



PANEL PLACEMENT LOG

PROJECT: ASARCO El Paso Category I Landfill - Cell 3 CQA
 LOCATION: 2301 West Paisano Drive, El Paso, TX 79922 PROJECT NO.: 06835001.2014 PHASE: 47CQ1
 DESCRIPTION: Cell 3 CQA YEAR: 2014
 PRIMARY SECONDARY OTHER: _____ PRODUCT TYPE: AGRU LLDPE Microspike

PANEL NO.	ROLL NO.	DATE (mo/day/yr)	WIDTH (ft.)	LENGTH (ft.)	AREA (sq. ft.)	COMMENTS	QA ID
1	833101	4/8/2014	22.5	186.0	4,185.0		RJ
2	833101	4/8/2014	22.5	170.0	3,825.0		RJ
3	833101	4/8/2014	22.5	153.0	3,442.5		RJ
4	833101	4/8/2014	22.5	123.0	2,767.5		RJ
5	833102	4/8/2014	22.5	41.0	922.5		RJ
6	833102	4/8/2014	22.5	152.0	3,420.0		RJ
7	833102	4/8/2014	22.5	147.0	3,307.5		RJ
8	833102	4/8/2014	22.5	155.0	3,487.5		RJ
9	833102	4/8/2014	22.5	80.0	1,800.0		RJ
10	833102	4/8/2014	22.5	49.0	1,102.5		RJ
11	832763	4/8/2014	22.5	29.0	652.5		RJ
12	832763	4/8/2014	22.5	33.0	742.5		RJ
13	832763	4/8/2014	22.5	25.0	562.5		RJ
14	832763	4/8/2014	22.5	23.0	517.5		RJ
15	832763	4/8/2014	10.0	10.0	100.0		RJ
16	832763	4/8/2014	22.5	43.0	967.5		RJ
17	832763	4/8/2014	22.5	39.0	877.5		RJ
18	832763	4/8/2014	18.0	25.0	450.0		RJ
19	832763	4/8/2014	22.5	30.0	675.0		RJ
20	832763	4/8/2014	22.5	27.0	607.5		RJ
21	832763	4/8/2014	22.5	26.0	585.0		RJ
22	832763	4/8/2014	20.0	18.0	360.0		RJ
23	832763	4/9/2014	22.5	205	4,612.5		RJ
24	832763	4/9/2014	22.5	150	3,375.0		RJ
25	832764	4/9/2014	22.5	65	1,462.5		RJ
26	832764	4/9/2014	22.5	220	4,950.0		RJ
27	832764	4/9/2014	22.5	253	5,692.5		RJ
28	832764	4/9/2014	22.5	52	1,170.0		RJ
29	832765	4/9/2014	22.5	24	540.0		RJ
30	832765	4/9/2014	22.5	51	1,147.5		RJ
31	832765	4/9/2014	22.5	56	1,260.0		RJ
32	832765	4/9/2014	22.5	60	1,350.0		RJ

TOTAL AREA: THIS PAGE: 60,917.5 FT²
 NOTES: _____



TRIAL SEAM LOG - FUSION

PROJECT: ASARCO El Paso Category 1 Landfill - Cell 3 CQA
 LOCATION: 2301 West Paisano Drive, El Paso, TX 79922 PROJECT NO.: 06835001.2014 TASK NO.: 47CQ1
 DESCRIPTION: Cell 3 CQA YEAR: 2014
 SPECIFICATIONS: FUSION WELD: PEEL: 50 SHEAR: 60 ppi psi
 EXTRUSION WELD: PEEL: 44 SHEAR: 60 ppi psi
 TENSIO METER DESCRIPTION: Pro-Tester T-0100 SERIAL NO.: 667867

