] for the Bentonite Mass Per Unit Area according to ASTM D5993 and the Grab Tensile/Elongation and Peel Strength according to ASTM D4632.

The tests listed for the finished geocomposite product have been performed at least once every 18,580 sq. mt. [200,000 sq. ft.] for the geotextile components.

The finished geocomposite water permeability was tested at least once every 9,290 sq. mt. [100,000 sq. ft.] according to method ASTM D5084. The Index Flux was tested at least once per week according to ASTM D5887 and meets the required specification of < 1 x 10-8 m3/m2/sec.

The lot and roll numbers for this project are as follows:

LOT# 11062503
ROLL# 29681, 29682, 29684, 29685, 29 698, 29701, 29705, 29710, 29711, 29712,29727, 29736, 29761, 29763

LOT# 11062603
ROLL# 29779, 29780, 29783

LOT# 21062003
ROLL# 41281

LOT# 21062203
ROLL# 41325

Ann Greene
for- KEVIN NEWMAN
Quality Control Manager

06/30/2001.
DATE

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

Lot #	Roll #	Date Produced	Product	Length	Width	BOL#
11062503	29681	June 25, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10050

Finished Product

Type	BENTOFIX NSL			
Mass	4,617	g/m²	0.944	lbs/ft²
Tensile Strength				
Length	75	Kg	165.00	lbs
Elongation				
Length	105	%		
Peels	9.80	Kg	21.56	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.7	%		

Top Layer

Type	NON-WOVEN			
Layer #	010516205B			
Mass	251	g/m²	0.051	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8583667			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	446488			
Montmorillonite	90	%		
Swell Index	25	ml		
Moisture Content	8.7	%		
Moisture Absorption	783	%		
Mass of Bentonite	4,256	g/m²	0.870	lbs/ft²
Fluid Loss	12.8	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

Lot #	Roll #	Date Produced	Product	Length	Width	BOL#
11062503	29698	June 25, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10050

Finished Product

Type	BENTOFIX NSL			
Mass	5,000	g/m²	1.022	lbs/ft²
Tensile Strength				
Length	81	Kg	178.20	lbs
Elongation				
Length	107	%		
Peels	10.00	Kg	22.00	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.7	%		

Top Layer

Type	NON-WOVEN			
Layer #	010624205B			
Mass	243	g/m²	0.050	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8583667			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	446488			
Montmorillonite	90	%		
Swell Index	25	ml		
Moisture Content	8.7	%		
Moisture Absorption	783	%		
Mass of Bentonite	4,647	g/m²	0.950	lbs/ft²
Fluid Loss	12.8	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

Lot #	Roll #	Date Produced	Product	Length	Width	BOL#
11062503	29727	June 25, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10050

Finished Product

Type	BENTOFIX NSL			
Mass	4,881	g/m²	0.998	lbs/ft²
Tensile Strength				
Length	73	Kg	160.60	lbs
Elongation				
Length	97	%		
Peels	8.30	Kg	18.26	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.7	%		

Top Layer

Type	NON-WOVEN			
Layer #	010624205B			
Mass	243	g/m²	0.050	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8375760			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	446488			
Montmorillonite	90	%		
Swell Index	25	ml		
Moisture Content	8.7	%		
Moisture Absorption	783	%		
Mass of Bentonite	4,528	g/m²	0.925	lbs/ft²
Fluid Loss	12.8	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

Lot #	Roll #	Date Produced	Product	Length	Width	BOL#
11062503	29761	June 26, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10050

Finished Product

Type	BENTOFIX NSL			
Mass	4,912	g/m²	1.004	lbs/ft²
Tensile Strength				
Length	63	Kg	138.60	lbs
Elongation				
Length	96	%		
Peels	12.60	Kg	27.72	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.7	%		

Top Layer

Type	NON-WOVEN			
Layer #	010605205B			
Mass	233	g/m²	0.048	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8366163			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	446488			
Montmorillonite	90	%		
Swell Index	25	ml		
Moisture Content	8.7	%		
Moisture Absorption	783	%		
Mass of Bentonite	4,569	g/m²	0.934	lbs/ft²
Fluid Loss	12.8	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

ot #	Roll #	Date Produced	Product	Length	Width	BOL#
11062603	29779	June 26, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10050

Finished Product

Type	BENTOFIX NSL			
Mass	5,002	g/m²	1.022	lbs/ft²
Tensile Strength				
Length	59	Kg	129.80	lbs
Elongation				
Length	92	%		
Peels	7.20	Kg	15.84	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.0	%		

Top Layer

Type	NON-WOVEN			
Layer #	010605205B			
Mass	233	g/m²	0.048	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8366163			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	422548-2			
Montmorillonite	90	%		
Swell Index	25	ml		
Moisture Content	8.0	%		
Moisture Absorption	722	%		
Mass of Bentonite	4,659	g/m²	0.952	lbs/ft²
Fluid Loss	14.0	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

ot #	Roll #	Date Produced	Product	Length	Width	BOL#
21062003	41281	June 21, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10050

Finished Product

Type	BENTOFIX NSL			
Mass	5,042	g/m²	1.031	lbs/ft²
Tensile Strength				
Length	56	Kg	123.20	lbs
Elongation				
Length	82	%		
Peels	7.20	Kg	15.84	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.9	%		

Top Layer

Type	NON-WOVEN			
Layer #	010607205B			
Mass	252	g/m²	0.052	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8388760			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458706-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.9	%		
Moisture Absorption	775	%		
Mass of Bentonite	4,680	g/m²	0.957	lbs/ft²
Fluid Loss	14.2	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

ɔt #	Roll #	Date Produced	Product	Length	Width	BOL#
21062203	41325	June 22, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10050

Finished Product

Type	BENTOFIX NSL			
Mass	4,897	g/m²	1.001	lbs/ft²
Tensile Strength				
Length	70	Kg	154.00	lbs
Elongation				
Length	94	%		
Peels	8.90	Kg	19.58	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.5	%		

Top Layer

Type	NON-WOVEN			
Layer #	010607205B			
Mass	252	g/m²	0.052	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8388180			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	422775-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.5	%		
Moisture Absorption	835	%		
Mass of Bentonite	4,535	g/m²	0.927	lbs/ft²
Fluid Loss	12.8	ml		

BENTOFIX TECHNOLOGIES, INC.

BENTOFIX MANUFACTURING CERTIFICATION

CUSTOMER: FLUID SYSTEMS

SHIP DATE: 06-28-2001

PROJECT: SOLUTIA INC.

NO. ROLLS/BOL#: 19/10061

ORDER NO.: 20757OD

PRODUCT TYPE: BENTOFIX NSL

Bentofix Technologies, Inc. hereby certifies that the Bentofix Geosynthetic Clay Liner purchased and shipped for the above referenced project meets or exceeds Bentofix Technologies, Inc.'s specifications for Bentofix.

The Bentofix product has been continuously inspected for the presence of needles and is certified to be needle free.

The tests listed for the bentonite component have been performed on each batch of bentonite. The Swell Index according to ASTM D5890, the Moisture Content according to ASTM D4643 and the Fluid Loss according to ASTM D5891 were tested at least once per 100,000 lbs of bentonite.

The tests listed for the finished geocomposite product have been performed at least once every 3,716 sq. mt. [40,000 sq. ft.] for the Bentonite Mass Per Unit Area according to ASTM D5993 and the Grab Tensile/Elongation and Peel Strength according to ASTM D4632.

The tests listed for the finished geocomposite product have been performed at least once every 18,580 sq. mt. [200,000 sq. ft.] for the geotextile components.

The finished geocomposite water permeability was tested at least once every 9,290 sq. mt. [100,000 sq. ft.] according to method ASTM D5084. The Index Flux was tested at least once per week according to ASTM D5887 and meets the required specification of < 1 x 10-8 m3/m2/sec.

The lot and roll numbers for this project are as follows:

LOT# 11061303
ROLL# 29226, 29233, 29234, 29235, 29236, 29240, 29241, 29242, 29243, 29247, 29248, 29249

LOT# 21062003
ROLL# 41217, 41225, 41229, 41230, 41231, 41233, 41236

KEVIN NEWMAN
Quality Control Manager

06/29/2001
DATE

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

#	Roll #	Date Produced	Product	Length	Width	BOL#
11061303	29226	June 13, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10061

Finished Product

Type	BENTOFIX NSL			
Mass	4,825	g/m²	0.986	lbs/ft²
Tensile Strength				
Length	51	Kg	112.20	lbs
Elongation				
Length	83	%		
Peels	7.60	Kg	16.72	lbs
Permeability	<5E-9	cm/s		
Moisture Content	7.4	%		

Top Layer

Type	NON-WOVEN			
Layer #	010611205B			
Mass	258	g/m²	0.053	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8590156			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458563-2			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	7.4	%		
Moisture Absorption	766	%		
Mass of Bentonite	4,457	g/m²	0.911	lbs/ft²
Fluid Loss	13.4	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

	Roll #	Date Produced	Product	Length	Width	BOL#
11061303	29240	June 13, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10061

Finished Product

Type	BENTOFIX NSL			
Mass	4,726	g/m²	0.966	lbs/ft²
Tensile Strength				
Length	55	Kg	121.00	lbs
Elongation				
Length	76	%		
Peels	10.90	Kg	23.98	lbs
Permeability	<5E-9	cm/s		
Moisture Content	7.4	%		

Top Layer

Type	NON-WOVEN			
Layer #	010612205B-1			
Mass	235	g/m²	0.048	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8590158			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458563-2			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	7.4	%		
Moisture Absorption	766	%		
Mass of Bentonite	4,381	g/m²	0.895	lbs/ft²
Fluid Loss	13.4	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

L	Roll #	Date Produced	Product	Length	Width	BOL#
21062003	41217	June 21. 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10061

Finished Product

Type	BENTOFIX NSL			
Mass	5,358	g/m²	1.095	lbs/ft²
Tensile Strength				
Length	62	Kg	136.40	lbs
Elongation				
Length	92	%		
Peels	10.60	Kg	23.32	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.9	%		

Top Layer

Type	NON-WOVEN			
Layer #	010608205B-1			
Mass	224	g/m²	0.046	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8298131			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458706-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.9	%		
Moisture Absorption	775	%		
Mass of Bentonite	5,024	g/m²	1.027	lbs/ft²
Fluid Loss	14.2	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

	Roll #	Date Produced	Product	Length	Width	BOL#
21062003	41225	June 21, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10061

Finished Product

Type	BENTOFIX NSL			
Mass	5,328	g/m²	1.089	lbs/ft²
Tensile Strength				
Length	64	Kg	140.80	lbs
Elongation				
Length	94	%		
Peels	8.80	Kg	19.36	lbs
Permeability	<5E-9	cm/s		
Moisture Content	8.9	%		

Top Layer

Type	NON-WOVEN			
Layer #	010607205B-1			
Mass	234	g/m²	0.048	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8535353			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	458706-1			
Montmorillonite	90	%		
Swell Index	24	ml		
Moisture Content	8.9	%		
Moisture Absorption	775	%		
Mass of Bentonite	4,984	g/m²	1.019	lbs/ft²
Fluid Loss	14.2	ml		

BENTOFIX TECHNOLOGIES, INC.

BENTOFIX MANUFACTURING CERTIFICATION

CUSTOMER: FLUID SYSTEMS

SHIP DATE: 08-03-2001

PROJECT: SOLUTIA INC.

NO. ROLLS/BOL#: 4/10276

ORDER NO.: 22277OD

PRODUCT TYPE: BENTOFIX NSL

Bentofix Technologies, Inc. hereby certifies that the Bentofix Geosynthetic Clay Liner purchased and shipped for the above referenced project meets or exceeds Bentofix Technologies, Inc.'s specifications for Bentofix.

The Bentofix product has been continuously inspected for the presence of needles and is certified to be needle free.

The tests listed for the bentonite component have been performed on each batch of bentonite. The Swell Index according to ASTM D5890, the Moisture Content according to ASTM D4643 and the Fluid Loss according to ASTM D5891 were tested at least once per 100,000 lbs of bentonite.

The tests listed for the finished geocomposite product have been performed at least once every 3,716 sq. mt. [40,000 sq. ft.] for the Bentonite Mass Per Unit Area according to ASTM D5993 and the Grab Tensile/Elongation and Peel Strength according to ASTM D4632.

The tests listed for the finished geocomposite product have been performed at least once every 18,580 sq. mt. [200,000 sq. ft.] for the geotextile components.

The finished geocomposite water permeability was tested at least once every 9,290 sq. mt. [100,000 sq. ft.] according to method ASTM D5084. The Index Flux was tested at least once per week according to ASTM D5887 and meets the required specification of < 1 x 10-8 m3/m2/sec.

The lot and roll numbers for this project are as follows:

LOT# 21072303
ROLL# 43035, 43036, 43037

LOT# 21072403
ROLL# 43044

Anne Green

for- **KEVIN NEWMAN**
Quality Control Manager

08/21/2001.
DATE

SU D AT SHIPPER'S REQUEST

eceived, subject to the classifications and tariffs in effect on the date of issue of this Original Bill of Lading,or, received subject to the Rules for the Carriage of Express and Non-Carload reight Traffic and Tariffs in effect on the date of issue of this Original shipping contract (Bill of Lading), goods described below, in apparent good order, except as noted (contents and ondition of contents of packages unknown), marked, consigned, and destined as indicated below, which said Company agrees to carry to its usual place of delivery at said destination, if on s road, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said goods over all or any portion of said route to estination, and as to each party at any time interested in all or any of said goods, that every service to be performed hereunder shall be subject to all the terms and conditions (which are ereby incorporated by reference and have the same force and effect as if the same were severally, fully and specifically set forth herein).

. a d by the Board of Transport Commissioners for Canada by General Order No. T-5 dated February 1, 1965 set forth in the Canadian Freight Classification and also available at all Ral gency stations and freight offices upon request, when said goods are carried by a rail carrier; or
. of the bill of lading of the water carrier as provided in its tariff of Rules and Regulations when said goods are carried by a water carrier; or
. of the bill of lading set forth in or prescribed by the relevant tariffs, classification, statutes and regulations pertaining to motor carrier's services when said goods are carried by a motor carrier; or
. of the bill of lading form prescribed by O.C. 986-79 - 4 April 1979, when said goods originating in Quebec are to be carried by a motor carrier;
. or approved by the The Board of Transport Commissioners for Canada by General Order No. T-43, set forth in the Rules for the Carriage of Express and Non-Carload Freight Traffic and also available at all express and railway agency stations and express and freight offices upon request, when said goods are carried by a rail carrier and which are agreed to by the shipper and accepted for himself and his assigns.

AME OF CARRIER	POINT OF ORIGIN	DATE	CARRIER'S NO.
RBM Transport	BARRIE, ONTARIO, CANADA	3-Aug-01	

ONSIGNEE	SHIPPER
Solutia Inc	LMS Contracting BENTOFIX TECHNOLOGIES, INC.

ONSIGNEE STREET ADDRESS	MAIL ADDRESS (NOT FOR PURPOSES OF DELIVERY)
15 Judith Lane	

ESTINATION (CITY-TOWN)	
Cahokia, IL	62206 USA

CUTE	CAR INITIAL	CAR NO. TRAILER NO. CONTAINER NO.	RBM

IF CHARGES ARE TO BE PREPAID, WRITE OR STAMP HERE,

TO BE PREPAID

COLLECT

RECEIVED $

TO APPLY IN PREPAYMENT OF THE CHARGES ON THE PROPERTY DESCRIBED HEREON.

AGENT OR CASHIER

PIECES / PACKAGES	DESCRIPTION OF ARTICLES AND SPECIAL MARKS	WEIGHT (Subject to Correction)	RATE
CUSTOMER	ORDER NBR. 22277OD	Serrot Sc #9134 SU	
	INVOICE NBR. 10382		
4 rolls	BENTOFIX MATERIAL	9399	lbs
bags	GRANULAR BENTONITE		
	SITE CONTACT:		
	Lee Taylor @ 317-745-2202		
	CALL 24 HOURS PRIOR TO DELIVERY TO SCHEDULE UNLOADING		
	ALL FLATBED LOADS MUST BE TARPED		

FOR CARRIER'S USE CHARGES

ADVANCE AND/OR BEYOND	$
MISC.	$
BASIC	$
PIECE	$
VALUE	$
TOTAL	$

pecial agreement between consignor d carrier, please advise here

TO BE DELIVERED: Mon Aug 6

SHIPPER SHOW AMOUNT OF C.O.D.

AMOUNT $

C FEE $

O ☐ COLLECT ☐ PREPAID

D TOTAL $

FOR MOTOR CARRIER SERVICE

DELARED VALUATION
Maximum liability of $4.41/Kg($2.00/lb) calculated on the total weight of the shipment unless declared valuation states otherwise. $

NOTICE OF CLAIM

a) No carrier is liable for loss, damage or delay to any goods carried under the Bill of Lading unless notice thereof setting out particulars of the origin, destination and date of shipment of the goods and the estimated amount claimed in respect of such loss, damage or delay is given in writing to the originating carrier or the delivering carrier within sixty (60) days after the delivery of the goods, or, in the case of failure to make delivery, within nine (9) months from the date of shipment.

b) The final statement of the claim must be filed with nine (9) months from the date of shipment together with a copy of the paid freight bill.

WHERE REQUIRED BY THE TARUFF, SHIPPER MUST SHOW DIMENSIONS OF SHIPMENT.

TOTAL NO. OF PACKAGES	DIM. OF SHIPMENT	TOTAL CUBIC FEET	DIMENSIONAL WEIGHT	TOTAL WEIGHT	NO. XL PCS/PKGS
4 bags	50 lbs				
4 rolls	150' x 16.5'			9399 lbs	

VALUATION / EVALUATION

☐ $50 or .50/lb ☐ $1.00/lb ☐ $1.50/lb ☐ $2.00/lb

DECLARED VALUE OF SHIPMENT

$

SHIPPER	AGENT
BENTOFIX TECHNOLOGIES, INC.	
PER	PER
23 Truman Road Barrie, Ontario Canada L4M 6E7	

SHIPPER'S NO.

010276

PERMANENT POST OFFICE ADDRESS OF SHIPPER

BENTOFIX TECHNOLOGIES INC.

Shipment Contents

BOL #: 10276 **Shipment Date:** 8/3/2001

Lot #	Roll #		Length (ft)		Width (ft)
21072303	43035		150.00		15.50
	43036		150.00		15.50
	43037		150.00		15.50
		Lot Total	**450.00**	ft	
21072403	43044		150.00		15.50
		Lot Total	**150.00**	ft	
		Grand Total	**600.00**	ft	

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

#	Roll #	Date Produced	Product	Length	Width	BOL#
21072303	43035	July 23, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10276

Finished Product

Type	BENTOFIX NSL			
Mass	4,675	g/m²	0.956	lbs/ft²
Tensile Strength				
Length	56	Kg	123.20	lbs
Elongation				
Length	91	%		
Peels	8.30	Kg	18.26	lbs
Permeability	<5E-9	cm/s		
Moisture Content	7.4	%		

Top Layer

Type	NON-WOVEN			
Layer #	010721205B			
Mass	255	g/m²	0.052	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8574080			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	422306			
Montmorillonite	90	%		
Swell Index	25	ml		
Moisture Content	7.4	%		
Moisture Absorption	744	%		
Mass of Bentonite	4,310	g/m²	0.881	lbs/ft²
Fluid Loss	14.8	ml		

BENTOFIX TECHNOLOGIES INC.

Quality Control Certificate

ıt #	Roll #	Date Produced	Product	Length	Width	BOL#
21072403	43044	July 24, 2001	BENTOFIX NSL	150.00 45.72	15.5 ft 4.72 m	10276

Finished Product

Type	BENTOFIX NSL			
Mass	5,273	g/m²	1.078	lbs/ft²
Tensile Strength				
Length	47	Kg	103.40	lbs
Elongation				
Length	94	%		
Peels	7.40	Kg	16.28	lbs
Permeability	<5E-9	cm/s		
Moisture Content	7.9	%		

Top Layer

Type	NON-WOVEN			
Layer #	010722205B-2			
Mass	268	g/m²	0.055	lbs/ft²

Bottom Layer

Type	WOVEN			
Layer #	8625514			
Mass	110	g/m²	0.022	lbs/ft²

Bentonite

Mesh	30			
Shipment	453141			
Montmorillonite	90	%		
Swell Index	27	ml		
Moisture Content	7.9	%		
Moisture Absorption	795	%		
Mass of Bentonite	4,895	g/m²	1.000	lbs/ft²
Fluid Loss	17.0	ml		

2.1.2.3 Geotextile

SI® Geosolutions

To: Ray Peebles
Fluid Systems

Re: Certification
Product: Geotex® 1701 Nonwoven Geotextile
Project: Solutia, Inc. – Sauget Area 1 – Cahokia, Illinois
Bill of Lading: #80108909, #80108910, #80108911

SI Geosolutions certifies to the MARV(minimum average roll values) stated below for the above referenced project for the bill of ladings stated.

PROPERTY	TEST METHOD	ENGLISH	METRIC
Physical			
Mass/Unit area	ASTM D5261	16 oz/yd^2	540 g/m^2
Mechanical			
Grab Tensile Strength	ASTM D4632	380 lbs	1735 N
Grab Elongation	ASTM D4632	50%	50%
Puncture Strength	ASTM D4833	240 lbs	1110 N
Mullen Burst	ASTM D3786	750 psi	5515 kPa
Trapezoidal Tear	ASTM D4533	145 lbs	685 N
Hydraulic			
Apparent Opening Size (AOS)	ASTM D4751	100 US Std. Sieve	0.150 mm
Permittivity	ASTM D4491	0.70 sec^{-1}	0.70 sec^{-1}

I hereby certify that the material supplied to the above referenced project will meet or exceed the values stated above.

Neil Sain,
SI Geosolutions, Engineering

SI Corporation
6025 Lee Hwy Chattanooga, TN 37421
Ph # 800/621/0444 Fax # 423/485/9068

FSI
FLUID SYSTEMS
Division of Serrot International, Inc.

525 Reactor Way
Reno, NV 89502
(775) 856-2232
(800) 346-9107
Fax: (775) 856-2234
www.fluidsystems.com

June 26, 2001

Mr. Lee Taylor
Taylor Construction & Geosynthetics
121 Commerce Drive, Suite 304
Danville, IN 46122

Dear Mr. Taylor:

Attached is the Certificate of Compliance for the following:

Order #8592
Your PO #LT 2122-173
Shipped to Solutia, Inc.

If you have any questions, please don't hesitate to call.

Sincerely,

Patty Shulman

Patricia L. Shulman
Admin. Manager

/pls

enc:

SI Geosolutions

6/19/2001

Fluid Systems
Christine Pritts
167 Anderson Rd
Cranberry Tow PA 16066
BOL 80108909 PO 20756OD
Ref: JOB: 2100 ORDER: 00008592 JOB: SOLUTIA INC.

This is to certify that Product GEOTEX 1701 , a nonwoven polypropylene geotextile produced by S I Corporation, will meet the following certifiable minimum average values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level. This geotextile has been continuously inspected for the presence of needles and none were detected.

Physical Property	Test Method	US Units		SI Unit	
Mass Per Unit Area	ASTM D-5261	16.0	oz/yd2	(542.4)	g/m2
Thickness	ASTM D-5199	165	mils	(4.191)	mm
Tensile Strength	ASTM D-4632	390	lbs	(1735.5	N
Elongation	ASTM D-4632	50	%	50	%
Trapezoidal Tear	ASTM D-4533	155		(689.75	N
Mullen Burst	ASTM D-3786	800	lbs	(5515.2	kPa
Puncture Strength	ASTM D-4833	250	psi	(1112.5	N
A.O.S.	ASTM D-4751	100	lbs	0.149	mm
Permittivity	ASTM D-4491	0.7	Sieve	0.7	sec-1
Permeability	ASTM D-4491	0.27	sec-1	0.27	cm/sec
/ater Flow Rate	ASTM D-4491	50	cm/sec	(2037.235	lpm/m2
JV Resistance	ASTM D-4355	70	gpm/ft2	70	%
			%		

Strength Retained after 500 hours exposure in Xenon Arc Weatherometer

Sincerely

Frank P. Pace

Frank P. Pace, P.E.
Manager - Engineering Services
SI Geosolutions

Seller makes no warranty express or implied concerning the product furnished hereunder other than at the time of delivery it shall be of the quality and specification stated herein. ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED AND TO THE EXTENT THAT IF IT IS CONTRARY TO THE FOREGOING SENTENCE ANY IMPLIED WARRANTY OF MERCHANTABILITY IS EXPRESSLY EXCLUDED. Any recommendations made by the Seller concerning uses or applications of said product are believed reliable and Seller makes no warranty of results to be obtained. If the product does not meet S I Corporation current published specifications, and the Customer gives notice to S I Corporation before installing the product, then S I Corporation will replace the product without charge or refund the purchase price. This Data Sheet supersedes all previous Data Sheets for this style and is subject to change without notice. The effective date for this product data is 1/23/2001

6025 Lee Highway, Suite 435 • Chattanooga, TN 37421
Ph: 423-899-0444 • Fax: 423-899-7619

6025 Lee Highway, Suite 435 • Chattanooga, TN 37421
Ph: 423-899-0414 • Fax: 423-899-7619

SI Geosolutions

Individual Roll Data
Bill of Lading 80108909

Roll #	Style	Batch	Weight	Thick	Tensile		Elongation		T.Tear		Burst	Punct
					MD	XMD	MD	XMD	MD	XMD		
			Osy	mils	lbs	lbs	%	%	lbs	lbs	psi	lbs
			D5261	D5199	D4632	D4632	D4632	D4632	D4533	D4533	D3786	D4833
A515850A	1701	51468	16.9	175	425	608	112	67	156	351	990	284
A522260A	1701	51517	16.3	173	519	653	121	73	204	294	900	290
A522335A	1701	51517	18.4	182	498	790	114	89	221	319	823	309
A522520A	1701	51517	18.3	177	515	792	124	87	156	299	823	296
A524100A	1701	51535	17.2	171	398	708	112	81	182	366	950	305
A524120A	1701	51535	16.8	179	396	716	94	88	238	340	883	293
A524150A	1701	51535	17.9	174	397	708	120	82	187	366	823	296
A524436A	1701	51535	18.3	207	542	597	109	73	268	350	1010	315

Synthetic Industries' current standard manufacturing quality control (MQC) testing frequency for GEOTEX nonwoven geotextiles is one (1) test per 90,000 sf (8,360 sm) for index properties (mass per unit area, thickness, grab tensile and elongation, trapezoidal tear, mullen burst and puncture resistance) for styles heavier than 601 and one (1) test per 162,000 sf (15,000 sm) for index properties for style 601 and lighter. Although we strive to test our nonwoven geotextiles for apparent opening size (AOS) and Permittivity/permeability/water flow rate approximately once every 540,000 sf (50,160 sm), the actual frequency of testing for performance properties will vary depending upon production schedules, product availability, customer requirements, job specifications or other agreements arranged with Synthetic Industries prior to the time of purchase. If additional testing is needed to meet higher frequencies required by the project specifications, it is the purchaser's responsibility to notify Synthetic Industries and ask for assistance in calculating the costs for the additional tests.

Once rolls of nonwoven geotextiles are produced, inspected and the test results from the frequency stated above indicates that materials produced during the production run meets our published minimum average roll values, approved rolls are shipped for storage until an order requires the material to be shipped. Since rolls are loaded at the warehouse independent of production sequence test results listed above may include data from rolls which were not shipped and rolls listed may or may not be the actual rolls tested. However, the data provided is from the same production run as the rolls actually shipped on this bill of lading.

SI® Geosolutions

6/19/2001

Fluid Systems
Christine Pritts
167 Anderson Rd
Cranberry Tow PA 16066
BOL 80108910 PO 20756OD
Ref: JOB: 2100 ORDER: 00008592 JOB: SOLUTIA INC.

This is to certify that Product GEOTEX 1701 , a nonwoven polypropylene geotextile produced by S I Corporation, will meet the following certifiable minimum average values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level. This geotextile has been continuously inspected for the presence of needles and none were detected.

Physical Property	Test Method	US Units		SI Unit	
Mass Per Unit Area	ASTM D-5261	16.0	oz/yd2	(542.4)	g/m2
Thickness	ASTM D-5199	165	mils	(4.191)	mm
Tensile Strength	ASTM D-4632	390	lbs	(1735.5	N
Elongation	ASTM D-4632	50	%	50	%
Trapezoidal Tear	ASTM D-4533	155		(689.75	N
Mullen Burst	ASTM D-3786	800	lbs	(5515.2	kPa
Puncture Strength	ASTM D-4833	250	psi	(1112.5	N
A.O.S.	ASTM D-4751	100	lbs	0.149	mm
Permittivity	ASTM D-4491	0.7	Sieve	0.7	sec-1
Permeability	ASTM D-4491	0.27	sec-1	0.27	cm/sec
Water Flow Rate	ASTM D-4491	50	cm/sec	(2037.235	lpm/m2
UV Resistance	ASTM D-4355	70	gpm/ft2	70	%
			%		

Strength Retained after 500 hours exposure in Xenon Arc Weatherometer

Sincerely

Frank P. Pace

Frank P. Pace, P.E.
Manager - Engineering Services
SI Geosolutions

Seller makes no warranty express or implied concerning the product furnished hereunder other than at the time of delivery it shall be of the quality and specification stated herein. ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED AND TO THE EXTENT THAT IF IT IS CONTRARY TO THE FOREGOING SENTENCE ANY IMPLIED WARRANTY OF MERCHANTABILITY IS EXPRESSLY EXCLUDED. Any recommendations made by the Seller concerning uses or applications of said product are believed reliable and Seller makes no warranty of results to be obtained. If the product does not meet S I Corporation current published specifications, and the Customer gives notice to S I Corporation before installing the product, then S I Corporation will replace the product without charge or refund the purchase price. This Data Sheet supersedes all previous Data Sheets for this style and is subject to change without notice. The effective date for this product data is 1/23/2001

6025 Lee Highway, Suite 435 • Chattanooga, TN 37421
Ph: 423-899-0444 • Fax: 423-899-7619

Individual Roll Data
Bill of Lading 80108910

Roll #	Style	Batch	Weight	Thick	Tensile		Elongation		T.Tear		Burst	Punct
					MD	XMD	MD	XMD	MD	XMD		
			Osy	mils	lbs	lbs	%	%	lbs	lbs	psi	lbs
			D5261	D5199	D4632	D4632	D4632	D4632	D4533	D4533	D3786	D4833
A524060A	1701	51535	17.1	176	407	700	105	76	206	322	880	305
A524100A	1701	51535	17.2	171	398	708	112	81	182	366	950	305

Synthetic Industries' current standard manufacturing quality control (MQC) testing frequency for GEOTEX nonwoven geotextiles is one (1) test per 90,000 sf (8,360 sm) for index properties (mass per unit area, thickness, grab tensile and elongation, trapezoidal tear, mullen burst and puncture resistance) for styles heavier than 601 and one (1) test per 162,000 sf (15,000 sm) for index properties for style 601 and lighter. Although we strive to test our nonwoven geotextiles for apparent opening size (AOS) and Permittivity/permeability/water flow rate approximately once every 540,000 sf (50,160 sm), the actual frequency of testing for performance properties will vary depending upon production schedules, product availability, customer requirements, job specifications or other agreements arranged with Synthetic Industries prior to the time of purchase. If additional testing is needed to meet higher frequencies required by the project specifications, it is the purchaser's responsibility to notify Synthetic Industries and ask for assistance in calculating the costs for the additional tests.

Once rolls of nonwoven geotextiles are produced, inspected and the test results from the frequency stated above indicates that materials produced during the production run meets our published minimum average roll values, approved rolls are shipped for storage until an order requires the material to be shipped. Since rolls are loaded at the warehouse independent of production sequence test results listed above may include data from rolls which were not shipped and rolls listed may or may not be the actual rolls tested. However, the data provided is from the same production run as the rolls actually shipped on this bill of lading.

FSI
FLUID SYSTEMS
Division of Serrot International, Inc.

525 Reactor Way
Reno, NV 89502

(775) 856-2232
(800) 346-9107
Fax: (775) 856-2234
www.fluidsystems.com

July 2, 2001

Mr. Lee Taylor
Taylor Construction & Geosynthetics
121 Commerce Drive, Suite 304
Danville, IN 46122

Dear Mr. Taylor:

Attached is the Certificate of Compliance for the following:

Order #8592
Your PO #LT 2122-173
Shipped to Solutia, Inc.

If you have any questions, please don't hesitate to call.

Sincerely,

Patty Shulman

Patricia L. Shulman
Admin. Manager

/pls

enc:

SI Geosolutions

6/22/2001

'uid Systems
.hristine Pritts
167 Anderson Rd
Cranberry Tow PA 16066
BOL 80082311 PO 20756OD
Ref: ORDER 8592 PROJECT: SOLUTIA - CAHOKIA, IL

This is to certify that Product GEOTEX 1701 , a nonwoven polypropylene geotextile produced by S I Corporation, will meet the following certifiable minimum average values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level. This geotextile has been continuously inspected for the presence of needles and none were detected.

Physical Property	Test Method	US Units		SI Unit	
Mass Per Unit Area	ASTM D-5261	16.0	oz/yd2	(542.4)	g/m2
Thickness	ASTM D-5199	165	mils	(4.191)	mm
Tensile Strength	ASTM D-4632	390	lbs	(1735.5	N
Elongation	ASTM D-4632	50	%	50	%
Trapezoidal Tear	ASTM D-4533	155		(689.75	N
Mullen Burst	ASTM D-3786	800	lbs	(5515.2	kPa
Puncture Strength	ASTM D-4833	250	psi	(1112.5	N
A.O.S.	ASTM D-4751	100	lbs	0.149	mm
Permittivity	ASTM D-4491	0.7	Sieve	0.7	sec-1
'rmeability	ASTM D-4491	0.27	sec-1	0.27	cm/sec
ater Flow Rate	ASTM D-4491	50	cm/sec	(2037.235	lpm/m2
UV Resistance	ASTM D-4355	70	gpm/ft2	70	%
			%		

Strength Retained after 500 hours exposure in Xenon Arc Weatherometer

Sincerely

Frank P. Pace

Frank P. Pace, P.E.
Manager - Engineering Services
SI Geosolutions

Seller makes no warranty express or implied concerning the product furnished hereunder other than at the time of delivery it shall be of the quality and specification stated herein. ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXPRESSLY EXCLUDED AND TO THE EXTENT THAT IF IT IS CONTRARY TO THE FOREGOING SENTENCE ANY IMPLIED WARRANTY OF MERCHANTABILITY IS EXPRESSLY EXCLUDED. Any recommendations made by the Seller concerning uses or applications of said product are believed reliable and Seller makes no warranty of results to be obtained. If the product does not meet S I Corporation current published specifications, and the Customer gives notice to S I Corporation before installing the product, then S I Corporation will replace the product without charge or refund the purchase price. This Data Sheet supersedes all previous Data Sheets for this style and is subject to change without notice. The effective date for this product data is 1/23/2001

6025 Lee Highway, Suite 435 • Chattanooga, TN 37421
Ph: 423-899-0444 • Fax: 423-899-7619

Individual Roll Data
Bill of Lading 80082311

Roll #	Style	Batch	Weight	Thick	Tensile		Elongation		T.Tear		Burst	Punct
					MD	XMD	MD	XMD	MD	XMD		
			Osy	mils	lbs	lbs	%	%	lbs	lbs	psi	lbs
			D5261	D5199	D4632	D4632	D4632	D4632	D4533	D4533	D3786	D4833
A510200A	1701	51411	16	174	445	585	98	69	201	309	850	276
A510230A	1701	51411	16.5	171	433	585	102	68	194	317	967	315
A510290A	1701	51412	17.7	188	435	578	107	62	188	318	1023	318
A510350A	1704	51412	16.2	183	415	605	103	71	168	354	1007	277

Synthetic Industries' current standard manufacturing quality control (MQC) testing frequency for GEOTEX nonwoven geotextiles is one (1) test per 90,000 sf (8,360 sm) for index properties (mass per unit area, thickness, grab tensile and elongation, trapezoidal tear, mullen burst and puncture resistance) for styles heavier than 601 and one (1) test per 162,000 sf (15,000 sm) for index properties for style 601 and lighter. Although we strive to test our nonwoven geotextiles for apparent opening size (AOS) and Permittivity/permeability/water flow rate approximately once every 540,000 sf (50,160 sm), the actual frequency of testing for performance properties will vary depending upon production schedules, product availability, customer requirements, job specifications or other agreements arranged with Synthetic Industries prior to the time of purchase. If additional testing is needed to meet higher frequencies required by the project specifications, it is the purchaser's responsibility to notify Synthetic Industries and ask for assistance in calculating the costs for the additional tests.

Once rolls of nonwoven geotextiles are produced, inspected and the test results from the frequency stated above indicates that materials produced during the production run meets our published minimum average roll values, approved rolls are shipped for storage until an order requires the material to be shipped. Since rolls are loaded at the warehouse independent of production sequence test results listed above may include data from rolls which were not shipped and rolls listed may or may not be the actual rolls tested. However, the data provided is from the same production run as the rolls actually shipped on this bill of lading.

SI Geosolutions

6/22/2001

uid Systems
Christine Pritts
167 Anderson Rd
Cranberry Tow PA 16066
BOL 80082322 PO 20756OD
Ref: ORDER 8592 PROJECT: SOLUTIA - CAHOKIA, IL

This is to certify that Product GEOTEX 1701 , a nonwoven polypropylene geotextile produced by S I Corporation, will meet the following certifiable minimum average values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level. This geotextile has been continuously inspected for the presence of needles and none were detected.

Physical Property	Test Method	US Units		SI Unit	
Mass Per Unit Area	ASTM D-5261	16.0	oz/yd2	(542.4)	g/m2
Thickness	ASTM D-5199	165	mils	(4.191)	mm
Tensile Strength	ASTM D-4632	390	lbs	(1735.5	N
Elongation	ASTM D-4632	50	%	50	%
Trapezoidal Tear	ASTM D-4533	155		(689.75	N
Mullen Burst	ASTM D-3786	800	lbs	(5515.2	kPa
Puncture Strength	ASTM D-4833	250	psi	(1112.5	N
A.O.S.	ASTM D-4751	100	lbs	0.149	mm
Permittivity	ASTM D-4491	0.7	Sieve	0.7	sec-1
rmeability	ASTM D-4491	0.27	sec-1	0.27	cm/sec
ater Flow Rate	ASTM D-4491	50	cm/sec	(2037.235	lpm/m2
UV Resistance	ASTM D-4355	70	gpm/ft2	70	%
			%		

Strength Retained after 500 hours exposure in Xenon Arc Weatherometer

Sincerely

Frank P. Pace

Frank P. Pace, P.E.
Manager - Engineering Services
SI Geosolutions

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6025 Lee Highway, Suite 435 • Chattanooga, TN 37421
Ph: 423-899-0444 • Fax: 423-899-7619

Individual Roll Data
Bill of Lading 80082322

Roll #	Style	Batch	Weight	Thick	Tensile		Elongation		T.Tear		Burst	Punct
					MD	XMD	MD	XMD	MD	XMD		
			Osy	mils	lbs	lbs	%	%	lbs	lbs	psi	lbs
			D5261	D5199	D4632	D4632	D4632	D4632	D4533	D4533	D3786	D4833
A510275A	1701	51412	18	189	437	576	104	64	202	300	967	274
A510310A	1701	51412	17.4	185	461	582	115	65	172	359	1150	289
A510350A	1704	51412	16.2	183	415	605	103	71	168	354	1007	277
A510370A	1701	51412	17	187	405	676	102	65	192	326	860	260

Synthetic Industries' current standard manufacturing quality control (MQC) testing frequency for GEOTEX nonwoven geotextiles is one (1) test per 90,000 sf (8,360 sm) for index properties (mass per unit area, thickness, grab tensile and elongation, trapezoidal tear, mullen burst and puncture resistance) for styles heavier than 601 and one (1) test per 162,000 sf (15,000 sm) for index properties for style 601 and lighter. Although we strive to test our nonwoven geotextiles for apparent opening size (AOS) and Permittivity/permeability/water flow rate approximately once every 540,000 sf (50,160 sm), the actual frequency of testing for performance properties will vary depending upon production schedules, product availability, customer requirements, job specifications or other agreements arranged with Synthetic Industries prior to the time of purchase. If additional testing is needed to meet higher frequencies required by the project specifications, it is the purchaser's responsibility to notify Synthetic Industries and ask for assistance in calculating the costs for the additional tests.

Once rolls of nonwoven geotextiles are produced, inspected and the test results from the frequency stated above indicates that materials produced during the production run meets our published minimum average roll values, approved rolls are shipped for storage until an order requires the material to be shipped. Since rolls are loaded at the warehouse independent of production sequence test results listed above may include data from rolls which were not shipped and rolls listed may or may not be the actual rolls tested. However, the data provided is from the same production run as the rolls actually shipped on this bill of lading.

2.1.2.4 Geonet

Serrot International, Inc.

06/28/2001

Resin Certificate of Analysis

Customer: Taylor Geosynthetics

Resin Type: HDPE

Project Name: Cahokia, IL

Bills of Lading: 151902

Project Number: 8592

I certify, the polyethylene resin for the above identified shipment meets or exceeds Serrot International, Inc.'s specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 1505. Where appropriate, carbon black was determined according to ASTM D 4218. The average test results are listed below.

RESIN PROPERTIES

Blend Number	Melt Flow Index (g/10 min)	Density (g/cm^3)	Carbon Black Cont. (%)
4351	0.213	0.951	

Jane Allen

Jane Allen
Quality Control Manager

6-28-01
Date

This Certification of Analysis shall not be reproduced except in full, without the written approval of the laboratory.
S International, Inc. 320 Innovation Way - Wellford, SC - 29385

Serrot International, Inc.

06/28/2001

Poly-Net Certificate of Analysis

Customer : Taylor Geosynthetics

Project Name: Cahokia, IL

Project Number: 8592

Number of Rolls Shipped: 24

Product Code: SH30NT150STBBP

Bill of Lading: 151902

I certify the polyethylene geonet for the above identified shipment meets or exceeds Serrot International Inc. specifications, listed below. Testing was performed at the specified frequency.

A database listing of all test values follows.

GEONET SPECIFICATIONS

Property	Test Method	Minimum Specification	Frequency
Thickness	ASTM D 5199	0.200 mils	40,000 ft^2
Tensile Strength (MD)	ASTM D 5035	45 ppi	40,000 ft^2
Mass per Unit Area	ASTM D 5261	0.162 lbs/ft^2	40,000 ft^2
Carbon Black Content	ASTM D 4218	2.0 %	40,000 ft^2
Density	ASTM D 1505	0.940 g/cm^3	40,000 ft^2
Transmissivity	ASTM D 4716	1×10^{-3} $m^2/sec \times 10^{-3}$	Once a Shift

Jane Allen

Jane Allen

Quality Control Manager

6-28-01

Date

Certification of Analysis shall not be reproduced except in full, without the written approval of the laboratory.

.ot International, Inc. 320 Innovation Way - Wellford, SC - 29385

Serrot International, Inc.

06/28/2001

Poly-Net Testing Results

	Thickness (inches)	MD Tensile (ppi)	Mass per Unit Area (lbs/ft²)	Carbon Content (%)	Density (g/cm³)	Transmissivity (m²/sec x 10⁻³)
4035611-4351	0.2170	61.0	0.1717	2.36	0.958	1.39
4035622-4351	0.2213	59.8	0.1719	2.19	0.957	1.39
4035633-4351	0.2194	60.6	0.1724	2.19	0.957	1.39
4035641-4351	0.2194	59.9	0.1710	2.23	0.957	1.39
4035642-4351	0.2194	59.9	0.1710	2.23	0.957	1.39
4035658-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035659-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035660-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035662-4351	0.2186	57.0	0.1678	2.18	0.950	1.51
4035663-4351	0.2186	57.0	0.1678	2.18	0.950	1.51
4035664-4351	0.2186	57.0	0.1678	2.18	0.950	1.51
4035665-4351	0.2186	57.0	0.1678	2.18	0.950	1.51
4035666-4351	0.2186	57.0	0.1678	2.18	0.950	1.51
4035667-4351	0.2186	57.0	0.1678	2.18	0.950	1.51
35669-4351	0.2186	57.8	0.1678	2.52	0.950	1.51
4035670-4351	0.2186	56.7	0.1678	2.34	0.950	1.51
4035673-4351	0.2186	56.7	0.1678	2.34	0.950	1.51
4035682-4351	0.2212	56.7	0.1692	2.02	0.957	1.51
4035684-4351	0.2212	56.7	0.1692	2.02	0.957	1.51
4035685-4351	0.2212	60.5	0.1692	2.02	0.957	1.51
4035687-4351	0.2179	58.3	0.1655	2.02	0.957	1.51
4035688-4351	0.2179	58.3	0.1655	2.02	0.957	1.51
4035689-4351	0.2179	58.3	0.1655	2.02	0.957	1.51
4035691-4351	0.2179	58.3	0.1655	2.39	0.958	1.66

OTE: An astrisk indicates the test was performed on that roll.

ne Allen
ality Control Manager

6-28-01
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rr national, Inc. 320 Innovation Way - Wellford, SC - 29385

Serrot International, Inc.

06/27/2001

Resin Certificate of Analysis

Customer: Taylor Geosynthetics

Resin Type: HDPE

Project Name: Cahokia, IL

Bills of Lading: 151891

Project Number: 8592

I certify, the polyethylene resin for the above identified shipment meets or exceeds Serrot International, Inc.'s specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 1505. Where appropriate, carbon black was determined according to ASTM D 4218. The average test results are listed below.

RESIN PROPERTIES

Blend Number	Melt Flow Index (g/10 min)	Density (g/cm^3)	Carbon Black Cont. (%)
4351	0.213	0.951	

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Quality Control Manager

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Serrot International, Inc.

06/28/2001

Poly-Net Testing Results

	Thickness (inches)	MD Tensile (ppi)	Mass per Unit Area (lbs/ft²)	Carbon Content (%)	Density (g/cm³)	Transmissivity (m²/sec x 10-³)
4035612-4351	0.2170	61.0	0.1717	2.36	0.958	1.39
4035613-4351	0.2182	62.6	0.1767	2.36	0.958	1.39
4035614-4351	0.2182	59.8	0.1719	2.27	0.958	1.39
4035617-4351	0.2182	59.8	0.1719	2.27	0.958	1.39
4035618-4351	0.2182	59.8	0.1719	2.27	0.958	1.39
4035619-4351	0.2182	59.8	0.1719	2.27	0.958	1.39
4035620-4351	0.2182	59.8	0.1719	2.27	0.958	1.39
4035623-4351	0.2213	59.8	0.1719	2.19	0.957	1.39
4035624-4351	0.2213	59.8	0.1719	2.19	0.957	1.39
4035625-4351	0.2213	59.8	0.1719	2.19	0.957	1.39
4035626-4351	0.2213	59.8	0.1719	2.19	0.957	1.39
4035627-4351	0.2213	59.8	0.1719	2.19	0.957	1.39
4035628-4351	0.2213	59.8	0.1719	2.19	0.957	1.39
4035632-4351	0.2194	60.6	0.1724	2.19	0.957	1.39
4035634-4351	0.2194	60.6	0.1724	2.19	0.957	1.39
4035643-4351	0.2194	59.9	0.1710	2.23	0.957	1.39
4035644-4351	0.2194	59.9	0.1710	2.23	0.957	1.39
4035645-4351	0.2212	59.9	0.1710	2.23	0.957	1.51
4035661-4351	0.2200	57.0	0.1688	2.18	0.958	1.51
4035668-4351	0.2186	57.0	0.1678	2.18	0.950	1.51
4035671-4351	0.2186	56.7	0.1678	2.34	0.950	1.51
4035672-4351	0.2186	56.7	0.1678	2.34	0.950	1.51
4035683-4351	0.2212	56.7	0.1692	2.02	0.957	1.51
4035690-4351	0.2179	58.3	0.1655	2.02	0.957	1.51

NOTE: An astrisk indicates the test was performed on that roll.

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Jane Allen
Quality Control Manager

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Serrot International, Inc.

06/27/2001

Poly-Net Certificate of Analysis

Customer : Taylor Geosynthetics

Project Name: Cahokia, IL

Project Number: 8592

Number of Rolls Shipped: 24

Product Code: SH30NT150STBBP

Bill of Lading: 151891

I certify the polyethylene geonet for the above identified shipment meets or exceeds Serrot International Inc. specifications, listed below. Testing was performed at the specified frequency.

A database listing of all test values follows.

GEONET SPECIFICATIONS

Property	Test Method	Minimum Specification	Frequency
Thickness	ASTM D 5199	0.200 mils	40,000 ft^2
Tensile Strength (MD)	ASTM D 5035	45 ppi	40,000 ft^2
Mass per Unit Area	ASTM D 5261	0.162 lbs/ft^2	40,000 ft^2
Carbon Black Content	ASTM D 4218	2.0 %	40,000 ft^2
Density	ASTM D 1505	0.940 g/cm^3	40,000 ft^2
Transmissivity	ASTM D 4716	1×10^{-3} $m^2/sec \times 10^{-3}$	Once a Shift

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Quality Control Manager

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t International, Inc. 320 Innovation Way - Wellford, SC - 29385

Serrot International, Inc.

06/28/2001

Resin Certificate of Analysis

Customer: Taylor Geosynthetics

Resin Type: HDPE

Project Name: Cahokia, IL

Bills of Lading: 151900

Project Number: 8592

I certify, the polyethylene resin for the above identified shipment meets or exceeds Serrot International, Inc.'s specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 1505. Where appropriate, carbon black was determined according to ASTM D 4218. The average test results are listed below.

RESIN PROPERTIES

Blend Number	Melt Flow Index (g/10 min)	Density (g/cm^3)	Carbon Black Cont. (%)
4351	0.213	0.951	

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Serrot International, Inc.

06/28/2001

Poly-Net Certificate of Analysis

Customer : Taylor Geosynthetics

Project Name: Cahokia, IL

Project Number: 8592

Number of Rolls Shipped: 24

Product Code: SH30NT150STBBP

Bill of Lading: 151900

I certify the polyethylene geonet for the above identified shipment meets or exceeds Serrot International Inc. specifications, listed below. Testing was performed at the specified frequency.

A database listing of all test values follows.

GEONET SPECIFICATIONS

Property	Test Method	Minimum Specification	Frequency
Thickness	ASTM D 5199	0.200 mils	40,000 ft^2
Tensile Strength (MD)	ASTM D 5035	45 ppi	40,000 ft^2
Mass per Unit Area	ASTM D 5261	0.162 lbs/ft^2	40,000 ft^2
Carbon Black Content	ASTM D 4218	2.0 %	40,000 ft^2
Density	ASTM D 1505	0.940 g/cm^3	40,000 ft^2
Transmissivity	ASTM D 4716	1×10^{-3} $m^2/sec \times 10^{-3}$	Once a Shift

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Serrot International, Inc.

06/28/2001

Poly-Net Testing Results

	Thickness (inches)	MD Tensile (ppi)	Mass per Unit Area (lbs/ft^2)	Carbon Content (%)	Density (g/cm^3)	Transmissivity ($m^2/sec \times 10^{-3}$)
4035615-4351	0.2182	59.8	0.1719	2.27	0.958	1.39
4035616-4351	0.2182	59.8	0.1719	2.27	0.958	1.39
4035621-4351	0.2213	59.8	0.1719	2.27	0.958	1.39
4035629-4351	0.2223	62.1	0.1740	2.19	0.957	1.39
4035630-4351	0.2194	60.6	0.1724	2.19	0.957	1.39
4035631-4351	0.2194	60.6	0.1724	2.19	0.957	1.39
4035635-4351	0.2194	60.6	0.1724	2.19	0.957	1.39
4035636-4351	0.2194	60.6	0.1724	2.19	0.957	1.39
4035637-4351	0.2194	60.6	0.1724	2.45	0.957	1.39
4035638-4351	0.2194	59.9	0.1710	2.23	0.957	1.39
4035639-4351	0.2194	59.9	0.1710	2.23	0.957	1.39
4035640-4351	0.2194	59.9	0.1710	2.23	0.957	1.39
4035646-4351	0.2199	58.2	0.1687	2.23	0.955	1.51
35650-4351	0.2199	58.2	0.1687	2.23	0.955	1.51
5651-4351	0.2199	58.2	0.1687	2.23	0.955	1.51
4035654-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035655-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035656-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035676-4351	0.2186	56.7	0.1678	2.34	0.950	1.51
4035677-4351	0.2243	56.7	0.1696	2.34	0.958	1.51
4035679-4351	0.2212	56.7	0.1692	2.02	0.957	1.51
4035680-4351	0.2212	56.7	0.1692	2.02	0.957	1.51
4035681-4351	0.2212	56.7	0.1692	2.02	0.957	1.51
4035686-4351	0.2179	58.3	0.1655	2.02	0.957	1.51

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Jane Allen

ıe Allen
ality Control Manager

6-28-01

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·ro hational, Inc. 320 Innovation Way - Wellford, SC - 29385

Serrot International, Inc.

06/28/2001

Resin Certificate of Analysis

Customer: Taylor Geosynthetics

Resin Type: HDPE

Project Name: Cahokia, IL

Bills of Lading: 151902

Project Number: 8592

I certify, the polyethylene resin for the above identified shipment meets or exceeds Serrot International, Inc.'s specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 1505. Where appropriate, carbon black was determined according to ASTM D 4218. The average test results are listed below.

RESIN PROPERTIES

Blend Number	Melt Flow Index (g/10 min)	Density (g/cm^3)	Carbon Black Cont. (%)
4351	0.213	0.951	

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Quality Control Manager

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Date

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06/28/2001

Poly-Net Certificate of Analysis

Customer : Taylor Geosynthetics

Project Name: Cahokia, IL

Project Number: 8592

Number of Rolls Shipped: 13

Product Code: SH3NNT150STBBP

Bill of Lading: 151902

I certify the polyethylene geonet for the above identified shipment meets or exceeds Serrot International Inc. specifications, listed below. Testing was performed at the specified frequency.

A database listing of all test values follows.

GEONET SPECIFICATIONS

Property	Test Method	Minimum Specification	Frequency
Thickness	ASTM D 5199	0.200 mils	40,000 ft²
Tensile Strength (MD)	ASTM D 5035	45 ppi	40,000 ft²
Mass per Unit Area	ASTM D 5261	0.162 lbs/ft²	40,000 ft²
Carbon Black Content	ASTM D 4218	2.0 %	40,000 ft²
Density	ASTM D 1505	0.940 g/cm³	40,000 ft²
Transmissivity	ASTM D 4716	1×10^{-3} m²/sec x 10^{-3}	Once a Shift

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Quality Control Manager

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'errot International, Inc.

06/28/2001

Poly-Net Testing Results

	Thickness (inches)	MD Tensile (ppi)	Mass per Unit Area (lbs/ft²)	Carbon Content (%)	Density (g/cm³)	Transmissivity (m²/sec x 10⁻³)
4035611-4351	0.2170	61.0	0.1717	2.36	0.958	1.39
4035622-4351	0.2213	59.8	0.1719	2.19	0.957	1.39
4035633-4351	0.2194	60.6	0.1724	2.19	0.957	1.39
4035641-4351	0.2194	59.9	0.1710	2.23	0.957	1.39
4035642-4351	0.2194	59.9	0.1710	2.23	0.957	1.39
4035657-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035658-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035659-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035660-4351	0.2199	57.0	0.1687	2.18	0.955	1.51
4035662-4351	0.2186	57.0	0.1678	2.18	0.950	1.51
4035663-4351	0.2186	57.0	0.1678	2.18	0.950	1.51
4035675-4351	0.2186	56.7	0.1678	2.34	0.950	1.51
4035678-4351	0.2212	56.7	0.1692	2.02	0.957	1.51

)TE: An astrisk indicates the test was performed on that roll.

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ality Control Manager

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Sarrel International, Inc.

07/11/2001

Resin Certificate of Analysis

Customer: Taylor Geosynthetics

Project Name: Cahokia, IL

Project Number: 8592

Resin Type: HDPE

Bills of Lading: 151908

I certify, the polyethylene resin for the above identified shipment meets or exceeds Sarrel International, Inc.'s specifications. Testing was performed on each resin blend.

Melt flow index was determined according to ASTM D 1238. Density was determined according to ASTM D 1505. Where appropriate, carbon black was determined according to ASTM D 4218. The average test results are listed below.

RESIN PROPERTIES

Blend Number	Melt Flow Index (g/10 min)	Density (g/cm³)	Carbon Black Cont. (%)
4351	0.213	0.951	

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Quality Control Manager

7-11-01
Date

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Sarrel International, Inc. 320 Innovation Way • Wellford, SC - 29385

Terrot International, Inc.

07/11/2001

Poly-Net Testing Results

	Thickness (inches)	MD Tensile (psi)	Mass per Unit Area (lbs/ft²)	Carbon Content (%)	Density (g/cm³)	Transmissivity (m²/sec x 10⁻³)
4035647-4351	0.2189	58.2	0.1687	2.23	0.955	1.51
4035648-4351	0.2199	58.2	0.1687	2.23	0.955	1.51
4035652-4351	0.2199	58.2	0.1687	2.23	0.955	1.51
4035653-4351	0.2199	58.2	0.1687	2.49	0.955	1.51
4035657-4351	0.2199	57.0	0.1687	2.18	0.956	1.51
4035675-4351	0.2188	56.7	0.1678	2.34	0.950	1.51
4035676-4351	0.2212	56.7	0.1692	2.02	0.957	1.51

NOTE: An astrisk indicates the test was performed on that roll.

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Jane Allen
Quality Control Manager

7-11-01
Date

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'net International, Inc.

07/13/2001

Poly-Net Testing Results

	Thickness (inches)	MD Tensile (ppf)	Mass per Unit Area (lbs/ft²)	Carbon Content (%)	Density (g/cm³)	Transmissivity (m²/sec x 10⁻⁹)
4035649-4351	0.2199	58.2	0.1687	2.23	0.955	1.51

TE: An astrisk indicates the test was performed on that roll.

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ity Control Manager

7-13-01
Date

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2.1.3 Geosynthetics QA Conformance Testing, Laboratory Data

2.1.3.1 Geomembrane 60 mil HDPE

IUNE 2001

013-9659

SUMMARY OF SMOOTH GEOMEMBRANE CONFORMANCE TEST RESULTS

SOLUTIA
QUALITY ASSURANCE
MISSOURI

ROLL DESIGNATION	Reference Value	23119B	23125B	23133B	23147B	24304B	-	-	-	-	-
THICKNESS (mils) ASTM D5199	-	61.6	62.0	61.9	61.5	62.1	-	-	-	-	-
DENSITY (g/cc) ASTM D1505	-	0.950	0.950	0.950	0.949	0.949	-	-	-	-	-
CARBON BLACK CONTENT (%) ASTM D1603	-	2.84	2.70	2.60	2.69	2.61	-	-	-	-	-
CARBON BLACK DISPERSION (1) ASTM D5596	-	1	1	1	1	1	-	-	-	-	-
STRENGTH AT YIELD (ppi)	-	156.1	173.6	159.3	158.2	156.9	-	-	-	-	-
MD/TD (1) ASTM D638	-	169.1	166.0	161.4	169.0	169.4	-	-	-	-	-
STRENGTH AT BREAK (ppi)	-	293.6	293.4	276.0	293.6	266.4	-	-	-	-	-
MD/TD (1) ASTM D638	-	291.4	296.2	277.3	296.6	285.9	-	-	-	-	-
ELONGATION AT YIELD (%)	-	16.8	17.1	17.3	17.2	16.9	-	-	-	-	-
MD/TD (1) ASTM D638	-	15.8	14.7	15.8	15.3	15.1	-	-	-	-	-
ELONGATION AT BREAK (%)	-	812	806	755	801	752	-	-	-	-	-
MD/TD (1) ASTM D638	-	838	854	798	843	838	-	-	-	-	-

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

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JUNE 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATIO 23119B

	THICKNESS (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	62.4	0.950	2.84	1
2.	63.2	0.950	2.83	1
3.	61.1	0.950		1
4.	59.8			1
5.	60.3			1
6.	61.1			1
7.	60.4			1
8.	61.8			1
9.	63.1			1
10.	63.0			1
AVG	61.6	0.950	2.84	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	158.0	172.8	16.4	16.0	281.1	302.6	777	860
2.	159.4	171.5	16.1	15.2	294.8	286.5	807	826
3.	155.0	167.1	16.4	17.2	300.1	291.9	839	857
4.	152.8	167.1	17.9	16.0	298.6	278.2	836	810
5.	155.3	167.2	17.4	14.7	293.5	297.6	801	837
AVG	156.1	169.1	16.8	15.8	293.6	291.4	812	838

JUNE 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATIO 23125B

	THICKNESS (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	63.3	0.950	2.69	1
2.	65.1	0.950	2.70	1
3.	60.5	0.950		1
4.	63.0			1
5.	61.2			1
6.	60.5			1
7.	61.3			1
8.	59.1			1
9.	62.9			1
10.	63.2			1
AVG	62.0	0.950	2.70	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	168.1	174.5	16.6	13.9	300.4	280.3	825	801
2.	170.8	173.5	16.9	14.5	299.5	312.0	801	898
3.	163.3	173.3	18.2	15.5	280.6	305.8	789	888
4.	162.4	170.8	17.1	14.7	281.5	278.1	785	818
5.	165.6	175.7	16.6	15.0	305.2	304.8	831	863
AVG	166.0	173.6	17.1	14.7	293.4	296.2	806	854

JUNE 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATIO 23133B

	THICKNESS (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	61.7	0.950	2.60	1
2.	62.9	0.950	2.59	1
3.	61.6	0.950		1
4.	64.1			1
5.	60.0			1
6.	61.0			1
7.	62.0			1
8.	61.4			1
9.	62.1			1
10.	62.3			1
AVG	61.9	0.950	2.60	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	159.5	165.6	16.9	16.2	238.9	218.8	663	637
2.	164.3	164.5	17.4	15.4	282.8	291.5	761	829
3.	155.4	154.7	17.4	15.1	296.1	266.5	825	795
4.	159.1	161.3	16.9	15.9	281.7	314.5	769	893
5.	158.3	161.0	17.9	16.2	280.4	295.3	757	838
AVG	159.3	161.4	17.3	15.8	276.0	277.3	755	798

JUNE 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATIO 23147B

	THICKNESS (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	61.8	0.949	2.69	1
2.	62.8	0.949	2.68	1
3.	60.4	0.949		1
4.	61.7			1
5.	60.0			1
6.	60.8			1
7.	60.3			1
8.	60.7			1
9.	64.4			1
10.	62.4			1
AVG	61.5	0.949	2.69	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	158.1	171.8	17.0	14.1	276.1	292.2	759	832
2.	161.0	172.3	17.5	14.6	310.0	299.7	832	851
3.	154.5	167.0	16.4	15.7	294.2	289.4	820	837
4.	154.8	166.7	17.2	16.2	280.8	300.9	784	849
5.	162.4	167.3	18.0	15.7	306.8	300.8	810	844
AVG	158.2	169.0	17.2	15.3	293.6	296.6	801	843

AUGUST 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATIO 24304B

	THICKNESS (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	63.0	0.949	2.66	1
2.	63.4	0.949	2.55	1
3.	61.3	0.949		1
4.	63.3			1
5.	63.2			1
6.	60.7			1
7.	60.4			1
8.	62.7			1
9.	62.1			1
10.	61.0			1
AVG	62.1	0.949	2.61	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	153.5	172.4	17.7	14.8	286.4	302.6	806	885
2.	156.9	166.8	17.1	15.3	267.4	309.7	757	898
3.	156.9	171.6	16.9	15.8	282.8	287.5	793	842
4.	157.5	168.1	16.1	15.3	283.2	246.1	793	730
5.	159.6	168.0	16.9	14.5	212.1	283.7	614	833
AVG	156.9	169.4	16.9	15.1	266.4	285.9	752	838

JUNE 2001

013-9659

SUMMARY OF TEXTURED GEOMEMBRANE CONFORMANCE TEST RESULTS

SOLUTIA
QUALITY ASSURANCE
MISSOURI

ROLL DESIGNATION	Reference Value	24070B	24073B	24078B	24082B	23920B	-	-	-	-	-
THICKNESS (mils) ASTM D5199	-	83.3	83.9	82.5	79.4	83.2	-	-	-	-	-
ASPERITY HEIGHT (mils) GRI GM 12	-	23.4	21.8	24.8	17.5	23.3	-	-	-	-	-
DENSITY (g/cc) ASTM D1505	-	0.950	0.950	0.946	0.949	0.949	-	-	-	-	-
CARBON BLACK CONTENT (%) ASTM D1603	-	2.59	2.54	2.67	2.54	2.59	-	-	-	-	-
CARBON BLACK DISPERSION (1) ASTM D5596	-	1	1	1	1	1	-	-	-	-	-
STRENGTH AT YIELD (ppi)	-	162.6	165.2	165.4	163.9	156.8	-	-	-	-	-
MD/TD (1) ASTM D638	-	173.4	164.3	171.3	154.8	164.6	-	-	-	-	-
STRENGTH AT BREAK (ppi)	-	191.7	176.1	214.1	182.2	196.2	-	-	-	-	-
MD/TD (1) ASTM D638	-	163.9	195.3	180.2	181.9	129.2	-	-	-	-	-
ELONGATION AT YIELD (%)	-	15.3	14.4	17.2	15.6	15	-	-	-	-	-
MD/TD (1) ASTM D638	-	13.6	15.8	13.9	15.6	14	-	-	-	-	-
ELONGATION AT BREAK (%)	-	530	506	605	438	562	-	-	-	-	-
MD/TD (1) ASTM D638	-	416	525	546	544	276	-	-	-	-	-

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

memsum

JUNE 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION 24070B

	THICKNESS (mils)	ASPERITY HEIGHT (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	87.9	16.0	0.949	2.58	1
2.	84.5	26.0	0.950	2.59	1
3.	89.2	21.0	0.950		1
4.	82.1	26.0			1
5.	75.9	27.0			1
6.	83.5	25.0			1
7.	84.4	21.5			1
8.	78.2	20.0			1
9.	88.0	27.0			1
10.	79.7	24.0			1
AVG	83.3	23.4	0.950	2.59	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	167.9	178.7	15.1	12.8	203.4	163.7	556	438
2.	168.0	174.8	15.9	13.8	193.3	191.6	540	566
3.	159.6	170.7	14.9	14.0	179.8	169.9	487	507
4.	155.9	171.9	14.9	13.0	188.2	173.1	531	506
5.	161.8	171.1	15.9	14.3	193.8	121.1	534	61
AVG	162.6	173.4	15.3	13.6	191.7	163.9	530	416

JUNE 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION 24073B

	THICKNESS (mils)	ASPERITY HEIGHT (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	81.4	22.0	0.950	2.52	1
2.	85.9	19.0	0.949	2.56	1
3.	84.2	21.5	0.950		1
4.	82.5	22.0			1
5.	84.9	17.5			1
6.	75.0	20.0			1
7.	86.6	22.0			1
8.	86.0	26.5			1
9.	85.0	22.5			1
10.	87.5	25.0			1
AVG	83.9	21.8	0.950	2.54	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	170.5	168.9	13.8	14.0	130.4	170.1	260	442
2.	167.3	167.8	14.0	16.9	209.5	222.6	625	614
3.	162.3	160.8	14.6	16.4	205.5	212.6	624	603
4.	159.9	161.5	14.6	16.1	185.4	176.4	584	452
5.	166.0	162.3	15.1	15.8	149.5	194.6	438	513
AVG	165.2	164.3	14.4	15.8	176.1	195.3	506	525

JUNE 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION 24078B

	THICKNESS (mils)	ASPERITY HEIGHT (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	84.9	27.0	0.947	2.80	1
2.	85.0	24.5	0.946	2.54	1
3.	81.6	29.0	0.946		1
4.	78.8	29.0			1
5.	81.1	26.0			1
6.	81.0	23.0			1
7.	79.9	23.5			1
8.	81.8	22.0			1
9.	89.0	19.0			1
10.	81.7	24.5			1
AVG	82.5	24.8	0.946	2.67	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	169.8	173.8	16.4	13.7	184.7	194.3	498	586
2.	164.1	175.0	18.8	13.7	231.4	139.2	666	428
3.	162.7	168.7	17.7	13.5	225.8	200.5	649	613
4.	162.2	165.9	17.5	14.3	217.0	185.8	622	573
5.	168.4	173.3	15.7	14.5	211.4	181.1	592	530
AVG	165.4	171.3	17.2	13.9	214.1	180.2	605	546

JUNE 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION 24082B

	THICKNESS (mils)	ASPERITY HEIGHT (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	78.2	21.5	0.949	2.53	1
2.	81.0	27.0	0.949	2.54	1
3.	86.5	15.0	0.950		1
4.	88.0	20.0			1
5.	82.2	21.0			1
6.	81.2	16.0			1
7.	72.5	13.0			1
8.	70.8	16.0			1
9.	71.7	11.5			1
10.	82.1	14.0			1
AVG	79.4	17.5	0.949	2.54	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	164.0	158.1	15.3	14.7	183.4	169.7	490	497
2.	166.6	159.5	15.6	15.8	129.5	170.7	46	497
3.	161.1	154.4	15.9	15.5	189.0	195.9	536	604
4.	161.6	150.5	15.6	15.5	213.7	183.5	595	556
5.	166.3	151.6	15.6	16.5	195.3	189.9	521	564
AVG	163.9	154.8	15.6	15.6	182.2	181.9	438	544

AUGUST 2001 013-9659

GEOMEMBRANE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION 23920B

	THICKNESS (mils)	ASPERITY HEIGHT (mils)	DENSITY (g/cc)	CARBON BLACK CONTENT (%)	CARBON BLACK DISPERSION (rating)
1.	94.2	29.5	0.950	2.65	1
2.	89.9	28.5	0.948	2.52	1
3.	86.7	25.5	0.950		1
4.	79.8	18.0			1
5.	76.5	25.0			1
6.	74.9	20.5			1
7.	78.3	20.5			1
8.	82.5	23.0			1
9.	84.1	24.5			1
10.	85.0	17.5			1
AVG	83.2	23.3	0.949	2.59	1

	YIELD STRENGTH (lb/in. width)		ELONGATION AT YIELD (%)		BREAK STRENGTH (lb/in. width)		ELONGATION AT BREAK (%)	
	MD	TD	MD	TD	MD	TD	MD	TD
1.	162.4	168.0	13.3	14.6	178.1	121.5	481	213
2.	156.7	164.0	16.9	14.4	189.5	118.3	548	308
3.	155.7	160.2	15.6	13.1	222.1	120.8	654	250
4.	153.1	161.2	14.6	14.1	171.1	165.8	478	503
5.	156.2	169.6	14.8	13.6	220.0	119.8	649	106
AVG	156.8	164.6	15.0	14.0	196.2	129.2	562	276

2.1.3.2 GCL

JULY 2001

013-9659

SUMMARY OF GEOSYNTHETIC CLAY LINER CONFORMANCE TEST RESULTS
MAVERICK SOLUTIA/QA MISSOURI

ROLL DESIGNATION	Reference Value	29682	29780	41277	41322	-	-	-	-	-	-
BENTONITE CONTENT (lbs/ft²) (1) ASTM D5993	-	0.83	0.88	0.78	0.88	-	-	-	-	-	-
MOISTURE CONTENT (%) ASTM D5993	-	6.8	6.6	6.5	6.4	-	-	-	-	-	-
HYDRAULIC CONDUCTIVITY (cm/sec) ASTM D5084	-	4.4E-09	3.0E-09	4.5E-09	3.1E-09	-	-	-	-	-	-
FREE SWELL (ml) ASTM D5890	-	26.5	27.0	24.0	26.0	-	-	-	-	-	-
THICKNESS (mils) ASTM D5199	-	256.4	244.5	244.6	240.7	-	-	-	-	-	-

(1) Average mass per unit area was adjusted to zero percent moisture content and excludes the fabric weight.

7101GCL

JULY 2001 013-9659

GEOSYNTHETIC CLAY LINER TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 29682

	THICKNESS (mils)	PERMEABILITY (cm/sec)	MASS PER UNIT AREA (lbs/ft²)	MOISTURE CONTENT (%)
1.	250.8	4.4E-09	0.93	6.8
2.	249.2		0.84	6.8
3.	252.4		0.84	6.7
4.	245.7		0.73	6.7
5.	283.9		0.82	6.8
AVG	256.4	4.4E-09	0.83	6.8

	GRAB STRENGTH (pounds) MD	GRAB ELONGATION (%) MD	FREE SWELL (ml)	PUNCTURE STRENGTH (pounds)	
1.	-	-	26.5	-	-
2.	-	-		-	-
3.	-	-		-	-
4.	-	-		-	-
5.	-	-		-	-
6.				-	
7.				-	
8.				-	
9.				-	
10.				-	
AVG	0.0	0	26.5	0.0	

JULY 2001 013-9659

GEOSYNTHETIC CLAY LINER TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 29780

	THICKNESS (mils)	PERMEABILITY (cm/sec)	MASS PER UNIT AREA (lbs/ft²)	MOISTURE CONTENT (%)
1.	240.2	3.0E-09	0.88	6.6
2.	242.9		1.00	6.6
3.	237.8		0.85	6.5
4.	256.3		0.82	6.6
5.	245.3		0.86	6.6
AVG	244.5	3.0E-09	0.88	6.6

	GRAB STRENGTH (pounds) MD	GRAB ELONGATION (%) MD	FREE SWELL (ml)	PUNCTURE STRENGTH (pounds)	
1.	-	-	27.0	-	-
2.	-	-		-	-
3.	-	-		-	-
4.	-	-		-	-
5.	-	-		-	-
6.				-	
7.				-	
8.				-	
9.				-	
10.				-	
AVG	0.0	0	27.0	0.0	

JULY 2001 013-9659

GEOSYNTHETIC CLAY LINER TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 41277

	THICKNESS (mils)	PERMEABILITY (cm/sec)	MASS PER UNIT AREA (lbs/ft²)	MOISTURE CONTENT (%)
1.	243.3	4.5E-09	0.86	6.5
2.	250.4		0.82	6.8
3.	239.4		0.74	6.6
4.	254.3		0.77	6.4
5.	235.8		0.72	6.2
AVG	244.6	4.5E-09	0.78	6.5

	GRAB STRENGTH (pounds) MD	GRAB ELONGATION (%) MD	FREE SWELL (ml)	PUNCTURE STRENGTH (pounds)	
1.	-	-	24.0	-	-
2.	-	-		-	-
3.	-	-		-	-
4.	-	-		-	-
5.	-	-		-	-
6.				-	
7.				-	
8.				-	
9.				-	
10.				-	
AVG	0.0	0	24.0	0.0	

JULY 2001 013-9659

GEOSYNTHETIC CLAY LINER TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 41322

	THICKNESS (mils)	PERMEABILITY (cm/sec)	MASS PER UNIT AREA (lbs/ft²)	MOISTURE CONTENT (%)
1.	229.5	3.1E-09	0.87	6.3
2.	256.7		0.72	6.4
3.	272.4		0.91	6.4
4.	215.7		0.97	6.4
5.	229.1		0.92	6.3
AVG	240.7	3.1E-09	0.88	6.4

	GRAB STRENGTH (pounds) MD	GRAB ELONGATION (%) MD	FREE SWELL (ml)	PUNCTURE STRENGTH (pounds)	
1.	-	-	26.0	-	-
2.	-	-		-	-
3.	-	-		-	-
4.	-	-		-	-
5.	-	-		-	-
6.				-	
7.				-	
8.				-	
9.				-	
10.				-	
AVG	0.0	0	26.0	0.0	

2.1.3.3 Geotextile

JUNE 2001

013-9659

SUMMARY OF GEOTEXTILE CONFORMANCE TEST RESULTS
MAVERICK
SOLUTIA/QA
MISSOURI

ROLL DESIGNATION	REFERENCE VALUE	A524 437A	A524 450A	A515 853A	A522 524A	A524 075A	A524 211A	A524 217A	-	-	-
THICKNESS (mils) ASTM D5199	-	195.9	179.8	174.3	182.5	175.3	175.4	170.9	-	-	-
MASS/UNIT AREA (oz/yd²) ASTM D5261	-	18.1	16.9	17.3	18.1	17.1	17.9	17.3	-	-	-
GRAB STRENGTH (lbs) MD/TD (1) ASTM D4632	-	500.3	471.2	450.1	446.6	444.4	514.6	500.0	-	-	-
	-	716.5	703.4	690.7	681.9	775.1	694.5	650.7	-	-	-
GRAB ELONGATION (%) ASTM D4632	-	82	88	86	83	95	88	81	-	-	-
	-	78	80	72	73	74	82	78	-	-	-
TRAPEZOIDAL TEAR STRENGTH (lbs) MD/TD (1) ASTM D4533	-	196.9	172.0	181.6	171.6	173.9	202.6	179.6	-	-	-
	-	279.1	261.8	315.5	280.3	322.9	296.5	273.1	-	-	-
BURST STRENGTH (psi) ASTM D3786	-	>994	>886	903	850	865	>992	>1015	-	-	-
PUNCTURE STRENGTH (lbs) ASTM D4833	-	318.1	286.0	287.8	281.7	275.9	284.2	299.8	-	-	-
PERMITTIVITY (sec-1)	-	1.01	0.98	0.89	0.81	0.90	0.93	0.99	-	-	-
PERMEABILITY (cm/sec) (2) ASTM D4491	-	0.49	0.43	0.40	0.37	0.38	0.40	0.45	-	-	-

(1) MD/TD corresponds to Machine Direction / Transverse Direction.
(2) Permeability calculated by multiplying measured thickness by permittivity.

TESTSUM

JULY 2001 013-9659

GEOTEXTILE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: A524217A

	THICKNESS (mils)	PERMITTIVITY (sec-1)	MASS PER UNIT AREA (oz/yd²)	BURST STRENGTH (psi)
1.	170.5	0.96	19.1	>1040
2.	173.6	0.90	18.2	>975
3.	163.4	1.05	17.7	845
4.	171.7	1.03	17.3	>965
5.	170.5		17.0	1045
6.	167.7		16.3	>1170
7.	171.7	AVG 0.99	16.3	920
8.	195.3		16.5	1000
9.	161.4	PERMEABILITY	16.9	>1040
10.	163.4	(cm/sec)	18.1	1150
AVG	170.9	0.45	17.3	>1015

	GRAB STRENGTH (pounds)		GRAB ELONGATION (%)		TRAPEZOIDAL TEAR (pounds)		PUNCTURE STRENGTH (pounds)	
	MD	TD	MD	TD	MD	TD		
1.	546.3	710.1	78.1	83.4	193.0	286.0	320.8	258.9
2.	531.3	681.1	81.8	77.8	165.0	293.0	338.9	291.3
3.	546.6	592.5	93.8	73.7	187.2	271.0	279.7	324.0
4.	487.0	647.5	83.8	81.0	190.0	266.0	292.2	281.1
5.	527.0	666.6	88.9	74.6	159.5	257.2	316.9	301.5
6.	476.2	717.0	81.9	82.7	185.0	278.5	278.1	
7.	397.3	649.7	74.7	74.6	187.7	252.2	310.6	
8.	435.8	684.0	73.9	79.0	175.0	293.7	234.2	
9.	488.9	583.4	75.2	76.8	175.7	260.0	316.4	
10.	563.8	575.0	74.9	74.8	178.0	273.5	353.0	
AVG	500.0	650.7	81	78	179.6	273.1	299.8	

JULY 2001 013-9659

GEOTEXTILE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: A524211A

	THICKNESS (mils)	PERMITTIVITY (sec-1)	MASS PER UNIT AREA (oz/yd²)	BURST STRENGTH (psi)
1.	192.1	0.87	21.0	995
2.	186.6	0.90	17.9	910
3.	182.3	0.90	19.2	1225
4.	179.1	1.04	17.5	875
5.	163.4		19.8	>975
6.	163.4		17.2	975
7.	176.0	AVG 0.93	16.7	>1030
8.	177.2		16.6	905
9.	176.0	PERMEABILITY	17.5	1010
10.	157.9	(cm/sec)	16.0	1015
AVG	175.4	0.40	17.9	992

	GRAB STRENGTH (pounds)		GRAB ELONGATION (%)		TRAPEZOIDAL TEAR (pounds)		PUNCTURE STRENGTH (pounds)	
	MD	TD	MD	TD	MD	TD		
1.	658.5	770.5	90.0	95.8	228.5	307.5	290.9	249.8
2.	526.4	568.6	88.0	76.5	186.7	305.2	278.8	289.3
3.	563.2	699.3	95.8	83.9	203.5	277.0	351.0	274.6
4.	481.3	666.3	87.7	77.9	191.7	288.7	288.6	260.7
5.	474.2	724.8	86.8	83.6	202.7	290.0	233.6	302.4
6.	398.7	575.6	75.0	72.1	206.0	282.0	314.5	
7.	530.7	737.4	92.4	79.7	164.7	305.2	364.7	
8.	526.7	738.0	94.3	79.0	226.5	329.5	246.2	
9.	453.3	672.7	79.0	80.5	203.5	298.5	262.4	
10.	532.6	791.7	86.8	88.8	212.2	281.2	256.0	
AVG	514.6	694.5	88	82	202.6	296.5	284.2	

JULY 2001 013-9659

GEOTEXTILE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: A524075A

	THICKNESS (mils)	PERMITTIVITY (sec-1)	MASS PER UNIT AREA (oz/yd²)	BURST STRENGTH (psi)
1.	195.7	0.88	19.8	875
2.	190.2	0.90	18.3	845
3.	159.4	0.90	17.0	910
4.	171.3	0.92	17.5	815
5.	179.9		16.5	800
6.	168.5		16.3	805
7.	167.3	AVG 0.90	16.5	815
8.	167.3		16.9	945
9.	194.9	PERMEABILITY	16.2	925
10.	158.3	(cm/sec)	16.5	915
AVG	175.3	0.38	17.1	865

	GRAB STRENGTH (pounds)		GRAB ELONGATION (%)		TRAPEZOIDAL TEAR (pounds)		PUNCTURE STRENGTH (pounds)	
	MD	TD	MD	TD	MD	TD		
1.	517.6	679.2	105.6	78.6	182.3	306.7	284.3	302.7
2.	387.9	778.0	88.5	70.0	171.6	316.0	294.2	241.6
3.	399.3	771.3	92.1	70.1	161.3	358.0	304.0	318.4
4.	436.5	781.7	109.4	73.9	152.3	331.2	354.2	296.6
5.	417.4	842.7	88.9	73.8	177.0	322.5	219.6	214.8
6.	403.8	859.6	100.2	76.3	182.9	334.2	285.9	
7.	446.4	877.0	93.1	78.7	204.1	358.2	273.4	
8.	467.1	803.5	110.7	79.3	166.9	323.0	283.4	
9.	428.1	619.3	84.8	65.3	187.1	329.7	248.1	
10.	539.9	738.3	78.8	75.7	153.0	249.7	217.9	
AVG	444.4	775.1	95	74	173.9	322.9	275.9	

JUNE 2001 013-9659

GEOTEXTILE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: A524450A

	THICKNESS (mils)	PERMITTIVITY (sec-1)	MASS PER UNIT AREA (oz/yd²)	BURST STRENGTH (psi)
1.	224.4	1.03	18.5	1005
2.	189.4	0.94	18.0	920
3.	176.0	0.89	16.5	940
4.	176.4	1.05	16.8	850
5.	168.5		16.2	750
6.	168.9		15.4	980
7.	178.7	AVG 0.98	16.8	800
8.	168.9		16.3	720
9.	171.7	PERMEABILITY	16.6	890
10.	175.2	(cm/sec)	17.7	>1005
AVG	179.8	0.43	16.9	>886

	GRAB STRENGTH (pounds)		GRAB ELONGATION (%)		TRAPEZOIDAL TEAR (pounds)		PUNCTURE STRENGTH (pounds)	
	MD	TD	MD	TD	MD	TD		
1.	597.3	721.6	82.2	87.8	175.2	279.2	277.9	278.1
2.	477.0	747.9	87.3	86.8	154.4	295.7	283.8	319.7
3.	418.1	679.2	86.0	74.4	188.8	283.8	272.5	270.5
4.	394.9	732.3	82.3	79.0	152.1	230.7	323.6	325.8
5.	420.7	684.0	88.8	78.1	179.0	269.8	258.5	279.7
6.	394.0	629.0	90.0	75.5	166.3	246.7	270.9	
7.	474.8	694.5	95.5	79.7	174.0	216.5	263.9	
8.	474.9	665.2	89.1	75.0	173.4	269.1	329.3	
9.	480.3	718.7	88.1	78.5	151.5	252.5	239.2	
10.	580.4	761.3	88.2	89.8	205.5	274.2	296.4	
AVG	471.2	703.4	88	80	172.0	261.8	286.0	

JULY 2001 013-9659

GEOTEXTILE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: A522524A

	THICKNESS (mils)	PERMITTIVITY (sec-1)	MASS PER UNIT AREA (oz/yd²)	BURST STRENGTH (psi)
1.	178.0	0.71	19.1	845
2.	178.3	0.74	18.2	940
3.	178.3	0.90	18.1	785
4.	186.6	0.88	18.3	885
5.	190.9		18.9	870
6.	195.7		16.1	705
7.	179.1	AVG 0.81	17.6	835
8.	173.6		17.5	855
9.	178.0	PERMEABILITY	18.1	825
10.	186.2	(cm/sec)	19.4	955
AVG	182.5	0.37	18.1	850

	GRAB STRENGTH (pounds)		GRAB ELONGATION (%)		TRAPEZOIDAL TEAR (pounds)		PUNCTURE STRENGTH (pounds)	
	MD	TD	MD	TD	MD	TD		
1.	513.0	690.2	81.3	73.7	179.0	229.2	304.6	269.8
2.	390.5	650.7	74.2	66.3	184.5	220.0	298.1	245.8
3.	390.9	625.5	81.2	71.1	162.2	275.2	272.2	244.3
4.	408.2	674.4	85.3	71.7	146.0	317.7	267.1	274.2
5.	403.9	662.0	84.2	71.0	158.0	304.2	315.8	294.0
6.	400.9	683.0	80.9	69.9	159.5	280.5	284.8	
7.	457.2	677.9	85.3	69.8	175.7	249.2	273.8	
8.	523.0	770.5	93.1	74.9	187.7	308.7	279.1	
9.	480.0	673.0	89.2	86.6	162.5	323.0	313.2	
10.	498.5	711.4	76.0	77.2	201.0	295.5	288.3	
AVG	446.6	681.9	83	73	171.6	280.3	281.7	

JULY 2001 013-9659

GEOTEXTILE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: A515853A

	THICKNESS (mils)	PERMITTIVITY (sec-1)	MASS PER UNIT AREA (oz/yd²)	BURST STRENGTH (psi)
1.	163.4	0.76	17.3	805
2.	167.3	0.91	16.8	985
3.	175.2	0.83	17.2	880
4.	163.0	1.04	15.9	795
5.	182.3		17.3	930
6.	184.6		17.7	875
7.	178.7	AVG 0.89	17.7	975
8.	178.3		17.5	1010
9.	175.2	PERMEABILITY	17.2	990
10.	175.2	(cm/sec)	18.7	780
AVG	174.3	0.40	17.3	903

	GRAB STRENGTH (pounds)		GRAB ELONGATION (%)		TRAPEZOIDAL TEAR (pounds)		PUNCTURE STRENGTH (pounds)	
	MD	TD	MD	TD	MD	TD		
1.	536.6	631.1	82.1	80.2	181.2	274.0	353.2	261.6
2.	370.1	608.1	78.1	67.4	192.2	236.0	300.8	312.2
3.	453.8	819.1	91.3	79.3	226.2	359.0	285.6	226.8
4.	477.3	730.2	90.2	73.0	173.7	330.0	334.2	250.9
5.	490.5	658.5	95.1	67.6	207.2	372.2	333.4	293.6
6.	407.2	674.1	93.9	67.6	192.5	385.2	223.5	
7.	391.0	678.4	74.1	66.4	161.2	408.5	303.5	
8.	421.3	710.6	84.3	71.8	181.7	294.2	302.0	
9.	432.5	665.8	92.1	70.3	150.0	274.5	243.5	
10.	520.8	731.0	77.1	74.9	149.7	221.0	291.5	
AVG	450.1	690.7	86	72	181.6	315.5	287.8	

JUNE 2001 013-9659

GEOTEXTILE TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: A524437A

	THICKNESS (mils)	PERMITTIVITY (sec-1)	MASS PER UNIT AREA (oz/yd²)	BURST STRENGTH (psi)
1.	186.2	1.00	18.6	915
2.	190.2	1.08	17.6	1030
3.	213.8	0.98	18.3	>1040
4.	192.9	0.99	18.8	1005
5.	191.3		18.4	965
6.	194.9		17.4	960
7.	191.7	AVG 1.01	18.4	1010
8.	209.1		18.2	>1020
9.	196.5	PERMEABILITY	17.7	1100
10.	192.1	(cm/sec)	17.9	890
AVG	195.9	0.49	18.1	>994

	GRAB STRENGTH (pounds)		GRAB ELONGATION (%)		TRAPEZOIDAL TEAR (pounds)		PUNCTURE STRENGTH (pounds)	
	MD	TD	MD	TD	MD	TD		
1.	511.9	607.5	80.1	64.6	206.6	312.6	291.5	338.9
2.	485.9	798.7	90.3	83.9	189.6	248.9	309.9	317.6
3.	496.6	803.5	85.6	82.4	206.7	311.7	340.7	333.0
4.	579.9	723.8	84.7	77.5	187.6	259.5	319.2	351.5
5.	421.7	743.4	71.3	79.6	197.7	223.5	328.9	321.9
6.	480.8	593.6	84.8	73.2	175.2	274.6	293.6	
7.	520.5	760.3	82.0	74.4	211.1	313.0	290.6	
8.	522.1	683.2	82.4	82.6	208.7	251.7	322.1	
9.	490.2	691.3	82.3	73.8	201.3	278.3	286.8	
10.	493.7	760.0	74.6	83.2	184.6	316.8	325.8	
AVG	500.3	716.5	82	78	196.9	279.1	318.1	

2.1.3.4 Geonet

JULY 2001

013-9659

SUMMARY OF GEONET CONFORMANCE TEST RESULTS
MAVERICK SOLUTIA/QA MISSOURI

ROLL DESIGNATION	REFERENCE VALUE	4035635	4035643	4035653	4035654	4035663	4035665	4035666	4035690	-	-
THICKNESS (mils) ASTM D1777	-	220.6	222.7	220.6	219.1	219.6	220.3	217.5	220.6	-	-
DENSITY (g/cc) ASTM D1505	-	0.951	0.952	0.951	0.951	0.952	0.951	0.951	0.952	-	-
MASS PER UNIT AREA (oz/yd^2) ASTM D5261	-	24.3	24.6	24.4	24.4	24.1	24.2	23.7	24.5	-	-
TENSILE STRENGTH (ppi) (MD/TD) (1) ASTM D5035	-	46.8	48.3	45.3	49.8	59.2	59.8	55.7	52.8	-	-
	-	22.9	25.7	23.2	21.8	25.7	21.0	24.2	25.1	-	-
TRANSMISSIVITY (m^2/sec) ASTM D4716	-	6.0E-03	6.2E-03	5.8E-03	6.0E-03	6.0E-03	6.2E-03	5.8E-03	5.6E-03	-	-

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

NETSUM

GEONET TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 4035690

	THICKNESS (in)	DENSITY (g/cc)	MASS (lb/ft²)
1.	220.9	0.952	26.1
2.	219.7	0.952	25.7
3.	213.8	0.951	26.4
4.	214.2		24.7
5.	209.1		23.0
6.	215.7		21.7
7.	223.2		24.2
8.	230.7		23.5
9.	228.3		24.7
10.	230.3		25.3
AVG	220.6	0.952	24.5

	TENSILE STRENGTH (ppi) MD	TENSILE STRENGTH (ppi) TD	TRANSMISSIVITY (m²/sec)
			5.2E-03
1.	57.3	23.5	6.1E-03
2.	57.9	20.3	
3.	58.5	25.6	
4.	43.6	25.0	
5.	46.6	30.9	
AVG	52.8	25.1	5.6E-03

GEONET TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 4035686

	THICKNESS (in)	DENSITY (g/cc)	MASS (lb/ft²)
1.	221.3	0.952	24.7
2.	217.3	0.951	23.5
3.	219.7	0.951	21.8
4.	220.5		21.7
5.	220.5		23.5
6.	218.1		24.5
7.	207.5		24.3
8.	208.3		24.6
9.	218.5		23.7
10.	223.6		24.6
AVG	217.5	0.951	23.7

	TENSILE STRENGTH (ppi) MD	TENSILE STRENGTH (ppi) TD	TRANSMISSIVITY (m²/sec)
			5.8E-03
1.	54.3	28.5	5.8E-03
2.	51.1	20.5	-
3.	61.1	20.8	
4.	51.6	28.6	
5.	60.6	22.4	
AVG	55.7	24.2	5.8E-03

GEONET TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 4035665

	THICKNESS (in)	DENSITY (g/cc)	MASS (lb/ft²)
1.	231.9	0.952	25.4
2.	225.6	0.951	25.0
3.	225.6	0.951	23.5
4.	221.7		23.8
5.	211.4		22.3
6.	211.8		21.7
7.	216.1		23.0
8.	218.1		25.3
9.	220.5		25.9
10.	220.5		25.6
AVG	220.3	0.951	24.2

	TENSILE STRENGTH (ppi) MD	TENSILE STRENGTH (ppi) TD	TRANSMISSIVITY (m²/sec)
1.	58.5	21.1	6.5E-03
2.	62.3	20.3	6.0E-03
3.	58.9	22.4	-
4.	63.4	22.4	
5.	56.1	19.0	
AVG	59.8	21.0	6.2E-03

JULY 2001 013-9659

GEONET TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 4035635

	THICKNESS (in)	DENSITY (g/cc)	MASS (lb/ft²)
1.	232.7	0.952	24.4
2.	225.2	0.950	23.9
3.	224.4	0.951	23.7
4.	218.5		24.6
5.	211.8		23.7
6.	222.0		22.3
7.	222.0		23.5
8.	215.4		24.8
9.	216.9		25.1
10.	217.3		27.1
AVG	220.6	0.951	24.3

	TENSILE STRENGTH (ppi) MD	TENSILE STRENGTH (ppi) TD	TRANSMISSIVITY (m²/sec)
1.	51.4	19.1	6.7E-03
2.	14.4	23.4	5.4E-03
3.	47.8	19.9	-
4.	50.0	25.5	
5.	70.8	26.4	
AVG	46.8	22.9	6.0E-03

GEONET TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 4035654

	THICKNESS (in)	DENSITY (g/cc)	MASS (lb/ft²)
1.	227.6	0.951	27.9
2.	227.2	0.952	25.8
3.	225.6	0.951	25.3
4.	224.4		25.5
5.	216.5		23.5
6.	210.2		22.2
7.	211.8		22.5
8.	216.5		24.0
9.	215.0		23.4
10.	216.1		24.0
AVG	219.1	0.951	24.4

	TENSILE STRENGTH (ppi) MD	TD	TRANSMISSIVITY (m²/sec)
1.	49.3	22.6	5.4E-03
2.	65.6	24.8	6.7E-03
3.	42.3	18.3	-
4.	41.3	22.0	
5.	50.8	21.3	
AVG	49.8	21.8	6.0E-03

JULY 2001 013-9659

GEONET TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 4035653

	THICKNESS (in)	DENSITY (g/cc)	MASS (lb/ft²)
1.	219.7	0.951	26.8
2.	222.8	0.951	25.8
3.	218.1	0.951	22.0
4.	221.7		25.3
5.	210.2		23.2
6.	216.1		22.3
7.	228.0		24.5
8.	211.4		23.6
9.	226.0		25.5
10.	231.5		25.1
AVG	220.6	0.951	24.4

	TENSILE STRENGTH (ppi) MD	TENSILE STRENGTH (ppi) TD	TRANSMISSIVITY (m²/sec)
1.	32.1	28.9	6.0E-03
2.	48.0	24.8	5.6E-03
3.	48.4	18.8	-
4.	53.1	20.6	
5.	45.1	23.0	
AVG	45.3	23.2	5.8E-03

GEONET TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 4035643

	THICKNESS (in)	DENSITY (g/cc)	MASS (lb/ft²)
1.	228.3	0.952	24.7
2.	238.6	0.952	25.6
3.	228.3	0.952	24.8
4.	220.9		24.7
5.	213.8		22.8
6.	214.6		22.1
7.	219.7		23.4
8.	220.5		25.6
9.	222.8		26.8
10.	219.3		25.3
AVG	222.7	0.952	24.6

	TENSILE STRENGTH (ppi) MD	TENSILE STRENGTH (ppi) TD	TRANSMISSIVITY (m²/sec)
1.	46.8	24.6	7.3E-03
2.	45.8	21.1	5.2E-03
3.	41.5	27.0	-
4.	58.1	27.8	
5.	49.6	28.1	
AVG	48.3	25.7	6.2E-03

JULY 2001 013-9659

GEONET TEST RESULTS

PROJECT NUMBER: 013-9659
PROJECT NAME: SOLUTIA/QA/MO
ROLL DESIGNATION: 4035663

	THICKNESS (in)	DENSITY (g/cc)	MASS (lb/ft²)
1.	229.5	0.953	25.7
2.	229.5	0.952	24.2
3.	226.4	0.952	23.1
4.	214.6		24.1
5.	213.0		22.4
6.	212.2		22.7
7.	218.1		23.2
8.	211.8		24.6
9.	216.9		25.4
10.	224.4		25.7
AVG	219.6	0.952	24.1

	TENSILE STRENGTH (ppi) MD	TENSILE STRENGTH (ppi) TD	TRANSMISSIVITY (m²/sec)
1.	57.6	21.0	5.4E-03
2.	58.8	25.1	6.6E-03
3.	52.4	25.3	-
4.	63.9	29.5	
5.	63.5	27.8	
AVG	59.2	25.7	6.0E-03

2.1.3.5 Interface Shear Testing

TABLE 5.

CLIENT: TAYLOR GEOSYNTHETICS INC.

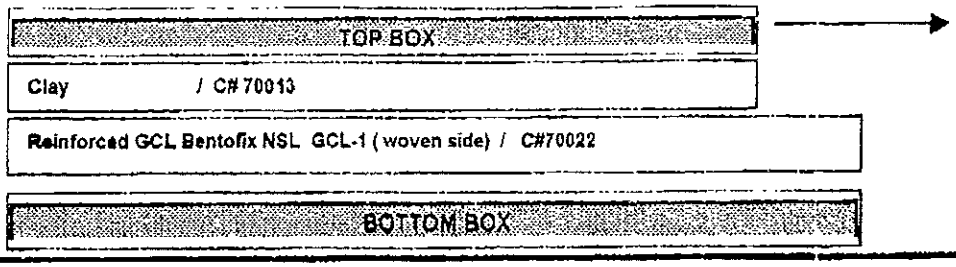
PROJECT: Solutia Inc., Sauget Area 1I

INTERFACE SHEAR TEST RESULT (ASTM D6243)

(PGL Job No. 010284)

QC'd by: _____
May 16, 2000

TEST CONFIGURATION #5



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut to 20" x 20"
2. Soil was compacted to 100.7 pcf at 22.05 % moisture content.

HYDRATION:

1. GCL specimens were hydrated for 72 hours at 288psf for 72 hours.

CONSOLIDATION:

1. Each set of specimen was consolidated under drained condition for 24 hours at normal load before shearing.

SHEAR TEST:

1. Shear test was conducted at 0.04 in/ min.
2. Sheared at minimum 3.0 inch horizontal displacement.
3. The test specimens were sheared in drained condition.
4. Final moisture content of the soil were 21.8 %, 21.9 %, and 21.5 % at normal loads of 5 psi, 10 psi, and 15 psi respectively.
6. Initial moisture contebnt of the GCL was 19.7 %, and the final moisture content were 78.2 %, and 80.6 %, and 76.7% at normal loads of 5 psi, 10psi, and 15 psi respectively.
7. Tests were performed in general accordance with ASTM D6243 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH: SHEAR STRESS (psf)	PEAK STRENGTH: PEAK SECANT ANGLE	3.0" DISPLACEMENT STRENGTH: SHEAR STRESS (psf)	3.0" DISPLACEMENT STRENGTH: 3.0" DISPLACEMENT SECANT ANGLE
5	720	450	32	440	31
10	1440	776	28	767	28
15	2160	895	23	799	20

	PEAK STRENGTH	3.0" DISPLACEMENT STRENGTH
COHESION (psf):	262	310
FRICTION ANGLE (degrees):	17.2	14.0
COEFFICIENT OF FRICTION:	0.31	0.25

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

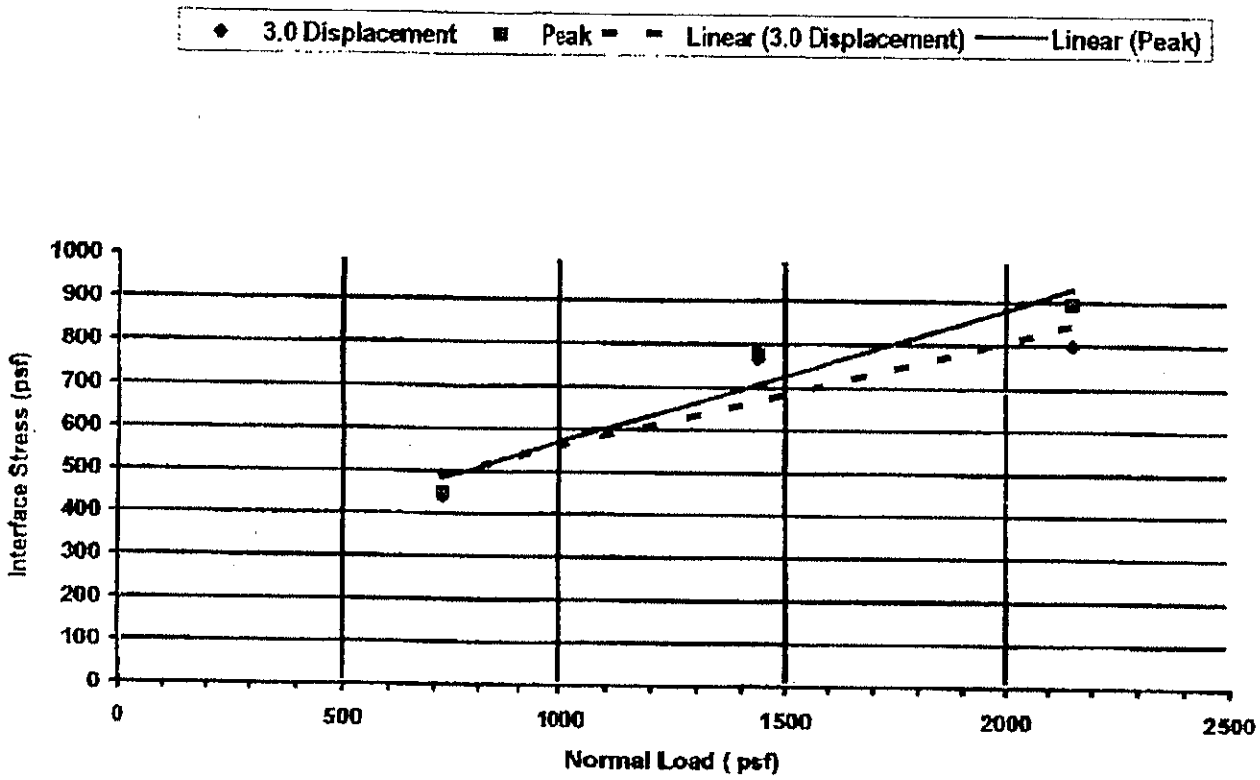
OBSERVATIONS:

Failure occurred on the interface. See Figure #1 and #2

No stretching, [illegible], or tearing was observed on the GCL specimens.

ISO 9002

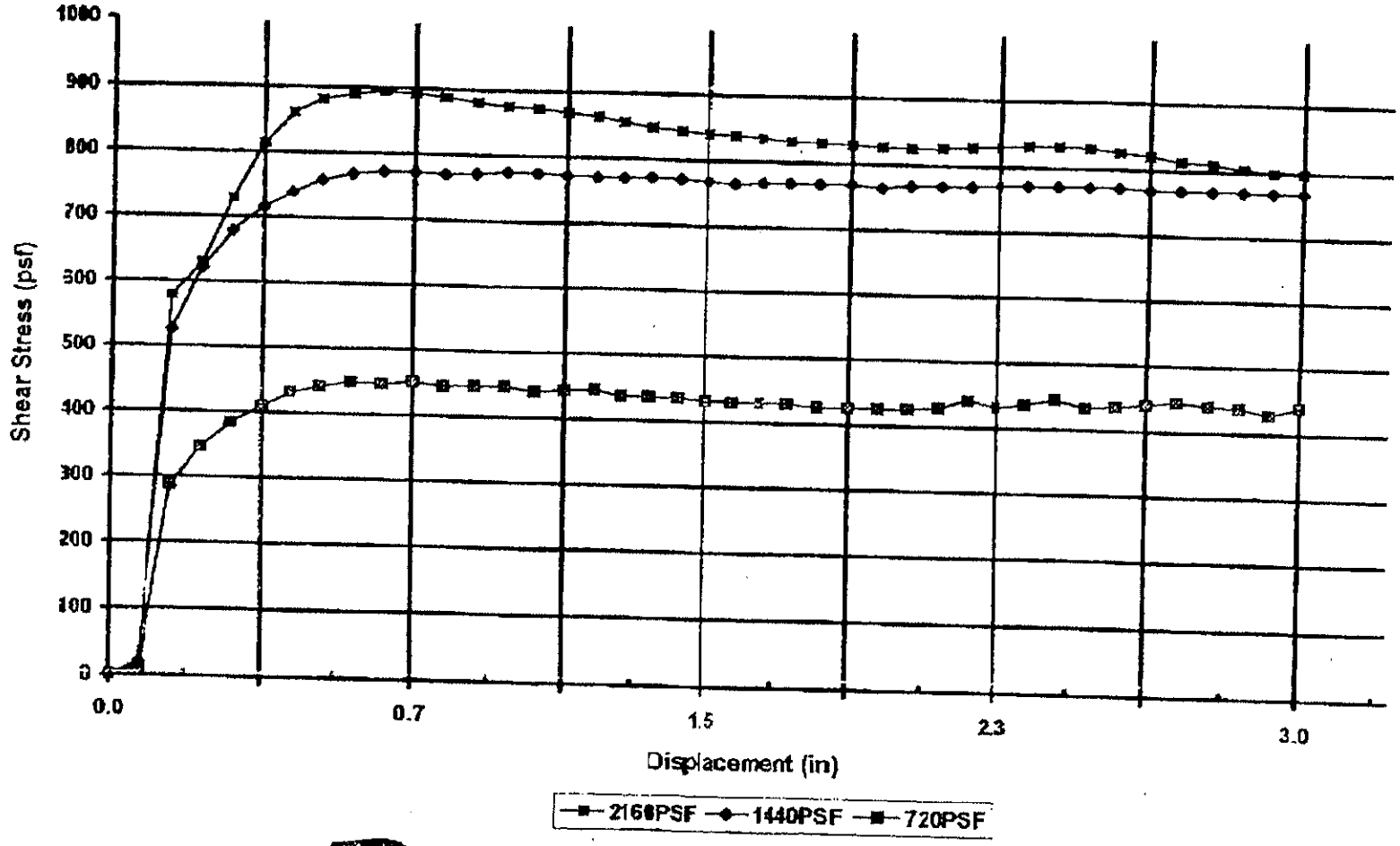
Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010284_5
Soil, C#70013 / Reinforced GCL-1 (Woven Side), C#70022



Precision Geosynthetic Laboratories

ISO 9002

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010284_5
Soil, C#70013 / Reinforced GCL-1 (Woven Side), C#70022



Precision Geosynthetic Laboratories

ISO 9002

TABLE 1.

CLIENT: TAYLOR GEOSYNTHETICS INC.

PROJECT: Solutia Inc., Sauget Area 1I

INTERFACE SHEAR TEST RESULT (ASTM D5321)

(PGL Job No. 010284)

QC'd by: _____
May 14, 2001

TEST CONFIGURATION #1

TOP BOX

Clay / C# 70013

Smooth HDPE Roll #1916200 / C#70031

BOTTOM BOX

TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut along machine direction to 20" x 20"
2. Soil was compacted to 100.7pcf at 21.85 % moisture content.

CONSOLIDATION:

1. Each set of specimen was consolidated under drained condition for 24 hours at normal load before shearing.

SHEAR TEST:

1. Shear test was conducted at 0.04 in/ min.
2. Sheared at minimum 3.0 inch horizontal displacement.
3. The test specimens were sheared in drained condition.
4. Final moisture content of the soil were 21.12 %, 2072 %, and 20.3 % at normal loads of 5psi, 10psi, and 15 psi respectively.
5. Tests were performed in general accordance with ASTM D6243 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH SHEAR STRESS (psf)	PEAK STRENGTH PEAK SECANT ANGLE	3.0" DISPLACEMENT STRENGTH SHEAR STRESS (psf)	3.0" DISPLACEMENT STRENGTH 3.0" DISPLACEMENT SECANT ANGLE
5	720	168	13	102	8
10	1440	336	13	245	10
15	2160	395	10	317	8

	PEAK STRENGTH	3.0" DISPLACEMENT STRENGTH
COHESION (psf):	73	6
FRICTION ANGLE (degrees):	9.0	8.5
COEFFICIENT OF FRICTION:	0.16	0.16

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

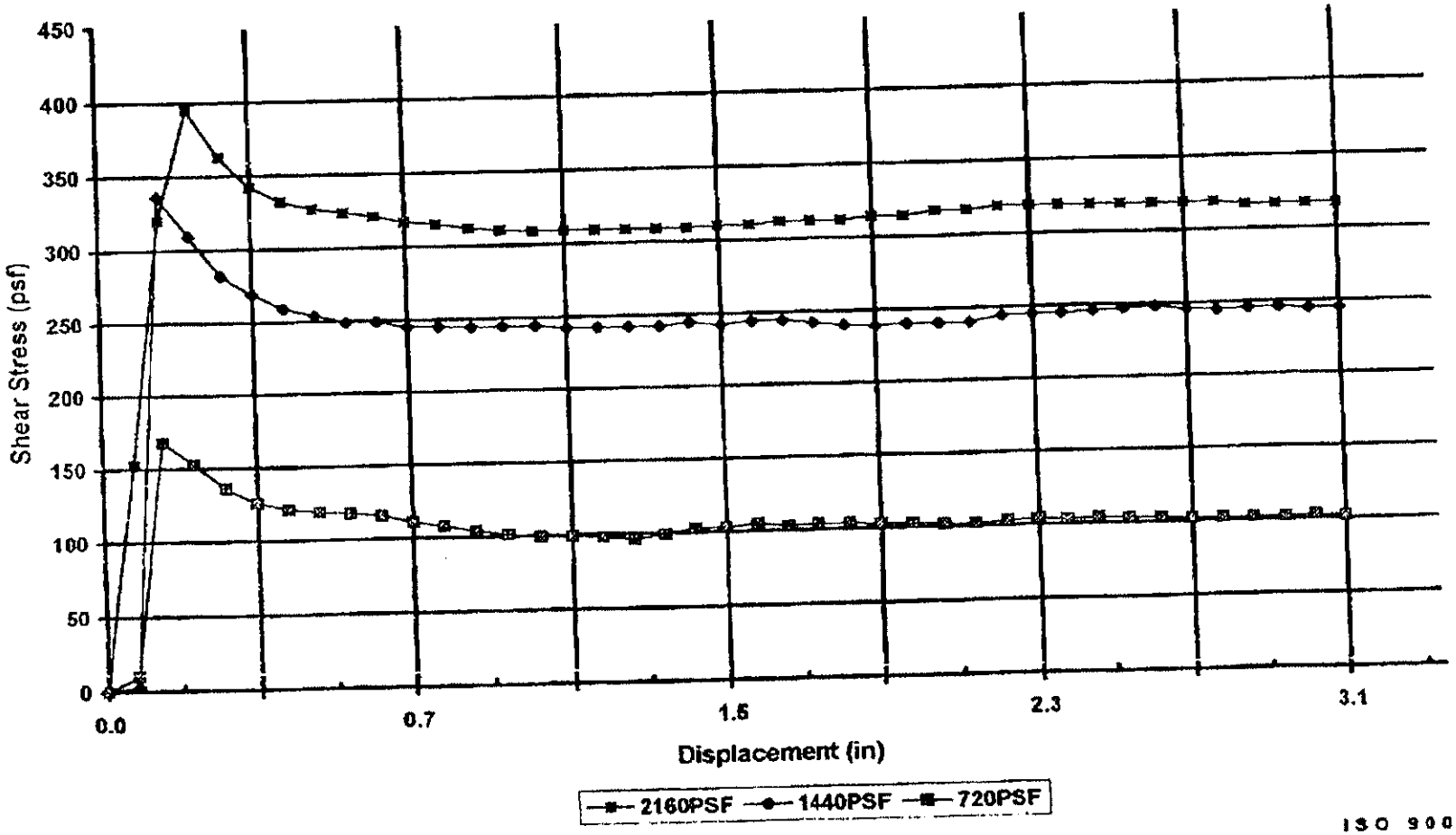
OBSERVATIONS:

Failure occurred along the interface. See Figure #1 and #2

No stretching, [illegible] or tearing was observed on the smooth HDPE specimens.

ISO 9002

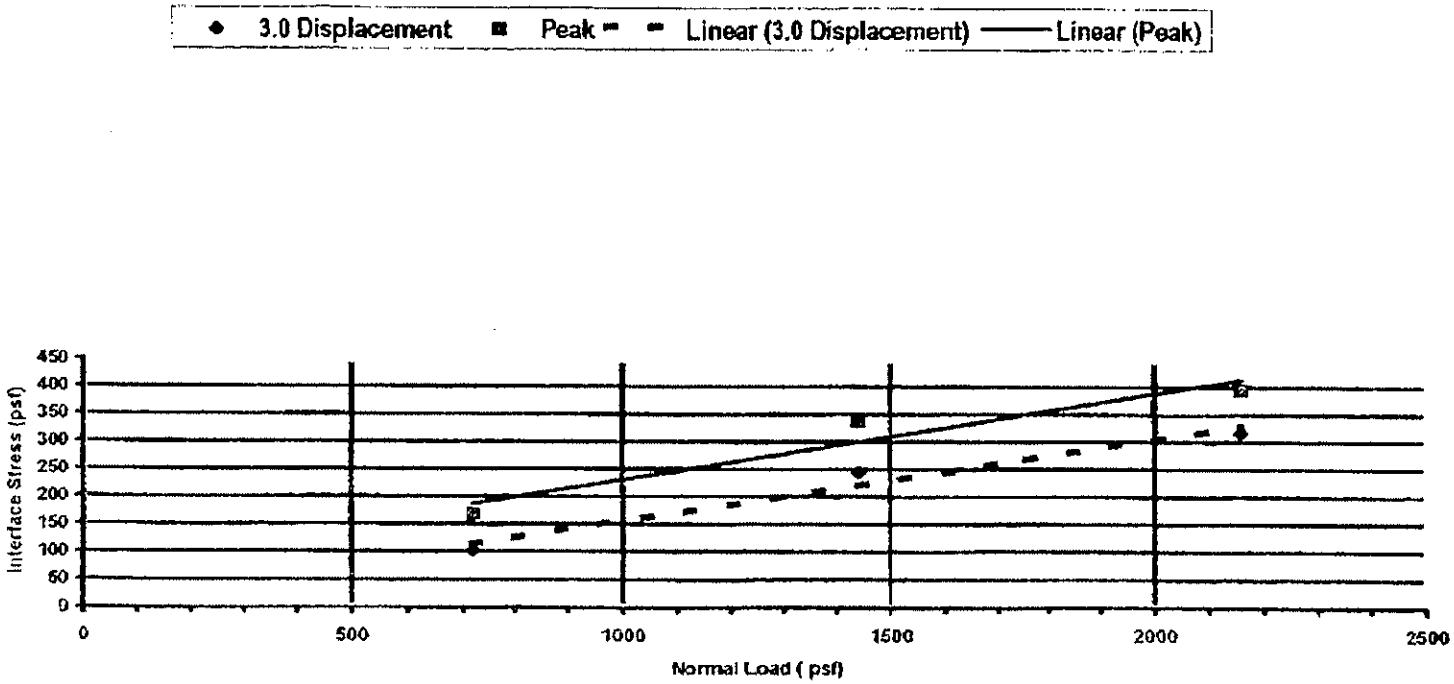
Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010284_1
Soil, C#70013 / Smooth HDPE Roll#1915200, C#70031



Precision Geosynthetic Laboratories

ISO 9002

Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010284_1
Soil, C#70013 / Smooth HDPE Roll#1915200, C#7#031



Precision Geosynthetic Laboratories

ISO 9002

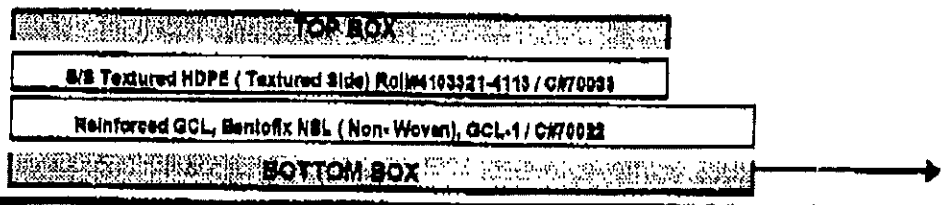
TABLE 1

CLIENT: TAYLOR GEOSYNTHETICS INC.
PROJECT: Solutia Inc. Sauget Area 1

INTERFACE SHEAR TEST RESULT (ASTM D 6243)
PGL Job No. G010504

QC'd by: _____ 13-Jun-01

TEST CONFIGURATION # 1



TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimen were cut along machine direction to 14" x 18".
2. Initial moisture content of the GCL was 14.2%.

HYDRATION:

1. GCL specimens were hydrated for 72 hrs @ 288 psf.

CONSOLIDATION:

1. Each set of specimen was consolidated under drained condition for 24hrs @ normal load before shearing.

SHEAR TEST:

1. Shear test was conducted @ 0.04 in/ min.
2. Sheared @ minimum 3.0 inch horizontal displacement.
3. The test specimens were sheared in drained condition.
4. Test were performed in general accordance with ASTM D6243-98 using Brainard-Kilman LG-112 Direct Shear machine with effective area of 12 in X 12 in.

TEST RESULTS:

Normal Stress (psi)	Normal Stress (psf)	FINAL MC (GCL) (%)	FINAL MC (Soil) (%)	PEAK STRENGTH SHEAR STRESS (psf)	PEAK STRENGTH SECANT ANGLE (degrees)	3.0 " DISPLACEMENT STRENGTH SHEAR STRESS (psf)	3.0 " DISPLACEMENT STRENGTH SECANT ANGLE (degrees)
5.00	720	65.3	n/a	673	43	536	37
10.00	1440	64.9	n/a	825	30	685	25
15.00	2160	61.5	n/a	1222	29	790	20

	PEAK STRENGTH	3.0 " DISPLACEMENT STRENGTH
COHESION (psf):	357.7	416.3
COEFFICIENT OF FRICTION:	0.35	0.16
FRICTION ANGLE(degrees):	20.9	10.0

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

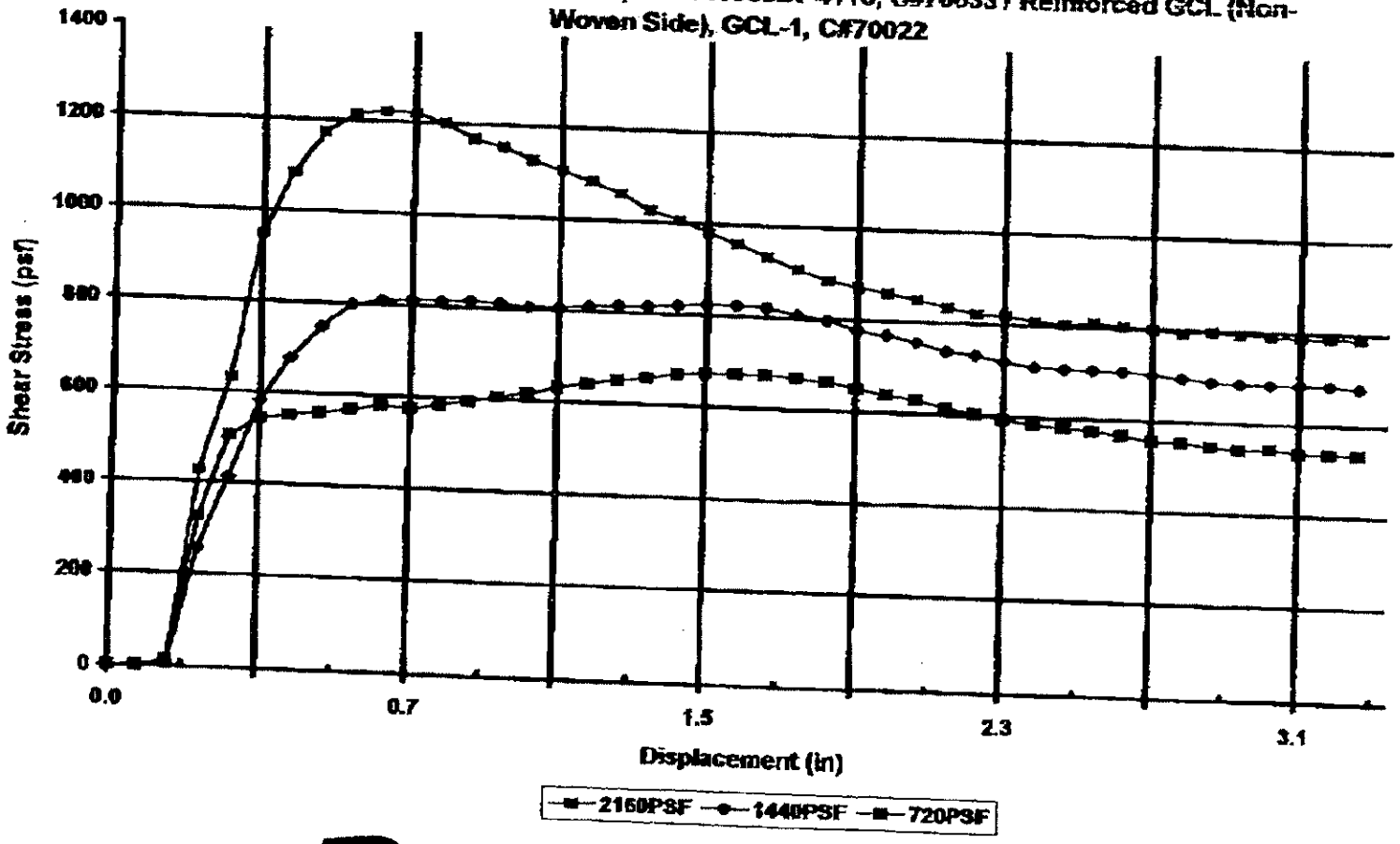
See Figure #1 and #2

Stretching of the GCL is observed at all normal loads. However, the degree of stretching becomes severe as normal loads increases.

ISO 9002

Precision Geosynthetic Laboratories

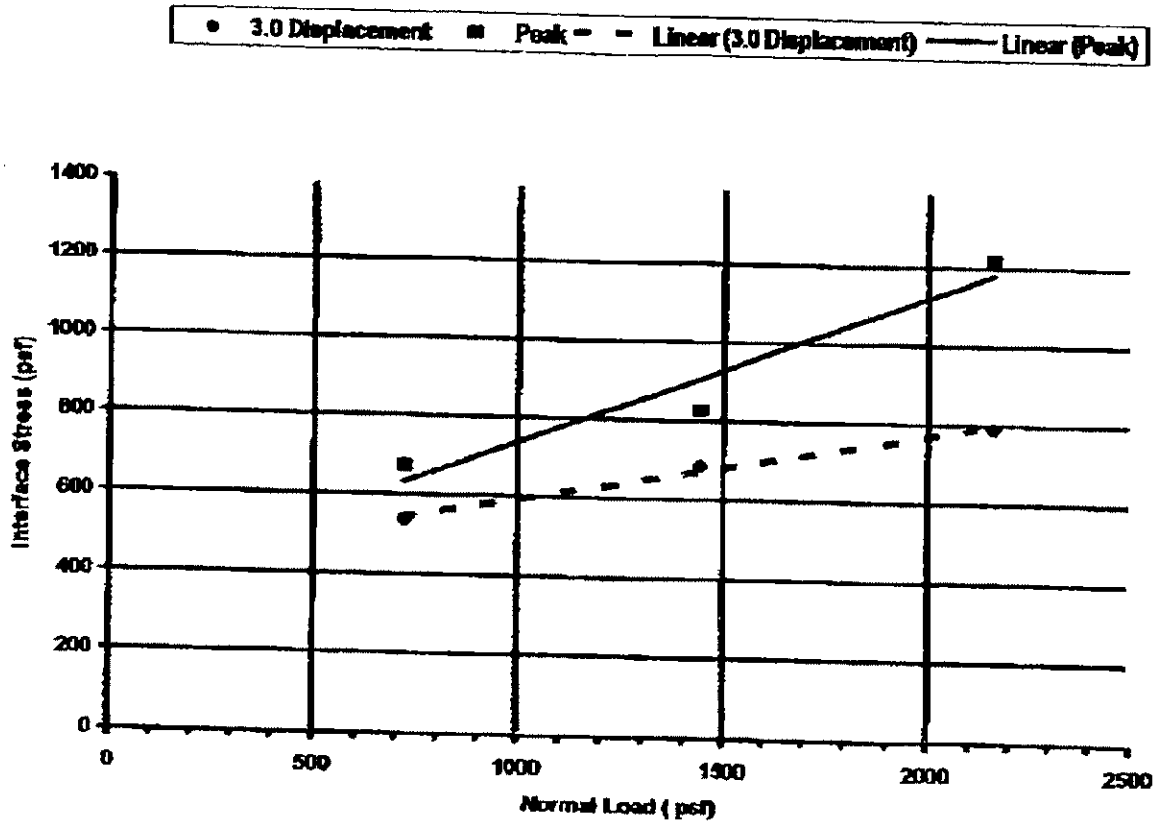
Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010504_1
S/S Textured HDPE (Textured Side) Roll#4103321-4113, C#70033 / Reinforced GCL (Non-Woven Side), GCL-1, C#70022



Precision Geosynthetic Laboratories

ISO 9002

Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010504_1
S/S Textured HDPE (Textured Side) Roll#4103321-4113, C# 70033 / Reinforced GCL (Non Woven Side) GCL-1, C#70022



Precision Geosynthetic Laboratories

ISO 9002

TABLE 3.

CLIENT: TAYLOR GEOSYNTHETICS INC.

PROJECT: Solutia Inc., Sauget Area 1i

INTERFACE SHEAR TEST RESULT (ASTM D5321)

(PGL Job No. 010284)

QC'd by: _____
May 8, 2000

TEST CONFIGURATION #3

TOP BOX →

D/S Textured HDPE Roll#4104643-4144 / C# 70032

Geonet Roll #4031951-4324 / C#70034

BOTTOM BOX

TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut to 20" x 20"

CONSOLIDATION:

1. Each set of specimen was consolidated under drained condition for 24 hours at normal load before shearing.

SHEAR TEST:

1. Shear test was conducted at 0.04 in/ min.
2. Sheared at minimum 3.0 inch horizontal displacement.
3. The test specimens were sheared in drained condition.
4. Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH: SHEAR STRESS (psf)	PEAK STRENGTH: PEAK SECANT ANGLE	3.0" DISPLACEMENT STRENGTH: SHEAR STRESS (psf)	3.0" DISPLACEMENT STRENGTH: 3.0" DISPLACEMENT SECANT ANGLE
5	720	339	25	314	24
10	1440	395	15	371	14
15	2160	620	16	514	13

	PEAK STRENGTH	3.0" DISPLACEMENT STRENGTH
COHESION (psf):	170	200
FRICTION ANGLE (degrees):	11	7.9
COEFFICIENT OF FRICTION:	0.20	0.14

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

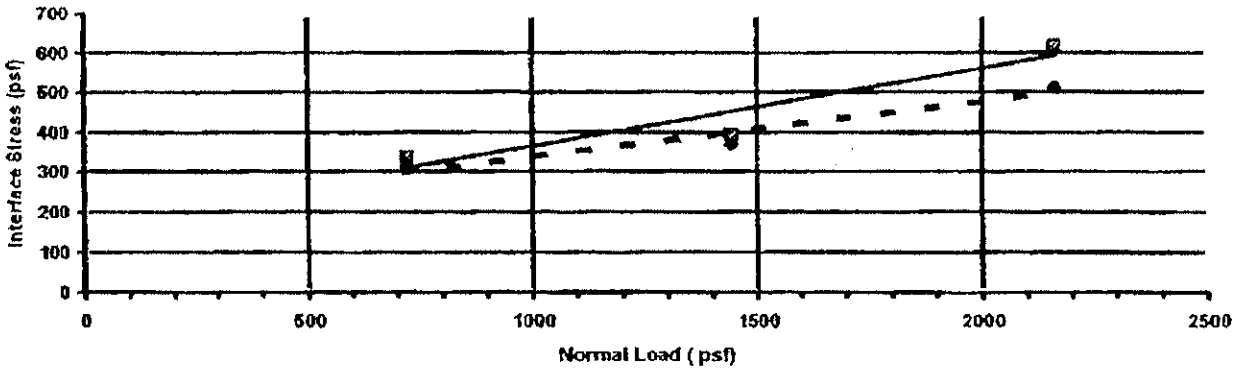
OBSERVATIONS:

Failure occurred along the interface. See Figure #1 and #2

No stretching, abrasion, or tearing was observed on either the geonet or the HDPE specimens.

ISO 9002

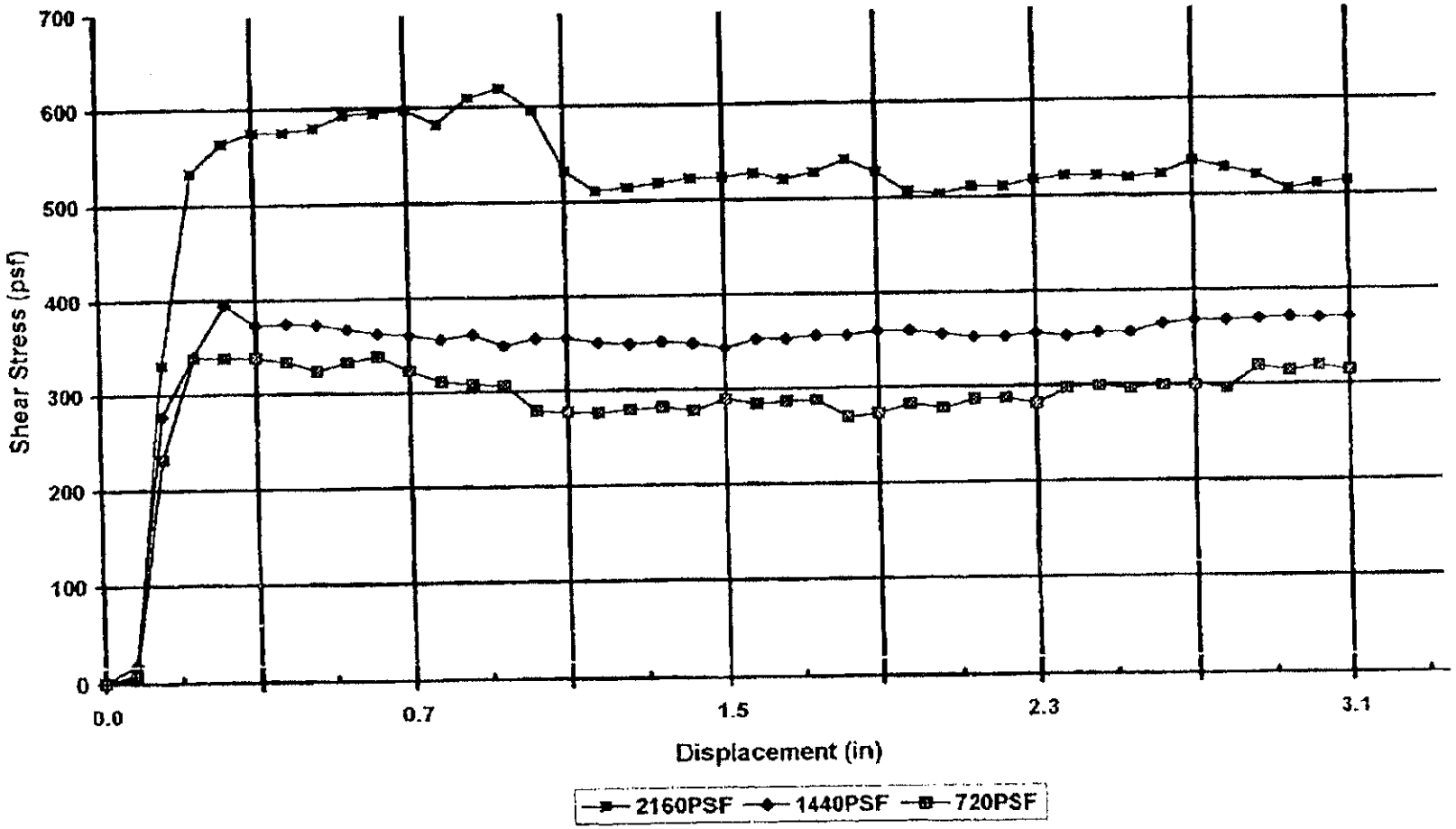
Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010284_3
HDPE Textured HDPE Roll#4104643-4144, C#70032 / Geonet Roll#4031951-4324, C#70034



Precision Geosynthetic Laboratories

ISO 9002

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010284_3
HDPE Textured Roll#4104643-4144, C#70032 / Geonet Roll#4031951-4324, C#70034



Precision Geosynthetic Laboratories

ISO 9002

TABLE 2.

CLIENT: TAYLOR GEOSYNTHETICS INC.

PROJECT: Solutia Inc., Sauget Area 1I

INTERFACE SHEAR TEST RESULT (ASTM D5321)

(PGL Job No. 010284)

QC'd by: _____
May 7, 2000

TEST CONFIGURATION #2

TOP BOX

S/S Textured HDPE Roll#4103321-4113 (Smooth Side) / C# 70033

Geonet Roll #4031951 -4324 / C#70034

BOTTOM BOX

TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut along machine direction to 20" x 20"

CONSOLIDATION:

1. Each set of specimen was consolidated under drained condition for 15 min at normal load before shearing.

SHEAR TEST:

1. Shear test was conducted at 0.04 in/ min.
2. Sheared at minimum 3.0 inch horizontal displacement.
3. The test specimens were sheared in drained condition.
4. Tests were performed in general accordance with ASTM D5321 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH SHEAR STRESS (psf)	PEAK STRENGTH PEAK SECANT ANGLE	3.0" DISPLACEMENT STRENGTH SHEAR STRESS (psf)	3.0" DISPLACEMENT STRENGTH 3.0" DISPLACEMENT SECANT ANGLE
5	720	158	12	150	12
10	1440	220	9	212	8
15	2160	378	10	373	10

	PEAK STRENGTH	3.0" DISPLACEMENT STRENGTH
COHESION (psf):	32	22
FRICTION ANGLE (degrees):	8.7	8.8
COEFFICIENT OF FRICTION:	0.15	0.15

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

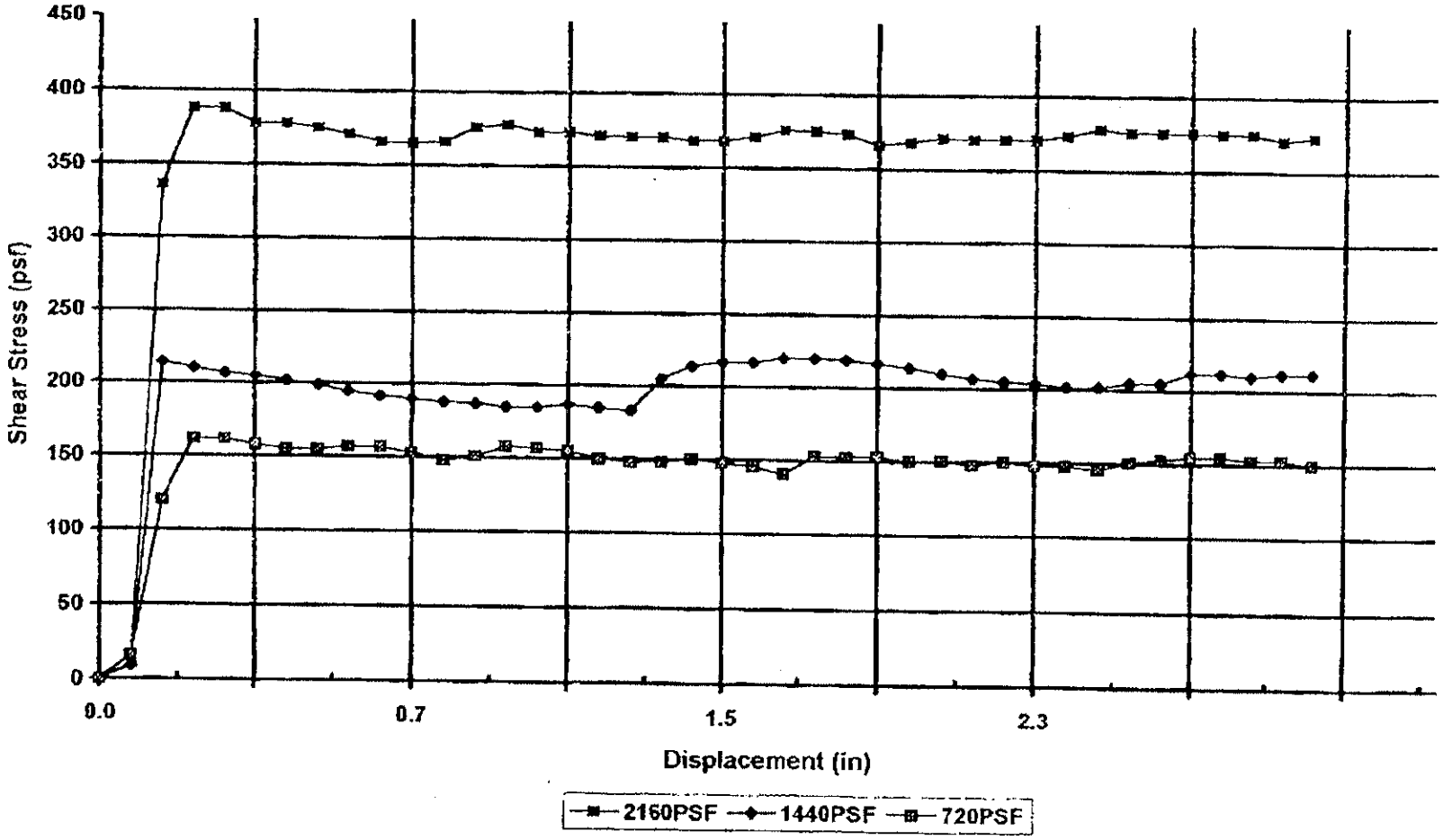
OBSERVATIONS:

Failure occurred along the interface. See Figure #1 and #2

No stretching, abrasion, or tearing was observed on either the HDPE or the geonet specimens.

ISO 9002

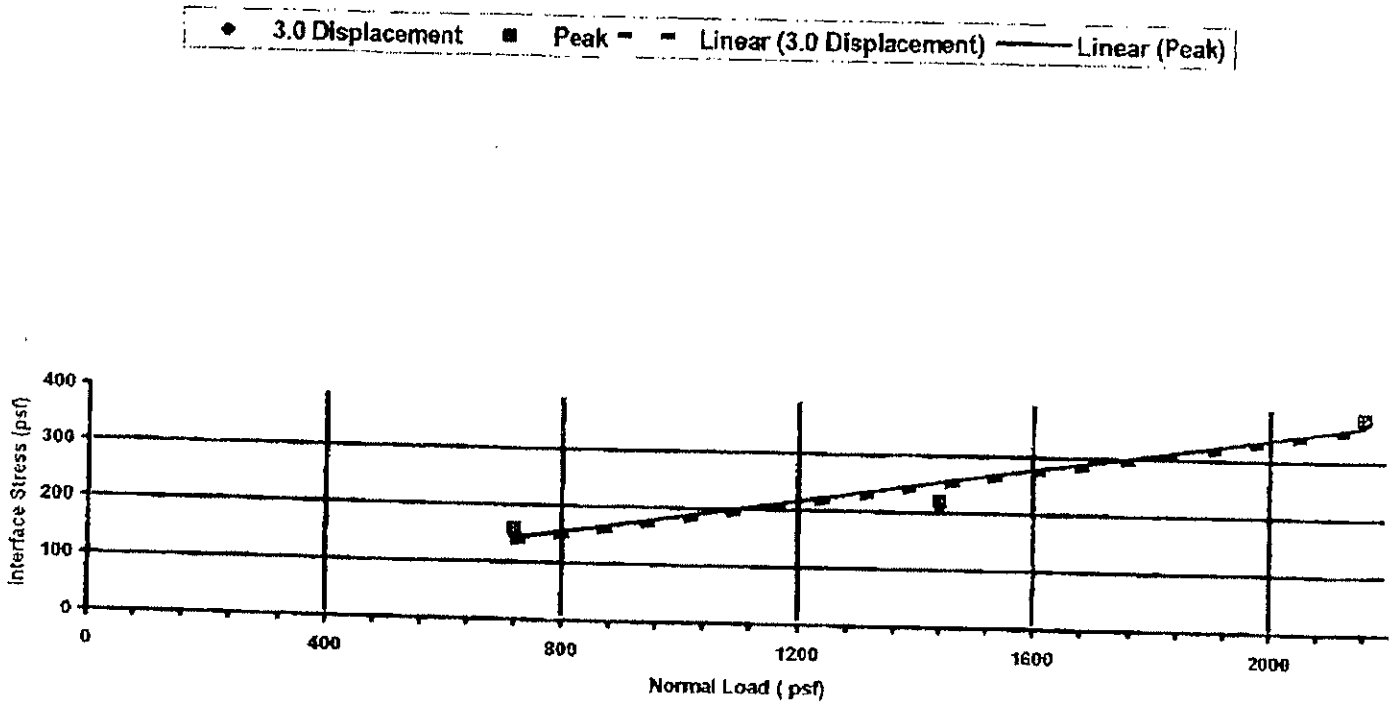
Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010284_2
S/S Smooth Side HDPE Roll#4103321-4113, C#70033 / Geonet Roll# 4031951-4324, C#70034



Precision Geosynthetic Laboratories

ISO 9002

Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010284_2
S/S Smooth Side HDPE Roll# 4103321-4113, C#70033 / Geonet Roll#4031951-4324 , C#70034



Precision Geosynth Laboratories

ISO 9002

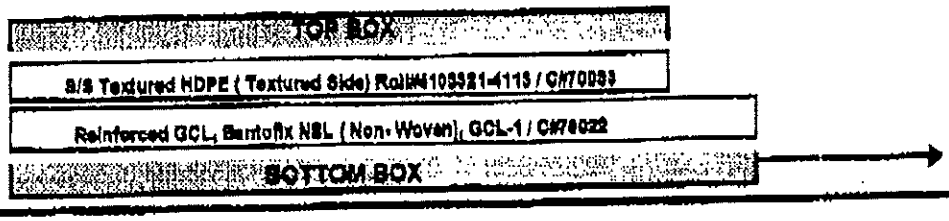
TABLE 1

CLIENT: TAYLOR GEOSYNTHETICS INC.
PROJECT: Solutia Inc. Sauget Area 1

INTERFACE SHEAR TEST RESULT (ASTM D 6243)
PGL Job No. G010504

QC'd by: _____ 13-Jun-01

TEST CONFIGURATION # 1



TEST CONDITIONS:

SAMPLE PREPARATION:
1. Specimen were cut along machine direction to 14" x 18".
2. Initial moisture content of the GCL was 14.2%.

HYDRATION:
1. GCL specimens were hydrated for 72 hrs @ 288 psf.

CONSOLIDATION:
1. Each set of specimen was consolidated under drained condition for 24hrs @ normal load before shearing.

SHEAR TEST:
1. Shear test was conducted @ 0.04 in/ min.
2. Sheared @ minimum 3.0 inch horizontal displacement.
3. The test specimens were sheared in drained condition.
4. Test were performed in general accordance with ASTM D6243-98 using Brainard-Kilman LG-112 Direct Shear machine with effective area of 12 in X 12 in.

TEST RESULTS:

Normal Stress (psi)	Normal Stress (psf)	FINAL MC (GCL) (%)	FINAL MC (Soil) (%)	PEAK SHEAR STRESS (psf)	PEAK SECANT ANGLE (degrees)	3.0 " DISPLACEMENT SHEAR STRESS (psf)	3.0 " DISPLACEMENT SECANT ANGLE (degrees)
5.00	720	65.3	n/a	573	43	536	37
10.00	1440	64.9	n/a	825	30	585	25
15.00	2160	61.5	n/a	1222	29	790	20

	PEAK STRENGTH	3.0 " DISPLACEMENT STRENGTH
COHESION (psf):	357.7	416.3
COEFFICIENT OF FRICTION:	0.35	0.18
FRICTION ANGLE(degrees):	20.9	10.0

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

OBSERVATIONS:

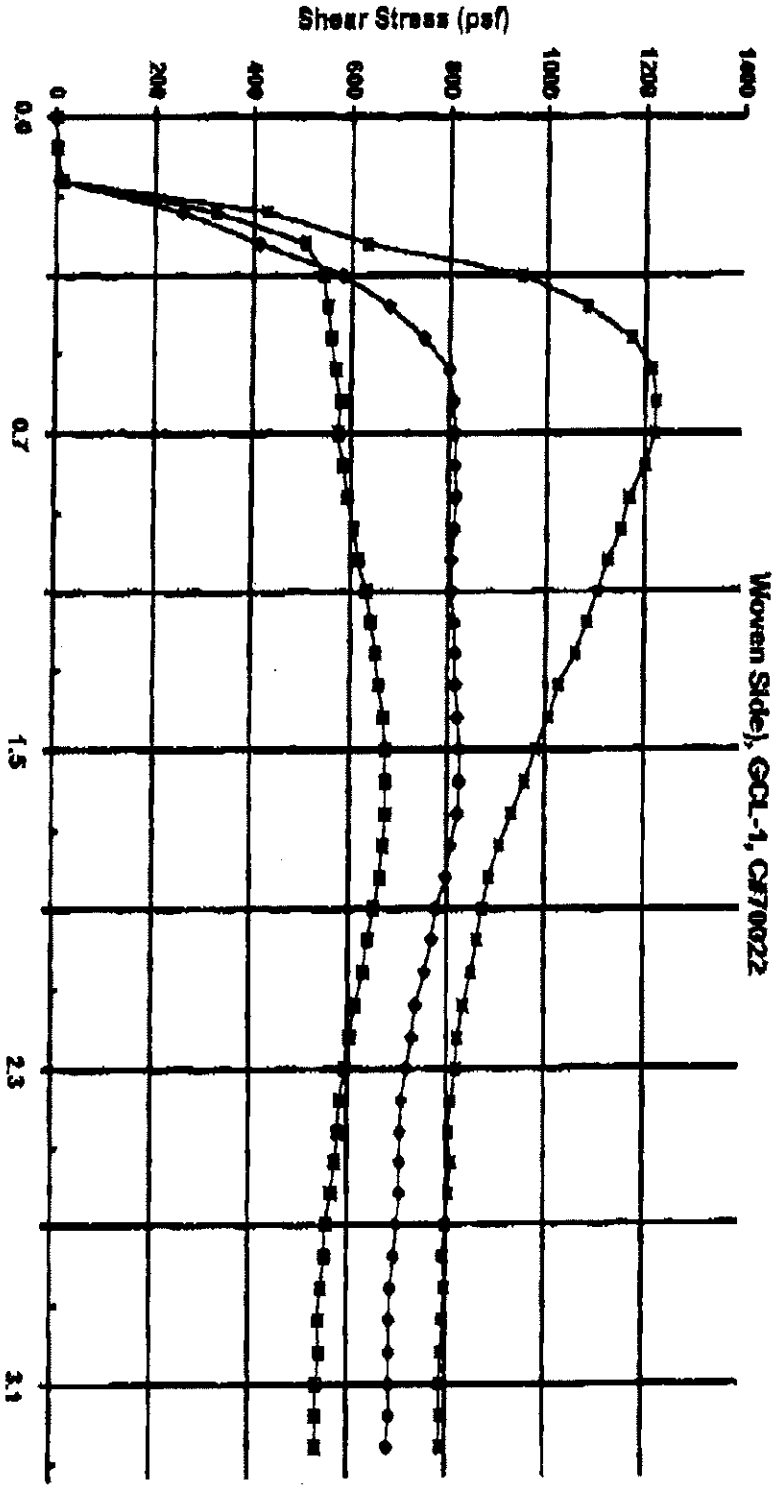
See Figure #1 and #2

Stretching of the GCL is observed at all normal loads. However, the degree of stretching becomes severe as normal [illegible] increases.

ISO 9002

Precision Geosynthetic Laboratories

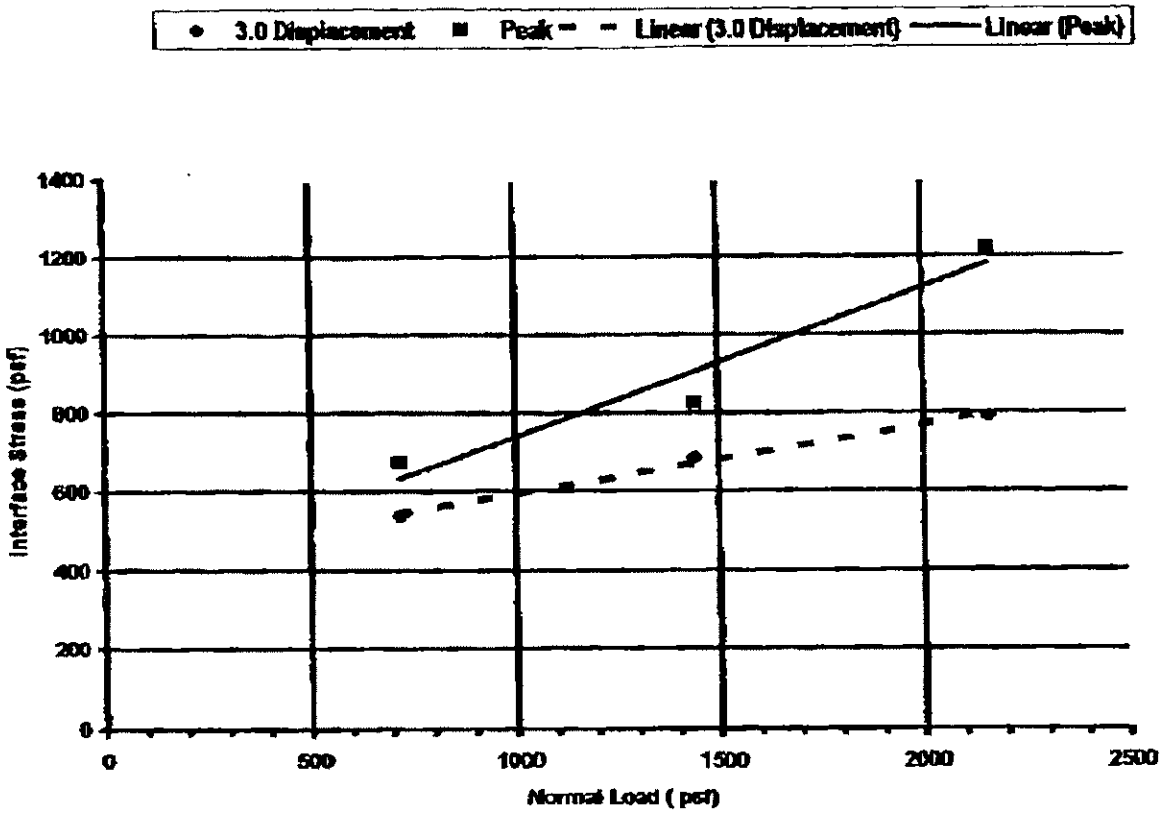
Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010504_1
S/S Textured HDPE (Textured Side) Roll#41033321-4113, CF70033 / Reinforced GCL (Non-Woven Side), GCL-1, CF70022



Precision Geosynthetic Laboratories

ISO 9002

Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010504_1
S/S Textured HDPE (Textured Side) Roll#4103321-4113, C# 70033 / Reinforced GCL (Non Woven Side) GCL-1, C#70022



Precision Geosynthetic Laboratories

ISO 9002

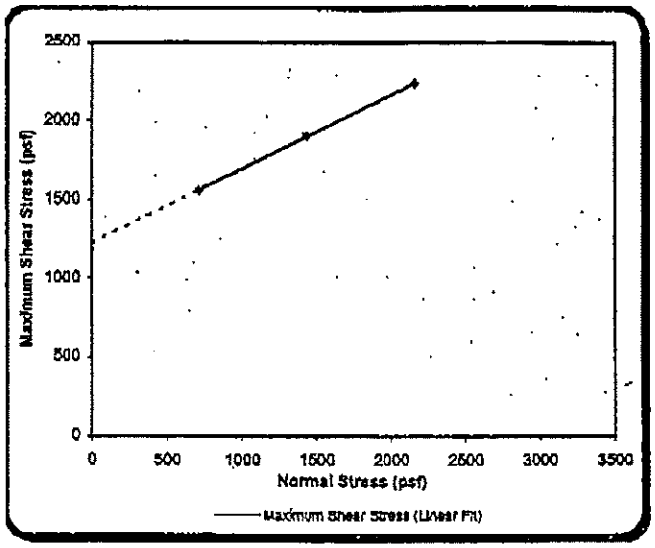
TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

INTERFACE FRICTION TEST REPORT

Client: **Maverick Construction Management Srvcs**
Project: Solutia, Saugent Area 1
Test Date: 07/18-07/19/01

TRI Log#: E2128-66-01
Test Method: ASTM D 6243

Tested Interface: Bentofix GCL - Internal Shear (Roll No. 29248)



Upper Box: Bentofix GCL - top geotextile

Lower Box: Bentofix GCL - bottom geotextile

Interface Conditioning: Interface soaked and loading applied for a minimum of 24 hours prior to shear

Box Dimension: 12"x12"x4"

Test Condition: Wet

Shearing Rate: 0.04 inches/minute

Trial Number	1	2	3
Bearing Slide Resistance (lbs)	12	17	23
Normal Stress (psf)	720	1440	2160
Maximum Shear Stress (psf)	1575	1925	2267
Corrected Shear Stress (psf)	1563	1908	2244
Secant Angle (degrees)	65.3	53.0	46.1

RESULTS: Maximum Friction Angle and Y-Intercept

Regression Friction Angle (degrees): 25.3
Y-Intercept or Regression Adhesion (psf): 1223

Regression Line: Y= 0.473 * X + 1223
Regression Coefficient (r squared): 1.000

Quality Review/Date

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

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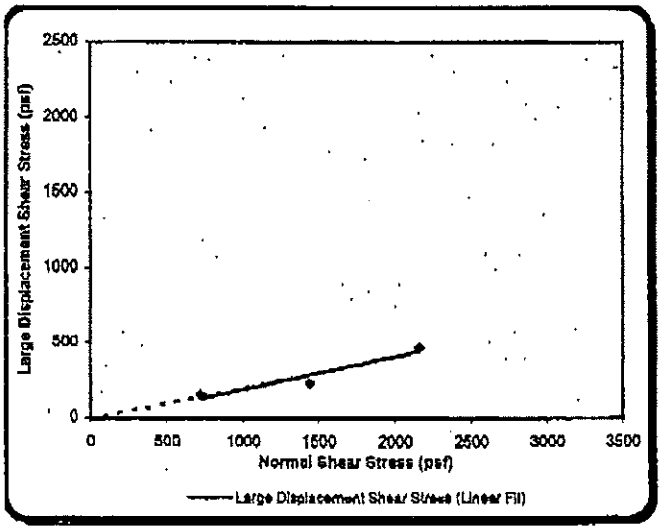
TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

INTERFACE FRICTION TEST REPORT

Client: **Maverick Construction Management Srvcs**
Project: Solutia, Saugent Area 1
Test Date: 07/18-07/19/01

TRI Log#: E2128-66-01
Test Method: ASTM D 6243

Tested Interface: Bentofix GCL - Internal Shear (Roll No. 29248)



Upper Box: Bentofix GCL - top geotextile

Lower Box: Bentofix GCL - bottom geotextile

Interface Conditioning: Interface soaked and loading applied for a minimum of 24 hours prior to shear

Box Dimension: 12"x12"x4"

Test Condition: Wet

Shearing Rate: 0.04 inches/minute

Trial Number	1	2	3
Bearing Slide Resistance (lbs)	12	17	23
Normal Stress (psf)	720	1440	2160
Large Displacment Shear Stress (psf)	165	250	494
Corrected Shear Stress (psf)	153	233	471
Secant Angle (degrees)	12.0	9.2	12.3

RESULTS: Large Displacement Friction Angle and Y-Intercept at 3.7-in. of Displacement

Regression Friction Angle (degrees): 11.4
Y-Intercept or Regression Adhesion (psf): 0

Regression Line: Y= 0.202 * X + 0
Regression Coefficient (r squared): 0.956

Quality Review/Date

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

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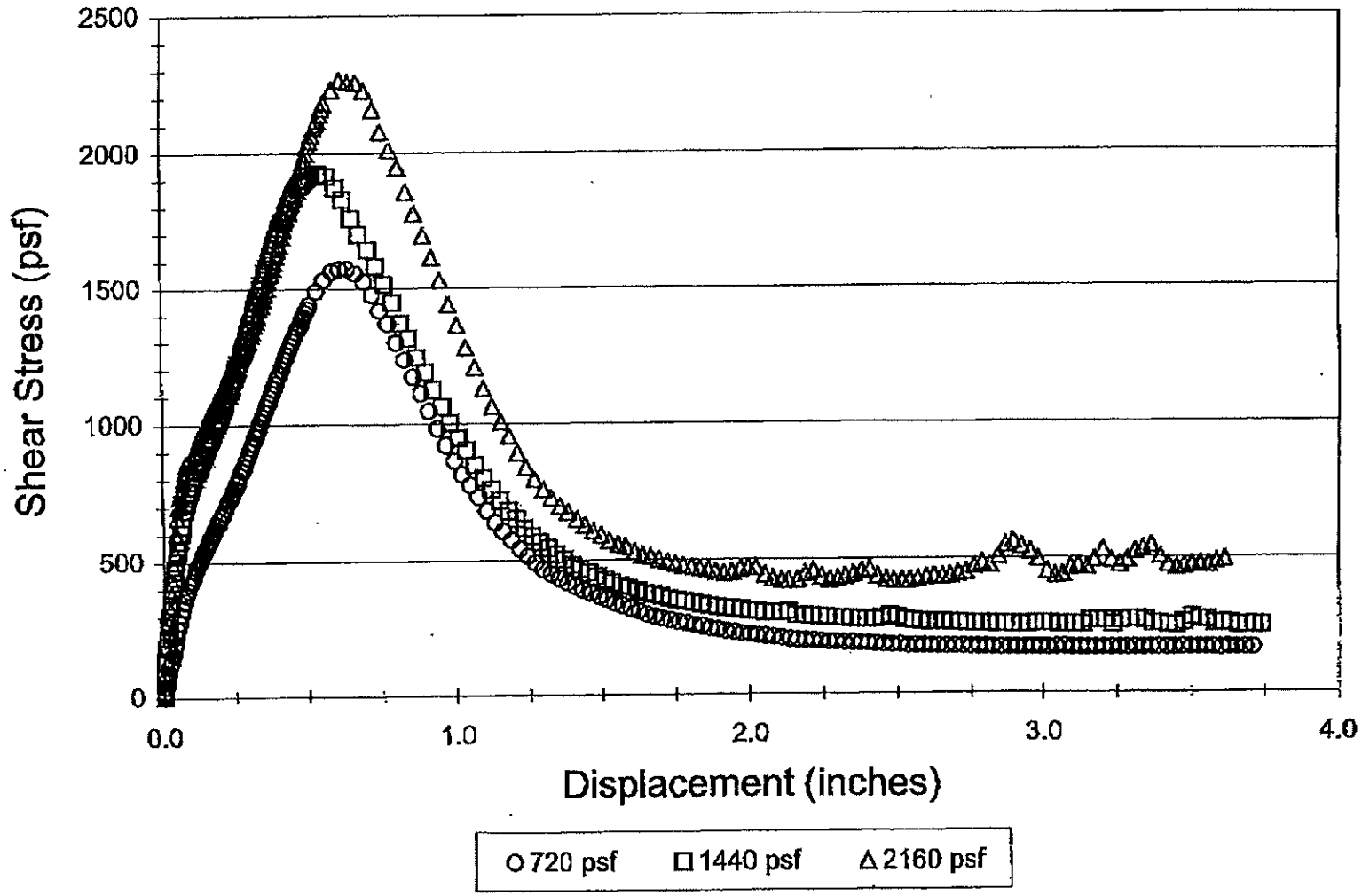
TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

MAVERICK CONSTRUCTION INTERFACE FRICTION TEST
Bentofix GCL - Internal Shear (Roll No. 29248)



9063 Bee Caves Road Austin, TX 78733-6201 (512) 263-2101 FAX (512) 263-2558 1-800-880-TEST

TABLE 4.

CLIENT: TAYLOR GEOSYNTHETICS INC.

PROJECT: Solutia Inc., Sauget Area 1I

INTERFACE SHEAR TEST RESULT (ASTM D6243)

(PGL Job No. 010284)

QC'd by: _____
May 8, 2000

TEST CONFIGURATION #4

TOP BOX

S/S Textured HDPE Roll#4103321-4113 (Textured Side) / C# 70033

Unreinforced GCL Bentofix EC GCL-2 (Non-Woven Side) / C#70023

BOTTOM BOX

TEST CONDITIONS:

SAMPLE PREPARATION:

1. Specimens were cut to 20" x 20"

HYDRATION:

1. GCL specimens were hydrated for 72 hours at 288psf.

CONSOLIDATION:

1. Each set of specimen was consolidated under drained condition for 24 hours at normal load before shearing.

SHEAR TEST:

1. Shear test was conducted at 0.04 in/ min.
2. Sheared at minimum 3.0 inch horizontal displacement.
3. The test specimens were sheared in drained condition.
4. Initial moisture content of the GCL was 18.6%, and the final moisture content were 75.39%, 74.8%, and 74.2% at normal loads of 5psi, 10psi, and 15 psi respectively.
5. Tests were performed in general accordance with ASTM D6243 using Brainard- Kilman LG-112 Direct Shear machine with effective area of 12 in x 12 in.

TEST RESULTS:

NORMAL STRESS (psi)	NORMAL STRESS (psf)	PEAK STRENGTH SHEAR STRESS (psf)	PEAK STRENGTH PEAK SECANT ANGLE	3.0" DISPLACEMENT STRENGTH SHEAR STRESS (psf)	3.0" DISPLACEMENT STRENGTH 3.0" DISPLACEMENT SECANT ANGLE
5	720	358	26	260	20
10	1440	505	19	330	13
15	2160	358	23	563	15

	PEAK STRENGTH	3.0" DISPLACEMENT STRENGTH
COHESION (psf):	28	81
FRICTION ANGLE (degrees):	21.5	11.9
COEFFICIENT OF FRICTION:	0.39	0.21

NOTE: The friction angles and cohesion results given here are based on mathematically determined best fit line.

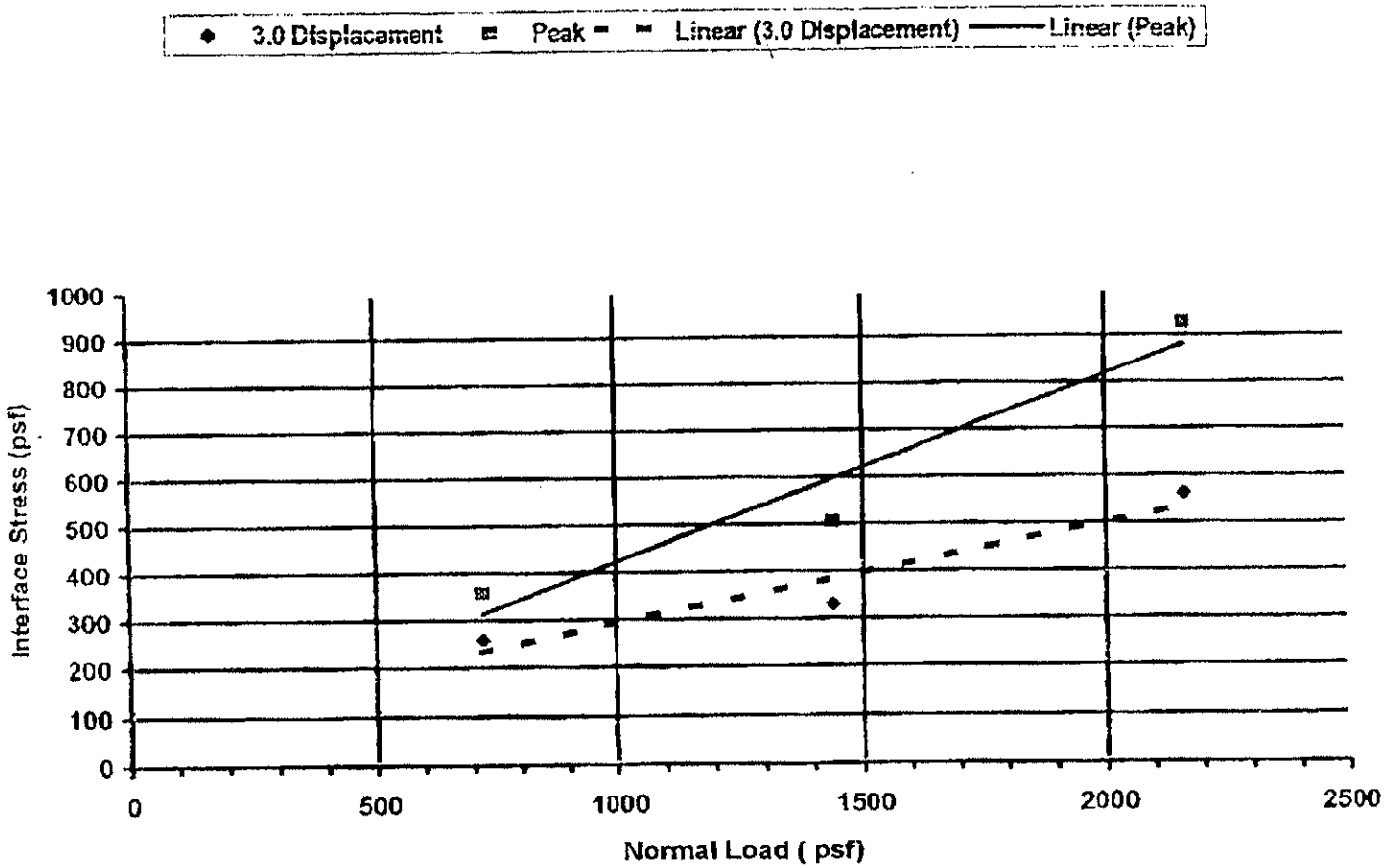
OBSERVATIONS:

Failure occurred along the interface. See Figure #1 and #2

Stretching of the GCL is noticeable with increase in displacement at all normal loads However, the degree of stretching becomes sev[illegible]mal load is increased.

ISO 9002

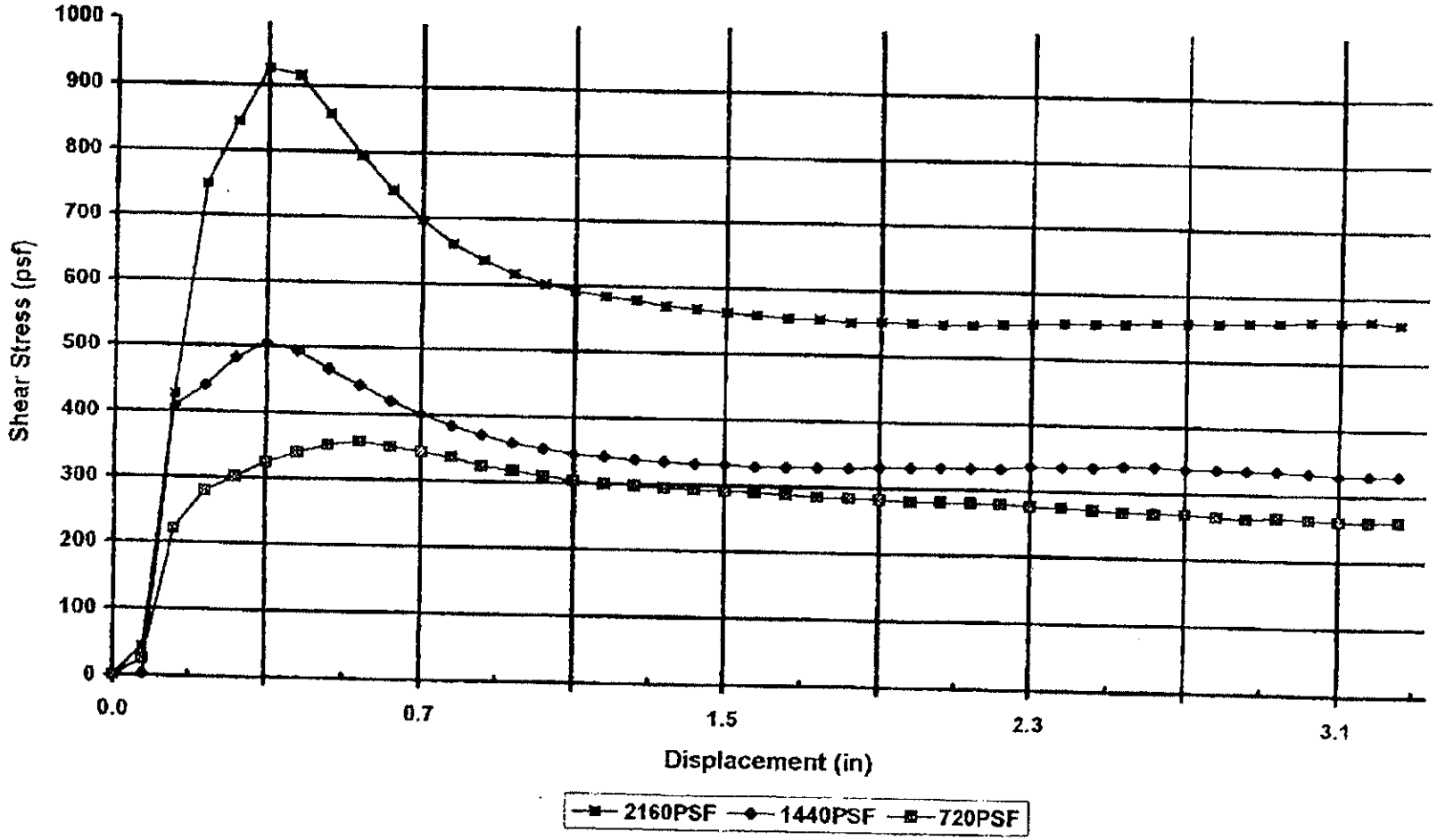
Figure #2
Normal Stress/ Interface Stress
PGL Job No. 010284_4
S/S Textured Side HDPE Roll#4103321-4113 ,C#70033 / GCL-2, C#70023



Precision Geosynthetic Laboratories

ISO 9002

Figure #1
Shear Stress/ Displacement Curve
PGL Job No. 010284_4
S/S Textured Side HDPE Roll#4103321-4113, C#70033 / GCL-2, C#70023



Precision Geosynthetic Laboratories

ISO 9002

2.1.4 Calibration Certificates

WEGENER

Proud Members of:

IAPD INTERNATIONAL ASSOCIATION OF PLASTICS DISTRIBUTORS PGI

DLFA

IAGI IFX Proud member

LOAD CELL CALIBRATION CERTIFICATE
WEGENER ULTITEST 500
SERIAL # 92035

Display Instrument:	Gentran GT434F	Serial #	***011440***
Load Cell:	T-Hydronics	Serial #	***040521***

WEGENER NORTH AMERICA INC. verifies the calibration of field testing equipment with an Omegadyne TC-S 0-500 lb Load Cell serial #088910 and a T-Hydronics Transducer Indicator serial #594 manufactured by Omegadyne Inc. (formerly T-Hydronics, Inc.) of Sunbury, Ohio. The transducer was compared to standards certified traceable to the National Institute of Standards and Technology, Washington, D.C. This certification is in reference to NIST test report #38130 B. The system calibration of the calibration load cell/indicator was completed on 07/17/98 (certificate available on request).

The calibration of WEGENER ULTITEST 500 Tensiometer Serial # 92035 was verified on 06/27/01 using the calibration load cell/indicator described above. The readings of the calibration set are recorded as "True Load." The readings of the instrument in question are recorded below as "Display Load."

True Load (lbs)	Display Load Run #1	Display Load Run #2	Display Load Run #3	Display Load Average
0.0	0.0	0.0	0.0	0.0
50.0	49.2	49.3	49.5	49.3
100.0	99.3	99.0	99.5	99.3
150.0	149.1	148.9	149.7	149.2
200.0	198.6	200.0	199.6	199.4
250.0	248.5	250.6	249.9	249.7
300.0	298.7	301.3	300.3	300.1
350.0	348.4	350.1	350.5	349.7
400.0	398.8	400.8	400.8	400.1
450.0	449.3	451.4	450.9	450.5
500.0	499.6	501.4	501.3	500.8

WEGENER NORTH AMERICA, INC.

Paul Karschkes
Service Dept

For all your thermoplastic welding and testing needs, contact:

WEGENER North America, Inc.
231 S. Frontage Road, Unit #12 • Burr Ridge, IL 60521 • ☎(630) 789-0990 • Fax: (630) 789-1380 • sales@wegener-na.com

2.1.5 Geosynthetics Installer Resules

TAYLOR GEOSYNTHETICS, INC.
121 COMMERCE DRIVE SUITE 304
P.O. BOX 27
DANVILLE, INDIANA 46122

317 745-2202

GEOSYNTHETICS PERSONNEL RESUMES

TAYLOR CONSTRUCTION & GEOSYNTHETICS, INC
PERSONAL RESUME

NAME: LEE TAYLOR

TITLE: PRESIDENT AND QUALITY CONTROL TECHNICIAN

QUALIFICATIONS: Mr. Taylor has been in business since 1977, and in 1981, he expanded his business to include the Enviromental Construction field.
Mr. Taylor was trained by National Seal Company, Galesburg, Illinois, manufacturing facility, in the use of fusion and extrusion welders, testing and correct applications and use of GEOSYNTHETICS MATERIALS,
Mr Taylor is also OSHA 40 Hour Hazardous Material Certified.

Alcoa Stolle Products	Sidney, Ohio	1996	140,000 s.f.
Allison Engine Company	Indianapolis, Indiana	1994	3,825 s.f.
Arvin Industries	Columbus, Indiana	1998	19,000 s.f.
Asphalt Materials, Inc.	Indianapolis, Indiana	1994	50,000 s.f.
Bartholomew Co. Landfill Cell	Columbus, Indiana	1999	130,000 s.f.
Bartholomew County Cell 6 B	Columbus, Indiana	1994	160,140 s.f.
Bartholomew County Landfill	Columbus, Indiana	1997	254,081 s.f.
Bellmont Ash Monofill Closure	Indianapolis, Indiana	1999	110,000 s.f.
Belmont Ash Monofill Cell 10	Indianapolis, Indiana	1994	269,500 s.f.
Belmont Ash Monofill Cell 11	Indianapolis, Indiana	1994	270,000 s.f.
Belmont Ash Monofill Closure Cap	Indianapolis, Indiana	1995	234,000 s.f.
Belmont Ash Monofill Cell 12 & Closure Cap	Indianapolis, Indiana	1996	666,000 s.f.
Belmont Ash Monofill Cell 13	Indianapolis, Indiana	1997	252,900 s.f.
Blackfoot Hills-Waste Mgmt	Winslow, Indiana	1995	240.000 s.f.
Blackfoot Hills-Waste Mgmt	Winslow, Indiana	1996	205,603 s.f.
Blackfoot Hills-American Disposal	Winslow, Indiana	1997	165,718 s.f.
Blackfoot Landfill Cell	Winslow, Indiana	1998	210,000 s.f.
Borg-Warner	Muncie, Indiana	1996	109,000 s.f.
British Petroleum-Refinery	Lima, Ohio	1992	18,000 s.f.
Caldwell Landfill	Morristown, Indiana	1994	210,000 s.f..
Caldwell Landfill	Morristown, Indiana	1995	239,000 s.f.
Caldwell Landfill	Morristown, Indiana	1997	306,900 s.f.
Clark Floyd Landfill	Borden, Indiana	1999	310,000 s.f
City of Carmel	Carmel, Indiana	1998	45,000 s.f.
Christian County Landfill	Taylorsville, Illinois	1992	4,110 s.f.
Cikana State Fish Hatchery	Martinsville, Indiana	1996	26,000 s.f.
Crane Naval Depot	Crane, Indiana	1993	51,000 s.f.
Daviess Co., Indiana Landfill	Montgomery, Indiana	1995	350,000 s.f.
Daviess Co., Indiana Landfill	Montgomery, Indiana	1996	19,200 s.f.
Daviess Co., Indiana Landfill	Montgomery, Indiana	1998	132,440 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1994	93,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1995	50,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1997	129,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1998	129,000 s.f.
E.I. Dupont	Circleville, Ohio	1992	18,000 s.f.

Lee Taylor continued:

Eli Lilly	Lafayette, Indiana	1991	116,106 s.f.
Envirochem Trustees	Zionsville, Indiana	1993	1,782 s.f.
Fort Recovery Industries, Inc.	Fort Recovery, Ohio	1991	17,000 s.f.
Heritage Enviromental Services	Indianapolis, Indiana	1988/92	50,575 s.f.
Charlotte Treatment Plant	Charlotte, N. Carolina	1989/90	41,000 s.f.
Lemont Treatment Plant	Lemont, Illinois	1991	28,000 s.f.
Toledo Treatment Plant	Toledo, Ohio	1992	4,500 s.f.
Heritage Micronutrients Facility	Indianapolis, Indiana	1994	16,650 s.f.
Heritage Landfill	Russellville, Indiana	1998	218,000 s.f.
Hoosier Wood Preservers	Indianapolis, Indiana	1992	7,200 s.f.
ILWD-Heritage Enviromental	Columbus, Indiana	1995	210.000 s.f.
Indpls Airport Lagoon	Indianapolis, Indiana	1998	165,000 s.f.
Jay Co. Landfill Cell	Portland, Indiana	1999	310,000 s.f.
Lehigh Cement	Mitchell, Indiana	1999	305,000 s.f.
Liberty Landfill	Monticillo, Indiana	1997	348,000 s.f.
Livington County Landfill	Pontiac, Illinois	1991	17,000 s.f.
Macon County Landfill	Decatur, Illinois	1997	370,620 s.f.
Macon County Landfill	Decatur, Illinois	1997	121,842 s.f.
Monsanto Co./Solutia	Anniston, Alabama	1997	675,000 s.f.
City of Munster	Munster, Indiana	1998	42,000 s.f.
City of Munster	Munster, Indiana	1998	229,200 s.f.
New Paris Pike Landfill	Richmond, Indiana	1995	410,000 s.f.
Northside Landfill Cap	Indianapolis, Indiana	1998	130,000 s.f.
Oakridge Landfill	Logansport	1999	250,000 s.f.
Olin Brass Corporation	Indianapolis, Indiana	1992	530,000 s.f.
Owenboro Municipal Utilities	Owensboro, Indiana	1997	7,000 s.f.
Pekin Metro Landfill	Pekin, Illinois	1994	44,600 s.f.
Pekin Metro Landfill	Pekin, Illinois	1995	88,000 s.f.
PSI Energy-Gibson Station	Owensboro, Indiana	1992/93	33,200 s.f.
Qualitech Steel	Pittsboro, Indiana	1998	80,000 s.f.
Randolph Farms, Inc.	Modoc, Indiana	1999	350,000 s.f
Randolph Farms, Inc.	Modoc, Indiana	1994	199,800 s.f.
Randolph Farms, Inc.	Modoc, Indiana	1996	200,000 s.f.
Reynolds Aluminum Corp.	McCook, Illinois	1992	7,000 s.f.
Riley W.W.T.P. Lagoons	Riley, Indiana	1998	60,000 s.f..
Royal Center WWTP	Royal Center Indiana	1996	8,500 s.f.
St. Mary's Ohio Landfill	St. Mary's, Ohio	1995	23,600 s.f.
Southside Landfill	Indianapolis, Indiana	1999	540,000 s.f.
Scepter Industries	Bicknell, Indiana	1999	210,000 s.f.
Scepter Industries	Bicknell, Indiana	1996	176,000 s.f.
Twin Bridges Recycling & Disposal	Danville, Indiana	1994	30,000 s.f.
Twin Bridges R.D.F.-Cell 3	Danville, Indiana	1995	59,770 s.f.
Twin Bridges R.D.F.	Danville, Indiana	1996	216,212 s.f.
Twin Bridges R.D.F.	Danville, Indiana	1998	56,000 s.f.
Twin Bridges Landfill	Danville, Indiana	1999	260,000 s.f.

Lee Taylor Continued:

Henry Vogt Machine Company	Louisville, Kentucky	1994	1,400 s.f.
Walker Williams Lumber Treating	Blanchester, Ohio	1996	22,000 s.f.
Witco Corporation	Mapleton, Illinois	1996	54,000 s.f.
Witt Galvanizing	Plymouth, Indiana	1998	12,000 s.f.
Earthmovers Landfill	Elkhart, IN	2000	436,000 s.f.
Caldwell Landfill	Morristown, IN	2000	284,000 s.f.
Witt Galvanizing	Cincinati, OH	2000	4,000 s.f.
Roachdale WWtp	Roachdale, IN	2000	6,000 s.f.
Blackfoot Landfill	Winslow, IN	2000	295,000 s.f.
Daviess Co. Landfill	Montgomery, IN	2000	85,000 s.f.
Deercroft Landfill	Michigan City, IN	2000	463,381 s.f.
Southside Landfill	Indianapolis, IN	2000	557,911 s.f.
Jay County Landfill	Portland, IN	2000	237,824 s.f.
Twin Bridges Landfill	Danville, IN	2000	416,409 s.f.
Heritage Landfill	Roachdale, IN	2000	327,000 s.f.
Bartholomew County Landfill	Columbus, IN	2000	127,000 s.f.
City of Indianapolis	Indianapolis, IN	2000	360,000 s.f.
Decatur Hills Landfill	Greensburg, IN	2000	210,000 s.f.
Landcomp Landfill	Ottowa, IL	2000	155,000 s.f.
Rumpke Landfill	Medora, IN	2000	388,000 s.f.
Bartholomew County Landfill	Columbus, IN	2001	12,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS, INC
PERSONAL RESUME

NAME: STEPHEN WILSON

TITLE: INSTALLATION TECHNICIAN / QUALITY CONTROL

QUALIFICATIONS: Mr. Wilson has been field trained by Taylor Construction Services, and responsibilities include material and equipment deployment.
Mr. Wilson is also OSHA 40 Hour Hazardous Material Certified.

Alcoa Stolle Products	Sidney, Ohio	1996	140,000 s.f.
Allison Engine Company	Indianapolis, Indiana	1994	3,825 s.f.
Arvin Industries	Columbus, Indiana	1998	19,000 s.f.
Asphalt Materials, Inc.	Indianapolis, Indiana	1994	50,000 s.f.
Bartholomew Co. Landfill Cell	Columbus, Indiana	1999	130,000 s.f.
Bartholomew County Cell 6 B	Columbus, Indiana	1994	160,140 s.f.
Bartholomew County Landfill	Columbus, Indiana	1997	254,081 s.f.
Bellmont Ash Monofill Closure	Indianapolis, Indiana	1999	110,000 s.f.
Belmont Ash Monofill Cell 10	Indianapolis, Indiana	1994	269,500 s.f.
Belmont Ash Monofill Cell 11	Indianapolis, Indiana	1994	270,000 s.f.
Belmont Ash Monofill Closure Cap	Indianapolis, Indiana	1995	234,000 s.f.
Belmont Ash Monofill Cell 12 & Closure Cap	Indianapolis, Indiana	1996	666,000 s.f.
BFI Waste System Landfill	Churchhill,TN	1996	250,000 s.f.
Belmont Ash Monofill Cell 13	Indianapolis, Indiana	1997	252,900 s.f.
Blackfoot Hills-Waste Mgmt	Winslow, Indiana	1995	240.000 s.f.
Blackfoot Hills-Waste Mgmt	Winslow, Indiana	1996	205,603 s.f.
Blackfoot Hills-American Disposal	Winslow, Indiana	1997	165,718 s.f.
Blackfoot Landfill Cell	Winslow, Indiana	1998	210,000 s.f.
Borg-Warner	Muncie, Indiana	1996	109,000 s.f.
British Petroleum-Refinery	Lima, Ohio	1992	18,000 s.f.
Caldwell Landfill	Morristown, Indiana	1994	210,000 s.f..
Caldwell Landfill	Morristown, Indiana	1995	239,000 s.f.
Caldwell Landfill	Morristown, Indiana	1997	306,900 s.f.
Clark Floyd Landfill	Borden, Indiana	1999	310,000 s.f
City of Carmel	Carmel, Indiana	1998	45,000 s.f.
Christian County Landfill	Taylorsville, Illinois	1992	4,110 s.f.
Cikana State Fish Hatchery	Martinsville, Indiana	1996	26,000 s.f.
Crane Naval Depot	Crane, Indiana	1993	51,000 s.f.
Daviess Co., Indiana Landfill	Montgomery, Indiana	1995	350,000 s.f.
Daviess Co., Indiana Landfill	Montgomery, Indiana	1996	19,200 s.f.
Daviess Co., Indiana Landfill	Montgomery, Indiana	1998	132,440 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1994	93,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1995	50,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1997	129,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1998	129,000 s.f.

S. Wilson continued:

Eli Lilly	Lafayette, Indiana	1991	116,106 s.f.
Fort Recovery Industries, Inc.	Fort Recovery, Ohio	1991	17,000 s.f.
Green cycle, Inc	Indianapolis, Indiana	1996	6,000 s.f.
General Electric	Coshocton, Ohio	1995	25,750 s.f.
Harrison Enviromental	Virginia, Illinois	1996	79,000 s..f.
Heritage Enviromental Services			
Indianapolis Treatment Plant	Indianapolis, Indiana	1988/92	50,575 s.f.
Charlotte Treatment Plant	Charlotte, N. Carolina	1989/90	41,000 s.f.
Lemont Treatment Plant	Lemont, Illinois	1991	28,000 s.f.
Heritage Micronutrients Facility	Indianapolis, Indiana	1994	16,650 s.f.
Heritage Landfill	Russellville, Indiana	1998	218,000 s.f.
Hoosier Wood Preservers	Indianapolis, Indiana	1992	7,200 s.f.
ILWD-Heritage Enviromental	Columbus, Indiana	1995	210.000 s.f.
Indpls Airport Lagoon	Indianapolis, Indiana	1998	165,000 s.f.
Jay Co. Landfill Cell	Portland, Indiana	1999	310,000 s.f.
Lehigh Cement	Mitchell, Indiana	1999	305,000 s.f.
Macon County Landfill	Decatur, Illinois	1997	121,842 s.f.
City of Munster	Munster, Indiana	1998	42,000 s.f.
City of Munster	Munster, Indiana	1998	229,200 s.f.
New Paris Pike Landfill	Richmond, Indiana	1995	410,000 s.f.
Oakridge Landfill	Logansport	1999	250,000 s.f.
Olin Brass Corporation	Indianapolis, Indiana	1992	530,000 s.f.
Owenboro Municipal Utilities	Owensboro, Indiana	1997	7,000 s.f.
Pekin Metro Landfill	Pekin, Illinois	1994	44,600 s.f.
Pekin Metro Landfill	Pekin, Illinois	1995	88,000 s.f.
PSI Energy-Gibson Station	Owensboro, Indiana	1992/93	33,200 s.f.
Qualitech Steel	Pittsboro, Indiana	1998	80,000 s.f.
Randolph Farms, Inc.	Modoc, Indiana	1999	350,000 s.f
Randolph Farms, Inc.	Modoc, Indiana	1994	199,800 s.f.
Randolph Farms, Inc.	Modoc, Indiana	1996	200,000 s.f.
Reynolds Aluminum Corp.	McCook, Illinois	1992	7,000 s.f.
Riley W.W.T.P. Lagoons	Riley, Indiana	1998	60,000 s.f..
Royal Center WWTP	Royal Center Indiana	1996	8,500 s.f.
St. Mary's Ohio Landfill	St. Mary's, Ohio	1995	23,600 s.f.
Southside Landfill	Indianapolis, Indiana	1999	540,000 s.f.
Scepter Industries	Bicknell, Indiana	1999	210,000 s.f.
Scepter Industries	Bicknell, Indiana	1996	176,000 s.f.
Town of Sheridian Indiana	Sheridian, Indiana	1997	16,000 s.f.
Twin Bridges Recycling & Disposal	Danville, Indiana	1994	30,000 s.f.
Twin Bridges R.D.F.-Cell 3	Danville, Indiana	1995	59,770 s.f.
Twin Bridges R.D.F.	Danville, Indiana	1996	216,212 s.f.
Twin Bridges R.D.F.	Danville, Indiana	1998	56,000 s.f.
Twin Bridges Landfill	Danville, Indiana	1999	260,000 s.f.
Henry Vogt Machine Company	Louisville, Kentucky	1994	1,400 s.f.
Walker Williams Lumber Treating	Blanchester, Ohio	1996	22,000 s.f.
Witco Corporation	Mapleton, Illinois	1996	54,000 s.f.
Witt Galvanizing	Plymouth, Indiana	1998	12,000 s.f.

Wilson:

Earthmovers Landfill	Elkhart, IN	2000	436,000 s.f.
Caldwell Landfill	Morristown, IN	2000	284,000 s.f.
Witt Galvanizing	Cincinati, OH	2000	4,000 s.f.
Roachdale WWtp	Roachdale, IN	2000	6,000 s.f.
Blackfoot Landfill	Winslow, IN	2000	295,000 s.f.
Daviess Co. Landfill	Montgomery, IN	2000	85,000 s.f.
Deercroft Landfill	Michigan City, IN	2000	463,381 s.f.
Southside Landfill	Indianapolis, IN	2000	557,911 s.f.
Jay County Landfill	Portland, IN	2000	237,824 s.f.
Twin Bridges Landfill	Danville, IN	2000	416,409 s.f.
Heritage Landfill	Roachdale, IN	2000	327,000 s.f.
Bartholomew County Landfill	Columbus, IN	2000	127,000 s.f.
City of Indianapolis	Indianapolis, IN	2000	360,000 s.f.
Decatur Hills Landfill	Greensburg, IN	2000	210,000 s.f.
Landcomp Landfill	Ottowa, IL	2000	155,000 s.f.
Bartholomew County Landfill	Columbus, IN	2001	12,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS, INC
PERSONAL RESUME

NAME: CHARLES B. DECKARD

TITLE: MASTER SEAMER / SUPERINTENDENT / QUALITY CONTROL

QUALIFICATIONS: Mr. Deckard is OSHA 40 Hour Hazardous Material Certified.
Mr. Deckard has over 8 million square feet of master seaming experience.

Alcoa Stolle Products	Sidney, Ohio	1996	140,000 s.f.
Arvin Industries	Columbus, Indiana	1998	19,000 s.f.
Bartholomew Co. Landfill Cell	Columbus, Indiana	1999	130,000 s.f.
Bartholomew County Landfill	Columbus, Indiana	1997	254,081 s.f.
Bellmont Ash Monofill Closure	Indianapolis, Indiana	1999	110,000 s.f.
Belmont Ash Monofill Cell 11	Indianapolis, Indiana	1994	270,000 s.f.
Belmont Ash Monofill Closure Cap	Indianapolis, Indiana	1995	234,000 s.f.
Belmont Ash Monofill Cell 12 & Closure Cap	Indianapolis, Indiana	1996	666,000 s.f.
Belmont Ash Monofill Cell 13	Indianapolis, Indiana	1997	252,900 s.f.
Blackfoot Hills-Waste Mgmt	Winslow, Indiana	1996	205,603 s.f.
Blackfoot Hills-American Disposal	Winslow, Indiana	1997	165,718 s.f.
Blackfoot Landfill Cell	Winslow, Indiana	1998	210,000 s.f.
Borg-Warner	Muncie, Indiana	1996	109,000 s.f.
Caldwell Landfill	Morristown, Indiana	1997	306,900 s.f.
Clark Floyd Landfill	Borden, Indiana	1999	310,000 s.f
City of Carmel	Carmel, Indiana	1998	45,000 s.f.
Cikana State Fish Hatchery	Martinsville, Indiana	1996	26,000 s.f.
Daviess Co., Indiana Landfill	Montgomery, Indiana	1996	19,200 s.f.
Daviess Co., Indiana Landfill	Montgomery, Indiana	1998	132,440 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1997	129,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1998	129,000 s.f.
Harrison Enviromental	Virginia, Illinois	1996	79,000 s.f.
Heritage Landfill	Russellville, Indiana	1998	218,000 s.f.
Hoosier Wood Preservers	Indianapolis, Indiana	1992	7,200 s.f.
Indpls Airport Lagoon	Indianapolis, Indiana	1998	165,000 s.f.
Jay Co. Landfill Cell	Portland, Indiana	1999	310,000 s.f.
Lehigh Cement	Mitchell, Indiana	1999	305,000 s.f.
Macon County Landfill	Decatur, Illinois	1997	370,620 s.f.
Monsanto Co./Solutia	Anniston, Alabama	1997	675,000 s.f.
City of Munster	Munster, Indiana	1998	42,000 s.f.
City of Munster	Munster, Indiana	1998	229,200 s.f.
New Paris Pike Landfill	Richmond, Indiana	1995	410,000 s.f.
Northside Lnadfill Cap	Indianapolis, Indiana	1998	130,000 s.f.
Oakridge Landfill	Logansport	1999	250,000 s.f.
Pekin Metro Landfill	Pekin, Illinois	1994	44,600 s.f.
Pekin Metro Landfill	Pekin, Illinois	1995	88,000 s.f.
Qualitech Steel	Pittsboro, Indiana	1998	80,000 s.f.

