GAI-LAP
Initial: CVZ #:0.13
DATE: 04/29/2014

April 29, 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 fifteen (15) HDPE seam samples.

PROJECT NAME: JED Cell 10 DATE REPORTED: **April 29, 2014**

REFERENCE TRI JOB NO.: G140372

DATE RECEIVED: April 29, 2014

SAMPLES SENT BY: Brantley Engineering

SAMPLE IDENTIFICATIONS:

SAMPLE ID	*TRI-CA CONTROL NUMBER*	*SAMPLE ID*	*TRI-CA CONTROL NUMBER*
1. DS-21 63/65	97537	9. DS-29 77/80	97545
2. DS-22 65/68	97538	10. DS-30 78/79	97546
3. DS-23 67/69	97539	11. DS-31 80/81	97547
4. DS-24 69/72	97540	12. DS-32 82/83	97548
5. DS-25 72/73	97541	13. DS-33 86/88	97549
6. DS-26 70/71	97542	14. DS-34 83/86	97550
7. DS-27 73/76	97543	15. DX-1 72/ EX	97551
8. DS-28 75/78	97544		

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 8.

Respectfully,

TRI Environmental, Inc. - California

Maria Espitia
Quality Assurance

Carmelo V. Zantua
Technical Director

Signatures are on file

9 Pages Total

GAI-LAP

TABLE 1.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 10**
DATE REC'D: **29-Apr-14**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G140372**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 29-Apr-14

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	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)
DS-21	**97537**	160	> 50%	BRK		1 Outside	101	0	SE1	
63/65		166	> 50%	BRK		2 Outside	105	0	SE1	
		171	> 50%	BRK		3 Outside	107	0	SE1	
		163	> 50%	BRK		4 Outside	105	0	SE1	
		166	> 50%	BRK		5 Outside	110	0	SE1	
						AVG:	**106**			91
						STD. DEV.	**3**			
						1 Inside	107	0	SE1	
						2 Inside	121	0	SE1	
						3 Inside	122	0	SE1	
						4 Inside	129	0	SE1	
						5 Inside	123	0	SE1	
	AVG.	**165**			120	**AVG:**	**120**			91
	STD. DEV.	**4**				STD. DEV.	**8**			
DS-22	**97538**	152	> 50%	BRK		1 Outside	115	0	SE1	
65/68		167	> 50%	BRK		2 Outside	105	0	SE1	
		167	> 50%	BRK		3 Outside	124	0	SE1	
		169	> 50%	BRK		4 Outside	133	0	SE1	
		159	> 50%	BRK		5 Outside	126	0	SE1	
						AVG:	**121**			91
						STD. DEV.	**11**			
						1 Inside	110	0	SE1	
						2 Inside	107	0	SE1	
						3 Inside	118	0	SE1	
						4 Inside	102	0	SE1	
						5 Inside	113	0	SE1	
	AVG:	**163**			120	**AVG:**	**110**			91
	STD. DEV.	**7**				STD. DEV.	**6**			

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)

GAI-LAP

TABLE 2.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 10***
DATE REC'D: ***29-Apr-14***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G140372***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 29-Apr-14

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				PEEL EVALUATION				
SAMPLE ID	TRI CONTROL #	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)
DS-23	**97539**	160	> 50%	BRK		1 Outside	105	0	SE1	
67/69		144	> 50%	BRK		2 Outside	104	0	SE1	
		164	> 50%	BRK		3 Outside	115	0	SE1	
		168	> 50%	BRK		4 Outside	112	0	SE1	
		162	> 50%	BRK		5 Outside	106	0	SE1	
						AVG:	**108**			91
						STD. DEV.	**5**			
						1 Inside	118	0	SE1	
						2 Inside	113	0	SE1	
						3 Inside	103	0	SE1	
						4 Inside	116	0	SE1	
						5 Inside	108	0	SE1	
	AVG.	**160**			120	**AVG:**	**112**			91
	STD. DEV.	**9**				STD. DEV.	**6**			
DS-24	**97540**	181	> 50%	BRK		1 Outside	119	0	SE1	
69/72		178	> 50%	BRK		2 Outside	115	0	SE1	
		178	> 50%	BRK		3 Outside	127	0	SE1	
		179	> 50%	BRK		4 Outside	116	0	SE1	
		174	> 50%	BRK		5 Outside	107	0	SE1	
						AVG:	**117**			91
						STD. DEV.	**7**			
						1 Inside	122	0	SE1	
						2 Inside	100	0	SE1	
						3 Inside	105	0	SE1	
						4 Inside	100	0	SE1	
						5 Inside	103	0	SE1	
	AVG:	**178**			120	**AVG:**	**106**			91
	STD. DEV.	**3**				STD. DEV.	**9**			

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)

GAI-LAP

TABLE 3.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 10**
DATE REC'D: **29-Apr-14**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G140372**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 29-Apr-14

