SECTION

2 OF 9

APPENDIX D.

TANK 4 CONCRETE TESTING

CONCRETE POUR SLIP/INSPECTION REPORT

Placement No. POUR # 11

PART A - REQUIREMENTS

W.O. No.	PCP No.	PCI No.	Area	Bldg.	Plan Placement Date
F 9+10	N/A	N/A	TANK #4	N/A	10-1-10

Description of Pour: RINGWALL FOR LEACHATE TANK #4

Estimated Yards	Mix Design No	PSI Required	Aggregate Size
60 C.Y.	5150C	4000 PSI	3/4"

Quality Control Required	Acceptance Inspection Required	Prepared By/Date
☑ Yes ☐ No	☑ Yes ☐ No	JAKE WILLIAMS

PART B - PREPLACEMENT

Description	Craft Release (Sign/Date)	QC Inspection (Sign/Date)
Layout	[illegible] 10-1-10	[illegible] 9-30-10
Excavation/Compaction	[illegible] 10-1-10	[illegible] 9-30-10
Formwork (Material, Location, Alignment)	[illegible] 10-1-10	[illegible] 10-1-10
Embeds (Material, Location, Alignment, Stability)	N/A	N/A
Reinforcement (Size, Quality, Bends, Lap, Length, Spacing, Cover, Stability, Cleanliness)	[illegible] 10-1-10	[illegible] 9-30-10
Joints (Material, Location, Prep, Dowel/Tie)	N/A	N/A
Piping	N/A	N/A
Electrical	N/A	N/A
C[illegible]	N/A	N/A
Placing and Curing Equipment	[illegible] 10-1-10	[illegible] 10-1-10
Other	N/A	N/A
Preplacement Approved - Acc. Insp.	[illegible] 10-1-10	[illegible] 10-1-10

PART C - PLACEMENT

Actual Placement Date	Time	Trip Ticket No.	Placement Approved - Supt.	Date
			[illegible]	10-1-10

Description	QC Inspection Acpt	Hold	N/A	Date	Description	QC Inspection Acpt	Hold	N/A	Date
Delivery	✓			10/1/10	Consolidating	✓			10/1/10
Mix Design	✓			10/1/10	Joint Forming/Tooling			✓	
Conveying	✓			10/1/10	Curing	✓			10/1/10
Depositing	✓			10/1/10	Repair			✓	

WAIVER FOR EXTENSION OF DISCHARGE TIME/DRUM REVOLUTIONS:

Time/Revolutions	Slump	Air	Superintendent (Sign/Date)
N/A	—	—	N/A

Comments:

Inspector	Employee No	Date
JAKE WILLIAMS	8474223	

American Rock Products, Inc.
2090 Robertson Drive
Richland, WA 99354

Richland Office
(509) 375-1021
(509) 375-5194 Fax

AR 123351

SOLD TO:

SHIP TO:

DATE	TIME	FORMULA #	YARDS ORD.	TRUCK #	DRIVER	BATCH #	LOAD #	YARDS DEL.	P.O. #

WARNING
IRRITATING TO THE SKIN AND EYES

Contains Portland Cement. Wear Rubber Boots and Gloves. PROLONGED CONTACT MAY CAUSE BURNS. Avoid Contact With Eyes and Prolonged Contact With Skin. In Case of Contact With Skin or Eyes, Flush Thoroughly With Water. If Irritation Persists, Get Medical Attention. KEEP CHILDREN AWAY.

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- The undersigned promises to pay all costs, including reasonable attorney's fees, incurred in collecting any sums owed.
- All accounts not paid within 30 days of delivery will bear interest at the rate of 18% per annum.
- Not Responsible for Reactive Aggregate or Color Quality. No Claim Allowed Unless Made at Time Material is Delivered.
- A $25.00 Service Charge and Loss of the Cash Discount will be Collected on all returned Checks.

PROPERTY DAMAGE RELEASE
(TO BE SIGNED IF DELIVERY TO BE MADE INSIDE CURB LINE)

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EXCESSIVE WATER IS DETRIMENTAL TO CONCRETE PERFORMANCE H_2O ADDED BY REQUEST / AUTHORIZED BY:

NOTICE: MY SIGNATURE BELOW INDICATES THAT I HAVE READ THE HEALTH WARNING NOTICE AND SUPPLIER WILL NOT BE RESPONSIBLE FOR ANY DAMAGE CAUSED WHEN DELIVERING INSIDE CURB LINE

ARRIVED AT _____ **SLUMP**

GALLONS ADDED ____ **TO** ____ **YDS**

GALLONS ADDED ____ **TO** ____ **YDS**

GALLONS ADDED ____ **TO** ____ **YDS**

GALLONS ADDED ____ **TO** ____ **YDS**

TOTAL WATER ADDED _____

QUANTITY		DESCRIPTION		UNIT PRICE	EXTENDED
9.00	yd	315300	4000 EXTERIOR		
50.00	yd	ON3030	OLENDUM 3030		
9.00	ea	SMP949	ENVIRONMENTAL FEE		

LEFT PLANT	ARRIVED JOB	START UNLOADING	DELAY EXPLANATION/CYLINDER TEST TAKEN	TIME ALLOWED
			1 JOB NOT READY 2 SLOW POUR OR PUMP 3 TRUCK AHEAD ON JOB 4 CONTRACTOR BROKE DOWN 5 ADDED WATER 6 TRUCK BROKE DOWN 7 ACCIDENT 8 CITATION 9 LOCATION 10 OTHER	
RETURNED TO PLANT	LEFT JOB	FINISH UNLOADING		DELAY TIME
TOTAL ROUND TRIP	TOTAL AT JOB	UNLOADING TIME		ADDITIONAL CHARGE

SUBTOTAL

TAX CODE **TAX**

ADDITIONAL CHARGE

GRAND TOTAL

WEIGHMASTER

GALLONS OF WATER

LOAD

American Rock Products, Inc.
2090 Robertson Drive
Richland, WA 99354
Richland Office
(509) 375-1021
(509) 375-5194 Fax

AR

SOLD TO:

SHIP TO:

DATE	TIME	FORMULA #	YARDS ORD.	TRUCK #	DRIVER	BATCH #	LOAD #	YARDS DEL.	P.O. #

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ARRIVED AT _____ SLUMP

GALLONS ADDED ____ TO ____ YDS

GALLONS ADDED ____ TO ____ YDS

GALLONS ADDED ____ TO ____ YDS

GALLONS ADDED ____ TO ____ YDS

TOTAL WATER ADDED _____

QUANTITY	DESCRIPTION		UNIT PRICE	EXTENDED
10.00	[illegible]	[illegible] EXTERIOR		
150.00	[illegible]	PLENUM [illegible]		
10.00	[illegible]	ENVIRONMENTAL FEE		

rev 177

LEFT PLANT	ARRIVED JOB	START UNLOADING	DELAY EXPLANATION/CYLINDER TEST TAKEN	TIME ALLOWED
1423	113		1 JOB NOT READY 2 SLOW POUR OR PUMP 3 TRUCK AHEAD ON JOB 4 CONTRACTOR BROKE DOWN 5 ADDED WATER 6 TRUCK BROKE DOWN 7 ACCIDENT 8 CITATION 9 LOCATION 10 OTHER	
RETURNED TO PLANT	LEFT JOB	FINISH UNLOADING		DELAY TIME
TOTAL ROUND TRIP	TOTAL AT JOB	UNLOADING TIME		ADDITIONAL CHARGE

SUBTOTAL

TAX CODE

TAX

ADDITIONAL CHARGE

GRAND TOTAL

WEIGHMASTER

GALLONS OF WATER

LOAD

American Rock Products, Inc.
2090 Robertson Drive
Richland, WA 99354

Richland Office
(509) 375-1021
(509) 375-5194 Fax

AR 1[illegible]

SOLD TO:

SHIP TO:

DATE	TIME	FORMULA #	YARDS ORD.	TRUCK #	DRIVER	BATCH #	LOAD #	YARDS DEL.	P.O. #
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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ARRIVED AT _____ **SLUMP**

GALLONS ADDED ____ **TO** ____ **YDS**

GALLONS ADDED ____ **TO** ____ **YDS**

GALLONS ADDED ____ **TO** ____ **YDS**

GALLONS ADDED ____ **TO** ____ **YDS**

TOTAL WATER ADDED _____

QUANTITY	DESCRIPTION		UNIT PRICE	EXTENDED
10.00 yd	E1500A	4000 EXTERIOR		
150.00 yd	0N3030	GLENIUM 3030		
10.00 ea	ONP7[illegible]	ENVIRONMENTAL FEE		

LEFT PLANT	ARRIVED JOB	START UNLOADING	DELAY EXPLANATION/CYLINDER TEST TAKEN	TIME ALLOWED
[illegible]	[illegible]		1 JOB NOT READY 2 SLOW POUR OR PUMP 3 TRUCK AHEAD ON JOB 4 CONTRACTOR BROKE DOWN 5 ADDED WATER 6 TRUCK BROKE DOWN 7 ACCIDENT 8 CITATION 9 LOCATION 10 OTHER	
RETURNED TO PLANT	LEFT JOB	FINISH UNLOADING		DELAY TIME
TOTAL ROUND TRIP	TOTAL AT JOB	UNLOADING TIME		ADDITIONAL CHARGE

SUBTOTAL

TAX CODE **TAX**

ADDITIONAL CHARGE

GRAND TOTAL

WEIGHMASTER GALLONS OF WATER LOAD

American Rock Products, Inc.

2090 Robertson Drive
Richland, WA 99354

Richland Office
(509) 375-1021
(509) 375-5194 Fax

AR 129333

SOLD TO:

SHIP TO:

DATE	TIME	FORMULA #	YARDS ORD.	TRUCK #	DRIVER	BATCH #	LOAD #	YARDS DEL.	P.O. #
10/01/[illegible]	11:12	515504	30	[illegible]	EVESON	31[illegible]	3	30	[illegible]

WARNING

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GALLONS ADDED ____ **TO** ____ **YDS**

GALLONS ADDED ____ **TO** ____ **YDS**

GALLONS ADDED ____ **TO** ____ **YDS**

GALLONS ADDED ____ **TO** ____ **YDS**

TOTAL WATER ADDED _____

QUANTITY		DESCRIPTION		UNIT PRICE	EXTENDED
10.00	yd	515504	4000 EXTERIOR		
150.00	yd	ON3030	GLENIUM 3030		
5.00	ga	IP9725	DRESS & SEAL 30%		
10.00	cy	ON9949	ENVIRONMENTAL FEE		

LEFT PLANT	ARRIVED JOB	START UNLOADING	DELAY EXPLANATION/CYLINDER TEST TAKEN	TIME ALLOWED
			1 JOB NOT READY 6 TRUCK BROKE DOWN 2 SLOW POUR OR PUMP 7 ACCIDENT 3 TRUCK AHEAD ON JOB 8 CITATION 4 CONTRACTOR BROKE DOWN 9 LOCATION 5 ADDED WATER 10 OTHER	
RETURNED TO PLANT	LEFT JOB	FINISH UNLOADING		DELAY TIME
TOTAL ROUND TRIP	TOTAL AT JOB	UNLOADING TIME		ADDITIONAL CHARGE

SUBTOTAL

TAX CODE

TAX

ADDITIONAL CHARGE

GRAND TOTAL

WEIGHMASTER GALLONS OF WATER LOAD

American Rock Products, Inc.

2090 Robertson Drive
Richland, WA 99354

Richland Office
(509) 375-1021
(509) 375-5194 Fax

AR 129330

SOLD TO:

SHIP TO:

DATE	TIME	FORMULA #	YARDS ORD.	TRUCK #	DRIVER	BATCH #	LOAD #	YARDS DEL.	P.O. #
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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ARRIVED AT _____ SLUMP

GALLONS ADDED _____ TO _____ YDS

GALLONS ADDED _____ TO _____ YDS

GALLONS ADDED _____ TO _____ YDS

GALLONS ADDED _____ TO _____ YDS

TOTAL WATER ADDED _____

QUANTITY	DESCRIPTION		UNIT PRICE	EXTENDED
10.00 YD	S1550A	4000 EXTERIOR		
150.00 YD	ON3030	OLSNTUM 3030		
10.00 EA	ON9949	ENVIRONMENTAL FEE		

Rev. 156

LEFT PLANT	ARRIVED JOB	START UNLOADING	DELAY EXPLANATION/CYLINDER TEST TAKEN	TIME ALLOWED
	1121		1 JOB NOT READY 2 SLOW POUR OR PUMP 3 TRUCK AHEAD ON JOB 4 CONTRACTOR BROKE DOWN 5 ADDED WATER 6 TRUCK BROKE DOWN 7 ACCIDENT 8 CITATION 9 LOCATION 10 OTHER	
RETURNED TO PLANT	LEFT JOB	FINISH UNLOADING		DELAY TIME
TOTAL ROUND TRIP	TOTAL AT JOB	UNLOADING TIME		ADDITIONAL CHARGE

SUBTOTAL

TAX CODE

TAX

ADDITIONAL CHARGE

GRAND TOTAL

WEIGHMASTER

GALLONS OF WATER

LOAD

American Rock Products, Inc.

2090 Robertson Drive
Richland, WA 99354

Richland Office
(509) 375-1021
(509) 375-5194 Fax

AR [illegible]

SOLD TO:

SHIP TO:

DATE	TIME	FORMULA #	YARDS ORD	TRUCK #	DRIVER	BATCH #	LOAD #	YARDS DEL.	P.O. #
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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ARRIVED AT _____ SLUMP

GALLONS ADDED ____ TO ____ YDS

GALLONS ADDED ____ TO ____ YDS

GALLONS ADDED ____ TO ____ YDS

GALLONS ADDED ____ TO ____ YDS

TOTAL WATER ADDED _____

QUANTITY	DESCRIPTION		UNIT PRICE	EXTENDED
10.00	[illegible]	[illegible] EXTERIOR		
150.00	[illegible]	GLENIUM [illegible]		
10.00	[illegible]	ENVIRONMENTAL FEE		

LEFT PLANT	ARRIVED JOB	START UNLOADING	DELAY EXPLANATION/CYLINDER TEST TAKEN	TIME ALLOWED
[illegible]	[illegible]		1 JOB NOT READY 2 SLOW POUR OR PUMP 3 TRUCK AHEAD ON JOB 4 CONTRACTOR BROKE DOWN 5 ADDED WATER 6 TRUCK BROKE DOWN 7 ACCIDENT 8 CITATION 9 LOCATION 10 OTHER	
RETURNED TO PLANT	LEFT JOB	FINISH UNLOADING		DELAY TIME
TOTAL ROUND TRIP	TOTAL AT JOB	UNLOADING TIME		ADDITIONAL CHARGE

SUBTOTAL

TAX CODE

TAX

ADDITIONAL CHARGE

GRAND TOTAL

WEIGHMASTER

GALLONS OF WATER

LOAD

APPENDIX E.

TANK 4 ACCEPTANCE NOTIFICATIONS

Subcontract No: S013213A00

Acceptance Notification of the Tank #4

Acceptance Notification No:	5-18R-108
Prepared By:	Joseph Voss
Distribution:	Charles Skiba, TradeWind CQC
Date:	Friday, November 5, 2010
Report:	5-16-196

Purpose

The purpose of this document is to notify WCH, the contractor, and Tradewind Services the subcontractor CQA has approved Tank #4 for the placement of geosynthetic materials. CQA verifies that Tank #4 was constructed as per contract specifications and has completed a final walk-down inspection with both CQC and WCH.