C. Deckard Continued:

Randolph Farms, Inc.	Modoc, Indiana	1999	350,000 s.f
Randolph Farms, Inc.	Modoc, Indiana	1994	199,800 s.f.
Randolph Farms, Inc.	Modoc, Indiana	1996	200,000 s.f.
Riley W.W.T.P. Lagoons	Riley, Indiana	1998	60,000 s.f..
Royal Center WWTP	Royal Center Indiana	1996	8,500 s.f.
Southside Landfill	Indianapolis, Indiana	1999	540,000 s.f.
Scepter Industries	Bicknell, Indiana	1999	210,000 s.f.
Scepter Industries	Bicknell, Indiana	1996	176,000 s.f.
Twin Bridges Recycling & Disposal	Danville, Indiana	1994	30,000 s.f.
Twin Bridges R.D.F.-Cell 3	Danville, Indiana	1995	59,770 s.f.
Twin Bridges R.D.F.	Danville, Indiana	1996	216,212 s.f.
Twin Bridges R.D.F.	Danville, Indiana	1998	56,000 s.f.
Twin Bridges Landfill	Danville, Indiana	1999	260,000 s.f.
Witco Corporation	Mapleton, Illinois	1996	54,000s.f.
Witt Galvanizing	Plymouth, Indiana	1998	12,000s.f.
Earthmovers Landfill	Elkhart, IN	2000	436,000 s.f.
Caldwell Landfill	Morristown, IN	2000	284,000 s.f.
Witt Galvanizing	Cincinati, OH	2000	4,000 s.f.
Roachdale WWtp	Roachdale, IN	2000	6,000 s.f.
Blackfoot Landfill	Winslow, IN	2000	295,000 s.f.
Daviess Co. Landfill	Montgomery, IN	2000	85,000 s.f.
Deercroft Landfill	Michigan City, IN	2000	463,381 s.f.
Southside Landfill	Indianapolis, IN	2000	557,911 s.f.
Twin Bridges Landfill	Danville, IN	2000	416,409 s.f.
Heritage Landfill	Roachdale, IN	2000	327,000 s.f.
Bartholomew County Landfill	Columbus, IN	2000	127,000 s.f.
City of Indianapolis	Indianapolis, IN	2000	360,000 s.f.
Decatur Hills Landfill	Greensburg, IN	2000	210,000 s.f.
Landcomp Landfill	Ottowa, IL	2000	155,000 s.f.
Rumpke Landfill	Medora, IN	2000	388,000 s.f.
Bartholomew County Landfill	Columbus, IN	2001	12,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS, INC.
PERSONAL RESUME

NAME: TERRY L. HOLDEN

TITLE: QA/QC TECHNICIAN

QUALIFICATIONS: Mr. Holden has been NICET trained for Geosynthetics Quality Assurance/Quality Control and is also OSHA 40 Hour Hazzardous Wastesite Worker Certified Mr. Holden is proficient in the operation of all welders and is proficient in testing of all welds, certification, and record keeping on all projects

PROJECTS:

Alcoa Stolle, Products	Sidney, OH	1996	140,000 sf
Allision Engine Company	Indpls, IN	1994	3,825 sf
Asphalt Materials, Inc	Indpls, IN	1994	50,000 sf
Bartholomew County cell 6 B	Columbus, IN	1994	160,140 sf
Bartholomew County Landfill	Columbus, IN	1997	254,081 sf
Belmont Ash Monofill Cell 10	Indpls, IN	1994	269,500 sf
Belmont Ash Monofill Cell 11	Indpls, IN	1994	270,000 sf
Belmont Ash Monofill Closue & Cap	Indpls, IN	1995	234,000 sf
Belmont Ash Monofill Cell 12 & Cap	Indpls, IN	1996	666,000 sf
Belmont Ash Monofill Cell 13	Indpls, IN	1997	252,900 sf
BFI Waste Systems Landfill	Church Hill TN	1996	250,000 sf
Blackfoot Hills-Waste Mgmt.	Winslow, IN	1995	240,000 sf
Blackfoot Hills-Waste Mgmt.	Winslow, IN	1996	205,630 sf
Blackfoot Hills- American Disposal	Winslow, IN	1997	165,718 sf
Borg-Warner	Muncie, IN	1996	109,000 sf
British Petroleum Refinery	Lima, OH	1992	18,000 sf
Caldwell Landfill	Morristown, IN	1994	210,000 sf
Caldwell Landfill	Morristown, IN	1995	239,000 sf
Christian County Landfill	Taylorsville, IL	1992	4,100 sf
Cikana State Fish Hatchery	Martinsville, IN	1996	26,000 sf
Crane Naval Depot	Crane, IN	1993	51,000 sf
Daviess Co. Indiana Landfill	Montgomery, IN	1995	350,000 sf
Daviess Co. Indiana Landfill	Montgomery, IN	1996	19,200 sf
Decatur Hills Landfill	Greensburg, IN	1994	93,000 sf
Decatur Hills Landfill	Greensburg, IN	1995	50,000 sf
E.I. Dupont	Circleville, OH	1992	18,000 sf
Eli Lilly	Lafayette, IN	1991	116,106 sf
Envirochem Trustees	Zionsville, IN	1993	1,782 sf
Fort Recovery Industries, Inc.	Fort Recovery, OH	1991	17,000 sf
General Electric	Coshocton, OH	1995	25,750 sf
Harrison Enviromental	Virginia, IL	1996	79,000 sf
Heritage Enviromental	Indpls, IN	1992	28,575 sf
Hertige Micronutrients Facility	Indpls, IN	1994	16,650 sf
Hoosier Wood Preservers	Indpls, IN	1992	7,200 sf
ILWD Heritage Enviromental	Columbus, IN	1995	210,000 sf
Liberty Landfill	Monticello, IN	1997	348,000 sf

Terry Holden continued:

Liningston County Landfill	Pontiac, IL	1997	17,000 sf
Macon County Landfill	Decature, IL	1997	370,620 sf
New Paris Pike Landfill	Richmond, IN	1995	410,000 sf
Olin Brass	Indpls, IN	1992	530,000 sf
Owenboro Municipal Utilities	Owensboro, KY	1997	7,000 sf
Pekin Metro Landfill	Pekin,IL	1994	44,600 sf
Pekin Metro Landfill	Pekin,IL	1995	88,000 sf
PSI Energy Gibson Station	Owenville, IN	1992	33,200 sf
Randolph Farms	Modock,IN	1994	199,800 sf
Randolph Farms	Modock,IN	1996	200,000 sf
Reynolds Alumiun Corp.	McCook, Il	1992	7,000 sf
Royal Center WWTP	Royal Center, IN	1996	8,500 sf
St Mary's Ohio Landfill	St. Mary's, OH	1995	23,600 sf
Scepter Industries	Bicknell, IN	1996	176,000 sf
Twin Bridges Recycling & Disposal	Danville, IN	1994	30,000 sf
Twin Bridges R.D.F. - Cell 3	Danville, IN	1996	59,770 sf
Twin Bridges R.D.F.	Danville, IN	1994	4,200 sf
Twin Bridges R.D.F.	Danville, IN	1995	216,212 sf
Henry Vogt. Machine Company	Louisville, KY	1994	1,400 sf
Walker Williams Lumber Treating	Blanchester, OH	1996	22,000 sf
Witco Corporation	Mapleton,IL	1996	54,000 sf
Roachdale WWTP	Roachdale, IN	2000	6,000 sf
Earthmovers Landfill	Elkhart, IN	2000	436,000 sf
Caldwell Landfill	Morristown, IN	2000	284,000 sf
Blackfoot Landfill	Winslow, IN	2000	295,000 sf
Daviess Co. Indiana Landfill	Montgomery, IN	2000	85,000 sf
Southside Landfill	Indpls, IN	2000	557,911 sf
Jay County Landfill	Portland, IN	2000	237,824 sf
Twin Bridges Landfill	Danville, IN	2000	416,409 sf
Heritage Landfill	Roachdale, IN	2000	327,000 sf
City of Indianapolis	Indpls, IN	2000	360,000 sf
Decatur Hill Landfill	Greensburg, IN	2000	210,000 sf
Landcomp Landfill	Ottowa, IN	2000	155,000 sf
Rumpke Landfill	Medora, IN	2000	388,000 sf
Bartholomew County Landfill	Columbus, IN	2001	12,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS, INC.
PERSONAL RESUME

NAME: JUSTIN BOREM

TITLE: MASTER SEAMER

Bartholmew Co. Landfill Cell	Columbus, Indiana	1999	130,000 s.f.
Bartholmew Co. Landfill	Columbus, Indiana	1998	210,000 s.f.
Blackfoot Landfill	Winslow, Indiana	1998	210,000 s.f.
Blackfoot Landfill	Winslow, Indiana	1997	165,000 s.f.
Belmont Ash Monofill Cell 13	Indianapolis, Indiana	1997	253,000 s.f.
Belmont Ash Monofill Closure	Indianapolis, Indiana	1999	110,000 s.f
City of Carmel	Carmel, Indiana	1998	45,000 s.f.
City of Munster Landfill	Munster, Indiana	1998	271,000 s.f.
Clark Floyd Landfill	Borden, Indiana	1999	310,000 s.f.
Daviess Co. Landfill	Montgomery, Indiana	1998	132,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	1998	129,000 s.f.
Heritage Landfill	Russellville, Indiana	1998	281,000 s.f.
Jay Co. Landfill Cell	Portland, Indiana	1999	310,000 s.f.
Lehigh Cement	Mitchell, Indiana	1999	305,000 s.f.
Oakridge Landfill	Logansport, Indiana	1999	250,000 s.f.
Randolph Farms Landfill	Modoc, Indiana	1999	350,000 s.f.
Scepter Industries	Bicknell, Indiana	1999	210,000 s.f.
Southside Landfill	Indianapolis, Indiana	1999	540,000 s.f.
Twin Bridges Landfill	Danville, Indiana	1999	260,000 s.f.
Twin Bridges Landfill	Danville, Indiana	1998	56,000 s.f.
Witt Galvanizing	Cincinati, Ohio	2000	4,000 s.f.
Roachdale WWTP	Roachdale, Indiana	2000	6,000 s.f.
Earthmovers Landfill	Elkhart, Indiana	2000	436,000 s.f.
Caldwell Landfill	Morristown, Indiana	2000	284,000 s.f.
Blackfoot Landfill	Winslow, Indiana	2000	295,000 s.f.
Deercroft Landfill	Michigan City, Indiana	2000	463,381 s.f.
Southside Landfill	Indianapolis, Indiana	2000	557,911 s.f
Jay Co. Landfill Cell	Portland, Indiana	2000	237,824 s.f
Twin Bridges Landfill	Danville, Indiana	2000	416,409 s.f
Heritage Landfill	Roachdale, Indiana	2000	327,000 s.f
City of Indianapolis	Indianapolis, Indiana	2000	360,000 s.f.
Decature Hills Landfill	Greensburg, Indiana	2000	210,000 s.f.
Landcomp Landfill	Ottowa, IN	2000	155,000 sf
Rumpke Landfill	Medora, IN	2000	388,000 sf
Bartholomew County Landfill	Columbus, IN	2001	12,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS, INC
PERSONAL RESUME

NAME: BRENT TAYLOR

TITLE: MASTER SEAMER / SUPERINTENDENT / VICE PRESIDENT

Bartholomew Co. Landfill Cell	Columbus, Indiana	1999	130,000 s.f.
Belmont Ash Monofill Closure	Indianapolis, Indiana	1999	110,000 s.f.
Belmont Ash Monofill cell 12 & cap	Indianapolis, Indiana	1996	666,000 s.f.
Blackfoot Landfill	Winslow, Indiana	1998	210,000 s.f.
Blackfoot Landfill	Winslow, Indiana	1996	205,000 s.f.
Borg Warner	Muncie, Indiana	1996	109,000 s.f.
Clark Floyd Landfill	Borden, Indiana	1999	310,000 s.f.
Cikana State Fish Hatchery	Martinsville, Indiana	1996	26,000 s.f.
Harrison Enviromental	Virginia, Illinois	1996	79,000 s.f,
Indpls Airport	Indianapolis, Indiana	1998	165,000 s.f.
Jay Co. Landfill	Portland, Indiana	1999	310,000 s.f.
Lehigh Cement	Mitchell, Indiana	1999	305,000 s.f.
Macon Co. Landfill	Decature, Illinois	1997	122,000 s.f.
Macon Co. Landfill	Decature, Illinois	1998	260,000 s.f.
Northside Landfill cap	Indianapolis, Indiana	1998	130,000 s.f.
Oakridge Landfill	Logansport, Indiana	1999	250,000 s.f.
Randolph Farms Landfill	Modoc, Indiana	1999	350,000 s.f.
Riley W.W.T.P. Lagoon	Riley, Indiana	1998	60,000 s.f.
Scepter Industries	Bicknell, Indiana	1999	210,000 s.f.
Southside Landfill	Indianapolis, Indiana	1999	540,000 s.f
Twin Bridges Landfill	Danville, Indiana	1998	56,000 s.f.
Twin Bridges Landfill	Danville, Indiana	1999	260,000 s.f.
Witt Galvanizing	Cincinati, Ohio	2000	4,000 s.f
Earthmovers Landfill	Elkhart, Indiana	2000	436,000 s.f.
Caldwell Landfill	Morristown, Indiana	2000	284,000 s.f.
Blackfoot Landfill	Winslow, Indiana	2000	295,000 s.f
Twin Bridges Landfill	Danville, Indiana	2000	416,409 s.f.
Heritage Landfill	Roachdale, Indiana	2000	327,000 s.f.
City of Indianapolis	Indianapolis, Indiana	2000	360,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	2000	210,000 s.f.
Landcomp Landfilt	Ottowa, IL	2000	155,000 s.f.
Rumpke Landfill	Medora, IN	2000	388,000 s.f.
Bartholomew County Landfill	Columbus, IN	2001	12,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS, INC.
PERSONAL RESUME

NAME: JESSIE ALBIN

TITLE: MASTER SEAMER

Bartholmew Co. Landfill Cell	Columbus, Indiana	1999	130,000 s.f.
Belmont Ash Monofill cell 12 & Closure Cap	Indianapolis, Indiana	1996	666,000 s.f.
Belmont Ash Monofill Closure	Indianapolis, Indiana	1999	110,000 s.f
Blackfoot Hills-Waste Mgmt>	Winslow, Indiana	1996	205,603 s.f.
Borg-Warner	Muncie, Indiana	1996	109,000 s.f.
Clark Floyd Landfill	Borden, Indiana	1999	310,000 s.f.
Cikana State Fish Hatchery	Martinsville, Indiana	1996	26,000 s.f.
Davies Co., Indiana Landfill	Montgomery, Indiana	1996	19,200 s.f.
Harrison Enviromental	Virginia, Illinois	1996	79,000 s.f.
Jay Co. Landfill Cell	Portland, Indiana	1999	310,000 s.f.
Lehigh Cement	Mitchell, Indiana	1999	305,000 s.f.
Oakridge Landfill	Logansport, Indiana	1999	250,000 s.f.
Randolph Farms, Inc.	Modoc, Indiana	1996	200,000 s.f.
Randolph Farms Landfill	Modoc, Indiana	1999	350,000 s.f.
Royal Center WWTP	Royal Center, Indiana	1996	8,500 s.f.
Scepter Industries	Bicknell, Indiana	1996	176,000 s.f.
Scepter Industries	Bicknell, Indiana	1999	210,000 s.f.
Southside Landfill	Indianapolis, Indiana	1999	540,000 s.f.
Twin Bridges R.D.F.	Danville, Indiana	1996	216,212 s.f.
Witco Corporation	Mapelton, Illinois	1996	54,000 s.f.
Earthmovers Landfill	Elkhart, Indiana	2000	436,000 s.f.
Caldwell Landfill	Morristown, Indiana	2000	284,000 s.f.
Blackfoot Landfill	Winslow, Indiana	2000	295,000 s.f.
Daviess County Landfill	Montgomery, Indiana	2000	85,000 s.f.
Deercroft Landfill	Michigan City, Indiana	2000	463,381 s.f.
Southside Landfill	Indianapolis, Indiana	2000	557,911 s.f.
Twin Bridges R.D.F.	Danville, Indiana	2000	416,409 s.f.
Heritage Landfill	Roachdale, Indiana	2000	327,000 s.f.
Bartholomew County Landfill	Columbus, Indiana	2000	127,000 s.f.
City of Indianapolis	Indianapolis, Indiana	2000	360,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	2000	210,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS, INC
PERSONAL RESUME

NAME: JEREMY MARSH

TITLE: MASTER SEAMER

Bartholomew Co. Landfill Cell	Columbus, Indiana	1999	130,000 s.f.
Belmont Ash Monofill Closure	Indianapolis, Indiana	1999	110,000 s.f.
Blackfoot Landfill	Winslow, Indiana	1998	210,000 s.f.
Clark Floyd Landfill	Borden, Indiana	1999	310,000 s.f.
Indpls Airport	Indianapolis, Indiana	1998	165,000 s.f.
Jay Co. Landfill	Portland, Indiana	1999	310,000 s.f.
Lehigh Cement	Mitchell, Indiana	1999	305,000 s.f.
Northside Landfill cap	Indianapolis, Indiana	1998	130,000 s.f.
Oakridge Landfill	Logansport, Indiana	1999	250,000 s.f.
Randolph Farms Landfill	Modoc, Indiana	1999	350,000 s.f.
Riley W.W.T.P. Lagoon	Riley, Indiana	1998	60,000 s.f.
Scepter Industries	Bicknell, Indiana	1999	210,000 s.f.
Southside Landfill	Indianapolis, Indiana	1999	540,000 s.f
Twin Bridges Landfill	Danville, Indiana	1998	56,000 s.f.
Twin Bridges Landfill	Danville, Indiana	1999	260,000 s.f.
Earthmovers	Elkhart, Indiana	2000	436,000 s.f.
Caldwell, Indiana	Morristown, Indiana	2000	284,000 s.f.
Blackfoot Landfill	Winslow, Indiana	2000	295,000 s.f.
Daviess County Landfill	Montgomery, Indiana	2000	85,000 s.f.

TAYLOR COSTRUCTION & GEOSYNTHETICS INC.
PERSONAL RESUME

NAME: AARON YOST

TITLE: MASTER SEAMER

PROJECTS:

Earthmovers Landfill	Elkhart, Indiana	2000	436,000 s.f.
Caldwell Landfill	Morristown, Indiana	2000	284,000 s.f.
Blackfoot Landfill	Winslow, Indiana	2000	295,000 s.f.
Heritage Landfill	Roachdale, Indiana	2000	327,000 s.f.
City of Indianapolis	Indianapolis, Indiana	2000	360,000 s.f.
Deercroft Landfill	Michigan City, Indiana	2000	463,381 s.f.
Southside Landfill	Indianapolis, Indiana	2000	557,911 s.f.
Twin Bridges Landfill	Danville, Indiana	2000	416,409 s.f.
Landcomp Landfill	Ottowa, IL	2000	155,000 s.f.
Rumpke Landfill	Medora, IN	2000	388,000 s.f.
Bartholomew County Landfill	Columbus, IN	2001	12,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS INC.
PERSONAL RESUME

NAME: NICHOLAS HANDY

TITLE: LABORER

PROJECTS:

Earthmovers Landfill	Elkhart, Indiana	2000	436,000 s.f.
Caldwell Landfill	Morristown, Indiana	2000	284,000 s.f.
Blackfoot Landfill	Winslow, Indiana	2000	295,000 s.f.
Daviess County Landfill	Montgomery, Indiana	2000	85,000 s.f.
Deercroft Landfill	Michigan City, Indiana	2000	463.381 s.f.
Southside Landfill	Indianapolis, Indiana	2000	557,911 s.f.
Twin Bridges Landfill	Danville, Indiana	2000	416,409 s.f.
Heritage Landfill	Roachdale, Indiana	2000	327,000 s.f.
City of Indianapolis	Indianapolis, Indiana	2000	360,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	2000	210,000 s.f.
Landcomp Landfill	Ottowa, IL	2000	155,000 s.f.
Rumpke Landfill	Medora, IN	2000	388,000 s.f.
Bartholomew County Landfill	Columbus, IN	2001	12,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS INC.
PERSONAL RESUME

NAME: MICHAEL HANDY

TITLE: LABORER

PROJECTS:

Earthmovers Landfill	Elkhart, Indiana	2000	436,000 s.f.
Caldwell Landfill	Morristown, Indiana	2000	284,000 s.f.
Blackfoot Landfill	Winslow, Indiana	2000	295,000 s.f.
Daviess County Landfill	Montgomery, Indiana	2000	85,000 s.f.
Deercroft Landfill	Michigan City, Indiana	2000	463.381 s.f.
Southside Landfill	Indianapolis, Indiana	2000	557,911 s.f.
Twin Bridges Landfill	Danville, Indiana	2000	416,409 s.f.
Heritage Landfill	Roachdale, Indiana	2000	327,000 s.f.
City of Indianapolis	Indianapolis, Indiana	2000	360,000 s.f.
Decatur Hills Landfill	Greensburg, Indiana	2000	210,000 s.f.
Earthmovers Landfill	Elkhart, Indiana	2000	436,000 s.f.
Caldwell Landfill	Morristown, Indiana	2000	284,000 s.f.
Blackfoot Landfill	Winslow, Indiana	2000	295,000 s.f.
Daviess County Landfill	Montgomery, Indiana	2000	85,000 s.f.
Landcomp Landfill	Ottowa, IL	2000	155,000 s.f.
Rumpke Landfill	Medora, IN	2000	388,000 s.f.
Bartholomew County Landfill	Columbus, IN	2001	12,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS INC.
PERSONAL RESUME

NAME: WESLEY MARSH

TITLE: SEAMER

City of Indianapolis	Indianapolis, Indiana	2000	360,000 sf
Twin Bridges Landfill	Danville, Indiana	2000	416,409 sf
Heritage Landfill	Roachdale, Indiana	2000	327,000 sf
Southside Landfill	Indianapolis, Indiana	2000	557,911 sf
Decatur Hills Landfill	Greensburg. Indiana	2000	210,000 sf
Deercroft Landfill	Michigan City, Indiana	2000	463,381 sf
Jay County Landfill	Portland, Indiana	2000	237,824 sf
Landcomp Landfill	Ottowa, Illinois	2000	155,000 sf
Rumpke Landfill	Medora, Indiana	2000	388,000 sf
Bartholomew County Landfill	Columbus, Indiana	2001	12,000 sf

TAYLOR CONSTRUCTION & GEOSYNTHETICS INC.
PERSONAL RESUME

NAME: RODNEY WHITE

TITLE: LABORER

PROJECTS:

Southside Landfill	Indianapolis, IN	2000	557,911 s.f.
Twin Bridges Landfill	Danville, IN	2000	416,409 s.f.
Heritage Landfill	Roachdale, IN	2000	327,000 s.f.
City of Indianapolis	Indianapolis, IN	2000	360,000 s.f.
Decatur Hills Landfill	Greensburg, IN	2000	210,000 s.f.
Jay County Landfill	Portland, IN	2000	237,824 s.f.
Landcomp Landfill	Ottowa, IL	2000	155,000 s.f.
Rumpke Landfill	Medora, IN	2000	388,000 s.f.

TAYLOR CONSTRUCTION & GEOSYNTHETICS INC.
PERSONAL RESUME

NAME: EVERETT M WOODCOCK

TITLE: SEAMER/TECHNICIAN

PROJECTS:

City of Indianapolis	Indianapolis, Indiana	2000	360,000 sf
Twin Bridges Landfill	Danville, Indiana	2000	416,409 sf
Heritage Landfill	Roachdale, Indiana	2000	327,000 sf
Barthlomew County Landfill	Columbus, Indiana	2000	127,000 sf
Southside Landfill	Indianapolis, Indiana	2000	557,911 sf
Decatur Hills Landfill	Greensburg. Indiana	2000	210,000 sf
Deercroft Landfill	Michigan City, Indiana	2000	463,381 sf
Jay County Landfill	Portland, Indiana	2000	237,824 sf
Landcomp Landfill	Ottowa, Illinois	2000	155,000 sf
Rumpke Landfill	Medora, Indiana	2000	388,000 sf

TAYLOR CONSTRUCTION & GEOSYNTHETICS INC.
PERSONAL RESUME

NAME: KEVIN WOODCOCK

TITLE: LABORER

PROJECTS:

City of Indianapolis	Indianapolis, Indiana	2000	360,000 sf
Twin Bridges Landfill	Danville, Indiana	2000	416,409 sf
Heritage Landfill	Roachdale, Indiana	2000	327,000 sf
Barthlomew County Landfill	Columbus, Indiana	2000	127,000 sf
Southside Landfill	Indianapolis, Indiana	2000	557,000 sf
Decatur Hills Landfill	Greensburg. Indiana	2000	210,000 sf
Landcomp Landfill	Ottowa, Illinois	2000	155,000 sf
Rumpke Landfill	Medora, Indiana	2000	388,000 sf

2.2 CONSTRUCTION QA/QC

2.2.1 Secondary Liner

2.2.1.1 Deployment Logs

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/1/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 1

DESCRIPTION	PANEL NUMBER P1				PANEL NUMBER P2				PANEL NUMBER P3			
ROLL NUMBER	24082				24082				24073			
DEPLOYED LENGTH	338'				183'				155'			
AMBIENT AIR TEMP.	96 F				96 F				96 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	NA				6"				6"			
MONITOR	RS / JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	79				78				79			
	78				77				71			
	78				75				70			
	75				78				73			
	77				78				76			
AVERAGE	77				77				74			

DESCRIPTION	PANEL NUMBER P4				PANEL NUMBER P5				PANEL NUMBER P6			
ROLL NUMBER	24073				24073				24070			
DEPLOYED LENGTH	186'				95'				98'			
AMBIENT AIR TEMP.	96 F				96 F				96 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	78				78				75			
	72				71				70			
	71				73				73			
	74				73				77			
	77				75				79			
AVERAGE	74				74				75			

REVIEWED BY RS / DAG DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/1/2001

TRANSPORT EQUIPMENT LULL
SHEET NUMBER: 2

DESCRIPTION	PANEL NUMBER P7				PANEL NUMBER P8				PANEL NUMBER P9			
ROLL NUMBER	24070				24070				24070			
DEPLOYED LENGTH	94'				92'				112'			
AMBIENT AIR TEMP.	96 F				96 F				96 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	NA				6"				N/A			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	75				74				74			
	70				71				70			
	69				70				70			
	67				68				69			
	72				72				71			
AVERAGE	70.6				71				70.8			

DESCRIPTION	PANEL NUMBER P10				PANEL NUMBER P11				PANEL NUMBER P12			
ROLL NUMBER	24078				24078				24078			
DEPLOYED LENGTH	103'				59'				37'			
AMBIENT AIR TEMP.	96 F				96 F				96 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	72				72				73			
	70				71				72			
	71				70				69			
	69				70				71			
	70				74				72			
AVERAGE	70.4				71.4				71.4			

REVIEWED BY RS / DAG DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/1/2001

TRANSPORT EQUIPMENT LULL
SHEET NUMBER: 3

DESCRIPTION	PANEL NUMBER P13				PANEL NUMBER P14				PANEL NUMBER P15			
ROLL NUMBER	24078				24078				24078			
DEPLOYED LENGTH	21'				59'				29'			
AMBIENT AIR TEMP.	96 F				96 F				96 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				N/A			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	73				72				72			
	70				71				71			
	71				72				73			
	70				69				70			
	69				71				70			
AVERAGE	70.6				71				71.2			

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

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/2/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 4

DESCRIPTION	PANEL NUMBER P16				PANEL NUMBER P17				PANEL NUMBER P18			
ROLL NUMBER	24078				24076				24076			
DEPLOYED LENGTH	167'				96'				99'			
AMBIENT AIR TEMP.	98 F				98 F				98 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	NA				6"				N/A			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	70				65				65			
	69				64				64			
	65				65				63			
	73				62				65			
	70				65				65			
AVERAGE	69.4				64.2				64.4			

DESCRIPTION	PANEL NUMBER P19				PANEL NUMBER P20				PANEL NUMBER P21			
ROLL NUMBER	24076				24076				24074			
DEPLOYED LENGTH	98'				96'				99'			
AMBIENT AIR TEMP.	98 F				98 F				98 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	70				65				62			
	65				64				62			
	65				62				63			
	64				63				64			
	65				62				62			
AVERAGE	65.8				63.2				62.6			

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/2/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 5

DESCRIPTION	PANEL NUMBER P22				PANEL NUMBER P23				PANEL NUMBER P24			
ROLL NUMBER	24074				24074				24074			
DEPLOYED LENGTH	97'				96'				76'			
AMBIENT AIR TEMP.	98 F				98 F				98 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	NA				6"				N/A			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	70				69				65			
	65				65				65			
	65				63				64			
	62				65				62			
	65				65				63			
AVERAGE	65.4				65.4				63.8			

DESCRIPTION	PANEL NUMBER P25				PANEL NUMBER P26				PANEL NUMBER P27			
ROLL NUMBER	24074				24074				24076			
DEPLOYED LENGTH	68'				67'				68'			
AMBIENT AIR TEMP.	98 F				98 F				98 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	66				65				63			
	64				64				65			
	65				65				60			
	65				63				67			
	63				65				60			
AVERAGE	64.6				64.4				63			

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/2/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 6

DESCRIPTION	PANEL NUMBER P28				PANEL NUMBER P29				PANEL NUMBER P30			
ROLL NUMBER	24076				24078				24078			
DEPLOYED LENGTH	66'				50'				14'			
AMBIENT AIR TEMP.	98 F				98 F				98 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	64				65				65			
	65				63				64			
	62				65				62			
	65				64				65			
	64				62				65			
AVERAGE	64				63.8				64.2			

DESCRIPTION	PANEL NUMBER P31				PANEL NUMBER P32				PANEL NUMBER P33			
ROLL NUMBER	24070				24070				24070			
DEPLOYED LENGTH	70'				45'				15'			
AMBIENT AIR TEMP.	98 F				98 F				98 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	65				65				68			
	64				61				66			
	63				60				65			
	62				62				64			
	65				64				65			
AVERAGE	63.8				62.4				65.6			

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : *SURFACE COMPACTION*
REMARKS:

DATE: 8/6/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 7

DESCRIPTION	PANEL NUMBER P34				PANEL NUMBER P35				PANEL NUMBER P36			
ROLL NUMBER	24071				24071				24071			
DEPLOYED LENGTH	159'				161'				162'			
AMBIENT AIR TEMP.	96 F				96 F				96 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	63				70				66			
	70				64				62			
	63				61				62			
	63				64				62			
	63				60				61			
AVERAGE	64.4				63.8				62.5			

DESCRIPTION	PANEL NUMBER P37				PANEL NUMBER P38				PANEL NUMBER P39			
ROLL NUMBER	24069				24069				24069			
DEPLOYED LENGTH	163'				162'				161'			
AMBIENT AIR TEMP.	96 F				96 F				96 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	65				69				68			
	63				65				65			
	63				65				63			
	61				63				62			
	62				61				62			
AVERAGE	62.8				64.6				64			

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/6/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 8

DESCRIPTION	PANEL NUMBER P40				PANEL NUMBER P41				PANEL NUMBER P42			
ROLL NUMBER	24079				24079				24079			
DEPLOYED LENGTH	170'				95'				51'			
AMBIENT AIR TEMP.	96 F				96 F				96 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	65				64				61			
	64				62				61			
	65				64				62			
	66				66				64			
	69				70				64			
AVERAGE	65.8				65.2				62.4			

DESCRIPTION	PANEL NUMBER P43				PANEL NUMBER				PANEL NUMBER			
ROLL NUMBER	24079											
DEPLOYED LENGTH	27'											
AMBIENT AIR TEMP.	96 F											
VISUAL OBSERVATION	GOOD											
OBSERVED OVERLAP	6"											
MONITOR	JP											
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	65											
	61											
	60											
	63											
	65											
AVERAGE	62.8											

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/6/2001

TRANSPORT EQUIPMENT LULL
SHEET NUMBER: 9

DESCRIPTION	PANEL NUMBER P44				PANEL NUMBER P45				PANEL NUMBER P46			
ROLL NUMBER	24072				24072				24072			
DEPLOYED LENGTH	120'				80'				81'			
AMBIENT AIR TEMP.	94 F				94 F				94 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	66				66				67			
	65				70				63			
	62				63				64			
	65				67				62			
	63				64				66			
AVERAGE	64.2				66				64.8			

DESCRIPTION	PANEL NUMBER P47				PANEL NUMBER P48				PANEL NUMBER P49			
ROLL NUMBER	24072				24072				24072			
DEPLOYED LENGTH	83'				60'				38'			
AMBIENT AIR TEMP.	94 F				94 F				94 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	70				67				68			
	64				60				65			
	65				63				61			
	70				65				62			
	66				64				67			
AVERAGE	67				63.8				64.6			

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/6/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 10

DESCRIPTION	PANEL NUMBER P50				PANEL NUMBER P51				PANEL NUMBER			
ROLL NUMBER	24072				24077							
DEPLOYED LENGTH	Wedge from P49				247'							
AMBIENT AIR TEMP.	94 F				94 F							
VISUAL OBSERVATION	GOOD				GOOD							
OBSERVED OVERLAP	6"				6"							
MONITOR	JP				JP							
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	67				64							
	60				62							
	62				61							
	64				60							
	65				66							
AVERAGE	63.6				62.6							

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

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/8/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 11

DESCRIPTION	PANEL NUMBER P52				PANEL NUMBER P53				PANEL NUMBER P54			
ROLL NUMBER	24077				24081				24075			
DEPLOYED LENGTH	246'				249'				174'			
AMBIENT AIR TEMP.	90 F				90 F				90 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	69				66				68			
	67				64				62			
	65				61				61			
	65				65				66			
	66				62				65			
AVERAGE	66.4				63.6				64.4			

DESCRIPTION	PANEL NUMBER P55				PANEL NUMBER				PANEL NUMBER			
ROLL NUMBER	24075											
DEPLOYED LENGTH	177'											
AMBIENT AIR TEMP.	90 F											
VISUAL OBSERVATION	GOOD											
OBSERVED OVERLAP	6"											
MONITOR	JP											
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	64											
	65											
	62											
	64											
	65											
AVERAGE	64											

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/13/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 12

DESCRIPTION	PANEL NUMBER P56				PANEL NUMBER P57				PANEL NUMBER P58			
ROLL NUMBER	24080				24080				24080			
DEPLOYED LENGTH	171'				176'				173'			
AMBIENT AIR TEMP.	85 F				85 F				85 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	65				65				65			
	64				61				63			
	63				60				63			
	65				62				60			
	70				62				62			
AVERAGE	65.4				62				62.6			

DESCRIPTION	PANEL NUMBER P59				PANEL NUMBER P60				PANEL NUMBER P61			
ROLL NUMBER	24081				24081				23920			
DEPLOYED LENGTH	85'				88'				172'			
AMBIENT AIR TEMP.	85 F				85 F				85 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	63				65				64			
	62				67				61			
	60				60				65			
	64				65				62			
	65				63				63			
AVERAGE	62.8				64				63			

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/13/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 13

DESCRIPTION	PANEL NUMBER P62				PANEL NUMBER P63				PANEL NUMBER P63			
ROLL NUMBER	23920				23920				24079			
DEPLOYED LENGTH	171'				86'				90'			
AMBIENT AIR TEMP.	82 F				82 F				82 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	66				65				63			
	64				63				65			
	65				64				65			
	68				68				65			
	69				67				67			
AVERAGE	66.4				65.4				65			

DESCRIPTION	PANEL NUMBER P65				PANEL NUMBER P66				PANEL NUMBER P67			
ROLL NUMBER	24079				24081				24081			
DEPLOYED LENGTH	92'				62'				39'			
AMBIENT AIR TEMP.	82 F				82 F				82 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	64				67				61			
	63				65				60			
	65				68				64			
	65				61				61			
	68				64				62			
AVERAGE	65				65				61.6			

REVIEWED BY RS DATE 8/16/2001

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: SECONDARY
SUBGRADE CONDITION : SURFACE COMPACTION
REMARKS:

DATE: 8/13/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 14

DESCRIPTION	PANEL NUMBER P68				PANEL NUMBER P69				PANEL NUMBER P70			
ROLL NUMBER	24075				24075				24075			
DEPLOYED LENGTH	76'				62'				38'			
AMBIENT AIR TEMP.	82 F				82 F				82 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	66				69				70			
	61				65				64			
	65				61				61			
	62				64				62			
	68				64				64			
AVERAGE	64.4				64.6				64.2			

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

REVIEWED BY RS DATE 8/16/2001

2.2.1.2 Trial Seaming Logs

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
TX - # = EXTRUSION

DATE 08/01/01
SHEET NUMBER 1

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TF-001	1500	134	JMB	95	11		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								133	127	128	126	119	117	136	139	133			
TF-002	1525	134	JMB	95	8		750	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								119	120	133	115	119	114	142	133	135			
TF-003	1530	991	SJL	95	2.9		410	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								121	120	124	123	120	124	138	139	135			
TF-004	1535	991	SJL	95	1.5		410	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								124	119	124	123	119	125	139	144	135			
TF-005	1540	132	ADY	95	12		740	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								122	120	117	127	129	124	144	144	145			

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
TX - # = EXTRUSION

DATE 08/02/01
SHEET NUMBER 2

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TF-006	1315	132	JMB	95	8		740	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								126	135	137	119	117	122	161	153	153			
TF-007	1315	132	JMB	95	11.6		740	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								143	133	111	114	133	118	149	158	149			
TF-008	1320	991	SJL	95	1.52M		410	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								110	103	104	105	104	100	142	141	137			
TF-009	1320	991	SJL	95	2.92M		410	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								102	116	106	108	107	105	146	146	139			

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
TX - # = EXTRUSION

DATE 08/03/01
SHEET NUMBER 3

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TF-010	8:30AM	134	JMB	78	10		750 F	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								107	109	128	110	125	118	162	164	162			
TF-011	8:30AM	134	JMB	78	7		750 F	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								127	119	110	116	130	106	168	163	161			

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXXX] TX - # = EXTRUSION

DATE 08/03/01
SHEET NUMBER 4

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TX-001	11:00AM	570	CBD	84	400 C	400 C		SE1 104	SE1 114	SE1 107				BRK 142	BRK 140	BRK 141	PASS	RS	SMOOTH TO SMOOTH

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXX] TX - # = EXTRUSION

DATE 08/04/01
SHEET NUMBER 5

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TX-002	8:40AM	570	JMB	82	400 C	400 C		SE2	SE2	SE2				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								134	153	149				167	162	160			
TX-003	1:20PM	570	JMB	90	400 C	400 C		SE2	SE2	SE2				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								132	121	134				140	141	141			

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXXX] TX - # = EXTRUSION

DATE 08/06/01
SHEET NUMBER 6

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TX-004	7:30	570	JMB	85 F	400	400		SE1 139	SE1 143	SE1 141				BRK 154	BRK 155	BRK 154	PASS	RS	SMOOTH TO SMOOTH

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
[ ] TX - # = EXTRUSION

DATE 08/06/01
SHEET NUMBER 7

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TF-012	1250	134	JMB	90	11.6		750	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								140	119	117	126	122	119	149	151	152			
TF-013	1300	991	SJL	90	2.85M		410	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								135	134	134	107	101	122	147	147	145			
TF-014	1330	132	ADY	90	11.3		750	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								121	117	123	116	120	126	150	144	136			
TF-015	1430	134	JMB	92	6.6		250	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								126	128	126	126	124	120	146	141	140			

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
[ ] TX - # = EXTRUSION

DATE 08/07/01
SHEET NUMBER 8

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TF-016	8:00AM	134	JMB	80 F	10.5		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								125	142	130	119	109	121	161	164	165			
TF-017	8:15AM	132	ADY	80 F	11.5		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								127	131	114	131	129	131	159	155	151			
TF-018	8:15AM	132	ADY	80 F	8.5		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								127	142	133	122	126	128	155	150	152			
TF-019	13:55	132	ADY	95 F	1105		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								107	107	107	115	122	117	145	151	144			
TF-020	13:55	132	ADY	95 F	8		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								113	109	120	117	130	111	152	149	146			

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXXX] TX - # = EXTRUSION

DATE 08/07/01
SHEET NUMBER 9

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TX-005	14:00	570	JMB	95 F	400	400		SE2 126	SE2 139	SE2 127				BRK 140	BRK 143	BRK 140	PASS	RS	SMOOTH TO SMOOTH

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
[ ] TX - # = EXTRUSION

DATE 08/08/01
SHEET NUMBER 10

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TF-021	8:20AM	134	JMB	84 F	11		750	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								128	121	124	117	121	126	151	148	148			
TF-022	8:20AM	134	JMB	84 F	6.6		750	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								135	122	130	130	122	129	152	155	151			
TF-023	8:55AM	132	ADY	84 F	11.5		750	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								120	109	104	114	114	122	149	155	154			
TF-024	12:40PM	132	ADY	90 F	6.6		750	SE2	SE2	SE2	SE2	SE2	SE2	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								123	121	119	117	120	116	151	152	151			

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXXX] TX - # = EXTRUSION

DATE 08/08/01
SHEET NUMBER 11

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TX-006	14:00	570	JMB	90 F	400	400		SE1 141	SE1 121	SE1 135				BRK 142	BRK 141	BRK 142	PASS	RS	SMOOTH TO SMOOTH

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXXX] TX - # = EXTRUSION

DATE 08/09/01
SHEET NUMBER 12

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TX-007	8:10AM	570	ADY	82 F	400	400		SE1	SE1	SE1				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								138	126	130				155	157	156			
TX-008	1:00PM	570	ADY	90 F	400	400		SE1	SE1	SE1				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								122	139	132				171	165	171			

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
[ ] TX - # = EXTRUSION

DATE 08/13/01
SHEET NUMBER 13

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TF-025	12:50	134	JMB	85	10.6		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								143	128	131	141	125	139	154	156	160			
TF-026	13:20	991	ADY	85	2.8M		400	AD			AD						FAIL	RS	SMOOTH TO SMOOTH
								X			X								
TF-026R	13:45	991	ADY	85	2.68M		400	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								134	117	125	137	118	124	147	147	145			
TF-027	13:55	991	ADY	85	1.52M		410	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO TEXTURED
								112	116	115	107	109	110	146	146	147			

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
[ ] TX - # = EXTRUSION

DATE 08/14/01
SHEET NUMBER 14

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TF-28	9:30	132	JMB	70 F	10		750	SE1 132	SE1 134	SE1 125	SE1 129	SE1 140	SE1 125	BRK 181	BRK 182	BRK 179	PASS	RS	SMOOTH TO TEXTURED

REVIEWED BY: RS DATE: 8/16/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXXX] TX - # = EXTRUSION

DATE 08/14/01
SHEET NUMBER 15

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TX-09	9:30	570	ADY	70 F	400		405	SE1	SE1	SE1				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								151	147	148				159	156	158			
TX-10	13:30	570	ADY	85	400		405	SE1	SE1	SE1				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								149	146	127				153	152	148			

REVIEWED BY: RS DATE: 8/16/2001

2.2.1.3 Seaming Logs

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXXX] FUSION
[ ] EXTRUSION

MACHINE # 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-001	1500	JMB
TF-002	1525	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG: 0

DATE 8/1/2001

SHEET NUMBER 1

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P2 / P3	WEOS	EEOS	1628	96	JMB	8	750	750	22.5	22.5		RS		8/3/2001	JP
2	P2 / P4	NEOS	SEOS	1659	96	JMB	10	750	750	21	43.5		RS		8/4/2001	JP
3	P3 / P4	NEOS	SEOS	1701	96	JMB	10	750	731	155	198.5		RS		8/4/2001	JP
4	P10 / P15	SEEOS	NWEOS	1903	94	JMB	8	750	740	23	210/11.5	DS-01	RS		8/3/2001	JP
5	P10 / P14	SEEOS	NWEOS	1909	94	JMB	8	750	749	37	48.5		RS		8/3/2001	JP
6	P8 / P10	WEOS	EEOS	1922	94	JMB	8	750	748	35	83.5		RS		8/2/2001	RS
7	P8 / P14	WEOS	EEOS	1927	94	JMB	8	750	743	46	129.5		RS		8/2/2001	RS
8	/	-						-	-							
9	/	-						-	-							
10	/	-						-	-							
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		339.5						
								DESTRUCTIVE LENGTH CARRY-OVER			129.5					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[xxxxxx] FUSION
[ ] EXTRUSION

MACHINE # 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-005	1540	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 0

DATE 08/01/01

SHEET NUMBER 2

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P5 / P6	WEOS -	EEOS	1736	95	ADY	12	740	740	95	95		RS		8/2/2001	RS
2	P7 / P8	WEOS -	EEOS	1751	95	ADY	12	740	740	92	150/37	DS-2	RS		8/2/2001	RS
3	P9 / P10	NWEOS -	SEEOS	1828	95	ADY	12	740	740	103	140		RS		8/2/2001	RS
4	P14 / P15	WEOS -	EEOS	1853	95	ADY	12	740	729	29	169		RS		8/3/2001	JP
5	/	-						-	-							
6	/	-						-	-							
7	/	-						-	-							
8	/	-							-							
9	/	-						-	-							
10	/	-						-	-							
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		319						
								DESTRUCTIVE LENGTH CARRY-OVER			169					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[xxxxxx] FUSION
[ ] EXTRUSION

MACHINE # 991

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-003	1530	SJL
TF-004	1535	SJL

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG: 0

DATE 8/1/2001

SHEET NUMBER 3

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P1 / P3	SEOS -	NEOS	1638	96	SJL	2.92M.	410	407	155	155		RS		8/4/2001	JP
2	P1 / P2	SEOS -	1A	1655	96	SJL	2.92M.	410	408	19	174		RS		8/3/2001	JP
3	P6 / P7	WEOS -	EEOS	1741	95	SJL	2.92M.	410	406	94	200/68	DS-03	RS		8/2/2001	RS
4	P11 / P12	NEOS -	SEOS	1842	94	SJL	2.92M.	410	401	37	105		RS		8/2/2001	RS
5	P12 / P13	NEOS -	SEOS	1853	94	SJL	2.92M.	410	407	21	126		RS		8/3/2001	JP
6	P9 / P11	NWEOS -	SEEOS	1912	94	SJL	2.92M.	410	407	32	158		RS		8/2/2001	RS
7	P9 / P12	NWEOS -	SEEOS	1917	94	SJL	2.92M.	410	402	30	188		RS		8/3/2001	JP
8	P9 / P13	NWEOS -	SEEOS	1925	94	SJL	2.24M.	410	401	18	206		RS		8/3/2001	JP
9	P4 / P5	NEOS -	SEOS	1945	92	SJL	2.24M.	410	404	22.5	228.5		RS		8/4/2001	JP
10	P4 / P6	NEOS -	SEOS	1948	92	SJL	2.24M.	410	406	22.5	251		RS		8/2/2001	RS
11	P4 / P7	NEOS -	SEOS	1950	92	SJL	2.24M.	410	404	22.5	273.5		RS		8/2/2001	RS
12	P4 / P8	NEOS -	SEOS	1952	92	SJL	2.24M.	410	407	22.5	296		RS		8/2/2001	RS
13	P4 / P9	NEOS -	SEOS	1955	92	SJL	2.24M.	410	403	31	327		RS		8/2/2001	RS
14	P4 / P11	NEOS -	SEOS	1958	92	SJL	2.24M.	410	407	43	370		RS		8/2/2001	RS
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
							DAILY TOTAL			570						
							DESTRUCTIVE LENGTH CARRY-OVER				370					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION

[ ] EXTRUSION

MACHINE: 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF - 006	1315	JMB
TF - 007	1315	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 169

DATE 8/2/2001

SHEET NUMBER 4

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P1 / P2	1A -	NEOS	1424	96	JMB	11.6	740	740	159	328		RS		8/4/2001	JP
2	P5 / P17	WEOS -	EEOS	1452	96	JMB	11.6	740	740	90	418		RS		8/4/2001	JP
3	P18 / P19	WEOS -	EEOS	1512	96	JMB	11.6	740	740	95	480/33	DS-06	RS		8/4/2001	JP
4	P20 / P21	WEOS -	EEOS	1530	96	JMB	11.6	740	740	94	127		RS		8/4/2001	JP
5	P22 / P23	WOES -	EEOS	1550	96	JMB	11.6	740	740	96	223		RS		8/4/2001	JP
6	P25 / P26	SEOS -	NEOS	1605	96	JMB	11.6	740	740	67	290		RS		8/4/2001	JP
7	P27 / P28	SEOS -	NEOS	1620	96	JMB	11.6	740	740	66	356		RS		8/3/2001	JP
8	P23 / P31	WEOS -	EEOS	1655	96	JMB	11.6	740	740	70	426		RS		8/3/2001	JP
9	/	-						-	-							
10	/	-						-	-							
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		737						
								DESTRUCTIVE LENGTH CARRY-OVER			426					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXX FUSION

EXTRUSION

MACHINE # 991

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF - 008	1320	SJL
TF - 009	1320	SJL

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 370

DATE 8/2/2001

SHEET NUMBER 5

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P2 / P16	SEOS	NEOS	1428	96	SJL	2.92	410	403	156	500/26	DS-04	RS	130' N.SEOS	8/4/2001	JP
2	P19 / P20	WEOS	EEOS	1524	96	SJL	2.92	410	405	94	120		RS		8/4/2001	JP
3	P21 / P22	WEOS	EEOS	1538	96	SJL	2.92	410	407	96	216		RS		8/4/2001	JP
4	P24 / P25	SEOS	NEOS	1600	96	SJL	2.92	410	403	68	284		RS		8/4/2001	JP
5	P26 / P27	SEOS	NEOS	1615	96	SJL	2.92	410	402	67	351		RS		8/4/2001	JP
6	P28 / P29	SEOS	NEOS	1641	96	SJL	2.92	410	407	50	401		RS		8/3/2001	RS
7	P31 / P32	WEOS	EEOS	1701	96	SJL	2.92	410	402	45	446		RS		8/3/2001	JP
8	P29 / P30	SEOS	NEOS	1720	96	SJL	2.92	410	409	24	470		RS		8/3/2001	RS
9	P4 / P16	WEOS	EEOS	1738	96	SJL	1.52	410	409	22.5	490/2.5	DS-05	RS		8/4/2001	JP
10	P32 / P33	WEOS	SEOS	1745	96	SJL	1.52	410	407	10	12.5		RS		8/3/2001	RS
11	P17 / P18	WEOS	EEOS	1753	96	SJL	2.92	410	407	94	106.5		JP		8/4/2001	JP
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		632.5						
								DESTRUCTIVE LENGTH CARRY-OVER			106.5					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE # 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF - 010	8:30	JMB
TF - 011	8:30	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 129.5

DATE 8/3/2001

SHEET NUMBER 6

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P16 / P23	NEOS	SEOS	855	84	JMB	7	750	750	22.5	152		RS		8/4/2001	JP
2	P16 / P22	NEOS	SEOS	858	84	JMB	7	750	750	22.5	174.5		RS		8/4/2001	JP
3	P16 / P21	NEOS	SEOS	859	84	JMB	7	750	724	22.5	197		JP		8/4/2001	JP
4	P16 / P20	NEOS	SEOS	900	84	JMB	7	750	724	22.5	219.5		JP		8/4/2001	JP
5	P16 / P19	NEOS	SEOS	902	84	JMB	7	750	726	22.5	242		JP		8/4/2001	JP
6	P16 / P18	NEOS	SEOS	904	84	JMB	7	750	726	22.5	264.5		JP		8/4/2001	JP
7	P16 / P17	NEOS	SEOS	906	84	JMB	7	750	726	19	283.5		JP		8/4/2001	JP
8	P1 / P24	WEOS	EEOS	926	84	JMB	7	750	750	22.5	306		JP		8/4/2001	JP
9	P2 / P25	WEOS	EEOS	934	84	JMB	7	750	750	22.5	328.5		JP		8/4/2001	JP
10	P16 / P26	WEOS	EEOS	937	84	JMB	7	750	750	22.5	351	DS-7	JP	QA	8/4/2001	JP
11	P23 / P27	WEOS	EEOS	942	84	JMB	7	750	750	22.5	373.5		JP		8/3/2001	JP
12	P28 / P31	WEOS	EEOS	950	84	JMB	7	750	750	23	396.5		JP		8/3/2001	JP
13	P29 / P31	WEOS	EEOS	957	84	JMB	7	750	750	7	403.5		JP		8/3/2001	JP
14	P29 / P32	WEOS	EEOS	1000	84	JMB	7	750	750	25	248.5		JP		8/3/2001	RS
15	P30 / P32	WEOS	EEOS	1003	84	JMB	7	750	750	9	437.5		JP		8/3/2001	RS
16	P30 / P33	SEOS	NEOS	1004	84	JMB	7	750	750	11	448.5		JP		8/3/2001	RS
17	/	-						-	-							
							DAILY TOTAL			319						
							DESTRUCTIVE LENGTH CARRY-OVER				448.5					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXX FUSION

EXTRUSION

MACHINE # 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-012	12:50PM	JMB
TF-015	2:30PM	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 448.5

DATE 8/6/2001

SHEET NUMBER 7

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P1 / P34	SEOS	NEOS	1300	96 F	JMB	11.6	750	750	159	500/67.5	DS-09	JP		8/6/2001	RS
2	P34 / P35	SEOS	NEOS	1328	96 F	JMB	10	750	734	161	268.5		JP		8/6/2001	RS
3	P37 / P38	SEOS	NEOS	1403	96 F	JMB	10.2	750	736	162	430.5		JP		8/6/2001	RS
4	P41 / P43	SWEOS	NEEOS	1653	96 F	JMB	6.6	750	750	11	441.5		JP	VT	8/9/2001	JP
5	P41 / P42	SWEOS	NEEOS	1700	96 F	JMB	6.6	750	750	36	477.5		JP		8/6/2001	RS
6	P40 / P42	NEOS	SEOS	1713	96 F	JMB	6.6	750	750	32	500/9.5	DS-10	JP		8/6/2001	RS
7	P40 / P41	NEOS	SEOS	1725	96 F	JMB	6.6	750	750	45	54.5		JP		8/6/2001	RS
8	/	-														
9	/	-														
10	/	-														
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		564						
								DESTRUCTIVE LENGTH CARRY-OVER			54.5					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE # 991

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-013	1300	SJL

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 106.5

DATE 8/6/2001

SHEET NUMBER 8

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P35 / P36	SEOS -	NEOS	1334	96 F	SJL	2.85M	410	403	161	267.5		JP		8/6/2001	RS
2	P38 / P39	SEOS -	NEOS	1419	96 F	SJL	2.85M	410	405	161	428.5		JP		8/6/2001	RS
3	P42 / P43	NEOS -	SEOS	1643	96 F	SJL	2.85M	410	410	20	448.5		JP		8/6/2001	RS
4	/	-														
5	/	-														
6	/	-														
7	/	-														
8	/	-														
9	/	-														
10	/	-														
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		342						
								DESTRUCTIVE LENGTH CARRY-OVER			448.5					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE # 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-014	1330	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 426

DATE 8/6/2001

SHEET NUMBER 9

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P36 / P37	SEOS -	NEOS	1347	96 F	ADY	11.3	750	751	162	500/88	DS-08	JP		8/6/2001	RS
2	P39 / P40	SEOS -	NEOS	1617	96 F	ADY	11.3	750	749	161	249		JP		8/6/2001	RS
3	/	-														
4	/	-														
5	/	-														
6	/	-														
7	/	-														
8	/	-														
9	/	-														
10	/	-														
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							

DAILY TOTAL 323

DESTRUCTIVE LENGTH CARRY-OVER 249

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION

[ ] EXTRUSION

MACHINE # 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-017	8:15AM	ADY
TF-018	8:15AM	ADY
TF-019	1:55PM	ADY
TF-020	1:55PM	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 249

DATE 8/7/2001

SHEET NUMBER 10

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P41 / P44	NEEOS -	SWEOS	10:02	90	ADY	11.5	750	750	86	335		RS		8/9/2001	JP
2	P46 / P47	EEOS -	WEOS	10:18	90	ADY	11.5	750	750	81	416		RS		8/6/2001	RS
3	P48 / P49	EEOS -	WEOS	10:30	90	ADY	11.5	750	750	38	454		RS		8/6/2001	RS
4	P44 / P47	NEEOS -	SWEOS	10:56	92	ADY	8.5	750	746	32	486		RS		8/6/2001	RS
5	P44 / P48	NEEOS -	SWEOS	11:01	92	ADY	8.5	750	748	53	500/39	DS-11	RS		8/6/2001	RS
6	P44 / P49	NEEOS -	SWEOS	11:10	92	ADY	8.5	750	748	33	72		RS		8/6/2001	RS
7	P44 / P50	NEEOS -	SWEOS	11:15	92	ADY	8.5	750	750	10	82		RS		8/6/2001	RS
8	P1 / P51	SEOS -	NEOS	14:42	94	ADY	11.5	750	749	175	257		JP		8/8/2001	JP
9	P24 / P51	SEOS -	NEOS	14:56	94	ADY	11.5	750	749	65	322		JP		8/8/2001	JP
10	P40 / P45	NEOS -	SEOS	15:26	94	ADY	7.2	750	750	22.5	344.5		JP		8/9/2001	JP
11	P40 / P46	NEOS -	SEOS	15:28	94	ADY	7.2	750	750	22.5	367		JP		8/9/2001	JP
12	P40 / P47	NEOS -	SEOS	15:32	94	ADY	7.2	750	750	3	370		JP		8/9/2001	JP
13	P40 / P44	NEOS -	SEOS	15:32	94	ADY	7.2	750	750	32	402		JP		8/9/2001	JP
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
							DAILY TOTAL			653						
							DESTRUCTIVE LENGTH CARRY-OVER				402					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION

[ ] EXTRUSION

MACHINE # 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-016	8:00AM	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 54.5

DATE 8/7/2001

SHEET NUMBER 11

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P45 / P46	EEOS -	WEOS	10:12	90	JMB	10.6	750	751	80	134.5		RS		8/6/2001	RS
2	P47 / P48	EEOS -	WEOS	10:23	90	JMB	10.6	750	742	60	194.5		RS		8/6/2001	RS
3	P49 / P50	EEOS -	WEOS	10:37	90	JMB	10.6	750	750	10.5	205		RS		8/6/2001	RS
4	/	-														
5	/	-														
6	/	-														
7	/	-														
8	/	-														
9	/	-														
10	/	-														
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		150.5						
								DESTRUCTIVE LENGTH CARRY-OVER			205					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE # 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-021	8:20AM	JMB
TF-022	8:20AM	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 205

DATE 8/8/2001

SHEET NUMBER 12

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P52 / P53	SEOS -	NEOS	11:32	84	JMB	10.6	750	750	246	451		RS		8/8/2001	JP
2	/	-														
3	/	-														
4	/	-														
5	/	-														
6	/	-														
7	/	-														
8	/	-														
9	/	-														
10	/	-														
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

DAILY TOTAL 246
DESTRUCTIVE LENGTH CARRY-OVER 451

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION

[ ] EXTRUSION

MACHINE # 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-023	8:55AM	ADY
TF-024	12:40PM	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 402

DATE 8/8/2001

SHEET NUMBER 13

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P51 / P52	SEOS	NEOS	11:14	84	ADY	11.2	750	750	246	500/158	DS-12	RS		8/8/2001	JP
2	P54 / P55	EEOS	WEOS	12:46	88	ADY	11.2	750	750	174	332		RS		8/8/2001	JP
3	P34 / P51	EEOS	WEOS	13:29	88	ADY	6.2	750	750	22.5	354.5		JP		8/8/2001	JP
4	P35 / P52	EEOS	WEOS	13:32	88	ADY	6.2	750	750	22.5	377		JP		8/8/2001	JP
5	P36 / P53	EEOS	WEOS	13:34	88	ADY	6.2	750	750	22.5	399.5		JP		8/8/2001	JP
6	P37 / P54	EEOS	WEOS	13:39	88	ADY	6.2	750	750	22.5	422		JP		8/8/2001	JP
7	P38 / P54	EEOS	WEOS	13:42	88	ADY	6.2	750	750	22.5	444.5		JP		8/9/2001	JP
8	P39 / P54	EEOS	WEOS	13:46	88	ADY	6.2	750	750	22.5	467		JP		8/9/2001	JP
9	P40 / P54	EEOS	WEOS	13:50	88	ADY	6.2	750	750	22.5	489.5		JP		8/9/2001	JP
10	P45 / P54	EEOS	WEOS	13:54	88	ADY	6.2	750	750	80	500/69.5	DS-13	JP		8/9/2001	JP
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		657.5						
								DESTRUCTIVE LENGTH CARRY-OVER			69.5					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE: 991

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-026R	13:45	ADY
TF-027	13:55	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 448.5

DATE 8/13/2001

SHEET NUMBER 14

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P57 / P58	WEOS	EEOS	14:11	85	ADY	2.68M	400	400	170	500/118.5	DS-16	RS		8/13/2001	RS
2	P59 / P60	SEOS	NEOS	14:45	85	ADY	2.68M	400	405	85	203.5		RS		8/13/2001	RS
3	P58 / P61	WEOS	EEOS	15:03	83	ADY	2.68M	400	400	171	373.5		RS		8/13/2001	RS
4	P59 / P63	SEOS	NEOS	15:28	83	ADY	2.68M	400	402	85	468.5		RS		8/13/2001	RS
5	P64 / P65	SEOS	NEOS	15:47	83	ADY	2.68M	400	402	90	500/58.5	DS-17	RS		8/13/2001	RS
6	P66 / P67	NEOS	SEOS	16:13	83	ADY	2.68M	400	400	39	97.5		RS		8/14/2001	JP
7	P62 / P68	WEOS	EEOS	16:41	83	ADY	2.68M	400	407	76	173.5		RS		8/14/2001	JP
8	P69 / P70	EEOS	WEOS	16:54	83	ADY	2.68M	400	401	37	210.5		RS		8/14/2001	JP
9	P70 / 5E	EEOS	WEOS	17:05	83	ADY	1.52M	400	400	10	220.5		RS		8/14/2001	JP
10	P67 / 5E	NEOS	SEOS	17:16	83	ADY	1.52M	400	400	10	230.5		RS		8/14/2001	JP
11	P67 / P70	NWEOS	SEEOS	17:18	83	ADY	1.52M	400	400	31.5	262		RS		8/14/2001	JP
12	P66 / P69	NWEOS	SEEOS	17:22	83	ADY	1.52M	400	400	30	292		RS		8/14/2001	JP
13	P65 / P69	NWEOS	SEEOS	17:26	83	ADY	1.52M	400	400	6	298		RS	COVERED BY 5X		
14	P65 / P68	NWEOS	SEEOS	17:27	83	ADY	1.52M	400	400	28	326		RS		8/14/2001	JP
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
							DAILY TOTAL			868.5						
							DESTRUCTIVE LENGTH CARRY-OVER				326					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/17/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION

[ ] EXTRUSION

MACHINE # 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-025	12:50	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 451

DATE 8/13/2001

SHEET NUMBER 15

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P55 / P56	WEOS	EEOS	13:28	85	JMB	10.6	750	745	171	500/122	DS-14	RS		8/13/2001	RS
2	P56 / P57	WEOS	EEOS	13:50	85	JMB	10.6	750	750	170	200/92	DS-15	RS	QA	8/13/2001	RS
3	P53 / P60	SEOS	NEOS	14:23	85	JMB	10.6	750	750	88	180		RS		8/13/2001	RS
4	P61 / P62	WEOS	EEOS	17:08	83	JMB	10.6	750	750	171	251		RS		8/13/2001	RS
5	P63 / P64	SEOS	NEOS	17:40	83	JMB	10.6	750	749	86	337		RS		8/13/2001	RS
6	P65 / P66	NEOS	SEOS	18:20	83	JMB	10.6	750	750	62	399		RS		8/14/2001	RS
7	P68 / P69	EEOS	WEOS	18:40	83	JMB	10.6	750	748	62	420/41	DS-18	RS		8/13/2001	RS
8	/	-														
9	/	-														
10	/	-														
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		810						
								DESTRUCTIVE LENGTH CARRY-OVER			41					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/17/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXX FUSION
[ ] EXTRUSION

MACHINE # 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-028	9:30	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 69.5

DATE 8/14/2001

SHEET NUMBER 16

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	P53 / P54	SEOS -	NEOS	8:35	75 F	JMB	10	750	750	22.5	92		RS		8/14/2001	JP
2	P53 / P55	SEOS -	NEOS	8:38	75 F	JMB	10	750	750	22.5	114.5		RS		8/14/2001	JP
3	P53 / P56	SEOS -	NEOS	8:41	75 F	JMB	10	750	749	22.5	137		RS		8/14/2001	JP
4	P53 / P57	SEOS -	NEOS	8:43	75 F	JMB	10	750	749	22.5	159.5		RS		8/14/2001	JP
5	P53 / P58	SEOS -	NEOS	8:45	75 F	JMB	10	750	750	22.5	182		RS		8/14/2001	JP
6	P53 / P61	SEOS -	NEOS	8:48	75 F	JMB	10	750	750	22.5	204.5		RS		8/14/2001	JP
7	P53 / P62	SEOS -	NEOS	8:51	75 F	JMB	10	750	750	22.5	227		RS		8/14/2001	JP
8	P60 / P62	EEOS -	WEOS	9:00	75 F	JMB	10	750	750	22.5	249.5		RS		8/14/2001	JP
9	P59 / P62	EEOS -	WEOS	9:03	75 F	JMB	10	750	750	22.5	272		RS		8/14/2001	JP
10	P62 / P63	EEOS -	WEOS	9:06	75 F	JMB	10	750	750	22.5	294.5		RS		8/14/2001	JP
11	P62 / P64	EEOS -	WEOS	9:08	75 F	JMB	10	750	74992	22.5	317		RS		8/14/2001	JP
12	P62 / P65	EEOS -	WEOS	9:11	75 F	JMB	10	750	14	22.5	321.5		RS	COVERED BY 5W		
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							

DAILY TOTAL 270

DESTRUCTIVE LENGTH CARRY-OVER 321.5

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/17/2001

2.2.1.4 Pressure Test Logs

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/2/2001
SHEET NUMBER: 1

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	P5 / P6	WEOS	EEOS		LT	935	941	32	32	Y	PASS		X	RS	
2	P6 / P7	WEOS	EEOS		LT	941	946	32	32	Y	PASS		X	RS	
3	P4 / P7	NEOS	SEOS		LT	951	956	33	31	Y	PASS		X	RS	
4	P4 / P8	NEOS	SEOS		LT	951	956	33	31	Y	PASS		X	RS	
5	P4 / P6	NEOS	SEOS		LT	1007	1012	30	30	Y	PASS		X	RS	
6	P7 / P8	WEOS	SEOS		LT	1017	1022	32	32	Y	PASS		X	RS	
7	P8 / P10	WEOS	SEOS		LT	1033	1039	32	32	Y	PASS		X	RS	
8	P8 / P14	WEOS	SEOS		LT	1033	1039	32	32	Y	PASS		X	RS	
9	P9 / P10	NWEOS	SWEOS		LT	1042	1047	32	30	Y	PASS		X	RS	
10	P4 / P9	NEOS	SEOS		LT	1058	1103	31	30	Y	PASS		X	RS	
11	P4 / P11	NEOS	SEOS		LT	1254	1259	30	29	Y	PASS		X	RS	
12	P9 / P11	NWEOS	SEEOS		LT	1304	1309	34	34	Y	PASS		X	RS	
13	P11 / P12	NEOS	SEOS		LT	1326	1332	31	31	Y	PASS		X	RS	
14	/	-				:		:							
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/3/2001
SHEET NUMBER: 2

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	P27 / P28	NEOS	SEOS		LT	1052	1057	32	31	Y	PASS		X	JP	
2	P29 / P31	NEEOS	SWEOS		SJL	1111	1116	33	32	Y	PASS		X	JP	
3	P31 / P32	WEOS	EEOS		SJL	1126	1131	33	32	Y	PASS		X	JP	
4	P28 / P31	NEEOS	SWEOS		SJL	1127	1132	32	32	Y	PASS		X	JP	
5	P29 / P32	SWEOS	NEEOS		SJL	1238	1243	30	30	Y	PASS		X	RS	
6	P29 / P30	SEOS	NEOS		SJL	1250	1255	32	32	Y	PASS		X	RS	
7	P30 / P32	SWEOS	NEEOS		SJL	1257	1302	33	32	Y	PASS		X	RS	
8	P32 / P33	WEOS	EEOS		SJL	1300	1305	31	30	Y	PASS		X	RS	
9	P28 / P29	SEOS	NEOS		LT	1306	1312	32	32	Y	PASS		X	RS	
10	P30 / P33	SEOS	NEOS		SJL	1308	1313	32	32	Y	PASS		X	RS	
11	P23 / P27	EEOS	WEOS		SJL	1335	1340	33	32	Y	PASS		X	JP	
12	P23 / P31	WEOS	EEOS		SJL	1320	1325	32	31	Y	PASS		X	JP	
13	P10 / P14	NWEOS	SEEOS		SJL	1348	1353	34	33	Y	PASS		X	JP	
14	P10 / P15	NWEOS	SEEOS		SJL	1359	1404	32	32	Y	PASS		X	JP	
15	P14 / P15	WEOS	EEOS		SJL	1409	1414	33	32	Y	PASS		X	JP	
16	P9 / P12	NWEOS	SEEOS		SJL	1420	1425	32	32	Y	PASS		X	JP	
17	P12 / P13	NEOS	SEOS		SJL	1425	1430	32	32	Y	PASS		X	JP	
18	P9 / P13	NWEOS	SEEOS		SJL	1429	1434	32	32	Y	PASS		X	JP	
19	P1 / P2	SEOS	1A		SJL	1447	1452	33	32	Y	PASS	X		JP	
20	P2 / P3	WEOS	EEOS		SJL	1455	1500	32	32	Y	PASS		X	JP	

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (i e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/4/2001
SHEET NUMBER: 3

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	P1 / P3	NEOS	1R		SJL	7:31	7:36	32	32	Y	PASS	X		JP	
2	P1 / P3	1R	SEOS		SJL	7:42	7:47	32	31	Y	PASS		X	JP	
3	P3 / P4	NEOS	SEOS		SJL	8:00	8:05	32	32	Y	PASS		X	JP	
4	P2 / P4	NEOS	SEOS		SJL	8:01	8:06	32	32	Y	PASS		X	JP	
5	P4 / P16	WEOS	EEOS		SJL	8:13	8:18	32	32	Y	PASS		X	JP	
6	P4 / P5	NEOS	SEOS		SJL	8:25	8:30	32	31	Y	PASS		X	JP	
7	P5 / P17	WEOS	EEOS		SJL	8:29	8:34	33	32	Y	PASS		X	JP	
8	P2 / P16	SEOS	NEOS		SJL	8:41	8:46	32	32	Y	PASS		X	JP	
9	P1 / P2	1A	NEOS		SJL	8:42	8:47	33	32	Y	PASS		X	JP	
10	P16 / P17	SEOS	NEOS		SJL	9:05	9:10	33	32	Y	PASS		X	JP	
11	P17 / P18	WEOS	EEOS		SJL	9:08	9:13	32	31	Y	PASS		X	JP	
12	P16 / P18	SEOS	NEOS		SJL	9:15	9:20	32	32	Y	PASS		X	JP	
13	P18 / P19	WEOS	EEOS		SJL	9:20	9:25	32	31	Y	PASS		X	JP	
14	P19 / P20	WEOS	EEOS		SJL	9:23	9:28	32	31	Y	PASS		X	JP	
15	P16 / P19	SEOS	NEOS		SJL	9:39	9:44	32	31	Y	PASS		X	JP	
16	P16 / P20	SEOS	NEOS		SJL	9:55	10:00	33	32	Y	PASS		X	JP	
17	P20 / P21	WEOS	EEOS		SJL	9:58	10:03	34	33	Y	PASS		X	JP	
18	P21 / P22	WEOS	EEOS		SJL	10:10	10:15	32	31	Y	PASS		X	JP	
19	P16 / P21	SEOS	NEOS		SJL	10:16	10:21	34	33	Y	PASS		X	JP	
20	P16 / P22	SEOS	NEOS		SJL	10:26	10:31	32	31	Y	PASS		X	JP	

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/4/2001
SHEET NUMBER: 4

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	P22 / P23	WEOS	EEOS		SLJ	10:22	10:32	33	31	Y	PASS		X	JP	
2	P16 / P23	SEOS	NEOS		SLJ	10:35	10:40	33	32	Y	PASS		X	JP	
3	P26 / P27	SEOS	NEOS		SLJ	10:47	10:52	32	30	Y	PASS		X	JP	
4	P25 / P26	SEOS	NEOS		SLJ	10:50	10:55	32	30	Y	PASS		X	JP	
5	P16 / P26	EEOS	WEOS		SLJ	11:07	11:12	32	32	Y	PASS		X	JP	
6	P2 / P25	WEOS	EEOS		SLJ	11:21	11:26	32	31	Y	PASS		X	JP	
7	P24 / P25	SEOS	NEOS		SLJ	11:23	11:28	32	30	Y	PASS		X	JP	
8	P1 / P24	3F	EEOS		SLJ	11:32	11:37	33	32	Y	PASS		X	JP	
9	/	-				:		:							
10	/	-				:		:							
11	/	-				:		:							
12	/	-				:		:							
13	/	-				:		:							
14	/	-				:		:							
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/6/2001
SHEET NUMBER: 5

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	P1 / P34	NEOS	SEOS		SJL	7:43	7;48	33	32	Y	PASS		X	RS	
2	P34 / P35	NEOS	SEOS		SJL	7:44	7:49	33	32	Y	PASS		X	RS	
3	P35 / P36	NEOS	3H		SJL	8:09	8:14	32	31	Y	PASS	X		RS	
4	P35 / P36	3H	SEOS		SJL	8:10	8:15	32	31	Y	PASS		X	RS	
5	P36 / P37	NEOS	SEOS		SJL	8:44	8:49	32	31	Y	PASS		X	RS	
6	P37 / P38	NEOS	SEOS		SJL	8:46	8:51	34	34	Y	PASS		X	RS	
7	P38 / P39	NEOS	SEOS		SJL	9:06	9:11	34	32	Y	PASS		X	RS	
8	P39 / P40	NEOS	3M		SJL	9:10	9:15	32	32	Y	PASS	X		RS	
9	P40 / P41	NEOS	SEOS		SJL	9:33	9:38	34	33	Y	PASS		X	RS	
10	P40 / P42	NEOS	3N		SJL	9:44	9:49	32	31	Y	PASS	X		RS	VT INTO AT
11	P41 / P42	NEEOS	SWEOS		SJL	9:59	10:04	32	31	Y	PASS		X	RS	
12	P42 / P43	NEOS	SEOS		SJL	10:05	10:10	34	32	Y	PASS		X	RS	
13	P47 / P48	EEOS	WEOS		SJL	11:14	11:19	34	33	Y	PASS		X	RS	
14	P48 / P49	EEOS	WEOS		SJL	11:24	11:29	34	32	Y	PASS		X	RS	
15	P49 / P50	EEOS	WEOS		SJL	11:29	11:34	32	31	Y	PASS		X	RS	
16	P44 / P47	NEOS	SEOS		SJL	11:46	11:51	33	31	Y	PASS		X	RS	
17	P44 / P48	NEOS	SEOS		SJL	12:57	13:02	32	31	Y	PASS		X	RS	
18	P44 / P49	NEOS	SEOS		SJL	13:17	13:22	34	33	Y	PASS		X	RS	
19	P44 / P50	NEOS	SEOS		SJL	13:18	13:23	32	30	Y	PASS		X	RS	
20	P46 / P47	EEOS	WEOS		SJL	13:35	13:40	32	31	Y	PASS		X	RS	

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER,
OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/6/2001
SHEET NUMBER: 6

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	P45 / P46	EEOS	- WEOS		SJL	13:39 :	13:44	33 :	32	Y	PASS		X	RS	
2	/		-			:		:							
3	/		-			:		:							
4	/		-			:		:							
5	/		-			:		:							
6	/		-			:		:							
7	/		-			:		:							
8	/		-			:		:							
9	/		-			:		:							
10	/		-			:		:							
11	/		-			:		:							
12	/		-			:		:							
13	/		-			:		:							
14	/		-			:		:							
15	/		-			:		:							
16	/		-			:		:							
17	/		-			:		:							
18	/		-			:		:							
19	/		-			:		:							
20	/		-			:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/8/2001
SHEET NUMBER: 7

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	P54 / P55	EEOS	WEOS		SJL	13:17	13:22	34	32	Y	PASS		X	JP	
2	P1 / P51	SEOS	NEOS		SJL	13:39	13:44	34	33	Y	PASS		X	JP	
3	P51 / P52	SEOS	NEOS		SJL	13:47	13:52	34	33	Y	PASS		X	JP	
4	P52 / P53	SEOS	NEOS		SJL	13:56	14:01	34	33	Y	PASS		X	JP	
5	P24 / P51	SEOS	NEOS		SJL	14:09	14:14	34	33	Y	PASS		X	JP	
6	P34 / P51	WEOS	EEOS		SJL	15:27	15:32	34	32	Y	PASS		X	JP	
7	P35 / P52	EEOS	WEOS		SJL	15:52	15:57	33	32	Y	PASS		X	JP	
8	P36 / P53	EEOS	WEOS		SJL	16:01	16:06	34	34	Y	PASS		X	JP	
9	P37 / P54	EEOS	WEOS		SJL	16:22	16:27	34	32	Y	PASS		X	JP	
10	/	-				:		:							
11	/	-				:		:							
12	/	-				:		:							
13	/	-				:		:							
14	/	-				:		:							
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/9/2001
SHEET NUMBER: 8

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	P39 / P54	EEOS	WEOS		SJL	7:39	7:44	34	33	Y	PASS		X	JP	
2	P40 / P54	EEOS	WEOS		SJL	7:55	8:00	34	33	Y	PASS		X	JP	
3	P45 / P54	EEOS	4M		SJL	8:04	8:09	34	33	Y	PASS	X		JP	
4	P45 / P54	4M	WEOS		SJL	8:15	8:20	34	32	Y	PASS		X	JP	
5	P40 / P45	NEOS	SEOS		SJL	8:29	8:34	34	34	Y	PASS		X	JP	
6	P40 / P46	NEOS	SEOS		SJL	8:29	8:34	34	34	Y	PASS		X	JP	
7	P40 / P47	NEOS	SEOS		SJL	8:29	8:34	34	34	Y	PASS		X	JP	
8	P40 / P44	NEOS	SEOS		SJL	8:29	8:34	34	34	Y	PASS		X	JP	
9	P41 / P44	NEEOS	SWEOS		SJL	8:39	8:44	34	33	Y	PASS		X	JP	
10	P38 / P54	EEOS	WEOS		SJL	7:38	7:43	32	31	Y	PASS		X	JP	
11	/	-				:		:							
12	/	-				:		:							
13	/	-				:		:							
14	/	-				:		:							
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/9/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/13/2001
SHEET NUMBER: 9

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	P55 / P56	EEOS	WEOS		LT	13:55	14:00	32	32	Y	PASS		X	RS	
2	P56 / P57	EEOS	WEOS		LT	14:15	14:22	32	32	Y	PASS		X	RS	
3	P57 / P58	EEOS	WEOS		LT	14:33	14:38	32	31	Y	PASS		X	RS	
4	P53 / P60	SEOS	4W		LT	15:15	15:20	33	32	Y	PASS	X		RS	VT INTO AT
5	P59 / P60	SEOS	NEOS		LT	15:17	15:23	34	34	Y	PASS		X	RS	
6	P58 / P61	EEOS	WEOS		LT	17:32	17:37	33	32	Y	PASS		X	RS	
7	P61 / P62	EEOS	WEOS		LT	17:36	17:41	32	31	Y	PASS		X	RS	
8	P59 / P63	SEOS	NEOS		LT	17:56	18:01	33	32	Y	PASS		X	RS	
9	P63 / P64	SEOS	NEOS		LT	18:12	18:17	34	33	Y	PASS		X	RS	
10	P64 / P65	SEOS	NEOS		LT	18:27	18:33	33	31	Y	PASS		X	RS	
11	P68 / P69	EEOS	WEOS		LT	19:00	19:05	31	30	Y	PASS		X	RS	
12	/	-				:		:							
13	/	-				:		:							
14	/	-				:		:							
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (i e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/15/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/14/2001
SHEET NUMBER: 10

	SEAM NUMBER	SEAM SECTION * FROM	SEAM SECTION * TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	TIME FINISH	PRESSURE INITIAL	PRESSURE FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	SEAM COMPLETE YES	MON.	REMARKS
1	P53 / P54	SEOS	NEOS		LT	9:57	10:02	31	31	Y	PASS		X	JP	
2	P53 / P55	SEOS	NEOS		LT	10:06	10:11	32	31	Y	PASS		X	JP	
3	P53 / P56	SEOS	NEOS		JMB	11:10	11:15	38	37	Y	PASS		X	JP	
4	P53 / P57	SEOS	NEOS		JMB	11:06	11:11	32	30	Y	PASS		X	JP	
5	P53 / P58	SEOS	NEOS		JMB	11:06	11:11	32	30	Y	PASS		X	JP	
6	P53 / P61	SEOS	NEOS		LT	11:37	11:42	30	30	Y	PASS		X	JP	
7	P53 / P62	SEOS	NEOS		LT	11:47	11:52	34	33	Y	PASS		X	JP	
8	P60 / P62	EEOS	WEOS		LT	12:35	12:40	32	31	Y	PASS		X	JP	
9	P59 / P62	EEOS	WEOS		LT	12:35	12:40	32	31	Y	PASS		X	JP	
10	P62 / P63	EEOS	WEOS		LT	13:05	13:10	30	30	Y	PASS		X	JP	
11	P62 / P64	EEOS	WEOS		LT	13:17	13:22	32	32	Y	PASS		X	JP	
12	P62 / P68	EEOS	WEOS		LT	13:43	13:48	31	31	Y	PASS		X	JP	
13	P65 / P68	SEEOS	NWEOS		LT	14:15	14:20	32	32	Y	PASS		X	JP	
14	P65 / P66	SEOS	NEOS		LT	14:30	14:35	31	31	Y	PASS		X	JP	
15	P66 / P69	SEEOS	NWEOS		LT	14:40	14:45	32	32	Y	PASS		X	JP	
16	P69 / P70	EEOS	WEOS		LT	15:00	15:05	32	31	Y	PASS		X	JP	
17	P66 / P67	SEOS	NEOS		LT	15:05	15:10	32	32	Y	PASS		X	JP	
18	P67 / P70	SEEOS	NWEOS		JMB	15:48	15:53	35	34	Y	PASS		X	JP	
19	P67 / 5E	NEOS	SEOS		LT	16:03	16:08	32	30	Y	PASS		X	JP	
20	P70 / 5E	WEOS	EEOS		LT	16:18	16:23	32	32	Y	PASS		X	JP	

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER,
OR A POINT LOCATION ON THE SEAM (i e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/15/2001

2.2.1.5 Defect Logs

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 1

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION						
A	P1 /P2	19'N. OF SEOS	WS	8/1/2001	RS		8/4/01	8/4/01
B	P2/P4	13'S. OF NEOS	WS	8/1/2001	RS	COVERED BY 2B	NA	NA
C	P10/P15	13'NW OF SE.EOS	DS-01	8/2/2001	RS	#134, DAY 1	8/4/01	8/4/01
D	P7/P8	55'E OF WEOS	DS-02	8/2/2001	RS	#132, DAY 1	8/4/01	8/4/01
E	P6/P7	26'E OF WEOS	DS-03	8/2/2001	RS	#991, DAY 1	8/4/01	8/4/01
F	P2/P16	130' N OF SEOS	DS-04	8/3/2001	RS	#991, 500'	8/4/01	8/6/01
G	P4/P16	20' E OF WEOS	DS-05	8/3/2001	RS	#991, 500'	8/4/01	8/4/01
H	P18/P19	52'E OF WEOS	DS-06	8/3/2001	RS	#132, 500'	8/4/01	8/6/01
I	P4/P6/P7	3 PANELS	T	8/3/2001	RS		8/3/01	8/4/01
J	P4/P7/P8	3 PANELS	T	8/3/2001	RS		8/3/01	8/4/01
K	P4/P8/P9/P10	4 PANELS	4T	8/3/2001	RS		8/3/01	8/4/01
M	P4/P9/P11	3 PANELS	T	8/3/2001	RS		8/3/01	8/4/01
N	P9/P11/P12	3 PANELS	T	8/3/2001	RS		8/4/01	8/4/01
P	P9/P12/P13	3 PANELS	T	8/3/2001	RS		8/4/01	8/4/01
Q	P3/P4	INTO AT	BO	8/3/2001	RS		8/4/01	8/4/01
R	P1/P3	INTO AT	BO	8/3/2001	RS		8/4/01	8/4/01
S	P10/P15	INTO AT	BO	8/3/2001	RS		8/4/01	8/4/01
T	P10/P14/P15	3 PANELS	T	8/3/2001	RS		8/4/01	8/4/01
W	P8/P10/P14	3 PANELS	T	8/3/2001	RS		8/4/01	8/4/01
X	P4/P5/P6	3 PANELS	T	8/3/2001	RS		8/4/01	8/4/01

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - 4 PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS DATE: 8/15/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 2

DEFECT CODE	DEFECT LOCATION SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DEFECT LOCATION DESCRIPTION	DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
A	P4/P5/P16/P17	4 PANELS	4T	8/3/01	RS		8/4/01	8/4/01
B	P2/P4/P16	3 PANELS	T	8/3/01	RS	COVERS 1B	8/4/01	8/4/01
C	P2/P3/P4	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
D	P1/P2/P3	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
E	P16/P17/P18	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
F	P16/P18/P19	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
G	P16/P19/P20	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
H	P16/P20/P21	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
I	P16/P21/P22	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
J	P16/P22/P23	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
K	P1/P2/P24/P25	4 PANELS	4T	8/3/01	RS		8/4/01	8/4/01
M	P2/P16/P25/P26	4 PANELS	4T	8/3/01	RS		8/4/01	8/4/01
N	P16/P23/P26/P27	4 PANELS	4T	8/3/01	RS		8/4/01	8/4/01
P	P23/P27/P28/P31	4 PANELS	4T	8/3/01	RS		8/4/01	8/4/01
Q	P28/P29/P31	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
R	P29/P31/P32	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
S	P29/P30/P32	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
T	P30/P32/P33	3 PANELS	T	8/3/01	RS		8/4/01	8/4/01
W	P16/P26	10' E OF WEOS	DS-07	8/3/01	RS	QA SAMPLE	8/4/01	8/4/01
X	P2	3' TO P16, 6' TO P24	D	8/3/01	RS		8/4/01	8/4/01

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - 4 PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS DATE: 8/15/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 3

DEFECT CODE	DEFECT LOCATION: SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION: DEFECT LOCATION DESCRIPTION	DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
A	P8 / P14	INTO AT	BO	8/4/2001	RS		8/4/2001	8/4/2001
B	P11	2' E. OF P4 IN AT	D	8/4/2001	RS		8/4/2001	8/4/2001
C	P3 / P4	IN AT	BO	8/4/2001	RS		8/4/2001	8/4/2001
D	P5 / P6	IN AT	BO	8/4/2001	RS		8/4/2001	8/4/2001
E	P22 / P23	INTO AT	BO	8/4/2001	RS		8/6/2001	8/6/2001
F	P1 / P24	15' W. OF EEOS	WS	8/4/2001	RS		8/8/2001	8/9/2001
G	P2 / P16	ON REPAIR # 2B	DS-01 EXT	8/4/2001	RS		8/4/2001	8/4/2001
H	P35 / P36	TOP OF SLOPE	BO	8/6/2001	RS		8/9/2001	8/9/2001
I	P36 / P37	74' N. OF SEOS	DS-08	8/6/2001	RS	#132, 500'	8/7/2001	8/9/2001
J	P10 / P34	51.5' N. OF SEOS	DS-09	8/6/2001	RS	#134, 500'	8/7/2001	8/9/2001
K	P40 / P42	31.5' S. OF NEOS	DS-10	8/7/2001	RS	#134, 500'	8/9/2001	8/9/2001
M	P39 / P40	INTO AT	BO	8/7/2001	RS		8/9/2001	8/9/2001
N	P40 / P42	INTO AT	BO	8/7/2001	RS	COVERED BY 3K	NA	NA
P	P41 / P43	5' S. OF NEOS INTO AT	BO	8/7/2001	RS		8/9/2001	8/9/2001
Q	P44 / P48	14' SW FROM NEEOS	DS-11	8/7/2001	RS	#132, 500'	8/9/2001	8/9/2001
R	P40/P41/P42	3 PANELS	T	8/7/2001	RS		8/9/2001	8/9/2001
S	P41/P42/P43	3 PANELS	T	8/7/2001	RS		8/9/2001	8/9/2001
T	P44/P47/P48	3 PANELS	T	8/7/2001	RS		8/9/2001	8/9/2001
W	P1/P34/P51	3 PANELS	T	8/7/2001	RS		8/8/2001	8/9/2001
X	P1	FROM 3W NE 15'	D	8/7/2001	RS		8/8/2001	8/9/2001

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - 4 PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS DATE: 8/15/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 4

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION						
A	P40/P41	6' S. OF NEOS	D	8/8/2001	RS	COVERS 4B	8/9/2001	8/9/2001
B	P40/P41/P44	3 PANELS	T	8/8/2001	RS	COVERED BY 4A	NA	P53
C	P44/P48/P49	3 PANELS	T	8/8/2001	RS		8/9/2001	8/9/2001
D	P44/P49/P50	3 PANELS	T	8/8/2001	RS		8/9/2001	8/9/2001
E	P51/P52	88' N. OF SEOS	DS-12	8/8/2001	RS	#132, 500'	8/8/2001	8/9/2001
F	P24	FROM 3F, 12' N.	WR	8/8/2001	RS		8/8/2001	8/9/2001
G	P1/P24/P51	3 PANELS	T	8/8/2001	RS		8/8/2001	8/9/2001
H	P1/P2	3F TO 4G	FS	8/8/2001	RS		8/8/2001	8/9/2001
I	P34/P35/P51/P52	4 PANELS	4T	8/8/2001	RS		8/8/2001	8/9/2001
J	P35/P36/P52/P53	4 PANELS	4T	8/8/2001	RS		8/8/2001	8/9/2001
K	P36/P37/P53/P54	4 PANELS	4T	8/8/2001	RS		8/14/2001	8/15/2001
M	P45/P54	10.5' W. OF EEOS	DS-13	8/8/2001	RS	#132, 500'	8/9/2001	8/9/2001
N	P37/P38/P54	3 PANELS	T	8/9/2001	RS		8/9/2001	8/9/2001
P	P38/P39/P54	3 PANELS	T	8/9/2001	RS		8/9/2001	8/9/2001
Q	P39/P40/P54	3 PANELS	T	8/9/2001	RS		8/9/2001	8/9/2001
R	P40/P45/P54	3 PANELS	T	8/9/2001	RS		8/9/2001	8/9/2001
S	P40/P45/P46	3 PANELS	T	8/9/2001	RS		8/9/2001	8/9/2001
T	P40/P44/P46/P47	4 PANELS	4T	8/9/2001	RS		8/9/2001	8/9/2001
W	P53/P60	INTO AT	BO	8/13/2001	RS		8/14/2001	8/15/2001
X	P55/P56	49' E. OF WEOS	DS-14	8/13/2001	RS		8/14/2001	8/15/2001

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - 4 PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS DATE: 8/15/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 5

DEFECT CODE	DEFECT LOCATION SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DEFECT LOCATION DESCRIPTION	DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
A	P56/P57	78' E. OF WEOS	DS-15	8/13/2001	RS	#134, QA	8/14/2001	8/15/2001
B	P57/P58	51.5' E. OF WEOS	DS-16	8/13/2001	RS	#991, 500'	8/14/2001	8/15/2001
C	P64/P65	31.5' N. OF SEOS	DS-17	8/13/2001	RS	#991, LAST 500'	8/14/2001	8/15/2001
D	P68/P69	21' W. OF EEOS	DS-18	8/13/2001	RS	#134, LAST 500'	8/14/2001	8/15/2001
E	P70	N. PORTION INTO AT	EXT	8/13/2001	RS	FUSION WELDED	8/13/2001	8/14/2001
F	P59/P63	INTO AT	BO	8/14/2001	RS		8/14/2001	8/15/2001
G	P63/P64	INTO AT	BO	8/14/2001	RS		8/14/2001	8/15/2001
H	P68/P69	INTO AT	BO	8/14/2001	RS		8/14/2001	8/15/2001
I	P53/P54/P55	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
J	P53/P55/P56	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
K	P53/P56/P57	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
M	P53/P57/P58	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
N	P53/P58/P61	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
P	P53/P61/P62	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
Q	P53/P60/P62	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
R	P59/P60/P62	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
S	P59/P62/P63	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
T	P62/P63/P64	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
W	P62/P64/P65/P68	4 PANELS	4T	8/14/2001	RS		8/14/2001	8/15/2001
X	P65/P66/P68/P69	4 PANELS	4T	8/14/2001	RS		8/14/2001	8/15/2001

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
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EXT - EXTENSION
FM - FISHMOUTH
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HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - 4 PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS / DAG DATE: 8/16/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 6

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION						
A	P66/P67/P69/P70	4 PANELS	4T	8/14/2001	RS		8/14/2001	8/15/2001
B	P67/P70/P5E	3 PANELS	T	8/14/2001	RS		8/14/2001	8/15/2001
C								
D								
E								
F								
G								
H								
I								
J								
K								
M								
N								
P								
Q								
R								
S								
T								
W								
X								

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - 4 PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS DATE: 8/15/2001

2.2.1.6 Repair Logs

GEOMEMBRANE REPAIR LOG

OJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-01	1100	CBD

MACHINE NUMBER 570

DATE 8/3/2001

SHEET NO. 1

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	1I	8/3/2001	1125	P	2' DIA	CBD	RS	
2	1J	8/3/2001	1130	P	2' DIA	CBD	RS	
3	1K	8/3/2001	1140	P	2 x 3	CBD	RS	
4	1M	8/3/2001	1150	P	2' DIA	CBD	RS	
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7								
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19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE : 8/15/01

GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX - 02	8:40AM	JMB
TX - 03	1:20PM	JMB

MACHINE NUMBER 570

DATE 8/4/2001

SHEET NO. 2

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	1J	8/4/2001	8:15	P	2 X 4	JMB	RS	
2	1C	8/4/2001	8:30	P	3 X 6	JMB	RS	
3	1T	8/4/2001	8:35	P	2 DIA.	JMB	RS	
4	1P	8/4/2001	8:45	P	2 DIA.	JMB	JP	
5	1N	8/4/2001	8:56	P	2 DIA.	JMB	JP	
6	1Q	8/4/2001	9:20	P	2 X 6	JMB	JP	
7	1R	8/4/2001	9:35	P	3 X 5	JMB	JP	
8	1W	8/4/2001	10:20	P	2 X 3	JMB	JP	
9	1D	8/4/2001	10:55	P	2 X 4	JMB	JP	
10	3C	8/4/2001	9:30	P	2 X 3	JMB	JP	
11	3B	8/4/2001	9:40	P	2 DIA.	JMB	JP	
12	3A	8/4/2001	11:10	P	2 X 3	JMB	JP	
13	3D	8/4/2001	11:15	P	2 X 5	JMB	JP	
14	1E	8/4/2001	11:30	P	3 X 5	JMB	JP	
15	1X	8/4/2001	11:40	P	2 DIA.	JMB	JP	
16	2A	8/4/2001	11:45	P	2 X 5	JMB	JP	
17	1G	8/4/2001	11:50	P	3 X 6	JMB	JP	
18	2B	8/4/2001	12:05	P	3 X 8	JMB	JP	
19	2C	8/4/2001	13:30	P	2 DIA.	JMB	JP	
20	2D	8/4/2001	13:35	P	2 DIA.	JMB	JP	
21	1A	8/4/2001	13:45	P	2 X 3	JMB	JP	
22	3G	8/4/2001	13:50	P	2 X 5	JMB	JP	
23	2E	8/4/2001	13:55	P	3 DIA.	JMB	JP	
24	2F	8/4/2001	14:02	P	2 DIA.	JMB	JP	
25	1H	8/4/2001	14:10	P	2 X 6	JMB	JP	

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE 8/15/01

GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

MACHINE NUMBER 570

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-02	8:40	JMB
TX-03	13:20	JMB

DATE 8/4/2001

SHEET NO. 3

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	2G	8/4/2001	14:28	P	2 DIA.	JMB	RS	
2	2H	8/4/2001	14:32	P	2 DIA.	JMB	RS	
3	2I	8/4/2001	14:40	P	2 DIA.	JMB	RS	
4	2J	8/4/2001	14:45	P	2 DIA.	JMB	RS	
5	2P	8/4/2001	14:56	P	9 X 3	JMB	RS	
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22								
23								
24								
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE 8/15/01

GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-004	7:30AM	JMB

MACHINE NUMBER 570

DATE 8/6/2001

SHEET NO. 4

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	3E	8/6/2001	8:06	P	2 DIA.	JMB	RS	
2	2T	8/6/2001	8:26	P	2 DIA.	JMB	JP	
3	2S	8/6/2001	8:32	P	2 DIA.	JMB	JP	
4	2R	8/6/2001	8:40	P	2 X 3	JMB	JP	
5	2Q	8/6/2001	8:46	P	2 DIA.	JMB	JP	
6	2N	8/6/2001	9:00	P	2 DIA.	JMB	JP	
7	2W	8/6/2001	9:08	P	2 DIA.	JMB	JP	
8	2M	8/6/2001	9:14	P	2 DIA.	JMB	JP	
9	2X	8/6/2001	9:17	P	2 DIA.	JMB	JP	
10	2K	8/6/2001	9:22	P	2 DIA.	JMB	JP	
11	1F	8/6/2001	9:30	P	2 X 5	JMB	JP	
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24								
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REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE 8/15/01

GEOMEMBRANE REPAIR LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-006	14:00	JMB

MACHINE NUMBER 570

DATE 8/8/2001

SHEET NO. 5

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	3F	8/8/2001	14:40	P	2' DIA.	JMB	JP	
2	3X	8/8/2001	15:10	G&W, & P	2' DIA. P	JMB	JP	10 G&W
3	3W	8/8/2001	15:30	P	4 X 17	JMB	JP	
4	4F	8/8/2001	14:35	G&W, & P	2' DIA. P	JMB	JP	6 G&W
5	4G	8/8/2001	14:20	P	2' DIA.	JMB	JP	
6	4H	8/8/2001	14:15	RS	9	JMB	JP	
7	4I	8/8/2001	16:10	P	2' DIA.	JMB	JP	
8	4J	8/8/2001	16:30	P	2' DIA.	JMB	JP	
9	4E	8/8/2001	16:41	P	2 X 5	JMB	JP	
10								
11								
12								
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14								
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18								
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22								
23								
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REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE 8/15/01

GEOMEMBRANE REPAIR LOG

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-006	14:00	JMB

MACHINE NUMBER 570

DATE 8/8/2001

SHEET NO. 6

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	3F	8/8/2001	14:40	P	2' DIA.	JMB	JP	
2	3X	8/8/2001	15:10	G&W, & P	2' DIA. P	JMB	JP	10 G&W
3	3W	8/8/2001	15:30	P	4 X 17	JMB	JP	
4	4F	8/8/2001	14:35	G&W, & P	2' DIA. P	JMB	JP	6 G&W
5	4G	8/8/2001	14:20	P	2' DIA.	JMB	JP	
6	4H	8/8/2001	14:15	RS	9	JMB	JP	
7	4I	8/8/2001	16:10	P	2' DIA.	JMB	JP	
8	4J	8/8/2001	16:30	P	2' DIA.	JMB	JP	
9	4E	8/8/2001	16:41	P	2 X 5	JMB	JP	
10								
11								
12								
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22								
23								
24								
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE 8/15/01

GEOMEMBRANE REPAIR LOG

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-007	8:10AM	ADY
TX-008	1:00PM	ADY

MACHINE NUMBER 570

DATE 8/9/2001

SHEET NO. 7

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	3H	8/9/2001	8:40	P	2' DIA.	ADY	JP	
2	3M	8/9/2001	9:02	P	2 X 7	ADY	JP	
3	3K	8/9/2001	9:25	P	2 X 7	ADY	JP	COVERS 3N
4	3S	8/9/2001	9:38	P	2' DIA.	ADY	JP	
5	3R	8/9/2001	9:45	P	2' DIA.	ADY	JP	
6	4A	8/9/2001	10:18	P	3 X 6	ADY	JP	COVERS 4B
7	3T	8/9/2001	10:23	P	2' DIA.	ADY	JP	
8	3Q	8/9/2001	10:37	P	2 X 4	ADY	JP	
9	4C	8/9/2001	10:40	P	2' DIA.	ADY	JP	
10	4D	8/9/2001	10:50	P	2' DIA.	ADY	JP	
11	3P	8/9/2001	11:12	P	2 X 11	ADY	JP	
12	4T	8/9/2001	11:38	P	2 X 4	ADY	JP	
13	4S	8/9/2001	11:45	P	2' DIA.	ADY	JP	
14	4R	8/9/2001	11:50	P	2' DIA.	ADY	JP	
15	4M	8/9/2001	13:13	P	2 X 6	ADY	JP	
16	4Q	8/9/2001	13:19	P	2' DIA.	ADY	JP	
17	4P	8/9/2001	13:24	P	2' DIA.	ADY	JP	
18	4N	8/9/2001	13:31	P	2' DIA.	ADY	JP	
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE 8/15/01

GEOMEMBRANE REPAIR LOG

'OJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-O9	9:30	ADY
TX-10	13:30	ADY

MACHINE NUMBER 570

DATE 8/14/2001

SHEET NO. 8

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	4X	8/14/2001	10:46	P	2 X 5	ADY	JP	
2	4K	8/14/2001	11:18	P	2 X 4	ADY	JP	
3	5I	8/14/2001	11:34	P	2 DIA	ADY	JP	
4	5D	8/14/2001	11:58	P	2 X 5	ADY	JP	
5	5J	8/14/2001	13:30	P	2 X 3	ADY	JP	
6	5K	8/14/2001	13:55	P	2 DIA	ADY	JP	
7	5M	8/14/2001	14:00	P	2 DIA	ADY	JP	
8	5N	8/14/2001	14:06	P	2 DIA	ADY	JP	
9	5P	8/14/2001	14:17	P	2 DIA	ADY	JP	
10	5Q	8/14/2001	14:31	P	2 X 6	ADY	JP	
11	5R	8/14/2001	14:37	P	2 DIA	ADY	JP	
12	5S	8/14/2001	14:56	P	3 X 6	ADY	JP	
13	5T	8/14/2001	15:17	P	2 DIA	ADY	JP	
14	5W	8/14/2001	15:36	P	3 X 6	ADY	JP	
15	5X	8/14/2001	16:11	P	3 X 6	ADY	JP	
16	6A	8/14/2001	16:26	P	3 X 4	ADY	JP	
17	5H	8/14/2001	16:55	P	2 DIA	ADY	JP	
18	6B	8/14/2001	17:13	P	2 DIA	ADY	JP	
19	5G	8/14/2001	17:35	P	2 X 11	ADY	JP	
20	5F	8/14/2001	17:49	P	2 X 11	ADY	JP	
21	4W	8/14/2001	18:10	P	2 X 11	ADY	JP	
22	5C	8/14/2001	18:15	P	2 X 6	ADY	JP	
23	5B	8/14/2001	18:30	P	3 X 6	ADY	JP	
24	5A	8/14/2001	18:36	P	2 X 5	ADY	JP	
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS / DAG DATE 8/16/01

2.2.1.7 Vacuum Test Logs

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

VACUUM BOX NUMBER 1

SHEET NUMBER 1

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	1R	8/4	CBD		Y	RS	
2	1Q	8/4	CBD		Y	RS	
3	3C	8/4	CBD		Y	RS	
4	3B	8/4	CBD		Y	RS	
5	1P	8/4	CBD		Y	RS	
6	1S	8/4	CBD		Y	RS	
7	1C	8/4	CBD		Y	RS	
8	1T	8/4	CBD		Y	RS	
9	1N	8/4	CBD		Y	RS	
10	1M	8/4	CBD		Y	RS	
11	1K	8/4	CBD		Y	RS	
12	1W	8/4	CBD		Y	RS	
13	3A	8/4	CBD		Y	RS	
14	1D	8/4	CBD		Y	RS	
15	1J	8/4	CBD		Y	RS	

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16	1I	8/4	CBD		Y	RS	
17	1E	8/4	CBD		Y	RS	
18	1X	8/4	CBD		Y	RS	
19	2C	8/4	CBD		Y	RS	
20	2D	8/4	CBD		Y	RS	
21	1A	8/4	CBD		Y	RS	
22	2B	8/4	CBD		Y	RS	
23	3G	8/4	CBD		Y	RS	
24	1G	8/4	CBD		Y	RS	
25	2A	8/4	CBD		Y	RS	
26	3D	8/4	CBD		Y	RS	
27							
28							
28							
30							

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1	/	-						/			
2	/	-						/			
3	/	-						/			
4	/	-						/			
5	/	-						/			

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS DATE 8/15/01

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

VACUUM BOX NUMBER 1
SHEET NUMBER 2

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	2E	8/6	ADY		Y	RS	
2	1H	8/6	ADY		Y	RS	
3	2F	8/6	ADY		Y	RS	
4	2G	8/6	ADY		Y	RS	
5	2H	8/6	ADY		Y	RS	
6	2I	8/6	ADY		Y	JP	
7	2J	8/6	ADY		Y	JP	
8	2P	8/6	ADY		Y	JP	
9	3E	8/6	ADY		Y	JP	
10	2T	8/6	ADY		Y	JP	
11	2S	8/6	ADY		Y	JP	
12	2R	8/6	ADY		Y	JP	
13	2Q	8/6	ADY		Y	JP	
14	2N	8/6	ADY		Y	JP	
15	2W	8/6	ADY		Y	JP	

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16	2M	8/6	ADY		Y	JP	
17	2X	8/6	ADY		Y	JP	
18	2K	8/6	ADY		Y	JP	
19	1F	8/6	ADY		Y	JP	
20							
21							
22							
23							
24							
25							
26							
27							
28							
28							
30							

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1	/	-					/				
2	/	-					/				
3	/	-					/				
4	/	-					/				
5	/	-					/				

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS DATE 8/15/01

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

VACUUM BOX NUMBER 1

SHEET NUMBER 3

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	3W	9-Aug	JMB		Y	JP	
2	3X	9-Aug	JMB		Y	JP	
3	3J	9-Aug	JMB		Y	JP	
4	4I	9-Aug	CBD		Y	JP	
5	4J	9-Aug	CBD		Y	JP	
6	4E	9-Aug	CBD		Y	JP	
7	4F	9-Aug	CBD		Y	JP	
8	3F	9-Aug	CBD		Y	JP	
9	3H	9-Aug	CBD		Y	JP	
10	3I	9-Aug	SJL		Y	JP	
11	4A	9-Aug	SJL		Y	JP	
12	3T	9-Aug	SJL		Y	JP	
13	3Q	9-Aug	SJL		Y	JP	
14	4C	9-Aug	SJL		Y	JP	
15	4D	9-Aug	SJL		Y	JP	

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16	3S	9-Aug	SJL		Y	JP	
17	3P	9-Aug	SJL		Y	JP	
18	3K	9-Aug	SJL		Y	JP	
19	3M	9-Aug	SJL		Y	JP	
20	4T	9-Aug	SJL		Y	JP	
21	4S	9-Aug	SJL		Y	JP	
22	4R	9-Aug	SJL		Y	JP	
23	4M	9-Aug	SJL		Y	JP	
24	4G	9-Aug	SJL		Y	JP	
25	4P	9-Aug	SJL		Y	JP	
26	4N	9-Aug	SJL		Y	JP	
27	4G	9-Aug	SJL		Y	JP	
28	4H	9-Aug	SJL		Y	JP	
28	3R	9-Aug	SJL		Y	JP	
30							

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1	P1 / P24	3F	4G	9-Aug	CBD			X	Y	JP	DEFECT # 4H
2	/	-					/				
3	/	-					/				
4	/	-					/				
5	/	-					/				

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (I.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS DATE: 8/15/01

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET
VACUUM BOX NUMBER
SHEET NUMBER 4

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	4K	8/15	JMB		Y	JP	
2	5I	8/15	JMB		Y	JP	
3	5J	8/15	JMB		Y	JP	
4	5K	8/15	JMB		Y	JP	
5	5M	8/15	JMB		Y	JP	
6	5N	8/15	JMB		Y	JP	
7	5P	8/15	JMB		Y	JP	
8	5Q	8/15	JMB		Y	JP	
9	4W	8/15	JMB		Y	JP	
10	5F	8/15	JMB		Y	JP	
11	5G	8/15	JMB		Y	JP	
12	5R	8/15	JMB		Y	JP	
13	5S	8/15	JMB		Y	JP	
14	4X	8/15	JMB		Y	JP	
15	5B	8/15	JMB		Y	JP	

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16	5T	8/15	JMB		Y	JP	
17	5W	8/15	JMB		Y	JP	
18	5C	8/15	JMB		Y	JP	
19	5X	8/15	JMB		Y	JP	
20	5D	8/15	JMB		Y	JP	
21	6A	8/15	JMB		Y	JP	
22	6B	8/15	JMB		Y	JP	
23	5H	8/15	JMB		Y	JP	
24	5A	8/15	JMB		Y	JP	
25							
26							
27							
28							
28							
30							

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1	/		-					/			
2	/		-					/			
3	/		-					/			
4	/		-					/			
5	/		-					/			

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS / DAG DATE 8/16/01

2.2.1.8 Destruct Test Logs

GEOMEMBRANE SEAM DESTRUCTIVE SAMPLE LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER 1

	DESTRUCTIVE				FIELD TEST RESULTS					
	SAMPLE NUMBER	SEAM NUMBER	MACHINE NUMBER	DATE REMOVED	PEEL SHEAR (PASS/FAIL)	MON.	DATE SHIPPED	LAB TEST STATUS (PASS/FAIL)	DATE OF NOTIFICATION	REMARKS
1	DS - 01	P10 / P15	134	8/4/2001	PASS / PASS	RS	8/4/2001	PASS	8/6/2001	
2	DS - 02	P7 / P8	132	8/4/2001	PASS / PASS	RS	8/4/2001	PASS	8/6/2001	
3	DS - 03	P6 / P7	991	8/4/2001	PASS / PASS	RS	8/4/2001	PASS	8/6/2001	
4	DS - 04	P2 / P16	991	8/4/2001	PASS / PASS	RS	8/4/2001	PASS	8/6/2001	
5	DS - 05	P4 / P16	991	8/4/2001	PASS / PASS	RS	8/4/2001	PASS	8/6/2001	
6	DS - 06	P18 / P19	132	8/4/2001	PASS / PASS	RS	8/4/2001	PASS	8/6/2001	
7	DS - 07	P16 / P26	134	8/4/2001	PASS / PASS	RS	8/4/2001	PASS	8/6/2001	QA
8	DS- 01 EXT	P2 / P16	570	8/4/2001	PASS / PASS	RS	8/4/2001	PASS	8/6/2001	ON REPAIR # 2B, QA
9	DS-08	P36 / P37	132	8/7/2001	PASS / PASS	RS	8/7/2001	PASS	8/8/2001	
10	DS-09	P1 / P34	134	8/7/2001	PASS / PASS	RS	8/7/2001	PASS	8/8/2001	
11	DS-10	P40 / P42	134	8/7/2001	PASS / PASS	RS	8/7/2001	PASS	8/8/2001	
12	DS-11	P44 / P48	132	8/7/2001	PASS / PASS	RS	8/7/2001	PASS	8/8/2001	
13	DS-12	P51 / P52	132	8/8/2001	PASS / PASS	RS	8/8/2001	PASS	8/10/2001	
14	DS-13	P45 / P54	132	8/8/2001	PASS / PASS	RS	8/8/2001	PASS	8/10/2001	
15	DS-14	P55 / P56	134	8/13/2001	PASS / PASS	RS	8/13/2001	PASS	8/14/2001	
16	DS-15	P56 / P57	134	8/13/2001	PASS / PASS	RS	8/13/2001	PASS	8/14/2001	QA
17	DS-16	P57 / P58	991	8/13/2001	PASS / PASS	RS	8/13/2001	PASS	8/14/2001	
18	DS-17	P64 / P65	991	8/13/2001	PASS / PASS	RS	8/13/2001	PASS	8/14/2001	
19	DS-18	P68 / P69	134	8/13/2001	PASS / PASS	RS	8/13/2001	PASS	8/14/2001	
20										

REVIEWED BY: RS / DAG DATE: 8/16/2001

SUMMARY OF DESTRUCTIVE TEST RESULTS FUSION METHOD
MAVERICK SOLUTIA QA MISSOURI

SAMPLE NUMBER	THICKNESS mils (top/bottom)	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-01	57.6/61.4	171.2	BRK	135.6	SE 1	135.5	SE 1	
		168.4	BRK	130.3	SE 1	118.7	SE 1	-
		168.2	BRK	131.8	SE 1	115.9	SE 1	
		169.1	BRK	137.9	SE 1	127.7	SE 1	
		169.7	BRK	134.1	SE 1	127.3	SE 1	
DS-02	61.7/63.3	167.6	BRK	76.0	SE 1	129.6	SE 1	
		171.7	BRK	128.6	SE 1	133.7	SE 1	-
		170.5	BRK	123.2	SE 1	121.2	SE 1	
		171.3	BRK	128.6	SE 1	130.9	SE 1	
		169.5	BRK	121.4	SE 1	127.5	SE 1	
DS-03	62.2/62.7	176.0	BRK	152.8	SE 1	136.3	SE 1	
		175.6	BRK	144.2	SE 1	140.1	SE 1	-
		172.8	BRK	150.5	SE 1	132.5	SE 1	
		175.5	BRK	147.4	SE 1	127.0	SE 1	
		170.5	BRK	148.1	SE 1	123.5	SE 1	
DS-04	62.5/61.6	172.6	BRK	120.4	SE 1	108.3	SE 1	
		171.4	BRK	119.2	SE 1	109.8	SE 1	-
		169.8	BRK	122.2	SE 1	113.4	SE 1	
		171.3	BRK	118.6	SE 1	111.9	SE 1	
		171.1	BRK	124.7	SE 1	108.6	SE 1	
DS-05	59.0/61.1	158.1	BRK	136.2	SE 1	135.1	SE 1	
		158.1	BRK	136.2	SE 1	133.5	SE 1	-
		158.2	BRK	136.7	SE 1	130.4	SE 1	
		155.9	BRK	144.7	SE 1	114.0	SE 1	
		158.9	BRK	144.5	SE 1	136.9	SE 1	
DS-06	63.3/62.7	163.5	BRK	129.5	SE 1	130.9	SE 1	
		164.0	BRK	127.6	SE 1	114.8	SE 1	-
		166.1	BRK	121.5	SE 1	129.0	SE 1	
		166.7	BRK	120.9	SE 1	114.1	SE 1	
		166.9	BRK	138.5	SE 1	141.6	SE 1	
DS-07	58.4/59.0	155.9	BRK	140.9	SE 1	135.9	SE 1	-
		156.1	BRK	139.7	SE 1	135.9	SE 1	
		153.7	BRK	131.4	SE 1	135.0	SE 1	
		159.1	BRK	134.2	SE 1	135.4	SE 1	
		154.9	BRK	147.6	SE 1	132.3	SE 1	

(1) PEEL (1) represents outer track or top flap.
EEL (2) represents inner track or bottom flap.
BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

SUMMARY OF DESTRUCTIVE TEST RESULTS
FUSION METHOD

MAVERICK
SOLUTIA QA
MISSOURI

SAMPLE NUMBER	THICKNESS mils (top/bottom)	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-08	62.9/60.1	171.8	BRK	119.4	SE 1	121.3	SE 1	
		172.9	BRK	115.7	SE 1	123.1	SE 1	-
		172.4	BRK	121.9	SE 1	120.4	SE 1	
		171.1	BRK	119.8	SE 1	116.5	SE 1	
		165.9	BRK	119.1	SE 1	112.3	SE 1	
DS-09	61.5/60.6	171.2	BRK	122.7	SE 1	128.6	SE 1	
		172.6	BRK	126.7	SE 1	135.8	SE 1	-
		172.3	BRK	130.4	SE 1	132.7	SE 1	
		172.8	BRK	136.6	SE 1	125.4	SE 1	
		168.6	BRK	126.1	SE 1	129.4	SE 1	
DS-10	62.2/61.1	172.3	BRK	143.7	SE 1	115.7	SE 1	
		173.1	BRK	118.0	SE 1	134.2	SE 1	-
		173.5	BRK	120.2	SE 1	120.2	SE 1	
		172.6	BRK	125.0	SE 1	134.6	SE 1	
		171.1	BRK	123.9	SE 1	121.5	SE 1	
DS-11	68.7/61.3	164.5	BRK	136.2	SE 1	126.8	SE 1	
		166.2	BRK	134.9	SE 1	127.4	SE 1	-
		167.8	BRK	128.5	SE 1	123.2	SE 1	
		165.7	BRK	132.8	SE 1	119.6	SE 1	
		159.6	BRK	134.9	SE 1	122.2	SE 1	
DS-12	61.0/63.1	171.6	BRK	124.3	SE 1	119.3	SE 1	
		171.1	BRK	122.8	SE 1	119.2	SE 1	-
		171.1	BRK	122.8	SE 1	128.2	SE 1	
		169.9	BRK	118.0	SE 1	123.6	SE 1	
		170.8	BRK	123.9	SE 1	119.6	SE 1	
DS-13	60.6/62.8	168.8	BRK	121.5	SE 1	129.1	SE 1	
		167.8	BRK	124.0	SE 1	124.4	SE 1	-
		168.1	BRK	125.1	SE 1	129.9	SE 1	
		167.2	BRK	123.4	SE 1	116.9	SE 1	
		168.8	BRK	122.3	SE 1	139.7	SE 1	
DS-14	62.7/64.2	172.2	BRK	128.9	SE 1	121.3	SE 1	-
		171.0	BRK	129.7	SE 1	119.3	SE 1	
		171.5	BRK	138.6	SE 1	122.9	SE 1	
		171.3	BRK	142.4	SE 1	121.1	SE 1	
		164.1	BRK	137.9	SE 1	118.0	SE 1	

(1) PEEL (1) represents outer track or top flap.
PEEL (2) represents inner track or bottom flap.
BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

SUMMARY OF DESTRUCTIVE TEST RESULTS
FUSION METHOD
MAVERICK
SOLUTIA QA
MISSOURI

SAMPLE NUMBER	THICKNESS mils (top/bottom)	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-15	61.9/64.0	169.9	BRK	127.7	SE 1	113.8	SE 1	
		170.6	BRK	129.9	SE 1	120.4	SE 1	-
		168.2	BRK	132.8	SE 1	118.4	SE 1	
		169.9	BRK	129.4	SE 1	118.3	SE 1	
		165.5	BRK	131.0	SE 1	116.5	SE 1	
DS-16	62.1/63.7	175.0	BRK	137.5	SE 1	146.8	SE 1	
		174.7	BRK	128.2	SE 1	137.9	SE 1	-
		173.9	BRK	114.8	SE 1	135.3	SE 1	
		172.8	BRK	122.4	SE 1	126.8	SE 1	
		167.0	BRK	121.2	SE 1	145.1	SE 1	
DS-17	62.6/60.3	172.8	BRK	113.3	SE 1	110.3	SE 1	
		175.5	BRK	110.8	SE 1	107.8	SE 1	-
		173.6	BRK	134.6	SE 1	113.2	SE 1	
		172.1	BRK	109.3	SE 1	100.9	SE 1	
		167.4	BRK	122.7	SE 1	113.3	SE 1	
DS-18	61.3/61.6	173.6	BRK	137.3	SE 1	128.0	SE 1	
		173.1	BRK	121.7	SE 1	121.9	SE 1	-
		172.7	BRK	124.4	SE 1	121.7	SE 1	
		170.9	BRK	118.2	SE 1	121.1	SE 1	
		165.9	BRK	120.2	SE 1	126.7	SE 1	
-	-/-	-	-	-	-	-	-	
		-	-	-	-	-	-	-
		-	-	-	-	-	-	
		-	-	-	-	-	-	
		-	-	-	-	-	-	
-	-/-	-	-	-	-	-	-	
		-	-	-	-	-	-	-
		-	-	-	-	-	-	
		-	-	-	-	-	-	
		-	-	-	-	-	-	
-	-/-	-	-	-	-	-	-	-
		-	-	-	-	-	-	
		-	-	-	-	-	-	
		-	-	-	-	-	-	
		-	-	-	-	-	-	

(1) PEEL (1) represents outer track or top flap.
PEEL (2) represents inner track or bottom flap.
BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

SUMMARY OF DESTRUCTIVE TEST RESULTS EXTRUSION METHOD
MAVERICK SOLUTIA QA MARYLAND

SAMPLE NUMBER	THICKNESS mils (top/bottom)	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (1)	PEEL STRENGTH (ppi)	PEEL BREAK CODE (1)	REMARKS
DS-01EXT	60.8/59.3	163.9	BRK 1	151.1	SE 3	-
		165.7	BRK 1	162.9	SE 3	
		161.4	BRK 1	152.0	SE 3	
		163.1	BRK 1	153.2	BRK 2	
		164.3	BRK 1	152.1	**AD WLD**	
-	-/-	-	-	-	-	-
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
-	-/-	-	-	-	-	-
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
-	-/-	-	-	-	-	-
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
-	-/-	-	-	-	-	-
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
-	-/-	-	-	-	-	-
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
-	-/-	-	-	-	-	-
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	
		-	-	-	-	

(1) BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DESUM

2.2.1.9 Subsurface/Subgrade Acceptance Certificates

CERTIFICATE OF COMPLETION

TYPE: PARTIAL ____ SUBSTANTIAL ____ FINAL ✓

PROJECT NAME: SAUGET AREA 1, TSCA CONTAINMENT CELL
SITE NAME: CAHOKIA, IL.
DATE: 9-11-01

DESCRIPTION OF WORK CERTIFIED:
SECONDARY GEOSYNTHETICS LINER SYSTEM

I HEREBY CERTIFY THAT THE ABOVE IDENTIFIED WORK HAS BEEN INSPECTED AND THAT IT HAS BEEN PROPERLY INSTALLED. I FURTHER CERTIFY THAT ALL REQUIRED TESTING HAS BEEN COMPLETED AND THE RESULTS HAVE BEEN DEEMED ACCEPTABLE BY THE GEOSYNTHETIC QAE. THE WORK IS SUITABLE FOR ITS INTENDED USE.

GEOSYNTHETIC QAE

SIGNATURE: [signature] DATE: 9/18/01

NAME (PRINT): MARK SANDFORT

TITLE: QUALITY ASSURANCE ENGINEER

REPRESENTING: GOLDER ASSC. INC.

INSTALLER'S REPRESENTATIVE

SIGNATURE: [signature] DATE: 9-14-01

NAME (PRINT): LEE TAYLOR

TITLE: PRESIDENT

REPRESENTING: TAYLOR GEOSYNTHETICS, INC.

SOLUTIA REPRESENTATIVE

SIGNATURE: [signature] DATE: 9-19-01

NAME (PRINT): JOHN FIORE

TITLE: MAVERICK, CONSTRUCTION MANAGER

REPRESENTING: SOLUTIA

CERTIFICATE OF ACCEPTANCE OF SOIL SURFACE

GEOSYNTHETIC INSTALLER		PROJECT	
COMPANY	TAYLOR GEOSYNTHETICS, INC	LOCATION	CANOKIA, IL
ADDRESS	121 COMMERCE DR. STE 304	PROJECT	TSCA CELL, AREA 1
	DANVILLE	OWNER	SOLUTIA
	INDIANA, 46122		

I, the Undersigned, the duly authorized representative of TAYLOR GEOSYNTHETICS, INC do hereby accept the area of soil surface bounded by SOUTH EAST CORNER OF THE CELL, COVERED BY PANELS P1 THRU P15

and shall be responsible for maintaining its integrity and suitability in accordance with the project specifications from this date to the completion of installation.

NAME	SIGNATURE	TITLE	DATE
LEE TAYLOR		PRES/QC	8-8-01

CERTIFICATE OF ACCEPTANCE RECEIVED BY QA / QC MANAGER:

NAME	SIGNATURE	TITLE	DATE
SIEMASZKIEWICZ		QA MANAGER	08/02/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY OWNER:

NAME	SIGNATURE	TITLE	DATE
John Fiore		Construction Manager	8/2/01

TAYLOR GEOSYNTHETICS, INC.
CERTIFICATE OF ACCEPTANCE
OF SOIL SUBGRADE SURFACE

PROJECT NAME: SOLUTIA SAUGET AREA 1

PROJECT NUMBER: 2122

OWNER: SOLUTIA

LOCATION: CAHOKIA, IL

I, the undersigned, a duly appointed representative of Taylor Geosynthetics, Inc., have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install geomembrane.

This certificate is based on observations of the surface of the subgrade only. No subterranean inspectious or tests have been performed by Taylor Geosynthetics, Inc., and Taylor Geosynthetics, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Taylor Geosynthetics, Inc. accepts no responsibility for conformance of the subgrade to this project's specifications.

Area Being Accepted: SE CORNER OF CELL PANELS 1 THRU 15

TAYLOR GEOSYNTHETICS, INC. REPRESENTATIVE:

DATE: AUG 1, 2001

SIGNATURE: [signature]

NAME: LEE TAYLOR

TITLE: PRES./QC

OWNERS REPRESENTATIVE:

DATE: 8-2-01

SIGNATURE: [signature]

NAME: R. SIEMASZKIEWICZ

TITLE: QA MANAGER

COMPANY: GEO-DYR ASSC.

CERTIFICATE OF ACCEPTANCE OF SOIL SURFACE

GEOSYNTHETIC INSTALLER		PROJECT	
COMPANY	TAYLOR GEOSYNTHETICS, INC	LOCATION	CAHOKIA, IL
ADDRESS	121 COMMERCE DR. STE 304	PROJECT	TSCA CELL, AREA 1
	DANVILLE	OWNER	SOLUTIA
	INDIANA, 46122		

I, the Undersigned, the duly authorized representative of TAYLOR GEOSYNTHETICS, INC do hereby accept the area of soil surface bounded by NORTH PART OF THE EAST SIDE OF CELL, PANELS 16 THRU 33

and shall be responsible for maintaining its integrity and suitability in accordance with the project specifications from this date to the completion of installation.

NAME	SIGNATURE	TITLE	DATE
LEE TAYLOR		PRES/QC	8/8/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY QA / QC MANAGER:

NAME	SIGNATURE	TITLE	DATE
R. SIEMASZKIEWICZ		QA MANAGER	08/03/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY OWNER:

NAME	SIGNATURE	TITLE	DATE
John Fiore		Construction Manager	8/03/01

TAYLOR GEOSYNTHETICS, INC.
CERTIFICATE OF ACCEPTANCE
OF SOIL SUBGRADE SURFACE

PROJECT NAME: SOLUTIA SAUGET AREA 1

PROJECT NUMBER: 2122

OWNER: SOLUTIA

LOCATION: CAHOKIA, IL.

I, the undersigned, a duly appointed representative of Taylor Geosynthetics, Inc., have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install geomembrane.

This certificate is based on observations of the surface of the subgrade only. No subterranean inspectious or tests have been performed by Taylor Geosynthetics, Inc., and Taylor Geosynthetics, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Taylor Geosynthetics, Inc. accepts no responsibility for conformance of the subgrade to this project's specifications.

Area Being Accepted: NORTH PART OF EAST SIDE OF CELL PANELS 16 THRU 33

TAYLOR GEOSYNTHETICS, INC. REPRESENTATIVE:

DATE: 8-2-01

SIGNATURE: [signature]

NAME: LEE TAYLOR

TITLE: PRES / QC

OWNERS REPRESENTATIVE:

DATE: 8-3-01

SIGNATURE: [signature]

NAME: R. SIEMASZKIEWICZ

TITLE: QA MANAGER

COMPANY: WOLSER ASSC.

TAYLOR GEOSYNTHETICS, INC.
CERTIFICATE OF ACCEPTANCE
OF SOIL SUBGRADE SURFACE

PROJECT NAME: SOLUTIA SAUGET AREA 1

PROJECT NUMBER: 2122

OWNER: SOLUTIA

LOCATION: SAUGET, IL

I, the undersigned, a duly appointed representative of Taylor Geosynthetics, Inc., have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install geomembrane.

This certificate is based on observations of the surface of the subgrade only. No subterranean inspectious or tests have been performed by Taylor Geosynthetics, Inc., and Taylor Geosynthetics, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Taylor Geosynthetics, Inc. accepts no responsibility for conformance of the subgrade to this project's specifications.

Area Being Accepted: SW CORNER OF CELL PANELS 34 THRU 43

TAYLOR GEOSYNTHETICS, INC. REPRESENTATIVE:

DATE: 8-6-01

SIGNATURE: [signature]

NAME: LEE TAYLOR

TITLE: PRES./QC

OWNERS REPRESENTATIVE:

DATE: 08/08/01

SIGNATURE: [signature]

NAME: R. STEMASZKIEWICZ

TITLE: QA MANAGER

COMPANY: GOLDER ASSC.

CERTIFICATE OF ACCEPTANCE OF SOIL SURFACE

GEOSYNTHETIC INSTALLER		PROJECT	
COMPANY	TAYLOR GEOSYNTHETICS, INC.	LOCATION	CAHOKIA, IL
ADDRESS	121 COMMERCE DR. STE 304	PROJECT	TSCA CELL, AREA 1
	DANVILLE	OWNER	SOLUTIA
	INDIANA, 46122		

I, the Undersigned, the duly authorized representative of TAYLOR GEOSYNTHETIC, INC.
do hereby accept the area of soil surface bounded by SW CORNER OF CELL. COVERED BY PANELS 34 THRU 43

and shall be responsible for maintaining its integrity and suitability in accordance with the project specifications from this date to the completion of installation.

NAME	SIGNATURE	TITLE	DATE
LEE TAYLOR		PRES/QC.	8/8/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY QA / QC MANAGER:

NAME	SIGNATURE	TITLE	DATE
R. SIEMASZKIEWICZ		QA MANAGER	08/08/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY OWNER:

NAME	SIGNATURE	TITLE	DATE
JOHN FIORE		CONSTRUCTION MANAGER	8/8/01

TAYLOR GEOSYNTHETICS, INC.
CERTIFICATE OF ACCEPTANCE
OF SOIL SUBGRADE SURFACE

PROJECT NAME: SOLUTIA SAUGET AREA 1

PROJECT NUMBER: 2122

OWNER: SOLUTIA

LOCATION: CAHOKIA, ILL

I, the undersigned, a duly appointed representative of Taylor Geosynthetics, Inc., have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install geomembrane.

This certificate is based on observations of the surface of the subgrade only. No subterranean inspectious or tests have been performed by Taylor Geosynthetics, Inc., and Taylor Geosynthetics, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Taylor Geosynthetics, Inc. accepts no responsibility for conformance of the subgrade to this project's specifications.

Area Being Accepted: SW CORNER OF CELL # 1 PANEL

ON NORTH SLOPE TO FLOOR PANELS 44 THRU 51

TAYLOR GEOSYNTHETICS, INC. REPRESENTATIVE:

DATE: 8-7-01

SIGNATURE: [signature]

NAME: LEE TAYLOR

TITLE: PRES/QC

OWNERS REPRESENTATIVE:

DATE: 8-8-01

SIGNATURE: [signature]

NAME: R. SIEMASZKIEWICZ

TITLE: QA MANAGER

COMPANY: GOLDER ASSC.

CERTIFICATE OF ACCEPTANCE OF SOIL SURFACE

GEOSYNTHETIC INSTALLER		PROJECT	
COMPANY	TAYLOR GEOSYNTHETICS, INC.	LOCATION	CAHOKIA, IL
ADDRESS	121 COMMERCE DR. STE 304	PROJECT	TSCA CELL, AREA 1
	DANVILLE	OWNER	SOLUTIA
	INDIANA, 46122		

I, the Undersigned, the duly authorized representative of TAYLOR GEOSYNTHETIC, INC.
do hereby accept the area of soil surface bounded by SW CORNER OF CELL AND ONE PANEL ON N. SLOPE TO FLOOR. PANELS 44 THRU 51

and shall be responsible for maintaining its integrity and suitability in accordance with the project specifications from this date to the completion of installation.

NAME	SIGNATURE	TITLE	DATE
LEE TAYLOR		PRES/QC.	8/8/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY QA / QC MANAGER:

NAME	SIGNATURE	TITLE	DATE
R. SIEMASZKIEWICZ		QA MANAGER	08/08/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY OWNER:

NAME	SIGNATURE	TITLE	DATE
JOHN FIORE		CONSTRUCTION MANAGER	8/8/01

TAYLOR GEOSYNTHETICS, INC.
CERTIFICATE OF ACCEPTANCE
OF SOIL SUBGRADE SURFACE

PROJECT NAME: SOLUTIA SAUGET AREA 1

PROJECT NUMBER: 2122

OWNER: SOLUTIA

LOCATION: CAHOKIA IL

I, the undersigned, a duly appointed representative of Taylor Geosynthetics, Inc., have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install geomembrane.

This certificate is based on observations of the surface of the subgrade only. No subterranean inspectious or tests have been performed by Taylor Geosynthetics, Inc., and Taylor Geosynthetics, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Taylor Geosynthetics, Inc. accepts no responsibility for conformance of the subgrade to this project's specifications.

Area Being Accepted: NW CORNER OF CELL PANELS 56 thru 70 (BLACKED OUT)

TAYLOR GEOSYNTHETICS, INC. REPRESENTATIVE:

DATE: AUGUST 13, 2001

SIGNATURE: Lee Taylor

NAME: LEE TAYLOR

TITLE: PRES/QC

OWNERS REPRESENTATIVE:

DATE: AUGUST 15, 2001

SIGNATURE: R. Sigmaszkiewicz

NAME: R. SIGMASZKIEWICZ

TITLE: QA MANAGER

COMPANY: GOLDER ASSC, INC.

CERTIFICATE OF ACCEPTANCE OF SOIL SURFACE

GEOSYNTHETIC INSTALLER		PROJECT	
COMPANY	TAYLOR GEOSYNTHETICS, INC.	LOCATION	CAHOKIA, IL
ADDRESS	121 COMMERCE DR. STE 304	PROJECT	TSCA CELL, AREA 1
	DANVILLE	OWNER	SOLUTIA
	INDIANA, 46122		

I, the Undersigned, the duly authorized representative of TAYLOR GEOSYNTHETIC, INC. do hereby accept the area of soil surface bounded by NW CORNER OF THE CELL COVERED BY PANELS P56 THRU P70, COMPLETED SECONDARY HDPE + GCL LINER

and shall be responsible for maintaining its integrity and suitability in accordance with the project specifications from this date to the completion of installation.

NAME	SIGNATURE	TITLE	DATE
LEE TAYLOR		PRES/QC.	8-15-01

CERTIFICATE OF ACCEPTANCE RECEIVED BY QA / QC MANAGER:

NAME	SIGNATURE	TITLE	DATE
R. SIEMASZKIEWICZ		QA MANAGER	08/15/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY OWNER:

NAME	SIGNATURE	TITLE	DATE
JOHN FIORE		CONSTRUCTION MANAGER	08/15/01

2.2.2 Primary Liner

2.2.2.1 Deployment Logs

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/14/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 1

DESCRIPTION	PANEL NUMBER PP-1				PANEL NUMBER PP-2				PANEL NUMBER PP-3			
ROLL NUMBER	23119				23119				23119			
DEPLOYED LENGTH	112'				117'				109'			
AMBIENT AIR TEMP.	70 F				70 F				70 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	NA				6"				6"			
MONITOR	RS				RS				RS			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	67				62				63			
	65				63				62			
	63				64				64			
	63				65				64			
	62				62				65			
AVERAGE	64				63.2				63.6			

DESCRIPTION	PANEL NUMBER PP-4				PANEL NUMBER				PANEL NUMBER			
ROLL NUMBER	23119											
DEPLOYED LENGTH	109'											
AMBIENT AIR TEMP.	70 F											
VISUAL OBSERVATION	GOOD											
OBSERVED OVERLAP	6"											
MONITOR	RS											
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	63											
	64											
	65											
	64											
	63											
AVERAGE	63.8											

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/23/2001

TRANSPORT EQUIPMENT LULL
SHEET NUMBER: 2

DESCRIPTION	PANEL NUMBER PP5				PANEL NUMBER PP6				PANEL NUMBER PP7			
ROLL NUMBER	23137				23136				23120			
DEPLOYED LENGTH	333'				334'				58'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	N/A				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	64				65				67			
	60				61				63			
	60				63				65			
	62				61				60			
	61				60				61			
AVERAGE	61.4				62				63.2			

DESCRIPTION	PANEL NUMBER PP8				PANEL NUMBER PP9				PANEL NUMBER PP10			
ROLL NUMBER	23120				23120				23120			
DEPLOYED LENGTH	37'				94'				64'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				N/A				N/A			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	65				64				66			
	61				60				62			
	64				63				64			
	62				61				61			
	60				61				60			
AVERAGE	62.4				61.8				62.6			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/23/2001

TRANSPORT EQUIPMENT LULL
SHEET NUMBER: 3

DESCRIPTION	PANEL NUMBER PP11				PANEL NUMBER PP12				PANEL NUMBER PP13			
ROLL NUMBER	23120				23120				23120			
DEPLOYED LENGTH	43'				95'				95'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	64				62				60			
	61				60				60			
	61				60				59			
	60				61				60			
	60				62				61			
AVERAGE	61.2				61				60			

DESCRIPTION	PANEL NUMBER PP14				PANEL NUMBER PP15				PANEL NUMBER PP16			
ROLL NUMBER	23142				23142				23142			
DEPLOYED LENGTH	97'				97'				97'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				N/A				N/A			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	58				61				60			
	60				60				60			
	59				59				58			
	61				60				60			
	60				60				61			
AVERAGE	59.6				60				59.8			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/23/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 4

DESCRIPTION	PANEL NUMBER PP17				PANEL NUMBER PP18				PANEL NUMBER PP19			
ROLL NUMBER	23142				23142				23120			
DEPLOYED LENGTH	43'				95'				95'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	64				62				60			
	61				60				60			
	61				60				59			
	60				61				60			
	60				62				61			
AVERAGE	61.2				61				60			

DESCRIPTION	PANEL NUMBER PP20				PANEL NUMBER PP21				PANEL NUMBER PP22			
ROLL NUMBER	23142				23142				23142			
DEPLOYED LENGTH	97'				97'				97'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				N/A				N/A			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	58				61				60			
	60				60				60			
	59				59				58			
	61				60				60			
	60				60				61			
AVERAGE	59.6				60				59.8			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/23/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 5

DESCRIPTION	PANEL NUMBER PP-23				PANEL NUMBER PP-24				PANEL NUMBER PP-25			
ROLL NUMBER	23131				23131				23131			
DEPLOYED LENGTH	40'				62'				43'			
AMBIENT AIR TEMP.	87 F				87 F				87 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60				61				60			
	61				62				63			
	60				59				58			
	63				61				60			
	62				60				61			
AVERAGE	61.2				60.6				60.4			

DESCRIPTION	PANEL NUMBER PP-26				PANEL NUMBER PP-27				PANEL NUMBER PP-28			
ROLL NUMBER	23136				23136				23130			
DEPLOYED LENGTH	67'				75'				334'			
AMBIENT AIR TEMP.	87 F				87 F				87 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	65				63				62			
	63				61				61			
	61				62				62			
	62				60				61			
	59				60				60			
AVERAGE	62				61.2				61.2			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/23/2001

TRANSPORT EQUIPMENT LULL
SHEET NUMBER: 6

DESCRIPTION	PANEL NUMBER PP-29				PANEL NUMBER PP-30				PANEL NUMBER PP-31			
ROLL NUMBER	23123				23126				23147			
DEPLOYED LENGTH	332'				332'				332'			
AMBIENT AIR TEMP.	87 F				87 F				87 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60				60				61			
	60				60				60			
	60				60				60			
	59				60				61			
	61				61				58			
AVERAGE	60				60				60			

DESCRIPTION	PANEL NUMBER PP-32				PANEL NUMBER PP-33				PANEL NUMBER PP-34			
ROLL NUMBER	23147				23147				23147			
DEPLOYED LENGTH	332'				73'				74'			
AMBIENT AIR TEMP.	87 F				87 F				87 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60				61				60			
	62				61				61			
	64				59				60			
	61				61				62			
	63				61				61			
AVERAGE	62				60.6				60.8			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/30/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 7

DESCRIPTION	PANEL NUMBER PP35				PANEL NUMBER PP36				PANEL NUMBER PP37			
ROLL NUMBER	23126				23126				23137			
DEPLOYED LENGTH	74'				73'				73'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	61				61				60			
	61				62				60			
	59				60				60			
	62				61				61			
	61				61				62			
AVERAGE	60.8				61				60.6			

DESCRIPTION	PANEL NUMBER PP38				PANEL NUMBER PP39				PANEL NUMBER PP40			
ROLL NUMBER	23137											
DEPLOYED LENGTH	73'				75'				78'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60				61				62			
	60				61				60			
	60				60				61			
	60				60				60			
	60				59				59			
AVERAGE	60				60.2				60.4			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/30/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 8

DESCRIPTION	PANEL NUMBER PP41				PANEL NUMBER PP42				PANEL NUMBER PP43			
ROLL NUMBER	23118				23118				23130			
DEPLOYED LENGTH	77'				81'				70'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	61				62				61			
	61				60				60			
	59				59				60			
	60				60				62			
	61				60				59			
AVERAGE	60.4				60.2				60.4			

DESCRIPTION	PANEL NUMBER PP44				PANEL NUMBER PP45				PANEL NUMBER PP46			
ROLL NUMBER	23130				23130				23137			
DEPLOYED LENGTH	81'				31'				37'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	62				61				60			
	60				60				61			
	59				60				59			
	59				60				60			
	60				61				61			
AVERAGE	60				60.4				60.2			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/30/2001

TRANSPORT EQUIPMENT LULL
SHEET NUMBER: 9

DESCRIPTION	PANEL NUMBER PP47				PANEL NUMBER PP48				PANEL NUMBER PP49			
ROLL NUMBER	23136				23123				23123			
DEPLOYED LENGTH	24'				80'				80'			
AMBIENT AIR TEMP.	85 F				85 F				85 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	61				61				60			
	62				61				61			
	60				59				61			
	60				60				61			
	61				62				60			
AVERAGE	60.8				61.6				60.6			

DESCRIPTION	PANEL NUMBER PP50				PANEL NUMBER PP51				PANEL NUMBER PP52			
ROLL NUMBER	23133				23125				23141			
DEPLOYED LENGTH	327'				321'				327'			
AMBIENT AIR TEMP.	85 F				85 F				85 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60				61				61			
	61				62				60			
	59				60				62			
	62				60				59			
	60				61				59			
AVERAGE	60.4				60.8				60.2			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/30/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 10

DESCRIPTION	PANEL NUMBER PP53				PANEL NUMBER PP54				PANEL NUMBER PP55			
ROLL NUMBER	23141				23141				23133			
DEPLOYED LENGTH	80'				81'				81'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60				61				60			
	61				61				61			
	61				61				61			
	60				60				59			
	60				59				61			
AVERAGE	60.4				60.4				60.4			

DESCRIPTION	PANEL NUMBER PP56				PANEL NUMBER PP57				PANEL NUMBER PP58			
ROLL NUMBER	23133				23125				23125			
DEPLOYED LENGTH	83'				83'				83'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	61				60				61			
	61				61				59			
	59				61				60			
	62				59				60			
	61				61				61			
AVERAGE	60.8				60.4				60.2			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/30/2001

TRANSPORT EQUIPMENT LULL
SHEET NUMBER: 11

DESCRIPTION	PANEL NUMBER PP59				PANEL NUMBER PP60				PANEL NUMBER PP61			
ROLL NUMBER	23119								23141			
DEPLOYED LENGTH	82'				81'				42'			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	61				61				60			
	60				61				59			
	59				62				59			
	61				60				61			
	61				60				61			
AVERAGE	60.6				60.8				60			

DESCRIPTION	PANEL NUMBER PP62				PANEL NUMBER PP63				PANEL NUMBER PP64			
ROLL NUMBER	23123				23142				23141			
DEPLOYED LENGTH	46'				32'				WEDGE			
AMBIENT AIR TEMP.	84 F				84 F				84 F			
VISUAL OBSERVATION	GOOD				GOOD				GOOD			
OBSERVED OVERLAP	6"				6"				6"			
MONITOR	JP				JP				JP			
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60				61				60			
	61				60				60			
	61				59				60			
	60				60				61			
	59				60				60			
AVERAGE	60.2				60				60.2			

REVIEWED BY _____ DATE _____

GEOMEMBRANE PANEL DEPLOYMENT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

GEOMEMBRANE: PRIMARY
SUBGRADE CONDITION : SECONDARY LINER SUBGRADE
REMARKS:

DATE: 8/30/2001

TRANSPORT EQUIPMENT LULL

SHEET NUMBER: 12

DESCRIPTION	PANEL NUMBER PP65				PANEL NUMBER PP66				PANEL NUMBER			
ROLL NUMBER	23126				23126							
DEPLOYED LENGTH	49'				23'							
AMBIENT AIR TEMP.	84 F				84 F							
VISUAL OBSERVATION	GOOD				GOOD							
OBSERVED OVERLAP	6"				6"							
MONITOR	JP				JP							
REMARKS												
SHEET THICKNESS	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL	LEAD	L SIDE	R SIDE	TRAIL
	60				61							
	60				61							
	60				60							
	60				60							
	61				60							
AVERAGE	60.2				60.4							

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

REVIEWED BY _____ DATE _____

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
TX - # = EXTRUSION

DATE 08/14/01
SHEET NUMBER 1

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TF-01	8:00	991	CBD	70 F	2.8M		405	SE1 129	SE1 131	SE1 134	SE1 133	SE1 147	SE1 139	BRK 164	BRK 168	BRK 162	PASS	RS	SMOOTH TO SMOOTH

REVIEWED BY: RS DATE: 9/5/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
TX - # = EXTRUSION

DATE 08/23/01
SHEET NUMBER 2

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TF-02	8:25AM	134	JMB	76 F	10		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								128	130	131	132	129	134	164	164	164			
TF-03	8:25AM	132	ADY	76 F	10.5		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								140	127	125	120	128	124	157	161	154			
TF-04	1:20PM	132	ADY	80 F	10.3		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								109	103	104	111	115	115	158	159	158			
TF-05	1:30PM	134	JMB	80 F	10		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								120	101	122	106	110	111	153	149	150			

REVIEWED BY: RS DATE: 9/6/01

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXX] TX - # = EXTRUSION

DATE 08/27/01
SHEET NUMBER 3

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TX - 01	7:30	570	JMB	70 F	400	400		SE2	SE2	SE2				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								118	117	114				168	170	165			
TX - 02	12:30	570	JMB	88 F	400	400		SE2	SE2	SE2				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								127	120	121				152	150	152			

REVIEWED BY: RS DATE: 9/5/01

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXXXXX TF - # = FUSION
TX - # = EXTRUSION

DATE 08/30/01
SHEET NUMBER 4

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES: AMBIENT AIR TEMP.	TEMPERATURES: PREHEAT OR MACHINE SPEED	TEMPERATURES: EXTRUDER	TEMPERATURES: NOZZLE OR WEDGE	TEST RESULTS: INSIDE PEEL MODE STRENGTH			TEST RESULTS: OUTSIDE PEEL MODE STRENGTH			TEST RESULTS: SHEAR MODE STRENGTH			PASS OR FAIL	MON.	REMARKS
TF-06	8:30	134	JMB	80 F	10.4		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								127	133	126	129	127	119	169	166	172			
TF-07	9:45	132	ADY	80 F	10.8		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								137	132	135	130	133	130	173	174	171			
TF-08	9:50	991	JMB	80 F	2.8M		405	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								119	117	117	126	113	127	165	165	160			
TF-09	12:30	134	JMB	90 F	10.4		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								141	138	127	134	127	124	147	149	147			
TF-10	12:55	132	ADY	90 F	10.8		750	SE1	SE1	SE1	SE1	SE1	SE1	BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								130	125	126	125	115	116	141	144	143			

REVIEWED BY: RS/DAG DATE: 9/7/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXX] TX - # = EXTRUSION

DATE 08/31/01
SHEET NUMBER 5

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TX-003	8:00	570	JMB	77 F	400	400		SE1	SE1	SE1				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								133	116	116				164	157	158			
TX-004	12:30	570	JMB	83 F	400	400		SE1	SE1	SE1				BRK	BRK	BRK	PASS	RS	SMOOTH TO SMOOTH
								125	112	126				150	147	143			

REVIEWED BY: RS DATE: 9/5/01

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXX] TX - # = EXTRUSION

DATE 09/04/01
SHEET NUMBER 6

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TX-005	8:00	570	JMB	85 F	400	400		SE1 153	SE1 140	SE1 130				BRK 161	BRK 163	BRK 161	PASS	RS	SMOOTH TO SMOOTH
TX-006	13:30	570	JMB	88 F	400	400		SE1 148	SE1 135	SE1 129				BRK 152	BRK 150	BRK 150	PASS	RS	SMOOTH TO SMOOTH

REVIEWED BY: RS DATE: 9/5/01

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXX] TX - # = EXTRUSION

DATE 09/05/01
SHEET NUMBER 7

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TX-007	7:45	570	JMB	75 F	405	400		SE1 136	SE1 138	SE1 139				BRK 170	BRK 168	BRK 173	PASS	RS	SMOOTH TO SMOOTH

REVIEWED BY: RS DATE: 9/5/2001

GEOMEMBRANE TRIAL SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL ARTEA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[ ] TF - # = FUSION
[XXXXXXX] TX - # = EXTRUSION

DATE 09/06/01
SHEET NUMBER 8

SAMPLE NUMBER	APPROX. TIME	WELDING MACHINE NUMBER	WELD TECH.	TEMPERATURES				TEST RESULTS									PASS OR FAIL	MON.	REMARKS
				AMBIENT AIR TEMP.	PREHEAT OR MACHINE SPEED	EXTRUDER	NOZZLE OR WEDGE	INSIDE PEEL MODE STRENGTH			OUTSIDE PEEL MODE STRENGTH			SHEAR MODE STRENGTH					
TX-008	14:30	570	CBD	88 F	405	400		SE1 138	SE1 133	SE1 128				BRK 142	BRK 140	BRK 144	PASS	RS	SMOOTH TO SMOOTH

REVIEWED BY: RS DATE: 9/5/2001

2.2.2.2 Trial Seaming Logs

2.2.2.3 Seaming Logs

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION

[ ] EXTRUSION

MACHINE # 991

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-01	8:00	CBD

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 0

DATE 8/14/2001

SHEET NUMBER 1

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP-1 / PP-2	NWEOS -	SEEOS	8:20	75 F	CBD	2.8M	405	405	112	112		RS		8/14/2001	RS
2	PP-3 / PP-4	NEEOS -	SWEOS	8:50	75 F	CBD	2.8	405	404	109	221		JP		8/14/2001	JP
3	/	-														
4	/	-														
5	/	-														
6	/	-														
7	/	-														
8	/	-														
9	/	-														
10	/	-														
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		221						
								DESTRUCTIVE LENGTH CARRY-OVER			221					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/24/2001

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE # 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-03	8:25	ADY
TF-04	1:20	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 0

DATE 8/23/2001

SHEET NUMBER 2

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP5 / PP7	NEOS -	SEOS	8:50	80	ADY	10.5	750	749	58	58		RS		8/23/2001	RS
2	PP7 / PP8	NEOS -	SEOS	9:00	80	ADY	10.5	750	750	37	95		RS		8/23/2001	RS
3	PP10 / PP11	WEOS -	EEOS	9:50	86	ADY	10.3	750	750	43	138		RS		8/25/2001	JP
4	PP1 / PP9	WEOS -	EEOS	10:10	86	ADY	10.3	750	750	30	168		RS		8/24/2001	JP
5	PP1 / PP10	NWEOS -	SEEOS	10:12	86	ADY	10.3	750	750	36	204		RS		8/25/2001	JP
6	PP1 / PP11	NWEOS -	SEEOS	10:15	86	ADY	10.3	750	750	32	232		RS		8/25/2001	JP
7	PP2 / 1C	SEEOS -	NWEOS	10:31	86	ADY	10.3	750	750	8	240		RS		8/25/2001	JP
8	PP2 / PP8	SEEOS -	NWEOS	10:32	86	ADY	10.3	750	750	30	270		RS		8/25/2001	JP
9	PP2 / PP7	SEEOS -	NWEOS	10:35	86	ADY	10.3	750	750	32	290/12	DS-P03	RS		8/23/2001	RS
10	PP2 / PP5	SEOS -	NEOS	10:39	86	ADY	10.3	750	750	35	47		RS		8/27/2001	JP
11	PP17 / PP18	WEOS -	EEOS	10:51	86	ADY	10.3	750	749	99	146		RS		8/24/2001	RS
12	PP19 / PP20	WEOS -	EEOS	11:12	86	ADY	10.3	750	748	97	243		RS		8/24/2001	JP
13	PP21 / PP22	WEOS -	EEOS	11:27	86	ADY	10.3	750	748	64	317		RS		8/27/2001	JP
14	PP22 / PP23	WEOS -	EEOS	11:35	86	ADY	10.3	750	749	40	357		RS		8/27/2001	JP
15	PP25 / 1F	SEOS -	NEOS	11:46	86	ADY	10.3	750	749	20	377		RS		8/27/2001	JP
16	PP24 / PP25	SEOS -	NEOS	11:55	86	ADY	10.3	750	749	43	420		RS		8/27/2001	JP
17	PP24 / PP26	SEOS -	NEOS	12:02	88	ADY	10.3	750	750	62	482		RS		8/27/2001	JP
								DAILY TOTAL		766						
								DESTRUCTIVE LENGTH CARRY-OVER			482					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS/DAG DATE: 8/28/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION

[ ] EXTRUSION

MACHINE: 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-03	8:25	ADY
TF-04	1:20	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG: 482

DATE 8/23/2001

SHEET NUMBER 3

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP6 / PP28	NEOS	SEOS	13:42	90	ADY	10.3	750	750	334	500/316	DS-P07	RS		8/23/2001	RS
2	PP29 / PP30	SEOS	NEOS	14:22	90	ADY	10.3	750	750	332	500/148	DS-P09	RS		8/24/2001	RS
3	PP31 / PP32	SEOS	NEOS	15:01	90	ADY	10.3	750	750	333	450/31	DS-P11	RS		8/24/2001	RS
4	PP8 / 1C	NEOS	SEOS	9:09	86	ADY	10.3	750	750	8	39		RS		8/23/2001	RS
5	/	-														
6	/	-														
7	/	-														
8	/	-														
9	/	-														
10	/	-														
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		1007						
								DESTRUCTIVE LENGTH CARRY-OVER			39					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/28/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION

[ ] EXTRUSION

MACHINE: 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-02	8:25	JMB
TF-05	13:30	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG: 0

DATE: 8/23/01

SHEET NUMBER: 4

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP5 / PP6	NEOS	SEOS	8:45	80	JMB	10	750	750	333	233/100	DS-P02	RS		8/23/2001	RS
2	PP9 / PP10	WEOS	EEOS	9:16	84	JMB	10	750	750	64	164		RS		8/25/2001	JP
3	PP9 / PP12	WEOS	EEOS	9:30	86	JMB	10	750	750	94	158		RS		8/23/2001	JP
4	PP12 / PP13	WEOS	EEOS	9:44	86	JMB	10	750	750	95	253		RS		8/23/2001	JP
5	PP13 / PP14	WEOS	EEOS	10:05	86	JMB	10	750	750	95	348		RS		8/23/2001	RS
6	PP14 / PP15	WEOS	EEOS	10:17	86	JMB	10	750	750	97	445		RS		8/23/2001	RS
7	PP15 / PP16	WEOS	EEOS	10:32	86	JMB	10	750	750	97	500/42	DS-P04	RS		8/23/2001	RS
8	PP16 / PP17	WEOS	EEOS	10:43	86	JMB	10	750	750	97	139		RS		8/24/2001	JP
9	PP18 / PP19	WEOS	EEOS	11:00	86	JMB	10	750	750	99	238		RS		8/24/2001	JP
10	PP20 / PP21	WEOS	EEOS	11:13	86	JMB	10	750	751	97	335		RS		8/24/2001	JP
11	PP5 / PP9	SEOS	NEOS	11:38	86	JMB	10	750	751	22.5	257.5		RS		8/24/2001	JP
12	PP5 / PP12	SEOS	NEOS	11:41	86	JMB	10	750	749	22.5	280		RS		8/23/2001	RS
13	PP5 / PP13	SEOS	NEOS	11:43	86	JMB	10	750	750	22.5	302.5		RS		8/23/2001	RS
14	PP5 / PP14	SEOS	NEOS	11:45	86	JMB	10	750	750	22.5	325	DS-P06	RS	QA	8/23/2001	RS
15	PP5 / PP15	SEOS	NEOS	11:47	86	JMB	10	750	749	22.5	347.5		RS		8/24/2001	JP
16	PP5 / PP16	SEOS	NEOS	11:49	86	JMB	10	750	750	22.5	370		RS		8/24/2001	JP
17	PP5 / PP17	SEOS	NEOS	11:51	86	JMB	10	750	750	22.5	392.5		RS		8/24/2001	JP
									DAILY TOTAL	1325.5						
									DESTRUCTIVE LENGTH CARRY-OVER		392.5					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/28/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE: 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-02	8:25	JMB
TF-05	13:30	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 392.5

DATE 8/23/01

SHEET NUMBER 5

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP5 / PP18	SEOS	NEOS	11:54	88	JMB	10	750	749	22.5	416		RS		8/24/2001	JP
2	PP5 / PP19	SEOS	NEOS	11:56	88	JMB	10	750	750	22.5	438.5		RS		8/24/2001	JP
3	PP5 / PP20	SEOS	NEOS	11:58	88	JMB	10	750	750	22.5	461		RS		8/24/2001	JP
4	PP5 / PP21	SEOS	NEOS	12:00	88	JMB	10	750	750	22.5	483.5		RS		8/24/2001	JP
5	PP26 / PP27	SEOS	NEOS	12:06	88	JMB	10	750	750	67	500/50.5	DS-P05	RS		8/23/2001	RS
6	PP23 / 1F	NEEOS	SWEOS	13:43	90	JMB	10	750	750	13	63.5		RS		8/27/2001	RS
7	PP23 / PP25	NEEOS	SWEOS	13:45	90	JMB	10	750	750	26	89.5		RS		8/27/2001	RS
8	PP22 / PP25	NEEOS	SWEOS	13:48	90	JMB	10	750	750	5	94.5		RS	REPAIR #2K	8/27/2001	JP
9	PP22 / PP24	NEEOS	SWEOS	13:49	90	JMB	10	750	750	28	122.5		RS		8/27/2001	JP
10	PP21 / PP24	NEEOS	SWEOS	13:52	90	JMB	10	750	750	4	126.5		RS	REPAIR #2M	8/27/2001	JP
11	PP21 / PP26	EEOS	WEOS	13:53	90	JMB	10	750	750	23.5	150		RS		8/27/2001	JP
12	PP21 / PP27	EEOS	WEOS	13:55	90	JMB	10	750	750	5	155		RS		8/24/2001	JP
13	PP5 / PP27	EEOS	WEOS	13:56	90	JMB	10	750	750	18	173		RS		8/24/2001	JP
14	PP28 / PP29	SEOS	NEOS	14:02	90	JMB	10	750	748	332	490/15	DS-P08	RS		8/23/2001	RS
15	PP30 / PP31	SEOS	NEOS	14:50	90	JMB	10	750	750	332	347		RS		8/24/2001	RS
16	PP27 / PP33	SEOS	NEOS	15:23	90	JMB	10	750	750	73	420		RS		8/24/2001	JP
17	PP33 / PP34	SEOS	NEOS	15:36	90	JMB	10	750	750	73	433/60	DS-P10	RS		8/24/2001	RS
									DAILY TOTAL	1089.5						
									DESTRUCTIVE LENGTH CARRY-OVER		60					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 8/28/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE # 991

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-08	9:50	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 221

DATE 8/30/2001

SHEET NUMBER 6

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP35 / PP36	SEOS	NEOS	10:03	82	JMB	2.7M	405	403	73	250/44	DS-P01	RS			
2	/	-						-	-							
3	/	-						-	-							
4	/	-						-	-							
5	/	-						-	-							
6	/	-						-	-							
7	/	-						-	-							
8	/	-						-	-							
9	/	-						-	-							
10	/	-						-	-							
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		73						
								DESTRUCTIVE LENGTH CARRY-OVER			44					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 9/5/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXX FUSION

EXTRUSION

MACHINE # 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-06	8:30	JMB
TF-09	12:30	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 60

DATE 8/30/2001

SHEET NUMBER 7

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP37 / PP38	SEOS -	NEOS	10:19	82	JMB	10.4	750	750	73	133		RS		30-Aug	RS
2	PP38 / PP39	SEOS -	NEOS	12:58	86	JMB	10.4	750	750	73	206		RS		30-Aug	RS
3	PP39 / PP40	SEOS -	NEOS	13:07	86	JMB	10.4	750	750	75	281		RS		30-Aug	RS
4	PP41 / PP42	SEOS -	NEOS	13:33	86	JMB	10.4	750	750	77	358		RS		31-Aug	JP
5	PP44 / PP45	EEOS	WEOS	14:10	86	JMB	10.4	750	750	51	409		RS		31-Aug	JP
6	PP45 / PP47	EEOS	WEOS	14:30	86	JMB	10.4	750	750	24	433		RS		4-Sep	JP
7	PP46 / 3D	SEOS -	NEOS	14:40	86	JMB	10.4	750	750	12	450		RS		4-Sep	JP
8	PP44 / PP48	EEOS	WEOS	14:48	86	JMB	10.4	750	744	81	500/31	DS-P13	RS		31-Aug	JP
9	PP48 / PP49	WEOS -	EEOS	14:58	86	JMB	10.4	750	748	80	121		RS		31-Aug	JP
10	PP32 / PP50	SEOS -	NEOS	15:10	86	JMB	10.4	750	750	327	448		RS		31-Aug	JP
11	PP51 / PP52	SEOS -	NEOS	16:12	82	JMB	10.4	750	750	322	500/270	DS-P15	RS		31-Aug	JP
12	PP54 / PP55	EEOS	WEOS	16:46	82	JMB	10.4	750	748	81	351		RS		4-Sep	JP
13	PP55 / PP56	EEOS	WEOS	17:00	82	JMB	10.4	750	750	81	432		RS		4-Sep	JP
14	PP57 / PP58	EEOS	WEOS	17:13	82	JMB	10.4	750	750	83	500/15	DS-P16	RS		4,5-Sep	JP
15	PP40 / PP50	EEOS	WEOS	17:47	82	JMB	10.4	750	750	6	21		RS	4N, 4J	31-Aug	JP
16	PP40 / PP51	EEOS	WEOS	17:48	82	JMB	10.4	750	750	16.5	37.5		RS		31-Aug	JP
17	PP41 / PP51	EEOS	WEOS	17:50	82	JMB	10.4	750	750	6	43.5		RS	4R	31-Aug	JP
									DAILY TOTAL	1468.5						
									DESTRUCTIVE LENGTH CARRY-OVER		43.5					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS/DAG DATE: 9/7/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE # 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-06	8:30	JMB
TF-09	12:30	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 60

DATE 8/30/2001

SHEET NUMBER 8

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP41 / PP52	EEOS	WEOS	17:51	82	JMB	10.4	750	749	16.5	60		RS		31-Aug	JP
2	PP48 / PP52	NEOS	SEOS	18:32	82	JMB	10.4	750	750	18	78		RS		31-Aug	JP
3	PP49 / PP52	NEOS	SEOS	18:34	82	JMB	10.4	750	750	22.5	100.5		RS		31-Aug	JP
4	PP52 / PP53	NEOS	SEOS	18:37	82	JMB	10.4	750	750	22.5	123		RS		31-Aug	JP
5	PP52 / PP54	NEOS	SEOS	18:39	82	JMB	10.4	750	750	22.5	145.5		RS		31-Aug	JP
6	PP52 / PP55	NEOS	SEOS	18:42	82	JMB	10.4	750	750	22.5	168		RS		4-Sep	JP
7	PP52 / PP56	NEOS	SEOS	18:44	82	JMB	10.4	750	750	22.5	190.5		RS		4-Sep	JP
8	PP52 / PP57	NEOS	SEOS	18:47	82	JMB	10.4	750	748	22.5	213		RS		4-Sep	JP
9	PP52 / PP58	NEOS	SEOS	18:49	82	JMB	10.4	750	749	22.5	235.5		RS		4-Sep	JP
10	PP52 / PP59	NEOS	SEOS	18:51	82	JMB	10.4	750	749	22.5	258		RS		4-Sep	JP
11	PP52 / PP60	NEOS	SEOS	18:53	82	JMB	10.4	750	749	22.5	280.5		RS		4-Sep	JP
12	PP4 / PP52	NEOS	SEOS	18:59	82	JMB	10.4	750	750	12	292.5		RS		4-Sep	JP
13	PP3 / PP52	NEOS	SEOS	19:02	82	JMB	10.4	750	750	22.5	315		RS		4-Sep	JP
14	PP4 / PP62	NEEOS	SWEOS	19:15	82	JMB	10.4	750	750	32	347		RS		4-Sep	JP
15	PP4 / PP63	NEEOS	SWEOS	19:19	82	JMB	10.4	750	750	31	352/26	DS-P19	RS		4-Sep	JP
16	PP4 / PP64	NEEOS	SWEOS	19:22	82	JMB	10.4	750	750	25	51		RS		4-Sep	JP
17	PP3 / PP66	SWEOS	NEEOS	19:28	82	JMB	10.4	750	750	26	77		RS		5-Sep	JP
									DAILY TOTAL	385.5						
									DESTRUCTIVE LENGTH CARRY-OVER		77					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 9/5/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

XXXXX FUSION

EXTRUSION

MACHINE # 134

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-06	8:30	JMB
TF-09	12:30	JMB

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 77

DATE 8/30/2001

SHEET NUMBER 9

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP3 / PP65	SWEOS -	NEEOS	17:31	82	JMB	10.4	750	748	34	111		RS		5-Sep	JP
2	PP3 / PP52	SWEOS -	NEOS	17:35	82	JMB	10.4	750	748	25	136		RS		5-Sep	JP
3	/	-						-	-							
4	/	-						-	-							
5	/	-						-	-							
6	/	-						-	-							
7	/	-						-	-							
8	/	-						-	-							
9	/	-						-	-							
10	/	-						-	-							
11	/	-						-	-							
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		59						
								DESTRUCTIVE LENGTH CARRY-OVER			136					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 9/5/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE # 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-07	9:45	ADY
TF-10	12:55	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 39

DATE 8/30/2001

SHEET NUMBER 10

	SEAM NUMBER	SEAM SECTION* START POINT	FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	MON.
1	PP34 / PP35	SEOS -	NEOS	10:00	82	ADY	10.8	750	749	74	113		RS		30-Aug	RS
2	PP36 / PP37	SEOS -	NEOS	10:12	82	ADY	10.8	750	750	73	286		RS		30-Aug	RS
3	PP5 / PP33	EEOS -	WEOS	10:54	84	ADY	8.5	750	750	5	291		RS	3R	31-Aug	JP
4	PP6 / PP33	EEOS -	WEOS	10:55	84	ADY	8.5	750	750	17.5	308.5		RS		30-Aug	JP
5	PP28 / PP34	EEOS -	WEOS	10:58	84	ADY	8.5	750	750	22.5	331		RS		30-Aug	JP
6	PP28 / PP35	EEOS -	WEOS	11:01	84	ADY	8.5	750	748	4	336		RS		30-Aug	JP
7	PP29 / PP35	EEOS -	WEOS	11:02	84	ADY	8.5	750	749	18.5	421.5		RS		30-Aug	RS
8	PP29 / PP36	EEOS -	WEOS	11:04	84	ADY	8.5	750	750	4	425.5		RS		30-Aug	RS
9	PP30 / PP36	EEOS -	WEOS	11:04	84	ADY	8.5	750	750	18.5	444		RS		30-Aug	RS
10	PP30 / PP37	EEOS -	WEOS	11:08	84	ADY	8.5	750	750	4	448		RS		30-Aug	RS
11	PP31 / PP37	EEOS -	WEOS	11:09	84	ADY	8.5	750	750	18.5	466.5		RS		30-Aug	RS
12	PP31 / PP38	EEOS -	WEOS	11:12	84	ADY	8.5	750	750	4	470.5		RS		30-Aug	RS
13	PP32 / PP38	EEOS -	WEOS	11:13	84	ADY	8.5	750	750	18.5	480/9	DS-P12	RS		30-Aug	RS
14	PP40 / PP41	SEOS -	NEOS	13:22	86	ADY	10.8	750	750	77	86		RS		30,31-Sep	RS
15	PP42 / PP43	SEOS -	NEOS	13:50	86	ADY	10.8	750	749	73	150		RS		31-Aug	JP
16	PP43 / PP46	NEOS -	SEOS	14:22	86	ADY	10.8	750	749	37	187		RS		4-Sep	JP
17	PP47 / 3D	NWEOS -	SEEOS	14:53	86	ADY	10.8	750	749	13	200		RS		4-Sep	JP
									DAILY TOTAL	482						
									DESTRUCTIVE LENGTH CARRY-OVER		200					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 9/5/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION

[ ] EXTRUSION

MACHINE # 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-07	9:45	ADY
TF-10	12:55	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 200

DATE 8/30/2001

SHEET NUMBER 11

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP46 / PP47	NWEOS -	SEEOS	15:00	86	ADY	9	750	750	14	214		RS		4-Sep	JP
2	PP45 / PP46	NWEOS -	SEEOS	15:02	86	ADY	9	750	750	18	232		RS		4-Sep	JP
3	PP43 / PP45	NWEOS -	SEEOS	15:04	86	ADY	9	750	750	15	247		RS		31-Aug	JP
4	PP43 / PP44	NWEOS -	SEEOS	15:06	86	ADY	9	750	750	15	262		RS		31-Aug	JP
5	PP42 / PP44	NWEOS -	SEEOS	15:09	86	ADY	9	750	750	15	277		RS		31-Aug	JP
6	PP50 / PP51	SEOS -	NEOS	15:55	82	ADY	10.5	750	749	321	500/98	DS-P14	RS		31-Aug	JP
7	PP49 / PP53	WEOS -	EEOS	16:32	82	ADY	10.5	750	749	80	178		RS		31-Aug	JP
8	PP53 / PP54	EEOS -	WEOS	16:46	82	ADY	10.5	750	748	80	258		RS		31-Aug	JP
9	PP56 / PP57	EEOS -	WEOS	17:04	82	ADY	10.5	750	750	83	341		RS		4-Sep	JP
10	PP59 / 3J	NEOS -	SEOS	17:25	82	ADY	10.5	750	750	22.5	363.5		RS		5-Sep	JP
11	PP58 / 3J	NEOS -	SEOS	17:30	82	ADY	10.5	750	750	9.5	373		RS		5-Sep	JP
12	PP58 / PP59	WEOS -	EEOS	17:31	82	ADY	10.5	750	750	82	455		RS		4-Sep	JP
13	PP60 / 3K	NEOS -	SEOS	17:50	82	ADY	10.5	750	750	22.5	477.5		RS		5-Sep	RS
14	3J / 3K	WEOS -	EEOS	17:57	82	ADY	10.5	750	750	9.5	487		RS		5-Sep	JP
15	PP59 / PP60	WEOS -	EEOS	17:59	82	ADY	10.5	750	750	81	500/68	DS-P17	RS		5-Sep	JP
16	PP61 / PP62	SWEOS -	NEEOS	18:14	82	ADY	10.5	750	750	31	99		RS		5-Sep	RS
17	PP61 / 3K	WEOS -	EEOS	18:22	82	ADY	10.5	750	750	9	100		RS		5-Sep	RS
									DAILY TOTAL	908						
									DESTRUCTIVE LENGTH CARRY-OVER		100					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 9/5/01

GEOMEMBRANE SEAM LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

[XXXXX] FUSION
[ ] EXTRUSION

MACHINE # 132

PASSING TRIAL SEAMS

NO.	TIME	TECH ID
TF-07	9:45	ADY
TF-10	12:55	ADY

DESTRUCTIVE LENGTH CARRY-OVER FROM PREVIOUS LOG 100

DATE 8/30/2001

SHEET NUMBER 12

	SEAM NUMBER	SEAM SECTION* START POINT	SEAM SECTION* FINISH POINT	APPROX. START TIME	AMB. AIR TEMP.	WELD TECH.	PREHEAT OR MACH. SPEED	MACHINE TEMPERATURES DIGITAL SET WEDGE OR BARREL NOZZLE	MACHINE TEMPERATURES INDICATOR WEDGE OR BARREL NOZZLE	APPROX. LENGTH WELDED	LENGTH FROM PREVIOUS DESTR.	DESTR. NUMBER	MON.	REMARKS	** NON-DESTRUCTIVE TEST DATE	** NON-DESTRUCTIVE MON.
1	PP60 / PP61	WEOS	EEOS	18:24	82	ADY	10.5	750	741	32	132		RS		4-Sep	JP
2	PP60 / PP62	WEOS	EEOS	18:27	82	ADY	10.5	750	749	16	148		RS		4-Sep	JP
3	PP63 / 3N	NEOS	SEOS	18:31	82	ADY	10.5	750	749	22.5	170.5		RS		4-Sep	JP
4	PP61 / 3N	EEOS	WEOS	18:40	82	ADY	10.5	750	749	9.5	180		RS		4-Sep	JP
5	PP61 / PP63	EEOS	WEOS	18:42	82	ADY	10.5	750	749	9	189		RS		4-Sep	JP
6	PP62 / PP63	EEOS	WEOS	18:43	82	ADY	10.5	750	749	22	211		RS		4-Sep	JP
7	PP63 / PP64	WEOS	EEOS	18:50	82	ADY	10.5	750	743	23	134		RS		4-Sep	JP
8	PP52 / PP65	NEOS	SEOS	18:54	82	ADY	10.5	750	748	49	249/34	DS-P18	RS	QA	4-Sep	JP
9	PP64 / 3N	WEOS	EEOS	18:56	82	ADY	10.5	750	748	10	44		RS		5-Sep	JP
10	PP65 / PP66	SEOS	NEOS	18:59	82	ADY	10.5	750	750	20	64		RS		31-Aug	JP
11	PP42 / PP48	WEOS	EEOS	19:05	82	ADY	10.5	750	748	12	76		RS		4-Sep	JP
12	/	-						-	-							
13	/	-						-	-							
14	/	-						-	-							
15	/	-						-	-							
16	/	-						-	-							
17	/	-						-	-							
								DAILY TOTAL		225						
								DESTRUCTIVE LENGTH CARRY-OVER			76					

* REFERENCE SEAM ENDPOINTS FROM AN END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM.

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY

REVIEWED BY: RS DATE: 9/5/01

2.2.2.4 Pressure Test Logs

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/14/2001
SHEET NUMBER: 1

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	PP-1 / PP-2	SEEOS -	NWEOS		LT	8:30 :	8:35	32 :	31	Y	PASS		X	RS	
2	PP-3 / PP-4	SWEOS -	NEEOS		CBD	9:19 :	9:24	32 :	31	Y	PASS		X	JP	
3	/	-				:		:							
4	/	-				:		:							
5	/	-				:		:							
6	/	-				:		:							
7	/	-				:		:							
8	/	-				:		:							
9	/	-				:		:							
10	/	-				:		:							
11	/	-				:		:							
12	/	-				:		:							
13	/	-				:		:							
14	/	-				:		:							
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (i e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/24/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/23/2001
SHEET NUMBER: 2

	SEAM NUMBER	SEAM SECTION * FROM	SEAM SECTION * TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	TIME FINISH	PRESSURE INITIAL	PRESSURE FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	SEAM COMPLETE YES	MON.	REMARKS
1	PP5 / PP6	NEOS	SEOS		LT	9:13	9:18	32	31	Y	PASS		X	RS	
2	PP5 / PP7	NEOS	SEOS		LT	9:40	9:45	32	32	Y	PASS		X	RS	
3	PP7 / PP8	NEOS	SEOS		LT	10:16	10:21	34	33	Y	PASS		X	RS	
4	PP8 / 1C	NEOS	EEOS		LT	10:19	10:26	30	30	Y	PASS		X	RS	
5	PP9 / PP12	WEOS	EEOS		LT	10:22	10:27	30	29	Y	PASS		X	RS	
6	PP12 / PP13	WEOS	EEOS		LT	10:42	10:47	32	32	Y	PASS		X	JP	
7	PP13 / PP14	WEOS	EEOS		LT	12:53	12:58	32	33	Y	PASS		X	JP	
8	PP5 / PP13	NEOS	SEOS		LT	13:07	13:13	33	33	Y	PASS		X	RS	
9	PP5 / PP12	NEOS	SEOS		LT	13:20	13:25	32	31	Y	PASS		X	RS	
10	PP5 / PP14	NEOS	SEOS		LT	13:46	13:51	32	32	Y	PASS		X	RS	
11	PP15 / PP16	WEOS	EEOS		LT	13:58	14:03	32	31	Y	PASS		X	RS	
12	PP14 / PP15	WEOS	EEOS		LT	14:23	14:28	34	34	Y	PASS		X	RS	
13	PP2 / PP7	NWEOS	SEEOS		LT	14:45	14:50	32	31	Y	PASS		X	RS	
14	PP26 / PP27	SEOS	NEOS		LT	15:05	15:10	34	34	Y	PASS		X	RS	
15	PP6 / PP28	NEOS	SEOS		LT	15:15	15:20	32	31	Y	PASS		X	RS	
16	PP28 / PP29	NEOS	SEOS		LT	15:30	15:35	31	31	Y	PASS		X	RS	
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (i e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS/DAG DATE: 9/6/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/24/2001
SHEET NUMBER: 3

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	PP33 / PP34	SEOS	NEOS		LT	8:00	8:08	30	30	Y	PASS		X	RS	
2	PP31 / PP32	NEOS	SEOS		LT	8:07	8:13	34	34	Y	PASS		X	RS	
3	PP30 / PP31	NEOS	SEOS		LT	8:23	8:28	36	36	Y	PASS		X	RS	
4	PP29 / PP30	NEOS	SEOS		LT	8:35	8:40	33	33	Y	PASS		X	RS	
5	PP27 / PP33	SEOS	NEOS		LT	8:56	9:01	36	36	Y	PASS		X	JP	
6	PP5 / PP27	WEOS	EEOS		LT	9:04	9:09	30	28	Y	PASS		X	JP	
7	PP21 / PP27	WEOS	EEOS		LT	9:04	9:09	30	28	Y	PASS		X	JP	
8	PP5 / PP21	NEOS	SEOS		LT	9:16	9:21	33	33	Y	PASS		X	JP	
9	PP20 / PP21	WEOS	EEOS		LT	9:21	9:26	36	36	Y	PASS		X	JP	
10	PP19 / PP20	WEOS	EEOS		JMB	9:35	9:40	38	36	Y	PASS		X	JP	
11	PP18 / PP19	WEOS	EEOS		CBD	9:40	9:45	34	34	Y	PASS		X	JP	
12	PP5 / PP20	SEOS	NEOS		JMB	9:44	9:49	37	36	Y	PASS		X	JP	
13	PP5 / PP19	NEOS	SEOS		JMB	9:53	9:58	40	39	Y	PASS		X	JP	
14	PP5 / PP18	NEOS	SEOS		JMB	10:01	10:06	33	33	Y	PASS		X	JP	
15	PP17 / PP18	WEOS	EEOS		JMB	10:04	10:09	33	33	Y	PASS		X	JP	
16	PP5 / PP17	NEOS	SEOS		CBD	10:15	10:20	32	32	Y	PASS		X	JP	
17	PP16 / PP17	WEOS	EEOS		CBD	10:17	10:22	35	35	Y	PASS		X	JP	
18	PP5 / PP16	NEOS	SEOS		CBD	10:27	10:32	34	34	Y	PASS		X	JP	
19	PP5 / PP15	NEOS	SEOS		CBD	10:42	10:47	33	33	Y	PASS		X	JP	
20	PP1 / PP9	WEOS	EEOS		CBD	10:55	11:00	33	32	Y	PASS		X	JP	

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS/DAG DATE: 9/6/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/24/2001
SHEET NUMBER: 4

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	PP5 / PP9	NEOS	- SEOS		CBD	10:56 :	11:01	36 :	36	Y	PASS		X	JP	
2	/	-				:		:							
3	/	-				:		:							
4	/	-				:		:							
5	/	-				:		:							
6	/	-				:		:							
7	/	-				:		:							
8	/	-				:		:							
9	/	-				:		:							
10	/	-				:		:							
11	/	-				:		:							
12	/	-				:		:							
13	/	-				:		:							
14	/	-				:		:							
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (i e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 8/28/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/25/2001
SHEET NUMBER: 5

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	PP9 / PP10	WEOS -	SEOS		CBD	7:48 :	7:53	32 :	32	Y	PASS		X	JP	
2	PP1 / PP10	NWEOS -	SEEOS		CBD	8:00 :	8:05	32 :	32	Y	PASS		X	JP	
3	PP10 / PP11	WEOS -	SEOS		JMB	8:04 :	8:09	38 :	37	Y	PASS		X	JP	
4	PP1 / PP11	NWEOS -	SEEOS		JMB	8:12 :	8:17	34 :	34	Y	PASS		X	JP	
5	PP2 / PP8	NWEOS -	SEEOS		JMB	8:27 :	8:32	33 :	32	Y	PASS		X	JP	
6	PP2 / 1C	NWEOS -	SEEOS		JMB	8:30 :	8:35	33 :	32	Y	PASS		X	JP	
7	/	-				:		:							
8	/	-				:		:							
9	/	-				:		:							
10	/	-				:		:							
11	/	-				:		:							
12	/	-				:		:							
13	/	-				:		:							
14	/	-				:		:							
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS/DAG DATE: 9/6/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/27/2001
SHEET NUMBER: 6

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	PP2 / PP5	SEOS	NEOS		CBD	8:03	8:08	32	32	Y	PASS		X	JP	
2	PP21 / PP26	WEOS	EEOS		CBD	8:23	8:28	34	34	Y	PASS		X	JP	
3	PP24 / PP26	SEOS	NEOS		CBD	8:33	8:38	33	33	Y	PASS		X	JP	
4	PP21 / PP22	WEOS	EEOS		CBD	8:46	8:51	33	33	Y	PASS		X	JP	
5	PP22 / PP24	SWEOS	NEEOS		CBD	9:01	9:06	33	33	Y	PASS		X	JP	
6	PP24 / PP25	SEOS	NEOS		CBD	9:19	9:24	32	32	Y	PASS		X	JP	
7	PP22 / PP23	WEOS	EEOS		CBD	9:29	9:34	33	32	Y	PASS		X	JP	
8	PP23 / PP25	SWEOS	NEEOS		CBD	9:39	9:44	34	34	Y	PASS		X	JP	
9	PP25 / 1F	SEOS	NEOS		CBD	9:48	9:54	33	33	Y	PASS		X	JP	
10	PP23 / 1F	SWEOS	NEEOS		CBD	9:57	10:02	36	35	Y	PASS		X	JP	
11	/	-				:		:							
12	/	-				:		:							
13	/	-				:		:							
14	/	-				:		:							
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (i e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS/DAG DATE: 9/6/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/30/2001
SHEET NUMBER: 7

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	PP34 / PP35	SEOS	NEOS		LT	10:17	10:22	30	30	Y	PASS		X	RS	
2	PP35 / PP36	SEOS	NEOS		LT	10:18	10:24	32	32	Y	PASS		X	RS	
3	PP31 / PP37	SEOS	NEOS		LT	10:31	10:36	33	31	Y	PASS		X	RS	
4	PP36 / PP37	SEOS	NEOS		LT	10:31	10:36	33	32	Y	PASS		X	RS	
5	PP37 / PP38	SEOS	NEOS		LT	10:34	10:39	32	31	Y	PASS		X	RS	
6	PP6 / PP33	EEOS	WEOS		LT	11:28	11:33	31	31	Y	PASS		X	JP	
7	PP28 / PP34	EEOS	WEOS		LT	11:41	11:46	35	34	Y	PASS		X	JP	
8	PP28 / PP35	EEOS	WEOS		LT	11:54	11:46	35	34	Y	PASS		X	JP	
9	PP29 / PP35	EEOS	WEOS		LT	11:54	11:59	30	29	Y	PASS		X	RS	
10	PP29 / PP36	EEOS	WEOS		LT	11:54	11:59	30	29	Y	PASS		X	RS	
11	PP30 / PP36	EEOS	WEOS		LT	11:54	11:59	30	29	Y	PASS		X	RS	
12	PP30 / PP37	EEOS	WEOS		LT	11:54	11:59	30	29	Y	PASS		X	RS	
13	PP31 / PP37	EEOS	WEOS		LT	12:56	13:01	30	30	Y	PASS		X	RS	
14	PP31 / PP38	EEOS	WEOS		LT	12:56	13:01	30	30	Y	PASS		X	RS	
15	PP32 / PP38	EEOS	WEOS		LT	13:04	13:09	33	33	Y	PASS		X	RS	
16	PP38 / PP39	SEOS	NEOS		LT	13:33	13:38	34	34	Y	PASS		X	RS	
17	PP39 / PP40	SEOS	NEOS		LT	13:46	13:51	34	34	Y	PASS		X	RS	
18	PP40 / PP41	3E	NEOS		LT	14:32	14:37	34	33	Y	PASS	X		RS	
19	/		-				:		:						
20	/		-				:		:						

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS/DAG DATE: 9/7/01

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/31/2001
SHEET NUMBER: 8

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	PP40 / PP41	3E	NEOS		LT	7:33	7:40	30	30	Y	PASS		X	JP	
2	PP32 / PP50	4K	SEOS		LT	8:46	8:07	34	34	Y	PASS	X		JP	
3	PP50 / PP51	4M	SEOS		LT	9:00	9:05	32	30	Y	PASS	X		JP	
4	PP40 / PP51	EEOS	WEOS		LT	9:13	9:18	30	30	Y	PASS		X	JP	
5	PP51 / PP52	NEOS	SEOS		LT	9:53	9:52	36	35	Y	PASS		X	JP	
6	PP41 / PP52	EEOS	WEOS		LT	10:02	10:07	35	35	Y	PASS		X	JP	
7	PP41 / PP42	SEOS	NEOS		LT	10:11	10:16	35	34	Y	PASS		X	JP	
8	PP48 / PP52	NEOS	SEOS		LT	11:03	11:08	32	31	Y	PASS		X	JP	
9	PP42 / PP48	EEOS	WEOS		LT	11:15	11:20	30	30	Y	PASS		X	JP	
10	PP44 / PP48	EEOS	WEOS		LT	11:33	11:38	34	34	Y	PASS		X	JP	
11	PP48 / PP49	EEOS	WEOS		LT	11:36	11:41	32	31	Y	PASS		X	JP	
12	PP42 / PP44	SEEOS	NWEOS		LT	12:44	12:49	33	33	Y	PASS		X	JP	
13	PP42 / PP43	SEOS	NEOS		LT	12:46	12:51	32	31	Y	PASS		X	JP	
14	PP43 / PP44	SEEOS	NWEOS		LT	12:55	13:00	32	32	Y	PASS		X	JP	
15	PP44 / PP45	EEOS	WEOS		LT	13:02	13:07	38	38	Y	PASS		X	JP	
16	PP43 / PP45	SEEOS	NWEOS		LT	13:25	13:30	34	33	Y	PASS		X	JP	
17	PP49 / PP52	NEOS	SEOS		LT	13:33	13:38	37	32	Y	PASS		X	JP	
18	PP49 / PP53	EEOS	WEOS		LT	13:40	13:45	32	32	Y	PASS		X	JP	
19	PP52 / PP53	NEOS	SEOS		LT	13:47	13:52	30	30	Y	PASS		X	JP	
20	/		-				:		:						

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (i e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS/DAG DATE: 9/7/01

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 8/31/2001
SHEET NUMBER: 9

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	PP53 / PP54	EEOS	- WEOS		LT	13:55 :	14:00	32 :	31	Y	PASS		X	JP	
2	PP52 / PP54	NEOS	- SEOS		LT	14:07 :	14:12	32 :	32	Y	PASS		X	JP	
3	PP50 / PP51	4M	- SEOS		LT	14:42 :	14:47	32 :	31	Y	PASS		X	JP	
4	PP32 / PP50	4K	- SEOS		LT	14:52 :	14:57	32 :	31	Y	PASS		X	JP	
5	/		-			:		:							
6	/		-			:		:							
7	/		-			:		:							
8	/		-			:		:							
9	/		-			:		:							
10	/		-			:		:							
11	/		-			:		:							
12	/		-			:		:							
13	/		-			:		:							
14	/		-			:		:							
15	/		-			:		:							
16	/		-			:		:							
17	/		-			:		:							
18	/		-			:		:							
19	/		-			:		:							
20	/		-			:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (i e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 9/5/2001

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 9/4/2001
SHEET NUMBER: 10

	SEAM NUMBER	SEAM SECTION* FROM	SEAM SECTION* TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	TIME FINISH	PRESSURE INITIAL	PRESSURE FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	SEAM COMPLETE YES	MON.	REMARKS
1	PP43 / PP46	SEOS	NEOS		LT	10:25	10:30	30	30	Y	PASS		X	JP	
2	PP45 / PP47	EEOS	WEOS		LT	10:27	10:33	33	33	Y	PASS		X	JP	
3	PP45 / PP46	NWEOS	SEEOS		LT	10:35	10:40	34	34	Y	PASS		X	JP	
4	PP46 / PP47	NWEOS	SEEOS		LT	10:47	10:52	31	30	Y	PASS		X	JP	
5	PP47 / 3D	NWEOS	SEEOS		LT	10:51	10:56	32	32	Y	PASS		X	JP	
6	PP46 / 3D	SEOS	NEOS		LT	10:57	11:02	33	33	Y	PASS		X	JP	
7	PP54 / PP55	EEOS	WEOS		LT	11:06	11:11	34	34	Y	PASS		X	JP	
8	PP52 / PP55	NEOS	SEOS		LT	11:18	11:23	30	30	Y	PASS		X	JP	
9	PP55 / PP56	EEOS	WEOS		LT	11:27	11:33	32	32	Y	PASS		X	JP	
10	PP52 / PP56	NEOS	SEOS		LT	11:37	11:42	32	32	Y	PASS		X	JP	
11	PP56 / PP57	EEOS	WEOS		LT	11:45	11:50	34	34	Y	PASS		X	JP	
12	PP52 / PP57	NEOS	SEOS		LT	12:42	12:47	31	31	Y	PASS		X	JP	
13	PP52 / PP58	NEOS	SEOS		LT	12:55	13:00	32	30	Y	PASS		X	JP	
14	PP57 / PP58	EEOS	5K		LT	13:10	13:15	32	30	Y	PASS	X		JP	
15	PP57 / PP58	5K	3I		LT	13:20	13:25	30	29	Y	PASS	X		JP	
16	PP58 / PP59	EEOS	5W		LT	13:44	13:49	32	32	Y	PASS	X		JP	
17	PP58 / PP59	5W	WEOS		LT	13:52	13:57	36	36	Y	PASS		X	JP	
18	PP52 / PP59	NEOS	SEOS		LT	13:54	13:59	32	30	Y	PASS		X	JP	
19	PP52 / PP60	NEOS	SEOS		LT	13:54	13:59	32	30	Y	PASS		X	JP	
20	PP59 / PP60	EEOS	3M		LT	14:00	14:05	34	33	Y	PASS	X		JP	

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER,
OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS/DAG DATE: 9/7/01

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 9/4/2001
SHEET NUMBER: 11

	SEAM NUMBER	SEAM SECTION * FROM	TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	FINISH	PRESSURE INITIAL	FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	YES	MON.	REMARKS
1	PP4 / PP52	NEOS	SEOS		LT	14:52	14:57	32	32	Y	PASS		X	JP	
2	PP3 / PP52	5R	SEOS		LT	15:03	15:08	33	33	Y	PASS		X	JP	
3	PP60 / PP62	EEOS	WEOS		LT	15:10	15:15	32	31	Y	PASS		X	JP	
4	PP60 / PP61	EEOS	WEOS		LT	15:10	15:15	32	31	Y	PASS		X	JP	
5	PP4 / PP62	NEEOS	SWEOS		LT	15:23	15:28	32	32	Y	PASS		X	JP	
6	PP62 / PP63	EEOS	WEOS		LT	15:41	15:46	34	34	Y	PASS		X	JP	
7	PP4 / PP63	NEEOS	SWEOS		LT	16:00	16:05	31	30	Y	PASS		X	JP	
8	PP4 / PP64	NEEOS	SWEOS		LT	16:07	16:12	30	30	Y	PASS		X	JP	
9	PP63 / PP64	EEOS	WEOS		LT	16:23	16:28	31	31	Y	PASS		X	JP	
10	PP63 / 3N	SEOS	NEOS		LT	16:45	16:50	34	34	Y	PASS		X	JP	
11	PP64 / 3N	EEOS	WEOS		LT	17:00	17:05	32	32	Y	PASS		X	JP	
12	PP61 / PP63	WEOS	EEOS		LT	17:00	17:05	38	36	Y	PASS		X	JP	
13	PP61 / 3N	EEOS	WEOS		LT	17:06	17:11	32	32	Y	PASS		X	JP	
14															
15															
16															
17															
18															
19															
20															

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 9/5/01

GEOMEMBRANE SEAM PRESSURE TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

DATE: 9/5/2001
SHEET NUMBER: 12

	SEAM NUMBER	SEAM SECTION * FROM	SEAM SECTION * TO	PRESS. GAUGE NUMBER	TECH ID	TIME START	TIME FINISH	PRESSURE INITIAL	PRESSURE FINAL	OBS. TEST	RESULTS PASS/ FAIL	SEAM COMPLETE NO	SEAM COMPLETE YES	MON.	REMARKS
1	PP61 / 3K	EEOS	WEOS		LT	7:20	7:25	30	30	Y	PASS		X	RS	
2	PP60 / 3K	SEOS	NEOS		LT	7:32	7:37	33	32	Y	PASS		X	RS	
3	PP61 / PP62	SWEOS	NEEOS		LT	7:35	7:40	31	30	Y	PASS		X	RS	
4	PP59 / PP60	WEOS	3M		LT	7:50	7:55	36	36	Y	PASS		X	JP	
5	3J / 3K	EEOS	WEOS		LT	7:57	8:02	33	33	Y	PASS		X	JP	
6	PP59 / 3J	SEOS	NEOS		LT	8:05	8:10	33	33	Y	PASS		X	JP	
7	PP58 / 3J	WEOS	EEOS		LT	8:16	8:21	32	31	Y	PASS		X	JP	
8	PP57 / PP58	WEOS	3I		LT	8:25	8:30	34	34	Y	PASS		X	JP	
9	PP3 / PP52	NEEOS	5R		LT	8:39	8:44	32	30	Y	PASS		X	JP	
10	PP52 / PP65	NEOS	3P		LT	8:50	8:55	34	34	Y	PASS	X		JP	
11	PP52 / PP65	3P	SEOS		LT	8:57	9:02	31	31	Y	PASS		X	JP	
12	PP3 / PP65	NEEOS	SWEOS		LT	9:05	9:10	33	33	Y	PASS		X	JP	
13	PP65 / PP66	NEOS	SEOS		LT	9:13	9:18	34	33	Y	PASS		X	JP	
14	PP3 / PP66	NEEOS	SWEOS		LT	9:19	9:24	35	34	Y	PASS		X	JP	
15	/	-				:		:							
16	/	-				:		:							
17	/	-				:		:							
18	/	-				:		:							
19	/	-				:		:							
20	/	-				:		:							

* REFERENCE SEAM ENDPOINTS FROM AND END OF SEAM (EOS), A REPAIR NUMBER, OR A POINT LOCATION ON THE SEAM (I e, REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

REVIEWED BY: RS DATE: 9/5/2001

2.2.2.5 Defect Logs

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 1

DEFECT CODE	DEFECT LOCATION: SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION: DEFECT LOCATION DESCRIPTION	DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
A	PP35/PP36	42' N OF SEOS	DS-P01	31-Aug	RS	991, 500'	31-Aug	31-Aug
B	PP5/PP6	233' S OF NEOS	DS-P02	23-Aug	RS	134, 500'	27-Aug	27-Aug
C	PP8	E SIDE INTO AT	EXT	23-Aug	RS	SEAM LOG #2	23-Aug	23-Aug
D	PP2/PP7	20' NW OF SEEOS	DS-P03	23-Aug	RS	132, 500'	27-Aug	27-Aug
E	PP15/PP16	55' E OF WEOS	DS-P04	23-Aug	RS	134, 500'	27-Aug	27-Aug
F	PP25	E SIDE INTO AT	EXT	23-Aug	RS	SEAM LOG #2	23-Aug	27-Aug
G	PP26/PP27	16.5' N OF SEOS	DS-P05	23-Aug	RS	134, 500'	27-Aug	27-Aug
H	PP5/PP14	10' N OF SEOS	DS-P06	23-Aug	RS	134, QA	27-Aug	27-Aug
I	PP2/PP8/1C	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
J	PP2/PP7/PP8	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
K	PP2/PP5/PP7	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
M	PP1/PP10/PP11	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
N	PP1/PP9/PP10	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
P	PP1/PP2/PP5/PP9	4 PANELS	4T	23-Aug	RS		27-Aug	27-Aug
Q	PP5/PP9/PP12	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
R	PP5/PP12/PP13	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
S	PP5/PP13/PP14	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
T	PP5/PP14/PP15	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
W	PP5/PP15/PP16	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
X	PP5/PP16/PP17	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - FOUR PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS DATE: 9/5/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 2

DEFECT CODE	DEFECT LOCATION: SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION: DEFECT LOCATION DESCRIPTION	DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
A	PP5/PP17/PP18	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
B	PP5/PP18/PP19	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
C	PP5/PP19/PP20	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
D	PP5	23' S OF N END OF PANEL	D	23-Aug	RS		27-Aug	27-Aug
E	PP5	18' S OF N END OF PANEL	D	23-Aug	RS		27-Aug	27-Aug
F	PP5	13' S OF N END OF PANEL	D	23-Aug	RS		27-Aug	27-Aug
G	PP5	5' S OF N END OF PANEL	D	23-Aug	RS		27-Aug	27-Aug
H	PP5/PP20/PP21	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
I	PP24	MIDDLE OF PANEL	D	23-Aug	RS		27-Aug	27-Aug
J	PP23/PP25/1F	3 PANELS	T	23-Aug	RS		27-Aug	27-Aug
K	PP22/PP23/PP24/PP25	4 PANELS	4T	23-Aug	RS		27-Aug	27-Aug
M	PP21/PP22/PP24/PP26	4 PANELS	4T	23-Aug	RS		27-Aug	27-Aug
N	PP6/PP28	18' S OF NEOS	DS-P07	23-Aug	RS	132, 500'	27-Aug	27-Aug
P	PP28/PP29	INTO AT	BO	23-Aug	RS		27-Aug	27-Aug
Q	PP28/PP29	317' N OF SEOS	DS-P08	23-Aug	RS	134, 500'	27-Aug	31-Aug
R	PP29/PP30	184' N OF SEOS	DS-P09	23-Aug	RS	132, 500'	27-Aug	27-Aug
S	PP33/PP34	13' N OF SEOS	DS-P10	24-Aug	RS	134, 500'	27-Aug	27-Aug
T	PP31/PP32	31' S OF NEOS	DS-P11	24-Aug	RS	132, 500'	27-Aug	27-Aug
W	PP5/PP21/PP27	3 PANELS	T	27-Aug	JP		27-Aug	27-Aug
X	PP21/PP26/PP27	3 PANELS	T	27-Aug	JP		27-Aug	27-Aug

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - FOUR PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS/DAG DATE: 9/5/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 3

DEFECT CODE	DEFECT LOCATION: SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION: DEFECT LOCATION DESCRIPTION	DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
A	PP24/PP25	INTO AT	BO	27-Aug	JP		27-Aug	27-Aug
B	PP1/PP2/PP5	3 PANELS	T	27-Aug	JP		27-Aug	27-Aug
C	PP32/PP38	95' W OF EEOS	DS-P12	30-Aug	RS	132, 500'	31-Aug	31-Aug
D	PP46	W. SIDE INTO AT	EXT	30-Aug	RS	SEAM LOG 10	30-Aug	5-Sep
E	PP40/PP41	20' N OF SEOS	IO	30-Aug	RS		31-Aug	31-Aug
F	PP44/PP48	50' W OF EEOS	DS-P13	30-Aug	RS	134, 500'	31-Aug	31-Aug
G	PP50/PP51	223' N OF SEOS	DS-P14	30-Aug	RS	132, 500'	31-Aug	31-Aug
H	PP51/PP52	52' N OF SEOS	DS-P15	30-Aug	RS	134, 500'	31-Aug	31-Aug
I	PP57/PP58	68' W OF EEOS	DS-P16	30-Aug	RS	134, 500'	5-Sep	5-Sep
J	PP59	W. SIDE INTO AT	EXT	30-Aug	RS	SEAM LOG 11	30-Aug	5-Sep
K	PP60	W. SIDE INTO AT	EXT	30-Aug	RS	SEAM LOG 11	30-Aug	5-Sep
M	PP59/PP60	13' E OF WEOS	DS-P17	30-Aug	RS	132, 500'	5-Sep	5-Sep
N	PP63	W. SIDE INTO AT	EXT	30-Aug	RS	SEAM LOG 12	30-Aug	5-Sep
P	PP52/PP65	15' S OF NEOS	DS-P18	30-Aug	RS	132, QA	5-Sep	5-Sep
Q	PP4/PP63	5' SW OF NEEOS	DS-P19	30-Aug	RS	134, 500'	4-Sep	5-Sep
R	PP5/PP6/PP27/PP33	4 PANELS	4T	31-Aug	RS		31-Aug	31-Aug
S	PP6/PP33/PP34	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
T	PP6/PP28/PP34	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
W	PP6/PP34	3S TO 3T	G & W	31-Aug	JP		31-Aug	31-Aug
X	PP28/PP34/PP35	3 PANELS	T	31-Aug	JP		31-Aug	31-Aug

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - FOUR PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS DATE: 9/5/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 4

DEFECT CODE	DEFECT LOCATION: SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION: DEFECT LOCATION DESCRIPTION	DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
A	PP28/PP29/PP35	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
B	PP29/PP35/PP36	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
C	PP29/PP35/PP36	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
D	PP38/PP36/PP37	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
E	PP30/PP36/PP37	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
F	PP31/PP37/PP38	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
G	PP31/PP32/PP38	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
H	PP32/PP38/PP39	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
I	PP32/PP39/PP50	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
J	PP39/PP40/PP50	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
K	PP32/PP50	53' N OF SEOS	BO	31-Aug	RS		31-Aug	31-Aug
M	PP50/PP51	55' N OF SEOS	BO	31-Aug	RS		31-Aug	31-Aug
N	PP40/PP50/PP51	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
P	PP51	2' FROM PP40/PP50	D	31-Aug	RS		31-Aug	31-Aug
Q	PP40/PP41/PP51	3 PANELS	T	31-Aug	RS	COVERS 4R	31-Aug	31-Aug
R	PP41/PP51/PP52	3 PANELS	T	31-Aug	RS		NA	NA
S	PP41/PP42/PP48/PP52	4 PANELS	4T	31-Aug	RS		31-Aug	31-Aug
T	PP42/PP44/PP48	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
W	PP42/PP43/PP44	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
X	PP43/PP44/PP45	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - FOUR PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS DATE: 9/5/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 5

DEFECT CODE	DEFECT LOCATION: SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION: DEFECT LOCATION DESCRIPTION	DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
A	PP43/PP45/PP46	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
B	PP45/PP46/PP47	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
C	PP46/PP47/3D	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
D	PP49/PP53	INTO AT	BO	31-Aug	RS		31-Aug	31-Aug
E	PP48/PP49/PP52	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
F	PP49/PP52/PP53	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
G	PP52/PP53/PP54	3 PANELS	T	31-Aug	RS		31-Aug	31-Aug
H	PP52/PP54/PP55	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
I	PP52/PP55/PP56	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
J	PP52/PP56/PP57	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
K	PP57/PP58	48' E OF WEOS	BO	31-Aug	RS		4-Sep	4-Sep
M	PP52/PP57/PP58	3 PANELS	BO	31-Aug	RS		4-Sep	4-Sep
N	PP52/PP58/PP59	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
P	PP52/PP59/PP60	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
Q	PP4/PP52/PP60	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
R	PP3/PP52	20' S OF NEOS	IO	31-Aug	RS		5-Sep	5-Sep
S	PP41	W. FROM 3F 20'	CR	31-Aug	RS		31-Aug	31-Aug
T	PP3/PP4/PP52	3 PANELS	T	31-Aug	RS		4-Sep	4-Sep
W	PP58/PP59	22' W OF EEOS	BO	4-Sep	RS		4-Sep	4-Sep
X	PP4/PP60/PP62	3 PANELS	T	4-Sep	RS		4-Sep	4-Sep

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - FOUR PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS/DAG DATE: 9/6/2001

GEOMEMBRANE DEFECT LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER: 6

DEFECT CODE	DEFECT LOCATION		DEFECT TYPE	LOG DATE	MON.	REMARKS	** REPAIR DATE	** TEST DATE
	SEAM, PANEL OR REPAIR NO.	DEFECT LOCATION DESCRIPTION						
A	PP4/PP60	5Q TO 5X	FS	4-Sep	RS		4-Sep	4-Sep
B	PP4/PP62/PP63	3 PANELS	T	4-Sep	RS	COVERED BY 3Q	4-Sep	5-Sep
C	PP4/PP63/PP64	3 PANELS	T	4-Sep	RS		4-Sep	5-Sep
D	PP63/PP64/3N	3 PANELS	T	4-Sep	RS		5-Sep	5-Sep
E	PP61/PP63/3N	3 PANELS	T	4-Sep	RS		5-Sep	5-Sep
F	PP61/PP62/PP63	3 PANELS	T	4-Sep	RS		5-Sep	5-Sep
G	PP60/PP61/PP62	3 PANELS	T	4-Sep	RS		5-Sep	5-Sep
H	PP59/PP60/3K/3J	4 PANELS	4T	4-Sep	RS		5-Sep	5-Sep
I	PP60/PP61/3K	3 PANELS	T	4-Sep	RS		5-Sep	5-Sep
J	PP3/PP65/PP66	3 PANELS	T	4-Sep	RS		5-Sep	5-Sep
K	PP3/PP52/PP65	3 PANELS	T	4-Sep	RS		5-Sep	5-Sep
M	PP58/PP59/3J	3 PANELS	T	5-Sep	JP		5-Sep	5-Sep
N	PP39/PP50	4J TO 4I	FS	5-Sep	RS		31-Aug	31-Aug
P	P42	SECONDARY RISER PIPE	BS	5-Sep	RS		6-Sep	6-Sep
Q								
R								
S								
T								
W								
X								

AD - ANIMAL RELATED DAMAGE
B - UNDISPERSED RESIN BEAD
BO - FUSION WELDER BURN
BS - BOOT/SKIRT FOR FML PENETRATION
CO - CHANGE OF OVERLAP
CR - CREASE
D - INSTALLATION DAMAGE
DS-# - DESTRUCTIVE TEST NUMBER
EE - EARTHWORK EQUIPMENT DAMAGE
EXT - EXTENSION
FM - FISHMOUTH
FS - FAILED SEAM LENGTH
FTS - FIELD TEST STRIP
HT - HEAT TACK BURN
IO - INSUFFICIENT OVERLAY (UNDER SPEC.)
MD - MANUFACTURER/DELIVERY DAMAGE
PT - PRESSURE TEST CUT
SI - SOIL SURFACE IRREGULARITY
SL - SLAG ON TEXTURED SHEET
T - THREE PANEL INTERSECTION
VL - VACUUM TEST LEAK
WR - WRINKLE
WS - WELDER RESTART
4T - FOUR PANEL INTERSECTION

** COLUMNS TO BE USED BY THE DATA REVIEWER ONLY.

REVIEWED BY: RS DATE: 9/6/2001

2.2.2.6 Repair Logs

GEOMEMBRANE REPAIR LOG

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-01	7:30	JMB
TX-02	12:30	JMB

MACHINE NUMBER 570

DATE 8/27/2001

SHEET NO. 1

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	1P	8/27/2001	8:03	P	3' X 4'	JMB	JP	
2	1Q	8/27/2001	8:09	P	2' DIA.	JMB	JP	
3	1R	8/27/2001	8:21	P	2' DIA.	JMB	JP	
4	1S	8/27/2001	8:25	P	2' DIA.	JMB	JP	
5	1H	8/27/2001	8:48	P	3' X 6'	JMB	JP	
6	1T	8/27/2001	8:50	P	2' DIA.	JMB	JP	
7	1W	8/27/2001	8:58	P	2' DIA.	JMB	JP	
8	1E	8/27/2001	9:07	P	3' X 5'	JMB	JP	
9	1X	8/27/2001	9:11	P	2' DIA.	JMB	JP	
10	2A	8/27/2001	9:14	P	2' DIA.	JMB	JP	
11	2B	8/27/2001	9:19	P	2' DIA.	JMB	JP	
12	2C	8/27/2001	9:22	P	2' DIA.	JMB	JP	
13	2H	8/27/2001	9:28	P	2' DIA.	JMB	JP	
14	2W	8/27/2001	9:31	P	2' DIA.	JMB	JP	
15	2X	8/27/2001	9:42	P	2' DIA.	JMB	JP	
16	1G	8/27/2001	9:58	P	3' X 6'	JMB	JP	
17	2G	8/27/2001	10:00	P	2' DIA.	JMB	JP	
18	2F	8/27/2001	10:02	P	2' DIA.	JMB	JP	
19	2E	8/27/2001	10:04	P	2' DIA.	JMB	JP	
20	2D	8/27/2001	10:05	P	2' DIA.	JMB	JP	
21	2N	8/27/2001	10:12	P	3' X 6'	JMB	JP	
22	2S	8/27/2001	10:19	P	3' X 6'	JMB	JP	
23	2Q	8/27/2001	10:25	P	3' X 5'	JMB	JP	
24	2T	8/27/2001	10:54	P	2' X 6'	JMB	JP	
25	2R	8/27/2001	11:04	P	2' X 5'	JMB	JP	

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS/DAG DATE 9/6/01

GEOMEMBRANE REPAIR LOG

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-01	7:30	JMB
TX-02	12:30	JMB

MACHINE NUMBER 570

DATE 8/27/2001

SHEET NO. 2

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	2M	8/27/2001	11:36	P	7 X 6	JMB	JP	
2	2I	8/27/2001	11:40	P	2 DIA.	JMB	JP	
3	2K	8/27/2001	13:25	P	5 X 6	JMB	JP	
4	2J	8/27/2001	13:29	P	2 DIA.	JMB	JP	
5	3A	8/27/2001	13:33	P	2 DIA.	JMB	JP	
6	1M	8/27/2001	13:48	P	2 DIA.	JMB	JP	
7	1N	8/27/2001	13:52	P	2 DIA.	JMB	JP	
8	1B	8/27/2001	13:58	P	2 X 6	JMB	JP	
9	3B	8/27/2001	14:05	P	2 X 4	JMB	JP	
10	1I	8/27/2001	14:11	P	2 DIA.	JMB	JP	
11	1J	8/27/2001	14:17	P	2 X 3	JMB	JP	
12	1D	8/27/2001	14:22	P	2 X 5	JMB	JP	
13	1K	8/27/2001	14:28	P	3 DIA.	JMB	JP	
14	2P	8/27/2001	14:44	P	3 X 6	JMB	JP	
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE: 8/27/01

GEOMEMBRANE REPAIR LOG

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-003	8:00	JMB
TX-004	12:30	JMB

MACHINE NUMBER 570

DATE 8/31/2001

SHEET NO. 3

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	3R	8/31/2001	8:35	P	5 X 8	JMB	JP	
2	3S	8/31/2001	8:48	P	2' DIA.	JMB	JP	
3	3T	8/31/2001	8:49	P	2' DIA.	JMB	JP	
4	3X	8/31/2001	9:01	P	2' DIA.	JMB	JP	
5	4A	8/31/2001	9:05	P	2' DIA.	JMB	JP	
6	1A	8/31/2001	9:22	P	3 X 5	JMB	JP	
7	4B	8/31/2001	9:35	P	2' DIA.	JMB	JP	
8	4C	8/31/2001	9:39	P	2' DIA.	JMB	JP	
9	4D	8/31/2001	9:42	P	2' DIA.	JMB	JP	
10	4E	8/31/2001	9:47	P	2' DIA.	JMB	JP	
11	4F	8/31/2001	10:10	P	2' DIA.	JMB	JP	
12	4G	8/31/2001	10:12	P	2' DIA.	JMB	JP	
13	3C	8/31/2001	10:19	P	2 X 5	JMB	JP	
14	4H	8/31/2001	10:30	P	3 X 9	JMB	JP	
15	4I	8/31/2001	10:36	P	2' DIA.	JMB	JP	
16	4J	8/31/2001	10:52	P	3 X 6	JMB	JP	
17	4N	8/31/2001	10:57	P	2' DIA.	JMB	JP	
18	4P	8/31/2001	11:02	P	2' DIA.	JMB	JP	
19	4Q	8/31/2001	11:10	P	4 X 6	JMB	JP	COVERS 4R
20	3W	8/31/2001	8:47	RS	3' SEAM	JMB	JP	
21	3E	8/31/2001	11:35	P	3 X 5	JMB	JP	
22	4S	8/31/2001	13:02	P	5 X 6	JMB	JP	
23	4T	8/31/2001	13:09	P	5 X 6	JMB	JP	
24	3G	8/31/2001	13:20	P	2 X 4	JMB	JP	
25	4W	8/31/2001	13:30	P	2' DIA.	JMB	JP	

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE 9/5/01

GEOMEMBRANE REPAIR LOG

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-003	8:00	JMB
TX-004	12:30	JMB

MACHINE NUMBER 570

DATE 8/31/2001

SHEET NO. 4

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	3F	8/31/2001	11:38	P	2 X 6	JMB	JP	
2	5S	8/31/2001	11:48	P/ G&W	2' DIA.	JMB	JP	20' SEAM
3	5E	8/31/2001	12:00	P	2' DIA.	JMB	JP	
4	4X	8/31/2001	13:52	P	2' DIA.	JMB	JP	
5	5D	8/31/2001	14:22	P	2' DIA.	JMB	JP	
6	5F	8/31/2001	14:27	P	3 X 5	JMB	JP	
7	5G	8/31/2001	14:31	P	2' DIA.	JMB	JP	
8	3H	8/31/2001	14:53	P	2 X 6	JMB	JP	
9	4M	8/31/2001	15:00	P	2 X 4	JMB	JP	
10	4K	8/31/2001	15:19	P	2 X 8	JMB	JP	
11	6N	8/31/2001	10:45	G&W	20' LONG	JMB	JP	
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS/DAG DATE 9/6/01

GEOMEMBRANE REPAIR LOG

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-05	8:30	JMB
TX-06	13:30:00 PM	JMB

MACHINE NUMBER 570

DATE 9/4/2001

SHEET NO. 5

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	5A	9/4/2001	11:35	P	2' DIA.	JMB	JP	
2	5B	9/4/2001	11:46	P	2' DIA.	JMB	JP	
3	5C	9/4/2001	11:50	P	2' DIA.	JMB	JP	
4	5H	9/4/2001	12:53	P	2' DIA.	JMB	JP	
5	5I	9/4/2001	12:58	P	2' DIA.	JMB	JP	
6	5J	9/4/2001	13:03	P	2' DIA.	JMB	JP	
7	5M	9/4/2001	14:05	P	2' DIA.	JMB	JP	
8	5K	9/4/2001	14:18	P	2' DIA.	JMB	JP	
9	5N	9/4/2001	14:37	P	3 X 6	JMB	JP	
10	5P	9/4/2001	14:53	P	2' DIA.	JMB	JP	
11	5W	9/4/2001	15:23	P	2 X 7	JMB	JP	
12	5Q	9/4/2001	15:50	P	2 X 6	JMB	JP	
13	6A	9/4/2001	15:55	RS	8' SEAM	JMB	JP	
14	5X	9/4/2001	16:00	P	5 X 6	JMB	JP	
15	5T	9/4/2001	16:29	P	2 X 4	JMB	JP	
16	3Q	9/4/2001	16:51	P	2 X 7	JMB	JP	
17	6C	9/4/2001	17:02	P	2' DIA.	JMB	JP	
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS/DAG DATE 9/6/01

GEOMEMBRANE REPAIR LOG

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-07	7:45	JMB

MACHINE NUMBER 570

DATE 9/5/2001

SHEET NO. 6

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	6G	9/5/2001	8:23	P	2' DIA.	JMB	JP	
2	3I	8/27/2001	8:59	P	3' X 4'	JMB	JP	
3	6M	8/27/2001	9:05	P	3' DIA.	JMB	JP	
4	6H	8/27/2001	9:17	P	2' X 4'	JMB	JP	
5	3M	8/27/2001	9:28	P	2' X 6'	JMB	JP	
6	6I	8/27/2001	9:42	P	3' DIA.	JMB	JP	
7	6E	8/27/2001	9:49	P	2' DIA.	JMB	JP	
8	6F	8/27/2001	9:54	P	2' DIA.	JMB	JP	
9	6D	8/27/2001	10:02	P	2' X 5'	JMB	JP	
10	6J	8/27/2001	10:33	P	2' DIA.	JMB	JP	
11	3P	8/27/2001	10:38	P	2' X 5'	JMB	JP	
12	6K	8/27/2001	10:44	P	2' DIA.	JMB	JP	
13	5R	8/27/2001	11:03	P	3' X 6'	JMB	JP	
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS/DAG DATE: 9/6/01

GEOMEMBRANE REPAIR LOG

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

PASSING TRIAL SEAMS

NO.	TIME	TECH. ID
TX-08	14:30	CBD

MACHINE NUMBER 570

DATE 9/6/2001

SHEET NO. 7

	DEFECT CODE	REPAIR DATE	APPROX. TIME	REPAIR TYPE	APPROX. DIMENSION	WELD TECH.	MON.	REMARKS
1	6P	9/6/2001	15:30	BOOT	2 X 9	CBD	JP/RS	
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								

REPAIR TYPE: P - PATCH, C - CAP, RS - RECONSTRUCTED SEAM, G&W - GRIND WELD

REVIEWED BY: RS DATE: 9/6/01

2.2.2.7 Vacuum Test Logs

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

VACUUM BOX NUMBER

SHEET NUMBER 1

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	1P	8/27	CBD		Y	JP	
2	1Q	8/27	CBD		Y	JP	
3	1R	8/27	CBD		Y	JP	
4	1S	8/27	CBD		Y	JP	
5	1H	8/27	CBD		Y	JP	
6	1T	8/27	CBD		Y	JP	
7	1W	8/27	CBD		Y	JP	
8	1X	8/27	CBD		Y	JP	
9	1E	8/27	CBD	1 LEAK	Y	JP	REPAIRED
10	2A	8/27	CBD		Y	JP	
11	2B	8/27	CBD		Y	JP	
12	2C	8/27	CBD		Y	JP	
13	2D	8/27	CBD		Y	JP	
14	2E	8/27	CBD		Y	JP	
15	2F	8/27	CBD		Y	JP	

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16	2G	8/27	CBD		Y	JP	
17	2W	8/27	CBD		Y	JP	
18	2X	8/27	CBD		Y	JP	
19	2H	8/27	CBD		Y	JP	
20	2S	8/27	CBD		Y	JP	
21	2N	8/27	CBD		Y	JP	
22	2M	8/27	CBD		Y	JP	
23	1G	8/27	CBD		Y	JP	
24	2I	8/27	CBD		Y	JP	
25	2K	8/27	CBD		Y	JP	
26	2J	8/27	CBD		Y	JP	
27	3A	8/27	CBD		Y	JP	
28	2R	8/27	CBD		Y	JP	
28	2T	8/27	CBD		Y	JP	
30	3B	8/27	CBD		Y	JP	

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1	PP1 / PP5	NEOS	SEOS	8/27	CBD			YES	YES	JP	
2	/	-						/			
3	/	-						/			
4	/	-						/			
5	/	-						/			

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RSCAG DATE 9/6/01

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

VACUUM BOX NUMBER

SHEET NUMBER 2

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	1N	8/27	CBD		Y	JP	
2	1M	8/27	CBD		Y	JP	
3	1K	8/27	CBD		Y	RS	
4	1D	8/27	CBD		Y	RS	
5	1J	8/27	CBD		Y	RS	
6	1I	8/27	CBD	1 LEAK	Y	RS	REPAIRED
7	2P	8/27	CBD		Y	RS	
8	1B	8/27	CBD		Y	RS	
9							
10							
11							
12							
13							
14							
15							

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
28							
30							

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1	/	-					/				
2	/	-					/				
3	/	-					/				
4	/	-					/				
5	/	-					/				

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS DATE 8/28/01

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

VACUUM BOX NUMBER

SHEET NUMBER 3

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	3R	8/31	CBD		Y	JP	
2	3S	8/31	CBD		Y	JP	
3	3W	8/31	CBD		Y	JP	
4	3T	8/31	CBD		Y	JP	
5	3X	8/31	CBD		Y	JP	
6	4A	8/31	CBD		Y	JP	
7	2Q	8/31	CBD		Y	JP	
8	4B	8/31	CBD		Y	JP	
9	4C	8/31	CBD		Y	JP	
10	4D	8/31	CBD		Y	JP	
11	4E	8/31	CBD		Y	JP	
12	1A	8/31	CBD		Y	JP	
13	4F	8/31	CBD		Y	JP	
14	4G	8/31	CBD		Y	JP	
15	3C	8/31	CBD		Y	JP	

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16	4H	8/31	CBD		Y	JP	
17	4I	8/31	CBD		Y	JP	
18	4J	8/31	CBD		Y	JP	
19	4Q	8/31	CBD		Y	JP	
20	3E	8/31	CBD		Y	JP	
21	4S	8/31	CBD		Y	JP	
22	4T	8/31	CBD		Y	JP	
23	3G	8/31	CBD		Y	JP	
24	4W	8/31	CBD		Y	JP	
25	3F	8/31	CBD		Y	JP	
26	4X	8/31	CBD		Y	JP	
27	5E	8/31	CBD		Y	JP	
28	5D	8/31	CBD		Y	JP	
28	5F	8/31	CBD		Y	JP	
30	5G	8/31	CBD		Y	JP	

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1	PP29 / PP35	EEOS	WEOS	8/31	CBD		/	X	Y	JP	
2	PP39 / PP50	EEOS	WEOS	8/31	CBD		/	X	Y	JP	REPAIR # 6N
3	/	-					/				
4	/	-					/				
5	/	-					/				

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS/DAG DATE 9/6/01

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

VACUUM BOX NUMBER _____

SHEET NUMBER 4

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	3H	8/31	CBD		Y	JP	
2	4M	8/31	CBD		Y	JP	
3	4K	8/31	CBD		Y	JP	
4	4N	8/31	CBD		Y	JP	
5	4P	8/31	CBD		Y	JP	
6	5S	8/31	CBD		Y	JP	
7							
8							
9							
10							
11							
12							
13							
14							
15							

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
28							
30							

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1											
2											
3	/	-						/			
4	/	-						/			
5	/	-						/			

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS/DAG DATE 9/6/01

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

VACUUM BOX NUMBER

SHEET NUMBER 5

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	5C	9/4	LS		Y	JP	
2	5B	9/4	LS		Y	JP	
3	5A	9/4	LS		Y	JP	
4	5H	9/4	LS		Y	JP	
5	5I	9/4	LS		Y	JP	
6	5J	9/4	LS		Y	JP	
7	5M	9/4	LS		Y	JP	
8	5K	9/4	LS		Y	JP	
9	5N	9/4	LS		Y	JP	
10	5P	9/4	LS		Y	JP	
11	5W	9/4	LS		Y	JP	
12	5Q	9/4	LS		Y	JP	
13	6A	9/4	LS		Y	JP	
14	5X	9/4	LS		Y	JP	
15	5T	9/4	LS		Y	JP	

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
28							
30							

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1											
2											
3	/	-					/				
4	/	-					/				
5	/	-					/				

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS/DAG DATE 9/6/01

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

VACUUM BOX NUMBER

SHEET NUMBER 6

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	3I	9/5	CBD		Y	JP	
2	6M	9/5	CBD		Y	JP	
3	6H	9/5	CBD		Y	JP	
4	3M	9/5	CBD		Y	JP	
5	6I	9/5	CBD		Y	JP	
6	6E	9/5	CBD		Y	JP	
7	6F	9/5	CBD		Y	JP	
8	6D	9/5	CBD		Y	JP	
9	6C	9/5	CBD		Y	JP	
10	3Q	9/5	CBD		Y	JP	
11	6G	9/5	CBD		Y	JP	
12	5R	9/5	CBD		Y	JP	
13	6K	9/5	CBD		Y	JP	
14	3P	9/5	CBD		Y	JP	
15	6J	9/5	CBD		Y	JP	

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
28							
30							

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1											
2											
3	/	-						/			
4	/	-						/			
5	/	-						/			

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS/DAG DATE 9/6/01

GEOMEMBRANE SEAM VACUUM TEST LOG

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS
LOCATION: TSCA CELL AREA 1, SAUGET

VACUUM BOX NUMBER _____

SHEET NUMBER 7

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
1	6P	9/6	CBD		Y	JP	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

REPAIRS

	DEFECT CODE	TEST DATE	TECH ID	DEFECTS **	OBS. TEST	MON.	REMARKS
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
28							
30							

SEAMS

	SEAM NUMBER	SEAM SECTION * FROM	TO	TEST DATE	TECH ID	DEFECTS **	SEAM COMPLETE NO	YES	OBS. TEST	MON.	REMARKS
1											
2											
3	/	-						/			
4	/	-						/			
5	/	-						/			

* REFERENCE SEAM ENDPOINTS FROM AN END OF PANEL (EDP), A REPAIR NUMBER, OR A POINT LOCATION ON THE PANEL (i.e., REFERENCE POINT, DISTANCE, DIRECTION FROM REF. PT.)