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	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)
DS-25	**97541**	178	> 50%	BRK		1 Outside	145	0	SE1	
72/73		175	> 50%	BRK		2 Outside	101	0	SE1	
		170	> 50%	BRK		3 Outside	104	0	SE1	
		174	> 50%	BRK		4 Outside	110	0	SE1	
		168	> 50%	BRK		5 Outside	123	0	SE1	
						AVG:	**117**			91
						STD. DEV.	**18**			
						1 Inside	128	0	SE1	
						2 Inside	114	0	SE1	
						3 Inside	110	0	SE1	
						4 Inside	108	0	SE1	
						5 Inside	114	0	SE1	
	AVG.	**173**			120	**AVG:**	**115**			91
	STD. DEV.	**4**				STD. DEV.	**8**			
DS-26	**97542**	165	> 50%	BRK		1 Outside	121	0	SE1	
70/71		162	> 50%	BRK		2 Outside	127	0	SE1	
		164	> 50%	BRK		3 Outside	133	0	SE1	
		162	> 50%	BRK		4 Outside	126	0	SE1	
		155	> 50%	BRK		5 Outside	119	0	SE1	
						AVG:	**125**			91
						STD. DEV.	**5**			
						1 Inside	115	0	SE1	
						2 Inside	116	0	SE1	
						3 Inside	124	0	SE1	
						4 Inside	118	0	SE1	
						5 Inside	126	0	SE1	
	AVG:	**162**			120	**AVG:**	**120**			91
	STD. DEV.	**4**				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 3)

GAI-LAP

TABLE 4.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 10***
DATE REC'D: ***29-Apr-14***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G140372***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 29-Apr-14

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	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)
DS-27	**97543**	179	> 50%	BRK		1 Outside	126	0	SE1	
73/76		177	> 50%	BRK		2 Outside	123	0	SE1	
		177	> 50%	BRK		3 Outside	125	0	SE1	
		179	> 50%	BRK		4 Outside	118	0	SE1	
		172	> 50%	BRK		5 Outside	125	0	SE1	
						AVG:	**123**			91
						STD. DEV.	**3**			
						1 Inside	124	0	SE1	
						2 Inside	121	0	SE1	
						3 Inside	126	0	SE1	
						4 Inside	125	0	SE1	
						5 Inside	124	0	SE1	
	AVG.	**177**			120	**AVG:**	**124**			91
	STD. DEV.	**3**				STD. DEV.	**2**			
DS-28	**97544**	166	> 50%	BRK		1 Outside	125	0	SE1	
75/78		162	> 50%	BRK		2 Outside	124	0	SE1	
		159	> 50%	BRK		3 Outside	115	0	SE1	
		161	> 50%	BRK		4 Outside	115	0	SE1	
		159	> 50%	BRK		5 Outside	128	0	SE1	
						AVG:	**121**			91
						STD. DEV.	**6**			
						1 Inside	120	0	SE1	
						2 Inside	121	0	SE1	
						3 Inside	123	0	SE1	
						4 Inside	121	0	SE1	
						5 Inside	127	0	SE1	
	AVG:	**161**			120	**AVG:**	**122**			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 4)

GAI-LAP

TABLE 5.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: **Brantley Engineering, LLC**
PROJECT: **JED Cell 10**
DATE REC'D: **29-Apr-14**

MATERIAL: **HDPE SEAM**
SEAM TYPE: **Fusion Weld**
TRI JOB #: **G140372**

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 29-Apr-14

Crosshead Speed: 2 in/min		SHEAR EVALUATION				Crosshead Speed: 2 in/min	PEEL EVALUATION			
SAMPLE ID	TRI CONTROL #	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)
DS-29	**97545**	187	> 50%	BRK		1 Outside	129	0	SE1	
77/80		184	> 50%	BRK		2 Outside	125	0	SE1	
		183	> 50%	BRK		3 Outside	126	0	SE1	
		181	> 50%	BRK		4 Outside	120	0	SE1	
		174	> 50%	BRK		5 Outside	121	0	SE1	
						AVG:	**124**			91
						STD. DEV.	**4**			
						1 Inside	135	0	SE1	
						2 Inside	139	0	SE1	
						3 Inside	120	0	SE1	
						4 Inside	125	0	SE1	
						5 Inside	125	0	SE1	
	AVG.	**182**			120	**AVG:**	**129**			91
	STD. DEV.	**5**				STD. DEV.	**8**			
DS-30	**97546**	161	> 50%	BRK		1 Outside	123	0	SE1	
78/79		161	> 50%	BRK		2 Outside	130	0	SE1	
		158	> 50%	BRK		3 Outside	107	0	SE1	
		159	> 50%	BRK		4 Outside	121	0	SE1	
		154	> 50%	BRK		5 Outside	123	0	SE1	
						AVG:	**121**			91
						STD. DEV.	**8**			
						1 Inside	134	0	SE1	
						2 Inside	135	0	SE1	
						3 Inside	132	0	SE1	
						4 Inside	122	0	SE1	
						5 Inside	132	0	SE1	
	AVG:	**159**			120	**AVG:**	**131**			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	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)