DATE (mo/day/yr)	TRIAL SEAM NO.	TIME	OPER. ID	MACHINE NO.	MAT. DESCR. (1)	FUSION WELD		EXTRUSION WELD		PEEL VALUES (lbs/in)			SHEER (lbs/in)			PASS	FAIL	QA ID
						WEDGE TEMP. (°F)	MACHINE SPEED SETTING (ft/min)	BARREL TEMP. (°F)	PREHEAT TEMP. (°F)									
4/8/2014	1	13:35	WB	3440	S/S	750	12	---	---	88	84	102	108	112	111		X	RJ
										103	97	92						
4/8/2014	2	13:40	WN	3351	S/S	750	12	---	---	85	96	85	101	100	98		X	RJ
										87	85	89						
4/8/2014	3	13:45	WN	3351	T/T	750	12	---	---	90	91	90	95	101	97		X	RJ
										90	90	89						
4/8/2014	4	15:25	WB	3440	S/T	750	12	---	---	87	90	98	94	93	93		X	RJ
										88	91	89						
4/8/2014	5	7:30	WN	3351	S/S	750	12	---	---	102	105	101	120	123	119		X	RJ
										100	101	101						
4/8/2014	6	7:35	WN	3351	T/T	750	12	---	---	101	98	101	113	116	118		X	RJ
										98	100	100						
4/8/2014	7	7:40	WN	3351	S/T	750	12	---	---	100	98	101	118	113	115		X	RJ
										102	100	95						
4/9/2014	8	8:20	WB	3440	S/S	750	12	---	---	112	105	110	125	120	119		X	RJ
										108	110	110						
4/9/2014	9	8:25	WB	3440	S/T	750	12	---	---	103	112	98	115	113	110		X	RJ
										111	110	98						
4/9/2014	10	13:00	WB	3440	S/S	750	12	---	---	88	101	90	102	100	98		X	RJ
										99	92	89						
4/9/2014	11	13:05	WB	3440	S/T	750	12	---	---	90	85	87	91	95	98		X	RJ
										84	89	90						
4/9/2014	12	12:55	WN	3351	S/S	750	12	---	---	93	90	92	101	105	98		X	RJ
										89	90	90						
4/9/2014	13	12:48	WN	3351	S/T	750	12	---	---	88	82	84	80	92	90		X	RJ
										84	80	80						
4/10/2014	14	8:02	RM	84	T/T	---	---	450	400				189	200	201		X	RJ
										91	89	100						
4/10/2014	15	8:15	JLO	1266	T/T	---	---	260	240				100	102	99		X	RJ
										101	100	102						

NOTE: (1) MATERIAL DESCRIPTION REFERS TO EITHER SMOOTH/SMOOTH (S/S); SMOOTH/TEXTURED (S/T); OR TEXTURED/TEXTURED (T/T).



PRODUCTION SEAM SUMMARY LOG

PROJECT: <u>ASARCO El Paso Category I Landfill - Cell 3 CQA</u>	
LOCATION: <u>2301 West Paisano Drive, El Paso, TX 79922</u>	PROJECT NO.: <u>06835001.2014</u> TASK NO.: <u>47CQ1</u>
DESCRIPTION: <u>Cell 3 CQA</u>	YEAR: <u>2014</u>
PRIMARY: <input checked="" type="checkbox"/> SECONDARY: <input type="checkbox"/> OTHER: _____	
NDT SPECIFICATIONS: AIR TEST: <u>30</u> psi ± <u>3</u> psi for <u>5</u> minutes VACUUM TEST: <u>5</u> psi for minimum <u>10</u> seconds	