Items Certified

The following work items as found in 0600X-QA-G0005 are considered acceptable:

- The HDPE piping and valves certifications met the HDPE pipe specifications
- The rebar forms were constructed to match the submitted design drawings, and the placed concrete meets the construction specification requirements.
- The foundation and compacted backfill meeting the structural fill soil properties.
- The placement of the reinforcing steel, steel coatings, anchor bolts, shop-fabricated tank parts, field-erection tank parts (bolts), and other ancillary equipment, conform to the construction specifications and subcontractor submittals.
- The tank grout has been installed and cured as per contract specifications
- The subgrade surface finish is adequate for installing geotextile and geomembrane.
- ESI, the geosynthetic lining subcontractor subgrade acceptance form is attached.

ENVIROTECH – CQA

11/11/10
DATE

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Hanford Tank Liners LST-4 PROJECT NO: 09-10-1311

LOCATION: Richland Washington

PANEL-Numbers → ~~AREA ACCEPTED~~: S-1-Thru-S-6-11/6/10-S-7-Thru-S-14-11/8/10

AREA ACCEPTED ~~PANEL NUMBERS~~: 10734 S/F

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR: Delhur Industries

OWNER: Department Of Energy

AUTHORIZED REPRESENTATIVE:

The undersigned, Randy Story ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 11/6/10 – 11/8/10 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	Field Super.	11-6 & 8-10

OWNER REPRESENTATIVE

Signature	Title	DATE
	CQA Engineer	11-10-2010

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

Subcontract No: S013213A00

Acceptance Notification for Tank #4 Secondary Geomembrane

Acceptance Notification No:	5-18R-109
Prepared By:	Joseph Voss
Distribution:	Charles Skiba, TradeWind CQC
Date:	Thursday, December 9, 2010
Report:	5-16-218

Purpose

The purpose of this document is to notify WCH, the contractor, and Tradewind Services the subcontractor CQA the secondary geomembrane in Tank #4 for the placement of primary geomembrane. CQA verifies that Tank #4 secondary geomembrane was installed as per contract specifications with approved materials. Final inspection and leak testing has been completed.

Items Certified

The following work items as found in 0600X-QA-G0005 are considered acceptable:

- CQA verifies that the underlying secondary geomembrane and secondary geocomposite has been installed as per 0600X-SP-C0077 and 0600X-SP-C0082 and meets contract requirements for CQA testing, including destructive and non-destructive testing as well as verification of repairs.
- In addition, CQA has conducted an as-built survey of the secondary geomembrane in order to verify the location of all secondary seams and repairs.
- Leak Location Services (LLS) has completed a leak detection survey of the secondary geomembrane and certifies no holes are present in the secondary geomembrane.

ENVIROTECH - CQA

12/15/10
DATE

APPENDIX F.

LLDPE CONFORMANCE TESTING

Precision Geosynthetic Laboratories

GAI-LAP

Initial: CVZ #:0.13

DATE: 08/06/2010

Joseph Voss
Envirotech Consulting
P.O. Box 6029
Enid, OK 73702

Dear Mr. Voss:

Thank you for consulting Precision Geosynthetic Laboratories (PGL) for your material testing needs.

Enclosed is the ***final*** laboratory report for the conformance testing of two (2) 40mil LLDPE Smooth Geomembrane samples.

PROJECT NAME: Environmental Restoration Disposal Facility (ERDF)

REFERENCE PGL JOB NO.: G100556

DATE RECEIVED: May 25, 2010 **DATE REPORTED:** August 6, 2010

SAMPLED BY: PGL at GSE, TX.

SAMPLE IDENTIFICATIONS:

SAMPLE ID	PGL CONTROL NUMBER
R#108152714 L#CAD811050	66850
R#108152716 L#CAD811050	66851

TESTS REQUIRED:

TEST METHOD	DESCRIPTION
ASTM D5199	Thickness
ASTM D1505	Density
ASTM D6693 (Type IV)	Tensile Strength
ASTM D1603	Carbon Black Content
ASTM D5596	Carbon Black Dispersion
ASTM D1004	Tear Resistance
ASTM D4833	Puncture Resistance

TEST CONDITIONS: The samples were conditioned for a minimum of one hour in the laboratory at 22 $\pm$ 2°C (71.6 $\pm$ 3.6°F) and at 60 $\pm$ 10% relative humidity prior to test.

TEST RESULTS: The test results are summarized in Tables 1 and 2.

PRECISION GEOSYNTHETIC LABORATORIES

Carmelo V. Zantua
Technical/Laboratory Director

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. Precision Geosynthetic Laboratories 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 a policy of the company 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 longer time, please advise us in writing.

1160 North Gilbert Street, Anaheim, CA. 92801, www.precisionlabs.net Tel# 714-520-9631, 800-522-4599 Fax#714-520-9637

TABLE 1.

MATERIAL PROPERTIES

CLIENT: Envirotech Engineering & Consulting, Inc.

PROJECT: Environmental Restoration Disposal Facility (ERDF)

Date Received: **5/25/2010**
Date Reported: **8/6/2010**
Client Sample ID: **R#105152714 L#CAD811050**
Material Description: **40mil LLDPE Smooth Geomembrane**

QC'd By: _____
PGL Job No.: **G100556**
PGL Control No.: **66850**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum Avg.
ASTM D5199	Thickness (mils)															
	Apparatus:Dead weight dial Micrometer with 6.35 mm (0.250 in) dia presser foot and a pressure of 43.10 kPA (6.25 psi) provided by a 142 gm weight. Loading time: 5 sec Specimen Size: 4 sq in.															30 minimum avg.
		42	42	43	42	43	40	42	42	42	42	42	1	40	43	27 (any of the 10)
ASTM D1505	Density (grams/ cm.^{3})															
		0.9363	0.9363	0.9363								0.9363	0.0000	0.9363	0.9363	0.939 max.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Conditioning: Conducted test in standard laboratory atmosphere of 23+/-2^0 C (73.4+/-3.6^0 F), and 50+/-5% relative humidity. Rate of Separation: 2"/min															
	Tensile Strength at Break (lbs/ in.- width)															
	MD	246	217	248	228	221						232	14	217	248	114
	TD	238	228	242	228	238						235	6	228	242	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	1162	994	1195	990	1020						1072	98	990	1195	800
	TD	1238	1214	1218	1207	1214						1218	12	1207	1238	
ASTM D1004 Die C	Tear Resistance (lbs)															
	Machine: Tensile machine equipped with constant rate of extension and chart recorder.															
	MD	31	26	28	29	29	28	27	29	29	28	28	1	26	31	16
	TD	29	29	25	28	32	31	29	24	29	30	29	3	24	32	
ASTM D4833	Puncture Resistance (lbs)															
	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 beyond the outer edges of the clamping plates.															
		90	92	94	92	90	90	90	94	94	95	92	2	90	95	42
		94	93	92	92	92										
ASTM D1603	Carbon Black Content (percent, %)															
		2.16	2.21									2.19	0.03	2.16	2.21	2.0-3.0
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Categories 1 and 2
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				1 in Category 3

MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION
DC#1987 Record #268

Precision Geosynthetic Laboratories

TABLE 2.

MATERIAL PROPERT

CLIENT: Envirotech Engineering & Consulting, Inc.

PROJECT: Environmental Restoration Disposal Facility (ERDF)

Date Received: **5/25/2010**
Date Reported: **8/6/2010**
Client Sample ID: **R#105152716 L#CAD811050**
Material Description: **40mil LLDPE Smooth Geomembrane**

QC'd By: _____
PGL Job No.: **G100556**
PGL Control No.: **66851**

METHOD	DESCRIPTION	SPECIMENS 1	2	3	4	5	6	7	8	9	10	Avg.	Std. Dev.	Min	Max	Proj. Specs. Minimum Avg.
ASTM D5199	Thickness (mils)															
	Apparatus:Dead weight dial Micrometer with 6.35 mm (0.250 in) dia presser foot and a pressure of 43.10 kPA (6.25 psi) provided by a 142 gm weight. Loading time: 5 sec Specimen Size: 4 sq in.															
		42	42	40	42	40	43	42	40	42	42	41	1	40	43	30 minimum avg. 27 (any of the 10)
ASTM D1505	Density (grams/ cm.^{3})															
		0.9370	0.9370	0.9370								0.9370	0.0000	0.9370	0.9370	0.939 max.
ASTM D6693 Type IV	Tensile Properties:															
	Test Specimens: Type IV, Width of narrow section:0.25in, Length of narrow section:1.3in, Width Overall:0.75in, Length Overall: 4.5in Conditioning: Conducted test in standard laboratory atmosphere of 23+/-2^0 C (73.4+/-3.6^0 F), and 50+/-5% relative humidity. Rate of Separation: 2"/min															
	Tensile Strength at Break (lbs/ in.- width)															
	MD	232	228	231	228	220						228	5	220	232	114
	TD	219	227	206	207	222						216	9	206	227	
	Elongation at Break (percent, %) *Gauge Length = 2.0 in.*															
	MD	1051	1001	1015	1065	951						1016	45	951	1065	800
	TD	1083	1155	1017	1018	1179						1090	75	1017	1179	
ASTM D1004 Die C	Tear Resistance (lbs)															
	Machine: Tensile machine equipped with constant rate of extension and chart recorder.															
	MD	27	30	27	28	25	26	27	27	27	27	27	1	25	30	16
	TD	26	27	29	26	30	32	26	27	26	25	27	2	25	32	
ASTM D4833	Puncture Resistance (lbs)															
	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 beyond the outer edges of the clamping plates.															
		90	94	93	95	94	92	91	91	89	90	92	2	89	95	42
		92	93	94	92	90										
ASTM D1603	Carbon Black Content (percent, %)															
		2.22	2.24									2.23	0.02	2.22	2.24	2.0-3.0
ASTM D5596	Carbon Black Dispersion (category rating per reference chart PCN: 12-455960-38)															9 in Categories 1 and 2 1 in Category 3
		1	1	1	1	1	1	1	1	1	1	10 out of 10 in Category 1				

MD - MACHINE DIRECTION
TD - TRANSVERSE DIRECTION
DC#1987 Record #268

Precision Geosynthetic Laboratories

APPENDIX G.

FIELD GEOSYNTHETIC TESTING RESULTS

G.1

SECONDARY GEOMEMBRANE

Secondary Geomembrane Panel Placement Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Panel Number	Date / Time		Roll Number	Panel Width	Panel Length	Square Footage	Location (see as built for locations)
S-01	11/6/10		105152717	11.5	44	506	Wall SE
S-02	11/6/10		105152717	11.5	44	506	Wall South
S-03	11/6/10		105152717	11.5	45	518	Wall SW
S-04	11/6/10		105152717	11.5	45	518	Wall West
S-05	11/6/10		105152717	11.5	44	506	Wall NW
S-06	11/6/10		105152717	11.5	45	518	Wall North
S-07	11/8/10	7:20	105152717	11.5	44	506	Wall NE
S-08	11/8/10	8:00	105152717	11.5	21	242	Wall East
S-09	11/8/10	13:30	105152716	20	20	400	Floor East
S-10	11/8/10	12:00	105152716	22	93	2046	Floor CE
S-11	11/8/10	12:40	105152716	22	100	2200	Floor Center
S-12	11/8/10	13:35	105152716	22	85	1870	Floor CW
S-13	11/8/10	13:45	105152717	12	45	270	Floor West
S-14	11/8/10	13:50	105152716	12	23	138	Floor West

Secondary Geomembrane Seam Tracking Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
11/8/10 9:00	S1/S8	11.5	DA	85	850	9	11/8/10	BOS	BOS+8	CN	22222	30	30	10:39	10:44	Pass
Temperature (Outside)		52	°F	Overlap	5	in		BOS+8	EOS	Capped by SR-38						
Comments:	Wall Seam															
11/8/10 9:14	S1/S2	11.5	DA	85	850	9	11/8/10	BOS	BOS+8.5	CN	22222	30	30	13:24	13:29	Pass
Temperature (Outside)		52	°F	Overlap	5	in		BOS+8.5	EOS	Capped by SR-04						
Comments:	Wall Seam															
11/8/10 9:26	S2/S3	11.5	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	13:04	13:09	Pass
Temperature (Outside)		52	°F	Overlap	5	in										
Comments:	Wall Seam															
11/8/10 9:40	S3/S4	11.5	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	12:52	12:57	Pass
Temperature (Outside)		52	°F	Overlap	5	in										
Comments:	Wall Seam															
11/8/10 9:49	S4/S5	11.5	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	12:35	12:40	Pass
Temperature (Outside)		55	°F	Overlap	5	in										
Comments:	Wall Seam															
11/8/10 9:55	S5/S6	11.5	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	12:19	12:24	Pass
Temperature (Outside)		55	°F	Overlap	5	in										
Comments:	Wall Seam															

Secondary Geomembrane Seam Tracking Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
11/8/10 10:00	S6/S7	11.5	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	12:00	12:05	Pass
Temperature (Outside)		55	°F	Overlap	5	in										
Comments:	Wall Seam															
11/8/10 10:08	S7/S8	11.5	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	11:45	11:50	Pass
Temperature (Outside)		55	°F	Overlap	5	in										
Comments:	Wall Seam															
11/8/10 13:40	S9/S10	83	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	14:02	14:07	Pass
Temperature (Outside)		55	°F	Overlap	6	in										
Comments:	Floor Seam															
11/8/10 12:45	S10/S11	100	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	13:45	13:50	Pass
Temperature (Outside)		55	°F	Overlap	6	in										
Comments:	Floor Seam															
11/8/10 13:55	S11/S12	95	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	14:13	14:18	Pass
Temperature (Outside)		55	°F	Overlap	6	in										
Comments:	Floor Seam															
11/8/10 14:08	S12/S13	46	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	29	14:21	14:26	Pass
Temperature (Outside)		55	°F	Overlap	6	in										
Comments:	Floor Seam															

Secondary Geomembrane Seam Tracking Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
11/8/10 14:05	S13/S14	12	DA	85	850	9	11/8/10	BOS	EOS	CN	22222	30	30	14:31	14:36	Pass
Temperature (Outside)		55	°F	Overlap	6	in										
Comments:	Floor Seam															
11/8/10 14:10	S12/S14	23	DA	85	850	9	11/8/10	BOS	EOS	CN	22225	30	30	14:31	14:36	Pass
Temperature (Outside)		55	°F	Overlap	6	in										
Comments:	Floor Seam															
11/9/10	S5/S12	8	EY	48	500/300	N/A	11/12/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		45	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/10/10	S5/S11	23	EY	48	500/300	N/A	11/12/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		50	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/10/10	S5/S10	9	EY	48	500/300	N/A	11/12/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		50	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/10/10	S6/S10	16	EY	48	500/300	N/A	11/12/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		50	°F	Overlap	6	in										
Comments:	Extrusion Weld															

Secondary Geomembrane Seam Tracking Log

ENVIROTECH ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
11/10/10	S6/S9	25	EY	48	500/300	N/A	11/12/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		50	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/10/10	S7/S9	42	EY	48	500/300	N/A	11/12/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		50	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/10/10	S8/S9	18	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		50	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/10/10	S1/S9	3.5	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		-	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/10/10	S1/S10	24.5	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		-	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/10/10	S1/S11	11.5	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		40	°F	Overlap	6	in										
Comments:	Welding was completed 11/11/10															

Secondary Geomembrane Seam Tracking Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
11/11/10	S2/S11	11	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		40	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/11/10	S2/S12	27	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		40	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/11/10	S2/S14	3.5	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		40	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/11/10	S3/S14	19	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		40	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/11/10	S3/S13	22.5	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		40	°F	Overlap	6	in										
Comments:	Extrusion Weld															
11/11/10	S4/S13	22	EY	48	500/300	N/A	11/15/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		40	°F	Overlap	6	in										
Comments:	Extrusion Weld															

Secondary Geomembrane Seam Tracking Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
11/11/10	S4/S12	20	EY	48	500/300	N/A	11/12/10	BOS	BOS+11	Vacuum tested						Pass
Temperature (Outside)		40	°F	Overlap	6	in		BOS+11	BOS+12	Capped by SR-063						Pass
Comments:	Extrusion Weld						11/12/10	BOS+12	EOS	Vacuum tested						Pass

Secondary Geomembrane Repair Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number

Codes

Defect Codes:

BO- Burn Out	MD - Manufacturing Damage	IO- Insufficient Overlap	WD- Wind Damage
BS- Boot Skirt	DS #- Destructive Sam le	SI- Soil Irregularity	WR- Wrinkle
CO- Change of Overlap	EE- Earthwork Equip. Dam.	SL- Slag on Textured	WS- Welder Restart
CR- Crease	Ext- Extension	T- Panel Intersection	Other- Pipe: Pipe penetration in floor
D - Installation Damage	PT- Pressure test cut	VL- Vacuum Test Leak	Other- VT: Failed Vacuum Test
			Other- ELS: Electronic Leak Survey

Repair Type: C- Cap B- Bead P - Patch EW- Extrusion Weld F-Fusion Weld

* Note -- Repairs were Spark Tested in areas that were inaccessible with the Vacuum Box.