** RECORD QUANTITY OF LEAKS DETECTED AND REFERENCE NEW DEFECT CODE IN REMARKS.

REVIEWED BY: RS DATE 9/6/01

2.2.2.8 Destruct Test Logs

GEOMEMBRANE SEAM DESTRUCTIVE SAMPLE LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER 1

	DESTRUCTIVE				FIELD TEST RESULTS					
	SAMPLE NUMBER	SEAM NUMBER	MACHINE NUMBER	DATE REMOVED	PEEL SHEAR (PASS/FAIL)	MON.	DATE SHIPPED	LAB TEST STATUS (PASS/FAIL)	DATE OF NOTIFICATION	REMARKS
1	DS-P01	PP35/PP36	991	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
2	DS-P02	PP5/PP6	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
3	DS-P03	PP2/PP7	132	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
4	DS-P04	PP15/PP16	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
5	DS-P05	PP26/PP27	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
6	DS-P06	PP5/PP14	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	QA
7	DS-P07	PP6/PP28	132	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
8	DS-P08	PP28/PP29	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
9	DS-P09	PP29/PP30	132	8/24/2001	PASS / PASS	RS	8/24/2001	PASS	8/27/2001	
10	DS-P10	PP33/PP34	134	8/24/2001	PASS / PASS	RS	8/24/2001	PASS	8/27/2001	
11	DS-P11	PP31/PP32	132	8/24/2001	PASS / PASS	RS	8/24/2001	PASS	8/27/2001	
12	DS-P12	PP32/PP38	132	8/30/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
13	DS-P13	PP44/ PP48	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
14	DS-P14	PP50/PP51	132	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
15	DS-P15	PP51/PP52	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
16	DS-P16	PP57/PP58	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
17	DS-P17	PP59/PP60	132	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
18	DS-P18	PP52/PP65	132	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	QA
19	DS-P19	PP4/PP63	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
20		/		/ /	:		/ /		/ /	

REVIEWED BY: _____ DATE: _____

SUMMARY OF DESTRUCTIVE TEST RESULTS
FUSION METHOD
MAVERICK
SOLUTIA QA
MISSOURI

SAMPLE NUMBER	THICKNESS mils (top/bottom)	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-P01	63.4/62.5	170.9	BRK	140.8	SE 1	132.6	SE 1	
		172.0	BRK	116.9	SE 1	142.2	SE 1	-
		171.6	BRK	110.4	SE 1	135.4	SE 1	
		170.6	BRK	109.7	SE 1	141.5	SE 1	
		168.4	BRK	111.3	SE 1	139.8	SE 1	
DS-P02	62.1/63.4	164.7	BRK	131.7	SE 1	125.4	SE 1	
		164.5	BRK	126.7	SE 1	135.4	SE 1	-
		167.0	BRK	135.1	SE 1	135.9	SE 1	
		166.2	BRK	135.8	SE 1	137.1	SE 1	
		166.3	BRK	136.6	SE 1	132.5	SE 1	
DS-P03	62.6/59.5	158.1	BRK	127.1	SE 1	121.0	SE 1	
		158.3	BRK	134.4	SE 1	120.0	SE 1	-
		159.6	BRK	118.7	SE 1	123.0	SE 1	
		160.5	BRK	127.0	SE 1	120.9	SE 1	
		160.2	BRK	122.2	SE 1	131.8	SE 1	
S-P04	61.1/63.7	164.9	BRK	131.7	SE 1	144.1	SE 1	
		166.3	BRK	144.3	SE 1	147.0	SE 1	-
		165.8	BRK	135.7	SE 1	146.3	SE 1	
		165.3	BRK	143.5	SE 1	120.7	SE 1	
		167.4	BRK	144.5	SE 1	146.8	SE 1	
DS-P05	62.0/63.5	168.2	BRK	139.4	SE 1	113.3	SE 1	
		168.7	BRK	138.3	SE 1	113.8	SE 1	-
		167.6	BRK	134.9	SE 1	76.6	SE 1	
		169.0	BRK	132.8	SE 1	114.9	SE 1	
		171.3	BRK	130.5	SE 1	116.3	SE 1	
DS-P06	59.4/62.6	156.5	BRK	132.1	SE 1	132.7	SE 1	
		158.7	BRK	130.9	SE 1	130.5	SE 1	-
		158.5	BRK	133.4	SE 1	131.0	SE 1	
		156.0	BRK	132.0	SE 1	136.3	SE 1	
		157.6	BRK	128.7	SE 1	131.1	SE 1	
DS-P07	63.9/62.8	168.7	BRK	122.5	SE 1	133.5	SE 1	-
		167.6	BRK	122.3	SE 1	129.2	SE 1	
		167.2	BRK	121.3	SE 1	130.9	SE 1	
		167.9	BRK	118.9	SE 1	120.8	SE 1	
		166.5	BRK	128.0	SE 1	116.9	SE 1	

(1) PEEL (1) represents outer track or top flap.
EEL (2) represents inner track or bottom flap.
BREAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

SUMMARY OF DESTRUCTIVE TEST RESULTS
FUSION METHOD
MAVERICK
SOLUTIA QA
MISSOURI

SAMPLE NUMBER	THICKNESS mils (top/bottom)	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-P08	60.9/59.8	170.0	BRK	120.1	SE 1	132.6	SE 1	
		168.5	BRK	122.4	SE 1	127.5	SE 1	-
		168.4	BRK	118.4	SE 1	126.9	SE 1	
		168.7	BRK	119.6	SE 1	125.6	SE 1	
		168.3	BRK	122.6	SE 1	128.8	SE 1	
DS-P09	63.6/62.6	168.0	BRK	131.0	SE 1	128.1	SE 1	
		168.2	BRK	131.1	SE 1	120.8	SE 1	-
		168.3	BRK	135.2	SE 1	135.4	SE 1	
		169.7	BRK	131.4	SE 1	130.1	SE 1	
		169.1	BRK	135.1	SE 1	127.4	SE 1	
DS-P10	62.1/61.9	168.0	BRK	140.5	SE 1	131.6	SE 1	
		167.5	BRK	133.0	SE 1	124.7	SE 1	-
		166.4	BRK	127.1	SE 1	122.6	SE 1	
		167.0	BRK	136.1	SE 1	125.2	SE 1	
		166.4	BRK	137.6	SE 1	126.3	SE 1	
S-P11	62.7/60.6	168.9	BRK	125.7	SE 1	135.2	SE 1	
		168.9	BRK	120.9	SE 1	130.8	SE 1	-
		168.9	BRK	123.7	SE 1	132.6	SE 1	
		169.6	BRK	123.9	SE 1	124.7	SE 1	
		169.4	BRK	120.3	SE 1	133.4	SE 1	
DS-P12	61.9/59.9	157.7	BRK	127.7	SE 1	126.3	SE 1	
		157.1	BRK	126.2	SE 1	122.3	SE 1	-
		155.4	BRK	134.6	SE 1	126.7	SE 1	
		157.5	BRK	121.1	SE 1	127.3	SE 1	
		152.0	BRK	110.7	SE 1	125.3	SE 1	
DS-P13	61.3/61.6	171.2	BRK	140.7	SE 1	147.5	SE 1	
		171.5	BRK	130.0	SE 1	148.2	SE 1	-
		171.7	BRK	126.2	SE 1	140.8	SE 1	
		170.6	BRK	153.1	SE 1	150.3	SE 1	
		165.3	BRK	127.8	SE 1	150.0	SE 1	
DS-P14	63.4/63.2	169.7	BRK	125.1	SE 1	128.8	SE 1	-
		169.2	BRK	125.9	SE 1	128.1	SE 1	
		168.2	BRK	123.5	SE 1	119.2	SE 1	
		168.2	BRK	122.4	SE 1	129.5	SE 1	
		160.4	BRK	133.0	SE 1	135.3	SE 1	

(1) PEEL (1) represents outer track or top flap.
EEL (2) represents inner track or bottom flap.
REAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

SUMMARY OF DESTRUCTIVE TEST RESULTS
FUSION METHOD
MAVERICK
SOLUTIA QA
MISSOURI

SAMPLE NUMBER	THICKNESS mils (top/bottom)	SHEAR STRENGTH (ppi)	SHEAR BREAK CODE (3)	PEEL (1) STRENGTH (ppi)	PEEL (1) BREAK CODE (3)	PEEL (2) STRENGTH (ppi)	PEEL (2) BREAK CODE (3)	REMARKS
DS-P15	61.5/61.3	167.9	BRK	116.5	SE 1	125.1	SE 1	
		167.2	BRK	113.6	SE 1	126.2	SE 1	-
		167.9	BRK	118.6	SE 1	125.4	SE 1	
		167.1	BRK	119.4	SE 1	128.9	SE 1	
		166.8	BRK	119.7	SE 1	81.8	SE 1	
DS-P16	61.5/64.2	166.5	BRK	139.8	SE 1	128.8	SE 1	
		166.8	BRK	141.1	SE 1	130.3	SE 1	-
		167.5	BRK	144.2	SE 1	87.0	SE 1	
		166.8	BRK	140.4	SE 1	142.0	SE 1	
		166.6	BRK	130.0	SE 1	126.6	SE 1	
DS-P17	61.8/61.1	169.8	BRK	131.1	SE 1	133.1	SE 1	
		169.6	BRK	121.2	SE 1	120.4	SE 1	-
		169.4	BRK	128.1	SE 1	130.2	SE 1	
		168.9	BRK	120.5	SE 1	136.0	SE 1	
		163.7	BRK	124.1	SE 1	136.2	SE 1	
3-P18	62.1/62.7	169.8	BRK	124.2	SE 1	124.4	SE 1	
		170.2	BRK	131.2	SE 1	127.5	SE 1	-
		169.8	BRK	134.4	SE 1	123.3	SE 1	
		169.8	BRK	132.3	SE 1	120.4	SE 1	
		165.8	BRK	125.8	SE 1	112.4	SE 1	
DS-P19	62.2/66.1	168.0	BRK	134.1	SE 1	118.4	SE 1	
		168.6	BRK	126.7	SE 1	125.6	SE 1	-
		168.8	BRK	133.2	SE 1	120.9	SE 1	
		166.7	BRK	133.2	SE 1	125.7	SE 1	
		167.9	BRK	129.1	SE 1	128.5	SE 1	
-	-/-	-	-	-	-	-	-	
		-	-	-	-	-	-	-
		-	-	-	-	-	-	
		-	-	-	-	-	-	
		-	-	-	-	-	-	
-	-/-	-	-	-	-	-	-	-
		-	-	-	-	-	-	
		-	-	-	-	-	-	
		-	-	-	-	-	-	
		-	-	-	-	-	-	

(1) PEEL (1) represents outer track or top flap.
EEL (2) represents inner track or bottom flap.
REAK CODES BASED ON MODES ILLUSTRATED IN ATTACHED FIGURE.

DFSUM

2.2.2.9 Subsurface/Subgrade Acceptance Certificates

CERTIFICATE OF COMPLETION

TYPE: PARTIAL ____ SUBSTANTIAL ____ FINAL ✓

PROJECT NAME: SAUGET AREA 1, TSCA CONTAINMENT CELL
SITE NAME: CAHOKIA, IL.
DATE: 9-11-01

DESCRIPTION OF WORK CERTIFIED:
PRIMARY GEOSYNTHETICS LINER SYSTEM

I HEREBY CERTIFY THAT THE ABOVE IDENTIFIED WORK HAS BEEN INSPECTED AND THAT IT HAS BEEN PROPERLY INSTALLED. I FURTHER CERTIFY THAT ALL REQUIRED TESTING HAS BEEN COMPLETED AND THE RESULTS HAVE BEEN DEEMED ACCEPTABLE BY THE GEOSYNTHETIC QAE. THE WORK IS SUITABLE FOR ITS INTENDED USE.

GEOSYNTHETIC QAE

SIGNATURE: [signature] DATE: 9/18/01

NAME (PRINT): MARK SANDFORT

TITLE: QAULITY ASSURANCE ENGINEER

REPRESENTING: GOLDER ASSC. INC.

INSTALLER'S REPRESENTATIVE

SIGNATURE: [signature] DATE: 9-14-01

NAME (PRINT): LEE TAYLOR

TITLE: PRESIDENT

REPRESENTING: TAYLOR GEOSYNTHETICS, INC.

SOLUTIA REPRESENTATIVE

SIGNATURE: [signature] DATE: 9-19-01

NAME (PRINT): JOHN FIORE

TITLE: MAVERICK, CONSTRUCTION MANAGER

REPRESENTING: SOLUTIA

CERTIFICATE OF ACCEPTANCE OF SOIL SURFACE

GEOSYNTHETIC INSTALLER		PROJECT	
COMPANY	TAYLOR GEOSYNTHETICS, INC.	LOCATION	CAHOKIA, IL
ADDRESS	121 COMMERCE DR. STE 304	PROJECT	TSCA CELL, AREA 1
	DANVILLE	OWNER	SOLUTIA
	INDIANA, 46122		

I, the Undersigned, the duly authorized representative of TAYLOR GEOSYNTHETIC, INC.
do hereby accept the area of soil surface bounded by PRIMARY 60 MIL HDPE LINER, PANELS PP-1 THRU PP-34

and shall be responsible for maintaining its integrity and suitability in accordance with the project specifications from this date to the completion of installation.

NAME	SIGNATURE	TITLE	DATE
LEE TAYLOR		PRES/QC.	9/05/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY QA / QC MANAGER:

NAME	SIGNATURE	TITLE	DATE
R. SIEMASZKIEWICZ		QA MANAGER	8/27/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY OWNER:

NAME	SIGNATURE	TITLE	DATE
JOHN FIORE		CONSTRUCTION MANAGER	9/05/01

TAYLOR GEOSYNTHETICS, INC.
CERTIFICATE OF ACCEPTANCE
OF SOIL SUBGRADE SURFACE

PROJECT NAME: SOLUTIA SAUGET AREA 1

PROJECT NUMBER: 2122

OWNER: SOLUTIA

LOCATION: CAHOKIA, IL

I, the undersigned, a duly appointed representative of Taylor Geosynthetics, Inc., have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install geomembrane.

This certificate is based on observations of the surface of the subgrade only. No subterranean inspectious or tests have been performed by Taylor Geosynthetics, Inc., and Taylor Geosynthetics, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Taylor Geosynthetics, Inc. accepts no responsibility for conformance of the subgrade to this project's specifications.

Area Being Accepted: PRIMARY LINER PANELS ~~3~~ 1 THRU ~~34~~ 34

TAYLOR GEOSYNTHETICS, INC. REPRESENTATIVE:

DATE: 8/23/01

SIGNATURE: [signature]

NAME: LEE TAYLOR

TITLE: PRESIDENT / QC

OWNERS REPRESENTATIVE:

DATE: 8/27/01

SIGNATURE: [signature]

NAME: R. SIEMASZKIEWICZ

TITLE: QA MANAGER

COMPANY: GOLDER ASSC. INC.

TAYLOR GEOSYNTHETICS, INC.
CERTIFICATE OF ACCEPTANCE
OF SOIL SUBGRADE SURFACE

PROJECT NAME: SOLUTIA SAUGET AREA 1

PROJECT NUMBER: 2122

OWNER: SOLUTIA

LOCATION: CAHOKIA, IL.

I, the undersigned, a duly appointed representative of Taylor Geosynthetics, Inc., have visually observed the soil subgrade surface described below, and found it to be an acceptable surface on which to install geomembrane.

This certificate is based on observations of the surface of the subgrade only. No subterranean inspectious or tests have been performed by Taylor Geosynthetics, Inc., and Taylor Geosynthetics, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade. Taylor Geosynthetics, Inc. accepts no responsibility for conformance of the subgrade to this project's specifications.

Area Being Accepted: PANELS 35 THRU 66

PRIMARY LINER

TAYLOR GEOSYNTHETICS, INC. REPRESENTATIVE:

DATE: 9-6-01

SIGNATURE: Lee Taylor

NAME: LEE TAYLOR

TITLE: PRESIDENT / QC

OWNERS REPRESENTATIVE:

DATE: 9/6/01

SIGNATURE: R. Siemaszkiewicz

NAME: R. SIEMASZKIEWICZ

TITLE: QA MANAGER

COMPANY: GOLDER ASSC., INC.

CERTIFICATE OF ACCEPTANCE OF SOIL SURFACE

GEOSYNTHETIC INSTALLER		PROJECT	
COMPANY	TAYLOR GEOSYNTHETICS, INC.	LOCATION	CAHOKIA, IL
ADDRESS	121 COMMERCE DR. STE 304	PROJECT	TSCA CELL, AREA 1
	DANVILLE	OWNER	SOLUTIA
	INDIANA, 46122		

I, the Undersigned, the duly authorized representative of TAYLOR GEOSYNTHETIC, INC.
do hereby accept the area of soil surface bounded by PRIMARY 60 mil HDPE LINER, PANELS PP-35 THRU PP-66.

and shall be responsible for maintaining its integrity and suitability in accordance with the project specifications from this date to the completion of installation.

NAME	SIGNATURE	TITLE	DATE
LEE TAYLOR		PRES/QC.	9/6/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY QA / QC MANAGER:

NAME	SIGNATURE	TITLE	DATE
R. SIEMASZKIENICZ		QA MANAGER	9/6/01

CERTIFICATE OF ACCEPTANCE RECEIVED BY OWNER:

NAME	SIGNATURE	TITLE	DATE
JOHN FIORE		CONSTRUCTION MANAGER	9/6/01

PART 3 - EARTHWORKS

3.1 PRECONSTRUCTION QA/QC TESTING

3.1.1 Borrow Source

3.1.1.1 Geotechnical Testing

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

SUMMARY OF LABORATORY TEST DATA

Project Name: Sauget Area 1 TSCA Landfill
Project Number: 5-01-223
Client: LMS
Client Address: 6515 W. 500 N.; Madison IN 47250

Boring Number	Sample No.	Collection Method	Soil Type	Natural Moisture Content (%)	Atterberg Limits			Fines <#200 (%)	Standard Proctor		Hydraulic Conductivity at 20 deg C, Remolded at 95% and 96% compaction (cm / sec)	Remolded Samples Moisture Content (%)	USCS
					Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)		Max Dry Den. (pcf)	Optium Moisture Content (%)			
Test Pit 1	S-113	bag	silty clay	21	37	18	19	99.3	106.9	18.2	3.8 E - 08	19.3	CL
Test Pit 2	S-114	bag	silty clay	12	35	24	11	99.3	107.0	17.4	2.9 E - 07	18.5	CL
Test Pit 3	S-115	bag	silty clay	14	33	22	11	99.1	104.9	18.0	1.5 E - 06	18.8	CL
Test Pit 4	S-116	bag	silty clay	15	39	21	18	99.1	105.4	18.0	1.9 E - 08	18.9	CL

Revised 1-12-2001

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6330 East 75th Street, Suite 216
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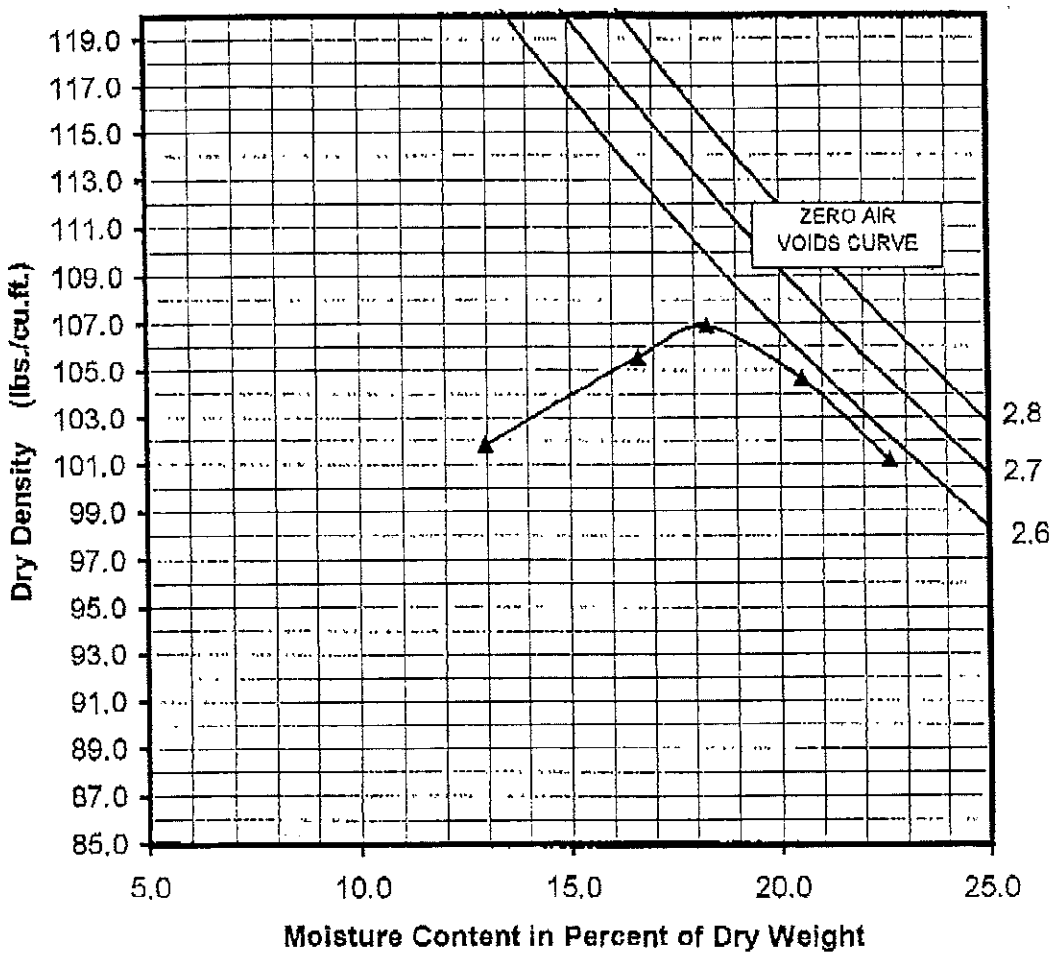
Moisture-Density (Proctor)

ASTM D 698, AASHTO T99 (Standard)
ASTM D 1557, AASHTO T180 (Modified)

☐ Original ☐ Amended

Project Name:	Sauget Area 1 TSCA Landfill	**Client:**	LMS
Project Number:	5-01-223	**Client Address:**	6515 W. 500N
Date Received:	3/29/01		Madison, IN 47250
Date Tested:	4/3/01	**Sampled By:**	
Sample Number:	S-113 (Test Pit- 1)	**Tested By:**	KS
Proctor Type:	Standard	**Sample Source:**	Bulk



Maximum Dry Density:	106.9 pcf	**Optimum Moisture Content:**	18.2%
Sample Description:	Brown, Silty Clay		
	LL= 37, PL= 18, PI= 19;	As Received Moisture = 21%	
Method:	Manual rammer, procedure A		

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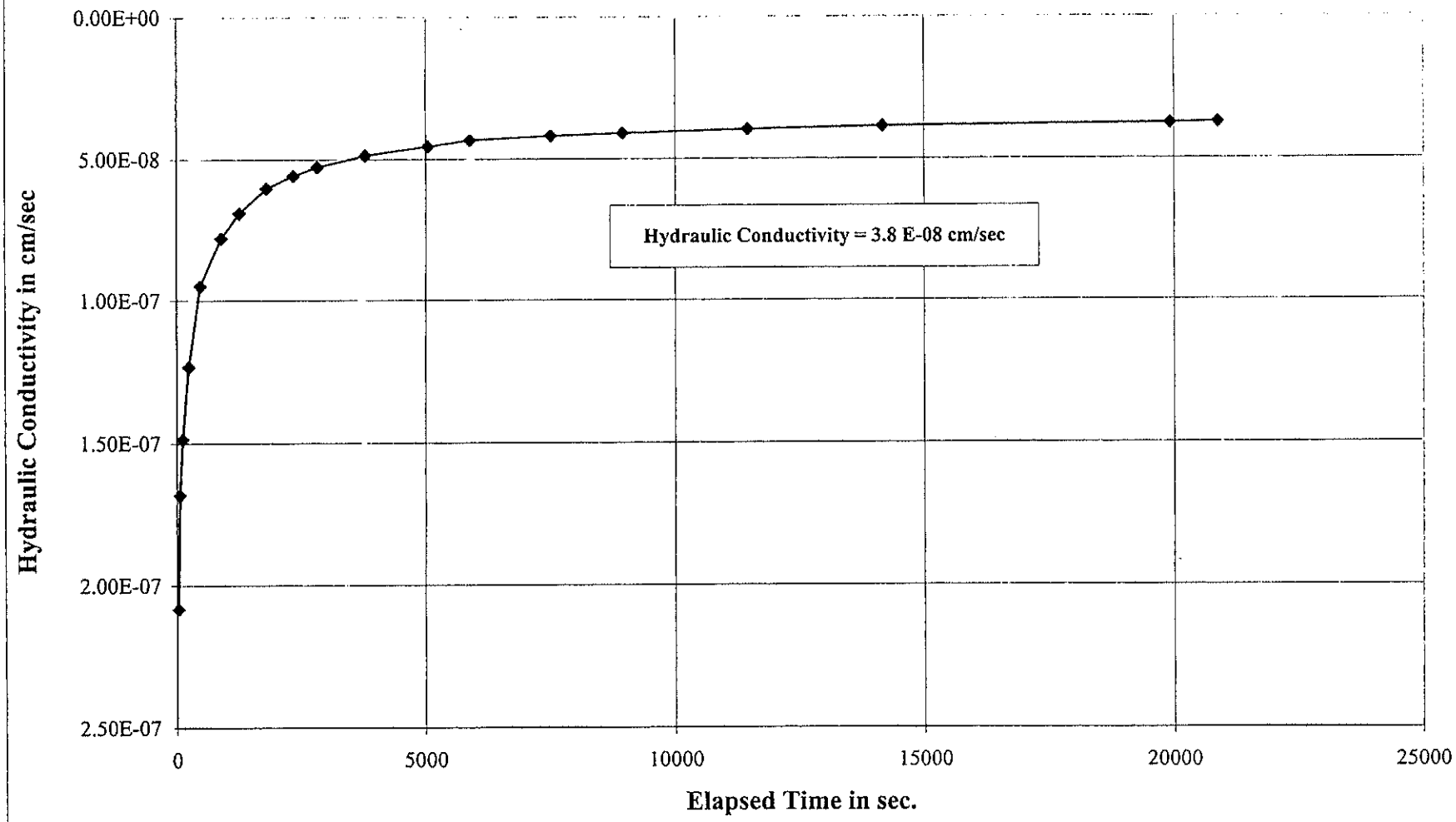
Hydraulic Conductivity at 20 deg. C vs. Time
Patriot Project No. 5-01-223, S-113 (Test Pit #1)
Remolded at 95% of Standard & 19.3% Mc



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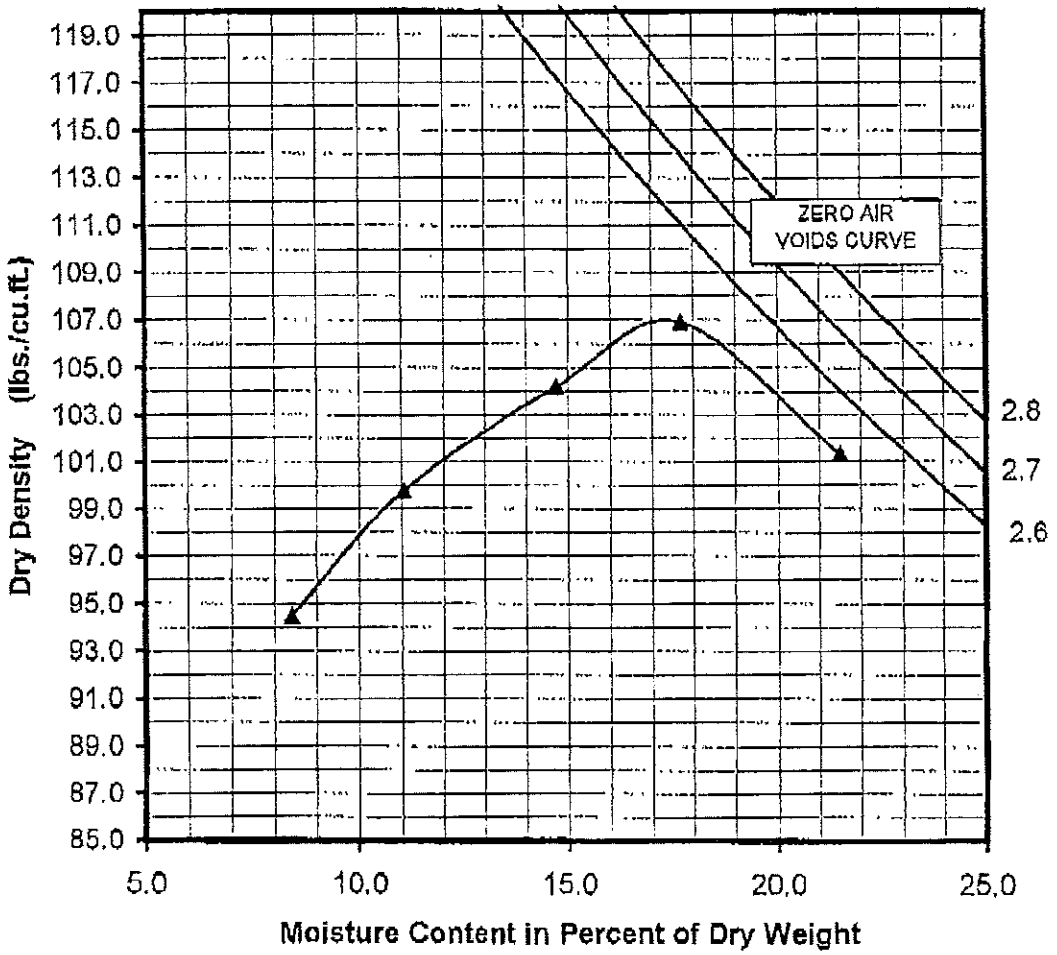
and Environmental Co., L.L.C
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Moisture-Density (Proctor)

ASTM D 698, AASHTO T99 (Standard)
ASTM D 1557, AASHTO T180 (Modified)

☐ Original ☐ Amended

Project Name:	Sauget Area 1 TSCA Landfill	**Client:**	LMS
Project Number:	5-01-223	**Client Address:**	6515 W. 500 N
Date Received:	3/29/01		Madison, IN 47250
Date Tested:	4/2/01	**Sampled By:**	
Sample Number:	S-114 (Test Pit- 2)	**Tested By:**	KS
Proctor Type:	Standard	**Sample Source:**	Bulk



Maximum Dry Density:	107.0 pcf	**Optimum Moisture Content:**	17.4%
Sample Description:	Brown, Silty Clay		
	LL= 35, PL= 24, PI= 11;	As Received Moisture = 12%	
Method:	Manual rammer, procedure A		

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and Environmental Co., LLC
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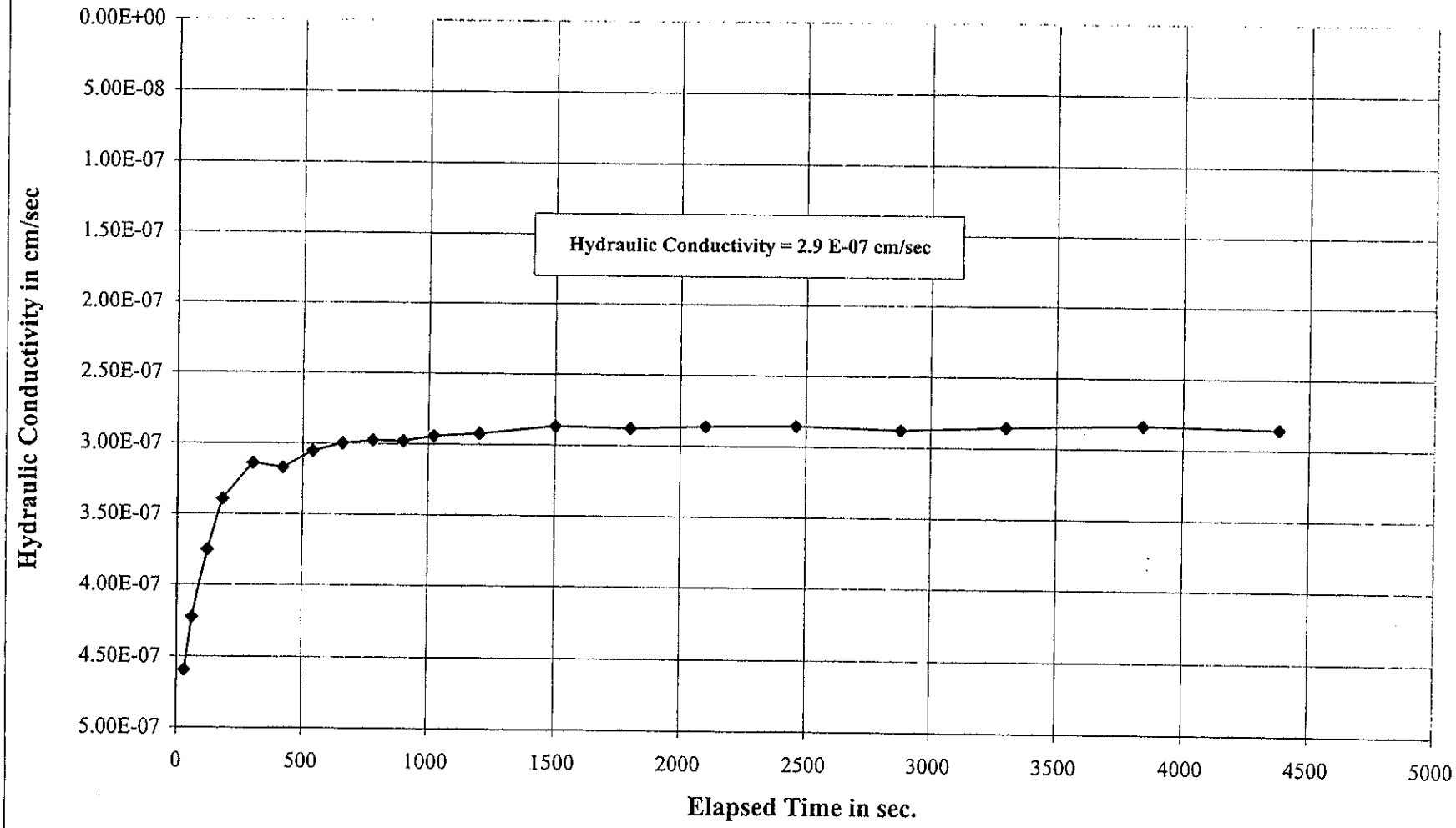
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Hydraulic Conductivity at 20 deg. C vs. Time
Patriot Project No. 5-01-223, S-114 (Test Pit#2)
Remolded at 95% of Standard & 18.5% Mc



Revised 1-12-2001

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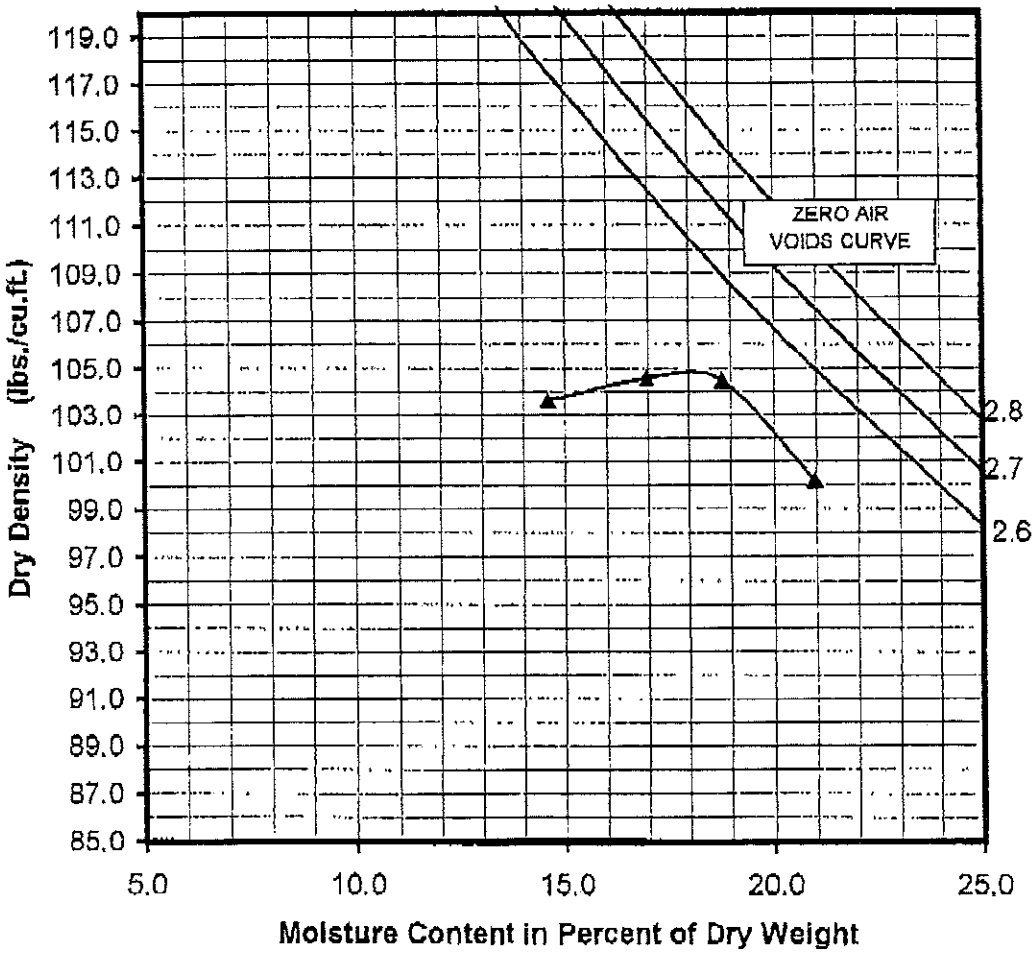
Moisture-Density (Proctor)

ASTM D 698, AASHTO T99 (Standard)
ASTM D 1557, AASHTO T180 (Modified)

☐ Original ☐ Amended

Project Name:	Sauget Area 1 TSCA Landfill	**Client:**	LMS
Project Number:	5-01-223	**Client Address:**	
Date Received:	3/29/01		
Date Tested:	4/3/01	**Sampled By:**	
Sample Number:	S-115 (Test Pit-3)	**Tested By:**	AM/PM/BG
Proctor Type:	Standard	**Sample Source:**	Bulk



Maximum Dry Density:	104.9 pcf	**Optimum Moisture Content:**	18.0%
Sample Description:	Brown, Silty Clay		
	LL= 33, PL= 22, PI= 11;	As Received Moisture = 14%	
Method:	Manual rammer, procedure A		

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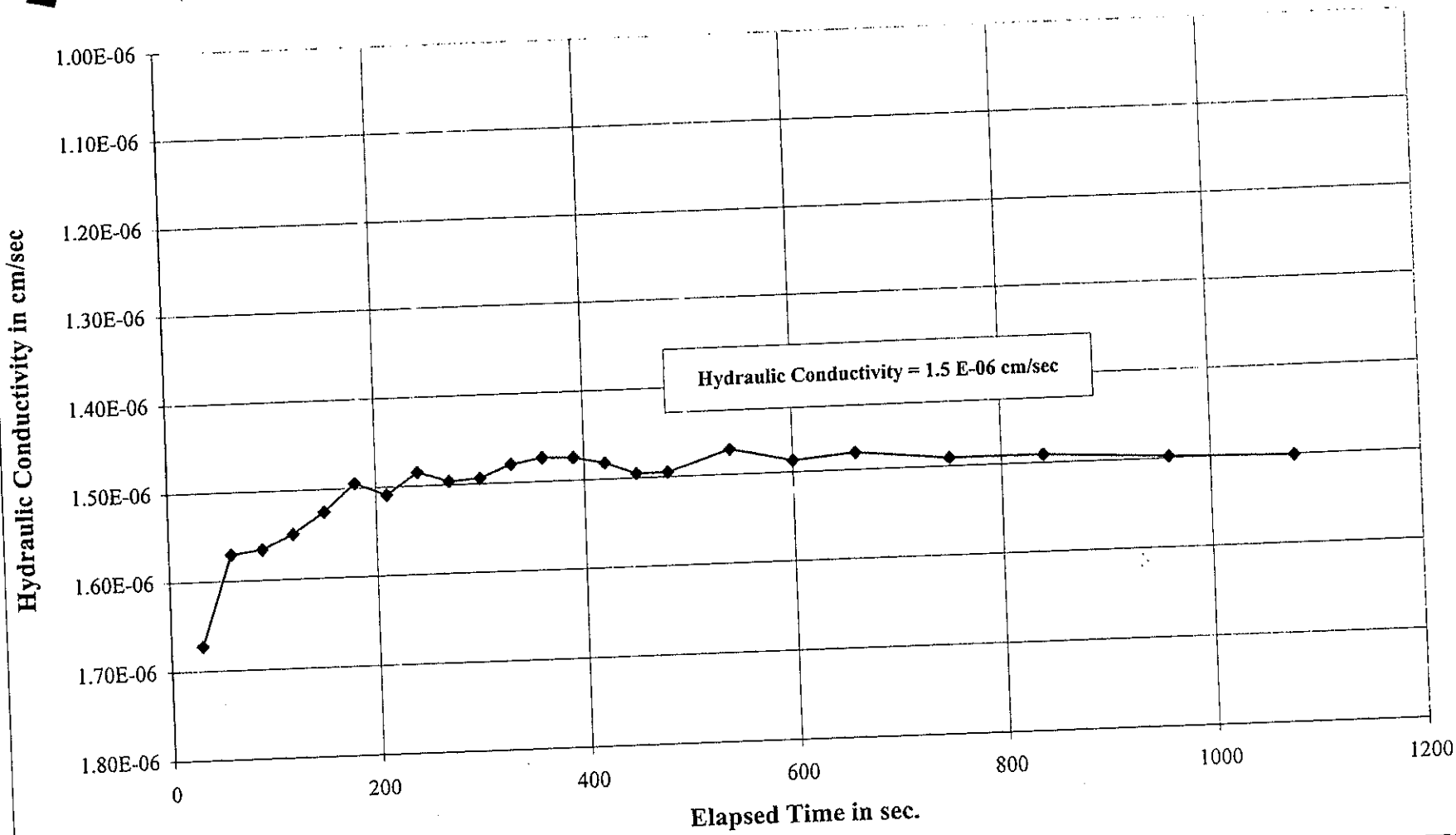
(317) 576-8058 FAX: (317) 576-1965

Hydraulic Conductivity at 20 deg. C vs. Time
Patriot Project No. 5-01-223, S-115 (Test Pit #3)
Remolded at 96% of Standard & 18.8% Mc



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Indianapolis, IN 46250-2700
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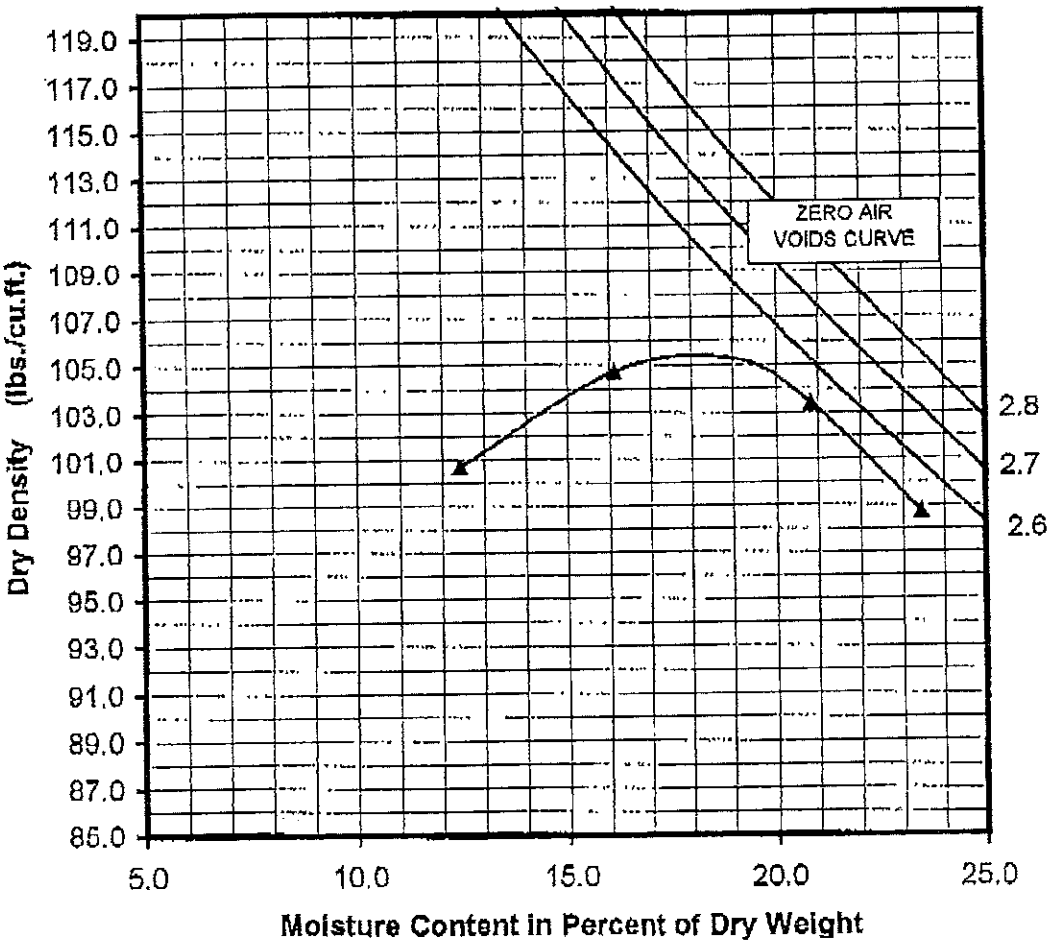
Moisture-Density (Proctor)

ASTM D 698, AASHTO T99 (Standard)
ASTM D 1557, AASHTO T180 (Modified)

☐ Original ☐ Amended

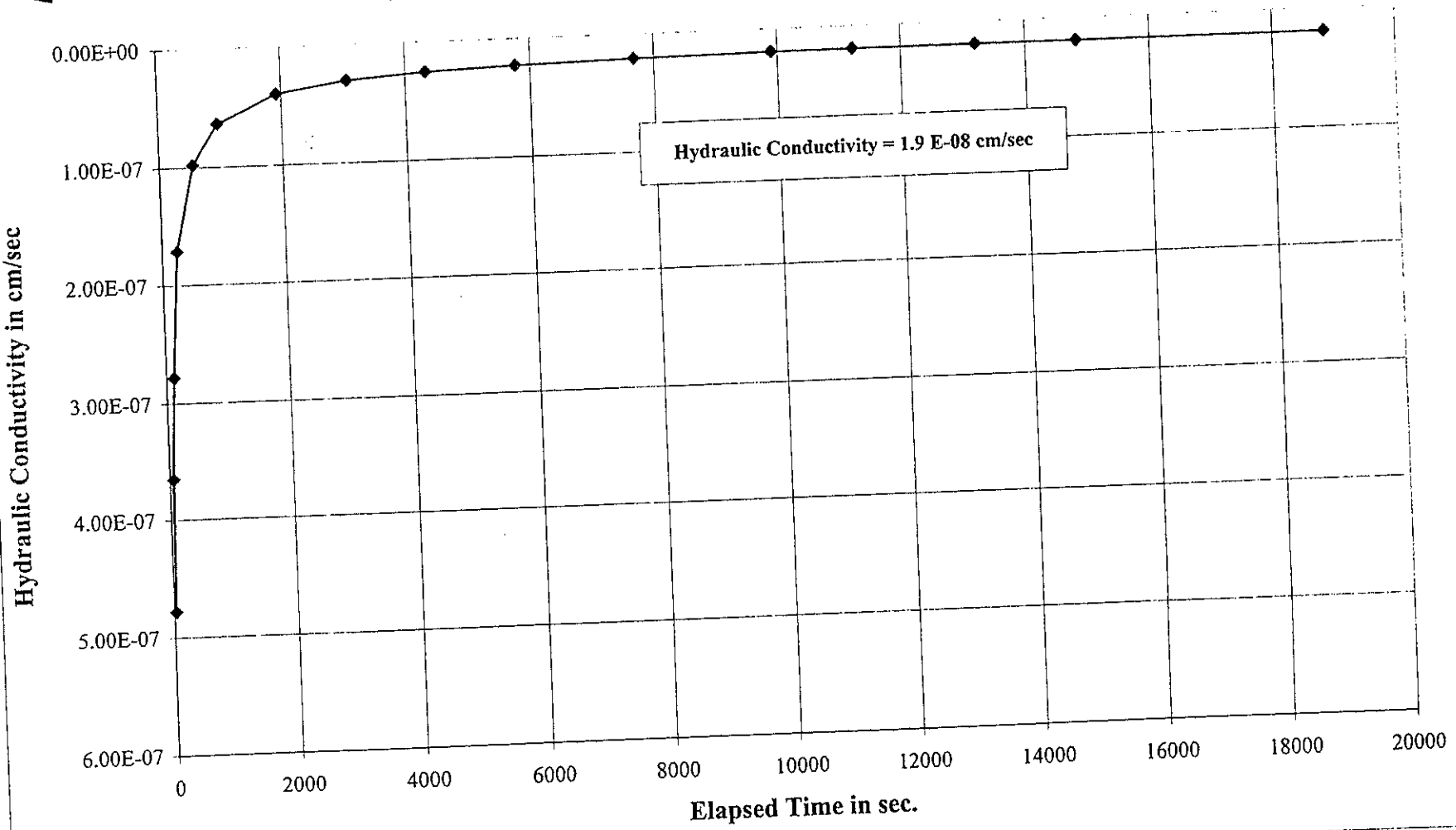
Project Name:	Sauget Area 1 TSCA Landfill	**Client:**	LMS
Project Number:	5-01-223	**Client Address:**	
Date Received:	3/29/01		
Date Tested:	4/2/01	**Sampled By:**	
Sample Number:	S-116 (Test Pit-4)	**Tested By:**	KS
Proctor Type:	Standard	**Sample Source:**	Bulk



Maximum Dry Density:	105.4 pcf	**Optimum Moisture Content:**	18.0%
Sample Description:	Brown, Silty Clay		
	LL= 39, PL= 21, PI= 18;	As Received Moisture =15 %	
Method:	Manual rammer, procedure A		

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Hydraulic Conductivity at 20 deg. C vs. Time
Patriot Project No. 5-01-223, S-116 (Test Pit #4)
Remolded at 95% of Standard & 18.9% Mc



3.1.1.2 Analytical Testing

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Analytical Analysis of Borrow Area
Columbia Quarry
Dupo, Illinois
Patriot Project No. 1-01-0209

PREPARED FOR:

Mr. Jack Long
LMS Contracting
6515 West 500 North
Madison, In 47250

PREPARED BY:

Patriot Engineering and Environmental Co., LLC
6330 E. 75th Street, Suite 216
Indianapolis, Indiana 46250

April 6, 2001

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

April 5, 2001

Mr. Jack Long
LMS Contracting
6515 West 500 North
Madison, In 47250

RE: Results of Soil Analysis
Borrow Area
Columbia Quarry
Dupo, Illinois
Patriot Project Number 01-0209

Dear Mr. Long

Patriot Engineering and Environmental Co., LLC (Patriot), is please to provide you with the analytical results for the 13 soil samples that were collected from the borrow area located at the Columbia Quarry in Dupo, Illinois on March 27-28, 2001.

Patriot provided a Senior Project Manager on site during the performance of the direct-push borings to evaluate the soil from the borings for potential environmental impacts. The borings were conducted under the direct supervision of Patriot environmental personnel using a van mounted direct-push rig. Soil samples were collected using a two-inch by four-foot long tube for the extraction of soil samples at 4-ft. intervals beginning at approximately 0 ft. below grade. Each collected soil sample was visually inspected for evidence of contamination, and screened in the field with a portable photoionizable vapor detector (PID). The PID is capable of detecting total photoionizable vapors (TPVs) emitted from soil samples in concentrations ranging from about 1 part per million (ppm) to 2000 ppm.

A total of 13 soil samples were collected from the borings and analysis for EPA Target Compound List parameters (volatile and semi-volatile organic, pesticides and PCBs) via EPA Methods SW846 8260, 8270, and 8081. The soil samples were also analysis for EPA Target Analytical List parameters (23 metals and cyanide) via EPA Methods SW846 6010, 7470 and 9012

The samples were placed in laboratory supplied sample containers, labeled, stored on ice, and delivered to the laboratory using chain-of-custody controls for a one week turn around for results.

Summary and Conclusions

No PID readings greater than 1 was indicated during the field services for any of the 13 borings. No staining or odors were observed in the soil borings. All of the parameters tested for VOC, SVOC, pesticides, PCBs, and cyanide were found to be not detected with the exception of methylene chloride and diethylphthalate. These two compounds are typical laboratory contaminants. All of the above results were below the levels listed in the Illinois Tiered Approach to Corrective Action Objectives (TACO).

Each of the 13 samples exhibited normal background levels of various metals. All of the above results were below the levels listed in the Illinois Tiered Approach to Corrective Action Objectives (TACO)

Based on these results, it is Patriot's opinion that the soil in the borrow area have not been impacted for the parameters tested and are suitable for use on the landfill project. A copy of the laboratory results is attached.

We trust that this submittal is responsive to your needs. Please do not hesitate to contact us if you should have any questions or require additional information regarding the contents of this summary report.

Sincerely yours,

Patriot Engineering and Environmental Co., LLC

Richard A. Gehlbach
Environmental Division Manager

Attachment

Attachment A

Analytical Results

Pace Analytical™

April 06, 2001

Mr. Dick Gehlbach
Patriot Engineering
6330 East 75th street
Suite 216
Indianapolis, IN 46250

RE: Lab Project Number: 5014023
Client Project ID: 01-209

Dear Mr. Gehlbach:

Enclosed are the analytical results for sample(s) received by the laboratory on March 29, 2001. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jill Kofoed

Jill Kofoed
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

Patriot Engineering
6330 East 75th street
Suite 216
Indianapolis, IN 46250

Lab Project Number: 5014023
Client Project ID: 01-209

Attn: Mr. Dick Gehlbach
Phone: 317-576-8058

Solid results are reported on a wet weight basis

Lab Sample No: 50975226 Project Sample Number: 5014023-001 Date Collected: 03/27/01 10:30
Client Sample ID: B-1 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	6070	mg/kg	10.0	04/04/01 20:55	HEB	7429-90-5	1	
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	4.69	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	78.6	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1740	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	7.71	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	4.97	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	8.58	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	9810	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	6.81	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	2050	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	409.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	12.3	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	606.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	313.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	13.4	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	29.5	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975226 | Project Sample Number: 5014023-001 | Date Collected: 03/27/01 10:30
Client Sample ID: B-1 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Wet Chemistry								
Cyanide, Total, Soil		Method: EPA 335.3			Prep Method: EPA 335.3			
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC		Method: EPA 8081A			Prep Method: EPA 3550			
alpha-BHC	ND	ug/kg	1.7	04/04/01 03:41	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 03:41	SRS	319-85-7		
delta-BHC	ND	ug/kg	1.7	04/04/01 03:41	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 03:41	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 03:41	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 03:41	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 03:41	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 03:41	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 03:41	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 03:41	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 03:41	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 03:41	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 03:41	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 03:41	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 03:41	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 03:41	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 03:41	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 03:41	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 03:41	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 03:41	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 03:41	SRS	5103-71-9		
Decachlorobiphenyl (S)	104	%		04/04/01 03:41	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	85	%		04/04/01 03:41	SRS	877-09-8		
Date Extracted				03/29/01				
PCBs in Soil by 8082		Method: EPA 8082			Prep Method: EPA 3550			
PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 03:21	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 03:21	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 03:21	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 03:21	SRS	53469-21-9		

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Pace Analytical™

Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975226 | Project Sample Number: 5014023-001 | Date Collected: 03/27/01 10:30
Client Sample ID: B-1 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 03:21	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 03:21	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 03:21	SRS	11096-82-5		
Decachlorobiphenyl (S)	103	%		03/30/01 03:21	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	92	%		03/30/01 03:21	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260	Method: EPA 8260			Prep Method: EPA 8260				
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 14:57	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 14:57	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 14:57	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 14:57	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 14:57	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 14:57	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 14:57	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 14:57	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 14:57	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 14:57	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 14:57	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 14:57	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 14:57	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 14:57	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	124-48-1		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975226 | Project Sample Number: 5014023-001 | Date Collected: 03/27/01 10:30
Client Sample ID: B-1 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 14:57	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 14:57	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 14:57	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 14:57	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 14:57	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 14:57	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 14:57	CAC	79-34-5		
Bromobenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 14:57	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 14:57	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 14:57	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 14:57	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 14:57	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 14:57	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 14:57	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 14:57	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 14:57	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 14:57	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 14:57	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 14:57	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 14:57	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 14:57	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 14:57	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 14:57	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 14:57	CAC	107-13-1		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975226 | Project Sample Number: 5014023-001 | Date Collected: 03/27/01 10:30
Client Sample ID: B-1 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2-Hexanone	ND	ug/kg	100	04/05/01 14:57	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 14:57	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 14:57	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 14:57	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 14:57	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 14:57	CAC	110-57-6		
Dibromofluoromethane (S)	125	%		04/05/01 14:57	CAC			
Toluene-d8 (S)	98	%		04/05/01 14:57	CAC	2037-26-5		
4-Bromofluorobenzene (S)	97	%		04/05/01 14:57	CAC	460-00-4		

GC/MS Semivolatiles

Semivolatile Organics	Method: EPA 8270			Prep Method: EPA 3550 Sonication				
Phenol	ND	ug/kg	330	04/04/01 01:40	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 01:40	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 01:40	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 01:40	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 01:40	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 01:40	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 01:40	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 01:40	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 01:40	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 01:40	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 01:40	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 01:40	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 01:40	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 01:40	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 01:40	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 01:40	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 01:40	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 01:40	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 01:40	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 01:40	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 01:40	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 01:40	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 01:40	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 01:40	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 01:40	TRC	91-57-6		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975226 Project Sample Number: 5014023-001 Date Collected: 03/27/01 10:30
Client Sample ID: B-1 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 01:40	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 01:40	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 01:40	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 01:40	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 01:40	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 01:40	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 01:40	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 01:40	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 01:40	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 01:40	TRC	83-32-9		
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 01:40	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 01:40	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 01:40	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 01:40	TRC	121-14-2		
Diethylphthalate	430	ug/kg	330	04/04/01 01:40	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 01:40	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 01:40	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 01:40	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 01:40	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 01:40	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 01:40	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 01:40	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 01:40	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 01:40	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 01:40	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 01:40	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 01:40	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 01:40	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 01:40	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 01:40	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 01:40	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 01:40	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 01:40	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 01:40	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 01:40	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 01:40	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 01:40	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 01:40	TRC	193-39-5		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975226 | Project Sample Number: 5014023-001 | Date Collected: 03/27/01 10:30
Client Sample ID: B-1 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 01:40	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 01:40	TRC	191-24-2		
Nitrobenzene-d5 (S)	73	%		04/04/01 01:40	TRC	4165-60-0		
2-Fluorobiphenyl (S)	46	%		04/04/01 01:40	TRC	321-60-8		
Terphenyl-d14 (S)	104	%		04/04/01 01:40	TRC	1718-51-0		
Phenol-d6 (S)	54	%		04/04/01 01:40	TRC	13127-88-3		
2-Fluorophenol (S)	64	%		04/04/01 01:40	TRC	367-12-4		
2,4,6-Tribromophenol (S)	54	%		04/04/01 01:40	TRC	118-79-6		
Date Extracted				03/29/01				

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975234 | Project Sample Number: 5014023-002 | Date Collected: 03/28/01 13:00
Client Sample ID: B-2 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	5400	mg/kg	5.00	04/04/01 20:55	HEB	7429-90-5		
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	4.01	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	56.9	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1880	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	8.67	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	4.81	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	8.83	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	10000	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	5.51	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	1950	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	389.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	11.5	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	511.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	321.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	15.2	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	27.6	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 05:19	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 05:19	SRS	319-85-7		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975234 | Project Sample Number: 5014023-002 | Date Collected: 03/28/01 13:00
Client Sample ID: B-2 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 05:19	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 05:19	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 05:19	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 05:19	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 05:19	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 05:19	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 05:19	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 05:19	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 05:19	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 05:19	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 05:19	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 05:19	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 05:19	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 05:19	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 05:19	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 05:19	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 05:19	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 05:19	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 05:19	SRS	5103-71-9		
Decachlorobiphenyl (S)	99	%		04/04/01 05:19	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	80	%		04/04/01 05:19	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 04:18	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 04:18	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 04:18	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 04:18	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 04:18	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 04:18	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 04:18	SRS	11096-82-5		
Decachlorobiphenyl (S)	102	%		03/30/01 04:18	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	91	%		03/30/01 04:18	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

Date: 04/06/01

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975234 | Project Sample Number: 5014023-002 | Date Collected: 03/28/01 13:00
Client Sample ID: B-2 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 16:30	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 16:30	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 16:30	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 16:30	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 16:30	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 16:30	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 16:30	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 16:30	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 16:30	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 16:30	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 16:30	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 16:30	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 16:30	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 16:30	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 16:30	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 16:30	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 16:30	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 16:30	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 16:30	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 16:30	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 16:30	CAC	79-34-5		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975234 Project Sample Number: 5014023-002 Date Collected: 03/28/01 13:00
Client Sample ID: B-2 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 16:30	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 16:30	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 16:30	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 16:30	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 16:30	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 16:30	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 16:30	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 16:30	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 16:30	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 16:30	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 16:30	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 16:30	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 16:30	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 16:30	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 16:30	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 16:30	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 16:30	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 16:30	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 16:30	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 16:30	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 16:30	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 16:30	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 16:30	CAC	110-57-6		
Dibromofluoromethane (S)	127	%		04/05/01 16:30	CAC		2	
Toluene-d8 (S)	98	%		04/05/01 16:30	CAC	2037-26-5		
4-Bromofluorobenzene (S)	96	%		04/05/01 16:30	CAC	460-00-4		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975234 | Project Sample Number: 5014023-002 | Date Collected: 03/28/01 13:00
Client Sample ID: B-2 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics	Method: EPA 8270			Prep Method: EPA 3550 Sonication				
Phenol	ND	ug/kg	330	04/04/01 00:38	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 00:38	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 00:38	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 00:38	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 00:38	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 00:38	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 00:38	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 00:38	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 00:38	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 00:38	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 00:38	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 00:38	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 00:38	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 00:38	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 00:38	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 00:38	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 00:38	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 00:38	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 00:38	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 00:38	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 00:38	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 00:38	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 00:38	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 00:38	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 00:38	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 00:38	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 00:38	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 00:38	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 00:38	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 00:38	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 00:38	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 00:38	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 00:38	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 00:38	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 00:38	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975234 | Project Sample Number: 5014023-002 | Date Collected: 03/28/01 13:00
Client Sample ID: B-2 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 00:38	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 00:38	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 00:38	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 00:38	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/04/01 00:38	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 00:38	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 00:38	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 00:38	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 00:38	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 00:38	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 00:38	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 00:38	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 00:38	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 00:38	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 00:38	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 00:38	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 00:38	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 00:38	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 00:38	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 00:38	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 00:38	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 00:38	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 00:38	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 00:38	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 00:38	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 00:38	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 00:38	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 00:38	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 00:38	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 00:38	TRC	191-24-2		
Nitrobenzene-d5 (S)	78	%		04/04/01 00:38	TRC	4165-60-0		
2-Fluorobiphenyl (S)	53	%		04/04/01 00:38	TRC	321-60-8		
Terphenyl-d14 (S)	105	%		04/04/01 00:38	TRC	1718-51-0		
Phenol-d6 (S)	62	%		04/04/01 00:38	TRC	13127-88-3		
2-Fluorophenol (S)	68	%		04/04/01 00:38	TRC	367-12-4		
2,4,6-Tribromophenol (S)	57	%		04/04/01 00:38	TRC	118-79-6		
Date Extracted				03/29/01				

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975242 | Project Sample Number: 5014023-003 | Date Collected: 03/27/01 12:30
Client Sample ID: B-3 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	5350	mg/kg	5.00	04/04/01 20:55	HEB	7429-90-5		
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	3.71	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	55.8	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1870	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	7.63	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	4.16	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	8.62	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	9070	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	5.23	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	1910	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	327.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	11.0	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	527.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	374.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	14.6	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	24.4	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 02:52	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 02:52	SRS	319-85-7		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975242 Project Sample Number: 5014023-003 Date Collected: 03/27/01 12:30
Client Sample ID: B-3 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 02:52	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 02:52	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 02:52	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 02:52	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 02:52	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 02:52	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 02:52	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 02:52	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 02:52	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 02:52	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 02:52	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 02:52	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 02:52	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 02:52	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 02:52	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 02:52	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 02:52	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 02:52	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 02:52	SRS	5103-71-9		
Decachlorobiphenyl (S)	100	%		04/04/01 02:52	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	82	%		04/04/01 02:52	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 Method: EPA 8082 Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 02:53	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 02:53	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 02:53	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 02:53	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 02:53	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 02:53	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 02:53	SRS	11096-82-5		
Decachlorobiphenyl (S)	103	%		03/30/01 02:53	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	93	%		03/30/01 02:53	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 Method: EPA 8260 Prep Method: EPA 8260

Date: 04/06/01

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975242 Project Sample Number: 5014023-003 Date Collected: 03/27/01 12:30
Client Sample ID: B-3 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 17:02	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 17:02	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 17:02	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 17:02	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 17:02	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 17:02	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 17:02	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 17:02	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 17:02	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 17:02	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 17:02	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 17:02	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 17:02	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 17:02	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 17:02	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 17:02	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 17:02	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 17:02	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 17:02	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 17:02	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 17:02	CAC	79-34-5		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975242 Project Sample Number: 5014023-003 Date Collected: 03/27/01 12:30
Client Sample ID: B-3 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 17:02	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 17:02	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 17:02	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 17:02	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 17:02	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 17:02	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 17:02	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 17:02	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 17:02	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 17:02	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 17:02	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 17:02	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 17:02	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 17:02	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 17:02	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 17:02	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 17:02	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 17:02	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 17:02	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 17:02	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 17:02	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 17:02	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 17:02	CAC	110-57-6		
Dibromofluoromethane (S)	123	%		04/05/01 17:02	CAC			
Toluene-d8 (S)	101	%		04/05/01 17:02	CAC	2037-26-5		
4-Bromofluorobenzene (S)	99	%		04/05/01 17:02	CAC	460-00-4		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975242 Project Sample Number: 5014023-003 Date Collected: 03/27/01 12:30
Client Sample ID: B-3 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics		Method: EPA 8270			Prep Method: EPA 3550 Sonication			
Phenol	ND	ug/kg	330	04/04/01 03:44	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 03:44	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 03:44	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 03:44	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 03:44	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 03:44	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 03:44	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 03:44	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 03:44	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 03:44	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 03:44	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 03:44	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 03:44	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 03:44	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 03:44	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 03:44	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 03:44	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 03:44	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 03:44	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 03:44	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 03:44	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 03:44	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 03:44	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 03:44	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 03:44	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 03:44	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 03:44	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 03:44	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 03:44	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 03:44	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 03:44	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 03:44	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 03:44	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 03:44	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 03:44	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975242 | Project Sample Number: 5014023-003 | Date Collected: 03/27/01 12:30
Client Sample ID: B-3 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 03:44	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 03:44	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 03:44	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 03:44	TRC	121-14-2		
Diethylphthalate	340	ug/kg	330	04/04/01 03:44	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 03:44	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 03:44	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 03:44	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 03:44	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 03:44	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 03:44	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 03:44	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 03:44	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 03:44	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 03:44	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 03:44	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 03:44	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 03:44	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 03:44	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 03:44	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 03:44	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 03:44	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 03:44	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 03:44	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 03:44	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 03:44	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 03:44	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 03:44	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 03:44	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 03:44	TRC	191-24-2		
Nitrobenzene-d5 (S)	87	%		04/04/01 03:44	TRC	4165-60-0		
2-Fluorobiphenyl (S)	57	%		04/04/01 03:44	TRC	321-60-8		
Terphenyl-d14 (S)	118	%		04/04/01 03:44	TRC	1718-51-0		
Phenol-d6 (S)	69	%		04/04/01 03:44	TRC	13127-88-3		
2-Fluorophenol (S)	74	%		04/04/01 03:44	TRC	367-12-4		
2,4,6-Tribromophenol (S)	64	%		04/04/01 03:44	TRC	118-79-6		
Date Extracted				03/29/01				

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975259 | Project Sample Number: 5014023-004 | Date Collected: 03/27/01 14:30
Client Sample ID: B-4 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	7080	mg/kg	10.0	04/04/01 20:55	HEB	7429-90-5	3	
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	2.62	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	49.9	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1300	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	8.34	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	3.93	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	5.89	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	7430	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	5.27	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	1640	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	228.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	8.79	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	401.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	238.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	17.7	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	18.5	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 04:30	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 04:30	SRS	319-85-7		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975259 | Project Sample Number: 5014023-004 | Date Collected: 03/27/01 14:30
Client Sample ID: B-4 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 04:30	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 04:30	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 04:30	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 04:30	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 04:30	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 04:30	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 04:30	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 04:30	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 04:30	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 04:30	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 04:30	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 04:30	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 04:30	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 04:30	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 04:30	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 04:30	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 04:30	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 04:30	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 04:30	SRS	5103-71-9		
Decachlorobiphenyl (S)	100	%		04/04/01 04:30	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	80	%		04/04/01 04:30	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 03:50	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 03:50	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 03:50	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 03:50	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 03:50	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 03:50	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 03:50	SRS	11096-82-5		
Decachlorobiphenyl (S)	106	%		03/30/01 03:50	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	95	%		03/30/01 03:50	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975259 | Project Sample Number: 5014023-004 | Date Collected: 03/27/01 14:30
Client Sample ID: B-4 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 17:33	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	75-69-4		
Methylene chloride	30.	ug/kg	5.0	04/05/01 17:33	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 17:33	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 17:33	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 17:33	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 17:33	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 17:33	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 17:33	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 17:33	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 17:33	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 17:33	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 17:33	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 17:33	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 17:33	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 17:33	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 17:33	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 17:33	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 17:33	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 17:33	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 17:33	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 17:33	CAC	79-34-5		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975259 | Project Sample Number: 5014023-004 | Date Collected: 03/27/01 14:30
Client Sample ID: B-4 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 17:33	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 17:33	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 17:33	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 17:33	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 17:33	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 17:33	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 17:33	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 17:33	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 17:33	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 17:33	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 17:33	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 17:33	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 17:33	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 17:33	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 17:33	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 17:33	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 17:33	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 17:33	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 17:33	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 17:33	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 17:33	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 17:33	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 17:33	CAC	110-57-6		
Dibromofluoromethane (S)	124	%		04/05/01 17:33	CAC			
Toluene-d8 (S)	100	%		04/05/01 17:33	CAC	2037-26-5		
4-Bromofluorobenzene (S)	99	%		04/05/01 17:33	CAC	460-00-4		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975259 | Project Sample Number: 5014023-004 | Date Collected: 03/27/01 14:30
Client Sample ID: B-4 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics		Method: EPA 8270			Prep Method: EPA 3550 Sonication			
Phenol	ND	ug/kg	330	04/05/01 03:59	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/05/01 03:59	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/05/01 03:59	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/05/01 03:59	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/05/01 03:59	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/05/01 03:59	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/05/01 03:59	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/05/01 03:59	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/05/01 03:59	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/05/01 03:59	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/05/01 03:59	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/05/01 03:59	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/05/01 03:59	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/05/01 03:59	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/05/01 03:59	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/05/01 03:59	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/05/01 03:59	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/05/01 03:59	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/05/01 03:59	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/05/01 03:59	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/05/01 03:59	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/05/01 03:59	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/05/01 03:59	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/05/01 03:59	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/05/01 03:59	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/05/01 03:59	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/05/01 03:59	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/05/01 03:59	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/05/01 03:59	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/05/01 03:59	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/05/01 03:59	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/05/01 03:59	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/05/01 03:59	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/05/01 03:59	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/05/01 03:59	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975259 | Project Sample Number: 5014023-004 | Date Collected: 03/27/01 14:30
Client Sample ID: B-4 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/05/01 03:59	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/05/01 03:59	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/05/01 03:59	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/05/01 03:59	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/05/01 03:59	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/05/01 03:59	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/05/01 03:59	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/05/01 03:59	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/05/01 03:59	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/05/01 03:59	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/05/01 03:59	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/05/01 03:59	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/05/01 03:59	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/05/01 03:59	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/05/01 03:59	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/05/01 03:59	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/05/01 03:59	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/05/01 03:59	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/05/01 03:59	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/05/01 03:59	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/05/01 03:59	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/05/01 03:59	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/05/01 03:59	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/05/01 03:59	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/05/01 03:59	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/05/01 03:59	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/05/01 03:59	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/05/01 03:59	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/05/01 03:59	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/05/01 03:59	TRC	191-24-2		
Nitrobenzene-d5 (S)	86	%		04/05/01 03:59	TRC	4165-60-0		
2-Fluorobiphenyl (S)	54	%		04/05/01 03:59	TRC	321-60-8		
Terphenyl-d14 (S)	126	%		04/05/01 03:59	TRC	1718-51-0		
Phenol-d6 (S)	68	%		04/05/01 03:59	TRC	13127-88-3		
2-Fluorophenol (S)	76	%		04/05/01 03:59	TRC	367-12-4		
2,4,6-Tribromophenol (S)	65	%		04/05/01 03:59	TRC	118-79-6		
Date Extracted				04/04/01				

Date: 04/06/01

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975267 | Project Sample Number: 5014023-005 | Date Collected: 03/27/01 15:30
Client Sample ID: B-5 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	4560	mg/kg	5.00	04/04/01 20:55	HEB	7429-90-5		
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	3.48	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	89.3	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	712.	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	5.77	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	3.44	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	5.99	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	6340	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	8.26	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	942.	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	309.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	7.40	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	562.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	225.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	11.4	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	25.1	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 11:03	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 11:03	SRS	319-85-7		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975267 | Project Sample Number: 5014023-005 | Date Collected: 03/27/01 15:30
Client Sample ID: B-5 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 11:03	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 11:03	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 11:03	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 11:03	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 11:03	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 11:03	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 11:03	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 11:03	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 11:03	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 11:03	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 11:03	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 11:03	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 11:03	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 11:03	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 11:03	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 11:03	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 11:03	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 11:03	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 11:03	SRS	5103-71-9		
Decachlorobiphenyl (S)	114	%		04/04/01 11:03	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	92	%		04/04/01 11:03	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 06:41	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 06:41	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 06:41	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 06:41	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 06:41	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 06:41	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 06:41	SRS	11096-82-5		
Decachlorobiphenyl (S)	110	%		03/30/01 06:41	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	94	%		03/30/01 06:41	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975267
Client Sample ID: B-5

Project Sample Number: 5014023-005
Matrix: Soil

Date Collected: 03/27/01 15:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 18:04	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	75-69-4		
Methylene chloride	6.9	ug/kg	5.0	04/05/01 18:04	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 18:04	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 18:04	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 18:04	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 18:04	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 18:04	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 18:04	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 18:04	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 18:04	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 18:04	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 18:04	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 18:04	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 18:04	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 18:04	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 18:04	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 18:04	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 18:04	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 18:04	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 18:04	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 18:04	CAC	79-34-5		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975267 | Project Sample Number: 5014023-005 | Date Collected: 03/27/01 15:30
Client Sample ID: B-5 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 18:04	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 18:04	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 18:04	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 18:04	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 18:04	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 18:04	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 18:04	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 18:04	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 18:04	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 18:04	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 18:04	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 18:04	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 18:04	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 18:04	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 18:04	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 18:04	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 18:04	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 18:04	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 18:04	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 18:04	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 18:04	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 18:04	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 18:04	CAC	110-57-6		
Dibromofluoromethane (S)	125	%		04/05/01 18:04	CAC			
Toluene-d8 (S)	100	%		04/05/01 18:04	CAC	2037-26-5		
4-Bromofluorobenzene (S)	97	%		04/05/01 18:04	CAC	460-00-4		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975267 | Project Sample Number: 5014023-005 | Date Collected: 03/27/01 15:30
Client Sample ID: B-5 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics	Method: EPA 8270			Prep Method: EPA 3550 Sonication				
Phenol	ND	ug/kg	330	04/04/01 02:11	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 02:11	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 02:11	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 02:11	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 02:11	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 02:11	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 02:11	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 02:11	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 02:11	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 02:11	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 02:11	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 02:11	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 02:11	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 02:11	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 02:11	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 02:11	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 02:11	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 02:11	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 02:11	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 02:11	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 02:11	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 02:11	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 02:11	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 02:11	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 02:11	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 02:11	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 02:11	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 02:11	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 02:11	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 02:11	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 02:11	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 02:11	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 02:11	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 02:11	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 02:11	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975267 | Project Sample Number: 5014023-005 | Date Collected: 03/27/01 15:30
Client Sample ID: B-5 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 02:11	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 02:11	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 02:11	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 02:11	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/04/01 02:11	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 02:11	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 02:11	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 02:11	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 02:11	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 02:11	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 02:11	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 02:11	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 02:11	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 02:11	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 02:11	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 02:11	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 02:11	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 02:11	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 02:11	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 02:11	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 02:11	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 02:11	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 02:11	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 02:11	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 02:11	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 02:11	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 02:11	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 02:11	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 02:11	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 02:11	TRC	191-24-2		
Nitrobenzene-d5 (S)	79	%		04/04/01 02:11	TRC	4165-60-0		
2-Fluorobiphenyl (S)	54	%		04/04/01 02:11	TRC	321-60-8		
Terphenyl-d14 (S)	107	%		04/04/01 02:11	TRC	1718-51-0		
Phenol-d6 (S)	62	%		04/04/01 02:11	TRC	13127-88-3		
2-Fluorophenol (S)	69	%		04/04/01 02:11	TRC	367-12-4		
2,4,6-Tribromophenol (S)	56	%		04/04/01 02:11	TRC	118-79-6		
Date Extracted				03/29/01				

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975275 | Project Sample Number: 5014023-006 | Date Collected: 03/28/01 09:30
Client Sample ID: B-6 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	5770	mg/kg	10.0	04/04/01 20:55	HEB	7429-90-5	1	
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	3.07	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	54.3	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1990	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	8.65	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	4.24	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	7.58	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	9170	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	4.66	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	2110	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	345.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	11.5	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	464.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	297.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	15.5	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	24.9	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 06:09	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 06:09	SRS	319-85-7		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975275 Project Sample Number: 5014023-006 Date Collected: 03/28/01 09:30
Client Sample ID: B-6 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 06:09	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 06:09	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 06:09	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 06:09	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 06:09	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 06:09	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 06:09	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 06:09	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 06:09	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 06:09	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 06:09	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 06:09	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 06:09	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 06:09	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 06:09	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 06:09	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 06:09	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 06:09	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 06:09	SRS	5103-71-9		
Decachlorobiphenyl (S)	105	%		04/04/01 06:09	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	87	%		04/04/01 06:09	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 Method: EPA 8082 Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 04:47	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 04:47	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 04:47	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 04:47	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 04:47	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 04:47	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 04:47	SRS	11096-82-5		
Decachlorobiphenyl (S)	106	%		03/30/01 04:47	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	95	%		03/30/01 04:47	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 Method: EPA 8260 Prep Method: EPA 8260

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975275 | Project Sample Number: 5014023-006 | Date Collected: 03/28/01 09:30
Client Sample ID: B-6 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 18:35	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 18:35	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 18:35	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 18:35	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 18:35	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 18:35	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 18:35	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 18:35	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 18:35	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 18:35	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 18:35	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 18:35	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 18:35	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 18:35	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 18:35	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 18:35	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 18:35	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 18:35	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 18:35	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 18:35	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 18:35	CAC	79-34-5		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975275 | Project Sample Number: 5014023-006 | Date Collected: 03/28/01 09:30
Client Sample ID: B-6 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 18:35	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 18:35	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 18:35	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 18:35	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 18:35	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 18:35	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 18:35	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 18:35	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 18:35	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 18:35	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 18:35	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 18:35	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 18:35	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 18:35	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 18:35	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 18:35	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 18:35	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 18:35	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 18:35	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 18:35	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 18:35	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 18:35	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 18:35	CAC	110-57-6		
Dibromofluoromethane (S)	124	%		04/05/01 18:35	CAC			
Toluene-d8 (S)	100	%		04/05/01 18:35	CAC	2037-26-5		
4-Bromofluorobenzene (S)	98	%		04/05/01 18:35	CAC	460-00-4		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975275 | Project Sample Number: 5014023-006 | Date Collected: 03/28/01 09:30
Client Sample ID: B-6 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics		Method: EPA 8270			Prep Method: EPA 3550 Sonication			
Phenol	ND	ug/kg	330	04/04/01 01:09	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 01:09	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 01:09	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 01:09	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 01:09	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 01:09	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 01:09	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 01:09	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 01:09	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 01:09	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 01:09	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 01:09	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 01:09	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 01:09	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 01:09	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 01:09	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 01:09	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 01:09	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 01:09	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 01:09	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 01:09	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 01:09	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 01:09	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 01:09	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 01:09	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 01:09	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 01:09	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 01:09	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 01:09	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 01:09	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 01:09	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 01:09	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 01:09	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 01:09	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 01:09	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975275 | Project Sample Number: 5014023-006 | Date Collected: 03/28/01 09:30
Client Sample ID: B-6 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 01:09	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 01:09	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 01:09	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 01:09	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/04/01 01:09	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 01:09	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 01:09	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 01:09	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 01:09	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 01:09	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 01:09	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 01:09	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 01:09	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 01:09	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 01:09	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 01:09	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 01:09	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 01:09	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 01:09	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 01:09	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 01:09	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 01:09	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 01:09	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 01:09	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 01:09	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 01:09	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 01:09	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 01:09	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 01:09	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 01:09	TRC	191-24-2		
Nitrobenzene-d5 (S)	84	%		04/04/01 01:09	TRC	4165-60-0		
2-Fluorobiphenyl (S)	57	%		04/04/01 01:09	TRC	321-60-8		
Terphenyl-d14 (S)	132	%		04/04/01 01:09	TRC	1718-51-0		
Phenol-d6 (S)	67	%		04/04/01 01:09	TRC	13127-88-3		
2-Fluorophenol (S)	74	%		04/04/01 01:09	TRC	367-12-4		
2,4,6-Tribromophenol (S)	65	%		04/04/01 01:09	TRC	118-79-6		
Date Extracted				03/29/01				

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975283 | Project Sample Number: 5014023-007 | Date Collected: 03/28/01 07:30
Client Sample ID: B-7 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	4820	mg/kg	5.00	04/04/01 20:55	HEB	7429-90-5		
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	3.66	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	60.9	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	12900	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	7.23	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	3.98	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	8.58	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	8440	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	4.55	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	9250	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	356.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	10.5	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	473.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	359.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	14.1	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	22.4	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 10:14	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 10:14	SRS	319-85-7		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975283
Client Sample ID: B-7

Project Sample Number: 5014023-007
Matrix: Soil

Date Collected: 03/28/01 07:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 10:14	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 10:14	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 10:14	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 10:14	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 10:14	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 10:14	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 10:14	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 10:14	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 10:14	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 10:14	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 10:14	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 10:14	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 10:14	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 10:14	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 10:14	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 10:14	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 10:14	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 10:14	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 10:14	SRS	5103-71-9		
Decachlorobiphenyl (S)	98	%		04/04/01 10:14	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	79	%		04/04/01 10:14	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 06:13	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 06:13	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 06:13	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 06:13	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 06:13	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 06:13	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 06:13	SRS	11096-82-5		
Decachlorobiphenyl (S)	103	%		03/30/01 06:13	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	89	%		03/30/01 06:13	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975283
Client Sample ID: B-7

Project Sample Number: 5014023-007
Matrix: Soil

Date Collected: 03/28/01 07:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 19:07	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 19:07	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 19:07	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 19:07	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 19:07	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 19:07	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 19:07	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 19:07	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 19:07	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 19:07	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 19:07	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 19:07	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 19:07	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 19:07	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 19:07	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 19:07	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 19:07	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 19:07	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 19:07	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 19:07	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 19:07	CAC	79-34-5		

Date: 04/06/01

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975283
Client Sample ID: B-7

Project Sample Number: 5014023-007
Matrix: Soil

Date Collected: 03/28/01 07:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 19:07	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 19:07	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 19:07	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 19:07	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 19:07	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 19:07	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 19:07	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 19:07	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 19:07	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 19:07	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 19:07	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 19:07	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 19:07	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 19:07	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 19:07	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 19:07	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 19:07	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 19:07	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 19:07	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 19:07	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 19:07	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 19:07	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 19:07	CAC	110-57-6		
Dibromofluoromethane (S)	129	%		04/05/01 19:07	CAC		2	
Toluene-d8 (S)	99	%		04/05/01 19:07	CAC	2037-26-5		
4-Bromofluorobenzene (S)	98	%		04/05/01 19:07	CAC	460-00-4		

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975283 | Project Sample Number: 5014023-007 | Date Collected: 03/28/01 07:30
Client Sample ID: B-7 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics		Method: EPA 8270			Prep Method: EPA 3550 Sonication			
Phenol	ND	ug/kg	330	04/04/01 05:17	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 05:17	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 05:17	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 05:17	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 05:17	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 05:17	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 05:17	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 05:17	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 05:17	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 05:17	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 05:17	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 05:17	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 05:17	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 05:17	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 05:17	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 05:17	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 05:17	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 05:17	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 05:17	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 05:17	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 05:17	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 05:17	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 05:17	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 05:17	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 05:17	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 05:17	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 05:17	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 05:17	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 05:17	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 05:17	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 05:17	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 05:17	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 05:17	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 05:17	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 05:17	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975283
Client Sample ID: B-7

Project Sample Number: 5014023-007
Matrix: Soil

Date Collected: 03/28/01 07:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 05:17	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 05:17	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 05:17	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 05:17	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/04/01 05:17	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 05:17	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 05:17	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 05:17	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 05:17	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 05:17	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 05:17	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 05:17	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 05:17	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 05:17	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 05:17	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 05:17	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 05:17	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 05:17	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 05:17	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 05:17	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 05:17	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 05:17	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 05:17	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 05:17	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 05:17	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 05:17	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 05:17	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 05:17	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 05:17	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 05:17	TRC	191-24-2		
Nitrobenzene-d5 (S)	96	%		04/04/01 05:17	TRC	4165-60-0		
2-Fluorobiphenyl (S)	66	%		04/04/01 05:17	TRC	321-60-8		
Terphenyl-d14 (S)	132	%		04/04/01 05:17	TRC	1718-51-0		
Phenol-d6 (S)	77	%		04/04/01 05:17	TRC	13127-88-3		
2-Fluorophenol (S)	85	%		04/04/01 05:17	TRC	367-12-4		
2,4,6-Tribromophenol (S)	66	%		04/04/01 05:17	TRC	118-79-6		
Date Extracted				03/29/01				

Date: 04/06/01

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975291
Client Sample ID: B-8

Project Sample Number: 5014023-008
Matrix: Soil

Date Collected: 03/28/01 10:00
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	9250	mg/kg	10.0	04/04/01 20:55	HEB	7429-90-5	1	
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	7.05	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	63.5	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1350	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	10.6	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	4.52	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	12.7	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	14000	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	8.01	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	2160	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	295.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	12.8	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	592.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	238.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	17.6	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	39.7	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 13:31	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 13:31	SRS	319-85-7		

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975291 | Project Sample Number: 5014023-008 | Date Collected: 03/28/01 10:00
Client Sample ID: B-8 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 13:31	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 13:31	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 13:31	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 13:31	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 13:31	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 13:31	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 13:31	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 13:31	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 13:31	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 13:31	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 13:31	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 13:31	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 13:31	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 13:31	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 13:31	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 13:31	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 13:31	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 13:31	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 13:31	SRS	5103-71-9		
Decachlorobiphenyl (S)	107	%		04/04/01 13:31	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	90	%		04/04/01 13:31	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 08:07	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 08:07	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 08:07	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 08:07	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 08:07	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 08:07	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 08:07	SRS	11096-82-5		
Decachlorobiphenyl (S)	105	%		03/30/01 08:07	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	97	%		03/30/01 08:07	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975291
Client Sample ID: B-8

Project Sample Number: 5014023-008
Matrix: Soil

Date Collected: 03/28/01 10:00
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 19:38	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 19:38	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 19:38	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 19:38	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 19:38	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 19:38	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 19:38	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 19:38	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 19:38	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 19:38	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 19:38	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 19:38	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 19:38	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 19:38	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 19:38	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 19:38	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 19:38	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 19:38	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 19:38	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 19:38	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 19:38	CAC	79-34-5		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975291
Client Sample ID: B-8

Project Sample Number: 5014023-008
Matrix: Soil

Date Collected: 03/28/01 10:00
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 19:38	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 19:38	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 19:38	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 19:38	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 19:38	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 19:38	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 19:38	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 19:38	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 19:38	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 19:38	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 19:38	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 19:38	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 19:38	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 19:38	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 19:38	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 19:38	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 19:38	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 19:38	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 19:38	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 19:38	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 19:38	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 19:38	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 19:38	CAC	110-57-6		
Dibromofluoromethane (S)	126	%		04/05/01 19:38	CAC			
Toluene-d8 (S)	101	%		04/05/01 19:38	CAC	2037-26-5		
4-Bromofluorobenzene (S)	96	%		04/05/01 19:38	CAC	460-00-4		

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975291 | Project Sample Number: 5014023-008 | Date Collected: 03/28/01 10:00
Client Sample ID: B-8 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics	Method: EPA 8270			Prep Method: EPA 3550 Sonication				
Phenol	ND	ug/kg	330	04/04/01 05:48	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 05:48	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 05:48	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 05:48	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 05:48	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 05:48	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 05:48	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 05:48	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 05:48	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 05:48	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 05:48	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 05:48	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 05:48	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 05:48	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 05:48	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 05:48	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 05:48	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 05:48	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 05:48	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 05:48	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 05:48	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 05:48	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 05:48	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 05:48	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 05:48	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 05:48	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 05:48	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 05:48	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 05:48	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 05:48	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 05:48	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 05:48	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 05:48	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 05:48	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 05:48	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975291
Client Sample ID: B-8

Project Sample Number: 5014023-008
Matrix: Soil

Date Collected: 03/28/01 10:00
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 05:48	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 05:48	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 05:48	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 05:48	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/04/01 05:48	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 05:48	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 05:48	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 05:48	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 05:48	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 05:48	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 05:48	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 05:48	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 05:48	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 05:48	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 05:48	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 05:48	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 05:48	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 05:48	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 05:48	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 05:48	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 05:48	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 05:48	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 05:48	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 05:48	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 05:48	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 05:48	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 05:48	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 05:48	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 05:48	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 05:48	TRC	191-24-2		
Nitrobenzene-d5 (S)	94	%		04/04/01 05:48	TRC	4165-60-0		
2-Fluorobiphenyl (S)	65	%		04/04/01 05:48	TRC	321-60-8		
Terphenyl-d14 (S)	134	%		04/04/01 05:48	TRC	1718-51-0		
Phenol-d6 (S)	74	%		04/04/01 05:48	TRC	13127-88-3		
2-Fluorophenol (S)	81	%		04/04/01 05:48	TRC	367-12-4		
2,4,6-Tribromophenol (S)	74	%		04/04/01 05:48	TRC	118-79-6		
Date Extracted				03/29/01				

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975309 Project Sample Number: 5014023-009 Date Collected: 03/28/01 10:30
Client Sample ID: B-9 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	5010	mg/kg	5.00	04/04/01 20:55	HEB	7429-90-5		
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	2.99	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	54.1	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1940	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	6.44	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	4.03	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	8.36	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	8150	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	4.24	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	2030	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	317.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	11.0	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	420.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	523.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	14.8	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	24.4	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 15:09	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 15:09	SRS	319-85-7		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975309 | Project Sample Number: 5014023-009 | Date Collected: 03/28/01 10:30
Client Sample ID: B-9 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 15:09	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 15:09	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 15:09	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 15:09	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 15:09	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 15:09	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 15:09	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 15:09	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 15:09	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 15:09	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 15:09	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 15:09	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 15:09	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 15:09	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 15:09	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 15:09	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 15:09	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 15:09	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 15:09	SRS	5103-71-9		
Decachlorobiphenyl (S)	105	%		04/04/01 15:09	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	84	%		04/04/01 15:09	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 09:04	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 09:04	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 09:04	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 09:04	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 09:04	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 09:04	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 09:04	SRS	11096-82-5		
Decachlorobiphenyl (S)	100	%		03/30/01 09:04	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	93	%		03/30/01 09:04	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975309
Client Sample ID: B-9

Project Sample Number: 5014023-009
Matrix: Soil

Date Collected: 03/28/01 10:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 20:09	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 20:09	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 20:09	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 20:09	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 20:09	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 20:09	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 20:09	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 20:09	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 20:09	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 20:09	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 20:09	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 20:09	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 20:09	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 20:09	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 20:09	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 20:09	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 20:09	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 20:09	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 20:09	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 20:09	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 20:09	CAC	79-34-5		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975309
Client Sample ID: B-9

Project Sample Number: 5014023-009
Matrix: Soil

Date Collected: 03/28/01 10:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 20:09	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 20:09	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 20:09	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 20:09	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 20:09	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 20:09	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 20:09	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 20:09	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 20:09	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 20:09	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 20:09	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 20:09	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 20:09	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 20:09	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 20:09	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 20:09	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 20:09	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 20:09	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 20:09	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 20:09	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 20:09	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 20:09	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 20:09	CAC	110-57-6		
Dibromofluoromethane (S)	128	%		04/05/01 20:09	CAC		2	
Toluene-d8 (S)	101	%		04/05/01 20:09	CAC	2037-26-5		
4-Bromofluorobenzene (S)	98	%		04/05/01 20:09	CAC	460-00-4		

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975309 | Project Sample Number: 5014023-009 | Date Collected: 03/28/01 10:30
Client Sample ID: B-9 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics		Method: EPA 8270			Prep Method: EPA 3550 Sonication			
Phenol	ND	ug/kg	330	04/04/01 03:13	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 03:13	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 03:13	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 03:13	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 03:13	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 03:13	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 03:13	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 03:13	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 03:13	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 03:13	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 03:13	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 03:13	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 03:13	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 03:13	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 03:13	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 03:13	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 03:13	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 03:13	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 03:13	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 03:13	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 03:13	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 03:13	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 03:13	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 03:13	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 03:13	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 03:13	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 03:13	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 03:13	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 03:13	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 03:13	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 03:13	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 03:13	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 03:13	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 03:13	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 03:13	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975309
Client Sample ID: B-9

Project Sample Number: 5014023-009
Matrix: Soil

Date Collected: 03/28/01 10:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 03:13	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 03:13	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 03:13	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 03:13	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/04/01 03:13	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 03:13	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 03:13	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 03:13	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 03:13	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 03:13	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 03:13	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 03:13	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 03:13	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 03:13	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 03:13	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 03:13	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 03:13	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 03:13	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 03:13	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 03:13	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 03:13	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 03:13	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 03:13	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 03:13	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 03:13	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 03:13	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 03:13	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 03:13	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 03:13	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 03:13	TRC	191-24-2		
Nitrobenzene-d5 (S)	90	%		04/04/01 03:13	TRC	4165-60-0		
2-Fluorobiphenyl (S)	63	%		04/04/01 03:13	TRC	321-60-8		
Terphenyl-d14 (S)	131	%		04/04/01 03:13	TRC	1718-51-0		
Phenol-d6 (S)	72	%		04/04/01 03:13	TRC	13127-88-3		
2-Fluorophenol (S)	80	%		04/04/01 03:13	TRC	367-12-4		
2,4,6-Tribromophenol (S)	70	%		04/04/01 03:13	TRC	118-79-6		
Date Extracted				03/29/01				

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975317 | Project Sample Number: 5014023-010 | Date Collected: 03/27/01 16:30
Client Sample ID: B-10 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	6320	mg/kg	10.0	04/04/01 20:55	HEB	7429-90-5	1	
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	4.98	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	122.	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1700	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	7.76	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	5.76	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	10.1	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	10600	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	7.33	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	1990	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	908.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	15.0	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	565.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	272.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	14.3	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	33.4	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 08:36	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 08:36	SRS	319-85-7		

Date: 04/06/01

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975317 | Project Sample Number: 5014023-010 | Date Collected: 03/27/01 16:30
Client Sample ID: B-10 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 08:36	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 08:36	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 08:36	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 08:36	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 08:36	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 08:36	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 08:36	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 08:36	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 08:36	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 08:36	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 08:36	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 08:36	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 08:36	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 08:36	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 08:36	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 08:36	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 08:36	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 08:36	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 08:36	SRS	5103-71-9		
Decachlorobiphenyl (S)	100	%		04/04/01 08:36	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	83	%		04/04/01 08:36	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 05:15	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 05:15	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 05:15	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 05:15	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 05:15	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 05:15	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 05:15	SRS	11096-82-5		
Decachlorobiphenyl (S)	106	%		03/30/01 05:15	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	94	%		03/30/01 05:15	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

Date: 04/06/01

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975317 | Project Sample Number: 5014023-010 | Date Collected: 03/27/01 16:30
Client Sample ID: B-10 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 20:41	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 20:41	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 20:41	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 20:41	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 20:41	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 20:41	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 20:41	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 20:41	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 20:41	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 20:41	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 20:41	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 20:41	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 20:41	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 20:41	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 20:41	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 20:41	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 20:41	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 20:41	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 20:41	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 20:41	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 20:41	CAC	79-34-5		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975317 | Project Sample Number: 5014023-010 | Date Collected: 03/27/01 16:30
Client Sample ID: B-10 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 20:41	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 20:41	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 20:41	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 20:41	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 20:41	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 20:41	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 20:41	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 20:41	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 20:41	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 20:41	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 20:41	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 20:41	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 20:41	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 20:41	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 20:41	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 20:41	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 20:41	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 20:41	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 20:41	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 20:41	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 20:41	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 20:41	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 20:41	CAC	110-57-6		
Dibromofluoromethane (S)	125	%		04/05/01 20:41	CAC			
Toluene-d8 (S)	100	%		04/05/01 20:41	CAC	2037-26-5		
4-Bromofluorobenzene (S)	98	%		04/05/01 20:41	CAC	460-00-4		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975317
Client Sample ID: B-10

Project Sample Number: 5014023-010
Matrix: Soil

Date Collected: 03/27/01 16:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ptnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics		Method: EPA 8270			Prep Method: EPA 3550 Sonication			
Phenol	ND	ug/kg	330	04/04/01 02:42	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 02:42	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 02:42	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 02:42	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 02:42	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 02:42	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 02:42	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 02:42	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 02:42	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 02:42	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 02:42	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 02:42	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 02:42	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 02:42	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 02:42	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 02:42	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 02:42	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 02:42	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 02:42	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 02:42	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 02:42	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 02:42	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 02:42	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 02:42	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 02:42	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 02:42	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 02:42	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 02:42	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 02:42	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 02:42	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 02:42	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 02:42	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 02:42	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 02:42	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 02:42	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975317
Client Sample ID: B-10

Project Sample Number: 5014023-010
Matrix: Soil

Date Collected: 03/27/01 16:30
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 02:42	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 02:42	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 02:42	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 02:42	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/04/01 02:42	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 02:42	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 02:42	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 02:42	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 02:42	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 02:42	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 02:42	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 02:42	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 02:42	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 02:42	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 02:42	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 02:42	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 02:42	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 02:42	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 02:42	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 02:42	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 02:42	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 02:42	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 02:42	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 02:42	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 02:42	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 02:42	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 02:42	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 02:42	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 02:42	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 02:42	TRC	191-24-2		
Nitrobenzene-d5 (S)	78	%		04/04/01 02:42	TRC	4165-60-0		
2-Fluorobiphenyl (S)	51	%		04/04/01 02:42	TRC	321-60-8		
Terphenyl-d14 (S)	110	%		04/04/01 02:42	TRC	1718-51-0		
Phenol-d6 (S)	60	%		04/04/01 02:42	TRC	13127-88-3		
2-Fluorophenol (S)	68	%		04/04/01 02:42	TRC	367-12-4		
2,4,6-Tribromophenol (S)	60	%		04/04/01 02:42	TRC	118-79-6		
Date Extracted				03/29/01				

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975325
Client Sample ID: B-11

Project Sample Number: 5014023-011
Matrix: Soil

Date Collected: 03/28/01 11:15
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	5460	mg/kg	5.00	04/04/01 20:55	HEB	7429-90-5		
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	3.28	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	63.8	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	4340	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	8.08	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	4.19	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	7.98	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	8510	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	4.47	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	2030	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	353.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	11.9	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	444.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	266.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	15.5	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	26.5	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 14:20	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 14:20	SRS	319-85-7		

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975325 | Project Sample Number: 5014023-011 | Date Collected: 03/28/01 11:15
Client Sample ID: B-11 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 14:20	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 14:20	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 14:20	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 14:20	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 14:20	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 14:20	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 14:20	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 14:20	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 14:20	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 14:20	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 14:20	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 14:20	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 14:20	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 14:20	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 14:20	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 14:20	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 14:20	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 14:20	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 14:20	SRS	5103-71-9		
Decachlorobiphenyl (S)	105	%		04/04/01 14:20	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	85	%		04/04/01 14:20	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 08:36	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 08:36	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 08:36	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 08:36	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 08:36	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 08:36	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 08:36	SRS	11096-82-5		
Decachlorobiphenyl (S)	99	%		03/30/01 08:36	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	95	%		03/30/01 08:36	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975325 | Project Sample Number: 5014023-011 | Date Collected: 03/28/01 11:15
Client Sample ID: B-11 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 21:12	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 21:12	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 21:12	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 21:12	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 21:12	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 21:12	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 21:12	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 21:12	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 21:12	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 21:12	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 21:12	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 21:12	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 21:12	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 21:12	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 21:12	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 21:12	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 21:12	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 21:12	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 21:12	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 21:12	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 21:12	CAC	79-34-5		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975325 Project Sample Number: 5014023-011 Date Collected: 03/28/01 11:15
Client Sample ID: B-11 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 21:12	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 21:12	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 21:12	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 21:12	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 21:12	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 21:12	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 21:12	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 21:12	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 21:12	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 21:12	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 21:12	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 21:12	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 21:12	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 21:12	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 21:12	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 21:12	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 21:12	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 21:12	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 21:12	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 21:12	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 21:12	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 21:12	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 21:12	CAC	110-57-6		
Dibromofluoromethane (S)	126	%		04/05/01 21:12	CAC			
Toluene-d8 (S)	101	%		04/05/01 21:12	CAC	2037-26-5		
4-Bromofluorobenzene (S)	97	%		04/05/01 21:12	CAC	460-00-4		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975325 Project Sample Number: 5014023-011 Date Collected: 03/28/01 11:15
Client Sample ID: B-11 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics	Method: EPA 8270			Prep Method: EPA 3550 Sonication				
Phenol	ND	ug/kg	330	04/04/01 06:50	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 06:50	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 06:50	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 06:50	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 06:50	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 06:50	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 06:50	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 06:50	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 06:50	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 06:50	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 06:50	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 06:50	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 06:50	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 06:50	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 06:50	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 06:50	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 06:50	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 06:50	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 06:50	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 06:50	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 06:50	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 06:50	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 06:50	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 06:50	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 06:50	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 06:50	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 06:50	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 06:50	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 06:50	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 06:50	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 06:50	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 06:50	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 06:50	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 06:50	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 06:50	TRC	83-32-9		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975325 | Project Sample Number: 5014023-011 | Date Collected: 03/28/01 11:15
Client Sample ID: B-11 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 06:50	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 06:50	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 06:50	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 06:50	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/04/01 06:50	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 06:50	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 06:50	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 06:50	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 06:50	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 06:50	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 06:50	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 06:50	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 06:50	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 06:50	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 06:50	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 06:50	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 06:50	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 06:50	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 06:50	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 06:50	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 06:50	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 06:50	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 06:50	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 06:50	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 06:50	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 06:50	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 06:50	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 06:50	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 06:50	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 06:50	TRC	191-24-2		
Nitrobenzene-d5 (S)	103	%		04/04/01 06:50	TRC	4165-60-0		
2-Fluorobiphenyl (S)	69	%		04/04/01 06:50	TRC	321-60-8		
Terphenyl-d14 (S)	138	%		04/04/01 06:50	TRC	1718-51-0	4	
Phenol-d6 (S)	80	%		04/04/01 06:50	TRC	13127-88-3		
2-Fluorophenol (S)	86	%		04/04/01 06:50	TRC	367-12-4		
2,4,6-Tribromophenol (S)	71	%		04/04/01 06:50	TRC	118-79-6		
Date Extracted				03/29/01				

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975333 | Project Sample Number: 5014023-012 | Date Collected: 03/28/01 12:15
Client Sample ID: B-12 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	5230	mg/kg	5.00	04/04/01 20:55	HEB	7429-90-5		
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	2.24	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	45.7	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1810	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	7.14	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	4.06	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	8.29	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	7680	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	3.62	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	2010	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	276.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	10.0	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	431.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	280.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	14.8	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	21.2	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 15:58	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 15:58	SRS	319-85-7		

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975333 | Project Sample Number: 5014023-012 | Date Collected: 03/28/01 12:15
Client Sample ID: B-12 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 15:58	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 15:58	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 15:58	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 15:58	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 15:58	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 15:58	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 15:58	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 15:58	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 15:58	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 15:58	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 15:58	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 15:58	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 15:58	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 15:58	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 15:58	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 15:58	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 15:58	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 15:58	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 15:58	SRS	5103-71-9		
Decachlorobiphenyl (S)	103	%		04/04/01 15:58	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	82	%		04/04/01 15:58	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 09:33	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 09:33	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 09:33	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 09:33	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 09:33	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 09:33	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 09:33	SRS	11096-82-5		
Decachlorobiphenyl (S)	98	%		03/30/01 09:33	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	93	%		03/30/01 09:33	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975333 | Project Sample Number: 5014023-012 | Date Collected: 03/28/01 12:15
Client Sample ID: B-12 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 21:43	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	75-69-4		
Methylene chloride	ND	ug/kg	5.0	04/05/01 21:43	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 21:43	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 21:43	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 21:43	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 21:43	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 21:43	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 21:43	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 21:43	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 21:43	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 21:43	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 21:43	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 21:43	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 21:43	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 21:43	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 21:43	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 21:43	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 21:43	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 21:43	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 21:43	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 21:43	CAC	79-34-5		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975333 | Project Sample Number: 5014023-012 | Date Collected: 03/28/01 12:15
Client Sample ID: B-12 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 21:43	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 21:43	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 21:43	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 21:43	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 21:43	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 21:43	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 21:43	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 21:43	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 21:43	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 21:43	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 21:43	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 21:43	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 21:43	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 21:43	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 21:43	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 21:43	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 21:43	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 21:43	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 21:43	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 21:43	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 21:43	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 21:43	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 21:43	CAC	110-57-6		
Dibromofluoromethane (S)	125	%		04/05/01 21:43	CAC			
Toluene-d8 (S)	102	%		04/05/01 21:43	CAC	2037-26-5		
4-Bromofluorobenzene (S)	99	%		04/05/01 21:43	CAC	460-00-4		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975333 | Project Sample Number: 5014023-012 | Date Collected: 03/28/01 12:15
Client Sample ID: B-12 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics		Method: EPA 8270			Prep Method: EPA 3550 Sonication			
Phenol	ND	ug/kg	330	04/04/01 06:19	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/04/01 06:19	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/04/01 06:19	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/04/01 06:19	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/04/01 06:19	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/04/01 06:19	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/04/01 06:19	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/04/01 06:19	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/04/01 06:19	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/04/01 06:19	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/04/01 06:19	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/04/01 06:19	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/04/01 06:19	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/04/01 06:19	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/04/01 06:19	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/04/01 06:19	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/04/01 06:19	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/04/01 06:19	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/04/01 06:19	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/04/01 06:19	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/04/01 06:19	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/04/01 06:19	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/04/01 06:19	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/04/01 06:19	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/04/01 06:19	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/04/01 06:19	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/04/01 06:19	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/04/01 06:19	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/04/01 06:19	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/04/01 06:19	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/04/01 06:19	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/04/01 06:19	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/04/01 06:19	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/04/01 06:19	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/04/01 06:19	TRC	83-32-9		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975333
Client Sample ID: B-12

Project Sample Number: 5014023-012
Matrix: Soil

Date Collected: 03/28/01 12:15
Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/04/01 06:19	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/04/01 06:19	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/04/01 06:19	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/04/01 06:19	TRC	121-14-2		
Diethylphthalate	390	ug/kg	330	04/04/01 06:19	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/04/01 06:19	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/04/01 06:19	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/04/01 06:19	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/04/01 06:19	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/04/01 06:19	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/04/01 06:19	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/04/01 06:19	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/04/01 06:19	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/04/01 06:19	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/04/01 06:19	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/04/01 06:19	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/04/01 06:19	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/04/01 06:19	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/04/01 06:19	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/04/01 06:19	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/04/01 06:19	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/04/01 06:19	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/04/01 06:19	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/04/01 06:19	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/04/01 06:19	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/04/01 06:19	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/04/01 06:19	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/04/01 06:19	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/04/01 06:19	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/04/01 06:19	TRC	191-24-2		
Nitrobenzene-d5 (S)	96	%		04/04/01 06:19	TRC	4165-60-0		
2-Fluorobiphenyl (S)	63	%		04/04/01 06:19	TRC	321-60-8		
Terphenyl-d14 (S)	137	%		04/04/01 06:19	TRC	1718-51-0		
Phenol-d6 (S)	76	%		04/04/01 06:19	TRC	13127-88-3		
2-Fluorophenol (S)	82	%		04/04/01 06:19	TRC	367-12-4		
2,4,6-Tribromophenol (S)	74	%		04/04/01 06:19	TRC	118-79-6		
Date Extracted				03/29/01				

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975341 | Project Sample Number: 5014023-013 | Date Collected: 03/27/01 11:30
Client Sample ID: B-13 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals								
Metals, Trace ICP	Method: EPA 6010			Prep Method: EPA 3050				
Aluminum	6330	mg/kg	10.0	04/04/01 20:55	HEB	7429-90-5	1	
Antimony	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-36-0		
Arsenic	2.97	mg/kg	2.00	04/04/01 20:55	HEB	7440-38-2		
Barium	61.1	mg/kg	2.00	04/04/01 20:55	HEB	7440-39-3		
Beryllium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-41-7		
Cadmium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-43-9		
Calcium	1720	mg/kg	10.0	04/04/01 20:55	HEB	7440-70-2		
Chromium	8.48	mg/kg	2.00	04/04/01 20:55	HEB	7440-47-3		
Cobalt	4.28	mg/kg	2.00	04/04/01 20:55	HEB	7440-48-4		
Copper	7.49	mg/kg	2.00	04/04/01 20:55	HEB	7440-50-8		
Iron	8930	mg/kg	2.00	04/04/01 20:55	HEB	7439-89-6		
Lead	4.61	mg/kg	2.00	04/04/01 20:55	HEB	7439-92-1		
Magnesium	1930	mg/kg	10.0	04/04/01 20:55	HEB	7439-95-4		
Manganese	356.	mg/kg	2.00	04/04/01 20:55	HEB	7439-96-5		
Nickel	10.6	mg/kg	2.00	04/04/01 20:55	HEB	7440-02-0		
Potassium	455.	mg/kg	10.0	04/04/01 20:55	HEB	7440-09-7		
Selenium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7782-49-2		
Silver	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-22-4		
Sodium	313.	mg/kg	50.0	04/04/01 20:55	HEB	7440-23-5		
Thallium	ND	mg/kg	2.00	04/04/01 20:55	HEB	7440-28-0		
Vanadium	16.2	mg/kg	2.00	04/04/01 20:55	HEB	7440-62-2		
Zinc	27.0	mg/kg	2.00	04/04/01 20:55	HEB	7440-66-6		
Date Digested				04/02/01				
Wet Chemistry								
Cyanide, Total, Soil	Method: EPA 335.3			Prep Method: EPA 335.3				
Cyanide	ND	mg/kg	0.500	04/04/01	CCJ	57-12-5		
GC Semivolatiles								
Organochlorine Pesticides, GC	Method: EPA 8081A			Prep Method: EPA 3550				
alpha-BHC	ND	ug/kg	1.7	04/04/01 09:25	SRS	319-84-6		
beta-BHC	ND	ug/kg	1.7	04/04/01 09:25	SRS	319-85-7		

Date: 04/06/01

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975341 | Project Sample Number: 5014023-013 | Date Collected: 03/27/01 11:30
Client Sample ID: B-13 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
delta-BHC	ND	ug/kg	1.7	04/04/01 09:25	SRS	319-86-8		
gamma-BHC (Lindane)	ND	ug/kg	1.7	04/04/01 09:25	SRS	58-89-9		
Heptachlor	ND	ug/kg	1.7	04/04/01 09:25	SRS	76-44-8		
Aldrin	ND	ug/kg	1.7	04/04/01 09:25	SRS	309-00-2		
Heptachlor epoxide	ND	ug/kg	1.7	04/04/01 09:25	SRS	1024-57-3		
Endosulfan I	ND	ug/kg	1.7	04/04/01 09:25	SRS	959-98-8		
Dieldrin	ND	ug/kg	3.3	04/04/01 09:25	SRS	60-57-1		
4,4'-DDE	ND	ug/kg	3.3	04/04/01 09:25	SRS	72-55-9		
Endrin	ND	ug/kg	3.3	04/04/01 09:25	SRS	72-20-8		
Endosulfan II	ND	ug/kg	3.3	04/04/01 09:25	SRS	33213-65-9		
4,4'-DDD	ND	ug/kg	3.3	04/04/01 09:25	SRS	72-54-8		
Endosulfan sulfate	ND	ug/kg	3.3	04/04/01 09:25	SRS	1031-07-8		
4,4'-DDT	ND	ug/kg	3.3	04/04/01 09:25	SRS	50-29-3		
Endrin ketone	ND	ug/kg	3.3	04/04/01 09:25	SRS	53494-70-5		
Methoxychlor	ND	ug/kg	17.	04/04/01 09:25	SRS	72-43-5		
Toxaphene	ND	ug/kg	170	04/04/01 09:25	SRS	8001-35-2		
Endrin aldehyde	ND	ug/kg	3.3	04/04/01 09:25	SRS	7421-93-4		
gamma-Chlordane	ND	ug/kg	1.7	04/04/01 09:25	SRS	5103-74-2		
alpha-Chlordane	ND	ug/kg	1.7	04/04/01 09:25	SRS	5103-71-9		
Decachlorobiphenyl (S)	106	%		04/04/01 09:25	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	88	%		04/04/01 09:25	SRS	877-09-8		
Date Extracted				03/29/01				

PCBs in Soil by 8082 — Method: EPA 8082 — Prep Method: EPA 3550

PCB-1016 (Aroclor 1016)	ND	ug/kg	33.	03/30/01 05:44	SRS	12674-11-2		
PCB-1221 (Aroclor 1221)	ND	ug/kg	33.	03/30/01 05:44	SRS	11104-28-2		
PCB-1232 (Aroclor 1232)	ND	ug/kg	33.	03/30/01 05:44	SRS	11141-16-5		
PCB-1242 (Aroclor 1242)	ND	ug/kg	33.	03/30/01 05:44	SRS	53469-21-9		
PCB-1248 (Aroclor 1248)	ND	ug/kg	33.	03/30/01 05:44	SRS	12672-29-6		
PCB-1254 (Aroclor 1254)	ND	ug/kg	33.	03/30/01 05:44	SRS	11097-69-1		
PCB-1260 (Aroclor 1260)	ND	ug/kg	33.	03/30/01 05:44	SRS	11096-82-5		
Decachlorobiphenyl (S)	105	%		03/30/01 05:44	SRS	2051-24-3		
Tetrachloro-m-xylene (S)	93	%		03/30/01 05:44	SRS	877-09-8		
Date Extracted				03/29/01				

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260 — Prep Method: EPA 8260

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975341 | Project Sample Number: 5014023-013 | Date Collected: 03/27/01 11:30
Client Sample ID: B-13 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Dichlorodifluoromethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	75-71-8		
Chloromethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	74-87-3		
Vinyl chloride	ND	ug/kg	2.0	04/05/01 22:14	CAC	75-01-4		
Bromomethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	74-83-9		
Chloroethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	75-00-3		
Trichlorofluoromethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	75-69-4		
Methylene chloride	32.	ug/kg	5.0	04/05/01 22:14	CAC	75-09-2		
1,1-Dichloroethene	ND	ug/kg	5.0	04/05/01 22:14	CAC	75-35-4		
trans-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 22:14	CAC	156-60-5		
1,1-Dichloroethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	75-34-3		
2,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 22:14	CAC	594-20-7		
cis-1,2-Dichloroethene	ND	ug/kg	5.0	04/05/01 22:14	CAC	156-59-2		
Chloroform	ND	ug/kg	5.0	04/05/01 22:14	CAC	67-66-3		
Bromochloromethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	74-97-5		
1,1,1-Trichloroethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	71-55-6		
Carbon tetrachloride	ND	ug/kg	5.0	04/05/01 22:14	CAC	56-23-5		
1,1-Dichloropropene	ND	ug/kg	5.0	04/05/01 22:14	CAC	563-58-6		
Benzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	71-43-2		
1,2-Dichloroethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	107-06-2		
Trichloroethene	ND	ug/kg	5.0	04/05/01 22:14	CAC	79-01-6		
1,2-Dichloropropane	ND	ug/kg	5.0	04/05/01 22:14	CAC	78-87-5		
Bromodichloromethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	75-27-4		
Dibromomethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	74-95-3		
Toluene	ND	ug/kg	5.0	04/05/01 22:14	CAC	108-88-3		
1,1,2-Trichloroethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	79-00-5		
Tetrachloroethene	ND	ug/kg	5.0	04/05/01 22:14	CAC	127-18-4		
1,3-Dichloropropane	ND	ug/kg	5.0	04/05/01 22:14	CAC	142-28-9		
Dibromochloromethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0	04/05/01 22:14	CAC	106-93-4		
Chlorobenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	108-90-7		
1,1,1,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	630-20-6		
Ethylbenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	100-41-4		
m&p-Xylene	ND	ug/kg	5.0	04/05/01 22:14	CAC	7816-60-0		
o-Xylene	ND	ug/kg	5.0	04/05/01 22:14	CAC	95-47-6		
Styrene	ND	ug/kg	5.0	04/05/01 22:14	CAC	100-42-5		
Bromoform	ND	ug/kg	5.0	04/05/01 22:14	CAC	75-25-2		
Isopropylbenzene (Cumene)	ND	ug/kg	5.0	04/05/01 22:14	CAC	98-82-8		
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0	04/05/01 22:14	CAC	79-34-5		

REPORT OF LABORATORY ANALYSIS

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975341 | Project Sample Number: 5014023-013 | Date Collected: 03/27/01 11:30
Client Sample ID: B-13 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
Bromobenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	108-86-1		
1,2,3-Trichloropropane	ND	ug/kg	5.0	04/05/01 22:14	CAC	96-18-4		
n-Propylbenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	103-65-1		
2-Chlorotoluene	ND	ug/kg	5.0	04/05/01 22:14	CAC	95-49-8		
1,3,5-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	108-67-8		
4-Chlorotoluene	ND	ug/kg	5.0	04/05/01 22:14	CAC	106-43-4		
1,2,4-Trimethylbenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	95-63-6		
sec-Butylbenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	135-98-8		
tert-Butylbenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	98-06-6		
p-Isopropyltoluene	ND	ug/kg	5.0	04/05/01 22:14	CAC	99-87-6		
1,3-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	106-46-7		
n-Butylbenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	104-51-8		
1,2-Dichlorobenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	95-50-1		
1,2-Dibromo-3-chloropropane	ND	ug/kg	5.0	04/05/01 22:14	CAC	96-12-8		
1,2,4-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	120-82-1		
Hexachloro-1,3-butadiene	ND	ug/kg	5.0	04/05/01 22:14	CAC	87-68-3		
Naphthalene	ND	ug/kg	5.0	04/05/01 22:14	CAC	91-20-3		
1,2,3-Trichlorobenzene	ND	ug/kg	5.0	04/05/01 22:14	CAC	87-61-6		
trans-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 22:14	CAC	10061-02-6		
cis-1,3-Dichloropropene	ND	ug/kg	5.0	04/05/01 22:14	CAC	10061-01-5		
2-Chloroethylvinyl ether	ND	ug/kg	50.	04/05/01 22:14	CAC	110-75-8		
Acetone	ND	ug/kg	100	04/05/01 22:14	CAC	67-64-1		
2-Butanone (MEK)	ND	ug/kg	10.	04/05/01 22:14	CAC	78-93-3		
4-Methyl-2-pentanone (MIBK)	ND	ug/kg	10.	04/05/01 22:14	CAC	108-10-1		
Carbon disulfide	ND	ug/kg	10.	04/05/01 22:14	CAC	75-15-0		
Acrolein	ND	ug/kg	100	04/05/01 22:14	CAC	107-02-8		
Acrylonitrile	ND	ug/kg	100	04/05/01 22:14	CAC	107-13-1		
2-Hexanone	ND	ug/kg	100	04/05/01 22:14	CAC	591-78-6		
Vinyl acetate	ND	ug/kg	100	04/05/01 22:14	CAC	108-05-4		
Iodomethane	ND	ug/kg	100	04/05/01 22:14	CAC	74-88-4		
Methyl-tert-butyl ether	ND	ug/kg	5.0	04/05/01 22:14	CAC	1634-04-4		
Ethyl methacrylate	ND	ug/kg	100	04/05/01 22:14	CAC	97-63-2		
trans-1,4-Dichloro-2-butene	ND	ug/kg	100	04/05/01 22:14	CAC	110-57-6		
Dibromofluoromethane (S)	126	%		04/05/01 22:14	CAC			
Toluene-d8 (S)	101	%		04/05/01 22:14	CAC	2037-26-5		
4-Bromofluorobenzene (S)	98	%		04/05/01 22:14	CAC	460-00-4		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975341 | Project Sample Number: 5014023-013 | Date Collected: 03/27/01 11:30
Client Sample ID: B-13 | Matrix: Soil | Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
GC/MS Semivolatiles								
Semivolatile Organics		Method: EPA 8270			Prep Method: EPA 3550 Sonication			
Phenol	ND	ug/kg	330	04/05/01 04:30	TRC	108-95-2		
bis(2-Chloroethyl) ether	ND	ug/kg	330	04/05/01 04:30	TRC	111-44-4		
2-Chlorophenol	ND	ug/kg	330	04/05/01 04:30	TRC	95-57-8		
1,3-Dichlorobenzene	ND	ug/kg	330	04/05/01 04:30	TRC	541-73-1		
1,4-Dichlorobenzene	ND	ug/kg	330	04/05/01 04:30	TRC	106-46-7		
Benzyl alcohol	ND	ug/kg	660	04/05/01 04:30	TRC	100-51-6		
1,2-Dichlorobenzene	ND	ug/kg	330	04/05/01 04:30	TRC	95-50-1		
2-Methylphenol (o-Cresol)	ND	ug/kg	330	04/05/01 04:30	TRC	95-48-7		
bis(2-Chloroisopropyl) ether	ND	ug/kg	330	04/05/01 04:30	TRC	39638-32-9		
3&4-Methylphenol	ND	ug/kg	660	04/05/01 04:30	TRC			
N-Nitroso-di-n-propylamine	ND	ug/kg	330	04/05/01 04:30	TRC	621-64-7		
Hexachloroethane	ND	ug/kg	330	04/05/01 04:30	TRC	67-72-1		
Nitrobenzene	ND	ug/kg	330	04/05/01 04:30	TRC	98-95-3		
Isophorone	ND	ug/kg	330	04/05/01 04:30	TRC	78-59-1		
2-Nitrophenol	ND	ug/kg	330	04/05/01 04:30	TRC	88-75-5		
2,4-Dimethylphenol	ND	ug/kg	330	04/05/01 04:30	TRC	105-67-9		
Benzoic acid	ND	ug/kg	1600	04/05/01 04:30	TRC	65-85-0		
bis(2-Chloroethoxy)methane	ND	ug/kg	330	04/05/01 04:30	TRC	111-91-1		
2,4-Dichlorophenol	ND	ug/kg	330	04/05/01 04:30	TRC	120-83-2		
1,2,4-Trichlorobenzene	ND	ug/kg	330	04/05/01 04:30	TRC	120-82-1		
Naphthalene	ND	ug/kg	330	04/05/01 04:30	TRC	91-20-3		
4-Chloroaniline	ND	ug/kg	660	04/05/01 04:30	TRC	106-47-8		
Hexachloro-1,3-butadiene	ND	ug/kg	330	04/05/01 04:30	TRC	87-68-3		
4-Chloro-3-methylphenol	ND	ug/kg	660	04/05/01 04:30	TRC	59-50-7		
2-Methylnaphthalene	ND	ug/kg	330	04/05/01 04:30	TRC	91-57-6		
Hexachlorocyclopentadiene	ND	ug/kg	330	04/05/01 04:30	TRC	77-47-4		
2,4,6-Trichlorophenol	ND	ug/kg	330	04/05/01 04:30	TRC	88-06-2		
2,4,5-Trichlorophenol	ND	ug/kg	330	04/05/01 04:30	TRC	95-95-4		
2-Chloronaphthalene	ND	ug/kg	330	04/05/01 04:30	TRC	91-58-7		
2-Nitroaniline	ND	ug/kg	1600	04/05/01 04:30	TRC	88-74-4		
Dimethylphthalate	ND	ug/kg	330	04/05/01 04:30	TRC	131-11-3		
Acenaphthylene	ND	ug/kg	330	04/05/01 04:30	TRC	208-96-8		
2,6-Dinitrotoluene	ND	ug/kg	330	04/05/01 04:30	TRC	606-20-2		
3-Nitroaniline	ND	ug/kg	1600	04/05/01 04:30	TRC	99-09-2		
Acenaphthene	ND	ug/kg	330	04/05/01 04:30	TRC	83-32-9		

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Lab Project Number: 5014023
Client Project ID: 01-209

Lab Sample No: 50975341 Project Sample Number: 5014023-013 Date Collected: 03/27/01 11:30
Client Sample ID: B-13 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Ftnote	Limit
2,4-Dinitrophenol	ND	ug/kg	1600	04/05/01 04:30	TRC	51-28-5		
4-Nitrophenol	ND	ug/kg	1600	04/05/01 04:30	TRC	100-02-7		
Dibenzofuran	ND	ug/kg	330	04/05/01 04:30	TRC	132-64-9		
2,4-Dinitrotoluene	ND	ug/kg	330	04/05/01 04:30	TRC	121-14-2		
Diethylphthalate	ND	ug/kg	330	04/05/01 04:30	TRC	84-66-2		
4-Chlorophenylphenyl ether	ND	ug/kg	330	04/05/01 04:30	TRC	7005-72-3		
Fluorene	ND	ug/kg	330	04/05/01 04:30	TRC	86-73-7		
4-Nitroaniline	ND	ug/kg	1600	04/05/01 04:30	TRC	100-01-6		
4,6-Dinitro-2-methylphenol	ND	ug/kg	1600	04/05/01 04:30	TRC	534-52-1		
N-Nitrosodiphenylamine	ND	ug/kg	330	04/05/01 04:30	TRC	86-30-6		
4-Bromophenylphenyl ether	ND	ug/kg	330	04/05/01 04:30	TRC	101-55-3		
Hexachlorobenzene	ND	ug/kg	330	04/05/01 04:30	TRC	118-74-1		
Pentachlorophenol	ND	ug/kg	1600	04/05/01 04:30	TRC	87-86-5		
Phenanthrene	ND	ug/kg	330	04/05/01 04:30	TRC	85-01-8		
Anthracene	ND	ug/kg	330	04/05/01 04:30	TRC	120-12-7		
Di-n-butylphthalate	ND	ug/kg	330	04/05/01 04:30	TRC	84-74-2		
Fluoranthene	ND	ug/kg	330	04/05/01 04:30	TRC	206-44-0		
Pyrene	ND	ug/kg	330	04/05/01 04:30	TRC	129-00-0		
Butylbenzylphthalate	ND	ug/kg	330	04/05/01 04:30	TRC	85-68-7		
3,3'-Dichlorobenzidine	ND	ug/kg	660	04/05/01 04:30	TRC	91-94-1		
Benzo(a)anthracene	ND	ug/kg	330	04/05/01 04:30	TRC	56-55-3		
Chrysene	ND	ug/kg	330	04/05/01 04:30	TRC	218-01-9		
bis(2-Ethylhexyl)phthalate	ND	ug/kg	330	04/05/01 04:30	TRC	117-81-7		
Di-n-octylphthalate	ND	ug/kg	330	04/05/01 04:30	TRC	117-84-0		
Benzo(b)fluoranthene	ND	ug/kg	330	04/05/01 04:30	TRC	205-99-2		
Benzo(k)fluoranthene	ND	ug/kg	330	04/05/01 04:30	TRC	207-08-9		
Benzo(a)pyrene	ND	ug/kg	330	04/05/01 04:30	TRC	50-32-8		
Indeno(1,2,3-cd)pyrene	ND	ug/kg	330	04/05/01 04:30	TRC	193-39-5		
Dibenz(a,h)anthracene	ND	ug/kg	330	04/05/01 04:30	TRC	53-70-3		
Benzo(g,h,i)perylene	ND	ug/kg	330	04/05/01 04:30	TRC	191-24-2		
Nitrobenzene-d5 (S)	80	%		04/05/01 04:30	TRC	4165-60-0		
2-Fluorobiphenyl (S)	49	%		04/05/01 04:30	TRC	321-60-8		
Terphenyl-d14 (S)	118	%		04/05/01 04:30	TRC	1718-51-0		
Phenol-d6 (S)	62	%		04/05/01 04:30	TRC	13127-88-3		
2-Fluorophenol (S)	68	%		04/05/01 04:30	TRC	367-12-4		
2,4,6-Tribromophenol (S)	64	%		04/05/01 04:30	TRC	118-79-6		
Date Extracted				04/04/01				

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PARAMETER FOOTNOTES

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting Limit
(S)	Surrogate
[1]	Rerun 4/5/01 at 2x for Al.
[2]	The surrogate recovery was above the upper QC limit for undiluted analyses. The reported value is below the reporting limit, therefore no bias is present.
[3]	Rerun for Al at 2x 4/5/01.
[4]	Surrogate recoveries for Nitrobenzene-d5 and Terphenyl-d14 are outside (high) established QC limits, however no target analytes found in sample, therefore, no bias present. TRC 04/04/01

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

QC Batch: 23072
Analysis Method: EPA 8260
Associated Lab Samples: 50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

QC Batch Method: EPA 8260
Analysis Description: GC/MS VOCs by 8260

METHOD BLANK: 50986876
Associated Lab Samples: 50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

Parameter	Units	Method Blank Result	PRL	Footnotes
Dichlorodifluoromethane	ug/kg	ND	5	
Chloromethane	ug/kg	ND	5	
Vinyl chloride	ug/kg	ND	2	
Bromomethane	ug/kg	ND	5	
Chloroethane	ug/kg	ND	5	
Trichlorofluoromethane	ug/kg	ND	5	
Methylene chloride	ug/kg	ND	5	
1,1-Dichloroethene	ug/kg	ND	5	
trans-1,2-Dichloroethene	ug/kg	ND	5	
1,1-Dichloroethane	ug/kg	ND	5	
2,2-Dichloropropane	ug/kg	ND	5	
cis-1,2-Dichloroethene	ug/kg	ND	5	
Chloroform	ug/kg	ND	5	
Bromochloromethane	ug/kg	ND	5	
1,1,1-Trichloroethane	ug/kg	ND	5	
Carbon tetrachloride	ug/kg	ND	5	
1,1-Dichloropropene	ug/kg	ND	5	
Benzene	ug/kg	ND	5	
1,2-Dichloroethane	ug/kg	ND	5	
Trichloroethene	ug/kg	ND	5	
1,2-Dichloropropane	ug/kg	ND	5	
Bromodichloromethane	ug/kg	ND	5	
Dibromomethane	ug/kg	ND	5	
Toluene	ug/kg	ND	5	
1,1,2-Trichloroethane	ug/kg	ND	5	
Tetrachloroethene	ug/kg	ND	5	
1,3-Dichloropropane	ug/kg	ND	5	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

METHOD BLANK: 50986876
Associated Lab Samples:

50975226 50975234 50975242 50975259 50975267 50975275 50975283
50975291 50975309 50975317 50975325 50975333 50975341

Parameter	Units	Method Blank Result	PRL	Footnotes
Dibromochloromethane	ug/kg	ND	5	
1,2-Dibromoethane (EDB)	ug/kg	ND	5	
Chlorobenzene	ug/kg	ND	5	
1,1,1,2-Tetrachloroethane	ug/kg	ND	5	
Ethylbenzene	ug/kg	ND	5	
m&p-Xylene	ug/kg	ND	5	
o-Xylene	ug/kg	ND	5	
Styrene	ug/kg	ND	5	
Bromoform	ug/kg	ND	5	
Isopropylbenzene (Cumene)	ug/kg	ND	5	
1,1,2,2-Tetrachloroethane	ug/kg	ND	5	
Bromobenzene	ug/kg	ND	5	
1,2,3-Trichloropropane	ug/kg	ND	5	
n-Propylbenzene	ug/kg	ND	5	
2-Chlorotoluene	ug/kg	ND	5	
1,3,5-Trimethylbenzene	ug/kg	ND	5	
4-Chlorotoluene	ug/kg	ND	5	
1,2,4-Trimethylbenzene	ug/kg	ND	5	
sec-Butylbenzene	ug/kg	ND	5	
tert-Butylbenzene	ug/kg	ND	5	
p-Isopropyltoluene	ug/kg	ND	5	
1,3-Dichlorobenzene	ug/kg	ND	5	
1,4-Dichlorobenzene	ug/kg	ND	5	
n-Butylbenzene	ug/kg	ND	5	
1,2-Dichlorobenzene	ug/kg	ND	5	
1,2-Dibromo-3-chloropropane	ug/kg	ND	5	
1,2,4-Trichlorobenzene	ug/kg	ND	5	
Hexachloro-1,3-butadiene	ug/kg	ND	5	
Naphthalene	ug/kg	ND	5	
1,2,3-Trichlorobenzene	ug/kg	ND	5	
trans-1,3-Dichloropropene	ug/kg	ND	5	
cis-1,3-Dichloropropene	ug/kg	ND	5	
2-Chloroethylvinyl ether	ug/kg	ND	50	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

METHOD BLANK: 50986876
Associated Lab Samples:

	50975226	50975234	50975242	50975259	50975267	50975275	50975283
	50975291	50975309	50975317	50975325	50975333	50975341	

Parameter	Units	Method Blank Result	PRL	Footnotes
Acetone	ug/kg	ND	100	
2-Butanone (MEK)	ug/kg	ND	10	
4-Methyl-2-pentanone (MIBK)	ug/kg	ND	10	
Carbon disulfide	ug/kg	ND	10	
Acrolein	ug/kg	ND	100	
Acrylonitrile	ug/kg	ND	100	
2-Hexanone	ug/kg	ND	100	
Vinyl acetate	ug/kg	ND	100	
Iodomethane	ug/kg	ND	100	
Methyl-tert-butyl ether	ug/kg	ND	5	
Ethyl methacrylate	ug/kg	ND	100	
trans-1,4-Dichloro-2-butene	ug/kg	ND	100	
Dibromofluoromethane (S)	%	117		
Toluene-d8 (S)	%	97		
4-Bromofluorobenzene (S)	%	98		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50986892 50986900

Parameter	Units	50975226	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
1,1-Dichloroethene	ug/kg	0	20.00	19.97	100	40.81	102	69	
Benzene	ug/kg	0	20.00	15.44	77	29.34	73	62	
Trichloroethene	ug/kg	0	20.00	15.92	80	30.79	77	64	
Toluene	ug/kg	0	20.00	16.74	84	33.10	83	66	
Chlorobenzene	ug/kg	0	20.00	15.36	77	29.97	75	64	
Dibromofluoromethane (S)					112		103		
Toluene-d8 (S)					101		103		
4-Bromofluorobenzene (S)					98		95		1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

LABORATORY CONTROL SAMPLE: 50986884

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Dichlorodifluoromethane	ug/kg	20	61.65	308	
Chloromethane	ug/kg	20	27.61	138	
Vinyl chloride	ug/kg	20	26.19	131	
Bromomethane	ug/kg	20	19.25	96	
Chloroethane	ug/kg	20	23.15	116	
Trichlorofluoromethane	ug/kg	20	25.95	130	
Methylene chloride	ug/kg	20	19.77	99	
1,1-Dichloroethene	ug/kg	20	24.49	122	
trans-1,2-Dichloroethene	ug/kg	20	25.84	129	
1,1-Dichloroethane	ug/kg	20	27.36	137	
2,2-Dichloropropane	ug/kg	20	21.41	107	
cis-1,2-Dichloroethene	ug/kg	20	22.18	111	
Chloroform	ug/kg	20	24.03	120	
Bromochloromethane	ug/kg	20	22.37	112	
1,1,1-Trichloroethane	ug/kg	20	24.23	121	
Carbon tetrachloride	ug/kg	20	21.62	108	
1,1-Dichloropropene	ug/kg	20	20.75	104	
Benzene	ug/kg	20	20.58	103	
1,2-Dichloroethane	ug/kg	20	23.65	118	
Trichloroethene	ug/kg	20	20.73	104	
1,2-Dichloropropane	ug/kg	20	20.72	104	
Bromodichloromethane	ug/kg	20	23.18	116	
Dibromomethane	ug/kg	20	22.61	113	
Toluene	ug/kg	20	21.31	107	
1,1,2-Trichloroethane	ug/kg	20	21.90	110	
Tetrachloroethene	ug/kg	20	15.56	78	
1,3-Dichloropropane	ug/kg	20	20.44	102	
Dibromochloromethane	ug/kg	20	20.87	104	
1,2-Dibromoethane (EDB)	ug/kg	20	21.96	110	
Chlorobenzene	ug/kg	20	20.18	101	
1,1,1,2-Tetrachloroethane	ug/kg	20	20.78	104	
Ethylbenzene	ug/kg	20	21.58	108	
m&p-Xylene	ug/kg	40	41.18	103	
o-Xylene	ug/kg	20	20.38	102	
Styrene	ug/kg	20	19.97	100	
Bromoform	ug/kg	20	21.23	106	
Isopropylbenzene (Cumene)	ug/kg	20	21.31	107	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

LABORATORY CONTROL SAMPLE: 50986884

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
1,1,2,2-Tetrachloroethane	ug/kg	20	16.67	83	
Bromobenzene	ug/kg	20	21.18	106	
1,2,3-Trichloropropane	ug/kg	20	16.77	84	
n-Propylbenzene	ug/kg	20	21.42	107	
2-Chlorotoluene	ug/kg	20	23.00	115	
1,3,5-Trimethylbenzene	ug/kg	20	22.98	115	
4-Chlorotoluene	ug/kg	20	20.49	102	
1,2,4-Trimethylbenzene	ug/kg	20	21.54	108	
sec-Butylbenzene	ug/kg	20	22.51	113	
tert-Butylbenzene	ug/kg	20	19.95	100	
p-Isopropyltoluene	ug/kg	20	20.94	105	
1,3-Dichlorobenzene	ug/kg	20	20.82	104	
1,4-Dichlorobenzene	ug/kg	20	19.64	98	
n-Butylbenzene	ug/kg	20	24.09	120	
1,2-Dichlorobenzene	ug/kg	20	21.69	108	
1,2-Dibromo-3-chloropropane	ug/kg	20	22.47	112	
1,2,4-Trichlorobenzene	ug/kg	20	25.23	126	
Hexachloro-1,3-butadiene	ug/kg	20	24.39	122	
Naphthalene	ug/kg	20	25.24	126	
1,2,3-Trichlorobenzene	ug/kg	20	26.47	132	
trans-1,3-Dichloropropene	ug/kg	20	22.21	111	
cis-1,3-Dichloropropene	ug/kg	20	22.04	110	
Dibromofluoromethane (S)				106	
Toluene-d8 (S)				101	
4-Bromofluorobenzene (S)				96	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

QC Batch: 22919
QC Batch Method: EPA 3050
Analysis Method: EPA 6010
Analysis Description: Metals, Trace ICP
Associated Lab Samples: 50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

METHOD BLANK: 50980358
Associated Lab Samples:
50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

Parameter	Units	Method Blank Result	PRL	Footnotes
Aluminum	mg/kg	ND	5	
Antimony	mg/kg	ND	2	
Arsenic	mg/kg	ND	2	
Barium	mg/kg	ND	2	
Beryllium	mg/kg	ND	2	
Cadmium	mg/kg	ND	2	
Calcium	mg/kg	ND	10	
Chromium	mg/kg	ND	2	
Cobalt	mg/kg	ND	2	
Copper	mg/kg	ND	2	
Iron	mg/kg	ND	2	
Lead	mg/kg	ND	2	
Magnesium	mg/kg	ND	10	
Manganese	mg/kg	ND	2	
Nickel	mg/kg	ND	2	
Potassium	mg/kg	ND	10	
Selenium	mg/kg	ND	2	
Silver	mg/kg	ND	2	
Sodium	mg/kg	ND	50	
Thallium	mg/kg	ND	2	
Vanadium	mg/kg	ND	2	
Zinc	mg/kg	ND	2	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50980366 50980374

Parameter	Units	50968973	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Aluminum	mg/kg	127.6	500.00	694.3	113	664.3	107	4	
Antimony	mg/kg	0.07794	50.00	46.46	93	43.47	87	7	
Arsenic	mg/kg	0.5793	50.00	48.02	95	45.78	90	5	
Barium	mg/kg	5.248	50.00	48.56	87	46.96	83	3	
Beryllium	mg/kg	0	5.000	4.494	90	4.278	86	5	
Cadmium	mg/kg	0.04864	5.000	4.666	92	4.455	88	5	
Calcium	mg/kg	75850	500.00	95790	3988	90750	2980	5	
Chromium	mg/kg	1.104	50.00	45.06	88	43.72	85	3	
Cobalt	mg/kg	0.03052	50.00	43.42	87	41.60	83	4	
Copper	mg/kg	0.2754	50.00	47.34	94	45.31	90	4	
Iron	mg/kg	397.2	500.00	912.9	103	882.9	97	3	
Lead	mg/kg	0	50.00	45.12	90	43.35	87	4	
Magnesium	mg/kg	315.4	500.00	828.5	103	833.6	104	1	
Manganese	mg/kg	4.840	50.00	52.07	94	47.68	86	9	
Nickel	mg/kg	0.09557	50.00	46.66	93	44.67	89	4	
Potassium	mg/kg	65.12	500.00	595.2	106	547.9	97	8	
Selenium	mg/kg	1.146	50.00	47.74	93	45.31	88	5	
Silver	mg/kg	0	5.000	4.263	85	3.994	80	7	
Sodium	mg/kg	143.9	500.00	842.9	140	650.0	101	26	
Thallium	mg/kg	1.249	50.00	43.95	85	42.59	83	3	
Vanadium	mg/kg	0.6902	50.00	44.58	88	42.62	84	4	
Zinc	mg/kg	3.015	50.00	47.54	89	45.34	85	5	

LABORATORY CONTROL SAMPLE & LCSD: 50980382 50980390

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
Aluminum	mg/kg	500	485.0	97	490.9	98	1	
Antimony	mg/kg	50	49.00	98	49.79	100	2	
Arsenic	mg/kg	50	50.98	102	51.86	104	2	
Barium	mg/kg	50	48.54	97	49.28	99	2	
Beryllium	mg/kg	5.000	5.200	104	5.316	106	2	
Cadmium	mg/kg	5.000	4.967	99	5.069	101	2	
Calcium	mg/kg	500	482.0	96	487.7	98	1	
Chromium	mg/kg	50	48.23	96	48.67	97	1	
Cobalt	mg/kg	50	46.83	94	47.43	95	1	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

LABORATORY CONTROL SAMPLE & LCSD: 50980382 50980390

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
Copper	mg/kg	50	47.53	95	48.26	96	2	
Iron	mg/kg	500	474.5	95	478.7	96	1	
Lead	mg/kg	50	48.82	98	49.88	100	2	
Magnesium	mg/kg	500	484.5	97	491.4	98	1	
Manganese	mg/kg	50	49.49	99	50.18	100	1	
Nickel	mg/kg	50	48.67	97	49.57	99	2	
Potassium	mg/kg	500	491.0	98	498.0	100	1	
Selenium	mg/kg	50	49.30	99	49.98	100	1	
Silver	mg/kg	5.000	4.764	95	4.824	96	1	
Sodium	mg/kg	500	521.2	104	515.2	103	1	
Thallium	mg/kg	50	47.23	94	47.89	96	1	
Vanadium	mg/kg	50	47.47	95	48.09	96	1	
Zinc	mg/kg	50	47.35	95	47.72	95	1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

QC Batch: 22843
QC Batch Method: EPA 3550
Analysis Method: EPA 8081A
Analysis Description: Organochlorine Pesticides, GC
Associated Lab Samples: 50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

METHOD BLANK: 50976182
Associated Lab Samples:
50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

Parameter	Units	Method Blank Result	PRL	Footnotes
alpha-BHC	ug/kg	ND	1.7	
beta-BHC	ug/kg	ND	1.7	
delta-BHC	ug/kg	ND	1.7	
gamma-BHC (Lindane)	ug/kg	ND	1.7	
Heptachlor	ug/kg	ND	1.7	
Aldrin	ug/kg	ND	1.7	
Heptachlor epoxide	ug/kg	ND	1.7	
Endosulfan I	ug/kg	ND	1.7	
Dieldrin	ug/kg	ND	3.3	
4,4'-DDE	ug/kg	ND	3.3	
Endrin	ug/kg	ND	3.3	
Endosulfan II	ug/kg	ND	3.3	
4,4'-DDD	ug/kg	ND	3.3	
Endosulfan sulfate	ug/kg	ND	3.3	
4,4'-DDT	ug/kg	ND	3.3	
Endrin ketone	ug/kg	ND	3.3	
Methoxychlor	ug/kg	ND	17	
Toxaphene	ug/kg	ND	170	
Endrin aldehyde	ug/kg	ND	3.3	
gamma-Chlordane	ug/kg	ND	1.7	
alpha-Chlordane	ug/kg	ND	1.7	
Decachlorobiphenyl (S)	%	101		
Tetrachloro-m-xylene (S)	%	84		

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50976612 50976620

Parameter	Units	50975226	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
gamma-BHC (Lindane)	ug/kg	0	16.67	13.97	84	14.43	87	3	
Heptachlor	ug/kg	0	16.67	14.93	90	15.27	92	2	
Aldrin	ug/kg	0	16.67	13.40	80	13.80	83	3	
Dieldrin	ug/kg	0	16.67	13.97	84	14.53	87	4	
Endrin	ug/kg	0	16.67	16.63	100	17.33	104	4	
4,4'-DDT	ug/kg	0	16.67	18.27	110	18.77	113	3	
Decachlorobiphenyl (S)					100		104		
Tetrachloro-m-xylene (S)					78		78		

LABORATORY CONTROL SAMPLE: 50976190

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
gamma-BHC (Lindane)	ug/kg	16.67	13.70	82	
Heptachlor	ug/kg	16.67	15.97	96	
Aldrin	ug/kg	16.67	13.60	82	
Dieldrin	ug/kg	16.67	13.77	83	
Endrin	ug/kg	16.67	16.20	97	
4,4'-DDT	ug/kg	16.67	18.00	108	
Decachlorobiphenyl (S)				98	
Tetrachloro-m-xylene (S)				76	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

QC Batch: 22844
Analysis Method: EPA 8082
QC Batch Method: EPA 3550
Analysis Description: PCBs in Soil by 8082
Associated Lab Samples: 50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

METHOD BLANK: 50976208
Associated Lab Samples:
50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

Parameter	Units	Method Blank Result	PRL	Footnotes
PCB-1016 (Aroclor 1016)	ug/kg	ND	33	
PCB-1221 (Aroclor 1221)	ug/kg	ND	33	
PCB-1232 (Aroclor 1232)	ug/kg	ND	33	
PCB-1242 (Aroclor 1242)	ug/kg	ND	33	
PCB-1248 (Aroclor 1248)	ug/kg	ND	33	
PCB-1254 (Aroclor 1254)	ug/kg	ND	33	
PCB-1260 (Aroclor 1260)	ug/kg	ND	33	
Decachlorobiphenyl (S)	%	106		
Tetrachloro-m-xylene (S)	%	94		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50976570 50976588

Parameter	Units	50975259	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
PCB-1016 (Aroclor 1016)	ug/kg	0	166.70	172.1	103	176.8	106	3	
PCB-1260 (Aroclor 1260)	ug/kg	0	166.70	175.7	105	178.9	107	2	
Decachlorobiphenyl (S)					105		108		
Tetrachloro-m-xylene (S)					96		98		

LABORATORY CONTROL SAMPLE: 50976216

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
PCB-1016 (Aroclor 1016)	ug/kg	166.7	167.5	101	
PCB-1260 (Aroclor 1260)	ug/kg	166.7	173.8	104	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

LABORATORY CONTROL SAMPLE: 50976216

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Decachlorobiphenyl (S)				104	
Tetrachloro-m-xylene (S)				93	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

QC Batch: 22845
QC Batch Method: EPA 3550 Sonication
Analysis Method: EPA 8270
Analysis Description: Semivolatile Organics
Associated Lab Samples: 50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

METHOD BLANK: 50976224
Associated Lab Samples:
50975226 50975234 50975242 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333

Parameter	Units	Method Blank Result	PRL	Footnotes
Phenol	ug/kg	ND	330	
bis(2-Chloroethyl) ether	ug/kg	ND	330	
2-Chlorophenol	ug/kg	ND	330	
1,3-Dichlorobenzene	ug/kg	ND	330	
1,4-Dichlorobenzene	ug/kg	ND	330	
Benzyl alcohol	ug/kg	ND	660	
1,2-Dichlorobenzene	ug/kg	ND	330	
2-Methylphenol (o-Cresol)	ug/kg	ND	330	
bis(2-Chloroisopropyl) ether	ug/kg	ND	330	
3&4-Methylphenol	ug/kg	ND	660	
N-Nitroso-di-n-propylamine	ug/kg	ND	330	
Hexachloroethane	ug/kg	ND	330	
Nitrobenzene	ug/kg	ND	330	
Isophorone	ug/kg	ND	330	
2-Nitrophenol	ug/kg	ND	330	
2,4-Dimethylphenol	ug/kg	ND	330	
Benzoic acid	ug/kg	ND	1600	
bis(2-Chloroethoxy)methane	ug/kg	ND	330	
2,4-Dichlorophenol	ug/kg	ND	330	
1,2,4-Trichlorobenzene	ug/kg	ND	330	
Naphthalene	ug/kg	ND	330	
4-Chloroaniline	ug/kg	ND	660	
Hexachloro-1,3-butadiene	ug/kg	ND	330	
4-Chloro-3-methylphenol	ug/kg	ND	660	
2-Methylnaphthalene	ug/kg	ND	330	
Hexachlorocyclopentadiene	ug/kg	ND	330	
2,4,6-Trichlorophenol	ug/kg	ND	330	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

METHOD BLANK: 50976224
Associated Lab Samples:

	50975226	50975234	50975242	50975267	50975275	50975283	50975291
	50975309	50975317	50975325	50975333			

Parameter	Units	Method Blank Result	PRL	Footnotes
2,4,5-Trichlorophenol	ug/kg	ND	330	
2-Chloronaphthalene	ug/kg	ND	330	
2-Nitroaniline	ug/kg	ND	1600	
Dimethylphthalate	ug/kg	ND	330	
Acenaphthylene	ug/kg	ND	330	
2,6-Dinitrotoluene	ug/kg	ND	330	
3-Nitroaniline	ug/kg	ND	1600	
Acenaphthene	ug/kg	ND	330	
2,4-Dinitrophenol	ug/kg	ND	1600	
4-Nitrophenol	ug/kg	ND	1600	
Dibenzofuran	ug/kg	ND	330	
2,4-Dinitrotoluene	ug/kg	ND	330	
Diethylphthalate	ug/kg	580	330	2
4-Chlorophenylphenyl ether	ug/kg	ND	330	
Fluorene	ug/kg	ND	330	
4-Nitroaniline	ug/kg	ND	1600	
4,6-Dinitro-2-methylphenol	ug/kg	ND	1600	
N-Nitrosodiphenylamine	ug/kg	ND	330	
4-Bromophenylphenyl ether	ug/kg	ND	330	
Hexachlorobenzene	ug/kg	ND	330	
Pentachlorophenol	ug/kg	ND	1600	
Phenanthrene	ug/kg	ND	330	
Anthracene	ug/kg	ND	330	
Di-n-butylphthalate	ug/kg	ND	330	
Fluoranthene	ug/kg	ND	330	
Pyrene	ug/kg	ND	330	
Butylbenzylphthalate	ug/kg	ND	330	
3,3'-Dichlorobenzidine	ug/kg	ND	660	
Benzo(a)anthracene	ug/kg	ND	330	
Chrysene	ug/kg	ND	330	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	330	
Di-n-octylphthalate	ug/kg	ND	330	
Benzo(b)fluoranthene	ug/kg	ND	330	

Date: 04/06/01

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

METHOD BLANK: 50976224
Associated Lab Samples:

50975226 50975234 50975242 50975267 50975275 50975283 50975291
50975309 50975317 50975325 50975333

Parameter	Units	Method Blank Result	PRL	Footnotes
Benzo(k)fluoranthene	ug/kg	ND	330	
Benzo(a)pyrene	ug/kg	ND	330	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	330	
Dibenz(a,h)anthracene	ug/kg	ND	330	
Benzo(g,h,i)perylene	ug/kg	ND	330	
Nitrobenzene-d5 (S)	%	57		
2-Fluorobiphenyl (S)	%	46		
Terphenyl-d14 (S)	%	82		
Phenol-d6 (S)	%	49		
2-Fluorophenol (S)	%	58		
2,4,6-Tribromophenol (S)	%	48		

METHOD BLANK: 50985803
Associated Lab Samples:

50975259 50975341

Parameter	Units	Method Blank Result	PRL	Footnotes
Phenol	ug/kg	ND	330	
bis(2-Chloroethyl) ether	ug/kg	ND	330	
2-Chlorophenol	ug/kg	ND	330	
1,3-Dichlorobenzene	ug/kg	ND	330	
1,4-Dichlorobenzene	ug/kg	ND	330	
Benzyl alcohol	ug/kg	ND	660	
1,2-Dichlorobenzene	ug/kg	ND	330	
2-Methylphenol (o-Cresol)	ug/kg	ND	330	
bis(2-Chloroisopropyl) ether	ug/kg	ND	330	
3&4-Methylphenol	ug/kg	ND	660	
N-Nitroso-di-n-propylamine	ug/kg	ND	330	
Hexachloroethane	ug/kg	ND	330	
Nitrobenzene	ug/kg	ND	330	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

METHOD BLANK: 50985803
Associated Lab Samples:

Parameter	Units	50975259 50975341 Method Blank Result	PRL	Footnotes
Isophorone	ug/kg	ND	330	
2-Nitrophenol	ug/kg	ND	330	
2,4-Dimethylphenol	ug/kg	ND	330	
Benzoic acid	ug/kg	ND	1600	
bis(2-Chloroethoxy)methane	ug/kg	ND	330	
2,4-Dichlorophenol	ug/kg	ND	330	
1,2,4-Trichlorobenzene	ug/kg	ND	330	
Naphthalene	ug/kg	ND	330	
4-Chloroaniline	ug/kg	ND	660	
Hexachloro-1,3-butadiene	ug/kg	ND	330	
4-Chloro-3-methylphenol	ug/kg	ND	660	
2-Methylnaphthalene	ug/kg	ND	330	
Hexachlorocyclopentadiene	ug/kg	ND	330	
2,4,6-Trichlorophenol	ug/kg	ND	330	
2,4,5-Trichlorophenol	ug/kg	ND	330	
2-Chloronaphthalene	ug/kg	ND	330	
2-Nitroaniline	ug/kg	ND	1600	
Dimethylphthalate	ug/kg	ND	330	
Acenaphthylene	ug/kg	ND	330	
2,6-Dinitrotoluene	ug/kg	ND	330	
3-Nitroaniline	ug/kg	ND	1600	
Acenaphthene	ug/kg	ND	330	
2,4-Dinitrophenol	ug/kg	ND	1600	
4-Nitrophenol	ug/kg	ND	1600	
Dibenzofuran	ug/kg	ND	330	
2,4-Dinitrotoluene	ug/kg	ND	330	
Diethylphthalate	ug/kg	ND	330	
4-Chlorophenylphenyl ether	ug/kg	ND	330	
Fluorene	ug/kg	ND	330	
4-Nitroaniline	ug/kg	ND	1600	
4,6-Dinitro-2-methylphenol	ug/kg	ND	1600	
N-Nitrosodiphenylamine	ug/kg	ND	330	
4-Bromophenylphenyl ether	ug/kg	ND	330	
Hexachlorobenzene	ug/kg	ND	330	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

METHOD BLANK: 50985803
Associated Lab Samples:
50975259 50975341

Parameter	Units	Method Blank Result	PRL	Footnotes
Pentachlorophenol	ug/kg	ND	1600	
Phenanthrene	ug/kg	ND	330	
Anthracene	ug/kg	ND	330	
Di-n-butylphthalate	ug/kg	ND	330	
Fluoranthene	ug/kg	ND	330	
Pyrene	ug/kg	ND	330	
Butylbenzylphthalate	ug/kg	ND	330	
3,3'-Dichlorobenzidine	ug/kg	ND	660	
Benzo(a)anthracene	ug/kg	ND	330	
Chrysene	ug/kg	ND	330	
bis(2-Ethylhexyl)phthalate	ug/kg	ND	330	
Di-n-octylphthalate	ug/kg	ND	330	
Benzo(b)fluoranthene	ug/kg	ND	330	
Benzo(k)fluoranthene	ug/kg	ND	330	
Benzo(a)pyrene	ug/kg	ND	330	
Indeno(1,2,3-cd)pyrene	ug/kg	ND	330	
Dibenz(a,h)anthracene	ug/kg	ND	330	
Benzo(g,h,i)perylene	ug/kg	ND	330	
Nitrobenzene-d5 (S)	%	87		
2-Fluorobiphenyl (S)	%	52		
Terphenyl-d14 (S)	%	107		
Phenol-d6 (S)	%	67		
2-Fluorophenol (S)	%	75		
2,4,6-Tribromophenol (S)	%	62		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50976653 50976661

Parameter	Units	50975242	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
1,4-Dichlorobenzene	ug/kg	0	3333.00	2579	77	2375	71	8	
2-Methylphenol (o-Cresol)	ug/kg	0	3333.00	2304	69	2079	62	10	
3&4-Methylphenol	ug/kg	0	6667.00	4652	70	4233	64	9	
Hexachloroethane	ug/kg	0	3333.00	2692	81	2501	75	7	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50976653 50976661

Parameter	Units	50975242	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Nitrobenzene	ug/kg	0	3333.00	3364	101	3116	94	8	
Hexachloro-1,3-butadiene	ug/kg	0	3333.00	2931	88	2707	81	8	
2,4,6-Trichlorophenol	ug/kg	0	3333.00	2404	72	2350	70	2	
2,4,5-Trichlorophenol	ug/kg	0	3333.00	3986	120	3852	116	3	
2,4-Dinitrotoluene	ug/kg	0	3333.00	2759	83	2655	80	4	
Hexachlorobenzene	ug/kg	0	3333.00	4817	144	4775	143	1	
Pentachlorophenol	ug/kg	0	3333.00	2327	70	2290	69	2	
Nitrobenzene-d5 (S)					94		86		
2-Fluorobiphenyl (S)					118		112		3,4
Terphenyl-d14 (S)					129		125		
Phenol-d6 (S)					75		70		
2-Fluorophenol (S)					78		73		
2,4,6-Tribromophenol (S)					102		101		

LABORATORY CONTROL SAMPLE: 50976232

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
1,4-Dichlorobenzene	ug/kg	3333	1702	51	
2-Methylphenol (o-Cresol)	ug/kg	3333	1497	45	
3&4-Methylphenol	ug/kg	6667	3017	45	
Nitrobenzene	ug/kg	3333	1816	54	
Hexachloro-1,3-butadiene	ug/kg	3333	1735	52	
2,4,6-Trichlorophenol	ug/kg	3333	1343	40	
2,4,5-Trichlorophenol	ug/kg	3333	1838	55	
2,4-Dinitrotoluene	ug/kg	3333	1577	47	
Hexachlorobenzene	ug/kg	3333	2442	73	
Pentachlorophenol	ug/kg	3333	1431	43	
Nitrobenzene-d5 (S)				51	
2-Fluorobiphenyl (S)				54	
Terphenyl-d14 (S)				65	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

LABORATORY CONTROL SAMPLE: 50985811

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
1,4-Dichlorobenzene	ug/kg	3333	2268	68	
2-Methylphenol (o-Cresol)	ug/kg	3333	2011	60	
3&4-Methylphenol	ug/kg	6667	3859	58	
Nitrobenzene	ug/kg	3333	2804	84	
Hexachloro-1,3-butadiene	ug/kg	3333	2579	77	
2,4,6-Trichlorophenol	ug/kg	3333	1570	47	
2,4,5-Trichlorophenol	ug/kg	3333	2541	76	
2,4-Dinitrotoluene	ug/kg	3333	1834	55	
Hexachlorobenzene	ug/kg	3333	3808	114	
Pentachlorophenol	ug/kg	3333	1942	58	
Nitrobenzene-d5 (S)				76	
2-Fluorobiphenyl (S)				75	
Terphenyl-d14 (S)				105	

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QUALITY CONTROL DATA

Lab Project Number: 5014023
Client Project ID: 01-209

QC Batch: 22969
Analysis Method: EPA 335.3
QC Batch Method: EPA 335.3
Analysis Description: Cyanide, Total, Soil
Associated Lab Samples: 50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

METHOD BLANK: 50982297
Associated Lab Samples: 50975226 50975234 50975242 50975259 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

Parameter	Units	Method Blank Result	PRL	Footnotes
Cyanide	mg/kg	ND	0.5	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 50982305 50982313

Parameter	Units	50975226	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Cyanide	mg/kg	0.08500	5.000	4.055	79	3.912	77	4	

LABORATORY CONTROL SAMPLE & LCSD: 50982321 50982339

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
Cyanide	mg/kg	5.000	4.462	89	4.322	86	3	

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Lab Project Number: 5014023
Client Project ID: 01-209

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	RPD value was outside control limits, however both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
[2]	All samples associated with this blank are bias high for this compound. TRC 04/04/01
[3]	Surogate recovery and spike recovery for several compounds were outside (high) established QC limits. LCS and blank are within acceptance limits showing the laboratory is in control and the data is acceptable. TRC 04/04/01
[4]	Surrogate recovery for this compound and several spike recoveries were outside (high) established QC limits. LCS and blank are within acceptance limits showing the laboratory is in control and the data is acceptable. TRC 04/04/01

REPORT OF LABORATORY ANALYSIS

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April 05, 2001

Project Manager
Pace Analytical Services, Inc.
7726 Moller
Indianapolis, IN 46268

RE: Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Dear Manager:

Enclosed are the analytical results for sample(s) received by the laboratory on March 29, 2001. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brenda Pathammavong
Brenda.Pathammavong@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
7726 Moller
Indianapolis, IN 46268

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Attn: Project Manager
Phone: (317)875-5894

Solid results are reported on a wet weight basis

Lab Sample No: 50975226 Project Sample Number: 9221736-001 Date Collected: 03/27/01 10:30
Client Sample ID: B-1 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Dilution	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals									
Mercury, CVAAS, in Soil		Method: EPA 7471			Prep Method: EPA 7471				
Mercury	ND	mg/kg	0.0038	1.0	04/04/01	DJR	7439-6		

Date: 04/05/01

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975234 Project Sample Number: 9221736-002 Date Collected: 03/28/01 13:00
Client Sample ID: B-2 Matrix: Soil Date Received: 03/29/01 08:13

CAS#	Parameters	Ftnote	Limit	Results	Units	PRL	Dilution	Analyzed	Analyst
	Metals								
	Mercury, CVAAS, in Soil			Method: EPA 7471				Prep Method: EPA 7471	
97-6	Mercury			ND	mg/kg	0.0035	0.9	04/04/01	DJR 7439-

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975242 Project Sample Number: 9221736-003 Date Collected: 03/27/01 12:30
Client Sample ID: B-3 Matrix: Soil Date Received: 03/29/01 08:13

CAS#	Parameters	Ftnote	Limit	Results	Units	PRL	Dilution	Analyzed	Analyst
	Metals								
	Mercury, CVAAS, in Soil			Method: EPA 7471				Prep Method: EPA 7471	
97-6	Mercury			0.0056	mg/kg	0.0039	1.0	04/04/01	DJR 7439-

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975259 Project Sample Number: 9221736-004 Date Collected: 03/27/01 14:30
Client Sample ID: B-4 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Dilution	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals									
Mercury, CVAAS, in Soil		Method: EPA 7471			Prep Method: EPA 7471				
Mercury	0.0059	mg/kg	0.0036	0.9	04/04/01	DJR	7439-97-6		

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975267 Project Sample Number: 9221736-005 Date Collected: 03/27/01 15:30
Client Sample ID: B-5 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Dilution	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals									
Mercury, CVAAS, in Soil	Method: EPA 7471				Prep Method: EPA 7471				
Mercury	0.0059	mg/kg	0.0029	0.7	04/04/01	DJR	7439-97-6		

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975275 Project Sample Number: 9221736-006 Date Collected: 03/28/01 09:30
Client Sample ID: B-6 Matrix: Soil Date Received: 03/29/01 08:13

CAS#	Parameters	Ftnote	Limit	Results	Units	PRL	Dilution	Analyzed	Analyst
	Metals								
	Mercury, CVAAS, in Soil				Method: EPA 7471			Prep Method: EPA 7471	
97-6	Mercury			ND	mg/kg	0.0032	0.8	04/04/01	DJR 7439-

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975283 Project Sample Number: 9221736-007 Date Collected: 03/28/01 07:30
Client Sample ID: B-7 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Dilution	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals									
Mercury, CVAAS, in Soil		Method: EPA 7471			Prep Method: EPA 7471				
Mercury	0.0076	mg/kg	0.0036	0.9	04/04/01	DJR	7439-97-6		

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975291 Project Sample Number: 9221736-008 Date Collected: 03/28/01 10:00
Client Sample ID: B-8 Matrix: Soil Date Received: 03/29/01 08:13

CAS#	Parameters	Ftnote	Limit	Results	Units	PRL	Dilution	Analyzed	Analyst
	Metals								
	Mercury, CVAAS, in Soil			Method: EPA 7471				Prep Method: EPA 7471	
97-6	Mercury			0.0069	mg/kg	0.0037	0.9	04/04/01	DJR 7439-

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975309 Project Sample Number: 9221736-009 Date Collected: 03/28/01 10:30
Client Sample ID: B-9 Matrix: Soil Date Received: 03/29/01 08:13

Parameters	Results	Units	PRL	Dilution	Analyzed	Analyst	CAS#	Ftnote	Limit
Metals									
Mercury, CVAAS, in Soil	Method: EPA 7471				Prep Method: EPA 7471				
Mercury	0.0044	mg/kg	0.0035	0.9	04/04/01	DJR	7439-97-6		

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975317 Project Sample Number: 9221736-010 Date Collected: 03/27/01 16:30
Client Sample ID: B-10 Matrix: Soil Date Received: 03/29/01 08:13

CAS#	Parameters	Ftnote	Limit	Results	Units	PRL	Dilution	Analyzed	Analyst
	Metals								
	Mercury, CVAAS, in Soil			Method: EPA 7471				Prep Method: EPA 7471	
97-6	Mercury			0.011	mg/kg	0.0038	1.0	04/04/01	DJR 7439-

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975325 Project Sample Number: 9221736-011 Date Collected: 03/28/01 11:15
Client Sample ID: B-11 Matrix: Soil Date Received: 03/29/01 08:13

CAS#	Parameters	Ftnote	Limit	Results	Units	PRL	Dilution	Analyzed	Analyst
	Metals								
	Mercury, CVAAS, in Soil			Method: EPA 7471				Prep Method: EPA 7471	
97-6	Mercury			0.011	mg/kg	0.0034	0.9	04/04/01	DJR 7439-

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975333 Project Sample Number: 9221736-012 Date Collected: 03/28/01 12:15
Client Sample ID: B-12 Matrix: Soil Date Received: 03/29/01 08:13

CAS#	Parameters	Ftnote	Limit	Results	Units	PRL	Dilution	Analyzed	Analyst
	Metals								
	Mercury, CVAAS, in Soil			Method: EPA 7471				Prep Method: EPA 7471	
97-6	Mercury			ND	mg/kg	0.0040	1.0	04/04/01	DJR 7439-

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

Lab Sample No: 50975341 Project Sample Number: 9221736-013 Date Collected: 03/27/01 11:30
Client Sample ID: B-13 Matrix: Soil Date Received: 03/29/01 08:13

CAS#	Parameters	Ftnote	Limit	Results	Units	PRL	Dilution	Analyzed	Analyst
	Metals								
	Mercury, CVAAS, in Soil			Method: EPA 7471				Prep Method: EPA 7471	
97-6	Mercury			ND	mg/kg	0.0040	1.0	04/04/01	DJR 7439-

PARAMETER FOOTNOTES

ND	Not Detected
NC	Not Calculable
PRL	Pace Reporting Limit

QUALITY CONTROL DATA

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

QC Batch: 39992
Analysis Method: EPA 7471
Associated Lab Samples: 50975226 50975242 50975259

QC Batch Method: EPA 7471
Analysis Description: Mercury, CVAAS, in Soil

METHOD BLANK: 921541371
Associated Lab Samples:

		50975226	50975242	50975259	
Parameter	Units		Method Blank Result	PRL	Footnotes
Mercury	mg/kg		ND	0.004	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921541637 921541645

Parameter	Units	50968783	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Mercury	mg/kg	0.02134	0.0833	0.1078	104	0.1058	107		2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921541652 921541660

Parameter	Units	50972041	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Mercury	mg/kg	0.05529	0.0818	0.1086	65	0.1482	104	31	1,2

LABORATORY CONTROL SAMPLE: 921541413

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Mercury	mg/kg	0.1000	0.09220	92	

SAMPLE DUPLICATE: 921541405

Parameter	Units	50968759	Dup. Result	RPD	Footnotes
Mercury	mg/kg	0.02300	0.01900	22	

QUALITY CONTROL DATA

Lab Project Number: 9221736
Client Project ID: Patriot/5014023

QC Batch: 39993
Analysis Method: EPA 7471
QC Batch Method: EPA 7471
Analysis Description: Mercury, CVAAS, in Soil
Associated Lab Samples: 50975234 50975267 50975275 50975283 50975291 50975309 50975317 50975325 50975333 50975341

METHOD BLANK: 921541421
Associated Lab Samples:

50975317 50975234 50975267 50975275 50975283 50975291 50975309 50975325 50975333 50975341

Parameter	Units	Method Blank Result	PRL	Footnotes
Mercury	mg/kg	ND	0.004	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921541439 921541447

Parameter	Units	50975267	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
Mercury	mg/kg	0.005850	0.0806	0.05855	65	0.07131	66	20	1,1

LABORATORY CONTROL SAMPLE: 921541462

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Mercury	mg/kg	0.1000	0.08960	90	

SAMPLE DUPLICATE: 921541454

Parameter	Units	50975317	Dup. Result	RPD	Footnotes
Mercury	mg/kg	0.01100	0.009500	10	

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

ND Not Detected
NC Not Calculable
PRL Pace Reporting Limit
RPD Relative Percent Difference
[1] The spike recovery was outside acceptance limits for the MS and /or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
[2] The calculated RPD was outside QC acceptance limits.

3.1.2 Gravel

CQA Testing Laboratory, Inc.

