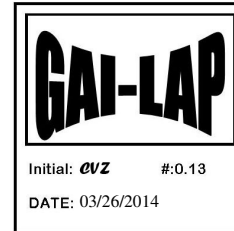




March 26, 2014

Allan Brantley
Brantley Engineering, LLC.
13933 Tree Loft Road
Milton, GA 30004



Re: FINAL LABORATORY TEST REPORT

Dear Mr. Brantley:

Thank you for consulting TRI California for your material testing needs.

Enclosed is the **final** laboratory report for the conformance testing of one (1) 8oz Non-Woven Geotextile sample.

PROJECT NAME: Jed Cell 10

DATE REPORTED: March 26, 2014

REFERENCE TRI JOB NO.: G140220

DATE RECEIVED: March 13, 2014

SAMPLES SENT BY: Skaps Industries

SAMPLE IDENTIFICATIONS:

SAMPLE ID

1. R#33309.01

TRI CONTROL NUMBER

96844

TESTS REQUIRED / PERFORMED:

TEST METHOD

1. ASTM D5261
2. ASTM D4632
3. ASTM D4833
4. ASTM D6241
5. ASTM D4751
6. ASTM D4491
7. ASTM D4533

DESCRIPTION

Mass per Unit Area
Grab Tensile
Puncture Resistance
Static Puncture Resistance
Apparent Opening Size
Permittivity
Trapezoidal Tear Resistance

TEST RESULTS: The test results are summarized in the attached Table 1.

Respectfully,

TRI Environmental, Inc. - California

Maria Espitia
Quality Assurance

Carmelo V. Zantua
Technical Director

Signatures are on file

It shall be noted that the sample tested is believed to be true representatives of the material produced under the designation herein stated. In addition, the attached laboratory tests results are considered indicative only of the quality of samples/specimens that were actually tested. The appropriate test methods hereby employed are based on the current and accepted industry practices. TRI neither accepts responsibility for nor makes claims to the intended final use and purpose of the material. The test data and all associated project information shall be held confidential and not to be reproduced and/or disclosed to other parties except in full and with prior written approval from pertinent entity duly authorized by the respective client or from the client itself. It is our policy to keep physical records of each job for two (2) years commencing from the date of receipt of the samples and keep its corresponding electronic file for seven (7) years. **Retained conformance samples are disposed of after one (1) month.** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

3 Pages Total

TABLE 1.
MATERIAL PROPERTIES
 CLIENT: Brantley Engineering, LLC
 PROJECT: Jed Cell 10

Date Received: **3/13/2014**
 Date Reported: **3/26/2014**
 Client Sample ID: **R#33309.01**
 Material Description: **8oz Non-Woven Geotextile**

QC'd By: *Maria Espitia*
 TRI Job No.: **G140220**
 TRI Control No.: **96844**

SPECIMENS											Avg.	Std. Dev.	Min	Max	Proj. Specs. MARV	
1	2	3	4	5	6	7	8	9	10							
METHOD	DESCRIPTION															
ASTM D5261	Mass per Unit Area (oz/ yd. ²) <i>Test Specimen Size: 4" x 8"</i>															
	9.2	9.3	8.9	9.4	9.1						9.2	0.2	8.9	9.4	8.0	
ASTM D4632	Grab Tensile <i>Test was performed as directed in D4632, dry condition. Instron Tensile Testing Machine with hydraulic action grips and 1 in x 2 in rubber faces was used. Maximum load used for testing: 1500 lbs</i>															
	Grab Breaking Load (lbs)															
	MD	248	259	251	244	217	244	234	234	271	220	242	17	217	271	200
	TD	193	298	266	253	280	197	264	252	255	225	248	34	193	298	
	Apparent Breaking Elongation (percent)															
	MD	64	71	69	66	60	66	62	62	84	81	69	8	60	84	
	TD	105	103	97	88	92	102	94	92	87	88	95	7	87	105	
ASTM D4833	Puncture Resistance (lbs) <i>Specimens were tested as directed in Test Method D4833. They were clamped without tension between circular plates of a ring clamp attachment secured in the tensile machine. Test specimens were extended to or beyond the outer edges of the clamping plates.</i>															
		153	122	133	113	129	139	123	129	135	120	130	14	111	159	
		159	146	120	111	115										
ASTM D4533	Trapezoid Tear Strength (lbs) <i>Specimens were tested as directed in Test Method D4533, dry condition.</i>															
	MD	110	131	105	91	118	120	108	101	107	114	111	11	91	131	75
	TD	115	144	147	134	94	112	119	100	117	130	121	18	94	147	

(Continued on Next Page)

(Sheet 1 of 2)

LEGENDS:
 MD - MACHINE DIRECTION
 TD - TRANSVERSE DIRECTION

1160 North Gilbert Street, Anaheim, CA 92801, www.precisionlabs.net
 Precision Geosynthetic Laboratories International dba TRI Environmental, Inc.

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Material Description: **8oz Non-Woven Geotextile**

QC'd By: *Maria Espitia*
TRI Job No.: **G140220**
TRI Control No.: **96844**

SPECIMENS											Avg.	Std. Dev.	Min	Max	Proj. Specs. MARV
	1	2	3	4	5	6	7	8	9	10					
METHOD	DESCRIPTION														
ASTM D4491	Permittivity (sec. ⁻¹)														
Constant Head	Four specimens were tested by holding the head constant at 50 mm. The corresponding water volume passing through the specimen was collected at the discharge side and the amount and time recorded. Five readings were taken for each specimen. BT Technology permittivity testing apparatus compliant to ASTM D4491 requirements was used.														
	1.28	1.53	1.26	1.46							1.38	0.13	1.26	1.53	0.5
	Permeability (cm./ sec.)														
	0.41	0.42	0.39	0.42							0.41	0.02	0.39	0.42	
	Flow Rate (gpm/ ft. ²)														
	96	115	94	109							103	10	94	115	
ASTM D4751	Apparent Opening Size (U.S. standard sieve size)														
	Specimens were tested as directed in Test Method D4751. Type of sieve shaker used is W.S. Tyler Rotap.														
	100-140	100-140	100-140	100-140	100-140						100-140	N/A	N/A	N/A	
ASTM D4751	Apparent Opening Size (mm)														
	Specimens were tested as directed in Test Method D4751. Type of sieve shaker used is W.S. Tyler Rotap.														
	0.148	0.147	0.148	0.149	0.147						0.148	0.001	0.147	0.149	≤ 0.21
ASTM D6241	Static Puncture Strength (lbs)														
	The specimens were tested in accordance with ASTM D6241. Specimens were conditioned for 1 hr in the laboratory at 21+/-5° C (75+/-3.6oF) and at 60%+/-10 Relative Humidity. Specimens were secured between the holding plates ensuring that they extended to or beyond the outer edges of the clamping plates.														
	766	868	718	767	703	718	648	721	661	822	739	68	648	868	500

(End of Table 1)

(Sheet 2 of 2)

By accepting the data and results presented on this report, the Client agrees to limit the liability of TRI Environmental Inc from Client and all other parties for claims on issues, due to the use of this data, to the cost for the respective tests presented in this report; and the Client agrees to indemnify and hold harmless TRI Environmental, Inc. from and against all liabilities in excess of the aforementioned limit.

LEGENDS:

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