* Note -- Repairs noted with an SR-XXA suffix retests of the originating repair and do not represent a separate repair

** Note - Wall Panels Begin (BOP) on the floor and end (EOP) at the Baton Strips on the top of the Tank

Seam Codes:

BOS- Beginning of Stationing	EOS- End of Stationing	MOP - Middle of Panel	TOE - Toe of Slope
CW- Clockwise	CCW- Counter Clockwise		

Wall panel stationing begins at batton strip at top of tank

Floor panels were laid out north to south: Stationing based upon direction of weld

Secondary Geomembrane Repair Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number
SR-001	D/CR	11-Nov-10	S2 BOP+4.5 : 14-ft CCW from S2/S3	Bx2	3-in, 3-in	EY	48	500/300	11/15/10	Pass	
SR-002	PT/ID		S8/S1 BOS+8	Capped by SR-38							SR-38
SR-003	D/CR	10-Nov-10	S7 BOP +7 : 15.5 CW from S6/S7	B	4-in	EY	48	500/300	11/12/10	Pass	
SR-004	IO/PT	11-Nov-10	S1/S2 BOS+8.5	P	1x2	EY	48	500/300	11/15/10	Pass	
SR-005	IO	11-Nov-10	S10/S11 BOS+8	B	1	EY	48	500/300	11/15/10	Pass	
SR-006	IO	9-Nov-10	S10/S11 BOS+18	B	1.5	EY	48	500/300	11/15/10	Pass	
SR-007	T	9-Nov-10	S12/S13/S14	P	2x2	EY	48	500/300	11/15/10	Pass	
SR-008	Pipe	9-Nov-10	S11 Center of Floor Drain	B	7.5	EY	48	500/300	11/15/10	Pass	
SR-009	Pipe	9-Nov-10	S10/S11: Leak Detetion	B	6.5	EY	48	500/300	11/15/10	Fail	SR-75
SR-010	DS-01	10-Nov-10	S10/S11 BOS+90	P	2x5	EY	48	500/300	11/12/10	Pass	
SR-011	D	9-Nov-10	S10/S11 BOS+39, 1-ft West MOP	B	0.5	EY	48	500/300	11/15/10	Pass	
SR-012	D	9-Nov-10	S9/S10 BOS+38	B	0.5	EY	48	500/300	11/15/10	Pass	
SR-013	D/CR	11-Nov-10	S4 BOP +2 : 23-ft CW from S3/S4	B	0.5	EY	48	500/300	11/15/10	Pass	
SR-014	D/CR	11-Nov-10	S2 BOP+4 : 3-ft CCW from S2/S3	B	0.5	EY	48	500/300	11/15/10	Pass	
SR-015	WR	9-Nov-10	S5/S12 BOS+5	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-016	WR	10-Nov-10	S5/S11 BOS+6	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-017	WR	10-Nov-10	S5/S11 BOS+7	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-018	WR	10-Nov-10	S5/S11 BOS+14.5	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-019	WR	10-Nov-10	S5/S11 BOS+21	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-020	WR	10-Nov-10	S5/S10 BOS+3.5	P	1x1	EY	48	500/300	11/12/10	Pass	

Secondary Geomembrane Repair Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number
SR-021	WR	10-Nov-10	S6/S10 BOS+2	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-022	WR	10-Nov-10	S6/S10 BOS+5	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-023	WR	10-Nov-10	S6/S10 BOS+8	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-024	WR	10-Nov-10	S6/S9 BOS+2	P	1x2.5	EY	48	500/300	11/12/10	Pass	
SR-025	WR	10-Nov-10	S6/S9 BOS+6	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-026	WR	10-Nov-10	S6/S9 BOS+14	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-027	WR	10-Nov-10	S6/S9 BOS+20	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-028	WR	10-Nov-10	S7/S9 BOS+8	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-029	WR	9-Nov-10	S11 BOP+93 : MOP 9-ft E of S11/S12	B	0.5	EY	48	500/300	11/12/10	Pass	
SR-030	WR	10-Nov-10	S7/S9 BOS+13	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-031	WR	10-Nov-10	S7/S9 BOS+15	P	2x3	EY	48	500/300	11/12/10	Pass	
SR-032	WR	10-Nov-10	S7/S9 BOS+22	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-033	WR	10-Nov-10	S7/S9 BOS+29	P	3x3	EY	48	500/300	11/12/10	Pass	
SR-034	WR	10-Nov-10	S7/S9 BOS+35.5	P	3x3	EY	48	500/300	11/12/10	Pass	
SR-035	WR	10-Nov-10	S8/S9 BOS+3.5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-036	WR	10-Nov-10	S8/S9 BOS+8	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-037	WR	10-Nov-10	S8/S9 BOS+12.5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-038	WR	10-Nov-10	S1/S8/S9 : Cap of SR-02	P	2x3	EY	48	500/300	11/15/10	Pass	
SR-039	WR	10-Nov-10	S1/S10 BOS+2	P	1x1	EY	48	500/300	11/15/10	Fail	SR-71
SR-040	WR	10-Nov-10	S1/S10 BOS+6.5	P	1x1	EY	48	500/300	11/15/10	Pass	

Secondary Geomembrane Repair Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number
SR-041	WR	10-Nov-10	S1/S10 BOS+10.5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-042	WR	10-Nov-10	S1/S10 BOS+16	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-043	WR	10-Nov-10	S1/S10BOS+20.5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-044	WR	10-Nov-10	S1/S10/S11	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-045	WR	10-Nov-10	S1/S11 BOS+6	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-046	WR	11-Nov-10	S2/S11 BOS+5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-047	WR	11-Nov-10	S2/S11 BOS+10	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-048	WR	11-Nov-10	S2/S12 BOS+2	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-049	WR	11-Nov-10	S2/S12 BOS+8.5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-050	WR	11-Nov-10	S2/S12BOS+14	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-051	WR	11-Nov-10	S2/S12BOS+23.5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-052	WR	11-Nov-10	S3/S14 BOS+2.5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-053	WR	11-Nov-10	S3/S14 BOS+6	P	1.5 x 1.5	EY	48	500/300	11/15/10	Pass	
SR-054	WR	11-Nov-10	S3/S14 BOS+12	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-055	WR	11-Nov-10	S3/S14 BOS+15	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-056	WR	11-Nov-10	S3/S13/S14	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-057	WR	11-Nov-10	S3/S13 BOS+5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-058	WR	11-Nov-10	S3/S13 BOS+12	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-059	WR	11-Nov-10	S4/S13 BOS+8.5	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-060	WR	11-Nov-10	S4/S13 BOS+16	P	1x1	EY	48	500/300	11/15/10	Pass	

Secondary Geomembrane Repair Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number
SR-061	WR	11-Nov-10	S4/S12/S13	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-062	WR	11-Nov-10	S4/S12 BOS+5	P	2x2	EY	48	500/300	11/15/10	Pass	
SR-063	WR	11-Nov-10	S4/S12 BOS+12	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-064	SI	11-Nov-10	S9/S10 BOS+56	P	1x1	EY	48	500/300	11/12/10	Pass	
SR-065	SI	11-Nov-10	S10 BOS+10 MOP 9-ft W of S9/S10	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-066	Pipe	9-Nov-10	S9 BOP+17 MOOP 4-ft E S9/S10	B	7.5	EY	48	500/300	11/15/10	Pass	
SR-067	SI	11-Nov-10	S11 BOP+5 MOP 1-ft W of S10/S11	P	1x1	EY	48	500/300	11/15/10	Pass	
SR-068	DS-02	12-Nov-10	S5/S11 BOS+16.5	P	2x5	EY	48	500/300	11/12/10	Pass	
SR-069	DS-03	12-Nov-10	S4/S12 BOS+14	P	2x5	EY	48	500/300	11/12/10	Pass	
SR-070	WR	11-Nov-10	S3/S13 BOS+21	B	1x1	EY	48	500/300	11/15/10	Pass	
SR-071	VT	15-Nov-10	Repair of SR-39	B	0.5	EY	48	500/300	11/15/10	Pass	
SR-072	VT	15-Nov-10	Repair of seam S1/S11 BOS+4	B	0.5	EY	48	500/300	11/15/10	Pass	
SR-073	VT	15-Nov-10	Repair of seam S2/S11 BOS+5	B	0.5	EY	48	500/300	11/15/10	Pass	
SR-074	SI	12-Nov-10	S11 BOP+7 MOP 6-ft E of S11/S12	B	0.5	EY	48	500/300	11/15/10	Pass	
SR-075	VT	15-Nov-10	Repair of SR-09	B	0.5	EY	48	500/300	11/15/10	Pass	
SR-076	ELS	16-Nov-10	Repair of SR-73	B	0.5	TV	48	500/300	11/16/10	Pass	
SR-077	ELS	16-Nov-10	Repair of SR-51	B	0.5	TV	48	500/300	11/16/10	Pass	
SR-078	ELS	16-Nov-10	Repair of SR-57	B	0.5	TV	48	500/300	11/16/10	Pass	

Secondary Geomembrane Seam Destructive Sample Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No.: S013213A00
Installer: ESI

Material: 0
Fusion Peel: 38 Fusion Shear: 45 ppi
Extrusion Peel: 34 Ext Shear: 45 ppi

Seam Number	Repair Number	Date Tested	Tech	Peel (ppi) In	Code	Out	Code	Pass/ Fail	Shear (ppi)	Failure Code	Pass/ Fail
S10/S11	SR-10	11/10/10	JV	75	SE-1	72	SE-1	Pass	86	BRK	Pass
				72	SE-1	73	SE-1	Pass	88	BRK	Pass
Sample Number:		**DS-01**		75	SE-1	77	SE-1	Pass	83	BRK	Pass
Comments:				77	SE-1	74	SE-1	Pass	85	BRK	Pass
				78	SE-1	75	SE-1	Pass	81	BRK	Pass
S5/S11	SR-68	11/12/10	TW	64	BRK			Pass	48	BRK	Pass
				65	BRK			Pass	67	BRK	Pass
Sample Number:		**DS-02**		42	BRK			Pass	65	BRK	Pass
Comments:				66	BRK			Pass	65	BRK	Pass
				61	BRK			Pass	67	BRK	Pass
S4/S12	SR-69	11/12/10	TW	64	BRK			Pass	65	BRK	Pass
				63	BRK			Pass	66	BRK	Pass
Sample Number:		**DS-03**		65	BRK			Pass	66	BRK	Pass
Comments:				63	BRK			Pass	69	BRK	Pass
				61	BRK			Pass	68	BRK	Pass

Codes
AD: Adhesion failure (100% peel)
BRK: Break in sheeting away from Seam edge
SE: Break in sheeting at seam edge
AD-BRK: Break in sheeting (Partial Peel)

SIP: Sep. plane of the sheet
FTB: Film tearing bond
NFTB: 100% peel

G.2

PRIMARY GEOMEMBRANE

Primary Geomembrane Panel Placement Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Panel Number	Date / Time		Roll Number	Panel Width	Panel Length	Square Footage	Location (see as built for locations)
P-01	12/9/10	14:00	105152716	11.5	40	460	Wall South
P-02	12/9/10	13:15	105152716	11.5	40	460	Wall SW
P-03	12/10/10	8:15	105152716	11.5	40	460	Wall West
P-04	12/10/10	9:30	105152716	11.5	40	460	Wall NW
P-05	12/10/10	9:45	105152716	11.5	39	449	Wall North
P-06	12/10/10	10:15	105152716	11.5	39	449	Wall NE
P-07	12/10/10	12:00	105152717	11.5	53	610	Wall East
P-08	12/10/10	13:00	105152717	11.5	31	357	Wall SE
P-09	12/13/10	9:15	105152716	17	58	986	Floor West
P-10	12/13/10	9:00	105152716	22	90	1980	Floor CW
P-11	12/13/10	8:50	105152716	22	100	2200	Floor Center
P-12	12/13/10	10:30	105152715	22	90	1980	Floor CE
P-13	12/13/10	9:20	105152716	15	26	195	Floor E Wall
P-14	12/13/10	10:40	105152715	16	25	400	Floor E Wall
P-15	12/13/10	9:25	105152716	14	20	140	Floor E Wall

Primary Geomembrane Seam Tracking Log

ENVIROTECH ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
12/10/10 13:50	P8/P1	11.5	JA	85	860	9	12/14/10	BOS	EOS	CN	22225	30	30	13:29	13:34	Pass
Temperature (Outside)		42	°F	Overlap	6	in										
Comments:	Wall Seam															
12/10/10 14:00	P1/P2	11.5	JA	85	860	9	12/13/10	BOS	EOS	CN	22222	30	30	12:06	12:11	Pass
Temperature (Outside)		42	°F	Overlap	6	in										
Comments:																
12/10/10 14:15	P2/P3	11.5	JA	85	860	9	12/13/10	BOS	EOS	CN	22222	30	30	11:57	12:02	Pass
Temperature (Outside)		42	°F	Overlap	6	in										
Comments:																
12/10/10 14:25	P3/P4	11.5	JA	85	860	9	12/13/10	BOS	EOS	CN	22222	30	30	12:14	12:19	Pass
Temperature (Outside)		42	°F	Overlap	6	in										
Comments:																
12/10/10 14:30	P4/P5	11.5	JA	85	860	9	12/13/10	BOS	EOS	CN	22222	30	30	12:24	12:29	Pass
Temperature (Outside)		42	°F	Overlap	6	in										
Comments:																
12/10/10 14:45	P5/P6	11.5	JA	85	860	9	12/13/10	BOS	EOS	CN	22225	30	30	12:45	12:50	Pass
Temperature (Outside)		42	°F	Overlap	6	in										
Comments:																