PRODUCTION SEAM				LOCATION				NONDESTRUCTIVE TEST								
DATE (mo/day/yr)	TIME	MACHINE NO.	OPER. ID	SEAM NO.	ACTUAL SEAM LENGTH (ft)	QA ID	COMMENTS	TIME		PRESSURE (psi)		OPER. ID	PASS	FAIL	ACTION	QA ID
								START	FINISH	START	FINISH					
4/8/2014	13:48	3440	WB	1/2	176	RJ		15:57	16:02	30	29	RM	X		AT OK	RJ
4/8/2014	14:00	3351	WN	2/3	158	RJ		16:56	17:01	30	29	RM	X		AT OK	RJ
4/8/2014	14:23	3440	WB	3/4	98	RJ		16:23	16:28	30	30	RM	X		AT OK	RJ
4/8/2014	14:23	3440	WB	3/5	38	RJ		16:49	16:54	30	30	RM	X		AT OK	RJ
4/8/2014	14:20	3351	WN	4/5	22	RJ		16:43	16:48	30	30	RM	X		AT OK	RJ
4/8/2014	14:30	3351	WN	4/6	116	RJ		15:42	15:47	35	34	RM	X		AT OK	RJ
4/8/2014	14:30	3351	WN	5/6	32	RJ		16:42	16:47	30	29	RM	X		AT OK	RJ
4/8/2014	14:46	3440	WB	6/7	138	RJ		16:21	16:26	30	30	RM	X		AT OK	RJ
4/8/2014	14:56	3351	WN	7/8	143	RJ		16:19	16:24	30	29	RM	X		AT OK	RJ
4/8/2014	15:30	3351	WN	8/9	70	RJ		15:07	15:12	35	35	RM	X		AT OK	RJ
4/8/2014	16:50	3440	WB	8/10	22	RJ		15:09	15:14	35	34	RM	X		AT OK	RJ
4/8/2014	16:16	3440	WB	9/10	23	RJ		18:18	18:23	35	34	RM	X		AT OK	RJ
4/8/2014	16:00	3440	WB	9/11	22	RJ		18:16	18:21	35	34	RM	X		AT OK	RJ
4/8/2014	16:00	3440	WB	9/12	22	RJ		18:07	18:12	35	34	RM	X		AT OK	RJ
4/8/2014	15:43	3351	WN	9/14	27	RJ		18:06	18:11	35	35	RM	X		AT OK	RJ
4/8/2014	15:35	3440	WB	10/11	21	RJ		18:20	18:25	35	34	RM	X		AT OK	RJ

TOTALS:	FUSION: <u>1,128</u> (ft)	CUMULATED FUSION: <u>1,128</u> (ft)
	EXTRUSION _____ (ft)	CUMULATED EXTRUSION: _____ (ft)
COMMENTS: _____		

REVIEWED BY: _____



PRODUCTION SEAM SUMMARY LOG

PROJECT: ASARCO El Paso Category I Landfill - Cell 3 CQA
 LOCATION: 2301 West Paisano Drive, El Paso, TX 79922 PROJECT NO.: 06835001.2014 TASK NO.: 47CQ1
 DESCRIPTION: Cell 3 CQA YEAR: 2014
 PRIMARY: SECONDARY: OTHER: _____
 NDT SPECIFICATIONS: AIR TEST: 30 psi ± 3 psi for 5 minutes VACUUM TEST: 5 psi for minimum 10 seconds

PRODUCTION SEAM				LOCATION				NONDESTRUCTIVE TEST								
DATE (mo/day/yr)	TIME	MACHINE NO.	OPER. ID	SEAM NO.	ACTUAL SEAM LENGTH (ft)	QA ID	COMMENTS	TIME		PRESSURE (psi)		OPER. ID	PASS	FAIL	ACTION	QA ID
								START	FINISH	START	FINISH					
4/8/2014	15:45	3440	WB	11/12	26	RJ		18:09	18:14	35	34	RM	X		AT OK	RJ
4/8/2014	15:55	3351	WN	12/13	28	RJ		18:04	18:09	35	34	RM	X		AT OK	RJ
4/8/2014	16:00	3551	WN	13/14	28	RJ		17:15	17:20	35	34	RM	X		AT OK	RJ
4/8/2014	16:15	3551	WN	13/15	5	RJ		17:53	17:58	35	34	RM	X		AT OK	RJ
4/8/2014	16:10	3551	WN	14/15	5	RJ		17:52	17:57	35	35	RM	X		AT OK	RJ
4/8/2014	16:55	3440	WB	8/16	22	RJ		15:25	15:30	35	35	RM	X		AT OK	RJ
4/8/2014	17:10	3440	WB	8/17	22	RJ		16:14	16:19	30	30	RM	X		AT OK	RJ
4/8/2014	17:05	3440	WB	8/18	14	RJ		16:08	16:13	30	30	RM	X		AT OK	RJ
4/8/2014	16:28	3351	WN	10/16	40	RJ		15:13	15:18	35	35	RM	X		AT OK	RJ
4/8/2014	16:31	3440	WB	16/17	37	RJ		15:26	15:31	35	35	RM	X		AT OK	RJ
4/8/2014	16:50	3351	WN	17/18	27	RJ		16:07	16:12	30	30	RM	X		AT OK	RJ
4/8/2014	16:55	3351	WN	19/20	23	RJ		7:31	7:36	30	29	RM	X		AT OK	RJ
4/8/2014	17:00	3351	WN	20/21	22	RJ		17:20	17:25	30	30	RM	X		AT OK	RJ
4/8/2014	17:05	3351	WN	21/22	20	RJ		17:02	17:07	30	30	RM	X		AT OK	RJ
4/8/2014	17:17	3440	WB	4/22	23	RJ		15:44	15:49	35	34	RM	X		AT OK	RJ
4/8/2014	17:35	3351	WN	19/1	22	RJ		19:32	19:37	30	29	RM	X		AT OK	RJ

