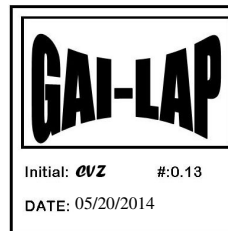




May 20, 2014

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 seam testing of thirteen (13) HDPE seam samples.

PROJECT NAME: JED Cell 10

DATE REPORTED: May 20, 2014

REFERENCE TRI JOB NO.: G140433

DATE RECEIVED: May 20, 2014

SAMPLES SENT BY: Brantley Engineering

SAMPLE IDENTIFICATIONS:

SAMPLE ID

TRI-CA CONTROL NUMBER

1. DSP-38 P123/ 125	97886
2. DSP-37 P123/ 124	97887
3. DSP-36 P116/ 118	97888
4. DSP-35 P113/ 115	97889
5. DSP-34 P110/ 112	97890
6. DSP-33 P106/ 107	97891
7. DSP-32 P103/ 105	97892
8. DSP-31 P102/ 103	97893
9. DSP-30 P92/ 98	97894
10. DSP-29 P90/ 91	97895
11. DSP-28 P87/ 86	97896
12. DSP-39 P125/ 127	97897
13. DSP-40 P25/ 86	97898

TESTS REQUIRED / PERFORMED:

TEST METHOD

DESCRIPTION

1. ASTM D6392	Shear Bond Strength
2. ASTM D6392	Peel Bond Adhesion

TEST RESULTS: The test results are summarized in the attached Tables 1 to 7.

Respectfully,

TRI Environmental, Inc. - California

Maria Espitia
Quality Assurance

Carmelo V. Zantua
Technical Director

Signatures are on file

It shall be noted that the samples tested are 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. **Failed seam samples are kept for two (2) years and good seam samples are disposed of after two (2) weeks.** On the other hand, should you need us to keep them at a longer period, please advise us in writing.

8 Pages Total



TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 10**
DATE REC'D: **20-May-14**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G140433**

QC'd By: *Maria Espitia*
TEST METHOD: **ASTM D6392**
DATE REPORT: **20-May-14**

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min					
SAMPLE ID	TRI CONTROL #	SHEAR EVALUATION				PEEL EVALUATION					
		MAXIMUM STRENGTH (lb/in width)	% Elongation	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)	
DSP-38 P123/ 125	97886	154	> 50%	BRK		1 Outside	111	0	SE1		
		157	> 50%	BRK		2 Outside	115	0	SE1		
		155	> 50%	BRK		3 Outside	113	0	SE1		
		152	> 50%	BRK		4 Outside	124	0	SE1		
		153	> 50%	BRK		5 Outside	123	0	SE1		
		AVG:		117			91				
		STD. DEV.		6							
		1 Inside		111		0	SE1				
		2 Inside		118		0	SE1				
		3 Inside		117		0	SE1				
4 Inside		130	0	SE1							
5 Inside		130	0	SE1							
AVG:		121		91							
STD. DEV.		8									
DSP-37 P123/ 124	97887	165	> 50%	BRK		1 Outside	148	0	SE1		
		166	> 50%	BRK		2 Outside	147	0	SE1		
		174	> 50%	BRK		3 Outside	143	0	SE1		
		152	> 50%	BRK		4 Outside	151	0	SE1		
		157	> 50%	BRK		5 Outside	149	0	SE1		
		AVG:		148			91				
		STD. DEV.		3							
		1 Inside		138		0	SE1				
		2 Inside		146		0	SE1				
		3 Inside		147		0	SE1				
4 Inside		147	0	SE1							
5 Inside		153	0	SE1							
AVG:		146		91							
STD. DEV.		5									
AVG:		163		120		AVG:		146		91	
STD. DEV.		9					STD. DEV.		5		

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD ADHESION FAILURE.
BRK BREAK IN SHEETING.
SE1 BREAK AT OUTER EDGE OF SEAM.
SE2 BREAK AT INNER EDGE OF SEAM.
AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1 ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2 ADHESION FAILURE.
AD-WLD BREAK THROUGH THE FILLET.
SE1 BREAK AT BOTTOM EDGE OF SEAM.
SE2 BREAK AT TOP EDGE OF SEAM.
SE3 BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1 BREAK IN BOTTOM SHEETING.
BRK2 BREAK IN TOP SHEETING.
AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT BREAK AT EDGE OF HOT TACK.
SIP SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 1)

(Sheet 1 of 1)

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.