Prim Geomembrane Seam Tracking Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
12/10/10 14:55	P6/P7	11.5	JA	85	860	9	12/13/10	BOS	EOS	CN	22225	30	30	13:18	13:23	Pass
Temperature (Outside)		42	°F	Overlap	6	in										
Comments:																
12/10/10 15:10	P7/P8	11.5	JA	85	860	9	12/13/10	BOS	EOS	CN	22225	30	30	13:47	13:52	Pass
Temperature (Outside)		42	°F	Overlap	6	in										
Comments:																
12/13/10 9:20	P9/P10	75	JA	85	860	9	12/13/10	BOS	EOS	CN	22225	30	30	11:47	11:52	Pass
Temperature (Outside)		58	°F	Overlap	6	in										
Comments:																
12/13/10 9:30	P10/P11	96.5	JA	85	860	9	12/13/10	BOS	EOS	CN	22222	30	30	11:48	11:53	Pass
Temperature (Outside)		58	°F	Overlap	6	in										
Comments:																
12/13/10 10:40	P11/P12	96.5	JA	85	860	9	12/13/10	BOS	EOS	CN	22225	30	30	12:01	12:06	Pass
Temperature (Outside)		58	°F	Overlap	6	in										
Comments:																
12/13/10 11:04	P12/P13	26	JA	85	860	9	12/13/10	BOS	EOS	CN	22225	30	30	12:36	12:41	Pass
Temperature (Outside)		58	°F	Overlap	6	in										
Comments:																

Primary Geomembrane Seam Tracking Log

ENVIROTECH ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
12/13/10 11:00	P12/P14	25	JA	85	860	9	12/13/10	BOS	EOS	CN	22225	30	30	13:09	13:14	Pass
Temperature (Outside)		60	°F	Overlap	6	in										
Comments:																
12/13/10 10:58	P12/P15	20	JA	85	860	9	12/13/10	BOS	EOS	CN	22225	30	30	13:35	13:40	Pass
Temperature (Outside)		60	°F	Overlap	6	in										
Comments:																
12/13/10 10:50	P13/P14	15	JA	85	860	9	12/13/10	BOS	EOS	CN	22225	30	30	12:55	13:00	Pass
Temperature (Outside)		60	°F	Overlap	6	in										
Comments:																
12/13/10 10:47	P14/P15	14	JA	85	/	N/A	12/13/10	BOS	EOS	CN	22225	30	30	13:26	13:31	Pass
Temperature (Outside)		60	°F	Overlap	6	in										
Comments:																
12/13/10	P1/P11	8.5	TV	15	550/500	N/A	12/14/10	BOS	BOS+8.5	Vacuum Test						Pass
Temperature (Outside)		60	°F	Overlap	18	in										
Comments:																
12/14/10	P1/P11	4.5	TV	15	535/475	N/A	12/14/10	BOS+8.5	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																

Primary Geomembrane Seam Tracking Log

ENVIROTECH ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
12/13/10	P1/P10	25.5	TV	15	550/500	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		60	°F	Overlap	18	in										
Comments:																
12/13/10	P1/P9	3.3	TV	15	550/500	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		60	°F	Overlap	18	in										
Comments:																
12/13/10	P2/P9	39	TV	15	550/500	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)		58	°F	Overlap	18	in										
Comments:																
12/13/10	P3/P9	24	TV	15	550/500	N/A	12/14/10	BOS	BOS+24	Vacuum Test						Pass
Temperature (Outside)		58	°F	Overlap	18	in										
Comments:																
12/14/10	P3/P9	13.5	EY	48	500/300	N/A	12/14/10	BOS+24	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P4/P9	2	EY	48	500/300	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																

Prima Geomembrane Seam Tracking Log

ENVIROTECH ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
12/14/10	P4/P10	25.5	EY	48	500/300	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P4/P11	10.5	EY	48	500/300	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P5/P11	12	EY	48	500/300	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P5/P12	24	EY	48	500/300	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P6/P12	1.5	EY	48	500/300	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P6/P13	27	EY	48	500/300	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																

Primary Geomembrane Seam Tracking Log

ENVIROTECH ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
12/14/10	P6/P14	8	TV	15	535/475	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P7/P14	19	TV	15	535/475	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P7/P15	23.5	TV	15	535/475	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P7/P12	9.5	TV	15	535/475	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P8/P12	16	TV	15	535/475	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																
12/14/10	P8/P11	14.5	TV	15	535/475	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																

Primary Geomembrane Seam Tracking Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No. S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi
N-D Max Pressure Loss: 2 psi
Min Pres = 30 psi

Welding Data							Non-Destructive Test Data									
Date Welded	Seam No	Seam Length	Tech	Machine Number	Machine Temp (F)	Machine Speed	Date Tested	Start Location	End Location	Tester ID	Gauge ID	Pressure (psi) Start	Pressure (psi) End	Time Start	Time End	Pass/ Fail
12/14/10	P6/P13	1.5	TV	15	535/475	N/A	12/14/10	BOS	EOS	Vacuum Test						Pass
Temperature (Outside)			°F	Overlap	18	in										
Comments:																

Primary Geomembrane Repair Log

Submittal 5-25-2

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number

Codes

Defect Codes:

BO- Burn Out
BS- Boot Skirt
CO- Change of Overlap
CR- Crease
D - Installation Damage
MD - Manufacturing Damage
DS #- Destructive Sample
EE- Earthwork Equip. Dam.
Ext- Extension
PT- Pressure test cut
IO- Insufficient Overlap
SI- Soil Irregularity
SL- Slag on Textured
T- Panel Intersection
VL- Vacuum Test Leak
WD- Wind Damage
WR- Wrinkle
WS- Welder Restart
Other- Pipe: Pipe penetration in floor
Other- VT: Failed Vacuum Test
Other- ELF: Electronic Leak Failure

Leak Test - Repair was leak tested, not vacuum tested

Repair Type: C- Cap B- Bead P - Patch EW- Extrusion Weld F-Fusion Weld

* Note -- Repairs were Spark Tested in areas that were inaccessible with the Vacuum Box.

* Note -- Repairs noted with an SR-XXA suffix retests of the originating repair and do not represent a separate repair

** Note - Wall Panels Begin (BOP) on the floor and end (EOP) at the Baton Strips on the top of the Tank

Seam Codes:

BOS- Beginning of Stationing
EOS- End of Stationing
MOP - Middle of Panel
TOE - Toe of Slope
CW- Clockwise
CCW- Counter Clockwise

Wall panel stationing begins at batton strip at top of tank

Floor panels were laid out north to south: Stationing based upon direction of weld

Welds between floor panels and wall panels were stationed clockwise

Primary Geomembrane Repair Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number
PR-001	D	14-Dec-10	P3 BOP+7 MOP 4-ft CW P2/P3	B	0.5	EY	48	500/300	12/14/10	Pass	
PR-002	T	13-Dec-10	P12/P13/P14	P	2x2	EY	48	500/300	12/14/10	Pass	
PR-003	T	13-Dec-10	P12/P14/P15	B	2x2	EY	48	500/300	12/14/10	Pass	
PR-004	D	14-Dec-10	P11/P12 EOS	B	0.5	EY	48	500/300	12/14/10	Pass	
PR-005	Pipe	13-Dec-10	P12/P15 BOS+11	B	6.5	EY	48	500/300	12/14/10	Pass	
PR-006	Pipe		P11 BOP+50 MOP 12-ft W of P11/P12	Capped by PR-30							PR-30
PR-007	DP-01	13-Dec-10	P11/P12 BOS+32.5	P	2x5	EY	48	500/300	12/14/10	Pass	
PR-008	WR	13-Dec-10	P1/P11 BOS+4.5	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-009	WR	13-Dec-10	P1/P10 BOS+2	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-010	WR	13-Dec-10	P1/P10 BOS+7	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-011	WR	13-Dec-10	P1/P10 BOS+15	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-012	WR	13-Dec-10	P1/P10 BOS+19.5	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-013	WR	13-Dec-10	P1/P9/P10	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-014	WR	13-Dec-10	P2/P9 BOS+8	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-015	WR	13-Dec-10	P2/P9 BOS+12	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-016	WR	13-Dec-10	P2/P9 BOS+17.5	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-017	WR	13-Dec-10	P2/P9 BOS+21.5	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-018	WR	13-Dec-10	P2/P9 BOS+26	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-019	WR	13-Dec-10	P2/P9 BOS+31	P	1x2	TV	15	550/500	12/14/10	Pass	
PR-020	WR	13-Dec-10	P2/P9 BOS+36	P	1x1	TV	15	550/500	12/14/10	Pass	

Primary Geomembrane Repair Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number
PR-021	WR	13-Dec-10	P3/P9 BOS+2	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-022	WR	13-Dec-10	P3/P9 BOS+8	P	1x1	TV	15	550/500	12/14/10	Pass	
PR-023	WR	13-Dec-10	P3/P9 BOS+10	P	1x2	TV	15	550/500	12/14/10	Pass	
PR-024	WR	13-Dec-10	P3/P9 BOS+17	P	1x2	TV	15	550/500	12/14/10	Pass	
PR-025	WR	13-Dec-10	P3/P9 BOS+22	P	1x2	TV	15	550/500	12/14/10	Pass	
PR-026	WR	14-Dec-10	P3/P9 BOS+26	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-027	D	13-Dec-10	P12 BOP+9 MOP 1.5-ft West of P12/P15	B	0.5	EY	48	500/300	12/14/10	Pass	
PR-028	D	13-Dec-10	P9 BOP+59.5 MOP 8-ft West of P9/P11	B	0.5	TV	15	550/500	12/14/10	Pass	
PR-029	D	13-Dec-10	P11 BOP+43 MOP 6-ft E of P10/P11	B	0.5	TV	15	550/500	Leak Test	Pass	
PR-030	CAP	13-Dec-10	Cap over PR-06 (doughnut shaped)	Cap	4-ft dia	TV	15	550/500	Leak Test	Pass	
PR-031	PT	14-Dec-10	P1/P8 EOS (Top of Tank)	P	1x1	EY	48	500/300	12/14/10	Pass	
PR-032	WR	14-Dec-10	P3/P9 BOS+34	P	1x1	EY	48	500/300	12/14/10	Pass	
PR-033	WR	14-Dec-10	P4/P10 BOS+6	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-034	WR	14-Dec-10	P4/P10 BOS+10	P	1x1	EY	48	500/300	12/14/10	Pass	
PR-035	WR	14-Dec-10	P4/P10 BOS+14	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-036	WR	14-Dec-10	P4/P10 BOS+17	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-037	WR	14-Dec-10	P4/P10 BOS+20	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-038	WR	14-Dec-10	P4/P11 BOS+1	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-039	WR	14-Dec-10	P4/P11 BOS+5	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-040	WR	14-Dec-10	P5/P11 BOS+5	P	1x1	EY	48	500/300	12/14/10	Pass	

Primary Geomembrane Repair Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number
PR-041	WR	14-Dec-10	P5/P11 BOS+7	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-042	WR	14-Dec-10	P5/P12 BOS+3	P	2x2	EY	48	500/300	12/14/10	Pass	
PR-043	WR	14-Dec-10	P5/P12 BOS+7	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-044	WR	14-Dec-10	P5/P12 BOS+12	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-045	WR	14-Dec-10	P5/P12 BOS+17	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-046	WR	14-Dec-10	P5/P12 BOS+20	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-047	WR	14-Dec-10	P6/P13 BOS+1	P	2x2	EY	48	500/300	12/14/10	Pass	
PR-048	WR	14-Dec-10	P6/P13 BOS+4	P	2x2	EY	48	500/300	12/14/10	Pass	
PR-049	WR	14-Dec-10	P6/P13 BOS+8	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-050	WR	14-Dec-10	P6/P13 BOS+13	P	1x2	EY	48	500/300	12/14/10	Pass	
PR-051	WR	14-Dec-10	P6/P13 BOS+16	P	1x1	EY	48	500/300	12/14/10	Pass	
PR-052	WR	14-Dec-10	P6/P13 BOS+19	P	1x1	EY	48	500/300	12/14/10	Pass	
PR-053	WR	14-Dec-10	P6/P13 BOS+27	P	1x2	TV	15	535/475	12/14/10	Pass	
PR-054	WR	14-Dec-10	P6/P14 BOS+3	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-055	WR	14-Dec-10	P7/P14 BOS+7	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-056	WR	14-Dec-10	P7/P14 BOS+14	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-057	WR	14-Dec-10	P7/P14/P15	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-058	WR	14-Dec-10	P7/P15 BOS+8	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-059	WR	14-Dec-10	P7/P15 BOS+15	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-060	WR	14-Dec-10	P7/P17 BOS+22	P	1x1	TV	15	535/475	12/14/10	Pass	

Primary Geomembrane Repair Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Installer: S013213A00

Material: 40 mil HDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi
Shear (min): 45 ppi

Repair No.	Code	Date	Location	Type	Size (ft)	Tech	Equip. ID	Temp	Date	Pass/Fail	Retest Number
PR-061	WR	14-Dec-10	P8/P12 BOS+5	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-062	WR	14-Dec-10	P8/P12 BOS+10	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-063	WR	14-Dec-10	P8/P12 BOS+14	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-064	WR	14-Dec-10	P8/P11 BOS+2	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-065	WR	14-Dec-10	P8/P11 BOS+11	P	1x1	TV	15	535/475	12/14/10	Pass	
PR-066	D	14-Dec-10	P4/P10 BOS+15.5	B	0.5	EY	48	500/300	12/14/10	Pass	
PR-067	D	13-Dec-10	P12 BOP+43 MOP 1.5-ft W of P12/P13/P14	B	0.5	EY	48	500/300	12/14/10	Pass	
PR-068	DP-02	14-Dec-10	P5/P12 BOS+14	P	2x5	EY	48	500/300	12/14/10	Pass	
PR-069	DP-03	14-Dec-10	P1/P10 BOS+9	P	2x5	EY	48	500/300	12/14/10	Pass	
PR-070			Not Used								
PR-071	ELF	14-Dec-10	P13 MOP: 2-ft W of PR-51	B	0.5	TV	15	535/475	12/14/10	Pass	
PR-072	ELF	14-Dec-10	P4/P10 BOS+22	B	0.5	TV	15	535/475	12/14/10	Pass	
PR-073	ELF	14-Dec-10	P10 MOP: 0.5-ft SE of P4/P9/P10	B	1	TV	15	535/475	12/14/10	Pass	
PR-074	ELF	14-Dec-10	PR-26	B	1	TV	15	535/475	12/14/10	Pass	
PR-075	ELF	14-Dec-10	P3/P9 BOS+20	B	1	TV	15	535/475	12/14/10	Pass	
PR-076	ELF	14-Dec-10	PR-23: North Side	B	1	TV	15	535/475	12/14/10	Pass	
PR-077	ELF	14-Dec-10	PR-65: South Side	B	0.5	TV	15	535/475	12/14/10	Pass	

Primary Geomembrane Seam Destructive Sample Log

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 5-25-2

Project Information

Project: Hanford ERDF Tank 4
Project ID: 01-0032
Project No.: S013213A00
Installer: ESI

Material: 40 mil HDPE (Smooth)
Fusion Peel: 38 Fusion Shear: 45 ppi
Extrusion Peel: 34 Ext Shear: 45 ppi

Seam Number	Repair Number	Date Tested	Tech	Peel (ppi) In	Peel (ppi) Code	Peel (ppi) Out	Peel (ppi) Code	Pass/ Fail	Shear (ppi)	Failure Code	Pass/ Fail
P11/P12	PR-07	12/14/10	JS	66	BRK	67	BRK	Pass	83	BRK	Pass
Sample Number:		**DP-01**		65	BRK	67	BRK	Pass	81	BRK	Pass
				72	BRK	75	BRK	Pass	80	BRK	Pass
Comments:				71	BRK	74	BRK	Pass	79	BRK	Pass
				71	BRK	72	BRK	Pass	81	BRK	Pass
P5/P12	PR-68	12/14/10	JS	55	BRK			Pass	72	BRK	Pass
Sample Number:		**DP-02**		67	BRK			Pass	73	BRK	Pass
				72	BRK			Pass	76	BRK	Pass
Comments:				68	BRK			Pass	76	BRK	Pass
				63	BRK			Pass	76	BRK	Pass
P1/P10	PR-64	12/14/10	JS	72	BRK			Pass	75	BRK	Pass
Sample Number:		**DS-03**		69	BRK			Pass	72	BRK	Pass
				70	BRK			Pass	75	BRK	Pass
Comments:				71	BRK			Pass	75	BRK	Pass
				70	BRK			Pass	74	BRK	Pass

Codes
AD: Adhesion failure (100% peel)
BRK: Break in sheeting away from Seam edge
SE: Break in sheeting at seam edge
AD-BRK: Break in sheeting (Partial Peel)

SIP: Sep. plane of the sheet
FTB: Film tearing bond
NFTB: 100% peel

G.3

TRIAL WELDS

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

ENVIROTECH
ENGINEERING & CONSULTING, INC.