Permeability of Granular Material, ASTM D2434, 12 Inch Fixed Wall

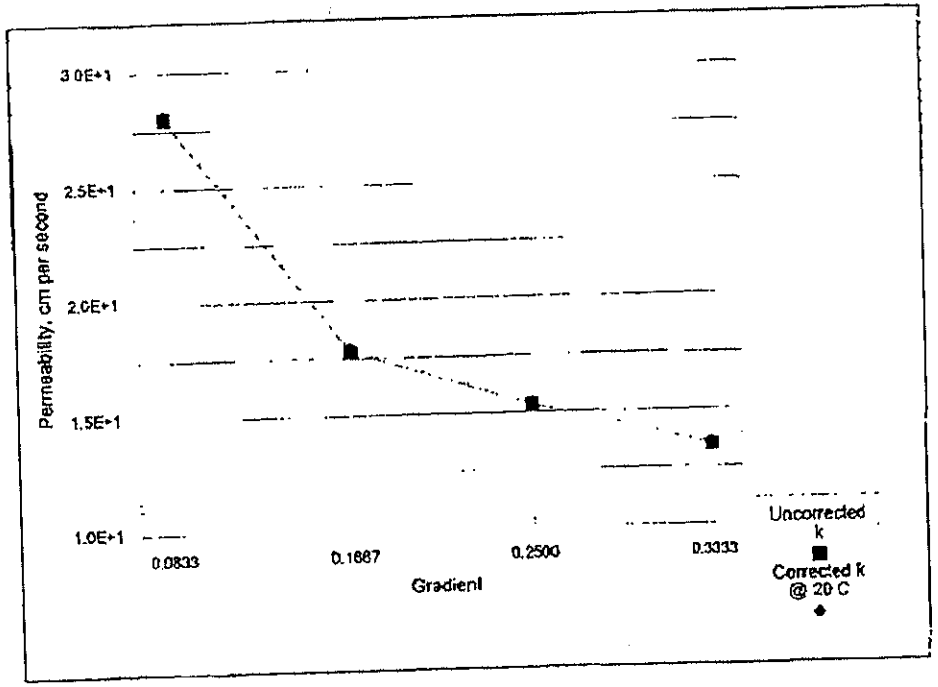
Date of Test:	7.22.2001
Client Name:	Patriot Engineering
Project Name:	Sauget Area 1 Landfill
Project Number:	0103 C

Technician:	BMG
Reviewed By:	BMG

Sample Number:	~~400~~ S-125
Sample Location:	Bulk Gravel Sample
Other:	None

Specimen Data	
Specimen Area, cm^2 (A)	699.573
Specimen Weight, lbs.	30.9
Specimen Height, cm (L)	15.24
Moisture Content, (as Tested), %	0.5
Dry Unit Weight, pcf	82.8
As Tested (Wet), pcf	83.2

Test Constants	
Bubble Tube, cm^2	41.88
Reservoir Effective Area, cm^2	657.69

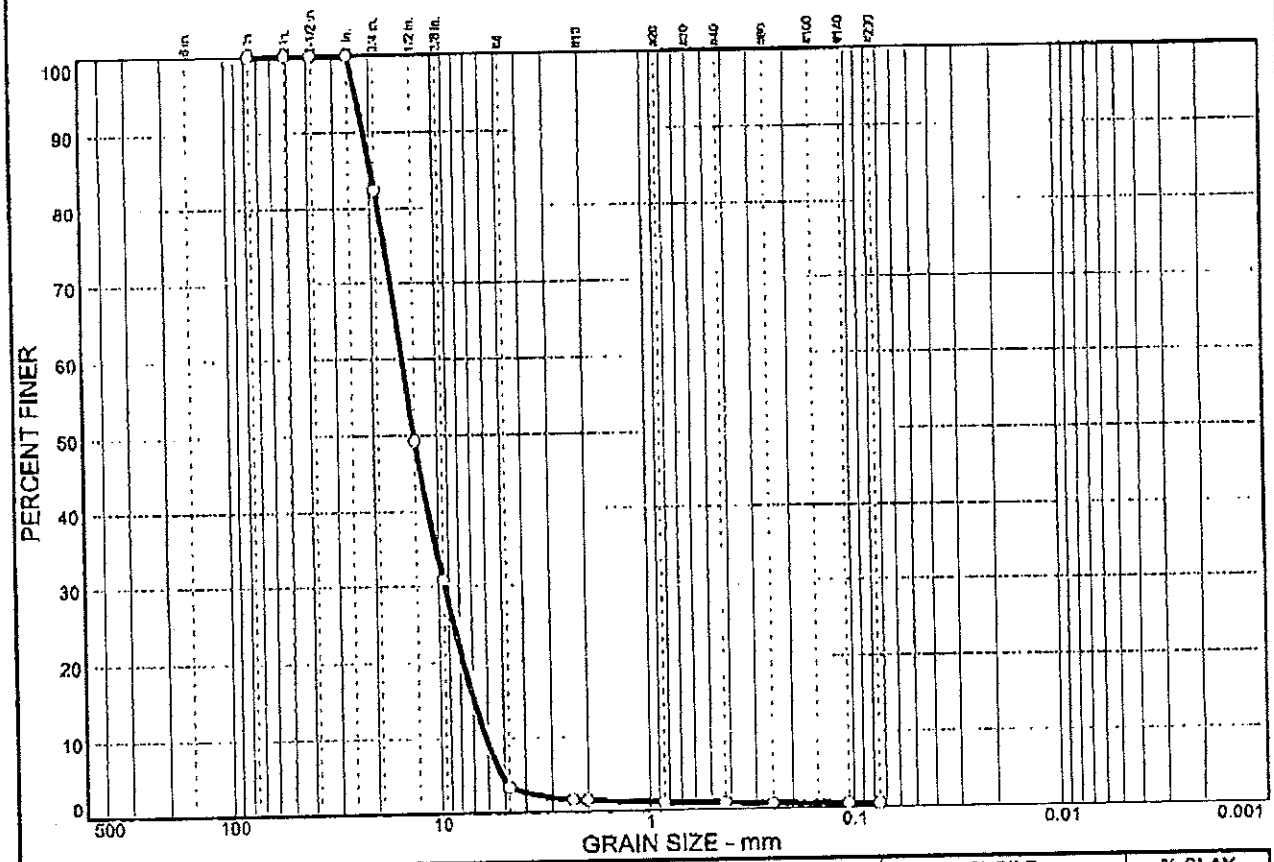


Avg. k Corrected @ 20 C, cm/sec 1.9E+001

Height of Bubble Tube, cm (h)	Gradient (h/L)	Manometer Readings Start, cm	Manometer Readings Finish, cm	Quantity of Flow (Q)	Time, sec. (t)	Permeant Temperature, C	Uncorrected k	Corrected k @ 20 C
1.27	0.0833	50	40	6576.9	4.03	20	2.8E+001	2.8E+001
2.54	0.1667	40	30	6576.9	3.17	20	1.8E+001	1.8E+001
3.81	0.2500	30	20	6576.9	2.45	20	1.5E+001	1.5E+001
5.08	0.3333	20	10	6576.9	2.09	20	1.3E+001	1.4E+001

Remarks:
k = QL/Ath, and Corrected for temp @ 20 C = k * (-0.02452 * temp + 1.495)

Particle Size Distribution Report



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	96.6	2.9	0.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
2 in.	100.0		
1.5 in.	100.0		
1 in.	100.0		
.75 in.	82.5		
.5 in.	40.3		
.375 in.	30.8		
#4	3.4		
#8	1.6		
#10	1.5		
#20	1.1		
#40	0.9		
#60	0.7		
#140	0.6		
#200	0.5		

* (no specification provided)

Soil Description

GP, Poorly graded GRAVEL

Atterberg Limits

PL= NP LL= PI=

Coefficients

D_{85}= 19.7 D_{60}= 14.5 D_{50}= 12.8
D_{30}= 9.39 D_{15}= 6.93 D_{10}= 6.09
C_u= 2.38 C_c= 1.00

Classification

USCS= GP AASHTO=

Remarks

Sample No.: S-125 Source of Sample: S-125 Date: 7-20-01
Location: Elev./Depth:

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS
Project: Sauget Area 1 Landfill
Project No: 5-01-223 Plate

3.1.3 Sand

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Permeability of Granular Soils (Constant Head)

ASTM D 2434

☐ Original ☐ Amended

Project Name:	Sauget Area I Landfill	**Client:**	LMS Contracting
Project Number:	5-01-223	**Client Address:**	
Date Received:	07/16/2001	**Tested By:**	AM/BG
Date Tested:	07/16/2001	**Preparation:**	Placed in 8 equal layers
Sample Number:	S-123		
Description:	SP, Poorly graded SAND		

SAMPLE UNIT WEIGHT DETERMINATION

Diameter:	10.115	cm.	Wt. of Soil & Mold:	3254.4	g	Moisture Content (air-dried):	0.2	%
Area:	80.358	$cm.^2$	Wt. of Mold:	1695.4	g	Dry Unit Weight:	103.7	pcf
Length:	11.654	cm.	Wt. of Soil:	1559.0	g	Void Ratio:	0.63	
W (max):	106.8	pcf	W (min):	98.4	pcf	Relative Density:	97.1	%

RESERVOIR AREA

Inside diameter of reservoir cylinder:	10.11	cm.
Outside diameter of bubble tube:	0.94	cm.
Cross-sectional area of reservoir:	79.58	$cm.^2$
Height from top of sample to top of bucket:	2.8	cm.
Type of water used for test:	deaired tap water	

$$k = \frac{Q * L}{A * t * h} = \frac{\Delta \text{ Reservoir Level} * \text{Reservoir Area} * \text{Sample Length}}{\text{Sample Area} * \text{Elapsed Time} * \text{Head}}$$

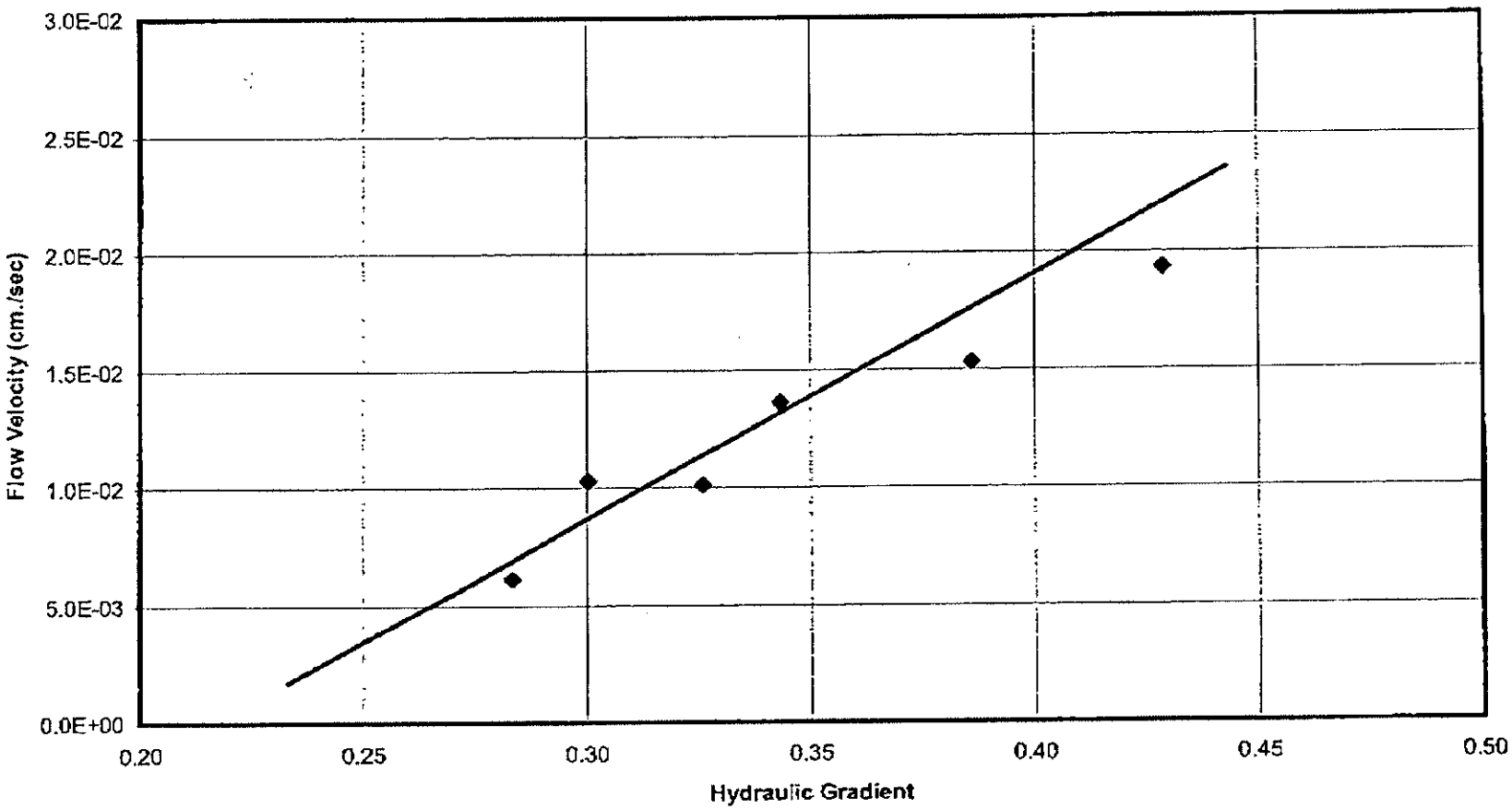
TEST DATA

Test No.	Reservoir Level Initial (cm.)	Reservoir Level Final (cm.)	Volume Q ($cm.^3$)	Head h (cm.)	Time (sec.)	Flow Vel. Q/At cm./sec.	Gradient h/L	Temp. (°C)	Permeability k cm/sec.	k @ 20°C cm/sec.
1	59.3	6.4	4210.0	3.3	8516	6.2E-03	0.28	21.5	2.2E-02	2.1E-02
2	59.6	6.2	4249.7	3.5	5145	1.0E-02	0.30	22.0	3.4E-02	3.3E-02
3	59.6	6.8	4202.0	3.8	5178	1.0E-02	0.33	22.5	3.1E-02	2.9E-02
4	59.6	6.9	4194.0	4.0	3830	1.4E-02	0.34	23.0	4.0E-02	3.7E-02
5	59.7	7.4	4162.2	4.5	3380	1.5E-02	0.39	22.5	4.0E-02	3.7E-02
6	59.1	7.9	4074.7	5.0	2625	1.9E-02	0.43	23.0	4.5E-02	4.2E-02

Average Permeability Coefficient (k) at 20°C: 3.0E-02 cm/sec.

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Sauget Area I Landfill, Patriot Proj. No. 5-01-223
Sand Drainage Media, S-123
7-18-01
Flow Velocity vs. Hydraulic Gradient



GRAIN SIZE DISTRIBUTION TEST DATA

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project Number: 501-223

Sample Data

Source: sauget area 1
Sample No.: GR-002
Elev. or Depth:
Sample Length (in./cm.):
Location: Off-site material
Description: sand
Date: 6-14-01 **PL:** **LL:** **PI:**
USCS Classification:
AASHTO Classification:
Testing Remarks: ASTM C-33

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	2000.00	2000.00
Tare =	0.00	0.00
Dry sample weight =	2000.00	2000.00

Minus #200 from wash= 0.0 %
Sample split on inch **sieve**
Split sample data:
Sample and tare = Tare = Sample weight = .00
Cumulative weight retained tare=
Tare for cumulative weight retained= .00

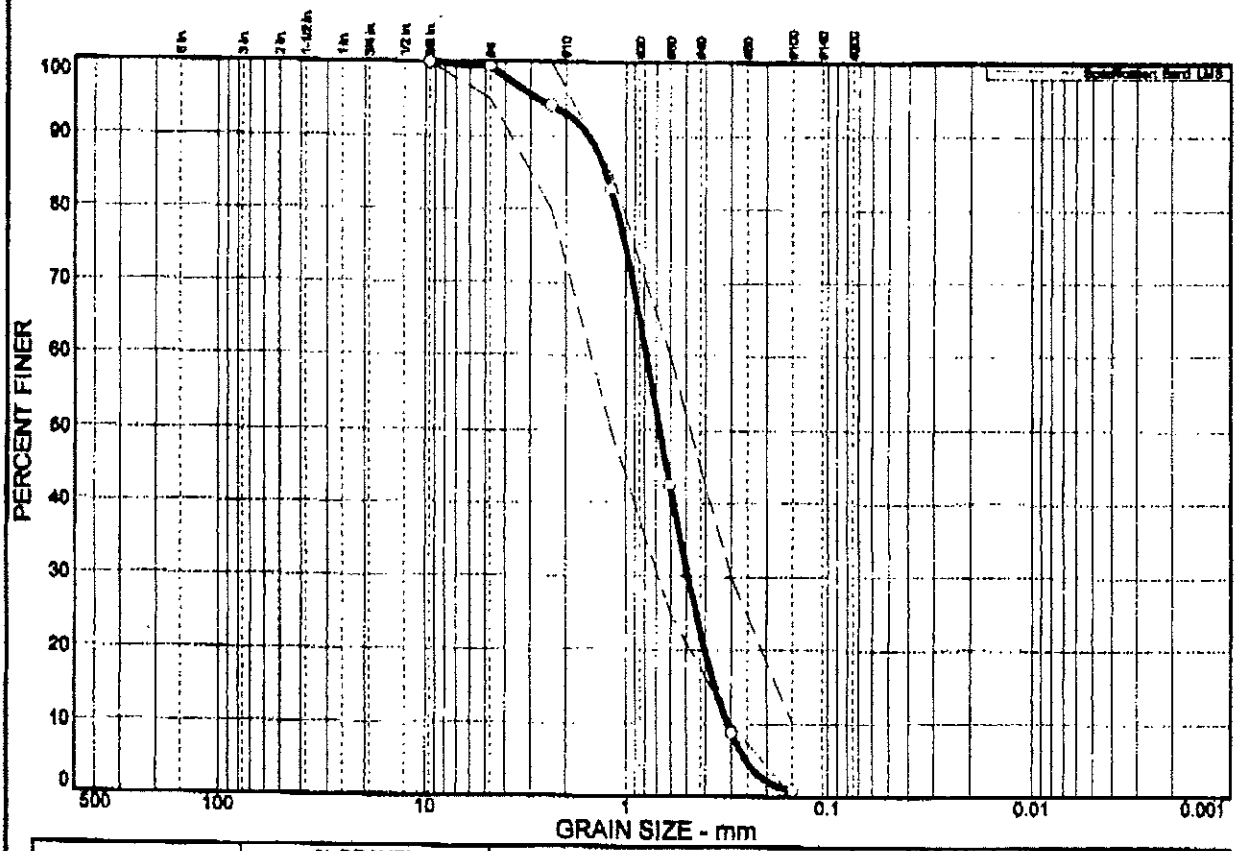
Sieve	Cumul. Wt. retained	Percent finer	Specification Limits, percent	Deviation, percent
.375 inch	0.00	100.0	100.0 to 100.0	
# 4	12.40	99.4	95.0 to 100.0	
# 8	118.90	94.1	80.0 to 100.0	
# 16	344.90	82.8	50.0 to 85.0	
# 30	1149.30	42.5	25.0 to 60.0	
# 50	1823.20	8.8	10.0 to 30.0	- 1.2
# 100	1982.20	0.9	0.0 to 10.0	

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =** 0.6 **(% coarse =** **% fine =** 0.6)
% SAND = **(% coarse =** 6.3 **% medium =** 70.5 **% fine =**)

D_{85}= 1.25 D_{60}= 0.78 D_{50}= 0.67
D_{30}= 0.49 D_{15}= 0.36 D_{10}= 0.31
C_c= 0.9757 C_u= 2.503

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.6	6.3	70.5		22.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0	100.0 - 100.0	
#4	99.4	95.0 - 100.0	
#8	94.1	80.0 - 100.0	
#16	82.8	50.0 - 85.0	
#30	42.5	25.0 - 60.0	
#50	8.8	10.0 - 30.0	X
#100	0.9	0.0 - 10.0	

* Sand LMS

Soil Description

sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 1.25 D_{60}= 0.782 D_{50}= 0.673
D_{30}= 0.488 D_{15}= 0.359 D_{10}= 0.312
C_u= 2.50 C_c= 0.98

Classification

USCS= AASHTO=

Remarks

ASTM C-33

Sample No.: GR-002 **Source of Sample:** sauget area 1 **Date:** 6-14-01
Location: Off-site material **Elev./Depth:**

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project No: 501-223 **Plate**

H. C. NUTTING COMPANY
EMPLOYEE OWNED
GEOTECHNICAL, ENVIRONMENTAL AND TESTING ENGINEERS
SINCE 1921

CORPORATE CENTER
611 LUNKEN PARK DRIVE
CINCINNATI, OHIO 45226
(513) 321-5816
FAX (513) 321-0294

Patriot Engineering
Sauget Area 1 Landfill
Patriot Job #5-01-223
Order No. 71690.001

MAX/MIN RESULTS

ASTM D-4253
Date Tested 8/29/01

MINIMUM DENSITY				
	A	B	C	Average
Minimum Density, pcf	102.7	103.3	103.2	103.0

MAXIMUM DENSITY						
	Wet Point			Dry Point		
	A	B	Average	A	B	Average
Minimum Dry Density, pcf	114.5	114.3	114.4	119.9	120.5	120.2
Maximum Dry Density, pcf	128.7	128.6				
Moisture Content, %	12.3	12.5				
Volume of Mold, pcf	0.873	0.826		0.862	0.857	

H.C. NUTTING COMPANY

Robert L. House,
Vice President/Lab. Director

GOLDER'S COPY

SOLUTIA, INC.
CONSTRUCTION QUALITY ASSURANCE
Construction Through Primary Liner System
Sauget Area 1 TSCA Containment Cell

Volume 2 of 3

Prepared for:

Solutia, Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Prepared by:

Golder Associates Inc.
1630 Heritage Landing, Suite 103
St. Charles, Missouri 63303

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PART 4 – QA REPORTS

3.2 CONSTRUCTION QA/QC TESTING

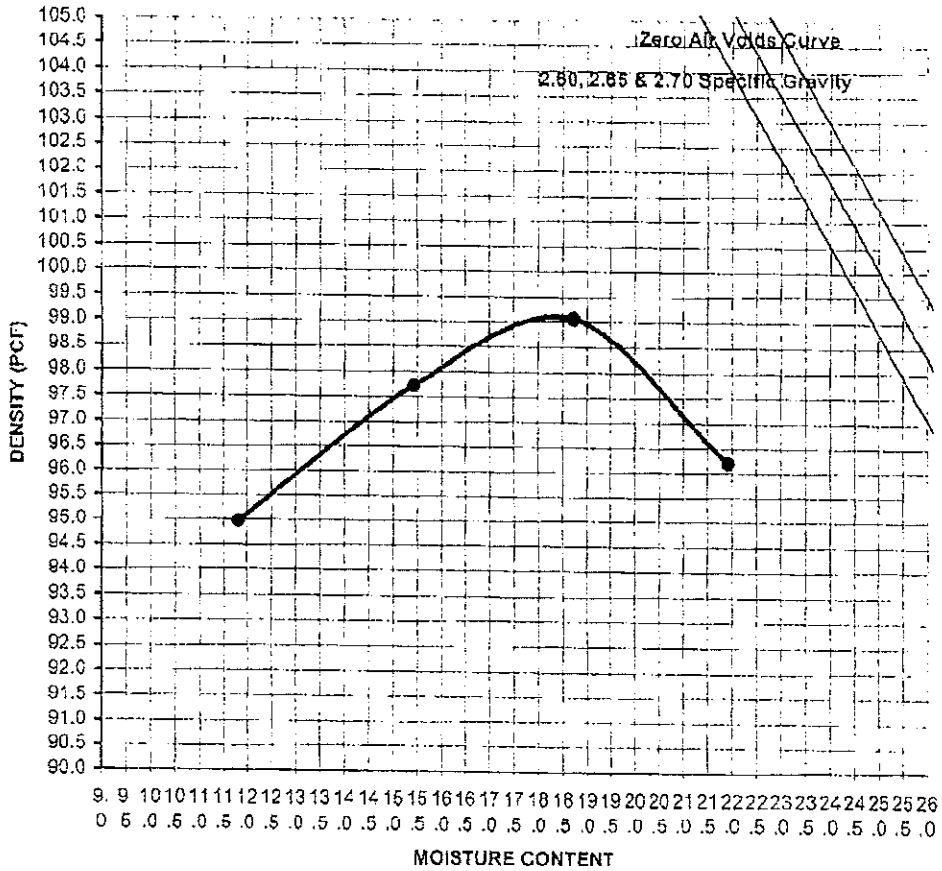
3.2.1 QA/QC Laboratory Testing

3.2.1.1 Subgrade of Berms

Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship

Moisture Density Relationship ASTM D-698 (Standard Proctor)



Project:	Sauget Area 1 landfill	Project #:	501-290
Client:	[redacted] LMS	Date:	April 24/01

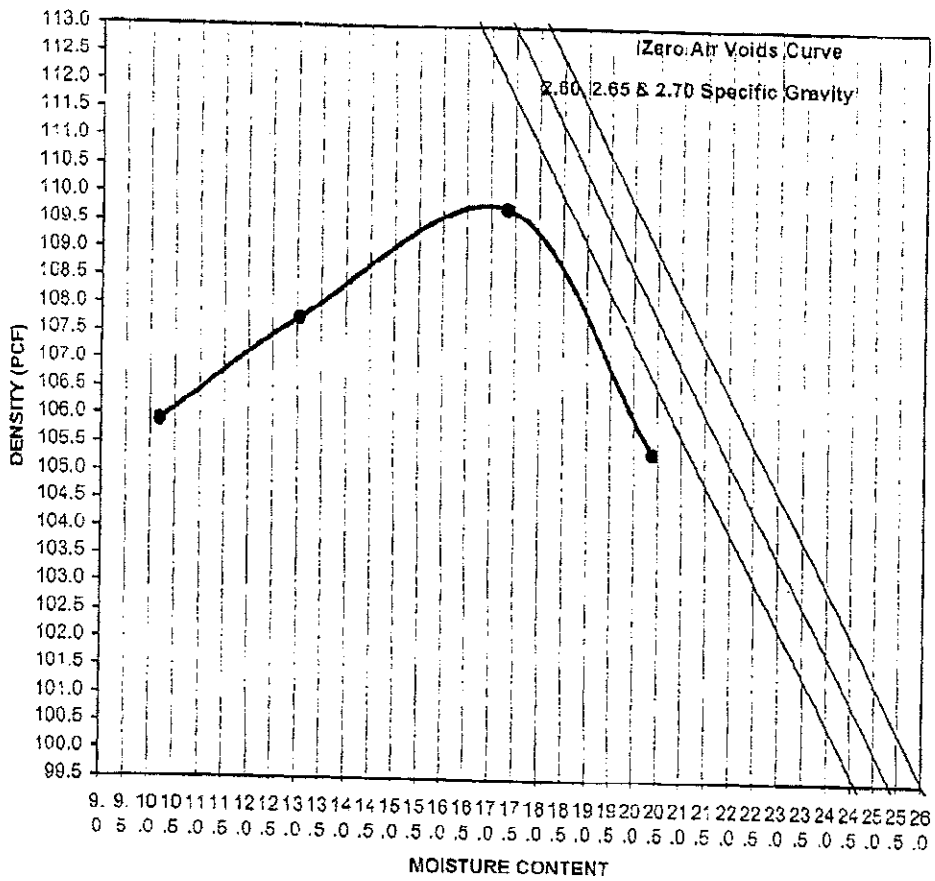
Sample Discription: Lt. Brown silt

LL	PI	Sample log #	Maximum Density	Opt. Moisture
0.0	0.0	2	99.1	18.7

Remarks:

Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship



Project:	Sauget Area 1 landfill	Project #:	501-290
Client:	LMS.	Date:	April 26/01

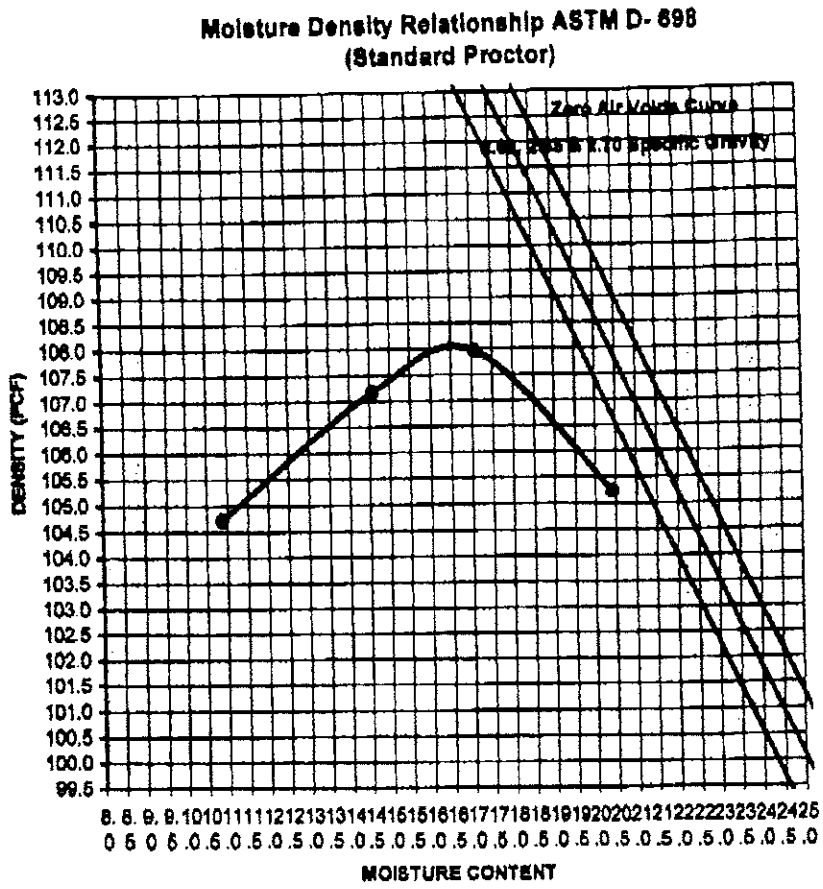
Sample Discription: Brown sandy Silt

LL	PI	Sample log #	Maximum Density	Opt. Moisture
0.0	0.0	3	109.8	17.0

Remarks:

Patriot Engineering
and Environmental Co., LLC
Louisville, Ky

Moisture Density Relationship



Project:	Sauget Area Landfill	Project #:	501-223
Client:	LMS	Date:	4/30/01

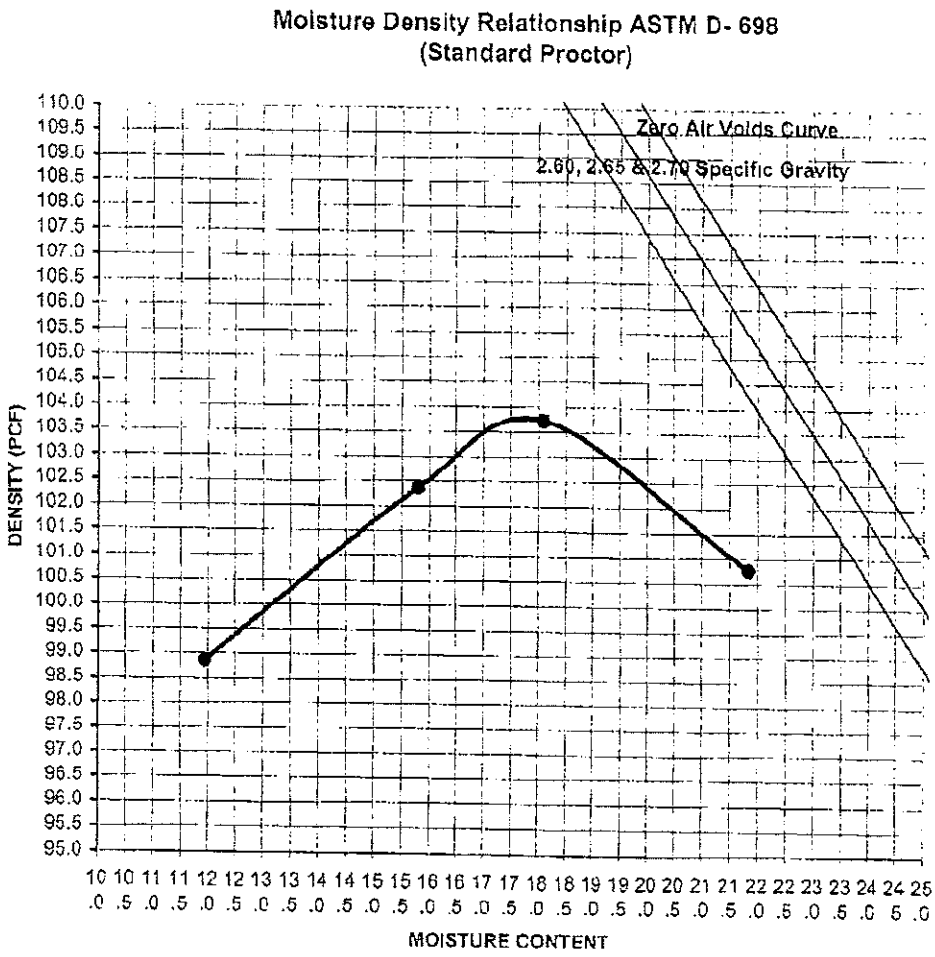
Sample Discription: Dark Brown Silty Clay

LL	PI	Sample log #	Maximum Density	Opt. Moisture
		4	108.0	16.5

Remarks: West berm on-site

Patriot Engineering
and Environmental Co., LLC
Louisville, Ky

Moisture Density Relationship



Project:	Sauget Area Landfill	Project #:	501-223
Client:	LMS	Date:	4/30/01

Sample Discription: Lt. brown sandy Silt

LL	PI	Sample log #	Maximum Density	Opt. Moisture
		5	103.7	17.7

Remarks: West berm Slope on-site

PATRIOT ENGINEERING
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4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9256

Moisture Content Worksheet

Project Name: Sauget area I Landfill Date: 4-27-01
Client: LMS Patriot Project No.: 501-223
Patriot Rep. M. Daumen
Remarks:

MOISTURE CONTENT	Sample #5								
1. Wt. soil + tare (wet), gr.	132.5								
2. Wt. soil + tare (dry), gr.	125.8								
3. Wt. of water (#1 minus #2), gr.	6.7								
4. Wt. of tare, gr.	79.2								
5. Wt. of soil, dry (#2 minus #5). gr.	46.6								
6. Moisture content (#3 / #5 x 100), %	14.4%								

Revised 4/30/94

PATRIOT ENGINEERING
and Environmental Co., LLC
4735 Poplar Level Road Suite 1
Louisville KY 40213
Telephone 502-961-5852

Material Finer Than the No. 200 (75-µm) Sieve
ASTM D 1140
Method B
☐ Original ☐ Amended

Project Name:	Sauget Area 1 Landfill	Client:	LMS
Project Number:	501-223		
Date Received:	4/27/01	Sampled by:	M. Daumen
Date Tested:	4/28/01	Tested by:	M. Daumen
Sample Number:	# 5	Sample Source:	on-site West berm slope
Description:	S.M./M.L.		

Pre Wash

Tare No.:	
Tare weight:	20.00 g
Tare & Dry Sample weight:	1520.00 g
Dry Sample weight:	1500.00 g

Post Wash

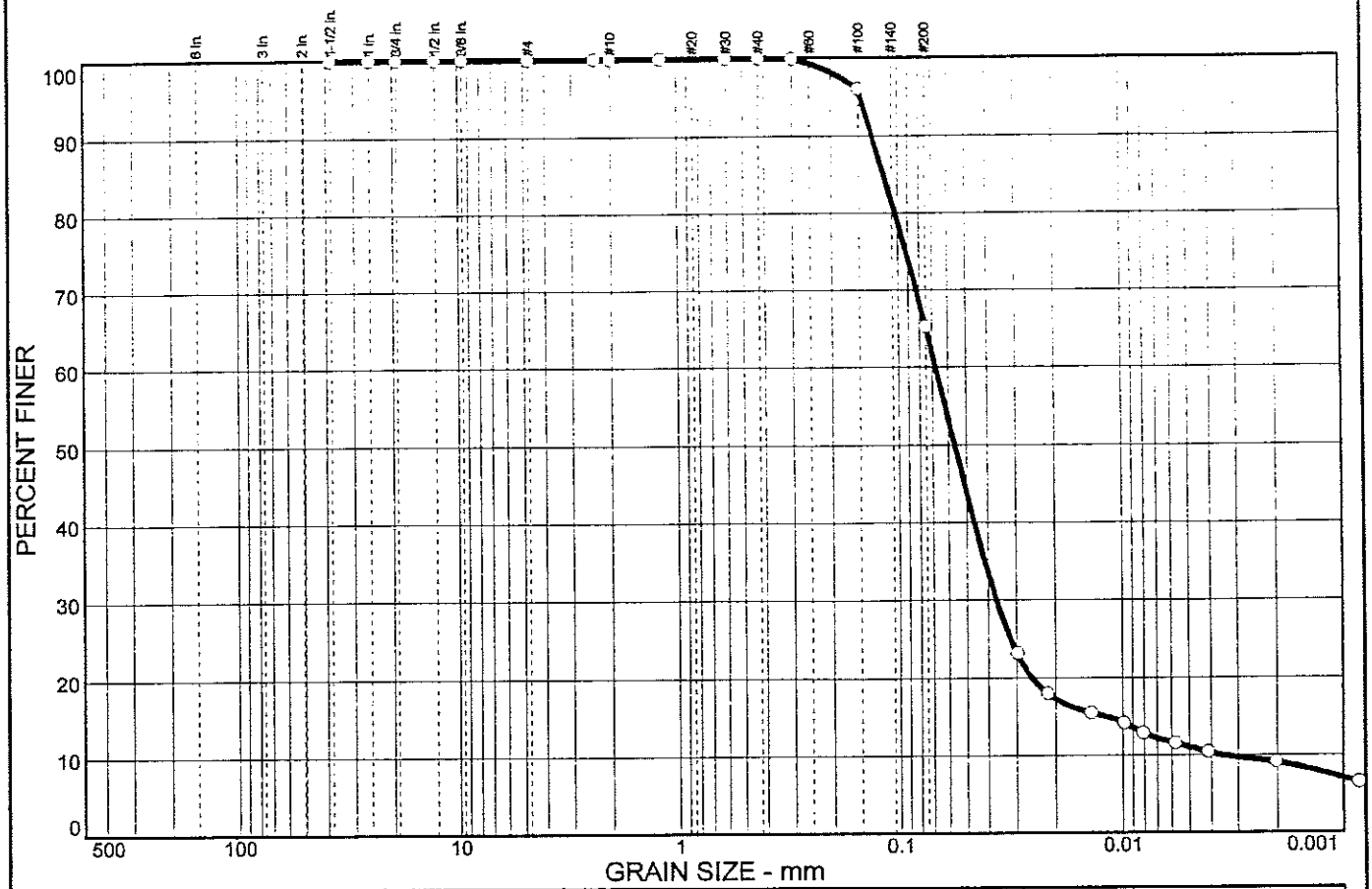
Tare No.	
Tare weight:	20.00 g
Tare & Dry Sample weight:	760.00 g
Dry Sample weight:	740.00 g

Sample soaked?	yes
Dry mass determined directly?	yes

Original Dry Mass of Sample: 1500.00 g

Material Finer than No. 200 Sieve After Washing: 50.7 %

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.0	0.0	34.7	54.2	11.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5 in.	100.0		
1 in.	100.0		
.75 in.	100.0		
.5 in.	100.0		
.375 in.	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#30	100.0		
#40	100.0		
#50	99.9		
#100	96.0		
#200	65.3		

* (no specification provided)

Soil Description

Sandy silt

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.115 D_{60}= 0.0677 D_{50}= 0.0560
D_{30}= 0.0367 D_{15}= 0.0118 D_{10}= 0.0035
C_u= 19.29 C_c= 5.68

Classification

USCS= ML AASHTO= A-4(0)

Remarks

ASTM-D-422

Sample No.: 5 **Source of Sample:** On-site material **Date:** 5-2-01
Location: West Berm slope **Elev./Depth:** -2.5

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project No: 501-223 **Plate**

GRAIN SIZE DISTRIBUTION TEST DATA

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project Number: 501-223

Sample Data

Source: On-site material
Sample No.: 5
Elev. or Depth: -2.5
Sample Length (in./cm.):
Location: West Berm slope
Description: Sandy silt
Date: 5-2-01 **PL:**
LL: **PI:**
USCS Classification: ML
AASHTO Classification: A-4(0)
Testing Remarks: ASTM-D-422

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	3075.40	0.00
Tare =	275.40	0.00
Dry sample weight =	2800.00	0.00

Minus #200 from wash= 100.0 %
Sample split on number 10 **sieve**
Split sample data:
Sample and tare = 80.00 **Tare =** .00 **Sample weight =** 80.00
Cumulative weight retained tare= .00
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
1.5 inch	0.00	100.0
1 inch	0.00	100.0
.75 inch	0.00	100.0
.5 inch	0.00	100.0
.375 inch	0.00	100.0
# 4	0.00	100.0
# 8	0.00	100.0
# 10	0.00	100.0
# 16	0.00	100.0
# 30	0.00	100.0
# 40	0.00	100.0
# 50	0.10	99.9
# 100	3.20	96.0
# 200	27.80	65.3

Hydrometer Analysis Data

Separation sieve is #10
Percent -#10 based upon complete sample= 100.0
Weight of hydrometer sample: 80.0
Hygroscopic moisture correction:
Moist weight & tare = 130.10
Dry weight & tare = 128.40
Tare = 79.30
Hygroscopic moisture= 3.5 %
Calculated biased weight= 77.32

Table of composite correction values:

Temp, deg C:	20.0	21.0	22.0	23.0	24.0
Comp. corr:	-5.4	-5.2	-5.0	-4.9	-4.7

Meniscus correction only= 1
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
1.00	70.0	23.0	18.3	0.0085	24.0	12.4	0.0298	23.2
2.00	70.0	19.0	14.3	0.0085	20.0	13.0	0.0217	18.0
5.00	70.0	17.0	12.3	0.0085	18.0	13.3	0.0139	15.5
10.00	70.0	16.0	11.3	0.0085	17.0	13.5	0.0099	14.2
15.00	70.0	15.0	10.3	0.0085	16.0	13.7	0.0081	12.9
30.00	70.0	14.0	9.3	0.0085	15.0	13.8	0.0058	11.6
60.00	70.0	13.0	8.3	0.0085	14.0	14.0	0.0041	10.4
250.00	70.0	12.0	7.3	0.0085	13.0	14.2	0.0020	9.1
1440.00	70.0	10.0	5.3	0.0085	11.0	14.5	0.0009	6.5

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = % GRAVEL =
% SAND = 34.7 (% coarse = 0.0 % medium = 0.0 % fine = 34.7)
% SILT = 54.2 % CLAY = 11.1 (% CLAY COLLOIDS = 7.1)

D_5= 0.11 D_{60}= 0.07 D_{50}= 0.06
D_{30}= 0.04 D_{15}= 0.01 D_{10}= 0.00
C_c= 5.6801 C_u= 19.2924

3.2.1.2 QC Laboratory Testing of Placed Materials, per 15,000 c.y.

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4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9256

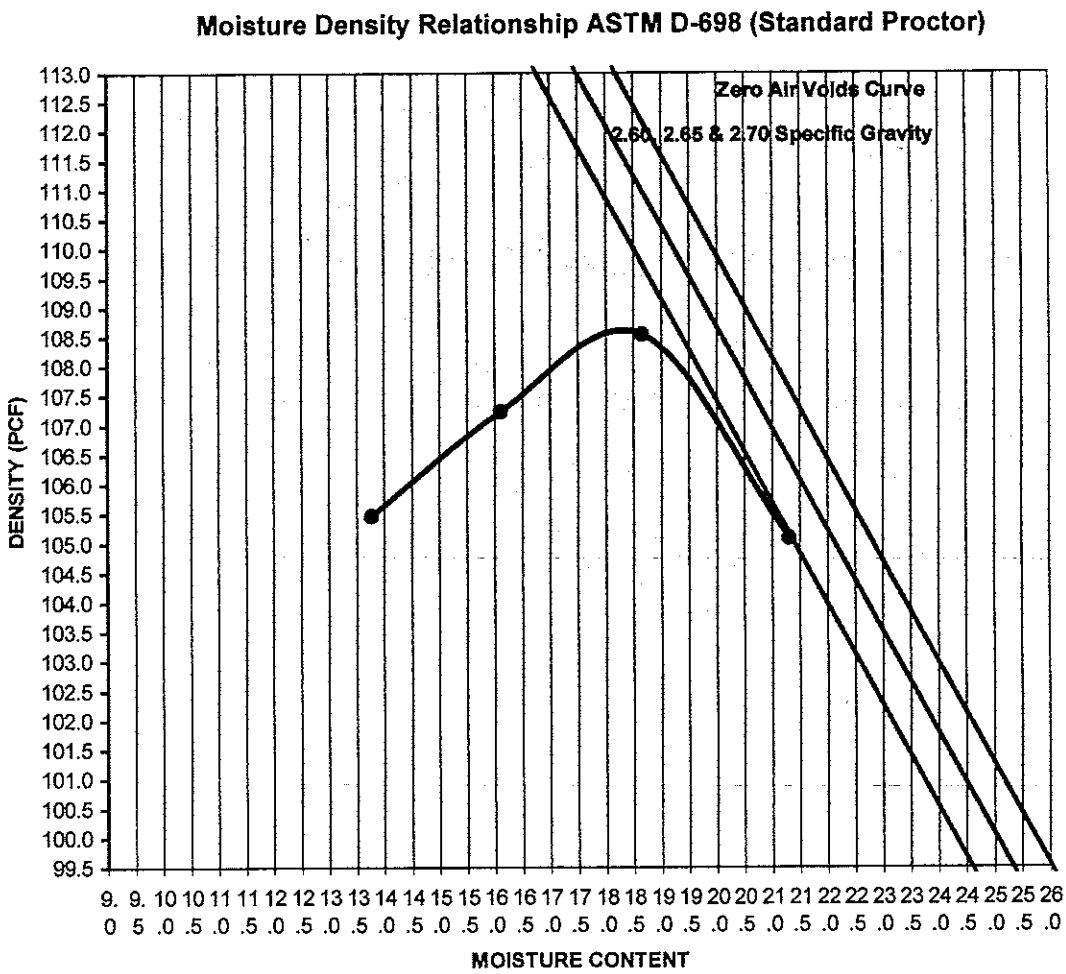
Moisture Content Worksheet

Project Name: Sauget Area I Landfill Date: 5-10-01
Client: LMS Contracting Patriot Project No.: 501-223
Patriot Rep. Melisa Daumer.
Remarks: Sample # S-117

MOISTURE CONTENT	MC-005								
1. Wt. soil + tare (wet), gr.	156.5								
2. Wt. soil + tare (dry), gr.	144.5								
3. Wt. of water (#1 minus #2), gr.	12.0								
4. Wt. of tare, gr.	79.4								
5. Wt. of soil, dry (#2 minus #5). gr.	65.1								
6. Moisture content (#3 / #5 x 100), %	18.4								

Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship



Project:	Sauget Area 1 landfill	Project #:	501-223
Client:	LMS	Date:	May 11,2001

Sample Discription: Brown silty Clay

LL	PI	Sample log #	Maximum Density	Opt. Moisture
0.0	0.0	S-117	108.5	18.3

Remarks: Borrow material

Patriot Engineering
4735 Poplar Level Road
Louisville,Ky.

Atterburg Limits
ASTM D4318

Project Name: Sauget Area 1 Landfill
Client: LMS
Project Number: 501-223
Client Address:
Date Received: 5/10/01
Date Tested: 5/14/01
Sampled By: M. Daumen
Sample Number: S-117
Tested By: M. Daumen

Delivered %MC

Tare #	
Wet + tare	
Dry + tare	
tare wgt	
water wgt	0
dry wgt	0
% MC	#DIV/0!

Plastic limit

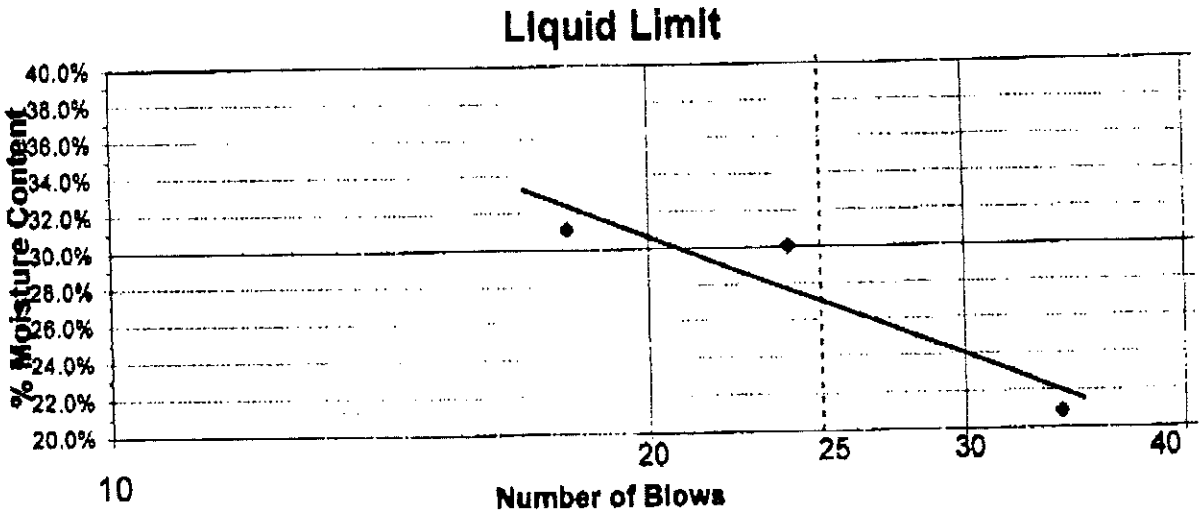
204.7	209.2
202.1	206.4
189.4	193.4
2.6	2.8
12.7	13
20.47%	21.54%
Avg.	21.0%

Liquid Limit

103.1	225.7	215.4
99	220.5	210.8
79.4	203.2	196
4.1	5.2	4.6
19.6	17.3	14.8
20.9%	30.1%	31.1%
34	24	18

# of blows=

Liquid Limit 27
Plastic Limit 21
Plastic Index 6
USCS Classification CL-ML



Patriot Engineering
4735 Poplar Level Road
Louisville, Ky.

Atterburg Limits
ASTM D4318

Project Name: Sauget Area 1 Landfill **Client:** LMS

Project Number: 501-223 **Client Address:**

Date Received: 5/25/01

Date Tested: 5/29/01 **Sampled By:** M. Daumen

Sample Number: S-117-retest **Tested By:** M. Daumen

Delivered %MC

Tare #	
Wet + tare	
Dry + tare	
tare wgt	
water wgt	0
dry wgt	0
% MC	#DIV/0!

Plastic limit

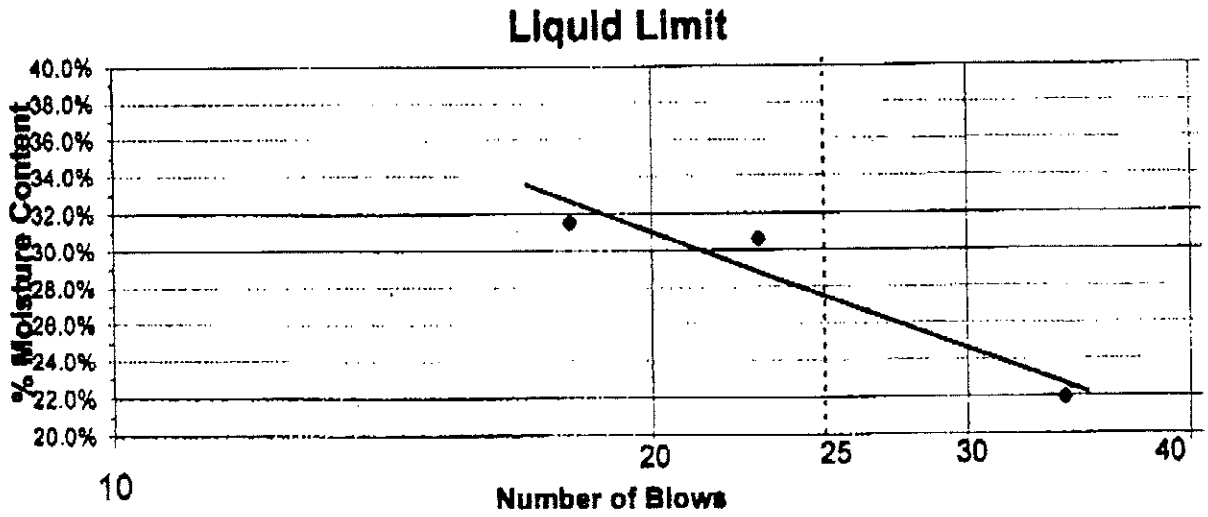
209.9	208.4
207.4	205.7
195.9	193.4
2.5	2.7
11.5	12.3
21.74%	21.95%
Avg.	21.8%

Liquid Limit

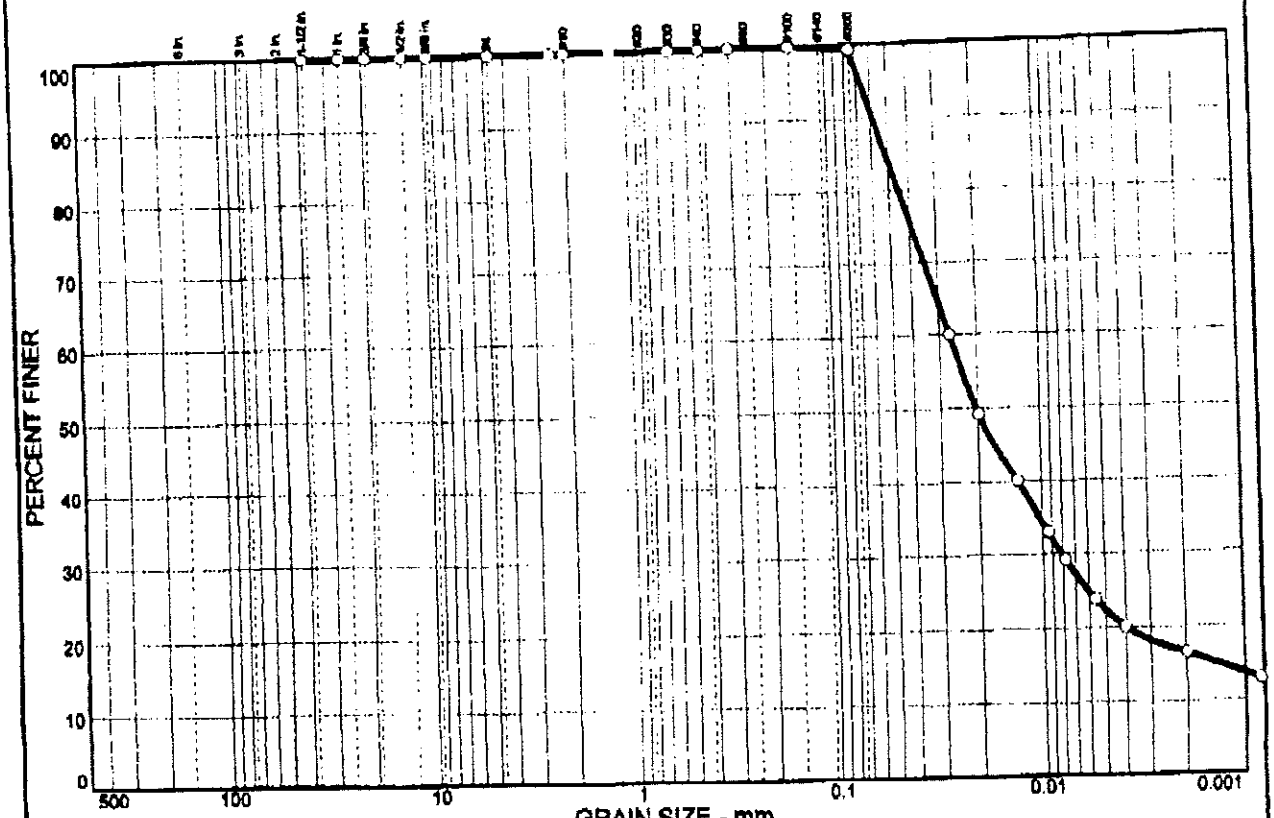
99.3	225.9	214.8	
95.7	220.6	209.9	
79.3	203.3	195	
3.6	5.3	4.7	
16.4	17.3	14.9	
22.0%	30.6%	31.5%	
# of blows=	34	23	18

Liquid Limit 28 Plastic Limit 22 Plastic Index 7

USCS Classification CL-ML



Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.0	0.0	0.7	76.8	22.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5 in.	100.0		
1 in.	100.0		
.75 in.	100.0		
.5 in.	100.0		
.375 in.	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#30	100.0		
#40	100.0		
#50	100.0		
#100	100.0		
#200	99.3		

* (no specification provided)

Soil Description

Silty clay

Atterberg Limits

PL= 21 LL= 27 PI= 6

Coefficients

D_{85}= 0.0510 D_{60}= 0.0266 D_{50}= 0.0203
D_{30}= 0.0081 D_{15}= 0.0013 D_{10}=
C_u= C_c=

Classification

USCS= CL-ML AASHTO= A-4(5)

Remarks

ASTM D-422

Sample No.: S-117 **Source of Sample:** sauget area 1 **Date:** 5-15-01
Location: Off-site borrow material **Elev./Depth:**

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project No: 501-223 **Plate**

GRAIN SIZE DISTRIBUTION TEST DATA

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project Number: 501-223

Sample Data

Source: sauget area 1
Sample No.: S-117
Elev. or Depth:
Location: Off-site borrow material
Description: Silty clay
Date: 5-15-01 **PL:** 21
USCS Classification: CL-ML
Testing Remarks: ASTM D-422

Sample Length (in./cm.):

LL: 27 **PI:** 6
AASHTO Classification: A-4(5)

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	3080.00	2800.00
Tare =	280.00	0.00
Dry sample weight =	2800.00	2800.00

Minus #200 from wash= 0.0 %
Sample split on number 10 **sieve**
Split sample data:
Sample and tare = 55.00 **Tare =** .00 **Sample weight =** 55.00
Cumulative weight retained tare= .00
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
1.5 inch	0.00	100.0
1 inch	0.00	100.0
.75 inch	0.00	100.0
.5 inch	0.00	100.0
.375 inch	0.00	100.0
# 4	0.00	100.0
# 8	0.00	100.0
# 10	0.00	100.0
# 16	0.00	100.0
# 30	0.00	100.0
# 40	0.00	100.0
# 50	0.00	100.0
# 100	0.00	100.0
# 200	0.40	99.3

Hydrometer Analysis Data

Separation sieve is #10
Percent -#10 based upon complete sample= 100.0
Weight of hydrometer sample: 55.0
Hygroscopic moisture correction:
Moist weight & tare = 123.20
Dry weight & tare = 122.80
Tare = 79.30
Hygroscopic moisture= 0.9 %
Calculated biased weight= 54.50

Table of composite correction values:

Temp, deg C:	20.0	21.0	22.0	23.0	24.0
Comp. corr:	-5.4	-5.2	-5.0	-4.9	-4.7

Meniscus correction only= 1
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
1.00	70.0	38.0	33.3	0.0085	39.0	9.9	0.0267	60.1
2.00	70.0	32.0	27.3	0.0085	33.0	10.9	0.0198	49.2
5.00	70.0	27.0	22.3	0.0085	28.0	11.7	0.0130	40.1
10.00	71.0	23.0	18.3	0.0084	24.0	12.4	0.0094	32.9
15.00	71.0	21.0	16.3	0.0084	22.0	12.7	0.0078	29.2
30.00	72.0	18.0	13.3	0.0084	19.0	13.2	0.0055	23.8
60.00	72.0	16.0	11.3	0.0084	17.0	13.5	0.0040	20.1
250.00	72.0	14.0	9.3	0.0084	15.0	13.8	0.0020	16.5
1440.00	73.0	12.0	7.3	0.0083	13.0	14.2	0.0008	12.9

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =**
% SAND = 0.7 **(% coarse =** 0.0 **% medium =** 0.0 **% fine =** 0.7)
% SILT = 76.8 **% CLAY =** 22.5 **(% CLAY COLLOIDS =** 13.7)

D_{85}= 0.05 D_{60}= 0.03 D_{50}= 0.02
D_{30}= 0.01 D_{15}= 0.00

PATRIOT ENGINEERING
and Environmental Co., LLC
4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9256

Project Name: Sauget Area I Landfill — Date: May 30, 2001

Client: LMS Contracting — Patriot Project No.: 501-223

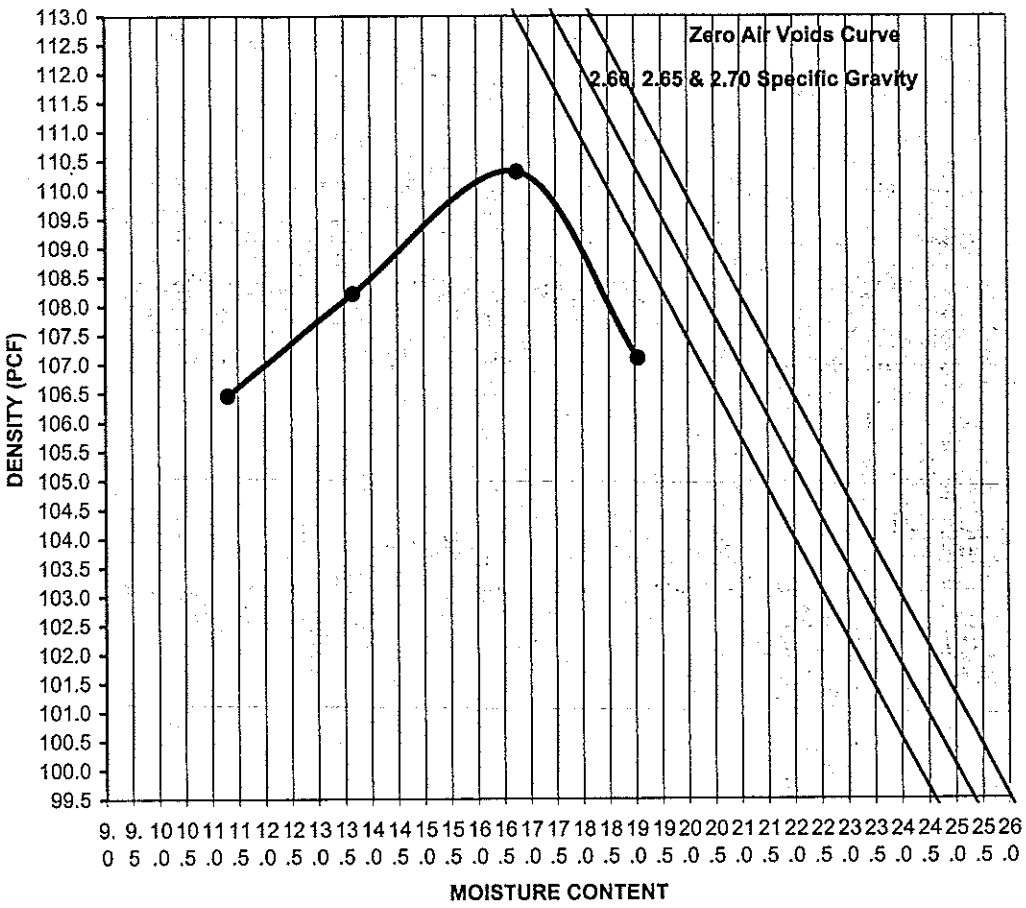
Patriot Rep. Melisa Daumen

Remarks: **Moisture content for sample # S-119**

IOISTURE CONTENT	MC-008					
. Wt. soil + tare (wet), gr.	112.4					
. Wt. soil + tare (dry), gr.	107					
. Wt. of water (#1 minus #2), gr.	5.4					
. Wt. of tare, gr.	79.3					
. Wt. of soil, dry (#2 minus #4). gr.	27.7					
. Moisture content (#3 / #5 x 100), %	19.5				#DIV/0!	#DIV/0!

Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship



Project:	Sauget Area 1 landfill	Project #:	501-223
Client:	LMS	Date:	June 5,2001

Sample Discription: Brown silty Clay

LL	PI	Sample log #	Maximum Density	Opt. Moisture
32.0	9.0	S-119	110.3	16.8

Remarks: Off-site borrow material

Patriot Engineering and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship

Client:	LMS	Job #:	501-223
Project Name:	Sauget Area 1 landfill		
Sample Source:	Off-site borrow material	Sample #:	S-119
Sample Description:	Brown silty Clay	Mod/Std:	1 point
Tested By:	M.Daumen	Date:	June12,2001
Mold Weight:	9.40		

POINT		1	2	3	4		
Sample & Mold:		13.68	0.00	0.00	0.00		
Sample (lb):		4.28	0.00	0.00	0.00		
Wet Density:		128.40	0.00	0.00	0.00		
Can Number:							
Wet Soil & Can:		372.60	0.00	0.00	0.00		
Dry Soil & Can:		347.30	0.00	0.00	0.00		
Water Lost:		25.30	0.00	0.00	0.00		
Can Weight:		194.80	0.00	0.00	0.00		
Dry Soil Weight:		152.50	0.00	0.00	0.00		
Moisture Content:		16.6	#DIV/0!	#DIV/0!	#DIV/0!		
Dry Density:		110.1	#DIV/0!	#DIV/0!	#DIV/0!		

27.22	16.76	14.87	9.91
95.00	113.00	117.00	129.00
27.95	17.49	15.60	10.64
95.00	113.00	117.00	129.00
28.65	18.18	16.30	11.34
95.00	113.00	117.00	129.00

Patriot Engineering
4735 Poplar Level Road
Louisville,Ky.

Atterburg Limits
ASTM D4318

Project Name: Sauget Area 1 Landfill **Client:** LMS

Project Number: 501-223 **Client Address:**

Date Received: 5/30/01

Date Tested: 6/5/01 **Sampled By:** M. Daumen

Sample Number: S-119 **Tested By:** M. Daumen

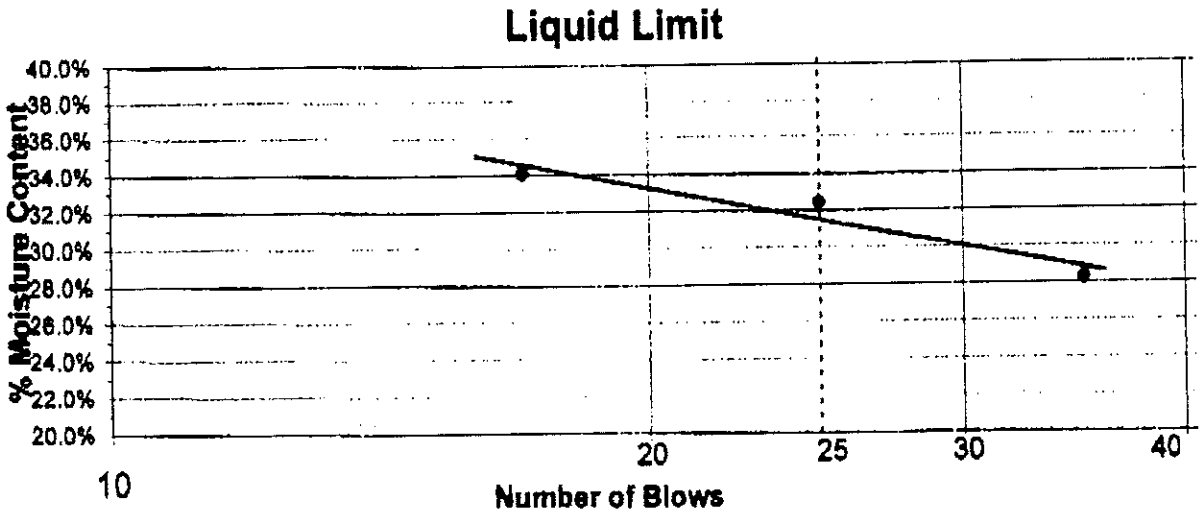
Delivered %MC	
Tare #	
Wet + tare	
Dry + tare	
tare wgt	
water wgt	0
dry wgt	0
% MC	#DIV/0!

Plastic limit	
213.4	208.5
210	205.1
195.9	189.4
3.4	3.4
14.1	15.7
24.11%	21.66%
Avg.	22.9%

Liquid Limit		
99.7	223.7	216.1
95.2	218.7	210.2
79.3	203.3	192.9
4.5	5	5.9
15.9	15.4	17.3
28.3%	32.5%	34.1%
# of blows= 35	25	17

Liquid Limit 32 Plastic Limit 23 Plastic Index 9

USCS Classification CL



PATRIOT ENGINEERING
and Environmental Co., LLC
4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9255

Project Name: Sauget Area I Landfill — Date: June 18, 2001

Client: LMS Contracting — Patriot Project No.: 501-223

Patriot Rep. Melisa Daumen

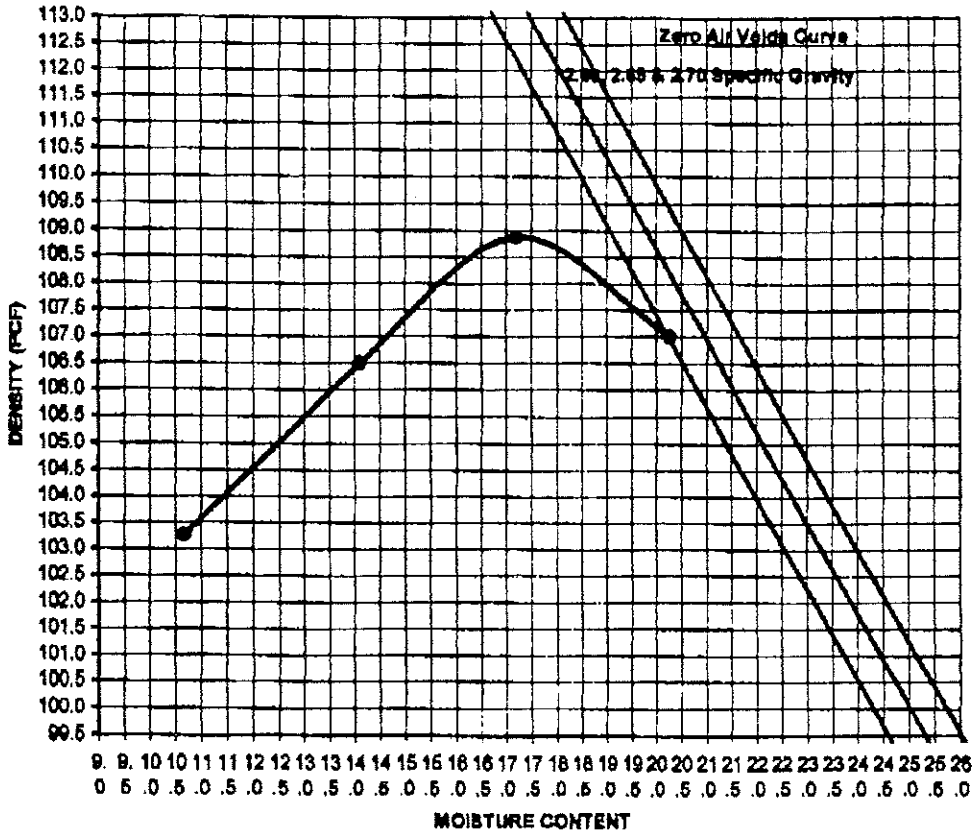
Remarks: **Moisture Content for sample # 120**

MOISTURE CONTENT	MC-009					
1. Wt. soil + tare (wet), gr.	142.5					
2. Wt. soil + tare (dry), gr.	131.3					
3. Wt. of water (#1 minus #2), gr.	11.2					
4. Wt. of tare, gr.	79.3					
5. Wt. of soil, dry (#2 minus #4), gr.	52					
6. Moisture content (#3 / #5 x 100), %	21.5					

Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship

Moisture Density Relationship ASTM D-698 (Standard Proctor)



Project:	Sauget Area 1 landfill	Project #:	501-223
Client:	LMS	Date:	June 23,2001

Sample Discription: Brown silty Clay

LL	PI	Sample log #	Maximum Density	Opt. Moisture
30.0	9.0	S-120	108.9	17.2

Remarks: Off-site borrow material

Patriot Engineering
4735 Poplar Level Road
Louisville, Ky.

Atterburg Limits
ASTM D4318

Project Name: Sauget Area 1 Landfill
Client: LMS
Project Number: 501-223
Client Address:
Date Received: 6/18/01
Date Tested: 6/21/01
Sampled By: M. Daumen
Sample Number: S-120
Tested By: M. Daumen

Delivered %MC

Tare #	
Wet + tare	
Dry + tare	
tare wgt	
water wgt	0
dry wgt	0
% MC	#DIV/0!

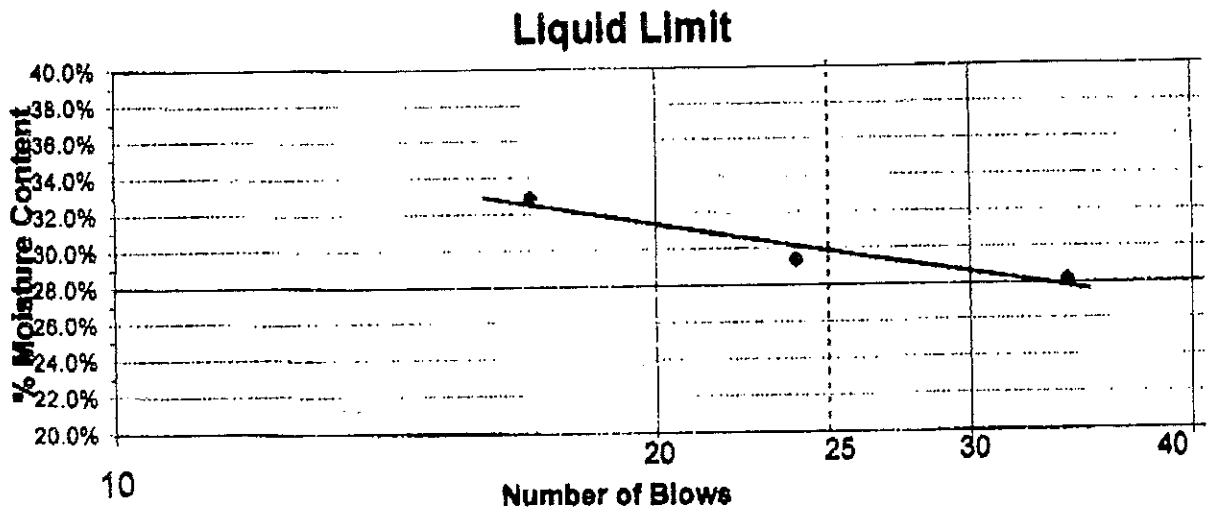
Plastic limit

199.9	194.6
198.7	193.8
193.3	189.7
1.2	0.8
5.4	4.1
22.22%	19.51%
Avg.	20.9%

Liquid Limit

			# of blows=
88.4	212.2	203.4	
86.4	210.2	200.9	
79.3	203.4	193.3	
2	2	2.5	
7.1	6.8	7.6	
28.2%	29.4%	32.9%	
34	24	17	

Liquid Limit 30
Plastic Limit 21
Plastic Index 9
USCS Classification CL



GRAIN SIZE DISTRIBUTION TEST DATA

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project Number: 501-223

Sample Data

Source: sauget area 1
Sample No.: S-120
Elev. or Depth:
Sample Length (in./cm.):
Location: Off-site borrow material
Description: Silt/Clay
Date: 6-20-01 **PL:** 27 **LL:** 30 **PI:** 9
USCS Classification: CL **AASHTO Classification:** A-4(4)
Testing Remarks: ASTM D-422

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	2800.00	2800.00
Tare =	0.00	0.00
Dry sample weight =	2800.00	2800.00

Minus #200 from wash= 0.0 %
Sample split on number 10 **sieve**
Split sample data:
Sample and tare = 55.00 **Tare =** .00 **Sample weight =** 55.00
Cumulative weight retained tare= .00
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
1.5 inch	0.00	100.0
1 inch	0.00	100.0
.75 inch	0.00	100.0
.5 inch	0.00	100.0
.375 inch	0.00	100.0
# 4	0.00	100.0
# 8	0.00	100.0
# 10	0.00	100.0
# 16	0.00	100.0
# 30	0.00	100.0
# 40	0.00	100.0
# 50	0.10	99.8
# 100	0.20	99.6
# 200	0.72	98.7

Hydrometer Analysis Data

Separation sieve is #10
Percent -#10 based upon complete sample= 100.0
Weight of hydrometer sample: 55.0
Hygroscopic moisture correction:
Moist weight & tare = 112.60
Dry weight & tare = 111.70
Tare = 79.30
Hygroscopic moisture= 2.8 %
Calculated biased weight= 53.51

Table of composite correction values:

Temp, deg C:	20.0	21.0	22.0	23.0	24.0
Comp. corr:	-5.4	-5.2	-5.0	-4.9	-4.7

iscus correction only= 1
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
1.00	21.0	47.0	41.8	0.0133	48.0	8.4	0.0385	77.3
2.00	21.0	39.0	33.8	0.0133	40.0	9.7	0.0293	62.5
5.00	21.0	33.0	27.8	0.0133	34.0	10.7	0.0194	51.4
10.00	21.0	30.0	24.8	0.0133	31.0	11.2	0.0141	45.8
15.00	21.0	25.0	19.8	0.0133	26.0	12.0	0.0119	36.6
30.00	21.0	21.0	15.8	0.0133	22.0	12.7	0.0086	29.2
60.00	21.5	19.0	13.9	0.0132	20.0	13.0	0.0061	25.7
250.00	21.5	16.0	10.9	0.0132	17.0	13.5	0.0031	20.2
1440.00	21.0	16.0	10.8	0.0133	17.0	13.5	0.0013	20.0

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% + 3" = **% GRAVEL =**
% SAND = 1.3 (**% coarse =** 0.0 **% medium =** 0.0 **% fine =** 1.3)
% SILT = 75.0 **% CLAY =** 23.7

D = 0.05 **D_{60}=** 0.03 **D_{50}=** 0.02
D_{30}= 0.01

PATRIOT ENGINEERING
and Environmental Co., LLC
4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9256

Moisture Content Worksh

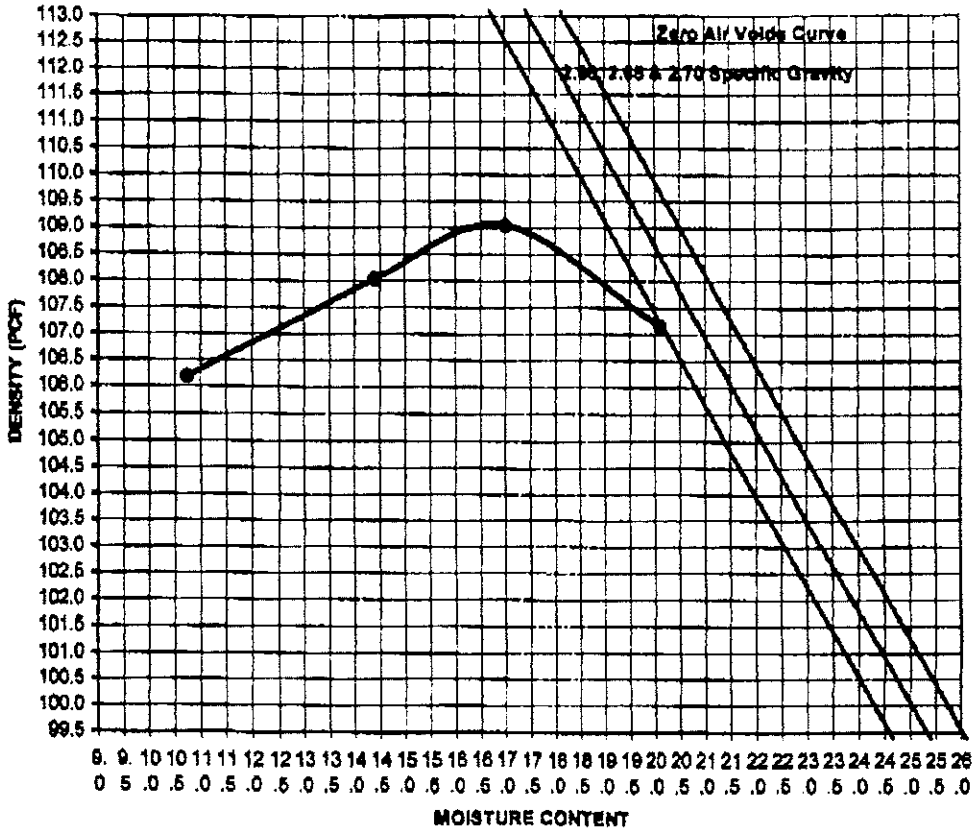
Project Name:	Sauget Area I Landfill	Date:	July 2,2001
Client:	LMS Contracting, Inc.	Patriot Project No.:	501-223
Patriot Rep.	Melisa Daumen		
Remarks:	S-122		

MOISTURE CONTENT								
1. Wt. soil + tare (wet), gr.	135.2	0						
2. Wt. soil + tare (dry), gr.	125.3	0						
3. Wt. of water (#1 minus #2), gr.	9.9	0.0						
4. Wt. of tare, gr.	79.4	0						
5. Wt. of soil, dry (#2 minus #4). gr.	45.9	0						
6. Moisture content (#3 / #5 x 100), %	21.6	#DIV/0!						

Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship

Moisture Density Relationship ASTM D-698 (Standard Proctor)



Project:	Sauget Area 1 landfill	Project #:	501-223
Client:	LMS	Date:	July 6,2001

Sample Discription: Brown silty Clay

LL	PI	Sample log #	Maximum Density	Opt. Moisture
32.0	9.0	S-122	109.0	17.0

Remarks: Off-site borrow material

Patriot Engineering
4735 Poplar Level Road
Louisville,Ky.

Atterburg Limits
ASTM D4318

Project Name: Sauget Area 1 Landfill **Client:** LMS

Project Number: 501-223 **Client Address:**

Date Received: 7/2/01

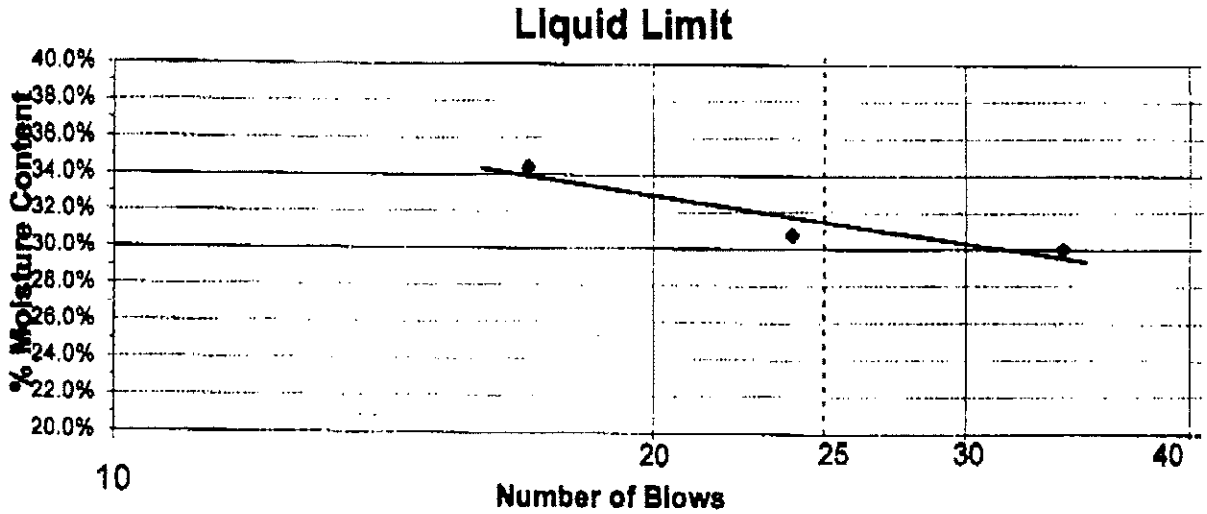
Date Tested: 7/7/01 **Sampled By:** M. Daumen

Sample Number: S-122 **Tested By:** M. Daumen

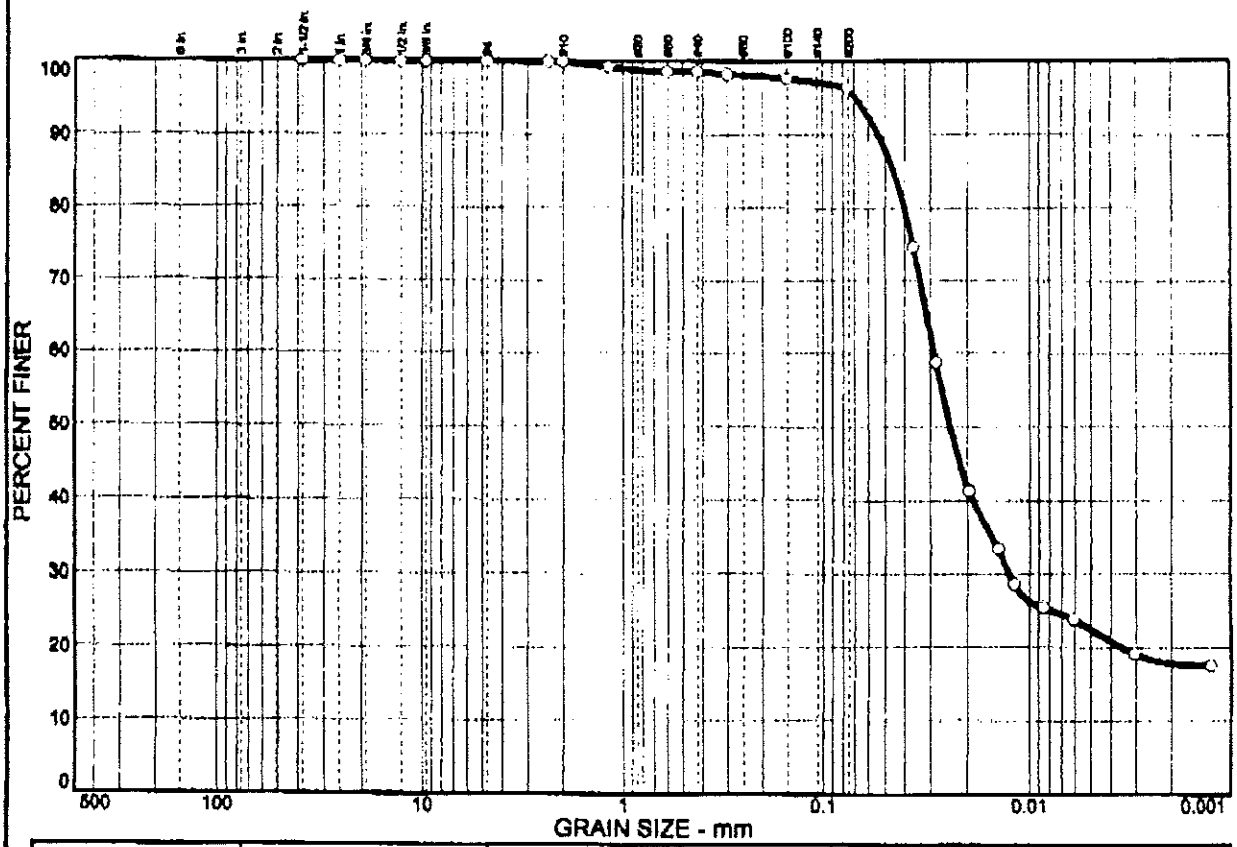
Delivered %MC		**Plastic limit**			**Liquid Limit**		
Tare #							
Wet + tare		206.8	199.6		198.5	208.7	202.6
Dry + tare		206.2	198.9		196.4	206.3	200.5
tare wgt		203.3	196.1		189.4	198.5	194.4
water wgt	0	0.6	0.7		2.1	2.4	2.1
dry wgt	0	2.9	2.8		7	7.8	6.1
% MC	#DIV/0!	20.69%	25.00%		30.0%	30.8%	34.4%
		Avg.	22.8%	# of blows=	34	24	17

Liquid Limit 32 Plastic Limit 23 Plastic Index 9

USCS Classification CL



Particle Size Distribution Report



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.0	1.4	2.1	74.0	22.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5 in.	100.0		
1 in.	100.0		
.75 in.	100.0		
.5 in.	100.0		
.375 in.	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	99.2		
#30	98.6		
#40	98.6		
#50	98.2		
#100	97.7		
#200	96.5		

* (no specification provided)

Soil Description

Lean clay

Atterberg Limits

PL= 23 LL= 32 PI= 9

Coefficients

D_{85}= 0.0452 D_{60}= 0.0287 D_{50}= 0.0241
D_{30}= 0.0126 D_{15}= D_{10}=
C_u= C_c=

Classification

USCS= CL AASHTO= A-4(7)

Remarks

ASTM D-422

Sample No.: S-122 **Source of Sample:** sauget area 1 **Date:** 7-5-01
Location: Off-site borrow material **Elev./Depth:**

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project No: 501-223 **Plate**

GRAIN SIZE DISTRIBUTION TEST DATA

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project Number: 501-223

Sample Data

Source: sauget area 1
Sample No.: S-122
Elev. or Depth:
Sample Length (in./cm.):
Location: Off-site borrow material
Description: Lean clay
Date: 7-5-01 **PL:** 23 **LL:** 32 **PI:** 9
USCS Classification: CL
AASHTO Classification: A-4(7)
Testing Remarks: ASTM D-422

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	2800.00	2800.00
Tare =	0.00	0.00
Dry sample weight =	2800.00	2800.00

Minus #200 from wash= 0.0 %
Sample split on number 10 sieve
Split sample data:
Sample and tare = 65.00 Tare = .00 Sample weight = 65.00
Cumulative weight retained tare= .00
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
1.5 inch	0.00	100.0
1 inch	0.00	100.0
.75 inch	0.00	100.0
.5 inch	0.00	100.0
.375 inch	0.00	100.0
# 4	0.00	100.0
# 8	0.00	100.0
# 10	0.00	100.0
# 16	0.50	99.2
# 30	0.90	98.6
# 40	0.90	98.6
# 50	1.20	98.2
# 100	1.50	97.7
# 200	2.30	96.5

Hydrometer Analysis Data

Separation sieve is #10
Percent -#10 based upon complete sample= 100.0
Weight of hydrometer sample: 65.0
Hygroscopic moisture correction:
Moist weight & tare = 116.90
Dry weight & tare = 115.30
Tare = 79.30
Hygroscopic moisture= 4.4 %
Calculated biased weight= 62.23

Table of composite correction values:

Temp, deg C:	20.0	21.0	22.0	23.0	24.0
Comp. corr:	-5.4	-5.2	-5.0	-4.9	-4.7

Meniscus correction only= 1
Specific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
1.00	22.0	52.0	47.0	0.0131	53.0	7.6	0.0362	74.7
2.00	22.0	42.0	37.0	0.0131	43.0	9.2	0.0282	58.8
5.00	22.0	31.0	26.0	0.0131	32.0	11.0	0.0195	41.3
10.00	22.0	26.0	21.0	0.0131	27.0	11.9	0.0143	33.4
15.00	22.0	23.0	18.0	0.0131	24.0	12.4	0.0119	28.6
30.00	22.0	21.0	16.0	0.0131	22.0	12.7	0.0085	25.4
60.00	22.0	20.0	15.0	0.0131	21.0	12.9	0.0061	23.8
250.00	22.0	17.0	12.0	0.0131	18.0	13.3	0.0030	19.1
1440.00	22.0	16.0	11.0	0.0131	17.0	13.5	0.0013	17.5

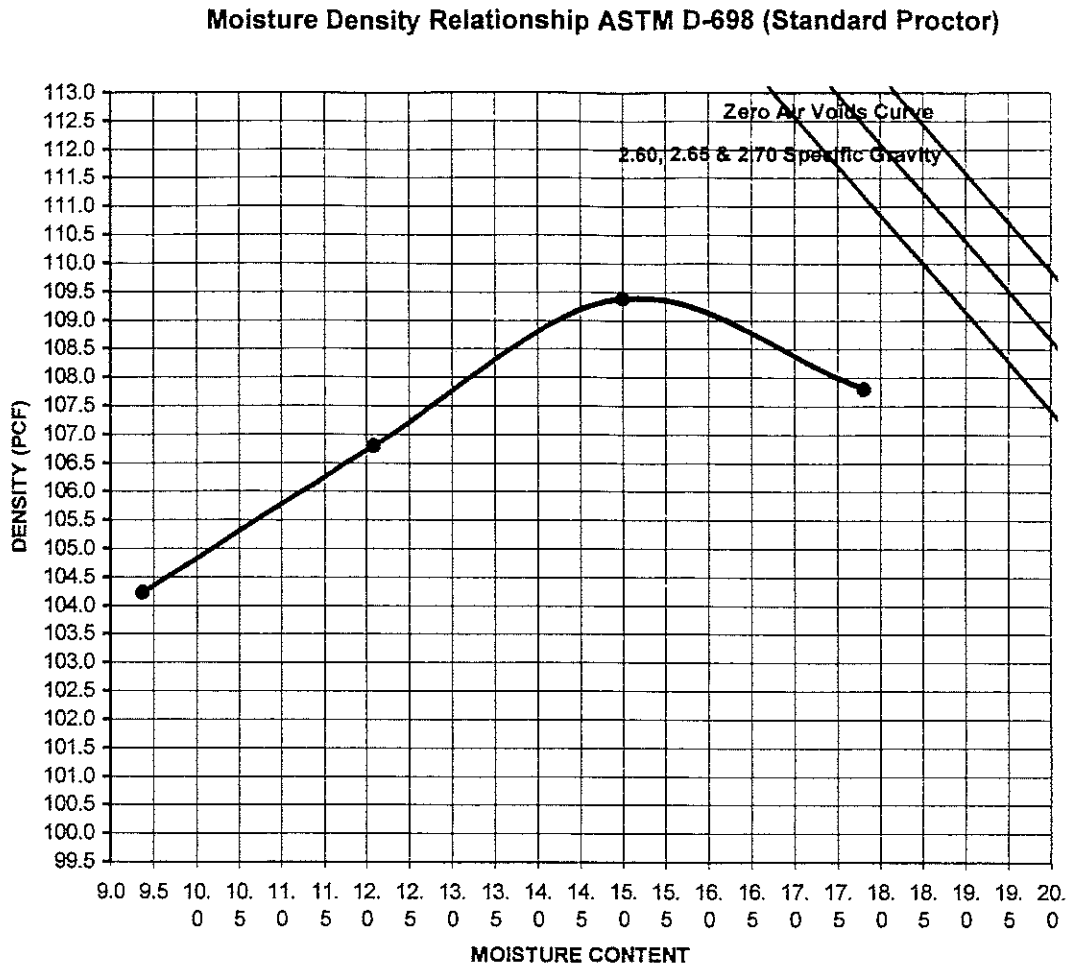
Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% + 3" = **% GRAVEL =**
% SAND = 3.5 **(% coarse =** 0.0 **% medium =** 1.4 **% fine =** 2.1)
% SILT = 74.0 **% CLAY =** 22.5

D_{85}= 0.05 D_{60}= 0.03 D_{50}= 0.02
D_{30}= 0.01

Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship



Project:	Sauget Area 1 landfill	Project #:	501-223
Client:	LMS	Date:	July 21,2001

Sample Discription: Brown silty Clay

LL	PI	Sample log #	Maximum Density	Opt. Moisture
		S-124	109.4	15.0

Remarks: Off-site borrow material

Patriot Engineering
4735 Poplar Level Road
Louisville,Ky.

Atterburg Limits
ASTM D4318

Project Name: Sauget Area 1 Landfill **Client:** LMS

Project Number: 501-223 **Client Address:**

Date Received: 7/11/01

Date Tested: 7/27/01 **Sampled By:** M. Daumen

Sample Number: S-124 **Tested By:** M. Daumen

Delivered %MC

Tare #	
Wet + tare	
Dry + tare	
tare wgt	
water wgt	0
dry wgt	0
% MC	#DIV/0!

Plastic limit

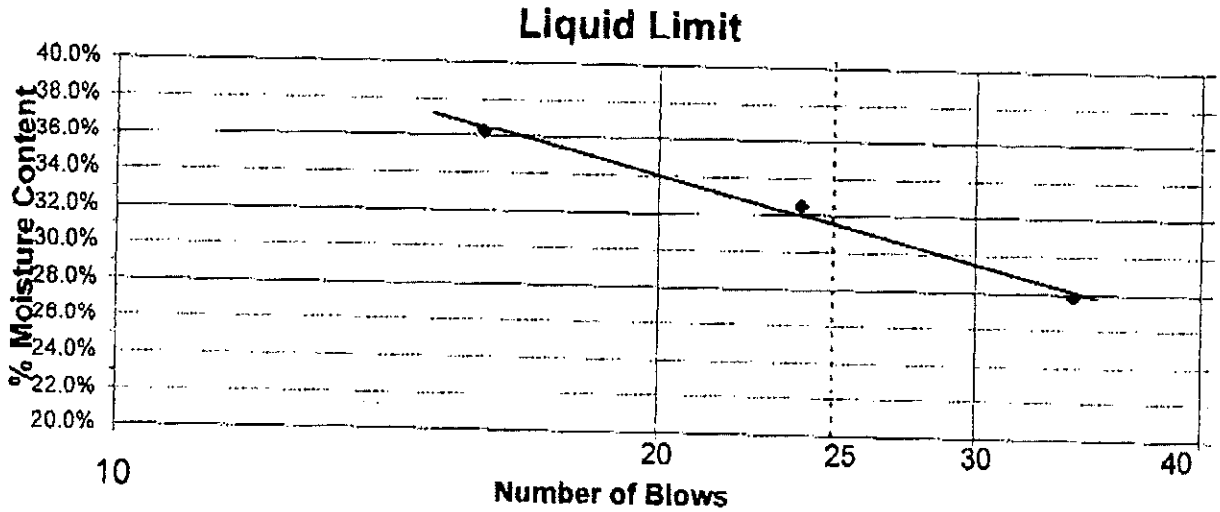
84.3	201.1
83.4	200.1
79.5	195.7
0.9	1
3.9	4.4
23.08%	22.73%
Avg.	22.9%

Liquid Limit

100.9	221.2	226.5
96.2	214.2	220.3
79.3	192.7	203.2
4.7	7	6.2
16.9	21.5	17.1
27.8%	32.6%	36.3%
# of blows= 34	24	16

Liquid Limit 32 Plastic Limit 23 Plastic Index 9

USCS Classification CL



TO: Melisa Daumen
DEPT:
CO:
FAX:

HP FAX
FROM: Mike
DATE: 7/27/01

GRAIN SIZE DISTRIBUTION TEST DATA

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project Number: 501-223

Sample Data

Source: sauget area 1
Sample No.: S-124
Elev. or Depth: **Sample Length (in./cm.):**
Location: Off-site borrow material
Description: Lean clay
Date: 7-27-01 **PL:** 23 **LL:** 32 **PI:** 10
USCS Classification: CL **AASHTO Classification:** A-4(4)
Testing Remarks: ASTM D-422

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	2000.00	2000.00
Tare =	0.00	0.00
Dry sample weight =	2000.00	2000.00

Minus #200 from wash= 0.0 %
Sample split on number 10 **sieve**
Split sample data:
Sample and tare = 60.00 **Tare =** .00 **Sample weight =** 60.00
Cumulative weight retained tare= .00
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer
1.5 inch	0.00	100.0
1 inch	0.00	100.0
.75 inch	0.00	100.0
.5 inch	0.00	100.0
.375 inch	0.00	100.0
# 4	0.00	100.0
# 8	0.00	100.0
# 10	0.00	100.0
# 16	0.30	99.5
# 30	0.60	99.0
# 40	1.10	98.2
# 50	1.50	97.5
# 100	2.00	96.7
# 200	2.80	95.3

Hydrometer Analysis Data

Separation sieve is #10
Percent -#10 based upon complete sample= 100.0
Weight of hydrometer sample: 60.0
Hygroscopic moisture correction:
Moist weight & tare = 106.50
Dry weight & tare = 105.70
Tare = 79.40
Hygroscopic moisture= 3.0 %
Calculated biased weight= 58.23

Table of composite correction values:

Temp, deg C:	20.0	21.0	22.0	23.0	24.0
Comp. corr:	-5.4	-5.2	-5.0	-4.9	-4.7

niscus correction only= 1
pecific gravity of solids= 2.7
Specific gravity correction factor= 0.989
Hydrometer type: 152H
Effective depth L= 16.294964 - 0.164 x Rm

Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
1.00	21.0	47.0	41.8	0.0133	48.0	8.4	0.0385	71.0
2.00	21.0	41.0	35.8	0.0133	42.0	9.4	0.0288	60.8
5.00	21.0	33.0	27.8	0.0133	34.0	10.7	0.0194	47.2
10.00	21.0	29.0	23.8	0.0133	30.0	11.4	0.0142	40.4
15.00	21.0	26.0	20.8	0.0133	27.0	11.9	0.0118	35.3
30.00	21.0	22.0	16.8	0.0133	23.0	12.5	0.0086	28.5
60.00	21.0	19.0	13.8	0.0133	20.0	13.0	0.0062	23.4
250.00	21.0	17.0	11.8	0.0133	18.0	13.3	0.0031	20.0
1440.00	21.0	16.0	10.8	0.0133	17.0	13.5	0.0013	18.3

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% + 3" = **% GRAVEL =**
% SAND = 4.7 (**% coarse =** 0.0 **% medium =** 1.8 **% fine =** 2.9)
% SILT = 73.8 **% CLAY =** 21.5

D_{15}= 0.06 D_{60}= 0.03 D_{50}= 0.02
D_{30}= 0.01

Patriot Engineering
4735 Poplar Level Road
Louisville,Ky.

Atterburg Limits
ASTM D4318

Project Name: Sauget Area 1 Landfill **Client:** LMS

Project Number: 501-223 **Client Address:**

Date Received: 7/11/01

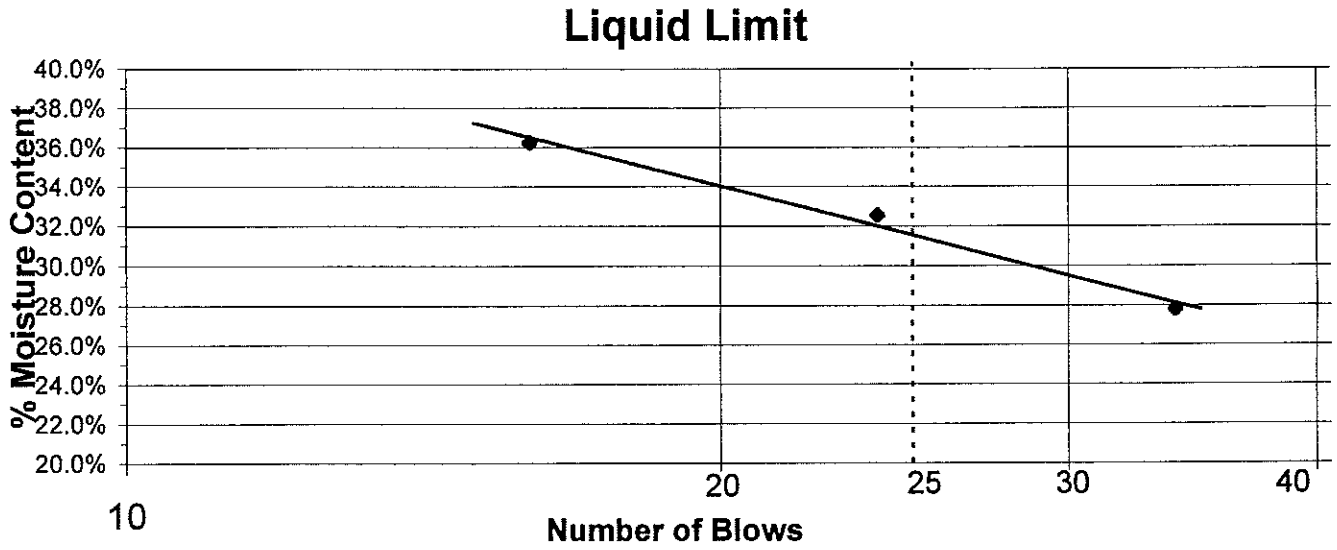
Date Tested: 7/27/01 **Sampled By:** M. Daumen

Sample Number: S-124 **Tested By:** M. Daumen

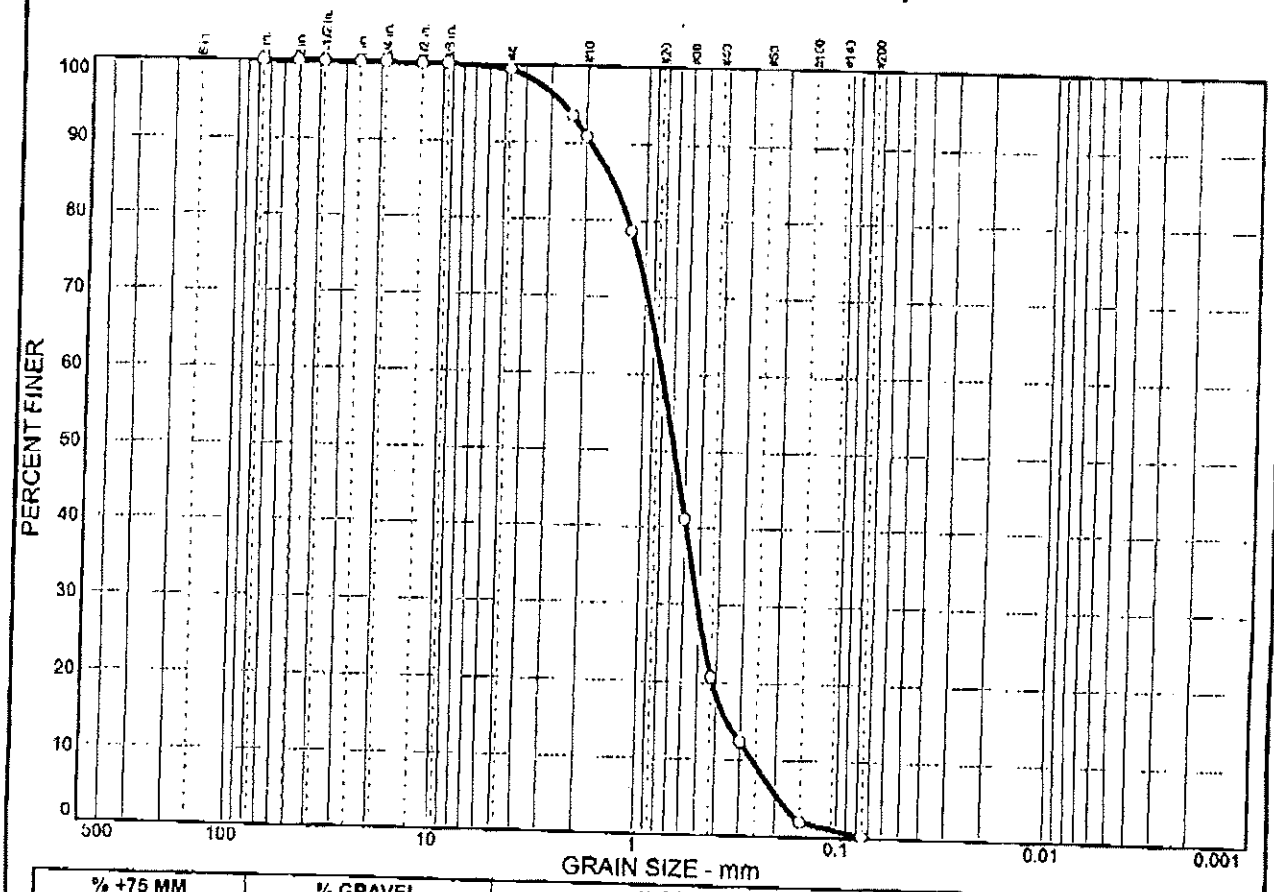
Delivered %MC		**Plastic limit**			**Liquid Limit**		
Tare #							
Wet + tare		84.3	201.1		100.9	221.2	226.5
Dry + tare		83.4	200.1		96.2	214.2	220.3
tare wgt		79.5	195.7		79.3	192.7	203.2
water wgt	0	0.9	1		4.7	7	6.2
dry wgt	0	3.9	4.4		16.9	21.5	17.1
% MC	#DIV/0!	23.08%	22.73%		27.8%	32.6%	36.3%
		Avg.	22.9%	# of blows=	34	24	16

Liquid Limit 32 Plastic Limit 23 Plastic Index 10

USCS Classification CL



Particle Size Distribution Report



% +75 MM	% GRAVEL	% SAND	% SILT	% CLAY
0.0	0.6	99.2	0.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
2 in.	100.0		
1-1/2 in.	100.0		
1 in.	100.0		
3/4 in.	100.0		
1/2 in.	100.0		
3/8 in.	100.0		
#4	99.4		
#8	93.6		
#10	90.9		
#16	78.6		
#30	41.1		
#40	20.7		
#50	12.4		
#100	2.0		
#200	0.2		

* (no specification provided)

Soil Description

SP, Poorly graded SAND

Atterberg Limits

PL= NP LL= PI=

Coefficients

D_{85}= 1.47 D_{60}= 0.807 D_{50}= 0.687
D_{30}= 0.507 D_{15}= 0.350 D_{10}= 0.259
C_u= 3.11 C_c= 1.23

Classification

USCS= SP AASHTO=

Remarks

Sample No.: S-126 **Source of Sample:** S-126 **Date:** 9-12-01
Location: **Elev./Depth:**

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS
Project: Sauget Area 1 Landfill
Project No: 5-01-223 **Plate**

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Permeability of Granular Soils (Constant Head)

ASTM D 2434

☐ Original ☐ Amended

Project Name:	Sauget Area I Landfill	**Client:**	LMS Contracting
Project Number:	5-01-223	**Client Address:**	
Date Received:	9/7/01	**Tested By:**	BG
Date Tested:	9/10/01	**Preparation:**	Placed in 8 equal layers
Sample Number:	S-126		
Description:	SP, Poorly graded SAND		

SAMPLE UNIT WEIGHT DETERMINATION

Diameter:	10.115	cm.	Wt. of Soil & Mold:	3208.3	g	Moisture Content (air-dried):	0.1	%
Area:	80.358	cm.^{2}	Wt. of Mold:	1692.1	g	Dry Unit Weight:	101.0	pcf
Length:	11.654	cm.	Wt. of Soil:	1516.2	g	Void Ratio:	0.67	

RESERVOIR AREA

Inside diameter of reservoir cylinder:	10.11	cm.
Outside diameter of bubble tube:	0.94	cm.
Cross-sectional area of reservoir:	79.58	cm^2
Height from top of sample to top of bucket:	2.8	cm.
Type of water used for test:	deaired tap water	

$$k = \frac{Q \cdot L}{A \cdot t \cdot h} = \frac{\Delta \text{ Reservoir Level} \cdot \text{Reservoir Area} \cdot \text{Sample Length}}{\text{Sample Area} \cdot \text{Elapsed Time} \cdot \text{Head}}$$

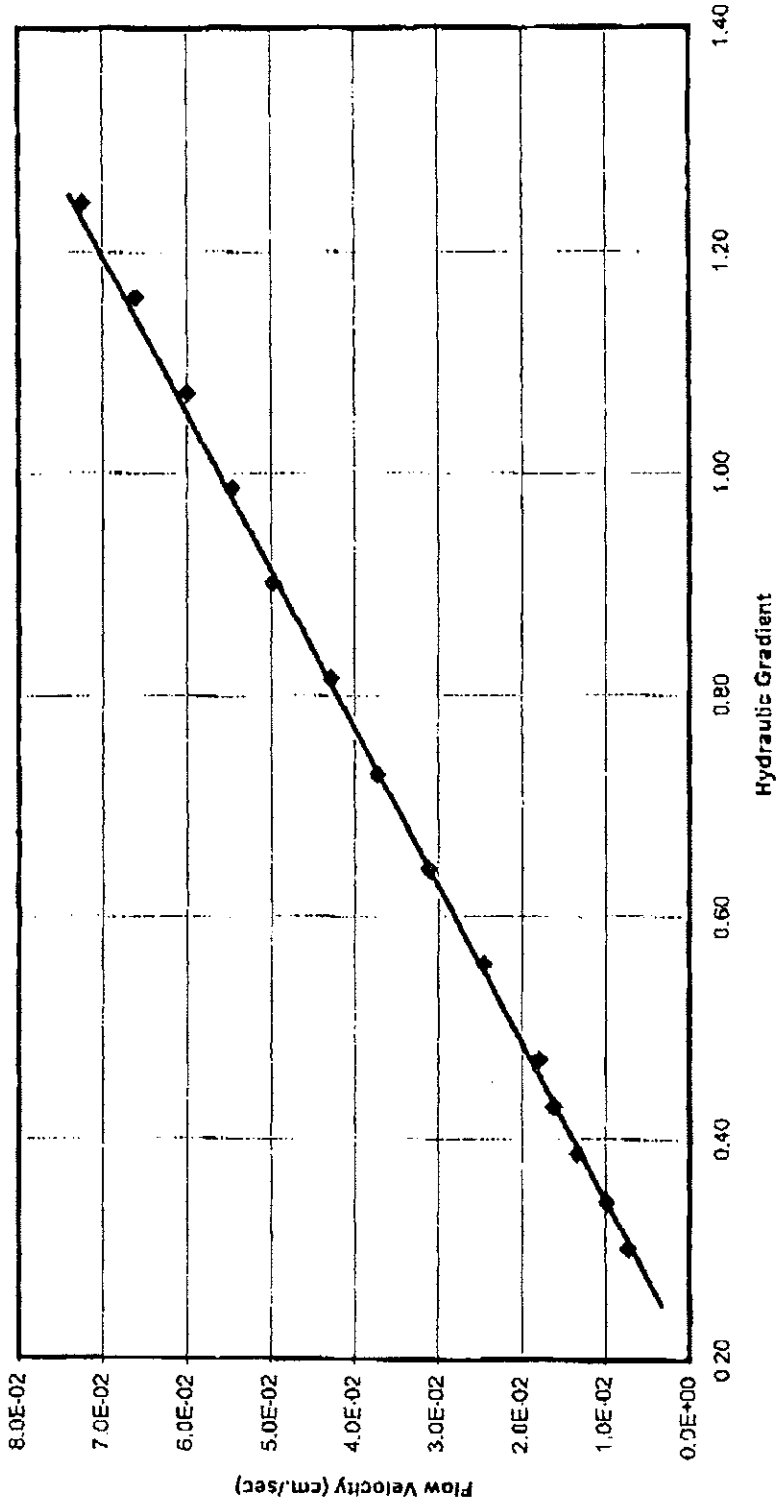
TEST DATA

Test No.	Reservoir Level Initial (cm.)	Reservoir Level Final (cm.)	Volume Q (cm.^{3})	Head h (cm.)	Time (sec.)	Flow Vol. Q/At cm./sec.	Gradient h/L	Temp. (°C)	Permeability k cm/sec	k @ 20°C cm/sec.
1	59.5	7	4178.1	3.5	7105	7.3E-03	0.30	24	2.4E-02	2.2E-02
5	59.5	7.5	4138.3	4.0	5224	9.9E-03	0.34	22.5	2.9E-02	2.7E-02
2	59.5	8.0	4098.5	4.5	3825	1.3E-02	0.39	24.0	3.5E-02	3.1E-02
3	59.4	8.5	4050.8	5.0	3128	1.6E-02	0.43	24.0	3.8E-02	3.4E-02
4	60.0	9.0	4058.7	5.5	2830	1.8E-02	0.47	22.0	3.8E-02	3.6E-02
6	59.7	10.0	3955.3	6.5	2010	2.4E-02	0.56	23.5	4.4E-02	4.0E-02
7	59.7	11.0	3875.7	7.5	1550	3.1E-02	0.64	23.5	4.8E-02	4.4E-02
8	59.6	12.0	3788.2	8.5	1267	3.7E-02	0.73	24.5	5.1E-02	4.6E-02
9	59.8	13.0	3724.5	9.5	1083	4.3E-02	0.82	24.5	5.3E-02	4.7E-02
10	59.5	14.0	3621.0	10.5	906	5.0E-02	0.90	24.0	5.5E-02	5.0E-02
11	59.3	15.0	3525.5	11.5	804	5.5E-02	0.99	24.5	5.6E-02	4.9E-02
12	59.3	16.0	3446.0	12.5	715	6.0E-02	1.07	24.0	5.6E-02	5.1E-02
13	59.5	17.0	3382.3	13.5	637	6.6E-02	1.16	24.0	5.7E-02	5.2E-02
14	59.5	18.0	3302.7	14.5	568	7.2E-02	1.24	24.5	5.8E-02	5.2E-02

Average Permeability Coefficient (k) at 20°C: 4.7E-02 cm/sec.

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2770
(317) 575-8058 FAX: (317) 576-1965

Sauget Area I Landfill, Patriot Proj. No. 5-01-223
Sand Drainage Media, S-126
9-10-01
Flow Velocity vs. Hydraulic Gradient

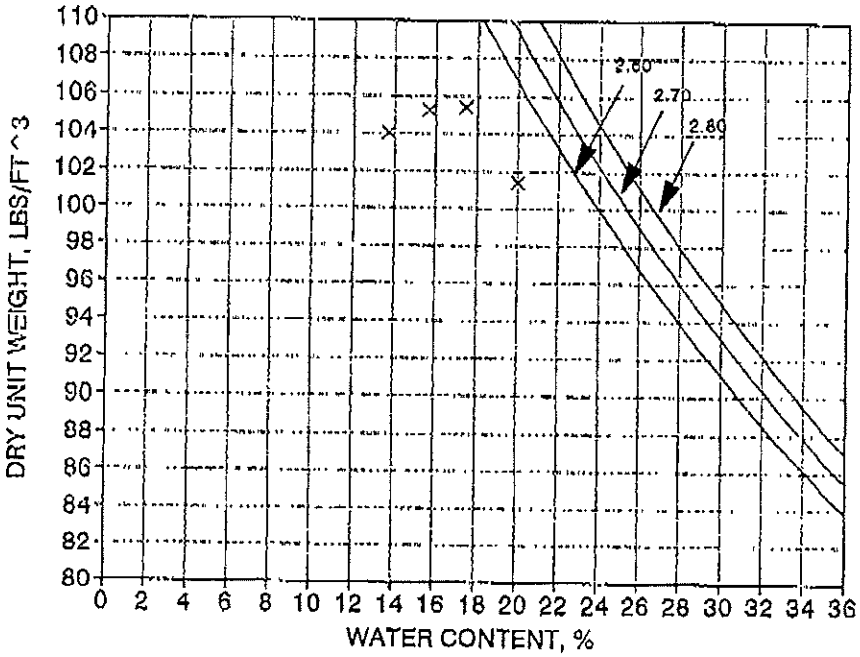


3.2.1.3 QA Laboratory Testing of Placed Materials

COMPACTION TEST RESULTS

ASTM D-698 (STANDARD PROCTOR)

MAXIMUM DRY DENSITY (PCF):	105.4
OPTIMUM. MOISTURE CONTENT:	17.4



NAT. MOIST	
LL (%) :	

PL (%) :	
PI (%) :	0

DESCRIPTION :		
PROCEDURE: A	SOIL PREPERATION: MOIST	HAMMER: MECHANICAL-5.5 LBS/12" FALL

PROJECT NUMBER:	013-9659	TESTED BY :	PN
BOREHOLE NUMBER :		CALCULATED BY:	PN
SAMPLE NUMBER :	QA-00~~2~~ 3	CHECKED BY:	
DEPTH OF SAMPLE :		DATE TESTED :	05/16/01

GOLDER ASSOCIATES

Houston, Texas

PROJECT:	SOLUTIA/QC
PROJECT NO.	013-9659
CLIENT:	C

ALL SAMPLES

GOLDER ASSOCIATES INC.
HOUSTON, TEXAS

DATE	05/22/95
PREPARED BY	
REVIEWED BY	

SUMMARY OF LABORATORY TESTING
SOILS DATA

SAMPLE LOCATION				SOIL DESCRIPTION	UNIFIED SOILS CLASSIFICATION SYSTEM	PHYSICAL PROPERTIES													
						STANDARD PROCTOR		NAT MOIST. CONT. (%)	SPEC GRAV.	ATTERBERG LIMITS				GRAIN SIZE DISTRIBUTION % FINER			HYDRAULIC CONDUCTIVITY		
BORING NO.	SAMPLE NO.	SAMPLE DEPTH (ft)	SAMPLE TYPE			MAX DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT			L.L. (%)	P.L. (%)	P.I. (%)	LIQUIDITY INDEX	GRAVEL NO. 4	F. SAND NO. 40	FINES NO. 200	DRY DENSITY (pcf)	MOIST. CONTENT (%)	TEST K-20 (cm/sec)
	QA-002		PAIL	Brown Silty CLAY, trace fine sand	CL	105.4	17.4	19.7		36	21	15	0.000	100.0	99.9	99.3			

3.2.2 In-Field QC Testing

PATRIOT ENGINEERING
and Environmental Co., LLC
4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9256

DRIVE TUBE WORKSHEET

Project Name: Sauget Area I Landfill Date: 05/10/2001

Client: LMS Contracting, Inc. Patriot Project No.: 501-223

Patriot Rep.: Melisa Daumen Test No.: DT-001

Tube weight (lbs)	1.31
Soil and Tube weight (llbs)	5.43
Weight of soil (lbs)	4.12
Volumn of Tube (cf.)	0.0332
Wet Density(pcf.)	124.1
MOISTURE CONTENT	
Wt. soil + tare (wet), gr.	370.5
Wt. soil + tare (dry), gr.	345.4
Wt. of water, gr.	25.1
Wt. of tare, gr.	198.6
Wt. of soil, dry gr.	146.8
Moisture content %	17.1
Dry Density (pcf)	106.0
Maximum Proctor DD (pcf)	106.8
Optimum Moisture %	18.2
% Compaction	99.2

Remarks: Location: West end of south berm, see attached map for exact location

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(502) 961-5652 FAX: (502) 961-9256

DRIVE TUBE WORKSHEET

Project Name: Sauget Area I Landfill

Date: 06/12/2001

Client: LMS Contracting, Inc.

Patriot Project No.: 501-223

Patriot Rep.: Melisa Daumen

Test No.: DT-002

Tube weight (1lbs)	1.31
Soil and Tube weight (llbs)	5.44
Weight of soil (lbs)	4.13
Volumn of Tube (cf.)	0.0332
Wet Density(pcf.)	124.4
MOISTURE CONTENT	
Wt. soil + tare (wet), gr.	196.7
Wt. soil + tare (dry), gr.	176.5
Wt. of water, gr.	20.2
Wt. of tare, gr.	79.3
Wt. of soil, dry gr.	97.20
Moisture content %	20.8
Dry Density (pcf)	103.0
Maximum Proctor DD (pcf)	108.5
Optimum Moisture %	18.3
% Compaction	94.9

Remarks: Test taken in same place as B-046, East Berm.

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4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9256

DRIVE TUBE WORKSHEET

Project Name: Sauget Area I Landfill

Date: 6-25-01

Client: LMS Contracting, Inc.

Patriot Project No.: 501-223

Patriot Rep.: Melisa Daumen

Test No.: DT - 003

Tube weight (1lbs)	1.31
Soil and Tube weight (llbs)	5.42
Weight of soil (lbs)	4.11
Volumn of Tube (cf.)	.0332
Wet Density(pcf.)	123.80
MOISTURE CONTENT	
Wt. soil + tare (wet), gr.	140.7
Wt. soil + tare (dry), gr.	130.7
Wt. of water, gr.	10.0
Wt. of tare, gr.	79.5
Wt. of soil, dry gr.	51.2
Moisture content %	19.5
Dry Density (pcf)	103.6
Maximum Proctor DD (pcf)	108.5
Optimum Moisture %	18.3
% Compaction	95.5

Remarks: Test taken in same location as B-098

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DRIVE TUBE WORKSHEET

Project Name: Sauget Area I Landfill Date: 7-3-01

Client: LMS Contracting, Inc. Patriot Project No.: 501-223

Patriot Rep.: Melisa Daumen Test No.: DT-004

Tube weight (1lbs)	1.31
Soil and Tube weight (llbs)	5.51
Weight of soil (lbs)	4.20
Volumn of Tube (cf.)	.0332
Wet Density(pcf.)	126.51
MOISTURE CONTENT	
Wt. soil + tare (wet), gr.	354.8
Wt. soil + tare (dry), gr.	330.3
Wt. of water, gr.	24.5
Wt. of tare, gr.	198.5
Wt. of soil, dry gr.	131.8
Moisture content %	18.6
Dry Density (pcf)	106.7
Maximum Proctor DD (pcf)	108.9
Optimum Moisture %	17.2
% Compaction	98.0

Remarks: Test taken in same location as B-155

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DRIVE TUBE WORKSHEET

Project Name: Sauget Area I Landfill Date: 07/27/2001

Client: LMS Contracting, Inc. Patriot Project No.: 501-223

Patriot Rep.: Melisa Daumen Test No.: DT-005

Tube weight (1lbs)	1.31
Soil and Tube weight (llbs)	5.37
Weight of soil (lbs)	4.06
Volumn of Tube (cf.)	0.0332
Wet Density(pcf.)	122.3
MOISTURE CONTENT	
Wt. soil + tare (wet), gr.	145.7
Wt. soil + tare (dry), gr.	136.9
Wt. of water, gr.	8.8
Wt. of tare, gr.	78.5
Wt. of soil, dry gr.	57.4
Moisture content %	15.3
Dry Density (pcf)	106.1
Maximum Proctor DD (pcf)	109.4
Optimum Moisture %	15.0
% Compaction	97.0

Remarks: Test taken in same location as test B-218.

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and Environmental Co., LLC
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Louisville, Kentucky 40213
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Moisture Content Worksheet

Project Name: Sauget area 1 Landfill Date: 4-26-01
Client: LMS Patriot Project No.: 501-223
Patriot Rep. M. Dawmen
Remarks: South Berm - #3 West Berm #4

MOISTURE CONTENT	Sample #3	Sample #4							
1. Wt. soil + tare (wet), gr.	133.5	136.6							
2. Wt. soil + tare (dry), gr.	130.5	132.3							
3. Wt. of water (#1 minus #2), gr.	3.0	4.3							
4. Wt. of tare, gr.	79.6	79.6							
5. Wt. of soil, dry (#2 minus #5), gr.	50.9	52.7							
6. Moisture content (#3 / #5 x 100), %	5.9%	8.2%							

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Moisture Content Worksheet

Project Name: Sauget Area I Landfill Date: 5-16-01
Client: LMS Contracting Patriot Project No.: 501-223
Patriot Rep. Melisa Demmer
Remarks: Obtained from Cell Floor South East Corner Requested by LMS

MOISTURE CONTENT									
	MC-006								
1. Wt. soil + tare (wet), gr.	120.2								
2. Wt. soil + tare (dry), gr.	111.9								
3. Wt. of water (#1 minus #2), gr.	8.3								
4. Wt. of tare, gr.	79.2								
5. Wt. of soil, dry (#2 minus #5). gr.	32.7								
6. Moisture content (#3 / #5 x 100), %	25.4								

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Louisville, Kentucky 40213
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Moisture Content Worksheet

Project Name: Sauget area 1 Landfill Date: 5-1-01

Client: LMS Patriot Project No.: 501-223

Patriot Rep. M. Daumen

Remarks: C-2.9 - 396.00 EL. C-4.3 - 398.5 EL. Requested By Q.A.

MOISTURE CONTENT	C-2.9 m #7	C-4.3 m #9					South Berm	South Berm	
1. Wt. soil + tare (wet), gr.	159.2	246.0					276.8	131.8	
2. Wt. soil + tare (dry), gr.	142.7	232.5					259.4	126.1	
3. Wt. of water (#1 minus #2), gr.	16.5	13.5					17.4	5.7	
4. Wt. of tare, gr.	79.3	194.2					198.4	79.6	
5. Wt. of soil, dry (#2 minus #5). gr.	63.4	38.3					61.0	46.5	
6. Moisture content (#3 / #5 x 100), %	25.8%	35.2%					28.5%	12.3%	
	MC-001	MC-002					MC-003	MC-004	

Patriot Engineering and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship

Client:	LMS	Job #:	501-223
Project Name:	Sauget Area 1 Landfill		
Sample Source:	On-site material	Sample #:	1
Sample Description:	Lt. Brown Silt	Mod/Std:	1 point
Tested By:	M.Daumen	Date:	April 23,01

Mold Weight:	9.40						
POINT		1	2	3	4		
Sample & Mold:		12.92					
Sample (lb):		3.52					
Wet Density:		105.60					
Can Number:							
Wet Soil & Can:		390.34					
Dry Soil & Can:		370.44					
Water Lost:		19.90			0.00		
Can Weight:		180.90					
Dry Soil Weight:		189.54			0.00		
Moisture Content:		10.5	#DIV/0!		#DIV/0!		
Dry Density:		95.6	#DIV/0!		#DIV/0!		

27.22	16.76	14.87	9.91
95.00	113.00	117.00	129.00
27.95	17.49	15.60	10.64
95.00	113.00	117.00	129.00
28.65	18.18	16.30	11.34
95.00	113.00	117.00	129.00

3.2.3 Field Nuclear Density Testing

SUBGRADE FIELD DENSITY TEST SUMMARY

SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
SG-01	04/25/01	EAST BERM	SG	98.7	15.0	SS-191	104.0	16.0	95.0	-1.0	PASS	MD
SG-02	04/25/01	EAST BERM	SG	96.2	19.4	COMP-002	99.1	18.7	97.1	0.7	PASS	MD
SG-03	04/26/01	EAST BERM	SG	97.6	18.1	COMP-002	99.1	18.7	98.5	-0.6	PASS	MD/RS
SG-04	04/26/01	EAST BERM	SG	97.5	17.6	COMP-002	99.1	18.7	98.4	-1.1	PASS	MD/RS
SG-05	04/27/01	EAST BERM	SG	100.6	14.9	COMP-001	104.0	16.0	96.7	-1.1	PASS	MD/RS
SG-06	04/27/01	EAST BERM	SG	101.3	17.8	COMP-001	104.0	16.0	97.4	1.8	PASS	MD/RS
SG-07	04/27/01	EAST BERM	SG	94.1	27.5	COMP-002	99.1	18.7	95.0	8.8	FAIL	MD/RS
SG-07 R	04/27/01	EAST BERM	SG	92.2	18.3	COMP-002	99.1	18.7	93.1	-0.4	PASS	MD/RS
SG-08	04/27/01	EAST BERM	SG	97.6	16.7	COMP-002	99.1	18.7	98.5	-2.0	PASS	MD/RS
SG-09	05/01/01	SOUTH BERM	SG	103.7	16.2	SS-191	104.0	16.0	99.7	0.2	PASS	MD/RS
SG-10	05/01/01	SOUTH BERM	SG	90.7	16.6	COMP-002	99.1	18.7	91.5	1.1	PASS	MD/RS
SG-11	05/01/01	SOUTH BERM	SG	97.7	10.2	COMP-002	99.1	18.7	98.6	-8.5	PASS	MD/RS
SG-12	05/01/01	SOUTH BERM	SG	95.1	12.3	COMP-002	99.1	18.7	96.0	-6.4	PASS	MD/RS
SG-13	05/02/01	WEST BERM	SG	100.5	17.8	SS-191	104.0	16.0	96.6	1.8	PASS	MD/RS
SG-14	05/02/01	WEST BERM	SG	104.7	12.1	COMP-004	108.0	16.5	96.9	-4.4	FAIL	MD/RS
SG-15	05/02/01	WEST BERM	SG	103.0	13.2	COMP-004	108.0	16.5	95.4	-3.3	FAIL	MD/RS
SG-14 R	05/02/01	WEST BERM	SG	107.4	15.5	COMP-004	108.0	16.5	99.4	-1.0	PASS	MD/RS
SG-15 R	05/02/01	WEST BERM	SG	106.7	19.1	COMP-004	108.0	16.5	98.8	2.6	PASS	MD/RS
SG-16	05/04/01	NORTH BERM	SG	93.9	12.4	COMP-002	99.1	18.7	94.8	-6.3	FAIL	MD/RS
SG-17	05/04/01	NORTH BERM	SG	90.4	11.0	COMP-002	99.1	18.7	91.2	-7.7	FAIL	MD/RS
SG-16 R	05/04/01	NORTH BERM	SG	98.3	17.9	COMP-002	99.1	18.7	99.2	-0.8	PASS	MD/RS
SG-17 R	05/04/01	NORTH BERM	SG	98.1	20.2	COMP-002	99.1	18.7	99.0	1.5	PASS	MD/RS

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 1, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT OMPACTIO	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-001	04/30/01	EAST BERM	1	102.0	16.4	S-113	106.9	18.2	95.4	-1.8	PASS	MD
B-002	05/01/01	EAST BERM	1	104.5	17.0	S-113	106.9	18.2	97.8	-1.2	PASS	MD
B-003	05/02/01	WEST BERM	1	100.9	15.5	B-002	107.0	17.4	94.3	-1.9	PASS	MD
B-004	05/02/01	WEST BERM	1	103.8	15.7	R-002	107.0	17.4	97.0	-1.7	PASS	MD
B-005	05/04/01	SOUTH BERM	1	94.7	17.8	B-1	106.9	18.2	88.6	-0.4	FAIL	MD
B-005 R	05/04/01	SOUTH BERM	1	105.6	17.1	B-1	106.9	18.2	98.8	-1.1	PASS	MD
B-006	05/04/01	WEST BERM	1	106.8	17.0	B-1	106.9	18.2	99.9	-1.2	PASS	MD
B-007	05/04/01	WEST BERM	1	103.1	18.7	B-1	106.9	18.2	96.4	0.5	PASS	MD
B-008	05/08/01	NORTH BERM	1	107.8	16.0	B-2	107.0	17.4	100.7	-1.4	PASS	MD
B-009	05/08/01	NORTH BERM	1	107.0	12.5	B-2	107.0	17.4	100.0	-4.9	FAIL	MD
B-009 R	05/08/01	NORTH BERM	1	103.2	16.5	B-1	106.9	18.2	96.5	-1.7	PASS	MD
B-025	05/22/01	WEST BERM	1	103.4	15.8	QA-003	105.4	17.4	98.1	-1.6	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 2, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-010	05/09/01	EAST BERM	2	102.5	16.0	B-2	107.0	17.4	95.8	-1.4	PASS	MD
B-011	05/09/01	EAST BERM	2	105.4	21.2	B-1	106.9	18.2	98.6	3.0	PASS	MD
B-012	05/09/01	EAST BERM	2	104.1	16.2	B-1	106.9	18.2	97.4	-2.0	PASS	MD
B-013	05/19/01	SOUTH BERM	2	104.2	16.7	B-1	106.9	18.2	97.5	-1.5	PASS	MD
B-014	05/11/01	SOUTH BERM	2	106.8	16.1	S-113	106.9	18.2	99.9	-2.1	PASS	MD
B-015	05/11/01	NORTH BERM	2	103.8	18.6	S-113	106.9	18.2	97.1	0.4	PASS	MD
B-016	05/11/01	NORTH BERM	2	102.4	17.5	S-113	106.9	18.2	95.8	-0.7	PASS	MD
B-031	05/22/01	WEST BERM	2	106.0	16.7	S-117	108.5	18.3	97.7	-1.6	PASS	MD
B-040	05/29/01	WEST BERM	2	170.2	16.7	S-117	108.5	18.3	156.9	-1.6	PASS	MD
B-041	05/29/01	WEST BERM	2	98.4	13.3	S-117	108.5	18.3	90.7	-5.0	FAIL	MD
B-041 R	06/11/01	WEST BERM	2	103.6	19.9	S-117	108.5	18.3	95.5	1.6	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 3, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT OMPACTIO	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-017	05/14/01	NORTH BERM	3	106.2	17.6	S-117	108.5	18.3	97.9	-0.7	PASS	MD
B-018	05/14/01	NORTH BERM	3	98.6	21.7	S-117	108.5	18.3	90.9	3.4	FAIL	MD
B-018 R	05/15/01	NORTH BERM	3	99.2	19.8	S-117	108.5	18.3	91.4	1.5	PASS	MD
B-019	05/15/01	SOUTH BERM	3	103.0	20.0	S-117	108.5	18.3	95.0	1.7	PASS	MD
B-020	05/15/01	SOUTH BERM	3	107.6	17.1	S-117	108.5	18.3	99.2	-1.2	PASS	MD
B-021	05/22/01	EAST BERM	3	102.9	17.8	QA-003	105.4	17.4	97.6	0.4	PASS	MD
B-022	05/22/01	EAST BERM	3	108.5	20.7	S-117	108.5	18.3	100.0	2.4	PASS	MD
B-023	05/22/01	EAST BERM	3	105.4	18.4	QA-003	105.4	17.4	100.0	1.0	PASS	MD
B-054	06/13/01	WEST BERM	3	106.1	17.4	S-117	108.5	18.3	97.8	-0.9	PASS	MD
B-055	06/13/01	WEST BERM	3	102.0	20.4	QA3	105.4	17.4	96.8	3.0	PASS	MD
B-056	06/13/01	WEST BERM	3	100.2	19.2	QA3	105.4	17.4	95.1	1.8	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 4, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-024	05/22/01	SOUTH BERM	4	105.9	20.8	S-117	108.5	18.3	97.6	2.5	PASS	MD
B-026	05/22/01	NORTH BERM	4	103.0	19.5	S-117	108.5	18.3	95.0	1.2	PASS	MD
B-027	05/22/01	NORTH BERM	4	104.5	20.9	S-117	108.5	18.3	96.3	2.6	PASS	MD
B-028	05/22/01	EAST BERM	4	105.7	17.9	S-117	108.5	18.3	97.4	-0.4	PASS	MD
B-029	05/22/01	EAST BERM	4	106.9	20.8	S-117	108.5	18.3	98.5	2.5	PASS	MD
B-030	05/22/01	EAST BERM	4	103.6	16.5	S-117	108.5	18.3	95.5	-1.8	PASS	MD
B-036	05/24/01	SOUTH BERM	4	96.4	15.3	S-117	108.5	18.3	88.8	-3.0	FAIL	MD
B-036 R	05/29/01	SOUTH BERM	4	103.7	18.6	S-117	108.5	18.3	95.6	0.3	PASS	MD
B-063	06/24/01	WEST BERM	4	101.1	16.2	QA3	105.4	17.4	95.9	-1.2	PASS	MD
B-064	06/24/01	WEST BERM	4	105.1	20.0	S-117	108.5	18.3	96.9	1.7	PASS	MD
B-065	06/24/01	WEST BERM	4	105.3	17.7	S-117	108.5	18.3	97.1	-0.6	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 5, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-032	05/23/01	NORTH BERM	5	106.8	16.3	S-117	108.5	18.3	98.4	-2.0	PASS	MD
B-033	05/23/01	NORTH BERM	5	150.7	17.2	S-117	108.5	18.3	138.9	-1.1	PASS	MD
B-037	05/29/01	EAST BERM	5	104.6	20.3	S-117	108.5	18.3	96.4	2.0	PASS	MD
B-038	05/29/01	EAST BERM	5	103.5	21.3	S-117	108.5	18.3	95.4	3.0	PASS	MD
B-039	05/29/01	EAST BERM	5	99.1	17.1	S-117	108.5	18.3	91.3	-1.2	PASS	MD
B-042	06/11/01	SOUTH BERM	5	103.1	17.6	S-117	108.5	18.3	95.0	-0.7	PASS	MD
B-043	06/11/01	SOUTH BERM	5	105.4	21.2	S-117	108.5	18.3	97.1	2.9	PASS	MD
B-074	06/18/01	WEST BERM	5	104.5	20.4	S-117	108.5	18.3	96.3	2.1	PASS	MD
B-075	06/18/01	WEST BERM	5	104.1	20.1	S-117	108.5	18.3	95.9	1.8	PASS	MD
B-076	06/18/01	WEST BERM	5	103.3	20.9	S-117	108.5	18.3	95.2	2.6	PASS	MD
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Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 6, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-034	05/24/01	NORTH BERM	6	94.7	18.8	S-117	108.5	18.3	87.3	0.5	FAIL	MD
B-034 R	06/11/01	NORTH BERM	6	106.1	20.5	S-117	108.5	18.3	97.8	2.2	PASS	MD
B-035	05/24/01	NORTH BERM	6	97.3	12.5	S-117	108.5	18.3	89.7	-5.8	FAIL	MD
B-035 R	06/11/01	NORTH BERM	6	104.1	17.0	S-117	108.5	17.0	95.9	0.0	PASS	MD
B-044	06/11/01	EAST BERM	6	103.5	16.3	S-117	108.5	18.3	95.4	-2.0	PASS	MD
B-045	06/12/01	EAST BERM	6	104.0	21.0	S-117	108.5	18.3	95.9	2.7	PASS	MD
B-046	06/12/01	EAST BERM	6	101.0	23.2	S-117	108.5	18.3	93.1	4.9	FAIL	MD
B-047	06/12/01	SOUTH BERM	6	99.0	18.7	S-117	108.5	18.3	91.2	0.4	FAIL	MD
B-048	06/12/01	SOUTH BERM	6	98.8	18.6	S-117	108.5	18.3	91.1	0.3	FAIL	MD
B-046 R	06/12/01	EAST BERM	6	103.3	21.3	S-117	108.5	18.3	95.2	3.0	PASS	MD
B-047 R	06/13/01	SOUTH BERM	6	105.7	20.8	S-117	108.5	18.3	97.4	2.5	PASS	MD
B-048 R	06/13/01	SOUTH BERM	6	103.1	20.5	S-117	108.5	18.3	95.0	2.2	PASS	MD
B-084	06/23/01	WEST BERM	6	107.3	19.4	S-117	108.5	19.4	98.9	0.0	PASS	MD
B-085	06/23/01	WEST BERM	6	104.2	17.7	S-117	108.5	17.7	96.0	0.0	PASS	MD
B-086	06/23/01	WEST BERM	6	100.1	16.6	QA3	105.4	16.6	95.0	0.0	PASS	MD
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Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 7, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-049	06/12/01	NORTH BERM	7	101.3	17.9	QA3	105.4	17.4	96.1	0.5	PASS	MD
B-050	06/12/01	NORTH BERM	7	100.2	15.4	QA3	105.4	17.4	95.1	-2.0	PASS	MD
B-051	06/13/01	EAST BERM	7	103.9	19.3	S-117	108.5	18.3	95.8	1.0	PASS	MD
B-052	06/13/01	EAST BERM	7	103.2	19.9	S-117	108.5	18.3	95.1	1.6	PASS	MD
B-053	06/13/01	EAST BERM	7	103.6	20.5	S-117	108.5	18.3	95.5	2.2	PASS	MD
B-057	06/14/01	SOUTH BERM	7	100.5	17.3	QA3	105.4	17.4	95.4	-0.1	PASS	MD
B-058	06/14/01	SOUTH BERM	7	103.3	15.6	QA3	105.4	17.4	98.0	-1.8	PASS	MD
B-094	05/25/01	WEST BERM	7	101.0	15.7	QA3	105.4	17.4	95.8	-1.7	PASS	MD
B-095	05/25/01	WEST BERM	7	97.3	18.1	QA3	105.4	17.4	92.3	0.7	PASS	MD
B-098	05/25/01	NORTH BERM	7	103.4	18.6	S-117	108.5	18.3	95.3	0.3	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 8, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-059	6/14/101	NORTH BERM	8	104.6	20.6	S-117	108.5	18.3	96.4	2.3	PASS	MD
B-060	6/14/101	NORTH BERM	8	109.6	18.3	S-117	108.5	18.3	101.0	0.0	PASS	MD
B-061	6/14/101	EAST BERM	8	104.0	15.6	QA3	105.4	17.4	98.7	-1.8	PASS	MD
B-062	6/14/101	EAST BERM	8	103.2	20.5	S-117	108.5	20.5	95.1	0.0	PASS	MD
B-066	6/14/101	EAST BERM	8	100.3	15.9	QA3	105.4	17.4	95.2	-1.5	PASS	MD
B-071	06/15/01	SOUTH BERM	8	101.7	16.8	QA3	105.4	17.4	96.5	-0.6	PASS	MD
B-072	06/15/02	SOUTH BERM	8	105.2	20.6	S-117	108.5	18.3	97.0	2.3	PASS	MD
B-115	06/27/01	WEST BERM	8	106.7	17.3	S-120	108.9	17.2	98.0	0.1	PASS	MD
B-116	06/27/01	WEST BERM	8	105.6	15.6	S-120	108.9	17.2	97.0	-1.6	PASS	MD
B-117	06/27/01	WEST BERM	8	104.7	15.6	S-120	108.9	17.2	96.1	-1.6	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 9, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-067	06/15/01	NORTH BERM	9	97.5	23.9	S-117	108.5	18.3	89.9	5.6	FAIL	MD
B-068	06/15/01	NORTH BERM	9	104.1	17.3	S-117	108.5	18.3	95.9	-1.0	PASS	MD
B-069	06/15/01	EAST BERM	9	103.2	18.1	S-117	108.5	18.3	95.1	-0.2	PASS	MD
B-070	06/15/01	EAST BERM	9	101.8	17.0	QA3	105.4	17.4	96.6	-0.4	PASS	MD
B-067 R	06/15/01	NORTH BERM	9	103.2	19.3	S-117	108.5	18.3	95.1	1.0	PASS	MD
B-073	06/18/01	EAST BERM	9	103.3	18.3	S-117	108.5	18.3	95.2	0.0	PASS	MD
B-082	06/19/01	SOUTH BERM	9	102.2	17.4	QA3	105.4	17.4	97.0	0.0	PASS	MD
B-083	06/19/01	SOUTH BERM	9	100.2	19.9	QA3	105.4	17.4	95.1	2.5	PASS	MD
B-130	06/29/01	WEST BERM	9	106.7	19.4	S-120	108.9	17.2	98.0	2.2	PASS	MD
B-131	06/29/01	WEST BERM	9	107.4	19.2	S-120	108.9	17.2	98.6	2.0	PASS	MD
B-132	06/29/01	WEST BERM	9	105.9	20.2	S-120	108.9	17.2	97.2	3.0	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 10, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-077	06/18/01	NORTH BERM	10	99.6	15.1	S-117	108.5	18.3	91.8	-3.2	FAIL	MD
B-078	06/18/01	NORTH BERM	10	107.2	17.8	S-117	108.5	18.3	98.8	-0.5	PASS	MD
B-079	06/18/01	EAST BERM	10	101.1	19.3	QA3	105.4	17.4	95.9	1.9	PASS	MD
B-080	06/19/01	EAST BERM	10	105.5	18.1	S-117	108.5	18.3	97.2	-0.2	PASS	MD
B-081	06/19/01	EAST BERM	10	105.9	17.0	S-117	108.5	18.3	97.6	-1.3	PASS	MD
B-077 R	06/18/01	NORTH BERM	10	105.2	19.3	S-117	108.5	18.3	97.0	1.0	PASS	MD
B-092	06/25/01	SOUTH BERM	10	106.5	19.9	S-117	108.5	18.3	98.2	1.6	PASS	MD
B-093	06/25/01	SOUTH BERM	10	106.1	20.9	S-117	108.5	18.3	97.8	2.6	PASS	MD
B-140	06/30/01	WEST BERM	10	104.6	18.6	S-120	108.9	17.2	96.1	1.4	PASS	MD
B-141	06/30/01	WEST BERM	10	104.1	19.2	S-120	108.9	17.2	95.6	2.0	PASS	MD
B-142	06/30/01	WEST BERM	10	104.7	18.9	S-120	108.9	17.2	96.1	1.7	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 11, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-087	06/23/01	NORTH BERM	11	103.7	19.8	S-117	108.5	18.3	95.6	1.5	PASS	MD
B-088	06/23/01	NORTH BERM	11	103.1	20.9	S-117	108.5	18.3	95.0	2.6	PASS	MD
B-089	06/25/01	EAST BERM	11	100.6	15.9	QA3	105.4	17.4	95.4	-1.5	PASS	MD
B-090	06/25/01	EAST BERM	11	100.6	20.3	QA3	105.4	17.4	95.4	2.9	PASS	MD
B-091	06/25/01	EAST BERM	11	102.8	17.6	QA3	105.4	17.4	97.5	0.2	PASS	MD
B-107	06/26/01	SOUTH BERM	11	105.0	17.0	S-120	108.9	17.2	96.4	-0.2	PASS	MD
B-108	06/26/01	SOUTH BERM	11	105.9	20.1	S-120	108.9	17.2	97.2	2.9	PASS	MD
B-152	07/03/01	WEST BERM	11	104.7	19.7	S-120	108.9	17.2	96.1	2.5	PASS	MD
B-153	07/03/01	WEST BERM	11	104.4	20.1	S-120	108.9	17.2	95.9	2.9	PASS	MD
B-154	07/03/01	WEST BERM	11	103.9	20.0	S-120	108.9	17.2	95.4	2.8	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 12, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-097	06/25/01	NORTH BERM	12	102.2	16.3	QA3	105.4	17.4	97.0	-1.1	PASS	MD
B-098	06/25/01	NORTH BERM	12	103.4	18.6	S-117	108.5	18.3	95.3	0.3	PASS	MD
B-099	06/25/01	EAST BERM	12	100.4	15.9	QA3	105.4	17.4	95.3	-1.5	PASS	MD
B-100	06/25/01	EAST BERM	12	103.3	20.5	S-117	108.5	18.3	95.2	2.2	PASS	MD
B-101	06/25/01	EAST BERM	12	103.2	20.0	S-117	108.5	18.3	95.1	1.7	PASS	MD
B-113	06/27/01	SOUTH BERM	12	104.2	19.2	S-120	108.9	17.2	95.7	2.0	PASS	MD
B-114	06/27/01	SOUTH BERM	12	104.6	17.7	S-120	108.9	17.2	96.1	0.5	PASS	MD
B-162	07/05/01	WEST BERM	12	106.2	19.6	S-120	108.9	17.2	97.5	2.4	PASS	MD
B-163	07/05/01	WEST BERM	12	108.2	19.2	S-120	108.9	17.2	99.4	2.0	PASS	MD
B-164	07/05/01	WEST BERM	12	106.7	19.0	S-120	108.9	17.2	98.0	1.8	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 13, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-102	06/25/01	NORTH BERM	13	101.7	19.9	QA3	105.4	17.4	96.5	2.5	PASS	MD
B-103	06/25/01	NORTH BERM	13	100.8	16.9	QA3	105.4	17.4	95.6	-0.5	PASS	MD
B-104	06/26/01	EAST BERM	13	105.4	19.5	S-120	108.9	17.2	96.8	2.3	PASS	MD
B-105	06/26/01	EAST BERM	13	105.5	19.9	S-120	108.9	17.2	96.9	2.7	PASS	MD
B-106	06/26/01	EAST BERM	13	104.3	15.3	S-120	108.9	17.2	95.8	-1.9	PASS	MD
B-121	06/28/01	SOUTH BERM	13	103.9	20.0	S-120	108.9	17.2	95.4	2.8	PASS	MD
B-122	06/28/00	SOUTH BERM	13	106.2	19.5	S-120	108.9	17.2	97.5	2.3	PASS	MD
B-172	07/06/01	WEST BERM	13	107.1	20.2	S-120	108.9	17.2	98.3	3.0	PASS	MD
B-173	07/06/01	WEST BERM	13	108.6	16.9	S-120	108.9	17.2	99.7	-0.3	PASS	MD
B-174	07/06/01	WEST BERM	13	108.9	15.9	S-120	108.9	17.2	100.0	-1.3	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 14, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-109	06/26/01	NORTH BERM	14	95.6	15.8	S-120	108.9	17.2	87.8	-1.4	FAIL	MD
B-109 R	06/27/01	NORTH BERM	14	103.8	18.1	S-120	108.9	17.2	95.3	0.9	PASS	MD
B-110	06/27/01	NORTH BERM	14	104.9	15.7	S-120	108.9	17.2	96.3	-1.5	PASS	MD
B-118	06/27/01	EAST BERM	14	108.4	15.7	S-120	108.9	17.2	99.5	-1.5	PASS	MD
B-119	06/27/01	EAST BERM	14	106.8	15.9	S-120	108.9	17.2	98.1	-1.3	PASS	MD
B-120	06/27/01	EAST BERM	14	104.4	18.6	S-120	108.9	17.2	95.9	1.4	PASS	MD
B-128	06/29/01	SOUTH BERM	14	106.2	20.1	S-120	108.9	17.2	97.5	2.9	PASS	MD
B-129	06/29/01	SOUTH BERM	14	105.4	20.0	S-120	108.9	17.2	96.8	2.8	PASS	MD
B-187	07/10/01	WEST BERM	14	108.7	15.4	S-122	109.0	17.0	99.7	-1.6	PASS	MD
B-188	07/10/01	WEST BERM	14	103.9	15.7	S-122	109.0	17.0	95.3	-1.3	PASS	MD
B-189	07/10/01	WEST BERM	14	104.7	15.7	S-122	109.0	17.0	96.1	-1.3	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 15, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-111	06/27/01	NORTH BERM	15	105.2	18.2	S-120	108.9	17.2	96.6	1.0	PASS	MD
B-112	06/27/01	NORTH BERM	15	103.7	17.6	S-120	108.9	17.2	95.2	0.4	PASS	MD
B-125	06/29/01	EAST BERM	15	105.1	19.9	S-120	108.9	17.2	96.5	2.7	PASS	MD
B-126	06/29/01	EAST BERM	15	105.7	20.2	S-120	108.9	17.2	97.1	3.0	PASS	MD
B-127	06/29/01	EAST BERM	15	107.6	19.4	S-120	108.9	17.2	98.8	2.2	PASS	MD
B-138	06/30/01	SOUTH BERM	15	106.8	18.0	S-120	108.9	17.2	98.1	0.8	PASS	MD
B-139	06/30/01	SOUTH BERM	15	105.4	18.9	S-120	108.9	17.2	96.8	1.7	PASS	MD
B-195	07/11/01	WEST BERM	15	103.7	16.4	S-122	109.0	17.0	95.1	-0.6	PASS	MD
B-196	07/11/01	WEST BERM	15	105.1	15.6	S-122	109.0	17.0	96.4	-1.4	PASS	MD
B-197	07/11/01	WEST BERM	15	107.6	17.3	S-122	109.0	17.0	98.7	0.3	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 16, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-123	06/28/01	NORTH BERM	16	104.2	19.9	S-120	108.9	17.2	95.7	2.7	PASS	MD
B-124	06/29/01	NORTH BERM	16	104.3	20.0	S-120	108.9	17.2	95.8	2.8	PASS	MD
B-135	06/30/01	EAST BERM	16	104.4	16.5	S-120	108.9	17.2	95.9	-0.7	PASS	MD
B-136	06/30/01	EAST BERM	16	105.0	15.6	S-120	108.9	17.2	96.4	-1.6	PASS	MD
B-137	06/30/01	EAST BERM	16	104.1	15.3	S-120	108.9	17.2	95.6	-1.9	PASS	MD
B-145	06/30/01	SOUTH BERM	16	107.2	19.8	S-120	108.9	17.2	98.4	2.6	PASS	MD
B-146	06/30/01	SOUTH BERM	16	103.8	19.2	S-120	108.9	17.2	95.3	2.0	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 17, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-133	06/29/01	NORTH BERM	17	103.5	17.8	S-120	108.9	17.2	95.0	0.6	PASS	MD
B-134	06/29/01	NORTH BERM	17	104.2	16.6	S-120	108.9	17.2	95.7	-0.6	PASS	MD
B-147	07/02/01	EAST BERM	17	107.0	19.0	S-120	108.9	17.2	98.3	1.8	PASS	MD
B-148	07/02/01	EAST BERM	17	107.2	18.6	S-120	108.9	17.2	98.4	1.4	PASS	MD
B-149	07/02/01	EAST BERM	17	104.9	17.3	S-120	108.9	17.2	96.3	0.1	PASS	MD
B-155	07/03/01	SOUTH BERM	17	104.0	21.0	S-120	108.9	17.2	95.5	3.8	PASS	MD
B-155 R	07/05/01	SOUTH BERM	17	105.8	20.2	S-120	108.9	17.2	97.2	3.0	PASS	MD
B-156	07/05/01	SOUTH BERM	17	106.0	18.8	S-120	108.9	17.2	97.3	1.6	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 18, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-143	06/30/01	NORTH BERM	18	105.3	19.2	S-120	108.9	17.2	96.7	2.0	PASS	MD
B-144	06/30/01	NORTH BERM	18	104.8	18.8	S-120	108.9	17.2	96.2	1.6	PASS	MD
B-157	07/05/01	EAST BERM	18	103.6	19.8	S-120	108.9	17.2	95.1	2.6	PASS	MD
B-158	07/05/01	EAST BERM	18	103.7	18.3	S-120	108.9	17.2	95.2	1.1	PASS	MD
B-159	07/05/01	EAST BERM	18	106.4	18.7	S-120	108.9	17.2	97.7	1.5	PASS	MD
B-165	07/05/01	SOUTH BERM	18	103.8	20.0	S-120	108.9	17.2	95.3	2.8	PASS	MD
B-166	07/05/01	SOUTH BERM	18	109.4	17.3	S-120	108.9	17.2	100.5	0.1	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 19, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-150	07/06/01	NORTH BERM	19	105.8	20.2	S-120	108.9	17.2	97.2	3.0	PASS	MD
B-151	07/06/01	NORTH BERM	19	105.2	19.3	S-120	108.9	17.2	96.6	2.1	PASS	MD
B-167	07/06/01	EAST BERM	19	106.8	19.1	S-120	108.9	17.2	98.1	1.9	PASS	MD
B-168	07/06/01	EAST BERM	19	106.9	16.7	S-120	108.9	17.2	98.2	-0.5	PASS	MD
B-169	07/06/01	EAST BERM	19	106.0	17.6	S-120	108.9	17.2	97.3	0.4	PASS	MD
B-175	07/09/01	SOUTH BERM	19	104.6	15.3	S-120	108.9	17.2	96.1	-1.9	PASS	MD
B-176	07/09/01	SOUTH BERM	19	104.6	16.0	S-120	108.9	17.2	96.1	-1.2	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 20, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-160	07/05/01	NORTH BERM	20	107.1	18.2	S-120	108.9	17.2	98.3	1.0	PASS	MD
B-161	07/05/01	NORTH BERM	20	105.5	20.2	S-120	108.9	17.2	96.9	3.0	PASS	MD
B-177	07/09/01	EAST BERM	20	105.8	16.8	S-120	108.9	17.2	97.2	-0.4	PASS	MD
B-178	07/09/01	EAST BERM	20	103.8	18.8	S-120	108.9	17.2	95.3	1.6	PASS	MD
B-179	07/09/01	EAST BERM	20	103.6	19.8	S-120	108.9	17.2	95.1	2.6	PASS	MD
B-180	07/10/01	SOUTH BERM	20	105.0	16.4	S-122	109.0	17.0	96.3	-0.6	PASS	MD
B-181	07/10/01	SOUTH BERM	20	106.1	17.1	S-122	109.0	17.0	97.3	0.1	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 21, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
B-170	07/06/01	NORTH BERM	21	104.3	19.1	S-120	108.9	17.2	95.8	1.9	PASS	MD
B-171	07/06/01	NORTH BERM	21	103.5	19.1	S-120	108.9	17.2	95.0	1.9	PASS	MD
B-182	07/10/01	EAST BERM	21	103.6	15.2	S-122	109.0	17.0	95.0	-1.8	PASS	MD
B-183	07/10/01	EAST BERM	21	98.1	23.8	S-122	109.0	17.0	90.0	6.8	FAIL	MD
B-184	07/10/01	EAST BERM	21	105.1	20.0	S-122	109.0	17.0	96.4	3.0	PASS	MD
B-183 R	07/10/01	EAST BERM	21	105.3	19.6	S-122	109.0	17.0	96.6	2.6	PASS	MD
B-190	07/10/01	SOUTH BERM	21	104.4	15.2	S-122	109.0	17.0	95.8	-1.8	PASS	MD
B-191	07/10/01	SOUTH BERM	21	99.3	12.7	S-122	109.0	17.0	91.1	-4.3	FAIL	MD
B-191 R	07/10/01	SOUTH BERM	21	107.0	16.0	S-122	109.0	17.0	98.2	-1.0	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 22, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT OMPACTIO	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-185	07/10/01	NORTH BERM	22	98.7	16.9	S-122	109.0	17.0	90.6	-0.1	PASS	MD
B-186	07/10/01	NORTH BERM	22	104.5	19.1	S-122	109.0	17.0	95.9	2.1	PASS	MD
B-192	07/10/01	EAST BERM	22	99.0	15.8	S-122	109.0	17.0	90.8	-1.2	PASS	MD
B-193	07/10/01	EAST BERM	22	104.9	18.0	S-122	109.0	17.0	96.2	1.0	PASS	MD
B-194	07/10/01	EAST BERM	22	103.6	15.2	S-122	109.0	17.0	95.0	-1.8	PASS	MD
B-198	07/10/01	SOUTH BERM	22	107.1	18.6	S-122	109.0	17.0	98.3	1.6	PASS	MD
B-199	07/10/01	SOUTH BERM	22	108.2	17.7	S-122	109.0	17.0	99.3	0.7	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 23, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-200	07/11/01	NORTH BERM	23	105.4	15.2	S-122	109.0	17.0	96.7	-1.8	PASS	MD
B-201	07/11/01	NORTH BERM	23	107.5	15.6	S-122	109.0	17.0	98.6	-1.4	FAIL	MD
B-202	07/11/01	SOUTH BERM	23	104.1	19.9	S-122	109.0	17.0	95.5	2.9	PASS	MD
B-203	07/11/01	SOUTH BERM	23	104.3	19.4	S-122	109.0	17.0	95.7	2.4	PASS	MD
B-208	07/11/01	EAST BERM	23	107.4	15.5	S-122	109.0	17.0	98.5	-1.5	FAIL	MD
B-209	07/11/01	EAST BERM	23	104.0	19.7	S-122	109.0	17.0	95.4	2.7	PASS	MD
B-210	07/11/01	EAST BERM	23	109.0	19.6	S-122	109.0	17.0	100.0	2.6	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 24, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-204	11/13/01	SOUTH BERM	24	107.2	18.4	S-122	109.0	17.0	98.3	1.4	PASS	MD
B-205	07/13/01	SOUTH BERM	24	106.7	18.5	S-122	109.0	17.0	97.9	1.5	PASS	MD
B-206	07/13/01	NORTH BERM	24	103.6	18.9	S-122	109.0	17.0	95.0	1.9	PASS	MD
B-207	07/13/01	NORTH BERM	24	104.9	17.8	S-122	109.0	17.0	96.2	0.8	PASS	MD
B-213	07/14/01	EAST BERM	24	105.4	19.1	S-122	109.0	17.0	96.7	2.1	PASS	MD
B-214	07/14/01	EAST BERM	24	104.1	19.2	S-122	109.0	17.0	95.5	2.2	PASS	MD
B-215	07/14/01	EAST BERM	24	104.3	18.9	S-122	109.0	17.0	95.7	1.9	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
LIFT 25, BERM CONSTRUCTION
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
B-211	07/14/01	SOUTH BERM	25	103.9	19.1	S-122	109.0	17.0	95.3	2.1	PASS	MD
B-212	07/14/01	SOUTH BERM	25	104.9	17.7	S-122	109.0	17.0	96.2	0.7	PASS	MD
B-216	07/14/01	NORTH BERM	25	105.6	18.9	S-122	109.0	17.0	96.9	1.9	PASS	MD
B-217	07/14/01	NORTH BERM	25	110.2	16.7	S-122	109.0	17.0	101.1	-0.3	PASS	MD
B-218	07/27/01	EAST BERM	25	105.2	15.2	S-124	109.4	15.0	96.1	0.2	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
SIX-INCH-THICK TRACKED-IN-PLACE FILL
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1)		REFERENCE VALUES			CRITERIA			CQA MONITOR
				DRY DENSITY (pcf)	MOISTURE CONTENT (%)	PROCTOR CURVE NO.	MAXIMUM DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT (%)	INSITU PERCENT COMPACTION	DIFFERENCE FROM O.M.C.	PASS/ FAIL (2)	
TIP-001	07/28/01	Cell Floor	1 6" Lift	100.2	20.3	S-124	109.4	15.0	91.6	5.3	PASS	MD
TIP-002	07/28/01	Cell Floor	1 6" Lift	106.0	18.0	S-124	109.4	15.0	96.9	3.0	PASS	MD
TIP-003	07/28/01	Cell Floor	1 6" Lift	99.5	17.1	S-124	109.4	15.0	90.9	2.1	PASS	MD
TIP-004	07/28/01	Cell Floor	1 6" Lift	99.5	18.8	S-124	109.4	15.0	90.9	3.8	PASS	MD
TIP-005	07/28/01	Cell Floor	1 6" Lift	100.6	15.8	S-124	109.4	15.0	92.0	0.8	PASS	MD
TIP-006	07/28/01	Cell Floor	1 6" Lift	101.8	16.4	S-124	109.4	15.0	93.0	1.4	PASS	MD
TIP-007	08/13/01	Cell Floor	1 6" Lift	105.9	16.1	S-124	109.4	15.0	96.8	1.1	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
TWELVE-INCH-THICK TRACKED-IN-PLACE FILL
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
TIP-008	08/22/01	PIPE TRENCH BACKFILL	1 FOOT	100.4	16.9	S-124	109.4	15.0	91.8	1.9	PASS	MD
TIP-009	08/22/01	CELL FLOOR	1 FOOT	103.3	15.9	S-124	109.4	15.0	94.5	0.9	PASS	MD
TIP-010	08/22/01	CELL FLOOR	1 FOOT	100.9	16.8	S-124	109.4	15.0	92.2	1.8	PASS	MD
TIP-011	08/22/01	CELL FLOOR	1 FOOT	98.9	17.1	S-124	109.4	15.0	90.4	2.1	PASS	MD
TIP-012	08/22/01	CELL FLOOR	1 FOOT	98.7	17.1	S-124	109.4	15.0	90.2	2.1	PASS	MD
TIP-013	08/23/01	CELL FLOOR	1 FOOT	100.7	16.0	S-124	109.4	15.0	92.0	1.0	PASS	MD
TIP-014	08/23/01	CELL FLOOR	1 FOOT	99.0	15.0	S-124	109.4	15.0	90.5	0.0	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
BACKFILL ON TRENCH FOR CAPILLARY LAYER COLLECTION PIPE
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
BF-01	07/09/01	BACKFILL ON TRENCH FOR PIPE	1	105.9	18.4	S-120	108.9	17.2	97.2	1.2	PASS	MD
BF-02	07/09/01	BACKFILL ON TRENCH FOR PIPE	2	108.1	17.5	S-120	108.9	17.2	99.2	0.3	PASS	MD
BF-03	07/09/01	BACKFILL ON TRENCH FOR PIPE	3	106.2	18.2	S-120	108.9	17.2	97.5	1.0	PASS	MD
BF-04	07/09/01	BACKFILL ON TRENCH FOR PIPE	4	108.4	16.1	S-120	108.9	17.2	99.5	-1.1	PASS	MD
BF-05	07/09/01	BACKFILL ON TRENCH FOR PIPE	5	103.6	17.5	S-120	108.9	17.2	95.1	0.2	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

ANCHOR TRENCH OVER SECONDARY LINER FIELD DENSITY TEST SUMMARY

SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
AT-001	08/16/01	SOUTH ANCHOR TRENCH	1 FOOT	112.5	14.7	S-124	109.4	15.0	102.8	-0.3	PASS	MD
AT-002	08/16/01	WEST ANCHOR TRENCH	1 FOOT	107.2	14.0	S-124	109.4	14.0	98.0	0.0	PASS	MD
AT-003	08/16/01	WEST ANCHOR TRENCH	1 FOOT	106.8	14.3	S-124	109.4	15.0	97.7	-0.7	PASS	MD
AT-004	08/16/01	NORTH ANCHOR TRENCH	1 FOOT	109.2	15.9	S-124	109.4	15.0	99.8	0.9	PASS	MD
AT-005	08/16/01	EAST ANCHOR TRENCH	1 FOOT	106.7	13.9	S-124	109.4	15.0	97.6	-1.1	PASS	MD
AT-006	08/16/01	EAST ANCHOR TRENCH	1 FOOT	104.7	14.9	S-124	109.4	15.0	95.7	-0.1	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

ANCHOR TRENCH OVER PRIMARY LINER FIELD DENSITY TEST SUMMARY

SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) DRY DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MAXIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTION	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
AT-007	08/31/01	EAST ANCHOR TRENCH	LIFT # 1	109.4	16.2	S-124	109.4	15.0	100.0	1.2	PASS	MD
AT-008	08/31/01	EAST ANCHOR TRENCH	LIFT # 1	105.8	18.0	S-124	109.4	14.0	96.7	4.0	PASS	MD
AT-009	08/31/01	EAST ANCHOR TRENCH	LIFT # 2	106.3	17.2	S-124	109.4	15.0	97.7	2.2	PASS	MD
AT-010	08/31/01	EAST ANCHOR TRENCH	LIFT # 2	105.3	17.0	S-124	109.4	15.0	96.3	2.0	PASS	MD
AT-011	09/07/01	SOUTH ANCHOR TRENCH	LIFT # 1	104.7	15.2	S-124	109.4	15.0	95.7	0.2	PASS	MD
AT-012	09/07/01	WEST ANCHOR TRENCH	LIFT # 1	106.4	16.6	S-124	109.4	15.0	97.3	1.6	PASS	MD
AT-013	09/07/01	WEST ANCHOR TRENCH	LIFT # 1	105.7	16.2	S-124	109.4	15.0	96.7	1.2	PASS	MD
AT-014	09/08/01	NORTH ANCHOR TRENCH	LIFT # 1	104.5	17.7	S-124	109.4	15.0	95.6	2.7	PASS	MD
AT-015	09/08/01	SOUTH ANCHOR TRENCH	LIFT # 2	105.3	17.2	S-124	109.4	15.0	96.3	2.2	PASS	MD
AT-016	09/08/01	WEST ANCHOR TRENCH	LIFT # 2	104.2	16.8	S-124	109.4	15.0	95.2	1.8	PASS	MD
AT-017	09/08/01	WEST ANCHOR TRENCH	LIFT # 2	105.8	16.4	S-124	109.4	15.0	96.7	1.4	PASS	MD
AT-018	09/08/01	NORTH ANCHOR TRENCH	LIFT # 2	105.2	15.9	S-124	109.4	15.0	96.2	0.9	PASS	MD
AT-019	09/13/01	SOUTH ANCHOR TRENCH	LIFT # 3	110.7	17.5	S-124	109.4	15.0	101.2	2.5	PASS	MD
AT-020	09/13/01	WEST ANCHOR TRENCH	LIFT # 3	106.8	17.3	S-124	109.4	15.0	97.7	2.3	PASS	MD
AT-021	09/13/01	WEST ANCHOR TRENCH	LIFT # 3	108.4	15.3	S-124	109.4	15.0	99.1	0.3	PASS	MD
AT-022	09/13/01	NORTH ANCHOR TRENCH	LIFT # 3	107.0	17.9	S-124	109.4	15.0	97.8	2.9	PASS	MD
AT-023	09/13/01	EAST ANCHOR TRENCH	LIFT # 3	104.3	15.1	S-124	109.4	15.0	95.3	0.1	PASS	MD
AT-024	09/13/01	EAST ANCHOR TRENCH	LIFT # 3	106.6	15.7	S-124	109.4	15.0	97.4	0.7	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates both a percent compaction exceeding the minimum required compaction (95% of Max Dry Density) and a moisture content between -2 and +3 percent of the optimum moisture content, or 1 in 5 @ 90%.

FIELD DENSITY TEST SUMMARY
18" PROTECTIVE SAND LAYER
SAUGET AREA 1 TSCA CONTAINMENT CELL
SOLUTIA INC.
CAHOKIA, ILLINOIS

TEST NUMBER	DATE	LOCATION N E	LIFT	IN SITU VALUES (1) WET DENSITY (pcf)	IN SITU VALUES (1) MOISTURE CONTENT (%)	REFERENCE VALUES PROCTOR CURVE NO.	REFERENCE VALUES MINIMUM DRY DENSITY (pcf)	REFERENCE VALUES OPTIMUM MOISTURE CONTENT (%)	CRITERIA INSITU PERCENT COMPACTIO	CRITERIA DIFFERENCE FROM O.M.C.	CRITERIA PASS/ FAIL (2)	CQA MONITOR
S-001	09/13/01	CELL FLOOR	1	99.4	1.3	S-128	114.4	NA	86.9	NA	PASS	MD
S-002	09/13/01	CELL FLOOR	1	99.1	1.3	S-128	114.4	NA	86.6	NA	PASS	MD
S-003	09/13/01	CELL FLOOR	1	103.2	1.6	S-128	114.4	NA	90.2	NA	PASS	MD
S-004	09/13/01	CELL FLOOR	1	99.2	1.7	S-128	114.4	NA	86.7	NA	PASS	MD
S-005	09/13/01	CELL FLOOR	1	103.2	1.5	S-128	114.4	NA	90.2	NA	FAIL	MD
S-006	09/13/01	CELL FLOOR	1	110.3	1.1	S-128	114.4	NA	96.4	NA	PASS	MD

Notes:
1. In situ values determined by nuclear methods: ASTM D-2922 for density and D-3017 for moisture content.
2. "PASS" indicates a percent compaction exceeding the minimum required compaction (50% of Max Dry Density).

PATRI... ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735 Poplar Level Road, Suite 1.
Louisville, Kentucky 40213

FIELD DENSITY TEST RESULTS

Project: Sauget Area I Landfill
Date: 4/25/01
Client: LMS Constracting, Inc.
Patriot Project No.: 501-223
Grading Contractor: LMS Contracting, Inc.
Patriot Rep.: Melissa Daumen

	Test Number	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
S4-001	1	15.0	98.7	104.0	95.0	95%	Pass	406	East Berm (see map for exact location)
S4-002	2	19.4	96.2	99.1	97.1	95%	Pass	406	North East Berm (see map for exact location)

Compaction Equipment Used: Sheep's Foot
Proctor Type: Standard
Weather: Warm
Temperature: 70°
Remarks:

FSG = Final Subgrade Elevation
RX = Retest of Test No. X
FF = Finished Floor Elevation

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735 Poplar Level Road, Suite 1.
Louisville, Kentucky 40213

FIELD DENSITY TEST RESULTS

Project: Sauget Area I Landfill
Date: 4/26/01
Client: LMS Constracting, Inc.
Patriot Project No.: 501-223
Grading Contractor: LMS Contracting, Inc.
Patriot Rep.: Melissa Daumen

Test Number	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
SR001 1	25.4	95.4	99.1	96.3	95%	Fail	405	East Berm -South End

Compaction Equipment Used: Sheep's Foot
Proctor Type:
Weather: Warm and Sunny
Temperature: 70 ° ' s
RX = Retest of Test No. X
FSG = Final Subgrade Elevation
FF = Finished Floor Elevation
Remarks: For exact locations see attached map

FIELD MOISTURE / DENSITY TEST RECORD
NUCLEAR GAUGE METHOD
ASTM D 3017 / 2922

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, EAST BERM

PROJECT TITLE: SOLUTIA / QA / SAUGET
DATE TESTED: 04/26/01

TEST NUMBER		SC-003	SC-004				
TEST LOCATION	N	EAST BERM CORRESPONDS TO #1 on 4/26/01	→				
	E						
ELEVATION		SUBGRADE SILTY CLAY	→				
DEPTH		6"	6"				
DENSITY COUNT							
MOISTURE COUNT							
WET DENSITY, PCF		115.3	114.7				
MOISTURE, %		18.1	17.6				
DRY DENSITY, PCF		97.6	97.5				
MATERIAL DESCRIPTION		COMPOSITE 002	→				
MAX DRY DENSITY, PCF		99.1	→				
OPTIMUM MOISTURE, %		18.7	→				
% COMPACTION		98.5	98.4				
DIFF FROM O.M.C.		-0.6	-1.1				
PASS/FAIL (DENSITY)		P	P				
PASS/FAIL (MOISTURE)		P	P				

SPECIFICATIONS:
95 % STANDARD/~~MODIFIED~~
-2 to +3 % OF O.M.C.

DAILY STANDARD COUNTS:
MOISTURE _____
DENSITY _____

TESTED BY: RS

CHECKED BY: _____ DATE: _____

FIELD MOISTURE/DENSITY TEST RECORD
NUCLEAR GAUGE METHOD
ASTM D 3017 / 2922

Project Number: 013 - 9659
Owner : SOLUTIA
Location: TSCA CELL, EAST BERM

Project Title: SOLUTIA / QA / SAUGET
Date Tested: 04/27/01

Test Number	SG-005	SG-006	WET AREA SG-007	SG-007A	SG-008	
Test Location N / E	CORRESPONDS @ X1000AM #3	TO PATRIOTS TESTS RUN ON EAST BERM #2	#1	TAKEN AT EAST BERM	1400 ON	
Elevation	SILTY SAND SUBGRADE	→	→	SILTY CLAY	→	
Depth	6"	→	→	6"	→	
Density Count						
Moisture Count						
Wet Density, PCF	115.6	119.3	120.0	109.1	113.9	
Moisture %	14.9	17.8	27.5	18.3	16.7	
Dry Density, PCF	100.6	101.3	94.1	92.2	97.6	
Material Description	COMPOSITE 001	→	COMPOSITE 002	→	→	
Max Dry Density, PCF	104.0	→	99.1	→	→	
Optimum Moisture, %	16.0	~~97.4~~ →	18.7	→	→	
% Compaction	96.7	97.4	95.0	93.1	98.5	
Diff. from O.M.C.	-1.1	+1.8	+8.8	-0.4	-2.0	
Pass / Fail (Density)	P	P	P	(1 of 7) P	P	
Pass / Fail (Moisture)	P	P	F	P	P	

Specifications:
95 % Standard
-2 to +3 % of O.M.C.

Daily Standard Counts:
Moisture _____
Density _____

Tested By: RS Checked By: _____ Date: _____

Forms: Field Moisture/Dens. Test

Golder Associates Inc.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735 Poplar Level Road, Suite 1.
Louisville, Kentucky 40213

FIELD DENSITY TEST RESULTS

Project: Sauget Area I Landfill
Date: 04/30/2001
Client: LMS Constracting, Inc.
Patriot Project No.: 501-223
Grading Contractor: LMS Contracting, Inc.
Patriot Rep.: Melissa Daumen

Test Number	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-001	16.4%	102.0	106.0	96.2	95%	Pass	405.5	East Berm -North End

Compaction Equipment Used: 563 Sheep's Foot
Proctor Type: Standard
Weather: Hot and Sunny
Temperature: 80's °
Remarks: For exact locations see attached map

FSG = Final Subgrade Elevation
RX = Retest of Test No. X
FF = Finished Floor Elevation

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NVIRONMENTAL CO., LLC.

FIELD DENSITY TEST RESULTS

MOISTURE CONTENTS WRONG

Project: SAUGET AREA I LANDFILL

Date: May 1, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-002	S-1 ?	18.2	17.0%	104.5	106.9	97.8%	95%	Pass	104.5	East Berm
SG-009	SS-191	16.0%	16.2%	103.7	104.0	99.7%	95%	Pass		South Berm - Approved by QA and on-site Engineer
SG-010	2	18.7%	16.65	90.7	99.1	91.6%	95%	Pass		South Berm - Approved by QA and on-site Engineer
SG-011	2	18.7%	10.2%	97.7	99.1	98.6%	95%	Pass		South Berm - Approved by QA and on-site Engineer
SG-012	2	18.7%	12.3%	95.1	99.1	96.0%	95%	Pass		South Berm - Approved by QA and on-site Engineer

Compaction Equipment Used: __563 Sheep's Foot__

Proctor Type: __Standard__

FSG = Final Subgrade Elevation

Weather: _Hot and Windy__

Temperature: __80 °____

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks:_____Please see map for exact locations_____

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL **Date:** May 2, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 501-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
SG-013	191	16.0%	17.8%	100.5	104.0	96.6%	95%	Pass	N/A	West Berm Subgrade
SG-014	4	16.5%	12.1%	104.7	108.0	96.9%	95%	Pass	N/A	West Berm Subgrade
SG-015	4	16.5%	13.2%	103.0	108.0	95.4%	95%	Pass	N/A	West Berm Subgrade
RX SG-014	4	16.5%	15.5%	107.4	108.0	99.4%	95%	Pass	N/A	West Berm Subgrade
RX SG-015	4	16.5%	19.1%	106.7	108.0	98.8%	95%	Pass	N/A	West Berm Subgrade
B-003	B-2	17.4%	15.50%	100.9	107.0	94.3%	95%	Pass	N/A	East Berm Fill (1st Lift)
B-004	B-2	17.4%	15.7%	103.8	107.0	97.0%	95%	Pass	N/A	South Berm Fill (1st Lift)

Compaction Equipment Used: _____ **Proctor Type:** __Standard__ **FSG = Final Subgrade Elevation**

Weather: _Hot, Sunny and Windy__ **Temperature:** __80 °____ **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks:_____Please see map for exact locations_____

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL **Date:** May 4, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 501-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
SG-016	2	18.7%	12.4	93.9	99.1	94.8	95	F	405.0	North Berm - East side
SG-017	2	18.7%	11.0	90.4	99.1	91.2	95	F	405.0	North Berm - West side
B-005	B-1	18.2%	17.8	94.7	106.9	88.6	95	F	407.0	South Berm
B-006	B-1	18.2%	17.0	106.8	106.9	99.9	95	P	406.8	West Berm
B-007	B-1	18.2%	18.7	103.1	106.9	96.4	95.0	P	408.3	West Berm
RX- B-005	B-1	18.2%	17.1	105.6	106.9	98.8	95.0	P	407.0	South Berm
RX- SG-016	2	18.7%	17.9	98.3	99.1	99.2	95.0	P	405.0	North Berm
RX - SG-017	2	18.7%	20.2	98.1	99.1	99.0	95.0	P	405.0	North Bern

Compaction Equipment Used: 815 B Sheeps Foot **Proctor Type:** Standard **FSG = Final Subgrade Elevation**

Weather: Hot and Sunny **Temperature:** 80 ° **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks: Please see map for exact locations

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: May 8, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-008	B-2	17.4	16.0	107.8	107.0	100.7	95	P	1st Lift	North Berm - East end
B-009	B-2	17.4	12.5	107.0	107.0	100.0	95	F	1st Lift	North Berm - West end

Compaction Equipment Used: 815 B Sheeps Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Warm and Sunny

Temperature: 70 °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: Please see map for exact locations

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: May 9, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
* RX-B-009	B-1	18.2	16.5	103.2	106.9	96.5	95%	P	1st Lift	North Berm (re-test)
B-010	B-2	17.4	16.0	102.5	107.0	95.8	95%	P	2nd Lift	East Berm
B-011	B-1	18.2	21.2	105.4	106.9	98.6	95%	P	2nd Lift	East Berm
B-012	B-1	18.2	16.2	104.1	106.9	97.4	95%	P	2nd Lift	East Berm
B-013	B-1	18.2	16.7	104.2	106.9	97.5	95%	P	2nd Lift	South Berm

Compaction Equipment Used: 815 Sheeps Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot and Sunny

Temperature: 80 °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: * Re-test of failing area; tested May 8, 2001. Please see map for exact locations

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL **Date:** May 14, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 501-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-017	S-117	18.3%	17.6	106.2	108.5	97.9%	95%	Pass	3rd Lift	*North Berm/East End
B-018	S-117	18.3%	21.7	98.6	108.5	90.9%	95%	Fail	3rd Lift	*North Berm/West End

Compaction Equipment Used: 563 Sheeps Foot **Proctor Type:** Standard **FSG = Final Subgrade Elevation**

Weather: Hot and SunnyCloudy **Temperature:** 80's ° **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks: * Please refer to attached map for exact locations.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL **Date:** May 15, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 501-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
RX-B-018	S-117	18.3%	19.8%	99.2	108.5	91.4%	* 95%	P	3rd	North Berm
B-019	S-117	18.3%	20.0%	103.0	108.5	95.0%	95%	P	3rd	South Berm
SG-018	1	16.0%	36.2%	74.0	104.0	71.1%	95%	F	Subgrade	Cell Floor Southeast Corner
B-020	S-117	18.3%	17.1	107.6	108.5	99.2%	95%	P	3rd	South Berm

Compaction Equipment Used: 563 Sheeps Foot **Proctor Type:** Standard **FSG = Final Subgrade Elevation**

Weather: Hot and Sunny **Temperature:** 90's ° **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks: Please refer to attached map for exact locations. * 95% compaction or 1 of 5 at 90% and -2/+3 of optimum moisture. Re-test from original test of 5/14/01.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: May 11, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-014	S-113	18.2%	16.1%	106.8	106.9	100%	95%	Pass	2nd Lift	South Berm-West End

Compaction Equipment Used: 815 Sheeps Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Warm and Cloudy

Temperature: 70°

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: * Please refer to attached map for exact locations. A Drive Tube was also ran in the same location and numbered DT-001 on the map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: May 11, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-015	S-113	18.2%	18.6	103.8	106.9	97.1%	95%	Pass	2nd Lift	North Berm
B-016	S-113	18.2%	17.5	102.4	106.9	95.8%	95%	Pass	2nd Lift	North Berm

Compaction Equipment Used: 815 Sheeps Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Warm and Cloudy

Temperature: 70 °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: * Please refer to attached map for exact locations.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: May 22, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-021	QA-003	17.4	17.8	102.9	105.4	97.6	95%	Pass	3rd Lift	East Berm
B-022	S-117	18.3	20.7	105.0	108.5	96.8	95%	Pass	3rd Lift	East Berm
B-023	QA-003	17.4	18.4	101.0	105.4	95.8	95%	Pass	3rd Lift	East Berm
B-024	S-117	18.3	20.8	105.9	108.5	97.6	95%	Pass	4th Lift	South Berm
B-025	QA-003	17.4	15.8	103.4	105.4	98.1	95%	Pass	1st Lift	West Berm
B026	S-117	18.3	19.5	103.0	108.5	95.0	95%	Pass	4th Lift	North Berm
B-027	S-117	18.3	20.9	104.5	108.5	96.3	95%	Pass	4th Lift	North Berm
B-028	S-117	18.3	17.9	105.7	108.5	97.5	95%	Pass	4th Lift	East Berm
B-029	S-117	18.3	20.8	106.9	108.5	98.5	95%	Pass	4th Lift	East Berm
B-030	S-117	18.3	16.5	103.6	108.5	95.5	95%	Pass	4th Lift	East Berm
B-031	S-117	18.3	16.7	106.0	108.5	97.7	95%	Pass	2nd Lift	West Berm

Compaction Equipment Used: 563 Sheeps Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Cool/Sunny Windy

Temperature: 60's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: Please refer to attached map for exact locations.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: May 23, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-032	S-117	18.3	16.3	106.8	108.5	98.5	95%	Pass	5th Lift	North Berm
B-033	S-117	18.3	17.2	105.7	108.5	97.4	95%	Pass	5th Lift	North Berm

Compaction Equipment Used: 563 Sheeps Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Cool/Cloudy

Temperature: 60's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: Please refer to attached map for exact locations.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
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(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: May 24, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-034	S-117	18.3	18.8	94.7	108.5	87.2	95%	Fail	6th Lift	North Berm
B-035	S-117	18.3	12.5	97.3	108.5	89.7	95%	Fail	6th Lift	North Berm
B-036	S-117	18.3	15.3	96.4	108.5	88.8	95%	Fail	4th Lift	South Berm

Compaction Equipment Used: 563 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Cool/Cloudy

Temperature: 60's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: **Please refer to attached map for exact locations. The contractor will re-work these areas and the areas will be re-tested on May 25, 2001.**

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL **Date:** May 29, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 501-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
RX-B-036	S-117	18.3	18.6	103.7	108.5	95.6%	95%	P	4th	South Berm
B-037	S-117	18.3	20.3	104.6	108.5	96.4%	95%	P	5th	East Bern
B-038	S-117	18.3	21.3	103.5	108.5	95.4%	95%	P	5th	East Berm
** B-039	S-117	18.3	17.1	99.1	108.5	91.3%	95%	P	5th	East Berm
B-040	S-117	18.3	16.7	107.2	108.5	98.8%	95%	P	2nd	West Berm
B-041	S-117	18.3	13.3	98.4	108.5	90.7%	95%	F	2nd	West Berm

Compaction Equipment Used: 563 and 815 Sheeps Foot **Proctor Type:** Standard **FSG = Final Subgrade Elevation**

Weather: Warml/Sunny **Temperature:** 70's° **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks: ** Test passed, 1 of 5 at 90% and within -2/+3 optimum moisture. Please refer to attached map for exact locations.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 11, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
*RX-B-034	S-117	18.3%	20.5	106.1	108.5	97.8%	95%	P	6th Lift	North Berm
* RX-B-035	S-117	18.3%	17.0	104.1	108.5	95.9%	95%	P	6th Lift	North Berm
** RX-B-041	S-117	18.3%	19.9	103.6	108.5	95.5%	95%	P	2nd Lift	West Berm
B-042	S-117	18.3%	17.6	103.1	108.5	95.1%	95%	P	5th Lift	South Berm
B-043	S-117	18.3%	21.2	105.4	108.5	97.1%	95%	P	5th Lift	South Berm
B-044	S-117	18.3%	16.3	103.5	108.5	95.4%	95%	P	6th Lift	East Berm

Compaction Equipment Used: 563 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Sunny

Temperature: 90's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: *** Re-test from 5/24/01, **Re-test from 5/29/01.** Please refer to attached map for exact locations.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL **Date:** June 12, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 5-01-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-045	S-117	18.3	21.0	104.0	108.5	95.9%	95%	P	6th Lift	East Berm
*B-046	S-117	18.3	23.2	101.0	108.5	93.1%	95%	F	6th Lift	East Berm
RX-B-046	S-117	18.3	31.3	103.3	108.5	95.2%	95%	P	6th Lift	East Berm
B-047	S-117	18.3	18.7	99.0	108.5	91.3%	95%	F	6th Lift	South Berm
B-048	S-117	18.3	18.6	98.8	108.5	91.1%	95%	F	6th Lift	South Berm
B049	QA3	17.4	17.9	101.3	105.4	96.1%	95%	P	7th Lift	North Berm
B-050	QA3	17.4	15.4	100.2	105.4	95.1%	95%	P	7th Lift	North Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot **Proctor Type:** Standard **FSG = Final Subgrade Elevation**

Weather: Hot/Sunny **Temperature:** 90's ° **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks: *** Drive Tube ran in the same location. B-047 and B-048 will be re-tested on June 13, 2001.** For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL **Date:** June 13, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 5-01-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
*RX-B-047	S-117	18.3	20.8	105.7	108.5	97.5	95%	P	6th Lift	South Berm
*RX-B-048	S-117	18.3	20.5	103.1	108.5	95.0	95%	P	6th Lift	South Berm
B-051	S-117	18.3	19.3	103.9	108.5	95.8	95%	P	7th Lift	East Berm
B-052	S-117	18.3	19.9	103.2	108.5	95.2	95%	P	7th Lift	East Berm
B-053	S-117	18.3	20.5	103.6	108.5	95.5	95%	P	7th Lift	East Berm
B-054	S-117	18.3	17.4	106.1	108.5	97.8	95%	P	7th Lift	West Berm
B-055	QA3	17.4	20.4	102.0	105.4	96.8	95%	P	3rd Lift	West Berm
B-056	QA3	17.4	19.2	100.2	105.4	95.1	95%	P	3rd Lift	West Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot **Proctor Type:** Standard **FSG = Final Subgrade Elevation**

Weather: Hot/Sunny **Temperature:** 90's° **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks: *** Re-test from original tests on June 12, 2001.** For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 14, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-057	QA3	17.4	17.3	100.5	105.4	95.3	95%	P	7th Lift	South Berm
B-058	QA3	17.4	15.6	103.3	105.4	98.0	95%	P	7th Lift	South Berm
B-059	S-117	18.3	20.6	104.6	18.5	96.4	95%	P	8th Lift	North Berm
B-060	S-117	18.3	18.3	109.6	108.5	96.4	95%	P	8th Lift	North Berm
B-061	QA3	17.4	15.6	104.0	105.4	99.1	95%	P	8th Lift	East Berm
B-062	S-117	18.3	20.5	103.2	108.5	95.1	95%	P	8th Lift	East Berm
B-063	QA3	17.4	16.2	101.1	105.4	95.9	95%	P	4th Lift	West Berm
B-064	S-117	18.3	20.0	105.1	108.5	96.9	95%	P	4th Lift	West Berm
B-065	S-117	18.3	17.7	105.3	108.5	97.1	95%	P	4th Lift	West Berm
B-066	QA3	17.4	15.9	100.3	105.4	95.2	95%	P	8th Lift	East Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Hot

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 15, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-067	S-117	18.3	23.9	97.5	108.5	89.8	95%	F	9th Lift	North Berm
B-068	S-117	18.3	17.3	104.1	108.5	96.0	95%	P	9th Lift	North Berm
RX-B-067	S-117	18.3	19.3	103.2	108.5	95.2	95%	P	9th Lift	North Berm
B-069	S-117	18.3	18.1	103.2	108.5	95.1	95%	P	9th Lift	East Berm
B-070	QA3	17.4	17.0	101.8	105.4	96.6	95%	P	9th Lift	East Berm
B-071	QA3	17.4	16.8	101.7	105.4	96.5	95%	P	8th Lift	South Berm
B-072	S-117	18.3	20.6	105.2	108.5	97.0	95%	P	8th Lift	South Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Hot

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: ***Re-test of original test performed today.** For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 18, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-073	S-117	18.3	18.3	103.3	108.5	95.2	95%	P	9th Lift	East Berm
B-074	S-117	18.3	20.5	104.5	108.5	96.3	95%	P	5th Lift	West Berm
B-075	S-117	18.3	20.1	104.1	108.5	95.9	95%	P	5th Lift	West Berm
B-076	S-117	18.3	20.9	103.3	108.5	95.2	95%	P	5th Lift	West Berm
B-077	S-117	18.3	15.1	99.6	108.5	91.8	95%	P	10th Lift	North Berm
B-078	S-117	18.3	17.8	107.2	108.5	98.8	95%	P	10th Lift	North Berm
RX-B-077	S-117	18.3	19.3	105.2	108.5	97.0	95%	P	10th Lift	North Berm
B-079	QA3	17.4	19.3	101.1	105.4	95.9	95%	P	10th Lift	East Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Hot

Temperature: 90's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: ***Re-test of original test performed today.** For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 19, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-080	S-117	18.3	18.1	105.5	108.5	97.2%	95%	P	10th Lift	East Berm
B-081	S-117	18.3	17.0	105.9	108.5	97.6%	95%	P	10th Lift	East Berm
B-082	QA3	17.4	17.4	102.2	105.4	97.0%	95%	P	9th Lift	South Berm
B-083	QA3	17.4	19.9	100.2	105.4	95.1%	95%	P	9th Lift	South Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Hot

Temperature: 90's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: ***Re-test of original test performed today.** For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 23, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-084	S-117	18.3	19.4	107.3	108.5	98.9%	95%	P	6th Lift	West Berm
B-085	S-117	18.3	17.7	104.2	108.5	96.1%	95%	P	6th Lift	West Berm
B-086	QA3	17.4	16.6	100.1	105.4	95.0%	95%	P	6th Lift	West Berm
B-087	S-117	18.3	19.8	103.7	108.5	95.6%	95%	P	11th Lift	North Berm
B-088	S-117	18.3	20.9	103.1	108.5	95.0%	95%	P	11th Lift	North Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Warm

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: ~~June 26, 2001~~ June 25, 01

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-089	QA3	17.4	15.9	100.6	105.4	95.4%	95%	P	11th Lift	East Berm
B-090	QA3	17.4	20.3	100.6	105.4	95.4%	95%	P	11th Lift	East Berm
B-091	QA3	17.4	17.6	102.8	105.4	97.5%	95%	P	11th Lift	East Berm
B-092	S-117	18.3	19.9	106.5	108.5	98.2%	95%	P	10th Lift	South Berm
B-093	S-117	18.3	20.9	106.1	108.5	97.8%	95%	P	10th Lift	South Berm
B-094	QA3	17.4	15.7	101.0	105.4	95.8%	95%	P	7th Lift	West Berm
*B-095	QA3	17.4	18.1	97.3	105.4	92.3%	1 of 5 @ 90%	P	7th Lift	West Berm
B-096	QA3	17.4	15.7	103.3	105.4	98.0%	95%	P	7th Lift	West Berm
B-097	QA3	17.4	16.3	102.2	105.4	97.0%	95%	P	12th Lift	North Berm
B-098	S-117	18.3	18.6	103.4	108.5	95.3%	95%	P	12th Lift	North Berm
B-099	QA3	17.4	15.9	100.4	105.4	95.3%	95%	P	12th Lift	East Berm
B-100	S-117	18.3	20.5	103.3	108.5	95.2%	95%	P	12th Lift	East Berm
B-101	S-117	18.3	20.0	103.2	108.5	95.1%	95%	P	12th Lift	East Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Warm

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: * 1 of 5 at 90% compaction as per project specifications. For exact locations please refer to the attached map

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: ~~June 26, 2001~~ June 25, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-102	QA3	17.4	19.9	101.7	105.4	96.5%	95%	P	13th Lift	North Berm
B-103	QA3	17.4	16.9	100.8	105.4	95.5%	95%	P	13th Lift	North Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Warm

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 26, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-104	S-120	17.2%	19.5	105.4	108.9	96.8%	95%	P	13th Lift	East Berm
B-105	S-120	17.2%	19.9	105.5	108.9	96.9%	95%	P	13th Lift	East Berm
B-106	S-120	17.2%	15.3	104.3	108.9	95.8%	95%	P	13th Lift	East Berm
B-107	S-120	17.2%	17.0	1050.0	108.9	96.5%	95%	P	11th Lift	South Berm
B-108	S-120	17.2%	20.1	105.9	108.9	97.3%	95%	P	11th Lift	South Berm
B-109	S-120	17.2%	15.8	95.6	108.9	87.8%	95%	F	14th Lift	North Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Warm

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: Failed test B-109 will be re-tested June 27, 2001. For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 27, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
RX-B-109	S-120	17.2%	18.1	103.8	108.9	95.3%	95%	P	14th Lift	North Berm
B-110	S-120	17.2%	15.7	104.9	108.9	96.3%	95%	P	14th Lift	North Berm
B-111	S-120	17.2%	18.2	105.2	108.9	96.6%	95%	P	15th Lift	North Berm
B-112	S-120	17.2%	17.6	103.7	108.9	95.2%	95%	P	15th Lift	North Berm
B-113	S-120	17.2%	19.2	104.2	108.9	95.7%	95%	P	12th Lift	South Berm
B-114	S-120	17.2%	17.7	104.6	108.9	96.1%	95%	P	12th Lift	South Berm
B-115	S-120	17.2%	17.3	106.7	108.9	98.0%	95%	P	8th Lift	West Berm
B-116	S-120	17.2%	15.6	105.6	108.9	97.0%	95%	P	8th Lift	West Berm
B-117	S-120	17.2%	15.6	104.7	108.9	96.1%	95%	P	8th Lift	West Berm
B-118	S-120	17.2%	15.7	108.4	108.9	99.5%	95%	P	14 th Lift	East Berm
B-119	S-120	17.2%	15.9	106.8	108.9	98.1%	95%	P	14th Lift	East Berm
B-120	S-120	17.2%	18.6	104.4	108.9	95.9%	95%	P	14th Lift	East Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Warm

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: * Re-test from original test on 6/26/01. For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 28, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-121	S-120	17.2	20.0	103.9	108.9	95.4	95%	P	13th Lift	South Berm
B-122	S-120	17.2	19.5	106.2	108.9	97.5	95%	P	13th Lift	South Berm
B-123	S-120	17.2	19.9	104.2	108.9	95.7	95%	P	16th Lift	North Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Warm

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 29, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-124	S-120	17.2	20.0	104.3	108.9	95.8	95%	P	16th Lift	North Berm
B-125	S-120	17.2	19.9	105.1	108.9	96.5	95%	P	15th Lift	East Berm
B-126	S-120	17.2	20.2	105.7	108.9	97.0	95%	P	15th Lift	East Berm
B-127	S-120	17.2	19.4	107.6	108.9	98.8	95%	P	15th Lift	East Berm
B-128	S-120	17.2	20.1	106.2	108.9	97.5	95%	P	14th Lift	South Berm
B-129	S-120	17.2	20.0	105.4	108.9	96.8	95%	P	14th Lift	South Berm
B-130	S-120	17.2	19.4	106.7	108.9	98.0	95%	P	9th Lift	West Berm
B-131	S-120	17.2	19.2	107.4	108.9	98.6	95%	P	9th Lift	West Berm
B-132	S-120	17.2	20.2	105.9	108.9	97.3	95%	P	9th Lift	West Berm
B-133	S-120	17.2	17.8	103.5	108.9	95.0	95%	P	17th Lift	North Berm
B-134	S-120	17.2	16.6	104.2	108.9	95.7	95%	P	17th Lift	North Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevatior

Weather: Sunny/Warm

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluatior

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: June 30, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-135	S-120	17.2	16.5	104.4	108.9	95.8	95%	P	16th Lift	East Berm
B-136	S-120	17.2	15.6	105.0	108.9	96.4	95%	P	16th Lift	East Berm
B-137	S-120	17.2	15.5	104.1	108.9	95.6	95%	P	16th Lift	East Berm
B-138	S-120	17.2	18.0	106.8	108.9	98.1	95%	P	15th Lift	South Berm
B-139	S-120	17.2	18.9	105.4	108.9	96.8	95%	P	15th Lift	South Berm
B-140	S-120	17.2	18.6	104.6	108.9	96.0	95%	P	15th Lift	West Berm
B-141	S-120	17.2	19.2	104.1	108.9	95.6	95%	P	10th Lift	West Berm
B-142	S-120	17.2	18.9	104.7	108.9	96.1	95%	P	10th Lift	West Berm
B-143	S-120	17.2	19.2	105.3	108.9	96.7	95%	P	18th Lift	North Berm
B-144	S-120	17.2	18.8	104.8	108.9	96.3	95%	P	18th Lift	North Berm
B-145	S-120	17.2	19.8	107.2	108.9	98.4	95%	P	16th Lift	South Berm
B-146	S-120	17.2	19.2	103.8	108.9	95.4	95%	P	16th Lift	South Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevatio

Weather: Sunny/Hot

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluatio

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July 2, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-147	S-120	17.2	19.0	107.0	108.9	98.3	95%	P	17th Lift	East Berm
B-148	S-120	17.2	18.6	107.2	108.9	98.4	95%	P	17th Lift	East Berm
B-148	S-120	17.2	17.3	104.9	108.9	96.3	95%	P	17th Lift	East Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Cool/Cloudy

Temperature: 70's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July 2, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-147	S-120	17.2	19.0	107.0	108.9	98.3	95%	P	17th Lift	East Berm
B-148	S-120	17.2	18.6	107.2	108.9	98.4	95%	P	17th Lift	East Berm
~~B-148~~ B-149	S-120	17.2	17.3	104.9	108.9	96.3	95%	P	17th Lift	East Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Cool/Cloudy

Temperature: 70's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July 3, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-150	S-120	17.2	20.2	105.8	108.9	97.1	95%	P	19th Lift	North Berm
B-151	S-120	17.2	19.3	105.2	108.9	96.6	95%	P	19th Lift	North Berm
B-152	S-120	17.2	19.7	104.7	108.9	96.1	95%	P	11th Lift	West Berm
B-153	S-120	17.2	20.1	104.4	108.9	95.9	95%	P	11th Lift	West Berm
B-154	S-120	17.2	20.0	103.9	108.9	95.4	95%	P	11th Lift	West Berm
*B-155	S-120	17.2	21.0	104.0	108.9	95.5	95%	F	17th Lift	South Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Sunny

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: * Failed test will be re-tested July 5, 2001. For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL **Date:** July 5, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 5-01-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction (%)	Pass/Fail	Elevation	Location
RX-B-155	S-120	17.2	20.2	105.8	108.9	97.2	95%	P	17th Lift	South Berm
B-156	S-120	17.2	18.8	106.0	108.9	97.3	95%	P	17th Lift	South Berm
B-157	S-120	17.2	19.8	103.6	108.9	95.2	95%	P	18th Lift	East Berm
B-158	S-120	17.2	18.3	103.7	108.9	95.2	95%	P	18th Lift	East Berm
B-159	S-120	17.2	18.7	106.4	108.9	97.7	95%	P	18th Lift	East Berm
B-160	S-120	17.2	18.2	107.1	108.9	98.3	95%	P	20th Lift	North Berm
B-161	S-120	17.2	20.2	105.5	108.9	96.9	95%	P	20th Lift	North Berm
B-162	S-120	17.2	19.6	106.2	108.9	97.5	95%	P	12th Lift	West Berm
B-163	S-120	17.2	19.2	108.1	108.9	99.2	95%	P	12th Lift	West Berm
B-164	S-120	17.2	19.0	106.7	108.9	98.0	95%	P	12th Lift	West Berm
B-165	S-120	17.2	20.0	103.8	108.9	95.3	95%	P	18th Lift	South Berm
B-166	S-120	17.2	17.3	109.4	108.9	100.3	95%	P	18th Lift	South Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot **Proctor Type:** Standard **FSG = Final Subgrade Elevation**

Weather: Hot/Sunny **Temperature:** 80's° **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks: **RX-B-155 re-test.** For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July 6, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-167	S-120	17.2	19.1	106.8	108.9	98.1	95%	P	19th Lift	East Berm
B-168	S-120	17.2	16.7	106.9	108.9	98.2	95%	P	19th Lift	East Berm
B-169	S-120	17.2	17.6	106.0	108.9	97.4	95%	P	19th Lift	East Berm
B-170	S-120	17.2	19.1	104.3	108.9	95.8	95%	P	21st Lift	North Berm
B-171	S-120	17.2	19.1	103.5	108.9	95.0	95%	P	21st Lift	North Berm
B-172	S-120	17.2	20.2	107.1	108.9	98.4	95%	P	13th Lift	West Berm
B-173	S-120	17.2	16.9	108.6	108.9	99.7	95%	P	13th Lift	West Berm
B-174	S-120	17.2	15.9	108.9	108.9	100.0	95%	P	13th Lift	West Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Sunny

Temperature: 80's°

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: **RX-B-155 re-test.** For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July 9, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-175	S-120	17.2	15.3	104.6	108.9	96.1	95%	P	19th Lift	South Berm
B-176	S-120	17.2	16.0	104.6	108.9	96.1	95%	P	19th Lift	South Berm
B-177	S-120	17.2	16.8	105.8	108.9	97.2	95%	P	20th Lift	East Berm
B-178	S-120	17.2	18.8	103.5	108.9	95.0	95%	P	20th Lift	East Berm
B-179	S-120	17.2	19.8	103.6	108.9	95.2	95%	P	20th Lift	East Berm
BF-001	S-120	17.2	18.4	105.9	108.9	97.2	95%	P	1st Lift	Backfill on Trench for Pipe
BF-002	S-120	17.2	17.5	108.1	108.9	99.2	95%	P	2nd Lift	Backfill on Trench for Pipe
BF-003	S-120	17.2	18.2	106.2	108.9	97.5	95%	P	3rd Lift	Backfill on Trench for Pipe
BF-004	S-120	17.2	16.1	108.4	108.9	99.5	95%	P	4th Lift	Backfill on Trench for Pipe
BF-005	S-120	17.2	17.5	103.6	108.9	95.1	95%	P	5th Lift	Backfill on Trench for Pipe

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Sunny

Temperature: 90's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July ~~June~~ 10, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-180	S-122	17.0	16.4	105.0	109.0	96.3	95%	P	20th Lift	South Berm
B-181	S-122	17.0	17.1	16.1	109.0	97.3	95%	P	20th Lift	South Berm
B-182	S-122	17.0	15.2	103.6	109.0	95.0	95%	P	20th Lift	East Berm
B-183	S-122	17.0	23.8	98.1	109.0	90.0	95%	F	21st Lift	East Berm
RX-B-183	S-122	17.0	19.6	105.3	109.0	96.6	95%	P	21st Lift	East Berm
B-184	S-122	17.0	20.0	105.1	109.0	96.4	95%	P	21st Lift	East Berm
**B-185	S-122	17.0	16.9	98.7	109.0	90.5	95%	P	22nd Lift	North Berm
B-186	S-122	17.0	19.1	104.5	109.0	95.9	95%	P	22nd Lift	North Berm
B-187	S-122	17.0	15.4	108.7	109.0	99.7	95%	P	14th Lift	West Berm
B-188	S-122	17.0	15.7	103.9	109.0	95.3	95%	P	14th Lift	West Berm
B-189	S-122	17.0	15.7	104.7	109.0	96.1	95%	P	14th Lift	West Berm
B-190	S-122	17.0	15.2	104.4	109.0	95.7	95%	P	21st Lift	South Berm
B-191	S-122	17.0	12.7	99.3	109.0	91.1	95%	F	21st Lift	South Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Sunny

Temperature: 90's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: ** 1 of 5 at 90% compaction -2/+3 optimum moisture. For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July ~~June~~ 10, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
~~RX~~-B-192	S-122	17.0	15.8	99.0	109.0	90.8	95%	P	22nd Lift	East Berm
B-193	S-122	17.0	18.0	104.9	109.0	96.2	95%	P	22nd Lift	East Berm
B-194	S-122	17.0	15.2	103.6	109.0	95.0	95%	P	22nd Lift	East Berm
**B-191	S-122	17.0	16.0	107.0	109.0	98.2	95%	P	21st Lift	South Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Sunny

Temperature: 90's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: ** 1 of 5 at 90% compaction -2/+3 optimum moisture. For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July 11, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-195	S-122	17.0	16.4	103.7	109.0	95.1	95%	P	15th Lift	West Berm
B-196	S-122	17.0	15.6	105.1	109.0	96.4	95%	P	15th Lift	West Berm
B-197	S-122	17.0	17.3	107.6	109.0	98.7	95%	P	15th Lift	West Berm
B-198	S-122	17.0	18.6	107.1	109.0	98.3	95%	P	22nd Lift	South Berm
B-199	S-122	17.0	17.7	108.2	109.0	99.3	95%	P	22nd Lift	South Berm
B-200	S-122	17.0	15.2	105.4	109.0	96.7	95%	P	22nd Lift	North Berm
B-201	S-122	17.0	15.6	107.5	109.0	98.7	95%	P	23rd Lift	North Berm
B-202	S-122	17.0	19.9	104.1	109.0	95.5	95%	P	23rd Lift	South Berm
B-203	S-122	17.0	19.4	104.3	109.0	95.7	95%	P	23rd Lift	South Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Sunny

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July 13, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-204	S-122	17.0	18.4	107.2	109.0	98.3	95%	P	24th Lift	South Berm
B-205	S-122	17.0	18.5	106.7	109.0	97.9	95%	P	24th Lift	South Berm
B-206	S-122	17.0	18.9	103.6	109.0	95.0	95%	P	24th Lift	North Berm
B-207	S-122	17.0	17.8	104.9	109.0	96.2	95%	P	24th Lift	North Berm
B-208	S-122	17.0	15.5	107.4	109.0	98.5	95%	P	24th Lift	East Berm
B-209	S-122	17.0	19.7	104.0	109.0	95.4	95%	P	24th Lift	East Berm
B-210	S-122	17.0	19.6	109.0	109.0	98.3	95%	P	24th Lift	East Berm

Compaction Equipment Used: 563 and 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Sunny

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July 14, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
B-211	S-122	17.0	19.1	103.9	109.0	95.3%	95%	P	25th Lift	South Berm
B-212	S-122	17.0	17.7	104.6	109.0	95.9%	95%	P	25th Lift	South Berm
B-213	S-122	17.0	19.1	105.4	109.0	96.7%	95%	P	24th Lift	East Berm
B-214	S-122	17.0	19.2	104.1	109.0	95.5%	95%	P	24th Lift	East Berm
B-215	S-122	17.0	18.9	104.3	109.0	95.7%	95%	P	24th Lift	East Berm
B-216	S-122	17.0	18.9	105.6	109.0	96.9%	95%	P	25th Lift	North Berm
B-217	S-122	17.0	16.7	110.2	109.0	101.1%	95%	P	25th Lift	North Berm

Compaction Equipment Used: 815 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Hot/Sunny

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: July 27, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
B-218	S-124	15.0	15.2	105.2	109.4	96..1	95%	P		Corner of Southeast Berm

Compaction Equipment Used: 563 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Cloudy

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL **Date:** July 28, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 5-01-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
T-I-P001	S-124	15.0	20.3	100.2	109.4	91.6	90%	P	One 6" Lift	Cell Floor - See Map for exact location
T-I-P002	S-124	15.0	18.0	106.0	109.4	96.9	90%	P	One 6" Lift	Cell Floor - See Map for exact location
T-I-P003	S-124	15.0	17.1	99.5	109.4	90.9	90%	P	One 6" Lift	Cell Floor - See Map for exact location
T-I-P004	S-124	15.0	18.8	99.5	109.4	90.9	90%	P	One 6" Lift	Cell Floor - See Map for exact location
T-I-P005	S-124	15.0	15.8	100.6	109.4	92.0	90%	P	One 6" Lift	Cell Floor - See Map for exact location
T-I-P006	S-124	15.0	16.4	101.8	109.4	93.0	90%	P	One 6" Lift	Cell Floor - See Map for exact location

Compaction Equipment Used: D 6 Dozer **Proctor Type:** Standard **FSG = Final Subgrade Elevation**

Weather: Cloudy **Temperature:** 80's° **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: August 13, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
T-IP-007	S-124	15.0	16.1	105.9	109.4	96.8	95%	Pass	[illegible]	See Attached Map

Compaction Equipment Used: DS DOZER

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Warm

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: August 16, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
AT-001	S-124	15.0	14.7	112.5	109.4	102.8	95%	Pass	N/A	South Anchor Trench
AT-002	S-124	15.0	14.0	107.2	109.4	98.0	95%	Pass	N/A	West Anchor Trench
AT-003	S-124	15.0	14.3	106.8	109.4	97.7	95%	Pass	N/A	West Anchor Trench
AT-004	S-124	15.0	15.9	109.2	109.4	99.8	95%	Pass	N/A	North Anchor Trench
AT-005	S-124	15.0	13.9	106.7	109.4	97.6	95%	Pass	N/A	East Anchor Trench
AT-006	S-124	15.0	14.9	104.7	109.4	95.7	95%	Pass	N/A	East Anchor Trench

Compaction Equipment Used: 563 Sheep's Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Cloudy and Cool

Temperature: 70's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks: For exact locations please refer to the attached map.