TABLE 2.

SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
 PROJECT: **JED Cell 10**
 DATE REC'D: **20-May-14**

MATERIAL: **HDPE SEAM**
 SEAM TYPE: **Fusion Weld**
 TRI JOB #: **G140433**

QC'd By: *Maria Espitia*
 TEST METHOD: **ASTM D6392**
 DATE REPORT: **20-May-14**

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
SAMPLE ID	TRI CONTROL #	SHEAR EVALUATION				PEEL EVALUATION				
		MAXIMUM STRENGTH (lb/in width)	% Elongation	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSP-36 P116/ 118	97888	158	> 50%	BRK		1 Outside	111	0	SE1	
		160	> 50%	BRK		2 Outside	124	0	SE1	
		157	> 50%	BRK		3 Outside	122	0	SE1	
		155	> 50%	BRK		4 Outside	121	0	SE1	
		154	> 50%	BRK		5 Outside	116	0	SE1	
		AVG:	119			91				
		STD. DEV.	5							
		1 Inside	113	0		SE1				
		2 Inside	118	0		SE1				
		3 Inside	124	0		SE1				
4 Inside	133	0	SE1							
		5 Inside	130	0	SE1					
AVG.		157	120			AVG:	124		91	
STD. DEV.		2				STD. DEV.	8			
DSP-35 P113/ 115	97889	156	> 50%	BRK		1 Outside	120	0	SE1	
		162	> 50%	BRK		2 Outside	125	0	SE1	
		157	> 50%	BRK		3 Outside	116	0	SE1	
		154	> 50%	BRK		4 Outside	121	0	SE1	
		154	> 50%	BRK		5 Outside	121	0	SE1	
		AVG:	121			91				
		STD. DEV.	3							
		1 Inside	111	0		SE1				
		2 Inside	114	0		SE1				
		3 Inside	113	0		SE1				
4 Inside	117	0	SE1							
		5 Inside	118	0	SE1					
AVG:		157	120			AVG:	115		91	
STD. DEV.		3				STD. DEV.	3			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD ADHESION FAILURE.
 BRK BREAK IN SHEETING.
 SE1 BREAK AT OUTER EDGE OF SEAM.
 SE2 BREAK AT INNER EDGE OF SEAM.
 AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 SIP SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1 ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
 AD2 ADHESION FAILURE.
 AD-WLD BREAK THROUGH THE FILLET.
 SE1 BREAK AT BOTTOM EDGE OF SEAM.
 SE2 BREAK AT TOP EDGE OF SEAM.
 SE3 BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
 BRK1 BREAK IN BOTTOM SHEETING.
 BRK2 BREAK IN TOP SHEETING.
 AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 HT BREAK AT EDGE OF HOT TACK.
 SIP SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 2)

(Sheet 1 of 1)

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.



TABLE 3.

SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
 PROJECT: **JED Cell 10**
 DATE REC'D: **20-May-14**

MATERIAL: **HDPE SEAM**
 SEAM TYPE: **Fusion Weld**
 TRI JOB #: **G140433**

QC'd By: *Maria Espitia*
 TEST METHOD: **ASTM D6392**
 DATE REPORT: **20-May-14**