Submittal 05-025

Project Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/2/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 193

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-1	9:00	85	DA	850		85	86	87	SE/SE	T-043	Pass
				9.0		78	79	87	SE/SE	T-043	Pass
Temperature:						84	78	86	SE/SE	T-043	Pass
Comments:											
TS Tank-2	15:35	85	DA	850		64	61	64	SE/SE	T-043	Pass
				9.0		60	60	60	SE/SE	T-043	Pass
Temperature:						63	67	70	SE/SE	T-043	Pass
Comments:						60	60	-	SE/SE	T-043	Pass
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

ENVIROTECH
ENGINEERING & CONSULTING, INC.

ubmittal 05-025

roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/4/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 195

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-3	8:38	48	EY		400		87	80	SE/SE	T-043	Pass
			CN		150		78	79	SE/SE	T-043	Pass
Temperature:							75	80	SE/SE	T-043	Pass
Comments: No actual welds conducted with trail weld											
TS Tank-4	11:55	48	EY		500		66	78	SE/SE	T-043	Pass
			CN		250		63	75	SE/SE	T-043	Pass
Temperature:							64	77	SE/SE	T-043	Pass
Comments:											
mperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/5/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 196

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-5	9:26	48	EY		500		71	84	SE/SE	T-043	Pass
			CN		300		64	81	SE/SE	T-043	Pass
Temperature 47							69	89	SE/SE	T-043	Pass
Comments:											
TS Tank-6	11:44	48	EY		500		64	77	SE/SE	T-043	Pass
			CN		300		67	73	SE/SE	T-043	Pass
Temperature 55							68	80	SE/SE	T-043	Pass
Comments:											
mperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/6/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 197

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-7	8:19	48	EY		500		59	86	SE/SE	T-043	Pass
			CN		300		70	79	SE/SE	T-043	Pass
Temperature:							76	92	SE/SE	T-043	Pass
Comments:											
Temperature 55											
Comments:											
emperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/8/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 198

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-8	8:50	85	DA	850		80	79	83	SE/SE	T-043	Pass
				9.0		76	81	87	SE/SE	T-043	Pass
Temperature 52						76	78	84	SE/SE	T-043	Pass
Comments:											
TS Tank-9	12:03	48	EY		500		74	76	SE/SE	T-043	Pass
			CN		300		74	74	SE/SE	T-043	Pass
Temperature 57							73	77	SE/SE	T-043	Pass
Comments:											
mperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/9/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 199

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-10	7:55	48	EY		500		74	97	SE/SE	T-043	Pass
			CN		300		73	93	SE/SE	T-043	Pass
Temperature 34							68	98	SE/SE	T-043	Pass
Comments:											
TS Tank-11	13:30	48	EY		500		75	84	SE/SE	T-043	Pass
			CN		300		75	88	SE/SE	T-043	Pass
Temperature 42							77	82	SE/SE	T-043	Pass
Comments:											
mperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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Project Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/10/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 200

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-12	12:05	48	EY		500		62	76	SE/SE	T-043	Pass
			CN		300		68	74	SE/SE	T-043	Pass
Temperature 50							63	77	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
mperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/11/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 201

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-13	11:50	48	EY		500		65	81	SE/SE	T-043	Pass
			CN		300		63	77	SE/SE	T-043	Pass
Temperature 41							65	84	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
nperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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Project Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/12/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 202

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-14	12:55	48	EY		500		66	68	SE/SE	T-043	Pass
			CN		300		62	63	SE/SE	T-043	Pass
Temperature 33							63	68	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/15/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 203

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-15	9:30	48	EY		500		77	81	SE/SE	T-043	Pass
			CN		300		71	78	SE/SE	T-043	Pass
Temperature:							72	74	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
mperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/16/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 204

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-16	14:25	48	TV		500		66	70	SE/SE	T-043	Pass
			Paul		300		61	64	SE/SE	T-043	Pass
Temperature:							61	65	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
mperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/17/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 205

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-17	14:30	48	TV		500		73	82	SE/SE	T-043	Pass
			Paul		300		71	74	SE/SE	T-043	Pass
Temperature 50							72	70	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
nperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
nents:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 11/19/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 207

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-18	13:00	48	TV		500		70	72	SE/SE	T-043	Pass
			Paul		300		69	69	SE/SE	T-043	Pass
Temperature 48							70	71	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
mperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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roject Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 12/10/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 219

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-19	13:30	85	JA	860		78	75	84	SE/SE	T-043	Pass
				9.0		75	77	83	SE/SE	T-043	Pass
Temperature 42						76	74	80	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
nperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
nents:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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Project Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 12/13/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 221

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-20	8:25	85	JA	860		80	81	82	SE/SE	T-043	Pass
				9.0		79	76	77	SE/SE	T-043	Pass
Temperature 58						82	81	78	SE/SE	T-043	Pass
Comments:											
TS Tank-21	13:10	15	TV		550		71	71	SE/SE	T-043	Pass
			JA		500		69	69	SE/SE	T-043	Pass
Temperature 66							71	73	SE/SE	T-043	Pass
Comments:											
TS Tank-22	14:30	48	EY		500		63	74	SE/SE	T-043	Pass
			JE		300		57	70	SE/SE	T-043	Pass
Temperature 58							59	71	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

ENVIROTECH ENGINEERING & CONSULTING, INC.

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Project Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 12/14/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 222

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-23	9:40	48	EY		500		76	85	SE/SE	T-043	Pass
			JE		300		77	81	SE/SE	T-043	Pass
Temperature 58							74	81	SE/SE	T-043	Pass
Comments:											
TS Tank-24	9:50	15	TV		535		78	84	SE/SE	T-043	Pass
			JA		475		75	81	SE/SE	T-043	Pass
Temperature 66							74	82	SE/SE	T-043	Pass
Comments:											
TS Tank-25	11:50	48	EY		500		80	85	SE/SE	T-043	Pass
			CN		300		75	75	SE/SE	T-043	Pass
Temperature:							77	88	SE/SE	T-043	Pass
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											

Geomembrane Trial Seam Log

Leachate Tank Trail Welds

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Submittal 05-025

Project Information

Project: Hanford ERDF Cells 9-10
Project ID: 01-0032
Project No. S013213S00
Installer: ESI
Date: 12/16/2010

Material: 40 mil LLDPE (Smooth)
Location: Hanford
Peel (min): 38 ppi Shear (min): 45 ppi
Peel (min): Ext. 34 Shear (min): 45 ppi
Report No: 5-16- 224

Sample Number	Time	Machine Number	Tech Wld/Grd	Fusion Welder °F / Speed	Extrusion Welder °F / Preheat	Peel (ppi) In	Peel (ppi) Out	Shear (ppi)	Seam Type	Tensi-ometer	Pass / Fail
TS Tank-26	11:50	85	JA	860		83	81	81	SE/SE	T-043	Pass
				9.0		84	83	77	SE/SE	T-043	Pass
Temperature 58						80	80	78	SE/SE	T-043	Pass
Comments:											
TS Tank-27	12:00	15	TV		535		65	83	SE/SE	T-043	Pass
			CN		475		68	77	SE/SE	T-043	Pass
Temperature 66							66	78	SE/SE	T-043	Pass
Comments:											
emperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
Comments:											
Temperature:											
ments:											

G.4

ELECTRONIC LEAK TESTING

LEAK LOCATION SERVICES, INC.

16124 UNIVERSITY OAK • SAN ANTONIO, TEXAS 78249 • (210) 408-1241 / FAX (210) 408-1242

December 21, 2010

Delhur Industries
P.O. Box 1116
Port Angeles, WA 98362

Attention: Mr. David Sterley

Email: dsterley@delhur.com

Subject: Report for "Geomembrane Leak Location Survey of Two Leachate Storage Tanks at the DOE Facility Hanford Site Near Richland, Washington"
LLSI Project 1338A - 2nd Mobilization

Dear Mr. Sterley:

On December 15th through the 17th, 2010, Thane Hefley of Leak Location Services, Inc. (LLSI) conducted the subject geomembrane leak location survey. The circular tanks have an approximate floor area of 7,854 square feet each with 7-foot tall vertical side walls. The side walls have an approximate area of 2,200 square feet each. The primary and secondary liners are separated by a geocomposite drainage layer placed across the floor area, but the composite drain does not extend up the side walls. This mobilizations purpose was to survey the primary liner of Tank 4 and to re-survey a section of the secondary liner of Tank 3. This report documents the results of the 2nd mobilization.

I. RESULTS

A. Leachate Storage Tank 3

A section of the secondary liner floor and vertical wall of Tank 3 was re-surveyed due to inclement weather damage to the secondary liner. This included approximately 10 feet of floor area off the north wall. No leaks were found in the secondary liner floor area or vertical wall of Leachate Storage Tank 3 that was surveyed. Figure 1 shows the area surveyed. There will be a future mobilization to survey the primary liner of Tank 3 upon completion.

B. Leachate Storage Tank 4

The primary liner of the floor and vertical walls of Tank 4 were surveyed. Seven leaks were found in the floor area of Leachate Storage Tank 4 and no leaks were found along the vertical walls. The floor area was surveyed with an average of twelve inches of water in the tank. The leaks were repaired and the tank was then re-filled with water and re-surveyed. No leaks were located during the second survey of the floor. The tank was then filled to operating capacity and the vertical walls were surveyed using the plumb-bob probe for vertical applications. The leaks were referenced to reference marks made on the vertical wall above the water line. Table 1 lists the locations and descriptions of the leaks and Figure 1 shows the approximate locations of the leaks.

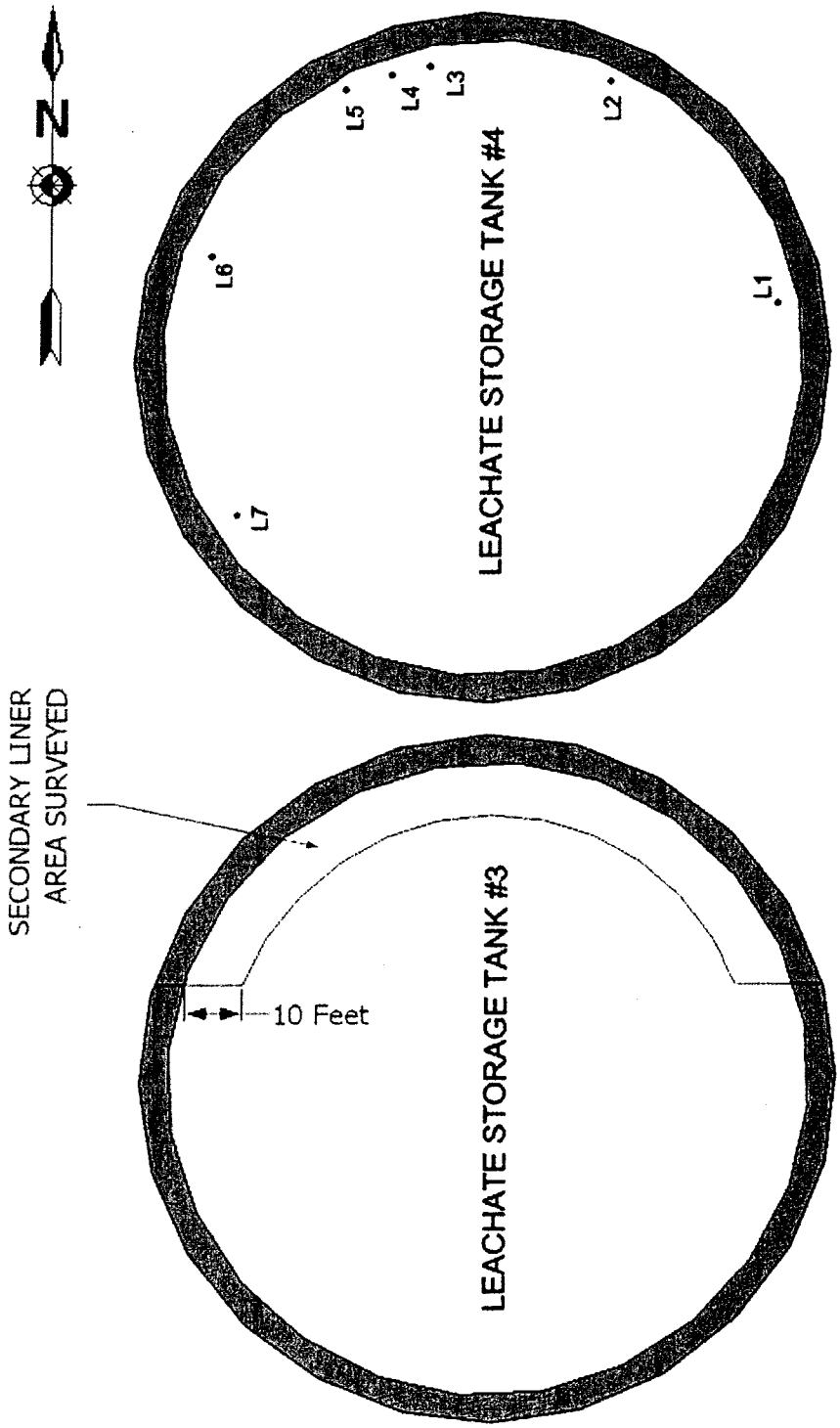

FIGURE 1. AREA SURVEYED AND APPROXIMATE LOCATIONS OF LEAKS IN LEACHATE STORAGE TANK #4

Table 1. Locations of Leaks in Leachate Storage Tank #4

Leak Number	Leak Location	Description
1	4 feet from mark on north vertical wall	Breakdown of material at toe
2	2 feet 6 inches from mark on west vertical wall	Extrusion weld at toe
3	3 feet from mark on west vertical wall	Extrusion weld at toe
4	2 feet 6 inches from mark on west vertical wall	Extrusion weld on seam
5	2 feet 6 inches from mark on southwest vertical wall	Extrusion weld at toe
6	2 feet from mark on southwest vertical wall	Extrusion weld on panel PR-23
7	6 feet from mark on south vertical wall	Extrusion weld on panel PR-65

II. TECHNIQUE

A. General

The electrical leak location method detects electrical paths through the liner caused by water or moisture in holes through the liner. A voltage is connected to one electrode in the water covering the liner in the impoundment and an electrode inserted into the leak detection zone. Electrical current flowing through the leaks in the liner produces localized anomalous areas of high current density near the leaks. These areas are located by making electrical potential measurement scans in the water on the geomembrane liner.

B. Wading Survey

For a wading survey, the operator wades in the water and systematically scans the submerged liner to locate any leaks. The operators scan the floor area with overlapping coverage, moving the probe laterally across an 8-foot span, advancing a distance of about 18 inches, and then moving the probe laterally in the opposite direction. In this manner, the total area of water-covered liner is surveyed with the probe passing within approximately 9 inches from every submerged point on the liner. Any seams are double checked by scanning the probe along the seams. The located leaks are marked with weights connected to floats on a string. The locations of these markers are referenced to marks placed on the vertical wall above the water line.