GAI-LAP

TABLE 6.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 10***
DATE REC'D: ***29-Apr-14***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G140372***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 29-Apr-14

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				PEEL EVALUATION				
SAMPLE ID	TRI CONTROL #	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)
DS-31	**97547**	179	> 50%	BRK		1 Outside	103	0	SE1	
80/81		176	> 50%	BRK		2 Outside	104	0	SE1	
		176	> 50%	BRK		3 Outside	111	0	SE1	
		179	> 50%	BRK		4 Outside	116	0	SE1	
		174	> 50%	BRK		5 Outside	113	0	SE1	
						AVG:	**109**			91
						STD. DEV.	**6**			
						1 Inside	100	0	SE1	
						2 Inside	106	0	SE1	
						3 Inside	111	0	SE1	
						4 Inside	115	0	SE1	
						5 Inside	121	0	SE1	
	AVG.	**177**			120	**AVG:**	**111**			91
	STD. DEV.	**2**				STD. DEV.	**8**			
DS-32	**97548**	167	> 50%	BRK		1 Outside	138	0	SE1	
82/83		163	> 50%	BRK		2 Outside	120	0	SE1	
		164	> 50%	BRK		3 Outside	130	0	SE1	
		165	> 50%	BRK		4 Outside	130	0	SE1	
		158	> 50%	BRK		5 Outside	122	0	SE1	
						AVG:	**128**			91
						STD. DEV.	**7**			
						1 Inside	115	0	SE1	
						2 Inside	116	0	SE1	
						3 Inside	130	0	SE1	
						4 Inside	120	0	SE1	
						5 Inside	133	0	SE1	
	AVG:	**163**			120	**AVG:**	**123**			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 6)

GAI-LAP

TABLE 7.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 10***
DATE REC'D: ***29-Apr-14***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Fusion Weld***
TRI JOB #: ***G140372***

QC'd By: Maria Espitia
TEST METHOD: ASTM D6392
DATE REPORT: 29-Apr-14

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				PEEL EVALUATION				
SAMPLE ID	TRI CONTROL #	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)
DS-33	**97549**	160	> 50%	BRK		1 Outside	122	0	SE1	
86/88		155	> 50%	BRK		2 Outside	129	0	SE1	
		178	> 50%	BRK		3 Outside	124	0	SE1	
		149	> 50%	BRK		4 Outside	123	0	SE1	
		160	> 50%	BRK		5 Outside	132	0	SE1	
						AVG:	**126**			91
						STD. DEV.	**4**			
						1 Inside	119	0	SE1	
						2 Inside	121	0	SE1	
						3 Inside	127	0	SE1	
						4 Inside	125	0	SE1	
						5 Inside	119	0	SE1	
	AVG.	**160**			120	**AVG:**	**122**			91
	STD. DEV.	**11**				STD. DEV.	**4**			
DS-34	**97550**	169	> 50%	BRK		1 Outside	115	0	SE1	
83/86		161	> 50%	BRK		2 Outside	116	0	SE1	
		162	> 50%	BRK		3 Outside	127	0	SE1	
		160	> 50%	BRK		4 Outside	123	0	SE1	
		155	> 50%	BRK		5 Outside	134	0	SE1	
						AVG:	**123**			91
						STD. DEV.	**8**			
						1 Inside	114	0	SE1	
						2 Inside	116	0	SE1	
						3 Inside	115	0	SE1	
						4 Inside	111	0	SE1	
						5 Inside	120	0	SE1	
	AVG:	**161**			120	**AVG:**	**115**			91
	STD. DEV.	**5**				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)

GAI-LAP

TABLE 8.
SEAM PEEL AND SHEAR TEST RESULTS

CLIENT: ***Brantley Engineering, LLC***
PROJECT: ***JED Cell 10***
DATE REC'D: ***29-Apr-14***

MATERIAL: ***HDPE SEAM***
SEAM TYPE: ***Extrusion Weld***
TRI JOB #: ***G140372***

QC'd By: Maria Cipitia
TEST METHOD: ASTM D6392
DATE REPORT: 29-Apr-14

Crosshead Speed: 2 in/min						Crosshead Speed: 2 in/min				
		SHEAR EVALUATION				***PEEL EVALUATION***				
SAMPLE ID	*TRI CONTROL #*	*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)*
DX-1	**97551**	161	> 50%	BRK		1 Outside	146	0	SE3	
72/EX		157	> 50%	BRK		2 Outside	159	0	SE3	
		159	> 50%	BRK		3 Outside	137	0	SE3	
		153	> 50%	BRK		4 Outside	161	0	SE3	
		148	> 50%	BRK		5 Outside	153	0	SE3	
						AVG:	**151**			78
						STD. DEV.	**10**			
							N/A			
	AVG.	**156**			120					
	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 8)