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL

Date: August 22, 2001

Client: LMS CONTRACTING, INC.

Patriot Project No.: 5-01-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
TIP-008	S-124	15.0	16.9	100.4	109.4	91.8	90%	Pass	N/A	Pipe Trench Backfill
TIP-009	S-124	15.0	15.9	103.3	109.4	94.5	90%	Pass	N/A	Cell Floor
TIP-010	S-124	15.0	16.8	100.9	109.4	92.2	90%	Pass	N/A	Cell Floor
TIP-011	S-124	15.0	17.1	98.9	109.4	90.4	90%	Pass	N/A	Cell Floor
TIP-012	S-124	15.0	17.1	98.7	109.4	90.2	90%	Pass	N/A	Cell Floor

Compaction Equipment Used: D-5 DOZER

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Sunny/Hot

Temperature: 80's °

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks:

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project Name: SAUGET AREA I LANDFILL **Date:** August 23, 2001

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 5-01-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** Melisa Daumen

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density {pcf}	Maximum Proctor Dry Density {pcf}	Compaction {%}	Minimum Compaction {%}	Pass/Fail	Elevation	Location
TIP-013	S-124	15.0	16.0	100.7	109.4	92.0	90%	Pass	N/A	Cell Floor
TIP-014	S-124	15.0	15.9	99.0	109.4	90.5	90%	Pass	N/A	Cell Floor

Compaction Equipment Used: D-5 DOZER **Proctor Type:** Standard **FSG = Final Subgrade Elevation**

Weather: Warm/Cloudy **Temperature:** 80's ° **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks:

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: 8-31-01

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: MELISA DAUMEN

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
AT-007	S-124	15.0	16.2	109.4	109.4	100%	95	P	—	East Anchor Trench
AT-008	S-124	15.0	18.0	105.8	109.4	96.7	95	P	—	
AT-009	S-124	15.0	17.2	106.3	109.4	97.2	95	P	—	
AT-010	S-124	15.0	17.0	105.3	109.4	96.2	95	P	—	

Compaction Equipment Used: 563 Sheeps Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: warm, partly cloudy

Temperature: 80'S

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks:

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: 9-7-01

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: MELISA DAUMEN

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
AT-011	S-124	15.0	15.2	104.7	109.4	95.7	95%	P	1st lift	South Anchor Trench
AT-012	S-124	15.0	16.6	106.4	109.4	97.3	95%	P	1st lift	West Anchor Trench
AT-013	S-124	15.0	16.2	105.7	109.4	96.7	95%	P	1st lift	—

Compaction Equipment Used: 563 Sheeps foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: windy, cloudy

Temperature: 80's

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks:

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: 9-8-01

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: MELISA DAUMEN

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
AT-014	S-124	15.0	17.7	104.5	109.4	95.6	95	P	1st 1.ft	North Anchor Trench
AT-015	S-124	15.0	17.2	105.3	109.4	96.3	95	P	2nd 1.ft	South Anchor Trench
AT-016	S-124	15.0	16.8	104.2	109.4	95.2	95	P	2nd 1.ft	West Anchor Trench
AT-017	S-124	15.0	16.4	105.8	109.4	96.7	95	P	2nd 1.ft	"
AT-018	S-124	15.0	15.9	105.2	109.4	96.2	95	P	2nd 1.ft	North Anchor Trench

Compaction Equipment Used: 563 Sheeps Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Warm

Temperature: 80's

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks:

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL

Date: 9-13-01

Client: LMS CONTRACTING, INC.

Patriot Project No.: 501-223

Grading Contractor: LMS CONTRACTING, INC.

Patriot Rep.: MELISA DAUMEN

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	Dry Density (pcf)	Maximum Proctor Dry Density (pcf)	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
AT-019	S-124	15.0	17.5	110.7	109.4	101.2	95	P	-	South Anchor Trench
AT-020	S-124	15.0	17.3	106.8	109.4	97.7	95	P	-	West Anchor Trench
AT-021	S-124	15.0	15.3	108.4	109.4	99.1	95	P	-	"
AT-022	S-124	15.0	17.9	107.0	109.4	97.8	95	P	-	North Anchor Trench
AT-023	S-124	15.0	15.1	104.3	109.4	95.3	95	P	-	East Anchor Trench
AT-024	S-124	15.0	15.7	106.6	109.4	97.4	95	P	-	"

Compaction Equipment Used: 563 Sheeps Foot

Proctor Type: Standard

FSG = Final Subgrade Elevation

Weather: Warm

Temperature: 80'S

RX = Retest of Test No. X

FF = Finished Floor Evaluation

Remarks:

PATRIOT ENGINEERING AND ENVIRONMENTAL CO., LLC.
4735-1 Poplar Level Road
Louisville, Kentucky 40213
(502) 961-5652

FIELD DENSITY TEST RESULTS

Project: SAUGET AREA I LANDFILL **Date:** 9-13-01

Client: LMS CONTRACTING, INC. **Patriot Project No.:** 501-223

Grading Contractor: LMS CONTRACTING, INC. **Patriot Rep.:** MELISA DAUMEN

Test Number	Proctor Number	Optimum Moisture (%)	Moisture Content (%)	~~Dry Density~~ Wet Density (pcf)	~~Maximum Proctor Dry Density (pcf)~~ Min. Dry Density	Compaction (%)	Minimum Compaction (%)	Pass/Fail	Elevation	Location
S-001	S-128	–	1.3	99.4	114.4	86.9	50%	P	–	Sand Cell Floor
S-002	S-128	–	1.3	99.1	114.4	86.6	50%	P	–	
S-003	S-128	–	1.6	103.2	114.4	90.2	50%	P	–	
S-004	S-128	–	1.7	99.2	114.4	86.7	50%	P	–	
S-005	S-128	–	1.5	103.2	114.4	90.2	50%	P	–	
S-006	S-128	–	1.1	110.3	114.4	96.4	50%	P	–	

Compaction Equipment Used: D5 Dozer **Proctor Type:** Min/MAX **FSG = Final Subgrade Elevation**

Weather: _____ **Temperature:** _____ **RX = Retest of Test No. X** **FF = Finished Floor Evaluation**

Remarks: _____

FIELD MOISTURE/DENSITY TEST RECORD
NUCLEAR GAUGE METHOD
ASTM D 3017 / 2922

Project Number: 013-9659
Owner : SOLUTIA
Location: TSCA CELL

Project Title: SOLUTIA / QM / SAUGET
Date Tested: 6/15/01

Test Number		SQ-009					
Test Location	N / E	B-069					
Elevation		L.Ft #9					
Depth		8"					
Density Count		\					
Moisture Count		\					
Wet Density, PCF		121.7					
Moisture %		16.5					
Dry Density, PCF		104.4					
Material Description		CL					
Max Dry Density, PCF		108.5					
Optimum Moisture, %		18.3					
% Compaction		96.3					
Diff. from O.M.C.		-1.8					
Pass / Fail (Density)		P					
Pass / Fail (Moisture)		P					

Specifications:
95 % Standard
-2 to +3 % of O.M.C.

Daily Standard Counts:
Moisture _____
Density _____

Tested By: DT Checked By: _____ Date: _____

FIELD MOISTURE / DENSITY TEST RECORD
NUCLEAR GAUGE METHOD
ASTM D 3017 / 2922

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL,CAHOKIA

PROJECT TITLE: SOLUTIA/QA/SAUGET
CONTRACTOR: LMS
DATE TESTED: 5/22/2001

TEST NUMBER		B-21	B-22	B-23	B-24			
TEST LOCATION	N	EAST	EAST	EAST	SOUTH			
	E	BERM	BERM	BERM	BERM			
ELEVATION		LIFT#3	LIFT#3	LIFT#3	LIFT#4			
DEPTH		8"	8"	8"	8"			
DENSITY COUNT								
MOISTURE COUNT								
WET DENSITY, pcf		119.4	131.2	120.2	132.2			
MOISTURE %		16.6	18.7	16.6	19.1			
DRY DENSITY, pcf		102.4	110.5	103.1	111.1			
MATERIAL DESCRIPTION		QA-003	S-117	QA-003	S-117			
AX DRY DENSITY, pcf		105.4	108.5	105.4	108.5			
OPTIMUM MOISTURE, %		17.4	18.3	17.4	18.3			
% COMPACTION		97.2	101.8	97.8	102.4			
DIFF FROM O.M.C.		-0.8	0.4	-0.8	0.8			
PASS/FAIL (DENSITY)		P	P	P	P			
PASS/FAIL (MOISTURE)		P	P	P	P			

SPECIFICATIONS:

_____ % STANDARD / MODIFIED

_____ % OF O.M.C.

DAILY STANDARD COUNTS:
MOISTURE _____
DENSITY _____

TESTED BY: RS

CHECKED BY: _____

DATE: _____

FIELD MOISTURE / DENSITY TEST RECORD
NUCLEAR GAUGE METHOD
ASTM D 3017 / 2922

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL,CAHOKIA

PROJECT TITLE: SOLUTIA/QA/SAUGET
CONTRACTOR: LMS
DATE TESTED: 7/6/2001

TEST NUMBER		B-172	B-173	B-174				
TEST LOCATION	N E	WEST BERM	WEST BERM	WEST BERM				
ELEVATION		LIFT # 13	LIFT # 13	LIFT # 13				
DEPTH		8"	8"	8"				
DENSITY COUNT								
MOISTURE COUNT								
WET DENSITY, pcf		128.4	129.3	127.9				
MOISTURE %		19.3	18.2	17.1				
DRY DENSITY, pcf		107.6	109.4	109.2				
MATERIAL DESCRIPTION		S-120	S-120	S-120				
AX DRY DENSITY, pcf		107.4	109.5	109.3				
OPTIMUM MOISTURE, %		17.2	17.2	17.2				
% COMPACTION		98.6	100.6	100.4				
DIFF FROM O.M.C.		2.1	1	-0.1				
PASS/FAIL (DENSITY)		P	P	P				
PASS/FAIL (MOISTURE)		P	P	P				

SPECIFICATIONS:
95% % STANDARD / MODIFIED
_____ % OF O.M.C.

DAILY STANDARD COUNTS:
MOISTURE _____
DENSITY _____

TESTED BY: RS
CHECKED BY: _____
DATE: _____

3.3 QC CERTIFICATION LETTERS

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

May 8, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
April 23, 2001 to April 27, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from April 23, 2001, to April 27, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

May 8, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
April 30, 2001 to May 4, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from April 30, 2001, to May 4, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

Ronald W. Spivey, P.E.
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

May 14, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
May 7, 2001 to May 11, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from May 7, 2001, to May 11, 2001, and the Proctor results from Sample 117. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Proctor test S-117

PATRIOT ENGINEERING
and Environmental Co. LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 Fax: (812) 477-0094

May 21, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
May 14, 2001 to May 18, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from May 14, 2001, to May 18, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
040819
REGISTERED
PROFESSIONAL
ENGINEER
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co. LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 Fax: (812) 477-0094

C: Richard - Boulder
Melissa -
Office -
file

May 30, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
May 21, 2001 to May 25, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from May 21, 2001, to May 25, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

June 5, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
May 29, 2001 to June 1, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from May 29, 2001, to June 1, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY 062313 REGISTERED PROFESSIONAL ENGINEER ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

June 5, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
June 4, 2001 to June 6, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from June 4, 2001, to June 6, 2001 and the laboratory test data for Sample S-119. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Laboratory Data – S119

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

June 18, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
June 11, 2001 to June 15, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from June 11, 2001, to June 15, 2001 and the drive tube test data for Sample DT-102. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Drive Tube Data DT-102

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

June 26, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
June 18, 2001 to June 23, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from June 18, 2001, to June 23, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
040819
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

July 3, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
June 25, 2001 to June 30, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from June 25, 2001, to June 30, 2001 and the laboratory sheet for drive tube test DT-003. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
040318
REGISTERED
PROFESSIONAL
ENGINEER
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Data Sheet DT-103

PATRIOT ENGINEERING
and Environmental Co. LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 Fax: (812) 477-0094

July 10, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
July 2, 2001 to July 7, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from July 2, 2001, to July 7, 2001, and the laboratory sheets for Samples S-120 through S-122. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Data Sheets S-120 through S-122

PATRIOT ENGINEERING
and Environmental Co. LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 Fax: (812) 477-0094

July 16, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
July 9, 2001 to July 14, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from July 9, 2001, to July 14, 2001, and the laboratory sheets for Sample GR-003. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
040818
REGISTERED
PROFESSIONAL
ENGINEER
INDIANA

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Data Sheets GR-003

RECEIVED
JUL 31 2001
MAVERICK

PATRIOT ENGINEERING
and Environmental Co. LLC.
600 N. Weinbach Av. Suite 920
Evansville, Indiana 47711
(812) 477-0050 Fax (812) 477-0094

July 23, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
July 16, 2001 to July 20, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from July 16, 2001, to July 20, 2001 and the laboratory sheets for Sample S-123, S-124 and S-125. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Data Sheets S-123, S-124 and S-125

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

August 3, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
July 23, 2001 to July 28, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from July 23, 2001, to July 28, 2001 and the laboratory sheet for Sample DT 005. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Data Sheet DT-005

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

August 8, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
July 30, 2001 to August 3, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from July 30, 2001, to August 3, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

August 14, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
August 6, 2001 to August 10, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from August 6, 2001, to August 10, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

August 20, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
August 13, 2001 to August 17, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from August 13, 2001, to August 17, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

August 27, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
August 20, 2001 to August 24, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from August 20, 2001, to August 24, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
062319
REGISTERED
PROFESSIONAL
ENGINEER
OF ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

September 4, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
August 27, 2001 to August 31, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from August 27, 2001, to August 31, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

September 10, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
September 3, 2001 through September 7, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from September 3, 2001, to September 7, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports

PART 4 – QA REPORTS

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659

PROJECT TITLE: SOLUTIA/QA/SAUGET

OWNER: SOLUTIA

CONTRACTOR: LMS

LOCATION: TSCA CELL, CAHOKIA, IL

MONITORING SUMMARY FOR THE WEEK ENDING: 04/28/01

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS & PATRIOT.

SUMMARY OF CONSTRUCTION PROGRESS:

CONTRACTOR STRIPPED TOPSOIL AND WET AREAS ON THE EAST AND SOUTH BERMS DOWN TO SUB-GRADE. STARTED REMOVING MATERIAL FROM THE WEST BERM. EXCAVATED MATERIAL WAS STOCKPILED ALONG THE SOUTH & WEST SIDES OF THE CELL AREA. THE CELL FLOOR HAD ALREADY BEEN EXCAVATED TO SUBGRADE, AND IN SOME AREAS DUE TO WET MATERIAL BEING ENCOUNTERED, TO BELOW SUBGRADE.

ACTIVITIES AND TEST RESULTS:

THE EAST BERM WAS WORKED TO TRY TO GET THE SUBGRADE TO PASS MOISTURE/DENSITY SPECIFICATIONS. PATRIOT AND GOLDER RAN NUCLEAR DENSITY TESTS ON THIS AREA. GOLDER'S TEST #'S SG-001 THRU SG-008 (SG- SUBGRADE) SHOWED THIS AREA TO PASS SITE SPECIFICATIONS. SG-007 FAILED MOISTURE SPEC., MOISTURE TO HIGH. THE AREA WAS DISKED AND ALLOWED TO AIR DRY AND RECOMPACTED. TEST SG-007R WAS THEN TAKEN GIVING A PASSING RESULT.

SUBMITTED BY:

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY
SHEET 2 OF 2

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QRA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA, IL

MONITORING SUMMARY FOR THE WEEK ENDING: 04/28/01

SUMMARY OF SURVEYOR'S ACTIVITIES: NO SURVEYOR ON SITE, BUT, THE CELL CONSTRUCTION AREA IS WELL STAKED TO SUBGRADE ELEVATIONS.

SUMMARY OF PROBLEMS AND RESOLUTIONS: THE DIFFERENCE BETWEEN THE READINGS OF THE SEAMAN C-75 GAUGE BEING USED BY PATRIOT AND THE CPN MC-3 GAUGE BEING USED BY GOLDER IS AS MUCH AS 10 PCF IN MAX. DRY DENSITY, WHILST THE MOISTURE CONTENT IS WITHIN 1%. ALSO THE CAPABILITIES OF THE SEAMAN C-75 GAUGE TO TAKE AN 8 INCH READING ARE A CONCERN. NOT RESOLVED YET.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD: (ATTENDEES & ISSUES)
2 MEETINGS HELD BETWEEN, GOLDER (RICHARD), LMS (TERRY & JACK), URS (DON) AND PATRIOT (MALISA) WERE HELD, THE SEAMAN C-75 GAUGES CAPABILITIES WERE DISCUSSED BOTH TIMES. A LETTER FROM SEAMAN NUCLEAR CORP. WAS REQUESTED TO CONFIRM THE GAUGES CAPABILITIES.

SUMMARY OF INCIDENTS/ACCIDENTS/HEALTH & SAFETY ISSUES:
NONE

SUBMITTED BY:

RESIDENT MANAGER

FIELD REPORT

JOB NO. 013-9659
PROJECT SOLUTIA / QA / SAUGET
LOCATION CAHOKIA
CLIENT SOLUTIA
OWNER SOLUTIA
CONTRACTOR LMS

DATE 04/24/01 TIME IN 1030 TIME OUT 1130
WEATHER SUNNY, 75°F
PRESENT AT SITE MAVERICK, GOLDER, LMS

ARRIVED ON SITE AT 1030. MET WITH JOHN AND ERIC OF MAVERICK. MET MELISA OF PATRIOT AND COLLECTED COMPOSITE SAMPLE # 002. THIS SAMPLE WAS SENT TO GOLDER'S, HOUSTON LAB FOR PROCTOR TEST, SAMPLE TRACKING ASSIGNMENT FORM ATTACHED. GOLDER WILL BE ON SITE FULL TIME STARTING 04/25/01.

PERSONNEL:

GOLDER - MARK SANAFORT (ENGINEER), RICHARD SIEMASZKIEWICZ (QA MANAGER)
MAVERICK - JOHN FIORE (CONSTRUCTION MANAGER), ERIC KEMPER (CONSTRUCTION MANAGER).
LMS - JACK LONG (PROJECT MANAGER) TONY WOODFIN
PIONEER - MELISA DALMEN (QA TECHNICIAN).
URS - GARY WANTLAND (DESIGN ENGINEER), DON GRAHIHER (ENGINEER).

LMS EQUIPMENT ON SITE: JOHN DEERE TRACTOR; INGERSOLL RAND SD100 SMOOTH DRUM; 563 CAT SHEEPS FOOT ROLLER; D5 LGP CAT DOZER, D6H CAT DOZER, D5C CAT DOZER; ~~325~~ 325 CAT EXCAVATOR, 2100 GAL WATER TRAILER, CAT PADDLE SCRAPER.

Signed: [signature]

Golder Associates
630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK

FIELD REPORT

JOB NO. 013-9659
PROJECT SOLUTIA | QA | SAUGET
LOCATION CAHOKIA
CLIENT SOLUTIA
OWNER SOLUTIA
CONTRACTOR LMS

DATE 04/25/01 **TIME IN** 0650 **TIME OUT** 1800
WEATHER PARTLY SUNNY, WARM, HIGH 78°F
PRESENT AT SITE GOLDER, MAVERICK, LMS, PATRIOT, URS

LMS ATTEMPTING TO GET THE EAST BERM CERTIFIED FOR SUBGRADE. THE PROBLEMS ENCOUNTERED WERE DIFFERENT MATERIAL TYPES THROW OUT THE AREA. AFTER DISKING AND WATERING THE NORTH PORTION OF THE BERM WAS TESTED AND PASSED.

PATRIOT AND GOLDER ATTEMPTED TO VERIFY THE ACCURACY OF THEIR RESPECTIVE NUCLEAR GAUGES. PATRIOT IS USING A SEAMAN C-75 AND GOLDER IS USING A CPN GAUGE. GREAT EFFORT AND SEVERAL TESTS WERE CARRIED OUT. WHILE THE GAUGES READ THE MOISTURE COMPARABLE THE WET DENSITY WAS DIFFERENT BY AS MUCH AS 11 PCF. A SAND CONE WAS TAKEN TO VERIFY THE WET DENSITY TO DETERMINE WHICH GAUGE WAS ACCURATE, THIS WAS UNSUCCESSFUL AS THE RESULTS OF THE SAND CONE WERE INDECIPHERABLE. LATER A DRIVE TUBE SAMPLE WAS TAKEN THIS WAS ALSO UNSUCCESSFUL AS THE MOISTURE OF THE MATERIAL WAS NOT UNIFORM IN THE TUBE. AFTER RUNNING SEVERAL MOISTURE CONTENTS ON THE MATERIAL THE 'AVERAGE' MOISTURE CONTENT REVEALED THAT AGAIN THE MOISTURE READINGS OF BOTH GAUGES WAS ACCEPTABLE. WHILST THE WD OF THE GOLDER GAUGE WAS WITHIN 1.5 PCF OF THE DRIVE TUBE, THE DRIVE TUBE SAMPLE WAS STILL UNCONCLUSIVE. LATER IT WAS LEARNED THAT THERE SHOULD BE NO OTHER NUCLEAR GAUGE WITHIN 30 FT OF THE C-75 SEAMAN GAUGE SO 3 TESTS WERE TAKEN ON THE NORTH PORTION OF THE EAST BERM WITH THE C-75, WITH THE CPN GAUGE NOT PRESENT. THESE TESTS PASSED SPECS.

FIELD TEST SHEET ATTACHED.

Signed : R. [illegible]

Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO : MAVERICK.

FIELD REPORT

SHEET #2

JOB NO. 013-9659

PROJECT SOLUTIA/QA/SAMPLE

LOCATION CAHOKIA

CLIENT SOLUTIA

OWNER SOLUTIA

CONTRACTOR LMS

DATE 04/25/01 TIME IN 0650 TIME OUT 1800

WEATHER PARTLY SUNNY, WARM, HIGH 78°F

PRESENT AT SITE GOLDER, MAVERICK, LMS, PATRIOT.

LMS EQUIPMENT BEING USED: -

- JOHN DEERE TRACTOR - PULLING 2100 GALLON WATER TRAILER.
- INGERSOLL RAND SD100 - SMOOTH DRUM.
- 416B CAT WHEELED BACKHOE.
- D5 LGP CAT DOZER - PULLING FARM DISK.
- D6H CAT DOZER.
- 563 CAT SHELL PROPELLED SHEEPS FOOT ROLLER.
- CAT SCRAPER.

IN BORROW SOURCE

- D5C CAT DOZER.
- 325 CAT EXCAVATOR.

Signed: [signature]

Golder Associates

1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK.

FIELD REPORT

JOB NO. 013 - 9659
PROJECT SOLUTIA / QA / SAUGET
LOCATION CAHOKIA
CLIENT SOLUTIA
OWNER SOLUTIA
CONTRACTOR LMS

DATE 04/26/01 TIME IN 0650 TIME OUT 1700
WEATHER SUNNY, WARM, 80°F
PRESENT AT SITE GOLDER, MAVERICK, LMS, URS, PATRIOT & HARRIS DRILLING.

LMS - STRIPPING TOPSOIL FROM SOUTH AND WEST BERM LOCATIONS. DISKED SOUTH PORTION OF THE EAST BERM THEN STARTED TO WATER AND COMPACT THE AREA.

DISCUSSION ABOUT THE COMPATABILITY OF THE SEAMAN GAUGE WITH THE CPN GAUGE. CONTINUES THERE IS SOME DIFFERENCE OF OPINION ABOUT THE CAPABILITIES OF THE SEAMAN GAUGE AND PATRIOT WAS ASKED TO PROVIDE A LETTER FROM SEAMAN NUCLEAR CORPORATION TO RECTIFY THIS.

SOIL MATERIAL WAS TAKEN FROM THE SOUTH WEST AREA OF THE SOUTH BERM AND FROM THE MIDDLE OF THE WEST BERM FOR PROCTOR TESTS.

AT 1300 A MOISTURE TEST WAS TAKEN ON THE SANDY MATERIAL IN THE SOUTH PORTION OF THE EAST BERM, THE RECORDED % MOISTURE CONTENT WAS AROUND 12%, TOO LOW TO MEET REQUIREMENTS. LMS CONTINUED TO WATER AND COMPACT THE AREA.

AT 1640 ANOTHER TEST WAS TAKEN IN THE SAME AREA THE % MOISTURE CONTENT HAD RISEN TO 23% THIS WAS NOW TOO HIGH TO MEET THE REQUIREMENTS. LMS DISKED AND RECOMPACTED THE AREA, WILL RE-TEST IN THE MORNING.

URS AND GOLDER DISCUSSED CERTAIN ASPECTS OF THE SITE SPECIFICATIONS, INCLUDING - THE SUBGRADE, LAYER BONDING OF THE TRACKED-IN-PLACE FILL AND TESTING FREQUENCYS.

EQUIPMENT IN USE; - JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER; D5 LGP CAT DOZER PULLING FARM DISK, D6H CAT DOZER; 563 CAT SHEEPS FOOT COMPACTOR & CAT PADDLE SCRAPER.

Signed : [signature]

Golder Associates
30 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO : MAVERICK.

FIELD REPORT

JOB NO. 013-9659
PROJECT SOLUTIA / QA / SAUGET
LOCATION CAHOKIA, IL.
CLIENT SOLUTIA
OWNER SOLUTIA
CONTRACTOR LMS

DATE 04/27/01 TIME IN 0650 TIME OUT 1740
WEATHER SUNNY, WARM
PRESENT AT SITE GOLDER, MAVERICK, LMS, UR. PATRIOT.

LMS - COMPACTED THE SOUTH PORTION OF EAST BERM, PATRIOT TOOK THREE NUCLEAR DENSITY TESTS USING THE C-75 GAUGE, GOLDER TOOK THE SAME THREE TEST (IE SAME LOCATION & DEPTH). BETWEEN THESE TESTS THE COMPARISONS IN MOISTURE & DENSITY ARE AS FOLLOWS: #SG-005: GOLDER %M = 14.9, %COMP = 96.7; PATRIOT %M = 16.8, %COMP = SG-006: GOLDER %M = 17.8, %COMP. = 97.4; PATRIOT %M = 24.6, %COMP. = 83.9; SG-007 = GOLDER %M = 27.5, %COMP = 95.0; PATRIOT %M = 33.0, %COMP. = 89.4. IT WAS THEREFORE DECIDED UNTIL THE MATTER ABOUT THE SEAMAN GAUGE HAS BEEN RESOLVED THE RESULTS TAKEN, BY THE TESTS RUN, BY THE CPN GAUGE WOULD BE USED. SG-005, 006, 007, 007R & 008 WERE TAKEN ON THE EAST BERM. SG-007 FAILED MOISTURE SPEC, THIS AREA WAS REWORKED AND TESTED AGAIN SG-007R. TEST LOCATIONS ARE SHOWN ON THE ATTACHED SITE PLAN SHEET. THE EAST BERM IS READY FOR COMPACTED FILL.

LMS - CONTINUED TO REMOVE TOPSOIL FROM THE WEST BERM, AND STOCKPILE ALONG THE SOUTH AND WEST SIDES OF THE CELL CONSTRUCTION AREA.

A COUPLE OF MOISTURES WERE TAKEN IN THE SOUTH BERM INCLUDING THE WET AREA, THESE TURNED OUT TO BE WET OF OPTIMUM READING AN AVERAGE OF 25% MOISTURE CONTENT. CONTRACTOR TO DISK AND LET AIR DRY ON MONDAY AND TEST AGAIN. THE WHOLE CELL AREA WAS SMOOTH DRUM ROLLED TO SEAL THE SUBGRADE BEFORE LEAVING FOR THE WEEKEND.

A SECOND REQUEST FOR INFORMATION / LETTER ON THE SEAMAN C-75 GAUGE WAS MADE TO LMS. EQUIPMENT IN USE:- JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER; D5 LGP CAT DOZER PULLING FARM DISK, D6H CAT DOZER, 563 CAT SHEEPS FOOT COMPACTOR & CAT PADDLE SCRAPER.

Signed: [signature]

Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK.

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 5/4/01

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS and PATRIOT

SUMMARY OF CONSTRUCTION PROGRESS: CONTRACTOR COMPLETED PREPARATION OF SUBGRADE TO THE SITE SPECIFICATIONS. CONTRACTOR PLACED AND COMPACTED THE FIRST CLAY LIFT ON THE EAST, SOUTH AND WEST BERMS. ALL SOIL MATERIAL WAS HAULED FROM THE PRE-ACCEPTED BORROW SOURCE. THE MATERIAL ARRIVING ON SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGE.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED, UNDER GOLDERS OBSERVATION ,UNTIL A PASSING TEST WAS RECORDED. NUCLEAR DENSITY TEST NUMBER'S SG-007 THROUGH SG-017 WERE TAKEN AND RECORDED. GOLDER TOOK 2 SOIL SAMPLES AT THE SAME TIME AS PATRIOT FOR LABORATORY MOISTURE CONTENT TESTING. THIS WAS DONE TO EVALUATE PATRIOTS MICROWAVE TEST PROCEDURE AGAINST A LABORATORY DRY AIR OVEN TEST. THE RESULTS SHOW NO SIGNIFICANT DIFFERENCE BETWEEN THE TWO TEST PROCEDURE RESULTS AND NO FURTHER ACTION WILL BE TAKEN ,AND PATRIOTS MICROWAVE TEST PROCEDURE WILL BE ACCEPTED.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 5/5/01

SUMMARY OF SURVEYOR'S ACTIVITIES: SURVEYOR ON SITE TO RECORD SUBGRADE ELEVATIONS ON THE NORTH BERM AND THE TOP OF FIRST CLAY LIFT ON THE EAST, SOUTH AND WEST BERMS.

SUMMARY OF PROBLEMS AND RESOLUTIONS: THE CAPABILITIES OF THE SEAMAN NUCLEAR DENSITY GAUGE WERE RESOLVED BY PATRIOT STATING THAT ANOTHER GAUGE WITH KNOWN CAPABILITIES WOULD BE SENT TO THE SITE.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES): A MEETING WAS HELD ON FRIDAY 04 MAY, TO DISCUSS THE SEAMAN GAUGE. A COPY OF THE MEETING MINUETS IS ATTACHED.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES: NONE

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD REPORT

JOB NO.	013-9659	**DATE** 04/30/01 **TIME IN** 0650 **TIME OUT** 1800	
PROJECT	SOLUTIA / QA / SAUGET	**WEATHER** SUNNY IN AM, CLOUDY IN PM., HIGH 84°F	
LOCATION	CAHOKIA, IL	**PRESENT AT SITE** GOLDER, MAVERICK, LMS, URS & PATRIOT.	
CLIENT	SOLUTIA		
OWNER	SOLUTIA		
CONTRACTOR	LMS		

LMS - STARTED TO HAUL CLAY MATERIAL FROM BORROW SOURCE AT 0730. STARTED PLACING CLAY ON EAST BERM STARTING AT THE NORTH END GOING SOUTH, IN A 12 INCH THICK LOOSE LIFT. 1 NUCLEAR DENSITY TEST WAS TAKEN ON THE MATERIAL USING THE SEAMAN C-75 GAUGE. SINCE THE MOISTURE CONTENT IS COMPATABLE WITH THE CAN GAUGE AND THE DENSITY READINGS BEING CONSISTENTLY LOWER THAN THE CAN GAUGE, I FEEL THAT A GREATER EFFORT IS NEEDED TO MEET COMPACTION SPECS, SO THE USE OF THE C-75 GAUGE IS ACCEPTABLE. UNTIL VERIFIED OTHERWISE IT IS 'AGREED' THAT TWO TESTS WILL BE PERFORMED (AFTER FIRST LIFT). AT EACH LOCATION. ONE IN THE FIRST 6 INCHES AND ONE IN THE LOWER 6 INCHES. THIS WILL BE ACHIEVED BY CUTTING A DEEPER SLOT AND ALLOWING THE GAUGE TO READ THE LOWER PORTION OF THE LIFT. AT THE START OF THE FIRST LIFT PLACEMENT IT WAS OBSERVED THAT THE LOOSE LIFT THICKNESS WAS ABOUT 6-7 INCHES. AFTER BRINGING THIS TO THE ATTENTION OF LMS SUPERINTENDENT THE LIFT THICKNESS WAS INCREASED TO AROUND 12 INCHES LOOSE. SURVEYOR WAS ON SITE ALL DAY TO VERIFY SUBGRADE ELEVATIONS. APPROXIMATELY AN AREA FROM THE NORTH POINT SOUTH 325 FT ON THE EAST BERM WAS COMPLETED TO LIFT #1. ALSO APPROXIMATELY 980 cu yds OF MATERIAL WAS HAULED AND PLACED.

EQUIPMENT USED:- 8x TANDEM DUMP TRUCKS, 1x D5LPH CAT DOZER, PULLING A FARM DISK, 1x JOHN DEERE TRACTOR PULLING A 2100 gal WATER TRAILER, 1x D6H CAT DOZER, 1x 563 CAT SHEEPSFOOT. AT THE BORROW SOURCE:- 1x 325 CAT EXCAVATOR, 1x D5C CAT DOZER.

Signed: [signature]

Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK.

FIELD REPORT

JOB NO. 013-9659
PROJECT SOLUTIA / QA / SAUGET
LOCATION CAHOKIA / IL.
CLIENT SOLUTIA
OWNER SOLUTIA
CONTRACTOR LMS

DATE 04/30/01 TIME IN 0650 TIME OUT 1800
WEATHER SUNNY IN AM, CLOUDY IN PM, HIGH 84°F
PRESENT AT SITE GOLDER, MAVERICK, LMS, URS & PATRIOT.

OBSERVATION OF THE METHOD OF MATERIAL PLACEMENT FOLLOWS THE SITE SPECIFICATIONS. THE MATERIAL WAS HAULED FROM THE BORROW SOURCE IN TANDEM DUMP TRUCKS EACH CARRYING APPROXIMATELY 10 cu yds (COMPACTED) CLAY. THE CLAY WAS DUMPED IN A MANNER THAT THE TRUCKS DIDNOT RUN OVER THE UNDERLYING LAYER. IT WAS THEN SPREAD BY THE D6H CAT DOZER AND COMPACTED USING THE 563 CAT SHEEPSFOOT COMPACTOR. AT THIS TIME IT WAS NOT NECESSARY TO ADD ANY WATER AS THE MATERIAL LOOKED TO HAVE A MOISTURE CONTENT ABOVE OPTIMUM.

ATTACHED IS A COPY OF THE GOLDER, HOUSTON LAB RESULTS FOR THE PROCTOR CARRIED OUT ON SAMPLE # 02. THE DD AND % MOISTURE ARE WITHIN ACCEPTABLE LIMITS, THIS WILL BE CALLED QA SAMPLE # 001.

Signed :

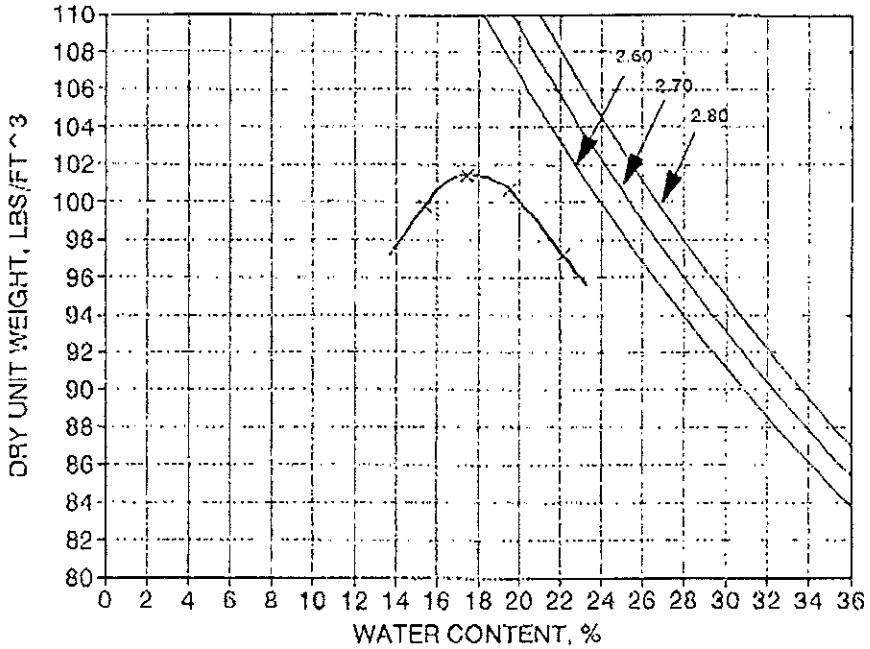
Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO : MAVERICK.

COMPACTION TEST RESULTS

ASTM D-698 (STANDARD PROCTOR)

MAXIMUM DRY DENSITY (PCF):	101.4
OPTIMUM. MOISTURE CONTENT:	17.4



NAT. MOIST		PL (%) :	
LL (%) :		PI (%) :	0

DESCRIPTION :		
PROCEDURE: A	SOIL PREPERATION: MOIST	HAMMER: MECHANICAL-5.5 LBS/12" FALL

PROJECT NUMBER:	013-9659	TESTED BY :	PN
BOREHOLE NUMBER :		CALCULATED BY:	PN
SAMPLE NUMBER :	OZ (QA #001).	CHECKED BY:	
DEPTH OF SAMPLE :		DATE TESTED :	04/25/01

GOLDER ASSOCIATES

Houston, Texas

FIELD REPORT

JOB NO.	013 - 9659	**DATE** 05/01/01	**TIME IN** 0655 **TIME OUT** 1800
PROJECT	SOLUTIA / QA / SAUGET	**WEATHER**	SUNNY, WARM, 84°F
LOCATION	TSCA CELL, CAHOKIA, IL	**PRESENT AT SITE**	GOLDER, MAVERICK, LMS, PATRIOT, URS
CLIENT	SOLUTIA		
OWNER	SOLUTIA		
CONTRACTOR	LMS		

LMS - CONTINUED TO PLACE FIRST LIFT ON EAST BERM. THE SUBGRADE WAS SCARIFIED AND WATERED PRIOR TO PLACEMENT OF CLAY. COMPLETED TO WITHIN 20 FT OF THE SOUTH SIDE OF CELL CONSTRUCTION. THE WEST BERM WAS DISCED AND LEFT TO AIR DRY. THE SOUTH BERM WAS COMPACTED USING AN 815 CAT COMPACTOR. NUCLEAR DENSITY TEST #'S SG-009 THRU SG-013 WERE TAKEN, SG-009 FAILED COMPACTION OF 95% BUT PASSED SITE SPECIFICATION OF 90% TO 95% IF ONE-IN-FIVE TESTS. THE MOISTURE WAS 3% TO 4% BELOW OPTIMUM. THIS WAS DISCUSSED IN DETAIL WITH THE DESIGN ENGINEER (URS) AND THE AREA WAS ACCEPTED AS PASSING SUBGRADE SPECIFICATIONS. SEE ALSO ATTACHED MEMO. OBSERVATIONS OF THE MATERIAL BEING DELIVERED TO SITE THROUGH OUT THE DAY REVEALED ONLY MINOR CHANGES IN THE MOISTURE OF THE MATERIAL AND NO NOTICEABLE DIFFERENCE IN MATERIAL CLASSIFICATION. OBSERVATIONS OF THE HAUL TIME OF THE TRUCKS WAS TAKEN AND ON AVERAGE A ROUND TRIP TOOK BETWEEN 45 TO 55 MINUTES. PATRIOT QC TECHNICIAN ALSO TOOK NUCLEAR DENSITY TEST # B-002 ON THE EAST BERM, THIS TEST GAVE A PASSING % COMPACTION OF 97.8% AND A PASSING MOISTURE CONTENT OF 17.0%.

EQUIPMENT USED :- 815 CAT COMPACTOR; 563 CAT COMPACTOR; D6H CAT DOZER, D5LGP CAT DOZER PULLING A FIELD DISK; JOHN DEERE TRACTOR PULLING A 2100 gal. WATER TRAILER; INGERSOLL RAND SD100 SMOOTH DRUM ROLLER; 12 TANDEM DUMP TRUCKS. AT BORROW SITE :- D5C CAT DOZER & 325 CAT EXCAVATOR. APPROXIMATELY 1490 cu yds OF MATERIAL WAS HAULED AND PLACED. PATRIOT QC TOOK 2 SAMPLES FOR MOISTURE CONTENT VARIFICATION FROM THE

Signed : R. [illegible]

Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK

FIELD REPORT

PAGE #2

JOB NO. 013-9659	DATE 05/01/01 TIME IN 0655 TIME OUT 1800
PROJECT SOLUTIA/QA/SAUGET	WEATHER SUNNY, WARM, 84°F
LOCATION TSCA CELL, CAHOKIA	PRESENT AT SITE GOLDER, MAVERICK, LMS,
CLIENT SOLUTIA	PATRIOT, URS.
OWNER SOLUTIA	
CONTRACTOR LMS	

SOUTH BERM. ONE SAMPLE #001 WAS TAKEN AT A DEPTH OF 6 INCHES AND ANOTHER SAMPLE #002 WAS TAKEN AT A DEPTH OF 2 INCHES. AT THIS TIME THE SAMPLES WERE SPLIT WITH GOLDER FOR LABORATORY TESTING. THIS WAS TO VERIFY IN FIELD MICROWAVE TESTING METHOD AND PRACTICES WERE WITHIN ACCEPTABLE LIMITS. A WATER CONTENT DETERMINATION SHEET IS ATTACHED SHOWING RESULTS. AT THIS TIME GOLDER AND URS FEEL THAT PATRIOT'S IN FIELD METHODS ARE ACCEPTABLE.

PATRIOT ALSO TOOK 2 SAMPLES OF THE SUBGRADE ALONG THE NORTH/WEST FLOOR OF THE CELL FOR MOISTURE CONTENT DETERMINATION. ONE TEST TAKEN @ ELEVATION 396.0 RESULTED IN A 26% MOISTURE CONTENT. THE OTHER TEST TAKEN @ ELEVATION 398.5 RESULTED IN A 35% MOISTURE CONTENT.

Signed: [signature]

Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK

WATER CONTENT DETERMINATION

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
SITE LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / PATRIOT.

SAMPLE NUMBER	SB-001			SB-001		
TARE NUMBER				1		
WEIGHT OF WET SOIL + TARE (gm)		←		279.8	←	
WEIGHT OF DRY SOIL + TARE (gm)		PATRIOTS.		225.3	GOLDERS	
WEIGHT OF WATER (gm)				54.5 ✓		
WEIGHT OF TARE (gm)				4.2		
WEIGHT OF DRY SOIL (gm)				221.1 ✓		
WATER CONTENT (%)	28.5			24.7 ✓		

SAMPLE NUMBER	SB-002			SB-002		
TARE NUMBER				2		
WEIGHT OF WET SOIL + TARE (gm)		←		142.6	←	
WEIGHT OF DRY SOIL + TARE (gm)		PATRIOTS		127.6	GOLDERS.	
WEIGHT OF WATER (gm)				15.0 ✓		
WEIGHT OF TARE (gm)				4.2		
WEIGHT OF DRY SOIL (gm)				123.4 ✓		
WATER CONTENT (%)	12.3			12.2 ✓		

MPLE NUMBER						
TARE NUMBER						
WEIGHT OF WET SOIL + TARE (gm)						
WEIGHT OF DRY SOIL + TARE (gm)						
WEIGHT OF WATER (gm)						
WEIGHT OF TARE (gm)						
WEIGHT OF DRY SOIL (gm)						
WATER CONTENT (%)						

$$\text{WATER CONTENT (\%)} = \frac{\text{WEIGHT OF WATER}}{\text{WEIGHT OF DRY SOIL}} \times 100$$

TESTED BY: RS
CALCULATED BY: RS
CHECKED BY: TAM

DATE OF TESTING: 05/01/01
REMARKS: SAMPLE #001 TAKEN AT 6 INCH DEPTH
SAMPLE #002 TAKEN AT 2 INCH DEPTH

URS CORPORATION

Memo

To: John Fiore, Maverick

From: Don Grahlherr, URS

CC: Gary Wantland, URS

Richard Siemaszkiewicz, Golder

Date: 05/01/01

Re: Release of Subgrade beneath South Berm

Background:

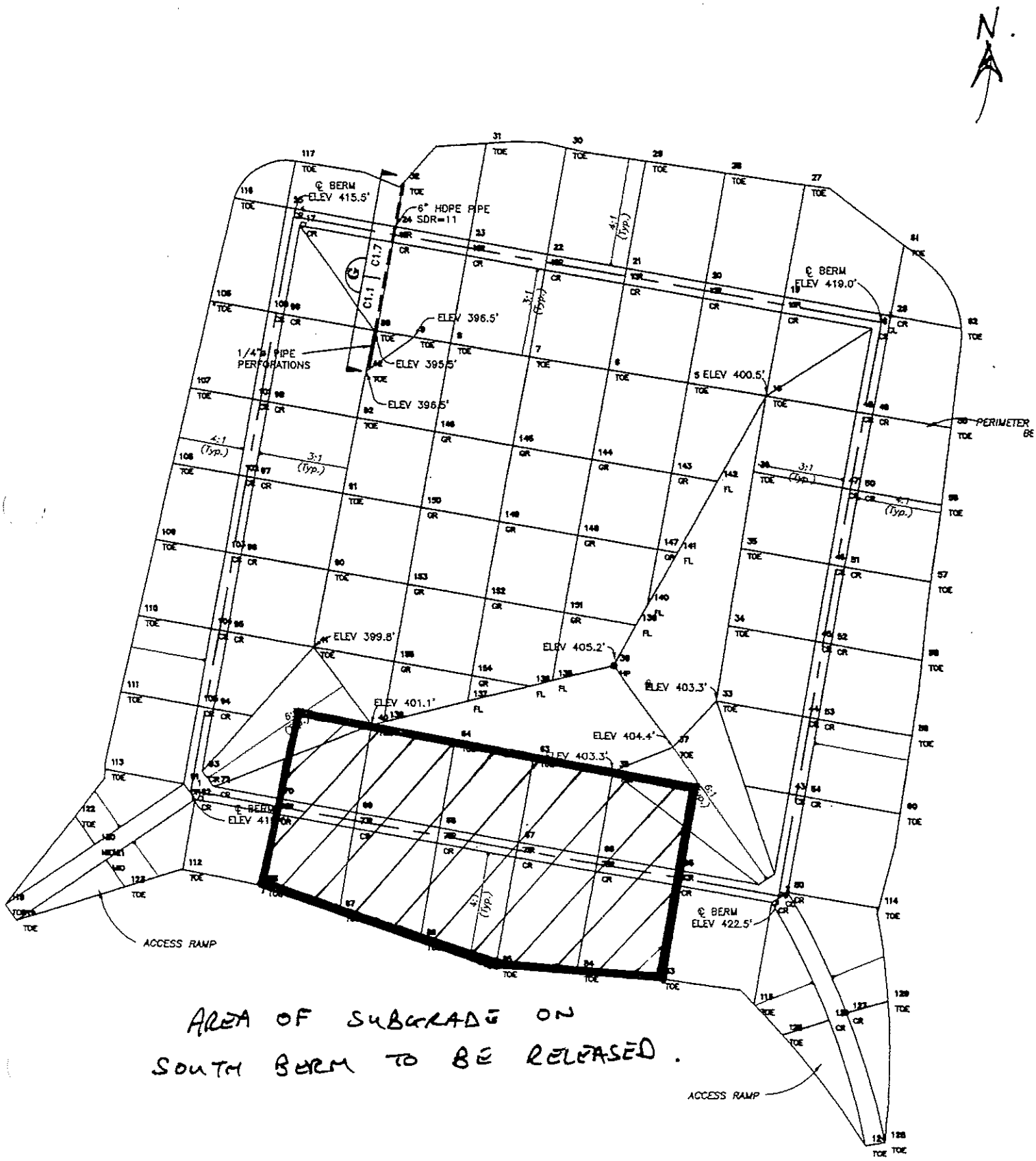
- The subgrade beneath the south berm was over-excavated approximately 1 to 2 ft by LMS last week due to identification of wet, soft materials. LMS attempted to compact the area late last week, but without success due to high water content. LMS disked the area early this week to allow it to dry. The area was re-compacted this morning with a CAT 815 compactor (padsfoot) and smooth drum roller.

- We observed both compactors on this subgrade this morning and noted very minor pumping which improved after rolling. We believe that this subgrade surface appears adequately prepared and will support the placement of subsequent compacted fill lifts.

- Density and moisture content testing performed by QC this afternoon showed the material to be well-compacted (4 tests at 97 to 99 % maximum density, one at 92%). However, the moisture content from the nuclear densometer generally showed the material to be 3 to 4 % below optimum water content. These tests were performed on a smooth-drum rolled surface (vs. cutting down a few inches to make a flat surface). We recognized that the moisture contents taken with these tests were likely not representative for the entire lift (material appeared very dry on surface). We obtained grab samples from about 2 to 6 inches below the surface for on-site laboratory microwave moisture content tests with results indicating a moisture content closer to optimum. In addition, we split the samples for comparison testing by Golder.

Recommendation:

Based on the conditions and test results described above, we believe the subgrade preparation beneath the south berm generally meets the project specifications and should be accepted for compacted fill placement. See approved area on attached sketch.



AREA OF SUBGRADE ON SOUTH BERM TO BE RELEASED.

FIELD REPORT

JOB NO. 013 - 9659

PROJECT SOLUTIA / QA / SAUGET

LOCATION TSCA CELL, CAHOKIA

CLIENT SOLUTIA

OWNER SOLUTIA

CONTRACTOR LMS

DATE 05/02/01 TIME IN 0655 TIME OUT

WEATHER PARTIALLY SUNNY, BREEZY, HIGH 84°F

PRESENT AT SITE GOLDER, MAVERICK, LMS, URS & PATRIOT

LMS COMPLETED PLACEMENT OF LIFT #1 ON EAST BERM. TEST # B-003 WAS TAKEN - PASSED DENSITY/MOISTURE SPECS. LMS STARTED TO PLACE LIFT #1 ON SOUTH BERM, TEST # B-004 WAS TAKEN THIS ALSO PASSED SPECS. LMS DISCED AND WATERED THE WEST BERM AND COMPACTED USING A CAT 815 COMPACTOR, TEST #'S SG-013, SG-014 & SG-015 WERE TAKEN. SG-013 PASSED SPEC, WHILST SG-014 & SG-015 FAILED ON THE MOISTURE SPECIFICATION OF -2 TO +3 % OF OPT MOIST. THE AREA WAS DISCED AND RE-WATERED AND RE-COMPACTED, SG-014R AND SG-015R WERE TAKEN BOTH MET SPECIFICATIONS. A DISCUSSION WITH LMS ABOUT THE REQUIREMENTS OF SURVEYING THE FIRST PLACED LIFT OF THE COMPACTED FILL WAS HELD. THERE WAS A LITTLE CONFUSION ABOUT THIS. MR FIORE (CONSTRUCTION MANAGER) WAS INFORMED AND HE VERIFIED THIS REQUIREMENT WITH LMS.

VISITED THE BORROW SOURCE WITH DON (URS) AND ERIC (MAVERICK) TO OBSERVE THE LOADING OPERATION AND INSPECT THE STATE OF FUTURE MATERIAL.

EQUIPMENT BEING USED:- 815 CAT COMPACTOR; 563 CAT. COMPACTOR; D6H CAT. DOZER; D5LGP CAT. DOZER PULLING A FIELD DISK; JOHN DEERE TRACTOR PULLING A 2100 GAL WATER TRAILER; INGERSOLL RAND SD 100 SMOOTH DRUM ROLLER; 12 TANDEM TRUCKS.

AT BORROW SOURCE:- D5C CAT DOZER & 325 CAT EXCAVATOR.

APPROXIMATELY 1280 cu yds OF MATERIAL WAS HAULED AND PLACED. THIS WAS DOWN FROM PREVIOUS DAY DUE PARTLY TO ILLINOIS STATE POLICE COMMERCIAL VEHICLE CHECK POINT ALONG HAUL ROUTE.

Signed: [signature]

Golder Associates

630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK.

FIELD REPORT

JOB NO. 013-9659	DATE 05/03/01 TIME IN 0655 TIME OUT 1750
PROJECT SOLUTIA/RIA/SAUGET	WEATHER SUNNY, BREEZY IN PM, HIGH 87°F
LOCATION TSCA CELL, CAHOKIA	PRESENT AT SITE GOLDER, MAVERICK, LMS
CLIENT SOLUTIA	URS & PATRIOT.
OWNER SOLUTIA	
CONTRACTOR LMS	

LMS COMPLETED FIRST LIFT ON SOUTH BERM AND STARTED FIRST LIFT ON WEST BERM, FROM SOUTH END WORKING NORTH. APPROXIMATELY 250 FT WAS COMPLETED. NO NUCLEAR DENSITY TESTING WAS CARRIED OUT. HOWEVER MOISTURE CONTENT WAS RAN ON THE NORTH BERM MATERIAL. THIS REVEALED A MOISTURE CONTENT OF AROUND 35%. THE NORTH BERM WAS DISKED OPEN AND ALLOWED TO AIR DRY. LATER IN THE DAY THE 815 CAT COMPACTOR WAS USED TO COMPACT THE NORTH SLOPE. MARK SANDFORT AND MIKE LEHRON OF GOLDER VISITED THE SITE AND BORROW SOURCE AREA. THE SUITABILITY OF THE SILTY MATERIAL IN THE WEST BERM FOR USE AS TRACKED-IN-FILL WAS DISCUSSED WITH GOLDER, PATRIOT AND URS. DON WILL CONTACT THE DESIGN ENGINEER TO DISCUSS THIS FURTHER.

EQUIPMENT BEING USED:- 815 CAT COMPACTOR; 563 CAT COMPACTOR; D6H DOZER; D5LGP CAT DOZER PULLING A FIELD DISK, 13 TANDEM TRUCKS.

AT BORROW SITE:- D5C CAT DOZER; 325 CAT EXCAVATOR.

APPROXIMATELY 1,720 cu.yds OF MATERIAL WAS HAULED AND PLACED.

SURVEYOR ARRIVED ON SITE.

HAD DISCUSSION WITH TERRY (LMS) REFERENCE CONCERN ABOUT THE MOISTURE IN THE PLACED LIFTS. IF IT WAS GOING TO BE A LONG TIME BETWEEN LIFTS THE PLACED MATERIAL NEEDS TO BE KEPT MOIST.

Signed: [signature]

Golder Associates
630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK

FIELD REPORT

JOB NO. 013 - 9659
PROJECT SOLUTIA/ QA/ SAUGET
LOCATION TSCA CELL, CAHOKIA
CLIENT SOLUTIA
OWNER SOLUTIA
CONTRACTOR LMS

DATE 05/04/01 **TIME IN** 0655 **TIME OUT** 1750
WEATHER PARTLY CLOUDY, HIGH 87°F
PRESENT AT SITE GOLDER, MAVERICK, LMS, UAS & PATRIOT - INCLUDING MIKE VAUGHT PROJECT MANAGER FOR PATRIOT.

LMS - COMPLETED PLACEMENT OF FIRST LIFT ON WEST BERM. NUCLEAR DENSITY TEST #'S B-006 & B-007 WERE TAKEN ON THE SOUTH AND MIDDLE PORTION OF THE WEST BERM @ 1000. BOTH TESTS MET SITE SPECIFICATIONS, WITH COMPACTIONS OF 96.5 - 99.9% AND MOISTURE CONTENTS OF 17.0 - 18.7%. LMS AFTER COMPACTING WITH THE 815 COMPACTOR THEN SMOOTH DRUM ROLLING TESTED THE SUBGRADE OF THE NORTH BERM. NUCLEAR DENSITY TEST #'S SG-016, SG-017 AND SG-018 WERE TAKEN. ALL TESTS FAILED BOTH DENSITY & MOISTURE SPECS. IT WAS OBSERVED THAT THERE WAS STILL A LOT OF VEGETATION IN THE SUBGRADE, LMS IS TO CUT DOWN AT LEAST ANOTHER 4 INCHES TO REMOVE ANY TOPSOIL REMAINING ON THE BERM.

NUCLEAR DENSITY TEST # B-005 WAS TAKEN ON THE WEST SIDE OF THE SOUTH BERM, THIS TEST FAILED COMPACTION. LMS REWORKED THE AREA WITH THE 815 COMPACTOR AND TEST B-005R WAS TAKEN @ 1300, THIS TEST PASSED SITE SPECS. AT THIS TIME NUCLEAR DENSITY TESTS # SG-016R & SG-017R WERE TAKEN OF NORTH BERM BOTH TESTS PASSED SITE SPECS. COMPACTION 99.0% AND MOISTURE 17.9 - 20.2%.

SURVEYORS ARRIVED ON SITE TO RECORD TOP OF FIRST LIFT ON EAST, SOUTH AND WEST BERMS, AND SUBGRADE ON THE NORTH BERM.

A MEETING WAS HELD TO DISCUSS THE SEAMAN C-75 GAUGE, SEE ATTACHED MEETING MINUTES.

Signed: [signature]

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TO: MAVERICK.

FIELD REPORT

PAGE 2

JOB NO. 013-9659

PROJECT SOLUTIA / RA / SAUGET

LOCATION TSCA CELL, CAHOKIA

CLIENT SOLUTIA

OWNER SOLUTIA

CONTRACTOR LMS

DATE 05/04/01 TIME IN 0655 TIME OUT 1750

WEATHER PARTLY CLOUDY, HIGH 87°F

PRESENT AT SITE

EQUIPMENT USED:- 815 CAT COMPACTOR; 563 CAT COMPACTOR; D6H DOZER, JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER, 13 TANDEM DUMP TRUCKS.

AT BORROW SITE:- D5C CAT. DOZER; 325 CAT EXCAVATOR.

APPROXIMATELY 1,690 cu yds. OF MATERIAL WAS HAULED AND PLACED.

Signed: [signature]

Golder Associates

1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK

SITE MEETING NOTES
SOLUTIA TSCA AREA 1 CELL

Date: 05-04-01 Location: Site Conference Room

Attendees:

John Fiore- Maverick	Don Grahlherr- URS	Terry Woodfin- LMS
Richard Siemaszkiewicz – Golder	Mike Vaught- Patriot	Melissa Daumen- Patriot

Topics Discussed:

- The Seaman C75 Nuclear Gauge was discussed in detail. The main topic of concerns being the capability of the gauge to take an 8-inch deep test.
  - Richard asked about the confirmation letter from Seaman verifying this issue. Mike stated that Seaman had not responded to their request for a letter and that the letter would probably never happen. Mike stated that another gauge with a probe would be arriving on site sometime in the next two weeks.
  - Don asked about the proper procedure for using the gauge, especially utilizing the air gap test. Mike replied that this was only necessary at the start of work to standardize the gauge and that he could go from different materials and run density tests all day using the same air gap standard. Later Mike did state that a "Better" test would be achieved if the air gap method were utilized.
- John stated that all QC laboratory testing carried out in the field needed to be approved and stamped by a registered professional engineer in the State of Illinois. Mike stated this would be implemented on a weekly basis.
- John stated that the on-site work was progressing well and he does not foresee any immediate problems.

Copy: All Attendants
c.c.: Erik Kemper - Maverick
Mark Sandfort - Golder
Jack Long - LMS
Gary Wantland - URS

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 5/12/01

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT and ENVIRONMENTAL PRECISION ASSC.

SUMMARY OF CONSTRUCTION PROGRESS: CONTRACTOR COMPLETED PLACEMENT OF THE SECOND LIFT OF CLAY ON THE EAST AND SOUTH BERMS TO THE SITE SPECIFICATIONS.CONTRACTOR PLACED AND COMPACTED A THIRD LIFT ON THE EAST AND SOUTH BERMS. AFTER SURVEY VERIFICATION THIS LIFT WAS FOUND TO BE ONLY 3 to 4 inches. THICK. CONTRACTOR WILL PLACE ANOTHER THIN LIFT ON THIS AREA TO BRING THE LIFT THICKNESS UPTO NEARER 8 inches. NO DENSITY TESTING WAS PERFORMED ON THIS MATERIAL. CONTRACTOR ALSO PLACED AND COMPACTED LIFT TWO ON THE NORTH BERM TO THE SITE SPECIFICATIONS. THE SUBGRADE OF THE CELL FLOOR WAS PUMPED OF STANDING WATER, DISKED AND ALLOWED TO AIR DRY. THE FLOOR WAS LATER SMOOTH DRUM ROLLED IN CASE OF ANY MORE RAINFALL. ALL MATERIAL ARRIVING ON SITE WAS HAULED FROM THE PRE-ACCEPTED BORROW SOURCE. THE MATERIAL ARRIVING ON SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGE.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED, UNDER GOLDER'S OBSERVATION, UNTIL A PASSING TEST WAS RECORDED. NUCLEAR DENSITY TEST NUMBER'S B-008 THROUGH B-016 WERE TAKEN AND RECORDED. GOLDER TOOK A SOIL SAMPLE AT THE SAME TIME AS PATRIOT FROM THE PLACED MATERIAL IN THE WEST BERM FOR LABORATORY TESTING. THIS SAMPLE WILL BE NUMBERED QA-002 AND WILL BE TESTED IN GOLDER'S HOUSTON, TEXAS LABORATORY FOR; MOISTURE CONTENT, ATTERBERG LIMIT'S, 200 SIEVE AND STANDARD PROCTOR. THE RESULTS OF THIS TESTING WILL BE COMPARED TO THE RESULTS OBTAINED FROM PATRIOT TO EVALUATE TESTING AS PER THE SITE QA SPECIFICATION.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 5/12/01

SUMMARY OF SURVEYOR'S ACTIVITIES: SURVEYOR ON SITE TO RECORD THE TOP OF FIRST CLAY LIFT ON THE NORTH BERM. SURVEYOR ALSO RECORDED TOP OF SECOND LIFT ON THE NORTH BERM TO HELP CALCULATE THE YARDAGE BEING HAULED BY THE TANDEM DUMP TRUCKS.

SUMMARY OF PROBLEMS AND RESOLUTIONS: AS OF 05/12/01 PATRIOT STILL USUNG THE SEAMAN GAUGE AS A REPLACEMENT GAUGE HAS NOT YET BEING RECEIVED. THE YARDAGE BEING HAULED TO SITE FROM THE BORROW SOURCE IS IN QUESTION. TO VERIFY THIS LMS HAS WEIGHED A NUMBER OF TRUCKS, COUNTED LOADS AND UTILIZED THE SURVEY TO CALCULATE A MORE EXACT FIGURE. THE RESULTS OF WHICH SEEMS TO SHOW THAT THE ACTUAL CUBIC YARDAGE PER TRUCK (COMPACTED) IS CLOSER TO 7c.y. THAN 10 c.y. WHICH HAS BEEN USED TO DATE TO CALCULATE APPROXIMATE YARDAGE. SO ALL PREVIOUS NUMBERS HAVE BEEN CHANGED TO REFLECT THIS NUMBER AND A FIGURE OF 8 c.d./ TRUCK WILL BE USED FROM NOW ON FOR APPROXIMATE CALCULATIONS. A TOTAL OF 11840 c.y. HAS BEEN HAULED AND PLACED TO DATE.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES): AS STATED ABOVE A DISCUSSION ABOUT YARDAGE BEING HAULED WAS HELD. IN ATTENDANCE JACK, TERRY (LMS), DON (URS), AND RICHARD (GOLDER).

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES: NONE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD REPORT

JOB NO. 013-9659	DATE 05/07/01, TIME IN 0650 TIME OUT 1000
PROJECT SOLUTIA/QA/SAUGET	WEATHER CLOUDY, SHOWERS, HIGH 78°F
LOCATION TSCA CELL, CAHOKIA	PRESENT AT SITE GOLDER, MAVERICK,
CLIENT SOLUTIA	LMS & PATRIOT.
OWNER SOLUTIA	
CONTRACTOR LMS	

DUE TO RAINFALL OVER THE WEEKEND AND SHOWERS THROW-OUT THE DAY, LMS CALLED TRUCKS OFF. LMS - STRIPPED TOPSOIL FROM NORTH BERM AND REWORKED SOUTH BERM LIFT #1 IN LOW AREA TO REMOVE STANDING WATER.

LEFT SITE AT 1000 TO GO TO GOLDER OFFICE.

EQUIPMENT USED :- D6H DOZER, D5C DOZER. FOR 8 HOURS.

NO CLAY HAULED.

Signed : R. [illegible]

Golder Associates

1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO : MAVERICK

FIELD REPORT

JOB NO. 013 - 9659	DATE 05/08/01 TIME IN 0700 TIME OUT 1800
PROJECT SOLUTIA / QA / SAMPLET	WEATHER SUNNY, WARM, HIGH
LOCATION TSCA CELL, CAHOKIA	PRESENT AT SITE GOLDER, MAVERICK,
CLIENT SOLUTIA	LMS, URS & PATRIOT.
OWNER SOLUTIA	
CONTRACTOR LMS	

LMS - RE-WORKING EAST AND SOUTH BERM USING D5CCAT DOZER AND 815 CAT COMPACTOR. PLACED LIFT #1 ON NORTH BERM. NUCLEAR DENSITY TEST #'S B-008 AND B-009 TAKEN, B-009 FAILED SPEC FOR MOISTURE, TOO DRY @ 12.5%M. STARTED LIFT # 2 ON EAST BERM FROM THE NORTH SIDE WORKING SOUTH.

STANDING WATER IN THE NORTH WEST PORTION OF THE CELL FLOOR, THIS WAS BROUGHT TO TERRY'S (LMS) ATTENTION, HE STATED THAT HE HAD A PUMP AVALABLE ON SITE BUT WAS WAITING TO SEE IF THE WATER WOULD DRAIN ON ITS OWN.

THE D6H CAT WAS DOWN FOR REPAIRS IN THE MORNING, LMS USED MAVERICKS D4C CAT DOZER UNTIL THE D6H WAS REPAIRED.

OTHER EQUIPMENT USED:-

IN THE AFTERNOON D6H CAT DOZER; D5 LGP CAT DOZER; 815 CAT COMPACTOR; 563 CAT COMPACTOR; 11 TO 15 DUMP TRUCKS (MORE LATER IN DAY)

AT THE BORROW SOURCE:- D5C CAT DOZER; 325 CAT EXCAVATOR

APPROXIMATELY 1,580 cuyds OF MATERIAL WAS HAULED AND PLACED.

LMS AND PATRIOT WERE REMINDED THAT QC SAMPLING FOR THE FIRST 15,000 cuyds OF CLAY HAULED FROM THE BORROW SOURCE WAS COMING DUE AND IT WOULD BE A GOOD IDEA TO GET AHEAD AND COLLECT A SAMPLE FOR TESTING IN THE NEXT FEW DAYS. PATRIOT TO COLLECT SAMPLE ON 05/11/01 AND TAKE BACK TO LAB FOR TESTING.

Signed:

Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK.

FIELD REPORT

JOB NO. 013-9659
DATE 05/09/01 **TIME IN** 0650 **TIME OUT** 1755
PROJECT SOLUTIA / QA / SAMPLE
WEATHER SUNNY, HIGH 81°F
LOCATION TSCA CELL, CAHOKIA
PRESENT AT SITE GOLDER, MAVERICK, LMS, URS & PATRIOT.
CLIENT SOLUTIA
OWNER SOLUTIA
CONTRACTOR LMS

LMS - PLACED AND COMPACTED LIFT #2 ON EAST AND SOUTH BERMS NUCLEAR DENSITY TEST #'S B-010, B-011, B-012 & B-013 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. DENSITY RAN BETWEEN 96% TO 98% AND MOISTURE RAN BETWEEN 16% TO 21%. (SEE PATRIOT DAILY FOR LOCATIONS)

LMS - REWORKED WEST PORTION OF THE NORTH BERM USING THE 815 CAT COMPACTOR. NUCLEAR DENSITY TEST # B-009R WAS TAKEN WITH PASSING RESULTS OF 96.6% COMPACTION AND 16.5% MOISTURE CONTENT. PROCTOR S-114 WAS USED FOR B-010 AND S-113 WAS USED FOR THE REMAINDER TESTS.

MATERIAL OBSERVATIONS REVEALED THAT THE MATERIAL COMING ON-SITE IS OF A UNIFORM CONTENT AND SLIGHTLY ABOVE OPT. MOISTURE CONTENT. WITH THIS TAKEN IN TO ACCOUNT LMS WATERED THE PLACED LIFT PRIOR TO PLACEMENT OF THE NEXT LIFT.

A DISCUSSION BETWEEN GOLDER, LMS AND URS. WAS HELD ABOUT THE STANDING WATER IN THE NORTH WEST PORTION OF THE CELL FLOOR. TERRY STATED THAT HE STILL WANTS TO WAIT TO SEE IF IT WILL DRAIN ITSELF PREFERABLE TO PUMPING. THE REMAINING FLOOR WAS DISKED OPEN

EQUIPMENT USED :- D6H CAT DOZER; D5LGP CAT DOZER; 815 CAT COMPACTOR; 563 CAT COMPACTOR; JOHN DEERE TRACTOR PULLING WATER TRAILER. THE D5LGP WAS ALSO USED TO PULL A FIELD DISK. 12 TO 16 TANDEM DUMP TRUCKS

BORROW SOURCE :- D5C CAT DOZER, 325 CAT EXCAVATOR.

APPROXIMATELY 1,960 cu.yds OF MATERIAL WAS HAULED AND PLACED, LMS HAS A CONCERN THAT SOME OF THE TRUCKS WERE RUNNING LIGHT AND THAT HE WOULD RANDOMLY CHECK AND WEIGH TRUCKS TOMORROW AT THE BORROW SITE.

Signed : A. [illegible]

Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO : MAVERICK.

FIELD REPORT

JOB NO. 013-9659
DATE 05/10/01 **TIME IN** 0655 **TIME OUT** 1805
PROJECT SOLUTIA/QA/SAUGET
WEATHER SUNNY, HIGH 87°F
LOCATION TSCA CELL, CAHOKIA
PRESENT AT SITE GOLDER, MAVERICK, LMS, URS & PATRIOT
CLIENT SOLUTIA
OWNER SOLUTIA
CONTRACTOR LMS

PATRIOT AND GOLDER TOOK SOIL SAMPLE FROM THE MATERIAL BEING HAULED ON SITE AT 0700. GOLDERS, HOUSTON LABORATORY WILL RUN IDENTICAL TESTS AS PATRIOT FOR QA VERIFICATION. SEE ATTACHED SAMPLE TRACKING & ASSIGNMENT FORM FOR TEST REQUIREMENTS.

NUCLEAR DENSITY TEST # R-014 WAS TAKEN ON THE WEST PORTION OF THE SOUTH SLOPE ON LIFT #2. THIS TEST MET THE SITE SPECS WITH A DRY DENSITY = 106.8, % COMPACTION = 100.0% AND % MOISTURE CONTENT = 16.2%, (PROCTOR # S-113) A DRIVE TUBE SAMPLE WAS TAKEN AT THIS LOCATION AND THE RESULTS PRODUCED THE FOLLOWING DATA = DRY DENSITY = 106.0 AND A MOISTURE CONTENT = 17.1%. THIS DATA WAS ACCEPTED BY URS (DON) AND GOLDER

LMS - PUMPED THE STANDING WATER FROM THE N.W. PORTION OF THE CELL FLOOR, USING THE PUMP ON THE WATER TRAILER AND THEN USED THIS WATER TO WET DOWN THE CLAY LINER. A 1 FOOT DEEP SUMP WAS DUG IN THE N.W CORNER OF THE CELL TO ASSIST IN THE PUMPING OPERATION.

ALL LAB TEST DATA AND A STAMPED AND SIGNED COVER LETTER WAS RECIEVED FROM PATRIOT. THIS DATA WAS REVIEWED AND ACCEPTED BY URS AND GOLDER

A DISCUSSION ABOUT THE POSSIBLE USE OF THE IN-SITU SOIL MATERIAL IN THE INSIDE OF THE WEST BERM WAS HELD BETWEEN GOLDER, URS, MAVERICK AND LMS. SEVERAL SUGGESTIONS WERE GIVEN AND A LETTER WAS WRITTEN AND SENT TO GARY WANTLAND (URS DESIGN ENGINEER) FOR HIS REVIEW AND COMMENTS. A

NEXT PAGE

Signed:

TO: MAVERICK

Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

FIELD REPORT

PAGE # 2

JOB NO.	013-9659	DATE 05/10/01	TIME IN 0655 TIME OUT 1805
PROJECT	SOLUTIA/QA/SAUGET	WEATHER	SUNNY HIGH 80's
LOCATION	TSCA CELL, CAHOKIA	PRESENT AT SITE	
CLIENT	SOLUTIA		
OWNER	SOLUTIA		
CONTRACTOR	LMS		

COPY OF WHICH IS ATTACHED. LAB DATA ON THIS MATERIAL ALSO ATTACHED

LMS - PLACED LIFT # 3 ON EAST AND SOUTH BERMS. SURVEYOR ON SITE TO RECORD TOP OF LIFT # 1 ON THE NORTH BERM. AFTER SURVEYOR RECORDING RANDOM SHOTS ALONG THE EAST AND SOUTH BERMS IT WAS NOTED THAT THE ACTUAL LIFT THICKNESS WAS CLOSER TO 3 TO 4 INCHES AND NOT 8 OR 9 INCHES. LMS DECIDED THAT BEFORE ANY NUCLEAR DENSITY TESTING WAS CONDUCTED THAT THEY WOULD PLACE A THIN LIFT OVER THE EAST AND SOUTH BERMS TO BRING THE LIFT THICKNESS BACK TO 8 OR 9 INCHES.

LMS WEIGHED SEVERAL TRUCKS AND IT WAS DECIDED BY LMS THAT THE YARDAGE COMING ONTO SITE WAS PROBABLY NEARER 9 cu.yds (compacted) RATHER THAN 10 cu.yds. A TEST PORTION ON THE NORTH BERM WILL BE SURVEYED AND FIFTY LOADS WILL BE PLACED AND COMPACTED. THIS AREA WILL THEN BE SURVEYED AND THE CUBIC YARDAGE WILL BE CALCULATED. THIS WILL THEN GIVE A CLOSER ESTIMATE FOR THE cu.yd. OF EACH TRUCK LOAD.

EQUIPMENT USED: D6H CAT DOZER, 563 CAT COMPACTOR, 815 CAT COMPACTOR, JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 15 TANDEM DUMP TRUCKS. AT BORROW SITE: D5C CAT DOZER & 325 CAT EXCAVATOR.

APPROXIMATELY (USING 9 cu.yds / load) 1,800 cu.yds OF MATERIAL WAS HAULED AND PLACED.

THE WHOLE CELL AREA WAS SMOOTH DRUM ROLLED AT THE END OF THE WORK DAY.

Signed: [signature]

Golder Associates

1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

TO: MAVERICK

Sample Tracking & Assignment Form

Job Name: ____ SOLUTIA/QA/SAUGET Job Number: _ 013-9659 Location: TSCA CELL, CAHOKIA

Sampled By: __ RS Shipped By: _ FED-EX Date: ___ ### Sheet __ 1

Shipped From: _ CAHOKIA Shipped To: _ HOUSTON,TX Project Mgr: _ MARK SANDFORT

Borehole Number (Location)	Sample Number	Sample Type	Sample Depth (Lift Number)	Water Content	Clay Tests							Sand Tests			Extras									
					Atterberg (1 pt)	Sieve (-200)	Standard Proctor	Perm (Slow)	Perm (Remold)	Unit Weight	Specific Gravity (1 pt)	Sieve (Dry)	Sieve (Wet)	Perm (Rigid Wall)	Modified Proctor	One Point Proctor	Atterberg (3 pts)	Specific Gravity (3 pts)	Hydrometer	Unconfined Compression	Unconsolidated-Undrained			
LIFT#2	QA-001	BUCKET	LIFT #2																					

Notes:

URS CORPORATION

Sheet No. 1 Of 4

File _____

Made by DAG Date 5/10/01

FOR SOUTIA-SAUGET AREA 1 CELL

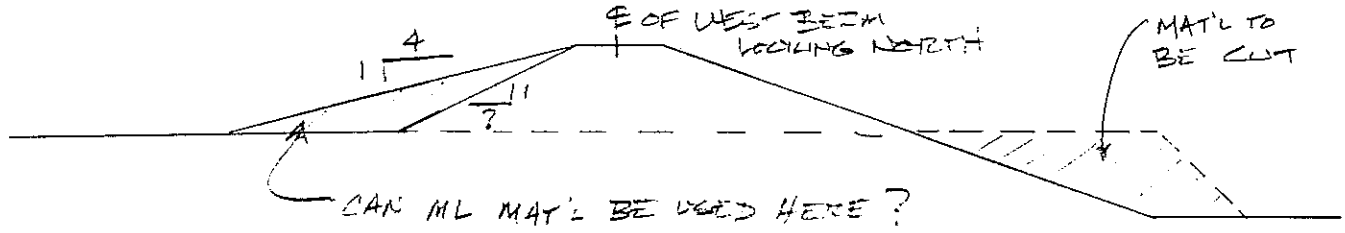
Checked by _____ Date _____

GARY,

JOHN FIORE ASKED ME TO GIVE YOU A CALL RE: DISCUSSED ALTERNATIVES FOR USE OF THE SUBGRADE CUT ON THE INSIDE OF THE WEST BERM. THIS WILL BE ~1,000 CY (ACCORDING TO LMS). I HAVE ATTACHED THE QUALITY EVAL. TEST RESULTS FROM DISTRICT. THE MAT'L IS AN ML WHICH IS NOT LISTED AS AN ACCEPTABLE CLASSIFICATION.

JOHN AND LMS HAVE SEVERAL ALTERNATIVES FOR USE AS FOLLOWS:

1. COMPACTED FILL IN OUTSIDE ZONE OF WEST BERM (THIS WAS JOHN'S IDEA - HE LIKES IT SINCE IT GETS RID OF MAT'L NOW). SEE SKETCH BELOW (NOT TO SCALE):



2. COMPACTED FILL FOR ACCESS ROAD, 5:1 SLOPE, AND RAMPS ON SOUTH SIDE OF SOUTH BERM (THIS WAS ALSO JOHN'S IDEA)

3. VEGETATIVE COVER. ALSO NOTE THAT WE DO NOT HAVE A PERM TEST, BUT I WOULD DOUBT THIS MAT'L MAKES $\geq 1 \times 10^{-3}$ cm/sec → LIKELY IN THE 5×10^{-4} cm/sec RANGE? IF APPROVED HERE, I WOULD DIRECT IT BE SEGREGATED IN A STOCKPILE SEPARATE FROM TOPSOIL STRIPPINGS. (USING TOPSOIL STRIPPINGS FOR VEG. COVER IS LIKELY TO BE THE NEXT REQUEST).

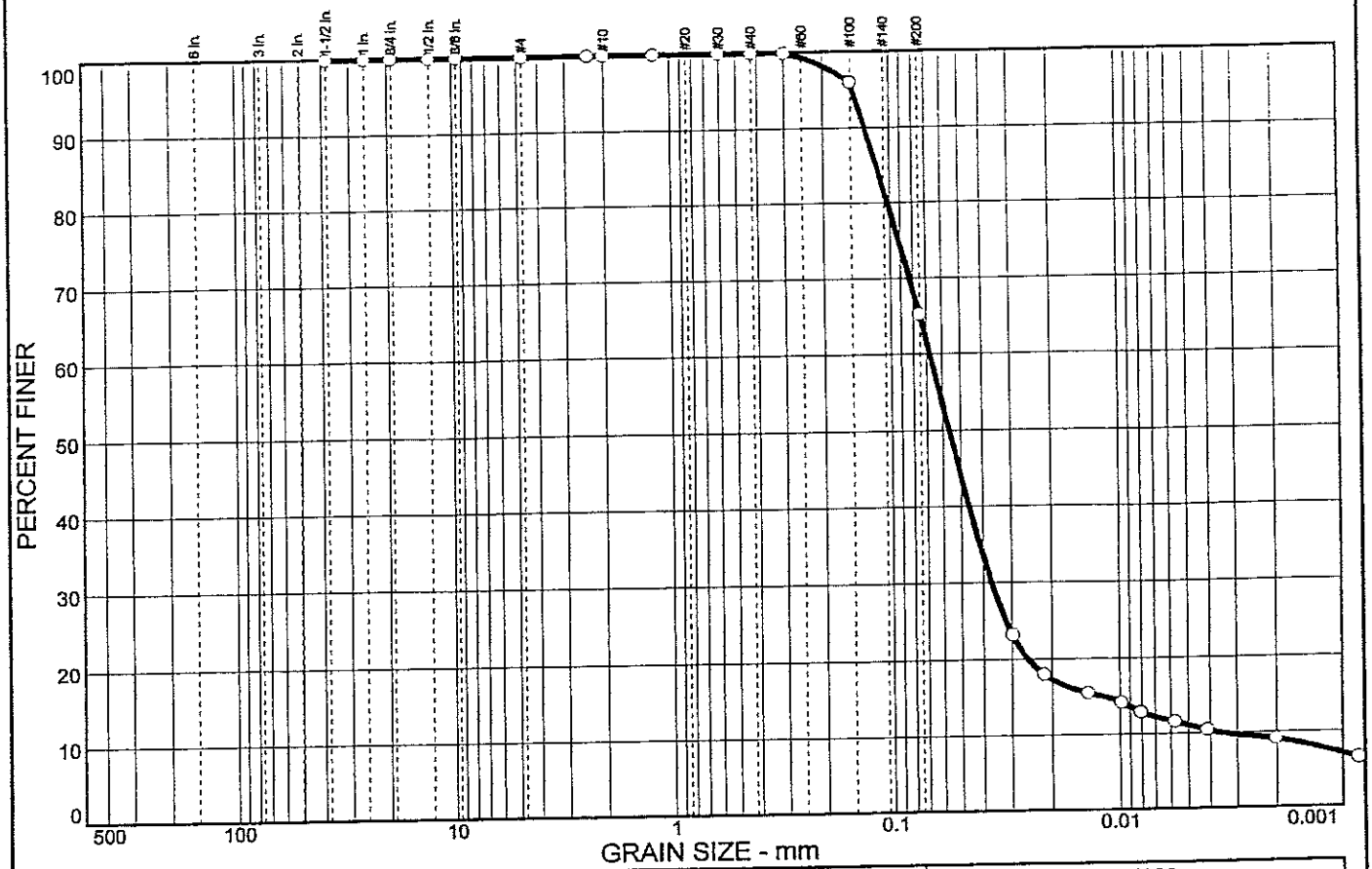
4. TRACKED-IN FILL.

PLEASE CALL ME TO DISCUSS, THANKS,

DON

CELLULAR # 314-409-3551

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.0	0.0	0.0	34.7	54.2	11.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1.5 in.	100.0		
1 in.	100.0		
.75 in.	100.0		
.5 in.	100.0		
.375 in.	100.0		
#4	100.0		
#8	100.0		
#10	100.0		
#16	100.0		
#30	100.0		
#40	100.0		
#50	99.9		
#100	96.0		
#200	65.3		

* (no specification provided)

Soil Description

Sandy silt

NON-PLASTIC

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 0.115 D_{60}= 0.0677 D_{50}= 0.0560
D_{30}= 0.0367 D_{15}= 0.0118 D_{10}= 0.0035
C_u= 19.29 C_c= 5.68

Classification

USCS= ML AASHTO= A-4(0)

Remarks

ASTM-D-422

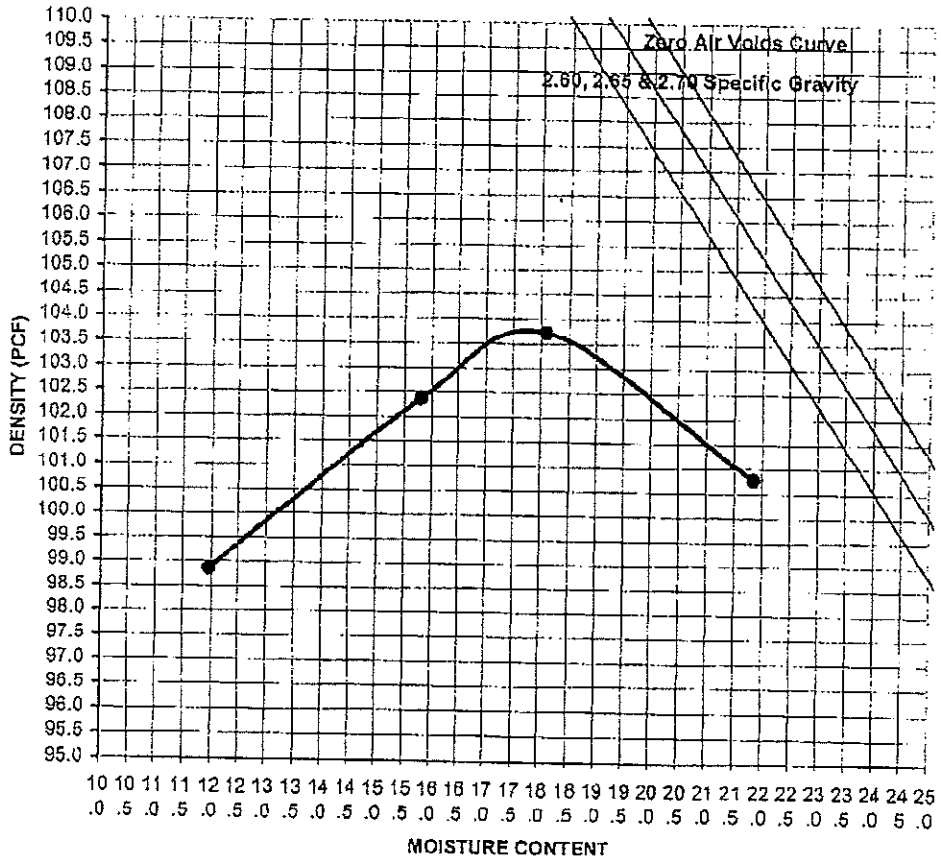
Sample No.: 5 **Source of Sample:** ~~On-site material~~ From W. Berm Sideslope **Date:** 5-2-01
Location: West Berm slope **Elev./Depth:** -2.5

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project No: 501-223 **Plate**

Patriot Engineering
and Environmental Co., LLC
Louisville, Ky

Moisture Density Relationship



Project:	Sauget Area Landfill	Project #:	501-223
Client:	LMS	Date:	4/30/01

Sample Discription: Lt. brown sandy Silt , ML

LL	PI	Sample log #	Maximum Density	Opt. Moisture
		5	103.7	17.7

Remarks: West berm Slope on-site

PATRIOT ENGINEERING
and Environmental Co., LLC
4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9256

Moisture Content Worksheet

Project Name: Sauget area 1 Landfill Date: 4-27-01
Client: LMS Patriot Project No.: 501-223
Patriot Rep. M. Daumen
Remarks:

MOISTURE CONTENT	Sample #5								
1. Wt. soil + tare (wet), gr.	132.5								
2. Wt. soil + tare (dry), gr.	125.8								
3. Wt. of water (#1 minus #2), gr.	6.7								
4. Wt. of tare, gr.	79.2								
5. Wt. of soil, dry (#2 minus #5), gr.	46.6								
6. Moisture content (#3 / #5 x 100), %	14.4%								

4/4

FIELD REPORT

JOB NO. 013 - 9659
PROJECT SOLUTIA /QA/ SAUGET
LOCATION TSCA CELL, CAHOKIA
CLIENT SOLUTIA
OWNER SOLUTIA
CONTRACTOR LMS

DATE 05/11/01 **TIME IN** 0650 **TIME OUT** 1740
WEATHER OVERCAST, BREEZY, HIGH 80'S F
PRESENT AT SITE GOLDER, MAVERICK, URS, LMS AND PATRIOT, ENVIRONMENTAL PRECISION ASSC. INC (SURVEYORS)

SURVEYOR ON SITE TOOK TOPO OF FIRST LIFT ON THE NORTH BERM LMS PLACED 2ND LIFT ON NORTH BERM, COUNTED TRUCK LOADS THEN SURVEYED TOPO TO CALCULATED CU. YDS OF MATERIAL PLACED. WITH THE RESULTS OF THE SURVEY AND A KNOWN TRUCK COUNT IT WAS CALCULATED THAT EACH TRUCK IS HAULING APPROXIMATELY 7 cu yds OF COMPACTED MATERIAL LMS STARTED TO PLACE A THIN LIFT ALONG THE EAST BERM TO BRING THE LIFT UPTO AN EIGHT INCH THICK COMPACTED LIFT.

PATRIOT PERFORMED NUCLEAR DENSITY TESTING ON THE 2ND LIFT OF THE NORTH BERM. TEST #'S B-015 + B-016 WERE TAKEN. B-015 HAD A 97.1 % COMPACTION AND A 18.6 % MOISTURE CONTENT, B-016 HAD A 95.8 % COMPACTION AND A 17.5 % MOISTURE CONTENT. BOTH TESTS PASSED SITE SPECS.

EQUIPMENT USED: D6H CAT DOZER, D5 LPG CAT DOZER, 563 CAT COMPACTOR, INGERSOLL RAND SD100 SMOOTH DRUM AND 14-16 TANDEM DUMP TRUCKS, AT BORROW AREA D5C CAT DOZER AND 325 CAT EXCAVATOR.

APPROXIMATELY 1872 cu. yds WERE HAULED AND PLACED.

THE WHOLE AREA WAS SMOOTH DRUM ROLLED BEFORE THE WEEKEND.

Signed : [signature]

TO : MAVERICK.

Golder Associates
1630 Heritage Landing • Suite 103 • St. Charles, MO USA 63303

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 5/18/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT AND ENVIRONMENTAL PRECISION ASSC

SUMMARY OF CONSTRUCTION PROGRESS: CONTRACTOR COMPLETED PLACEMENT OF THE THIRD LIFT OF CLAY ON THE EAST AND SOUTH BERMS. AFTER SURVEY VERIFICATION A THIN LIFT WAS PLACED ON THE NORTH BERM TO BRING IT UP TO THE REQUIRED GRADES FOR THE FOURTH LIFT. AT THE END OF THE WORK WEE THE WHOLE CELL AREA WAS SMOOTH DRUM ROLLED IN ANTICIPATION OF MORE RAINFALL OVER THE WEEKEND. ALL MATERIAL ARRIVING ON SITE WAS HAULED FROM THE PRE-ACCEPTED BORROW SOURCE. THE MATERIAL ARRIVING ON SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGE.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED, UNDER GOLDER'S OBSERVATION, UNTIL A PASSING TEST WAS RECORDED. NUCLEAR DENSITY TEST NUMBER'S B-017 THROUGH B-020 AND SG-018 WERE TAKEN AND RECORDED. A NEW PROCTOR VALUE TAKEN FROM THE VALUES ARRIVED FROM THE LABORATORY TESTING CARRIED-OUT ON THE SAMPLE TAKEN FROM THE EAST BERM ON 05-10-01 AND NUMBERED S-117 IS NOW BEING USED. THESE VALUES ARE DRY DENSITY = 108.5 AND OPTIMUM MOISTURE = 18.3%. B-018 FAILED BOTH COMPACTION AND MOISTURE SPECIFICATIONS WITH A 90.9% COMPACTION AND A 21.7% MOISTURE. THE AREA WAS RE-WORKED AND TEST # B-018R WAS TAKEN WITH PASSING RESULTS. A NUCLEAR DENSITY TEST WAS TAKEN ON THE CELL FLOOR SUBGRADE, SG-018, THIS TEST FAILED BOTH COMPACTION AND MOISTURE SPECIFICATIONS WITH A 71.1% COMPACTION AND A 36.2% MOISTURE. CONTRACTOR RE-WORKED THE FLOOR SUBGRADE WITH THE 815 CAT COMPACTOR. A LABORATORY MICROWAVE TEST WAS PERFORMED LATER AND SHOWED A 26% MOISTURE, AREA LEFT TO DRY LONGER BEFORE RE-TESTING.

SUBMITTED BY GOLDER

R. [illegible]

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 5/18/2001

SUMMARY OF SURVEYOR'S ACTIVITIES: SURVEYOR ON SITE TO RECORD THE TOP OF THE FOURTH LIFT ON THE NORTH BERM. RECEIVED COPIES OF THE TOP OF SUBGRADE AND TOP OF FIRST LIFT CLAY ELEVATIONS.

SUMMARY OF PROBLEMS AND RESOLUTIONS: AS OF 05-18-01 PATRIOT STILL USING THE SEAMAN GAUGE AS A REPLACEMENT GAUGE HAS NOT YET BEING RECEIVED. AS OF THE NEXT DENSITY TESTING PATRIOT WILL TAKE TWO TESTS AT EACH LOCATION, AS DECIDED IN THE 05-04-01 MEETING.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES): A MEETING WAS HELD ON 05-16-01BETWEEN JOHN (MAVERICK), DON AND GREG (URS) AND MYSELF. OUTSTANDING ISSUE WERE DISCUSSED, (SEE DAILY REPORT FOR 05-16-01), IT WAS DECIDED TO KEEP A WEEKLY MEMO OUTLYING ON-GOING ISSUES. THIS MEMO TO BE SUBMITTED TO JOHN EVERY FRIDAY.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES: NONE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

DATE 5/14/01

S (M) T W T F S

THE FOLLOWING WAS NOTED: LMS PLACED AND COMPACTED LIFT # 3 ON NORTH BERM. PATRIOT TOOK NUCLEAR DENSITY TEST #'S B-017 AND B-018. B-018 FAIL BOTH MOISTURE AND DENSITY SITE SPECIFICATIONS; COMPACTION WAS AT 90.6% WITH A MOISTURE CONTENT OF 21.7%. THE NEW PROCTOR VALUES ARE NOW BEING USED. THESE VALUES OF D.D.=108.5 AND OPTIMUM MOISTURE OF 18.3% ARE THE RESULTING VALUES FROM THE PROCTOR RUN BY PATRIOT ON THE MATERIAL COLLECTED ON -SITE ON 05/10/01.

LMS STARTED TO FINISH THE THIRD LIFT ON THE EAST BERM.

THE WET AREA IN THE NORTHWEST PORTION OF THE CELL FLOOR WAS DISKED OPEN AND ALLOWED TO AIR DRY.

EQUIPMENT USED: D6H CAT DOZER; D5LGP CAT DOZER PULLING A FIELD DISK; 563 CAT COMPACTOR; JOHN DEERE TRACTOR PULLING A 2100 GAL. WATER TRAILER; 17 TANDEM DUMP TRUCKS.

AT BORROW SITE: D5C CAT DOZER; 325 CAT EXCAVATOR.

APPROXIMATELY (using 8 c.y./ truck) 1,600c.y. WERE HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, WARM, HIGH 91.F

DATE 5/15/01

S M (T) W T F S

THE FOLLOWING WAS NOTED: THE AREA OF THE FAILING NUCLEAR DENSITY TEST # B-018 WAS REWORKED AND TEST # B-018R WAS TAKEN WITH PASSING RESULTS OF 91.8% COMPACTION AND A MOISTURE CONTENT OF 19.8%. PROCTOR TEST # S-117 VALUES WILL BE USED UNTIL A NEW PROCTOR IS RUN. LMS COMPACTED A SECTION OF THE SOUTH EAST PORTION OF THE SUBGRADE IN THE CELL FLOOR. THIS AREA WAS THEN SMOOTH DRUM ROLLED AND NUCLEAR DENSITY TEST # SG-018 WAS TAKEN. TEST FAILED BOTH COMPACTION AND MOISTURE SPECIFICATIONS. THE COMPACTION WAS 71.1% AND THE MOISTURE CONTENT 36.2 %.

LMS PLACED LIFT # 3 ON THE SOUTH BERM. NUCLEAR DENSITY TEST # B-019 WAS TAKEN ON THE EAST PORTION THIS TEST PASSED SPECIFICATIONS WITH 95 % COMPACTION AND A 20 % MOISTURE CONTENT. B-020 WAS TAKEN ON THE WEST PORTION THIS TEST PASSED SPECIFICATIONS WITH A COMPACTION OF 99.2% AND A MOISTURE CONTENT OF 17.1%.

EQUIPMENT USED: D6H CAT DOZER; 563 CAT COMPACTOR; INGERSOLL RAND SD100 SMOOTH DRUM; JOHN DEERE TRACTOR PULLING A 2100 GAL. WATER TRAILER; 17 TANDEM DUMP TRUCKS. BORROW SITE: D5C CAT DOZER; 325 EXCAVATOR.

APPROXIMATELY 1600 c.yds. MATERIAL WAS HAULED AND PLACED.

PERSONNEL ON SITE GOLDER,MAVERICK,LMS,URS AND PATRIOT. THE SITE WAS ALSO VISITED BY GARY WANTLAND (URS), ALSO MIKE LIGHT AND BRUCE YARE (SOLUTIA).

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY,WARM, HIGH 90 F.

DATE: 5/17/01
S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO PLACE THE THIRD LIFT ALONG THE EAST BERM. STARTED TO RAIN AT 0930, A 0.2 INCH RAINFALL WAS RECORDED IN 20 MINUTES. LMS DECIDED TO CALL WORK OFF FOR THE DAY. THE CELL AREA WAS BLADED TO SEAL THE CLAY LINER FROM ANY FURTHER RAINFALL.

EQUIPMENT USED: D6H CAT DOZER; D5 LGP CAT DOZER; 815 CAT COMPACTOR; 563 CAT COMPACTOR AND TANDEM DUMP TRUCKS.

BORROW SITE: D5C CAT DOZER; 325 CAT EXCAVATOR.

APPROXIMATELY 224 c.y. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER:	013-9659	PROJECT TITLE:	SOLUTIA/ QA/ SAUGET
OWNER:	SOLUTIA	CONTRACTOR:	LMS
LOCATION:	TSCA CELL, CAHOKIA	WEATHER:	SUNNY,WARM, HIGH 90 F.

DATE: 5/18/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT AND SURVEYOR.

THE FOLLOWING WAS NOTED:

AN OVERNIGHT RAINFALL AMOUNT OF 0.11 INCHES WAS RECORDED ON SITE. AFTER A WALK AROUND INSPECTION OF THE SITE LMS DECIDED TO START HAULING CLAY.

DISCUSSED WITH TERRY THE PLACEMENT OF THE GRAVEL TOE DRAIN AROUND THE TOE ON THE INSIDE OF THE CELL FLOOR AND WHAT EQUIPMENT TO USE. LMS DECIDED TO USE A LOW GROUND PRESSURE "ASV 4810 POSI-TRACK" A COPY OF THE SPECIFICATIONS FOR THIS CRAWLER IS ATTACHED.

LMS COMPLETED PLACEMENT OF THE THIRD LIFT ON THE EAST AND SOUTH BERMS AND THE FOURTH LIFT ON THE NORTH BERM WAS BROUGHT TO GRADE. NO NUCLEAR DENSITY TESTING WAS PERFORMED.

RECEIVED COPIES OF THE SURVEY DATA FOR THE ELEVATIONS ON TOP OF SUBGRADE AND TOP OF LIFT ONE FILL.

RECEIVED FAXED COPY OF THE LABORATORY TESTING ON THE GCL vs. COMPACTED SOIL INTERFACE SHEAR TEST, FROM PRECISION GEOSYNTHETICS.

EQUIPMENT USED: D6H CAT DOZER; D5 LGP CAT DOZER; 815 CAT COMPACTOR; 563 CAT COMPACTOR; 15 TANDEM DUMP TRUCKS.

BORROW SOURCE: 325 CAT EXCAVATOR; D5C CAT DOZER.

APPROXIMATELY 1272 cy. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

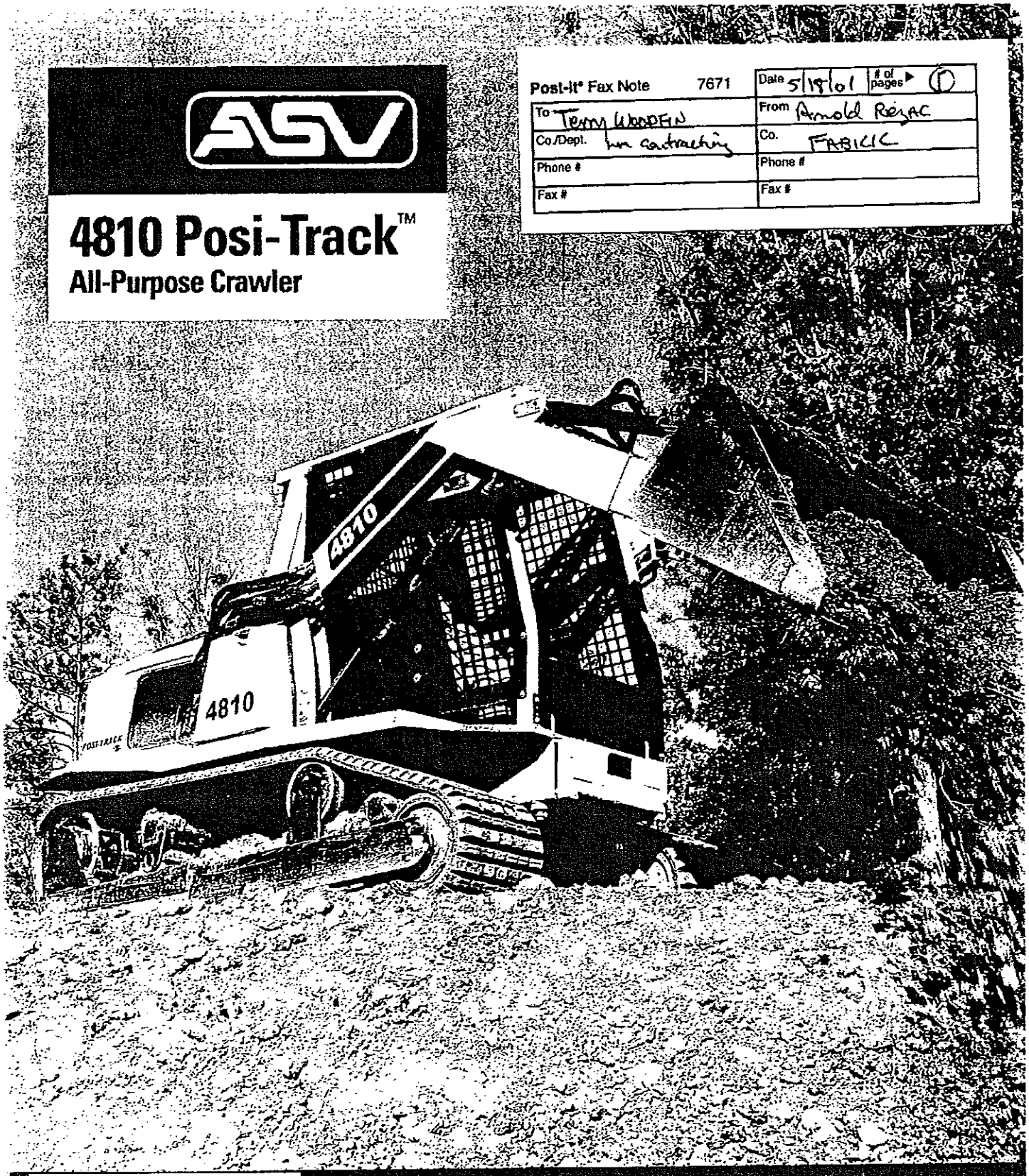
q:/fldfrms/general/r1.xls

Post-it® Fax Note 7671	Date 5/18/01	# of pages ▶ 1
To Terry Wooden	From Arnold Rejac	
Co./Dept. Sun contracting	Co. FABICIC	
Phone #	Phone #	
Fax #	Fax #	

ASV

4810 Posi-Track™

All-Purpose Crawler



$ 975.00/wk

$ 2,925/monthly

Cat 3054T Engine		
Gross Power:	105 hp	78 kW
Operating weight:	8,640 lb	3918 kg
Ground pressure:	3 psi	20.68 kPa

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 5/25/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT AND ENVIRONMENTAL PRECISION ASSC.

SUMMARY OF CONSTRUCTION PROGRESS: CONTRACTOR COMPLETED PLACEMENT OF THE FIRST LIFT OF CLAY ON THE WEST BERM AND PLACED THE SECOND AND THIRD LIFTS ON THE SOUTH PORTION OF THE BERM ONLY. THESE LIFTS WERE PLACED FROM THE SOUTH APPROXIMATELY 150 ft.THE FOURTH LIFT WAS PLACED ON THE NORTH, EAST AND SOUTH BERMS. THE FIFTH AND SIXTH LIFTS WERE PLACED ON THE NORTH BERM. CONTRACTOR REMOVED THE EXCESS SILTY MATERIAL FROM THE WEST BERM AND PLACED IT TOWARDS THE SOUTHERN SECTION OF THE CELL CONSTRUCTION AREA FOR USE IN THE 5:1 SLOPE ON THE SOUTH BERM. ALL MATERIAL ARRIVING ON SITE WAS HAULED FROM THE PRE-ACCEPTED BORROW SOURCE. THE MATERIAL ARRIVING ON SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGE.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED, UNDER GOLDER'S OBSERVATION, UNTIL A PASSING TEST WAS RECORDED. NUCLEAR DENSITY TEST NUMBER'S B-021 THROUGH B-036 WERE TAKEN AND RECORDED. TEST NUMBER'S B-034 & B-035 TAKEN ON THE SIXTH LIFT ON THE NORTH BERM FAILED SITE DENSITY AND MOISTURE SPECIFICATIONS. TEST NUMBER B-036 TAKEN ON THE FOURTH LIFT ON THE WEST PORTION OF THE SOUTH SLOPE ALSO FAILED SITE SPECIFICATIONS. ALL OTHER TESTS PASSED SITE SPECIFICATIONS. A NEW SEAMAN C-300 NUCLEAR GAUGE WAS DELIVERED TO SITE AND THIS GAUGE WILL BE USED FOR ALL FUTURE DENSITY TESTING. GOLDER RAN 4 COMPARISON TESTS BETWEEN THE CPN AND THE SEAMAN GAUGES. THE RESULTS SHOW THAT THE NEW SEAMAN GAUGE READS A LOT CLOSER TO THE CPN GAUGE THAN THE PREVIOUSLY USED SEAMAN GAUGE, WITH MOISTURE CONTENTS READING 1-2% BETWEEN THE GAUGES AND THE COMPACTION READING 4-5%. THE SEAMAN GAUGE READ A LOWER VALUE FOR COMPACTION THAN THE CPM GAUGE SO A GREATER EFFORT WOULD BE NEEDED TO RECORD A PASSING TEST WITH THE SEAMAN GAUGE THAN IF USING THE CPN GAUGE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
CATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 5/25/2001

SUMMARY OF SURVEYOR'S ACTIVITIES: SURVEYOR ON SITE TO RECORD TOP OF FOURTH LIFT ON THE EAST AND SOUTH BERMS AND TOP OF LIFT ONE ON THE NORTH PORTION OF THE WEST BERM. ALSO, STAKED OUT THE TOES OF THE SOUTH BERM AND THE TOP AND TOE OF THE INSIDE OF THE WEST BERM PRIOR TO THE REMOVAL OF THE EXCESS MATERIAL. RECEIVED UPDATED COPIES OF THE TOP OF CLAY ELEVATIONS FOR THE FIRST LIFT AND TOP OF CLAY FOR THE FOURTH LIFT.

SUMMARY OF PROBLEMS AND RESOLUTIONS: THE NEW SEAMAN GAUGE ARRIVED ON SITE AT THE BEGINNING OF THE WEEK. THIS GAUGE HAS THE CAPABILITY TO TAKE AN 8 INCH TEST AND WILL BE USED FOR ALL FUTURE TESTING.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES): DAILY MEETINGS WERE HELD BETWEEN GOLDER AND LMS TO DISCUSS THE DAYS WORK SCHEDULE, NO FORMAL MEETINGS HELD. LMS REQUESTED AND RECEIVED A COPY OF THE URS DAILY FIELD REPORT WHICH OUTLINES GARY WANTLAND' RECOMMENDATIONS FOR THE APPROVED USE OF THE SILT BEING REMOVED FROM THE EAST PORTION OF THE WEST BERM. THE REPORT WAS DATED AND SIGNED ON 05-11-01, A COPY OF WHICH IS ATTACHED.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES: THE SPEED OF TRUCKS LEAVING THE SITE WAS BROUGHT TO THE ATTENTION OF LMS BY MAVERICK. ON 05-24-01 A TRUCK SLIPPED INTO THE DITCH ALONG THE SOUTH SIDE OF JUDITH LANE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

DAILY FIELD REPORT

PROJECT SOUTH - SAUGET AREA 1 CELL
CONTRACTOR LMS
URSGWC PERSONNEL D. GRAULHERR
WEATHER MOSTLY CLOUDY RAIN EXPECTED BY 8:00 AM

PROJECT NO. CI-00004221.00 TASK 100
REPORT NO. 13
PAGE OF
DATE 5/11/01

RECEIVED
MAY 11 2001
MAVERICK

PROGRESS OF WORK:

- DAG ON SITE @ 7:00 AM.
- LMS INDICATED THAT THEIR SURVEYOR SHOT THE TOP OF THE 3RD LIFT PLACED YESTERDAY ON THE EAST AND SOUTH BERMS. THE SURVEYOR SHOWED THIS LIFT TO ONLY BE 5" THICK. RICHARD S. OF GOLDER AND DAG AGREE THAT THE LIFT LOOKED THIN DURING PLACEMENT. LMS PLANS TO PLACE ANOTHER THIN LIFT OVER THIS AREA TO COMPLETE THE 3RD LIFT.
- LMS SMOOTH-DRUM ROLLED ENTIRE SITE @ END OF DAY YESTERDAY IN ANTICIPATION OF THE INCOMING WEATHER - RAIN IS ON THE WAY THIS MORNING. LMS INDICATED THEY WILL LIMIT THEIR WORK AREA TODAY ALSO TO AVOID WEATHER PROBLEMS.

* • GARY WANTLAND CALLED THIS MORNING TO DISCUSS PROPOSED ALTERNATIVES FOR USE OF MATERIAL IN WEST BERM CUT; SEE 5/10/01 URS DAILY FIELD REPORT FOR DISCUSSION AND MEMO REQUESTING GUIDANCE ON USE OF THIS MATERIAL.
GARY INDICATED THAT HE DOES NOT FAVOR THE USE OF THE MATERIAL IN THE OUTSIDE OF THE WEST BERM DUE PRIMARILY TO CONCERN W/ ERODIBILITY. EROSION PROBLEMS CAN BE SIGNIFICANT FOR SILT (ML) MAT'LS. HE DOES PREFER THE ALTERNATIVE WHERE THIS MAT'L IS USED AS COMPACTED FILL FOR THE RAMPS AND LOWER BERM AREA ON THE SOUTH BERM.
→ RECOMMENDATION:
— CUT SUBGRADE FROM WEST BERM IS APPROVED FOR USE AS COMPACTED FILL TO ONLY BE PLACED IN THE LOWER SECTION OF THE OUTSIDE OF THE SOUTH BERM AND/OR ACCESS RAMPS. — PLACEMENT TO BE IN SECTION COVERED W/ 6" OF #57 STONE ARMORING. STONE TO BE PLACED SOON THEREAFTER. CONTRACTOR WILL BE RESPONSIBLE FOR EROSION IN MEANTIME.

INSPECTOR: [signature]

REVIEWED BY:

URS Corporation

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA **WEATHER:** OVERCAST, SHOWERS, HIGH 82 F.

DATE: 5/21/2001 S (M) T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

1.8 INCHS OF RAINFALL OVER THE WEEKEND WAS RECORDED ON SITE. AFTER INSPECTION OF THE SITE BY LMS, IT WAS DECIDED TO CALL WORK OFF FOR THE DAY. TERRY WAS REMINDED THAT IT WAS HIS RESPONSIBILITY TO REMOVE ALL STANDING WATER FROM THE CONSTRUCTION AREA. DUE TO THE REALLY WET CONDITION OF THE COMPACTED FILL TERRY FELT THAT HE WOULD DO MORE DAMAGE THAN GOOD IF HE TRIED TO PUMP THE CELL AREA TODAY, IF NO MORE RAIN HE WOULD PUMP THE WATER FIRST THING IN THE MORNING. LEFT SITE AT 11:00 AM TO GO TO GOLDER ST.CHARLES OFFICE.

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: OVERCAST, SHOWERS, HIGH 67 F.

DATE: 5/22/2001
S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

PATRIOT STARTED USING A NEW SEAMANC-300 NUCLEAR DENSITY GAUGE WHICH HAS THE CAPABILITY TO TAKE AN EIGHT INCH DEEP TEST. FOUR COMPATIBILITY TESTS BETWEEN THE CPN GAUGE AND THE SEAMAN GAUGE WERE RUN. THE MOISTURE CONTENT BETWEEN THE TWO GAUGES RAN WITHIN 1% TO 2% OF EACH OTHER, WITH THE DRY DENSITY RUNNING FROM 2 PCF. TO 5 PCF OF EACH OTHER. THIS IS A VAST IMPROVEMENT OVER THE PREVIOUS SEAMAN GAUGE. THE DRY DENSITY RECORDED BY THE SEAMAN GAUGE CONSISTENTLY RAN LOWER THAN THE CPN GAUGE,(TEST NUMBERS B-021 TO B-024).

RECEIVED THE PROCTOR VALUES FOR THE SAMPLE SENT TO THE GOLDER, HOUSTON LABORATORY. THIS SAMPLE (GOLDER SAMPLE # Q-003) CORRESPONDS TO THE PATRIOT SAMPLE # S-117, TAKEN IN THE FIELD ON 05/10/01. THE GOLDER LABORATORY RESULTS REFLECT CLOSER VALUES TO THE PREVIOUS TESTS RUN ON THE BORROW SOURCE MATERIAL, THAN THE PATRIOT VALUES. HOWEVER, THERE WAS NOT A SIGNIFICANT DIFFERENCE BETWEEN THE TWO TESTS WITH A DIFFERENCE OF 3.1 PCF AND 1.1 % MOISTURE. THEREFORE, NO FURTHER ACTION NEED BE TAKEN. BOTH THESE VALUES MAYBE UTILIZES IN THE FIELD.

STANDING WATER FROM THE CELL FLOOR WAS PUMPED USING A 3 INCH PUMP AND DISCHARGED OVER THE NORTH WEST SIDE OF THE CELL. THE REMAINING STANDING WATER FROM AROUND THE OUTSIDE OF THE BERMS WAS PUMPED USING THE WATER TRAILER. THIS WATER WAS THEN USED TO WATER THE HAULROADS AND THE CLAY LINER.

A DISCUSSION WAS HELD BETWEEN TERRY AND MY SELF ABOUT THE LIFT THICKNESS', AND IT WAS NOTED THAT LIFTS WILL BE PLACED IN A 12 INCH THICK LOOSE LIFT AND COMPACTED TO AN APPROXIMATE THICKNESS OF 8 INCHES, THIS WAS LATER VERIFIED BY DON (URS). TERRY STATED THAT IN FUTURE THERE WOULD BE BETTER CONTROL OF THE LIFT THICKNESS.

NUCLEAR DENSITY TEST'S WERE RUN ON THE THIRD LIFT ON THE EAST BERM. ALL THESE TESTS PASSED SITE SPECIFICATIONS.

LMS COMPLETED PLACEMENT OF LIFT FOUR ON THE NORTH, SOUTH AND EAST BERMS, AND NUCLEAR DENSITY TESTS WERE RUN, ALL THESE TESTS PASSED SITE SPECIFICATIONS.

LMS COMPLETED PLACEMENT OF LIFT ONE ON THE NORTH PORTION OF THE WEST BERM, A NUCLEAR DENSITY TEST WAS RUN, THIS TEST PASSED SITE SPECIFICATIONS.

LMS STARTED TO PLACE LIFT TWO ON THE WEST BERM, A NUCLEAR DENSITY TEST WAS RUN AND THIS TEST PASSED SITE SPECIFICATIONS.

SEE PAGE # 2.

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

DATE: 5/22/2001

S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

LMS STARTED TO PLACE LIFT TWO IN THE NORTH BERM.NO TESTING WAS CARRIED OUT ON THIS AREA.

EQUIPMENT USED: D6H CAT DOZER; D5LGP CAT DOZER; 563 CAT COMPACTOR; INGERSOLL RAND SD100 SMOOTH DRUM ROLLER; JOHN DEERE TRACTOR PULLING A 2100 GAL. WATER TRAILER; 3 INCH TRASH PUMP AND 14 TO 17 TANDEM DUMP TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR;D5C CAT DOZER.

APPROXIMATELY 1536 c.y. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

FIELD MOISTURE / DENSITY TEST RECORD
NUCLEAR GAUGE METHOD
ASTM D 3017 / 2922

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL,CAHOKIA

PROJECT TITLE: SOLUTIA/QA/SAUGET
CONTRACTOR: LMS
DATE TESTED: 5/22/2001

TEST NUMBER		B-21	B-22	B-23	B-24			
TEST LOCATION	N / E	EAST BERM	EAST BERM	EAST BERM	SOUTH BERM			
ELEVATION		LIFT#3	LIFT#3	LIFT#3	LIFT#4			
DEPTH		8"	8"	8"	8"			
DENSITY COUNT								
MOISTURE COUNT								
WET DENSITY, pcf		119.4	131.2	120.2	132.2			
MOISTURE %		16.6	18.7	16.6	19.1			
DRY DENSITY, pcf		102.4	110.5	103.1	111.1			
MATERIAL DESCRIPTION		QA-003	S-117	QA-003	S-117			
MAX DRY DENSITY, pcf		105.4	108.5	105.4	108.5			
OPTIMUM MOISTURE, %		17.4	18.3	17.4	18.3			
% COMPACTION		97.2	101.8	97.8	102.4			
DIFF FROM O.M.C.		-0.8	0.4	-0.8	0.8			
PASS/FAIL (DENSITY)		P	P	P	P			
PASS/FAIL (MOISTURE)		P	P	P	P			

SPECIFICATIONS:
+95% % STANDARD / MODIFIED
-2% to +3% % OF O.M.C.

DAILY STANDARD COUNTS:
MOISTURE _____
DENSITY _____

TESTED BY: RS
CHECKED BY: _____
DATE: _____

GOLDER ASSOCIATES INC.

q:/fldfrms/soils/s17

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: CLOUDY, SHOWERS, COOL, HIGH 62 F.

DATE: 5/23/2001
S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

SHOWERS OFF AND ON ALL DAY WITH A RAINFALL OF 0.04 INCHES RECORDED ON SITE DURING WORKING HOURS.

LMS CONTINUED TO REMOVE SURFACE WATER FROM THE CELL CONSTRUCTION AREA USING THE WATER TRAILER AND DISCHARGING THE WATER ONTO THE HAUL ROADS.

LMS COMPLETED LIFT # 5 ON THE NORTH BERM AND STARTED LIFT # 6. NUCLEAR DENSITY TESTS NUMBERS B-32 & B-33 WERE TAKEN ON LIFT # 5 ON THE NORTH BERM BOTH TESTS PASSED THE SITE SPECIFICATIONS.

LMS PLACED LIFT # 3 ON THE SOUTH PORTION OF THE WEST BERM APPROXIMATELY 150 Ft. OVER LIFT # 2 PLACED YESTERDAY AND STOPPED TO ALLOW SURVEY OF THE TOP OF LIFT # 1 ON THE NORTH PORTION OF THE BERM.

SURVEYOR ON SITE TO RECORD TOP OF LIFT # 1 ELEVATIONS ON THE NORTH PORTION OF THE WEST BERM AND TOP OF LIFT # 4 ELEVATIONS ON THE NORTH, EAST AND SOUTH BERMS. RECEIVED PRELIMINARY LIFT # 4 ELEVATION FIGURE FROM SURVEYOR. ALSO, DISCUSSED WITH SURVEYOR SLOPE GRADES AND HOW PRECISE THEY NEED TO BE. I TOLD HIM THIS IS SOMETHING THAT HE NEEDS TO DISCUSS WITH JOHN FIORE.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT COMPACTOR, 815 CAT COMPACTOR, INGERSOLL RAND SD 100 SMOOTH DRUM ROLLER, A JOHN DEERE TRACTOR PULLING A 2100 GAL. WATER TRAILER AND 14 TANDEM DUMP TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 1455 c.y. OF MATERIAL WAS HAULED AND PLACED.

THE CELL CONSTRUCTION AREA WAS SMOOTH DRUM ROLLED AT THE END OF THE WORK DAY.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: OVERCAST, OCCASSIONAL SHOWERS, HIGH 62 F.

DATE: 5/24/2001

S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, URS AND PATRIOT.

THE FOLLOWING WAS NOTED:

RECEIVED COPIES OF THE TEST DATA FOR PATRIOT'S SAMPLE # S-117 AND GOLDER'S SAMPLE # Q-003. THIS SAMPLE WAS COLLECTED FROM THE WEST BERM ON 05-10-01 FROM MATERIAL BEING HAULED TO SITE FROM THE APPROVED BORROW SOURCE. THE COMPARATIVE VALUES FOR THE ATTERBERG LIMITS BETWEEN THE TWO SAMPLES ARE RATHER FAR APART WITH GOLDERS RESULTS BEING CONSISTENT WITH PREVIOUS RUN TESTS ON THE BORROW SOURCE MATERIAL. A SUMMARY OF THESE TEST RESULTS ARE ATTACHED. AFTER A DISCUSSION BETWEEN DON (URS) TERRY (LMS), ERIK (MAVERICK) AND MYSELF IT WAS DECIDED TO TAKE PATRIOT RE-RUN THE ATTERBERG LIMITS AGAIN TO CHECK THEIR RESULTS.

LMS COMPLETED LIFT # 4 ON THE SOUTH BERM AND NUCLEAR DENSITY TEST # B-36 WAS TAKEN. THIS TEST FAILED BOTH MOISTURE AND DENSITY SPECIFICATIONS WITH A MOISTURE CONTENT OF 15.3% AND A 88.8% COMPACTION.

LMS COMPLETED LIFT # 6 ON THE NORTH BERM AND NUCLEAR DENSITY TESTS # B-34 AND B-35 WERE TAKEN. TEST # B-34 FAILED DENSITY SPECIFICATION WITH87.2% COMPACTION. TEST # B-35 FAILED BOTH MOISTURE AND DENSITY SPECIFICATIONS WITH A MOISTURE CONTENT OF 12.5% AND A 89.7% COMPACTION.

LMS STARTED TO REMOVE THE EXCESS MATERIAL FROM THE EAST SIDE OF THE WEST BERM DOWN TO SUBGRADE. THE MATERIAL WAS PLACED AT THE SOUTH PART OF THE CELL TO BE USED IN THE CONSTRUCTION IF THE 5:1 SLOPE ALONG THE SOUTH PART OF THE CELL. THE SURVEYOR WAS ON SITE TO VERIFY THE TOP AND TOE OF THE BERM AS IT WAS EXCAVATED.

EQUIPMENT USED: 330B CAT EXCAVATOR AND 2 TANDEM DUMP TRUCKS FOR REMOVAL OF THE SILT FROM THE WEST BERM. D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, AND 17 TO 19 TANDEM DUMP TRUCKS.

BORROW SOURCE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 1696c.y. OF MATERIAL WAS HAULED AND PLACED.

A SAFETY ISSUE WAS BROUGHT TO THE ATTENTION OF LMS BY ERIK (MAVERICK), THAT SOME TRUCKS WERE EXITING THE SITE AT EXCESSIVE SPEEDS.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

RESULTS OF THE TESTING PERFORMED ON PATRIOT SAMPLE # S-117 AND GOLDER SAMPLE # QA-003 INCLUDING PRE-ACCEPTANCE TESTING RESULTS

TEST CARRIED OUT	GOLDER RESULTS	PATRIOT RESULTS	PRE-ACCEPTANCE FROM PATRIOT 4 TEST AVERAGE	PRE-ACCEPTANCE FROM GEOTECH. 2 TEST AVERAGE
PROCTOR: D.D.	105.4	108.5	106	107.1
OPT. %M.	17.4	18.3	18	16.7
ATTERBURG: L.L.	36	27	36	40
P.I.	15	6	15	16.5
CLASSIFICATION:	CL	CL-ML	CL	CL

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: LIGHT RAIN ALL DAY, HIGH 59 F.

DATE: 5/25/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

TERRY (LMS) REQUESTED CONFIRMATION FOR THE APPROVED USE OF THE SILTY MATERIAL BEING REMOVED FROM THE EAST SIDE OF THE WEST BERM. A COPY OF DON'S (URS) DAILY FIELD REPORT (DFR) DATED 05/25/2001 WAS GIVEN TO TERRY, A COPY OF WHICH IS ATTACHED. THIS DFR OUTLINES THE RECOMMENDATIONS MADE BY GARY WANTLAND (URS) FOR THE APPROVED USE OF THIS MATERIAL.

LMS PLACED LIFT # 5 ON THE EAST SLOPE, NO TESTING CARRIED OUT.

LMS CALL WORK OFF FOR THE DAY AT 1:30pm DUE TO CONTINIUOS RAIN.

EQUIPMENT USED: 330B CAT EXCAVATOR AND 2 TANDEM DUMP TRUCKS FOR REMOVAL OF THE SILT FROM THE WEST BERM. D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR AND 14 TANDEM DUMP TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 896c.y. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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DAILY FIELD REPORT

PROJECT SOUTH - SAUGET AREA 1 CELL
CONTRACTOR LMS
URSGWC PERSONNEL D. GRAHLHERR
WEATHER MOSTLY CLOUDY RAIN EXPECTED BY 8:00 AM

PROJECT NO. CI-00004221.00 TASK 100
REPORT NO. 13
PAGE 1 OF 1
DATE 5/11/01

RECEIVED
MAY 11 2001
MAVERICK

PROGRESS OF WORK:

- DAG ON SITE @ 7:00 AM.
- LMS INDICATED THAT THEIR SURVEYOR SHOT THE TOP OF THE 3RD LIFT PLACED YESTERDAY ON THE EAST AND SOUTH BERMS. THE SURVEYOR SHOWED THIS LIFT TO ONLY BE 5" THICK. RICHARD S. OF GOLDER AND DAG AGREE THAT THE LIFT LOOKED THIN DURING PLACEMENT. LMS PLANS TO PLACE ANOTHER THIN LIFT OVER THIS AREA TO COMPLETE THE 3RD LIFT.
- LMS SMOOTH-DRUM ROLLED ENTIRE SITE @ END OF DAY YESTERDAY IN ANTICIPATION OF THE INCOMING WEATHER - RAIN IS ON THE WAY THIS MORNING. LMS INDICATED THEY WILL LIMIT THEIR WORK AREA TODAY ALSO TO AVOID WEATHER PROBLEMS.

* • GARY WANTLAND CALLED THIS MORNING TO DISCUSS PROPOSED ALTERNATIVES FOR USE OF MATERIAL IN WEST BERM CUT; SEE 5/10/01 URS DAILY FIELD REPORT FOR DISCUSSION AND MEMO REQUESTING GUIDANCE ON USE OF THIS MATERIAL.
GARY INDICATED THAT HE DOES NOT FAVOR THE USE OF THE MATERIAL IN THE OUTSIDE OF THE WEST BERM DUE PRIMARILY TO CONCERN W/ ERODIBILITY. EROSION PROBLEMS CAN BE SIGNIFICANT FOR SILT (ML) MAT'LS. HE DOES PREFER THE ALTERNATIVE WHERE THIS MAT'L IS USED AS COMPACTED FILL FOR THE RAMPS AND LOWER BERM AREA ON THE SOUTH BERM.
→ RECOMMENDATION:
— CUT SUBGRADE FROM WEST BERM IS APPROVED FOR USE AS COMPACTED FILL TO ONLY BE PLACED IN THE LOWER SECTION OF THE OUTSIDE OF THE SOUTH BERM AND/OR ACCESS RAMPS - PLACEMENT TO BE IN SECTION COVERED W/ 6" OF #57 STONE ARMORING. STONE TO BE PLACED SOON THEREAFTER. CONTRACTOR WILL BE RESPONSIBLE FOR EROSION IN MEANTIME.

INSPECTOR: [signature]

REVIEWED BY:

URS Corporation

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/1/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS AND PATRIOT.

SUMMARY OF CONSTRUCTION PROGRESS: CONTRACTOR COMPLETED PLACEMENT OF THE FIFTH LIFT ON THE EAST AND SOUTH BERMS AND THE SECOND LIFT ON THE NORTH PORTION OF THE WEST BERM. CONTRACTOR STARTED PLACEMENT OF THE SIXTH LIFT ON THE EAST BERM.

ALL MATERIAL ARRIVING ON SITE WAS HAULED FROM THE PRE-ACCEPTED BORROW SOURCE. THE MATERIAL ARRIVING ON SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGE.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED. UNDER GOLDER'S OBSERVATION, UNTIL A PASSING TEST WAS RECORDED.

NUCLEAR DENSITY TEST NUMBER'S B-036R THROUGH B-041 WERE TAKEN AND RECORDED. TEST NUMBER B-036R WAS A RE-TEST OF B-036 AND PASSED SITE SPECIFICATIONS. TEST NUMBERS B-037,B-038 & B-039 WERE TAKEN ON THE FIFTH LIFT ON THE EAST BERM, ALL PASSED SITE SPECIFICATIONS. TEST NUMBERS B-040 & B-041 WERE TAKEN ON THE SECOND LIFT ON THE WEST BERM. B-040 PASSED SITE SPECIFICATION WHILE B-041 FAILED MOISTURE CONTENT SPECIFICATION WITH A MOISTURE CONTENT OF 13.3%, -5% OF OPTIMUM MOISTURE.

RECEIVED TEST RESULTS FOR INTERFACE SHEAR TESTING, THESE RESULTS PASSED ON TO URS FOR REVIEW.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/1/2001

SUMMARY OF SURVEYOR'S ACTIVITIES: NONE

SUMMARY OF PROBLEMS AND RESOLUTIONS: PATRIOT'S ATTERBERG RESULTS TAKEN ON THE SAMPLE FOR THE FIRST 15,000cyd's PLACED WERE LOW CAUSING THE MATERIAL TO CLASSIFY AS A ML-CL WHICH FALLS OUT SIDE THE SITE SPECIFICATIONS. PATRIOT RE-RAN THE TEST AND THE RESULTS CAME OUT THE SAME AS THE PREVIOUS TEST. HOWEVER, THERE HAS BEEN NO VISUAL CHANGE OF THE MATERIAL RECEIVED ON SITE. GOLDER'S TEST RESULTS ON THIS SAMPLE FOLLOW CLOSELY TO THE 4 PREVIOUSLY RUN TESTS ON THE BORROW SOURCE MATERIAL. WE PRESUME THAT PATRIOT'S PORTION OF THE SAMPLE WAS TAKEN FROM A SILTIER SEAM OF MATERIAL. THEREFORE, THE MATERIAL WILL BE CONSIDERED TO REMAIN CLASSIFIED AS A SILTY CLAY, CL.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES): NONE

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES: NONE

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER:

DATE: 5/28/2001

S (M) T W T F S

PERSONNEL ON SITE:

THE FOLLOWING WAS NOTED:

NO WORK MEMORIAL DAY HOLIDAY.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HUMID, HIGH 78 F.

DATE: 5/29/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

PATRIOT RE-RAN THE ATTERBERG LIMITS TEST AND THE RESULTS CAME OUT THE SAME AS THE PREVIOUS TEST. HOWEVER, THERE HAS BEEN NO VISUAL CHANGE OF THE MATERIAL RECEIVED ON SITE. GOLDER'S TEST RESULTS ON THIS SAMPLE FOLLOW CLOSELY TO THE PREVIOUSLY RUN TESTS ON THE BORROW SOURCE MATERIAL. WE PRESUME THAT PATRIOT'S PORTION OF THE SAMPLE WAS TAKEN FROM A SILTIER SEAM OF MATERIAL. THEREFORE, THE MATERIAL WILL BE CONSIDERED TO REMAIN CLASSIFIED AS A SILTY CLAY, CL. A MEMO WAS SENT TO LMS & PATRIOT OUTLINING THIS ISSUE, A COPY OF WHICH IS ATTACHED.

AFTER RE-WORKING LIFT # 4 ON THE WEST PORTION OF SOUTH BERM TEST # B-36R WAS TAKEN, THIS TEST PASSED SITE SPECIFICATIONS.

LMS COMPLETED PLACEMENT OF LIFT # 5 ON THE EAST BERM AND TEST # B-37, B-38 & B-39 WERE TAKEN, ALL TESTS PASSED SITE SPECIFICATION WITH B-39 FALLING WITHIN THE 1 in 5 PASSING WITH A COMPACTION OF 90% TO 95%.

LMS COMPLETED PLACEMENT OF LIFT # 2 ON THE NORTH PORTION OF THE WEST BERM AND TEST # B-40 & B-41 WERE TAKEN. TEST # B-40 PASSED SITE SPECIFICATIONS WHILE TEST # B-41 FAILED SITE SPECIFICATIONS WITH A MOISTURE CONTENT OF 13.3%, LMS WILL RE-WORK THE AREA.

LMS STARTED PLACING LIFT # 5 ON THE SOUTH BERM.

EQUIPMENT USED: D6H CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT COMPACTOR JOHN DEERE TRACTOR PULLING A 2100GAL. WATER TRAILER AND 15 TANDEM DUMP TRUCKS.

BORROW SITE: D5C CAT DOZER AND 325 CAT EXCAVATOR.

APPROXIMATELY 1640 cy. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

Golder Associates CONSULTING ENGINEERS	SUBJECT ATTERBERG TESTING ON SAMPLE TAKEN ON 05/10/01		
	Job No.	Made by	Date 5/29/01
	Ref.	Checked	Sheet 1 of 1
		Reviewed	

TO, LMS AND PATRIOT,

Please reference Memo No: 2A (Attached). The results of Patriots Atterberg Limits tests being the same for both tests run and being close to classifying as a CL, we will wait to see the results of the next tests before taking further action. These tests will be run on the next round of QA tests for the 15,000cy to 30,000cy of placed material. This sample will be taken in the field on 05/30/01.

Golder will also take a sample at this time and test for Atterberg Limits only.

Project: Sauget Area 1 TSCA Cell Construction
Report: Outstanding Submittals and Open Issues *

For Week Ending: 5/29/01 **Memo No.: 2A**

Item / Issue	Date Identified	Date Due	Date Rec'd./ Resolved	Comments
Geosynthetics Conformance Testing Data	5/29/01	6/28/01		URS found the manufacturer, installer and product prequalification submittals for Geosynthetics to be acceptable. Geosynthetics consultant to begin conformance testing.
Interface Friction Angle Testing	5/16/01	4/2/01		Received GCL vs. Compacted Soil on 5/18/01. Four more interface tests outstanding.
PE Certified Test Results for Compacted Fill (0 cy to 15,000 cy)	5/10/01	5/18/01	5/29/01	PE Certified copy for all testing received, up to date.
Survey Data - Subbase and top of first lift elevations	5/9/01	5/22/01	5/18/01	Received preliminary survey for top of first lift on 5/16/01. Survey will be required on fourth lift (starting south berm today).
New Seaman Nuclear Gauge capable of taking 8-inch deep test	5/4/01	5/18/01	5/22/01	Four compatibility test between the CPN gauge and the Seaman gauge were run, results show closer readings between the gauges.
Patriot's Test Results- Atterberg Limits too low, Material now Classified as ML-CL.	5/24/01	5/29/01	5/29/01	Patriot re-ran the Atterberg Limits test and the result came out the same as the previous test. However, there has been no visual change of the material received on site. Golder's test results on this sample follow closely to the 4 previously run tests on the Borrow Source material. We presume that Patriot's portion of the sample was taken from a siltier seam of material. Therefore, the material will be considered to remain classified as a Silty Clay, CL.

* Not a[illegible]lete list of all outstanding submittals. It is the responsibility of the Contractor to track [illegible]rovide submittals in accordance with the contract documents.

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: RAIN, HIGH 68 F.

DATE: 5/30/2001

S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

1.7 INCHES OF RAINFALL RECORDED ON SITE OVERNIGHT. LMS REMINDED ABOUT THE NEED TO KEEP MUD OF THE ROADWAYS.

LMS STARTED TO PLACE LIFT # 6 ON THE EAST BERM, WORK CALLED OFF AT 0940am. DUE TO RAIN.

PATRIOT COLLECTED A SAMPLE FROM THE NORTH WEST PORTION OF THE EAST BERM FOR QA SAMPLING FOR THE 15,000cy. To 30,000cy. MATERIAL PLACED. AT THIS TIME GOLDER ALSO COLLECTED A SAMPLE WHICH WILL BE SENT TO GOLDER'S HOUSTON LABORATORY FOR ATTERBERG LIMITS TESTING. THIS IS BEING DONE ON THE ADVICE OF DON (URS), AS A CHECK OF PATRIOT'S TESTING, DUE TO THE PREVIOUSLY LOW RESULTS FOR SAMPLE # S-117 ATTERBERG LIMITS.

EQUIPMENT USED: D6H CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR AND 15 TANDEM DUMP TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR AND D5C CAT DOZER.

APPROXIMATELY 320 c.y. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
WNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: RAIN MOST OF THE DAY, PARTIALLY CLOUDY IN LATE AFTERNOON. HIGH 74 F.

DATE: 5/31/2001

S M T W(T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

0.94 INCHES OF RAINFALL WAS RECORDED ON SITE IN THE LAST 24 HOURS, DUE TO THIS LMS CALLED WORK OFF FOR THE DAY. ON VISUAL INSPECTION OF THE CELL AREA, IT WAS NOTED THAT THERE IS NOW AN EXCESSIVE AMONT OF STANDING WATER ON SITE. JOHN (MAVERICK) IMFORMED LMS THAT THEY NEED TO SET UP A PUMP TODAY AND START PUMPING DOWN THE WATER, ESPECIALLY IN THE NORTH WEST CELL FLOOR.

LMS HAD AN OPERATOR AND LABORER REMAIN ON SITE TO SET A 3 INCH PUMP IN THE NORTH WEST CORNER OF THE CELL FLOOR AND PUMP THE STANDING WATER.

DON (URS) TALKED TO GARY (URS) ABOUT THE INTERFACE FRICTION TESTING RESULTS WHICH WERE RECEIVED FROM LMS AND FAXED TO GARY. GARY STATED HE WOULD REVIEW THEM AS SOON AS POSSIBLE, TO ALLOW FOR THE GEOSYNTHETICS CONTRACTOR TO ORDER THE MATERIAL FROM SERROT.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: PARTIALLY SUNNY, COOL, HIGH 67 F.

DATE: 6/1/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS.

THE FOLLOWING WAS NOTED:

NO CELL CONSTRUCTION BEING CARRIED OUT, DUE TO RAIN, LMS HAVE 3 OPERATORS ON SITE TO RE-WORK THE UPPER LAYER OF MATERIALS PLACED IN THE HOPE THAT WORK CAN START AGAIN ON MONDAY. THERE IS A POSSIBILITY OF RAIN AGAIN NEXT WEEK.

RECEIVED URS'S COVER LETTER ACCEPTING MANUFACTURER, INSTALLER AND PRODUCT PRE-QUALIFICATION SUBMITTALS AND TAYLOR WAS INFORMED TO GO AHEAD AND ORDER THE SYNTHETICS BY LMS. WHEN SERROT ISSUES ROLL AND BATCH NUMBERS TAYLOR WILL SEND ME A COPY, SO THE NUMBERS OF THE ROLLS THAT REQUIRE CONFORMANCE TESTING CAN BE DECIDED.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER AND 563 CAT SHEEP'S FOOT COMPACTOR.

NO MATERIAL HAULED TO SITE.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/8/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT.

SUMMARY OF CONSTRUCTION PROGRESS:

DUE TO RAIN OVER THE PREVIOUS WEEKEND AND THE FIRST PART OF THE WEEK NO CLAY MATERIAL WAS HAULED TO SITE. CONTRACTOR MAINTAIN THE INTEGRITY OF THE PLACED CLAY BY ROLLING AND BLADING. CONTRACTOR PUMPED THE CELL AREA OF STANDING WATER AND SET A PIPE IN THE NORTH WEST CORNER OF THE CELL FLOOR TO HELP IN DE-WATERING OF THE CELL.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/8/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

NONE

SUMMARY OF PROBLEMS AND RESOLUTIONS:

NONE

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES): A MEETING WAS HELD ON 6/7/01 TO DISCUSS THE GEOSYNTHETICS. MAVERICK, GOLDER, LMS AND TAYLOR IN ATTENDANCE.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: RAIN, COOL, HIGH 63 F.

DATE: 6/4/2001

S (M) T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

0.3 INCHES OF RAINFALL RECORDED ON SITE OVER THE WEEKEND WITH RAIN FALLING THIS MORNING, ALREADY RECORDED 0.43 INCHES FOR THE 7:00am to 8:00am HOUR. LMS CALLED WORK OFF FOR THE DAY.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

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PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: OVERCAST, HUMID, HIGH

DATE: 6/5/2001

S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

DUE TO PREVIOUS RAINFALL OVER THE LAST 4 DAYS THE SITE IS STILL WET. LMS CALLED WORK OFF FOR THE DAY.

THE CONFORMANCE TESTING OF THE GEOSYNTHETICS WAS DISCUSSED WITH URS, MAVERICK AND TAYLOR. THE SPECIFICATIONS FOR THE GCL CONFORMANCE TESTING REQUIREMENTS WERE NOT SPECIFIC AS THE TESTING REQUIREMENTS ARE MENTIONED IN THE QA MANUAL NOT THE SITE SPECS.

IT WAS ALSO DECIDED THAT GOLDER WOULD TAKE THE CONFORMANCE SAMPLES AND RUN THE TESTING. IF TIME PERMITTED THE SAMPLE FOR CONFORMANCE TESTING WOULD BE TAKEN ON THE MATERIAL AS IT ARRIVED ON-SITE. IF TIME BECAME A FACTOR THE SAMPLES WOULD BE TAKEN BY A GOLDER TECHNICIAN AT SERROT'S CALGARY MANUFACTURING PLANT. THESE SAMPLES WILL BE SENT TO GOLDER'S GEOSYNTHETICS LABORATORY IN ATLANTA, GEORGIA FOR TESTING. THIS FOLLOWS MORE CLOSELY TO THE SITE QA SPECIFICATIONS AND WAS AGREED UPON BY ALL CONCERNED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

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PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: RAIN, HUMID, HIGH

DATE: 6/6/2001
S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

RAINING ALL DAY, LMS CALLED OFF WORK AND DOES NOT FORESEE HAULING ANY CLAY OR CONSTRUCTION TAKING PLACE THIS WEEK. LMS HOPES TO BE ABLE TO PUMP THE CELL DRY TOMORROW IF THE RAIN STOPS. LMS WILL TRY TO PLACE THE UNDER DRAIN IN THE CELL ON FRIDAY, AGAIN, CONTINGENT ON RAIN. DUE TO NO CONSTRUCTION ACTIVITY THIS WEEK PATRIOT LEFT SITE TO GO WORK IN THEIR MAIN SOILS LABORATORY FOR THE REMAINDER OF THE WEEK.

RECEIVED THE SIGNED AND STAMPED COPIES OF THE ENGINEERS COVER LETTER FOR THE WEEKS OF, MAY 21 to MAY 25, AND MAY 29 to JUNE 01.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

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PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER:

DATE: 6/7/2001

S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, AND TAYLOR.

THE FOLLOWING WAS NOTED:

LMS PUMPED STANDING WATER FROM CELL FLOOR. LMS NOT HAULING CLAY DUE TO THE SITE STILL BEING WET.

A MEETING WAS HELD BETWEEN LMS, MAVERICK AND GOLDER TO DISCUSS THE SCHEDULE FOR DELIVERY, UNLOADING AND STORAGE OF THE GEOSYNTHETICS. THE ROLL NUMBERS FOR THE SMOOTH AND TEXTURED HDPE WAS RECEIVED FROM SERROT. THE HDPE AND THE GEOTEXTILE ARE READY FOR DELIVERY AND WILL START TO BE SHIPPED THE WEEK OF 06/18/01. THE GCL IS HOPED TO BE READY FOR SHIPPING AT AROUND THE SAME TIME WITH PART OF THE GEONET BECOMING AVAILABLE THE WEEK OF 06/25/01. JOHN STATED THAT AN AREA INSIDE THE FENCELINE WOULD BE MADE AVAILABLE FOR THE STORAGE OF THE HDPE, GCL AND TEXTILE. THE GEONET WOULD MOST LIKELY BE STORED IN THE SMALL FENCED-IN AREA OUTSIDE THE CONSTRUCTION AREA TO THE SOUTH OF THE CONSTRUCTION TRAILERS.

RECEIVED GOLDER'S ATTERBERG TEST RESULTS FOR THE QA SAMPLE TAKEN ON THE 15,000cy to 30,000 cy OF MATERIAL PLACED. THIS SAMPLE, GOLDER # QA-004 WAS TAKEN AT THE SAME TIME AS PATRIOT'S SAMPLE # S-119, AT THIS TIME NO TEST DATA HAS BEEN RECEIVED FROM PATRIOT SO NO COMPARISONS CAN BE MADE.

A FAX WAS SENT TO GARY WANTLAND REGARDING THE GEOSYNTHETIC'S CONFORMANCE TESTING REQUIREMENTS, WITH A TABLE OUT LINING THE TEST'S REQUIRED. GARY WAS ASKED TO CONFIRM THIS IS THE RIGHT TESTING REQUIREMENTS. A COPY OF THE TABLE IS ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER, 416 CAT BACKHOE, 3 INCH PUMP. LMS HAD 1 OPERATOR AND 1 LABORER ALONG WITH TERRY AND JACK ON SITE.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GEOSYNTHETIC'S CONFORMANCE TESTING REQUIREMENTS

TEST REQUIRED	ASTM #	WHERE FOUND
GEOMEMBRANE		
DENSITY	D1505	IN SPECS. AND QA
CARBON BLACK CONTENT	D1603	IN QA
CARBON BLACK DISPERSION	D5596	IN QA
THICKNESS	D1559	IN SPECS. AND QA
TENSILE CHARACTERISTICS	D638	IN SPECS. AND QA
ASPERITY HEIGHT	~~UNKNOWN~~ GR-12	IN QA
GEOTEXTILES		
MASS/ UNIT AREA	D5261	IN SPECS. AND QA
GRAB STRENGTH	D4632	IN SPECS. AND QA
TRAPEZOIDAL TEAR STRENGTH	D4533	IN QA
BURST STRENGTH	D3786	IN QA
PUNCTURE STRENGTH	D4833	IN QA
THICKNESS	D5199	IN QA
PERMITTIVITY	D4491	IN SPECS.
GEONETS		
DENSITY	D792	IN SPECS. AND QA
MASS/ UNIT AREA	D5261	IN QA
THICKNESS	D1777	IN SPECS. AND QA
TRANSMISSIVITY	D4716	IN SPECS. AND QA
TENSILE STRENGTH	D571	IN SPECS.
GCL'S		
SWELL INDEX	D5890	IN QA
MASS/ UNIT AREA	D5993	IN QA
THICKNESS	D5199	IN QA
PERMEABILITY	D5084	IN QA

NOTE: NO INTERFACE FRICTION TESTING MENTIONED AS THIS TESTING HAS BEEN COMPLETED.

FIELD MONITORING REPORT

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PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, WARM HIGH 78 F.

DATE: 6/8/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS.

THE FOLLOWING WAS NOTED:

LMS RE-WORKING THE BERMS WITH THE D6H CAT DOZER, 563 CAT SHEEP' FOOT COMPACTOR AND THE 815 CAT COMPACTOR. AT THE END OF THE DAY THE WHOLE AREA WAS SMOOTH DRUM ROLLED. IN THE LATE MORNING THE 815 CAT COMPACTOR WENT DOWN WITH A LEAKING FUEL TANK, THIS SHOULD BE REPAIRED BY MONDAY AFTERNOON.

LMS INSTALLED A 24 INCH FIELD TILE IN THE NORTH WEST PORTION OF THE CELL FLOOR TO HELP IN THE DE-WATERING OF THE CELL.

NO CLAY MATERIAL WAS HAULED TO THE SITE.

EQUIPMENT USED: D6H CAT DOZER, D5 LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, 815 CAT COMPACTOR, 416 CAT BACKHOE, 3 INCH PUMP AND INGERSOLL RAND SD100 SMOOTH DRUM ROLLER.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/15/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT AND ENVIRONMENTAL PRECISION ASSC.

SUMMARY OF CONSTRUCTION PROGRESS: CONTRACTOR COMPLETED PLACEMENT OF THE NINTH LIFT ON THE NORTH BERM, THE EIGHT LIFT ON THE SOUTH BERM, THE NINTH LIFT ON THE EAST BERM. CONTRACTOR BEGAN PLACING SOIL ON THE WEST BERM.

ALL MATERIAL BEING HAULED TO SITE IS FROM THE PRE-ACCEPTED BORROW SOURCE. THE MATERIAL ON SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGE.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED. UNDER GOLDER'S OBSERVATION, UNTIL A PASSING TEST WAS RECORDED.

NUCLEAR DENSITY TEST NUMBER'S B-0045 THROUGH B-072 WERE TAKEN AND RECORDED. TEST NUMBER'S B-046R, B-047R, B-048R, B-067R, ALL WERE RE-TESTS OF THE CORRESPONDING NUMBERS. ALL RE-TESTS PASSED SITE SPECIFICATIONS.

RECEIVED TEST RESULTS FOR 15,000-30,000 C.Y. OF MATERIAL PLACED.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/QA/SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/15/2001

SUMMARY OF SURVEYOR'S ACTIVITIES: SURVEYOR ONSITE 6/13 TO TAKE SHOTS ON LIFT #7, FOR BERMS ON THE NORTH, SOUTH, AND EAST SIDES. ON 6/14 SURVEYOR PLACED A 50 FOOT GRID ON THE CELL FLOOR RUNNING EAST TO WEST, 50 FOOT SOUTH OF NORTH EDGE. ON 6/15 LIFT #4 WAS TESTED ON THE WEST BERM.

SUMMARY OF PROBLEMS AND RESOLUTIONS: CONTROL IN CORNERS AND ELEVATIOS ON THE TOE OF CELL MAKE IT IMPOSSIBLE TO KEEP SLOPES AT 3:1. IF 3:1 SLOPES ARE MAINTAINED THEN A LOSS OF VOLUME IN THOSE AREAS WILL OCCUR. HOLDING TO THE ELEVATIONS WILL ALSO CAUSE INCORRECT THICKNESSES IN THE CAPILLARY LAYER, AND THE TRACKED IN PLACE SOIL LAYERS. PROBLEM YET TO BE RESOLVED. SUBGRADE FLOOR STILL HEAVILY SATURATED IN THE NW CORNER.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES): NONE

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES: NONE

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: HOT, HUMID, HIGH 93 F.

DATE: 6/11/2001

S (M) T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

DISCUSSION REFERENCE FINAL INTERFACE SHEAR TESTING WAS HELD BETWEEN LEE TAYLOR, DON GRAHLHERR AND MYSELF. LEE EXPRESSED CONCERN ABOUT WHAT TESTS WERE STILL OUTSTANDING. GARY WANTLAND WAS CONTACTED AND A FINAL ANSWER GIVEN TO LEE, HE FAXED A CONFIRMATION LETTER, A COPY IS ATTACHED.

NUCLEAR DENSITY TEST'S WERE TAKEN ON LIFT # 6 ON THE NORTH BERM, LIFT # 5 ON THE SOUTH BERM AND THE NORTH PORTION OF LIFT # 2 ON THE WEST BERM. ALL TEST'S PASSED THE SITE SPECIFICATIONS.

LMS PLACED LIFT # 6 ON THE EAST BERM AND NUCLEAR DENSITY TEST NUMBER B-44 WAS TAKEN AND PASSED SITE SPECIFICATIONS.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, OHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER, 3INCH PUMP AND 14 TANDEM DUMP TRUCKS.

BORROW SITE: D5C CAT DOZER,325 CAT EXCAVATOR.

APPROXIMATELY 1616cy. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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TAYLOR GEOSYNTHETICS, INC.
~ 103 East Lincoln Street ~ Post Office Box 27 ~
Danville, Indiana 46122
Telephone (317) 745-2202 ~ Fax (317) 745-0018

June 11, 2001

Mr. Jack Long
LMS Contracting
6515 West 500 North
Madion, Indiana 47250

Re: Solutia Sauget Area 1

Dear Jack:

I received a telephone call from Richard Siemaszkiewicz of Golder Associates and Donald Grahlherr of URS this morning reqarding the additional shear test for the GCL.

They talked with Gary Wantland of URS and he stated that if we were going to use reinforced GCL for the cell floor, slopes and cap liner we would only need to do one additional interface test. They also stated that an interface test between the geonet and geotextile was not required. You may disregard my RFI dated 6/8/01 on this matter. I have notified Serrot to change all of my GCL order to reinforced and Precision Laboratories to proceed with the reinforced GCL/textured HDPE interface shear test.

If you have any questions, please call.

Sincerely,

Lee Taylor, President
Taylor Geosynthetics, Inc.

cc John Fiore — Maverick
Richard Siemaszkiewicz — Golder
Donald Grahlherr — URS

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: HOT, HUMID, SUNNY, HIGH 94 F.

DATE: 6/12/2001 S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND PATRIOT.

THE FOLLOWING WAS NOTED:

RECEIVED THE LABORATORY TEST DATA FOR THE SAMPLE TAKEN ON THE 15,000cy to 30,000cy OF MATERIAL PLACED. WHILE THE DRY DENSITY VALUE IS HIGHER THAN ANY OF THE PREVIOUSLY RUN TESTS THE MOISTURE CONTENT STAYS WITHIN 2% OF PREVIOUS TESTS. THE ATTERBERG LIMITS VALUES ARE COMPATIBLE WITH THOSE OF THE TEST RUN BY THE GOLDER, HOUSTON LABORATORY WITH A LIQUID LIMIT OF 32 THIS BEING THE SAME FOR BOTH LABORATORIES AND A PLASTIC INDEX OF 9 FROM PATRIOT AND 11 FROM GOLDER. THESE RESULTS BOTH CLASSIFY THE SOIL AS A LEAN CLAY (CL). THIS SUBSTANTIATES THE COMMENTS ABOUT THE PREVIOUS ATTERBERG TESTING. A COPY OF THE PATRIOT'S TESTING DATA AND A SUMMARY OF GOLDER'S TESTING DATA ARE ATTACHED.

TOOK NUCLEAR DENSITY TEST NUMBER'S B-044 & B-045 ON LIFT # 6 ON THE EAST BERM. B-045 FAILED MOISTURE SPECIFICATION WITH A MOISTURE CONTENT OF 23.3%. RE-TEST # B-045R PASSED SITE SPECIFICATIONS. A DRIVE TUBE SAMPLE WAS TAKEN AT THE B-045 LOCATION THE RESULTS OF WHICH SHOW A DENSITY AND MOISTURE CONTENT TO BE WITHIN 2% OF THE NUCLEAR DENSITY TEST.

LMS PLACED LIFT # 6 ON THE SOUTH BERM, NUCLEAR DENSITY TEST # B-047 & B-048 WERE .AKEN, BOTH FAILED THE SITE SPECIFICATIONS FOR COMPACTION, READING 91.1% & 91.3% RESPECTIVELY.

LMS PLACED LIFT # 7 ON THE NORTH BERM, NUCLEAR DENSITY TEST # B-049 & B-050 WERE TAKEN, BOTH PASSED THE SITE SPECIFICATIONS.

LMS STARTED PLACEMENT OF LIFT # 3 ON THE WEST BERM AND LIFT # 7 ON THE EAST BERM.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, 815 CAT COMPACTOR, JOHN DEERE TRACTOR PULLING A 2100 GAL. WATER TRAILER, 3 INCH PUMP AND 26 TANDEM DUMP TRUCKS.

BORROW SITE: 2- 325 CAT EXCAVATORS, D5C CAT DOZER.

APPROXIMATELY 2,368 c.y. OF MATERIAL WAS HAULED AND PLACED.

CONTRACTOR REMINDED OF THE IMPORTANCE OF KEEPING THE CELL FLOOR DE-WATERED.

FINAL CONFIRMATION FROM GARY WANTLAND ON THE TYPE AND FREQUENCY OF THE GEOSYNTHETICS CONFORMANCE TESTING RECEIVED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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Patriot Engineering
4735 Poplar Level Road
Louisville,Ky.

Atterburg Limits
ASTM D4318

Project Name: Sauget Area 1 Landfill **Client:** LMS

Project Number: 501-223 **Client Address:**

Date Received: 5/30/01

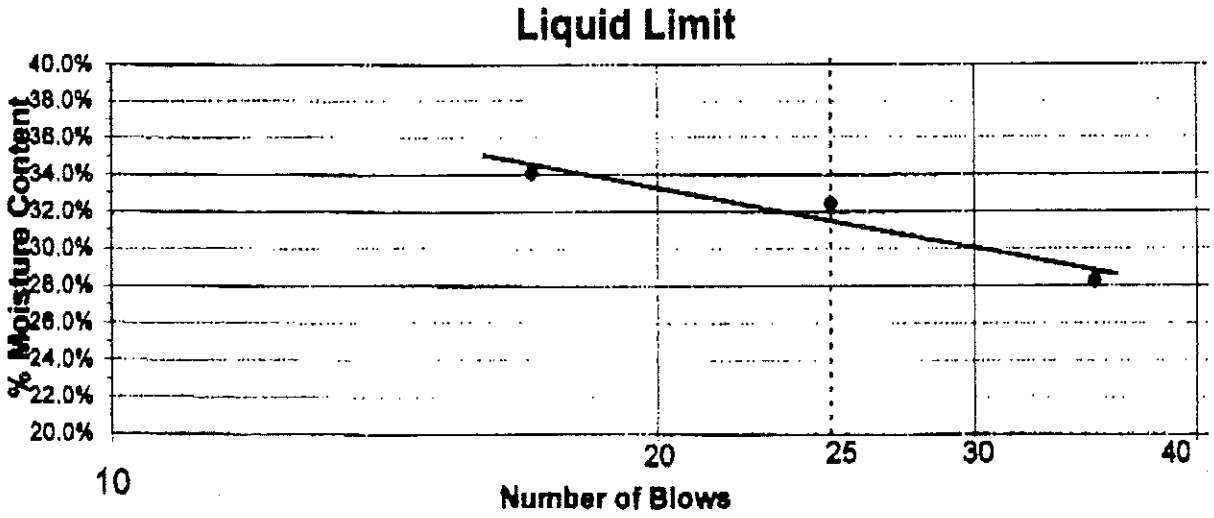
Date Tested: 6/5/01 **Sampled By:** M. Daumen

Sample Number: S-119 **Tested By:** M. Daumen

Delivered %MC		Plastic limit			Liquid Limit		
Tare #							
Wet + tare		213.4	208.5		89.7	223.7	216.1
Dry + tare		210	205.1		95.2	218.7	210.2
tare wgt		195.9	189.4		79.3	203.3	192.9
water wgt	0	3.4	3.4		4.5	5	5.9
dry wgt	0	14.1	15.7		15.9	15.4	17.3
% MC	#DIV/0!	24.11%	21.66%		28.3%	32.5%	34.1%
		Avg.	22.9%	# of blows=	35	25	17

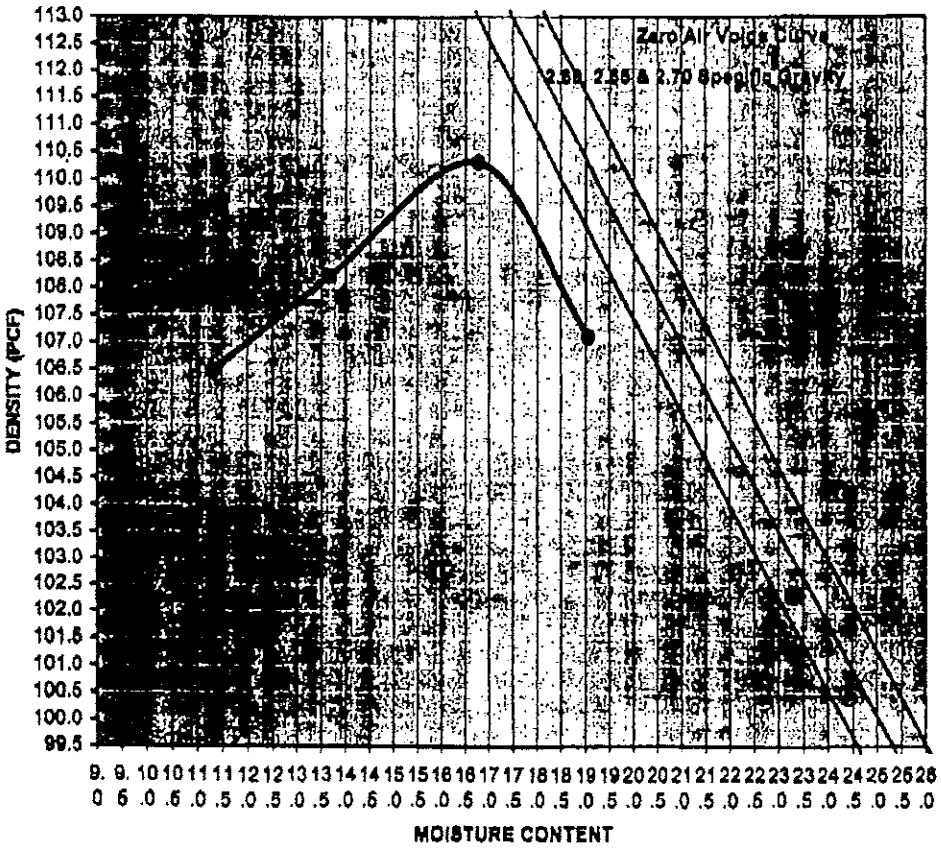
Liquid Limit 32 Plastic Limit 23 Plastic Index 9

USCS Classification CL



Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship



Project:	Sauget Area 1 landfill	Project #:	501-223
Client:	LMS	Date:	June 5,2001

Sample Discription: Brown silty Clay

LL	PI	Sample log #	Maximum Density	Opt. Moisture
32.0	9.0	S-119	110.3	16.8

Remarks: Off-site borrow material

PATRIOT ENGINEERING
and Environmental Co., LLC
4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9255

Project Name: Sauget Area I Landfill — Date: May 30, 2001

Client: LMS Contracting — Patriot Project No.: 501-223

Patriot Rep. Melisa Daumen

Remarks: **Moisture content for sample # S-119**

MOISTURE CONTENT	MC-008					
. Wt. soil + tare (wet), gr.	112.4					
. Wt. soil + tare (dry), gr.	107					
. Wt. of water (#1 minus #2), gr.	5.4					
. Wt. of tare, gr.	79.3					
. Wt. of soil, dry (#2 minus #4), gr.	27.7					
. Moisture content (#3 / #5 x 100), %	19.5				#DIV/0!	#DIV/0!

PROJECT	SOLUTIA QC
PROJECT NO	013-8559
CLIENT:	3

ALL SAMPLES

GOLDER ASSOCIATES INC.
HOUSTON, TEXAS

DATE:	05/07/95
PREPARED BY	
REVIEWED BY	

SUMMARY OF LABORATORY TESTING
SOILS DATA

SAMPLE LOCATION				SOIL DESCRIPTION	UNIFIED SOILS CLASSIFICATION SYSTEM	PHYSICAL PROPERTIES													
						STANDARD PROCTOR		NAT MOIST. CONT. (%)	SPEC. GRAV.	ATTERBERG LIMITS				GRAIN SIZE DISTRIBUTION % FINER			HYDRAULIC CONDUCTIVITY		
BORING NO.	SAMPLE NO.	SAMPLE DEPTH (ft)	SAMPLE TYPE			MAX DRY DENSITY (pcf)	OPTIMUM MOISTURE CONTENT			L.L. (%)	P.L. (%)	P.I. (%)	LIQUIDITY INDEX	GRAVEL NO. 4	F. SAND NO. 40	FINES NO. 200	DRY DENSITY (pcf)	MOIST. CONTENT (%)	TEST K-20 (cm/sec)
	OZ		PAIL			101.4	17.4												
	QA-002		PAIL	Brown Silty CLAY, trace fine sand.	CL	105.4	17.4	19.7		36	21	15	0.000	100.0	99.9	99.3			
	QA-004		BAG	Brown Silty CLAY	CL			19.7		32	21	11	0.000						

Patriot Engineering and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship

Client:	LMS	Job #:	501-223
Project Name:	Sauget Area 1 landfill		
Sample Source:	Off-site borrow material	Sample #:	S-119
Sample Description:	Brown silty Clay	Mod/Std:	1 point
Tested By:	M.Daumen	Date:	June12,2001
Mold Weight:	9.40		

POINT		1	2	3	4		
Sample & Mold:		13.68	0.00	0.00	0.00		
Sample (lb):		4.28	0.00	0.00	0.00		
Wet Density:		128.40	0.00	0.00	0.00		
Can Number:							
Wet Soil & Can:		372.60	0.00	0.00	0.00		
Dry Soil & Can:		347.30	0.00	0.00	0.00		
Water Lost:		25.30	0.00	0.00	0.00		
Can Weight:		194.80	0.00	0.00	0.00		
Dry Soil Weight:		152.50	0.00	0.00	0.00		
Moisture Content:		16.6	#DIV/0!	#DIV/0!	#DIV/0!		
Dry Density:		110.1	#DIV/0!	#DIV/0!	#DIV/0!		

27.22	16.76	14.87	9.91
95.00	113.00	117.00	129.00
27.95	17.49	15.60	10.64
95.00	113.00	117.00	129.00
28.65	18.18	16.30	11.34
95.00	113.00	117.00	129.00

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, HOT, HIGH 91 F.

DATE: 6/13/2001 S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT AND ENVIRONMENTAL PRECISION INC.

THE FOLLOWING WAS NOTED:

RE-TESTED LIFT # 6 ON THE SOUTH BERM. NUCLEAR DENSITY TESTS NUMBER'S B-047R & B-048R WERE TAKEN, BOTH THESE TESTS PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 7 ON THE EAST BERM AND NUCLEAR DENSITY TEST NUMBER'S B-051,B-052 & B-053 WERE TAKEN, ALL TESTS PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 3 ON THE WEST BERM AND NUCLEAR DENSITY TEST NUMBER'S B-054, B-055 & B-056 WERE TAKEN, ALL TESTS PASSED SITE SPECIFICATIONS.

LMS STARTED PLACING LIFT # 7 ON THE SOUTH BERM AND LIFT # 8 ON THE NORTH BERM.

ENVIRONMENTAL PRECISION ASSC. INC. ON SITE TO CERTIFY TOP ELEVATIONS ON LIFT # 7 ON THE NORTH, EAST AND SOUTH BERMS. ALSO TO VERIFY GRADES ON THE SUBGRADE IN THE CELL FLOOR.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, 815 CAT COMPACTOR, JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER, 3 INCH PUMP, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 25 TANDEM DUMP TRUCKS.

BORROW SITE: 2 x 325 CAT EXCAVATORS, D5C CAT DOZER.

APPROXIMATELY 2,552 c.y. OF MATERIAL WAS HAULED AND PLACED.

AT THE END OF THE WORK DAY THE SITE WAS SMOOTH DRUM ROLLED.

DAN TITUS OF GOLDER ARRIVED ON SITE TO TAKE OVER THE CQA DUTIES FROM RICHARD SIEMASZKIEWICZ FOR 10 DAYS DURING RICHARD'S VACATION ABSENCE.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: 90,HOT/HUMID

DATE: 6/14/2001
S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION

THE FOLLOWING WAS NOTED: NUCLEAR DENSITY TESTS TAKEN ON LIFT #7 ON THE SOUTH BERM, TEST NUMBERS B-057 & B-058. LMS COMPLETED PLACING LIFTS ON THE NORTH, EAST, AND WEST BERMS THROUGHOUT THE DAY. NUCLEAR DENSITY TESTS WERE TAKEN AND ARE AS FOLLOWS, NUMBER B-058 & B-059 FOR LIFT #8 ON THE NORTH BERM, B-061 & B-062 FOR LIFT 8 ON THE EAST BERM, AND B-063, B-064 & B-065 FOR LIFT #4 ON THE WEST BERM, ALSO B-066 ON THE EAST BERM.

LMS BEGAN PLACING SOIL ON THE NORTH BERM.

ENVIRONMENTAL PRECISION ON SITE TO PLACE A GRID ON CELL FLOOR.

EQUIPMENT USED: D6H DOZER, D5LGP CAT DOZER, 563 CAT SHEEPSFOOT ROLLER, 815 CAT COMPACTOR, JOHN DEERE TRACTOR PULLING 2100 GAL WATER TANK, 3 INCH PUMP, INGERSOLL RAND SD-100 SMOOTH DRUM ROLLER, AND 25 TANDEM DUMP TRUCKS.

BORROW SITE: 2 X 325 CAT EXCAVATORS, D5C CAT DOZER.

APPROX. 2,768 C.Y. OF MATERIAL WAS HAULED INTO PLACE.

BERMS WERE SMOOTH DRUM ROLLED AT END OF WORK DAY.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

T.G.I. TAYLOR GEOSYNTHETICS, INC.
121 COMMERCE DRIVE SUITE 304
P.O. BOX 27
DANVILLE, INDIANA 46122

Telephone: (317) 745-2202
Fax: (317) 745-0018

NATIONAL SEAL COMPANY TOP TEN INSTALLER 1993-1999
SERROT INTERNATIONAL TOP TEN INSTALLER 2000

DATE: June 14, 2001

TO: **Richard Siemaszkiewicz**

COMPANY: **Golder Associates**

FROM: **Lee Taylor**

NUMBER OF PAGES: 1

RE: Solutia Geotextile

MESSAGE: I will have the roll numbers by noon tomorrow and will fax them to you immediately.

( ) IMMEDIATE REPLY REQUESTED

( ) AT YOUR EARLIEST CONVENIENCE

( ) NO REPLY NEEDED

NORTH AMERICAN GEOSYNTHETICS SOCIETY **NAGS**
IAGI INTERNATIONAL ASSOCIATION OF GEOSYNTHETICS INSTALLERS

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, HOT, HIGH 91 F.

DATE: 6/15/2001
S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT AND ENVIRONMENTAL PRECISION INC.

THE FOLLOWING WAS NOTED:

LMS COMPLETED PLACING LIFT #9 ON THE NORTH BERM, LIFT #8 ON THE SOUTH BERM, LIFT #9 ON THE EAST BERM. NUCLEAR DENSITY TESTS B-067, B-067R (RE-TEST AS MOISTURE WAS TOO HIGH), B-068, WERE TAKEN ON LIFT #9 OF THE NORTH BERM. B-069, AND B-070 WERE TAKEN ON LIFT #9 ON THE EAST BERM. B-071, AND B-072 WERE TAKEN ON LIFT #8 ON THE SOUTH BERM. GOLDER USED A CPN GAUGE FOR A NUCLEAR DENSITY TEST ON B-070 TO RUN A COMPARISON WITH PATRIOT'S SEAMAN GAUGE. DATA IS ATTACHED FROM THE CPN GAUGE.

LMS STARTED PLACING LIFT #5 ON THE WEST BERM.

ENVIRONMENTAL PRECISION ASSC. INC. ON SITE TO CERTIFY TOP ELEVATIONS ON LIFT # 4 ON THE WEST BERM.

TAYLOR GEOSYNTHETICS INC. SET A ROLL NUMBER LIST FOR THE GEOTEXTILE THAT WILL BE ARRIVING ON SITE. ALSO ATTACHED IS A LETTER REGARDING THE TEST RESULTS FOR THE REINFORCED/HDPE GCL. THESE RESULTS ARE ON FILE.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, 815 CAT COMPACTOR, JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER, 3 INCH PUMP, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 25 TANDEM DUMP TRUCKS.

BORROW SITE: 2 x 325 CAT EXCAVATORS, D5C CAT DOZER.

APPROXIMATELY 2,664 c.y. OF MATERIAL WAS HAULED AND PLACED.

AT THE END OF THE WORK DAY THE SITE WAS SMOOTH DRUM ROLLED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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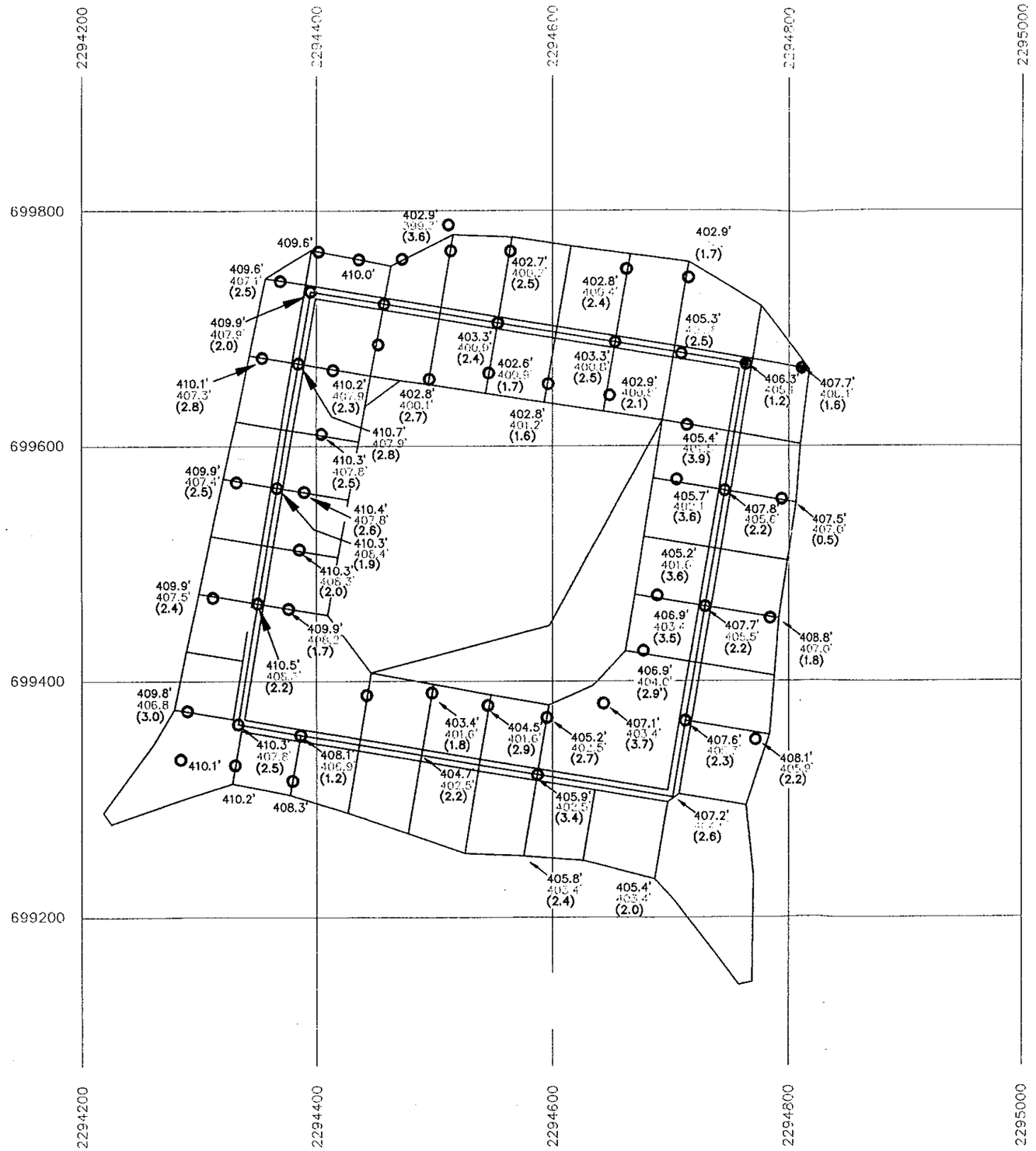
ELEVATIONS AT THE TOP OF LIFT NO. 4 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (MAY 23, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

[illegible] = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

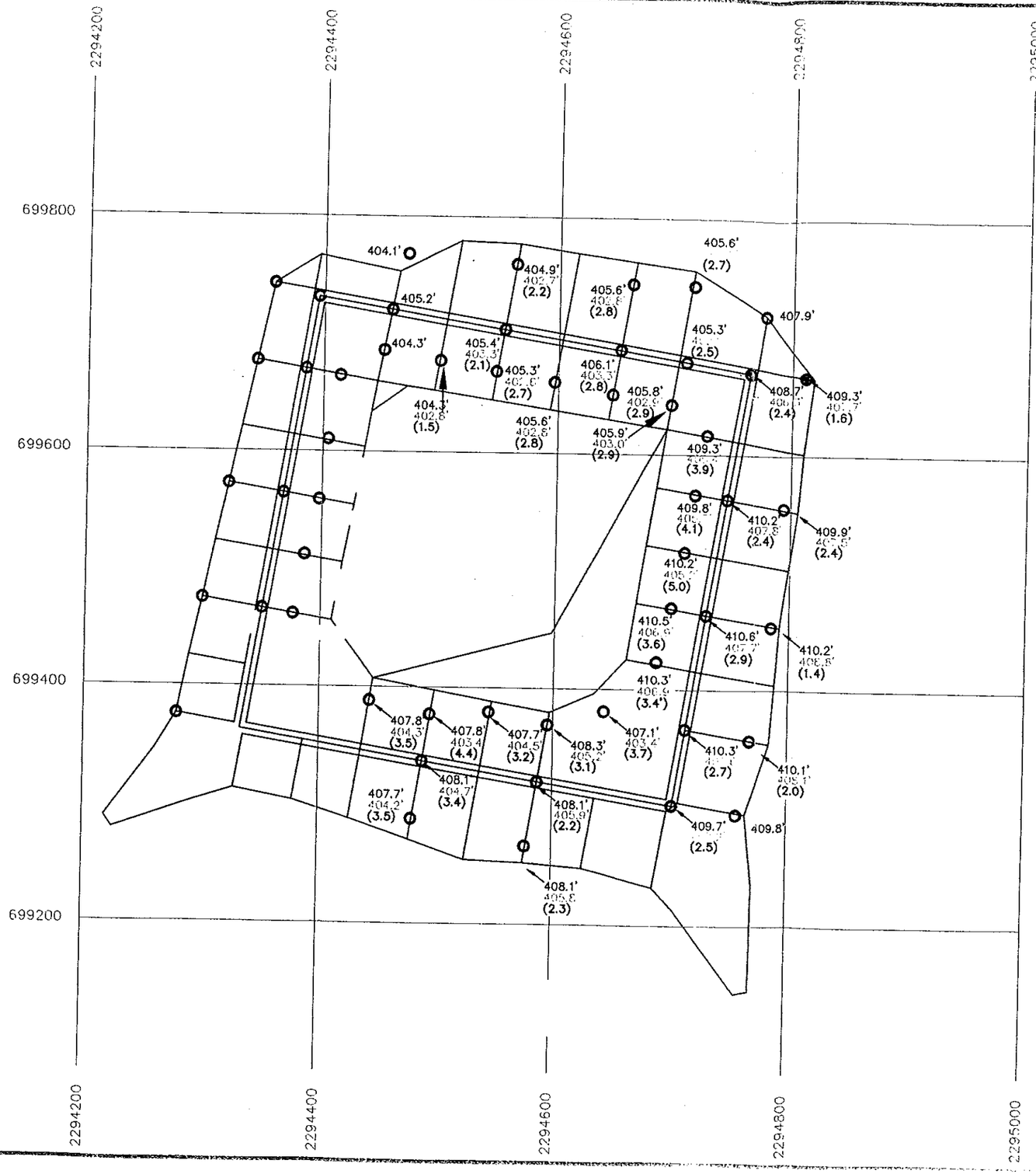
(0.8) = THICKNESS OF SUBJECT LIFTS

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 4 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (MAY 10, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 05/23/01
SURVEY DATE: 05/23/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT4
FLD. BK.: ELECTRONIC
PAGE(S):



ELEVATIONS AT THE TOP OF LIFT NO. 7 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 13, 2001)

DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES

*SHOT LOCATION SHOWING ONE ELEVATION AND NO THICKNESS DENOTES POINT BEGINNING TO BE FILLED AT CURRENT LIFT

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

[illegible] = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

ENVIRONMENTAL PRECISION ASSOCIATES INC.