TOTALS: FUSION: 364 (ft) CUMULATED FUSION: 1,492 (ft)
 EXTRUSION _____ (ft) CUMULATED EXTRUSION: _____ (ft)
 COMMENTS: _____

REVIEWED BY: _____



PRODUCTION SEAM SUMMARY LOG

PROJECT: <u>ASARCO El Paso Category I Landfill - Cell 3 CQA</u>	
LOCATION: <u>2301 West Paisano Drive, El Paso, TX 79922</u>	PROJECT NO.: <u>06835001.2014</u> TASK NO.: <u>47CQ1</u>
DESCRIPTION: <u>Cell 3 CQA</u> YEAR: <u>2014</u>	
PRIMARY: <input checked="" type="checkbox"/> SECONDARY: <input type="checkbox"/> OTHER: _____	
NDT SPECIFICATIONS: AIR TEST: <u>30</u> psi ± <u>3</u> psi for <u>5</u> minutes VACUUM TEST: <u>5</u> psi for minimum <u>10</u> seconds	

PRODUCTION SEAM				LOCATION				NONDESTRUCTIVE TEST								
DATE (mo/day/yr)	TIME	MACHINE NO.	OPER. ID	SEAM NO.	ACTUAL SEAM LENGTH (ft)	QA ID	COMMENTS	TIME		PRESSURE (psi)		OPER. ID	PASS	FAIL	ACTION	QA ID
								START	FINISH	START	FINISH					
4/8/2014	17:30	3351	WN	1/20	7	RJ		7:26	7:31	30	30	RM	X		AT OK	RJ
4/8/2014	17:25	3551	WN	2/20	16	RJ		7:25	7:30	30	30	RM	X		AT OK	RJ
4/8/2014	17:20	3351	WN	2/21	14	RJ		17:24	17:29	30	29	RM	X		AT OK	RJ
4/8/2014	17:15	3551	WN	3/21	9	RJ		17:16	17:21	30	30	RM	X		AT OK	RJ
4/8/2014	17:10	3551	WN	3/22	19	RJ		17:10	17:15	30	30	RM	X		AT OK	RJ
4/9/2014	10:10	3440	WB	1/23	192	RJ		7:29	7:34	30	30	RM	X		AT OK	RJ
4/9/2014	10:37	3351	WN	23/24	57	RJ		7:42	7:47	30	30	RM	X		AT OK	RJ
4/9/2014	10:43	3351	WN	23/25	150	RJ		7:45	7:50	30	30	RM	X		AT OK	RJ
4/9/2014	10:30	3351	WN	24/25	22	RJ		7:46	7:51	30	30	RM	X		AT OK	RJ
4/9/2014	10:50	3440	WB	24/26	74	RJ		8:04	8:09	30	30	RM	X		AT OK	RJ
4/9/2014	11:00	3351	WN	26/27	212	RJ		8:26	8:31	30	30	RM	X		AT OK	RJ
4/9/2014	11:16	3440	WB	25/26	40	RJ	S EOS to 40' N of S EOS	8:05	8:10	30	30	RM	X		AT OK	RJ
4/9/2014	13:59	3351	WN	27/28	40	RJ		9:21	9:26	30	30	RM	X		AT OK	RJ
4/9/2014	14:30	3440	WB	28/30	23	RJ		9:22	9:27	30	29	RM	X		AT OK	RJ
4/9/2014	14:40	3440	WB	29/30	81	RJ		9:41	9:46	30	29	RM	X		AT OK	RJ
4/9/2014	14:20	3440	WB	28/29	25	RJ		9:38	9:43	30	30	RM	X		AT OK	RJ