C. Wall Area Survey

The vertical side wall areas of the geomembrane liner are surveyed using a plumb-bob type sensor after the tanks are at operational level. This method requires the area under survey to be completely covered with water. With proper access, the operator would stand on the edge of the tank and vertically raise and lower the sensor along the vertical walls along lines spaced one to two feet apart depending on equipment sensitivity. The leaks would be marked on the vertical wall as a distance along the vertical test line.

D. Leak Sensitivity Test

The leak location equipment was tested at the beginning and end of every work day to document the leak detection sensitivity and functionality. A simulated leak was constructed by placing a 0.06-inch hole in a plastic container with a thickness approximating the thickness of the geomembrane. An insulated wire with a stripped end entered the container through a sealed insulating penetration. The other end of the wire was connected to an electrode connected to earth ground. The container was filled with water from the tank and submerged in the tank. Leak location scans were made to determine the maximum distance that the simulated leak could be reliably detected. This distance was approximately 18 to 32 inches.

If there are any questions regarding leak location surveys or this report, please contact us at (210) 408-1241. We appreciate this opportunity to have been of service to Delhur Industries on this important service requirement.

Very truly yours,

Philip Weynand
Project Manager

Approved by:

Daren L. Laine
President

LEAK LOCATION SERVICES, INC.

16124 UNIVERSITY OAK • SAN ANTONIO, TEXAS 78249 • (210) 408-1241 / FAX (210) 408-1242

January 13, 2011

Delhur Industries
P.O. Box 1116
Port Angeles, WA 98362

Attention: Mr. David Sterley

Email: dsterley@delhur.com

Subject: Report for "Geomembrane Leak Location Survey of Two Leachate Storage Tanks at the DOE Facility Hanford Site Near Richland, Washington"; LLSI Project 1338A

Dear Mr. Sterley:

On November 16 and 17, 2010, Thane Hefley of Leak Location Services, Inc. (LLSI) performed a geomembrane leak location survey for two leachate storage tanks located at the DOE Facility Hanford Site near Richland, Washington. The circular tanks have an approximate floor area of 7,854 square feet each with 7-foot tall vertical side walls. The side walls have an approximate area of 2,200 square feet each. The primary and secondary liners will be separated by a geocomposite drainage layer placed across the floor area but the composite drain will not extend up the side walls. Only the secondary liners were surveyed on this mobilization. The surveys of the floors and vertical walls of each tank were conducted in separate stages. This report documents the results of the surveys.

I. RESULTS

A. Leachate Storage Tank 3

Three leaks were found in the floor area of Leachate Storage Tank 3 and no leaks were found in the vertical walls. The tank was then re-filled with water and re-surveyed. No leaks were located during the second survey. Table 1 lists the leak locations and descriptions of the leaks and Figure 1 shows the approximate locations of the leaks.

B. Leachate Storage Tank 4

Seven leaks were found in the floor area of Leachate Storage Tank 4 and no leaks were found in the vertical walls. The tank was then re-filled with water and re-surveyed. No leaks were located during the second survey. Table 2 lists the leak locations and descriptions of the leaks and Figure 1 also shows the approximate locations of the leaks.

C. Leak Sensitivity Test

The leak location equipment was tested at the beginning and end of every work day to document the leak detection sensitivity and functionality. A simulated leak was constructed by placing a 0.06-inch hole in a plastic container with a thickness approximating the thickness of the geomembrane. An insulated wire with a stripped end entered the container through a sealed insulating penetration. The other end of the wire was connected to an electrode connected to earth ground. The container was filled with water from the reservoir and submerged in the reservoir. Leak location scans were made to determine the maximum distance that the simulated leak could be reliably detected. This distance was approximately 18 to 30 inches.

II. TECHNIQUE

A. General

The electrical leak location method detects electrical paths through the geomembrane caused by water or moisture in the leaks. A voltage is connected to one electrode in the water covering the geomembrane in the impoundment and an electrode connected to earth ground. Electrical current flowing through the leaks in the geomembrane produces localized anomalous areas of high current density near the leaks. These areas are located by making electrical potential measurement scans in the water on the geomembrane. Minimizing wrinkles to ensure intimate contact with the geomembrane and concrete would increase the leak detection sensitivity.

B. Wading Survey

When the water is between 10 to 36 inches deep, the operators wade in the water to perform the leak survey. This is most thorough test for finding leaks including tortuous leaks under patches. The operators wade in the water and systematically scan the submerged geomembrane to locate any leaks. The operator scans the floor area with overlapping coverage, moving the probe laterally across an 8-foot span, advancing a distance of about 18 inches, and then moving the probe laterally in the opposite direction. In this manner, the total area of water-covered geomembrane is surveyed with the probe passing within approximately 9 inches from every submerged point on the geomembrane. The located leaks are marked with weights connected to floats on a string. The locations of these markers are referenced to marks placed on the side slopes where practical. The water must be adjusted to be between 10 inches and 36 inches of water depth in the area of the survey.

Table 1. Locations and Descriptions of Leaks Found in Leachate Storage Tank 3

Leak Number	Location	Description
1	Approximately 28 inches from mark on the wall of the southeast side	Extrusion weld on the tee of a patch on floor
2	Approximately 26 inches from mark on the wall of the southwest side	Extrusion weld on the tee of a patch on floor
3	Approximately 2 inches from mark on the wall of the south west side	Extrusion weld of a patch floor

Table 2. Locations and Descriptions of Leaks Found in Leachate Storage Tank 4

Leak Number	Location	Description
1	Approximately 2 feet from mark on northwest vertical wall	Extrusion weld on patch
2	Approximately 2 feet from mark on north vertical wall	Extrusion weld on patch
3	Approximately 2 feet from mark on north vertical wall	Extrusion weld on patch
4	Approximately 2 feet from mark on northeast vertical wall	Extrusion weld on patch
5	Approximately 2 feet from mark on east vertical wall	Extrusion weld on patch
6	Approximately 2 feet from mark on east vertical wall	Extrusion weld on parch
7	Approximately 2 feet from mark on south vertical wall	Extrusion weld on patch

C. Wall Area Survey

The vertical side wall areas of the primary geomembrane liner are surveyed using a plumb-bob type sensor after the tanks are at operational level. This method requires the area under survey to be completely covered with water. With proper access, the operator would stand on the edge of the tank and vertically raise and lower the sensor along the vertical walls along lines spaced one to two feet apart depending on equipment sensitivity. The leaks would be marked on the liner as a distance along the vertical test line.

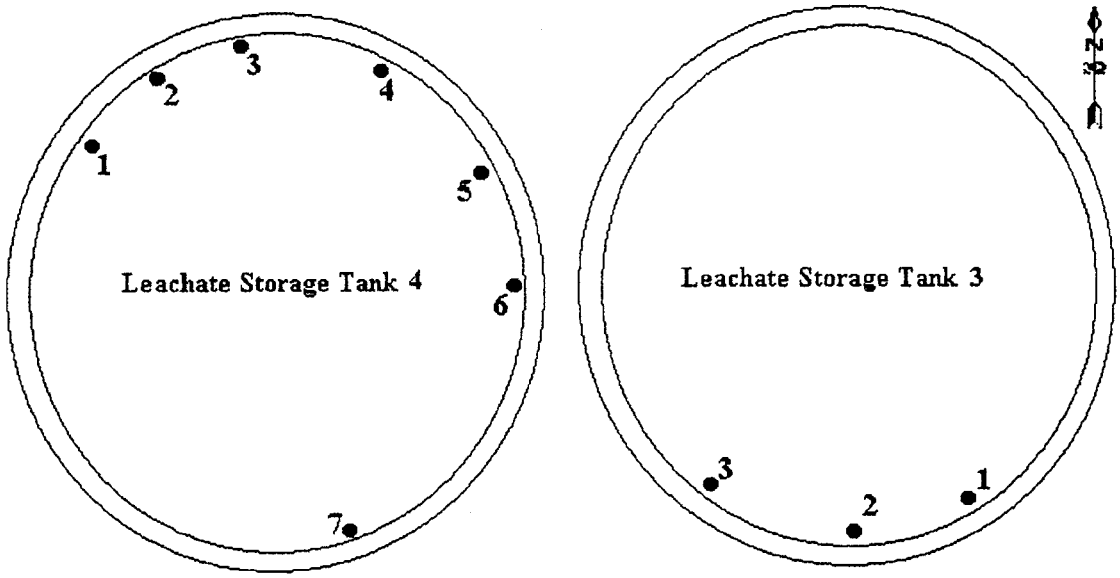

FIGURE 1. APPROXIMATE LOCATIONS OF THE LEAKS IN THE LEACHATE STORAGE TANKS

If there are any questions about the leak location survey of the report, please call us at (210) 408-1241. We appreciate the opportunity to have been of service to Delhur Industries on this important application.

Very truly yours,

John Ortiz
Project Manager

Approved by:

Glenn T. Darilek
Principal Engineer

G.5

TANK TIGHTNESS TESTING

DELHUR INDUSTRIES, INC.

Date: 12/20/10

Location: Leachate Storage Tank #4

Test: Tank Tightness

Specification: 0600X-SP-C0082, Section 3.3.3

Result: Passed

Comments: Following completion of the primary liner leak test, Leachate Storage Tank #4 was filled with water to the 7 foot mark on 12/17/2010 at approximately 7 PM PST. Dye was then added to the water as an indicator that there are no signs of leakage in the primary liner to the secondary containment system. The tank has maintained a level not less than 7 feet during the entire tank tightness test. On 12/20/2010 the valve in the leak detection vault was opened to verify tank tightness. Clear water discharged from the valve. This water is leftover from electronic leak testing the primary liner and is no indication that the primary liner is leaking.

Witnesses:

Nick Clapper, P.E. Nick Clapper

DHI Representative

Tyler Williams Tyler Williams 12-21-10

CQA Representative

Tim Wintle T. Wintle

WCH Representative

APPENDIX H.

DOCUMENTATION

H.1

DAILY REPORTS

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-001
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, February 10, 2010
Contractor(s):	TradeWind Services	1	Weather:	Clear – Hi: 60 °F Lo:40 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 1				

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	Sample Collected, USCS On-Going

CONSTRUCTION ACTIVITIES

1.0 Clearing and Grubbing – CQA observed TradeWind Services (TWS) clearing and grubbing the footprint of Cell 10 with the CAT D6 dozer.

2.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into three (3) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 7,605 cubic yards of base soil to the base soil stockpile for a cumulative total of 7,605 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable; CQA collected base soil sample BS-01

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

ENVIROTECH – CQA

4/21/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-002
Job Number:	S013213A00	Staff On-site	Date:	Thursday February 11, 2010
Contractor(s):	TradeWind Services	1	Weather:	Clear – Hi: 40 °F Lo:30 °F

FIELD NOTEBOOKS

Lucas Hay Book 1	Pages 2-3				

LABORATORY TESTING

Submittal 5-18F Base Soil Testing	BS-01	Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	Sample Collected, Testing On-Going
Submittal 5-18A Structural Fill	SF-01 N. and S. Embankment Fill	Sample Collected, Testing On-Going
Submittal 5-18A Structural Fill	SF-02 N. and S. Embankment Fill	Sample Collected, Testing On-Going

GENERAL ACTIVITIES

- Dave Sterly informed Envirotech that construction of the north and south embankments would likely begin ahead of schedule.

CONSTRUCTION ACTIVITIES

1.0 Clearing and Grubbing – CQA observed TradeWind Services (TWS) clearing and grubbing the footprint of Cell 10 with the CAT D6 dozer and the CAT D8 dozer.

2.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into two (2) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 10,530 cubic yards of base soil to the base soil stockpile for a cumulative total of 18,135 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable; CQA collected base soil sample BS-02 as well as structural fills samples SF-01 and SF-02.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

ENVIROTECH – CQA

2/16/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-003
Job Number:	S013213A00 Staff On-site	Date:	Friday, February 12, 2010
Contractor(s):	TradeWind Services 1	Weather:	Clear – Hi: 50 °F Lo:40 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 4				

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	Sample Collected, Testing On-Going
Submittal 5-18A Structural Fill	SF-01 N. and S. Embankment Fill	Proctor and USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-02 N. and S. Embankment Fill	Proctor and USCS Testing On-Going

CONSTRUCTION ACTIVITIES

1.0 Clearing and Grubbing – CQA observed TradeWind Services (TWS) clearing and grubbing the footprint of Cell 10 with the CAT D6 dozer and the CAT D8 dozer.

2.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into two (2) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 10,062 cubic yards of base soil to the base soil stockpile for a cumulative total of 28,197 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable; CQA collected base soil sample BS-03.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

Scott E Von — 4/16/10

ENVIROTECH – CQA — DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-004
Job Number:	S013213A00	Staff On-site	Date:	Monday, February 15, 2010
Contractor(s):	TradeWind Services	1	Weather:	Clear – Hi: 49 °F Lo:39 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 5,6				

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-01 N. and S. Embankment Fill	USCS, Proctor Complete
Submittal 5-18A Structural Fill	SF-02 N. and S. Embankment Fill	USCS, Proctor Complete

CONSTRUCTION ACTIVITIES

1.0 Clearing and Grubbing – CQA observed TradeWind Services (TWS) clearing and grubbing the footprint of Cell 10 with the CAT D6 dozer. The 5110 excavator loaded the grubbing material into the Komatsu trucks that transported it to the stockpile.

2.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into two (2) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 4,797 cubic yards of base soil to the base soil stockpile for a cumulative total of 32,994 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

3.0 North Embankment Construction – CQA observed TWS utilizing the D6 dozer with GPS scarifying the subgrade of the north embankment in preparation of watering and compacting of the subgrade.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-005
Job Number:	S013213A00 Staff On-site	Date:	Tuesday, February 16, 2010
Contractor(s):	TradeWind Services 1	Weather:	Clear – Hi: 55 °F Lo:30 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 7-8				

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going

CONSTRUCTION ACTIVITIES

1.0 Clearing and Grubbing – CQA observed TradeWind Services (TWS) utilizing the 5110 excavator to load the grubbing material from the footprint of Cell 10 into three (3) Komatsu trucks that transported the stockpile.

2.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into two (2) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 1,599 cubic yards of base soil to the base soil stockpile for a cumulative total of 34,593 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

3.0 North Embankment Construction – CQA observed TWS utilizing the "Ladybug" water truck to water and compact the subgrade for the north embankment.

4.0 South Embankment Construction – CQA observed TWS utilizing the D8 dozer to scarify the subgrade for the south embankment. The 834-B was also utilized to level the area in preparation for watering and compaction.

ENVIROTECH – CQA

4/16/10
DATE

Washington Closure Hanford

ENVIROTECH
ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-006
Job Number:	S013213A00 Staff On-site	Date:	Wednesday, February 17, 2010
Contractor(s):	TradeWind Services 1	Weather:	Clear – Hi: 53 °F Lo:32 °F

FIELD NOTEBOOKS

Lucas Hay Book 1	Pages 9-11				

LABORATORY TESTING

Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	Sample Collected. Testing On-Going

FIELD TESTING

Submittal 5-18B North Embankment	Subgrade Test	NB-01 through NB-10	Pass
Submittal 5-18B North Embankment	Lift No. 1	NB-11 through NB-16	Pass
Submittal 5-18B South Embankment	Subgrade Test	SB-01 through SB-10	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into two (2) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 10,062 cubic yards of base soil to the base soil stockpile for a cumulative total of 44,655 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 North Embankment Construction – CQA performed in place density tests on the subgrade of the north embankment. All density tests passed with 95% proctor density or higher. After CQA completed the in place density testing TWS utilized the D8 dozer to place the first 12-in lift on the north embankment. After the first lift had been placed on the north embankment CQA observed the "Ladybug" water truck compacting the first lift. After compaction, CQA performed in place density tests to verify that the compaction meets the specifications.

