166301

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

URS Corporation
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
Tel: 813.286.1711
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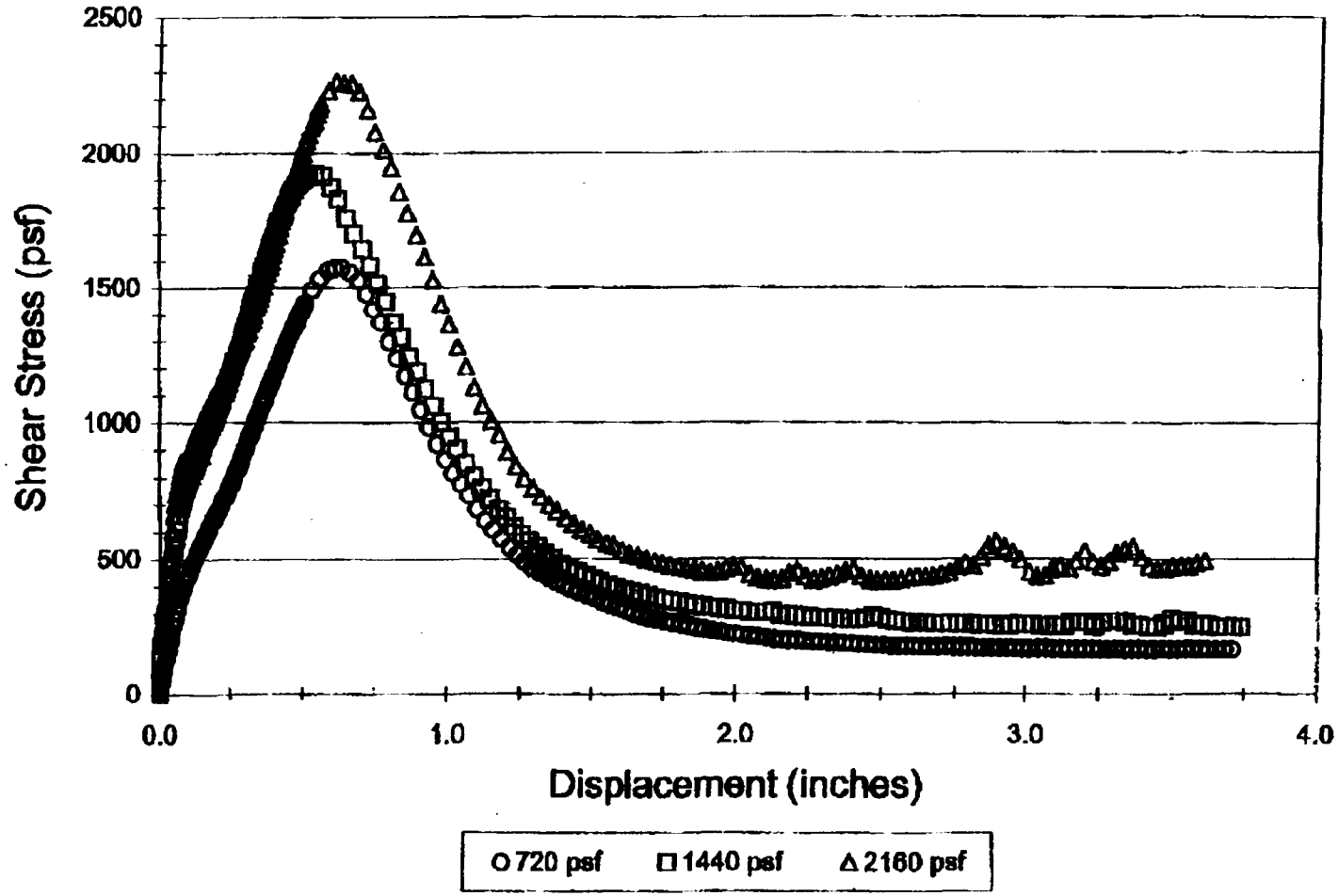
TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

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



TRI Log No. E2128-66-01 9063 Bee Caves Road Austin, TX 78733-6201 (512) 263-2101 FAX (512) 263-2558 1-800-880-TEST

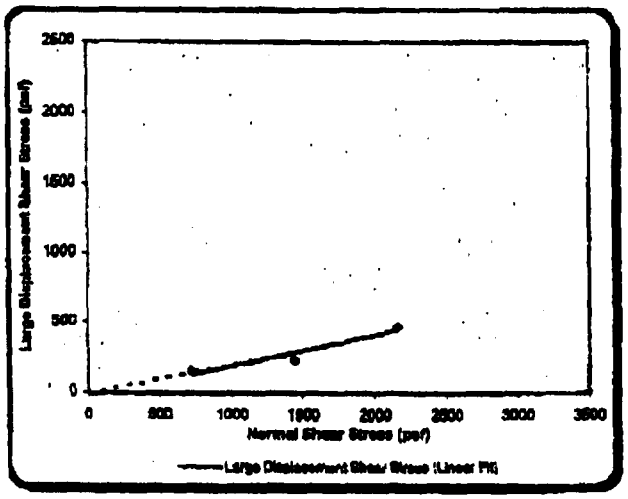
TRI/ENVIRONMENTAL, INC.
A Texas Research International Company

INTERFACE FRICTION TEST REPORT

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

TRI Log#: E2128-86-01
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)	166	250	494
Corrected Shear Stress (psf)	163	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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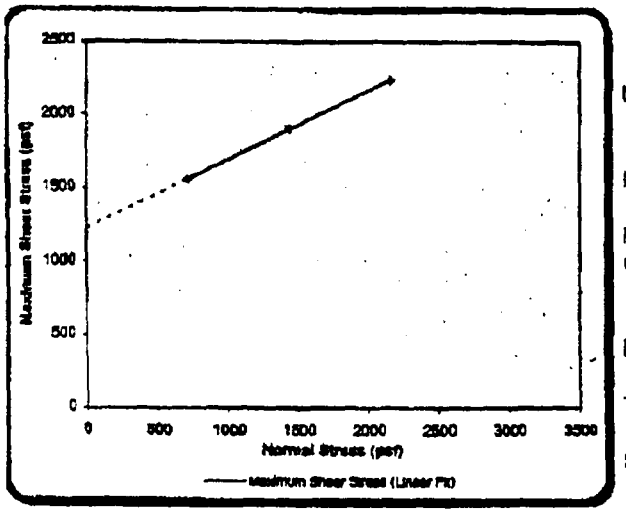

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Test Condition: Wet

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

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