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min					
SAMPLE ID	TRI CONTROL #	SHEAR EVALUATION				PEEL EVALUATION					
		MAXIMUM STRENGTH (lb/in width)	% Elongation	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)	
DSP-34 P110/ 112	97890	158	> 50%	BRK		1 Outside	105	0	SE1		
		160	> 50%	BRK		2 Outside	107	0	SE1		
		158	> 50%	BRK		3 Outside	108	0	SE1		
		152	> 50%	BRK		4 Outside	111	0	SE1		
		156	> 50%	BRK		5 Outside	106	0	SE1		
		AVG:				107		91			
		STD. DEV.				2					
						1 Inside	114	0	SE1		
						2 Inside	111	0	SE1		
						3 Inside	112	0	SE1		
						4 Inside	116	0	SE1		
						5 Inside	114	0	SE1		
AVG.		157	120			AVG:	113		91		
STD. DEV.		3				STD. DEV.	2				
DSP-33 P106/ 107	97891	153	> 50%	BRK		1 Outside	115	0	SE1		
		156	> 50%	BRK		2 Outside	110	0	SE1		
		153	> 50%	BRK		3 Outside	108	0	SE1		
		147	> 50%	BRK		4 Outside	116	0	SE1		
		151	> 50%	BRK		5 Outside	118	0	SE1		
		AVG:				113		91			
		STD. DEV.				4					
						1 Inside	111	0	SE1		
						2 Inside	107	0	SE1		
						3 Inside	106	0	SE1		
						4 Inside	108	0	SE1		
						5 Inside	109	0	SE1		
AVG:		152	120			AVG:	108		91		
STD. DEV.		3				STD. DEV.	2				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD ADHESION FAILURE.
 BRK BREAK IN SHEETING.
 SE1 BREAK AT OUTER EDGE OF SEAM.
 SE2 BREAK AT INNER EDGE OF SEAM.
 AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 SIP SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1 ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
 AD2 ADHESION FAILURE.
 AD-WLD BREAK THROUGH THE FILLET.
 SE1 BREAK AT BOTTOM EDGE OF SEAM.
 SE2 BREAK AT TOP EDGE OF SEAM.
 SE3 BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
 BRK1 BREAK IN BOTTOM SHEETING.
 BRK2 BREAK IN TOP SHEETING.
 AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 HT BREAK AT EDGE OF HOT TACK.
 SIP SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 3)

(Sheet 1 of 1)

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.



TABLE 4.

SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
 PROJECT: **JED Cell 10**
 DATE REC'D: **20-May-14**

MATERIAL: **HDPE SEAM**
 SEAM TYPE: **Fusion Weld**
 TRI JOB #: **G140433**

QC'd By: *Maria Espitia*
 TEST METHOD: **ASTM D6392**
 DATE REPORT: **20-May-14**

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
SAMPLE ID	TRI CONTROL #	SHEAR EVALUATION				PEEL EVALUATION				
		MAXIMUM STRENGTH (lb/in width)	% Elongation	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSP-32 P103/ 105	97892	157	> 50%	BRK		1 Outside	110	0	SE1	
		159	> 50%	BRK		2 Outside	114	0	SE1	
		155	> 50%	BRK		3 Outside	114	0	SE1	
		152	> 50%	BRK		4 Outside	131	0	SE1	
		150	> 50%	BRK		5 Outside	112	0	SE1	
		AVG:		116			91			
		STD. DEV.		8						
		1 Inside		129		0	SE1			
		2 Inside		121		0	SE1			
		3 Inside		117		0	SE1			
4 Inside		121	0	SE1						
5 Inside		117	0	SE1						
AVG:		121		91						
STD. DEV.		5								
DSP-31 P102/ 103	97893	160	> 50%	BRK		1 Outside	120	0	SE1	
		169	> 50%	BRK		2 Outside	125	0	SE1	
		167	> 50%	BRK		3 Outside	126	0	SE1	
		164	> 50%	BRK		4 Outside	127	0	SE1	
		163	> 50%	BRK		5 Outside	127	0	SE1	
		AVG:		125			91			
		STD. DEV.		3						
		1 Inside		120		0	SE1			
		2 Inside		122		0	SE1			
		3 Inside		121		0	SE1			
4 Inside		128	0	SE1						
5 Inside		124	0	SE1						
AVG:		123		91						
STD. DEV.		3								
AVG:		165		120						
STD. DEV.		4								

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD ADHESION FAILURE.
 BRK BREAK IN SHEETING.
 SE1 BREAK AT OUTER EDGE OF SEAM.
 SE2 BREAK AT INNER EDGE OF SEAM.
 AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 SIP SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1
 AD2
 AD-WLD
 SE1
 SE2
 SE3
 BRK1
 BRK2
 AD-BRK
 HT
 SIP

ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.