TOTALS:	FUSION: <u>981</u> (ft)	CUMULATED FUSION: <u>2,473</u> (ft)
	EXTRUSION _____ (ft)	CUMULATED EXTRUSION: _____ (ft)
COMMENTS: _____		

REVIEWED BY: _____



PRODUCTION SEAM SUMMARY LOG

PROJECT: ASARCO El Paso Category I Landfill - Cell 3 CQA

LOCATION: 2301 West Paisano Drive, El Paso, TX 79922 PROJECT NO.: 06835001.2014 TASK NO.: 47CQ1

DESCRIPTION: Cell 3 CQA YEAR: 2014

PRIMARY: SECONDARY: OTHER: _____

NDT SPECIFICATIONS: AIR TEST: 30 psi ± 3 psi for 5 minutes VACUUM TEST: 5 psi for minimum 10 seconds

PRODUCTION SEAM				LOCATION				NONDESTRUCTIVE TEST							
DATE (mo/day/yr)	TIME	MACHINE NO.	OPER. ID	SEAM NO.	ACTUAL SEAM LENGTH (ft)	QA ID	COMMENTS	TIME		PRESSURE (psi)		OPER. ID	PASS FAIL	ACTION	QA ID
								START	FINISH	START	FINISH				
4/9/2014	14:30	3351	WN	30/31	47	RJ		9:45	9:50	30	30	RM	X	AT OK	RJ
4/9/2014	14:48	3351	WN	31/32	50	RJ		9:48	9:53	30	30	RM	X	AT OK	RJ
4/9/2014	15:00	3351	WN	32/33	53	RJ		9:56	10:01	30	30	RM	X	AT OK	RJ
4/9/2014	15:20	3351	WN	33/34	58	RJ		9:59	10:04	30	29	RM	X	AT OK	RJ
4/9/2014	15:09	3440	WB	34/35	60	RJ		10:07	10:12	30	29	RM	X	AT OK	RJ
4/9/2014	15:30	3440	WB	35/36	63	RJ		10:12	10:17	30	29	RM	X	AT OK	RJ
4/9/2014	16:28	3351	WN	36/37	22	RJ		8:56	9:01	30	30	RM	X	AT OK	RJ
4/9/2014	16:30	3351	WN	36/39	40	RJ		10:15	10:20	30	30	RM	X	AT OK	RJ
4/9/2014	16:20	3351	WN	39/40	20	RJ		10:32	10:37	30	30	RM	X	AT OK	RJ
4/9/2014	16:09	3351	WN	38/40	19	RJ		10:29	10:34	30	30	RM	X	AT OK	RJ
4/9/2014	16:25	3351	WN	38/39	32	RJ		9:02	9:07	30	29	RM	X	AT OK	RJ
4/9/2014	15:58	3351	WN	37/38	42	RJ		8:59	9:04	31	30	RM	X	AT OK	RJ
4/9/2014	15:45	3351	WN	27/37	40	RJ		8:50	8:55	30	30	RM	X	AT OK	RJ
4/9/2014	16:20	3440	WB	27/36	22	RJ		8:52	8:57	30	30	RM	X	AT OK	RJ
4/9/2014	16:23	3440	WB	27/35	22	RJ		10:11	10:16	30	30	RM	X	AT OK	RJ
4/9/2014	16:26	3440	WB	27/34	22	RJ		10:04	10:09	30	29	RM	X	AT OK	RJ

TOTALS: FUSION: 612 (ft) CUMULATED FUSION: 3,085 (ft)

EXTRUSION _____ (ft) CUMULATED EXTRUSION: _____ (ft)

COMMENTS: _____



PRODUCTION SEAM SUMMARY LOG

PROJECT: ASARCO El Paso Category I Landfill - Cell 3 CQA

LOCATION: 2301 West Paisano Drive, El Paso, TX 79922 PROJECT NO.: 06835001.2014 TASK NO.: 47CQ1