3.0 South Embankment Construction – CQA observed the "Ladybug" water truck watering and compacting the footprint of the south embankment. Subsequent to compaction CQA performed in place density tests on the subgrade for the south embankment to verify that the compaction meets the specification.

Joel E Van
ENVIROTECH – CQA

4/16/10
DATE

Washington Closure Hanford

ENVIROTECH
ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-007
Job Number:	S013213A00	Staff On-site	Date:	Thursday, February 18, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 54 °F Lo:31 °F

FIELD NOTEBOOKS

Lucas Hay Book 1	Pages 12-13	Tyler Williams Book 1	Page 1	Joe Voss Book 1	Page 1

LABORATORY TESTING

Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	Sample Collected, Testing On-Going

FIELD TESTING

Submittal 5-18B North Embankment	Lift No. 2	NB-17 through NB-19	Pass

GENERAL ACTIVITIES

- Envirotech Personnel Joe Voss and Tyler Williams arrived on-site today and began setting up the CQA Soil Testing Lab in the WCH MO-623 trailer.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into three (3) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 9,633 cubic yards of base soil to the base soil stockpile for a cumulative total of 54,288 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 North Embankment Construction – CQA observed TWS utilizing the D8 dozer to place the second lift on the north embankment and then utilizing the "Ladybug" water truck to water and compact the lift. Approximately half of the 2nd lift was completed today. Subsequent to compaction of the completed portion of lift 2, CQA performed in place density tests on the completed portion of the second lift. All density tests passed with 90% proctor density or higher. In addition, CQA performed a sand cone test to verify the Troxler gauge readings.

ENVIROTECH – CQA

4/16/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING INC

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-008
Job Number:	S013213A00	Staff On-site	Date:	Friday, February 19, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 63 °F Lo:32 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 14,15	Tyler Williams Book 1	Page 2	Joe Voss Book 1	Page 2

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	Sample Collected, Testing On-Going

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 2	NB-20 through NB-22	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into three (3) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 11,739 cubic yards of base soil to the base soil stockpile for a cumulative total of 66,027 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 North Embankment Construction – CQA observed TWS utilizing the D8 dozer to place the second half of the second lift on the north embankment and then utilizing the "Ladybug" water truck to water and compact the lift. Subsequent to compaction of the completed portion of lift 2, CQA performed in place density tests on the completed portion of the second lift. All density tests passed with 90% proctor density or higher. After in place density testing was performed and approved CQA observed TWS utilizing a D8 dozer to begin placing the third lift on the north embankment.

ENVIROTECH – CQA

4/16/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-009
Job Number:	S013213A00	Staff On-site	Date:	Monday, February 22, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 60 °F Lo:35 °F

FIELD NOTEBOOKS

Lucas Hay Book 1	Page 1	Tyler Williams Book 1	Pages 3,4	Joe Voss Book 1	Pages 3,4

LABORATORY TESTING

Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	Sample Collected, Testing On-Going

FIELD TESTING

Submittal 5-18B North Embankment	Lift No. 3	NB-23 through NB-28	Pass
Submittal 5-18B North Embankment	Lift No. 1	NB-29 through NB-30	Pass

GENERAL ACTIVITIES

- One of the Silo's for the Pugmill arrived on-site today.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into three (3) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 11,856 cubic yards of base soil to the base soil stockpile for a cumulative total of 77,883 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 North Embankment Construction – CQA observed TWS utilizing the D6 dozer with GPS to place the third lift on the north embankment. Subsequent to placing the third lift TWS utilized the "Ladybug" water truck to water and compact the completed third lift. CQA then proceeded to perform in place density tests. All density tests with 90% proctor density or greater.

3.0 South Embankment Construction – CQA observed TWS utilizing the D8 dozer to begin placing the first lift on the south embankment.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-010
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, February 23, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 53 °F Lo:20 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 19, 20	Tyler Williams Book 1	Pages 5-7	Joe Voss Book 1	Pages 5-6

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	Sample Collected, Testing On-Going

FIELD TESTING			
Submittal 5-18B South Embankment	Lift No. 1	SB-11 through SB-16	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove base soil from the Cell 10 footprint. The base soil was loaded into two (2) Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled 10,842 cubic yards of base soil to the base soil stockpile for a cumulative total of 88,725 cubic yards placed into the base soil stockpile. CQA continuously observed and verified that the soil in the base soil stockpile was visually acceptable.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 South Embankment Construction – CQA observed the "Ladybug" water truck watering and compacting the first lift south embankment. Subsequent to compaction CQA tested and verified that the compaction met the specifications.

ENVIROTECH – CQA

4/16/10
DATE

Washington Closure Hanford

ENVIROTECH

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-011
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, February 24, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 60 °F Lo:40 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 21	Tyler Williams Book 1	Pages 10-13	Joe Voss Book 1	Pages 7-8

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 1-4 (Trench Excavation)	NB-31 through NB-35	Pass
Submittal 5-18B South Embankment	Lift No. 2	SB-17 through SB-24	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove operations layer soil from the Cell 10 footprint. The soil was loaded into two (2) Komatsu trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 6,680 cubic yards of operations soil to the north and south embankments and 4,120 cubic yards to the operations soil stockpile for a cumulative daily total of 10,800 cubic yards excavated.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 North Embankment Construction – CQA observed TWS utilizing the CAT 312C to excavate the PVC line supplying power to the re-located air monitor previously located in the footprint of Cell 10. CQA tested and verified that each trench fill lift placed met the specifications. CQA observed TWS utilizing at D6 dozer to place the fourth lift on the eastern half of the north embankment.

3.0 South Embankment Construction – CQA observed TWS utilizing the D6 dozer to place the second lift on the south embankment and then utilize the "Ladybug" water truck to water and compact the lift. CQA performed in place density tests and verified the compaction of the second lift on the south embankment meets the specifications.

ENVIROTECH – CQA

DATE 4/16/10

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-012
Job Number:	S013213A00	Staff On-site	Date:	Thursday, February 25, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 58 °F Lo:35 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 21	Tyler Williams Book 1	Pages 14-15	Joe Voss Book 1	Pages 9-10

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-03 N. and S. Embankment Fill	Sample Collected, Testing On-Going

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 5	NB-36 through NB-37	Pass
Submittal 5-18B South Embankment	Lift No. 1	SB-25 through SB-28	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove operations layer soil from the Cell 10 footprint. The soil was loaded into three (3) Komatsu trucks. Two of the Komatsu trucks hauled soil to the operations soil stockpile, southeast of Cell 10 while one Komatsu truck hauled soil to the north and south embankments for general fill. TWS hauled 8,640 cubic yards of operations soil to the north and south embankments and 2,400 cubic yards to the operations soil stockpile for a cumulative daily total of 11,040 cubic yards excavated.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 North Embankment Construction – CQA observed TWS utilizing one Komatsu truck and one D6 dozer to place the fifth lift on the north embankment. Each lift was then compacted with the "Ladybug" water truck and a loaded Payhauler. CQA performed in place density tests and verified the compaction of the fifth lift on the north embankment meets the specifications. CQA determined that a new proctor was necessary for the fifth lift on the north embankment. CQA collected structural fill sample SF-03. Material placement is not approved over lift 5 on the north embankment.

3.0 South Embankment Construction – CQA observed TWS utilizing one Komatsu truck and one D6 dozer to place the first lift on the western half of the south embankment. Each lift was then compacted with the "Ladybug" water truck and a loaded Payhauler. CQA performed in place density tests and verified the compaction of the first lift on the south embankment meets the specifications.

Joel E Voss
ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-013
Job Number:	S013213A00	Staff On-site	Date:	Friday, February 26, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 60 °F Lo:32 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 24-25	Tyler Williams Book 1	Page 16	Joe Voss Book 1	Page 11

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-03 N. and S. Embankment Fill	Sample Collected, Testing On-Going

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 6	NB-41 through NB-46	Pass
Submittal 5-18B South Embankment	Lift No. 2-4	SB-29 through SB-40	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to remove operations layer soil from the Cell 10 footprint. The soil was loaded into three (3) Komatsu trucks. Two of the Komatsu trucks hauled soil to the operations soil stockpile, southeast of Cell 10 while one Komatsu truck hauled soil to the north and south embankments for general fill. TWS hauled 5,343 cubic yards of operations soil to the north and south embankments and 4,251 cubic yards to the operations soil stockpile for a cumulative daily total of 9,594 cubic yards of operations soil excavated.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 North Embankment Construction – CQA observed TWS utilizing one Komatsu truck and one D6 dozer to place the sixth lift on the north embankment. The lift was then compacted with the "Ladybug" water truck and a loaded Payhauler. CQA performed in place density tests and verified the compaction of the sixth lift on the north embankment meets the specifications. Subsequent to testing and verification of the compaction of the sixth lift, CQA observed TWS placing the seventh lift on the north embankment.

3.0 South Embankment Construction – CQA observed TWS utilizing one Komatsu truck and one D6 dozer to place the second, third and forth lifts on the south embankment. Each lift was then compacted with the "Ladybug" water truck and a loaded Payhauler. CQA performed in place density tests and verified the compaction of each lift meets the specifications prior to TWS placing the next lift.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-014
Job Number:	S013213A00	Staff On-site	Date:	Monday, March 1, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 58 °F Lo:31 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 26-27	Tyler Williams Book 1	Pages 16-18	Jimmy Stallings Book 1	Page 1

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-03 N. and S. Embankment Fill	Proctor Completed, USCS On-Going
Submittal 5-18A Structural Fill	SF-04 N. and S. Embankment Fill	Sample Collected, Testing On-Going

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 7	NB-47 through NB-54	Pass
Submittal 5-18B South Embankment	Lift No. 3-5	SB-41 through SB-58	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110, CAT 385 and the Hitachi 1800 excavator to remove operations layer soil from the Cell 10 footprint. The soil was loaded into Komatsu and Payhauler trucks. The trucks transported the material to the operations soil stockpile and to the north and south embankments for embankment fill. TWS hauled 7,449 cubic yards of operations soil to the north and south embankments and 17,667 cubic yards to the operations soil stockpile for a cumulative daily total of 25,116 cubic yards of operations soil excavated.

2.0 North Embankment Construction – CQA observed TWS utilizing both the Komatsu and the Payhauler trucks and one D6 dozer to place the seventh lift on the north embankment. The lift was then compacted with the "Ladybug" water truck and a loaded Payhauler. CQA performed in place density tests and verified the compaction of the seventh lift on the north embankment meets the specifications. Subsequent to testing and verification of the compaction of the seventh lift, CQA observed TWS placing the eighth lift on the north embankment.

3.0 South Embankment Construction – CQA observed TWS utilizing the "Ladybug" water truck and a loaded Payhauler to compact the third lift on the south embankment. CQA also observed TWS utilizing Komatsu and Payhauler trucks and one D6 dozer to place the fourth and fifth lifts on the south embankment. Each lift was then compacted with the "Ladybug" water truck and a loaded Payhauler. CQA performed in place density tests and verified the compaction of each lift met the specifications prior to TWS placing the next lift.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-015
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, March 2, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 62 °F Lo:40 °F

FIELD NOTEBOOKS

Lucas Hay Book 1	Pages 28, 29	Tyler Williams Book 1	Pages 19-21	Jimmy Stallings Book 1	Page 2

LABORATORY TESTING

Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-03 N. and S. Embankment Fill	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-04 N. and S. Embankment Fill	Testing On-Going

FIELD TESTING

Submittal 5-18B North Embankment	Lift No. 8	NB-55 through NB-62	Pass
Submittal 5-18B South Embankment	Lift No. 6	SB-59 through SB-68	Pass

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting at 10:00 in the WCH Trailer

2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting at 10:35 in the WCH Trailer.

3.0 Admix - The stacker for the pug mill arrived at approximately 15:00 today.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the Hitachi 1800 and the CAT 5110 to excavate operations layer soil from the Cell 10 footprint. The soil was loaded into four (4) Komatsu trucks and four (4) Payhauler trucks to be transported to the stockpile and to the north and south embankments for structural fill. TWS hauled 6,372 cubic yards of operations soil to the north and south embankments and 18,718 cubic yards to the operations soil stockpile for a cumulative daily total of 25,090 cubic yards of operations soil excavated.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-015
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, March 2, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 62 °F Lo:40 °F

CONSTRUCTION ACTIVITIES

2.0 North Embankment Construction – CQA observed TWS utilizing both the Komatsu and the Payhauler trucks and one D6 dozer to place the eighth lift on the north embankment. The lift was then compacted with the "Ladybug" water truck and a loaded Payhauler. CQA performed in place density tests and verified the compaction of the eighth lift on the north embankment meets the specifications.

3.0 South Embankment Construction – CQA observed TWS utilizing the D6 dozer with GPS to place the sixth lift on the south embankment. After placement the "Ladybug" water truck and a loaded Payhauler were used to compact the sixth lift on the south embankment. CQA performed in place density tests and verified the compaction of each lift met the specifications prior to TWS placing the next lift.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-016
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, March 3, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 61 °F Lo:45 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 30, 31	Tyler Williams Book 1	Pages 22-24	Jimmy Stallings Book 1	Page 3

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-03 N. and S. Embankment Fill	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-04 N. and S. Embankment Fill	Testing On-Going

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 9	NB-63 through NB-70	Pass
Submittal 5-18B South Embankment	Lift No. 7	SB-69 through SB-78	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 to excavate operations layer soil and load it into four (4) Komatsu trucks. TWS also utilized a CAT 385-C to excavate operations layer soil and load it into four (4) Payhauler trucks. The loaded soil was transported to the stockpile and to the north and south embankments for general fill. TWS hauled 4,848 cubic yards of operations soil to the north and south embankments and 20,403 cubic yards to the operations soil stockpile for a cumulative daily total of 25,251 cubic yards of operations soil excavated. CQA also observed TWS utilizing a small Hitachi excavator to construct and compact a berm along the east edge of Cell 10.

2.0 North Embankment Construction – CQA observed TWS utilizing both the Komatsu and the Payhauler trucks and one D6 dozer to place the ninth lift on the north embankment. The lift was then moisture conditioned and compacted with the "Ladybug" water truck and the water wagon. CQA performed in place density tests and verified the compaction of the ninth lift on the north embankment meets the specifications.

3.0 South Embankment Construction – CQA observed TWS utilizing the D6 dozer with GPS to place the seventh lift on the south embankment. After placement the "Ladybug" water truck and a loaded Payhauler were used to compact the seventh lift on the south embankment. CQA performed in place density tests and verified the compaction of each lift met the specifications.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-017
Job Number:	S013213A00 Staff On-site	Date:	Thursday, March 4, 2010
Contractor(s):	TradeWind Services 3	Weather:	Clear – Hi: 60 °F Lo:36 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 32-33	Tyler Williams Book 1	Pages 24-26	Jimmy Stallings Book 1	Page 4

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-03 N. and S. Embankment Fill	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-04 N. and S. Embankment Fill	Proctor Complete, USCS On-Going

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 10	NB-71 through NB-78	Pass
Submittal 5-18B South Embankment	Lift No. 8	SB-79 through SB-88	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator, the CAT 385-C excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10 as well as placed on the north and south embankments. TWS hauled 5,680 cubic yards of operations soil to the north and south embankments and 19,190 cubic yards to the operations soil stockpile for a cumulative daily total of 24,870 cubic yards of operations soil excavated on Thursday, March 4, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 North Embankment Construction – CQA observed TWS utilizing both the Komatsu and the Payhauler trucks and one D6 dozer to place the tenth lift on the north embankment. The lift was then moisture conditioned and compacted with the "Ladybug" water truck and the water wagon. CQA performed in place density tests and verified the compaction of the tenth lift on the north embankment meets the specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-017
Job Number:	S013213A00	Staff On-site	Date:	Thursday, March 4, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 60 °F Lo:36 °F

CONSTRUCTION ACTIVITIES

3.0 South Embankment Construction – CQA observed TWS utilizing the D6 dozer with GPS to place the eighth lift on the south embankment. After placement the "Ladybug" water truck and a loaded Payhauler were used to compact the seventh lift on the south embankment. CQA performed in place density tests and verified the compaction of each lift met the specifications.