ADHESION FAILURE.
 BREAK THROUGH THE FILLET.
 BREAK AT BOTTOM EDGE OF SEAM.
 BREAK AT TOP EDGE OF SEAM.
 BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
 BREAK IN BOTTOM SHEETING.
 BREAK IN TOP SHEETING.
 BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 BREAK AT EDGE OF HOT TACK.
 SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 4)

(Sheet 1 of 1)

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.



TABLE 5.

SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
 PROJECT: **JED Cell 10**
 DATE REC'D: **20-May-14**

MATERIAL: **HDPE SEAM**
 SEAM TYPE: **Fusion Weld**
 TRI JOB #: **G140433**

QC'd By: *Maria Espitia*
 TEST METHOD: **ASTM D6392**
 DATE REPORT: **20-May-14**

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
SAMPLE ID	TRI CONTROL #	SHEAR EVALUATION				PEEL EVALUATION				
		MAXIMUM STRENGTH (lb/in width)	% Elongation	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSP-30 P92/ 98	97894	168	> 50%	BRK		1 Outside	149	0	SE1	
		167	> 50%	BRK		2 Outside	145	0	SE1	
		168	> 50%	BRK		3 Outside	143	0	SE1	
		160	> 50%	BRK		4 Outside	159	0	SE1	
		166	> 50%	BRK		5 Outside	150	0	SE1	
		AVG:	149			91				
		STD. DEV.	6							
		1 Inside	134	0		SE1				
		2 Inside	137	0		SE1				
		3 Inside	142	0		SE1				
4 Inside	153	0	SE1							
AVG:		166	120		AVG:	145		91		
STD. DEV.		3			STD. DEV.	10				
DSP-29 P90/ 91	97895	160	> 50%	BRK		1 Outside	119	0	SE1	
		162	> 50%	BRK		2 Outside	113	0	SE1	
		156	> 50%	BRK		3 Outside	113	0	SE1	
		157	> 50%	BRK		4 Outside	129	0	SE1	
		157	> 50%	BRK		5 Outside	123	0	SE1	
		AVG:	119			91				
		STD. DEV.	7							
		1 Inside	113	0		SE1				
		2 Inside	121	0		SE1				
		3 Inside	117	0		SE1				
4 Inside	131	0	SE1							
AVG:		158	120		AVG:	119		91		
STD. DEV.		3			STD. DEV.	8				

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD ADHESION FAILURE.
 BRK BREAK IN SHEETING.
 SE1 BREAK AT OUTER EDGE OF SEAM.
 SE2 BREAK AT INNER EDGE OF SEAM.
 AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 SIP SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1 ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
 AD2 ADHESION FAILURE.
 AD-WLD BREAK THROUGH THE FILLET.
 SE1 BREAK AT BOTTOM EDGE OF SEAM.
 SE2 BREAK AT TOP EDGE OF SEAM.
 SE3 BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
 BRK1 BREAK IN BOTTOM SHEETING.
 BRK2 BREAK IN TOP SHEETING.
 AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 HT BREAK AT EDGE OF HOT TACK.
 SIP SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 5)

(Sheet 1 of 1)

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.



TABLE 6.

SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
 PROJECT: **JED Cell 10**
 DATE REC'D: **20-May-14**

MATERIAL: **HDPE SEAM**
 SEAM TYPE: **Fusion Weld**
 TRI JOB #: **G140433**

QC'd By: *Maria Espitia*
 TEST METHOD: **ASTM D6392**
 DATE REPORT: **20-May-14**