DESCRIPTION: Cell 3 CQA YEAR: 2014

PRIMARY: SECONDARY: OTHER: _____

NDT SPECIFICATIONS: AIR TEST: 30 psi ± 3 psi for 5 minutes VACUUM TEST: 5 psi for minimum 10 seconds

PRODUCTION SEAM				LOCATION				NONDESTRUCTIVE TEST							
DATE (mo/day/yr)	TIME	MACHINE NO.	OPER. ID	SEAM NO.	ACTUAL SEAM LENGTH (ft)	QA ID	COMMENTS	TIME		PRESSURE (psi)		OPER. ID	PASS FAIL	ACTION	QA ID
								START	FINISH	START	FINISH				
4/9/2014	16:29	3440	WB	27/33	22	RJ		10:00	10:05	30	29	RM	X	AT OK	RJ
4/9/2014	16:32	3440	WB	27/32	22	RJ		9:52	9:57	30	30	RM	X	AT OK	RJ
4/9/2014	16:35	3440	WB	27/31	22	RJ		9:46	9:51	30	30	RM	X	AT OK	RJ
4/9/2014	16:38	3440	WB	27/30	22	RJ		9:25	9:30	30	29	RM	X	AT OK	RJ
4/9/2014	17:10	3440	WB	27/44	11	RJ		8:31	8:36	30	30	RM	X	AT OK	RJ
4/9/2014	17:05	3440	WB	27/45	22	RJ		8:42	8:47	30	30	RM	X	AT OK	RJ
4/9/2014	17:20	3440	WB	44/45	21	RJ		8:41	8:46	30	29	RM	X	AT OK	RJ
4/9/2014	17:00	3440	WB	43/44	28	RJ		8:06	8:11	30	30	RM	X	AT OK	RJ
4/9/2014	16:50	3440	WB	42/43	27	RJ		7:55	8:00	30	29	RM	X	AT OK	RJ
4/9/2014	17:00	3351	WN	41/42	27	RJ		7:48	7:53	30	30	RM	X	AT OK	RJ
4/9/2014	16:45	3351	WN	19/41	24	RJ		7:39	7:44	30	30	RM	X	AT OK	RJ
4/9/2014	17:20	3351	WN	23/41	22	RJ		7:40	7:45	30	29	RM	X	AT OK	RJ
4/9/2014	17:22	3351	WN	23/42	5	RJ		---	---	---	---	RM	X	VT OK	RJ
4/9/2014	17:25	3351	WN	24/42	19	RJ		7:52	7:57	30	29	RM	X	AT OK	RJ
4/9/2014	17:27	3351	WN	24/43	10	RJ		7:58	8:03	30	29	RM	X	AT OK	RJ
4/9/2014	17:30	3351	WN	26/43	13	RJ		8:10	8:15	30	29	RM	X	AT OK	RJ

TOTALS: FUSION: 317 (ft) CUMULATED FUSION: 3,402 (ft)

EXTRUSION _____ (ft) CUMULATED EXTRUSION: _____ (ft)

COMMENTS: _____



REPAIR SUMMARY LOG

PROJECT: <u>ASARCO El Paso Category I Landfill - Cell 3 CQA</u>	
LOCATION: <u>2301 West Paisano Drive, El Paso, TX 79922</u>	PROJECT NO.: <u>06835001.2014</u> TASK NO.: <u>47CQ1</u>
DESCRIPTION: <u>Cell 3 CQA</u>	YEAR: <u>2014</u>
INSTALLER: <u>American Environmental Group (AEG)</u>	<input checked="" type="checkbox"/> PRIMARY <input type="checkbox"/> SECONDARY <input type="checkbox"/> OTHER