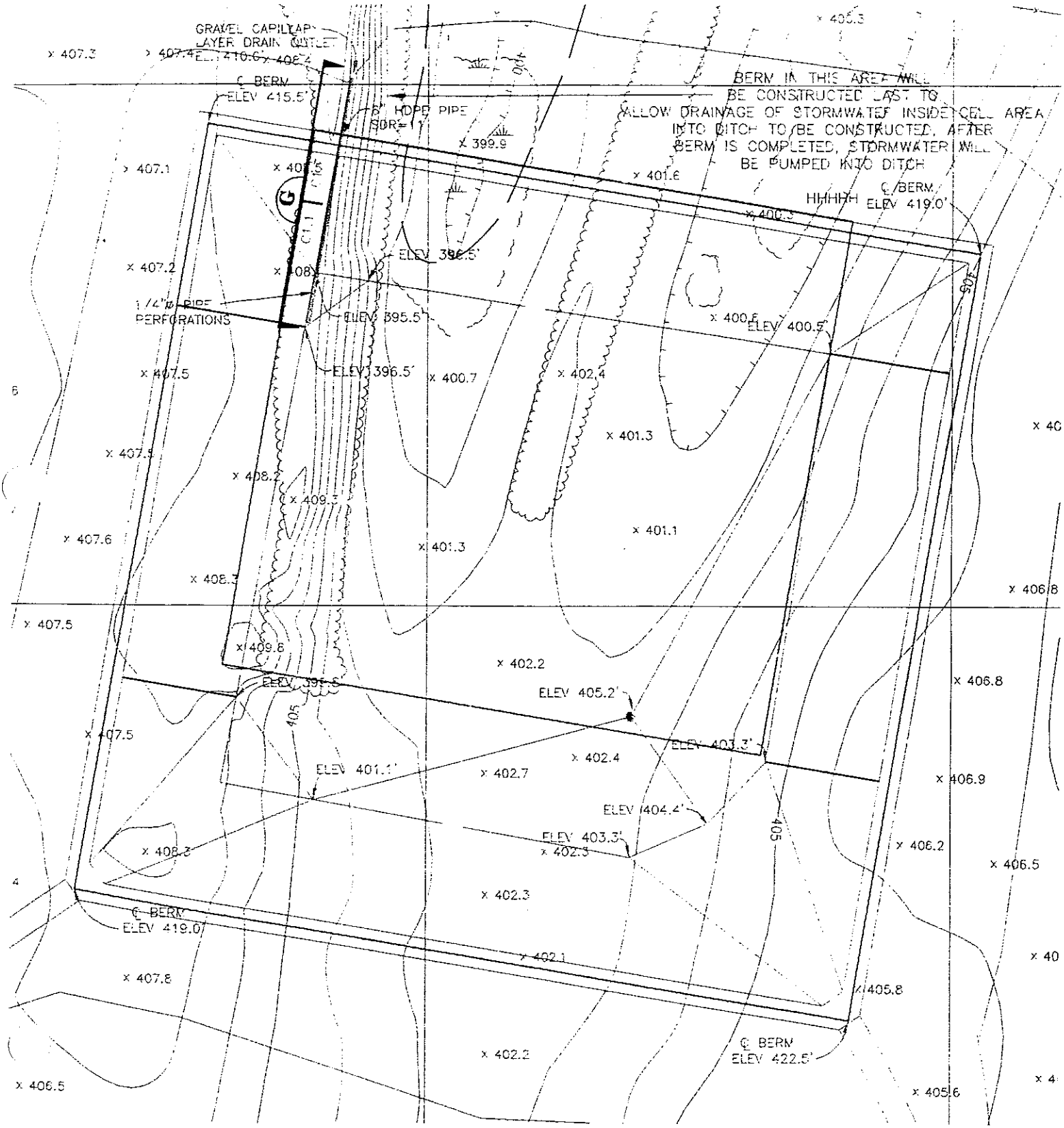
ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 7 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (MAY 10, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/13/01
SURVEY DATE: 06/13/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT7
FLD. BK.: ELECTRONIC
PAGE(S):

JUN 1 4 2001

JUN 1 5 2001



JUN 1 4 2001

JUN 1 5 2001

Request for Information/ Clarification Form

RFI# CMS-17

Date: JUNE 14, 2001
To: MR. JOHN FIORE
MAVERICK CONSTRUCTION
MANAGEMENT SERVICES
Attn: MR. JOHN FIORE

Project: SOLUTIA- CAHOKIA
Project #: 01-016ENV
Hand Delivered: ✓ Mailed: ____ Faxed: ____

Subject: Section(s):
Specification/Plan Reference: SHEET C1.1

1. Problem/Information Requested/ Clarification:

BY HOLDING CONTROL IN CORNERS OF THE CELL AND HOLDING ELEVATIONS ON TOE OF CELL THE 3:1 SLOPE IS INCREASED TO A SLOPE THAT IS STEEPER THAN 3:1 AND VARIES. IF WE FLATTEN SLOPES TO A TYPICAL 3:1 THE FLOOR AREA DECREASES SIGNIFICANTLY. WHAT SHOULD WE HOLD? ALSO, PLEASE (ON BACK

Information Requested/Given by By: JACK LONG

2. Response Confirmation:

Approved By: _____ Date: __/__/__

3. Clarification/Action: please respond by or before _____, 20___ in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: __/__/__

cc: Construction Manager

File: _____, CF

JUN 14 2001

Request for Information/ Clarification Form

RFI# LMS-18

Date: JUNE 14, 2001
To: MR. JOHN FIORE
MAVERICK CONSTRUCTION
MANAGEMENT SERVICES
Attn: MR. JOHN FIORE

Project: SOLUTIA - CAHOKIA
Project #: 01-016ENV
Hand Delivered: ✓ Mailed: ____ Faxed: ____

Subject: Section(s):
Specification/Plan Reference: SECTION C / SHEET C1.6

1. Problem/Information Requested/ Clarification:

HOLDING ELEVATIONS SHOWN ON DETAIL DOES NOT ALLOW FOR CORRECT THICKNESS ON CAPILLARY AND TRACKED IN PACE SOIL LAYERS. SHOULD WE HOLD ELEVATIONS AS SHOWN AND LEAVE THE THICKNESS DEFICIENCY IN THE CAPILLARY LAYER?

Information Requested/Given by By: JACK LONG

2. Response Confirmation:

Approved By: _____ Date: __/__/__

3. Clarification/Action: please respond by or before _____, 20___ in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: __/__/__

cc: Construction Manager

File: _____, CF

Project: Sauget Area 1 TSCA Cell Construction
Report: Outstanding Submittals and Open Issues *

For Week Ending: 6/15/01 **Memo No.: 5**

Item / Issue	Date Identified	Date Due	Date Rec'd./ Resolved	Comments
Geosynthetics Conformance Testing Data	6/7/01			All Conformance testing will be performed in the Golder geosynthetic's laboratory in Atlanta, Georgia. All samples for Conformance testing will be cut from the materials as they arrive on site under the direct supervision of Golder.
Interface Friction Angle Testing	6/8/01	7/9/01		Gary Wantland's Letter dated 7/7/01 states that 2 more test's are required. Taylor Geosynthetics Inc. informed. Lee Taylor stated that he will use all reinforced GCL on the entire project. Therefore, only 1 more test is required, GCL / Textured HDPE. This test is being run and results should be available by the early part of next week.
Elevations in Cell Floor	6/14/01			By holding control in corners of cell and holding elevations on the toe of the slopes in the cell, the 3:1 is increased to be steeper, and varies throughout the cell. If 3:1 are obtained you lose floor space greatly. Holding elevations shown on the details does not allow for correct thickness on the capillary and tracked in place soil layers.

* Not a complete list of all outstanding submittals. It is the responsibility of the Contractor to track and provide submittals in accordance with the contract documents.

FIELD MOISTURE/DENSITY TEST RECORD
NUCLEAR GAUGE METHOD
ASTM D 3017 / 2922

Project Number: 013-9657
Owner : SOLUTIA
Location: TSCA CELL

Project Title: SOLUTIA / QM / GAUGET
Date Tested: 6/15/01

Test Number		SG-009					
Test Location	N	B-069					
	E						
Elevation		L.Ft #9					
Depth		8"					
Density Count		\					
Moisture Count		\					
Wet Density, PCF		121.7					
Moisture %		16.5					
Dry Density, PCF		104.4					
Material Description		CL					
Max Dry Density, PCF		108.5					
Optimum Moisture, %		18.3					
% Compaction		96.3					
Diff. from O.M.C.		-1.8					
Pass / Fail (Density)		P					
Pass / Fail (Moisture)		P					

Specifications:
95 % Standard
-2 to +3 % of O.M.C.

Daily Standard Counts:
Moisture _____
Density _____

Tested By: OT Checked By: _____ Date: _____

T.G.I. TAYLOR GEOSYNTHETICS, INC.
121 COMMERCE DRIVE SUITE 304
P.O. BOX 27
DANVILLE, INDIANA 46122

Telephone: (317) 745-2202
Fax: (317) 745-0018

NATIONAL SEAL COMPANY TOP TEN INSTALLER 1993-1999
SERROT INTERNATIONAL TOP TEN INSTALLER 2000

DATE: June 15, 2001

TO: **Richard Siemaszkiewicz**

COMPANY: **Golder Associates**

FROM: **Lee Taylor**

NUMBER OF PAGES: 10

RE: Solutia Interface Shear Test

MESSAGE: (See Attached)

( ) IMMEDIATE REPLY REQUESTED

( ) AT YOUR EARLIEST CONVENIENCE

( ) NO REPLY NEEDED

NORTH AMERICAN GEOSYNTHETICS SOCIETY **NAGS**

IAGI INTERNATIONAL ASSOCIATION OF GEOSYNTHETICS INSTALLERS

T.G.I.

TAYLOR GEOSYNTHETICS, INC.

121 COMMERCE DRIVE SUITE 304
P.O. BOX 27
DANVILLE, INDIANA 46122

Telephone: (317) 745-2202
Fax: (317) 745-0018

NATIONAL SEAL COMPANY TOP TEN INSTALLER 1993-1999
SERROT INTERNATIONAL TOP TEN INSTALLER 2000

DATE: June 15, 2001

TO: **Richard Siemaszkiewicz**

COMPANY: **Golder Associates**

FROM: **Lee Taylor**

NUMBER OF PAGES: 2

RE: Solutia Geotextile Rolls

MESSAGE: (See Attached)

( ) IMMEDIATE REPLY REQUESTED

( ) AT YOUR EARLIEST CONVENIENCE

( ) NO REPLY NEEDED

NORTH AMERICAN GEOSYNTHETICS SOCIETY **NAGS**

IAGI INTERNATIONAL ASSOCIATION OF GEOSYNTHETICS INSTALLERS

SOLUTIA INC.

1701 15' X 300'

A515853A
A515862A
A515863A
A515866A
A515868A
A515870A
A522251A
A522256A
A522258A
A522308A
A522524A
A524038A
A524045A
A524057A
A524059A
A524060A
A524062A
A524065A
A524068A
A524074A
A524075A
A524076A
A524078A
A524079A
A524082A
A524088A
A524087A
A524090A
A524092A
A524093A
A524095A
A524098A
A524100A
A524102A
A524104A
A524107A
A524109A
A524110A
A524112A
A524114A
A524117A
A524119A
A524123A
A524124A
A524125A
A524139A
A524145A
A524152A
A524155A
A524156A
A524158A
A524161A
A524209A
A524210A
A524211A
A524217A
A524218A
A524219A
A524427A
A524432A
A524437A
A524438A
A524440A
A524441A
A524442A
A524443A
A524444A
A524445A
A524447A
A524448A
A524449A
A524450A
A524452A
A524456A
A524458A
A524465A

TAYLOR GEOSYNTHETICS, INC.

~ 103 East Lincoln Street ~ Post Office Box 27 ~
Danville, Indiana 46122
Telephone (317) 745-2202 ~ Fax (317) 745-0018

June 15, 2001

Mr. Jack Long
LMS Contracting
6515 W 500 North
Madison, IN 47250

Re: Solutia Sauget Area 1

Dear Jack:

Enclosed please find the interface shear test results for the textured HDPE/reinforced GCL as per the letter from Gary Wantland Dated 6-7-01.

Also please find a copy of fax received from Precision Laboratories regarding a typographical error on the peak strength previously reported for the un-reinforced GCL/ textured HDPE. This is a mute point now that we are using all reinforced GCL.

If you have any questions, please call.

Sincerely,

Lee Taylor, President
Taylor Geosynthetics, Inc.

cc John Fiore- Maverick
Richard Siemaszkiewicz- Golder

RECEIVED
JUN 14 2001
MAVERICK

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
'NER: SOLUTIA CONTRACTOR: LMS
CATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/22/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT AND ENVIRONMENTAL PRECISION ASSC.

SUMMARY OF CONSTRUCTION PROGRESS: CONTRACTOR COMPLETED PLACEMENT OF THE NINTH LIFT ON THE SOUTH BERM, THE TENTH LIFT ON THE NORTH BERM, THE TENTH LIFT ON THE EAST BERM, AND THE 5TH LIFT ON THE WEST BERM. THE CONTRACTOR THEN BEGAN THE SIXTH LIFT ON THE WEST BERM.

ALL MATERIAL BEING HAULED TO SITE IS FROM THE PRE-ACCEPTED BORROW SOURCE. THE MATERIAL ON SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGE.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED. UNDER GOLDER'S OBSERVATION, UNTIL A PASSING TEST WAS RECORDED.

NUCLEAR DENSITY TEST NUMBER'S B-073 THROUGH B-083 WERE TAKEN AND RECORDED. TEST NUMBER B-077R, WAS A RE-TEST OF THE CORRESPONDING NUMBER. ALL RE-TESTS PASSED SITE SPECIFICATIONS.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/QA/SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/22/2001

SUMMARY OF SURVEYOR'S ACTIVITIES: SURVEYOR ONSITE 6/19 TO TAKE SHOTS ON LIFTS 107, FOR BERMS ON THE NORTH, AND EAST SIDES. ON 6/20 SURVEYOR PLACED A 50 FOOT GRID ON THE CELL FLOOR.

SUMMARY OF PROBLEMS AND RESOLUTIONS: RECEIVED CLARIFICATION FOR RFI #MAV-16 FROM GARY WANTLAND ON 6/20/01. IT IS ATTACHED TO PROPER DAILY.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES): NONE

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES: NONE

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA **WEATHER:** SUNNY, HOT, HIGH 91 F.

DATE: 6/18/2001 S (M) T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT AND URS.

THE FOLLOWING WAS NOTED:

LMS COMPLETED PLACING LIFT #10 ON THE NORTH BERM, LIFT #5 ON THE WEST BERM, AND COMPLETED THE NEXT LIFTS HALFWAY ON THE EAST AND SOUTH BERMS.NUCLEAR DENSITY TESTS B-073 WAS TAKEN ON LIFT #9 AND B-079 WAS TAKEN ON LIFT #10 ON THE EAST BERM. NUCLEAR DENSITY TESTS B-074, B-075, AND B-076 WERE TAKEN ON LIFT #5 ON THE WEST BERM. TEST NUMBERS B-077, B-077R(A RETEST OF B-077, WHICH WAS REWORKED), AND B-078 WERE TAKEN ON THE NORTH BERM.

PATRIOT ENGINEERING SUBMITTED REPORTS WITH LETTER OF APROVAL FOR THE WORK COMPLETED FROM JUNE, 4 TO JUNE 6TH OF2001,AS WELL AS TEST DATA FOR SAMPLE S-119. WITH STAMP OF APPROVAL. THE AFOREMENTIONED LETTER IS ATTACHED.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR; 815 CAT COMPACTOR, JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER, 3 INCH PUMP, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 25 TANDEM DUMP TRUCKS.

BORROW SITE: 2 x 325 CAT EXCAVATORS, D5C CAT DOZER.

APPROXIMATELY 2,080 c.y. OF MATERIAL WAS HAULED AND PLACED.

AT THE END OF THE WORK DAY THE SITE WAS SMOOTH DRUM ROLLED.

SUBMITTED BY GOLDER

MONITOR

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

June 5, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
June 4, 2001 to June 6, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from June 4, 2001, to June 6, 2001 and the laboratory test data for Sample S-119. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Laboratory Data – S119

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA **WEATHER:** SUNNY, HOT, HIGH 91 F.

DATE: 6/19/2001 **S M (T) W T F S**

PERSONNEL ON SITE GOLDER, MAVERICK, LMS, PATRIOT, URS, ENVIRONMENTAL PRECISION, & TAYLOR.

THE FOLLOWING WAS NOTED:

LMS COMPLETED PLACING LIFT #10 ON THE EAST BERM, LIFT #9 ON THE SOUTH BERM, AND BEGAN PLACING LIFT #6 ON THE WEST BERM. NUCLEAR DENSITY TESTS B-080 AND B-081 WERE TAKEN ON LIFT #10 ON THE EAST BERM, AND B-082, AND B-083 WERE TAKEN ON THE SOUTH BERM.

ENVIRONMENTAL PRECISION SHOT SURVEY LOCATIONS AS SHOWN ON THE ATTACHED FIGURE ON THE NORTH AND EAST BERMS ON LIFT #10.

PATRIOT ENGINEERING SUBMITTED GRAIN SIZE DISTRIBUTION TEST RESULTS ON A SAND THAT WAS PROPOSED TO BE USED IN THE SAND LAYER OF THE CELL. THIS MATERIAL DID NOT MEET THE REQUIREMENTS OF THE LAYED OUT IN THE SPECIFICATIONS.

TAYLOR ONSITE TO HELP WITH THE UNLOADING OF THE GEOMEMBRANE AND GEOTEXTILE DELIVERED TO SITE. ALL GEOMEMBRANE ROLLS WERE ACCOUNTED FOR. TWO OF THE 76 GEOTEXTILE ROLLS LISTED WERE NOT DELIVERED, BUT TWO OTHER GEOTEXTILE ROLLS OF THE SAME BATCH NUMBER WERE ON THE DELIVERY TRUCK GIVING A TOTAL OF 76 GEOTEXTILE ROLLS. THESE ARE NOTED IN THE REMARKS ON THE INVENTORY CONTROL LOGS. FOUR SAMPLES FROM THE TEXTURED WERE REMOVED AND FOUR SAMPLES FROM THE SMOOTH GEOMEMBRANE WERE REMOVED, (THEY MEASURED 3'X23') AND WERE SENT TO GOLDER'S LAB FOR CONFORMANCE TESTING. OF THE 76 GEOTEXTILE ROLLS 7 SAMPLES WERE TAKEN, (WHICH MEASURED 3'X15') AND WERE ALSO SENT TO THE GOLDER LAB ON THE MORNING OF THE 20TH.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, 815 CAT COMPACTOR, JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER, 2 INCH PUMP, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 15 TANDEM DUMP TRUCKS.

BORROW SITE: 2 x 325 CAT EXCAVATORS, D5C CAT DOZER.

APPROXIMATELY 1,280 c.y. OF MATERIAL WAS HAULED AND PLACED.

AT THE END OF THE WORK DAY THE SITE WAS SMOOTH DRUM ROLLED.

SUBMITTED BY GOLDER

MONITOR

GRAIN SIZE DISTRIBUTION TEST DATA

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project Number: 501-223

Sample Data

Source: sauget area 1
Sample No.: GR-002
Elev. or Depth:
Sample Length (in./cm.):
Location: Off-site material
Description: sand
Date: 6-14-01 **PL:**
LL: **PI:**
USCS Classification:
AASHTO Classification:
Testing Remarks: ASTM C-33

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	2000.00	2000.00
Tare =	0.00	0.00
Dry sample weight =	2000.00	2000.00
Minus #200 from wash=	0.0 %	

Sample split on inch **sieve**
Split sample data:
Sample and tare = Tare = Sample weight = .00
Cumulative weight retained tare=
Tare for cumulative weight retained= .00

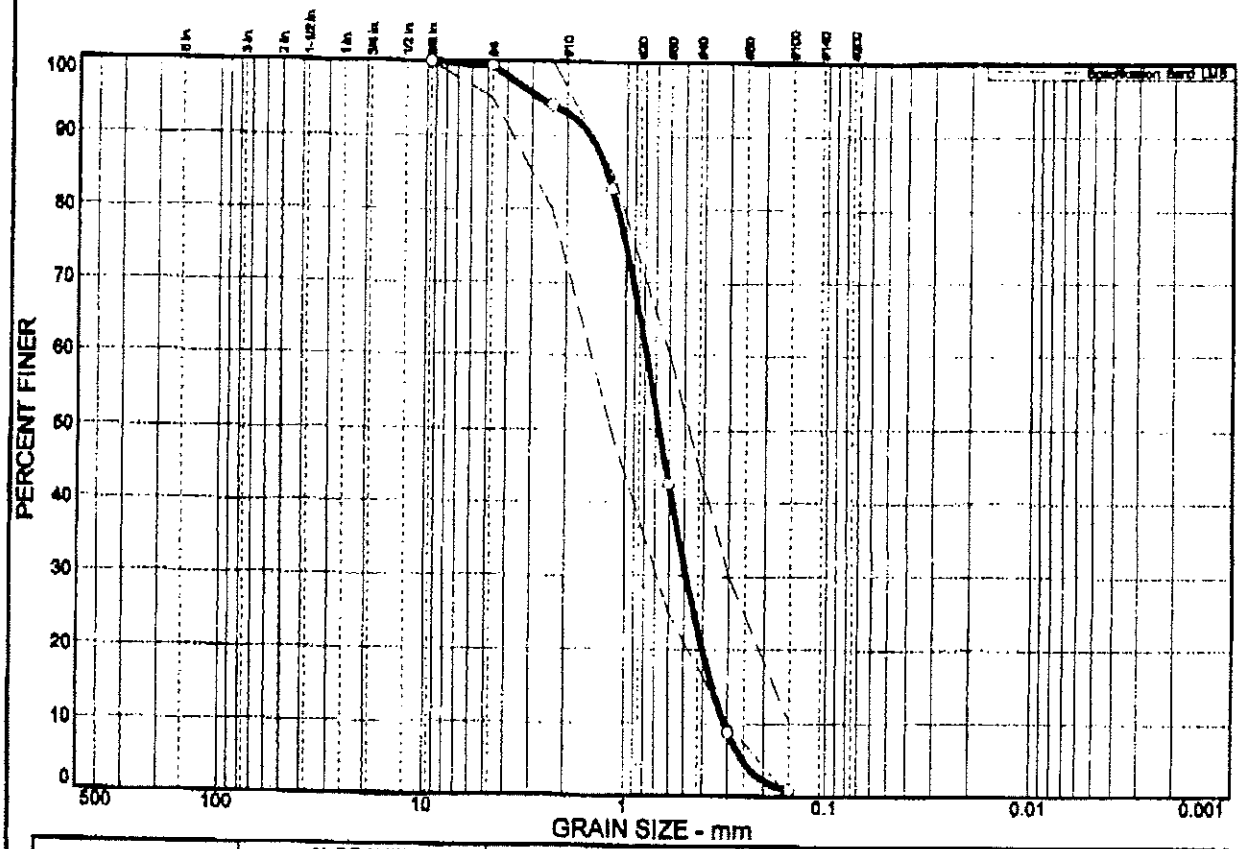
Sieve	Cumul. Wt. retained	Percent finer	Specification Limits, percent	Deviation, percent
.375 inch	0.00	100.0	100.0 to 100.0	
# 4	12.40	99.4	95.0 to 100.0	
# 8	118.90	94.1	80.0 to 100.0	
# 16	344.90	82.8	50.0 to 85.0	
# 30	1149.30	42.5	25.0 to 60.0	
# 50	1823.20	8.8	10.0 to 30.0	- 1.2
# 100	1982.20	0.9	0.0 to 10.0	

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% COBBLES = **% GRAVEL =** 0.6 **(% coarse =** **% fine =** 0.6)
% SAND = **(% coarse =** 6.3 **% medium =** 70.5 **% fine =**)

D_{85}= 1.25 D_{60}= 0.78 D_{50}= 0.67
D_{30}= 0.49 D_{15}= 0.36 D_{10}= 0.31
C_c= 0.9757 C_u= 2.503

Particle Size Distribution Report



% COBBLES	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.6	6.3	70.5		22.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0	100.0 - 100.0	
#4	99.4	95.0 - 100.0	
#8	94.1	80.0 - 100.0	
#16	82.8	50.0 - 85.0	
#30	42.5	25.0 - 60.0	
#50	8.8	10.0 - 30.0	X
#100	0.9	0.0 - 10.0	

* Sand LMS

Soil Description

sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 1.25 D_{60}= 0.782 D_{50}= 0.673
D_{30}= 0.488 D_{15}= 0.359 D_{10}= 0.312
C_u= 2.50 C_c= 0.98

Classification

USCS= AASHTO=

Remarks

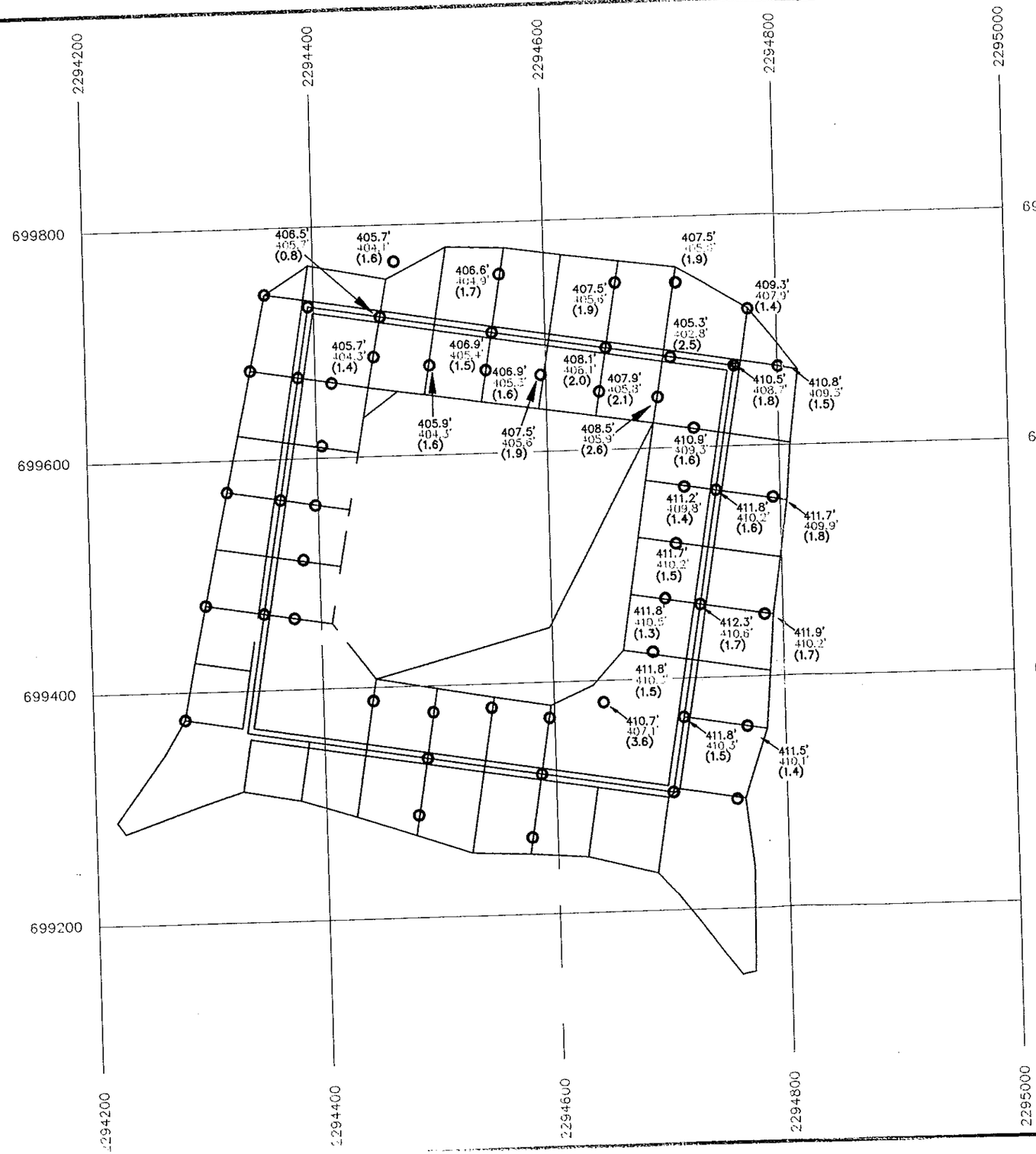
ASTM C-33

Sample No.: GR-002 **Source of Sample:** sauget area 1 **Date:** 6-14-01
Location: Off-site material **Elev./Depth:**

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project No: 501-223 **Plate**

ELEVATIONS AT THE TOP OF LIFT NO. 10 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 18, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES

LEGEND:

- O = SHOT LOCATION
- 405.9' = ELEVATION AT TOP OF SUBJECT LIFT
- 405.1' = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT
- (0.8) = THICKNESS OF SUBJECT LIFTS

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 10 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 18, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/18/01
SURVEY DATE: 06/18/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT10
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: OVERCAST/87F/RAIN LATE AFTERNOON

DATE: 6/20/2001
S M T (W) T F S

PERSONNEL ON SITE GOLDER, MAVERICK, LMS, PATRIOT, & ENVIRONMENTAL PRECISION.

THE FOLLOWING WAS NOTED:

NO WORK WAS CONDUCTED ON THE CELL AS THE SITE WAS RAINED OUT. ATTACHED IS A COPY OF AN RFI WITH A RESPONSE ON HOW THE SITUATION IS TO BE RESOLVED. ALSO ATTACHED IS A COPY OF THE INVENTORY OR THE GEOMEMBRANE AND THE GEOTXTILE. NOTE THAT ON THE GEOTEXTILE THERE HAS BEEN A CORRECTION. ROLLS 510325A, AND 510340A HAVE REPLACED A522286A, AND A4161A. THESE TWO ROLLS WERE NOT DELIVERED AND THE OTHERS WERE, THEY ARE ALL FROM THE SAME BATCH SO AS LONG AS THE CERTS ARE PROVIDED THEY WILL MEET SPECIFICATIONS

ALSO RECEIVED TYPE WRITTEN REPORTS OF PATRIOTS DALIES FOR THE WEEK OF JUNE11-JUNE 15. LETTER WITH P. ENG. STAMP FORTHCOMING IN THE MAIL.

GOLDER OFFSITE AT 3:30PM.

SUBMITTED BY GOLDER

MONITOR

received
21 May 11 GW

Request for Information/ Clarification Form

RFI# MaV-16

Date: 4/18/2001
To: URS
7650 West Courtney Campbell Causeway
Tampa,FL 33607-1462
Attn: Gary Wantland, URS

Project: Sauget Area 1
Project #:
Hand Delivered: FedEx Mailed: Faxed:

Subject: Section(s): Cover System Plan - Swale and Downshute Piping
Specification/Plan Reference: C1.5 and C1.8 Cover System Detail

1. Problem/Information Requested/ Clarification:

It appears as though the downshute piping must penetrate the cell and the cover synthetic liner systems due to the proposed inverts. If this is the case, is there a detail that can be provided for the penetrations or can we redesign the piping system to avoid this condition?

Information Requested/Given by By: Requested by JAF, Maverick

2. Response Confirmation:

See Attachment 1

Approved By: _____ Date: __/__/__

3. Clarification/Action: please respond by or before _____, 2001 in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: __/__/__

cc: Construction Manager
Project File

File: _____, CF

REQUEST FOR INFORMATION / CLARIFICATION

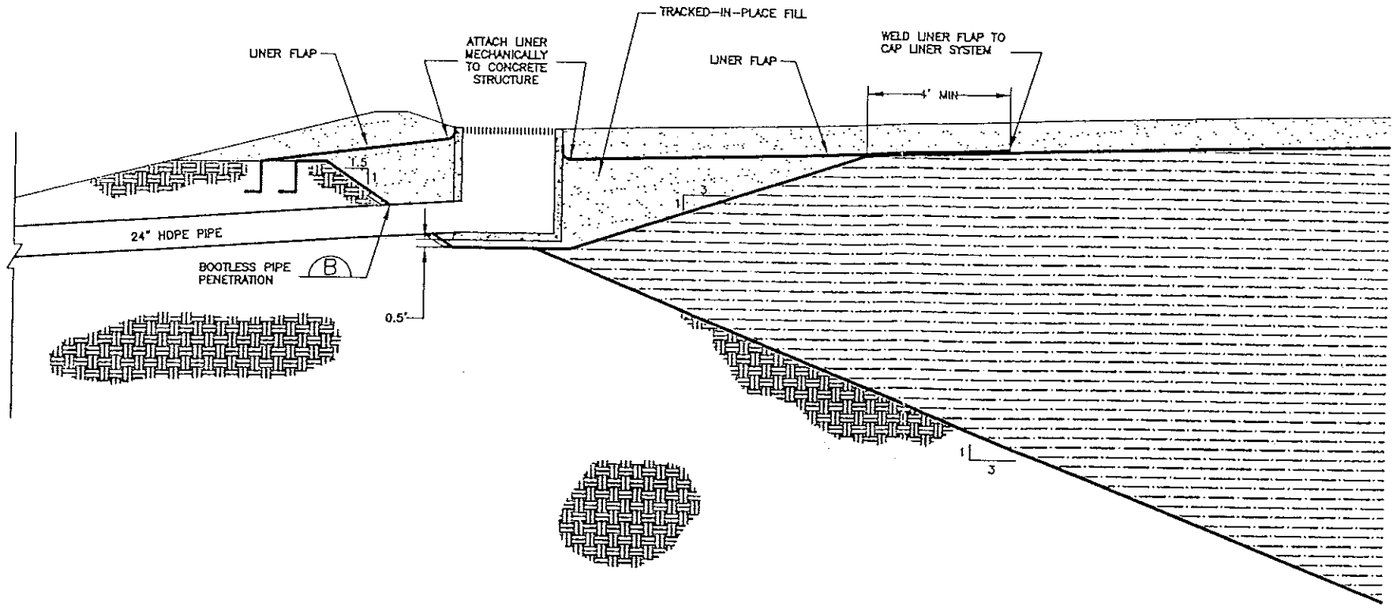
RFI

ATTACHMENT 1

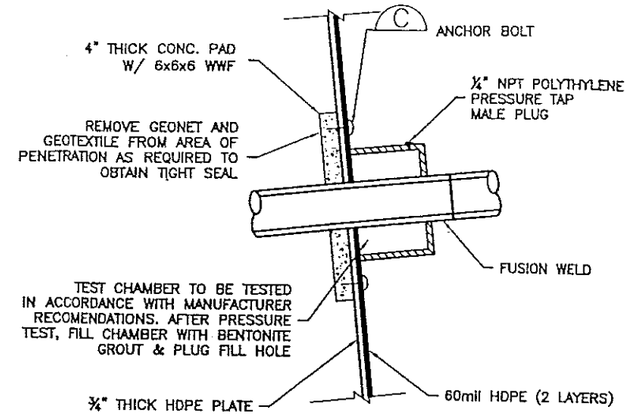
At this time we recommend the drop box inlet be installed as designed. A detail showing further information on the placement of the drop box and the penetration through the liner systems is attached.

RESPONSE BY: Gary M. Wantland

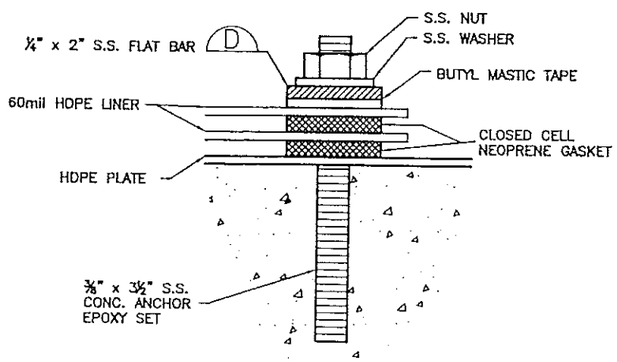
DATED: 06/06/01



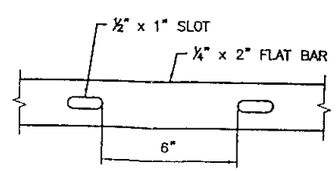
DRAINAGE DROPBOX DETAIL (A)
N.T.S.



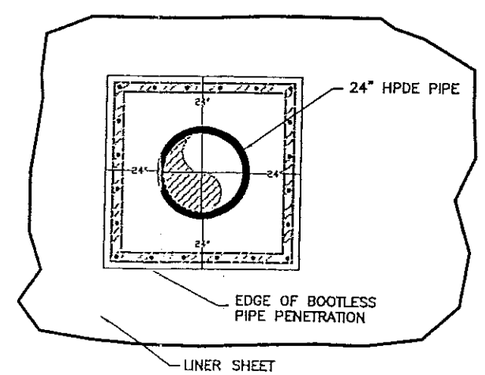
PENETRATION DETAIL (B)
N.T.S.



ANCHOR BOLT DETAIL (C)
N.T.S.



FLAT BAR DETAIL (D)
N.T.S.



FRONT VIEW (E)
N.T.S.

\4221.001\ACAD\DROPBOX_DET.DWG 06/07/01 11:00

\\C1N701\SHARED\C1D

REV	DESCRIPTION OF REVISION	BY	DATE

DESIGNED BY: DE
DRAWN BY: MJW
CHECKED BY: DE
PROJECT MANAGER: GMW
DATE: JUNE 4, 2001

URS

URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
No. 00000002

SOLUTIA INC.
SAUGET AREA 1
CAHOKIA, ILLINOIS

DROPBOX LINER PENETRATION DETAIL

PROJECT NUMBER
C100004221.00

SHEET
1

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA **WEATHER:** RAIN INTERMITTENTLY/ 80 F

DATE: 6/21/2001 **S M T W (T) F S**

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, & URS.

THE FOLLOWING WAS NOTED:

NO WORK WAS CONDUCTED ON THE CELL, AS THE SITE HAD RECEIVED HEAVY RAINFALL THE PRIOR NIGHT AND THROUGHOUT THE DAY.

LMS BROUGHT ONE LABORER ONSITE AS THE SUMP AREA HAD WATER A FOOT DEEP OVER THE MANHOLE. THIS LABORER MANNED THE 2 INCH ELECTRIC PUMP.

RECEIVED CONFIRMATION FROM GOLDER LAB THAT CONFORMANCE SAMPLES HAD ARRIVED.

WORK FOR FRIDAY WAS CALLED OFF AT 3:30 PM.

GOLDER LEFT SITE AT 4 PM.

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA **WEATHER:** SUNNY/CLEAR 75 F

DATE: 6/22/2001 **S M T W T (F) S**

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS.

THE FOLLOWING WAS NOTED:

NO WORK WAS CONDUCTED ON THE CELL, AS THE SITE HAD RECEIVED HEAVY RAINFALL ON THE 21 AND 22

LMS BROUGHT ONE LABORER ONSITE. THIS LABORER MANNED THE 2 INCH ELECTRIC PUMP.

ATTACHED IS THE LETTER FOR ACCEPTANCE OF PATRIOT'S DALIES,FROM JUNE, 11-15 ALSO ACCEPTANCE FOR THE DRIVE TUBE SAMPLE DT-102.

GOLDER LEFT SITE AT 4 PM.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

June 18, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
June 11, 2001 to June 15, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from June 11, 2001, to June 15, 2001 and the drive tube test data for Sample DT-102. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
040218
REGISTERED
PROFESSIONAL
ENGINEER
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Drive Tube Data DT-102

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA **WEATHER:** SUNNY, HOT, HIGH 91 F.

DATE: 6/23/2001 **S M T W T F (S)**

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT.

THE FOLLOWING WAS NOTED:

LMS BEGAN THE DAY BY TURNING THE SOIL TO LET IT DRY OUT FOR THE FIRST TWO HOURS OF THE DAY.

LMS COMPLETED PLACING LIFT #11 ON THE NORTH BERM, LIFT #6 ON THE WEST BERM, AND COMPLETED LIFT #11 ON THE EAST. NUCLEAR DENSITY TESTS B-084, B-085, AND B-086 WERE TAKEN ON LIFT #6 ON THE WEST BERM, B-087, AND B-088 WERE TAKEN ON LIFT #11 ON THE NORTH BERM.

LMS MUCKED OUT THE SILT FENCE AREA TO THE NORTH OF THE CELL.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, 815 CAT COMPACTOR, JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER, 3 INCH PUMP, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND TANDEM DUMP TRUCKS.

BORROW SITE: 2 x 325 CAT EXCAVATORS, D5C CAT DOZER.

APPROXIMATELY 3,352 c.y. OF MATERIAL WAS HAULED AND PLACED.

AT THE END OF THE WORK DAY THE SITE WAS SMOOTH DRUM ROLLED.

SUBMITTED BY GOLDER

for DAN TITAS

MONITOR

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/30/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES INC. AND TAYLOR GEOSYNTHETICS INC.

SUMMARY OF CONSTRUCTION PROGRESS:

CONTRACTOR FINISH PLACING UPTO THE 18 th LIFT ON THE NORTH BERM, 16 th LIFT ON THE SOUTH BERM, 16 th LIFT ON THE EAST BERM AND THE 10 th LIFT ON THE WEST BERM.

ALL MATERIAL BEING HAULED TO SITE IS FROM THE PRE-APPROVED BORROW SOURCE. THE MATERIAL ON SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGE.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED. UNDER GOLDER'S OBSERVATION, UNTIL A PASSING TEST WAS RECORDED.

NUCLEAR DENSITY TEST NUMBER'S B-084 THROUGH B-146 WERE TAKEN AND RECORED.TEST NUMBER B-109R WAS A RE-TEST OF THE CORRESPONDING NUMBER.

ALL CONFORMANCE SAMPLES OF GEOSYNTHETICS WERE TAKEN AND SENT TO THE GOLDER GEOSYNTHETICS LABORATORY IN ATLANTA FOR TESTING.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/QA/SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 6/30/2001

SUMMARY OF SURVEYOR'S ACTIVITIES: SURVEYOR ON SITE ALL WEEK TO CERTIFY LIFT ELEVATIONS, EVERY THIRD LIFT PLACED AS PER SITE SPECIFICATIONS.

SUMMARY OF PROBLEMS AND RESOLUTIONS: THE PROBLEM OF STANDING WATER IN THE CELL WAS RESOLVED BY LMS HAVING PERSONNEL ON SITE 24 HOURS TO MAN THE PUMP. FED-EX LOST 5 OF THE TEXTILE CONFORMANCE SAMPLES, 5 MORE SAMPLES WERE CUT FROM THE SAME ROLLS AND SENT TO THE GOLDER GEOSYNTHETICS TESTING LABORATORY IN ATLANTA.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

NONE

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

OJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, WARM, HIGH 88 F.

DATE: 6/26/2001 S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

CONTRACTOR INFORMED OF THE NECESSITY OF KEEPING THE CELL AREA FREE OF STANDING WATER AND DEFICIENCY REPORT # 2 WAS DELIVERED TO LMS, A COPY OF WHICH IS ATTACHED.

RECEIVED ROUGH COPY OF PATRIOT'S LAB DATA FOR ATTERBERG LIMITS AND PROCTOR VALUES ON THE SAMPLE COLLECTED FROM THE 30,000 c.y. to 45,000 c.y. OF MATERIAL PLACED. THIS SAMPLE WAS COLLECTED ON 6/18/01 AND IS IDENTIFIED AS SAMPLE # S-120. THE ATTERBERG LIMIT VALUES FOLLOW CLOSE TO PREVIOUS SAMPLE VALUES, SO NO MAJOR MATERIAL CHANGE HAS OCCURRED. THE NEW PROCTOR VALUES OF 108.9 pcf. AND OPTIMUM MOISTURE OF 17.2% WILL BE UTILIZED IN ALL FURTHER NUCLEAR DENSITY TESTING ALONG WITH PREVIOUSLY RUN VALUES.

RECEIVED TYPED COPIES OF PATRIOT'S DAILY RECORDS FOR 6/18/01 TO 6/22/01.

RECEIVED UP TO DATE LIFT ELEVATION DRAWINGS FROM ENVIRONMENTAL PRECISION ASSC. INC.

LMS COMPLETED PLACING LIFT # 13 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-104, B-105 & B-106 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 13 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-107 & B-108 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 14 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER B-109 WAS TAKEN. THIS FAILED BOTH DENSITY AND MOISTURE SITE SPECIFICATIONS. NO FURTHER TESTS WERE TAKEN UNTIL THE WHOLE BERM HAD BEEN RE-WORKED.

AT THE END OF THE WORK DAY THE WHOLE AREA WAS SMOOTH DRUM ROLLED.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 26 TANDEM DUMP TRUCKS.

BORROW SOURCE: 2x CAT 325 EXCAVATORS, D5C CAT DOZER.

APPROXIMATELY 2648 c.y. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

TSCA Landfill Cell Construction
Sauget Area 1 - Cahokia, Illinois

Construction Problem / Resolution Form

Date: 6/26/2001 **Issue #:** 2

To: MAVERICK , LMS. **Subject:** STORMWATER CONTROL

Attn: John Fiore,Terry Woodfin, Jack Long. Problem: XXXXXXX Resolution:

Description of situation or deficiency:

It has come to the attention of the Construction Management that the Cell Construction area is not been kept dry of standing water as per the Site Specifications, particularly Section # 02150 . A copy of which is attached and the pertinent sentences are Highlighted. Electric power and pumping equipment has been installed for this purpose and should be utilized to the maximum extent possible to maintain a dry construction area.

How and when the deficiency was found or located:

This issue has been on-going since the start of the Cell Construction, but has been made a deficiency as of this date.

Location and probable cause of situation or deficiency:

Failure to keep the Cell Construction Area free of standing water at all times.

Documentation of the response to the situation or deficiency:

Construction Problem / Resolution Form

Final results of any response:

Measures taken to prevent a similar situation from occurring in the future:

Additional Comments:

CQA Signature:

Construction Manager Signature:

c.c. Gary Wantland,URS.
Don Grahlheer,URS.

SECTION 02150

STORMWATER CONTROL DURING CONTRUCTION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Maintain adequate site drainage.

B. Collection and routing of stormwater.

1.2 SUBMITTALS

A. Contractor shall develop a Stormwater Control Plan in accordance with the standards and requirements of the Illinois Environmental Protection Agency.

B. Contractor shall submit the Stormwater Control Plan for Construction Manager approval.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 SURFACE WATER CONTROL

A. Contractor shall furnish, install, maintain and operate all equipment and materials needed to prevent, control and remove surface water within or adjacent to the area of work.

B. Contractor shall provide and maintain berms, curbs, surface drainage swales or runs as necessary, to prevent surface water from entering fill placement areas.

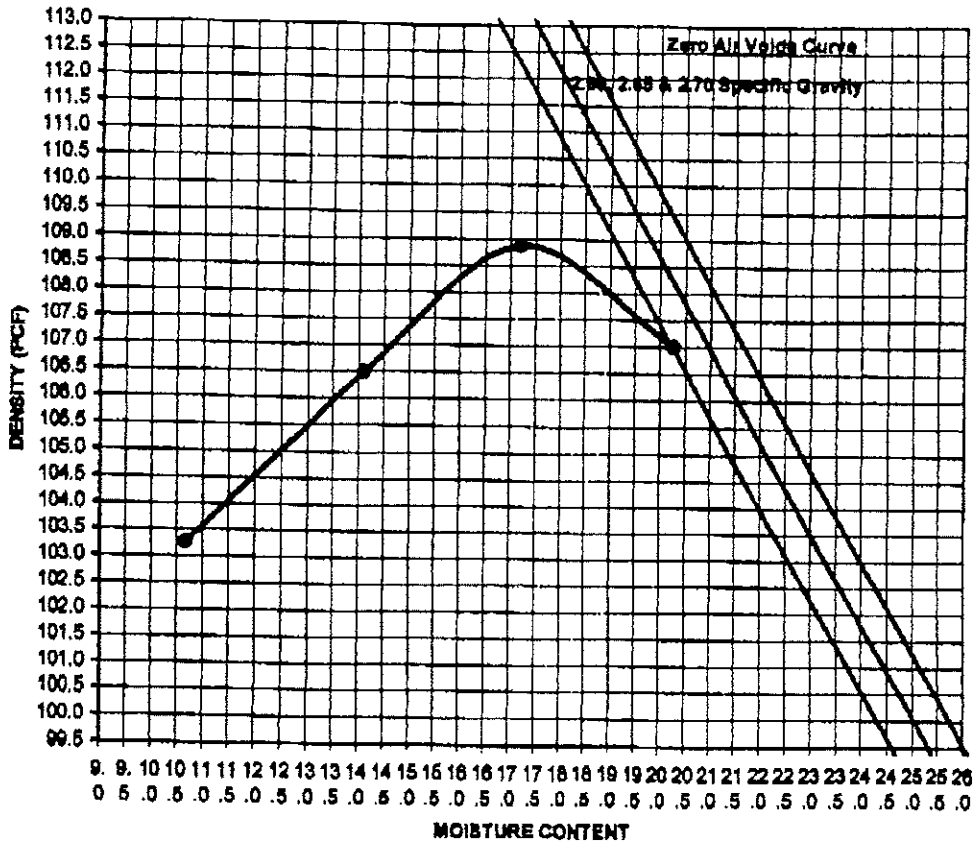
C. Contractor shall immediately remove impounded water that affects any area of the Work.

D. Stormwater pumped from within the landfill berms shall be discharged in accordance with the approved Stormwater Management Plan. Contractor may propose above ground temporary water holding areas in the Stormwater Management Plan.

Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship

Moisture Density Relationship ASTM D-698 (Standard Proctor)



Project:	Sauget Area 1 landfill	Project #:	501-223
Client:	LMS	Date:	June 23,2001

Sample Discription: Brown silty Clay

LL	PI	Sample log #	Maximum Density	Opt. Moisture
30.0	9.0	S-120	108.9	17.2

Remarks: Off-site borrow material

JUN 25 01 10:57 AM PATRIOT/ENGINEERING 9819238 P.02

Patriot Engineering
4735 Poplar Level Road
Louisville,Ky.

Atterburg Limits
ASTM D4318

Project Name: Sauget Area 1 Landfill **Client:** LMS

Project Number: 501-223 **Client Address:**

Date Received: 6/18/01

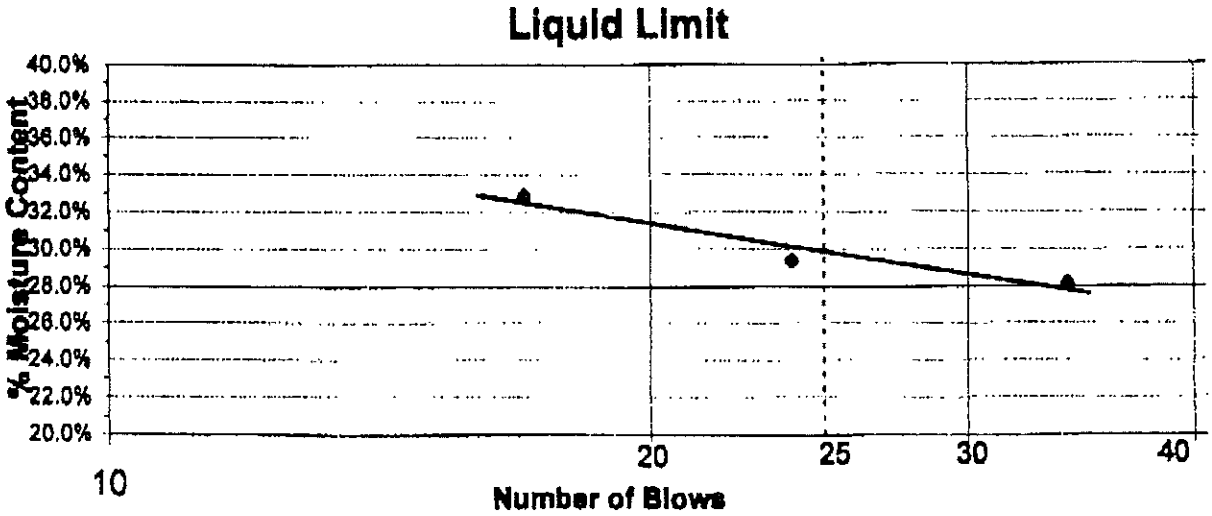
Date Tested: 6/21/01 **Sampled By:** M. Daumen

Sample Number: S-120 **Tested By:** M. Daumen

Delivered %MC		Plastic limit			Liquid Limit		
Tare #							
Wet + tare		192.7	193.5		88.4	212.2	203.4
Dry + tare		192	192.7		86.4	210.2	200.9
tare wgt		189.7	189.3		79.3	203.4	193.3
water wgt	0	0.7	0.8		2	2	2.5
dry wgt	0	2.3	3.4		7.1	6.8	7.6
% MC	#DIV/0!	30.43%	23.53%		28.2%	29.4%	32.9%
		Avg.	27.0%	# of blows=	34	24	17

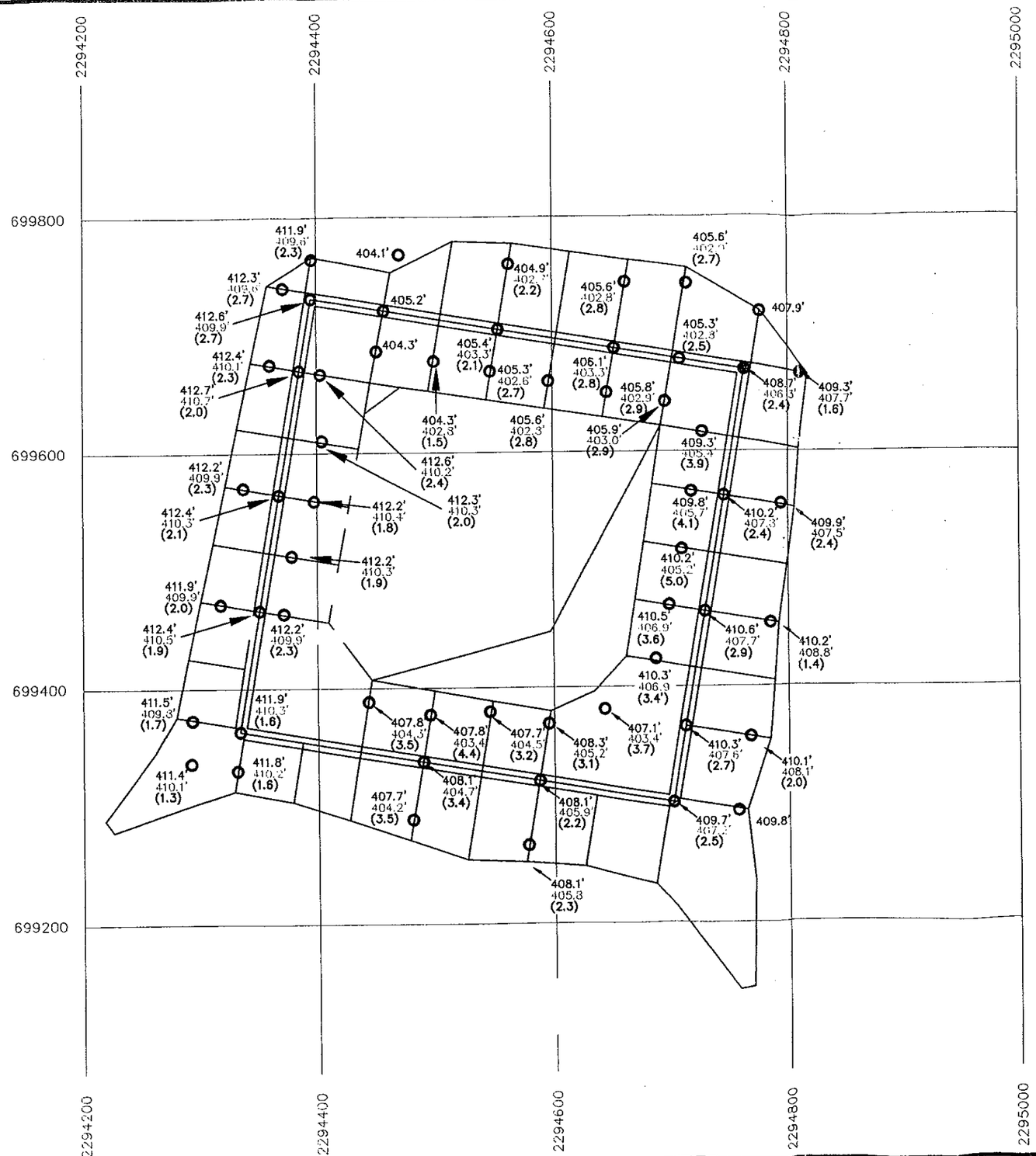
Liquid Limit 30 Plastic Limit 27 Plastic Index 9

USCS Classification CL



ELEVATIONS AT THE TOP OF LIFT NO. 7 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

(JUNE 26, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES

*SHOT LOCATION SHOWING ONE ELEVATION AND NO THICKNESS DENOTES POINT BEGINNING TO BE FILLED AT CURRENT LIFT

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

405.1' = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

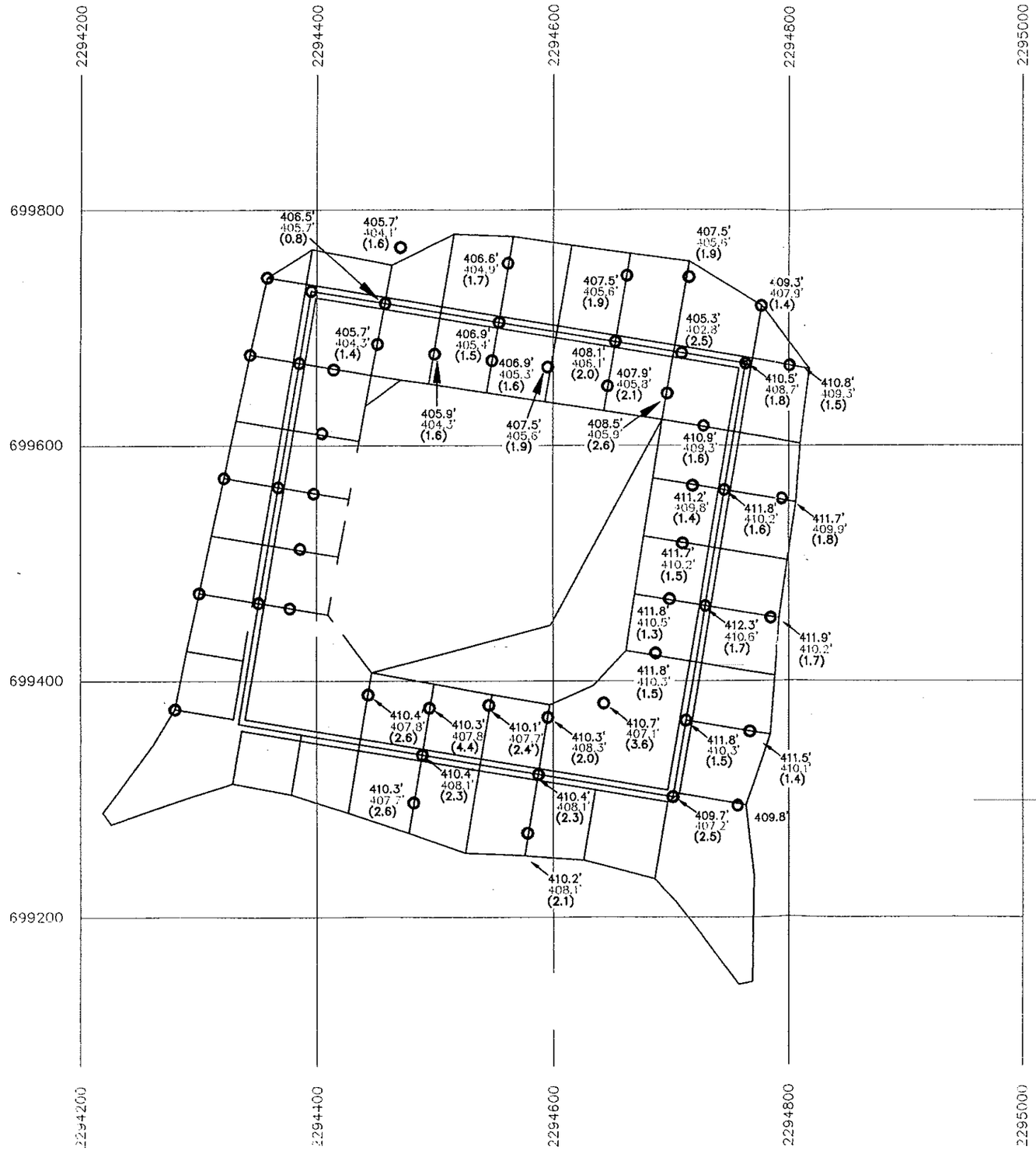
ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 0126978

ELEVATIONS AT THE TOP OF LIFT NO. 7 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/26/01
SURVEY DATE: 06/26/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT7
FLD. BK.: ELECTRONIC
PAGE(S):

ELEVATIONS AT THE TOP OF LIFT NO. 10 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

[illegible] = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

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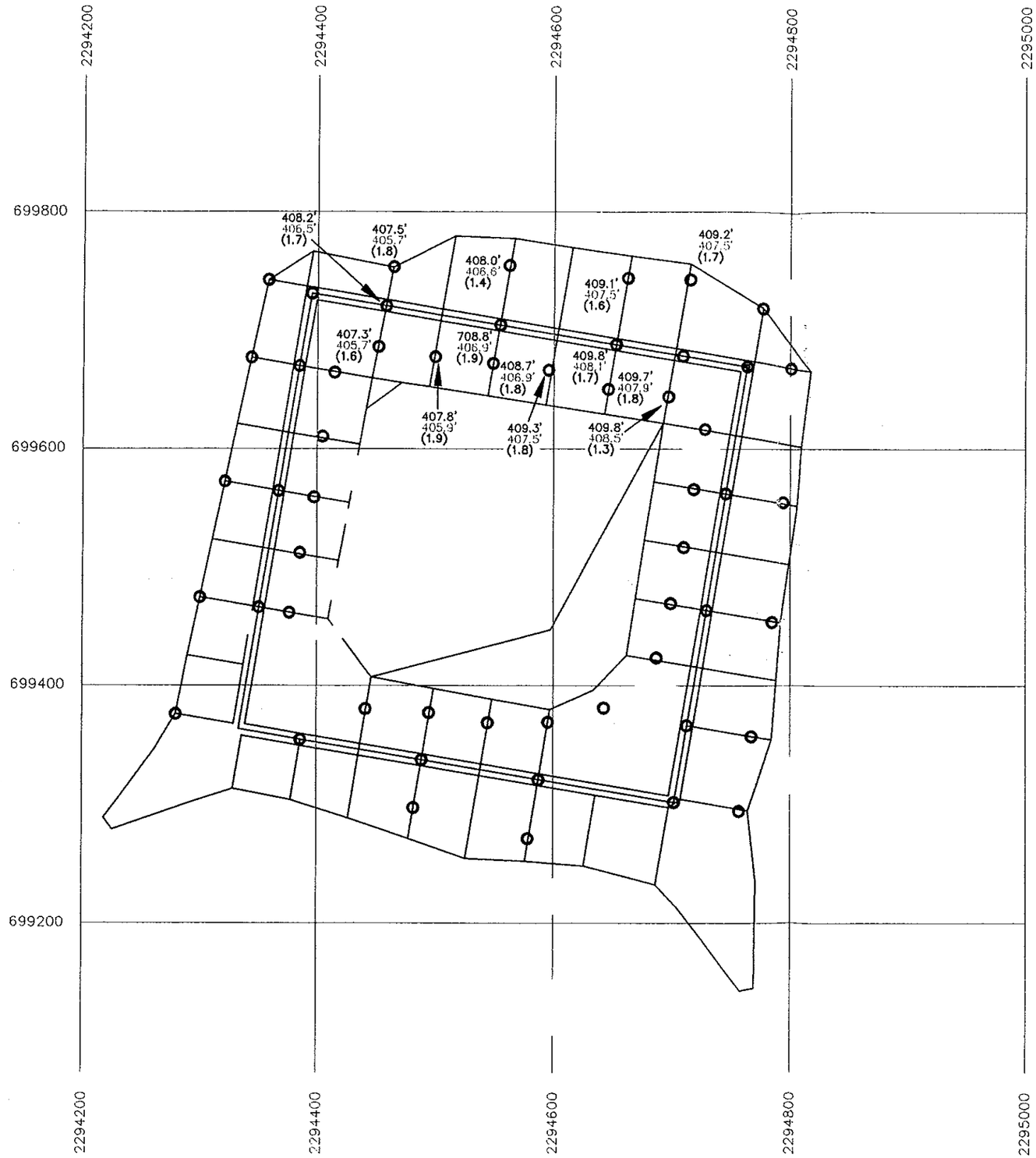
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 10 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/26/01
SURVEY DATE: 06/26/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT10
FLD. BK.: ELECTRONIC
PAGE(S):



ELEVATIONS AT THE TOP OF LIFT NO. 13 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

405.1' = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

ENVIRONMENTAL PRECISION ASSOCIATES INC.

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105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 570-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 13 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/26/01
SURVEY DATE: 06/26/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT13
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HIGH 89°F

DATE: 6/25/2001

S (M) T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION

THE FOLLOWING WAS NOTED:

LMS COMPLETED LIFT # 11 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBERS B-089,B-090 & B-091 TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED LIFT # 10 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBERS B-092 & B-093 WERE TAKEN BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED LIFT # 7 ON THE WEST BERM, NUCLEAR DENSITY TEST NUMBERS B-094, B-095 & B-096 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS WITH B-095 FALLING INTO THE 1 in 5 OVER 90% COMPACTION SPECIFICATION. LMS COMPLETED LIFT # 12 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBERS B-097 & B-098 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. A DRIVE TUBE SAMPLE WAS TAKEN AT THE B-098 LOCATION. THE RESULTS OF THIS DRIVE TUBE ARE, DRY DENSITY 103.6, MOISTURE CONTENT 19.5% AND A COMPACTION OF 95.5%.THESE RESULTS ARE WITHIN 1% OF TEST NUMBER B-098 READINGS. LMS COMPLETED LIFT # 12 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBERS B-099, B-100, & B-101 WERE TAKEN ALL TESTS PASSED SITE SPECIFICATIONS. LMS COMPLETED LIFT # 13 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBERS B-102 & B-103 WERE TAKEN BOTH TESTS PASSED SITE PECIFICATIONS.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, JOHN DEERE TRACTOR PULLING A 2100 GAL. WATER TRAILER AND 26 TANDEM DUMP TRUCKS.

BORROW SITE: 2 x 325 CAT EXCAVATORS, D5C CAT DOZER.

APPROXIMATELY 2,640 c.y. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HUMID, HIGH 86 F.

DATE: 6/27/2001 S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

RECEIVED LABORATORY TEST DATA FOR THE HDPE 60 MIL. SMOOTH AND TEXTURED, THESE RESULTS HAVE BEEN SENT TO GARY WANTLAND FOR HIS REVIEW.

RECEIVED UPDATED LIFT ELEVATION SHEETS, COPIES ATTACHED. SURVEYOR ON SITE ALL DAY.

LMS COMPLETED PLACING LIFT NUMBER'S 14 & 15 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-109R, B-110, B-111 & B-112 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 12 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-113 & B-114 WERE TAKEN BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 8 ON THE WEST BERM, NUCLEAR DENSITY TEST NUMBER'S B-115,B-116 & B-117 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 14 ON THE EASR BERM, NUCLEAR DENSITY TEST NUMBER'S B-118, B-119 & B-120 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS STARTED PLACING LIFT # 13 ON THE SOUTH BERM, NO TESTS TAKEN.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER AND 32 TANDEM DUMP TRUCKS.
BORROW SITE: 2 x 325 CAT EXCAVATORS, D5C CAT DOZER.

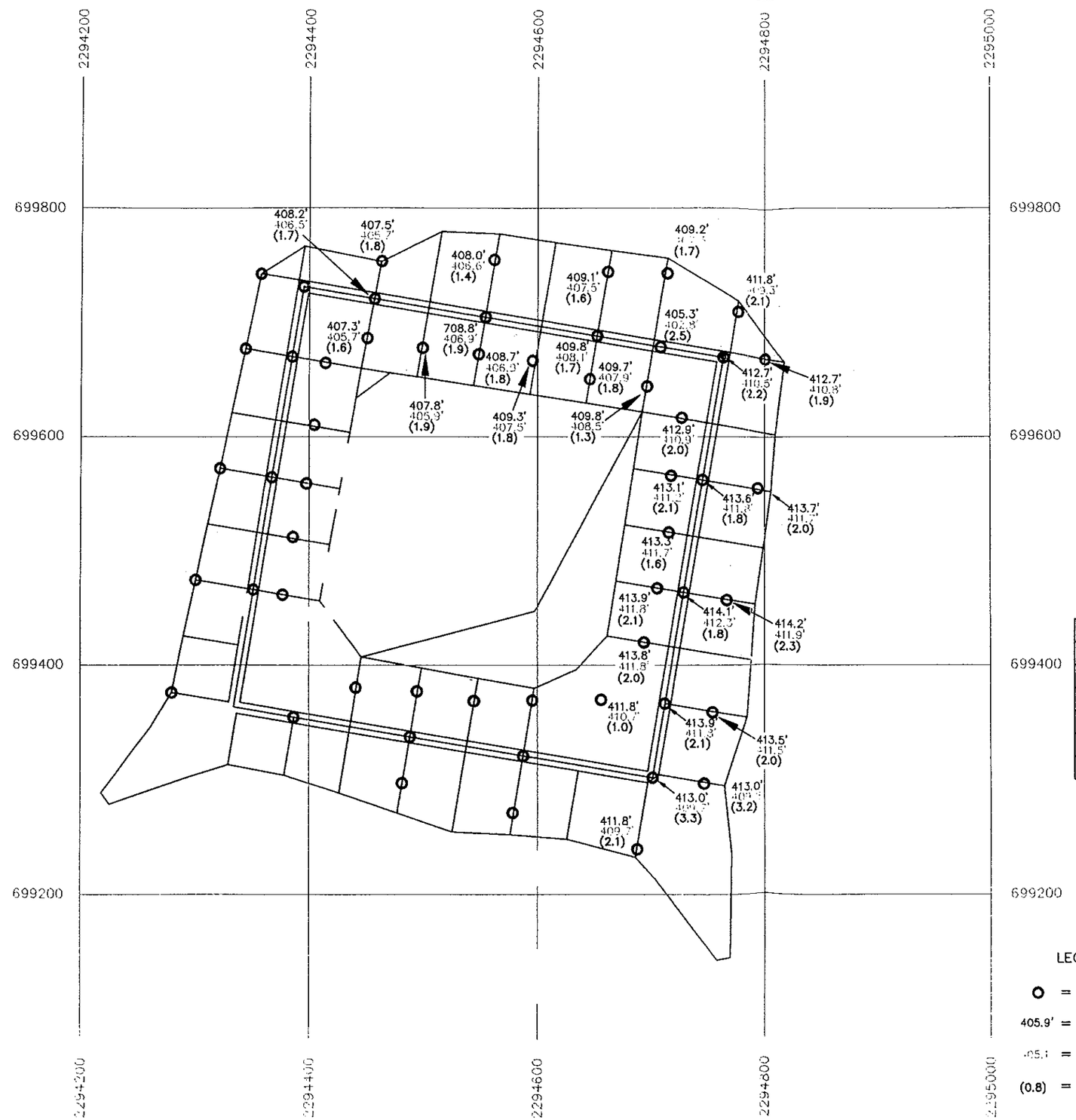
APPROXXIMATELY 3,168 c.y. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

ELEVATIONS AT THE TOP OF LIFT NO. 13 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

405.1 = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 13 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/26/01
SURVEY DATE: 06/26/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT13
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: PARTIALLY SUNNY, HUMID, HIGH 90°F

DATE: 6/28/2001 S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

RECEIVED UPDATED LIFT ELEVATION SHEETS, SURVEYOR ON SITE ALL DAY.

2 TRUCK LOADS OF GCL AND 1 TRUCK LOAD OF GEONET ARRIVED ON SITE AND INVENTORIED IN. CONFORMANCE SAMPLES WERE CUT BUT NOT SENT OUT TO LAB.

LMS COMPLETED PLACING LIFT # 13 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-121 & B-122 WERE TAKEN BOTH PASSED SITE SPECIFICATIONS. LMS STARTED PLACING LIFT # 16 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER B-123 WAS TAKEN THIS PASSED SITE SPECIFICATIONS.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 26 TANDEM DUMP TRUCKS.

BORROW SITE: 2x 325 CAT EXCAVATORS AND D5C CAT DOZER.

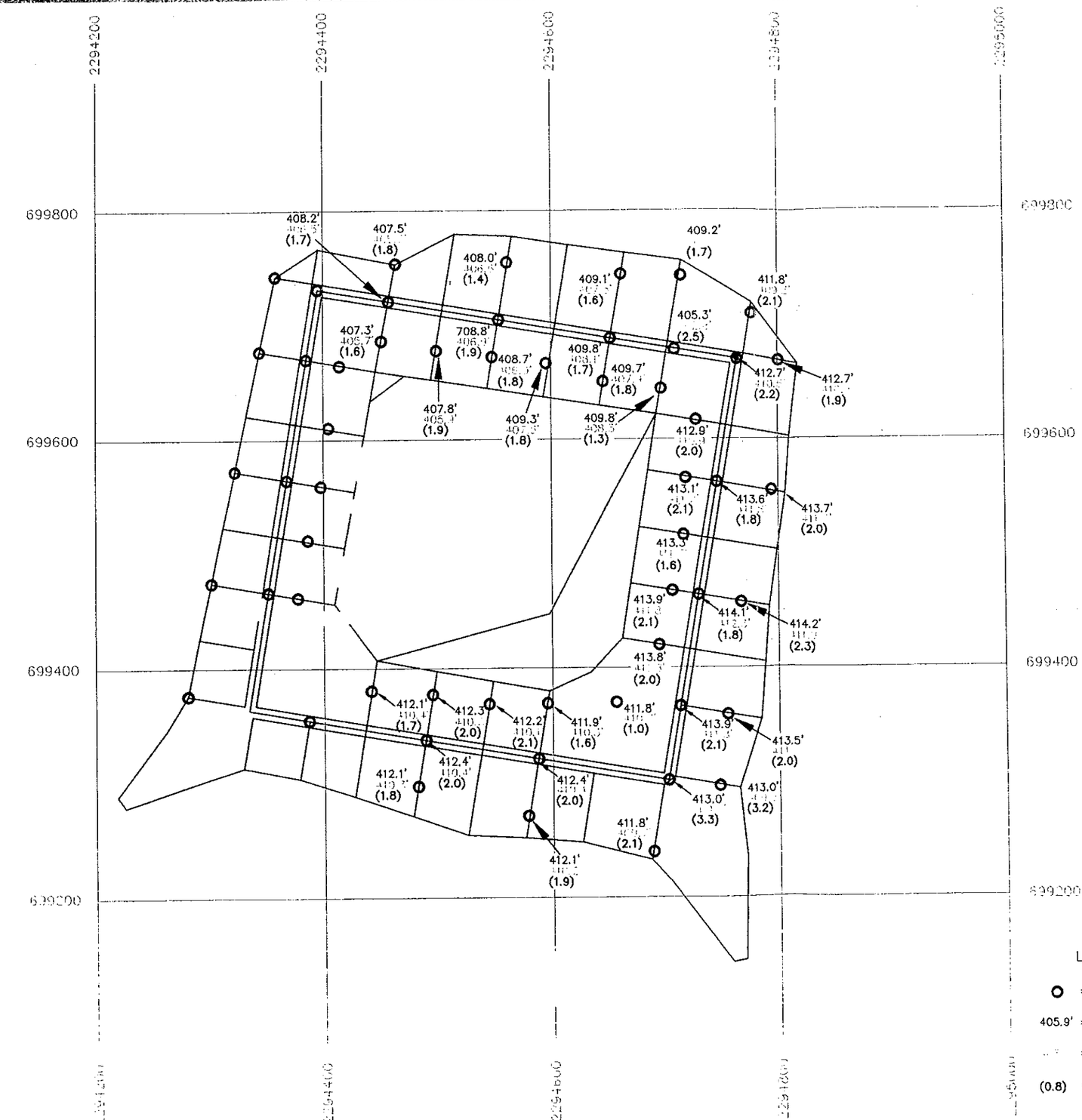
APPROXIMATELY 2,816 c.y. OF MATERIAL WAS HAULED AND PLACED.

AT THE END OF THE WORK DAY THE CELL CONSTRUCTION AREA WAS SMOOTH DRUM ROLLED.

SUBMITTED BY GOLDER

MONITOR

ELEVATIONS AT THE TOP OF LIFT NO. 13 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

= ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 13 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/26/01
SURVEY DATE: 06/26/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT13
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

OJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: OVERCAST, HUMID, HIGH 86 F.

DATE: 6/29/2001 S M T W T (F) S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

RECEIVED UPDATED LIFT ELEVATION SHEETS, SURVEYOR ON SITE ALL DAY.

3 TRUCK LOADS OF GEONET AND 1 TRUCK LOAD OF GCL ARRIVED ON SITE AND INVENTORIED IN. CONFORMANCE SAMPLES WERE CUT BUT NOT SENT TO LAB. THE 5 SAMPLES OF GEOTEXTILE WHICH WERE LOST BY FED-EX WERE RETAKEN.

LMS COMPLETED PLACING LIFT NUMBER'S 16 & 17 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-124, B-133 & B-134 WERE TAKEN ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 15 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-125, B-126 & B-127 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 14 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-128 & B-129 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LMS COMPLETED PLACING LIFT # 9 ON THE WEST BERM, NUCLEAR DENSITY TEST NUMBER'S B-130, B-131 & B-132 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS.

EQUIPMENT USED:D6H CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 28 TANDEM DUMP TRUCKS.

BORROW SITE: 2 x 325 CAT EXCAVATORS AND D5C CAT DOZER.

APPROXIMATELY 2,664 c.y. OF MATERIAL WAS HAULED AND PLACED.

AT THE END OF THE WORK DAY THE CELL CONSTRUCTION AREA WAS SMOOTH DRUM ROLLED.

LMS HAD A D5 CAT DOZER ARRIVE ON SITE. THIS WILL BE USED TO PUSH THE ROCK AND GRAVEL IN THE CAPILLARY BREAK LAYER.

RECEIVED SIGNED AND STAMPED LETTER FROM PATRIOT'S PE FOR LAB WORK PERFORMED FOR THE WEEK ENDING 06/23/01. A COPY OF WHICH IS ATTACHED.

SUBMITTED BY GOLDER

MONITOR

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

June 26, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
June 18, 2001 to June 23, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from June 18, 2001, to June 23, 2001. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

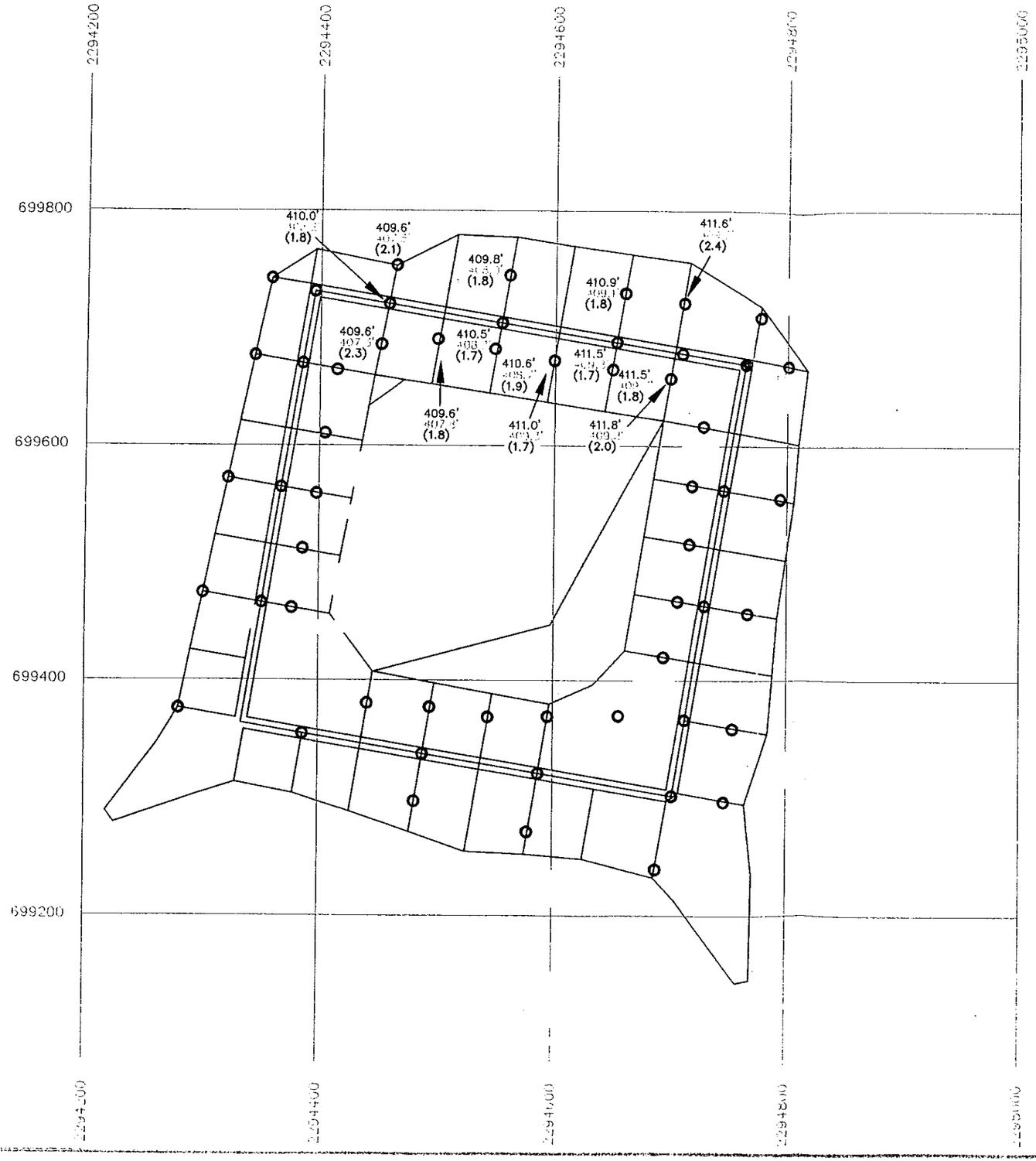
We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
040819
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports



ELEVATIONS AT THE TOP OF LIFT NO. 16 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

PROJECT

DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

= ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 16 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/29/01
SURVEY DATE: 06/29/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT16
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HUMID, HIGH 87 F.

DATE: 6/30/2001

S M T W T F (S)

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

RECEIVED UPDATED LIFT ELEVATION SHEETS, SURVEYOR ON SITE ALL DAY, A COPY IS ATTACHED.

LMS COMPLETED PLACING LIFT # 16 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-135, B-136 & B-137 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFTS 15 & 16 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-138, B-139, B-145 & B-146 WERE TAKEN ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 10 ON THE WEST BERM, NUCLEAR DENSITY TEST NUMBER'S B-140, B-141 & B-142 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS.LMS COMPLETED PLACING LIFT # 18 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-143 & B-144 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS.

ALL CONFORMANCE SAMPLES WERE SENT TO THE GOLDER GEOSYNTHETICS LABORATORY IN ATLANTA FOR TESTING.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER AND 18 TANDEM DUMP TRUCKS.
BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

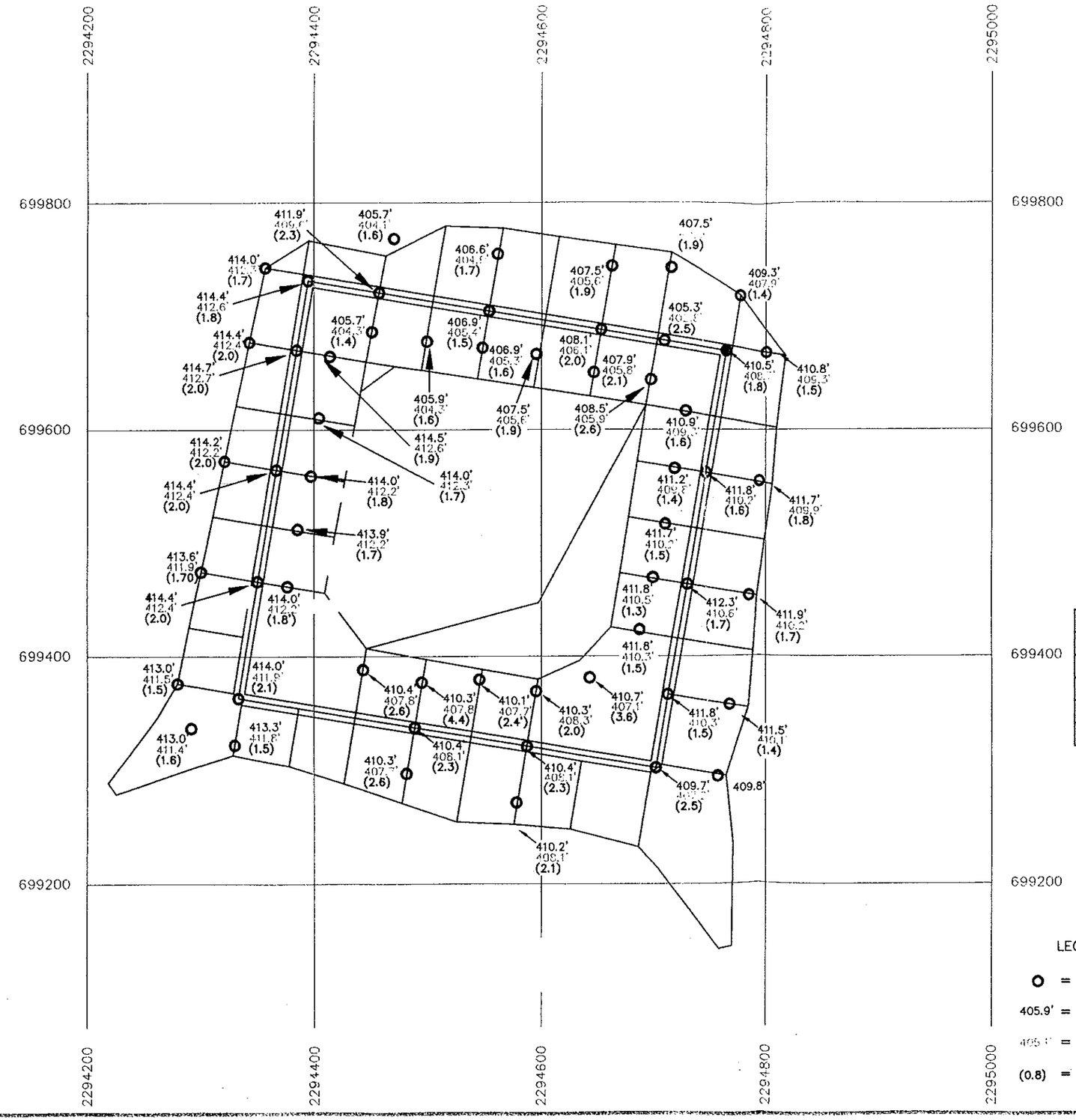
APPROXIMATELY 1,816 c.y. OF MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

ELEVATIONS AT THE TOP OF LIFT NO. 10 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 29, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

405.1' = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

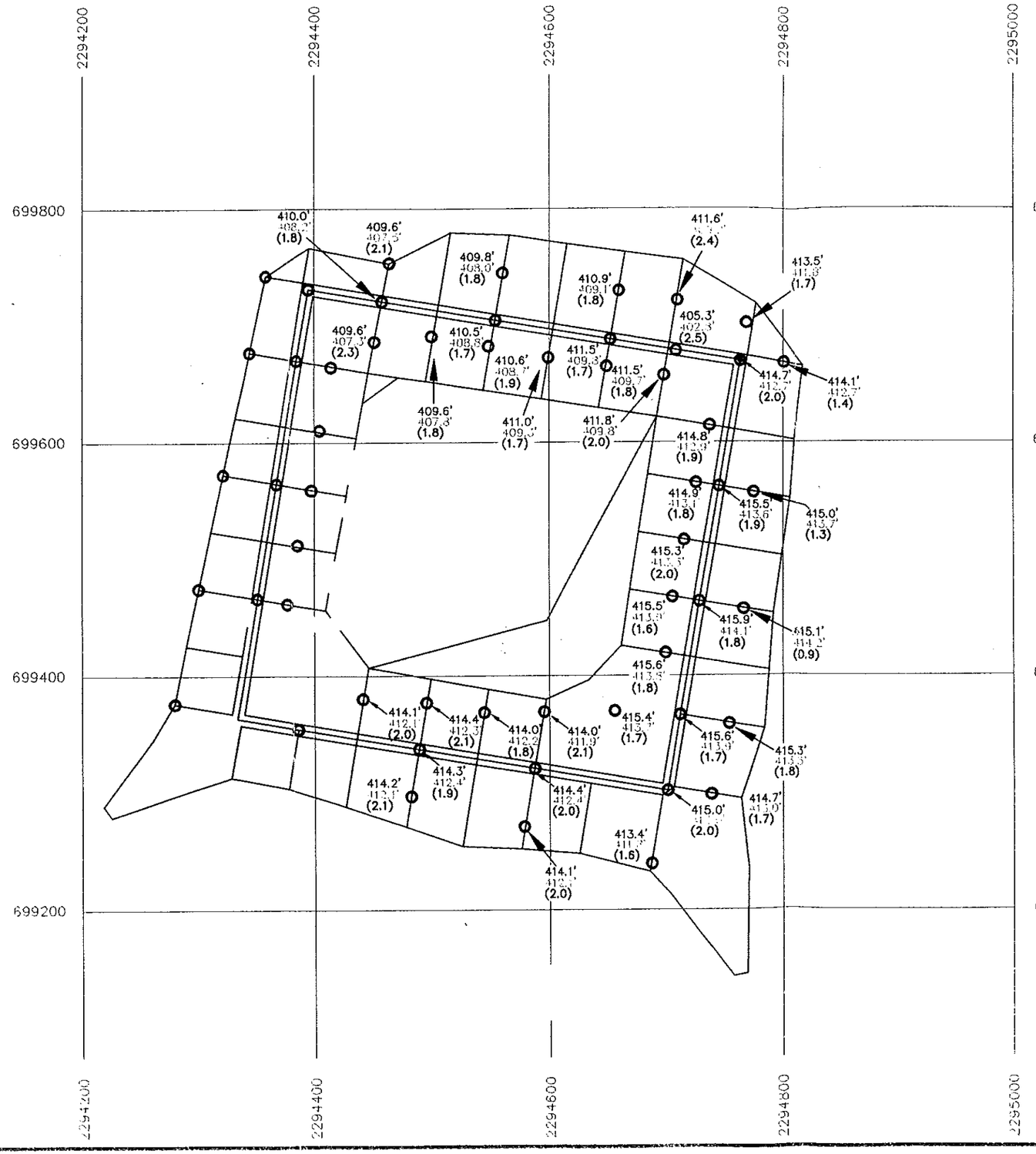
ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 10 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/30/01
SURVEY DATE: 06/30/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT10
FLD. BK.: ELECTRONIC
PAGE(S):

ELEVATIONS AT THE TOP OF LIFT NO. 16 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 30, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

= ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

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PAGER: (800) 443-7243
ID# 0126678

ELEVATIONS AT THE TOP OF LIFT NO. 16 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JUNE 26, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 06/30/01
SURVEY DATE: 06/30/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT16
FLD. BK.: ELECTRONIC
PAGE(S):

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 7/7/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

SUMMARY OF CONSTRUCTION PROGRESS: CONTRACTOR COMPLETED PLACING LIFT # 18 ON THE SOUTH BERM, LIFT # 19 ON THE EAST BERM, LIFT # 21 ON THE NORTH BERM AND LIFT # 13 ON THE WEST BERM. CONTRACTOR STARTED HAULING RIP-RAP FOR THE CAPILLARY LAYER IN THE CELL FLOOR.

ALL MATERIAL BEING HAULED TO SITE IS FROM PRE-APPROVED BORROW SOURCES. THE MATERIAL DELIVERED TO SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGES IN THE SOIL AND ROCK.

CONTRACTOR BUTT FUSION WELDED THE 8" HDPE PIPE FOR USE IN THE CAPILLARY, DETECTION AND LEACHATE COLLECTION SYSTEM'S.

CONTRACTOR INSTALLED THE PIPE FOR THE CAPILLARY DRAIN LAYER AS PER THE SITE SPECIFICATIONS. THE PIPE WAS PRESSURE TESTED PRIOR TO INSTALLATION. A 50 PSI HYDRO-STATIC PRESSURE WAS APPLIED AND WAS HELD WITH NO PRESSURE LOSS FOR OVER 1 HOUR.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED, UNDER GOLDER'S OBSERVATION, UNTIL A PASSING TEST WAS RECORDED.

ALL PIPE PRESSURE TESTING WAS MONITORED AND RECORDED BY GOLDER.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 7/7/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR ON SITE THROUGH OUT THE WEEK, CERTIFING LIFT ELEVATIONS AS PER THE SITE SPECIFICATIONS. ALSO STAKING FINAL GRADES ON BERMS. SURVEYOR ALSO VERIFIED THICKNESS OF THE RIP-RAP DURING PLACEMENT.

THICKNESS AND GRADES WERE VERIFIED DURING THE INSTALLATION OF THE CAPILLARY LAYER DRAIN PIPE.

SUMMARY OF PROBLEMS AND RESOLUTIONS:

NONE

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

THE HDPE PIPE WAS DISCUSSED BETWEEN DON,GARY AND MYSELF BY TELEPHONE. VERBAL APPROVAL OF THE PIPE AND TEST METHOD TO BE USED WAS GIVEN BY GARY.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HOT, HUMID, HIGH 99 F.

DATE: 7/7/2001

S M T W T F (S)

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

LMS NOT HAULING SOIL MATERIAL OR RIP-RAP. LMS GRADING SIDE SLOPES ON THE BERMS AND SMOOTH DRUM ROLLING.

RECEIVED CERTIFICATE OF TRAINING FOR ROBERT THURSTON, BUTT FUSION WELDER, A COPY IS ATTACHED. LMS WELDED ALL PIPE FOR THE PROJECT.

LMS INSTALLED THE CAPILLARY LAYER OUTLET PIPE IN THE NORTH WEST CORNER OF THE CELL AS PER SITE SPECIFICATIONS. THE PIPE WAS PRESSURE TESTED BEFORE INSTALLATION. A HYDRO-STATIC PRESSURE OF 50 PSI WAS APPLIED TO THE PIPE AND THE PRESSURE WAS HELD FOR OVER 1 HOUR WITH NO PRESSURE LOSS. THE FIRST LIFT OF CLAY IN THE EXCAVATED PIPE TRENCH, THROUGH THE NORTH BERM WAS PLACED AND COMPACTED, NO TESTS CARRIED OUT.

THE DETECTION SYSTEM PIPE WAS PRESSURE TESTED. A HYDRO-STATIC PRESSURE OF 50 PSI /AS APPLIED TO THE PIPE AND THE PRESSURE WAS HELD FOR 1 1/2 HOURS WITH NO PRESSURE LOSS.

THE LEACHATE SYSTEM PIPE WAS PRESSURE TESTED. A HYDRO-STATIC PRESSURE OF 50 PSI WAS APPLIED TO THE PIPE AND THE PRESSURE WAS HELD FOR 1 HOUR WITH NO PRESSURE LOSS.

EQUIPMENT USED: 325 CAT EXCAVATOR, D6LPG CAT DOZER, D5LPG CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, INGERSOLL RAND SD100 ROLLER, CAT WHEELED BACKHOE.

BUTT FUSION WELDING EQUIPMENT AND PIPE PRESSURE TESTING EQUIPMENT.

SUBMITTED BY GOLDER

MONITOR

CERTIFICATE OF TRAINING

6/18/01 6/18/01

ILLINOIS LABORERS' AND CONTRACTORS
JOINT APPRENTICESHIP & TRAINING PROGRAM

This is to certify that:

Robert Thurston

has successfully completed training in:

Polyethylene Heat Fusion

57

By

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, WARM, HIGH 83 F.

DATE: 7/2/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS AND PATRIOT.

THE FOLLOWING WAS NOTED:

LMS STARTED HAULING IN THE RIP-RAP FOR THE CELL FLOOR. LMS COMPLETED PLACING LIFT # 17 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-147, B-148 & B-149 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS.

THE CONFORMANCE TEST RESULTS FOR THE GEOMEMBRANE WERE RECEIVED FROM THE GOLDER SYNTHETICS TESTING LABORATORY. SOME CONFUSION ABOUT THE ACTUAL TEST METHOD FOR THICKNESS (ASTM D5199) TESTING HAS ARISEN. THIS IS BEING DISCUSSED WITH RAY PEEBLES OF FLUID SYSTEMS, URS AND GOLDER.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, D5C CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER AND 30 TANDEM DUMP TRUCKS. 20 - 22 TRUCKS HAULING SOIL AND 8 - 10 TRUCKS HAULING RIP-RAP.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 1,928 c.y. OF MATERIAL WAS HAULED AND PLACED.
APPROXIMATELY 2,013.5 tons OF RIP-RAP WAS HAULED AND PLACED.

A SAMPLE WAS TAKEN FROM THE MATERIAL BEING HAULED TO SITE FOR TSETING. THIS SAMPLE REPRESENTS THE 45,000c.y. to 60,000c.y. PLACED MATERIAL. A BAG SAMPLE WAS COLLECTED BY GOLDER AT THIS TIME FOR TESTING IF REQUIRED, PENDING THE RESULTS OF PATRIOT'S LAB TESTING.

LMS STARTED PLACING LIFT # 19 ON THE NORTH BERM AND LIFT # 11 ON THE WEST BERM, NO NUCLEAR DENSITY TESTS WERE TAKEN AT THIS TIME.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HUMID, HIGH 96 F.

DATE: 7/3/2001

S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUES TO HAUL RIP-RAP INTO CELL FLOOR.

RECEIVED UP-DATED LIFT ELEVATION SHEETS, SURVEYOR ON SITE ALL DAY.

THE LAST TRUCK LOAD OF GCL ARRIVED ON SITE AND WAS INVENTORIED IN.

LMS PLACED LIFT # 19 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-150, B-151 WERE TAKEN, BOTH TESTS PASSED SITE SPECIFICATIONS. LMS PLACED LIFT # 11 ON THE WEST BERM, NUCLEAR DENSITY TEST NUMBER'S B-152, B-153 & B-154 WERE TAKEN, ALL TESTS PASSED SITE SPECIFICATIONS. LMS PLACED LIFT # 17 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER B-155 WAS TAKEN, THIS TEST FAIL THE MOISTURE SPECIFICATION WITH A MOISTURE CONTENT OF 21.3%. THE AREA WILI BE RE-WORKED AND RE-TESTED. A DRIVE TUBE SAMPLE WAS ALSO TAKEN AT THIS LOCATION. THE RESULTS F WHICH FALL WITHIN 2% OF THE NUCLEAR GAUGES READINGS.

A TELEPHONE CONVERSATION WAS HELD BETWEEN GARY, DON AND MYSELF A PUNCH LIST OF OUTSTANDING ISSUES WAS PREPARED. THIS WAS THEN FAXED TO GARY FOR HIS REVIEW, A COPY OF WHICH IS ATTACHED.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, D5C CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRUCK, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 22 TANDEM DUMP TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 1,792 c.y. OF MATERIAL WAS HAULED AND PLACED.

APPROXIMATELY 1,232.4 tons OF RIP-RAP WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

PATRIOT ENGINEERING
and Environmental Co., LLC
4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9256

DRIVE TUBE WORKSHEET

Project Name: Sauget Area I Landfill

Date: 7-3-01

Client: LMS Contracting, Inc.

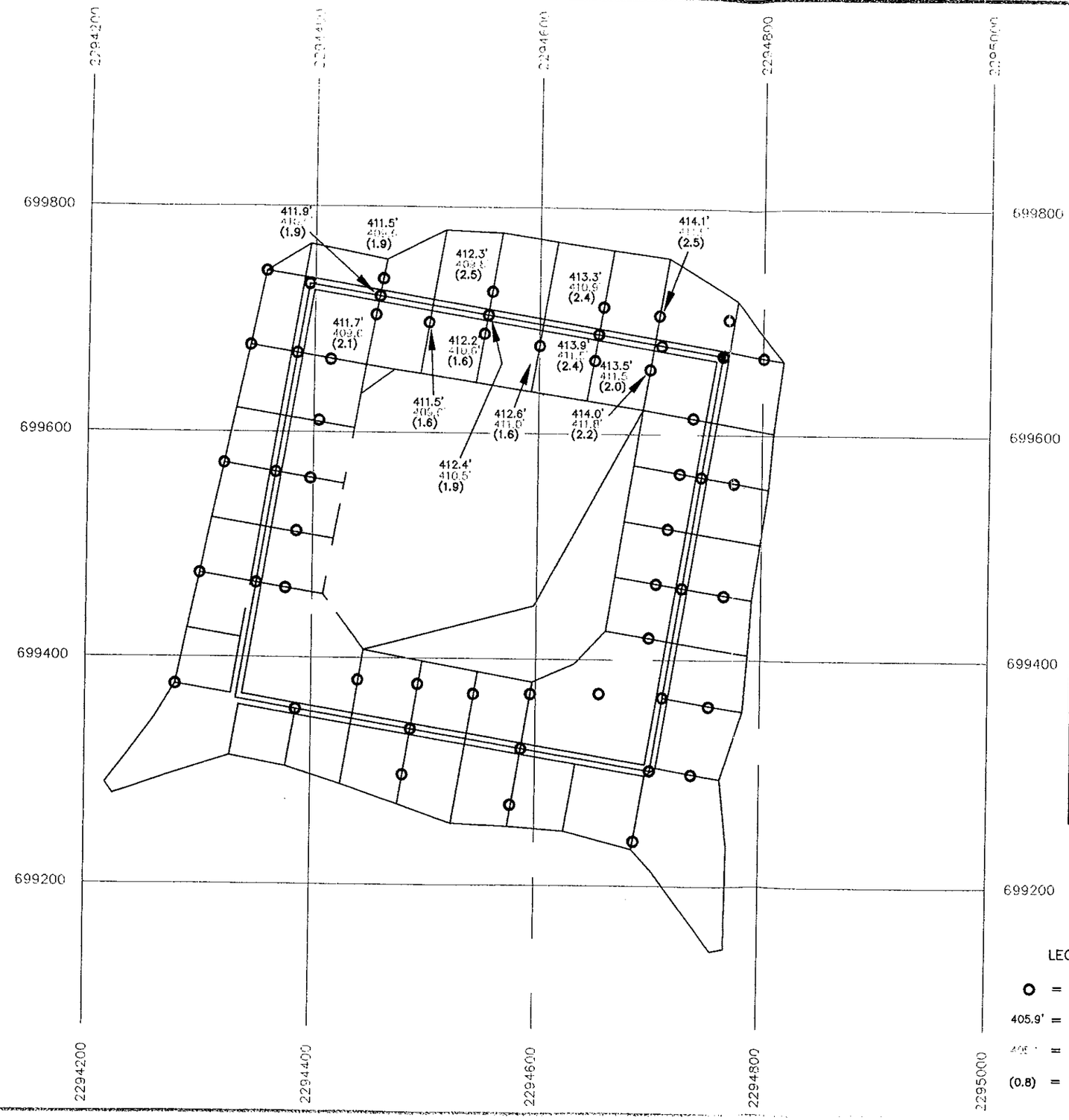
Patriot Project No.: 501-223

Patriot Rep.: Melisa Daumen

Test No.: DT-004

Tube weight (1lbs)	1.31
Soil and Tube weight (llbs)	5.51
Weight of soil (lbs)	4.20
Volumn of Tube (cf.)	.0332
Wet Density(pcf.)	126.51
MOISTURE CONTENT	
Wt. soil + tare (wet), gr.	354.8
Wt. soil + tare (dry), gr.	330.3
Wt. of water, gr.	24.5
Wt. of tare, gr.	198.5
Wt. of soil, dry gr.	131.8
Moisture content %	18.6
Dry Density (pcf)	106.7
Maximum Proctor DD (pcf)	108.9
Optimum Moisture %	17.2
% Compaction	98.0

Remarks: Test taken in same location as B-155



ELEVATIONS AT THE TOP OF LIFT NO. 19 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 3, 2001)

DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES
SOLIFT19	TOP OF LIFT 19 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

[illegible] = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

ENVIRONMENTAL
PRECISION ASSOCIATES
INC.
ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 19 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 03, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 07/03/01
SURVEY DATE: 07/03/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT19
FLD. BK.: ELECTRONIC
PAGE(S):

Memorandum

To: Gary Wantland, URS

CC: Richard Siemaszkiewicz, Golder

From: Don Grahlherr, URS

Date: 7/5/2001

Re: Solutia – Sauget, Checklist of Deliverables

Gary,

As per your request, please see the checklist of deliverables we are in need of by Thursday.

- ❑ New Construction Drawings showing revised width (15ft vs. 20 ft) for access road on South berm of cell.
- ❑ Review of the final interface friction angle test for Reinforced GCL vs. Textured HDPE. Note that Taylor will be using reinforced GCL only. The results were provided by Taylor in their June 15 letter and hand-delivered to you along with a package of all other interface friction testing on June 19 by DAG during your site visit.
- ❑ Response to RFI No. LMS-17 re: holding slopes or cell floor dimensions as shown on Drawing Sheet C1.1.
- ❑ Response to RFI No. LMS-18 re: holding elevations or thickness of layers as shown on Drawing Sheet C1.6, Section C.
- ❑ Review of LMS Transmittal dated June 29 re: HDPE piping specifications. Note this included a letter of explanation from Performance Pipe with attached Driscopipe specifications. We understand that LMS wants to make sure we will accept the Flex Modulus of 110,000 vs. 125,000 as specified. Other specified values appear to be met.

Let me know if you have any questions – I should be at WSSRAP this afternoon and in the office Thursday morning, otherwise call me on my cell phone.

Thanks, Don

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER:

DATE: 7/4/2001

S M T (W) T F S

PERSONNEL ON SITE:

THE FOLLOWING WAS NOTED:

NO WORK 4, JULY HOLIDAY.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HOT, HUMID, HIGH 87 F.

DATE: 7/5/2001

S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO HAUL RIP-RAP INTO THE CELL. TERRY REMINDED OF THE NEED TO KEEP SILT OUT OF THE PLACED MATERIALS.

A CONVERSATION WITH LEE TAYLOR WAS HELD AND THE DELIVERED QUANTITIES OF GCL WAS DISCUSSED, SEE ATTACHED GEOSYNTHETICS QUANTITIES SHEET.

THERE WAS A RECORDED RAINFALL OF 1.3" ON SITE FOR THE PERIOD OF 7/04/01 to THE MORNING OF 7/05/01.

PATRIOT RE-RETESTED LIFT # 17, TEST # B-155R THIS TEST PASSED SITE SPECIFICATIONS. NUCLEAR DENSITY TEST # B-156 WAS ALSO TAKEN, THIS TEST ALSO PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 18 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-157, B-158 & B-159 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 20 ON THE NORTH BERM, NUCLEAR DENSITY TEST # B-160 & B-161 WERE TAKEN, BOTH TESTS PASSED SITE SPECIFICATIONS. LMS PLACED LIFT # 12 ON THE WEST BERM, NUCLEAR DENSITY TEST NUMBER'S B-162, B-163 & B-163 WERE TAKEN ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 18 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-165 & B-166 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS STARTED PLACING LIFT # 19 ON THE EAST BERM, NO TESTS WERE TAKEN.

EQUIPMENT USED: D6H CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, INGERSOLL RAND SD100 ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER AND 18 TANDEM DUMP TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 760 c.y. OF MATERIAL WAS HAULED AND PLACED.

APPROXIMATELY 3,334 tons OF RIP-RAP WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GEOSYNTHETICS QUANTITIES

MATERIAL TYPE	QUANTITY REQUIRED	QUANTITY RECEIVED
GEOMEMBRANE SMOOTH/TEXTURED	167,400 s.f.	167,400 s.f.
GEOMAMBRANE D.S. SMOOTH	167,400 s.f.	167,400 s.f.
GEOTEXTILE	342,000 s.f.	342,000 s.f.
GEONET	360,000 s.f.	360,000 s.f.
GCL	162,750 s.f.	167,400 s.f. *

* This is the amount of GCL without taking any overlap into consideration, If a 0.5' side overlap is taken into consideration the amount of material delivered is 162,000 s.f. this does not take end to end overlap into consideration. Lee Taylor advised of this, he will check his calculations.

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
WNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HUMID, HIGH

DATE: 7/6/2001

S M T W T (F) S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO HAUL RIP-RAP INTO CELL.

RECEIVED UP-DATED LIFT ELEVATION SHEETS, COPY ATTACHED, SURVEYOR ON SITE ALL DAY.

RECEIVED QC CERTIFICATES FOR GEOMEMBRANE AND GEOTEXTILES, A COPY SENT TO GARY WANTLAND FOR REVIEW.

LMS COMPLETED PLACING LIFT # 19 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-167, B-168 & B-169 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 21 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-170 & B-171 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 13 ON THE WEST BERM, NUCLEAR DENSITY TEST NUMBER'S B-172, B-173 & B-174 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. AT THESE TEST LOCATIONS OMPARISON TESTS WERE RUN USING THE CPN NUCLEAR GAUGE, TEST RESULTS SHOW THE MOISTURE CONTENT BETWEEN THE GAUGES TO BE WITHIN 1.3% WITH THE CPN GAUGE READING HIGHER THAN THE SEAMAN GAUGE. THE COMPACTION VALUES WERE AGAIN LOWER WITH THE SEAMAN GAUGE THAN WITH THE CPN GAUGE, WITH THE CPN GAUGE READING UP TO 1% HIGHER, A COPY OF THE FIELD TEST RECORD IS ATTACHED. LMS COMPLETED PLACING LIFT # 19 ON THE SOUTH BERM, NO NUCLEAR DENSITY TESTS WERE TAKEN. LMS STARTED PLACING LIFT # 20 ON THE EAST BERM.

LMS TOOK THE D6H CAT DOZER OFF SITE AND REPLACED IT WITH A D6LGP CAT DOZER.

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, D5C CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, INGERSOLL RAND SD100 ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER AND 18 TANDEM DUMP TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

ALL THE 8" HDPE PIPE REQUIRED FOR THE PROJECT ARRIVED ON SITE.

APPROXIMATELY 1,440 c.y. OF MATERIAL WAS HAULED AND PLACED.
APPROXIMATELY 1,122 tons OF RIP-RAP WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MOISTURE / DENSITY TEST RECORD
NUCLEAR GAUGE METHOD
ASTM D 3017 / 2922

. ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL,CAHOKIA

PROJECT TITLE: SOLUTIA/QA/SAUGET
CONTRACTOR: LMS
DATE TESTED: 7/6/2001

TEST NUMBER		B-172	B-173	B-174				
TEST LOCATION	N	WEST	WEST	WEST				
	E	BERM	BERM	BERM				
ELEVATION		LIFT # 13	LIFT # 13	LIFT # 13				
DEPTH		8"	8"	8"				
DENSITY COUNT								
MOISTURE COUNT								
WET DENSITY, pcf		128.4	129.3	127.9				
MOISTURE %		19.3	18.2	17.1				
DRY DENSITY, pcf		107.6	109.4	109.2				
MATERIAL DESCRIPTION		S-120	S-120	S-120				
X DRY DENSITY, pcf		107.4	109.5	109.3				
OPTIMUM MOISTURE, %		17.2	17.2	17.2				
% COMPACTION		98.6	100.6	100.4				
DIFF FROM O.M.C.		2.1	1	-0.1				
PASS/FAIL (DENSITY)		P	P	P				
PASS/FAIL (MOISTURE)		P	P	P				

SPECIFICATIONS:
95% % STANDARD / MODIFIED
-2 to +3 % OF O.M.C.

DAILY STANDARD COUNTS:
MOISTURE
DENSITY

TESTED BY: RS
CHECKED BY:
DATE:

GOLDER ASSOCIATES INC.

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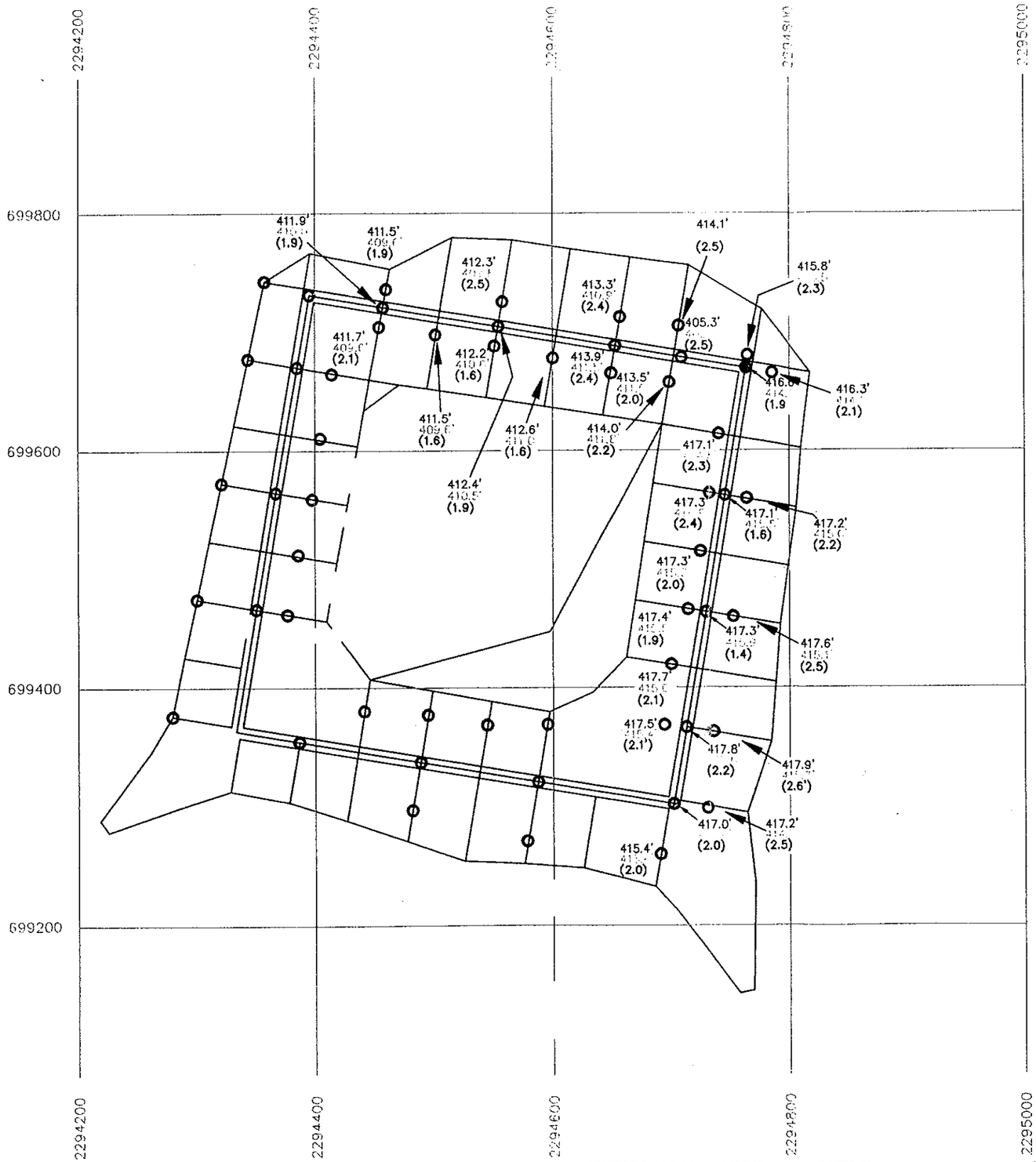

ELEVATIONS AT THE TOP OF LIFT NO. 19 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 6, 2001)

DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES
SOLIFT19	TOP OF LIFT 19 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

405.1' = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 19 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 03, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 07/06/01
SURVEY DATE: 07/06/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT19
FLD. BK.: ELECTRONIC
PAGE(S):

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 7/14/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

SUMMARY OF CONSTRUCTION PROGRESS:

COMPLETED PLACING LIFT # 25 ON THE SOUTH BERM, LIFT# 24 ON THE EAST BERM, LIFT # 25 ON THE NORTH BERM AND LIFT # 15 ON THE WEST BERM.

CONTRACTOR COMPLETED HAULING RIP-RAP INTO THE CELL AND STARTED TO HAUL MEREMAC GRAVEL FOR THE CAPILLARY BREAK LAYER.

ALL MATERIAL BEING HAULED TO SITE IS FROM PRE-APPROVED BORROW SOURCES. THE MATERIAL DELIVERED TO SITE WAS VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGES IN THE SOIL AND ROCK.

CONTRACTOR STARTED TO FINAL GRADE THE BERMS TO GRADE.

CONTRACTOR BACKFILLED THE TRENCH EXCAVATED FOR THE CAPILLARY BREAK LAYER DRAIN PIPE, AND NUCLEAR DENSITY TEST NUMBER'S BF- 001 to BF-005 WERE TAKEN AND RECORDED.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. ALL FAILING TESTS WERE RECORDED AND THE AREAS FAILING WERE RE-WORKED. UNDER GOLDER'S OBSERVATION, UNTIL A PASSING TEST WAS RECORDED.

NUCLEAR DENSITY TEST NUMBER'S B-175 THROUGH B-217 WERE TAKEN AND RECORDED ON THE COMPACTED FILL ON THE BERMS.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 7/14/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR ON SITE THE WHOLE WEEK. SURVEYOR CERTIFIED LIFT ELEVATIONS AS PER THE SITE SPECIFICATIONS. SURVEYOR CONSTRUCTION STAKING THE BERMS FOR FINAL GRADES. SURVEYOR CERTIFYING THICKNESS OF PLACED RIP-RAP AND MEREMAC GRAVEL IN THE CELL FLOOR.

SUMMARY OF PROBLEMS AND RESOLUTIONS:

DE-WATERING OF THE CELL AGAIN BECAME AN ISSUE, LMS INFORMED OF THIS AND RESOLUTION ISSUE 2 RESPONSE LETTER DATED JUNE 27, 2001 WAS REFERENCED. CONTRACTOR RE-INSTALLED THE 3" PUMP IN THE SUMP AREA OF THE CELL.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

ALL CONFORMANCE TESTING HAS BEEN COMPLETED AND THE RESULTS OF THE TESTING HAVE BEEN GIVEN TO GARY WANTLAND FOR FINAL APPROVAL. EPA HAS REQUESTED THAT ADDITIONAL STRESS TESTING BE DONE ON THE GCL LINER MATERIAL. THIS IS ON- GOING AT THE GOLDER, ATLANTA GEOSYNTHETICS LABORATORY.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
WNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: HOT, HUMID, PARTIALY SUNNY, HIGH 98 F.

DATE: 7/9/2001

S(M)T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

RECEIVED REVISED CONSTRUCTION DRAWINGS FROM URS, SHOWING THE NEW SOUTH SLOPE AND ACCESS ROAD.

RECEIVED UP DATED LIFT ELEVATION SHEETS, A COPY IS ATTACHED. SURVEYOR ON SITE ALL DAY. STAKED TOES AND CORNER OF THE NORTH AND WEST BERMS, AND CERTIFIED GRADES.

LMS COMPLETED BACKFILLING THE CAPILLARY LAYER DRAIN PIPE EXCAVATION AND NUCLEAR DENSITY NUMBER'S BF-001 TO BF- 005 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 19 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-175 & B-176 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 20 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-177, B-178 & B-179 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS STARTED PLACING LIFT # 21 ON THE EAST BERM, NO TESTS CARRIED OUT.

LMS CONTINUED TO HAUL AND SPREAD RIP-RAP IN THE CELL FLOOR. LMS STARTED HAULING AND SPREADING THE MEREMAC GRAVEL STARTING AT THE NORTH WEST CORNER AND WORKING SOUTH D EAST. THIS WAS TO ALLOW THE SEMI - TRACTOR TRAILERS TO DUMP DOWN IN THE CELL FLOOR AREA.

RECEIVED THE SAND PERM FOR THE SAMPLE COLLECTED ON 6/25/01 BY PATRIOT, THIS SAMPLE MEETS THE SITE SPECIFICATIONS, BUT WILL NOT BE SUBMITTED TO URS FOR APPROVAL AS LMS WANTS TO TRY ANOTHER SOURCE OF SAND, CLOSER TO THE SITE FIRST. A SAMPLE OF THIS SAND WAS DELIVERED TO SITE FOR TESTING BY PATRIOT. ALSO RECEIVED FROM PATRIOT SIGNED AND SEALED LETTER COVERING ALL SITE WORK FOR THE WEEK OF JUNE 25 TO JUNE 30, 2001.

THE RESULTS OF THE TESTING CARRIED OUT ON THE SAMPLE COLLECTED ON THE 45,000 c.y. to 60,000 c.y. OF MATERIAL PLACED, SAMPLE # S-122. THE PROCTOR VALUES ARE DD = 109.0 & OPTIMUM MOISTURE CONTENT = 17.0%. THIS PROCTOR WILL BE UTILIZED FROM NOW ON. THE ATTERBERG LIMIT'S VALUES OF LI =32 & PI =9, FOLLOWS CLOSELY TO PREVIOUSLY RUN TESTS AND CLASSIFIES THE MATERIAL AS A "CL".

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, INGERSOLL RAND SD100 ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL WATER TRAILER AND BETWEEN 18 - 22 TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 1,808 c.y. OF MATERIAL, 253 tons OF RIP-RAP & 1.496 tons OF MEREMAC GRAVEL WAS HAULED TO SITE AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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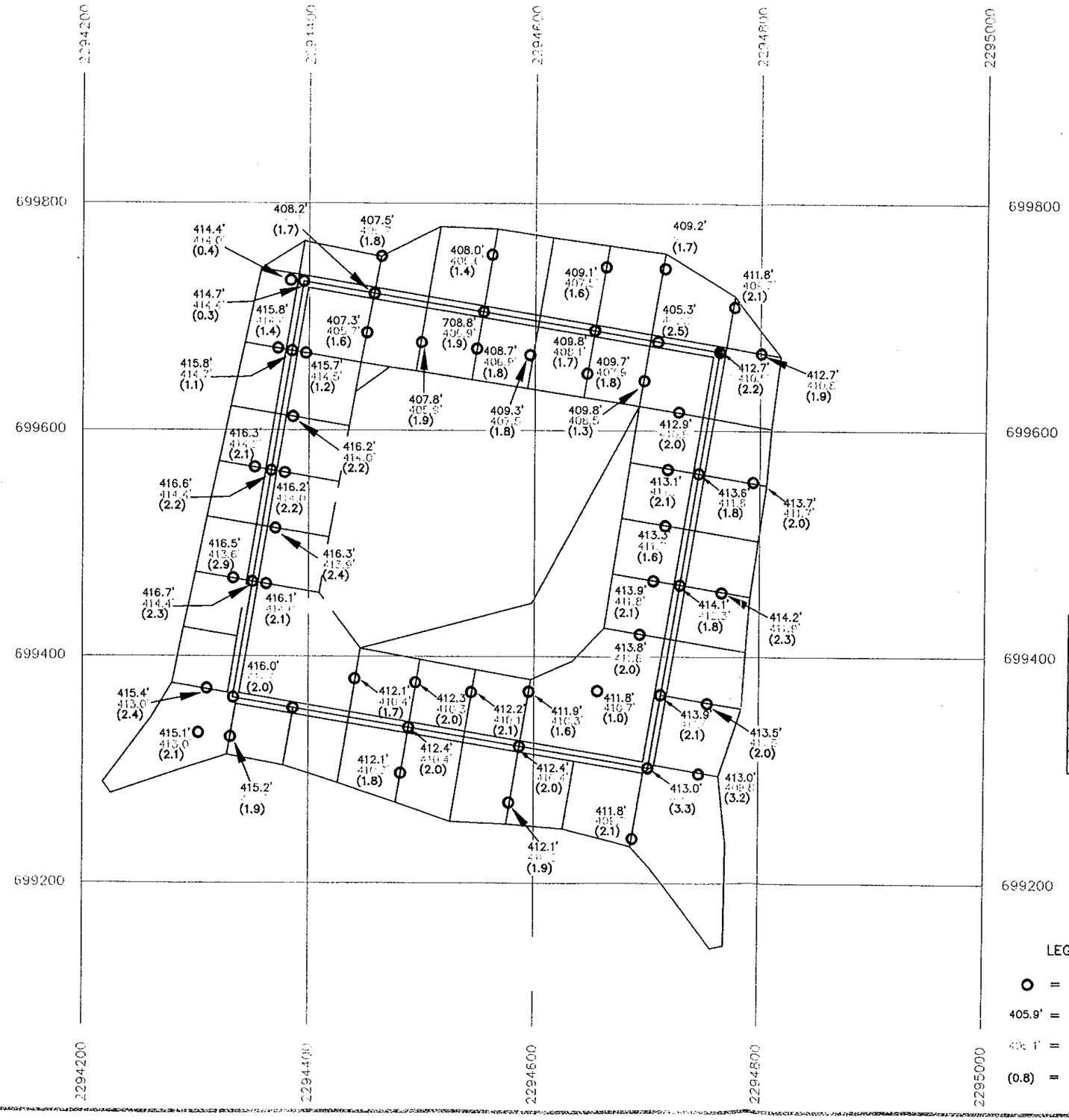

ELEVATIONS AT THE TOP OF LIFT NO. 13 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 09, 2001)

DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

[illegible] = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

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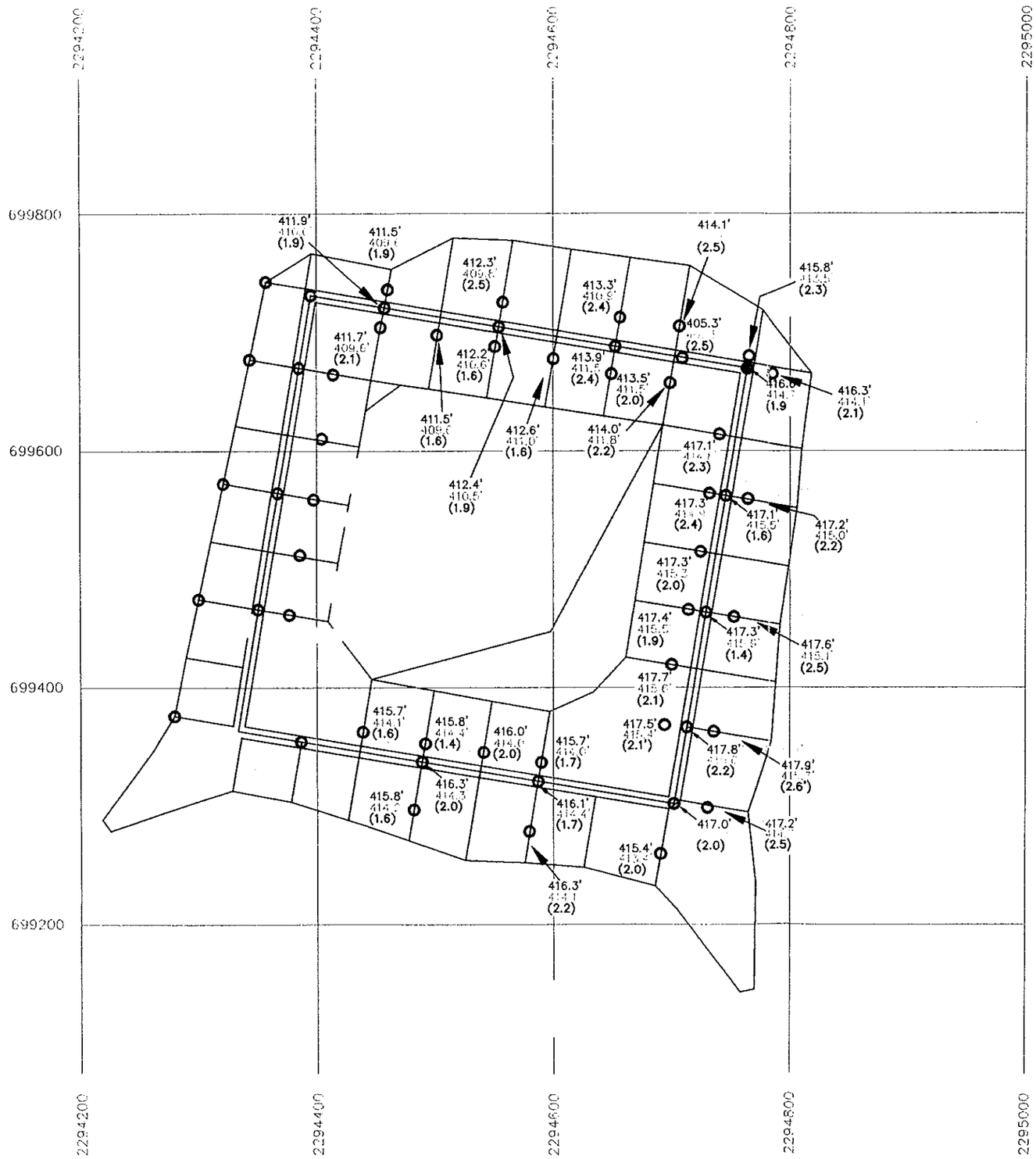
ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 0126678

ELEVATIONS AT THE TOP OF LIFT NO. 13 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 09,2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 07/09/01
SURVEY DATE: 07/09/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT13
FLD. BK.: ELECTRONIC
PAGE(S):

ELEVATIONS AT THE TOP OF LIFT NO. 19 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 9, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES
SOLIFT19	TOP OF LIFT 19 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

405.1 = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

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105 PECAN STREET
P.O. BOX 514
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TEL \ FAX (334) 807-0026
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ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 19 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 09, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 07/06/01
SURVEY DATE: 07/06/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT19
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
VNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HOT, HUMID, HIGH 96 F.

DATE: 7/10/2001

S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

RECEIVED UP-DATED LIFT ELEVATION SHEETS. SURVEYOR ON SITE ALL DAY FOR CONSTRUCTION STAKING OF THE BERMS.

LMS COMPLETED LIFT # 20 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-180 & B-181 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 21 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-182, B-183 & B-184 WERE TAKEN, B-182 & B-184 PASSED SITE SPECIFICATIONS, B-183 FAILED WITH A HIGH MOISTURE CONTENT, THE AREA WAS RE-WORKED AND TEST # B-183R WAS TAKEN, THIS TEST PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 22 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-185 & B-186 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 14 ON THE WEST BERM, NUCLEAR DENSITY TEST NUMBER'S B-187, B-188 & B-189 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 21 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-190 & B-191 WERE TAKEN, B-190 PASSED SITE SPECIFICATION, B-191 FAILED ON LOW MOISTURE AND LOW COMPACTION. THE AREA WAS RE-WORKED AND TEST # B-191R WAS TAKEN, THIS TEST PASSED SITE SPECIFICATIONS. LMS COMPLETED ACING LIFT # 22 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-192, B-193 & B-194 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 15 ON THE WEST BERM, NO TESTING CARRIED OUT, WILL TEST TOMORROW.

RECEIVED AS-BUILT DRAWING OF THE CAPILLARY BREAK LAYER DRAIN PIPE INSTALLATION, COPY ATTACHED, SURVEYOR VERIFIED ALL FIELD ELEVATIONS TODAY.

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, JOHN DEERE TRACTOR PULLING A 2,100 GAL WATER TRAILER, 12 TRACTOR TRAILER TRUCKS AND 20 TANDEM TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 1,752 c.y. OF MATERIAL WAS HAULED AND PLACED.
APPROXIMATELY 601 tons. OF RIP-RAP WAS HAULED AND PLACED.
APPROXIMATELY 814 tons. OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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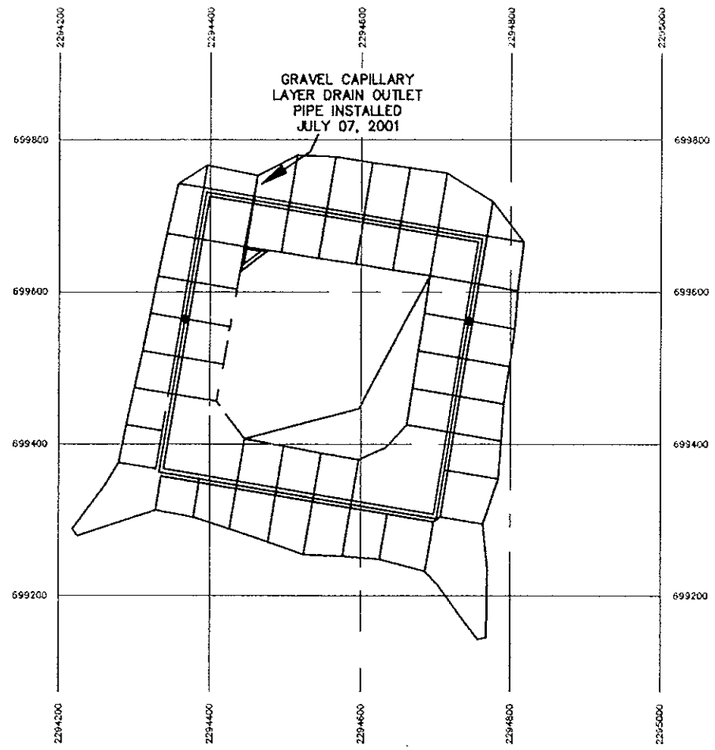
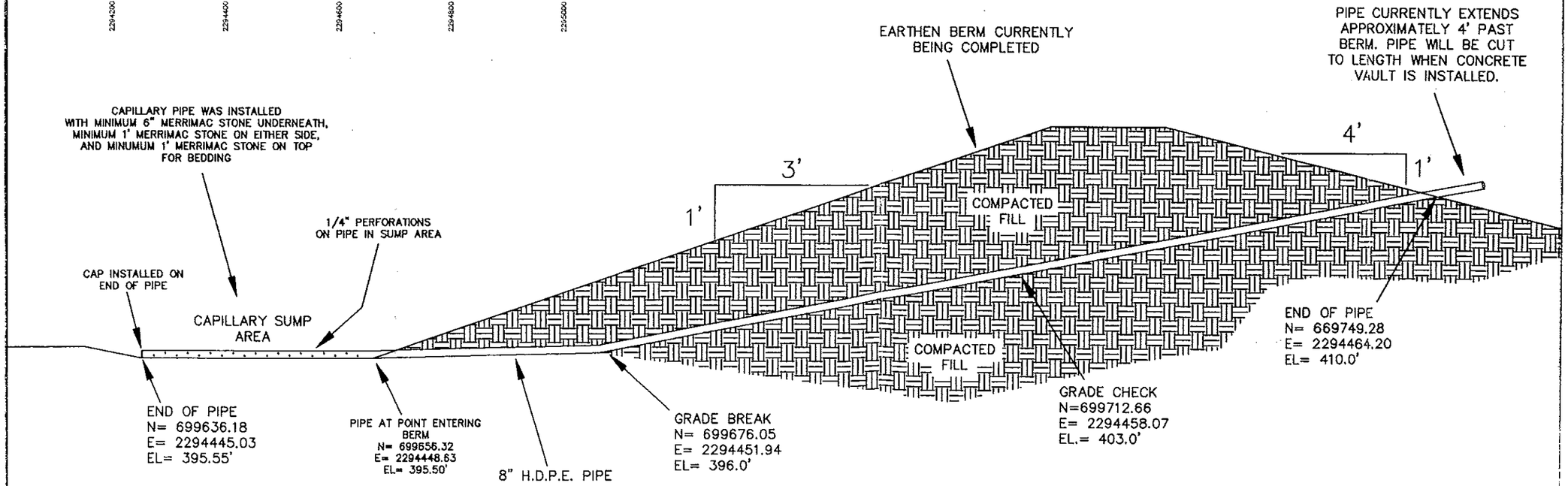
AS-BUILT DRAWING OF THE GRAVEL CAPILLARY LAYER DRAIN OUTLET PIPE AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 07, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES
SOLIFT19	TOP OF LIFT 19 GRADES
SOLIFT22	TOP OF LIFT 22 GRADES
SOCAPPIP	CAPILLARY PIPE AS-BUILT



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P.O. BOX 514
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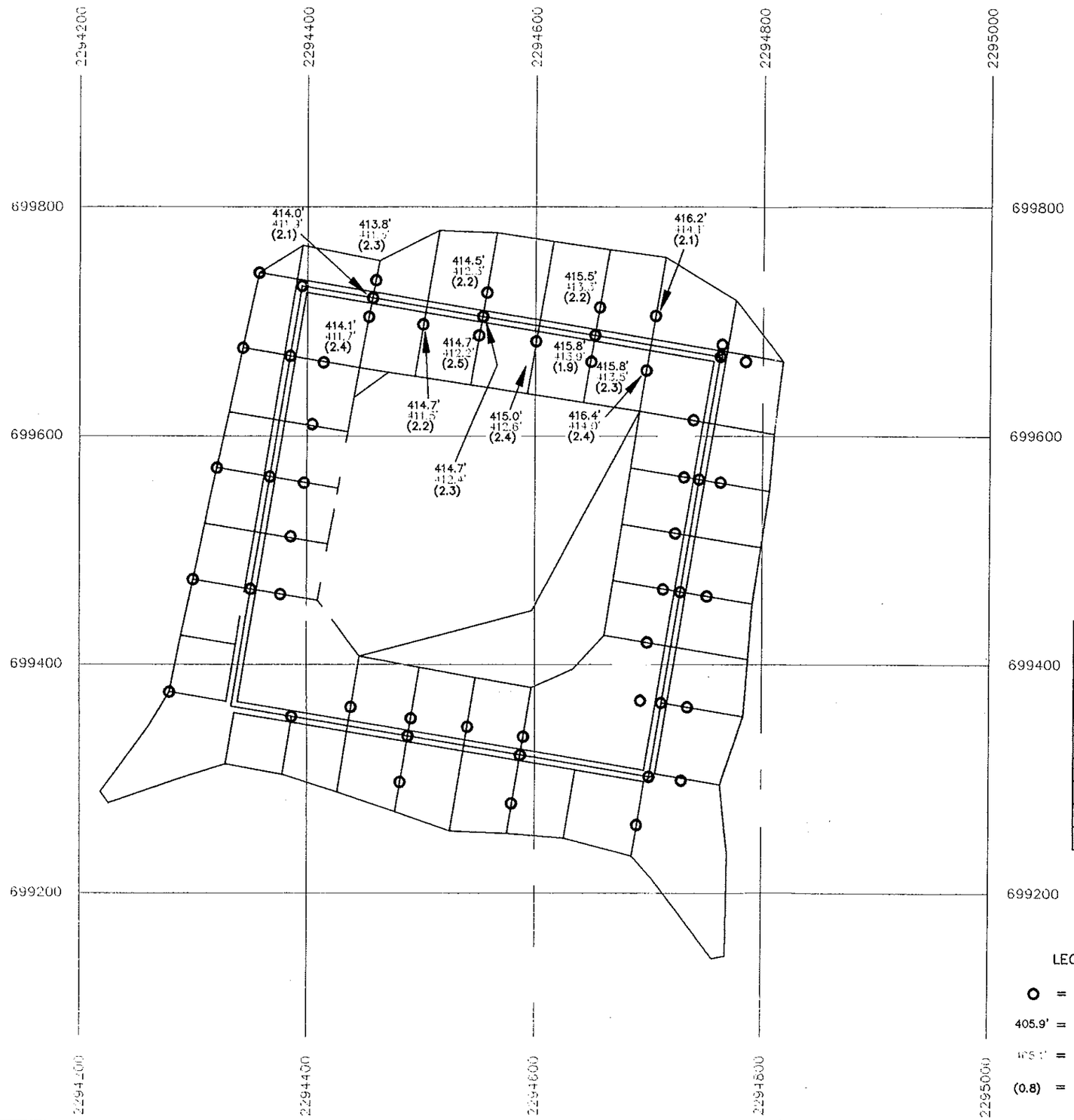
ID# 012678

AS-BUILT DRAWING OF THE GRAVEL CAPILLARY LAYER DRAIN OUTLET PIPE AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 07, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: VARIES
DRAWING DATE: 07/10/01
SURVEY DATE: 07/07/01
CLIENT FILE: 01-500
DRAWING FILE: SOCAPPIP
FLD. BK.: ELECTRONIC
PAGE(S):

ELEVATIONS AT THE TOP OF LIFT NO. 22 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 10, 2001)



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES
SOLIFT19	TOP OF LIFT 19 GRADES
SOLIFT22	TOP OF LIFT 22 GRADES

LEGEND:

O = SHOT LOCATION

405.9' = ELEVATION AT TOP OF SUBJECT LIFT

[illegible] = ELEVATION AT TOP OF PREVIOUSLY CERTIFIED LIFT

(0.8) = THICKNESS OF SUBJECT LIFTS

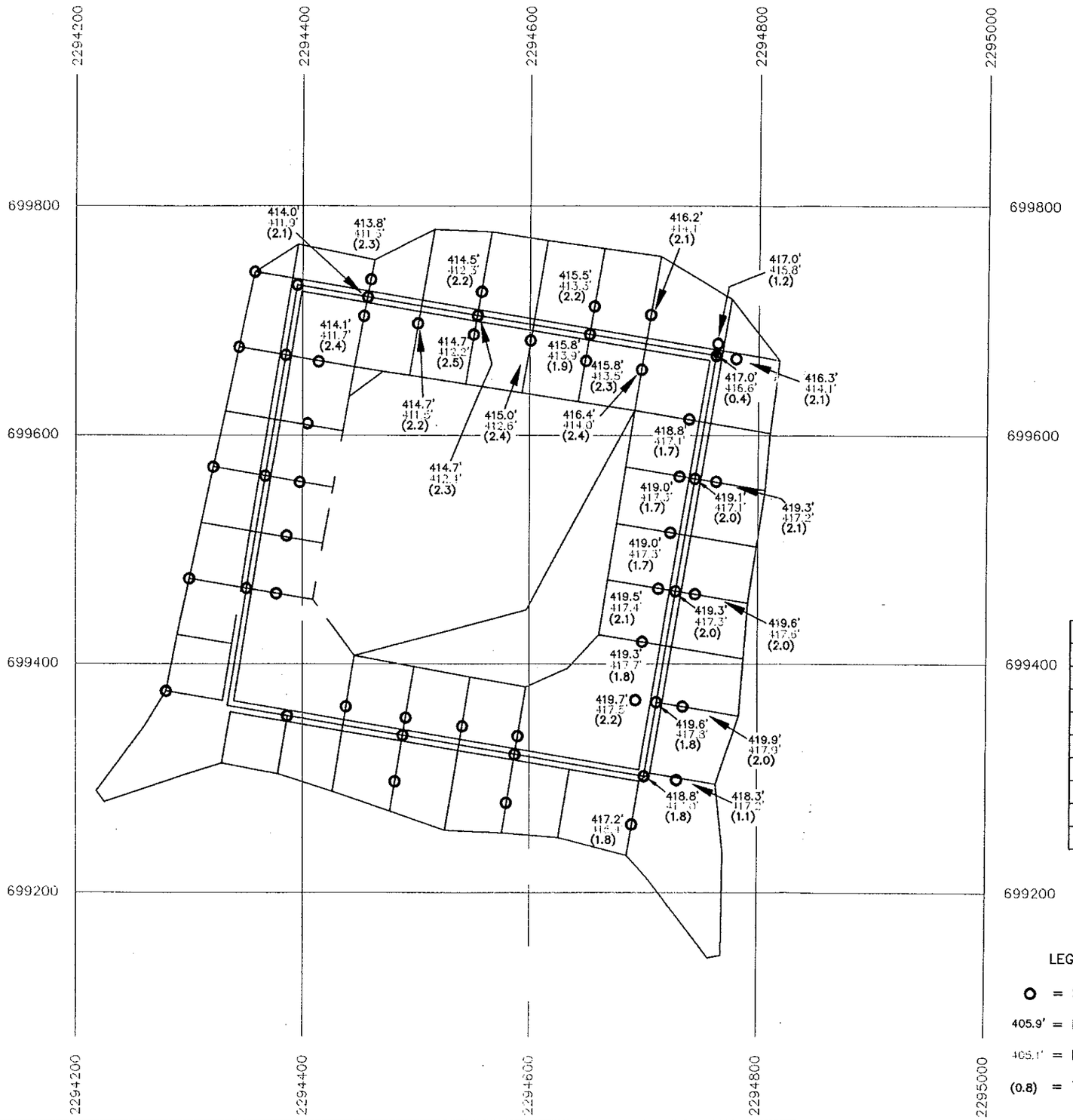
ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS AT THE TOP OF LIFT NO. 22 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 10, 2001)

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 07/10/01
SURVEY DATE: 07/10/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT22
FLD. BK.: ELECTRONIC
PAGE(S):

ELEVATIONS AT THE TOP OF LIFT NO. 22 AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS (JULY 10, 2001)



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PAGE(S):

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
NER: SOLUTIA
CATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, WARM, HIGH 86 F.

DATE: 7/11/2001

S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

RECEIVED UP-DATED LIFT ELEVATIONS SHEETS, COPY ATTACHED, SURVEYOR ON SITE ALL DAY. SURVEYOR CONTINUED TO STAKE FINAL GRADES ON BERMS.

PATRIOT TESTED LIFT # 15 ON THE WEST BERM, NUCLEAR DENSITY TEST NUMBER'S B-195, B-196, & B-197 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 22 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-198 & B-199 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 23 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-200 & B-201 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 23 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-202 & B-203 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS.

LMS STARTED TO FINAL GRADE ALL SLOPES. LMS CONTINUED TO HAUL RIP-RAP AND MEREMAC GRAVEL INTO THE CELL FOR THE CAPILLARY BREAK LAYER.

PATRIOT COLLECTED A SAMPLE FROM THE MATERIAL ARRIVING ON SITE AT TEST # 201 LOCATION FOR SAMPLING. THIS SAMPLE REPRESENTS 60,000 c.y. - 75,000 c.y. OF MATERIAL PLACED.

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, INGERSOLL RAND SD100 ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER, 14 TANDEM DUMP TRUCKS AND 8 TRACTOR TRAILER TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 1,552 c.y. OF MATERIAL WAS HAULED AND PLACED.
APPROXIMATELY 95 tons. OF RIP-RAP WAS HAULED AND PLACED.
APPROXIMATELY 968 tons. OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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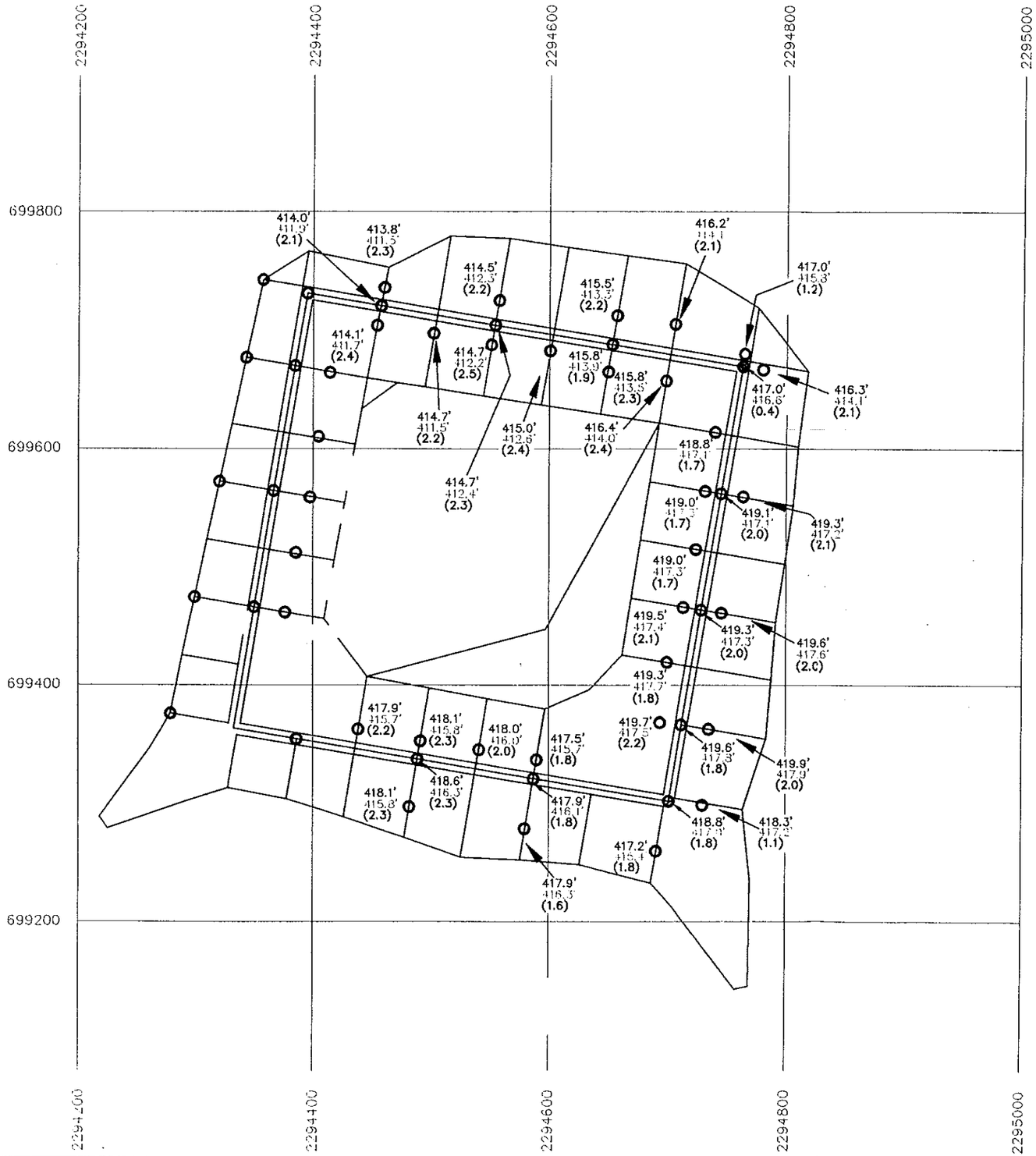

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CHECKED BY: W.H.S.
SCALE: 1" = 100'
DRAWING DATE: 07/11/01
SURVEY DATE: 07/11/01
CLIENT FILE: 01-500
DRAWING FILE: SOLIFT22
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: RAIN, WARM HIGH 84 F.

DATE: 7/12/2001

S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

CONTRACTOR CALLED ALL CONSTRUCTION WORK OFF BECAUSE OF HEAVY RAINFALL.

REVIEW OF ALL CONFORMANCE AND QC DOCUMENTATION FOR THE GEOSYNTHETICS WAS CARRIED OUT, RESULTS AND SUMMARY SHEETS WILL BE SENT TO GARY WANTLAND FOR REVIEW.

APPROXIMATELY 176 tons. OF MEREMAC GRAVEL WAS DELIVERED TO SITE BEFORE THE TRUCKS WERE CUT OFF FOR THE DAY.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, WARM, HIGH 84 F.

DATE: 7/13/2001

S M T W T (F) S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

LMS COMPLETED PLACING LIFT # 24 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-204 & B-205 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 24 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-206 & B-607 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 23 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-208, B-209 & B-210 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS.

LMS COMPLETED HAULING RIP-RAP INTO THE CELL AND CONTINUED TO HAUL MEREMAC GRAVEL

SURVEYOR ON SITE TO STAKE AND VERIFY GRADES ON THE RIP-RAP, MEREMAC GRAVEL AND BERM ELEVATIONS.

EQUIPMENT USED: D6LGP CAT DOZER, D5 LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, INGERSOLL RAND SD100 ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRUCK AND 18 DUMP TRUCKS.

BORROW SITE : 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 1,096 c.y. OF MATERIAL WAS HAULED AND PLACED.
APPROXIMATELY 79 tons. OF RIP-RAP WAS HAULED AND PLACED.
APPROXIMATELY 924 tons. OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER:	013-9659	PROJECT TITLE:	SOLUTIA/ QA/ SAUGET
OWNER:	SOLUTIA	CONTRACTOR:	LMS
LOCATION:	TSCA CELL, CAHOKIA	WEATHER:	SUNNY, WARM, HIGH 86 F.

DATE: 7/14/2001 S M T W T F (S)

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

LMS WAS AGAIN APPROACHED ABOUT THE NECESSITY OF KEEPING THE CELL FREE OF STANDING WATER, AND THE LETTER DATED JUNE 27, 2001 FROM JACK LONG WAS REFERENCED, A COPY ATTACHED. TERRY STATED THAT HE DID NOT KNOW ABOUT THE LETTER A COPY WAS GIVEN TO TERRY. TERRY STATED THAT THE 2 INCH PUMP THAT WAS PREVIOUSLY INSTALLED WOULD BE PUT BACK IN THE SUMP AREA AND THE STANDING WATER REMOVED.

LMS CONTINUED TO HAUL MEREMAC GRAVEL INTO THE CELL.

SURVEYOR ON SITE TO VERIFY FINAL GRADES AND ELEVATIONS ON THE BERMS, RIP-RAP AND MEREMAC GRAVEL.

LMS COMPLETED PLACING LIFT # 25 ON THE SOUTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-211 & B-212 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 33 ON THE EAST BERM, NUCLEAR DENSITY TEST NUMBER'S B-213, B-214 & B-215 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. LMS COMPLETED PLACING LIFT # 22 ON THE NORTH BERM, NUCLEAR DENSITY TEST NUMBER'S B-216 & B-217 WERE TAKEN, BOTH PASSED SITE SPECIFICATIONS.

LMS STARTED FINAL GRADING OF THE BERMS TO GRADE, AND GRADING THE MEREMAC GRAVEL TO GRADE IN THE CELL FLOOR.

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, 563 CAT SHEEP'S FOOT ROLLER, INGERSOLL RAND SD100 ROLLER, JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER, 12 TANDEM DUMP TRUCKS AND 22 TRACTOR TRAILER DUMP TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 920 c.y. OF MATERIAL WAS HAULED AND PLACED.

APPROXIMATELY 2,618 tons. OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

LMS Environmental Contracting, Inc.
6515 West 500 North
Madison, IN 47250

Phone: 812-273-5740
Fax: 812-273-1651

LETTER OF TRANSMITTAL

DATE: June 27, 2001	JOB NO.: 01-016ENV
ATTENTION: John Fiore	
SUBJECT: Solutia Sauget TSCA AREA 1 LANDFILL	
Construction Problem/Resolution Issue 2	

TO: **Maverick Construction Management Services, Inc.**

WE ARE SENDING YOU:

- [ ] Attached
- [ ] Under separate cover via _____ the following items:
- [ ] Shop drawings
- [ ] Prints
- [ ] Plans
- [ ] Samples
- [ ] Specification
- [ ] Copy of letter
- [ ] Change order
- [x] Construction Problem/Resolution Issue 2 Response

COPIES	DATE	NO.	DESCRIPTION
1	6/27/01		Construction Problem/Resolution Issue 2 Response

THESE ARE TRANSMITTED as checked below:

- [ ] For approval
- [x] For your use
- [ ] As requested
- [ ] For review and comment
- [ ] Approved as submitted
- [ ] Approved as noted
- [ ] Returned for corrections
- [ ] Resubmit _____ copies for approval
- [ ] Submit _____ copies for distribution
- [ ] Return _____ corrected prints
- [ ] FOR BIDS DUE _____ 19 _____

PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

RECEIVED
JUN 27 2001
MAVERICK

COPY TO Home Office, File

SIGNED: _____

If enclosures are not as noted, kindly notify us at once.

LMS

ENVIRONMENTAL CONTRACTING, INC
6515 WEST 500 NORTH
MADISON, INDIANA 47250

June 27, 2001

Maverick Construction
Management Service
Attn: Mr. John Fiore
Construction Manager
#15 Judith Lane
Cahokia, IL 62206

RE: Job #01-016ENV
Solutia, Cahokia
TSCA Landfill

Dear John:

In reference to your construction problem/resolution form dated Tuesday, June 26, 2001, issue 2.

Final Results of any response:

As of Tuesday, June 26, 2001 the pumping equipment will be manned 24 hours a day 7 days per week until installation of liner is complete.

Measures taken to prevent a similar situation from occurring in the future:

After liner installation is completed the pumping equipment will be manned on an as needed basis to control storm water.

Respectfully,

Jack Long

Jack Long
Job Superintendent

C: Home Office
File

PHONE: 812-273-5740 FAX: 812-273-1651

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 7/20/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES, INC. AND TAYLOR GEOSYNTHETICS, INC.

SUMMARY OF CONSTRUCTION PROGRESS:

COMPLETED PLACING RIP-RAP IN THE CELL . CONTRACTOR STARTED TO PLACE AND GRADE THE MEREMAC GRAVEL IN THE CELL FLOOR FOR THE CAPILLARY BREAK LAYER. CONTRACTOR STARTED TO FINAL GRADE SLOPES AND THE TOP OF THE BERMS.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 7/20/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR ON SITE THE WHOLE WEEK. SURVEYOR CERTIFIED SUBGRADE, TOP OF RIP-RAP AND STARTED TO CERTIFY TOP OF THE MEREMAC GRAVEL IN THE CAPILLARY BREAK LAYER. SURVEYOR ALSO STAKED FINAL GRADES ON THE BERMS.

SUMMARY OF PROBLEMS AND RESOLUTIONS:

STANDING WATER IN THE CELL, DUE TO HEAVY RAINFALL THROUGH OUT THE WEEK, AGAIN BECAME A ISSUE. CONTRACTOR INSTALLED A SUBMERSIBLE PUMP IN THE CAPILLARY BREAK LAYER COLLECTION PIPE AND WILL CONTINUOUSLY MONITOR THE WATER LEVEL SO THAT THE LEVEL OF THE WATER IN THE CELL STAYS IN OR BELOW THE RIP-RAP IN THE CELL FLOOR.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

A PRE-CONSTRUCTION MEETING FOR THE GEOSYNTHETICS INSTALLATION WAS HELD ON SITE. SEE AGENDA AND MINUTES, COPY ATTACHED.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

Geosynthetics Pre-Construction Meeting Minutes

Solutia – Sauget Area 1 Cell Construction

Date and Time: 7/18/01, 1:00 pm
Location: Maverick Site Trailer
Attendance: John Fiore, Maverick (Construction Manager)
Kevin Turner, USEPA
Rob Watson, IEPA via conference call
Sandy Braun, IEPA via conference call
Richard Siemaszkiewicz, Golder (CQA Consultant)
Don Grahlherr, URS (Designer)
Lee Taylor, Taylor (Geosynthetics Installer)
Jack Long, LMS (Contractor)
Terry Woodfin, LMS (Contractor)
Walt Stell, Environmental Precision (Surveyor)
Art Currier, Tetra Tech (EPA Oversight)
Melisa Daumen, Patriot (QC - Soils)
Les Dunn, Patriot (QC – Soils and Geosynthetics)

Discussion Notes:

- The meeting agenda (attached) was generally followed.
- Don Grahlherr assigned to be minute taker.
- Individuals introduced themselves and their function on the project.
- Project documents have been previously distributed to all parties in attendance. The geosynthetics panel layout has been received from Taylor, approved and distributed – note that it may have to be modified as actual conditions are encountered - which is typical.
- Golder will submit a daily field report to Maverick. Patriot will submit a daily field report to Golder. Golder and URS will review and submit to Maverick.
- A weekly progress meeting will be held each Wednesday at 10:00 am at the Maverick Site Trailer. All present were invited to attend.
- Design clarification and changes during construction will be made as previously done by LMS. The protocol involves use of a standard Request for Information (RFI) form submitted to Maverick. Maverick will forward to parties of concern. In the event that a Design Change is required, USEPA and IEPA will be informed.

Geosynthetics Pre-Construction Meeting Minutes

Solutia – Sauget Area 1 Cell Construction

- Site tour was not taken due to current rainfall. All present at meeting have recently toured the site. Site is nearly prepared for geosynthetics installation (couple more days work).

- Rob Watson will visit the site during placement of GCL and requested to be notified 2 days in advance. Contractors estimate "best case" schedule will be 7/25/01, but will likely be a few days after that due to weather.

- John Fiore stated that safety would start at the loading and handling of material rolls at the storage area. Note that there will be safety concerns due to narrow (10 ft) berm crests on the North, East and West berms. Taylor indicated that they would do most deployment of materials from the South berm where the crest width has been widened to 25 ft. Taylor indicated that they will be primarily using the spreader bar method of deployment to minimize use of the stinger bar.

- Taylor's deployment crew will have about 10 laborers from the local Labor Hall. All workers will be 40-hr trained. Taylor will brief the workers on the proper procedures of liner deployment and working on and around these materials. A daily tailgate safety meeting will be held to discuss safety concerns and each day's activities.

- Maverick's Health and Safety Officer will meet with new employees and provide site-specific guidelines, rules, etc.

- Taylor foresees a 9.5 hr/day, 6-days/wk-work schedule. Estimated total time to install geosynthetics is 4 to 5 weeks.

- Richard Siemaszkiewicz stated that all geosynthetic materials are on site and conformance testing is completed. Any partially used rolls (especially GCL) will be protected against the elements.

- John Fiore indicated that Maverick will share site facilities but requested that LMS provide one more portable toilet near the cell area with a hand-washing unit.

- Richard Siemaszkiewicz noted that all GCL placed daily will be covered by the Secondary liner and overlapped at least two feet on that day.

- Richard Siemaszkiewicz and John Fiore expressed concern of operation of D-6 LGP dozer on 6-inch soil layer over geotextile. Specifically, tight turning should not be allowed. John noted that the grouser height on that machine is in excess of 4 inches, therefore has the potential to penetrate the 6-inch tracked in soil. Terry indicated that they would be using pushing a 9-inch loose lift with this dozer. Richard Siemaszkiewicz indicated that QC and QA would continuously observe this operation.

Geosynthetics Pre-Construction Meeting Minutes

Solutia – Sauget Area 1 Cell Construction

- Walt Stell indicated that he would be on site full time throughout geosynthetic installation. John Fiore indicated that he will require prepared plan for subgrade approval and will expect appropriate QC documentation for the surveying before any liner placement.

- Richard Siemaszkiewicz indicated that no equipment would be allowed to traffic on the liner surface. Rub sheets will be required beneath all equipment placed on the liner. Lee Taylor stated that all of their generators are rubber-tired.

- John Fiore stated that it is a requirement that a pump be installed and operated to maintain the water level in the capillary layer below or within the capillary break layer. Standing water on or under the liner is unacceptable. A surface pump will also be required to handle water falling on the liner during installation. LMS and Taylor will coordinate this effort.

- Melissa Daumen stated that she will be QC for the 6" tracked in soil and will likely be QC for the 12" tracked in soil as well. Les Dunn will be QC for the geosynthetics installation and possibly the 12" soil layer. John Fiore asked if Les had experience in soil QC – Les stated that he had over 16 yrs experience.

- Richard Siemaszkiewicz discussed geosynthetics QA as follows:

    a) Golder will use yellow Meanstreak markers and Taylor will use a white marking system for identifying information on the liner;
    b) Taylor will be responsible for maintaining identification on each roll of geomembrane. Every panel deployed will require proper roll identification, traceable back to the resin lot;
    c) Taylor will write, with a permanent marker, all pertinent information on trial seams, repairs, seam tests and at the start of seam, prior to seaming (i.e. workers initials, date, time, machine number, speed, temperature, and test results);
    d) Taylor and Golder will maintain the same panel, seam, defect, repair and sample designations as assigned in the field by Golder;
    e) Taylor should remove destructive samples on a daily basis to provide approved areas for placement of additional components as directed by Golder;
    f) LMS will construct diversion berms and silt fences as needed to protect construction in the cell;
    g) LMS will be responsible for siltation prior to placement of the geomembrane, and to ensure the subgrade is maintained or restored to the approved condition if damaged; and
    h) Following the placement of the geomembrane, LMS and Taylor will coordinate siltation clean-up activities and de-watering activities in the

most efficient and expeditious manner, therefore, communication is of the utmost importance.

- Rob Watson indicated his concern with wrinkles on the secondary liner above the GCL (intimate contact issue). Lee Taylor, John Fiore, Richard Siemaszkiewicz, Don Grahlherr, and Jack Long agreed that the best way to limit the effects of wrinkles is to "trap" them as many small wrinkles rather than a few larges wrinkles. Trapping by "rolling" soil over the liner rather than pushing. Jack also indicated that laborer's may stand on the wrinkles as soil is placed to evenly distribute them. On slopes, Richard Siemaszkiewicz indicated (and Lee Taylor agreed) that to reduce large wrinkles at the toe, sandbags would be placed at the toe and the liner must be adequately anchored at the trench location during construction.

- Rob Watson asked if a double layer of GCl would be installed in the sump area. Richard Siemaszkiewicz indicated that the specifications state that an extra layer will be installed in the sump bottom.

- John Fiore indicated that Taylor needed to submit 40-hour training documents for his workers. Richard Siemaszkiewicz added that if personnel changed, resumes would be required.

- Rob Watson asked if the additional internal shear strength testing is being performed. Richard Siemaszkiewicz stated that it is underway and results should be available by Monday 7/23/01. The results will be forwarded to Gary Wantland of URS for review. After his review, Maverick will distribute the results to IEPA.

- The first Weekly Progress Meeting will be held Wednesday 7/25/01 at 10:00 am at the Maverick Site Trailer.

- With no further discussion requested, the meeting was ended at approximately 2:30 pm.

c.c. All in attendance.
Mike Light (Solutia).
Bruce Yore (Solutia).
Gary Wantland (URS).
Mark Sandfort (Golder).

EXHIBIT 1-2

PRE-CONSTRUCTION MEETING AGENDA

SAUGET AREA 1
SOLUTIA INC.
CAHOKIA, ILLINOIS

1. Introductions
   A. Assign Minute Taker
   B. Identify Parties
      1. Construction Manager
      2. Construction Contractor
      3. Geosynthetic Construction Quality Assurance Consultant
      4. Installer
      5. Designer
      6. Solutia Representative
2. Distribution of Documents
   A. Construction Plans and Specifications
   B. Geosynthetic Panel Layout
   C. Geosynthetic Construction Quality Assurance Manual
3. Lines of Communication
   A. Reporting Methods
   B. Progress Meetings
   C. Procedures for Approving Design Clarifications and Changes During Construction
4. Tour Project Site
5. Site Requirements
   A. Safety Rules
   B. Site Rules
   C. Work Schedule
   D. Storage of Materials
   E. Available Facilities

EXHIBIT 1-2

PRE-CONSTRUCTION MEETING AGENDA

SAUGET AREA 1
SOLUTIA INC.
CAHOKIA, ILLINOIS
(Continued)

6. Construction Issues
   A. Scope of Work
   B. Review Plans and Specifications
      1. Design and Construction Requirements
      2. Geosynthetic Panel Layout
   C. Review Construction Procedures
      1. Proposed Construction Sequencing
      2. Equipment
   D. Review Construction Schedule
   E. Review Procedures for Preparing and Approving Change Orders
7. Discuss Construction Quality Assurance Plan
   A. Soils
   B. Geosynthetics
   C. Structural Systems (e.g., risers, piping, etc.)
8. Project Deliverables
   A. Responsibilities
      1. Construction Manager
      2. Designer
      3. Installer
      4. Geosynthetic Construction Quality Assurance Consultant
   B. Distribution of Deliverables
   C. Approval Procedures

FIELD MONITORING REPORT

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HUMID, HIGH 92 F.

DATE: 7/16/2001 S(M)T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO GRADE MEREMAC GRAVEL AND THE BERMS TO FINAL GRADE. SURVEYOR ON SITE TO CERTIFY ELEVATIONS MEET SITE SPECIFICATIONS.

LMS BROUGHT THE D5C CAT DOZER FROM THE BORROW SITE TO USE IN THE GRADING OF THE BERMS, NO SOIL MATERIAL WAS HAULED.

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, D5C CAT DOZER, 815 CAT COMPACTOR, AND A JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER.

APPROXIMATELY 158 tons OF RIP-RAP WAS HAULED AND PLACED.
APPROXIMATELY 44 tons OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HUMID, HIGH 92 F.

DATE: 7/17/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, URS, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC..

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO GRADE MEREMAC GRAVEL AND THE BERMS TO FINAL GRADE. SURVEYOR ON SITE TO CERTIFY ELEVATIONS MEET SITE SPECIFICATIONS.

NO SOIL MATERIAL WAS HAULED.

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, D5C CAT DOZER, 815 CAT COMPACTOR, INGERSOLL RAND SD100 ROLLER, AND A JOHN DEERE TRACTOR PULLING 2,100 GAL. WATER TRAILER.

APPROXIMATELY 44 tons OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SITE MEETING HELD, IN ATTENDANCE: GARY WANTLAND, DON GRAHLHEER, MARK SANDFORT AND CHARD SIEMASZKIEWICZ. THE GEOSYNTHETICS PRE-CONSTRUCTION MEETING AGENDA WAS DISCUSSED, AS WELL AS OUTSTANDING RFI ISSUES.

ANOTHER SAMPLE OF THE GCL WAS TAKEN AND SENT TO TRI LABORATORIES IN AUSTIN, TEXAS FOR INTERNAL SHEAR TESTING.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: RAIN, HUMID, HIGH 88 F.

DATE: 7/18/2001

S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES INC. AND TAYLOR GEOSYNTHETICS, INC.

THE FOLLOWING WAS NOTED:

0.8" OF RAINFALL OVER NIGHT, LMS ONLY GRADING IN PLACE MEREMAC GRAVEL ON CELL FLOOR, NO OTHER CONSTRUCTION ACTIVITY.

RECEIVED RESPONSE FOR RFI # 8, 17 & 18 FROM GARY WANTLAND.

GEOSYNTHETICS PRE-CONSTRUCTION MEETING HELD ON SITE, SEE MINUTES ATTACHED.

HEAVY RAINFALL STARTED AROUND MIDDAY, NO MORE CONSTRUCTION WORK CARRIED OUT.

EQUIPMENT USED: D5LGP CAT DOZER.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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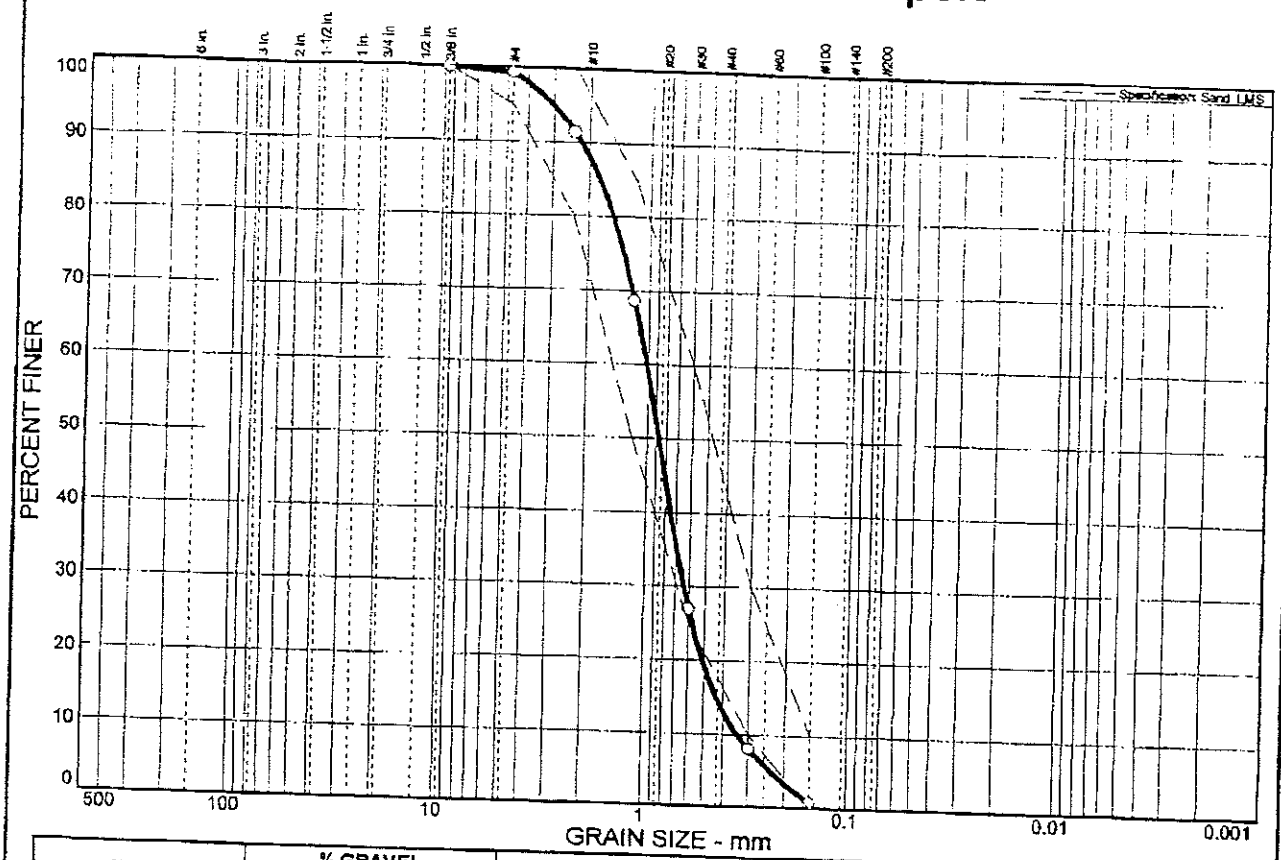
Particle Size Distribution Report



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.7	11.2	73.6		14.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0	100.0 - 100.0	
#4	99.3	95.0 - 100.0	
#8	91.4	80.0 - 100.0	
#16	68.7	50.0 - 85.0	
#30	27.0	25.0 - 60.0	
#50	8.1	10.0 - 30.0	X
#100	0.7	0.0 - 10.0	

* Sand LMS

Soil Description

sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 1.77 D_{60}= 1.02 D_{50}= 0.874
D_{30}= 0.635 D_{15}= 0.434 D_{10}= 0.341
C_u= 2.99 C_c= 1.16

Classification

USCS= AASHTO=

Remarks

ASTM C-33

Sample No.: GR-003 **Source of Sample:** sauget area 1 **Date:** 7-11-01
Location: Off-site material **Elev./Depth:**

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project No: 501-223 **Plate**

GRAIN SIZE DISTRIBUTION TEST DATA

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project Number: 501-223

Sample Data

Source: sauget area 1
Sample No.: GR-003
Elev. or Depth:
Location: Off-site material
Description: sand
Date: 7-11-01 **PL:**
USCS Classification:
Testing Remarks: ASTM C-33

Sample Length (in./cm.):

LL: **PI:**
AASHTO Classification:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	2000.00	2000.00
Tare =	0.00	0.00
Dry sample weight =	2000.00	2000.00
Minus #200 from wash=	0.0 %	

Sample split on inch **sieve**
Split sample data:
Sample and tare = Tare = Sample weight = .00
Cumulative weight retained tare=
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer	Specification Limits, percent	Deviation, percent
.375 inch	0.00	100.0	100.0 to 100.0	
# 4	14.80	99.3	95.0 to 100.0	
# 8	172.40	91.4	80.0 to 100.0	
# 16	626.50	68.7	50.0 to 85.0	
# 30	1460.40	27.0	25.0 to 60.0	
# 50	1837.90	8.1	10.0 to 30.0	- 1.9
# 100	1985.70	0.7	0.0 to 10.0	

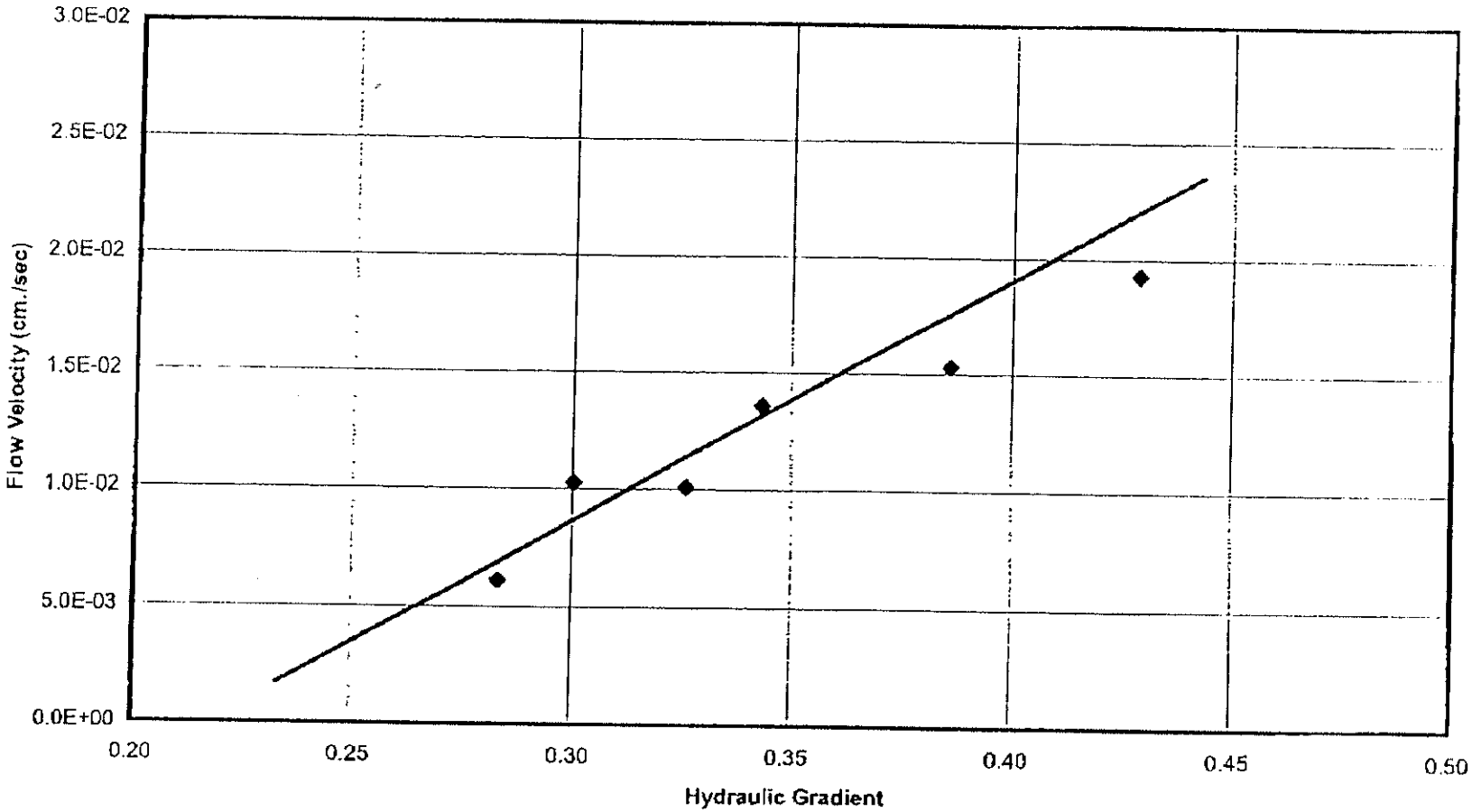
Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% + 3" = **% GRAVEL =** 0.7 **(% coarse = % fine =** 0.7)
% SAND = **(% coarse =** 11.2 **% medium =** 73.6 **% fine =**)

D_{85}= 1.77 D_{60}= 1.02 D_{50}= 0.87
D_{30}= 0.64 D_{15}= 0.43 D_{10}= 0.34
C_c= 1.1624 C_u= 2.9861

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Sauget Area I Landfill, Patriot Proj. No. 5-01-223
Sand Drainage Media, S-123
7-18-01
Flow Velocity vs. Hydraulic Gradient



PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Permeability of Granular Soils (Constant Head)

ASTM D 2434

☐ Original ☐ Amended

Project Name:	Sauget Area I Landfill	**Client:**	LMS Contracting
Project Number:	5-01-223	**Client Address:**	
Date Received:	07/16/2001	**Tested By:**	AM/BG
Date Tested:	07/16/2001	**Preparation:**	Placed in 8 equal layers
Sample Number:	S-123		
Description:	SP, Poorly graded SAND		

SAMPLE UNIT WEIGHT DETERMINATION

Diameter:	10.115	cm.	Wt. of Soil & Mold:	3254.4	g	Moisture Content (air-dried):	0.2	%
Area:	80.358	cm.^{2}	Wt. of Mold:	1695.4	g	Dry Unit Weight:	103.7	pcf
Length:	11.654	cm.	Wt. of Soil:	1559.0	g	Void Ratio:	0.63	
W (max):	106.8	pcf	W (min):	98.4	pcf	Relative Density:	97.1	%

RESERVOIR AREA

Inside diameter of reservoir cylinder:	10.11	cm.
Outside diameter of bubble tube:	0.94	cm.
Cross-sectional area of reservoir:	79.58	cm.^{2}
Height from top of sample to top of bucket:	2.8	cm.
Type of water used for test:	deaired tap water	

$$k = \frac{Q * L}{A * t * h} = \frac{\Delta \text{ Reservoir Level} * \text{Reservoir Area} * \text{Sample Length}}{\text{Sample Area} * \text{Elapsed Time} * \text{Head}}$$

TEST DATA

Test No.	Reservoir Level Initial (cm.)	Reservoir Level Final (cm.)	Volume Q (cm.^{3})	Head h (cm.)	Time (sec.)	Flow Vel. Q/At cm./sec.	Gradient h/L	Temp. (°C)	Permeability k cm/sec.	k @ 20°C cm/sec.
1	59.3	6.4	4210.0	3.3	6516	6.2E-03	0.28	21.5	2.2E-02	2.1E-02
2	59.6	6.2	4249.7	3.5	5145	1.0E-02	0.30	22.0	3.4E-02	3.3E-02
3	59.6	6.8	4202.0	3.8	5178	1.0E-02	0.33	22.5	3.1E-02	2.9E-02
4	59.6	6.9	4194.0	4.0	3830	1.4E-02	0.34	23.0	4.0E-02	3.7E-02
5	59.7	7.4	4162.2	4.5	3380	1.5E-02	0.39	22.5	4.0E-02	3.7E-02
6	59.1	7.9	4074.7	5.0	2625	1.9E-02	0.43	23.0	4.5E-02	4.2E-02

Average Permeability Coefficient (k) at 20°C: 3.0E-02 cm/sec.

Geosynthetics Pre-Construction Meeting Minutes

Solutia – Sauget Area 1 Cell Construction

Date and Time: 7/18/01, 1:00 pm
Location: Maverick Site Trailer
Attendance: John Fiore, Maverick (Construction Manager)
Kevin Turner, USEPA
Rob Watson, IEPA via conference call
Sandy Braun, IEPA via conference call
Richard Siemaszkiewicz, Golder (CQA Consultant)
Don Grahlherr, URS (Designer)
Lee Taylor, Taylor (Geosynthetics Installer)
Jack Long, LMS (Contractor)
Terry Woodfin, LMS (Contractor)
Walt Stell, Environmental Precision (Surveyor)
Art Currier, Tetra Tech (EPA Oversight)
Melisa Daumen, Patiot (QC - Soils)
Les Dunn, Patriot (QC – Soils and Geosynthetics)

Discussion Notes:

- The meeting agenda (attached) was generally followed.
- Don Grahlherr assigned to be minute taker.
- Individuals introduced themselves and their function on the project.
- Project documents have been previously distributed to all parties in attendance. The geosynthetics panel layout has been received from Taylor, approved and distributed – note that it may have to be modified as actual conditions are encountered - which is typical.
- Golder will submit a daily field report to Maverick. Patriot will submit a daily field report to Golder. Golder and URS will review and submit to Maverick.
- A weekly progress meeting will be held each Wednesday at 10:00 am at the Maverick Site Trailer. All present were invited to attend.
- Design clarification and changes during construction will be made as previously done by LMS. The protocol involves use of a standard Request for Information (RFI) form submitted to Maverick. Maverick will forward to parties of concern. In the event that a Design Change is required, USEPA and IEPA will be involved.

Geosynthetics Pre-Construction Meeting Minutes

Solutia – Sauget Area 1 Cell Construction

- Site tour was not taken due to current rainfall. All present at meeting have recently toured the site. Site is nearly prepared for geosynthetics installation (couple more days work).

- Rob Watson will visit the site during placement of GCL and requested to be notified 2 days in advance. Contractors estimate "best case" schedule will be 7/25/01, but will likely be a few days after that due to weather.

- John Fiore stated that safety will start at the loading and handling of material rolls at the storage area. Note that there will be safety concerns due to narrow (10 ft) berm crests on the North, East and West berms. Taylor indicated that they will do most deployment of materials from the South berm where the crest width has been widened to 25 ft. Taylor indicated that they will be primarily using the spreader bar method of deployment to minimize use of the stinger bar.

- Taylor's deployment crew will have about 10 laborers from the local Labor Hall. All workers will be 40-hr trained. Taylor will brief the workers on the proper procedures of liner deployment and working on and around these materials. A daily tailgate safety meeting will be held to discuss safety concerns and each day's activities.

- Maverick's Health and Safety Officer will meet with new employees and provide site specific guidelines, rules, etc.

- Taylor foresees a 9.5 hr/day, 6 days/wk work schedule. Estimated total time to install geosynthetics is 4 to 5 weeks.

- Richard Siemaszkiewicz stated that all geosynthetic materials are on site and conformance testing is completed. Any partially used rolls (especially GCL) will be protected against the elements.

- John Fiore indicated that Maverick will share site facilities but requested that LMS provide one more portable toilet near the cell area with a hand washing unit.

- Richard Siemaszkiewicz noted that all GCL placed daily will be covered by the Secondary liner and overlapped at least two feet on that day.

- Richard Siemaszkiewicz and John Fiore expressed concern of operation of D-6 LGP dozer on 6 inch soil layer over geotextile. Specifically, tight turning should not be allowed. John noted that the grouser height on that machine is in excess of 4 inches, therefore has the potential to penetrate the 6 inch tracked in soil. Terry indicated that they would be using pushing a 9-inch loose lift with this dozer. Richard Siemaszkiewicz indicated that QC and QA will continuously observe this operation.

Geosynthetics Pre-Construction Meeting Minutes

Solutia – Sauget Area 1 Cell Construction

- Walt Stell indicated that he would be on site full time throughout geosynthetic installation. John Fiore indicated that he will require prepared plan for subgrade approval and will expect appropriate QC documentation for the surveying.

- Richard Siemaszkiewicz indicated that no equipment will be allowed to traffic on the liner surface. Rub sheets will be required beneath all equipment placed on the liner. Lee Taylor stated that all of their generators are rubber-tired.

- John Fiore stated that it is a requirement that a pump be installed and operated to maintain the water level in the capillary layer below or within the capillary break layer. Floating of the liner is unacceptable. A surface pump will also be required to handle water falling on the liner during installation. LMS and Taylor will coordinate this effort.

- Melissa Daumen stated that she will be QC for the 6" tracked in soil and will likely be QC for the 12" tracked in soil as well. Les Dunn will be QC for the geosynthetics installation and possibly the 12" soil layer. John Fiore asked if Les had experience in soil QC – Les stated that he had over 16 yrs experience.

- Richard Siemaszkiewicz discussed geosynthetics QA as follows:

    a) Golder will use yellow Meanstreak markers and Taylor will use a white marking system for identifying information on the liner;
    b) Taylor will be responsible for maintaining identification on each roll of geomembrane. Every panel deployed will require proper roll identification, traceable back to the resin lot;
    c) Taylor will write, with a permanent marker, all pertinent information on trial seams, repairs, seam tests and at the start of seam, prior to seaming (i.e. workers initials, date, time, machine number, speed, temperature, and test results);
    d) Taylor and Golder will maintain the same panel, seam, defect, repair and sample designations as assigned in the field by Golder;
    e) Taylor should remove destructive samples on a daily basis to provide approved areas for placement of additional components as directed by Golder;
    f) LMS will construct diversion berms and silt fences as needed to protect construction in the cell;
    g) LMS will be responsible for siltation prior to placement of the geomembrane, and to ensure the subgrade is maintained or restored to the approved condition if damaged; and
    h) Following the placement of the geomembrane, LMS and Taylor will coordinate siltation clean-up activities and de-watering activities in the

most efficient and expeditious manner, therefore, communication is of the utmost importance.

- Rob Watson indicated his concern with wrinkles on the secondary liner above the GCL (intimate contact issue). Lee Taylor, John Fiore, Richard Siemaszkiewicz, Don Grahlherr, and Jack Long agreed that the best way to limit the effects of wrinkles is to "trap" them as many small wrinkles rather than a few larges wrinkles. Trapping by "rolling" soil over the liner rather than pushing. Jack also indicated that laborer's may stand on the wrinkles as soil is placed to evenly distribute them. On slopes, Richard Siemaszkiewicz indicated (and Lee Taylor agreed) that to reduce large wrinkles at the toe, sandbags would be placed at the toe and the liner must be adequately anchored at the trench location during construction.

- Rob Watson asked if a double layer of GCl would be installed in the sump area. Richard Siemaszkiewicz indicated that the specifications state that an extra layer will be installed in the sump bottom.

- John Fiore indicated that Taylor needed to submit 40-hour training documents for his workers. Richard Siemaszkiewicz added that if personnel changed, resumes would be required.

- Rob Watson asked if the additional internal shear strength testing is being performed. Richard Siemaszkiewicz stated that it is underway and results should be available by Monday 7/23/01. The results will be forwarded to Gary Wantland of URS for review. After his review, Maverick will distribute the results to IEPA.

- The first Weekly Progress Meeting will be held Wednesday 7/25/01 at 10:00 am at the Maverick Site Trailer.

- With no further discussion requested, the meeting was ended at approximately 2:30 pm.

c.c. All in attendance -
Solutia?.

EXHIBIT 1-2

PRE-CONSTRUCTION MEETING AGENDA

SAUGET AREA 1
SOLUTIA INC.
CAHOKIA, ILLINOIS

1. Introductions
   - A. Assign Minute Taker
   - B. Identify Parties
     1. Construction Manager
     2. Construction Contractor
     3. Geosynthetic Construction Quality Assurance Consultant
     4. Installer
     5. Designer
     6. Solutia Representative
2. Distribution of Documents
   - A. Construction Plans and Specifications
   - B. Geosynthetic Panel Layout
   - C. Geosynthetic Construction Quality Assurance Manual
3. Lines of Communication
   - A. Reporting Methods
   - B. Progress Meetings
   - C. Procedures for Approving Design Clarifications and Changes During Construction
4. Tour Project Site
5. Site Requirements
   - A. Safety Rules
   - B. Site Rules
   - C. Work Schedule
   - D. Storage of Materials
   - E. Available Facilities

EXHIBIT 1-2

PRE-CONSTRUCTION MEETING AGENDA

SAUGET AREA 1
SOLUTIA INC.
CAHOKIA, ILLINOIS
(Continued)

6. Construction Issues
   A. Scope of Work
   B. Review Plans and Specifications
      1. Design and Construction Requirements
      2. Geosynthetic Panel Layout
   C. Review Construction Procedures
      1. Proposed Construction Sequencing
      2. Equipment
   D. Review Construction Schedule
   E. Review Procedures for Preparing and Approving Change Orders
7. Discuss Construction Quality Assurance Plan
   A. Soils
   B. Geosynthetics
   C. Structural Systems (e.g., risers, piping, etc.)
8. Project Deliverables
   A. Responsibilities
      1. Construction Manager
      2. Designer
      3. Installer
      4. Geosynthetic Construction Quality Assurance Consultant
   B. Distribution of Deliverables
   C. Approval Procedures

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: RAIN, HUMID HIGH 89 F.

DATE: 7/19/2001 **S M T W (T) F S**

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES INC. AND TAYLOR GEOSYNTHETICS, INC.

THE FOLLOWING WAS NOTED:

RAIN THROUGH OUT THE DAY, LMS NOT DOING ANY CONSTRUCTION UNTIL MONDAY. LMS WILL CONSTANTLY PUMP WATER FROM THE CELL UNTIL THE LINER HAS BEEN COMPLETELY INSTALLED. TO THIS EFFORT LMS HAS INSTALLED A SUBMERSIBLE PUMP IN THE CAPILLARY BREAK LAYER COLLECTION PIPE, WHICH WILL HOLD THE WATER BELOW OR IN THE CAPILLARY BREAK LAYER GRAVEL.

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

PAGE 1 OF 1

.ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: OVERCAST, HUMID, OCCASIONAL SHOWERS, HIGH 90 F.

DATE: 7/20/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS.

THE FOLLOWING WAS NOTED:

RECEIVED SIGNED AND STAMPED LETTER FROM THE PATRIOT CERTIFYING ENGINEER FOR THE WEEK OF 7-2-01 TO 7-7-01, ALONG WITH TYPED DAILY REPORTS AND LABORATORY TEST DATA FOR SAMPLES S-120 THROUGH S-122.

HEAVY RAINFALL OVER THE PAST TWO DAYS CONTRACTOR DOING NO CONSTRUCTION WORK. LABORERS ON SITE TO MAINTAIN PUMPING ACTIVITIES IN AND AROUND THE CELL.

RECEIVED A COPY OF AGGREGATE GRADATION REPORT FROM ALTHOFF MATERIALS. AS THESE TESTS HAVE BEEN RUN OF SITE BY AN UNKNOWN SOURCE, THE RESULTS ARE PURELY TO BE USED AS A REFERENCE. THESE RESULTS WILL NOT BE USED FOR ANY REQUIRED QC TESTING, ONLY TESTS RUN BY PATRIOT AND SIGNED OFF BY PATRIOTS CERTIFYING ENGINEER WILL BE ACCEPTED. A COPY OF THE REPORT ATTACHED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

AGGREGATE GRADATION REPORT

027FAM01 ALTHOFF MATERIALS 51630-07

	MIN					94	(76)		(27)	3	0		
	MAX		Type		100	100	(100)		(53)	29	10		(037FAM01)
	DATE	Test by	Test	W/D	3/8	4	8	16	30	50	100	-200	
1	PREVIOUS	AVERAGE			100	99	92	75	40	13	1	0.3	
1	120100	QC	PRO	W	100	99	88	67	35	13	1	0.3	034/SPLIT
1	120100	QA	IND	W	100	98	88	68	34	13	1	0.6	034/SPLIT
1	120600	QA	INV	W	100	99	91	70	37	14	0	0.1	
1	120600	QA	INV	W	100	100	96	83	51	17	1	0.2	
1	120800	QC	PRO	W	100	99	92	76	42	15	1	0.4	035/SPLIT
1	120800	QA	IND	W	100	99	92	75	40	14	1	0.4	035/SPLIT
1	010801	QA	INV	W	100	98	92	77	44	16	1	0.2	FROM QUALITY SAMPLE
1	010801	QA	INV	W	100	99	93	78	45	16	1	0.2	FROM QUALITY SAMPLE
1	011901	QA	INV	W	100	99	88	66	33	8	1	0.6	
1	011901	QA	INV	W	100	98	87	65	42	12	3	0.6	
1	020801	QA	INV	W	100	99	92	75	42	16	1	0.3	
1	020801	QA	INV	W	100	98	91	76	41	19	1	0.3	
1	021501	QA	INV	W	100	99	90	70	43	21	1	0.7	
1	021501	QA	INV	W	100	100	94	79	48	27	3	2.4	
1	022101	QA	INV	W	100	99	90	72	33	12	1	0.5	
1	022101	QA	INV	W	100	99	92	73	34	12	1	0.3	
1	022701	QA	INV	W	100	99	97	81	47	21	0	0.2	
1	022701	QA	INV	W	100	98	94	83	49	25	1	0.5	
1	031201	QC	PRO	W	100	99	89	69	33	10	1	0.4	036/SPLIT
1	031201	QA	IND	W	100	98	89	69	32	9	1	0.3	036/SPLIT
1	032201	QC	PRO	W	100	99	94	79	46	15	1	0.3	037/SPLIT
	032201	QA	IND	W	100	99	95	80	44	15	1	0.2	037/SPLIT
	032601	QA	INV	W	100	99	94	76	47	12	1	0.2	
1	040301	QA	INV	W	100	100	89	68	35	6	1	0.4	LAST OF A STKPLE
1	040401	QC	PRO	W	100	100	93	76	41	8	1	0.4	038/SPLIT NEW MATL
1	040401	QA	IND	W	100	99	94	75	37	7	1	0.2	038/SPLIT NEW MATL
1	040401	QA	INV	W	100	99	93	75	37	9	1	0.2	NEW MATERIAL
1	040401	QA	INV	W	100	99	93	74	36	8	0	0.1	NEW MATERIAL
1	040501	QC	PRO	W	100	100	94	77	40	11	1	0.2	039/SPLIT
1	040501	QA	IND	W	100	100	94	77	38	10	1	0.3	039/SPLIT
1	040601	QC	PRO	W	100	99	92	72	32	10	1	0.2	040/SPLIT
1	040601	QA	IND	W	100	99	93	72	32	10	1	0.3	040/SPLIT
1	041001	QC	PRO	W	100	99	95	80	43	14	1	0.3	041/SPLIT
1	041001	QA	IND	W	100	100	96	81	42	15	1	0.4	041/SPLIT
1	041801	QC	PRO	W	100	99	94	79	42	14	1	0.3	042/SPLIT
1	041801	QA	IND	W	100	100	95	78	39	12	1	0.2	042/SPLIT
1	042501	QC	PRO	W	100	100	95	78	42	13	1	0.3	043/SPLIT
1	042501	QA	IND	W	100	99	93	76	39	13	1	0.3	043/SPLIT
1	050201	QC	PRO	W	100	100	94	76	40	10	1	0.4	044/SPLIT
1	050201	QA	IND	W	100	99	94	76	39	9	1	0.5	044/SPLIT
1	050901	QC	PRO	W	100	99	95	79	44	15	1	0.3	045/SPLIT
1	050901	QA	IND	W	100	100	95	80	43	13	1	0.0	045/SPLIT
	XXXXXXXX	XXXXXX											
43	AVERAGE GRAD.		0	0	100	99	93	75	40	13	1	0.4	

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 7/28/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES, INC. AND TAYLOR GEOSYNTHETICS, INC.

SUMMARY OF CONSTRUCTION PROGRESS:

LMS COMPLETED PLACING MEREMAC GRAVEL, CAPILLARY BREAK LAYER, IN THE CELL. TAYLOR INSTALLED THE GEOTEXTILE LINER ON TOP OF THE GRAVEL. LMS COMPLETED PLACEMENT OF THE 6" TRACKED-IN- PLACE FILL AND STARTED TO FINAL GRADE. LMS PLACED AN EXTRA LIFT ON THE SOUTH EAST PORTION OF THE TOP OF THE BERM. THIS AREA WAS USED EXTENSIVELY AS A HAUL ROAD FOR MATERIAL COMING INTO THE CELL.

ALL MATERIAL BEING HAULED TO SITE IS FROM PRE-APPROVED BORROW SOURCES. THE MATERIALS DELIVERED TO SITE WERE VISUALLY INSPECTED PERIODICALLY TO ENSURE THAT THERE WAS NO MATERIAL CHANGES IN THE SOIL AND GRAVEL.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER.

NUCLEAR DENSITY TEST # B-218 WAS TAKEN ON THE EXTRA LIFT, THIS TEST PASSED THE SITE SPECIFICATIONS.

NUCLEAR DENSITY TESTS TIP-01 THROUGH TIP-06 WERE TAKEN ON THE 6" TRACKED-IN-PLACE FILL, THESE TESTS ALL PASSED THE SITE SPECIFICATIONS.

GOLDER CONTINUOUSLY MONITOR AND RECORDED PANEL PLACEMENT OF THE GEOTEXTILE LINER ON TOP OF THE CAPILLARY BREAK LAYER, AN AS-BUILT DRAWING WAS GENERATED AND IS ATTACHED TO THE 7/27/01 DAILY REPORT.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/QA/SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 7/28/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR WAS ON SITE CONTINUOUSLY FOR THE WHOLE WORK WEEK. SURVEYOR CERTIFIED TOP OF THE CAPILLARY BREAK LAYER THICKNESS ELEVATIONS, AN ELEVATION POINTS SHEET WAS GENERATED. SURVEYOR GENERATED AN AS-BUILT ON THE GEOTEXTILE LINER. THESE DRAWINGS ARE ATTACHED TO THE RELATIVE DAILY REPORTS. SURVEYOR STARTED TO CERTIFY TOP OF THE 6" TRACKED-IN-PLACE FILL.