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
SAMPLE ID	TRI CONTROL #	SHEAR EVALUATION				PEEL EVALUATION				
		MAXIMUM STRENGTH (lb/in width)	% Elongation	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSP-28 P87/ 86	97896	164	> 50%	BRK		1 Outside	115	0	SE1	
		168	> 50%	BRK		2 Outside	115	0	SE1	
		164	> 50%	BRK		3 Outside	117	0	SE1	
		161	> 50%	BRK		4 Outside	121	0	SE1	
		159	> 50%	BRK		5 Outside	122	0	SE1	
		AVG:	118			91				
		STD. DEV.	3							
		1 Inside	124	0		SE1				
		2 Inside	137	0		SE1				
		3 Inside	133	0		SE1				
		4 Inside	136	0		SE1				
				5 Inside		136	0	SE1		
AVG.		163	120			AVG:	133		91	
STD. DEV.		3				STD. DEV.	5			
DSP-39 P125/ 127	97897	163	> 50%	BRK		1 Outside	113	0	SE1	
		168	> 50%	BRK		2 Outside	123	0	SE1	
		164	> 50%	BRK		3 Outside	120	0	SE1	
		161	> 50%	BRK		4 Outside	119	0	SE1	
		159	> 50%	BRK		5 Outside	116	0	SE1	
		AVG:	118			91				
		STD. DEV.	4							
		1 Inside	113	0		SE1				
		2 Inside	123	0		SE1				
		3 Inside	118	0		SE1				
		4 Inside	122	0		SE1				
				5 Inside		126	0	SE1		
AVG:		163	120			AVG:	120		91	
STD. DEV.		3				STD. DEV.	5			

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD ADHESION FAILURE.
 BRK BREAK IN SHEETING.
 SE1 BREAK AT OUTER EDGE OF SEAM.
 SE2 BREAK AT INNER EDGE OF SEAM.
 AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 SIP SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1
 AD2
 AD-WLD
 SE1
 SE2
 SE3
 BRK1
 BRK2
 AD-BRK
 HT
 SIP

ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.

ADHESION FAILURE.
 BREAK THROUGH THE FILLET.
 BREAK AT BOTTOM EDGE OF SEAM.
 BREAK AT TOP EDGE OF SEAM.
 BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
 BREAK IN BOTTOM SHEETING.
 BREAK IN TOP SHEETING.
 BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
 BREAK AT EDGE OF HOT TACK.
 SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 6)

(Sheet 1 of 1)

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.



TABLE 7.

SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 10**
DATE REC'D: **20-May-14**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G140433**

QC'd By: *Maria Epetia*
TEST METHOD: **ASTM D6392**
DATE REPORT: **20-May-14**

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
SAMPLE ID	TRI CONTROL #	SHEAR EVALUATION				PEEL EVALUATION				
		MAXIMUM STRENGTH (lb/in width)	% Elongation	Locus of Break	PROJECT SPEC. (lb/in width)	SPECIMEN NUMBER	MAXIMUM STRENGTH (lb/in width)	% INCURSION (%)	LOCUS OF BREAK	PROJECT SPEC. (lb/in width)
DSP-40 P25/ 86	97898	177	> 50%	BRK		1 Outside	136	0	SE1	
		175	> 50%	BRK		2 Outside	146	0	SE1	
		176	> 50%	BRK		3 Outside	136	0	SE1	
		168	> 50%	BRK		4 Outside	138	0	SE1	
		166	> 50%	BRK		5 Outside	148	0	SE1	
		AVG:		141				91		
		STD. DEV.		6						
		1 Inside		144		0	SE1			
		2 Inside		137		0	SE1			
		3 Inside		142		0	SE1			
		4 Inside		141		0	SE1			
		5 Inside		142		0	SE1			
AVG:		141			91					
STD. DEV.		3								

BREAK DESCRIPTION (ASTM D6392 FUSION):

AD ADHESION FAILURE.
BRK BREAK IN SHEETING.
SE1 BREAK AT OUTER EDGE OF SEAM.
SE2 BREAK AT INNER EDGE OF SEAM.
AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
SIP SEPARATION IN THE PLANE OF THE SHEET.

EXTRUSION:

AD1 ADHESION FAILURE. SPECIMENS DELAMINATED UNDER THE BEAD.
AD2 ADHESION FAILURE.
AD-WLD BREAK THROUGH THE FILLET.
SE1 BREAK AT BOTTOM EDGE OF SEAM.
SE2 BREAK AT TOP EDGE OF SEAM.
SE3 BREAK AT BOTTOM EDGE OF SEAM (for PEEL only)
BRK1 BREAK IN BOTTOM SHEETING.
BRK2 BREAK IN TOP SHEETING.
AD-BRK BREAK IN FIRST SEAM AFTER SOME ADHESION FAILURE.
HT BREAK AT EDGE OF HOT TACK
SIP SEPARATION IN THE PLANE OF THE SHEET.

(End of Table 7)

(Sheet 1 of 1)

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.