REPAIR NO. ¹	REP. TYPE/ DS NO	DATE (da/mo/yr)	LOCATION ²			SIZE ²			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING					
			SEAM	PANEL	LOCATION	LENGTH	WIDTH	DIA.	MACH. NO.	OP. ID		DATE (da/mo/yr)	OP. ID	PASS	FAIL	ACTION	QA ID
1	P	4/10/2014	8/17/18	---	---	1	1	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
2	P	4/10/2014	8/17/16	---	---	1	1	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
3	P	4/10/2014	8/10/16	---	---	1	1	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
4	P/DS-3	4/10/2014	10/16	---	---	2	5	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
5	P	4/10/2014	9/10/11	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
6	P	4/10/2014	8/9/10	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
7	P	4/10/2014	9/11/12	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
8	P	4/10/2014	9/12/13/14	---	---	3	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
9	P	4/10/2014	13/14/15	---	---	3	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
10	P	4/10/2014	9/14	---	1' N OF S EOS	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
11	P	4/10/2014	4/5/6	---	---	1	1	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
12	P/DS-2	4/10/2014	4/6	---	---	2	4	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
13	P	4/10/2014	3/4/5	---	---	1	1	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
14	P	4/10/2014	25/26	---	44' N OF S EOS	2	5	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
15	P	4/10/2014	27/28/30	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
16	P	4/10/2014	28/29/30	---	---	2	4	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
17	S	4/10/2014	28/29	---	2' N OF S EOS	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
18	P	4/10/2014	27/30/31	---	---			---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
19	P	4/10/2014	27/31/32	---	---			---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ

NOTES: (1) REPAIR NUMBERS SHALL BE NUMBERED SEQUENTIALLY, REPAIR TYPES: P = PATCH C = CAP S = ANCHOR TRENCH EXTENSION (SKIRT)
 DS = DESTRUCTIVE SAMPLE G = GRIND & WELD T = TOPPING ALONG FUSION SEAM R = RECONSTRUCTION B = BEAD (EXTRUSION)
 (2) LOCATION & SIZE SHALL BE INDICATED IN FEET

20	P/DS-7	4/10/2014	31/32	---	---	2	5	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
----	--------	-----------	-------	-----	-----	---	---	-----	----	----	----	-----------	----	---	--	-------	----

REVIEWED BY: _____



REPAIR SUMMARY LOG

PROJECT: <u>ASARCO El Paso Category I Landfill - Cell 3 CQA</u>	
LOCATION: <u>2301 West Paisano Drive, El Paso, TX 79922</u>	PROJECT NO.: <u>06835001.2014</u> TASK NO.: <u>47CQ1</u>
DESCRIPTION: <u>Cell 3 CQA</u>	YEAR: <u>2014</u>
INSTALLER: <u>American Environmental Group (AEG)</u>	<input checked="" type="checkbox"/> PRIMARY <input type="checkbox"/> SECONDARY <input type="checkbox"/> OTHER

REPAIR NO. ¹	REP. TYPE/ DS NO	DATE (da/mo/yr)	LOCATION ²			SIZE ²			WELDER ID		QA ID	NON-DESTRUCTIVE TESTING					
			SEAM	PANEL	LOCATION	LENGTH	WIDTH	DIA.	MACH. NO.	OP. ID		DATE (da/mo/yr)	OP. ID	PASS	FAIL	ACTION	QA ID
21	P/DS-1	4/10/2014	1/2	---	---	2	4	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
22	P/DS-5	4/10/2014	25/26	---	---	2	6	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
23	P	4/10/2014	23/24/25	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
24	P	4/10/2014	23/24/26	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
25	P	4/10/2014	27/32/33	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
26	P	4/10/2014	27/33/34	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
27	P	4/10/2014	27/34/35	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
28	P/DS-6	4/10/2014	26/27	---	---	2	6	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
29	P	4/10/2014	27/35/36	---	---	2	2	---	RM	84	RJ	4/10/2014	RM	X		VT OK	RJ
30	P/DS-8	4/10/2014	35/36	---	---	2	5	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ
31	P	4/10/2014	27/36/37	---	---	2	2	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ
32	P	4/10/2014	36/37/38/39	---	---	2	2	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ
33	P	4/10/2014	38/39/40	---	---	2	2	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ
34	P	4/10/2014	27/44/45	---	---	2	2	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ
35	P	4/10/2014	26/27/44	---	---	2	2	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ
36	S	4/10/2014	26/43/44	---	---	2	2	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ
37	P	4/10/2014	24/26/43	---	---	2	2	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ
38	P	4/10/2014	24/42/43	---	---	2	2	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ

NOTES: (1) REPAIR NUMBERS SHALL BE NUMBERED SEQUENTIALLY, REPAIR TYPES: P = PATCH C = CAP S = ANCHOR TRENCH EXTENSION (SKIRT)
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 (2) LOCATION & SIZE SHALL BE INDICATED IN FEET

39	P	4/10/2014	---	42	24'S OF 42/43 N EOS, 10' W	1	1	---	JLO	1266	RJ	4/10/2014	RM	X		VT OK	RJ
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Date: 2014-04-11

Mail To:

Bill Sabatka
Arcadis
211 North Florence, Suite 202
El Paso , TX , 79901

Bill To:

Arcadis
Accounts Payable
630 PLaza Drive, Suite 600
Highlands Ranch , CO , 80129
06835001.2014 Task 47CQ1

e-mail:bill.sabatka@arcadis-us.com

Dear Mr. Sabatka,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project: Asarco Cell 3

TRI Job Reference Number: **12997**

Material(s) Tested: (8) Heat Fusion Weld Seam(s)

Test(s) Requested: SAME DAY Peel and Shear
(ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:

AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.

Sincerely,

Willow Lucas
Project Manager
Geosynthetic Services Division
<http://www.geosyntheticstestinc.com>

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.



DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Arcadis

Project: Asarco Cell 3

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 12997

PARAMETER	TEST REPLICATE NUMBER					MEAN
	1	2	3	4	5	
Sample ID: DS-1 Weld: Heat Fusion						
Side: A						Peel A
Peel Strength (ppi)	106	109	102	107	109	107
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						Peel B
Peel Strength (ppi)	90	85	97	94	90	91
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						Shear
Shear Strength (ppi)	111	110	110	110	113	111
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-2 Weld: Heat Fusion						
Side: A						Peel A
Peel Strength (ppi)	110	118	106	108	105	109
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						Peel B
Peel Strength (ppi)	98	104	94	102	95	99
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						Shear
Shear Strength (ppi)	117	120	116	119	115	117
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Arcadis

Project: Asarco Cell 3

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 12997

PARAMETER	TEST REPLICATE NUMBER					MEAN
	1	2	3	4	5	
Sample ID: DS-3 Weld: Heat Fusion						
Side: A						Peel A
Peel Strength (ppi)	105	111	109	110	115	110
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						Peel B
Peel Strength (ppi)	97	97	101	98	98	98
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						Shear
Shear Strength (ppi)	117	121	122	121	118	120
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-4 Weld: Heat Fusion						
Side: A						Peel A
Peel Strength (ppi)	105	103	105	105	101	104
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						Peel B
Peel Strength (ppi)	106	104	110	103	104	105
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						Shear
Shear Strength (ppi)	107	108	103	106	110	107
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Arcadis

Project: Asarco Cell 3

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 12997

PARAMETER	TEST REPLICATE NUMBER					MEAN
	1	2	3	4	5	
Sample ID: DS-5 Weld: Heat Fusion						
Side: A						Peel A
Peel Strength (ppi)	110	108	106	100	109	107
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						Peel B
Peel Strength (ppi)	91	92	90	94	95	92
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						Shear
Shear Strength (ppi)	117	122	121	120	120	120
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	
Sample ID: DS-6 Weld: Heat Fusion						
Side: A						Peel A
Peel Strength (ppi)	113	108	93	95	103	102
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						Peel B
Peel Strength (ppi)	99	97	97	101	100	99
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						Shear
Shear Strength (ppi)	119	118	119	119	118	119
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS

TRI Client: Arcadis

Project: Asarco Cell 3

Material: 40 mil. LLDPE

SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

TRI Log#: 12997

Table with columns: PARAMETER, TEST REPLICATE NUMBER (1-5), MEAN. Includes sections for Sample ID: DS-7 and DS-8, with sub-sections for Side: A, Side: B, and Shear. Values include Peel Strength (ppi), Peel Incursion (%), Peel Locus Of Failure Code, Peel NSF Failure Code, Shear Strength (ppi), and Shear Elongation @ Break (%).

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