SUMMARY OF PROBLEMS AND RESOLUTIONS:

HEAVY RAINFALL OVER THE PREVIOUS WEEKEND AND AT THE START OF THE WEEK SLOWED CONSTRUCTION. HOWEVER, DUE TO THE INSTALLED PUMP IN THE CAPILLARY BREAK LAYER RISER PIPE THERE WAS NO STANDING WATER IN THE CELL AND WORK WAS RESUMED ON WEDNESDAY.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

DUE TO THE RAINFALL NO WEEKLY MEETING WAS HELD. THIS MEETING WAS POSTPONED TILL NEXT WEDNESDAY.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HUMID, HOT, HIGH 98 F.

DATE: 7/23/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

AFTER HEAVY RAINFALL OVER THE PAST SEVERAL DAYS CONTRACTOR RE-WORKING THE BERM SLOPES AND SMOOTH DRUM ROLLING.

CONTRACTOR CONTINUED TO HAUL MEREMAC GRAVEL TO SITE AND FINAL GRADE.

SURVEYOR ON SITE TO VERIFY AND RECORD FINAL GRADES ON THE CAPILLARY BREAK LAYER, TOP OF MEREMAC GRAVEL.

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, D5C CAT DOZER, 563 CAT SHEEP'S FOOT ROLLER, INGERSOLL RAND SD100 ROLLER AND 2 TRACTOR TRAILERS.

APPROXIMATELY 110 tons OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: OVERCAST, OCCASIONAL RAIN, HIGH 88 F.

DATE: 7/24/2001

S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

DUE TO CONTINUES HEAVY RAINFALL, NO CONSTRUCTION BEING DONE BY THE CONTRACTOR. DE-WATERING OF THE CELL IS ON GOING, CONTRACTOR HAS LABORER ON SITE TO MAINTAIN THE PUMP.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: OVERCAST, HUMID, HIGH 92 F.

DATE: 7/25/2001

S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

DUE TO THE AMOUNT OF RAINFALL AND THE LACK OF CONSTRUCTION ACTIVITY, THE SCHEDULED WEEKLY GEOSYNTHETICS INSTALLATION PROGRESS MEETING WAS CANCELLED UNTIL NEXT WEDNESDAY, AUGUST 01, 2001.

CONTRACTOR HAULING MEREMAC GRAVEL FOR THE CAPILLARY BREAK LAYER AND FINAL GRADING. SURVEYOR ON SITE FULL TIME TO CERTIFY TOP OF GRAVEL.

EQUIPMENT USED: D5LGP CAT DOZER AND 6 TANDEM DUMP TRUCKS.

APPROXIMATELY 336 tons OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: CLOUDY, HUMID, HIGH 86 F.

DATE: 7/26/2001
S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES INC. AND TAYLOR GEOSYNTHETICS, INC.

THE FOLLOWING WAS NOTED:

CONTRACTOR COMPLETED PLACEMENT OF THE CAPILLARY BREAK LAYER, SURVEYOR CERTIFIED GRADES. RECEIVED TOP OF CAPILLARY BREAK LAYER ELEVATION DRAWING. A COPY ATTACHED.

TAYLOR GEOSYNTHETICS, INC. INSTALLED THE GEOTEXTILE LINER ON TOP OF THE MEREMAC GRAVEL, CAPILLARY BREAK LAYER. RECEIVED A COPY OF THE CALIBRATION CERTIFICATE FOR THE SITE TENSIOMETER FROM TAYLOR, A COPY ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 3 TANDEM DUMP TRUCKS.

APPROXIMATELY 176 tons OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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WEGENER

Proud Members of:

IAPD INTERNATIONAL ASSOCIATION OF PLASTICS DISTRIBUTORS PGI

DLFA

IAGI IFX Proud member

LOAD CELL CALIBRATION CERTIFICATE
WEGENER ULTITEST 500
SERIAL # 92035

Display Instrument:	Gentran GT434F	Serial #	***011440***
Load Cell:	T-Hydronics	Serial #	***040521***

WEGENER NORTH AMERICA INC. verifies the calibration of field testing equipment with an Omegadyne TC-S 0-500 lb Load Cell serial #088910 and a T-Hydronics Transducer Indicator serial #594 manufactured by Omegadyne Inc. (formerly T-Hydronics, Inc.) of Sunbury, Ohio. The transducer was compared to standards certified traceable to the National Institute of Standards and Technology, Washington, D.C. This certification is in reference to NIST test report #38130 B. The system calibration of the calibration load cell/indicator was completed on 07/17/98 (certificate available on request).

The calibration of WEGENER ULTITEST 500 Tensiometer Serial # 92035 was verified on 06/27/01 using the calibration load cell/indicator described above. The readings of the calibration set are recorded as "True Load." The readings of the instrument in question are recorded below as "Display Load."

True Load (lbs)	Display Load Run #1	Display Load Run #2	Display Load Run #3	Display Load Average
0.0	0.0	0.0	0.0	0.0
50.0	49.2	49.3	49.5	49.3
100.0	99.3	99.0	99.5	99.3
150.0	149.1	148.9	149.7	149.2
200.0	198.6	200.0	199.6	199.4
250.0	248.5	250.6	249.9	249.7
300.0	298.7	301.3	300.3	300.1
350.0	348.4	350.1	350.5	349.7
400.0	398.8	400.8	400.8	400.1
450.0	449.3	451.4	450.9	450.5
500.0	499.6	501.4	501.3	500.8

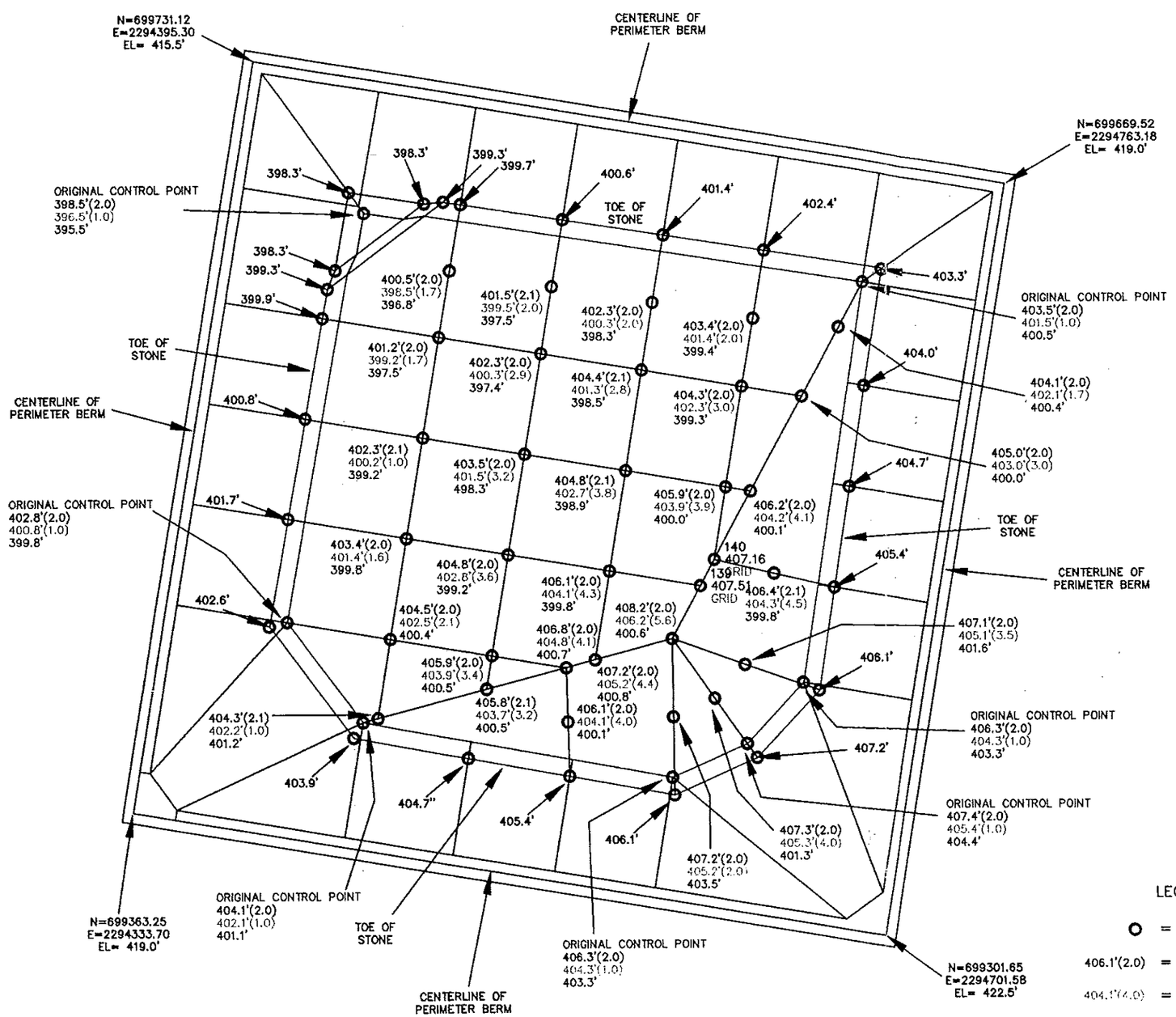
WEGENER NORTH AMERICA, INC.

Paul Karschkes
Service Dept

For all your thermoplastic welding and testing needs, contact:

WEGENER North America, Inc.
231 S. Frontage Road, Unit #12 • Burr Ridge, IL 60521 • ☎(630) 789-0990 • Fax: (630) 789-1380 • sales@wegener-na.com

ELEVATIONS FOR THE CAPILLARY LAYER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES
SOLIFT19	TOP OF LIFT 19 GRADES
SOLIFT22	TOP OF LIFT 22 GRADES
SOSTCERT	CAPILLARY AS-BUILT

LEGEND:

O = SHOT LOCATION

406.1'(2.0) = ELEVATION AT TOP OF STONE(THICKNESS OF STONE)

404.1'(4.0) = ELEVATION AT TOP OF RIP RAP(THICKNESS OF RIPRAP)

400.1' = ELEVATION AT SUBGRADE

405.4' = ELEVATION AT TOP OF STONE AT TOE

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

ELEVATIONS FOR THE CAPILLARY LAYER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 60'
DRAWING DATE: 07/25/01
SURVEY DATE: 07/25/01
CLIENT FILE: 01-500
DRAWING FILE: SOSTCERT
FLD. BK.: ELECTRONIC
PAGE(S):

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 7/26/2001 S M T W (T) F S

GEOSYNTHETIC DEPLOYMENT: OBSERVED DEPLOYMENT OF ALL GOETEXTILE ROLLS FOR THE CAPILLARY BREAK LAYER. ROLL NUMBER'S A524211A, A524075A,A524450A,A552524A, A524217A, A515853A, A524079A, A524437A, A524066A, A524038A, A524045A, A524139A, A524076A, A524145A, A524059A, A524060A, A524156A AND A5103524A WERE UTILITIZED IN THIS LINER

TRIAL SEAMING: N.A.

SEAMING: OBSERVED ALL SEWING OF PANEL SEAMS

NON-DESTRUCTIVE TESTING: N.A.

DESTRUCTIVE SAMPLING: N.A.

GENERAL REMARKS: N.A.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 7/26/2001
S M T W (T) F S
PAGE 1 OF 1

INSTALLER ON SITE: 7:00 AM
INSTALLER OFF SITE: 5:30 PM
INSTALLER'S CREW SIZE: 3 TECHNICIANS
NUMBER OF LABORERS: 8 LABORERS
OF OPERABLE FUSION WELDERS: NONE
OF OPERABLE EXTRUSION WELDERS: NONE

WEATHER

TEMPERATURE:
MORNING: 74 F.
AFTERNOON: 86 F.
EVENING: 84 F.
CLOUD COVER: CLOUDY
WIND: 0-5 MPH.
RAIN / SNOW: NONE

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT		
GEOMEMBRANE		
GEONET		
GEOTEXTILE 1	72,000 S.F.	72,000 S.F.
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

_____ THRU _____
_____ THRU _____

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: CLOUDY, HIGH 86 F.

DATE: 7/27/2001 S M T W T (F) S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES INC. AND TAYLOR GEOSYNTHETICS, INC.

THE FOLLOWING WAS NOTED:

LMS STARTED PLACING THE 6" TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER IN THE CELL FLOOR. INSTALLATION WAS ACHIEVED BY HAULING MATERIAL FROM THE APPROVED BORROW SOURCE USING TANDEM DUMP TRUCKS. THE MATERIAL WAS DUMPED AT THE SOUTH ACCESS RAMPS AND PUSHED NORTH ALONG THE CELL FLOOR WITH THE D5LGP & D6LGP CAT DOZERS.

LMS COMPLETED ADDITIONAL LIFT ON THE SOUTH EAST CORNER OF THE CELL ALONG THE TOP OF THE BERM. NUCLEAR DENSITY TEST # B-218 WAS TAKEN, THIS TEST PASSED SITE SPECIFICATIONS. A DRIVE TUBE SAMPLE (DT-005) WAS TAKEN AT THIS LOCATION, A COPY OF THE RESULTS IS ATTACHED.

AT THE COMPLETION OF THE DAYS WORK THE CELL FLOOR AREA WAS SMOOTH DRUM ROLLED.

SURVEYOR WAS ON SITE ALL DAY. RECEIVED AS-BUILT DRAWING OF THE GEOTEXTILE LINER, A COPY IS ATTACHED. ALSO, RECEIVED SURVEYORS QC DATA PRINTOUT, A COPY IS ATTACHED.

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, 815 CAT COMPACTOR, INGERSOLL RAND SD100 SMOOTH DRUM ROLLER AND 17 TANDEM DUMP TRUCKS.
BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 4,444 tons OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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PATRIOT ENGINEERING
and Environmental Co., LLC
4735 Poplar Level Road, Suite 1
Louisville, Kentucky 40213
(502) 961-5652 FAX: (502) 961-9256

DRIVE TUBE WORKSHEET

Project Name: Sauget Area I Landfill Date: 7-27-01

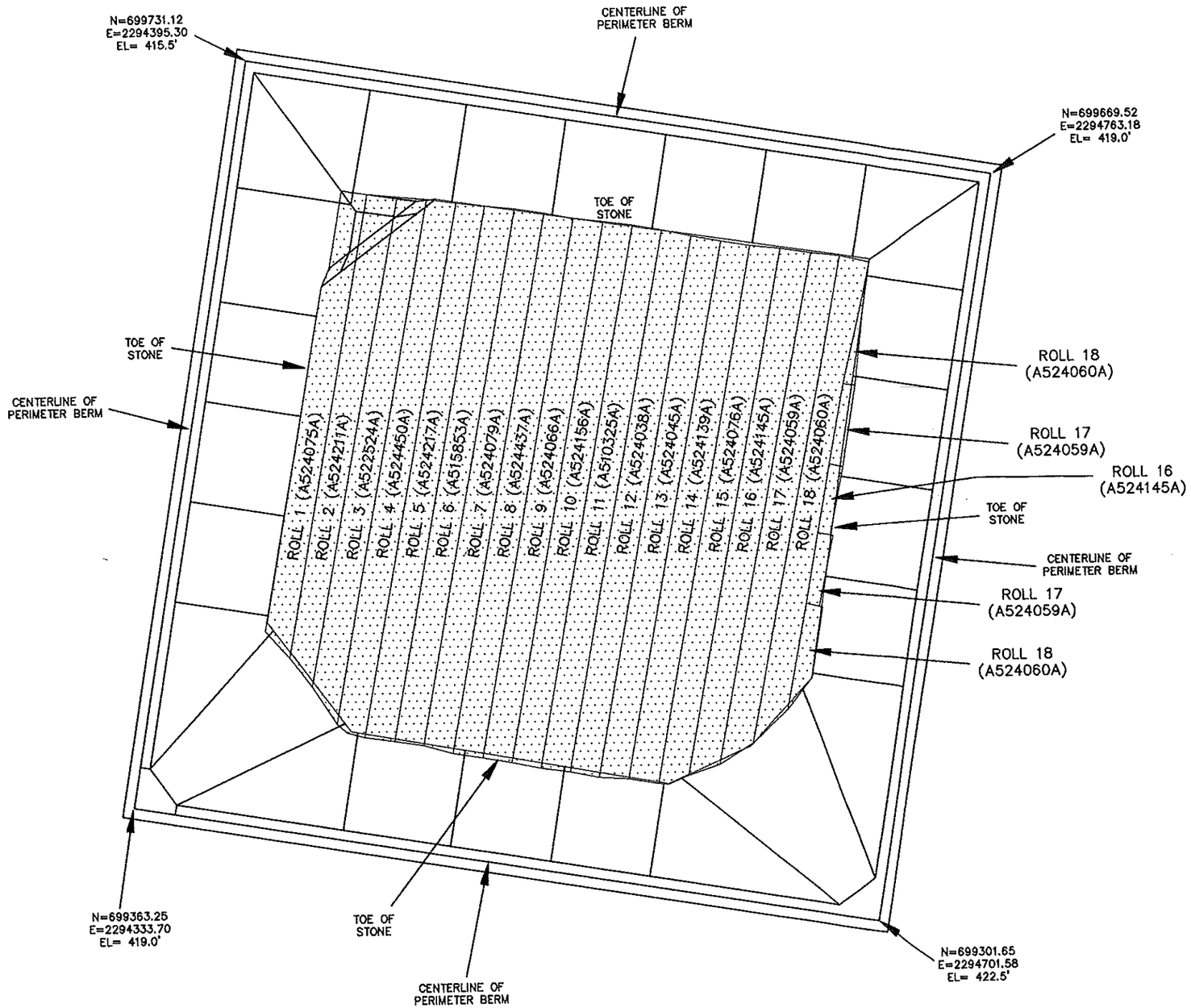
Client: LMS Contracting, Inc. Patriot Project No.: 501-223

Patriot Rep.: Melisa Daumen Test No.: DT-005

Tube weight (1lbs)	1.31
Soil and Tube weight (llbs)	5.37
Weight of soil (lbs)	4.06
Volumn of Tube (cf.)	.0332
Wet Density(pcf.)	122.3
MOISTURE CONTENT	
Wt. soil + tare (wet), gr.	145.7
Wt. soil + tare (dry), gr.	136.9
Wt. of water, gr.	8.8
Wt. of tare, gr.	79.5
Wt. of soil, dry gr.	57.4
Moisture content %	15.3
Dry Density (pcf)	106.1
Maximum Proctor DD (pcf)	109.4
Optimum Moisture %	15.0
% Compaction	97.0

Remarks: Test Taken in same location as B-218

AS-BUILT OF THE GEOTEXTILE ABOVE THE CAPILLARY LAYER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS



DRAWING NAME	DESCRIPTION
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SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES
SOLIFT19	TOP OF LIFT 19 GRADES
SOLIFT22	TOP OF LIFT 22 GRADES
SOSTCERT	CAPILLARY AS-BUILT
SOGEOTEX	GEO TEXTILE AS-BUILT

LEGEND:

ROLL 18 = ROLL NUMBER

(A524060A) = LOT NUMBER

= GEOTEXTILE

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105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

AS-BUILT OF THE GEOTEXTILE ABOVE THE CAPILLARY LAYER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 60'
DRAWING DATE: 07/27/01
SURVEY DATE: 07/27/01
CLIENT FILE: 01-500
DRAWING FILE: SOGEOTEX
FLD. BK.: ELECTRONIC
PAGE(S):

ject: sogeotex Fri Jul 27 23:24:51 2001
oint statistics:
Starting point number: 1
Current point number: 588 ('L' indicates locked point)

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
2	699706.4000	2294530.8594	416.89	NL
536	699763.2100	2294872.8000	406.98	BACKSIGHT
537	699449.4900	2294399.9000	.	GEOCOR
538	699436.1800	2294411.8000	.	GEOCOR
539	699421.6800	2294422.7000	.	GEOCOR
540	699403.1700	2294434.8000	.	GEOCOR
541	699398.7600	2294439.7000	.	GEOCOR
542	699396.3300	2294448.4000	.	GEOCOR
543	699394.1400	2294463.0000	.	GEOCOR
544	699391.9700	2294477.2000	.	GEOCOR
545	699387.8200	2294491.5000	.	GEOCOR
546	699385.2700	2294506.2000	.	GEOCOR
547	699382.6400	2294520.6000	.	GEOCOR
548	699379.8300	2294534.9000	.	GEOCOR
549	699377.7800	2294549.6000	.	GEOCOR
550	699375.8600	2294561.0000	.	GEOCOR
551	699373.7300	2294578.6000	.	GEOCOR
552	699371.2100	2294593.3000	.	GEOCOR
553	699370.6400	2294598.4000	.	GEOCOR
554	699374.9000	2294608.2000	.	GEOCOR
555	699379.8900	2294623.5000	.	GEOCOR
556	699406.2500	2294657.6000	.	GEOCOR
557	699422.1000	2294669.7000	.	GEOCOR
558	699456.7900	2294675.5000	.	GEOCOR
559	699457.5000	2294674.0000	.	GEOCOR
560	699458.7300	2294667.5000	.	GEOCOR
561	699493.4700	2294673.8000	.	GEOCOR
562	699492.2900	2294680.1000	.	GEOCOR
563	699492.1800	2294681.6000	.	GEOCOR
564	699525.9000	2294687.2000	.	GEOCOR
565	699527.4900	2294680.1000	.	GEOCOR
566	699566.9200	2294688.0000	.	GEOCOR
567	699566.4000	2294693.6000	.	GEOCOR
568	699617.9200	2294699.6000	.	GEOCOR
569	699626.9600	2294701.5000	.	GEOCOR
570	699630.3800	2294687.1000	.	GEOCOR
571	699632.1600	2294672.6000	.	GEOCOR
572	699634.6400	2294657.8000	.	GEOCOR
573	699636.1000	2294642.8000	.	GEOCOR
574	699638.5400	2294628.3000	.	GEOCOR
575	699641.4100	2294613.7000	.	GEOCOR
576	699644.4800	2294599.3000	.	GEOCOR
577	699647.0600	2294585.0000	.	GEOCOR

›ject: sogeotex

Fri Jul 27 23:24:53 2001

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
578	699649.1100	2294570.5000	.	GEOCOR
579	699650.9500	2294555.8000	.	GEOCOR
580	699653.8000	2294541.1000	.	GEOCOR
581	699656.0700	2294526.6000	.	GEOCOR
582	699657.8100	2294511.8000	.	GEOCOR
583	699659.6100	2294497.8000	.	GEOCOR
584	699661.5300	2294483.2000	.	GEOCOR
585	699662.9600	2294468.8000	.	GEOCOR
586	699664.4900	2294454.0000	.	GEOCOR
587	699666.5700	2294441.4000	.	GEOCOR
1101	699763.2100	2294872.8240	406.97	IP

FIELD MONITORING REPORT

PAGE 1 OF 1

.OJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: PARTIALLY CLOUDY, HUMID, HIGH 89 F.

DATE: 7/28/2001

S M T W T F (S)

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

RECEIVED A COPY OF THE RESULTS FOR THE PROCTOR ON THE SAMPLE COLLECTED ON THE 60,000 c.y. to 75,000c.y. OF MATERIAL PLACED, SAMPLE # S-124. THE RESULTS SHOW NO SIGNIFICANT CHANGE IN VALUES WITH A D.D. OF 109.4 pcf AND AN OPTIMUM MOISTURE CONTENT OF 15%, A COPY IS ATTACHED.

LMS COMPLETED PLACING THE 6" TRACKED-IN-PLACE FILL OVER THE CELL FLOOR AND STARTED TO FINAL GRADE. NUCLEAR DENSITY TEST NUMBER'S TIP - 01 THROUGH TIP - 06 WERE TAKEN, ALL TESTS SITE SPECIFICATIONS OF 90% COMPACTION AND MOISTURE AT OR ABOVE OPTIMUM. THE PROCTOR VALUES USED ARE FROM THE NEW TEST # S-124.

EQUIPMENT USED: D6LGP CAT DOZER, D5 LGP CAT DOZER, AND 12 TANDEM DUMP TRUCKS.

BORROW SITE: 325 CAT EXCAVATOR, D5C CAT DOZER.

APPROXIMATELY 528 c.y. OF MEREMAC GRAVEL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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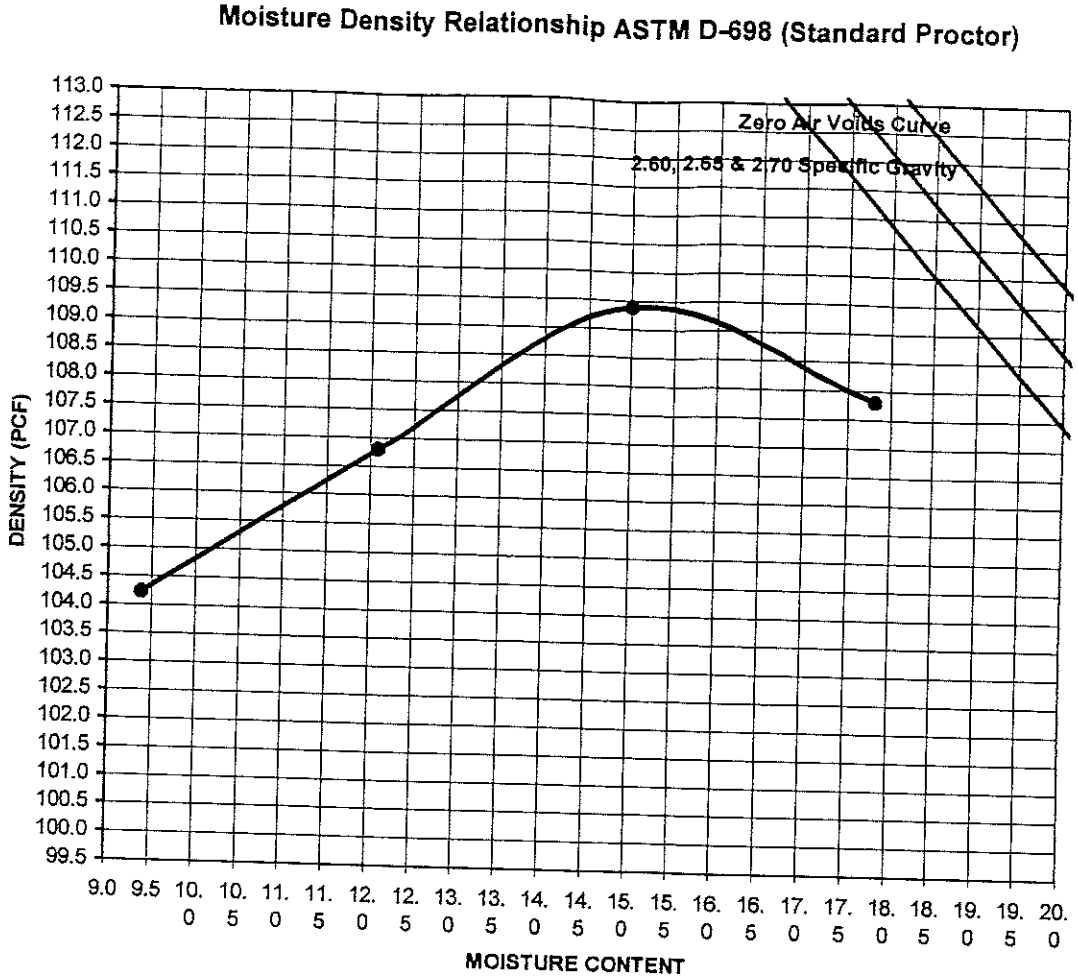
Patriot Engineering
and Environmental Co., LLC
Louisville,Ky.

Moisture Density Relationship



Project:	Sauget Area 1 landfill	Project #:	501-223
Client:	LMS	Date:	July 21,2001

Sample Discription: Brown silty Clay

LL	PI	Sample log #	Maximum Density	Opt. Moisture
		S-124	109.4	15.0

Remarks: Off-site borrow material

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/QA/SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
:ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/4/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES, INC. AND TAYLOR GEOSYNTHETICS, INC.

SUMMARY OF CONSTRUCTION PROGRESS:

LMS COMPLETED FINAL GRADING OF THE 6" TRACKED-IN-PLACE FILL ON THE FLOOR AND SIDE SLOPES. LMS STARTED TO DIG THE ANCHOR TRENCH FOR THE SECONDARY LINER SYSTEM AND DUG THE RISER PIPE TRENCH IN THE NORTH WEST CORNER OF THE NORTH SLOPE.

TAYLOR STARTED TO INSTALL THE GCL AND 60 MIL. HDPE LINERS AS PART OF THE SECONDARY LINER SYSTEM. DESTRUCTS DS-01 THROUGH DS-07 WERE CUT, FIELD TESTED AND SENT TO GOLDER'S GEOSYNTHETIC'S LABORATORY IN ATLANTA FOR TESTING.

PATRIOT IS PROVIDING QC FOR LMS.

LDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. AT THE START OF THE GEOSYNTHETIC'S INSTALLATION, GOLDER BROUGHT HAD A SECOND QA PERSON ON SITE FULL TIME TO HELP MONITOR THE GEOSYNTHETIC'S INSTALLATION. AT THE PRESENT TIME MR. JASON PEREZ IS PERFORMING THESE DUTIES UNDER DIRECT SUPERVISION OF MR. RICHARD SIEMASZKIEWICZ.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/QA/SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/4/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR WAS ON SITE CONTINUOUSLY FOR THE WHOLE WORK WEEK. SURVEYOR CERTIFIED TOP OF THE 6" TRACKED-IN-PLACE FILL AND AN ELEVATION POINTS SHEET WAS GENERATED. SURVEYOR GENERATED AN AS-BUILT FOR THE PANEL LAYOUT ON THE 60 MIL HDPE SECONDARY LINER. THESE DRAWINGS ARE ATTACHED TO THE RELATIVE DAILY REPORTS.

SUMMARY OF PROBLEMS AND RESOLUTIONS:

A RAINFALL OF 0.89" WAS RECORDED ON SITE THE NIGHT OF 8/2/01. THIS CAUSED A HALT IN THE DEPLOYMENT OF ANY GEOSYNTHETICS, AS THE SUBGRADE WAS TO WET, TO ALLOW DEPLOYING THE GCL, AS PER THE SITE SPECIFICATIONS.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

A WEEKLY CONSTRUCTION MEETING WAS HELD IN THE MAVERICK SITE TRAILER, THE FOLLOWING WEEKS WORK SCHEDULE WAS DISCUSSED.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

PRIOR TO ANY WORK MAVERICK HELD A SITE ORIENTATION AND SAFETY MEETING FOR ALL NEW PERSONNEL.

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HUMID, HIGH 99 F.

DATE: 7/30/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

LMS COMPLETED FINAL GRADING OF THE 6" TRACKED-IN-PLACE FILL ALONG THE CELL FLOOR. LMS CONTINUED TO FINAL GRADE THE INSIDE OF THE SIDE SLOPES.

SURVEYOR ON SITE CONTINUOUSLY TO CERTIFY FINAL GRADES AND TO CONSTRUCTION STAKE CUT AND FILLS TO GRADE.

LMS BROUGHT A 433 CAT SMOOTH DRUM ROLLER ON SITE TO REPLACE THE INGERSOLL RAND 100SD ROLLER WHICH BROKE DOWN ON SATURDAY.

EQUIPMENT USED: D6LGP CAT DOZER, D5LGP CAT DOZER, 433 CAT SMOOTH DRUM ROLLER.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

FIELD MONITORING REPORT

PAGE 1 OF 1

'ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HOT, HUMID, HIGH 98 F.

DATE: 7/31/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES INC.

THE FOLLOWING WAS NOTED:

RECEIVED THE STAMPED AND SIGNED LETTERS FROM PATRIOT'S CERTIFYIN(ENGINEER, COVERING WORK CARRIED OUT BETWEEN JULY 9, 2001 AND JULY 20, 2001, COPY'S ATTACHED.

LMS CONTINUED TO FINAL GRADE SIDE SLOPES. LMS STARTED TO DIG THE ANCHOR TRENCH, STARTING AT THE WEST END OF THE SOUTH BERM AND WORKING EAST ALONG THE SOUTH BERM THEN NORTH ALONG THE EAST BERM.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 433 CAT SMOOTH DRUM ROLLER, 325 CAT EXCAVATOR AND JOHN DEERE ROAD-GRADER.

SUBMITTED BY GOLDER

MONITOR

PATRIOT ENGINEERING
and Environmental Co. LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 Fax: (812) 477-0094

July 16, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
July 9, 2001 to July 14, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from July 9, 2001, to July 14, 2001, and the laboratory sheets for Sample GR-003. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

RONALD W. SPIVEY
REGISTERED PROFESSIONAL ENGINEER

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Data Sheets GR-003

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

July 23, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
July 16, 2001 to July 20, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from July 16, 2001, to July 20, 2001 and the laboratory sheets for Sample S-123 and S-125. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

REGISTERED
PROFESSIONAL
ENGINEER
ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Data Sheets S-123 and S-125

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HUMID, HIGH 98 F.

DATE: 8/1/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES INC. AND TAYLOR GEOSYNTHETICS, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO FINAL GRADE THE SIDE SLOPES AND DIG THE ANCHOR TRENCH.

TAYLOR ARRIVED ON SITE AND STARTED INSTALLATION OF THE SECONDARY LINER SYSTEM. A SITE ORIENTATION AND SAFETY MEETING WAS HELD. ALL NEW PERSONNEL TO THE SITE ATTENDED AND SIGNED AN ATTENDANCE SHEET, THIS MEETING WAS CONDUCTED BY ERIK KEMPER OF MAVERICK.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 433 CAT SMOOTH DRUM ROLLER AND 325 CAT EXCAVATOR.

ALSO SEE GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

A WEEKLY CONSTRUCTION MEETING WAS HELD IN THE MAVERICK SITE TRAILER, THE FOLLOWING EEKS WORK SCHEDULE WAS DISCUSSED.

RECEIVED COPY OF THE TOP OF THE 6" TRACKED-IN-PLACE FILL ELEVATIONS, A COPY ATTACHED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/1/2001 S M T (W) T F S

GEOSYNTHETIC DEPLOYMENT: MONITORED DEPLOYMENT OF GCL LINER ROLLS 1 THRU 19. THESE PANELS WERE COVERED WITH SECONDARY HDPE LINER PANELS 1 THRU 15.

TRIAL SEAMING: TRIAL SEAMS TF-01 THRU TF-05 WERE TAKEN AND RECORDED.

SEAMING: ALL ROLLS OF GCL DEPLOYED WERE OVERLAPPED ACCORDING TO THE SPECIFICATIONS AND BENTONITE POWDER WAS PLACED IN THE SEAMS AS PER SPECIFICATIONS. ALL PANELS OF THE HDPE SECONDARY LINER WERE FUSION WELDED.

NON-DESTRUCTIVE TESTING: NON CARRIED OUT.

DESTRUCTIVE SAMPLING: NON CARRIED OUT.

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.

COMPILED BY: R.SIEMASZKIEWICZ

DATE: 8/1/2001
S M T (W) T F S

PAGE 1 OF 1

INSTALLER ON SITE: 7:30 AM
INSTALLER OFF SITE: 9:00 PM
INSTALLER'S CREW SIZE: 5 TECHNICIANS
NUMBER OF LABORERS: 10 LABORERS
OF OPERABLE FUSION WELDERS: 3
OF OPERABLE EXTRUSION WELDERS: 0

WEATHER

TEMPERATURE:
MORNING: 86 F.
AFTERNOON: 98 F.
EVENING: 90 F.

CLOUD COVER: CLEAR
WIND: 0-5 MPH
RAIN / SNOW: NONE

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	24,750 s.f.	0
GEOMEMBRANE	37,372.5 s.f.	0
GEONET	0	0
GEOTEXTILE 1	0	0
GEOTEXTILE 2	0	0
OTHER	0	0

GEOMEMBRANE PANELS DEPLOYED

P-1 THRU P-15
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

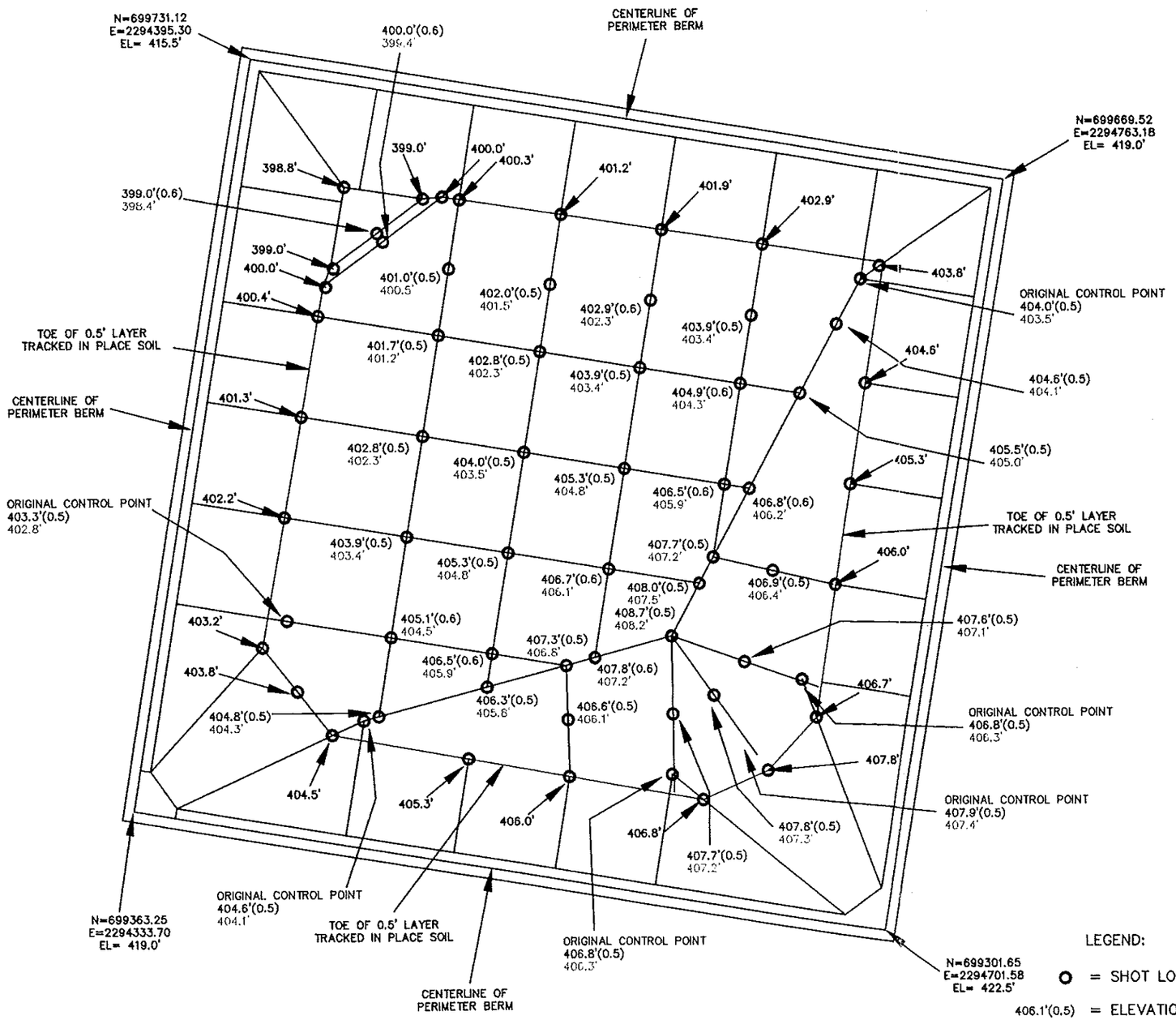
DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

ELEVATIONS FOR THE 0.5' TRACKED IN PLACE SOIL LAYER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS



DRAWING NAME	DESCRIPTION
SOSUB	TOP OF SUBGRADE GRADES
SOLIFT1	TOP OF LIFT 1 GRADES
SOLIFT4	TOP OF LIFT 4 GRADES
SOLIFT7	TOP OF LIFT 7 GRADES
SOLIFT10	TOP OF LIFT 10 GRADES
SOLIFT13	TOP OF LIFT 13 GRADES
SOLIFT16	TOP OF LIFT 16 GRADES
SOLIFT19	TOP OF LIFT 19 GRADES
SOLIFT22	TOP OF LIFT 22 GRADES
SOSTCERT	CAPILLARY AS-BUILT
SOGEOTEX	GEOTEXTILE AS-BUILT
SO5TPCRT	0.5 TRACKED IN PLACE SOIL

LEGEND:

O = SHOT LOCATION

406.1'(0.5) = ELEVATION AT TOP OF TRACKED IN PLACE SOIL (THICKNESS OF SOIL)

404.1' = ELEVATION AT TOP OF STONE

405.4' = ELEVATION AT TOP OF STONE AT TOE

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 0126578

ELEVATIONS FOR THE 0.5' TRACKED IN PLACE SOIL LAYER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 60'
DRAWING DATE: 07/31/01
SURVEY DATE: 07/31/01
CLIENT FILE: 01-500
DRAWING FILE: SO5TPCRT
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HUMID, HIGH 98 F.

DATE: 8/2/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES INC. AND TAYLOR GEOSYNTHETICS, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO FINAL GRADE THE SIDE SLOPES AND DIG THE ANCHOR TRENCH.

TAYLOR CONTINUED THE INSTALLATION OF THE SECONDARY LINER SYSTEM. A MORNING TAILGATE SAFETY MEETING WAS HELD PRIOR TO THE START OF WORK AND WAS ATTENDED BY ALL TAYLOR PERSONNEL.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 433 CAT SMOOTH DRUM ROLLER AND 325 CAT EXCAVATOR.

ALSO SEE GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

RECEIVED PRIOR DAYS HDPE PANEL LAYOUT AND SURVEYORS QC NOTES, COPY OF PANEL AYOUT ATTACHED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/2/2001 S M T W (T) F S

GEOSYNTHETIC DEPLOYMENT: MONITORED DEPLOYMENT OF GCL LINER ROLLS 19 THRU 42. THESE PANELS WERE COVERED WITH SECONDARY HDPE LINER PANELS 16 THRU 33.

TRIAL SEAMING: TRIAL SEAMS TF-06 AND TF-07 WERE TAKEN AND RECORDED.

SEAMING: ALL ROLLS OF GCL DEPLOYED WERE OVERLAPPED ACCORDING TO THE SPECIFICATIONS AND BENTONITE POWDER WAS PLACED IN THE SEAMS AS PER SPECIFICATIONS. PANELS OF THE HDPE SECONDARY LINER WERE FUSION WELDED, THE PANELS THAT WERE NOT WELDED DUE TO LACK OF TIME WERE SANDBAGGED ALONG THERE EDGES.

NON-DESTRUCTIVE TESTING: AIR PRESSURE TESTING OF THE FUSION WELDS WAS STARTED, SEE SHEET # 1 OF THE GEOMEMBRANE SEAM PRESSURE TEST LOGS.

DESTRUCTIVE SAMPLING: NON CARRIED OUT.

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.

COMPILED BY: R.SIEMASZKIEWICZ

DATE: 8/2/2001
S M T W T F S

PAGE 1 OF 1

INSTALLER ON SITE: 7:00 AM
INSTALLER OFF SITE: 6:30 PM
INSTALLER'S CREW SIZE: 5 TECHNICIANS
NUMBER OF LABORERS: 10 LABORERS
OF OPERABLE FUSION WELDERS: 2
OF OPERABLE EXTRUSION WELDERS: 0

WEATHER

TEMPERATURE:
MORNING: 86 F.
AFTERNOON: 98 F.
EVENING: 90 F.

CLOUD COVER: CLEAR
WIND: 0-5 MPH
RAIN / SNOW: NONE

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	33,750 s.f.	58,500 s.f.
GEOMEMBRANE	29,207.5 s.f.	66,580 s.f.
GEONET	0	0
GEOTEXTILE 1	0	0
GEOTEXTILE 2	0	0
OTHER	0	0

GEOMEMBRANE PANELS DEPLOYED

P-16 THRU P-33
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

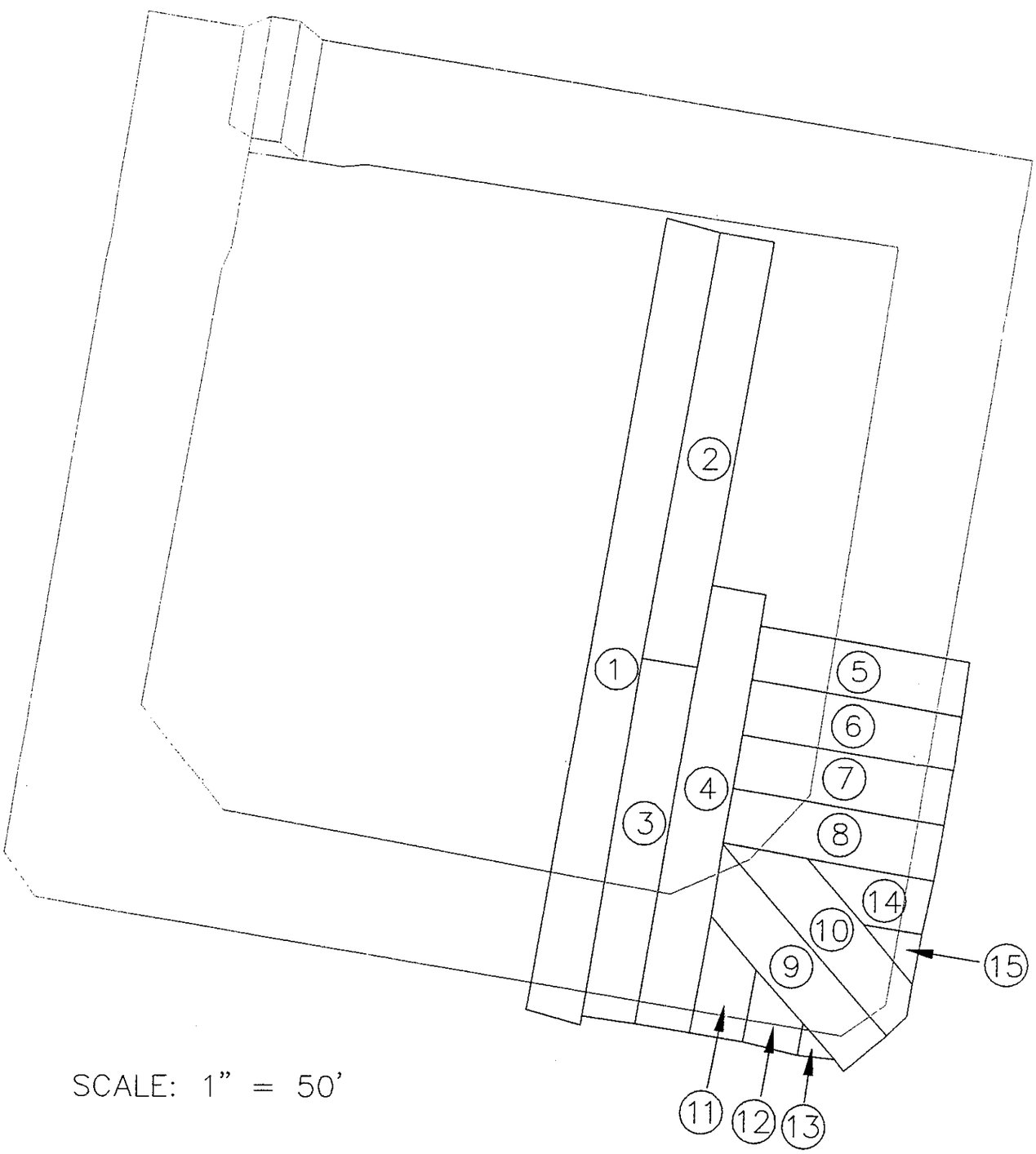
IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO



SCALE: 1" = 50'

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HUMID, HIGH 98 F.

DATE: 8/3/2001 S M T W T (F) S

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES INC. AND TAYLOR GEOSYNTHETICS, INC.

THE FOLLOWING WAS NOTED:

DUE TO 0.89" RAINFALL OVER NIGHT NO SOILS CONSTRUCTION WAS DONE, LMS CALLED WORK OFF FOR THE WEEKEND.

TAYLOR CONTINUED THE INSTALLATION OF THE SECONDARY LINER SYSTEM. A MORNING TAILGATE SAFETY MEETING WAS HELD PRIOR TO THE START OF WORK AND WAS ATTENDED BY ALL TAYLOR PERSONNEL. NO DEPLOYMENT OF LINER, DUE TO WET SUBGRADE.

ALSO SEE GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

RECEIVED PRIOR DAYS HDPE PANEL LAYOUT, A COPY OF WHICH IS ATTACHED.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/3/2001 **S M T W T F S**

GEOSYNTHETIC DEPLOYMENT: NON CARRIED OUT. CONTINUED TO AIR PRESSURE TEST AND START REPAIRS.

TRIAL SEAMING: TRIAL SEAM TX-01 WAS TAKEN AND RECORDED.

SEAMING: ALL PANELS OF THE HDPE SECONDARY LINER WHICH HAD NOT PREVIOUSLY BEEN WELDED FROM THE DAY BEFORE WERE FUSION WELDED.

NON-DESTRUCTIVE TESTING: AIR PRESSURE TESTING OF THE FUSION WELDS CONTINUED, SEE SHEET # 2 OF THE GEOMEMBRANE SEAM PRESSURE TEST LOGS.

DESTRUCTIVE SAMPLING: DS-01,DS-02 & DS-03 WERE CUT AND TESTED IN THE FIELD, ALL DESTRUCTS PASSED FIELD TESTING AS PER THE SITE SPECIFICATIONS.

GENERAL REMARKS: HEAVY RAINFALL OVER NIGHT. THEREFORE NO DEPLOYMENT OF LINER AS THE SUBGRADE WAS TOO WET TO DEPLOY GCL.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/3/2001
S M T W T F S
PAGE 1 OF 1

INSTALLER ON SITE: 7:00 AM
INSTALLER OFF SITE: 3:30 PM
INSTALLER'S CREW SIZE: 4 TECHNICIANS
NUMBER OF LABORERS: 2 LABORERS
OF OPERABLE FUSION WELDERS: 1
OF OPERABLE EXTRUSION WELDERS: 1

WEATHER

TEMPERATURE:
MORNING: 86 F.
AFTERNOON: 95 F.
EVENING:
CLOUD COVER: OVERCAST
WIND: 10-15 MPH
RAIN / SNOW: 0.89"

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	58,500 s.f.
GEOMEMBRANE	0	66,580 s.f.
GEONET	0	0
GEOTEXTILE 1	0	0
GEOTEXTILE 2	0	0
OTHER	0	0

GEOMEMBRANE PANELS DEPLOYED

_____ THRU _____
_____ THRU _____

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS - 01	134	PASS IN FIELD
DS - 02	132	PASS IN FIELD
DS - 03	991	PASS IN FIELD

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

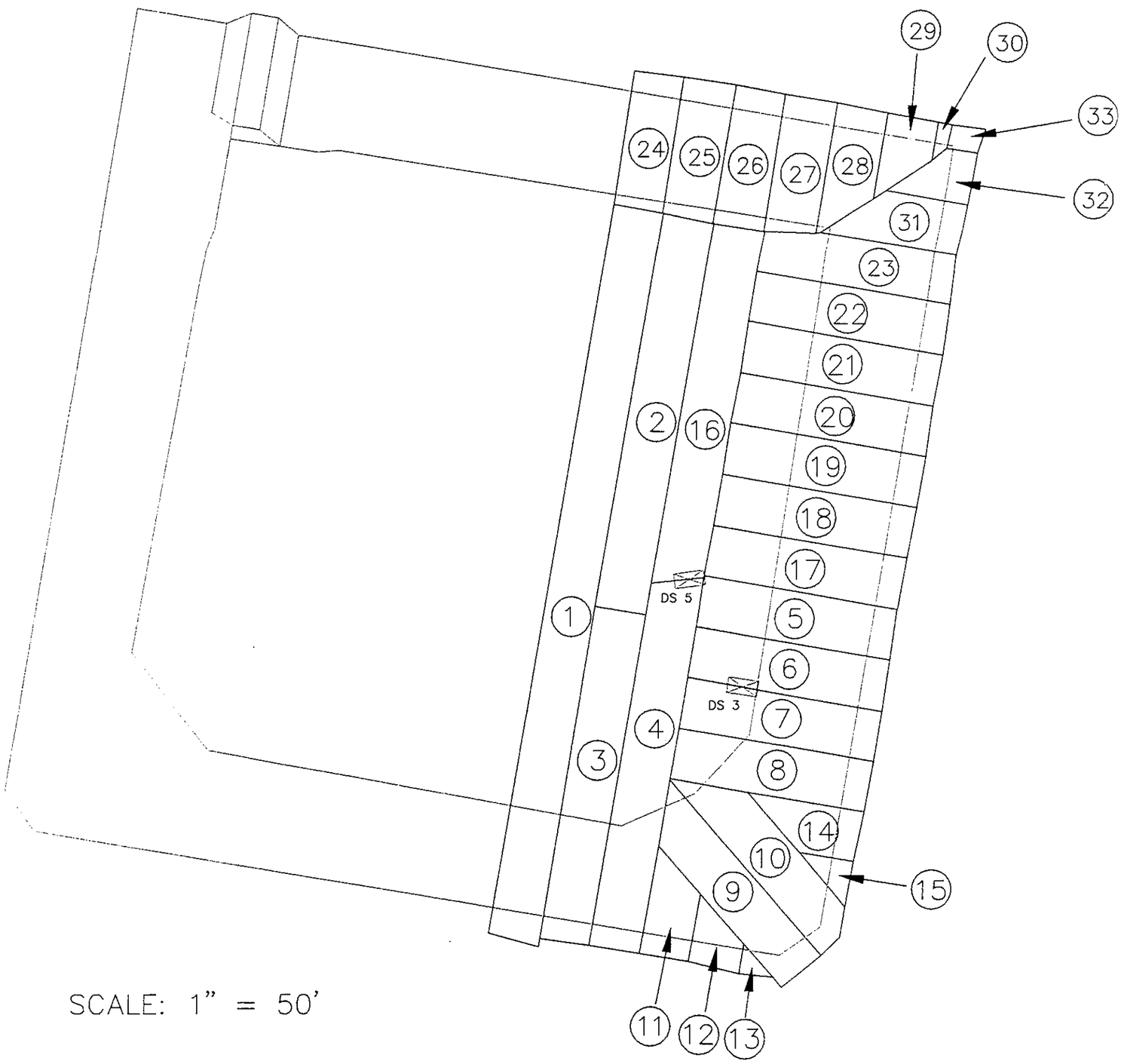
IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO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14
10
9
15
2
16
1
3
4
DS 5
DS 3
11
12
13

SCALE: 1" = 50'

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, HOT, HIGH 90 F.

DATE: 8/4/2001

S M T W T F (S)

PERSONNEL ON SITE: GOLDER, MAVERICK AND TAYLOR GEOSYNTHETICS, INC.

THE FOLLOWING WAS NOTED:

LMS NOT WORKING DUE TO SUBGRADE BEING TOO WET FROM PREVIOUS RAINFALL. TAYLOR ON SITE DOING DETAIL WORK ONLY, NO DEPLOYMENT.

ALSO SEE GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PAGE _____ OF _____

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/4/2001 **S M T W T F (S)**

GEOSYNTHETIC DEPLOYMENT: NON CARRIED OUT. CONTINUED AIR PRESSURE TESTING AND REPAIRS.

TRIAL SEAMING: TRIAL SEAM TX-02 AND TX-03 WAS TAKEN AND RECORDED.

SEAMING: NON CARRIED OUT.

NON-DESTRUCTIVE TESTING: COMPLETED AIR PRESSURE TESTING OF THE FUSION WELDS, SEE SHEET # 3 OF THE GEOMEMBRANE SEAM PRESSURE TEST LOGS.

DESTRUCTIVE SAMPLING: DS-04 THRU DS-07 WERE CUT AND TESTED IN THE FIELD. DS -01EXT. WAS CUT FROM REPAIR # 2B AND TESTED IN THE FIELD, THIS DESTRUCT IS ON THE EXTRUSION WELDER AND IS A QA SAMPLE.
ALL DESTRUCTS PASSED FIELD TESTING AS PER THE SITE SPECIFICATIONS.

GENERAL REMARKS: NO DEPLOYMENT OF LINER AS THE CONTRACTOR FEELS THAT THE SUBGRADE IS STILL TOO WET TO DEPLOY GCL.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/4/2001
S M T W T F S
PAGE ____ OF ____

INSTALLER ON SITE: 7:30 AM
INSTALLER OFF SITE: 3:30 PM
INSTALLER'S CREW SIZE: 3 TECHNICIANS
NUMBER OF LABORERS: 3 LABORERS
OF OPERABLE FUSION WELDERS: 0
OF OPERABLE EXTRUSION WELDERS: 1

WEATHER

TEMPERATURE:
MORNING: 83 F.
AFTERNOON: 92 F.
EVENING:
CLOUD COVER: CLOUDY
WIND: 0 - 5 mph
RAIN / SNOW: NONE

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	58,500 s.f.
GEOMEMBRANE	0	66,580 s.f.
GEONET	0	0
GEOTEXTILE 1	0	0
GEOTEXTILE 2	0	0
OTHER	0	0

GEOMEMBRANE PANELS DEPLOYED

_____ THRU _____
_____ THRU _____

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS - 01	134	PASS IN FIELD
DS - 02	132	PASS IN FIELD
DS - 03	991	PASS IN FIELD
DS - 04	991	PASS IN FIELD
DS - 05	991	PASS IN FIELD
DS - 06	132	PASS IN FIELD
DS - 07	134	PASS IN FIELD
DS - 01EXT.	570	PASS IN FIELD

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/10/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES, INC. AND TAYLOR GEOSYNTHETICS, INC.

SUMMARY OF CONSTRUCTION PROGRESS:

LMS CONTINUING TO MAINTAIN THE 6" TRACKED-IN-PLACE FILL AHEAD OF THE GEOSYNTHETICS INSTALLATION. LMS STARTED TO BACK FILL THE ANCHOR TRENCH TO SITE SPECIFICATIONS, WHEN THE AREA WAS RELEASED BY TAYLOR AND GOLDER.

TAYLOR HAS DEPLOYED APPROXIMATELY 70% OF THE GCL AND HDPE SECONDARY LINERS AND APPROXIMATELY 60% OF THE GEONET AND GEOTEXTILE LINER.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER.

TO DATE, 13 DESTRUCTS HAVE BEEN TESTED ON THE FUSION WELDING, ALL THESE DESTRUCTS PASSED THE SITES SPECIFICATIONS. A DESTRUCT WAS TAKEN ON A REPAIR TO QA THE EXTRUSION WELDING ON SITE, THIS DESTRUCT ALSO PASSED THE SITE SPECIFICATIONS.

ALL DESTRUCTIVE TESTING WAS CARRIED OUT AT GOLDER'S GEOSYNTHETIC'S LABORATORY IN ATLANTA, GEORGIA.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/10/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR WAS ON SITE FULL TIME DURING THE WEEK. SURVEYOR GENERATED A PANEL LAYOUT OF THE SECONDARY 60 MIL HDPE LINER FOR REVIEW DAILY, THE LATEST OF WHICH DATED AUGUST 07, 2001 IS ATTACHED. ALL DESTRUCT, REPAIR AND PANEL POINTS ARE MARKED.

SUMMARY OF PROBLEMS AND RESOLUTIONS:

DUE TO AN UNFAVORABLY WEATHER FORECAST AND THE CRITICAL AREA OF DEPLOYMENT, (SUMP), TAYLOR DID NOT DEPLOY GCL ON THURSDAY AND FRIDAY. INSTEAD TAYLOR DETAILED ALL THE PREVIOUSLY DEPLOYED LINER AND STARTED DEPLOYMENT OF THE GEONET AND GEOTEXTILE LINERS.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

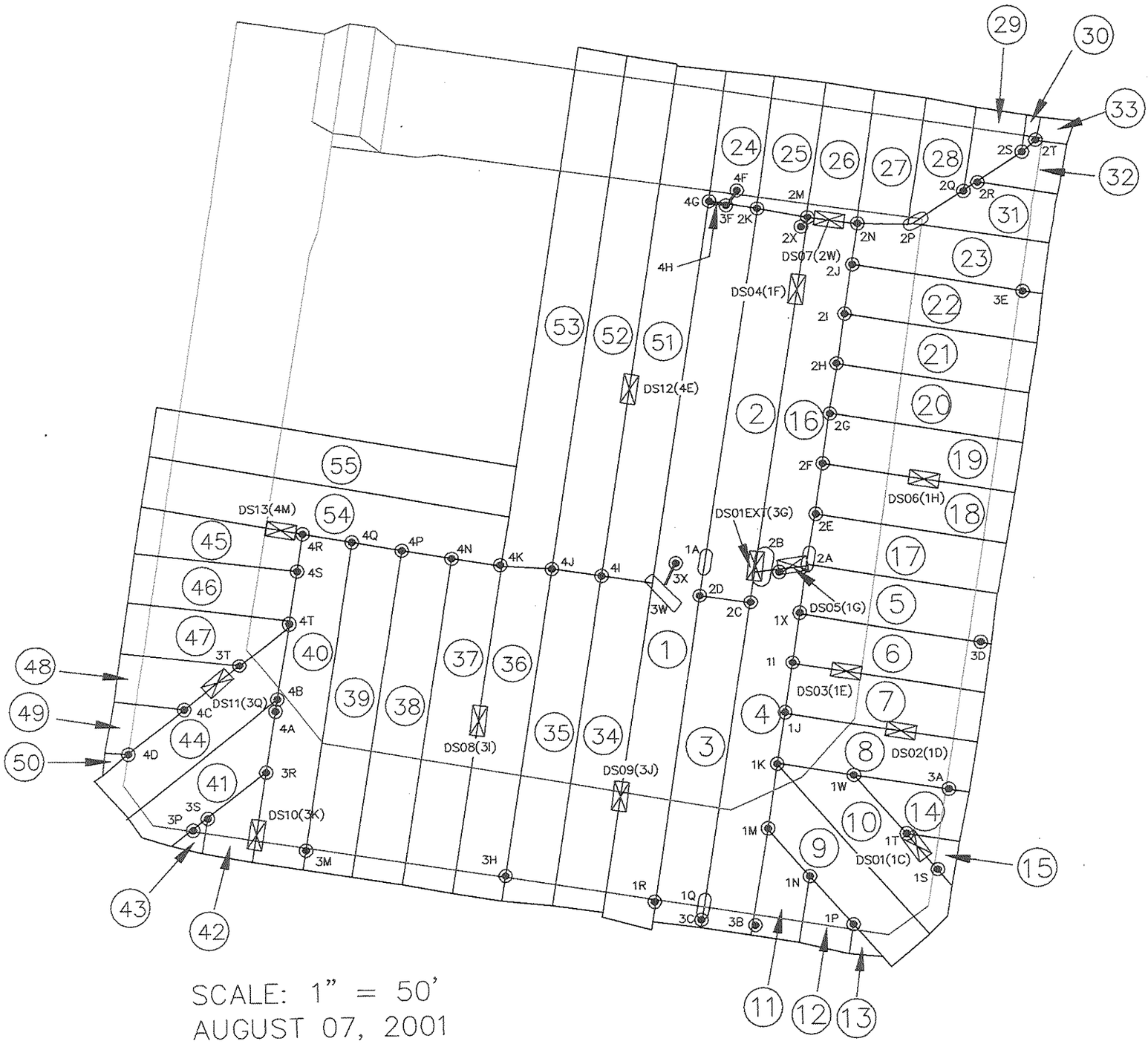
THE WEEKLY SCHEDULED CONSTRUCTION MEETING WAS HELD ON SITE, SEE MINUTES.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

LEE TAYLOR SPRAINED HIS ARM CLIMBING ONTO THE LINER THROUGH THE ANCHOR TRENCH, RAMPS WERE CONSTRUCTED AROUND THE CELL TO ALLOW FOR SAFE ACCESS INTO THE CELL, AND ALL PERSONNEL WERE TOLD TO USE THEM.

SUBMITTED BY GOLDER

RESIDENT MANAGER



SCALE: 1" = 50'
AUGUST 07, 2001

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HIGH 94 F.

DATE: 8/6/2001 S (M) T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK LMS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC..

THE FOLLOWING WAS NOTED:

LMS STARTED TO REWORK THE SIDE SLOPES AND SUMP AREA. TAYLOR CONTINUED TO DEPLOY THE GCL AND 60 MIL. HDPE LINERS FOR THE SECONDARY LINER SYSTEM.

ALSO SEE GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER AND 344 CAT SMOOTH DRUM ROLLER.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GEOSYNTHETIC INSTALLATION MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.

DATE 8/6/2001

S M T W T F S

GEOSYNTHETIC DEPLOYMENT: MONITORED DEPLOYMENT OF GCL LINER ROLLS 43 THRU 57. THESE PANELS WERE COVERED WITH SECONDARY HDPE LINER PANELS 34 THRU 43.

TRIAL SEAMING: TRAIL SEAMS TX-004, TF-008 THRU TF-011WERE TAKEN AND RECORDED

SEAMING: ALL ROLLS OF GCL DEPLOYED WERE OVERLAPPED ACCORDING TO THE SPECIFICATIONS AND BENETONITE POWDER WAS PLACED IN THE SEAMS AS PER SPECIFICATIONS. ALL PANELS OF THE HDPE SECONDARY LINER WERE DOUBLE WEDGE WELDED.

NON-DESTRUCTIVE TESTING: NON CARRIED OUT.

DESTRUCTIVE SAMPLING: RECEIVED RESULTS OF DS-01 TO DS-07, DS-01EXT, ALL PASSED SITE SPECIFICATIONS.

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS

.MPILED BY: R.SIEMASZKIEWICZ

DATE: 8/6/2001
S M T W T F S

PAGE 1 OF 1

INSTALLER ON SITE: 7:00 AM
INSTALLER OFF SITE: 6:00PM
INSTALLER'S CREW SIZE: 5 TECHNICIANS
NUMBER OF LABORERS: 10 LABORERS
OF OPERABLE FUSION WELDERS: 3
OF OPERABLE EXTRUSION WELDERS: 1

WEATHER

TEMPERATURE:
MORNING: 79 F.
AFTERNOON: 94 F.
EVENING:

CLOUD COVER: CLEAR
WIND: 0-5 mph
RAIN / SNOW: na

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	27,000 s.f.	85,500 s. f.
GEOMEMBRANE	39,847.5 s.f.	106,427.5 s.f.
GEONET	0	0
GEOTEXTILE 1	0	0
GEOTEXTILE 2	0	0
OTHER	0	0

GEOMEMBRANE PANELS DEPLOYED

P-34 THRU P-43
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-01	134	PASS
DS-02	132	PASS
DS-03	991	PASS
DS-04	991	PASS
DS-05	991	PASS
DS-06	132	PASS
DS-07	134	PASS
DS-01 EXT	570	PASS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

.TR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, HOT, HIGH 95 F.

DATE: 8/7/2001

S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIROMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO RE-WORK THE FLOOR AND SIDE SLOPES OF THE CELL AHEAD OF LINER PLACEMENT.

TAYLOR CONTINUED TO DEPLOY THE GCL AND 60 MIL. HDPE LINERS FOR THE THE SECONDARY LINER SYSTEM.

SITE VISITED BY IEPA AND US EPA PERSONNEL.

ALSO SEE GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER AND 344 CAT SMOOTH DRUM ROLLER.

LMS HAD A 6" DIESEL PUMP DELIVERED TO SITE.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/7/2001 S M T W T F S

GEOSYNTHETIC DEPLOYMENT: MONITORED DEPLOYMENT OF GCL LINER ROLLS 58 THRU 73. THESE PANELS WERE COVERED WITH SECONDARY HDPE LINER PANELS 44 THRU 51.

TRIAL SEAMING: TRAIL SEAMS TX -005 , TF-012 THRU TF- 016 WERE TAKEN AND RECORDED.

SEAMING: ALL ROLLS OF GCL DEPLOYED WERE OVERLAPPED ACCORDING TO THE SPECIFICATIONS AND BENTONITE POWDER WAS PLACED IN THE SEAMS AS PER SPECIFICATIONS. ALL PANELS OF THE HDPE SECONDARY LINER WERE DOUBLE WEDGE WELDED.

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING OF DOUBLE WEDGE WELDS.

DESTRUCTIVE SAMPLING: REMOVED DS-08 THRU DS-11 FROM HDPE SECONDARY LINER, SENT TO LAB TO BE TESTED

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/7/2001
S M T W T F S
PAGE 1 OF 1

INSTALLER ON SITE: 7:00AM
INSTALLER OFF SITE: 4:00PM
INSTALLER'S CREW SIZE: 10 TECHNICIANS
NUMBER OF LABORERS: 5 LABORERS
OF OPERABLE FUSION WELDERS: 2
OF OPERABLE EXTRUSION WELDERS: 1

WEATHER

TEMPERATURE:
MORNING: 79 F.
AFTERNOON: 95 F.
EVENING:

CLOUD COVER: CLEAR
WIND: 0-5mph
RAIN / SNOW: NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	20,250 s.f.	105,750 s.f.
GEOMEMBRANE	15,952.5 s.f.	122,380 s.f.
GEONET		
GEOTEXTILE 1		
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

P44 THRU P51
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS 08	132	PASS IN FIELD
DS-09	134	PASS IN FIELD
DS 10	134	PASS IN FIELD
DS 11	132	PASS IN FIELD

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA **WEATHER:** SUNNY, HOT, HIGH 95 F.

DATE: 8/8/2001 **S M T (W) T F S**

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO RE-WORK THE FLOOR AND SIDE SLOPES OF THE CELL AHEAD OF LINER PLACEMENT.

TAYLOR CONTINUED TO DEPLOY THE GCL AND 60 MIL. HDPE LINERS FOR THE THE SECONDARY LINER SYSTEM. TAYLOR STARTED TO DEPLOY THE GEONET LINER, STARTING FROM THE SOUTH EAST RAMP AREA WORKING NORTH ALONG THE FLOOR AND EAST BERM.

THE WEEKLY PROGRESS MEETING WAS HELD, SEE MINUTES.

ALSO SEE GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER AND 344 CAT SMOOTH DRUM ROLLER.

LMS HAD A 6" DIESEL PUMP AND 3" PUMP STAGED IN THE SUMP AREA INCASE OF RAIN.

RECEIVED PATRIOT'S ENGINEER'S SIGNED AND STAMPED LETTER COVERING THE WORK CARRIED OUT FOR THE DATES JULY 23, 2001 TO JULY 28, 2001, A COPY ATTACHED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PAGE _____ OF _____

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/8/2001 S M T W T F S

GEOSYNTHETIC DEPLOYMENT: MONITORED DEPLOYMENT OF GCL LINER ROLLS 74 THRU 86. THESE PANELS WERE COVERED WITH SECONDARY HDPE LINER PANELS 52 THRU 55. DEPLOYED 4 ROLLS OF GEONET ON SOUTHEAST END ON CELL .

TRIAL SEAMING: TRAIL SEAMS TX -006 , TF-017 THRU TF- 019 WERE TAKEN AND RECORDED.

SEAMING: ALL ROLLS OF GCL DEPLOYED WERE OVERLAPPED ACCORDING TO THE SPECIFICATIONS AND BENTONITE POWDER WAS PLACED IN THE SEAMS AS PER SPECIFICATIONS. ALL PANELS OF THE HDPE SECONDARY LINER WERE DOUBLE WEDGE WELDED.

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING OF DOUBLE WEDGE WELDS.

DESTRUCTIVE SAMPLING: REMOVED DS-012 THRU DS-13 FROM HDPE SECONDARY LINER, SENT TO LAB TO BE TESTED. RECEIVED DS-08 THRU DS-11 FROM LAB AND ALL PASSED SITE SPECIFICATIONS.

GENERAL REMARKS: REPAIRS CARRIED OUT ON LINER.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/8/2001
S M T (W) T F S
PAGE 1 OF 1

INSTALLER ON SITE 7:00AM
INSTALLER OFF SITE 5:30PM
INSTALLER'S CREW SIZE 5 TECHNICIANS
NUMBER OF LABORERS 10 LABORERS
OF OPERABLE FUSION WELDERS 2
OF OPERABLE EXTRUSION WELDERS 1

WEATHER

TEMPERATURE:
MORNING 88 F.
AFTERNOON 94 F.
EVENING

CLOUD COVER: CLEAR
WIND CALM
RAIN / SNOW NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	13,500 s.f.	119,250 s.f.
GEOMEMBRANE	19,035 s.f.	141,415 s.f.
GEONET	18,000 s.f.	18,000 s.f.
GEOTEXTILE 1		
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

P52 THRU P55
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-08	132	PASS
DS-09	134	PASS
DS-10	134	PASS
DS-11	132	PASS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

PATRIOT ENGINEERING
and Environmental Co., LLC
600 N. Weinbach Avenue, Suite 920
Evansville, IN 47711
(812) 477-0050 FAX: (812) 477-0094

August 3, 2001

Mr. Jack Long
LMS Environmental Contracting, Inc.
15 Judith Lane
Cahokia, IL 62206

RE: Report of
Geotechnical Laboratory Soil Testing
July 23, 2001 to July 28, 2001
Sauget Area1 TSCA Landfill
Cahokia, Illinois
Patriot Project No. 5-01-223

Dear Jack:

Submitted herewith are the Daily Reports of the fieldwork that were performed from July 23, 2001, to July 28, 2001 and the laboratory sheet for Sample DT 005. I have reviewed each report and all approved work is within compliance with the project specification. Any test results that are not within the project specification are so noted on the report and will be retested before final approval.

We appreciate the opportunity to work with you on this project and look forward to working with you on future projects. If you have any questions regarding these test results, please do not hesitate to contact us at (812) 477-0050.

Sincerely,
Patriot Engineering and Environmental Co., LLC

REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

Ronald W. Spivey, PE
Senior Engineer

Attachments: Daily Field Reports
Data Sheet DT-005

FIELD MONITORING REPORT

:OJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HOT, HIGH 95 F.

DATE: 8/9/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO RE-WORK THE FLOOR AND SIDE SLOPES OF THE CELL AHEAD OF LINER PLACEMENT.

TAYLOR CONTINUED TO DEPLOY THE GEONET LINER, STARTING FROM THE SOUTH EAST RAMP AREA WORKING NORTH ALONG THE FLOOR AND EAST BERM. ALL REPAIRS AND NON-DESTRUCTIVE TESTING ON THE DEPLOYED LINER WAS COMPLETED. NO DEPLOYMENT OF HDPE OR GCL CARRIED OUT DUE TO IMMINENT RAINFALL.

ALSO SEE GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER AND 344 CAT SMOOTH DRUM ROLLER.

LMS HAS A 6" DIESEL PUMP AND 3" PUMP STAGED IN THE SUMP AREA INCASE OF RAIN.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.

DATE 8/9/2001

S M T W (T) F S

GEOSYNTHETIC DEPLOYMENT: DEPLOYED 9 ROLLS OF GEONET.

TRIAL SEAMING: TRAIL SEAMS TX -007 AND TX -008 WERE TAKEN AND RECORDED.

SEAMING: ALL ROLLS OF GEONET THAT WERE DEPLOYED WERE TIED AS PER SITE SPECIFICATIONS

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING OF DOUBLE WEDGE WELDS, REPAIRS AND VACUUM TESTING.

DESTRUCTIVE SAMPLING: NONE CARRIED OUT.

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS

COMPILED BY: R.SIEMASZKIEWICZ

DATE: 8/9/2001
S M T W (T) F S

PAGE / OF /

INSTALLER ON SITE: 7:00AM
INSTALLER OFF SITE: 4:00PM
INSTALLER'S CREW SIZE: 5 TECHNICIANS
NUMBER OF LABORERS: 10 LABORERS
OF OPERABLE FUSION WELDERS: 0
OF OPERABLE EXTRUSION WELDERS: 1

WEATHER

TEMPERATURE:
MORNING: 88 F.
AFTERNOON: 94 F.
EVENING:

CLOUD COVER : CLOUDY
WIND: 5-10 mph
RAIN / SNOW: 0.23" Rain

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	119,250 s.f.
GEOMEMBRANE	0	141,415 s.f.
GEONET	40,500 s.f.	58,500 s.f.
GEOTEXTILE 1	0	0
GEOTEXTILE 2	0	0
OTHER	0	0

GEOMEMBRANE PANELS DEPLOYED

THRU
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-12	132	PASS
DS-13	132	PASS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, WARM, HIGH 85 F.

DATE: 8/10/2001

S M T W T (F) S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS STARTED TO BACK FILL THE ANCHOR TRENCH WERE THE GEONET HAS BEEN INSTALLED. THE FILL WAS PUSHED USING THE D5LGP CAT DOZER AND COMPACTED USING THE 563 CAT SHEEP'S FOOT ROLLER, NO DENSITY TESTING WAS CARRIED OUT.

TAYLOR CONTINUED TO DEPLOY THE GEONET OVER THE WHOLE AREA PREVIOUSLY COVERED BY THE 60 MIL. HDPE SECONDARY LINER. THE GEOTEXTILE LINER WAS DEPLOYED OVER THE EASTERN PORTION OF THE CELL. NO DEPLOYMENT OF GCL OR HDPE CARRIED OUT DUE TO 0.24" RAINFALL THE PREVIOUS NIGHT.

ALSO SEE GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER,563 CAR SHEET'S FOOT ROLLER.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/10/2001 S M T W T (F) S

GEOSYNTHETIC DEPLOYMENT: DEPLOYED 10 ROLLS OF GEONET AND 10 FULL ROLLS AND 9 HALF ROLLS OF GEOTEXTILE OVERTHE SECONDARY HDPE LINER. A524449A, A524447A, A524445A, A524441A, A524442A, A524444A, A524432A, A524427A, A524114A, A524109A, A524456A, A524099A, A524124A, A524110A, A524090A, A524466A, A524062A, A524107A, A524100A.

TRIAL SEAMING: NONE COMPLETED.

SEAMING: ALL ROLLS OF GEONET THAT WERE DEPLOYED WERE TIED AS PER SITE SPECIFICATIONS AND THE GEOTEXTILE DEPLOYED WAS SEWN ALONG THE FULL LENGTH OF THE PANELS AS PER THE SITE SPECIFICATIONS

NON-DESTRUCTIVE TESTING: TWO MORE ROLLS OF GEOMEMBRANE WERE DELIVERED TO SITE TO ALLOW FOR THE UNDER ESTIMATION OF THE REQUIRED MATERIAL QUANTITIES, 1 ROLL OF SMOOTH / TEXTURED AND 1 ROLL OF SMOOTH / SMOOTH. A CONFORMANCE SAMPLE WAS CUT FROM EACH OF THE ROLLS AND SENT TO GOLDER'S GEOSYNTHETICS LAB IN ATLANTA FOR TESTING.

DESTRUCTIVE SAMPLING: NONE CARRIED OUT.

GENERAL REMARKS: SITE STILL WET DUE TO PREVIOUS RAINFALL, NO DEPLOYMENT OF GCL OR HDPE LINER.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS

COMPILED BY: R.SIEMASZKIEWICZ

DATE: 8/9/2001
S M T W T F S

PAGE 1 OF 1

INSTALLER ON SITE: 7:00AM
INSTALLER OFF SITE: 4:00PM
INSTALLER'S CREW SIZE: 5 TECHNICIANS
NUMBER OF LABORERS: 8 LABORERS
OF OPERABLE FUSION WELDERS: 0
OF OPERABLE EXTRUSION WELDERS: 0

WEATHER

TEMPERATURE:
MORNING: 78 F.
AFTERNOON: 85 F.
EVENING:

CLOUD COVER: CLOUDY
WIND: 0-5 mph
RAIN / SNOW: NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	119,250 s.f.
GEOMEMBRANE	0	141,415 s.f.
GEONET	45,000 s.f.	103,500 s.f.
GEOTEXTILE 1	20,250 s.f.	20,250 s.f.
GEOTEXTILE 2	0	0
OTHER	0	0

GEOMEMBRANE PANELS DEPLOYED

_____ THRU _____
_____ THRU _____

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET

OWNER: SOLUTIA CONTRACTOR: LMS

LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/17/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES, INC. AND TAYLOR GEOSYNTHETICS, INC.

SUMMARY OF CONSTRUCTION PROGRESS: THE SECONDARY LINER SYSTEM WAS COMPLETED AND THE PRIMARY LINER WAS INSTALLED IN THE ACCESS RAMPS. THE ANCHOR TRENCH WAS BACKFILLED AND COMPACTED.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. A TOTAL OF 6 NUCLEAR DENSITY TESTS WERE TAKEN IN THE ANCHOR TRENCH, THESE TESTS NUMBERED AT-01 THRU AT-06 ALL PASSED THE SITE SPECIFICATIONS FOR COMPACTED FILL.

A TOTAL OF 18 DESTRUCTS WERE TAKEN ON THE SECONDARY 60MIL HDPE LINER, THE NUMBER OF DESTRUCTS WAS CALCULATED BY THE SITE SPECIFICATION OF 1 DESTRUCT REQUIRED PER 500 LINEAR FOOT WELDED BY EACH MACHINE USED. THE TOTAL NUMBER OF LINEAR FOOTAGE WELDED WAS AS FOLLOWS:

MACHINE # 132 = 2,959.5 l.f. NUMBER OF DESTRUCTS PULLED = 6

MACHINE # 134 = 2,429 l.f. NUMBER OF DESTRUCTS PULLED = 5

MACHINE # 991 = 2,413 l.f. NUMBER OF DESTRUCTS PULLED = 5

THERE WAS ALSO 2 QA DESTRUCTS TAKEN ON THE FUSION WELDING AND 1 QA DESTRUCT TAKEN ON THE EXTRUSION WELDING. ALL DESTRUCTS PASSED SITE SPECIFICATIONS, A SUMMARY IS ATTACHED.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
NER: SOLUTIA CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/17/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

THE SURVEYOR WAS ON SITE FULL TIME DURING THE WORK WEEK. THE SURVEYOR GENERATED AN AS-BUILT FOR THE SECONDARY 60 MIL HDPE, GCL AND GEOTEXTILE LINERS.

SUMMARY OF PROBLEMS AND RESOLUTIONS:

NONE

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

THE WEEKLY SCHEDULED CONSTRUCTION MEETING WAS HELD ON SITE, SEE MINUTES.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE

SUBMITTED BY GOLDER

R. [illegible]

RESIDENT MANAGER

GEOMEMBRANE SEAM DESTRUCTIVE SAMPLE LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER 1

	DESTRUCTIVE				FIELD TEST RESULTS					
	SAMPLE NUMBER	SEAM NUMBER	MACHINE NUMBER	DATE REMOVED	PEEL (PASS/FAIL)	SHEAR (PASS/FAIL)	MON.	DATE SHIPPED	LAB TEST STATUS (PASS/FAIL)	DATE OF NOTIFICATION	REMARKS
1	DS - 01	P10 / P15	134	8/4/2001	PASS	PASS	RS	8/4/2001	PASS	8/6/2001	
2	DS - 02	P7 / P8	132	8/4/2001	PASS	PASS	RS	8/4/2001	PASS	8/6/2001	
3	DS - 03	P6 / P7	991	8/4/2001	PASS	PASS	RS	8/4/2001	PASS	8/6/2001	
4	DS - 04	P2 / P16	991	8/4/2001	PASS	PASS	RS	8/4/2001	PASS	8/6/2001	
5	DS - 05	P4 / P16	991	8/4/2001	PASS	PASS	RS	8/4/2001	PASS	8/6/2001	
6	DS - 06	P18 / P19	132	8/4/2001	PASS	PASS	RS	8/4/2001	PASS	8/6/2001	
7	DS - 07	P16 / P26	134	8/4/2001	PASS	PASS	RS	8/4/2001	PASS	8/6/2001	QA
8	DS- 01 EXT	P2 / P16	570	8/4/2001	PASS	PASS	RS	8/4/2001	PASS	8/6/2001	ON REPAIR # 2B, QA
9	DS-08	P36 / P37	132	8/7/2001	PASS	PASS	RS	8/7/2001	PASS	8/8/2001	
10	DS-09	P1 / P34	134	8/7/2001	PASS	PASS	RS	8/7/2001	PASS	8/8/2001	
11	DS-10	P40 / P42	134	8/7/2001	PASS	PASS	RS	8/7/2001	PASS	8/8/2001	
12	DS-11	P44 / P48	132	8/7/2001	PASS	PASS	RS	8/7/2001	PASS	8/8/2001	
13	DS-12	P51 / P52	132	8/8/2001	PASS	PASS	RS	8/8/2001	PASS	8/10/2001	
14	DS-13	P45 / P54	132	8/8/2001	PASS	PASS	RS	8/8/2001	PASS	8/10/2001	
15	DS-14	P55 / P56	134	8/13/2001	PASS	PASS	RS	8/13/2001	PASS	8/14/2001	
16	DS-15	P56 / P57	134	8/13/2001	PASS	PASS	RS	8/13/2001	PASS	8/14/2001	QA
17	DS-16	P57 / P58	991	8/13/2001	PASS	PASS	RS	8/13/2001	PASS	8/14/2001	
18	DS-17	P64 / P65	991	8/13/2001	PASS	PASS	RS	8/13/2001	PASS	8/14/2001	
19	DS-18	P68 / P69	134	8/13/2001	PASS	PASS	RS	8/13/2001	PASS	8/14/2001	
20											

REVIEWED BY: RS / DAG DATE: 8/16/2001

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, HOT, HIGH 86 F.

DATE: 8/13/2001

S (M) T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIROMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS REMOVED MUDDY MATERIAL FROM THE SUMP AREA AND RE-WORKED CLEAN MATERIAL BACK INTO THE SUMP AREA. LMS CONTINUED TO SMOOTH DRUM ROLL THE AREA AHEAD OF LINER DEPLOYMENT. LMS CONTINUED TO BACKFILL THE ANCHOR TRENCH.

PATRIOT TOOK NUCLEAR DENSITY TEST IN THE RE-WORKED SUMP, TEST NUMBER TF-007 WAS TAKEN, THIS TEST PASSED SITE SPECIFICATIONS.

TAYLOR COMPLETED BLACKING OUT THE CELL AND ALL STARTED DETAIL WORK. THE LAST 5 DESTRUCTS WERE CUT AND SENT TO THE GOLDER GEOSYNTHETICS LABORATORY FOR TESTING.

SEE ALSO THE GEOSYNTHETICS REPORTS, ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER, 344 CAT SMOOTH DRUM ROLLER AND D6LGP DOZER.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/13/2001 S M T W T F S

GEOSYNTHETIC DEPLOYMENT: MONITORED DEPLOYMENT OF GCL LINER ROLLS 87 THRU 113. THESE PANELS WERE COVERED WITH SECONDARY HDPE LINER PANELS 56 THRU 70.

TRIAL SEAMING: TRAIL SEAMS TF-020 THRU TF- 021 WERE TAKEN AND RECORDED, TF-021 FAIL IN BREAK, TF-021R WAS TAKEN, THIS PASSED SITE SPECIFICATIONS

SEAMING: ALL ROLLS OF GCL DEPLOYED WERE OVERLAPPED ACCORDING TO THE SPECIFICATIONS AND BENTONITE POWDER WAS PLACED IN THE SEAMS AS PER SPECIFICATIONS. ALL PANELS OF THE HDPE SECONDARY LINER WERE DOUBLE WEDGE WELDED.

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING OF DOUBLE WEDGE WELDS.

DESTRUCTIVE SAMPLING: REMOVED DS-014 THRU DS-18 FROM HDPE SECONDARY LINER, SENT TO LAB TO BE TESTED.

GENERAL REMARKS:

SUBMITTED BY GOLDER

Jason K

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/13/2001
S M T W T F S
PAGE 1 OF 1

INSTALLER ON SITE: 7:00AM
INSTALLER OFF SITE: 8:00PM
INSTALLER'S CREW SIZE: 5 TECHNICIANS
NUMBER OF LABORERS: 10 LABORERS
OF OPERABLE FUSION WELDERS: 0
OF OPERABLE EXTRUSION WELDERS: 0

WEATHER

TEMPERATURE:
MORNING 78 F.
AFTERNOON 85 F.
EVENING 83 F.

CLOUD COVER : CLOUDY
WIND 0-5 mph
RAIN / SNOW NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	49,500 s.f.	168,750 s.f.
GEOMEMBRANE	34,572.5 s.f.	175,987.5 s.f.
GEONET	0	103,500 s.f.
GEOTEXTILE 1	0	20,250 s.f.
GEOTEXTILE 2	0	0
OTHER	0	0

GEOMEMBRANE PANELS DEPLOYED

P56 THRU P70
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-14	134	SENT TO LAB
DS-15	134	SENT TO LAB
DS-16	991	SENT TO LAB
DS-17	991	SENT TO LAB
DS-18	134	SENT TO LAB

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

ROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, WARM, HIGH 87 F.

DATE: 8/14/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIROMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO BACK FILL THE ANCHOR TRENCH AS IT WAS RELEASED TO THEM BY TAYLOR AND GOLDER, NO DENSITY TESTING CARRIED OUT.THE ANCHOR TRENCH IN THE RAMP AREAS WAS FILLED AFTER INSTALLATION OF THE PRIMARY LINER AND RUB SHEETS AS PER THE SITE SPECIFICATIONS, AND LMS'S WORK PLAN.

TAYLOR COMPLETED SEAMING, REPAIRS AND NON-DESTRUCTIVE TESTINF OF THE SECONDARY 60 MIL HDPE LINER. THE PRIMARY LINER SYSTEM WAS INSTALLED IN THE RAMP AREAS AS PER THE SITE SPECIFICATIONS AND LMS'S WORK PLAN, COPY ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER AND 563 CAT SHEEP'S FOOT COMPACTOR.

SEE ALSO GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

SUBMITTED BY GOLDER

MONITOR

LMS CONTRACTING, INC.
6515 West 500 North
Madison, Indiana 47250

Phone: 812-273-5740
Fax: 812-273-1651

PROPOSED WORKPLAN PROGRESSION OF INSTALLATION OF PRIMARY LINER SYSTEM IN RAMP AREAS AT THE SAUGET AREA 1 TSCA LANDFILL IN CAHOKIA, ILLINOIS

LMS Contracting proposes to complete construction of the Ramp areas for this project in the following manner:

1. Complete Secondary Liner System (G.C.L, 60 Mil HDPE Membrane, Geonet).

2. Install Two (2) Panel widths of all Primary Liner System Components in the area of the access ramps In the Southeast and Southwest corners of the cell. The installation will include the 60 Mil HDPE Membrane (both sides smooth), Geonet, Two (2) 60 Mil HDPE Lining rub sheets (placed smooth side down) and the Geogrid Soil Reinforcement. Please note that the rub sheets will extend a minimum of 5 feet beyond the toe of the ramps and will be 34 feet wide (one and one half panels wide). An additional layer of Geotextile will be placed above the Primary Liner System from the Toe of slope to the end of the two (2) panels and tucked beneath the leading edge. The additional Geotextile will further protect the Primary Liner System and will assist in the preparation of the two (2) panels placed in this step for tie-ins with the remainder of the Primary Liner System.

3. Place Five (5) sheets of 4' x 8' x ½" Plywood above the Primary Liner System approximately five (5) Foot from the Toe of Slope. The Plywood will further protect the Primary Liner System both during Placement of the 12" layer of Tracked in Place Soil and the preparation of the two panels placed in Step 2 for tie-in with the remainder of the Primary Liner System.

4. The Primary Liner System anchor trench will be constructed and backfilled as shown on the drawings to within 5 feet of the edge of panels (allows future tie-in).

5. Deploy 24"of crushed gravel roadbase for construction of access roads on ramps as depicted in Detail E on sheet C1.6 of the plans Prepared by URS Corporation Southern for the Sauget Area 1 TSCA landfill.

6. Deploy 12" of Tracked in Place Soil on the bottom of the cell area. During this Deployment a Temporary Haul Road of 3 foot Thickness of said Soil will be constructed across the cell area including the area above the plywood shield placed in step no. 3. As the Deployment nears completion the plywood and the additional layer of Geotextile will be removed. The Primary Liner System will then be rolled back and the remaining 12" of Tracked in Place Soil will be placed.

7. Upon completion of the Tracked in Place Soil Layer, Taylor Geosynthetics, Inc. will begin deployment of the remaining portion of the primary Liner System.

8. Tie-in seam on Primary HDPE Liner will be a minimum of 5 feet from the Toe of the ramp.

9. The rub sheets will be overlapped with the geotextile above the Geonet on the side slopes a minimum of 3 feet.

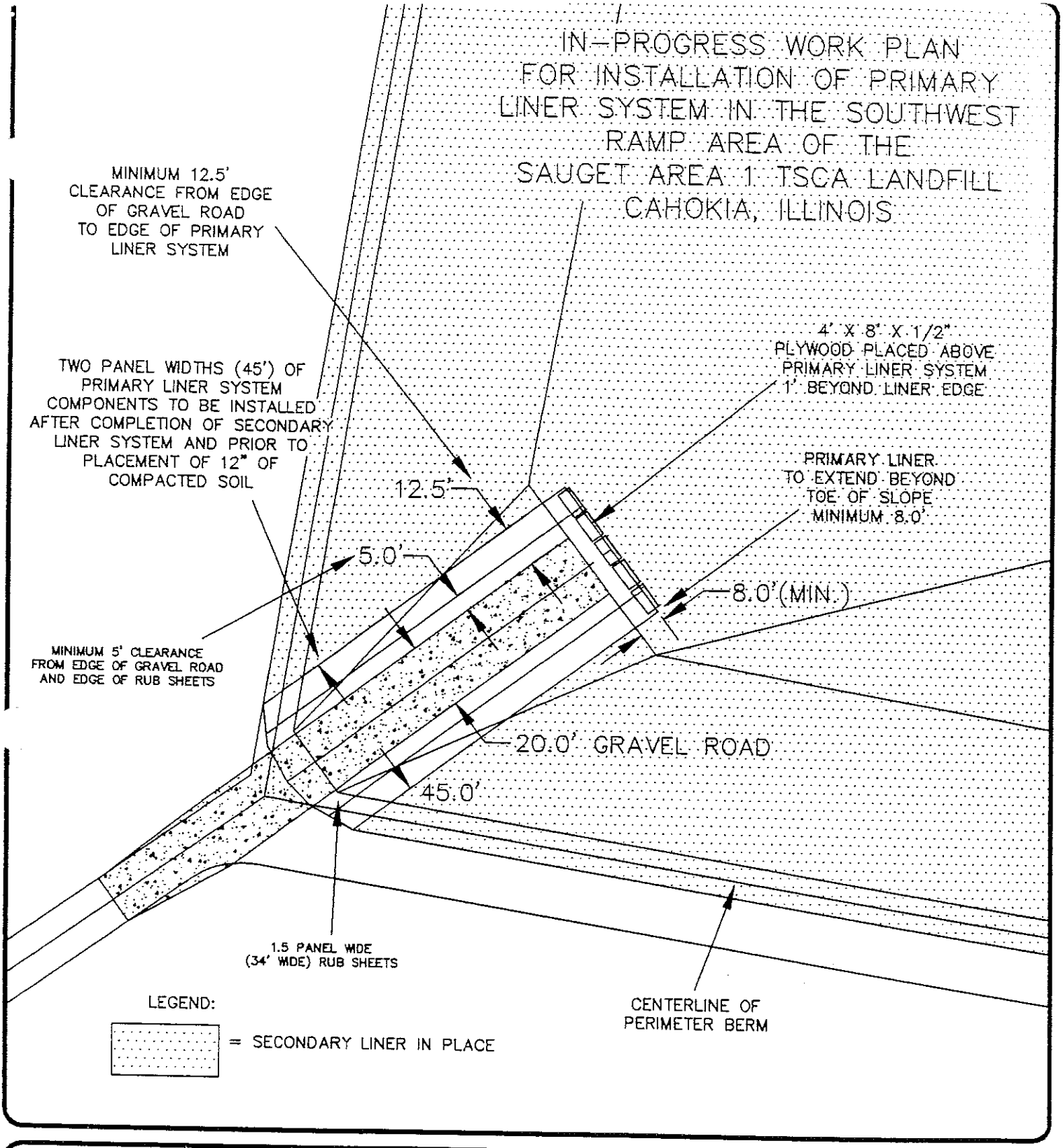
We feel that by following this progression we can minimize damage to both the Secondary and the Primary Liner Systems and possibly gain several days of construction time.

The steps above are typical of the type of action that may be used for temporary tie-ins such as those in temporary intercell berms found in many Landfill projects.

Two drawings depicting the progression described herein are included with this submittal.

Please note that this progression reflects no change in the design of the liner systems and is merely a clarification of the order of installation.

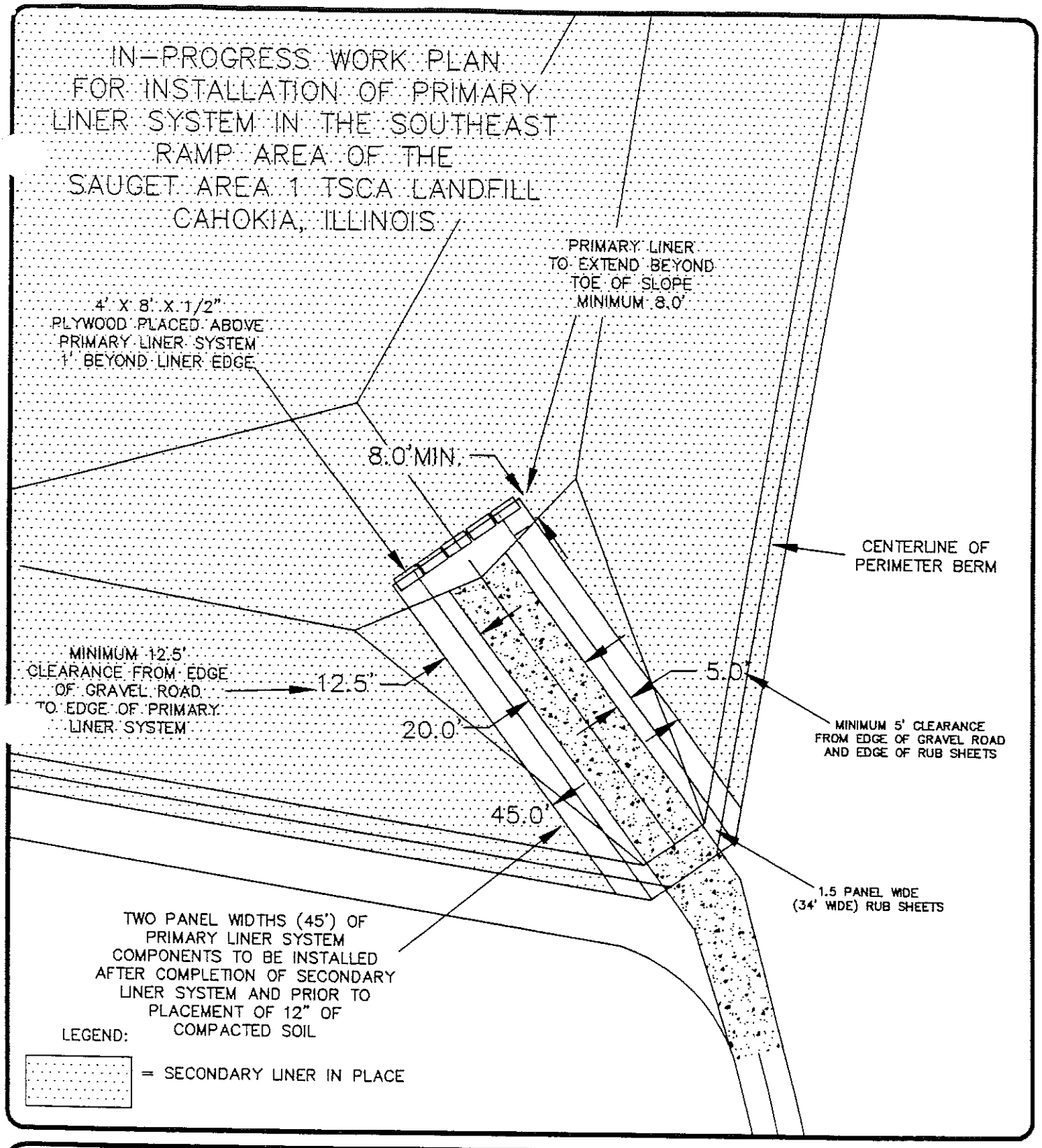
IN-PROGRESS WORK PLAN FOR INSTALLATION OF PRIMARY LINER SYSTEM IN THE SOUTHWEST RAMP AREA OF THE SAUGET AREA 1 TSCA LANDFILL CAHOKIA, ILLINOIS



DRAWN BY: W.H.S.	
CHECKED BY: W.H.S.	
SURVEY DATE:	
DRAWING DATE: 8-08-01	
FLD. BK.: 0 PG.:	
SCALE: 1" = 40'	
DRAWING NAME: RAMPLIN	
JOB NUMBER: 01-500	

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
ROUTE 1, BOX 241
P.O. BOX 514
TROY, ALABAMA 36081
TEL : (334) 807-0026
MOBILE: (334) 670-8232
FAX: (334) 807-0191



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CHECKED BY:	W.H.S.
SURVEY DATE:	
DRAWING DATE:	8-08-01
FLD. BK.:	
SCALE:	1" = 40'
DRAWING NAME:	RAMPLIN
JOB NUMBER:	01-500

ENVIRONMENTAL
PRECISION ASSOCIATES
INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
ROUTE 1, BOX 241
P.O. BOX 514
TROY, ALABAMA 36081
TEL : (334) 807-0026
MOBILE: (334) 670-8232
FAX: (334) 807-0191

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/14/2001

S M (T) W T F S

GEOSYNTHETIC DEPLOYMENT: DEPLOYED THE PRIMARY ON RAMPS PP1 THRU PP4. PRIMARY WAS THEN COVERED WITH GEONET AND RUB SHEETS PLACED IN RAMP AREAS AS PER SITE SPECIFICATIONS.

TRIAL SEAMING: TRIAL SEAM TX-09 WAS TAKEN AND RECORED AND PASSED SITE SPECIFICATIONS.TF-001 WAS TAKEN ON WEDGE # 991 WHICH WAS USED TO SEAM THE PRIMARY PANELS

SEAMING:

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING OF DOUBLE WEDGE WELDS.MONITORED REPAIRS ON SECONDARY LINER.

DESTRUCTIVE SAMPLING: RECEIVED DS-14 THRU DS-18. 4 TOTAL OF 18 FUSION AND 1 EXTRUSION DESTRUCTS WERE TAKEN, ALL SECONDARY LINER DESTRUCTS PASSED SITE SPECIFICATIONS.

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/14/2001 (S M (T) W T F S)
PAGE 1 OF 1

INSTALLER ON SITE: 7:00AM
INSTALLER OFF SITE: 6:30PM
INSTALLER'S CREW SIZE: 5 TECHNICIANS
NUMBER OF LABORERS: 10 LABORERS
OF OPERABLE FUSION WELDERS: 0
OF OPERABLE EXTRUSION WELDERS: 0

WEATHER

TEMPERATURE:
MORNING 78 F.
AFTERNOON 85 F.
EVENING 83 F.

CLOUD COVER : CLOUDY
WIND 0-5 mph
RAIN / SNOW NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT		168,750 s.f.
GEOMEMBRANE		175,987.5 s.f.
GEONET		103,500 s.f.
GEOTEXTILE 1		20,250 s.f.
GEONET 2	10,057.5 s.f.	10,057.5 s.f.
PRIMARY	10,057.5 s.f.	10,057.5 s.f.

GEOMEMBRANE PANELS DEPLOYED

PP1 THRU PP4
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-14	134	PASSED
DS-15	134	PASSED
DS-16	991	PASSED
DS-17	991	PASSED
DS-18	134	PASSED

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS? YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS? YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS? YES NO

FIELD MONITORING REPORT

'ROJECT NUMBER: 013-9659
WNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: OVERCAST, WARM, HIGH 87 F.

DATE: 8/15/2001

S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO BACK FILL THE ANCHOR TRENCH AS IT WAS RELEASED TO THEM BY TAYLOR AND GOLDER.

TAYLOR COMPLETED INSTALLATION OF THE SECONDARY LINER SYSTEM. TAYLOR LEFT SITE AND WILL RETURN NEXT WEEK AFTER THE INSTALLATION OF THE 1 FOOT TRACKED-IN-PLACE FILL.

STARTED REVIEW OF ALL SECONDARY LINER DOCUMENTATION.

THE WEEKLY CONSTRUCTION MEETING WAS HELD ON SITE, SEE MEETING MINUTES.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER AND 563 CAT SHEEP'S FOOT COMPACTOR.

SEE ALSO GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/15/2001 **S M T W T F S**

GEOSYNTHETIC DEPLOYMENT: COMPLETED DEPLOYMENT OF THE SECONDARY GEOSYNTHETICS LINER. 9 HALF ROLLS OF TEXTILE AND 11 ROLLS OF GEONET WERE DEPLOYED.

TRIAL SEAMING:

SEAMING: MONITERED SEAMING OF GEOTEXTILE.

NON-DESTRUCTIVE TESTING: MONITERED VACUUM TESTING OF ALL REPAIRS ON SECONDARY LINER.

DESTRUCTIVE SAMPLING:

GENERAL REMARKS: AFTER COMPLETION OF THE GEOTEXTILE LINER TAYLOR SANDBAGGED THE ENTIRE TOE OF THE CELL AND AROUND THE CALL FLOOR. TAYLOR LEFT SITE @1600 HRS.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/15/2001
S M T (W) T F S
PAGE 1 OF 1

INSTALLER ON SITE: 7:00AM
INSTALLER OFF SITE: 4:00PM
INSTALLER'S CREW SIZE: 5 TECHNICIANS
NUMBER OF LABORERS: 7 LABORERS
OF OPERABLE FUSION WELDERS: 0
OF OPERABLE EXTRUSION WELDERS: 0

WEATHER

TEMPERATURE:
MORNING: 78 F.
AFTERNOON: 87 F.
EVENING:
CLOUD COVER : CLOUDY
WIND: 10-15 mph
RAIN / SNOW: NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT		168,750 s.f.
GEOMEMBRANE		175,987.5 s.f.
GEONET		103,500 s.f.
GEOTEXTILE 1		20,250 s.f.
GEONET 2		10,057.5 s.f.
PRIMARY		10,057.5 s.f.

GEOMEMBRANE PANELS DEPLOYED

_____ THRU _____
_____ THRU _____

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: WARM, OVERCAST, HIGH 87 F.

DATE: 8/16/2001 S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT AND ENVIROMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS PLACED THE GEONET ON THE RAMP IN THE SOUTH EAST CORNER OF THE CELL, READY FOR PLACING OF THE OVERLYING STONE. LMS CLEARED THE SITE OF ALL DEBRIE FROM THE LINER INSTALLATION.

COMPLETED REVIEW OF THE SECONDARY LINER SYSTEM AND DON GRAHLHEER OF URS SELECTED CERTAIN DOCUMENTATION AS A CHECK REVIEW, ALL LINER DOCUMENTATION APPEARS TO BE CORRECT.

RECEIVED A COMPLETED AS-BUILT DRAWING FOR THE 60MIL HDPE SECONDARY LINER AND SURVEYORS QC NOTES, A COPY OF EACH IS ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP DOZER AND A 563 CAT SHEEP'S FOOT COMPACTOR.

THE ANCHOR TRENCH WAS TESTED AND NUCLEAR DENSITY TEST NUMBER'S AT-01 THRU AT-06 WERE TAKEN, ALL TESTS PASSED SITE SPECIFICATIONS FOR COMPACTED FILL.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

ject: sosliner Wed Aug 15 09:39:26 2001
Point statistics:
Starting point number: 1
Current point number: 1579 ('L' indicates locked point)

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
400	699763.2083	2294872.8287	.	BACKSIGHT
401	699355.1432	2294399.8686	.	3K
402	699362.3093	2294401.2176	.	3K
403	699367.2724	2294379.1928	.	3S
404	699362.1701	2294372.5758	.	3P
405	699387.4907	2294405.4999	.	3R
406	699414.5222	2294410.0817	.	4A
407	699419.8662	2294411.0222	.	4B
408	699416.0700	2294369.5538	.	4C
409	699396.7029	2294344.5139	.	4D
410	699552.0912	2294359.9001	.	PC
411	699530.0114	2294356.2507	.	PC
412	699507.7378	2294352.3172	.	PC
413	699528.1830	2294420.5105	.	P55
414	699508.1831	2294417.9371	.	P54
415	699495.9394	2294413.9926	.	DS13 4M
416	699494.1484	2294423.6534	.	PC
417	699477.4400	2294420.8797	.	PC
418	699455.1667	2294417.1335	.	PC
419	699452.6378	2294416.7757	.	PC
420	699490.0762	2294445.5433	.	PC
421	699485.8932	2294467.7585	.	PC
422	699481.6990	2294490.0729	.	PC
423	699477.8323	2294511.9945	.	PC
424	699477.5007	2294513.3301	.	4K
425	699479.0852	2294508.3630	.	4K
426	699499.8124	2294516.0981	.	PC
427	699522.0796	2294519.8779	.	PC
428	699516.0419	2294531.8302	.	P53
429	699514.6967	2294553.0472	.	P52
430	699507.6721	2294573.4369	.	P51
431	699472.7000	2294556.9605	.	PC4I
432	699476.2085	2294534.7688	.	PC4J
433	699470.3944	2294575.9640	.	3W
434	699473.2898	2294579.6098	.	3W
435	699459.7558	2294592.6423	.	3W
436	699455.1082	2294589.0647	.	3W
437	699477.7492	2294590.2691	.	3X
438	699476.8949	2294589.5306	.	3XEXT
439	699468.2550	2294585.4182	.	3XEXT
440	699555.7807	2294571.1308	.	DS12 4E
441	699638.6858	2294608.2409	.	PC4G
442	699638.4381	2294609.3608	.	4HEXT

›ject: sosliner Wed Aug 15 09:39:44 2001

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
443	699637.4492	2294616.1299	.	4HEXT
444	699638.4075	2294617.4322	.	3F
445	699644.1186	2294620.9849	.	4FEXT
446	699644.1649	2294621.0837	.	4F
447	699637.9345	2294615.4681	.	4FEXT
448	699701.5501	2294595.7497	.	PC
449	699705.7703	2294573.5327	.	PC
450	699710.1706	2294551.6964	.	PC
451	699381.7892	2294667.9939	.	1W
501	699461.9776	2294732.9680	.	PC
502	699439.7600	2294729.9698	.	PC
503	699417.4674	2294726.7008	.	PC
504	699395.4800	2294722.9767	.	PC
505	699373.3729	2294719.0263	.	PC
506	699351.5740	2294714.3002	.	PC
507	699331.4964	2294710.7163	.	PC
508	699318.1926	2294708.4474	.	PC
509	699310.0909	2294700.4455	.	PC
510	699295.7894	2294683.1955	.	PC
511	699300.3920	2294679.4625	.	PC
512	699301.9132	2294664.4747	.	PC
513	699307.2794	2294642.3487	.	PC
514	699310.7639	2294620.8411	.	PC
515	699314.4319	2294598.7251	.	PC
516	699317.3778	2294577.1352	.	PC
517	699313.7020	2294576.4877	.	PC
518	699319.9547	2294554.5374	.	PC
519	699462.9434	2294600.7197	.	PC
520	699459.3033	2294623.0708	.	PC
521	699450.5842	2294607.1272	.	P3
522	699472.4055	2294612.6838	.	P2
523	699467.2542	2294592.7825	.	P1
524	699641.5371	2294609.7930	.	PC
525	699635.4974	2294631.4845	.	PC
526	699631.4358	2294653.3794	.	PC
527	699492.5900	2294628.6004	.	PC
528	699476.4442	2294648.5314	.	PC
529	699463.5921	2294651.2045	.	P5
530	699454.0935	2294645.1475	.	PC
531	699442.6919	2294650.2027	.	P6
532	699431.9167	2294641.4628	.	PC
533	699419.1409	2294647.5151	.	P7
534	699409.5796	2294637.7933	.	PC
535	699398.0789	2294646.3597	.	P8
536	699387.6444	2294633.9773	.	PC
537	699386.8572	2294634.0900	.	PC
538	699358.0403	2294629.2698	.	PC

ɔject: sosliner

Wed Aug 15 09:39:46 2001

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
539	699336.8642	2294647.4550	.	PC
540	699314.9729	2294666.6568	.	PC
541	699311.0962	2294667.7742	.	P13
542	699313.6569	2294654.8380	.	P12
543	699317.4646	2294633.1795	.	P11
544	699320.9098	2294612.7887	.	P4
545	699312.1193	2294681.8923	.	P9
546	699326.4426	2294698.9872	.	P10
547	699346.7300	2294705.3793	.	P15
548	699355.3160	2294690.8623	.	PC
549	699381.7892	2294667.9939	.	PC
601	699462.4305	2294733.3764	.	PC
602	699484.4100	2294737.4261	.	PC
603	699506.6903	2294741.6996	.	PC
604	699506.6072	2294741.7536	.	PC
605	699528.9936	2294745.6824	.	PC
606	699763.2160	2294872.8102	.	PC
609	699573.4633	2294752.8279	.	PC
610	699551.1791	2294748.7624	.	PC
611	699595.4722	2294755.8955	.	PC
612	699617.9661	2294759.1162	.	PC
613	699639.9748	2294763.6101	.	PC
614	699662.5101	2294768.0335	.	PC
615	699672.9653	2294771.6961	.	PC
616	699674.7465	2294756.8955	.	PC
617	699675.9389	2294750.7130	.	PC
618	699679.8594	2294728.5674	.	PC
619	699684.2605	2294706.5046	.	PC
620	699687.9512	2294683.7253	.	PC
621	699691.9517	2294662.2280	.	PC
622	699689.4642	2294660.7777	.	PC
623	699695.2925	2294639.2011	.	PC
624	699698.0164	2294617.6026	.	PC
625	699664.4797	2294754.3213	.	PC
626	699652.9262	2294756.0363	.	P32
627	699631.0824	2294752.5237	.	P31
628	699607.7261	2294748.7843	.	P23
629	699585.6054	2294744.8835	.	P22
630	699564.2220	2294741.5662	.	P21
631	699542.2045	2294738.0557	.	P20
632	699519.7843	2294734.2262	.	P19
633	699498.0391	2294730.1964	.	P18
634	699474.4086	2294726.5277	.	P17
635	699666.5029	2294759.1745	.	P33
636	699667.3796	2294752.1860	.	P30
637	699669.5961	2294737.4714	.	P29
638	699672.7485	2294716.4691	.	P28

ject: sosliner Wed Aug 15 09:39:48 2001

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
639	699676.1387	2294695.2299	.	P27
640	699680.2790	2294672.0061	.	P26
641	699684.3222	2294648.7052	.	P25
642	699687.9799	2294628.9374	.	P24
643	699659.2773	2294747.9334	.	PC
644	699646.3079	2294727.8235	.	PC
645	699642.6973	2294722.1491	.	PC
646	699627.6938	2294698.9636	.	PC
647	699627.2441	2294697.0491	.	PC
648	699628.0546	2294674.6501	.	PC
649	699628.0052	2294674.1525	.	PC
650	699631.4006	2294652.4323	.	PC
651	699631.3292	2294651.8980	.	PC
652	699635.6495	2294630.2195	.	PC
653	699635.7641	2294629.8445	.	PC
654	699639.8251	2294608.4506	.	PC
655	699618.3218	2294661.6862	.	P16
656	699610.1507	2294671.3909	.	PC
657	699588.0566	2294667.6524	.	PC
658	699565.6448	2294664.3098	.	PC
659	699543.5417	2294660.0146	.	PC
660	699521.0826	2294656.4930	.	PC
661	699498.6706	2294652.7554	.	PC
662	699476.4413	2294649.0532	.	PC
663	699475.5673	2294648.7837	.	PC
664	699475.9737	2294642.4607	.	DS5
665	699473.1798	2294625.7295	.	PC
666	699427.9228	2294665.5770	.	DS3
800	699763.2164	2294872.8293	.	backsight
801	699321.9700	2294554.7753	.	pc
802	699325.3637	2294532.3252	.	pc
803	699327.8921	2294509.6934	.	pc
804	699331.7773	2294487.6603	.	pc
805	699335.9781	2294465.2812	.	pc
806	699339.8059	2294442.8207	.	pc
807	699343.7462	2294421.0452	.	pc
808	699347.5625	2294398.6415	.	pc
809	699351.9549	2294376.3842	.	pc
810	699355.3859	2294362.7568	.	pc
811	699359.4874	2294349.6956	.	pc
812	699368.9095	2294343.4942	.	pc
813	699317.9063	2294598.8414	.	3c
814	699315.1153	2294622.9098	.	3b
815	699440.7606	2294725.3666	.	3d
816	699664.7331	2294754.2215	.	2t
817	699659.4509	2294748.1266	.	2s
818	699646.0323	2294728.2135	.	2r

ject: sosliner Wed Aug 15 09:39:49 2001

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
819	699642.1235	2294721.9864	.	2q
820	699628.3841	2294700.2497	.	2p
821	699628.1288	2294674.4683	.	2n
822	699630.7879	2294661.1317	.	DS7 2W
823	699631.3398	2294652.3465	.	2M
824	699627.0898	2294649.3031	.	2X
825	699635.7530	2294630.0205	.	2K
826	699609.9722	2294671.8697	.	2J
827	699599.2567	2294646.8987	.	DS4 1F
828	699588.0471	2294667.9080	.	2I
829	699565.9043	2294663.8935	.	2H
830	699543.3519	2294660.4205	.	2G
831	699521.1481	2294656.7488	.	2F
832	699513.4412	2294701.5856	.	DS6 1H
833	699498.7349	2294653.2117	.	2E
834	699481.3847	2294649.8308	.	2A
835	699474.9655	2294648.8988	.	2A
836	699476.0835	2294642.4446	.	DS5 1G
837	699476.0126	2294625.8461	.	DS1EXT
838	699459.5140	2294623.4075	.	2C
839	699473.0866	2294636.4010	.	2D
840	699479.8828	2294603.9099	.	1A
841	699476.1070	2294603.1934	.	1A
842	699454.5155	2294645.1927	.	1X
843	699432.4092	2294641.5921	.	1I
844	699427.8636	2294665.4376	.	DS3 1E
845	699410.0061	2294637.8894	.	1J
846	699401.2005	2294689.2701	.	DS2 1D
847	699355.4147	2294691.0271	.	1T
848	699349.7702	2294695.3342	.	DS1 1C
849	699339.2418	2294704.5470	.	1S
850	699315.0015	2294666.6250	.	1P
851	699336.8732	2294647.5996	.	1N
852	699358.5025	2294629.3275	.	1M
853	699387.2780	2294633.9064	.	1K
854	699373.8038	2294563.5524	.	DS 9 3J
855	699470.6822	2294579.4704	.	PC
856	699474.3180	2294557.0978	.	PC
857	699478.2776	2294535.1658	.	PC
858	699481.9917	2294513.0045	.	PC
859	699485.2349	2294490.5779	.	PC
860	699490.4043	2294468.5913	.	PC
861	699495.5895	2294446.9056	.	PC
862	699503.9246	2294448.0971	.	PC
863	699507.7400	2294428.2681	.	PC
864	699417.7831	2294410.7367	.	PC
865	699387.4959	2294405.4902	.	PC

ject: sosliner Wed Aug 15 09:39:51 2001

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
866	699367.1744	2294379.1962	.	PC
867	699359.6634	2294400.7011	.	DS10 3K
868	699352.2841	2294422.6294	.	3M
869	699339.1429	2294511.5254	.	3H
870	699326.3970	2294578.0890	.	1R
871	699320.8967	2294599.4175	.	1Q
872	699327.2433	2294600.6471	.	1Q
873	699375.0180	2294710.0271	.	3A
874	699596.8470	2294747.0991	.	3E
875	699630.5340	2294704.5004	.	2P
876	699627.1506	2294696.5507	.	2P
877	699408.5549	2294500.7408	.	DS8 3I
878	699412.4789	2294489.3046	.	P37
879	699416.0778	2294467.9872	.	P38
880	699418.6789	2294446.0924	.	P39
881	699414.3216	2294423.9917	.	P40
882	699380.6258	2294378.9285	.	P41
883	699360.5792	2294374.5909	.	P43
884	699358.4022	2294389.3551	.	P42
885	699339.9116	2294498.4969	.	P36
886	699335.9840	2294521.7119	.	P35
887	699332.1037	2294544.2322	.	P34
900	699367.5400	2294343.3516	.	PC
901	699385.0071	2294329.2647	.	PC
902	699387.3505	2294332.9696	.	PC
903	699397.6223	2294334.1612	.	PC
904	699420.1588	2294338.6183	.	PC
905	699442.4652	2294341.7345	.	PC
906	699464.5932	2294345.4157	.	PC
907	699487.0710	2294348.6969	.	PC
908	699509.7062	2294352.5613	.	PC
909	699497.0000	2294360.0000	.	P45
910	699476.8771	2294357.6552	.	P46
911	699453.5260	2294353.9240	.	P47
912	699432.1522	2294350.3273	.	P48
913	699410.5046	2294345.8518	.	P49
914	699396.7615	2294344.1855	.	PC
915	699396.0456	2294342.2725	.	P50
916	699415.8200	2294369.5079	.	PC
917	699427.6267	2294384.5133	.	DS11 3Q
918	699435.4878	2294394.3856	.	PC3T
1500	699763.2300	2294872.8237	.	BACKSIGHT
1501	699705.3935	2294573.2140	.	PC
1502	699709.6399	2294551.2669	.	PC4W
1503	699713.0586	2294528.8202	.	PC
504	699718.3857	2294506.6611	.	PC5F
1505	699722.9673	2294484.3526	.	PC5G

ɔject: sosliner Wed Aug 15 09:39:53 2001

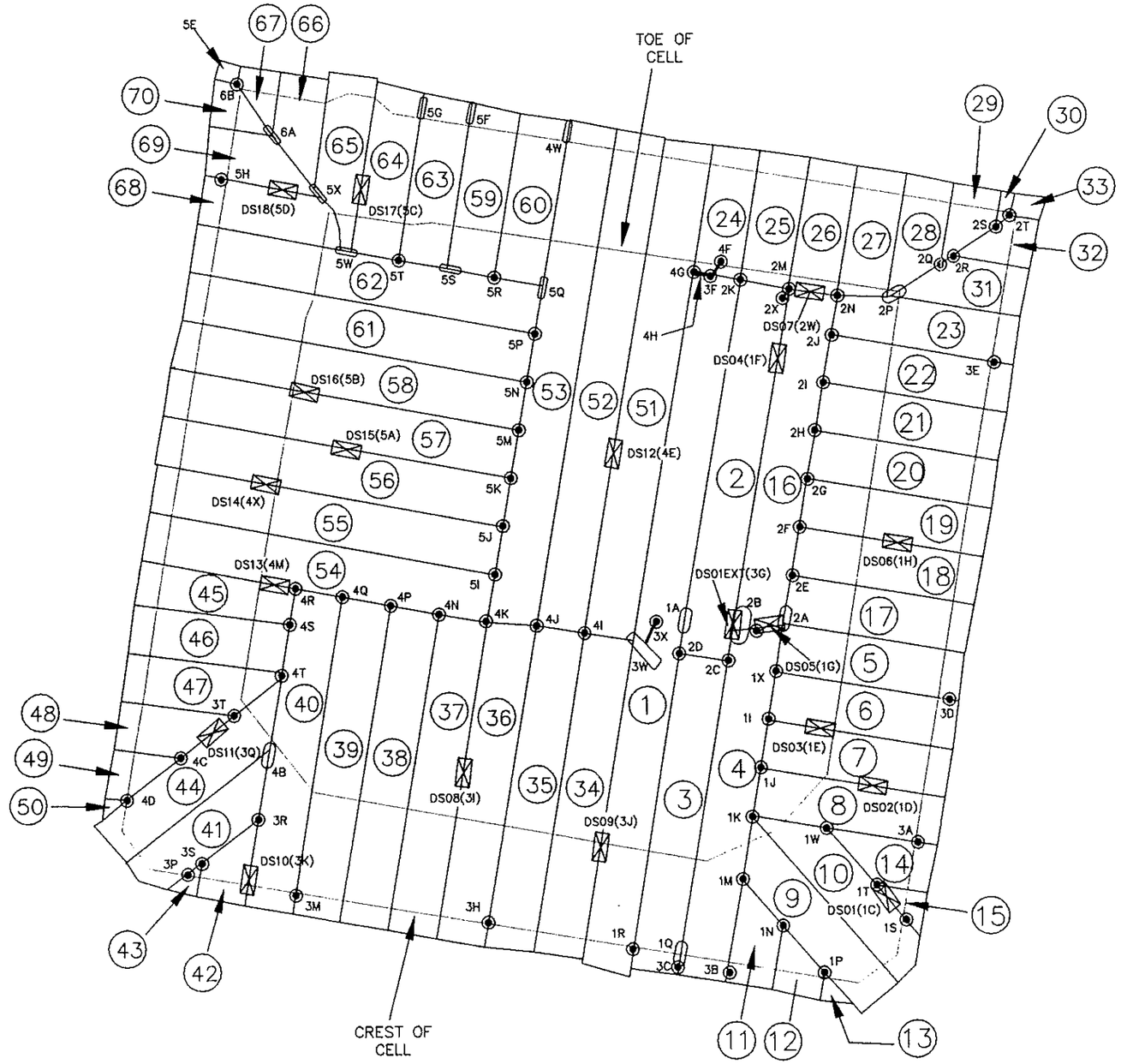
Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
1506	699728.4046	2294462.7501	.	PC
1507	699729.8554	2294462.7486	.	PC
1508	699733.2229	2294440.7376	.	PC
1509	699729.6087	2294440.4205	.	PC
1510	699733.1197	2294418.0677	.	PC
1511	699735.9265	2294399.1603	.	PC
1512	699738.6863	2294389.5537	.	PC
1513	699730.1652	2294387.1937	.	PC
1514	699708.3982	2294384.5909	.	PC
1515	699685.7132	2294382.6096	.	PC
1516	699663.3826	2294378.9823	.	PC
1517	699641.1232	2294375.3438	.	PC
1518	699618.8861	2294371.7670	.	PC
1519	699596.9844	2294366.3133	.	PC
1520	699574.7508	2294362.8193	.	PC
1521	699552.3158	2294358.7023	.	PC
1522	699551.8280	2294360.4813	.	PC
1523	699529.9956	2294356.6480	.	PC
1524	699507.9655	2294352.3495	.	PC
1525	699518.6915	2294364.9182	.	P54
.526	699539.4133	2294368.3499	.	P55
1527	699560.2924	2294371.6987	.	P56
1528	699583.5602	2294375.0965	.	P57
1529	699605.7057	2294378.8015	.	P58
1530	699627.5682	2294382.7180	.	P61
1531	699650.3007	2294386.7236	.	P62
1532	699673.5606	2294390.4572	.	P68
1533	699683.6518	2294390.0000	.	5H
1534	699695.4785	2294393.3714	.	P69
1535	699714.5454	2294396.2517	.	P70
1536	699727.4873	2294397.5412	.	6B
1537	699727.6078	2294397.4894	.	5EPAN
1538	699723.2708	2294409.5538	.	P67
1539	699720.3068	2294426.5290	.	P66
1540	699722.5493	2294451.6338	.	P65
1541	699715.0005	2294469.3073	.	P64
1542	699710.9794	2294482.7142	.	5G
1543	699710.0242	2294493.1874	.	P63
1544	699708.6984	2294505.2279	.	5F
1545	699706.5524	2294516.1889	.	P59
1546	699703.5136	2294537.0214	.	P60
1547	699699.7852	2294549.3655	.	4W
1548	699703.6884	2294413.8791	.	6APC
1549	699679.6072	2294432.7076	.	5X
1550	699678.9819	2294433.4886	.	PC
'551	699675.1307	2294436.6994	.	PC
±552	699674.0752	2294438.0315	.	5X

ɔject: sosliner Wed Aug 15 09:39:54 2001

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
1553	699668.8630	2294442.6116	.	PC
1554	699660.4228	2294445.0706	.	PC
1555	699650.6300	2294445.6791	.	PC
1556	699651.0391	2294443.9224	.	5W
1557	699649.3637	2294452.5362	.	5W
1558	699649.7263	2294450.2387	.	PC
1559	699678.5975	2294455.0538	.	DS17 5C
1560	699678.7643	2294418.7979	.	DS18 5D
1561	699645.7974	2294472.3945	.	PC5T
1562	699641.8463	2294494.6198	.	PC
1563	699641.9669	2294492.6983	.	5S
1564	699640.7531	2294498.9284	.	5S
1565	699637.5845	2294516.5537	.	PC5R
1566	699633.4389	2294538.8517	.	PC
1567	699635.3306	2294538.9899	.	5Q
1568	699628.7183	2294538.1045	.	5Q
1569	699611.4026	2294534.9866	.	PC5P
1570	699589.1754	2294531.2233	.	PC5N
1571	699566.9516	2294527.4154	.	PC5M
1573	699544.5927	2294523.5744	.	PC5K
.574	699522.5306	2294519.7914	.	PC5J
1575	699500.0409	2294515.9694	.	PC5I
1576	699542.5053	2294410.2860	.	DS14 4X
1577	699558.3846	2294447.8030	.	DS15 5A
1578	699585.1779	2294428.4393	.	DS16 5B



AS-BUILT LOCATIONS OF THE SECONDARY H.D.P.E. LINER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

LEGEND

- ◉ = REPAIR LOCATION
- 1K = REPAIR DESIGNATION
- ⊠ = DESTRUCTIVE TEST LOCATION
- DS01(1C) = DESTRUCTIVE TEST DESIGNATION (REPAIR DESIGNATION)
- (9) = PANEL NUMBER

ENVIRONMENTAL PRECISION ASSOCIATES INC.
ENVIRONMENTAL LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012878

AS-BUILT LOCATIONS OF THE SECONDARY H.D.P.E. LINER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 60'
DRAWING DATE: 08/15/01
SURVEY DATE: 08/15/01
CLIENT FILE: 01-500
DRAWING FILE: SOSLINER
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PAGE 1 OF 1

:OJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HIGH 90 F.

DATE: 8/17/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS PLACED THE ROCK ON THE ACCESS RAMPS IN THE SOUTH EAST AND SOUTH WEST CORNERS OF THE CELL TO A THICKNESS OF 2 FEET.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER AND 10 TANDEM DUMP TRUCKS.

1,456.55 Tons OF ROCK WAS DELIVERED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/25/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES, INC. AND TAYLOR GEOSYNTHETICS, INC.

SUMMARY OF CONSTRUCTION PROGRESS:

LMS COMPLETED THE 1 FOOT THICK TRACKED-IN-PLACE FILL ON THE CELL FLOOR, THE TEMPORARY ACCESS RAMPS IN THE SOUTH EAST AND SOUTH WEST CORNERS OF THE CELL WAS REMOVED. TAYLOR MOBILIZED BACK TO SITE AND STARTED INSTALLATION OF THE PRIMARY 60 MIL. HDPE LINER. PANELS PP-01 THROUGH PP-34 WERE DEPLOYED. THIS IS APPROXIMATELY 70 % OF THE PRIMARY HDPE LINER.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER.

NUCLEAR DENSITY TEST NUMBER'S TIP-08 THRU TIP-12 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS. TEST NUMBER TIP-08 WAS TAKEN IN THE SECONDARY LEACHATE DETECTION PIPE RISER TRENCH.

A TOTAL OF 10 DESTRUCTS HAVE BEEN TAKEN AND SENT TO GOLDER'S GEOSYNTHETIC'S LABORATORY IN ATLANTA, GEORGIA FOR TESTING.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/25/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR WAS ON SITE FULL TIME DURING THE WORK WEEK.
SURVEYOR LEFT SITE MID AFTERNOON ON FRIDAY DUE TO RAIN.

SUMMARY OF PROBLEMS AND RESOLUTIONS:

RAINFALL THURSDAY AND FRIDAY HALTED DEPLOYMENT
OF THE PRIMARY 60 MIL. HDPE LINER.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

AS DISCUSSED IN THE FIELD
MONITORING DAILY FOR TUESDAY, 21, GARY WANTLAND ON SITE, AND THE DESIGN FOR THE PRIMARY
LEACHATE COLLECTION PIPE HOLE SIZE WAS CHANGED.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, HOT, HIGH 90 F.

DATE: 8/20/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

ROBERT'S DRILLING ARRIVED ON SITE TO INSTALL MONITORING WELLS.

LMS STARTED TO HAUL AND PLACE THE 1' TRACKED-IN-PLACE FILL IN THE CELL FLOOR.

RECEIVED THE SECONDARY GCL LINER PANEL LAYOUT FROM THE SURVEYOR, A COPY OF WHICH IS ATTACHED.

EQUIPMENT USED: D6LGP CAT DOZER, D6LGP CAT DOZER AND 16 TANDEM DUMP TRUCKS.

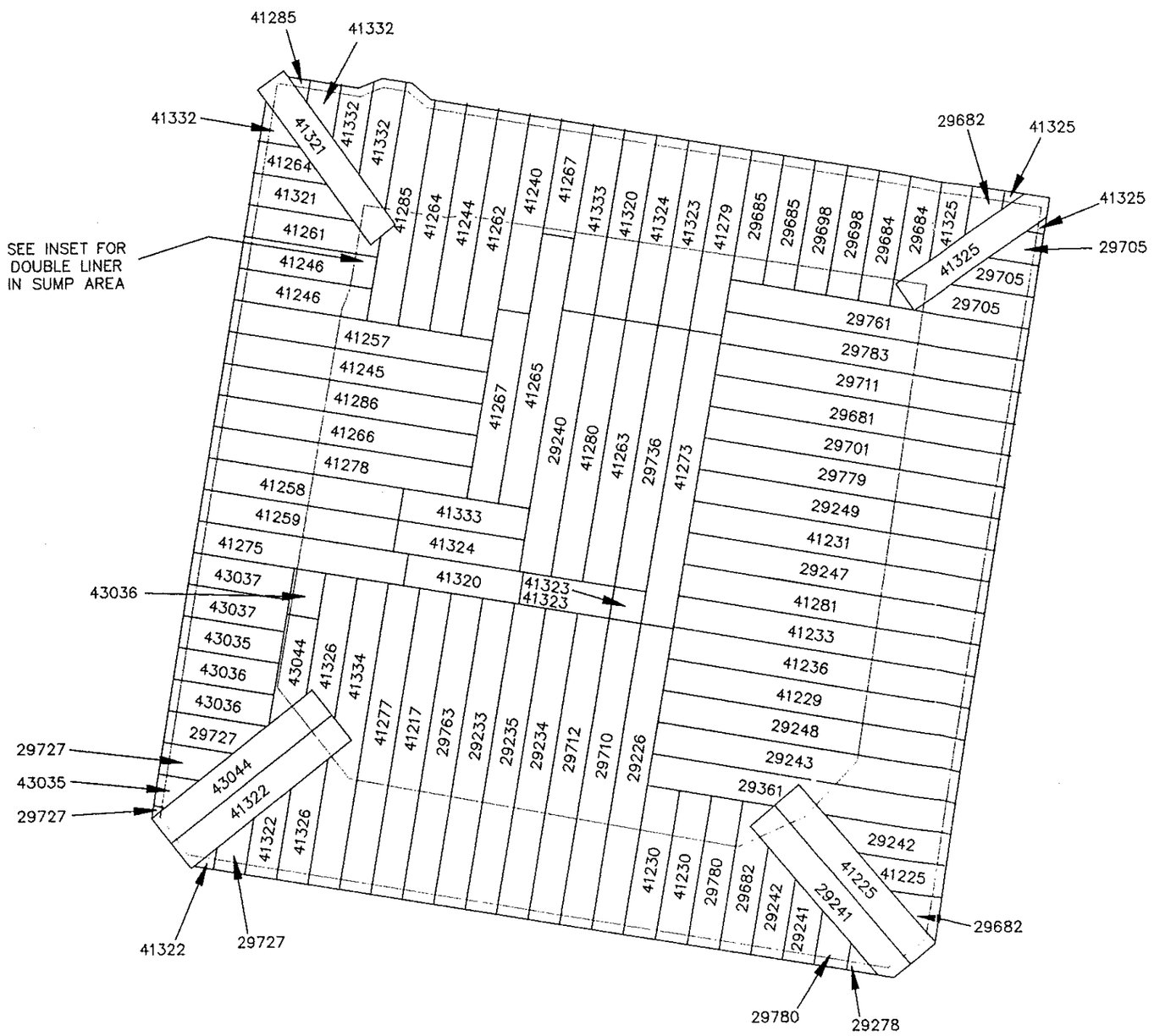
BORROW SITE: 325 CAT EXCAVATOR AND D5C CAT DOZER.

APPROXIMATELY 2072 c.y. OF SOIL MATERIAL WAS HAULED AND PLACED.

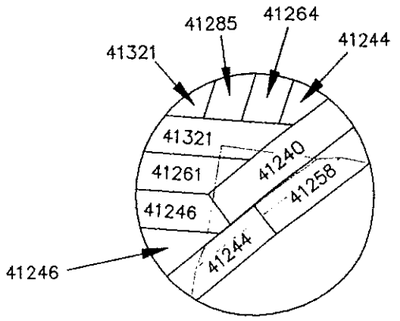
SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.



AS-BUILT LOCATIONS OF THE GEOSYNTHETIC CLAY LINER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS



INSET – DOUBLE LAYER OF GEOSYNTHETIC CLAY LINER IN SUMP AREA

LEGEND

29682 = ROLL DESIGNATION

NOTES:
1. THE INFORMATION SHOWN HEREON WAS PROVIDED BY QUALITY ASSURANCE PERSONNEL.

ENVIRONMENTAL PRECISION ASSOCIATES INC.
ENVIRONMENTAL LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

AS-BUILT LOCATIONS OF THE GEOSYNTHETIC CLAY LINER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 60'
DRAWING DATE: 08/15/01
SURVEY DATE: 08/15/01
CLIENT FILE: 01-500
DRAWING FILE: SOSLINER
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, WARM, HIGH 88 F.

DATE: 8/21/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

A DISCUSSION BETWEEN GARY WANTLAND, DON GRAHHLERR AND MYSELF WAS HELD TO DISCUSS THE RISER PIPE TRENCH CONSTRUCTION. IT WAS DECIDED TO ALLOW LMS TO PLACE THE SOIL AROUND THE SECONDARY RISER PIPE AS PER THE TRACKED-IN-PLACE FILL SPECIFICATIONS AND NOT AS PER THE COMPACTED FILL SPECIFICATION, AS THIS WOULD ALLOW FOR A SAFER AND BETTER CONSTRUCTION OF THE PROTECTIVE FILL. ALSO, THE ANCHOR TRENCH DETAIL FOR THE UNDER LYING GEOTEXTILE AND GEOGRID WAS DISCUSSED. THE SIZE OF THE HOLES IN THE PIPE WAS DISCUSSED AND IT WAS DECIDED TO DOUBLE THE AMOUNT OF THE HOLES TO A 1/2" HOLE ON 6" CENTERS FOR THE SECONDARY PIPE AND A 1" HOLE ON 6" CENTERS FOR THE PRIMARY PIPE, THIS PIPE WOULD THEN BE DOUBLE WRAPPED, ALONG THE LENGTH OF THE SUMP, WITH THE GEONET. THESE IMPROVEMENTS MET WITH JOHN FIORE'S APPROVAL ALSO.

LMS COMPLETED HAULING THE SOIL FOR THE 1 FOOT TRACKED-IN-PLACE FILL, AND STARTED TO ıNAL GRADE. THE SECONDARY DETECTION PIPE WAS INSTALLED TO THE NEW DESIGN. THE SUMP AREA WAS BACKFILLED WITH MEREMAC GRAVEL AND A GEOTEXTILE LAYER WAS PLACED OVER THE WHOLE AREA AND HEAT BONDED TO THE SECONDARY GEOTEXTILE LINER. THE GEOGRID WAS INSTALLED IN THE RISER TRENCH AND THE TRACKED-IN-PLACE FILL WAS STARTED.THE SOUTH EAST TEMPORARY ACCESS RAMP WAS REMOVED AND THE PRIMARY LINER PULLED BACK TO ALLOW FOR INSTALLATION OF THE 1' TRACKED-IN-PLACE FILL IN THE RAMP AREA.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 322 CAT "LONG REACH" EXCAVATOR, AND 15 TANDEM DUMP TRUCKS.

APPROXIMATELY 560 c.y.. OF FILL MATERIAL WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HUMID, HIGH 96 F.

DATE: 8/22/2001 S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS COMPLETED FINAL GRADING OF THE 1 FOOT THICK TRACKED-IN-PLACE FILL AND NUCLEAR DENSITY TEST NUMBER'S TIP-08 THRU TIP-12 WERE TAKEN, ALL PASSED THE SITE SPECIFICATIONS. TIP-08 WAS TAKEN ON THE SECONDARY RISER PIPE TRENCH BACKFILL.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 322 CAT "LONG REACH" EXCAVATOR.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: WARM, OVERCAST, RAIN IN PM, HIGH 90 F.

DATE: 8/23/2001

S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS REMOVED THE TEMPORARY ACCESS RAMP IN THE SOUTH WEST RAMP AREA. LMS MAINTAINED THE INTEGRITY OF THE 1' TRACKED-IN-PLACE FILL AHEAD OF THE PRIMARY 60 MIL HDPE LINER DEPLOYMENT. NUCLEAR DENSITY TEST NUMBER'S TIP-13 & TIP-14 WERE TAKEN ON THE 1" THICK TRACKED-IN-PLACE FILL, BOTH TESTS PASSED SITE SPECIFICATIONS.

TAYLOR ARRIVED ON SITE AND STARTED TO DEPLOY THE 60 MIL HDPE PRIMARY LINER.

SEE ALSO GEOSYNTHETICS MONITORING REPORT, ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER, 322 CAT "LONG REACH" EXCAVATOR AND 1 TANDEM DUMP TRUCK.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GEOSYNTHETIC INSTALLATION MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/23/2001

S M T W (T) F S

GEOSYNTHETIC DEPLOYMENT: DEPLOYED HDPE PRIMARY LINER, PANELS PP-05 THRU PP-34.

TRIAL SEAMING: TF-02 THRU TF-05 WERE TAKEN AND RECORDED.

SEAMING: ALL PANELS OF HDPE PRIMARY LINER WERE DOUBLE WEDGE WELDED

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING OF DOUBLE WEDGE WELDS.

DESTRUCTIVE SAMPLING: REMOVED DS-P02 THRU DS-P08 FROM HDPE PRIMARY LINER, SENT TO LAB TO BE TESTED.

GENERAL REMARKS: AFTERNOON SHOWERS, CALLED THE DAY ON LINER DEPLOYMENT.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/23/2001
S M T W T F S
PAGE 1 OF 1

INSTALLER ON SITE 7:00AM
INSTALLER OFF SITE 4:30PM
INSTALLER'S CREW SIZE TECHNICIANS 4
NUMBER OF LABORERS LABORERS 8
OF OPERABLE FUSION WELDERS 2
OF OPERABLE EXTRUSION WELDERS 0

WEATHER

TEMPERATURE:
MORNING 80 F.
AFTERNOON 90 F.
EVENING
CLOUD COVER: OVERCAST
WIND 5-10MPH
RAIN / SNOW RAIN IN PM

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	0
GEOMEMBRANE	94,410 s.f.	104,467.5 s.f.
GEONET	0	0
GEOTEXTILE 1	0	0
GEOTEXTILE 2	0	0
OTHER	0	0

GEOMEMBRANE PANELS DEPLOYED

PP5 THRU PP34
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-P02	134	SENT TO LAB
DS-P03	132	SENT TO LAB
DS-P04	134	SENT TO LAB
DS-P05	134	SENT TO LAB
DS-P06	134	SENT TO LAB
DS-P07	132	SENT TO LAB
DS-P08	134	SENT TO LAB
DS-P09	132	SENT TO LAB
DS-P10	134	SENT TO LAB
DS-P11	132	SENT TO LAB

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SHOWERS, HIGH 82 F.

DATE: 8/24/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

DUE TO RAIN LMS CALLED OFF WORK TILL MONDAY. LABORERS ON CALL TO MAN THE PUMPS.

TAYLOR ATTEMPTED TO WORK, BUT DUE TO RAIN WORK WAS CALLED OFF AT 11:00AM, WILL ATTEMPT TO WORK ON SATURDAY.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/24/2001 **S M T W T F S**

GEOSYNTHETIC DEPLOYMENT: NONE DEPLOYED

TRIAL SEAMING: NONE TAKEN

SEAMING: NONE DONE

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING OF DOUBLE WEDGE WELDS.

DESTRUCTIVE SAMPLING: REMOVED DS-P09 THRU DS-P11 FROM HDPE PRIMARY LINER, SENT TO LAB TO BE TESTED.

GENERAL REMARKS: MORNING SHOWERS, CALLED THE DAY ON AIR TESTING AND ALL OTHER ACTIVITY

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/25/2001 S M T W T F S

GEOSYNTHETIC DEPLOYMENT: NONE DEPLOYED

TRIAL SEAMING: NONE TAKEN

SEAMING: NONE DONE

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING OF DOUBLE WEDGE WELDS.

DESTRUCTIVE SAMPLING: NONE TAKEN OR RECEIVED

GENERAL REMARKS: MORNING SHOWERS, CALLED THE DAY ON AIR TESTING AND ALL OTHER ACTIVITY

SUBMITTED BY GOLDER

MONITOR

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
NER: SOLUTIA CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/31/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES, INC. AND TAYLOR GEOSYNTHETICS, INC.

SUMMARY OF CONSTRUCTION PROGRESS:

LMS MAINTAINED AND REPAIRED THE 1 FOOT TRACKED-IN-PLACE FILL AHEAD OF DEPLOYMENT OF THE PRIMARY 60 MIL/ HDPE LINER. TAYLOR "BLACKED OUT" THE CELL ON THURSDAY NIGHT AND STARTED FINAL DETAILING ON FRIDAY LMS COMPLETED BACKFILLING THE EAST ANCHOR .

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. NUCLEAR DENSITY TEST NUMBER'S AT-07 THRU AT-10 WERE TAKEN IN THE ANCHOR TRENCH, ALL TESTS PASSED SITE SPECIFICATIONS FOR COMPACTED FILL.

A REMAINING 9 DESTRUCTS WERE TAKEN AND SENT TO GOLDER'S GEOSYNTHETIC'S LABORATORY IN ATLANTA, GEORGIA FOR TESTING.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA/QA/SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 8/31/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR WAS ON SITE ALL WEEK TO VERIFY GRADES AND BUILD AS-BUILT FOR THE PRIMARY 60 MIL HDPE LINER.

SUMMARY OF PROBLEMS AND RESOLUTIONS:

SOFT AREAS IN THE 1 FOOT TRACKED-IN-PLACE FILL WERE OBSERVED, THIS WAS BROUGHT TO LMS'S ATTENTION. AS PER THE SITE SPECIFICATIONS THESE AREAS WOULD NOT PASS, THEREFORE IT WAS ADVISED THAT THE AREAS OF CONCERN BE REMOVED AND REPLACED WITH A SUITABLE MATERIAL. THIS WAS CARRIED OUT ON THURSDAY BY LMS, AFTER THE CONTRACTOR HAD WAITED 2 DAYS TO SEE IF THE MATERIAL WOULD DRY OUT AND ALLOW COMPACTION AND MOISTURE SPECS. TO BE ACHIEVED.

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

THE WEEKLY SCHEDULED CONSTRUCTION METING WAS HELD ON SITE, SEE MINUTES.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HOT, HIGH 90 F.

DATE: 8/27/2001

S (M) T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

TAYLOR COMPLETED DETAILING THE PLACED LINER, NO DEPLOYMENT DUE TO WET SUBGRADE CONDITIONS.

SEE ALSO GEOSYNTHETIC'S MONITORING REPORT, ATTACHED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GEOSYNTHETIC INSTALLATION MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/27/2001 S M T W T F S

GEOSYNTHETIC DEPLOYMENT: NONE DEPLOYED

TRIAL SEAMING: TAKEN AND RECORDED TX-01 AND TX-02.

SEAMING: NONE DONE

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING OF DOUBLE WEDGE WELDS. ALL PATCHES WERE REPAIRED ON PRIMARY LINER AS PER SITE SPECIFICATION. VACCUM TESTED ALL REPAIRS ON PRIMARY LINER.

DESTRUCTIVE SAMPLING: RECEIVED DS-P02 THRU DS-P11 ALL PASSED SITE SPECIFICATION.

GENERAL REMARKS: MORNING SHOWERS, CALLED THE DAY ON AIR TESTING AND ALL OTHER ACTIVITY

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HIGH 98 F.

DATE: 8/28/2001 S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIROMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS STARTED TO REPAIR THE 1 FOOT THICK TRACKED-IN-PLACE FILL AFTER THE RAINFALL OVER THE WEEKEND.RECEIVED REVISED AND FINISHED COPYS OF THE PANEL LAYOUT FOR THE SECONDARY GEOTEXTILE LINER AND THE SECONDARY 60 MIL. HDPE LINER, ALSO RECEIVED THE PRELIMINARY PANEL LAYOUT FOR THE PRIMARY 60 MIL. HDPE LINER, COPYS OF WHICH ARE ATTACHED.

TAYLOR STARTED TO DEPLOY THE PRIMARY GEONET AND GEOTEXTILE LINERS OVER THE AREA COVERED BY THE PASSING DESTRUCTS.

SEE ALSO GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER AND 322 CAT "LONG REACH" EXCAVATOR.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/28/2001
S M (T) W T F S
PAGE 1 OF 1

INSTALLER ON SITE: 7:00 AM
INSTALLER OFF SITE: 3:30 PM
INSTALLER'S CREW SIZE: 4 TECHNICIANS
NUMBER OF LABORERS: 8 LABORERS
OF OPERABLE FUSION WELDERS: 0
OF OPERABLE EXTRUSION WELDERS: 0

WEATHER

TEMPERATURE:
MORNING: 77 F.
AFTERNOON: 98 F.
EVENING:

CLOUD COVER : CLEAR
WIND : 0 - 5 mph
RAIN / SNOW: NONE

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	0
GEOMEMBRANE	0	104,467.5 s.f.
GEONET	63,000 s.f.	63,000 s.f.
GEOTEXTILE 1	18,000 s.f.	18,000 s.f.
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

THRU
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-P02	134	PASSED
DS-P03	132	PASSED
DS-P04	134	PASSED
DS-P05	134	PASSED
DS-P06	134	PASSED
DS-P07	132	PASSED
DS-P08	134	PASSED
DS-P09	132	PASSED
DS-P10	134	PASSED
DS-P11	132	PASSED

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/28/2001 S M T W T F S

GEOSYNTHETIC DEPLOYMENT: 14 ROLLS OF GEONET AND 4 ROLLS OF GEOTEXTILE WERE PUT IN PLACE AS PER SITE SPECIFICATIONS.

TRIAL SEAMING: NONE TAKEN

SEAMING: SEAMED GEOTEXTILE LAYERS THAT WERE PUT IN PLACE.

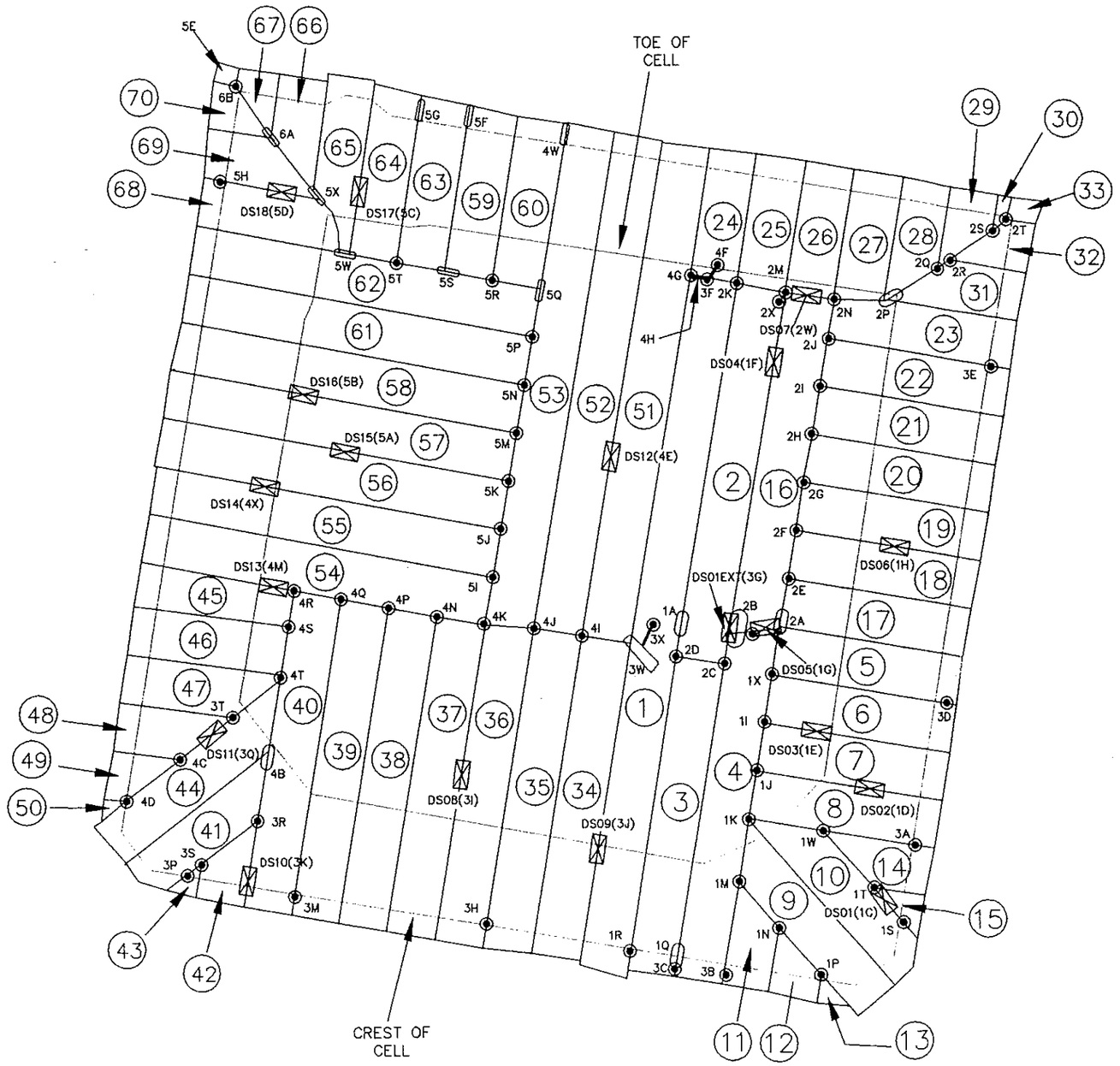
NON-DESTRUCTIVE TESTING: NONE TAKEN

DESTRUCTIVE SAMPLING: NONE TAKEN

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR



AS-BUILT LOCATIONS OF THE SECONDARY H.D.P.E. LINER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

LEGEND:

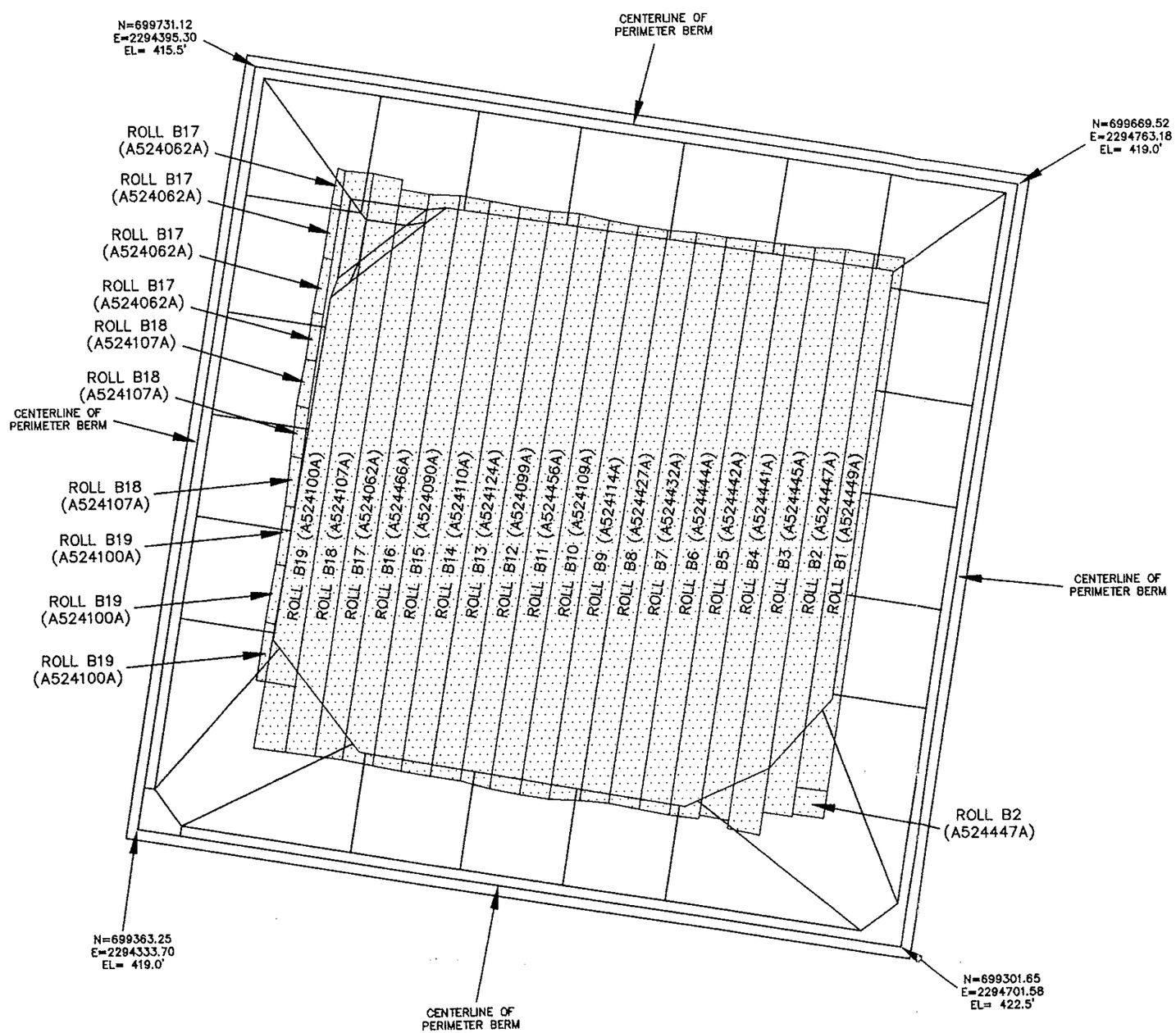
- = REPAIR LOCATION (SEE REPAIR LOG FOR DIMENSIONS)
- = LARGER REPAIR LOCATION (SEE REPAIR LOG FOR DIMENSIONS)
- 1K = REPAIR DESIGNATION
- = DESTRUCTIVE TEST LOCATION
- DS01(1C) = DESTRUCTIVE TEST DESIGNATION (REPAIR DESIGNATION)
- (9) = PANEL NUMBER

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

AS-BUILT LOCATIONS OF THE SECONDARY H.D.P.E. LINER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

DRAWN BY:	W.H.S.
CHECKED BY:	W.H.S.
SCALE:	1" = 60'
DRAWING DATE:	08/15/01
SURVEY DATE:	08/15/01
CLIENT FILE:	01-500
DRAWING FILE:	SOSLINER
FLD. BK.:	ELECTRONIC
PAGE(S):	



AS-BUILT OF THE GEOTEXTILE ABOVE THE SECONDARY LINER SYSTEM AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

LEGEND:

ROLL 18 = ROLL NUMBER

(A524060A) = LOT NUMBER

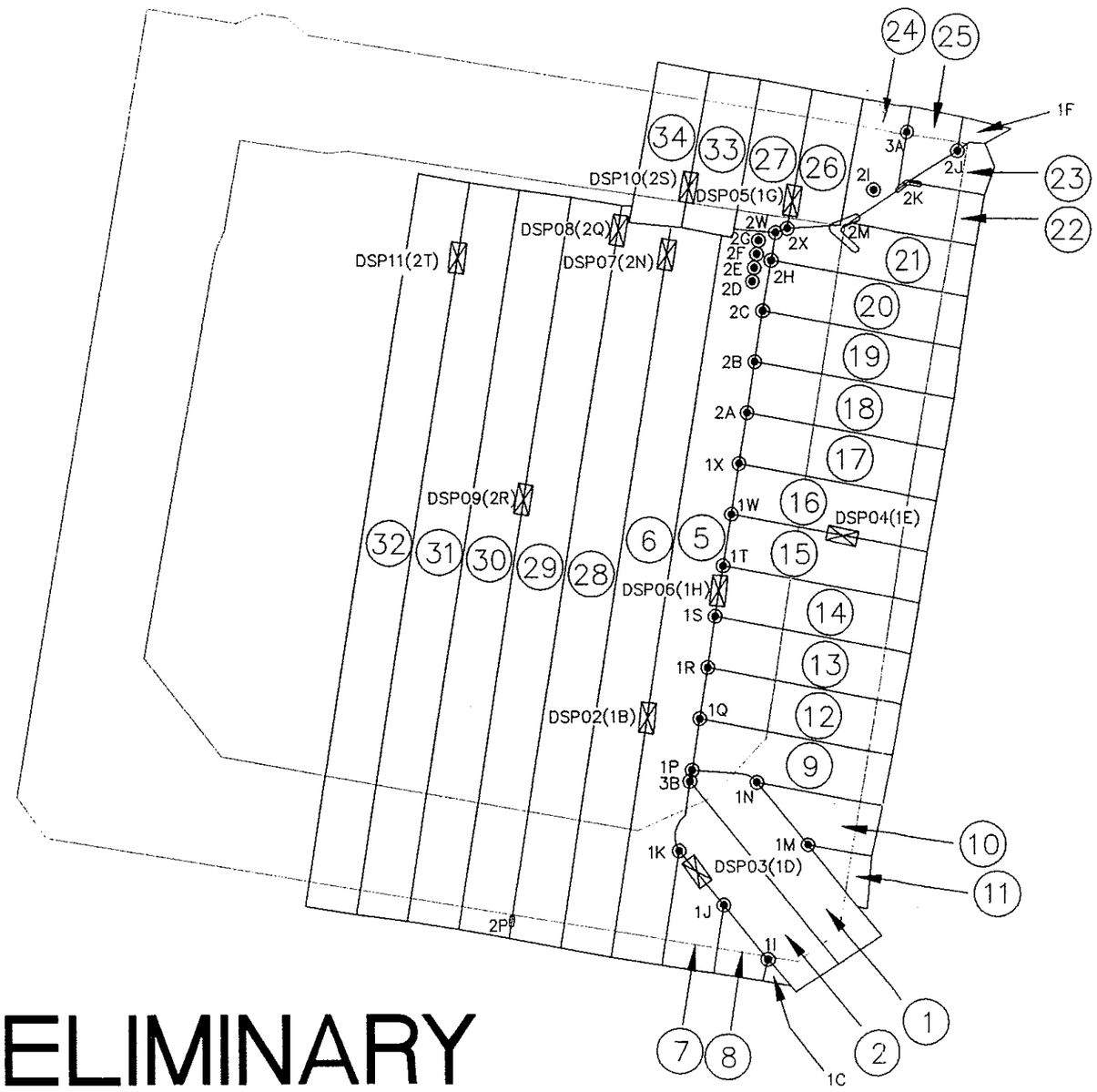
= GEOTEXTILE

ENVIRONMENTAL PRECISION ASSOCIATES INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

AS-BUILT OF THE GEOTEXTILE ABOVE THE SECONDARY LINER SYSTEM AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 60'
DRAWING DATE: 08/20/01
SURVEY DATE: 08/20/01
CLIENT FILE: 01-500
DRAWING FILE: SOGEOTWO
FLD. BK.: ELECTRONIC
PAGE(S):



PROJECT

AS-BUILT LOCATIONS OF THE
PRIMARY H.D.P.E. LINER
AT THE SAUGET AREA 1
TSCA LANDFILL, CAHOKIA
ILLINOIS

LEGEND

- ◉ = REPAIR LOCATION (SEE REPAIR LOG FOR DIMENSIONS)
- 0 = LARGER REPAIR LOCATION (SEE REPAIR LOG FOR DIMENSIONS)
- 1K = REPAIR DESIGNATION
- ⊠ = DESTRUCTIVE TEST LOCATION
- DS01(1C) = DESTRUCTIVE TEST DESIGNATION (REPAIR DESIGNATION)
- (9) = PANEL NUMBER

PRELIMINARY

(08-27-01)

ENVIRONMENTAL
PRECISION ASSOCIATES
INC.

ENVIRONMENTAL, LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

AS-BUILT LOCATIONS OF THE
PRIMARY H.D.P.E. LINER
AT THE SAUGET AREA 1
TSCA LANDFILL, CAHOKIA
ILLINOIS

DRAWN BY:	W.H.S.
CHECKED BY:	W.H.S.
SCALE:	1" = 60'
DRAWING DATE:	08/27/01
SURVEY DATE:	08/27/01
CLIENT FILE:	01-500
DRAWING FILE:	SOPLINER
FLD. BK.:	ELECTRONIC
PAGE(S):	

FIELD MONITORING REPORT

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HOT, HIGH 90 F.

DATE: 8/29/2001

S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS ATTEMPTED TO DRY AND RE-GRADE THE NORTH WEST PORTION OF THE CELL FLOOR. PUMPING OF THE MATERIAL WAS OBSERVED IN SEVERAL AREAS, AFTER WAITING ALL DAY TO SEE IF THE AREAS WOULD DRY, IT WAS DECIDED TO REMOVE ALL THE WET AREAS AND REPLACE WITH DRY SOIL, THIS WILL BE STARTED TOMORROW MORNING.

TAYLOR INSTALLED ALL THE GEONET AND GEOTEXTILE ~~SECONDARY~~ PRIMARY LINER ON ALL THE AREA COVERED BY PASSING DESTRUCTS.

SEE ALSO GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

THE WEEKLY CONSTRUCTION MEETING WAS HELD ON SITE, SEE MINUTES.

EQUIPMENT USED: D5LGP CAT DOZER AND 322 CAT "LONG REACH" EXCAVATOR.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GEOSYNTHETIC INSTALLATION MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/29/2001

S M T (W) T F S

GEOSYNTHETIC DEPLOYMENT: 3 ROLLS OF GEONET AND 13 ROLLS OF GEOTEXTILE WERE PUT IN PLACE AS PER SITE SPECIFICATIONS.

TRIAL SEAMING: NONE TAKEN

SEAMING: SEAMED GEOTEXTILE LAYERS THAT WERE PUT IN PLACE.

NON-DESTRUCTIVE TESTING: NONE TAKEN

DESTRUCTIVE SAMPLING: NONE TAKEN

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/29/2001
S M T (W) T F S
PAGE / OF /

INSTALLER ON SITE: 7:00 AM
INSTALLER OFF SITE: 3:30 PM
INSTALLER'S CREW SIZE: 4 TECHNICIANS
NUMBER OF LABORERS: 8 LABORERS
OF OPERABLE FUSION WELDERS: 0
OF OPERABLE EXTRUSION WELDERS: 0

WEATHER

TEMPERATURE:
MORNING: 77 F.
AFTERNOON: 96 F.
EVENING:
CLOUD COVER: CLEAR
WIND: 0 - 5 mph
RAIN / SNOW: NONE

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	0
GEOMEMBRANE	0	104,467.5 s.f.
GEONET	13,500 s.f.	76,500 s.f.
GEOTEXTILE 1	58,500 s.f.	76,500 s.f.
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

_____ THRU _____
_____ THRU _____

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-P02	134	PASSED
DS-P03	132	PASSED
DS-P04	134	PASSED
DS-P05	134	PASSED
DS-P06	134	PASSED
DS-P07	132	PASSED
DS-P08	134	PASSED
DS-P09	132	PASSED
DS-P10	134	PASSED
DS-P11	132	PASSED

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: OVERCAST, HOT, HUMID, HIGH 94 F.

DATE: 8/30/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS REMOVED SOFT AREAS OF THE 1 FOOT TRACKED-IN-PLACE FILL WITH NEW MATERIAL AND BROUGHT THE AREAS BACK TO GRADE, SURVEYOR ON HAND TO VERIFY.

TAYLOR COMPLETED DEPLOYMENT OF THE PRIMARY 60 MIL. HDPE LINER.

SEE ALSO GEOSYNTHETICS MONITORING REPORTS, ATTACHED.

EQUIPMENT USED: D6LGP CAT DOZER, 322 CAT "LONG REACH" EXCAVATOR.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/30/2001

S M T W T F S

GEOSYNTHETIC DEPLOYMENT: DEPLOYED PRIMARY LINER PANELS PP-35 THUR PP-66.

TRIAL SEAMING: TF-04 THUR TF-06 WERE TAKEN AND RECORDED .

SEAMING: SEAMED PRIMARY LINER WITH DOUBLE WEDGE WELDER AS PER SITE SPECIFICATION

NON-DESTRUCTIVE TESTING: MONITERED AIR TESTING.

DESTRUCTIVE SAMPLING: REMOVED DS-P013 FROM PRIMARY LINER.

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 8/29/2001
S M T W (T) F S
PAGE 1 OF 1

INSTALLER ON SITE 7:00 AM
INSTALLER OFF SITE 8:30 PM
INSTALLER'S CREW SIZE 4 TECHNICIANS
NUMBER OF LABORERS 6 LABORERS
OF OPERABLE FUSION WELDERS 2
OF OPERABLE EXTRUSION WELDERS 0

WEATHER

TEMPERATURE:
MORNING 77 F.
AFTERNOON 96 F.
EVENING 82 F.

CLOUD COVER : OVERCAST
WIND : 10 - 15 mph
RAIN / SNOW DRIZZLE

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	0
GEOMEMBRANE	63,630 s.f.	168,097.5 s.f.
GEONET	13,500 s.f.	76,500 s.f.
GEOTEXTILE 1	58,500 s.f.	76,500 s.f.
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

PP-35 THRU PP-66
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-P02	134	PASSED
DS-P03	132	PASSED
DS-P04	134	PASSED
DS-P05	134	PASSED
DS-P06	134	PASSED
DS-P07	132	PASSED
DS-P08	134	PASSED
DS-P09	132	PASSED
DS-P10	134	PASSED
DS-P11	132	PASSED

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HIGH 90 F.

DATE: 8/31/2001 S M T W T (F) S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS STARTED TO BACKFILL THE EAST SIDE ANCHOR TRENCH AND NUCLEAR DENSITY TEST NUMBER'S AT-07 THRU AT-10 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS.

TAYLOR STARTED TO DETAIL THE REMAINING PRIMARY 60 MIL. HDPE LINER READY FOR GEONET DEPLOYMENT. ALL PERSONNEL LEFT THE SITE BY 4:00PM FOR THE LABORER WEEKEND HOLIDAY.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR.

RECEIVED THE SIGNED AND STAMPED COPY'S FROM PATRIOT FOR THE WEEK OF 8-20-01 TO 8-24-01.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PAGE ___/___ OF ___/___

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 8/31/2001 S M T W T F S

GEOSYNTHETIC DEPLOYMENT: NONE DEPLOYED.

TRIAL SEAMING: TX-03 AND TX-04 WERE TAKEN AND RECORDED .

SEAMING: NONE DONE.

NON-DESTRUCTIVE TESTING: MONITERED AIR TESTING VACCUM TEST AND EXTRUSION WELDING ON REPAIRS.

DESTRUCTIVE SAMPLING: REMOVED DS-P014 THRU DS-P018 FROM PRIMARY LINER.

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS

COMPILED BY: R.SIEMASZKIEWICZ

DATE: 8/31/2001
S M T W T (F) S

PAGE 1 OF 1

INSTALLER ON SITE 7:00 AM
INSTALLER OFF SITE 3:30 PM
INSTALLER'S CREW SIZE 4 TECHNICIANS
NUMBER OF LABORERS 6 LABORERS
OF OPERABLE FUSION WELDERS 2
OF OPERABLE EXTRUSION WELDERS 0

WEATHER

TEMPERATURE:
MORNING 77 F.
AFTERNOON 87 F.
EVENING

CLOUD COVER : OVERCAST
WIND : 0 - 5 mph
RAIN / SNOW NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	0
GEOMEMBRANE	0	168,097.5 s.f.
GEONET	0	76,500 s.f.
GEOTEXTILE 1	0	76,500 s.f.
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

_____ THRU _____
_____ THRU _____

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-P12	132	SENT TO LAB
DS-P13	134	SENT TO LAB
DS-P14	132	SENT TO LAB
DS-P15	134	SENT TO LAB
DS-P16	134	SENT TO LAB
DS-P17	132	SENT TO LAB
DS-P18	132	SENT TO LAB
DS-P19	132	SENT TO LAB

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS: _____

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS: _____

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. # _____
MACHINE # _____

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS: _____

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 9/8/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, ENVIRONMENTAL PRECISION ASSOCIATES, INC. AND TAYLOR GEOSYNTHETICS, INC.

SUMMARY OF CONSTRUCTION PROGRESS:

TAYLOR COMPLETED INSTALLATION OF THE PRIMARY GEOSYNTHETIC'S LINER SYSTEM AND LEFT SITE ON 9/6/01. LMS COMPLETED BACKFILLING THE ANCHOR TRENCH, ALL SIDES, IN TWO LIFTS OF 1" COMPACTED FILL. A FINAL LIFT IN THE ANCHOR TRENCH WILL BE REQUIRED TO MEET THE SITE SPECIFICATION OF A MINIMUM OF 3'. THIS WILL BE COMPLETED IN CONJUNCTION WITH THE FINAL GRADING OF THE BERMS. LMS INSTALLED THE PRIMARY LEACHATE COLLECTION SYSTEM WHICH INCLUDES THE GRAVEL TOE DRAINS, LEACHATE COLLECTION PIPE AND LEACHATE COLLECTION SUMP. LMS ALSO PLACED THE 18" THICK SAND LAYER IN THE CELL FLOOR, FINAL GRADING WILL START ON MONDAY, 10 SEPT.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. NUCLEAR DENSITY TEST NUMBER'S AT-11 THRU AT-18 WERE TAKEN IN THE ANCHOR TRENCH, ALL TESTS PASSED SITE SPECIFICATIONS FOR COMPACTED FILL.

RESULTS FOR ALL DESTRUCTS FOR THE PRIMARY 60 MIL. HDPE LINER WERE RECEIVED, ALL PASSED SITE SPECIFICATIONS, GEOMEMBRANE DESTRUCT SAMPLE LOG IS ATTACHED.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 9/8/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR WAS ON SITE FULL TIME DURING THE WORK WEEK. SURVEYOR PREPARED THE PRELIMINARY AS-BUILTS FOR THE PRIMARY HDPE AND GEOTEXTILE LINERS, THESE HAVE YET TO BE REVIEWED BEFORE FINALIZING.

SUMMARY OF PROBLEMS AND RESOLUTIONS: NONE

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

THE WEEKLY SCHEDULED CONSTRUCTION MEETING WAS HELD ON SITE, SEE MINUTES.

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

GEOMEMBRANE SEAM DESTRUCTIVE SAMPLE LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER 1

	DESTRUCTIVE				FIELD TEST RESULTS					
	SAMPLE NUMBER	SEAM NUMBER	MACHINE NUMBER	DATE REMOVED	PEEL SHEAR (PASS/FAIL)	MON.	DATE SHIPPED	LAB TEST STATUS (PASS/FAIL)	DATE OF NOTIFICATION	REMARKS
1	DS-P01	PP35/PP36	991	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
2	DS-P02	PP5/PP6	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
3	DS-P03	PP2/PP7	132	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
4	DS-P04	PP15/PP16	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
5	DS-P05	PP26/PP27	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
6	DS-P06	PP5/PP14	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	QA
7	DS-P07	PP6/PP28	132	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
8	DS-P08	PP28/PP29	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
9	DS-P09	PP29/PP30	132	8/24/2001	PASS / PASS	RS	8/24/2001	PASS	8/27/2001	
10	DS-P10	PP33/PP34	134	8/24/2001	PASS / PASS	RS	8/24/2001	PASS	8/27/2001	
11	DS-P11	PP31/PP32	132	8/24/2001	PASS / PASS	RS	8/24/2001	PASS	8/27/2001	
12	DS-P12	PP32/PP38	132	8/30/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
13	DS-P13	PP44/ PP48	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
14	DS-P14	PP50/PP51	132	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
15	DS-P15	PP51/PP52	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
16	DS-P16	PP57/PP58	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
17	DS-P17	PP59/PP60	132	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
18	DS-P18	PP52/PP65	132	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	QA
19	DS-P19	PP4/PP63	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
20		/		/ /	:		/ /		/ /	

REVIEWED BY: _____ DATE: _____

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER:

DATE: 9/3/2001

S (M) T W T F S

PERSONNEL ON SITE:

THE FOLLOWING WAS NOTED:

NO WORK LABOR DAY HOLIDAY.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HOT, HIGH 88 F.

DATE: 9/4/2001

S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, TAYLOR GEOSYNTHETICS, INC. AND ENVIROMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS STARTED TO RE-GRADE THE OUTSIDE OF THE EAST BERM BACK TO GRADE.

TAYLOR CONTINUED TO DETAIL THE PRIMARY 60 MIL HDPE AND CONTINUED TO INSTALL THE PRIMARY GEONET AND GEOTEXTILE LINERS.

RECEIVED THE RESULTS OF THE LABORATORY TESTING OF THE DESTRUCTS TAKEN ON THE PRIMARY LINER AND SENT TO GOLDER'S GEOSYNTHETIC'S LABORATORY ON FRIDAY, 31 AUG. ALL DESTRUCTS PASSED THE SITE SPECIFICATIONS. A TOTAL OF 19 DESTRUCTS WERE TAKEN AND TESTED, 2 OF WHICH WERE QA SAMPLES, AS PER THE SITE SPECIFICATIONS, A COPY OF THE SUMMARY OF THE DESTRUCT SAMPLE LOG IS ATTACHED.

SEE ALSO GEOSYNTHETIC'S MONITORING REPORTS, ATTACHED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

GEOMEMBRANE SEAM DESTRUCTIVE SAMPLE LOG

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, SAUGET

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS

SHEET NUMBER 1

	DESTRUCTIVE				FIELD TEST RESULTS					
	SAMPLE NUMBER	SEAM NUMBER	MACHINE NUMBER	DATE REMOVED	PEEL SHEAR (PASS/FAIL)	MON.	DATE SHIPPED	LAB TEST STATUS (PASS/FAIL)	DATE OF NOTIFICATION	REMARKS
1	DS-P01	PP35/PP36	991	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
2	DS-P02	PP5/PP6	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
3	DS-P03	PP2/PP7	132	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
4	DS-P04	PP15/PP16	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
5	DS-P05	PP26/PP27	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
6	DS-P06	PP5/PP14	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	QA
7	DS-P07	PP6/PP28	132	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
8	DS-P08	PP28/PP29	134	8/23/2001	PASS / PASS	RS	8/23/2001	PASS	8/27/2001	
9	DS-P09	PP29/PP30	132	8/24/2001	PASS / PASS	RS	8/24/2001	PASS	8/27/2001	
10	DS-P10	PP33/PP34	134	8/24/2001	PASS / PASS	RS	8/24/2001	PASS	8/27/2001	
11	DS-P11	PP31/PP32	132	8/24/2001	PASS / PASS	RS	8/24/2001	PASS	8/27/2001	
12	DS-P12	PP32/PP38	132	8/30/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
13	DS-P13	PP44/ PP48	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
14	DS-P14	PP50/PP51	132	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
15	DS-P15	PP51/PP52	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
16	DS-P16	PP57/PP58	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
17	DS-P17	PP59/PP60	132	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
18	DS-P18	PP52/PP65	132	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	QA
19	DS-P19	PP4/PP63	134	8/31/2001	PASS / PASS	RS	8/31/2001	PASS	9/4/2001	
20		/		/ /	:		/ /		/ /	

REVIEWED BY: _____ DATE: _____

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659 **PROJECT TITLE:** SOLUTIA / QA / SAUGET
OWNER: SOLUTIA **CONTRACTOR:** LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 9/4/2001 **S M T W T F S**

GEOSYNTHETIC DEPLOYMENT: DEPLOYED 5 ROLLS OF GEOTEXTILE AND 9 ROLLS OR GEONET AS PER SITE SPECIFICATIONS

TRIAL SEAMING: TX-05 AND TX-06 WERE TAKEN AND RECORDED .

SEAMING: NONE DONE.

NON-DESTRUCTIVE TESTING: MONITERED AIR TESTING VACCUM TEST AND EXTRUSION WELDING ON REPAIRS.

DESTRUCTIVE SAMPLING:

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS

COMPILED BY: R.SIEMASZKIEWICZ

DATE: 9/4/2001
S M T W T F S

PAGE 1 OF 1

INSTALLER ON SITE: 7:00 AM
INSTALLER OFF SITE: 5:30 PM
INSTALLER'S CREW SIZE: 3 TECHNICIANS
NUMBER OF LABORERS: 6 LABORERS
OF OPERABLE FUSION WELDERS:
OF OPERABLE EXTRUSION WELDERS: 1

WEATHER

TEMPERATURE:
MORNING 77 F.
AFTERNOON 88 F.
EVENING

CLOUD COVER : CLEAR
WIND : 0 - 5 mph
RAIN / SNOW NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	0
GEOMEMBRANE	0	168,097.5 s.f.
GEONET	40,500 s.f.	117,000 s.f.
GEOTEXTILE 1	22,500 s.f.	99,000 s.f.
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

THRU
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS
DS-P12	132	PASSED
DS-P13	134	PASSED
DS-P14	132	PASSED
DS-P15	134	PASSED
DS-P16	134	PASSED
DS-P17	132	PASSED
DS-P18	132	PASSED
DS-P19	132	PASSED

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

.OJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL, CAHOKIA

PROJECT TITLE: SOLUTIA/ QA/ SAUGET
CONTRACTOR: LMS
WEATHER: SUNNY, HOT, HIGH 92 F.

DATE: 9/5/2001

S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIROMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO RE-GRADE THE OUTSIDE OF THE EAST BERM BACK TO GRADE AND STARTED TO RE-GRADE THE SOUTH SIDE.

TAYLOR CONTINUED TO DETAIL THE PRIMARY 60 MIL HDPE AND CONTINUED TO INSTALL THE PRIMARY GEONET AND GEOTEXTILE LINERS.

SEE ALSO GEOSYNTHETIC'S MONITORING REPORTS, ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 9/5/2001

S M T (W) T F S

GEOSYNTHETIC DEPLOYMENT: DEPLOYED 7 ROLLS OF GEOTEXTILE AND 6 ROLLS OF GEONET AS PER SITE SPECIFICATIONS

TRIAL SEAMING: TX-07 WAS TAKEN AND RECORDED .

SEAMING: ALL GEOTEXTILE DEPLOYED WAS SEWED PER SITE SPECIFICATIONS,

NON-DESTRUCTIVE TESTING: MONITORED AIR TESTING, VACCUM TESTING AND EXTRUSION WELDING OF REPAIRS.

DESTRUCTIVE SAMPLING: NONE

GENERAL REMARKS:

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL AREA 1, CAHOKIA

COMPILED BY: R.SIEMASZKIEWICZ
DATE: 9/5/2001
S M T (W) (X) F S
PAGE / OF /

INSTALLER ON SITE 7:00 AM
INSTALLER OFF SITE 4:30 PM
INSTALLER'S CREW SIZE 3 TECHNICIANS
NUMBER OF LABORERS 6 LABORERS
OF OPERABLE FUSION WELDERS
OF OPERABLE EXTRUSION WELDERS 1

WEATHER

TEMPERATURE:
MORNING 77 F.
AFTERNOON 92 F.
EVENING

CLOUD COVER : CLEAR
WIND : 0 - 5 mph
RAIN / SNOW NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	0
GEOMEMBRANE	0	168,097.5 s.f.
GEONET	31,500 s.f.	148,500 s.f.
GEOTEXTILE 1	27,000 s.f.	126,000 s.f.
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

THRU
THRU

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

FIELD MONITORING REPORT

ROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: OVERCAST, HOT, HUMID, HIGH 87 F.

DATE: 9/6/2001

S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK , LMS, URS, PATRIOT, TAYLOR GEOSYNTHETICS, INC. AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

TAYLOR COMPLETED INSTALLATION OF THE PRIMARY LINER SYSTEM, SEE ATTACHED GEOSYNTHETIC'S MONITORING REPORTS.

LMS STARTED PLACING THE 18" THICK SAND LAYER, STARTING FROM THE WEST AND EAST RAMPS AND PUSHING THE SAND NORTH WARD ALONG THE CELL FLOOR USING THE LGP DOZERS.

STARTED FINAL REVIEW OF THE PRIMARY 60 MIL. HDPE LINER WITH DON GRAHLHEER OF URS.

THE WEEKLY CONSTRUCTION MEETING WAS HELD ON SITE SEE MINUTES.

THE SITE WAS VISITED BY USEPA AND IEPA. A FINAL WALK THROUGH WAS CONDUCTED WITH EE TAYLOR, DON GRAHLHEER AND RICHARD SIEMASZKIEWICZ.

RECEIVED FINAL AS-BUILT FOR THE PRIMARY 60 MIL. LINER, COPY ATTACHED.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER AND 10 TANDEM DUMP TRUCKS.

APPROXIMATELY 2,926 TONS OF SAND WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

q:/fldfrms/general/r1.xls

GEOSYNTHETIC INSTALLATION MONITORING REPORT

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA / QA / SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS / TAYLOR GEOSYNTHETICS, INC.
LOCATION: TSCA CELL 1, CAHOKIA

DATE 9/6/2001 S M T W T F S

GEOSYNTHETIC DEPLOYMENT: DEPLOYED 7 ROLLS OF GEOTEXTILE.

TRIAL SEAMING: TX-08 WAS TAKEN AND RECORDED .

SEAMING: ALL GEOTEXTILE DEPLOYED WAS SEWED PER SITE SPECIFICATIONS.

NON-DESTRUCTIVE TESTING: MONITORED EXTRUSION WELDING ON REPAIRS.

DESTRUCTIVE SAMPLING: NONE

GENERAL REMARKS: OBSERVED THE PLACEMENT OF SAND IN BOTTOM OF CELL FLOOR.

SUBMITTED BY GOLDER

MONITOR

GEOSYNTHETIC INSTALLATION MONITORING SUMMARY

PROJECT NUMBER: 013-9659
OWNER: SOLUTIA
LOCATION: TSCA CELL AREA 1, CAHOKIA

PROJECT TITLE: SOLUTIA / QA / SAUGET
CONTRACTOR: LMS

COMPILED BY: R.SIEMASZKIEWICZ

DATE: 9/6/2001
S M T W (T) F S

PAGE 1 OF 1

INSTALLER ON SITE: 7:00 AM
INSTALLER OFF SITE: 4:30 PM
INSTALLER'S CREW SIZE: 3 TECHNICIANS
NUMBER OF LABORERS: 6 LABORERS
OF OPERABLE FUSION WELDERS:
OF OPERABLE EXTRUSION WELDERS: 1

WEATHER

TEMPERATURE:
MORNING: 78 F.
AFTERNOON: 95 F.
EVENING:

CLOUD COVER: OVERCAST
WIND: 5 - 10 mph
RAIN / SNOW: NA

DEPLOYMENT SUMMARY (AREA)

	DAILY	CUMULATIVE
BENTONITE MAT	0	0
GEOMEMBRANE	0	168,097.5 s.f.
GEONET	0	148,500 s.f.
GEOTEXTILE 1	31,500 s.f.	157,500 s.f.
GEOTEXTILE 2		
OTHER		

GEOMEMBRANE PANELS DEPLOYED

_____ THRU _____
_____ THRU _____

SUMMARY OF DESTRUCTIVE TEST RESULTS

DESTRUCTIVE TEST NUMBER	MACHINE NUMBER	TEST STATUS

SUMMARY OF CURRENT DESTRUCTIVE FAILURES

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

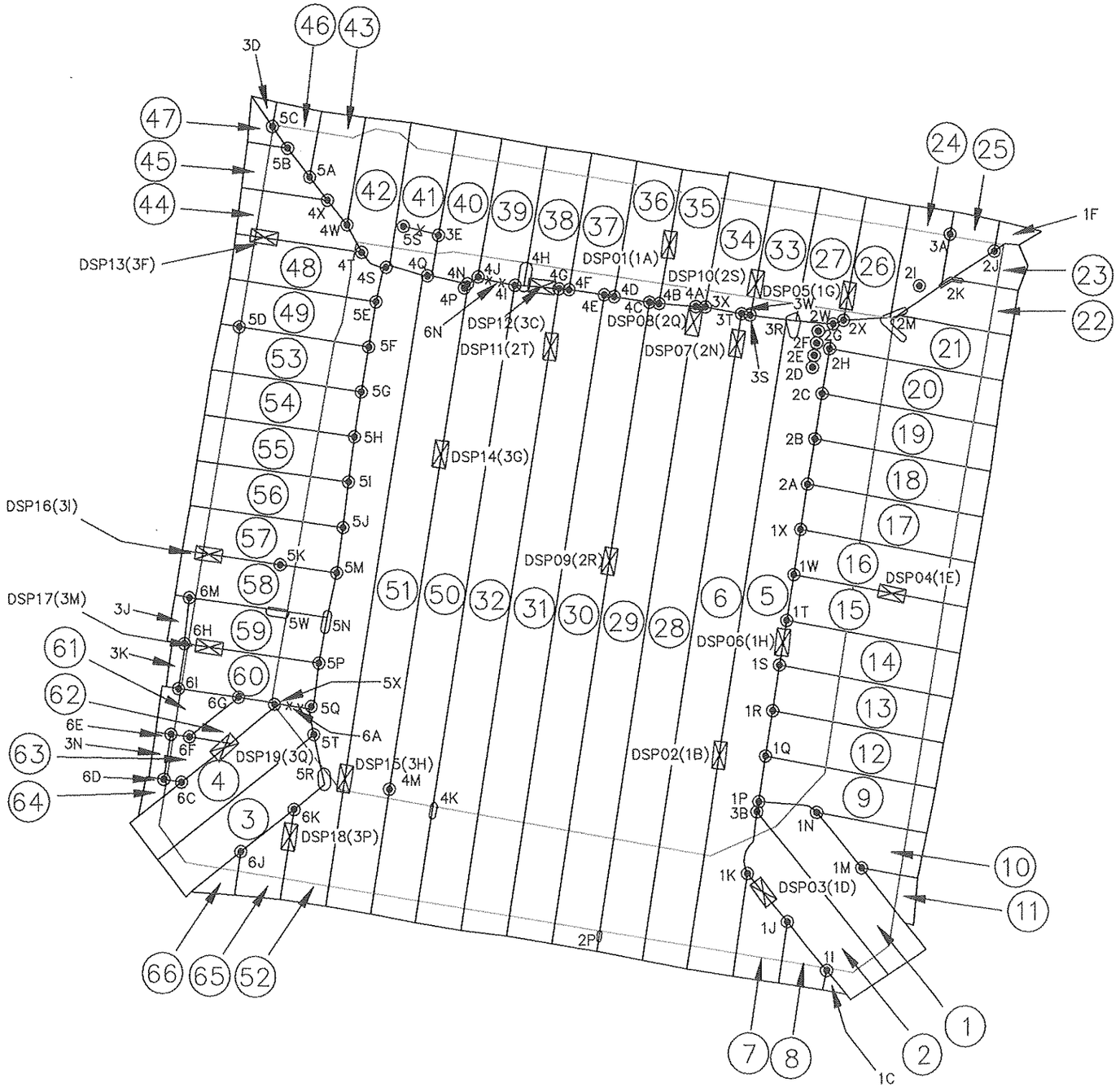
IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO

DESTR. #
MACHINE #

TRACKING DESTRUCTIVE NUMBER	SEAM NUMBER	TEST STATUS

REMARKS:

IS DESTRUCTIVE BOUNDED BY PASSING TESTS?
YES NO



AS-BUILT LOCATIONS OF THE PRIMARY H.D.P.E. LINER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

LEGEND

- = REPAIR LOCATION (SEE REPAIR LOG FOR DIMENSIONS)
- = LARGER REPAIR LOCATION (SEE REPAIR LOG FOR DIMENSIONS)
- 1K = REPAIR DESIGNATION
- = DESTRUCTIVE TEST LOCATION
- DS01(1C) = DESTRUCTIVE TEST DESIGNATION (REPAIR DESIGNATION)
- 9 = PANEL NUMBER
- = EXTRUSION WELD

ENVIRONMENTAL PRECISION ASSOCIATES INC.
ENVIRONMENTAL LAND AND CONSTRUCTION SURVEY SERVICES
105 PECAN STREET
P.O. BOX 514
TROY, ALABAMA 36081
TEL \ FAX (334) 807-0026
MOBILE: (334) 670-8232
PAGER: (800) 443-7243
ID# 012678

AS-BUILT LOCATIONS OF THE PRIMARY H.D.P.E. LINER AT THE SAUGET AREA 1 TSCA LANDFILL, CAHOKIA ILLINOIS

DRAWN BY: W.H.S.
CHECKED BY: W.H.S.
SCALE: 1" = 60'
DRAWING DATE: 09/03/01
SURVEY DATE: 09/03/01
CLIENT FILE: 01-500
DRAWING FILE: SOPLINER
FLD. BK.: ELECTRONIC
PAGE(S):

FIELD MONITORING REPORT

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, HOT, HIGH 90 F.

DATE: 9/7/2001 S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK ,LMS, URS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO PLACE THE 18" SAND LAYER ON THE CELL FLOOR, LMS INSTALLED THE TOE DRAIN ALONG THE EAST AND SOUTH BERMS.

COMPLETED REVIEW OF THE PRIMARY 60 MIL. HDPE LINER WITH DON GRAHLHEER OF URS.

LMS CONTINUED TO BACKFILL THE ANCHOR TRENCH, PATRIOT TOOK NUCLEAR DENSITY TEST NUMBER'S AT-11 THRU AT-13, ALL PASSED SITE SPECIFICATIONS FOR COMPACTED FILL.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, 322 CAT "LONG REACH" EXCAVATOR AND 16 TANDEM DUMP TRUCKS.

APPROXIMATELY 2,240 TONS OF SAND WAS HAULED AND PLACED.

APPROXIMATELY 392 TONS OF MEREMAC GRAVEL WAS HAULED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

FIELD MONITORING REPORT

PAGE 1 OF 1

'ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: OVERCAST, HOT, HIGH 93 F.

DATE: 9/8/2001 S M T W T F (S)

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO PLACE THE 18" SAND LAYER ON THE CELL FLOOR, LMS INSTALLED THE TOE DRAIN ALONG THE WEST AND NORTH BERMS.

THE PRIMARY LEACHATE COLLECTION PIPE AND SUMP WERE INSTALLED AND THE GRAVEL PLACED IN ACCORDANCE WITH THE SPECIFICATION DRAWINGS. LMS INSTALLED THE HDPE RISER TO BE USED BY MAVERICK IN THE NORTH WEST CORNER OF THE SUMP WITH THE 4" ELECTRIC PUMP BEING INSTALLED INSIDE OF THE FIRST SECTION OF THE RISER.

LMS CONTINUED TO BACKFILL THE ANCHOR TRENCH, PATRIOT TOOK NUCLEAR DENSITY TEST NUMBER'S AT-14 THRU AT-18, ALL PASSED SITE SPECIFICATIONS FOR COMPACTED FILL.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 563 CAT SHEEP'S FOOT COMPACTOR, 322 CAT "LONG REACH" EXCAVATOR AND 16 TANDEM DUMP TRUCKS.

APPROXIMATELY 350 TONS OF MEREMAC GRAVEL WAS HAULED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 9/14/2001

PERSONNEL ON SITE: GOLDER, MAVERICK, URS, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

SUMMARY OF CONSTRUCTION PROGRESS:

LMS COMPLETED THE INSTALLATION OF THE 18" THICK SAND LAYER AND THE GRAVEL TOE DRAIN SYSTEM IN THE CELL. LMS COMPLETED FINAL GRADING OF THE SIDE SLOPES AND FINAL BACKFILLING OF THE ANCHOR TRENCHES. LMS FINISHED THE HYDRO-SEEDING OF THE EXTERIOR SIDE SLOPES. LMS LEFT SITE ON FRIDAY, 14, SEPTEMBER.

GOLDER ACTIVITIES AND TEST RESULTS: ALL CONSTRUCTION ACTIVITIES WERE CONTINUOUSLY MONITORED BY GOLDER. ALL NUCLEAR DENSITY TESTING WAS MONITORED BY GOLDER. NUCLEAR DENSITY TEST NUMBER'S AT-19 THRU AT-24 WERE TAKEN IN THE ANCHOR TRENCH, ALL TESTS PASSED SITE SPECIFICATIONS FOR COMPACTED FILL. NUCLEAR DENSITY TEST NUMBER'S S-001 THRU S-006 WERE TAKEN ON THE 18" THICK SAND LAYER WERE TAKEN, ALL TESTS PASSED THE SITE SPECIFICATIONS FOR SAND PLACEMENT.

FINAL COLLATION OF ALL DOCUMENTATION FOR THE PLACED LINER SYSTEMS WAS CARRIED OUT AT GOLDER'S ST. LOUIS OFFICE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

WEEKLY FIELD MONITORING SUMMARY

PROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/QA/SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
ATION: TSCA CELL, CAHOKIA

MONITORING SUMMARY FOR THE WEEK ENDING 9/14/2001

SUMMARY OF SURVEYOR'S ACTIVITIES:

SURVEYOR WAS ON SITE FULL TIME DURING THE WORK WEEK. SURVEYOR PREPARED THE FINAL AS-BUILTS FOR THE INSTALLED LINER SYSTEMS ALONG WITH LIFT THICKNESS SHEETS, NUCLEAR DENSITY TEST LOCATION SHEET'S AND SURVEY QC DOCUMENTATION, THESE WERE REVIEWED BY GOLDER AND URS.

SUMMARY OF PROBLEMS AND RESOLUTIONS: NONE

SUMMARY OF MEETINGS AND DISCUSSIONS HELD (ATTENDEES AND ISSUES):

THE WEEKLY SCHEDULED CONSTRUCTION MEETING WAS HELD ON SITE, SEE MINUTES. A MEETING TO FINALIZE ALL DOCUMENTATION WAS HELD AT GOLDER'S ST. LOUIS OFFICE, IN ATTENDANCE WAS MARK SANDFORT, RICHARD SIEMASZKIEWICZ (GOLDER), DON GRAHLHEER (URS) AND WALT STELL (EPAI).

SUMMARY OF INCIDENTS / ACCIDENTS / HEALTH AND SAFETY ISSUES:

NONE.

SUBMITTED BY GOLDER

RESIDENT MANAGER

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, WARM, HIGH 84 F.

DATE: 9/10/2001

S M T W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, URS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO HAUL SAND AND STARTED TO FINAL GRADE THE 18" THICK SAND LAYER.

AFTER A CONVERSATION WITH GARY WANTLAND THE ISSUE OF THE TOE IN THE SOUTH EAST RAMP AREA WAS RESOLVED. THE GRAVEL WILL BE INSTALLED AS PER THE SURROUNDING TOE DRAIN AND A 1' THICK LAYER OF THE CRUSHED GRAVEL USED IN THE RAMP CONSTRUCTION WILL BE PLACED OVER THE GRAVEL AND "FEATHERED" OUT ON THE CELL FLOOR.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, AND 3 TANDEM DUMP TRUCKS.

APPROXIMATELY 420 TONS OF MEREMAC GRAVEL WAS HAULED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, WARM, HIGH 88 F.

DATE: 9/11/2001

S M (T) W T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS CONTINUED TO HAUL SAND AND FINAL GRADE THE 18" THICK SAND LAYER. LMS REMOVED THE TEMPORARY RAMP FROM THE TOE OF THE SOUTH WEST RAMP AND INSTALLED THE GRAVEL TOE DRAIN. THIS WAS THEN COVERED WITH THE 1' THICK DENSE GRADE TO ACT AS THE RAMP FOR HAULING OF THE SEDEMENTS. LMS ALSO PLACED MORE DENSE GRADE ON THE SOUTH EAST RAMP TO BRING TO FINAL GRADE.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 3 TANDEM DUMP TRUCKS AND 322 CAT "LONG REACH" EXCAVATOR.

APPROXIMATELY 105 TONS OF COARSE GRADE WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

FOR J. PEREZ.

MONITOR

FIELD MONITORING REPORT

PAGE 1 OF 1

PROJECT NUMBER: 013-9659
PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA
CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA
WEATHER: SUNNY, WARM, HIGH 92 F.

DATE: 9/12/2001

S M T (W) T F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, URS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS COMPLETED HAULING SAND AND FINAL GRADED THE 18" THICK SAND LAYER. LMS CONTINUED TO FINAL GRADE THE OUTSIDE OF THE SLOPES AND ANCHOR TRENCHES.

WEEKLY CONSTRUCTION MEETING HELD ON SITE, SEE MINUTES.

A WALK THREW OF THE SITE WAS CONDUCTED AND A FINAL PUNCH LIST WAS MADE, THIS CONSISTED OF FINISHING THE ANCHOR TRENCHES AND SIDE SLOPES AND CLEANING UP OF ALL SCRAPE MATERIALS AND TRASH.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER, 3 TANDEM DUMP TRUCKS

APPROXIMATELY 15 TONS OF COARSE GRADE WAS HAULED AND PLACED.

APPROXIMATELY 168 TONS OF SAND WAS HAULED AND PLACED.

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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FIELD MONITORING REPORT

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: SUNNY, WARM, HIGH 92 F.

DATE: 9/13/2001 S M T W (T) F S

PERSONNEL ON SITE: GOLDER, MAVERICK, LMS, PATRIOT, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS COMPLETED FINAL GRADING OF THE 18" THICK SAND LAYER. LMS CONTINUED TO FINAL GRADE THE OUTSIDE OF THE SLOPES .LMS FINISHED BACKFILLING AND COMPACTING THE ANCHOR TRENCHES.

PATRIOT TOOK THE LAST TESTS ON THE FINISHED GRADED ANCHOR TRENCHES. NUCLEAR DENSITY TEST NUMBER'S AT-019 THRU AT-024 WERE TAKEN, ALL PASSED SITE SPECIFICATIONS FOR COMPACTED FILL. PATRIOT TOOK NUCLEAR DENSITY TEST NUMBER'S S-001 THRU S-006 ON THE 18" THICK SAND LAYER, ALL PASSED THE SITE SPECIFICATIONS FOR PLACED SAND.

PATRIOT'S TECHNICIAN LEFT SITE AT 3:30PM.

EQUIPMENT USED: D5LGP CAT DOZER, D6LGP CAT DOZER,

SUBMITTED BY GOLDER

MONITOR

FIELD MONITORING REPORT

PAGE 1 OF 1

ROJECT NUMBER: 013-9659 PROJECT TITLE: SOLUTIA/ QA/ SAUGET
OWNER: SOLUTIA CONTRACTOR: LMS
LOCATION: TSCA CELL, CAHOKIA WEATHER: PARTIALLY SUNNY, HOT, HUMID, HIGH 94 F.

DATE: 9/14/2001 S M T W T (F) S

PERSONNEL ON SITE: MAVERICK, LMS, AND ENVIRONMENTAL PRECISION ASSOCIATES, INC.

THE FOLLOWING WAS NOTED:

LMS COMPLETED FINAL CLEAN UP OF THE SITE AND HYDRO-SEEDED THE OUTSIDE OF THE SIDE SLOPES.

LMS LEFT SITE.

GOLDER NOT ON SITE, FINAL COLLATION OF THE IN PLACE LINER DOCUMENTATION WAS PERFORMED AT GOLDER'S ST. LOUIS OFFICE, IN ATTENDANCE WAS MARK SANDFORT, RICHARD SIEMASZKIEWICZ (GOLDER), DON GRAHLHEER (URS) AND WALT STELL (EPAI).

SUBMITTED BY GOLDER

MONITOR

GOLDER ASSOCIATES INC.

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GOLDER'S COPY

SOLUTIA, INC.
CONSTRUCTION QUALITY ASSURANCE
Construction Through Primary Liner System
Sauget Area 1 TSCA Containment Cell

Volume 3 of 3

Prepared for:

Solutia, Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Prepared by:

Golder Associates Inc.
1630 Heritage Landing, Suite 103
St. Charles, Missouri 63303

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PART 5 – PHOTOGRAPHIC LOGS

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0001	5/9/2001	11:30am.	LOOKING NORTH ALONG THE EAST BERM, SHOWING LIFT # 2 BEING PLACED USING THE D6H CAT DOZER, D5LPG CAT DOZER AND THE 563 CAT SHEEPS FOOT COMPACTOR.
G-0002	5/9/2001	11:39am.	LOOKING NORTH FROM THE SOUTH EAST CORNER OF THE CELL, SHOWING JOHN DEERE TRACTOR PULLING 2100 GAL. WATER TRAILER WATERING IN-SITU CLAY ON THE EAST BERM PRIOR TO LIFT # 2 PLACEMENT.
G-0003	5/9/2001	11:39am.	SAME AS G-2, EXCEPT SHOWING THE D6H CAT DOZER,D5LPGCAT DOZER AND THE 563 CAT SHEEPS FOOT COMPACTOR.
G-0004	5/10/2001	4:30am.	LOOKING WEST AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE CONDITION OF THE SUBGRADE AFTER THE STANDING WATER WAS REMOVED.
G-0005	5/11/2001	10:30am.	LOOKING NORTH WEST, SHOWING THE CONDITION OF THE SUBGRADE AFTER ALL THE FLOOR, (EXCEPT THE NORTH WEST PORTION), HAD BEEN SMOOTH DRUM ROLLED.
G-0006	5/11/2001	2:00pm.	LOOKING NORTH WEST, SHOWING THE D6H CAT DOZER PLACING LIFT # 2 ON THE NORTH BERM. ALSO, SHOWING THE LEDGE CUT INTO THE WEST BERM.
G-0007	5/11/2001	4:00pm.	LOOKING NORTH WEST, SHOWING THE CELL FLOOR, SOUTH BERM AND THE WEST BERM AFTER SMOOTH DRUM ROLLED.
G-0008	5/14/2001	8:30am.	LOOKING NORTH, SHOWING THE D5LPG CAT DOZER REMOVING EXCESS MATERIAL FROM THE TOE OF THE NORTH BERM AND PUSHING IT OVER THE WEST BERM.
G-0009	5/15/2001	8:30am.	LOOKING NORTH, SHOWING THE D6H CAT DOZER STARTING TO PLACE LIFT # 3 ON THE EAST PORTION OF THE SOUTH BERM.
G-0010	5/15/2001	11:05am.	AT THE BORROW SITE. SHOWING THE 325 CAT EXCAVATOR LOADING A TANDEM DUMP TRUCK.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0011	5/15/2001	11:13am.	AT BORROW SITE, SHOWING THE 325 CAT EXCAVATOR LOADING A TANDEM DUMP TRUCK, WITH OTHER TRUCKS IN LINE.
G-0012	5/15/2001	11:39am.	LOOKING NORTH WEST, SHOWING THE D5LGP CAT DOZER PULLING A FIELD DISK, DISKING THE CELL FLOOR SUBGRADE.
G-0013	5/15/2001	11:39am.	SAME AS G-12, EXCEPT LOOKING EAST.
G-0014	5/15/2001	4:52pm.	LOOKING NORTH , SHOWING THE D6H CAT DOZER PLACING LIFT # 3 ON THE WEST PORTION OF THE SOUTH BERM, ALSO SHOWING THE LEDGE CUT INTO THE WEST BERM.
G-0015	5/16/2001	8:36am.	LOOKING WEST, SHOWING THE D6H CAT DOZER BLADING THE WEST SIDE OF THE SOUTH BERM PRIOR TO SMOOTH DRUM ROLLING.
G-0016	5/16/2001	8:37am.	LOOKING NORTH ALONG THE EAST BERM, SHOWING A TANDEM DUMP TRUCK UNLOADING CLAY TO BE USED IN LIFT # 3 ON THE EAST BERM, WHILE A D6H CAT DOZER SPREADS IT TO A LOOSE LIFT THICKNESS OF 12 INCHES.
G-0017	5/16/2001	3:00pm.	LOOKING WEST, SHOWING THE 815 CAT COMPACTOR ROLLING THE SUBGRADE OF THE CELL FLOOR.
G-0018	5/16/2001	3:00pm.	SAME AS G-17, EXCEPT LOOKING NORTH.
G-0019	5/17/2001	8:14am.	LOOKING NORTH ALONG THE EAST SIDE OF THE CELL FLOOR, SHOWING "PUMPING" OF THE FLOOR SUBGRADE AFTER BEING SMOOTH DRUM ROLLED THE PREVIOUS DAY.
G-0020	5/17/2001	8:15am.	LOOKING WEST, SHOWING DON GRAHLHERR (URS), INSPECTING THE SUBGRADE OF THE CELL FLOOR.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0021	5/22/2001	7:03am.	LOOKING WEST, SHOWINGTHE D6H CAT DOZER BLADING THE WEST BERM AFTER RAINFALL AND PRIOR TO PLACEMENT OF CLAY MATERIAL.
G-0022	5/22/2001	7:04am.	LOOKING WEST, FROM THE NORTH EAST CORNER OF THE CELL, SHOWING STANDING WATER IN THE THE CELL FLOOR.
G-0023	5/22/2001	7:06am	LOOKING WEST FROM SOUTH EAST CORNER OF CELL, SHOWING THE SOUTH SIDE OF THE SOUTH BERM. ALSO SHOWING STANDING WATER AND NEW STAKE LINE FOR TOE OF BERM
G-0024	5/22/2001	7:16am.	SHOWING PATRIOT'S NEW SEAMAN C-300 GAUGE TAKING A DAILY STANDARD COUNT.
G-0025	5/22/2001	7:37am.	SHOWING PATRIOT'S NEW SEAMAN C-300 GAUGE TAKING A 8 INCH DEEP NUCLEAR DENSITY TEST ON LIFT # 3 ON THE EAST BERM. NUCLEAR DENSITY TEST # B-21.
G-0026	5/22/2001	9:59am.	LOOKING WEST FROM EAST BERM, SHOWING THE 3 INCH PUMP SET UP IN THE NORTH WEST CORNER OF THE CELL FLOOR, PUMPING SURFACE WATER FROM THE CELL AND DISCHARGING OVER THE NORTH WEST BERM.
G-0027	5/22/2001	9:59am.	LOOKING SOUTH WEST FROM THE SOUTH CORNER OF THE EAST BERM, SHOWING THE 536 CAT SHEEPS FOOT ROLLER SCARIFYING THE SOUTH BERM PRIOR TO PLACING LIFT # 4. ALSO SHOWING WATER TRAILER PUMPING STANDING WATER FROM SOUTH SIDE OF THE BERM. LABORER ALSO IN PICTURE TAKING GRADE SHOT ON LIFT # 3.
G-0028	5/23/2001	7:06am.	LOOKING WEST AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE CONDITION OF THE SUBGRADE AFTER STANDING WATER HAS BEEN REMOVED.
G-0029	5/24/2001	7:01am.	LOOKING NORTH WEST FROM SOUTH EAST CORNER OF CELL, PANORAMIC VIEW OF CELL CONSTRUCTION TO DATE.
G-0030	5/24/2001	7:01am.	SECOND PHOTO OF THE PANORAMIC VIEW.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0031	5/24/2001	7:56am.	LOOKING WEST, SHOWING THE 330 CAT EXCAVATOR AT THE START OF THE REMOVAL OF THE EXCESS SILTY MATERIAL IN THE WEST BERM, AND LOADING ON TO A TANDEM DUMP TRUCK.
G-0032	5/24/2001	7:58am.	LOOKING SOUTH, SHOWING A TANDEM DUMP TRUCK UNLOADING THE SILTY MATERIAL ON THE SOUTH SIDE OF THE CELL.
G-0033	5/24/2001	10:42am.	LOOKING NORTH WEST, SHOWING THE 815 CAT COMPACTOR SCARIFYING LIFT # 5, PRIOR TO PLACEMENT OF LIFT # 6. ALSO SHOWS LABORER PLACING GRADE STAKES TO HELP MAINTAIN A UNIFORM LIFT THICKNESS.
G-0034	5/24/2001	10:43am.	LOOKING SOUTH AT THE WEST BERM, SHOWING THE 330 CAT EXCAVATOR REMOVING THE EXCESS SILTY MATERIAL FROM THE INSIDE OF THE WEST BERM.
G-0035	5/24/2001	10:45am.	LOOKING EAST ALONG THE NORTH BERM, SHOWING THE D6H CAT DOZER, THE 815 CAT COMPACTOR AND 2 TANDEM DUMP TRUCKS PLACING LIFT # 6 ON THE NORTH BERM.
G-0036	5/25/2001	11:44am.	LOOKING SOUTH WEST AT THE WEST BERM, SHOWING THE D6H CAT DOZER AND THE 563 CAT SHEEP'S FOOT COMPACTOR PLACING LIFT # 3 ON THE SOUTH PORTION OF THE WEST BERM.
G-0037	5/25/2001	11:44am.	SAME AS PHOTO # G-0036, EXCEPT THAT THIS PHOTO ALSO SHOWS TANDEM DUMP TRUCKS UNLOADING.
G-0038	5/25/2001	11:45am.	LOOKING SOUTH AT THE WEST BERM, SHOWING THE 330 CAT EXCAVATOR REMOVING THE EXCESS SILTY MATERIAL FROM THE INSIDE OF THE WEST BERM AND STARTING TO SHAPE THE CUT TO A 3:1 SLOPE.
G-0039	5/25/2001	11:46am.	LOOKING EAST AT THE SOUTH PORTION OF THE CELL AREA, SHOWING TANDEM DUMP TRUCK UNLOADING THE SILTY MATERIAL FROM THE WEST BERM AND THE D5LGP CAT DOZER MAINTAINING THE AREA.
G-0040	5/29/2001	8:26am.	LOOKING SOUTH WEST AT THE CELL FLOOR, SHOWING THE CONDITION OF THE CELL FLOOR WITH STANDING WATER IN THE NORTH WEST CORNER AND ALONG THE WEST BERM.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0041	5/29/2001	8:29am.	LOOKING NORTH EAST AT THE NORTH WEST PORTION OF THE CELL FLOOR, SHOWING STANDING WATER IN THE NORTH WEST CORNER AND ALONG THE WEST BERM.
G-OO42	5/31/2001	7:00am.	LOOKING SOUTH WEST, SHOWING THE CONDITION OF THE CELL AFTER THE PREVIOUS 24 HOURS OF RAINFALL.
G-0043	5/31/2001	7:00am.	LOOKING NORTH WEST, SHOWING THE CONDITION OF THE CELL AFTER THE PREVIOUS 24 HOURS OF RAINFALL. STANDING WATER IN THE NORTH WEST CORNER OF THE CELL, PRIOR TO PUMPING.
G-0044	5/31/2001	8:00am.	LOOKING WEST, SHOWING LMS LABORER'S INSTALLING A 3INCH PUMP IN THE NORTH WEST CORNER OF THE CELL FLOOR.
G-0045	5/31/2001	8:01am.	LOOKING WEST ALONG THE NORTH BERM, SHOWING TIRE RUTS MADE BY THE BACKHOE AS IT WAS CARRYING THE 3 INCH PUMP DOWN INTO THE CELL.
G-0046	6/1/2001	11:13am.	LOOKING WEST FROM THE EAST HAUL ROAD, SHOWING THE D6H CAT DOZER BLADING THE TOP LAYER OF CLAY ON THE EAST BERM, PRIOR TO SEALING.
G-0047	6/1/2001	11;13am.	LOOKING SOUTH ALONG THE EAST BERM, SHOWING THE TOP LAYER OF CLAY WHICH HAS BEEN BLADED PRIOR TO SEALING.
G-0048	6/1/2001	11:13am.	LOOKING SOUTH WEST, SHOWING THE D5LPG CAT DOZER AND THE 563 CAT SHEEP'S FOOT COMPACTOR SEALING THE TOP LAYER OF CLAY ON THE SOUTH BERM.
G-0049	6/5/2001	7:12am.	LOOKING WEST AT THE NORTH WEST PORTION OF THE CELL FLOOR, SHOWING THE CONDITION OF THE CELL, WITH STANDING WATER, AFTER PREVIOUS RAINFALL.
G-0050	6/5/2001	7:13am.	LOOKING NORTH WEST FROM THE EAST HAUL ROAD, SHOWING THE CONDITION OF THE NORTH BERM AND NORTH PORTION OF THE EAST BERM AFTER THE PREVIOUS 24 HOURS OF RAINFALL.

LOG OF PHOTOGRAPHS
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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0051	6/5/2001	7:15am.	LOOKING SOUTH WEST FROM THE NORTH EAST CORNER OF THE CELL, SHOWING THE CONDITION OF THE NORTH PORTION OF THE EAST BERM AFTER LMS RE-WORKED THE AREA ON 06/01/2001.
G-0052	6/7/2001	8:03am.	LOOKING NORTH WEST FROM THE SOUTH EAST CORNER OF THE CELL, SHOWING STANDING WATER ON THE CELL FLOOR, PRIOR TO PUMPING.
G-0053	6/7/2001	8:04am.	THE SAME AS PHOTO # G-0052, SHOWING CLOSER DETAIL OF PUMP SETUP.
G-0054	6/7/2001	8:07am.	LOOKING AT THE NORTH EDGE OF THE SOUTH BERM, SHOWING EROSION CRACK, AFTER PREVIOUS RAINFALL.
G-0055	6/7/2001	10:04am.	LOOKING WEST FROM NORTH BERM, SHOWING LMS LABORER STARTING TO PUMP THE STANDING WATER FROM THE CELL FLOOR.
G-0056	6/7/2001	2:35am.	LOOKING NORTH AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE CELL AFTER THE STANDING WATER HAS BEEN REMOVED.
G-0057	6/7/2001	2:38am.	SAME AS PHOTO # G-0056, SHOWING CLOSER DETAIL.
G-0058	6/8/2001	7:36am.	LOOKING SOUTH ALONG THE EAST BERM, SHOWING THE D6H CAT DOZER AND THE 563 CAT SHEEP'S FOOT COMPACTOR RE-WORKING THE TOP OF THE IN-SITU CLAY.
G-0059	6/8/2001	7:44am.	LOOKING WEST FROM NORTH BERM, SHOWING D5LGP CAT DOZER STARTING TO OPEN UP THE WET MATERIAL ON THE CELL FLOOR.
G-0060	6/8/2001	7:44am.	SAME AS PHOTO # G-0059, EXCEPT LOOKING SOUTH WEST.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0061	6/8/2001	7:56am.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE 416B CAT BACKHOE STARTING TO DIG THE TEMPORARY SUMP.
G-0062	6/8/2001	9:38am.	LOOKING SOUTH, SHOWING THE D5LPG CONTINUING TO WORK THE WET MATERIAL IN THE CELL FLOOR.
G-0063	6/8/2001	9:38am.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE 416B CAT BACKHOE DIGGING THE TEMPORARY SUMP, AND DE-WATERING OPERATION.
G-0064	6/8/2001	10:40am.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE 416B CAT BACKHOE AND LMS LABORER SETTING THE 24 INCH PIPE FOR THE TEMPORARY SUMP.
G-0065	6/8/2001	10:41am.	LOOKING EAST AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE 24 INCH PIPE SET IN POSITION FOR USE AS THE TEMPORARY SUMP.
G-0066	6/8/2001	1:45pm.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE 24 INCH PIPE SET IN POSITION WITH GRAVEL PLACED AROUND IT.
G-0067	6/8/2001	1:46pm.	LOOKING INTO THE 24 INCH PIPE, SHOWING DE-WATERING IN THE TEMPORARY SUMP.
G-0068	6/11/2001	7:16am.	LOOKING NORTH AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING STANDING WATER IN THE CELL, WHICH HAS ACCUMULATED OVER THE WEEKEND, PRIOR TO DE-WATERING.
G-0069	6/12/2001	9:09am.	SHOWING THE DRIVE TUBE SAMPLE AFTER IT HAS BEEN WEIGHED AND A MOISTURE CONTENT HAS BEEN TAKEN IN PATRIOT'S FIELD LABORATORY.
G-0070	6/12/2001	3:13pm.	LOOKING NORTH EAST AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING STANDING WATER IN THE CELL, PRIOR TO CONTRACTOR BEING ASKED TO START PUMPING.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0071	6/13/2001	7:42am.	LOOKING WEST, SHOWING D6H CAT DOZER AND JOHN DEERE TRACTOR PULLING A2100 GAL. WATER TRAILER PLACING AND WATERING LIFT # 3 ON THE WEST BERM.
G-0072	6/13/2001	7:44am.	LOOKING NORTH ALONG THE EAST BERM, SHOWING TANDEM DUMP TRUCKS HAULING SOIL FROM THE BORROW SOURCE AND PLACING LIFT # 7 ON THE EAST BERM.
G-0073	6/13/2001	8:23am.	SHOWING THE PATRIOT TECHNICIAN TAKING THE DAILY STANDARD COUNT ON THE SEAMAN C300 NUCLEAR DENSITY GAUGE.
G-0074	6/13/2001	3:59PM.	SURVEYOR SPEAKING WITH RICHARD OF GOLDER AND SHOOTING POINTS ON LIFT #7. SMOOTH DRUM SEALING EAST BERM. PHOTO TAKEN FACING SW.
G-0075	6/13/2001	4:05PM.	ONE D6H DOZER AND ONE 815 SHEEPSFOOT ROLLER MANEUVERING SOIL BEING BROUGHT IN AS WELL AS COMPACTING IT ON THE NORTH BERM. PHOTO FACING NW.
G-0076	6/14/2001	2:28:00PM.	A D6H DOZER, ONE SHEEPSFOOT ROLLER ARE COMPACTING AND MANEUVERING SOIL BEING BROUGHT IN FOR LIFT #8ON THE EAST BERM. FACING NE.
G-0077	6/14/2001	2:30PM.	CONSTRUCTION WATER CONTROL MEASURES IN THE NW CORNER OF CELL FLOOR.
G-0078	6/18/2001	8:15AM.	815 SHEEPSFOOT ROLLER COMPACTING SOIL IN THE SOUTHERN HALF OF CELL FLOOR. FACING NW.
G-0079	6/18/2001	8:17AM.	CAT FRONT END SHEEPSFOOT ROLLER & ONE D5 DOZER, MANEUVERING & COMPACTING SOIL ON NORTH BERM. FACING NW.
G-0080	6/19/2001	9:03AM.	SKY TRAK UNLOADING GEOMEMBRANE FOR CELL CONSTRUCTION. FACING N.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0081	6/19/2001	11:02AM.	JOHN DEERE TRACTOR WITH 2100 GALLON WATER TANK WATERING DOWN SOIL, WHILE A D5 DOZER SPREADS IT OUT. FACING NW.
G-0082	6/19/2001	12:18PM.	GEOTEXTILE FOR CELL CONSTRUCTION BEING REMOVED FROM FLATBED TRAILER BY A SKY TRAK LOADER. FACING N.
G-0083	6/19/2001	2:51PM	TAYLOR GEOSYNTHETICS TECHNICIAN REMOVING LEADING EDGE OF THE GEOMEMBRANE ROLL, TO PREPARE NEXT THREE FEET FOR CONFORMANCE SAMPLING. FACING W.
G-0084	6/21/2001	8:13AM.	TWENTY FOOT NORTH OF CELL SUMP AREA, PUMP HAS BEEN DISCONNECTED PRIOR TO OUR ARRIVAL AND IS NOT RUNNING.
G-0085	6/21/2001	8:14AM.	SUMP AREA WITH STANDING WATER 1-2 FEET ABOVE THE RIM OF THE MANHOLE. FACING SW.
G-0086	6/22/2001	8:55AM.	SUMP CONDITION ON THE MORNING OF THE 22CND. FACING SW.
G-0087	6/23/2001	7:01AM.	BERMS HAVING THE TOP LAYER REMOVED AND TURNED TO LET THE MOISTURE OUT. FACING SW.
G-0088	6/25/2001	4:41PM.	LOOKING NORTH WEST, SHOWING THE JOHN DEERE TRACTOR PULLING THE 2,100 GAL. WATER TRAILER WATERING THE IN-SITU CLAY ON THE WEST BERM AND THENCAT 815 COMPACTOR PLACING LIFT # 3 ON THE NORTH BERM.
G-0089	6/25/2001	4:42PM.	LOOKING WEST, SHOWING THE JOHN DEERE TRACTOR PULLING THE 2,100 GAL. WATER TRAILER WATERING THE IN-SITU CLAY ON THE WEST BERM.
G-0090	6/26/2001	7:50AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR IN THE SUMP AREA, SHOWING STANDING WATER FROM OVERNIGHT SEEPAGE, (PUMP NOT TURNED ON).

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0091	6/26/2001	9:17AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR IN THE SUMP AREA, SHOWING STANDING WATER, AFTER PUMP HAS BEEN TURNED ON AND RUN FOR 11/2 HOURS.
G-0092	6/26/2001	9:23AM.	LOOKING SOUTH, SHOWING THE 563 CAT SHEEP'S FOOT ROLLER COMPACTING THE SILTY MATERIAL ON THE 5:1 SLOPE AREA ON THE OUTSIDE OF THE SOUTH BERM.
G-0093	6/26/2001	9:25AM.	LOOKING NORTH EAST AT THE EAST BERM, SHOWING PLACEMENT OF LIFT # 13.
G-0094	6/26/2001	1:37PM.	SHOWING THE PATRIOT TECHNICIAN TAKING NUCLEAR DENSITY TEST # B-104 ON LIFT # 13 ON THE EAST BERM.
G-0095	6/26/2001	3:26PM.	LOOKING WEST ALONG THE NORTH BERM, SHOWING THE JOHN DEERE TRACTOR PULLING THE 2,100 GAL. WATER TRAILER, WETTING THE IN-SITU CLAY BEFORE THE NEXT LIFT IS PLACED.
G-0096	6/26/2001	4:59PM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR IN THE SUMP AREA, SHOWING STANDING WATER, AFTER PUMPING ALL DAY.
G-0097	6/26/2001	5:13PM.	LOOKING SOUTH, SHOWING THE CONDITION OF THE CELL FLOOR SUBGRADE.
G-0098	6/27/2001	8:06AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR IN THE SUMP AREA, SHOWING CONDITION OF THE AREA AFTER PUMPING CONTINUOUSLY FOR 24 HOURS.
G-0099	6/27/2001	2:47PM.	TAKEN AT THE BORROW SITE, SHOWING THE TWO 325 CAT EXCAVATORS LOADING MATERIAL ONTO TANDEM DUMP TRUCKS.
G-0100	6/28/2001	10:03AM.	SHOWING THE FRONT LOADER UNLOADING A ROLL OF GCL USING THE LONG BAR THREW THE CENTER OF THE ROLLS CORE.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0101	6/28/2001	10:07AM.	SHOWING THE FRONT LOADER UNLOADING A ROLL OF GCL AND PLACING IT ONTO PALLETS.
G-0102	6/30/2001	2:57PM.	LOOKING NORTH, SHOWING PLACEMENT OF LIFT # 10 ON THE EAST BERM.
G-0103	6/30/2001	2:59PM.	LOOKING NORTH WEST, SHOWING THE CONDITION OF THE CELL FLOOR SUBGRADE.
G-0104	6/30/2001	2:59PM.	LOOKING EAST, SHOWING THE 563 CAT SHEEP'S FOOT ROLLER COMPACTING LIFT # 10 ON THE EAST BERM.
G-0105	7/2/2001	8:37AM.	LOOKING NORTH AT THE EAST BERM, SHOWING THE D5 CAT DOZER AND THE 815 CAT COMPACTOR SHAPING THE TOE OF THE BERM.
G-0106	7/2/2001	8:38AM.	LOOKING NORTH INTO CELL, SHOWING A TANDEM DUMP TRUCK BRINGING RIP-RAP INTO THE CELL.
G-0107	7/2/2001	8:39AM.	LOOKING NORTH INTO THE CELL, SHOWING THE TANDEM DUMP TRUCK UNLOADING THE RIP-RAP AND THE D6H CAT DOZER SPREADING IT ALONG THE CELL FLOOR.
G-0108	7/2/2001	11:36AM.	LOOKING WEST, SHOWING THE D6H CAT DOZER SPREADING THE RIP-RAP ALONG THE CELL FLOOR FROM THE SOUTH TO THE NORTH.
G-0109	7/3/2001	1:14PM.	LOOKING NORTH WEST, SHOWING THE 815 CAT COMPACTOR, COMPACTING THE INSIDE OF THE WEST BERM.
G-0110	7/3/2001	1:16PM.	LOOKING NORTH EAST, SHOWING TANDEM TRUCK BRINGING RIP-RAP INTO THE CELL WITH THE D6H CAT DOZER SPREADING THE RIP-RAP.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0111	7/3/2001	4:55PM.	LOOKING WEST ALONG THE SOUTH BERM, SHOWING THE D5C CAT DOZER DRESSING THE INSIDE OF THE WEST BERM, WITH THE 563 CAT SHEEP'S FOOT ROLLER AND THE 815 CAT COMPACTOR, COMPACTING THE CUT MATERIAL INTO LIFT # 12 ON THE WEST BERM.
G-0112	7/3/2001	4:55PM.	LOOKING NORTH WEST INTO THE CELL, SHOWING THE D6H CAT DOZER SPREADING THE RIP-RAP ALONG THE CELL FLOOR.
G-0113	7/3/2001	4:57PM.	LOOKING SOUTH AT THE NORTH WEST PORTION OF THE CELL FLOOR, SUMP AREA. SHOWING THE CONDITION OF THE SUBGRADE OF THE CELL FLOOR.
G-0114	7/3/2001	4:58PM.	LOOKING SOUTH EAST FROM THE NORTH BERM, SHOWING THE INGERSOLL RAND SD100 ROLLER SEALING THE PLACED CLAY ON THE WEST BERM AT THE END OF THE WORK DAY.
G-0115	7/3/2001	4:58PM.	LOOKING WEST FROM THE NORTH CORNER OF THE WEST BERM, SHOWING THE CONDITION OF THE SUBGRADE OF THE CELL FLOOR.
G-0116	7/5/2001	7:13AM.	LOOKING WEST AT THE NORTH PORTION OF THE CELL FLOOR, SHOWING THE CONDITION OF THE SUBGRADE AFTER THE PREVIOUS 1.3" OF RAINFALL.
G-0117	7/5/2001	7:19AM.	LOOKING WEST INTO THE CELL, SHOWING TRUCKS HAULING RIP-RAP INTO THE CELL.
G-0118	7/5/2001	4:04PM.	LOOKING SOUTH EAST INTO THE CELL, SHOWING A TRACTOR TRAILER UNLOADING A LOAD OF RIP-RAP, WITH THE D6H CAT DOZER READY TO SPREAD IT.
G-0119	7/6/2001	11:03AM.	LOOKING NORTH ALONG THE EAST BERM, SHOWING THE D5LGP CAT DOZER BLADING THE INSIDE SLOPE OF THE EAST BERM.
G-0120	7/6/2001	1:48PM.	LOOKING EAST INTO THE CELL, SHOWING THE PLACED RIP-RAP.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0121	7/6/2001	2:53PM.	SHOWING A LMS LOW BOY TRAILER DELIVERING THE 8" HDPE PIPE TO SITE.
G-0122	7/7/2001	7:42AM.	LOOKING NORTH WEST AT THE CORNER OF THE CELL, SHOWING THE 325 CAT EXCAVATOR STARTING TO REMOVE THE SATURATED MATERIAL ON THE CELL FLOOR.
G-0123	7/7/2001	8:44AM.	SHOWING THE END CAP BEING BUTT FUSION WELDED TO THE END OF THE CAPILLARY LAYER DRAIN PIPE.
G-0124	7/7/2001	8:51AM.	SHOWING THE CAT BACKHOE POSITIONING THE NEXT SECTION OF PIPE FOR WELDING INTO THE MACHINE.
G-0125	7/7/2001	8:52AM.	SHOWING THE LMS TECHNICIAN AND JACK LONG CLAMPING THE PIPE INTO THE MACHINE FOR WELDING.
G-0126	7/7/2001	8:53AM.	SHOWING THE ENDS OF THE PIPES BEING SHAVED, TO PROVIDE A CLEAN SMOOTH INTERFACE SURFACE.
G-0127	7/7/2001	8:54AM.	SHOWING THE HEATING IRON IN POSITION BETWEEN THE TWO PIPES.
G-0128	7/7/2001	9:01AM.	SHOWING THE TWO SECTIONS OF PIPE BEING BUTT FUSED TOGETHER.
G-0129	7/7/2001	9:02AM.	LOOKING NORTH, SHOWING THE D6LGP CAT DOZER SHAPING THE SOUTH SLOPE OF THE SOUTH BERM.
G-0130	7/7/2001	9:06AM.	LOOKING NORTH AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE 325 CAT EXCAVATOR, EXCAVATING THE TRENCH FOR THE CAPILLARY BREAK LAYER DRAIN PIPE.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0131	7/7/2001	10:02AM.	LOOKING NORTH AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE 325 CAT EXCAVATOR, EXCAVATING THE TRENCH FOR THE CAPILLARY BREAK LAYER DRAIN PIPE. ALSO IN THE PHOTO IS THE SURVEYOR ENSURING THAT GRADES ARE MAINTAINED.
G-0132	7/7/2001	10:27AM.	SHOWING PRESSURE BEING APPLIED TO THE CAPILLARY BREAK LAYER DRAIN PIPE FOR HYDRO-STATIC TESTING.
G-0133	7/7/2001	10:44AM.	SHOWING WATER COMING OUT OF THE VALVE AT THE HIGH END OF THE PIPE TO RELIEVE AIR BEFORE APPLING PRESSURE.
G-0134	7/7/2001	10:49AM.	SHOWING THE PRESSURE GAUGE WITH 50 PSI APPLIED TO THE PIPE.
G-0135	7/7/2001	11:28AM.	SHOWING JACK LONG BUTT FUSION WELDING THE SECONDARY LEACHATE COLLECTION
G-0136	7/7/2001	11:35AM.	LOOKING NORTH, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE EAST SLOPE OF THE EAST BERM.
G-0137	7/7/2001	11:37AM.	LOOKING WEST, SHOWING THE D5LPG CAT DOZER AND THE 325 CAT EXCAVATOR REMOVING THE SATURATED MATERIAL FROM THE CELL FLOOR PRIOR TO PLACING THE RIP-RAP.
G-0138	7/7/2001	11:40AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE 325 CAT EXCAVATOR REMOVING THE SATURATED MATERIAL FROM THE CELL FLOOR PRIOR TO PLACING THE RIP-RAP.
G-0139	7/7/2001	11:43AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE D5LGP CAT DOZER PLACING THE RIP-RAP.
G-0140	7/7/2001	11:46AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE D5LGP CAT DOZER PLACING THE RIP-RAP.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0141	7/7/2001	1:36PM.	LOOKING EAST FROM THE NORTH BERM, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE INSIDE SLOPES OF THE EAST AND NORTH BERMS.
G-0142	7/7/2001	1:52PM.	LOOKING SOUTH INTO CELL THROUGH THE EXCAVATED CAPILLARY LAYER DRAIN PIPE TRENCH, SHOWING THE SURVEYOR VERIFYING THE GRADES.
G-0143	7/7/2001	2:19PM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE SURVEYOR VERIFYING BOTTOM ELEVATIONS FOR THE INSTALLATION OF THE CAPILLARY BREAK LAYER DRAIN PIPE.
G-0144	7/7/2001	2:33PM.	LOOKING NORTH EAST AT THE NORTH WEST CORNER OF THE CELL, SHOWING MEREMAC GRAVEL BEING PLACED IN THE TRENCH AS BEDDING FOR THE CAPILLARY BREAK LAYER DRAIN PIPE.
G-0145	7/7/2001	2:34PM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL FLOOR, SHOWING THE SURVEYOR VERIFYING GRAVEL ELEVATIONS FOR THE INSTALLATION OF THE CAPILLARY BREAK LAYER DRAIN PIPE.
G-0146	7/7/2001	2:45PM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE BACKHOE PULLING THE CAPILLARY BREAK LAYER DRAIN PIPE INTO POSITION.
G-0147	7/7/2001	2:53PM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE BACKHOE PLACING GRAVEL OVER THE CAPILLARY BREAK LAYER DRAIN PIPE.
G-0148	7/7/2001	3:28PM.	LOOKING NORTH ALONG THE NORTH BERM, SHOWING THE 325 CAT EXCAVATOR LOADING A CAT 400 DUMP TRUCK WITH THE SATURATED MATERIAL FROM THE CELL FLOOR AREA.
G-0149	7/7/2001	3:36PM.	LOOKING NORTH EAST INTO THE CELL, SHOWING THE D6LGP CAT DOZER PLACING THE RIP-RAP WITH THE SURVEYOR VERIFYING TOP OF GRADE.
G-0150	7/9/2001	7:54AM.	LOOKING NORTH AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE 563 CAT SHEEP'S FOOT ROLLER COMPACTING CLAY BACK INTO THE EXCAVATED TRENCH FOR THE CAPILLARY BREAK LAYER DRAIN PIPE.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0151	7/9/2001	7:56AM.	SHOWING THE PATRIOT TECHNICIAN TAKING A NUCLEAR DENSITY TEST ON THE COMPACTED FILL IN THE EXCAVATED CAPILLARY BREAK LAYER DRAIN PIPE TRENCH.
G-0152	7/9/2001	7:56AM.	LOOKING EAST, SHOWING TRUCKS HAULING MEREMAC GRAVEL INTO THE CELL WITH THE D6LGP CAT DOZER SPREADING A THIN LIFT ACROSS THE FLOOR.
G-0153	7/9/2001	8:00AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING ACCUMULATED WATER IN THE CELL FLOOR, AFTER NO PUMPING ACTIVITY SINCE 7/7/01.
G-0154	7/9/2001	9:32AM.	SHOWING LMS LABORER DRILLING HOLES IN THE SECONDARY LEACHATE DETECTION PIPE.
G-0155	7/9/2001	9:33AM.	SHOWING THE DRILLED HOLES IN THE SECONDARY LEACHATE DETECTION PIPE.
G-0156	7/9/2001	10:24AM.	LOOKING WEST, SHOWING THE 563 CAT SHEEP'S FOOT ROLLER COMPACTING FILL BACK INTO THE CAPILLARY BREAK LAYER DRAIN PIPE TRENCH.
G-0157	7/9/2001	10:25AM.	LOOKING WEST, SHOWING THE 563 CAT SHEEP'S FOOT ROLLER COMPACTING FILL BACK INTO THE CAPILLARY BREAK LAYER DRAIN PIPE TRENCH.
G-0158	7/9/2001	10:42AM.	LOOKING SOUTH, SHOWING THE INGERSOLL RAND SD100 ROLLING THE PLACED RIP-RAP IN THE CELL FLOOR.
G-0159	7/9/2001	3:37PM.	LOOKING WEST, SHOWING THE 815 CAT COMPACTOR COMPACTING THE UPPER LIFT OF FILL ON THE NORTH BERM IN THE CAPILLARY BREAK LAYER DRAIN PIPE TRENCH AREA.
G-0160	7/9/2001	5:39PM.	LOOKING NORTH EAST, SHOWING THE D5LGP CAT DOZER AND THE D6LGP CAT DOZER PUSHING THE MEREMAC GRAVEL OVER THE RIP-RAP IN THE CELL FLOOR.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0161	7/9/2001	6:30PM.	LOOKING SOUTH, SHOWING THE D5LGP CAT DOZER AND THE D6LGP CAT DOZER PUSHING THE MEREMAC GRAVEL OVER THEE RIP-RAP IN THE CELL FLOOR.
G-0162	7/10/2001	10:30AM.	LOOKING WEST INTO THE CELL, SHOWING A TRACTOR TRAILER UNLOADING RIP-RAP IN THE CELL FLOOR.
G-0163	7/10/2001	3:25PM.	LOOKING NORTH INTO CELL, SHOWING THE D5LGP DOZER SPREADING THE RIP-RAP ALONG THE TOE OF THE EAST BERM.
G-0164	7/10/2001	5:57PM.	LOOKING NORTH WEST, SHOWING LABORERS INSTALLING SILT FENCE ALONG THE TOE OF THE NORTH BERM.
G-0165	7/10/2001	5:57PM.	LOOKING WEST INTO THE CELL, SHOWING THE D5LGP AND THE D6LGP DOZERS SPREADING RIP-RAP IN THE CELL FLOOR, ALONG THE TOE OF THE EAST AND NORTH BERMS.
G-0166	7/11/2001	8:08AM	LOOKING EAST ALONG THE NORTH BERM, SHOWING FINAL GRADE STAKED ON THE INSIDE SLOPE OF THE BERM WITH SILT FENCE INSTALLED ALONG THE TOE OF THE SLOPE.
G-0167	7/11/2001	8:08AM	LOOKING SOUTH EAST, SHOWING THE D6LGP CAT DOZER PUSHING THE MEREMAC GRAVEL ON TOP OF THE RIP-RAP IN THE CELL FLOOR.
G-0168	7/11/2001	8:10AM.	LOOKING SOUTH, SHOWING THE D6LGP CAT DOZER PUSHING THE MEREMAC GRAVEL ON TOP OF THE RIP-RAP IN THE CELL FLOOR.
G-0169	7/11/2001	10:19AM.	LOOKING SOUTH WEST, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE RIP-RAP ALONG THE NORTH SIDE OF THE CELL PRIOR TO PLACING THE MEREMAC GRAVEL.
G-0170	7/11/2001	10:30AM.	LOOKING SOUTH, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE RIP-RAP ALONG THE EAST SIDE OF THE CELL PRIOR TO PLACING THE MEREMAC GRAVEL.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0171	7/13/2001	7:33AM.	LOOKING NORTH WEST, SHOWING TRACTOR TRAILERS HAULING THE MEREMAC GRAVEL INTO THE CELL.
G-0172	7/13/2001	7:33AM.	LOOKING NORTH ALONG THE EAST BERM, SHOWING THE STACKED FINAL GRADE ON THE INSIDE OF THE BERM.
G-0173	7/13/2001	5:54PM.	LOOKING NORTH EAST, SHOWING THE D6LPG AND THE D5LPG CAT DOZERS SPREADING THE RIP-RAP ON THE CELL FLOOR.
G-0174	7/13/2001	6:00PM.	LOOKING EAST, SHOWING THE D6LPG AND THE D5LPG CAT DOZERS SPREADING THE RIP-RAP ON THE CELL FLOOR.
G-0175	7/14/2001	2:31PM.	LOOKING NORTH WEST AT THE CORNER OF THE CELL FLOOR SHOWING, THE 2" PUMP TEMPORARILY INSTALLED IN THE SUMP AREA.
G-0176	7/14/2001	2:34PM.	LOOKING NORTH WEST AT THE CORNER OF THE CELL FLOOR SHOWING, THE 2" PUMP TEMPORARILY INSTALLED IN THE SUMP AREA, WITH CLEAR WATER FLOWING INTO THE BUCKET.
G-0177	7/14/2001	2:38PM.	LOOKING NORTH, SHOWING THE D6LGP CAT DOZER SPREADING THE MEREMAC GRAVEL ALONG THE TOE OF THE NORTH BERM.
G-0178	7/14/2001	2:40PM.	LOOKING NORTH EAST, SHOWING THE D6LGP CAT DOZER SPREADING THE MEREMAC GRAVEL ALONG THE TOE OF THE NORTH BERM.
G-0179	7/14/2001	4:13PM.	LOOKING SOUTH INTO THE CELL, SHOWING THE SURVEYOR VERIFYING THE FINAL GRADES ON THE TOP OF THE MEREMAC GRAVEL CAPILLARY BREAK LAYER.
G-0180	7/16/2001	9:15AM.	LOOKING SOUTH AT THE SOUTH WEST SIDE OF THE WEST BERM, SHOWING THE 815 CAT COMPACTOR, COMPACTING THE OUTSIDE OF THE BERM, TO FINAL GRADE.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0181	7/16/2001	9:17AM.	LOOKING NORTH ALONG THE WEST BERM, SHOWING THE D6LGP CAT DOZER SHAPING THE OUTSIDE OF THE BERM TO FINAL GRADE.
G-0182	7/16/2001	9:32AM.	LOOKING NORTH AT THE NORTH WEST CORNER OF THE NORTH BERM, SHOWING THE D5LGP CAT DOZER SHAPING THE INSIDE OF THE BERM TO FINAL GRADE.
G-0183	7/16/2001	3:02PM.	LOOKING EAST, SHOWING THE D5C CAT DOZER FINAL GRADING THE INSIDE OF THE EAST BERM.
G-0184	7/16/2001	3:03PM.	LOOKING SOUTH ALONG THE WEST BERM, SHOWING THE SURVEYOR STAKING FINAL GRADE ON THE INSIDE CREST OF THE WEST BERM.
G-0185	7/17/2001	9:59AM.	LOOKING AT THE NORTH WEST PORTION OF THE CELL, SHOWING THE D5LGP CAT DOZER SHAPING THE INSIDE CORNER OF THE NORTH AND WEST BERMS AND LABORERS INSTALLING SILT FENCING ALONG THE TOE OF THE WEST BERM.
G-0186	7/17/2001	9:59AM.	LOOKING NORTH AT THE NORTH EAST CORNER OF CELL, SHOWING THE D5C CAT DOZER SHAPING THE INSIDE CORNER OF THE NORTH AND EAST BERMS TO FINAL GRADE.
G-0187	7/17/2001	10:03AM.	LOOKING NORTH EAST AT THE CORNER OF THE CELL, SHOWING THE D6LGP DOZER SPREADING THE MEREMAC GRAVEL ALONG THE TOE OF THE EAST BERM.
G-0188	7/17/2001	4:23PM.	LOOKING NORTH WEST INTO THE CELL, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE GRADED MEREMAC GRAVEL ALONG THE NORTH WEST PORTION OF THE CELL FLOOR.
G-0189	7/17/2001	4:25PM.	LOOKING WEST IN THE CELL, SHOWING GRADING AND SMOOTH DRUM ROLLING OF THE MEREMAC GRAVEL IN THE CELL, CONES ARE AT GRADE.
G-0190	7/17/2001	4:32PM.	LOOKING INTO THE CELL, SHOWING THE SURVEYOR CHECKING GRADES ON THE MEREMAC GRAVEL.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0191	7/17/2001	4:47PM.	LOOKING NORTH WEST INTO CELL, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE GRADED MEREMAC GRAVEL ALONG THE NORTH PORTION OF THE CELL.
G-0192	7/18/2001	10:55AM.	SHOWING TERRY WOODFIN (LMS) HOLDING THE SUBMERSIBLE PUMP WHICH WILL BE INSTALLED INSIDE THE CAPILLARY BREAK LAYER COLLECTION PIPE.
G-0193	7/18/2001	11:00AM.	LOOKING SOUTH WEST INTO CELL, SHOWING D5LPG CAT DOZER FINAL GRADING THE MEREMAC GRAVEL, WITH SURVEYOR CERTIFYING THE GRADES, CONES ARE ON GRADE.
G-0194	7/20/2001	10:01AM.	LOOKING SOUTH EAST AT THE OUTSIDE CORNER OF THE CELL, SHOWING EROSION DAMAGE AFTER PREVIOUS RAINFALL.
G-0195	7/20/2001	10:01AM.	LOOKING WEST ALONG THE OUTSIDE TOE OF THE SOUTH BERM, SHOWING EROSION DAMAGE AFTER PREVIOUS RAINFALL.
G-0196	7/20/2001	10:01AM.	LOOKING SOUTH EAST AT THE OUTSIDE CORNER OF THE CELL, SHOWING EROSION DAMAGE AFTER PREVIOUS RAINFALL.
G-0197	7/20/2001	10:02AM.	LOOKING WEST ALONG THE OUTSIDE OF THE SOUTH BERM, SHOWING EROSION DAMAGE AFTER PREVIOUS RAINFALL.
G-0198	7/20/2001	10:02AM.	LOOKING WEST ALONG THE TOP OF THE SOUTH BERM, SHOWING EROSION DAMAGE AFTER PREVIOUS RAINFALL.
G-0199	7/20/2001	10:03AM.	LOOKING WEST AT THE INSIDE SLOPE OF THE SOUTH BERM, SHOWING EROSION DAMAGE AFTER PREVIOUS RAINFALL.
G-0200	7/20/2001	10:03AM.	LOOKING DOWN THE INSIDE SLOPE OF THE SOUTH AND EAST BERMS, SHOWING EROSION DAMAGE FROM PREVIOUS RAINFALL.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0201	7/20/2001	10:03AM.	LOOKING NORTH AT THE INSIDE SLOPE OF THE EAST BERM, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0202	7/20/2001	10:03AM.	LOOKING NORTH AT THE TOP OF THE EAST BERM, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0203	7/20/2001	10:04AM.	LOOKING WEST AT THE INSIDE SLOPE OF THE EAST BERM, SHOWING EROSION AND SILTATION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0204	7/20/2001	10:04AM.	LOOKING EAST AT THE OUTSIDE SLOPE OF THE EAST BERM, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0205	7/20/2001	10:04AM.	LOOKING WEST AT THE INSIDE SLOPE OF THE EAST BERM, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0206	7/20/2001	10:05AM.	LOOKING AT THE NORTH EAST INSIDE CORNER OF THE BERMS, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0207	7/20/2001	10:05AM.	LOOKING AT THE TOE OF THE NORTH EAST INSIDE CORNER OF THE BERMS, SHOWING EROSION AND SILTATION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0208	7/20/2001	10:06AM.	LOOKING DOWN AT THE TOE OF THE NORTH EAST INSIDE CORNER OF THE BERMS, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0209	7/20/2001	10:06AM.	LOOKING WEST AT THE TOP OF THE NORTH BERM, SHOWING EROSION DAMAGE TO THE TOP AND OUTSIDE SLOPE FROM THE PREVIOUS RAINFALL.
G-0210	7/20/2001	10:07AM.	LOOKING DOWN AT THE OUTSIDE SLOPE OF THE NORTH BERM, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0211	7/20/2001	10:08AM.	LOOKING DOWN AT THE INSIDE CORNER OF THE NORTH WEST BERMS, SHOWING STANDING WATER AND SILTATION FROM THE PREVIOUS RAINFALL.
G-0212	7/20/2001	10:08AM.	LOOKING AT THE INSIDE SLOPES AT THE CORNER OF THE NORTH WEST BERMS, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0213	7/20/2001	10:10AM.	LOOKING SOUTH ALONG THE TOE OF THE WEST BERM, SHOWING STANDING WATER, SILTATION AND EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0214	7/20/2001	10:11AM.	LOOKING SOUTH ALONG THE TOP OF THE WEST BERM, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0215	7/20/2001	10:11AM.	LOOKING DOWN AT THE INSIDE CORNER OF THE NORTH WEST BERMS, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL. LMS ATTEMPTING TO CONTROL EROSION WITH THE USE OF HAY BALES.
G-0216	7/20/2001	10:12AM.	LOOKING AT THE TOP OF THE WEST BERM, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0217	7/20/2001	10:12AM.	LOOKING DOWN THE OUTSIDE SLOPE OF THE WEST BERM, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0218	7/20/2001	10:12AM.	LOOKING DOWN AT THE TOE OF THE INSIDE CORNER OF THE SOUTH WEST BERMS, SHOWING EROSION DAMAGE AND SILTATION FROM THE PREVIOUS RAINFALL.
G-0219	7/20/2001	10:13AM.	LOOKING AT THE INSIDE CORNER OF THE SOUTH WEST BERMS, SHOWING EROSION DAMAGE AND SILTATION FROM THE PREVIOUS RAINFALL.
G-0220	7/20/2001	10:13AM.	LOOKING DOWN AT THE TOE OF THE INSIDE CORNER OF THE SOUTH WEST BERMS, SHOWING EROSION DAMAGE AND SILTATION FROM THE PREVIOUS RAINFALL.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0221	7/20/2001	10:14AM.	LOOKING NORTH WEST AT THE SOUTH WEST CORNER, AT THE TOP OF THE BERMS, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0222	7/20/2001	10:14AM.	LOOKING SOUTH WEST AT THE OUTSIDE CORNER OF THE BERMS, SHOWING EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0223	7/20/2001	10:15AM.	LOOKING SOUTH AT THE OUTSIDE SLOPE OF THE SOUTH BERM, SHOWING STANDING WATER AND EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0224	7/20/2001	10:15AM.	LOOKING NORTH AT THE INSIDE SLOPE OF THE SOUTH BERM, SHOWING SILTATION AND EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0225	7/20/2001	10:16AM.	LOOKING SOUTH WEST AT THE OUTSIDE SLOPE OF THE SOUTH AND WEST BERMS, SHOWING STANDING WATER AND EROSION DAMAGE FROM THE PREVIOUS RAINFALL.
G-0226	7/23/2001	7:33AM.	LOOKING WEST AT THE INSIDE SLOPE OF THE NORTH BERM, SHOWING THE CONDITION OF THE SLOPE.
G-0227	7/23/2001	7:33AM.	LOOKING SOUTH WEST AT THE INSIDE SLOPE OF THE WEST AND SOUTH BERMS, SHOWING THE CONDITION OF THE SLOPES.
G-0228	7/23/2001	7:34AM.	LOOKING SOUTH AT THE INSIDE SLOPE OF THE EAST BERM, SHOWING THE CONDITION OF THE SLOPE.
G-0229	7/23/2001	9:43AM.	LOOKING SOUTH WEST AT THE WEST BERM, SHOWING THE D5C CAT DOZER DRESSING THE TOP OF THE BERM.
G-0230	7/23/2001	9:44AM.	LOOKING SOUTH ALONG THE INSIDE SLOPE OF THE EAST BERM, SHOWING THE D5LGP CAT DOZER BACK-DRAGGING THE SLOPE.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0231	7/23/2001	9:44AM.	LOOKING SOUTH AT THE INSIDE SLOPE OF THE SOUTH BERM, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE SLOPE.
G-0232	7/23/2001	9:46AM.	LOOKING WEST AT THE OUTSIDE SLOPE OF THE SOUTH BERM, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE SLOPE.
G-0233	7/23/2001	9:46AM.	LOOKING SOUTH AT THE INSIDE SLOPE OF THE NORTH BERM, SHOWING THE D5C CAT DOZER BACK-DRAGGING THE SLOPE.
G-0234	7/23/2001	1:04PM.	LOOKING NORTH AT THE INSIDE CORNER OF THE NORTH AND EAST BERMS, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE SLOPE.
G-0235	7/23/2001	2:47PM.	LOOKING NORTH EAST, SHOWING THE D5LGP CAT DOZER FINAL GRADING THE TOP OF THE MEREMAC GRAVEL IN THE SOUTH PORTION OF THE CELL FLOOR.
G-0236	7/24/2001	12:38PM.	LOOKING NORTH ALONG THE EAST BERM, SHOWING THE CONDITION OF THE SLOPES AFTER PREVIOUS RAINFALL.
G-0237	7/24/2001	12:38PM.	LOOKING NORTH WEST INTO THE CELL, SHOWING THE CONDITION OF THE CELL AFTER PREVIOUS RAINFALL.
G-0238	7/24/2001	12:38PM.	LOOKING WEST ALONG THE SOUTH BERM, SHOWING THE CONDITION OF THE SLOPES AFTER PREVIOUS RAINFALL.
G-0239	7/25/2001	1:53PM.	LOOKING NORTH WEST INTO THE CELL, SHOWING THE D5LGP CAT DOZER SPREADING THE MEREMAC GRAVEL IN THE SOUTH EAST CORNER OF THE CELL.
G-0240	7/25/2001	1:53PM.	LOOKING NORTH WEST INTO THE CELL, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE TOP OF THE GRADED MEREMAC GRAVEL.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0241	7/25/2001	1:55PM.	LOOKING NORTH WEST INTO THE CELL, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE TOP OF THE GRADED MEREMAC GRAVEL.
G-0242	7/25/2001	2:50PM.	LOOKING DOWN THE INSIDE SLOPE OF THE SOUTH BERM, SHOWING A BOBCAT REMOVING SILT FROM THE EDGE OF THE PLACED MEREMAC GRAVEL.
G-0243	7/25/2001	2:50PM.	LOOKING DOWN THE INSIDE SLOPE OF THE SOUTH BERM, SHOWING A BOBCAT REMOVING SILT FROM THE EDGE OF THE PLACED MEREMAC GRAVEL.
G-0244	7/25/2001	2:50PM.	LOOKING DOWN THE INSIDE SLOPE OF THE SOUTH BERM, SHOWING A BOBCAT REMOVING SILT FROM THE EDGE OF THE PLACED MEREMAC GRAVEL.
G-0245	7/25/2001	2:57PM.	LOOKING DOWN THE INSIDE SLOPE OF THE SOUTH BERM, SHOWING A BOBCAT REMOVING SILT FROM THE EDGE OF THE PLACED MEREMAC GRAVEL.
G-0246	7/25/2001	3:01PM.	LOOKING WEST ALONG THE TOE OF THE SOUTH BERM, SHOWING A BOBCAT ATTEMPTING TO REMOVE SILT FROM THE EDGE OF THE PLACED MEREMAC GRAVEL.
G-0247	7/25/2001	3:11PM.	LOOKING SOUTH ALONG THE TOE OF THE SOUTH BERM, SHOWING THE D5LGP CAT DOZER REMOVING SILT FROM THE EDGE OF THE PLACED MEREMAC GRAVEL.
G-0248	7/25/2001	3:11PM.	LOOKING SOUTH ALONG THE TOE OF THE SOUTH BERM, SHOWING THE D5LGP CAT DOZER REMOVING SILT FROM THE EDGE OF THE PLACED MEREMAC GRAVEL.
G-0249	7/25/2001	3:13PM.	LOOKING EAST ALONG THE TOE OF THE SOUTH BERM, SHOWING THE D5LGP CAT DOZER REMOVING SILT FROM THE EDGE OF THE PLACED MEREMAC GRAVEL.
G-0250	7/26/2001	9:42AM.	LOOKING WEST ALONG THE TOE OF THE SOUTH BERM, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE EDGE OF THE PLACED MEREMAC GRAVEL, PRIOR TO GEOTEXTILE INSTALLATION.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0251	7/26/2001	9:44AM.	LOOKING WEST ALONG THE TOE OF THE SOUTH BERM, SHOWING THE INGERSOLL RAND SD100 SMOOTH DRUM ROLLING THE EDGE OF THE PLACED MEREMAC GRAVEL, PRIOR TO GEOTEXTILE INSTALLATION.
G-0252	7/26/2001	10:34AM.	LOOKING NORTH WEST, SHOWING TAYLOR POSITIONING THE FIRST PANEL OF GEOTEXTILE AT THE TOE OF THE WEST BERM.
G-0253	7/26/2001	10:35AM	LOOKING NORTH WEST, SHOWING TAYLOR DEPLOYING THE FIRST PANEL OF GEOTEXTILE ALONG THE TOE OF THE WEST BERM.
G-0254	7/26/2001	10:36AM	LOOKING NORTH WEST, SHOWING TAYLOR DEPLOYING THE FIRST PANEL OF GEOTEXTILE ALONG THE TOE OF THE WEST BERM.
G-0255	7/26/2001	10:37AM	LOOKING NORTH WEST, SHOWING TAYLOR DEPLOYING THE FIRST PANEL OF GEOTEXTILE ALONG THE TOE OF THE WEST BERM.
G-0256	7/26/2001	10:42AM	LOOKING NORTH, SHOWING TAYLOR DEPLOYING THE SECOND PANEL OF GEOTEXTILE. THE INGERSOLL RAND SD100 CAN ALSO BE SEEN SMOOTH DRUM ROLLING THE MEREMAC GRAVEL AHEAD OF DEPLOYMENT.
G-0257	7/26/2001	10:55AM	LOOKING SOUTH, SHOWING A TAYLOR LABORER PREPARING THE PANEL SEAMS FOR SEWING.
G-0258	7/26/2001	10:59AM	SHOWING A TAYLOR TECHNICIAN SEWING THE SEAM OF PANEL # 1 & # 2.
G-0259	7/26/2001	11:15AM.	LOOKING SOUTH, SHOWING A TAYLOR TECHNICIAN SEWING THE SEAM OF PANEL # 2 & # 3.
G-0260	7/26/2001	1:20PM.	LOOKING NORTH, SHOWING TAYLOR DEPLOYING THE EIGHTH PANEL OF GEOTEXTILE.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0261	7/26/2001	1:44PM.	LOOKING NORTH, SHOWING DEPLOYMENT OF THE TENTH PANEL OF GEOTEXTILE LINER.
G-0262	7/26/2001	3:58PM.	LOOKING NORTH WEST, SHOWING THE COMPLETED INSTALLATION OF THE GEOTEXTILE LINER.
G-0263	7/27/2001	7:43AM.	LOOKING SOUTH WEST, SHOWING THE D5LGP CAT DOZER STARTING TO SPREAD THE 6" THICK TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER, FROM THE SOUTH EAST TOWARDS THE NORTH WEST OF THE CELL.
G-0264	7/27/2001	7:49AM.	LOOKING SOUTH WEST, SHOWING THE D5LGP CAT DOZER STARTING TO SPREAD THE 6" THICK TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER, FROM THE SOUTH EAST TOWARDS THE NORTH WEST OF THE CELL.
G-0265	7/27/2001	8:38AM.	LOOKING AT THE SOUTH WEST INSIDE CORNER OF THE CELL, SHOWING THE 815 CAT COMPACTOR, COMPACTING A THIN LIFT ON THE SLOPE.
G-0266	7/27/2001	8:43AM.	LOOKING SOUTH EAST, SHOWING THE D5LGP CAT DOZER SPREADING THE 6" THICK TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER.
G-0267	7/27/2001	8:54AM.	LOOKING AT THE SOUTH WEST INSIDE CORNER OF THE CELL, SHOWING THE D6LGP CAT DOZER STARTING TO SPREAD THE 6" THICK TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER.
G-0268	7/27/2001	8:55AM.	LOOKING EAST AT THE SOUTH WEST INSIDE CORNER OF THE CELL, SHOWING THE D6LGP CAT DOZER STARTING TO SPREAD THE 6" THICK TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER.
G-0269	7/27/2001	9:25AM.	LOOKING NORTH WEST, SHOWING THE D5LGP CAT DOZER STARTING TO SPREAD THE 6" THICK TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER, FROM THE SOUTH EAST TOWARDS THE NORTH WEST OF THE CELL.
G-0270	7/27/2001	11:44AM.	LOOKING WEST, SHOWING THE D6LGP CAT DOZER STARTING TO SPREAD THE 6" THICK TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER, ALONG THE WEST SIDE OF THE CELL.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0271	7/27/2001	11:49AM.	LOOKING SOUTH WEST SHOWING, THE D6LGP CAT DOZER AND THE D5LGP DOZER SPREADING THE 6" TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER.
G-0272	7/27/2001	1:30PM.	LOOKING NORTH WEST SHOWING, THE D6LGP CAT DOZER AND THE D5LGP DOZER SPREADING THE 6" TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER.
G-0273	7/27/2001	2:48PM.	LOOKING WEST SHOWING, THE D6LGP CAT DOZER AND THE D5LGP DOZER SPREADING THE 6" TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER.
G-0274	7/27/2001	3:15PM.	LOOKING SOUTH SHOWING, THE D5LGP CAT DOZER AND THE D5LGP DOZER SPREADING THE 6" TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER.
G-0275	7/27/2001	3:37PM.	LOOKING SOUTH WEST SHOWING, THE D6LGP CAT DOZER AND THE D5LGP DOZER SPREADING THE 6" TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER, ALONG THE WEST SIDE OF THE CELL.
G-0276	7/27/2001	4:22PM.	LOOKING WEST SHOWING, THE INGERSOLL RAND SD100 STARTING TO SMOOTH DRUM ROLL THE WEST SIDE OF THE CELL FLOOR.
G-0277	7/27/2001	4:22PM.	LOOKING WEST AT THE SOUTH WEST CORNER OF THE CELL, SHOWING A TANDEM DUMP TRUCK DELIVERING SOIL TO THE CELL.
G-0278	7/27/2001	4:23PM.	LOOKING NORTH WEST SHOWING, THE D6LGP CAT DOZER AND THE D5LGP DOZER SPREADING THE 6" TRACKED-IN-PLACE FILL ON TOP OF THE GEOTEXTILE LINER.
G-0279	7/27/2001	4:23PM.	LOOKING WEST AT THE SOUTH WEST CORNER OF THE CELL, SHOWINGG A TANDEM DUMP TRUCK DELIVERING SOIL TO THE CELL.
G-0280	7/28/2001	9:40AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE D5LGP CAT DOZER AND THE SURVEYOR STARTING TO FINAL GRADE THE SUMP AREA.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0281	7/28/2001	9:41AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE D5LGP CAT DOZER AND THE SURVEYOR STARTING TO FINAL GRADE THE SUMP AREA.
G-0282	7/28/2001	9:42AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE SURVEYOR SHOOTING THE CORNER OF THE SUMP FOR FINAL GRADE.
G-0283	7/28/2001	9:48AM.	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE D5LGP CAT DOZER AND THE SURVEYOR STARTING TO FINAL GRADE THE SUMP AREA.
G-0284	7/28/2001	11:15AM.	LOOKING SOUTH WEST, SHOWING THE D5LGP CAT DOZER AND THE SURVEYOR FINAL GRADING THE TOP OF THE 6" TRACKED-IN-PLACE FILL.
G-0285	7/28/2001	11:33AM.	LOOKING SOUTH, SHOWING THE D5LGP CAT DOZER AND THE SURVEYOR FINAL GRADING THE TOP OF THE 6" TRACKED-IN-PLACE FILL.
G-0286	7/30/2001	8:01AM.	LOOKING NORTH WEST, SHOWING THE D5LGP & D6LGP CAT DOZERS FINAL GRADING THE TOP OF THE 6" TRACKED-IN-PLACE FILL. ALSO SHOWING THE 433 CAT, SMOOTH DRUM ROLLING THE FINISHED GRADED SURFACE.
G-0287	7/30/2001	8:02AM.	LOOKING NORTH WEST, SHOWING THE D6LGP CAT DOZER FINAL GRADING THE INSIDE OF THE NORTH SLOPE.
G-0288	7/30/2001	8:04AM.	LOOKING SOUTH WEST, SHOWING THE D5LGP CAT DOZER BACK DRAGGING THE FINISHED SURFACE OF THE 6" TRACKED-IN-PLACE FILL PRIOR TO SMOOTH DRUM ROLLING.
G-0289	7/30/2001	8:04AM.	LOOKING WEST, SHOWING THE 433 CAT SMOOTH DRUM ROLLING THE FINISHED SURFACE OF THE 6" TRACKED-IN-PLACE FILL.
G-0290	7/30/2001	8:24AM.	LOOKING NORTH WEST, SHOWING THE D5LGP DOZER FINAL GRADING THE TOP OF THE 6" TRACKED-IN-PLACE FILL. WITH THE 433, SMOOTH DRUM ROLLING THE GRADED SURFACE ON THE FLOOR, AND THE D6LGP DOZER WORKING THE NORTH SLOPE.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0291	7/30/2001	11:14AM.	LOOKING SOUTH AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE D5LGP & D6LGP CAT DOZER'S FINAL GRADING THE INSIDE SLOPE WITH THE SURVEYOR VERIFYING GRADES.
G-0292	7/30/2001	2:40PM.	LOOKING SOUTH WEST, SHOWING THE D6LGP CAT DOZER FINAL GRADING THE TOP OF THE SOUTH BERM, WITH THE 433 SMOOTH DRUM ROLLING THE INSIDE SLOPE..
G-0293	7/30/2001	3:28PM.	LOOKING AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE D5LGP CAT DOZER FINAL GRADING THE INSIDE SLOPE.
G-0294	7/30/2001	4:45PM.	LOOKING AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE D5LGP CAT DOZER FINAL GRADING THE INSIDE SLOPE.
G-0295	7/31/2001	8:33AM.	LOOKING WEST ALONG THE SOUTH BERM, SHOWING THE 433 SMOOTH DRUM ROLLING THE INSIDE SLOPE.
G-0296	7/31/2001	8:59AM.	LOOKING NORTH WEST ALONG THE SOUTH BERM, SHOWING THE 325 EXCAVATOR STARTING TO DIG THE ANCHOR TRENCH.
G-0297	7/31/2001	9:02AM.	LOOKING EAST ALONG THE SOUTH BERM, SHOWING THE 325 EXCAVATOR STARTING TO DIG THE ANCHOR TRENCH.
G-0298	7/31/2001	9:40AM.	LOOKING EAST ALONG THE SOUTH BERM, SHOWING THE 325 EXCAVATOR CONTINUING TO DIG THE ANCHOR TRENCH.
G-0299	7/31/2001	10:04AM.	LOOKING EAST ALONG THE SOUTH BERM, SHOWING THE 325 EXCAVATOR CONTINUING TO DIG THE ANCHOR TRENCH.
G-0300	7/31/2001	11:02AM.	LOOKING EAST ALONG THE SOUTH BERM, SHOWING THE 325 EXCAVATOR CONTINUING TO DIG THE ANCHOR TRENCH.

LOG OF PHOTOGRAPHS
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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0301	7/31/2001	11:06AM.	LOOKING SOUTH WEST INTO CELL, SHOWING R. SIEMSAZKIEWICZ (QA) AND TERRY WOODFIN (LMS) INSPECTING THE TOP OF THE 6" TRACKED-IN-PLACE FILL LAYER.
G-0302	7/31/2001	11:32AM.	LOOKING EAST ALONG THE ANCHOR TRENCH IN THE SOUTH BERM.
G-0303	7/31/2001	1:48PM.	LOOKING AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE 433 SMOOTH DRUM ROLLING THE INSIDE SLOPES.
G-0304	7/31/2001	1:50PM.	LOOKING AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE 433 SMOOTH DRUM ROLLING THE INSIDE SLOPES.
G-0305	7/31/2001	1:53PM.	LOOKING WEST INTO THE CELL, SHOWING LMS LABORER WATERING THE TOP OF THE TRACKED-IN-PLACE FILL IN THE CELL FLOOR.
G-0306	7/31/2001	1:54PM.	LOOKING SOUTH INTO THE CELL, SHOWING LMS LABORER WATERING THE TOP OF THE TRACKED-IN-PLACE FILL ON THE CELL FLOOR AND SIDE SLOPES.
G-0307	7/31/2001	1:54PM.	LOOKING SOUTH ALONG THE EAST BERM, SHOWING LMS LABORER WATERING THE TOP OF THE TRACKED-IN-PLACE FILL ON THE CELL FLOOR AND SIDE SLOPES.
G-0308	7/31/2001	1:57PM.	LOOKING SOUTH WEST INTO THE CELL, SHOWING LMS LABORER WATERING THE TOP OF THE TRACKED-IN-PLACE FILL ON THE CELL FLOOR AND SIDE SLOPES.
G-0309	7/31/2001	2:04PM.	LOOKING SOUTH WEST INTO THE CELL, SHOWING LMS LABORER WATERING THE TOP OF THE TRACKED-IN-PLACE FILL IN THE CELL FLOOR.
G-0310	7/31/2001	2:06PM.	LOOKING AT THE SOUTH WEST CORNER OF THE CELL, SHOWING THE 433 SMOOTH DRUM ROLLING THE INSIDE SLOPES.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0311	7/31/2001	3:48 PM	TOP OF THE NORTHWEST CORNER, SHOWING LABORES STARTING EDGE OF ANCHOR TRENCH.
G-0312	7/31/2001	3:50	LOOKING SOUTH AT THE NORTHWEST CORNER, SHOWING LABORES STARTING EDGE OF ANCHOR TRENCH.
G-0313	7/31/2001	4:51 PM	LOOKING WEST DOWN SOUTH BERM ANCHOR TRENCH.
G-0314	7/31/2001	4:54 PM	LOOKING EAST AS SOUTH BERM ANCHOR TRENCH IS BEING GRADED.
G-0315	7/31/2001	4:54 PM	LOOKING EAST AS SOUTH BERM ANCHOR TRENCH IS BEING GRADED.
G-0316	8/1/2001	8:34 AM	LOOKING NORTH DOWN EAST BERM ANCHOR TRENCH, BEING DUG AND GRADED.
G-0317	8/1/2001	8:34 AM	LOOKING NORTHEAST AT FINISHED TRENCH ON SOUTH BERM, ROLLER ROLLING OFF THE SLOPE TOP.
G-0318	8/1/2001	9:58 AM	GETTING READY TO DDEPLOY GCL, FROM EAST ANCHOR TRENCH, LULL IS WAY OF TRANSPORT AND DEPLOYMENT.
G-0319	8/1/2001	10:02 AM	DEPLOYING FIRST SHEET OF GCL, 4-WHEELER USED TO HELP IN DEPLOYMENT.
G-0320	8/1/2001	10:05 AM	PULLING GCL WITH 4-WHEELER, TAYLORS MEN PULLING GCL DOWN EAST BERM.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0321	8/1/2001	10:05 AM	PULLING GCL WITH 4-WHEELER, TAYLORS MEN PULLING GCL DOWN EAST BERM.
G-0322	8/1/2001	10:05 AM	LOOKING SOUTHWEST GCL IN ANCHOR TRENCH, 3 FEET LEFT IN TRENCH AS PER SITE SPECIFICATIONS.
G-0323	8/1/2001	10:07 AM	LOOKING SOUTHWEST INTO CELL, LABORS PULLING WRINKLES OUT OF GCL.
G-0324	8/1/2001	10:08 AM	SAME AS ABOVE, ALSO PULLING STRAIGHT
G-0325	8/1/2001	10:18 AM	LOOKIN SOIUTHWEST INTO CELL, PULLING SECOND SHEET OF GCL, KEEPING IT CLOSE TO ALIGN
G-0326	8/1/2001	10:23 AM	LOOKING NORTHEAST OUT OF CELL, PATRIOT LOOKING AT SEAMS FOR OVERLAP, LABORS PULLING OUT WRINKLES
G-0327	8/1/2001	10:40 AM	LOOKING NORTH DOWN EAST BERM, ROLLER ROUNDING OFF EDGE OF TRENCH
G-0328	8/1/2001	10:55 AM	LOOKING NORTHWEST INTO CELL, LABORS PULLING GCL TO HAVE OVERLAP AS PER SITE SPECIFICATIONS, FOR BENTONITE POWDER.
G-0329	8/1/2001	11:37 AM	BENTONITE POWDER BEING PLACED IN SEAMS OF GCL LAYERS ABOUT 3" OF POWDER.
G-0330	8/1/2001	11:37 AM	TAYLORS MEN PLACING BENTONITE POWDER ON EAST SLOPE OF GCL.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0331	8/1/2001	11:46 AM	LOOKING NORTHWEST INTO CELL, BENTONITE BEING PLACED IN SEAMS OF GCL.
G-0332	8/1/2001	12:47 PM	LOOKING NORTHEAST INTO CELL, GCL BEING PULLED DOWN SOUTH SLOPE, LEAVING 2 FEET OVERLAP AT ADJOINING GCL LAYERS.
G-0333	8/1/2001	1:15 PM	LOOKING NORTHEAST AT WEST BERM TRENCH BEING GRADED AND DUG.
G-0334	8/1/2001	1:25 PM	LOOKING SOUTHWEST INTO CELL, BENTONITE BEING PLACED WERE GCL PANELS MEET ADJOINING PANELS ON CELL FLOOR.
G-0335	8/1/2001	1:26 PM	LOOKING SOUTHEAST, GCL BEING PLACED ON RAMP
G-0336	8/1/2001	2:05 PM	LOOKING SOUTHEAST, GCL BEING PLACED ON RAMP
G-0337	8/1/2001	2:47 PM	LOOKING AT NORTHWEST CORNER, STAKES FOR RISER PIPE TRENCH IN PLACE.
G-0338	8/1/2001	2:47 PM	LOOKING AT SOUTHEAST CORNER OF CELL, GCL IN PLACE AND READY FOR SECONDARY.
G-0339	8/1/2001	3:19 PM	FIRST SHEET OF SECONDARY LINER BEING PULLED OFF ROLL FROM LULL TO BE PUT IN PLACE.
G-0340	8/1/2001	3:46 PM	FIRST SHEET OF SECONDARY LINER PLACED OVER GCL, BEING PULLED TO GET WRINKLES OUT.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0341	8/1/2001	3:54 PM	SECOND SHEET OF SECONDARY LINER PLACED OVER GCL, PULLED BY HAND.
G-0342	8/1/2001	5:52 PM	SECONDARY LINER BEING PULLED AND PLACED IN TRENCH TO GET WRINKLES OUT.
G-0343	8/1/2001	6:30 PM	SHOWING TAYLOR'S MEN USING THE DOUBLE WEDGE WELDER TO WELD 2 PANELS TOGETHER.
G-0344	8/1/2001	6:31 PM	SHOWING TAYLOR'S MEN USING THE DOUBLE WEDGE WELDER TO WELD 2 PANELS TOGETHER, WITH PATRIOT'S QC OVERSEEING THE OPERATION.
G-0345	8/1/2001	6:38 PM	SHOWING TAYLOR'S MEN USING THE DOUBLE WEDGE WELDER TO WELD 2 PANELS TOGETHER INTO THE ANCHOR TRENCH.
G-0346	8/1/2001	6:38 PM	SHOWING TAYLOR'S MEN USING THE DOUBLE WEDGE WELDER TO WELD 2 PANELS TOGETHER INTO THE ANCHOR TRENCH.
G-0347	8/1/2001	7:05 PM	LOOKING AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE AMOUNT OF COMPLETED LINER AT THE END OF THE DAY.
G-0348	8/1/2001	7:42 PM	LOOKING AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE AMOUNT OF COMPLETED LINER AT THE END OF THE DAY.
G-0349	8/2/2001	7:42 AM	LOOKING AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE AMOUNT OF WRINKLES IN THE LINER AT THE START OF THE DAY.
G-0350	8/2/2001	8:38 AM	PULLING THE GCL USING THE 4 WHEELERS TO DEPLOY.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0351	8/2/2001	9:35AM	SHOWING THE AIR TEST EQUIPMENT USED FOR PRESSURE TESTING THE DOUBLE WEDGE SEAMS.
G-0352	8/2/2001	9:35AM	SHOWING AN AIR TEST IN PROGRESS.
G-0353	8/2/2001	10:52AM	SHOWING LABORER SWEEPING DIRT FROM THE BOTTOM OF PREVIOUSLY DEPLOYED LINER, PRIOR TO SEAMING.
G-0354	8/2/2001	11:30 AM	SHOWING LABORER SWEEPING DIRT FROM THE BOTTOM OF PREVIOUSLY DEPLOYED LINER, PRIOR TO SEAMING.
G-0355	8/2/2001	11:39AM	LOOKING NORTH ALONG THE EAST BERM, SHOWING THE DEPLOYED GCL LINER PRIOR TO COVERING WITH THE SECONDARY 60 MIL HDPE LINER.
G-0356	8/2/2001	11:41AM	LOOKING AT THE NORTH WEST PORTION OF THE CELL, SHOWING THE 325 CAT EXCAVATOR STARTING TO DIG THE TRENCH FOR THE COLLECTION PIPE RISERS.
G-0357	8/2/2001	11:45:AM	LOOKING AT THE NORTH WEST PORTION OF THE CELL, SHOWING THE 325 CAT EXCAVATOR STARTING TO DIG THE TRENCH FOR THE COLLECTION PIPE RISERS, WITH THE D5LGP CAT DOZER GRADING.
G-0358	8/2/2001	11:55AM	SHOWING TAYLOR'S MEN PULLING PANEL # 1 BACK INTO POSITION AFTER IT HAD BEEN CLEANED OF.
G-0359	8/2/2001	2:26PM	LOOKING AT THE NORTH WEST PORTION OF THE CELL, SHOWING THE D5LGP CAT DOZER GRADING THE TRENCH FOR THE COLLECTION PIPE RISERS.
G-0360	8/2/2001	3:28PM	LOOKING NORTH ALONG THE EAST BERM, SHOWING THE SECONDARY 60 MIL HDPE LINER BEING DEPLOYED.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0361	8/2/2001	3:28PM	LOOKING NORTH ALONG THE EAST BERM, SHOWING THE SECONDARY 60 MIL HDPE LINER BEING DEPLOYED.
G-0362	8/2/2001	3:35PM	LOOKING AT THE NORTH WEST PORTION OF THE CELL, SHOWING THE D5LGP CAT DOZER GRADING THE TRENCH FOR THE COLLECTION PIPE RISERS.
G-0363	8/2/2001	3:46PM	SHOWING DOUBLE WEDGE WELDING ON THE DEPLOYED SECONDARY LINER.
G-0364	8/2/2001	5:13PM	LOOKING AT THE NORTH EAST CORNER, SHOWING THE DEPLOYED SECONDARY LINER AT THE END OF THE DAY.
G-0365	8/3/2001	7:51AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SUMP AREA, SHOWING EROSION AFTER PREVIOUS RAINFALL OVERNIGHT.
G-0366	8/3/2001	9:56AM	LOOKING AT THE NORTH EAST CORNER, SHOWING TAYLOR'S MEN DETAILING THE PREVIOUSLY DEPLOYED SECONDARY LINER.
G-0367	8/6/2001	8:43AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING D5LGP CAT DOZER RE-GRADING THE TOE OF THE SLOPES PRIOR TO GCL DEPLOYMENT.
G-0368	8/6/2001	8:43AM	LOOKING AT THE SOUTH WEST CORNER OF THE CELL, SHOWING THE CAT 344 SMOOTH DRUM ROLLING THE SLOPES PRIOR TO GCL DEPLOYMENT.
G-0369	8/6/2001	8:54AM	LOOKING AT THE SOUTH WEST CORNER OF THE CELL, SHOWING THE CAT 344 SMOOTH DRUM ROLLING THE SLOPES PRIOR TO GCL DEPLOYMENT.
G-0370	8/6/2001	9:00AM	LOOKING AT THE SOUTH WEST CORNER OF THE CELL, SHOWING THE CAT 344 SMOOTH DRUM ROLLING THE SLOPES PRIOR TO GCL DEPLOYMENT.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0371	8/6/2001	10:21AM	SHOWING DEPLOYING THE GCL LINER ON THE SOUTH SLOPE AND OVERLAPPING ONTO THE LINER DEPLOYED THE PREVIOUS DAY.
G-0372	8/6/2001	10:42AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SUMP AREA, SHOWING THE D5LGP CAT DOZER BACK DRAGGING THE SOIL IN AN EFFORT TO DRY IT.
G-0373	8/7/2001	7:28AM	LOOKING AT THE SOUTH WEST CORNER OF THE CELL, SHOWING THE AMOUNT OF WRINKLES IN THE LINER IN THE MORNING.
G-0374	8/7/2001	7:28AM	LOOKING AT THE NORTH EAST CORNER OF THE CELL, SHOWING THE AMOUNT OF WRINKLES IN THE LINER IN THE MORNING.
G-0375	8/7/2001	7:28AM	LOOKING AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE AMOUNT OF WRINKLES IN THE LINER IN THE MORNING.
G-0376	8/7/2001	9:09AM	LOOKING AT THE SOUTH WEST CORNER OF THE CELL, SHOWING THE AMOUNT OF GCL DEPLOYED FOR THE DAY.
G-0377	8/7/2001	9:39AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SUMP AREA, SHOWING THE D5LGP CAT DOZER BACK DRAGGING THE SOIL IN AN EFFORT TO DRY IT.
G-0378	8/7/2001	10:49AM	LOOKING AT THE SOUTH WEST CORNER OF THE CELL, SHOWING DOUBLE WEDGE WELDING ON THE DEPLOYED SECONDARY LINER.
G-0379	8/7/2001	11:22AM	LOOKING AT THE SOUTH WEST RAMP, EPA ON SITE, WITH R. SIEMASZKIEWICZ EXPLAINING PRESSURE TESTING OF THE DOUBLE WEDGE WELDS.
G-0380	8/8/2001	1:11PM	LOOKING AT THE SOUTH EAST RAMP, SHOWING LABORERS CLEANING THE DEPLOYED SECONDARY LINER PRIOR TO GEONET DEPLOYMENT.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0381	8/8/2001	1:28PM	LOOKING AT THE SOUTH EAST RAMP, SHOWING DEPLOYMENT OF THE SECONDARY GEONET LINER.
G-0382	8/8/2001	1:29PM	SHOWING DEPLOYMENT OF THE SECONDARY GEONET LINER, WITH THE LABORERS PULLING THE GEONET FROM THE STINGER ON THE LULL LOADER.
G-0383	8/9/2001	9:33AM	LOOKING SOUTH ALONG THE EAST BERM, SHOWING THE D5LPG CAT DOZER STARTING TO BACKFILL THE ANCHOR TRENCH AFTER DEPLOYMENT OF THE SECONDARY GEONET LINER.
G-0384	8/9/2001	3:58PM	LOOKING NORTH FROM THE SOUTH EAST BERM, SHOWING THE DEPLOYED SECONDARY LINER AT THE END OF THE DAY.
G-0385	8/9/2001	3:59PM	LOOKING SOUTH WEST FROM THE NORTH EAST BERM, SHOWING THE DEPLOYED SECONDARY LINER AT THE END OF THE DAY.
G-0386	8/9/2001	4:00PM	LOOKING WEST AT THE NORTH EAST CORNER, SHOWING THE SECONDARY GEONET AND HDPE LINERS ANCHORED IN THE ANCHOR TRENCH.
G-0387	8/9/2001	4:01PM	LOOKING SOUTH EAST FROM THE NORTH WEST CORNER, SHOWING THE DEPLOYED SECONDARY LINER AT THE END OF THE DAY
G-0388	8/9/2001	4:01PM	LOOKING AT THE TOE OF THE NORTH BERM, SHOWING WATER RUNNING ALONG THE LINER AT THE START OF RAINFALL.
G-0389	8/9/2001	4:24PM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE SUMP AREA FILLING WITH RAIN WATER.
G-0390	8/9/2001	4:26PM	LOOKING AT THE TOE OF THE NORTH BERM, SHOWING WATER RUNNING ALONG THE LINER ONTO PLASTIC SHEETING DOWN TO THE SUMP AREA. .

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0391	8/10/2001	8:17AM	SHOWING A TAYLOR TECHNICIAN PATCHING A HOLE IN THE SECONDARY GEONET LINER.
G-0392	8/10/2001	9:59AM	LOOKING NORTH EAST INTO THE CELL, SHOWING THE SECONDARY GEOTEXTILE LINER BEING DEPLOYED AND SEWN.
G-0393	8/10/2001	12:52PM	LOOKING AT THE SOUTH WEST RAMP AREA, SHOWING THE SECONDARY GEONET LINER BEING DEPLOYED AND SANDBAGGED.
G-0394	8/10/2001	3:36PM	LOOKING AT THE DEPLOYED SECONDARY LINER AT THE END OF THE DAY.
G-0395	8/13/2001	8:23AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SUMP AREA, SHOWING A 322 CAT LONG REACH EXCAVATOR REMOVING THE SATURATED SOILS FROM THE SUMP AREA.
G-0396	8/13/2001	8:26AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SUMP AREA, SHOWING A 322 CAT LONG REACH EXCAVATOR REMOVING THE SATURATED SOILS FROM THE SUMP AREA, WITH THE D5LGP CAT DOZER PUSHING .
G-0397	8/13/2001	8:26AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SUMP AREA, SHOWING A 322 CAT LONG REACH EXCAVATOR REMOVING THE SATURATED SOILS FROM THE SUMP AREA, WITH THE D5LGP CAT DOZER PUSHING .
G-0398	8/13/2001	8:28AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SUMP AREA, SHOWING A 322 CAT LONG REACH EXCAVATOR REMOVING THE SATUATED SOILS FROM THE SUMP AREA.
G-0399	8/13/2001	10:21AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SUMP AREA, SHOWING A 322 CAT LONG REACH EXCAVATOR REPLACING THE SATURATED SOILS WITH CLEAN MATERIAL, WITH THE 344 CAT ROLLING THE AREA.
G-0400	8/13/2001	11:31AM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SUMP AREA, SHOWING THE SURVEYOR RE-CERTIFYING THE GRADES.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0401	8/13/2001	4:11PM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE DOUBLE LAYER OF GCL BEING INSTALLED IN THE SUMP AREA.
G-0402	8/13/2001	6:47PM	LOOKING AT THE NORTH WEST CORNER OF THE CELL, SHOWING THE DOUBLE LAYER OF GCL COVERED BY THE SECONDARY 60 MIL HDPE LINER, PRIOR TO WELDING.
G-0403	8/14/2001	11:37AM	LOOKING AT THE SOUTH EAST CORNER OF THE CELL, SHOWING THE DOUBLE RUB SHEETS BEING DEPLOYED ON THE RAMPS.
G-0404	8/14/2001	11:40AM	LOOKING AT THE SOUTH EAST ANCHOR TRENCH, SHOWING THE D5LGP CAT DOZER BACKFILLING THE AREA SO AS THE ENTRY RAMP INTO THE CELL CAN BE CONSTRUCTED.
G-0405	8/15/2001	9:15AM	DEPLOYING THE SECONDARY GEONET LINER IN THE NORTH WEST CORNER.
G-0406	8/15/2001	12:50PM	DEPLOYING THE SECONDARY GEOTEXTILE LINER IN THE NORTH WEST CORNER AND SEWING.
G-0407	8/15/2001	3:04PM	LOOKING SOUTH WEST, SHOWING THE COMPLETED SECONDARY LINER SYSTEM.
G-0408	8/16/2001	9:01AM	LOOKING NORTH WEST, SHOWING THE COMPLETED SECONDARY LINER SYSTEM.
G-0409	8/16/2001	9:01AM	LOOKING WEST, SHOWING THE COMPLETED SECONDARY LINER SYSTEM.
G-0410	8/17/2001	7:55AM	LOOKING AT THE SOUTH EAST ACCESS RAMP, SHOWING THE 322 CAT "LONG REACH" EXCAVATOR STARTING TO PLACE ROCK ON TOP OF THE GEOGRID.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0411	8/17/2001	7:56AM	LOOKING AT THE SOUTH EAST ACCESS RAMP, SHOWING THE 322 CAT "LONG REACH" EXCAVATOR STARTING TO PLACE ROCK ON TOP OF THE GEOGRID.
G-0412	8/17/2001	7:57AM	LOOKING AT THE SOUTH EAST ACCESS RAMP, SHOWING THE D5LGP CAT DOZER STARTING TO CONSTRUCT THE HAUL ROAD UP THE RAMP.
G-0413	8/17/2001	8:01AM	LOOKING NORTH UP THE OUTSIDE OF THE SOUTH EAST RAMP, SHOWING TANDEM DUMP TRUCK DELIVERING ROCK TO SITE.
G-0414	8/17/2001	8:07AM	LOOKING UP THE SOUTH EAST ACCESS RAMP, SHOWING THE 322 CAT "LONG REACH" EXCAVATOR PLACING ROCK ON TOP OF THE GEOGRID.
G-0415	8/17/2001	8:17AM	LOOKING AT THE SOUTH EAST ACCESS RAMP, SHOWING THE D5LGP CAT DOZER STARTING TO CONSTRUCT THE HAUL ROAD UP THE RAMP.
G-0416	8/17/2001	9:20AM	LOOKING AT THE SOUTH EAST ACCESS RAMP, SHOWING THE 322 CAT "LONG REACH" EXCAVATOR PLACING ROCK ON TOP OF THE GEOGRID.
G-0417	8/17/2001	9:22AM	LOOKING AT THE SOUTH WEST RAMP, SHOWING LABORERS DEPLOYING THE GEOGRID.
G-0418	8/17/2001	9:48AM	LOOKING DOWN THE OUTSIDE OF THE SOUTH EAST RAMP, SHOWING LABORERS DEPLOYING THE GEOGRID.
G-0419	8/17/2001	10:02AM	LOOKING DOWN THE OUTSIDE OF THE SOUTH EAST RAMP, SHOWING LABORERS DEPLOYING THE GEOGRID.
G-0420	8/17/2001	10:35AM	LOOKING DOWN THE OUTSIDE OF THE SOUTH WEST RAMP, SHOWING D6LGP CAT DOZER BRINGING THE SUBGRADE TO GRADE PRIOR TO GEOGRID AND ROCK PLACEMENT.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0421	8/17/2001	10:53 AM	LOOKING UP SOUTHEAST RAMP SHOWING D5 PUSHING ROCK ON GEOGRID.
G-0422	8/17/2001	11:29 AM	LOOKING AT THE SOUTHWEST RAMP SHOWING D5 PUSHING ROCK ON GEOGRID.
G-0423	8/17/2001	11:30 AM	LOOKING AT SOUTHWEST RAMP SHOWING 322 STARTING TO PLACE ROCK.
G-0424	8/17/2001	11:45 AM	LOOKING DOWN OUTSIDE OF SOUTHEAST RAMP, SHOWING D5 BUILDING THE ROCK HAUL ROAD.
G-0425	8/17/2001	12:59 PM	LOOKING UP THE OUTSIDE OF THE SOUTHEAST RAMP SHOWING COMPLETED ROCK HAUL ROAD.
G-0426	8/17/2001	1:24 PM	LOOKING AT SOUTHWEST RAMP SHOWING 322 CONTINUES TO PLACE ROCK.
G-0427	8/17/2001	1:38 PM	LOOKING UP THE OUTSDIE OF THE SOUTHWEST RAMP, SHOWING THE LABORERS DEPLOYING THE GEOGRID.
G-0428	8/17/2001	1:57 PM	LOOKING UP THE OUTSDIE OF THE SOUTHWEST RAMP, SHOWING D5 STARTING TO PUSH THE ROCK ON TOP OF THE GEOGRID.
G-0429	8/17/2001	1:58 PM	LOOKING UP THE OUTSDIE OF THE SOUTHWEST RAMP, SHOWING D5 STARTING TO PUSH THE ROCK ON TOP OF THE GEOGRID.
G-0430	8/17/2001	3:10 PM	LOOKING AT NORTHWEST CORNER, SHOWING LMS PLACING PUMP IN SUMP AREA.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0431	8/17/2001	3:27 PM	LOOKING WEST DOWN SOUTH BERM, D6 IS CUTTING TRENCH IN CASE OF RAIN.
G-0432	8/17/2001	3:28 PM	LOOKING UP SOUTHWEST RAMP, 1 FOOT OF GRAVEL IN PLACE ON RAMP.
G-0433	8/17/2001	3:32 PM	LOOKING DOWN SOUTHWEST RAMP FROM TOP OF BERM, SHOWING 1 FOOT OF GRAVEL ON RAMP.
G-0434	8/20/2001	8:04 AM	LOOKING DOWN SOUTHEAST RAMP, STARTING 1 FOOT CLAY LAYER ON CELL FLOOR.
G-0435	8/20/2001	8:25 AM	LOOKING DOWN INTO CELL AT SOUTHEAST AND SOUTHWEST RAMP, PUSHING AND UNLOADING CLAY INTO CELL FLOOR.
G-0436	8/20/2001	9:17 AM	LOOKING INTO CELL FROM EAST BERM, D5 AND D6 PUSHING CLAY ON CELL FLOOR.
G-0437	8/20/2001	9:17 AM	LOOKING INTO CELL FROM EAST BERM, D5 AND D6 PUSHING CLAY ON CELL FLOOR.
G-0438	8/20/2001	10:25 AM	LOOKING DOWN INTO CELL FROM EAST BERM, BUILDING 3 FOOT ROAD ON CELL FLOOR FOR TRUCKS TO UNLOAD CLAY ONTO.
G-0439	8/20/2001	10:40 AM	LOOKING AT SOUTHEAST CORNER, BUILDING 3 FOOT ROAD ON CELL FLOOR FOR TRUCKS TO UNLOAD CLAY ONTO.
G-0440	8/20/2001	10:41 AM	LOOKING AT SOUTHWEST RAMP AREA, D6 PUSHING CLAY UP AND OVER SO TEXTILE IS NOT PUSHED.

LOG OF PHOTOGRAPHS
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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0441	8/20/2001	10:45 AM	LOOKING AT SOUTHEAST CORNER, D5 STARTING TO PUSH OFF 3 FOOT ROAD TO PUT 1 FOOT ON TEXTILE.
G-0442	8/20/2001	11:23 AM	LOOKING AT SOUTHEWEST CORNER,D6 STARTING TO PUSH OFF 3 FOOT ROAD TO PUT 1 FOOT ON TEXTILE.
G-0443	8/20/2001	12:42 PM	LOOKING WEST INTO CELL, D5 PUSHING 1 FOOT OF CLAY ON TEXTILE AND TRUCK UNLOADING CLAY.
G-0444	8/20/2001	1:54 PM	LOOKING WEST INTO CELL, D5 AND D6 PUSHING 1 FOOT OF CLAY ON TEXTILE AND TRUCK UNLOADING CLAY.
G-0445	8/20/2001	2:06 PM	LOOKING WEST INTO CELL, D5 AND D6 PUSHING 1 FOOT OF CLAY ON TEXTILE AND TRUCK UNLOADING CLAY.
G-0446	8/20/2001	2:46 PM	LOOKING FROM EAST BERM INTO CELL FLOOR, D6 PUSHING CLAY TO CONNECT TO OTHER 3 FOOT ROAD.
G-0447	8/20/2001	3:30 PM	LOOKING TOWARD NORTHWEST CORNER, D5 PUSHING CLAY TO MAKE 3 FOOT ROAD.
G-0448	8/21/2001	7:18 AM	LOOKING DOWN INTO SUMP AREA, PLACING GEOGRID IN RISER TRENCH ALONG NORTH BERM.
G-0449	8/21/2001	7:19 AM	LOOKING AT CELL FLOOR FROM NORTHWEST CORNER, SHOWING WHAT WAS COMPLETED ON 8/20 OF THE CLAY LAYER.
G-0450	8/21/2001	7:19 AM	LOOKING AT CELL FLOOR FROM NORTHWEST CORNER, SHOWING WHAT WAS COMPLETED ON 8/20 OF THE CLAY LAYER.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0451	8/21/2001	7:20 AM	LOOKING DOWN INTO SUMP AREA, SHOWING LABORER TYING GEOGRID AS PER SITE SPECIFICATION.
G-0452	8/21/2001	7:31 AM	LOOKING AT NORTHWEST CORNER, SHOWING LMS MOVING RISER PIPE INTO SUMP AREA.
G-0453	8/21/2001	7:55 AM	LOOKING DOWN INTO SUMP AREA, SHOWING PLACEMENT OF MEREMAC GRAVEL IN SUMP AREA WITH 322B.
G-0454	8/21/2001	8:04 AM	LOOKING AT NORTHWEST CORNER FROM CELL FLOOR, SHOWING PLACEMENT OF MEREMAC GRAVEL IN SUMP AREA WITH 322B.
G-0455	8/21/2001	8:52 AM	LOOKING AT NORTHWEST CORNER FROM CELL FLOOR, SHOWING PLACEMENT OF MEREMAC GRAVEL IN SUMP AREA WITH 322B.
G-0456	8/21/2001	8:52 AM	LOOKING AT NORTHWEST CORNER FROM CELL FLOOR, SHOWING PLACEMENT OF MEREMAC GRAVEL IN SUMP AREA WITH 322B.
G-0457	8/21/2001	8:56 AM	LOOKING AT NORTHWEST CORNER FROM CELL FLOOR, SHOWING PLACEMENT OF MEREMAC GRAVEL IN SUMP AREA WITH 322B.
G-0458	8/21/2001	8:58 AM	LOOKING DOWN AT SUMP AREA FROM NORTHWEST CORNER SHOWING PLACEMENT OF MEREMAC GRAVEL IN SUMP AREA WITH 322B.
G-0459	8/21/2001	9:06 AM	LOOKING DOWN AT SUMP AREA FROM NORTHWEST CORNER SHOWING PLACEMENT OF MEREMAC GRAVEL IN SUMP AREA WITH 322B.
G-0460	8/21/2001	9:37 AM	LOOKING NORTHEAST FROM WEST BERM, PLACING RISER PIPE WITH 322B IN SUP AREA AND RISIER TRENCH.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0461	8/21/2001	9:40 AM	LOOKING DOWN INTO NORTHWEST CORNER, SHOWING URS AND GOLDER LOOKING AT HOLES IN RISER PIPE.
G-0462	8/21/2001	9:49 AM	LOOKING NORTHWEST FROM CELL FLOOR, SHOWING PLACEMENT OF RISER PIPE IN SUMP AREA WITH 322B.
G-0463	8/21/2001	9:51 AM	LOOKING NORTHWEST FROM CELL FLOOR, SHOWING PLACEMENT OF RISER PIPE IN SUMP AREA WITH 322B.
G-0464	8/21/2001	10:25 AM	LOOKING AT CELL FROM NORTHWEST CORNER D5 AND D6 PUSHING CLAY, TRUCKS UNLOADING ON 3 FOOT ROADS AND MEREMAC GRAVEL AND RISER IN PLACE.
G-0465	8/21/2001	11:12 AM	LOOKING AT NORTHWEST CORNER FROM CELL FLOOR, URS AND GOLDER LOOKING AT RISER PIPE AND MEREMAC GRAVEL PLACEMENT.
G-0466	8/21/2001	11:25 AM	LOOKING AT SOUTHWEST CORNER, SHOWING D5 AND D6 PUSHING CLAY TO FINISH 1 FOOT CLAY LAYER.
G-0467	8/21/2001	12:58 AM	LOOKING DOWN IN SUMP AREA, PLACING MEREMAC GRAVEL OVER RISER PIPE WITH 322B.
G-0468	8/21/2001	12:58 PM	LOOKING DOWN IN SUMP AREA, PLACING MEREMAC GRAVEL OVER RISER PIPE WITH 322B.
G-0469	8/21/2001	1:00 PM	LOOKING DOWN IN SUMP AREA, PLACING MEREMAC GRAVEL OVER RISER PIPE WITH 322B.
G-0470	8/21/2001	1:11 PM	LOOKING DOWN IN SUMP AREA, PLACING MEREMAC GRAVEL OVER RISER PIPE WITH 322B.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0471	8/21/2001	1:30 PM	PLACED TEXTILE OVER MEREMAC GRAVEL, LUSTERING EDGE OF SHEET TO OTHER TEXTILE LAYER ON CELL FLOOR.
G-0472	8/21/2001	1:30 PM	PLACED TEXTILE OVER MEREMAC GRAVEL, LUSTERING EDGE OF SHEET TO OTHER TEXTILE LAYER ON CELL FLOOR.
G-0473	8/21/2001	1:42 PM	SHOWING TEXTILE OVER MEREMAC GRAVEL IN SUMP AREA.
G-0474	8/21/2001	1:51 PM	LOOKING DOWN SOUTHWEST RAMP AREA, MOVING CLAY ROAD TO EXPOSE PRIMARY LINER.
G-0475	8/21/2001	1:51 PM	LOOKING DOWN SOUTHWEST RAMP AREA, MOVING CLAY ROAD TO EXPOSE PRIMARY LINER.
G-0476	8/21/2001	2:10 PM	LOOKING DOWN SOUTHWEST RAMP AREA, MOVING CLAY ROAD TO EXPOSE PRIMARY LINER.
G-0477	8/21/2001	2:18 PM	LOOKING AT NORTHWEST CORNER SUMP AREA, ALL MEREMAC GRAVEL COVERED AND LUSTERED DOWN.
G-0478	8/21/2001	2:24 PM	LABORER CLEANING OFF PLYWOOD AND RUB SHEET WITH SHOVEL.
G-0479	8/21/2001	2:39 PM	LABORERS CLEANING OFF RUB SHEET, PLYWOOD HAS BEEN UNCOVERED AND REMOVED.
G-0480	8/21/2001	3:14 PM	LABORERS CLEANING OFF RUB SHEET, PLYWOOD HAS BEEN UNCOVERED AND REMOVED.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0481	8/21/2001	3:32 PM	REMOVING CLAY OFF OF RUB SHEET WITH 322B.
G-0482	8/21/2001	3:42 PM	LABORERS CLEANING OFF RUB SHEET WITH SHOVELS, GEOGRID PULLED BACK, CONDITION OF RUB SHEET GOOD.
G-0483	8/21/2001	3:50 PM	CONDITION OF PRIMARY LINER 60 MIL WITH GEOGRID ON TOP.
G-0484	8/21/2001	3:56 PM	LOOKING AT SOUTHWEST RAMP, SHOWING FILLING WITH 1 FOOT OF CLAY UNDER PRIMARY LINER.
G-0485	8/21/2001	4:17 PM	LOOKING AT SOUTHEAST RAMP, SHOWING REMOVAL OF CLAY ROAD TO UNCOVER PRIMARY LINER.
G-0486	8/22/2001	7:51 AM	LOOKING DOWN SOUTHWEST RAMP . RUNNING SMOOTH DRUM TO COMPACT RAMP.
G-0487	8/22/2001	7:57 AM	SOUTHWEST RAMP AREA, LABORERS CLEAN FILL OFF OF GEOGRID AND RUBSHEETS.
G-0488	8/22/2001	8:03 AM	LOOKING DOWN SOUTHEAST RAMP, RUNNING SMOOTH DRUM TO COMPACT RAMP.
G-0489	8/22/2001	8:07 AM	LOOKING DOWN IN CELL FROM EAST BERM, WALT SURVERYING IN GRADES FILL
G-0490	8/22/2001	8:34 AM	LOOKING AT SOUTHWEST CORNER, WALT SURVERYING IN GRADES FILL.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0491	8/22/2001	8:38 AM	LABORER DRILLING HOLES IN RISER PIPE AS PER SITE SPECIFICATIONS.
G-0492	8/22/2001	8:39 AM	LABORER DRILLING HOLES IN RISER PIPE AS PER SITE SPECIFICATIONS.
G-0493	8/22/2001	10:04 AM	LOOKING IN SOUTHWEST CORNER, REMOVING FILL TO PULL BACK PRIMARY LINER.
G-0494	8/22/2001	10:17 AM	LOOKING IN SOUTHWEST CORNER, REMOVING FILL TO PULL BACK PRIMARY LINER.
G-0495	8/22/2001	10:22 AM	LOOKING IN NORTHWEST CORNER D5 PUSHING FILL IN RISER PIPE TRENCH.
G-0496	8/22/2001	10:39 AM	US EPA AT SITE LOOKING AT CELL AND CONSTRUCTION.
G-0497	8/22/2001	10:40 AM	LOOKING AT NORTHWEST CORNER, FILL PUSHED IN RISER PIPE TRENCH AND FILL BEING PLACED UNDER PIPE EXTENSION OUT OF TRENCH.
G-0498	8/22/2001	10:47 AM	LOOKING AT NORTHWEST CORNER FILL BEING PLACED OVER RISER PIPE.
G-0499	8/22/2001	11:05 AM	LOOKING AT NORTHWEST CORNER FILL BEING PLACED OVER RISER PIPE AND FINAL GRADING.
G-0500	8/22/2001	11:11 AM	LOOKING AT SOUTHEAST CORNER PRIMARY LINER PULLED BACK AND READY FOR 1 FOOT FILL PLACEMENT.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0501	8/22/2001	11:12 AM	LOOKING AT NORTHWEST CORNER FINAL GRADING OF RISER PIPE TRENCH COMPLETED.
G-0502	8/22/2001	1:03 PM	LOOKING AT TOE OF EAST BERM, GEOTEXTILE PULLED BACK OVER EDGE TO PROTECT AND KEEP OUT OF NET.
G-0503	8/22/2001	1:34 PM	LABORERS PULLING FILL BACK AND SMOOTHING OUT BY HAND.
G-0504	8/22/2001	2:55 PM	LOOKING AT SOUTHEAST RAMP FILL BEING PUSHED UNDER PRIMARY LINER.
G-0505	8/23/2001	8:10 AM	LOOKING ONTO CELL FROM SOUTHEAST CORNER, FIRST SHEET OF PRIMARY LINER BEING PULLED INTO CELL.
G-0506	8/23/2001	9:41 AM	LOOKING AT SOUTHEAST RAMP AREA, PRIMARY LINER IN PLACE AND SEAMS BEING WELDED AND AIR TESTED.
G-0507	8/23/2001	10:10 AM	PRIMARY LINER BEING PULLED OVER EAST BERM, LULL USED TO TRANSPORT LINER.
G-0508	8/23/2001	10:29 AM	PRIMARY LINER BEING PULLED OVER EAST BERM, LULL USED TO TRANSPORT LINER.
G-0509	8/23/2001	11:14 AM	PRIMARY LINER BEING PULLED OVER NORTHEAST CORNER OF BERM.
G-0510	8/23/2001	12:58 PM	LOOKING AT CELL FROM SOUTH BERM, SHOWING PRIMARY LINER PROGRESS.

LOG OF PHOTOGRAPHS
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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0511	8/23/2001	1:17 PM	SHOWING LABORERS CLEANING OFF GEONET.
G-0512	8/23/2001	1:22 PM	SHOWING LABORERS CLEANING OFF GEONET.
G-0513	8/23/2001	3:04 PM	SHOWING COMPLETED AREA OF PRIMARY LINER IN CELL.
G-0514	8/23/2001	4:07 PM	LOOKING FROM SOUTHEAST CORNER SHOWING RAIN ON PRIMARY LINER.
G-0515	8/24/2001	7:08 AM	LOOKING FROM SOUTHEAST CORNER SHOWING LINER IN MORNING AND AFTER RAIN.
G-0516	8/24/2001	7:10 AM	LOOKING AT NORTHWEST CORNER SHOWING SUMP AREA AFTER RAIN.
G-0517	8/27/2001	7:46 AM	SHOWING LINER IN MORNING VERY FEW WRINKLES.
G-0518	8/27/2001	7:46 AM	SHOWING LINER IN MORNING VERY FEW WRINKLES.
G-0519	8/27/2001	8:47 AM	SHOWING TAYLOR'S MEN USING EXTRUSION GUN TO WELD PATCHES ON PRIMARY LINER.
G-0520	8/27/2001	10:13 AM	SHOWING TAYLOR'S MEN USING EXTRUSION GUN TO WELD PATCHES ON PRIMARY LINER.

LOG OF PHOTOGRAPHS
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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0521	8/27/2001	10:03 AM	SHOWING TAYLOR'S MEN GRINDING EDGE OF PATCH BEFORE WELDING.
G-0522	8/27/2001	1:13 PM	TAYLOR'S MEN PERFORMING VACUUM TESTING ON WELDED PATCHES.
G-0523	8/28/2001	7:50 AM	SHOWING TOE OF NORTH BERM AFTER BEING GRADED.
G-0524	8/28/2001	8:04 AM	SHOWING GRADING OF SUMP AREA TO HELP DRY FILL.
G-0525	8/28/2001	8:10 AM	SHOWING GRADING OF SUMP AREA TO HELP DRY FILL.
G-0526	8/28/2001	8:24 AM	LOOKING AT NORTH TOE, D5 TRYING TO PULL FILL OUT TO HELP DRY.
G-0527	8/28/2001	8:34 AM	FIRST LAYER OF GEONET TO BE PULLED ONTO CELL FLOOR.
G-0528	8/28/2001	9:02 AM	LABORERS PULLING GEONET ONTO CELL FLOOR.
G-0529	8/28/2001	9:08 AM	LOOKING AT NORTH TOE, USING 322B TO PUT DRY DIRT INTO TOE AND LABORERS USING RAKE TO SMOOTH OUT AND KEEP FILL OFF GEONET.
G-0530	8/28/2001	10:42 AM	TAYLOR'S MEN AND LABORERS TYING GEONET TOGETHER AND PATCHING HOLE IN NET.

LOG OF PHOTOGRAPHS
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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0531	8/28/2001	11:23 AM	LOOKING AT NORTHWEST CORNER, SHOWING SUMP AREA AFTER BEING GRADED.
G-0532	8/28/2001	11:45 AM	LOOKING AT CELL FLOOR, SHOWING D5 MOVING CLAY ON CELL FLOOR.
G-0533	8/28/2001	1:59 PM	SHOWING LABORER AND TAYLOR MEN PULLING ROCKS OUT OF GEONET.
G-0534	8/28/2001	2:02 PM	SHOWING GEOTEXTILE BEING PULLED OVER GEONET.
G-0535	8/28/2001	2:03 PM	SHOWING GEOTEXTILE BEING PULLED OVER GEONET.
G-0536	8/28/2001	2:50 PM	GEOTEXTILE BEING PLACED UNDER RUB SHEET ON SOUTHEAST RAMP.
G-0537	8/28/2001	2:51 PM	GEOTEXTILE BEING PLACED UNDER RUB SHEET ON SOUTHEAST RAMP.
G-0538	8/28/2001	3:11 PM	SHOWING LABOR AND TAYLOR'S MEN OVERLAPPING GEOTEXTILE AS PER SITE SPECIFICATIONS.
G-0539	8/29/2001	7:42 AM	SHOWING LABORERS CLEANING OFF EDGE OF PRIMARY LINER TO BE WELDED.
G-0540	8/29/2001	7:44 AM	SHOWING LABORERS CLEANING OFF EDGE OF PRIMARY LINER TO BE WELDED.

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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0541	8/29/2001	12:51 PM	SHOWING LABORERS PULLING GEOTEXTILE OVER GEONET.
G-0542	8/29/2001	12:59 PM	SHOWING TAYLOR'S MEN SEWING GEOTEXTILE PANELS TOGETHER.
G-0543	8/29/2001	1:24 PM	LOOKING AT SOUTHWEST CORNER, D5 BACK DRAGGING 1 FOOT CLAY LAYER.
G-0544	8/29/2001	1:38 PM	SHOWING D5 BACK DRAGGING CELL FLOOR.
G-0545	8/29/2001	2:33 PM	SHOWING GEOTEXTILE OVER HALF OF CELL.
G-0546	8/30/2001	6:34 AM	LOOKING AT SOUTHWEST CORNER SHOWING 322B PLACING MATS AT TOE OF RAMP TO DRIVE.
G-0547	8/30/2001	6:49 AM	SHOWING 322B DRIVING OVER MATS ONTO CELL FLOOR.
G-0548	8/30/2001	6:51 AM	SHOWING 322B REMOVING CLAY FROM CELL FLOOR, DUE TO OVER SATURATION OF WATER.
G-0549	8/30/2001	6:54 AM	SHOWING LABORER CLEANING OFF GEOTEXTILE AS 322B DIGS CLAY OUT.
G-0550	8/30/2001	6:55 AM	SHOWING 322B BUCKET CLEANING OFF TEXTILE LAYER, AND REMOVING SATURATED SOIL.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0551	8/30/2001	7:03 AM	SHOWING LABORER CLEANING OFF GEOTEXTILE AS 322B DIGS CLAY.
G-0552	8/30/2001	7:14 AM	SHOWING D5 MOVING CLAY THAT 322B REMOVES FROM CLAY LAYER.
G-0553	8/30/2001	8:02 AM	SHOWING 322B PLACING DRY CLAY AND D5 MOVING INTO PLACE THAT WERE REMOVED, NOTE GEOTEXTILE SHEET ON GEONET.
G-0554	8/30/2001	8:27 AM	SHOWING 322B REMOVING CLAY THAT IS OVER SATURATED WITH WATER.
G-0555	8/30/2001	8:30 AM	SHOWING 322B REMOVING CLAY THAT IS OVER SATURATED WITH WATER.
G-0556	8/30/2001	8:44 AM	SHOWING LABORER CLEANING OFF GEONET OF ANY DIRT.
G-0557	8/30/2001	8:50 AM	SHOWING LABORER PULLING AND CLAY THAT MIGHT BE ON NET OFF.
G-0558	8/30/2001	9:00 AM	SHOWING LABORER PULLING AND CLAY THAT MIGHT BE ON NET OFF.
G-0559	8/30/2001	9:12 AM	SHOWING 322B REMOVING CLAY THAT IS OVER SATURATED WITH WATER.
G-0560	8/30/2001	9:29 AM	SHOWING LABORERS PULLING BACK PRIMARY LINER AND LULL READY TO DEPLOY MORE LINER AS D5 BACK DRAGS CLAY.

LOG OF PHOTOGRAPHS
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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0561	8/30/2001	9:46 AM	SHOWING 322B ADDING DIRT TO CELL WHERE DIRT WAS REMOVED.
G-0562	8/30/2001	11:28 AM	SHOWING 322B REMOVING DIRT FROM CELL AND LOADING ON TO TRUCK.
G-0563	8/30/2001	1:34 PM	SHOWING 322B CLEANING OFF RUB SHEETS AND GEOGRID AFTER PULLING OFF MATS.
G-0564	8/30/2001	1:37 PM	SHOWING 322B CLEANING OFF RUB SHEETS AND GEOGRID AFTER PULLING OFF MATS.
G-0565	8/30/2001	1:40 PM	SHOWING TAYLOR'S MEN WELDING PRIMARY LINER.
G-0566	8/30/2001	2:02 PM	322B REMOVING SATURATED CLAY AT TOE OF SOUTHWEST RAMP.
G-0567	8/30/2001	2:31 PM	SHOWING D5 REPLACING REMOVED CLAY WITH DRY CLAY.
G-0568	8/30/2001	2:35 PM	SHOWING D5 REPLACING REMOVED CLAY WITH DRY CLAY.
G-0569	8/30/2001	2:57 PM	SHOWING D5 REPLACING REMOVED CLAY WITH DRY CLAY.
G-0570	8/30/2001	3:22 PM	SHOWING LABORERS PULLING PRIMARY LINER AND RUB SHEET BACK OVER CLAY LAYER.

LOG OF PHOTOGRAPHS
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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0571	8/30/2001	3:39 PM	LOOKING AT NORTHWEST CORNER IN SUMP AREA AND PULLING PUMP IN CELL FLOOR.
G-0572	8/31/2001	3:48 PM	SHOWING D5 AND D6 BACK FILLING ANCHOR TRENCH.
G-0573	8/31/2001	3:49 PM	SHOWING PRIMARY LINER COMPLETED.
G-0574	9/4/2001	8:18 AM	SHOWING LABORERS PULLING GEONET OVER PRIMARY LINER.
G-0575	9/4/2001	9:14 AM	SHOWING LABORERS TYING THE GEONET SEAMS.
G-0576	9/5/2001	9:00 AM	SHOWING LABORERS PULLING AND TYING THE GEONET.
G-0577	9/5/2001	9:00 AM	SHOWING LEE TAYLOR PREFORMING AN AIR TEST ON PRIMARY LINER.
G-0578	9/5/2001	1:42 PM	SHOWING GEONET COMPLETED OVER ENTIRE CELL.
G-0579	9/5/2001	3:08 PM	LABORERS CLEANING DIRT OFF OF RUB SHEETS TO KEEP OFF NET.
G-0580	9/6/2001	7:44 AM	LOOKING AT SOUTHWEST RAMP, WHERE SAND WAS BEING DUMPED ON GEOTEXTILE FLOOR.

LOG OF PHOTOGRAPHS
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PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0581	9/6/2001	7:53 AM	LOOKING AT SOUTHEAST RAMP WHERE SAND IS BEING PLACED ON CELL FLOOR.
G-0582	9/6/2001	10:38 AM	SHOWING TAYLOR'S MEN SEWING GEOTEXTILE IN SUMP AREA.
G-0583	9/6/2001	10:42 AM	LOOKING AT SOUTHEAST RAMP, TRUCKS DUMPING SAND AND D5 PUSHING SAND INTO PLACE.
G-0584	9/6/2001	10:44 AM	SHOWING TAYLOR'S MEN SEWING GEOTEXTILE IN SUMP AREA.
G-0585	9/6/2001	10:51 AM	LOOKING AT SOUTHWEST RAMP, D6 PUSHING SAND INTO PLACE.
G-0586	9/6/2001	12:00PM	TAYLOR'S MEN STARTING TO MAKE BOOT FOR RISER PIPE.
G-0587	9/6/2001	12:03 PM	D5 PUSHING SAND INTO PLACE ON CELL FLOOR.
G-0588	9/6/2001	12:04 PM	TAYLOR'S MEN LYSTERING BOOT ON PIPE.
G-0589	9/6/2001	12:26 PM	LOOKING AT END OF BOOT TO BE LYSTERED TO BOTTOM OF PRIMARY LINER PATCH.
G-0590	9/6/2001	12:36 PM	LOOKING AT FLAPS AT END OF BOOT TO BE LYSTERED TO LINER PATCH.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0591	9/6/2001	12:45	SHOWING TAYLOR'S MEN LYSTERING PATCH TO BOOT.
G-0592	9/6/2001	1:25 PM	SHOWING TAYLOR'S MEN EXTRUSION WELDING BOOT TO PATCH.
G-0593	9/6/2001	1:25 PM	SHOWING TAYLOR'S MEN EXTRUSION WELDING BOOT TO PATCH.
G-0594	9/6/2001	1:31 PM	SHOWING TAYLOR'S MEN EXTRUSION WELDING BOOT TO PATCH.
G-0595	9/6/2001	1:35 PM	SHOWING PLACEMENT OF SAND IN CELL AND COMPLETED CELL.
G-0596	9/6/2001	2:05 PM	SHOWING EXTRUSION WELDING OF BOOT SEAM ALONG RISER PIPE.
G-0597	9/6/2001	2:22 PM	SHOWING WELDING OF BOOT PATCH TO PRIMARY LINER.
G-0598	9/6/2001	2:33 PM	LOOKING AT COMPLETED BOOT ON RISER PIPE.
G-0599	9/6/2001	2:40 PM	LOOKING AT TAYLOR'S ME FINISHING UP GEOTEXTILE AROUND BOOT AREA.
G-0600	9/6/2001	3:10 PM	LOOKING AT D5 PUSHING SAND IN PLACE ON CELL FLOOR.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0601	09/0701	6:35 AM	LABORERS PLACING GEOTEXTILE IN TRENCH FOR MERAMAC GRAVEL IN CELL.
G-0602	09/0701	6:53 AM	LABORERS LYSTERING GEOTEXTILE IN CELL FLOOR FOR MERAMAC GRAVEL.
G-0603	09/0701	7:48 AM	LOOKING AT CELL FROM SOUTHEAST CORNER D5 AND D6 PUSHING SAND IN PLACE.
G-0604	09/0701	9:58 AM	D5 PUSHING SAND 4 AND HALF FROM TOE OF SLOPE UP TO GRAVEL AND TEXTILE.
G-0605	09/0701	10:02 AM	LABORERS USING RAKE TO SMOOTH OUT TOP OF MERAMAC GRAVEL AT TOE OF SLOPE.
G-0606	09/0701	10:08 AM	SHOWING D5 AND D6 PUSHING SAND IN CELL.
G-0607	09/0701	10:13 AM	SHOWING 322B PLACING MERAMAC GRAVEL AT TOE OF SLOPE.
G-0608	09/0701	10:14 AM	SHOWING 322B PLACING MERAMAC GRAVEL AT TOE OF SLOPE.
G-0609	09/0701	10:39 AM	PULLING BACK TEXTILE AT SLOPE TOE TO PUSH SAND 4 AND HALF FROM TOE OF SLOPE.
G-0610	09/0701	10:39 AM	D5 PUSHING SAND 4 AND HALF FROM EDGE TOE.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0611	09/701	10:46 AM	LOOKING DOWN EAST TOE, SHOWING TRENCH FOR MERAMAC GRAVEL.
G-0612	09/701	12:44 PM	LOOKING AT SOUTH TOE, PLACING TEXTILE FOR MERAMAC GRAVEL TO BE OUT IN PLACE.
G-0613	09/701	12:48 PM	SHOWING TEXTILE IN PLACE AT SOUTH TOE.
G-0614	09/701	3:10 PM	LOOKING AT SOUTH TOE, MERAMAC GRAVEL IN PLACE.
G-0615	09/701	4:12 PM	SHOWING D5 PUSHING SAND IN BOTTOM OF CELL.
G-0616	09/701	4:12 PM	SHOWING D5 PUSHING SAND IN BOTTOM OF CELL.
G-0617	9/8/2001	6:51 AM	LOOKING AT WEST TOE, LABORERS LYSTERING GEOTEXTILE FOR PLACEMENT OF MERAMAC GRAVEL.
G-0618	9/8/2001	6:55 AM	TRUCKS UNLOADING MERAMAC GRAVEL IN TO SUMP AREA.
G-0619	9/8/2001	6:55 AM	TRUCKS UNLOADING MERAMAC GRAVEL IN TO SUMP AREA.
G-0620	9/8/2001	7:43 AM	322B PLACING HDPE CULVERT FOR PUMP.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0621	9/8/2001	7:55 AM	LABORERS WRAPPING RISER PIPE WITH GEONET.
G-0622	9/8/2001	7:55 AM	LABORERS WRAPPING RISER PIPE WITH GEONET.
G-0623	9/8/2001	8:05 AM	LABORERS TYING GEONET TO RISER PIPE.
G-0624	9/8/2001	8:05 AM	PLACING HDPE CULVERT IN SUMP AREA.
G-0625	9/8/2001	8:06 AM	PLACING HDPE CULVERT IN SUMP AREA.
G-0626	9/8/2001	8:06 AM	LEVELING OFF HDPE CULVERT IN SUMP AREA.
G-0627	9/8/2001	8:44 AM	SHOWING RISER PIPE WRAPPED WITH GEONET BEFORE PLACING MERAMAC OVER PIPE.
G-0628	9/8/2001	9:31 AM	SHOWING 322B COVERING RISER PIPE WITH MERAMAC GRAVEL, AND LABORER WRAPPING HDPE CULVERT WITH GEONET.
G-0629	9/8/2001	10:37 AM	LOOKING FROM NORTHWEST CORNER, SHOWING CELL FILLED WITH SAND AND MERAMAC BEING PUT IN PLACE.
G-0630	9/8/2001	3:04 PM	LOOKING AT NORTHEAST CORNER LABORERS LYSTERING DOWN TEXTILE TO COVER MERAMAC GRAVEL.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0631	9/8/2001	3:04 PM	LOOKING AT NORTHWEST CORNER, D5 GRADING GRAVEL INTO PLACE AS LABORERS RAKE TOE AREA.
G-0632	9/8/2001	3:08 PM	LOOKING AT NORTHWEST CORNER IN SUMP AREA, D5 GRADING GRAVEL INTO PLACE.
G-0633	9/10/2001	7:29 AM	LOOKING AT SUMP AREA, FINAL GRADED AND SHOWING SUMP AREA AFTER RAIN.
G-0634	9/10/2001	1:27 PM	LOOKING NORTH, SHOWING D5LGP DOZER GRADING SAND AND LABORER PULLING GEOTEXTILE OVER TOE DRAIN GRAVEL.
G-0635	9/10/2001	1:58 PM	LOOKING AT THE NORTH EAST CORNER, SHOWING LABORER CLEANING GRAVEL FROM THE GEOTEXTILE, PRIOR TO LYSTERING.
G-0636	9/10/2001	1:59 PM	LOOKING AT THE NORTH EAST CORNER, SHOWING LABORER CLEANING GRAVEL FROM THE GEOTEXTILE, PRIOR TO LYSTERING.
G-0637	9/10/2001	2:01 PM	LOOKING AT THE NORTH, SHOWING LABORER CLEANING GRAVEL FROM THE GEOTEXTILE ON THE SIDE SLOPES.
G-0638	9/10/2001	2:12 PM	LOOKING AT THE NORTH, SHOWING LABORER CLEANING GRAVEL FROM THE GEOTEXTILE ON THE SIDE SLOPES.
G-0639	9/10/2001	2:26 PM	LOOKING NORTH, SHOWING THE D6LGP AND D5LGP DOZERS PUSHING SAND.
G-0640	9/10/2001	2:47 PM	LOOKING NORTH, SHOWING THE D6LGP AND D5LGP DOZERS PUSHING SAND.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0641	9/11/2001	6:41 AM	LOOKING AT THE SOUTH WEST CORNER, SHOWING 322 "LONG REACH" CAT EXCAVATOR REMOVING SAND FROM THE BOTTOM OF THE RAMP, PRIOR TO TOE DRAIN GRAVEL PLACEMENT.
G-0642	9/11/2001	7:03 AM	LOOKING AT THE SOUTH WEST CORNER, SHOWING 322 "LONG REACH" CAT EXCAVATOR REMOVING SAND FROM THE BOTTOM OF THE RAMP, PRIOR TO TOE DRAIN GRAVEL PLACEMENT, WITH SURVEYOR READY TO CERTIFY.
G-0643	9/11/2001	8:17 AM	LOOKING NORTH WEST, SHOWING D5LGP DOZER FINAL GRADING THE SAND AROUND THE SUMP AREA.
G-0644	9/11/2001	8:21 AM	LOOKING NORTH, SHOWING D5LGP DOZER FINAL GRADING THE SAND.
G-0645	9/11/2001	9:26 AM	LOOKING AT THE SOUTH WEST RAMP, SHOWING LABORER'S PULLING GEOTEXTILE INTO PLACE FOR THE TOE DRAIN.
G-0646	9/11/2001	9:45 PM	SHOWING LABORER BLOWING GRAVEL FROM THE SIDE SLOPES.
G-0647	9/11/2001	9:55 PM	LOOKING NORTH EAST, SHOWING THE SURVEYOR CERTIFYING THE TOP OF THE SAND LAYER.
G-0648	9/11/2001	10:31 AM	LOOKING NORTH EAST, SHOWING D5LGP DOZER FINAL GRADING THE SAND.
G-0649	9/11/2001	10:44 AM	LOOKING SOUTH, SHOWING D6LGP DOZER DRESSING THE OUTSIDE OF THE CELL AREA.
G-0650	9/11/2001	11:45 AM	LOOKING WEST, SHOWING D5LGP DOZER FINAL GRADING THE SAND.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0651	9/11/2001	12:15 PM	LOOKING AT THE SOUTH WEST CORNER, SHOWING 322 "LONG REACH" CAT EXCAVATOR REMOVING SAND FROM THE BOTTOM OF THE RAMP, PRIOR TO TOE DRAIN GRAVEL PLACEMENT.
G-0652	9/11/2001	12:49 PM	LOOKING AT THE SOUTH WEST RAMP, SHOWING LABORER GRADING THE TOE DRAIN GRAVEL.
G-0653	9/11/2001	1:28 PM	LOOKING WEST, SHOWING SURVEYOR CERTIFYING FINAL GRADE ON TOP OF SAND LAYER.
G-0654	9/11/2001	1:43 PM	LOOKING AT THE SOUTH WEST CORNER, SHOWING D5LGP DOZER GRADING THE SAND UP TO THE TOE DRAIN.
G-0655	9/11/2001	2:53 PM	LOOKING AT THE SOUTH EAST CORNER, SHOWING COMPLETED RAMP.
G-0656	9/11/2001	3:28 PM	LOOKING AT THE SOUTH EAST CORNER, SHOWING COMPLETED RAMP.
G-0657	9/11/2001	3:54 PM	LOOKING AT THE SOUTH WEST CORNER, SHOWING LABORER LYSTERING THE GEOTEXTILE OVER THE TOE DRAIN.
G-0658	9/13/2001	6:12 AM	LOOKING NORTH, SHOWING THE COMPLETED CELL.
G-0659	9/13/2001	10:44 AM	LOOKING NORTH WEST, SHOWING THE COMPLETED CELL.
G-0660	9/13/2001	11:45 AM	LOOKING WEST, SHOWING THE COMPLETED CELL.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME		SUBJECT OF PHOTOGRAPH
G-0661	9/13/2001	6:15 AM	LOOKING AT THE NORTH WEST CORNER, SHOWING COMPLETED SUMP AREA.
G-0662	9/13/2001	6:15 AM	LOOKING AT THE NORTH WEST CORNER, SHOWING COMPLETED SUMP AREA.
G-0663	9/13/2001	6:18 AM	LOOKING WEST ALONG THE NORTH BERM, SHOWING COMPLETED ANCHOR TRENCH.
G-0664	9/13/2001	6:18 AM	LOOKING SOUTH ALONG THE EAST BERM, SHOWING COMPLETED ANCHOR TRENCH.
G-0665	9/13/2001	8:17 AM	SHOWING PATRIOT TECHNICIAN TAKING NUCLEAR DENSITY TEST ON THE SAND.
G-0666	9/13/2001	8:28 AM	SHOWING PATRIOT TECHNICIAN TAKING NUCLEAR DENSITY TEST ON THE ANCHOR TRENCH.
G-0667	9/13/2001	10:03 AM	LOOKING AT THE SOUTH WEST COMPLETED RAMP.
G-0668	9/13/2001	10:06 AM	LOOKING AT THE OUTSIDE OF THE NORTH BERM, SHOWING D5LGP DOZER DRESSING THE SLOPE.
G-0669	9/13/2001	10:06 AM	SHOWING SURVEYOR CHECKING GRADES ON THE OUTSIDE OF THE NORTH BERM.
G-0670	9/13/2001	11:45 AM	LOOKING AT THE NORTH BERM, SHOWING RISER PIPES.

LOG OF PHOTOGRAPHS
SOLUTIA / QA / SAUGET

PHOTO NO.	DATE / TIME	SUBJECT OF PHOTOGRAPH
G-0671	9/13/2001 12:14 PM	LOOKING AT THE NORTH EAST CORNER, SHOWING D5LGP DOZER DRESSING THE SLOPE.
G-0672	9/13/2001 12:15 PM	LOOKING AT THE NORTH EAST CORNER, SHOWING D5LGP DOZER DRESSING THE SLOPE.
G-0673		
G-0674		
G-0675		
G-0676		
G-0677		
G-0678		
G-0679		
G-0680		

PART 6 –

DESIGN MODIFICATIONS, CLARIFICATIONS, RFIs, AND SUBMITTAL APPROVALS PERTAINING TO CELL CONSTRUCTION THROUGH PRIMARY LINER SYSTEM INSTALLATION

Design Modifications, Clarifications, RFI's, and Submittal Approvals Pertaining to Cell Construction through Primary Liner System Installation

Ref. No.	Date	Description
RFI 1	3/23/01	Riser Pipe Clarification
RFI 3	4/2/01	Fill Material Testing Clarification
RFI 4	4/2/01	Tracked in Place Fill Clarification
RFI 5	4/2/01	Sand Layer Testing Clarification
RFI 8	4/12/01	Sump Geometry Clarification
RFI 9	4/12/01	Compacted Fill Slope Clarification
RFI 10	4/12/01	Capillary Layer Vault Clarification
RFI 11	4/12/01	Sump Liner Clarification
RFI 12	4/12/01	Riser Trench Detail Clarification
RFI 14	4/19/01	Interface Friction Testing Parameters Clarification
RFI 15	5/16/01	Capillary Layer Material Submittal Approval
RFI 17	6/14/01	Berm Geometry, Lines and Grades Clarification
RFI 18	6/14/01	Sump Geometry, Lines and Grades Clarification
RFI 19	7/19/01	Sand Layer Material Submittal Approval
URS Letter 4	6/1/01	Interface Friction Test Results
URS Letter 5	6/1/01	Geosynthetics Material Submittal Approval
URS Letter 6	6/7/01	Interface Friction Test Results
URS Letter 7	7/23/01	GCL Interface Shear Test Approval
URS Letter 8	7/23/01	GCL Internal Shear Test Approval
URS Letter 9	7/24/01	HDPE Pipe Submittal Approval
URS Letter 10	7/27/01	Geosynthetics Material Submittal Acceptance
URS Letter 11	7/24/01	Sand Drainage Material Submittal Approval
URS Letter 12	7/27/01	Gravel Drainage Material Submittal Approval
URS Letter 13	8/15/01	HDPE Geogrid Material Submittal Approval
URS Memo	9/14/01	Memo re: "Riprap" Fill Placement in Cell Subgrade

MAR 27 2001

Request for Information/ Clarification Form

RFI# 01

Date: 3-23-01
To: Maverick Const. Mgmt. Services
Attn: John Fiore
Subject: Section(s):
Specification/Plan Reference: Site Prep. Plan C1.1 Riser Pipe Details C1.7

Project: TSCA Cell Const. Sauget Area 1
Project #: 01-016 ENV.
Hand Delivered: ____ Mailed: ____ Faxed: ✓

1. ~~Problem~~/Information Requested/ Clarification:

Is gravel capillary pipe 6" or 8"

2. Response Confirmation:

Information Requested/Given by By: JCL LMS Environmental

Contractor may substitute an 8 inch SDR 11 HDPE pipe for the 6 inch Ø pipe shown in C1.1 Site Prep plan and Detail G Sheet C1.7 Riser Pipe Details

Approved By: [illegible] Date: 4/2/01

3. Clarification/Action: please respond by or before _____ 20___ in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: / /

cc: Construction Manager

File: _____, CF

TSCA Landfill Cell Construction
Sauget Area 1- Cahokia, Illinois

Date: 4-12-01
To: MAVERICK CONSTRUCTION MANAGEMENT SERVICE
Attn: JOHN FLORES
Subject: Section(s):
Specification/Plan Reference: DETAIL C - SHEET C 1.6

Request for Information/ Clarification Form

#8

RFI# LMS 1
Project: SAUGET AREA 1 TSCA LANDFILL
Project #:
Hand Delivered: X Mailed: ____ Faxed: ____

1. Problem/Information Requested/ Clarification:

REQUEST DEFINITION OF SLOPE FROM CELL FLOOR TO BOTTOM OF COLLECTION SUMP AND MORE DETAIL ON SUMP IN GENERAL.

2. Response Confirmation:

Information Requested/Given by By: JACK LONG

See Attachment 1

Approved By: [signature] Date: 4/13/01

3. Clarification/Action: please respond by or before _____, 20___ in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: / /

cc: Construction Manager

File: _____, CF

MAVERICK

Request for Information/ Clarification Form

RFI# 003

Date: 4/2/01
To: URS
7650 West Courtney Campbell Causeway
Tampa,FL 33607-1462
Attn: Gary Wantland, URS

Project: Sauget Area 1
Project #:
Hand Delivered: FedEx Mailed: ____ Faxed: ____

Subject: Section(s): Tech Spec.Earthwork 02200 and CQA Manual for Soil Components Table 1,2
Specification/Plan Reference: 02200, 2.3 Fill Material & 3.6 Placement
CQA Table 1 Pre-Construction Testing Frequency/Evaluation
CQA Table 2 Construction Testing Frequency

1. Problem/Information Requested/ Clarification:

2.3.A Compacted Fill - This specification indicates that the only testing required for pre-construction acceptance would be Gradation ASTM D422 to confirm minimum 5% passing No. 200 sieve. No soil classifications per ASTM D2487 are specified. However, CQA Manual 4.2.3.1 Compacted Fill does specify soil classifications for acceptance. Please clarify this discrepancy? Also please clarify whether ASTM D698 and D5084/D2434 testing are required for Pre-Construction Evaluation (CQA Manual Table 1),and whether D5084/D2434 is required for Construction Testing Frequency (CQA Manual Table 2).

Information Requested/Given by By: Requested by JAF, Maverick

2. Response Confirmation:

See Attachment 1

Approved By: GMW Date: 4/20/01

3. Clarification/Action: please respond by or before EOB April 5, 2001 in order to minimize delay or interference with the ability to proceed with the work:

By: John Fiore, 4/2/01 Date: / /

cc: Construction Manager
Project File

File: _____, CF

REQUEST FOR INFORMATION / CLARIFICATION

RFI # 03

ATTACHMENT 1

Specification 02200 Paragraph 2.3.A Compacted Fill (Rev. 2, dated February 19, 2001) is only intended to define material characteristics for soils that will be acceptable for use as Compacted Fill. Pre-Construction Material Quality Evaluation, Construction Material Quality Evaluation, and Post-Construction Quality Evaluation requirements are provided in Paragraph 3.11 of Specification 02200.

Material classifications were inadvertently omitted from the requirements of Specification 02200 Paragraph 2.3.A Compacted Fill. As per ASTM D 2487, these classifications are:

Silty to Clayey Sands	SC, SP, SP-SM, SC-SM
Silty Sands	SM, SP
Clayey Silts to Silty Clays	SC-SM, SM-SC, CL
Silty Sandy Clays	CL

As given in Paragraph 3.11 of Specification 02200, ASTM D 698 is required for Compacted Fill for both Pre-Construction Material Quality Evaluation and Construction Material Quality Evaluation.

As given in Paragraph 3.11 of Specification 02200, ASTM D 5084 / D 2434 is not required for Compacted Fill for either Pre-Construction Material Quality Evaluation or Construction Material Quality Evaluation.

Table 1 of the Construction Quality Assurance Manual for the Installation of Soil Components of the Lining and Final Cover Systems (Rev. 1) correctly identifies the testing requirements for Compacted Fill for both ASTM D 698 and ASTM D 5084 / ASTM D 2434.

Table 2 of the Construction Quality Assurance Manual for the Installation of Soil Components of the Lining and Final Cover Systems (Rev. 1) correctly identifies the testing requirements for Compacted Fill for both ASTM D 698 and ASTM D 5084 / ASTM D 2434.

RESPONSE BY: Gary M. Wantland

DATED: April 30, 2001

MAVERICK

Request for Information/ Clarification Form

RFI# 004

Date: 4/2/01
To: URS
7650 West Courtney Campbell Causeway
Tampa,FL 33607-1462
Attn: Gary Wantland, URS

Project: Sauget Area 1
Project #:
Hand Delivered: FedEx Mailed: ____ Faxed: ____

Subject: Section(s): Tech Spec.Earthwork 02200 and CQA Manual for Soil Components Table 1,2
Specification/Plan Reference: 02200, 2.3 Fill Material & 3.6 Placement
CQA Table 1 Pre-Construction Testing Frequency/Evaluation
CQA Table 2 Construction Testing Frequency

1. Problem/Information Requested/ Clarification:

2.3.B Tracked In-Place Fill - This specification indicates that the only testing required for pre-construction acceptance would be Gradation ASTM D422, Atterberg D4318, and Moisture Content D2216. Please clarify whether ASTM D698 and D5084/D2434 testing are required for Pre-Construction Evaluation (CQA Manual Table 1). 2.3.B & 3.6.C do not specify a permeability. Therefore, is D5084/D2434 required for Construction Testing Frequency (CQA Manual Table 2)?

Information Requested/Given by By: Requested by JAF, Maverick

2. Response Confirmation:

See Attachment 1

Approved By: [illegible] Date: 4/30/01

3. Clarification/Action: please respond by or before EOB April 5 2001 in order to minimize delay or interference with the ability to proceed with the work:

By: John Fiore, 4/2/01 Date: / /

cc: Construction Manager
Project File

File: _____, CF

REQUEST FOR INFORMATION / CLARIFICATION

RFI # 04

ATTACHMENT 1

Specification 02200 Paragraph 2.3.B Tracked-in-Place Fill (Rev. 2, dated Feb. 19, 2001) is only intended to define material characteristics for soils that will be acceptable for use as Tracked-in-Place Fill. Pre-Construction Material Quality Evaluation, Construction Material Quality Evaluation, and Post-Construction Quality Evaluation requirements are provided in Paragraph 3.11 of Specification 02200.

As given in Paragraph 3.11 of Specification 02200, ASTM D 698 is required for Tracked-in-Place Fill for both Pre-Construction Material Quality Evaluation and Construction Material Quality Evaluation.

As given in Paragraph 3.11 of Specification 02200, ASTM D 5084 / D 2434 is not required for Tracked-in-Place Fill for either Pre-Construction Material Quality Evaluation or Construction Material Quality Evaluation.

Table 1 of the Construction Quality Assurance Manual for the Installation of Soil Components of the Lining and Final Cover Systems (Rev. 1) correctly identifies the testing requirements for Tracked-in-Place Fill for both ASTM D 698 and ASTM D 5084 / ASTM D 2434.

Table 2 of the Construction Quality Assurance Manual for the Installation of Soil Components of the Lining and Final Cover Systems (Rev. 1) correctly identifies the testing requirements for Tracked-in-Place Fill for both ASTM D 698 and ASTM D 5084 / ASTM D 2434.

RESPONSE BY: Gary M. Wantland

DATED: April 30, 2001

Request for Information/ Clarification Form

RFI# 005

Date: 4/2/01
To: URS
7650 West Courtney Campbell Causeway
Tampa,FL 33607-1462
Attn: Gary Wantland, URS

Project: Sauget Area 1
Project #:
Hand Delivered: FedEx Mailed: Faxed:

Subject: Section(s): Tech Spec.Earthwork 02200 and CQA Manual for Soil Components Table 2
Specification/Plan Reference: 02200, 3.6 Placement
CQA Table 2 Construction Testing Frequency

1. Problem/Information Requested/ Clarification:

3.6.D.6 - This specification indicates that Sand Drainage Layer shall be compacted to 50% of its relative density. Please clarify how relative density is to be determined. If testing is required, how should Construction Testing Frequency (CQA Manual Table 2) be revised.

Information Requested/Given by By: Requested by JAF, Maverick

2. Response Confirmation:

See Attachment 1

Approved By: [illegible] Date: 4/3/01

3. Clarification/Action: please respond by or before EOB April 5, 2001 in order to minimize delay or interference with the ability to proceed with the work:

By: John Fiore, 4/2/01 Date: / /

cc: Construction Manager
Project File

File: , CF

REQUEST FOR INFORMATION / CLARIFICATION

RFI # 05

ATTACHMENT 1

Contractor shall determine the relative density of the Sand Drainage Material in accordance with ASTM D 4253 Standard Test Method for Maximum Density and Unit Weight of Soils Using a Vibratory Table, and ASTM D 4254 Standard Test Method for Minimum Density and Unit Weight of Soils and Calculation of Relative Density. Contractor shall determine the in-place relative density of the Sand Drainage layer at a frequency of no less than 1 test per 20,000 square feet of material placed and compacted.

RESPONSE BY: Gary M. Wantland

DATED: April 30, 2001

REQUEST FOR INFORMATION / CLARIFICATION

RFI # 08

ATTACHMENT 1

Detail C on Sheet C1.6 has been modified to clarify that the slopes for the collection sumps are 3:1 (H:V) adjacent to the compacted clay containment berm and 1:1 (H:V) or flatter from the base of the sump to the base of the collection system layer for each of the capillary relief layer and the secondary collection system layer.

RESPONSE BY: Gary M. Wantland

DATED: April 30, 2001

Date: 4-12-01

To: MAVERICK CONSTRUCTION MANAGEMENT SERVICES

Attn: JOHN FIORE

Subject: Section(s):

Specification/Plan Reference: DETAIL B SHEET C1.6

Request for Information/ Clarification Form

#9

RFI# LMS 2

Project: SAUGET AREA 1 TSCA LANDFILL

Project #:

Hand Delivered: X Mailed: ____ Faxed: ____

1. Problem/Information Requested/ Clarification:

PER CONVERSATION WITH URS ENGINEER COMPACTED FILL SHOULD EXTEND TO FLOOR OF CELL ON 3:1 SLOPE AND NOT BE A SHEER CUT AS PER DETAIL B OF SHEET C1.6. IS THIS CORRECT?

2. Response Confirmation: Information Requested/Given by By: JACK LONG

See Attachment 1

Approved By: GMW Date: 4/30/01

3. Clarification/Action: please respond by or before ____, 20__ in order to minimize delay or interference with the ability to proceed with the work:

By: ____ Date: / /

cc: Construction Manager

File: ____, CF

REQUEST FOR INFORMATION / CLARIFICATION

RFI # 09

ATTACHMENT 1

Detail B on Sheet C1.6 has been modified to clarify that the slope for Compacted Fill extends at a 3:1 (H:V) to existing grade.

RESPONSE BY: Gary M. Wantland

DATED: April 30, 2001

Date: 4-12-01
To: MAVERICK CONSTRUCTION MANAGEMENT SERVICE
Attn: JOHN FIORE
Subject: Section(s):

Request for Information/ Clarification Form

10

RFI# LMS 3
Project: SAUGET AREA 1 TSCA LANDFILL
Project #:
Hand Delivered: X Mailed: ____ Faxed: ____
Specification/Plan Reference: DETAIL G - SHEET C 1.7

1. Problem/Information Requested/ Clarification:

REQUEST DETAIL FOR CONSTRUCTION OF VAULT AT THE END OF THE GRAVEL CAPILLARY OUTLET PIPE

2. Response Confirmation: Information Requested/Given by By: JACK LONG

See Attachment 1

Approved By: GMW Date: 4/30/01

3. Clarification/Action: please respond by or before _____ 20___ in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: / /

cc: Construction Manager

File: _____ CF

REQUEST FOR INFORMATION / CLARIFICATION

RFI # 10

ATTACHMENT 1

Detail G on Sheet C1.7 has been modified to clarify the required details of the vault.

RESPONSE BY: Gary M. Wantland GMW

DATED: April 30, 2001

TSCA Landfill Cell Construction
Sauget Area 1- Cahokia, Illinois

Request for Information/ Clarification Form

#11

RFI# LMS 4

Date: 4-12-01
To: MAVERICK CONSTRUCTION MANAGEMENT SERVICE
Attn: JOHN FIORE
Subject: Section(s):
Specification/Plan Reference: DETAIL H AND I SHEET C1.7

Project: SAUGET AREA 1 TSCA LANDFILL
Project #:
Hand Delivered: X Mailed: ____ Faxed: ____

1. Problem/Information Requested/ Clarification:

PER CONVERSATION WITH URS ENGINEER, THE LAYERS IN THE SUMP SHOWN ON THE ~~[illegible]~~ & DETAIL SHOULD CONTINUE THROUGH THE SUMP AREA AND NOT AS SHOWN. COULD WE HAVE A CORRECTED DETAIL.

2. Response Confirmation: Information Requested/Given by By: JACK LONG

RE: Attachment 1

Approved By: [signature] Date: 4/30/01

3. Clarification/Action: please respond by or before _____, 20___ in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: / /

cc: Construction Manager

File: _____, CF

REQUEST FOR INFORMATION / CLARIFICATION

RFI # 11

ATTACHMENT 1

Detail C on Sheet C1.6 correctly represents the layering and construction requirements for the liner systems in the area of the collection sumps. Details H and I on Sheet C1.7 have been corrected to also reflect these requirements.

RESPONSE BY: Gary M. Wantland

DATED: April 30, 2001

TSCA Landfill Cell Construction
Sauget Area 1- Cahokia, Illinois

Request for Information/ Clarification Form

RFI# LMS #12 5

Date: 4-12-01
To: MAVERICK CONSTRUCTION MANAGEMENT SERVICE
Attn: JOHN FIORE
Subject: Section(s):
Specification/Plan Reference: DETAIL I - SHEET C 1.7

Project: SAUGET AREA 1 TSCA LANDFILL
Project #:
Hand Delivered: X Mailed: ___ Faxed: ___

1. Problem/Information Requested/ Clarification:

REQUEST THICKNESS OF MATERIAL ABOVE THE DETECTION PIPE. ALSO, THE MAKEUP OF SAID MATERIAL, WHETHER IT IS COMPACTED FILL OR NOT. ALSO, PER CONVERSATION WITH URS ENGINEER MAY WE WIDEN THE RISER TRENCH TO A BOTTOM WIDTH OF 12 FEET TO ACCOMODATE EQUIPMENT.

Information Requested/Given by By: JACK LONG

2. Response Confirmation:

See Attachment 1

Approved By: GMW Date: 4/12/01

3. Clarification/Action: please respond by or before _____ 20__ in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: __/__/__

cc: Construction Manager

File: _____, CF

REQUEST FOR INFORMATION / CLARIFICATION

RFI # 12

ATTACHMENT 1

Detail J on Sheet C1.7 has been modified to clarify that the material between the primary and secondary liner materials is Compacted Fill. The slopes as given in Detail J clearly define the thickness of the material between these two layers. The Contractor may widen the base of the "cut" for the secondary collection system riser pipe from 6 feet to 12 feet if desired.

RESPONSE BY: Gary M. Wantland

DATED: April 30, 2001

TSCA Landfill Cell Construction
Sauget Area 1- Cahokia, Illinois

Request for Information/ Clarification Form

RFI# 14

Date: 4-19-01
To: LMS CONTRACTING
Attn: JACK LONG
Project: SOLUTIA INC. SAUGET AREA 1 CAHOKIA, IL
Project #:
Hand Delivered: ____ Mailed: ____ Faxed: x
Subject: Section(s): 2.0 GEOMEMBRANES 2.2.2
Specification/Plan Reference:

1. Problem/Information Requested/ Clarification:
PRECISION GEOSYNTHETIC LABORATORIES QUESTIONS ON THE PREPARATION, CONDITIONING AND SHEAR CONDITIONS FOR THE INTERFACE TESTING AND THEIR SUGGESTIONS.
(SEE ATTACHED)

Information Requested/Given by By: LEE TAYLOR

2. Response Confirmation:
see Attachment 1

Approved By: [signature] Date: 4/26/01

3. Clarification/Action: please respond by or before APRIL 24, 2001 in order to minimize delay or interference with the ability to proceed with the work:

By: ____ Date: / /

cc: Construction Manager

File: ____, CF

TAYLOR GEOSYNTHETICS, INC.

~ 121 Commerce Drive, Suite 304 ~ Post Office Box 27 ~
Danville, Indiana 46122
Telephone (317) 745-2202 ~ Fax (317) 745-0018

1. **TEXTURED HDPE/GCL**
   HYDRATION OF GCL, HOW LONG AND AT WHAT CONFINING PRESSURE?
   THEY SUGGEST HYDRATION OF THE GCL FOR 72 HOURS @ 2 PSI
   ASTM TEST METHOD D- 6243.

2. **SMOOTH HDPE/COMPACTED CLAY**
   CONSOLIDATION TIME (HRS) @ WHAT LOADS ASTM D- 5321.

3. **SMOOTH HDPE/GEONET & TEXTURED HDPE/GEONET**
   THEY SUGGEST CONSOLIDATION FOR 24 HRS
   @ NORMAL LOADS ASTM D-5321.

4. **WHILE CONSOLIDATING**, DO YOU WANT THE SYSTEM TO BE DRAINED, FLOODED, DRY OR WET/SPRAY?
   THEY SUGGEST THAT IF THE NET IS USED TO CARRY THE FLOW OF WATER THAT IT BE SHEARED AT FLOODED CONDITION.

5. **ALL INTERFACES**
   AT WHAT NORMAL LOADS DO YOU WANT TO SHEAR THE SYSTEMS?

6. **ALL INTERFACES**
   DO YOU WANT THE SYSTEM TO BE DRAINED, FLOODED, DRY OR WET/SPRAY WHILE SHEARING?

7. **SHEAR RATES FOR EACH INTERFACE**
   ASTM D-5231 OR OTHER RATES
   ALSO SPECIFICALLY TEXTURED HDPE/GCL.

REQUEST FOR INFORMATION / CLARIFICATION

RFI # 14

ATTACHMENT 1

Textured HDPE / GCL

The suggested hydration time of 72 hours at a confining pressure of 2 psi is acceptable.

Specification Section 02245 Paragraph 3.6 identifies the conformance testing requirements as ASTM D 5321. However testing in accordance with ASTM D 6243 will be acceptable for interface shear testing of GCL / Compacted clay interfaces and GCL / textured HDPE interfaces. Load shall be applied using the Controlled Stress Rate Method.

Smooth HDPE / Compacted Clay

Soil used in this interface shear test shall consist of the material proposed for use as Compacted Clay. Compacted clay in the test shall be 95 percent of the maximum dry density at a moisture content of 3 percent above optimum water content as determined by ASTM D 698.

Contractor shall consolidate the soil specimen under the normal loads selected for the test.

Testing loads shall be 5, 10 and 15 psi. Testing shall duplicate the 3:1 (H:V) slope conditions of the landfill cell. Testing shall be performed in accordance with ASTM D 5321.

Smooth HDPE / Geonet and Textured HDPE / Geonet

It is not clear to us why a consolidation time should be specified for a geosynthetic-geosynthetic interface.

Testing loads shall be 5, 10 and 15 psi. Testing shall duplicate the 3:1 (H:V) slope conditions of the landfill cell. Testing shall be performed in accordance with ASTM D 5321.

Consolidation

Consolidation of materials shall be under drained conditions.

Testing of geonet under flooded conditions is acceptable if free drainage of the water is permitted during the test.

Normal Load During Interface Test

Interface shear testing loads shall be 5, 10 and 15 psi. Testing shall duplicate the 3:1 (H:V) slope conditions of the landfill cell. Testing shall be performed in accordance with ASTM D 5321.

Drainage Conditions During Interface Shear Testing

Interface shear testing shall be performed using consolidated drained conditions.

Shear Rates for Interface Shear Testing

Shear testing rates for geosynthetic–geosynthetic interfaces shall be 1 mm /minute.

Shear testing rates for GCL or compacted soil interfaces shall be at rates that prevent the development of excess pore pressures during the test. ASTM D 5321 presents the guidelines identified in ASTM D 3080, which recommends the minimum time to failure be determined based on the time to achieve 50 percent consolidation. If the Contractor can successfully demonstrate to the Construction Manager that no excess pore pressures will be developed during the test, then a displacement rate of 1 mm / minute will be acceptable. Consolidation loading shall be consistent with the normal loading requirements for the interface test i.e., 5,10 and 15 psi.

RESPONSE BY: Gary M. Wantland

DATED: April 30, 2001

Request for Information/ Clarification Form

RFI# MAV 15

Date: May 16, 2001
To: LMS Environmental Contracting, Inc.
6515 West 500 North
Madison, Indiana 47250
Attn: Jack Long

Project: Sauget Area 1 TSCA Cell
Project #:
Hand Delivered: X Mailed: ____ Faxed: ____

Subject: Section(s): 2200 Earthworks
Specification/Plan Reference: Drawing/Sheet C1.6

1. Problem/Information Requested/ Clarification:

LMS request to use Type C Meramac Stone for the capillary layer for the cell. The stone material does not meet the specifications but should be adequate for this use. (see attached letter from LMS dated May 15, 2001)

Information Requested/Given by By: Jack Long

2. Response Confirmation:

URS has approved the use of this material for the capillary layer only with the following stipulations:
1. Siltfence must be installed on the inside of the berm to protect the stone from the earthwork activities.
2. The stone must be visually inspected to insure the stone does not contain excessive amounts of fines.
3. The stone must remain clean during placement (minimize tracking of soils onto stone).
4. The last lift of stone will be rolled with the smooth drum roller to minimize the possibility of the overlaying geotextile fabric being damaged.

Approved By: Gary Wantland, URS Date: 4 /6 /01

3. Clarification/Action: please respond by or before _____, 20___ in order to minimize delay or interference with the ability to proceed with the work:

By: [signature] Date: 4/15/01

cc: Construction Manager
Gary Wantland, URS
Richard Seimaszkiewicz, Golder
File: Project File, CF

Request for Information/ Clarification Form

RFI# LMS17

Date: JUNE 14, 2001
To: MR. JOHN FIORE
MAVERICK CONSTRUCTION MANAGEMENT SERVICES
Attn: MR. JOHN FIORE

Project: SOLUTIA- CAHOKIA
Project #: 01-016ENV
Hand Delivered: ✓ Mailed: ____ Faxed: ____

Subject: Section(s):
Specification/Plan Reference: SHEET C1.1

1. Problem/Information Requested/ Clarification:

BY HOLDING CONTROL IN CORNERS OF THE CELL AND HOLDING ELEVATIONS ON TOE OF CELL THE 3:1 SLOPE IS INCREASED TO A SLOPE THAT IS STEEPER THAN 3:1 AND VARIES. IF WE FLATTEN SLOPES TO A TYPICAL 3:1 THE FLOOR AREA DECREASES SIGNIFICANTLY. WHAT SHOULD WE HOLD? ALSO, PLEASE CONBACK

Information Requested/Given by By: JACK LONG

2. Response Confirmation:

~~Hold~~
Construct the floor of the cell to the elevations specified. Some variation in the constructed slope will occur

Approved By: Gary Wauthier Date: 7/17/01

3. Clarification/Action: please respond by or before _____, 20___ in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: / /

RECEIVED
JUL 17 2001
MAVERICK KC

cc: Construction Manager

File: _____, CF

BE AWARE BY HOLDING CONTROL POINTS AND TOE POSITIONS AS SHOWN, THE FLOOR AREA IS ALREADY SMALLER THAN THE 255' NOMINAL WIDTH THAT IS SHOWN ON THE DRAWINGS.

Request for Information/ Clarification Form

RFI# LMS-18

Date: JUNE 14, 2001
To: MR. JOHN FIORE
MAVERICK CONSTRUCTION MANAGEMENT SERVICES
Attn: MR. JOHN FIORE

Project: SOLUTIA - CAHOKIA
Project #: 01-016ENV
Hand Delivered: ✓ Mailed: ____ Faxed: ____

Subject: Section(s):
Specification/Plan Reference: SECTION C / SHEET C1.6

1. Problem/Information Requested/ Clarification:

HOLDING ELEVATIONS SHOWN ON DETAIL DOES NOT ALLOW FOR CORRECT THICKNESS ON CAPILLARY AND TRACKED IN PLACE SOIL LAYERS. SHOULD WE HOLD ELEVATIONS AS SHOWN AND LEAVE THE THICKNESS DEFICIENCY IN THE CAPILLARY LAYER?

Information Requested/Given by By: JACK LONG

2. Response Confirmation:

Contractor shall construct the ~~elevations of the~~ sumps for the capillary break layer and the secondary leachate collection layer as specified in Detail C Sheet C1.6. Invert elevations for the collection pipe in each system shall be as shown in Detail C.

Approved By: [signature] Date: 7/17/01

3. Clarification/Action: please respond by or before _____, 20___ in order to minimize delay or interference with the ability to proceed with the work:

By: _____ Date: / /

cc: Construction Manager

File: _____, CF

RECEIVED
JUL 17 2001
MAVERICK

TSCA Landfill Cell Construction
Sauget Area 1- Cahokia, Illinois

Date: 7-19-01
To: Maverick

Attn: John F.

Request for Information/ Clarification Form

MaV-19
RFI# ~~Jms9~~

Project: Solutia Cahokia
Project #:
Hand Delivered: ✓ Mailed: ____ Faxed: ____

Subject: Section(s):
Specification/Plan Reference: 02200-8 C.2. Sand

1. Problem/Information Requested/ Clarification:

Request approval for use of the sand from Sample # GR-003
Date 7-11-01

Information Requested/Given by By: [signature]

2. Response Confirmation:

Proposed material accepted for use as sand drainage layer
see URS-IPA Letter No. 011 dated 24 July 01

Approved By: [signature] Date: 7/24/01

3. Clarification/Action: please respond by or before _____, 20___ in order to minimize delay or interference with the ability to proceed with the work:

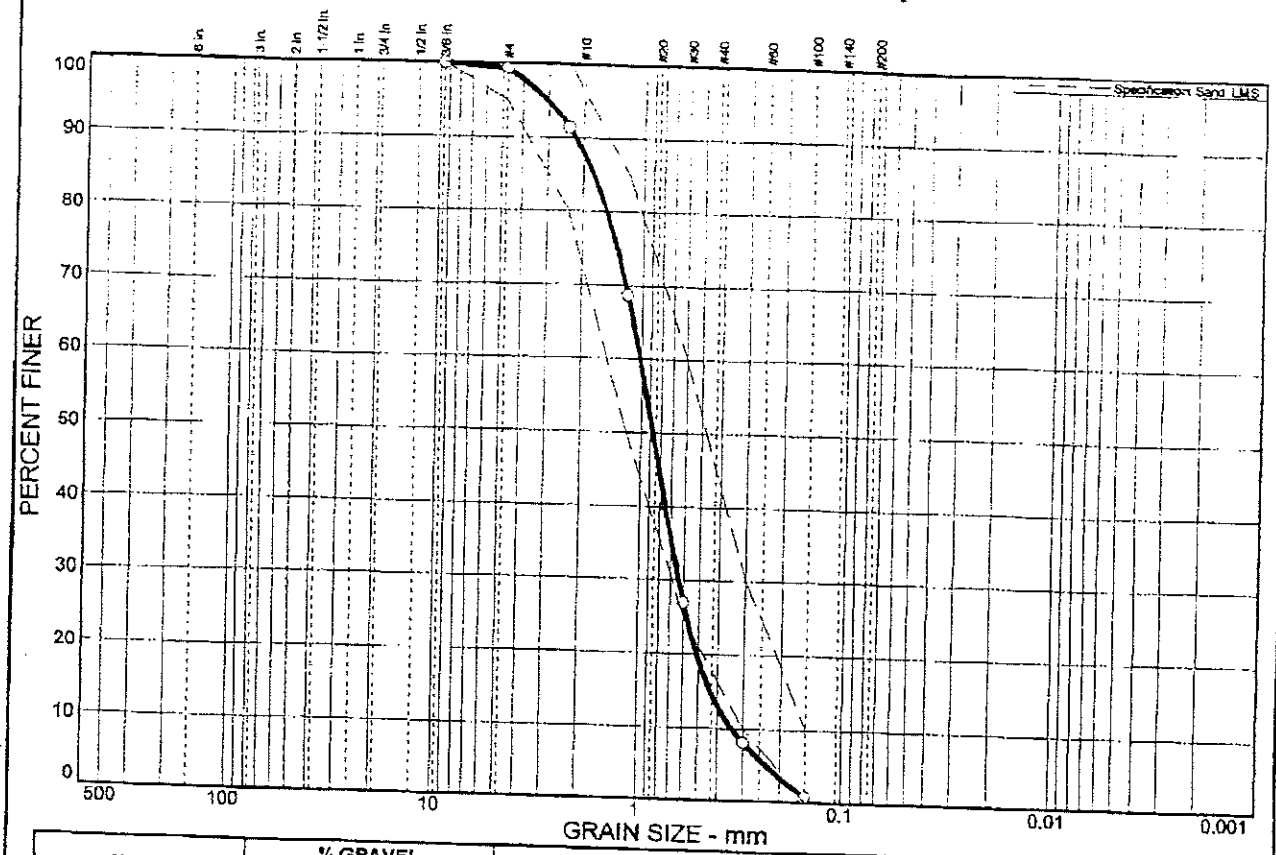
By: _____ Date: / /

cc: Construction Manager

File: _____, CF

JUL-24-2001 TUE 11:24 AM MAVERICK CONSTR FAX NO. 16183322837 P. 02/06

Particle Size Distribution Report



% + 3"	% GRAVEL		% SAND			% FINES	
	CRS.	FINE	CRS.	MEDIUM	FINE	SILT	CLAY
0.0	0.0	0.7	11.2	73.6		14.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.375 in.	100.0	100.0 - 100.0	
#4	99.3	95.0 - 100.0	
#8	91.4	80.0 - 100.0	
#16	68.7	50.0 - 85.0	
#30	27.0	25.0 - 60.0	
#50	8.1	10.0 - 30.0	X
#100	0.7	0.0 - 10.0	

* Sand LMS

Soil Description

sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 1.77 D_{60}= 1.02 D_{50}= 0.874
D_{30}= 0.635 D_{15}= 0.434 D_{10}= 0.341
C_u= 2.99 C_c= 1.16

Classification

USCS= AASHTO=

Remarks

ASTM C-33

Sample No.: GR-003 **Source of Sample:** sauget area 1 **Date:** 7-11-01
Location: Off-site material **Elev./Depth:**

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project No: 501-223 **Plate**

GRAIN SIZE DISTRIBUTION TEST DATA

Client: LMS Environmental Contracting, Inc.
Project: Sauget Area 1 Landfill
Project Number: 501-223

Sample Data

Source: sauget area 1
Sample No.: GR-003
Elev. or Depth:
Location: Off-site material
Description: sand
Date: 7-11-01 **PL:**
USCS Classification:
Testing Remarks: ASTM C-33

Sample Length (in./cm.):

LL: **PI:**
AASHTO Classification:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	2000.00	2000.00
Tare =	0.00	0.00
Dry sample weight =	2000.00	2000.00
Minus #200 from wash=	0.0 %	

Sample split on inch **sieve**
Split sample data:
Sample and tare = Tare = Sample weight = .00
Cumulative weight retained tare=
Tare for cumulative weight retained= .00

Sieve	Cumul. Wt. retained	Percent finer	Specification Limits, percent	Deviation, percent
.375 inch	0.00	100.0	100.0 to 100.0	
# 4	14.80	99.3	95.0 to 100.0	
# 8	172.40	91.4	80.0 to 100.0	
# 16	626.50	68.7	50.0 to 85.0	
# 30	1460.40	27.0	25.0 to 60.0	
# 50	1837.90	8.1	10.0 to 30.0	- 1.9
# 100	1985.70	0.7	0.0 to 10.0	

Fractional Components

Gravel/Sand based on #4
Sand/Fines based on #200
% + 3" = **% GRAVEL** = 0.7 **(% coarse =** **% fine** = 0.7)
% SAND = **(% coarse** = 11.2 **% medium** = 73.6 **% fine** =)

D_{85}= 1.77 D_{60}= 1.02 D_{50}= 0.87
D_{30}= 0.64 D_{15}= 0.43 D_{10}= 0.34
C_c= 1.1624 C_u= 2.9861

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Permeability of Granular Soils (Constant Head)

ASTM D 2434

☐ Original ☐ Amended

Project Name:	Sauget Area I Landfill	**Client:**	LMS Contracting
Project Number:	5-01-223	**Client Address:**	
Date Received:	07/16/2001	**Tested By:**	AM/BG
Date Tested:	07/16/2001	**Preparation:**	Placed in 8 equal layers
Sample Number:	S-123		
Description:	SP, Poorly graded SAND		

SAMPLE UNIT WEIGHT DETERMINATION

Diameter:	10.115	cm.	Wt. of Soil & Mold:	3254.4	g	Moisture Content (air-dried):	0.2	%
Area:	80.358	cm.^{2}	Wt. of Mold:	1695.4	g	Dry Unit Weight:	103.7	pcf
Length:	11.654	cm.	Wt. of Soil:	1559.0	g	Void Ratio:	0.63	
W (max):	106.8	pcf	W (min):	98.4	pcf	Relative Density:	97.1	%

RESERVOIR AREA

Inside diameter of reservoir cylinder:	10.11	cm.
Outside diameter of bubble tube:	0.94	cm.
Cross-sectional area of reservoir:	79.58	cm.^{2}
Height from top of sample to top of bucket:	2.8	cm.
Type of water used for test:	deaired tap water	

$$k = \frac{Q * L}{A * t * h} = \frac{\Delta \text{ Reservoir Level} * \text{Reservoir Area} * \text{Sample Length}}{\text{Sample Area} * \text{Elapsed Time} * \text{Head}}$$

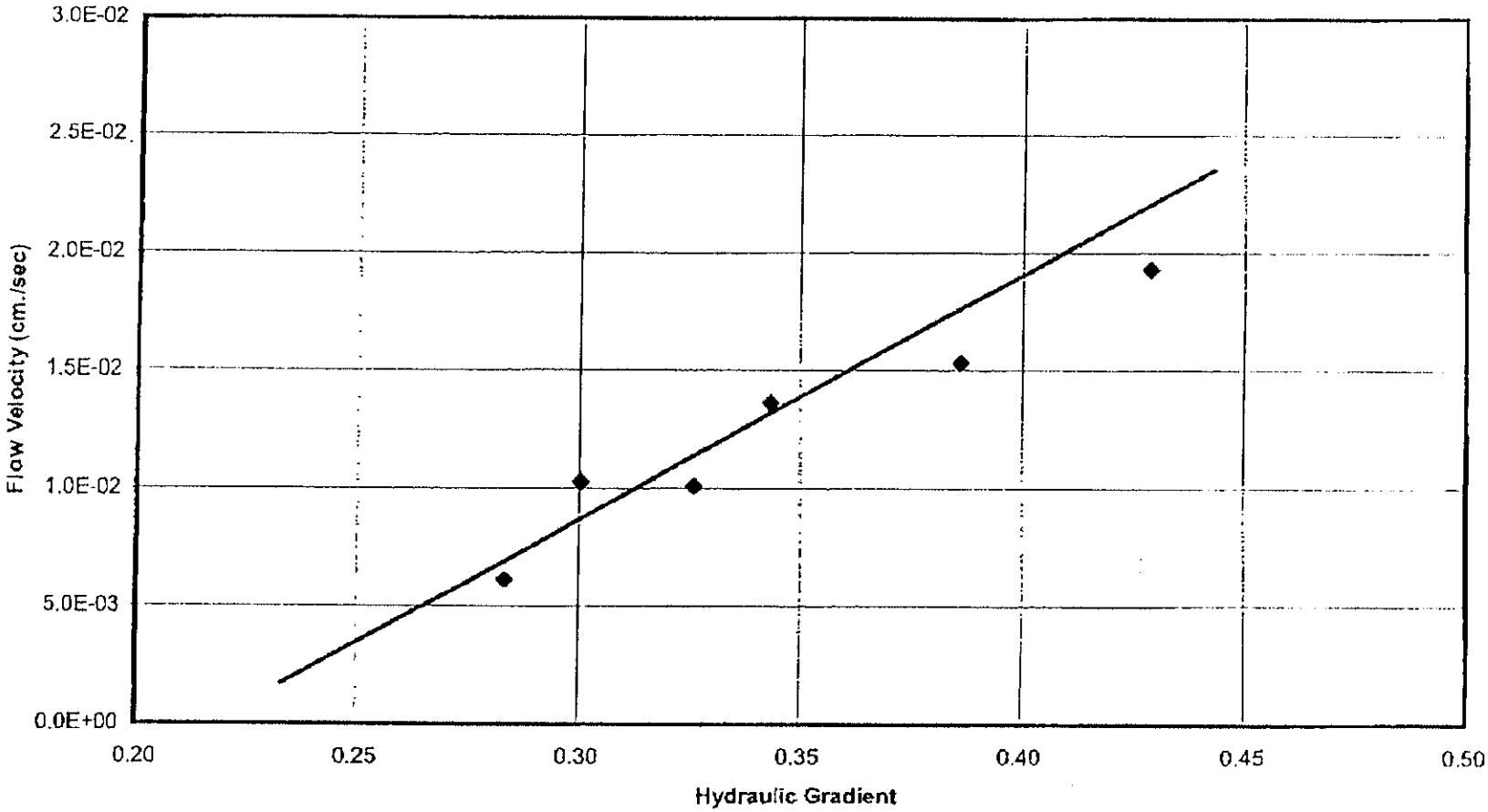
TEST DATA

Test No.	Reservoir Level Initial (cm.)	Reservoir Level Final (cm.)	Volume Q (cm.^{3})	Head h (cm.)	Time (sec.)	Flow Vel. Q/At cm./sec.	Gradient h/L	Temp. (°C)	Permeability k cm/sec.	k @ 20°C cm/sec.
1	59.3	6.4	4210.0	3.3	6516	6.2E-03	0.28	21.5	2.2E-02	2.1E-02
2	59.6	6.2	4249.7	3.5	5145	1.0E-02	0.30	22.0	3.4E-02	3.3E-02
3	59.6	6.8	4202.0	3.8	5178	1.0E-02	0.33	22.5	3.1E-02	2.9E-02
4	59.6	6.9	4194.0	4.0	3830	1.4E-02	0.34	23.0	4.0E-02	3.7E-02
5	59.7	7.4	4162.2	4.5	3380	1.5E-02	0.39	22.5	4.0E-02	3.7E-02
6	59.1	7.9	4074.7	5.0	2625	1.9E-02	0.43	23.0	4.5E-02	4.2E-02

Average Permeability Coefficient (k) at 20°C: 3.0E-02 cm/sec.

PATRIOT ENGINEERING
and Environmental Co., LLC
6330 East 75th Street, Suite 216
Indianapolis, IN 46250-2700
(317) 576-8058 FAX: (317) 576-1965

Sauget Area I Landfill, Patriot Proj. No. 5-01-223
Sand Drainage Media, S-123
7-18-01
Flow Velocity vs. Hydraulic Gradient



URS

RECEIVED

JUN - 4 2001

URS CORPORATION
MARYLAND HEIGHTS, MO

June 1, 2001

URS-TPA Letter No. 004

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: Review of Contractor Submittal
Reinforced GCL – Clay Interface Shear Test Results
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the data presented by Taylor Geosynthetics and Precision Laboratories. Our review of the shear test results for the Reinforced Geosynthetic Clay Liner / Compacted Clay interface indicate that the material tested is in conformance with the design concept and the requirements of the specifications.

If you have any questions on the above information, please call.

Sincerely,

URS CORPORATION SOUTHERN

Gary M. Wantland, P.E.
Project Manager

GMW:gmw

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

URS

June 1, 2001

URS-TPA Letter No. 005

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: **Review of Contractor Submittal**
Information on Geosynthetic Installer, Testing Laboratory and Proposed Materials
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the above referenced documents. Specifically the following information was transmitted to us on May 15, 2001:

- Serrott Qualifications and Project References
- Material Data Certification Sheets
  - Geotex 1701 Nonwoven Geotextile
  - HDPE HD600 Smooth Geomembrane
    HS 601 Textured Geomembrane (single side)
    HT 601 Textured Geomembrane (double side)
  - Bentofix EC Non-reinforced GCL
    NSL Reinforced GCL
  - Polynet PN3000 HDPE Geonet
- Taylor Geosynthetics Construction Quality Control Manual
- Precision Geosynthetics Laboratories Qualifications
- Taylor Geosynthetics Qualifications
- Material Testing Equipment information

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

URS

We have the following comments.

The information submitted by Serrott, Taylor Geosynthetics and Precision Laboratories regarding their qualifications and project experience is in conformance with the submittal requirements of the specifications.

The geosynthetic materials proposed by the Contractor in this submittal appear to be in conformance with the requirements of the specifications. Final approval of the proposed geosynthetic materials is subject to conformance and interface shear test data meeting the requirements of the specifications and the design concept.

If you have any questions on the above information please call.

Sincerely,

URS CORPORATION SOUTHERN

Gary M. Wantland, P.E.
Project Manager

GMW:gmw

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS

URS

June 7, 2001

URS-TPA Letter No. 006

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: Review of Contractor Submittal
Interface Friction Test Results for Proposed Geosynthetic Materials
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the laboratory test data submitted by LMS via their subcontractors Taylor Geosynthetics and Precision Laboratories in accordance with the Contract Documents. Specifically, the interface shear test data transmitted to us on May 30, 2001 follows:

- Single-Sided Textured HDPE (Smooth Side) / Geonet interface
- Double-Sided Textured HDPE / Geonet interface
- Single-Sided Textured HDPE (Textured side) / Unreinforced Geosynthetic Clay Liner (GCL) interface
- Smooth HDPE / Clay interface
- Reinforced GCL / Clay interface

We have the following comments.

Shear test results for the Reinforced GCL / Clay interface was previously documented as being in conformance with the design concept in TPA Letter No. 004 dated June 1, 2001. Our review of the test results for the other four interface shear tests indicates the materials tested appear to be in conformance with the design concept and the requirements of the Specifications.

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

URS

However, please note that the Contractor has not tested all interfaces required by the Specifications and Contract Documents. Specification 02245 paragraph 2.1B requires a reinforced GCL be used on slopes steeper than 7(H) : 1(V). Based on our review of the test data we infer that the Contractor intends to use unreinforced GCL material on the bottom of the containment cell and on the final cover. Based on this assessment, we have identified two additional interface shear tests that will be required. They are as follows:

- Reinforced GCL / Textured HDPE interface shear configuration; and
- Unreinforced GCL / Clay interface shear test.

We recommend that these tests be performed as soon as possible to prevent undue delays in the project. Final approval of the proposed geosynthetic materials is subject to all conformance and interface shear test data meeting the requirements of the specifications and the design concept.

If you have any questions on the above information please call.

Sincerely,

URS Corporation Southern

Gary M. Wantland

Gary M. Wantland, P.E.
Project Manager

GMW:gmw

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS

URS

July 23, 2001

URS-TPA Letter No. 007

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: **Review of Contractor Submittal**
Proposed Geosynthetic Clay Liner Interface Friction Test Results
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the laboratory test data submitted by LMS via their subcontractors Taylor Geosynthetics and Precision Laboratories in accordance with the Contract Documents. Specifically, the interface shear test data transmitted to us on June 15, 2001 is for the Single-Sided Textured HDPE (Textured Side) / Reinforced Geosynthetic Clay Liner interface.

Our review of the test results for the interface shear test indicates the materials tested appear to be in conformance with the design concept and the requirements of the Specifications.

If you have any questions on the above information please call.

Sincerely,

URS Corporation Southern

Gary M. Wantland, P.E.
Project Manager

GMW:gmw

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS
Richard Siemaszkiewicz - Golder Associates

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

URS

July 23, 2001

URS-TPA Letter No. 008

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: **Review of Laboratory Test Data**
Proposed Geosynthetic Clay Liner Internal Shear Test Results
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the laboratory test data submitted by TRI/Environmental, Inc. performed in accordance with the requirements of Maverick Construction Management and Golder Associates. Specifically, the internal shear strength test data transmitted to us on July 20, 2001 is for Bentofix NSL Reinforced Geosynthetic Clay Liner manufactured by SERROT International. The laboratory test was performed on a sample of GCL material collected from Roll Number 29248.

Our review of the test results for the interface shear test indicates the materials tested appear to be in conformance with the design concept and the requirements of the Specifications.

If you have any questions on the above information please call.

Sincerely,

URS Corporation Southern

Gary M. Wantland, P.E.
Project Manager

GMW:gmw

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS
Richard Siemaszkiewicz - Golder Associates

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7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

URS

July 24, 2001

URS-TPA Letter No. 009

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: **Review of Contractor Submittal**
Proposed HDPE Riser Pipe
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the information submitted by LMS Contracting regarding the 8 inch diameter HDPE pipe proposed for the Primary and Secondary Leachate Collection Systems as well as the Capillary Relief System. Specifically, LMS has requested to use PLEXCO HDPE pipe manufactured by Chevron Phillips Company. Manufacturer's data on this pipe indicates the Flexural Modulus is lower than the value required by the Sauget Area 1 Specifications Section 02175 Paragraph 2.1.A.

Our review of the material properties for the PLEXCO HDPE pipe indicate the stated values for Flexural modulus (110,000 psi) are within the normal range of values reported by the industry (ie. 100,000 psi to 160,000 psi) for HDPE pipe. The remaining material values for the HDPE pipe are in conformance with the requirements of Specification 02175. Our review of the anticipated loading conditions for the pipe lead us to conclude that the proposed HDPE pipe from PLEXCO should perform in an acceptable manner assuming correct installation procedures are followed during construction.

If you have any questions on the above information please call.

Sincerely,

URS Corporation Southern

Gary M. Wantland, P.E.
Project Manager

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS
Richard Siemaszkiewicz - Golder Associates

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

URS

July 27, 2001

URS-TPA Letter No. 010
Revision 1

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: **Review of Contractor Submittal**
Conformance Test Results for Proposed Geosynthetic Materials
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the conformance test results for the geosynthetic material samples submitted by Golder Associates in accordance with the requirements of the Project Specifications and Construction Quality Assurance Plans. Specifically, conformance test results for the geosynthetic materials proposed for construction of the TSCA disposal cell were provided for review and approval of the following.

- PN 3000 HDPE Geonet
- Smooth HDPE Geomembrane (HD 600)
- Single-Sided Textured HDPE Geomembrane (HS 601)
- Geotex 1701 Non-woven Geotextile
- Bentofix NSL Reinforced Geosynthetic Clay Liner

Based on our review of the test results it is our opinion the submitted materials appear to be in conformance with the design concept and the requirements of the specifications.

If you have any questions on the above information please call.

Sincerely,

URS Corporation Southern

Gary M. Wantland

Gary M. Wantland, P.E.
Project Manager

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS
Richard Siemaszkiewicz - Golder Associates

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

URS

July 24, 2001

URS-TPA Letter No. 011

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: **Review of Contractor Submittal**
Test Results for Proposed Sand Drainage Materials
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the laboratory test data submitted by LMS in accordance with the Contract Documents. Specifically, test results for the sand drainage material proposed for construction of the TSCA disposal cell was provided for review and approval.

Our review identified the proposed material was in general conformance with the project specifications for gradation of the sand. The retained fraction for the # 50 sieve was lower than the specified range. All other reported gradations were within the specified limits. Reported permeability of the material is greater than the specified minimum value of $1x\ 10^{-3}$ cm/sec.

Based on our review of the submitted data the proposed material appears to be in conformance with the design concept and requirements of the specifications. As such, it is our opinion, the proposed material will be acceptable for use as the sand drainage material in the disposal cell.

If you have any questions on the above information please call.

Sincerely,

URS Corporation Southern

Gary M Wantland

Gary M. Wantland, P.E.
Project Manager

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS
Richard Siemaszkiewicz - Golder Associates

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

URS

August 15, 2001

URS-TPA Letter No. 012

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: **Review of Contractor Submittal**
Test Results for Proposed Gravel Drainage Materials
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the laboratory test data submitted by LMS in accordance with the Contract Documents. Specifically, test results for the gravel drainage material proposed for construction of the TSCA disposal cell was provided for review and approval.

Our review identified the proposed material was in general conformance with the project specifications for gradation of the sand. Reported gradations were within the specified limits. Reported permeability of the material is in accordance with the requirements of the design.

Based on our review of the submitted data the proposed material appears to be in conformance with the design concept and requirements of the specifications. As such, it is our opinion, the proposed material will be acceptable for use as the gravel drainage material in the disposal cell.

If you have any questions on the above information please call.

Sincerely,

URS Corporation Southern

Gary M. Wantland, P.E.
Project Manager

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS
Richard Siemaszkiewicz - Golder Associates

RECEIVED
AUG 20 2001
MAVERICK

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

CQA Testing Laboratory, Inc.

Permeability of Granular Material, ASTM D2434, 12 Inch Fixed Wall

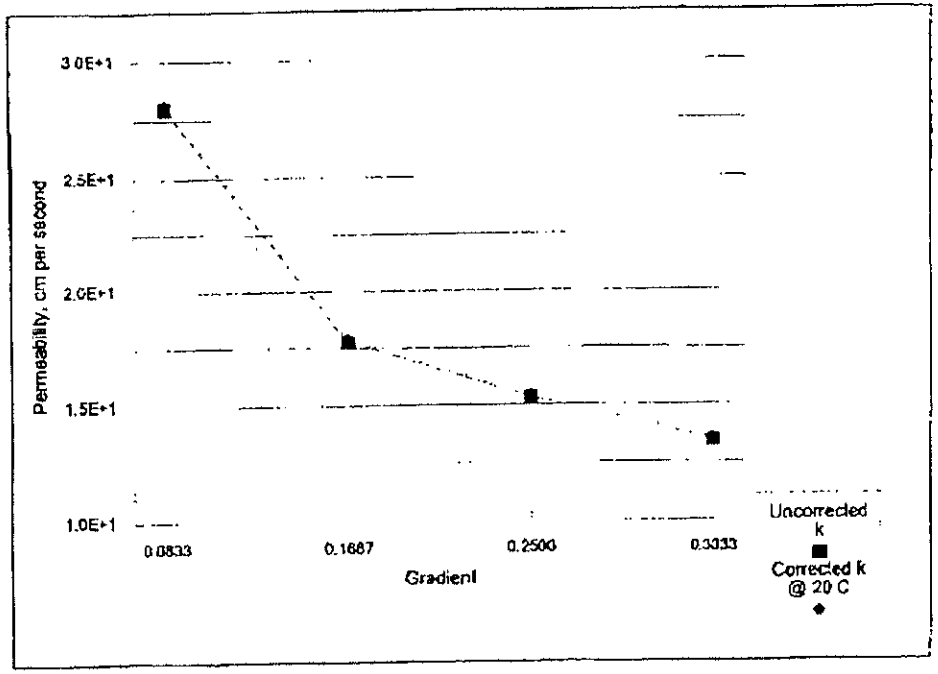
Date of Test:	7.22.2001
Client Name:	Patriot Engineering
Project Name:	Sauget Area 1 Landfill
Project Number:	0103 C

Technician:	BMG
Reviewed By:	BMG

Sample Number:	466
Sample Location:	Bulk Gravel Sample
Other:	None

Specimen Data	
Specimen Area, cm^2 (A)	699.573
Specimen Weight, lbs.	30.9
Specimen Height, cm (L)	15.24
Moisture Content, (as Tested), %	0.5
Dry Unit Weight, pcf	82.8
As Tested (Wet), pcf	83.2

Test Constants	
Bubble Tube, cm^2	41.88
Reservoir Effective Area, cm^2	657.69

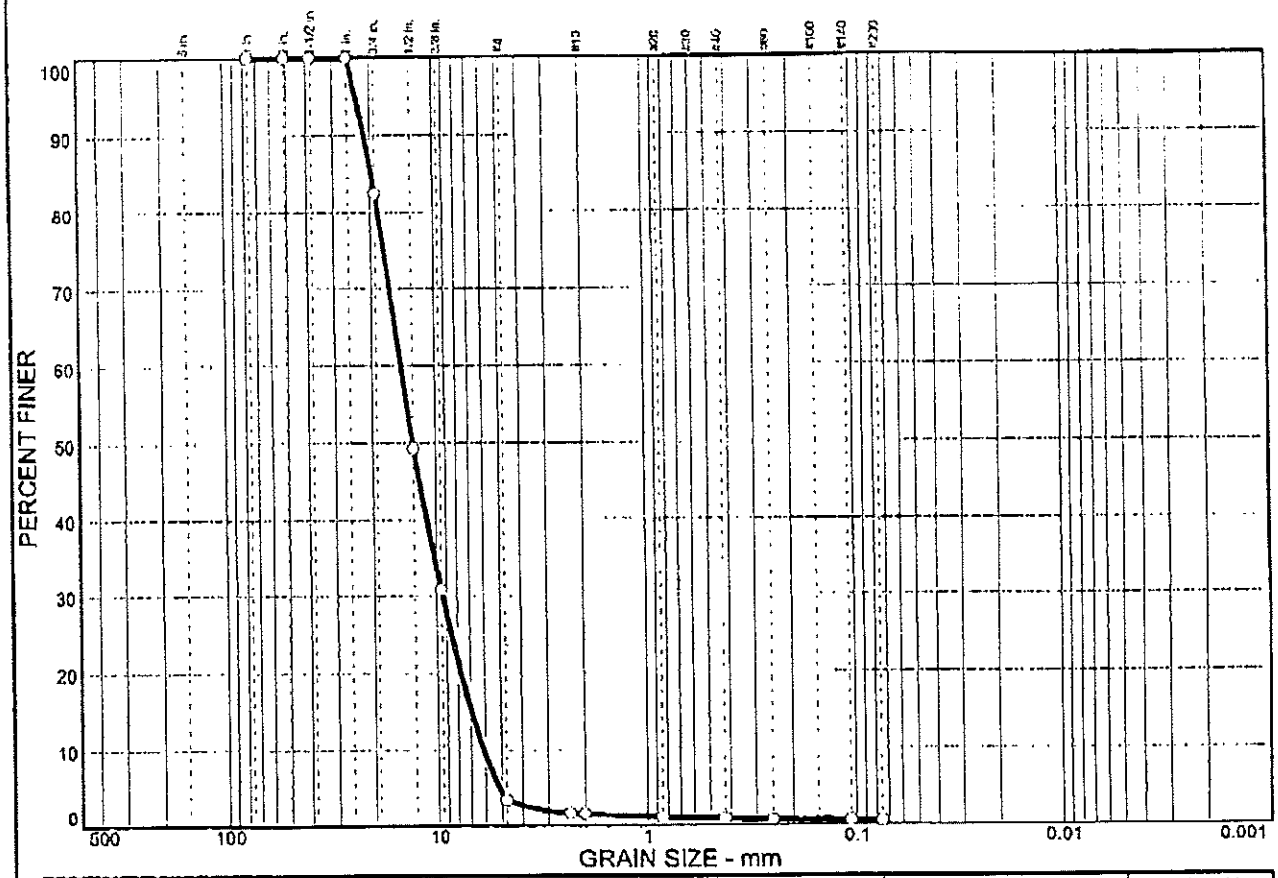


Avg. k Corrected @ 20 C, cm/sec 1.9E+001

Height of Bubble Tube, cm (h)	Gradient (h/L)	Manometer Readings Start, cm	Manometer Readings Finish, cm	Quantity of Flow (Q)	Time, sec. (t)	Permeant Temperature, C	Uncorrected k	Corrected k @ 20 C
1.27	0.0833	50	40	6576.9	4.03	20	2.8E+001	2.8E+001
2.54	0.1667	40	30	6576.9	3.17	20	1.8E+001	1.8E+001
3.81	0.2500	30	20	6576.9	2.45	20	1.5E+001	1.5E+001
5.08	0.3333	20	10	6576.9	2.09	20	1.3E+001	1.4E+001

Remarks:
k = QL/Ath, and Corrected for temp @ 20 C = k * (-0.02452 * temp + 1.495)

Particle Size Distribution Report



% + 3"	% GRAVEL	% SAND	% SILT	% CLAY
0.0	96.6	2.9	0.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3 in.	100.0		
2 in.	100.0		
1.5 in.	100.0		
1 in.	100.0		
.75 in.	82.5		
.5 in.	49.3		
.375 in.	30.8		
#4	3.4		
#8	1.6		
#10	1.5		
#20	1.1		
#40	0.9		
#60	0.7		
#140	0.6		
#200	0.5		

* (no specification provided)

Soil Description

GP, Poorly graded GRAVEL

Atterberg Limits

PL= NP LL= PI=

Coefficients

D_{85}= 19.7 D_{60}= 14.5 D_{50}= 12.8
D_{30}= 9.39 D_{15}= 6.93 D_{10}= 6.09
C_u= 2.38 C_c= 1.00

Classification

USCS= GP AASHTO=

Remarks

Sample No.: S-466 **Source of Sample:** S-466 **Date:** 7-20-01
Location: **Elev./Depth:**

PATRIOT ENGINEERING and Environmental Co., LLC

Client: LMS
Project: Sauget Area 1 Landfill
Project No: 5-01-223 **Plate**

URS

August 15, 2001

URS-TPA Letter No. 013

Maverick Construction Management Services
15 Judith Lane
Cahokia, Illinois 62206

Attention: Mr. John Fiore
Construction Manager

Subject: **Review of Contractor Submittal**
Proposed HDPE Geogrid Reinforcement
Sauget Area 1 TSCA Landfill
Cahokia, Illinois

Dear John:

We have completed our review of the information submitted by LMS Contracting regarding the geogrid reinforcement proposed for the construction of the ramps for the Sauget Area 1 Containment Cell. Specifically, LMS has requested to use Tensar UX160020SB HDPE Geogrid. Manufacturer's data on this material indicates this Tensar product is equivalent to the material required by the Sauget Area 1 Specifications Section 02227 Paragraph 2.3.F.

If you have any questions on the above information please call.

Sincerely,

URS Corporation Southern

Gary M. Wantland

Gary M. Wantland, P.E.
Project Manager

cc: Bruce Yare - Solutia Inc.
Mike Light - Solutia Inc.
Don Grahlherr - URS
Richard Siemaszkiewicz - Golder Associates

RECEIVED
AUG 20 2001
MAVERICK K.G.

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
Fax: 813.287.8591

Memorandum

To: File

Project: C1-00004221.00, Task 100

CC: Golder Associates, CQA File

From: Don Grahlherr, URS

Date: 09/14/01

Re: Solutia – Sauget TSCA Cell, Placement of Riprap as Fill Below and within Capillary Layer

---

This memorandum was prepared and submitted to the file to document the subject field change.

On 6/18/01, URS Corporation (URS) accepted the Contractor's (LMS) proposal to place three-inch diameter riprap as fill below the gravel capillary layer in the cell. In addition, it was agreed to replace the lower foot of the originally 3-ft thick gravel capillary layer with this riprap.

We observed that this field change was made by the LMS. Riprap placement was started on 7/2/01 and continued through 7/13/01. The riprap fill ranged from 1 to 5 ft thick over the entire cell bottom. The placement of this material was observed by QA and the surface was checked correct elevation prior to placement of the capillary gravel layer.