4.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to begin exposing the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden and then hand digging was utilized to locate the exact depth of the liner. Approximately 3- to 6-in of soil was left as cover over the top layer of geotextile.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-018
Job Number:	S013213A00 Staff On-site	Date:	Friday, March 5, 2010
Contractor(s):	TradeWind Services 3	Weather:	Clear – Hi: 57 °F Lo:29 °F

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 34-35	Tyler Williams Book 1	Pages 27-28	Jimmy Stallings Book 1	Page 5

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-02	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-03 N. and S. Embankment Fill	USCS On-Going, Proctor Complete
Submittal 5-18A Structural Fill	SF-04 N. and S. Embankment Fill	USCS On-Going, Proctor Complete
Submittal 5-18A Structural Fill	SF-05 N. and S. Embankment Fill	Sample Collected – Testing On-Going

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 11	NB-79 through NB-86	Pass
Submittal 5-18B South Embankment	Lift No. 9	SB-89 through SB-98	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10 as well as placed on the north and south embankments for general fill. TWS hauled 7,182 cubic yards of operations soil to the north and south embankments and 21,763 cubic yards to the operations soil stockpile for a cumulative daily total of 28,945 cubic yards of operations soil excavated on Friday, March 5, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu trucks with the CAT 834 rubber tired dozer with attached B/G (back grader).

2.0 North Embankment Construction – CQA observed TWS utilizing the Payhauler trucks and one D6 dozer to place the eleventh lift on the north embankment. The lift was then moisture conditioned and compacted with the water wagon. CQA performed in place density tests and verified the compaction of the eleventh lift on the north embankment meets the specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-018
Job Number:	S013213A00	Staff On-site	Date:	Friday, March 5, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 57 °F Lo:29 °F

CONSTRUCTION ACTIVITIES

3.0 South Embankment Construction – CQA observed TWS utilizing the D6 dozer with GPS to place the ninth lift on the south embankment. After placement the water wagon was used to compact the ninth lift on the south embankment. CQA performed in place density tests and verified the compaction of the lift met the specifications.

4.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to begin exposing the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden and then hand digging was utilized to locate clean the excess soil off of the liner. Approximately 200-ft. of the liner tie in has been partially exposed.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-019
Job Number:	S013213A00	Staff On-site	Date:	Monday, March 8, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 55 °F Lo:38 °F Wind–32mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 36-37	Tyler Williams Book 1	Pages 30-29	Jimmy Stallings Book 1	Page 6

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-01	Testing Complete
Submittal 5-18F Base Soil Testing	BS-02	Testing Complete
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-03 N. and S. Embankment Fill	USCS Complete
Submittal 5-18A Structural Fill	SF-04 N. and S. Embankment Fill	USCS On-Going.
Submittal 5-18A Structural Fill	SF-05 N. and S. Embankment Fill	Testing On-Going

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 12	NB-87 through NB-94	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the CAT 385 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10 as well as placed on the south embankment for general fill. TWS hauled 837 cubic yards of operations soil to the south embankments and 27,293 cubic yards to the operations soil stockpile for a cumulative daily total of 28,130 cubic yards of operations soil excavated on Monday, March 8, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader) as well as the "Ladybug" water truck.

2.0 North Embankment Construction – CQA observed TWS utilizing the water wagon to water and compact lift 12, which was placed on Friday, March 5, 2010. CQA tested the lift and verified that the lift met the contract specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-019
Job Number:	S013213A00	Staff On-site	Date:	Monday, March 8, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 55 °F Lo:38 °F

CONSTRUCTION ACTIVITIES

3.0 South Embankment Construction – CQA observed TWS utilizing the D6 dozer with GPS to begin placing the tenth lift on the south embankment.

4.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to begin exposing the Cell 9 liner tie in. TWS utilized the CAT 312C excavator to remove excess soil and overburden and then hand digging was utilized to clean the remaining soil off of the liner.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-020
Job Number:	S013213A00 Staff On-site	Date:	Tuesday, March 9, 2010
Contractor(s):	TradeWind Services 3	Weather:	Clear – Hi: 48 °F Lo:23 °F Wind-14mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 38-39	Tyler Williams Book 1	Pages 31-32	Jimmy Stallings Book 1	Page 7

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-04 N. and S. Embankment Fill	USCS Complete, Proctor Complete
Submittal 5-18A Structural Fill	SF-05 N. and S. Embankment Fill	Testing On-Going
Submittal 5-18A Structural Fill	SF-06 N. and S. Embankment Fill	Testing On-Going

FIELD TESTING			
Submittal 5-18B South Embankment	Lift No. 10	SB-99 through SB-108	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu trucks and hauled to the operations soil stockpile, southeast of Cell 10 as well as placed on the north embankment for general fill. TWS hauled 20,156 cubic yards to the operations soil stockpile for a cumulative daily total of 20,156 cubic yards of operations soil excavated on Tuesday, March 9, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck was utilized along the haul road and in the excavation to control dust.

2.0 North Embankment Construction – CQA observed TWS utilizing two Komatsu trucks and one D6 dozer with GPS to begin placing the twelfth lift on the north embankment.

3.0 South Embankment Construction – CQA observed TWS utilizing the D6 dozer with GPS to shape the tenth and final lift on the south embankment. CQA observed TWS utilizing the water wagon to moisture condition and compact the tenth lift on the south embankment. CQA tested the lift and verified that the compaction met contract specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-020
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, March 9, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 48 °F Lo:23 °F Wind-14mph

CONSTRUCTION ACTIVITIES

4.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to expose the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden and then hand digging was utilized to clean the remaining inches of soil off of the liner. Approximately 400-ft. of the liner tie in has been exposed. CQA observed TWS uncovering the rain flap along the south embankment. After the rain flap was uncovered, TWS cut and removed the rain flap.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-021
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, March 10, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 52 °F Lo:29 °F Wind-12 mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 40-41	Tyler Williams Book 1	Page 33	Jimmy Stallings Book 1	Page 8

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-03	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-04	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-05	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-06	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-05 N. and S. Embankment Fill	USCS Completed, Proctor Completed
Submittal 5-18A Structural Fill	SF-06 N. and S. Embankment Fill	Testing On-Going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the CAT 385 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10 as well as placed on the north embankment for general fill. TWS hauled 648 cubic yards of soil to the north embankment for general fill and 19,215 cubic yards of soil to the operations soil stockpile for a cumulative daily total of 27,234 cubic yards of operations soil excavated on Wednesday, March 10, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck was utilized along the haul road and in the excavation for dust control.

2.0 North Embankment Construction – CQA observed TWS utilizing the Payhauler trucks and one D6 dozer with GPS to place the thirteenth lift on the north embankment. The D6 dozer with GPS also pushed soil from the interior of the north embankment to use as fill for the thirteenth lift. The lift was continuously moisture conditioned and compacted with the water wagon. CQA did not test the thirteenth lift for the north embankment. The testing is scheduled for March 11, 2010.

3.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to expose the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden and then hand digging was utilized to clean the remaining inches of soil off of the liner. Approximately 400-ft. of the liner tie in has been exposed along the Cell 9 floor. CQA observed TWS removing the berm beneath the rain flap along the south embankment. After the berm was removed TWS began uncovering the liner tie in at the point of beginning and working to the north.

ENVIROTECH – CQA

4/10/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-022
Job Number:	S013213A00	Staff On-site	Date:	Thursday, March 11, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear – Hi: 53 °F Lo:38 °F Wind-28mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 42-43	Tyler Williams Book 1	Pages 34-35	Jimmy Stallings Book 1	Page 9

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-03	USCS Complete
Submittal 5-18F Base Soil Testing	BS-04	USCS Complete
Submittal 5-18F Base Soil Testing	BS-05	USCS Complete
Submittal 5-18F Base Soil Testing	BS-06	USCS Complete
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going
Submittal 5-18A Structural Fill	SF-06 N. and S. Embankment Fill	USCS Complete, Proctor Complete

FIELD TESTING			
Submittal 5-18B North Embankment	Lift No. 13	NB-94 through NB-102	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the CAT 385 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 27,567 cubic yards of soil to the operations soil stockpile. This volume was also the cumulative daily total amount of operations soil excavated on Thursday, March 11, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 North Embankment Construction – CQA observed TWS utilizing the D6 dozer with GPS to fine grade to top and side of the north embankment. TWS also utilized the water wagon to moisture condition and compact the top lift. CQA tested and verified the thirteenth and final lift, placed and compacted in report 21, met the contract specifications.

3.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to expose the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden from the top half of the liner tie in section and then hand digging was utilized to clean the remaining inches of soil off of the liner. TWS uncovered the liner tie in from 600-ft south of the north toe to approximately 50 feet south of the north toe.

ENVIROTECH – CQA

5/6/10
DATE

Washington Closure Hanford

ENVIROTECH

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-023
Job Number:	S013213A00	Staff On-site	Date:	Friday, March 12, 2010
Contractor(s):	TradeWind Services	3	Weather:	Cloudy–Hi: 59 °F Lo:40 °F Wind-41mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 44-45	Tyler Williams Book 1	Pages 36-37	Jimmy Stallings Book 1	Page 10

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the CAT 385 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled a cumulative daily total of 27,117 cubic yards of soil to the operations soil stockpile.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to expose the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden from the bottom half of the liner tie in section. TWS uncovered the bottom half of the liner tie in from the north toe 600-ft south.

3.0 Cell 9 Subgrade – CQA observed TWS grading the interior of the Cell 9 south embankment with the CAT D6 GPS dozer. The CAT D6 dozer graded the slope from the shoulder to the toe of slope, stockpiling the grade trimmings in the southwest corner of the Cell 9 floor.

4.0 Admix Soil Processing – CQA observed TWS utilizing the CAT D6 GPS dozer to grade and the vibratory drum compactor to compact the pad the pugmill will be assembled on. TWS also brought in one belly dump truck load of gravel that was graded and compacted. The gravel pad will be used as a base for the pugmill.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-024
Job Number:	S013213A00	Staff On-site	Date:	Monday, March 15, 2010
Contractor(s):	TradeWind Services	3	Weather:	Cloudy–Hi: 55 °F Lo:25 °F Wind-9mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 46	Tyler Williams Book 1	Pages 38-39	Jimmy Stallings Book 1	Page 11

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-07	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-08	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 385 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 25,533 cubic yards of soil to the operations soil stockpile on Monday, March 15, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to expose the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden from the bottom half of the liner tie in section. TWS uncovered the bottom half of the liner tie in from the north toe 600-ft south. The CAT 312C excavator was used to load the rain flap from the south embankment into a green metal roll-off container.

3.0 Pugmill – CQA observed American Rock Products dumping crushed gravel near the pugmill area. CQA observed TWS utilizing the CAT 140H grader to spread the crushed gravel to create a pad for the pugmill.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-025
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, March 16, 2010
Contractor(s):	TradeWind Services	3	Weather:	Cloudy–Hi: 69 °F Lo:38 °F Wind-12mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 48-49	Tyler Williams Book 1	Pages 40-41	Jimmy Stallings Book 1	Page 12

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-07	USCS Complete
Submittal 5-18F Base Soil Testing	BS-08	USCS Complete
Submittal 5-18F Base Soil Testing	BS-09	USCS Testing On-Going
Submittal 5-18F Base Soil Testing	BS-10	USCS Testing On-Going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 29,610 cubic yards of soil to the operations soil stockpile on Tuesday, March 16, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck was utilized along the haul road and in the excavation for dust control.

2.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to expose the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden from the liner tie in section. TWS uncovered the bottom half of the liner tie in from the north toe to 100-ft south of the north toe. CQA also observed TWS exposing the rain flap along the north embankment. Once the rain flap was exposed, the rain flap was cut, removed and loaded into green roll-off containers. CQA observed TWS utilizing the CAT 312C to remove the berm under the rain flap along the north embankment.

3.0 Pugmill – CQA observed TWS stand the green bentonite silo upright in the pugmill area in preparation for pugmill assembly.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-026
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, March 17, 2010
Contractor(s):	TradeWind Services	2	Weather:	Sunny–Hi: 60 °F Lo:33 °F Wind-30mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 50-51	Tyler Williams Book 1	N/A	Jimmy Stallings Book 1	Page 13

LABORATORY TESTING		
Submittal 5-18F Base Soil Testing	BS-09	USCS Complete
Submittal 5-18F Base Soil Testing	BS-10	USCS Complete
Submittal 5-18C Sub-grade Cell 9 Floor	SF-07	Collected – Proctor and USCS Testing On-Going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 22,401 cubic yards of soil to the operations soil stockpile on Wednesday, March 17, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck was utilized along the haul road and in the excavation for dust control.

All base soil testing has been completed and the base soil meets construction specifications.

2.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to expose the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden from the liner tie in section. TWS uncovered the bottom half of the liner tie-in from the north toe to 200-feet up the north embankment. CQA observed TWS continuing to utilizing the CAT 312C to remove the berm under the rain flap along the north embankment.

3.0 Pugmill –TWS mobilized a second silo on-site and stored it near the pugmill area.

4.0 Test Pad Area – CQA observed TWS utilizing a CAT D6 GPS dozer to grade the floor of Cell 9 to the design sub-grade elevations in the area to be used for the test-pad.

GENERAL ACTIVITIES

Note: All construction activities were concluded at 14:00. This was done to ensure that all employees (TWS and Envirotech) could attend the "All Hands Meeting" at 15:30. Attendance at this event was required by WCH.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-27
Job Number:	S013213A00 Staff On-site	Date:	Thursday, March 18, 2010
Contractor(s):	TradeWind Services 2	Weather:	Cloudy–Hi: 60 °F Lo:33 °F Wind-29mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 52-54	Tyler Williams Book 1	N/A	Jimmy Stallings Book 1	Page 14

LABORATORY TESTING		
Submittal 5-18C Sub-grade Cell 9 Floor	SF-07	Proctor and USCS Testing Complete

FIELD TESTING			
Submittal 5-18B Manhole # 21	Sub-Grade	MH-01through MH-02	Pass
Submittal 5-18B Manhole # 39	Sub-Grade	MH-03through MH-04	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30, 474 cubic yards of soil to the operations soil stockpile on Thursday, March 18, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Cell 9 Liner Tie In – CQA observed TWS utilizing the CAT 312C excavator with a smooth bucket to expose the Cell 9 liner tie in. TWS utilized the CAT 312C to remove the top 3- to 4-ft. of operations soil and overburden from the liner tie in section. TWS continued to uncover the liner tie in along the north embankment and the north toe.

3.0 Pugmill –CQA observed TWS mobilize three guppies, an auger and the pug on-site. As equipment arrived on-site TWS continued assembly of the pugmill.

4.0 Leachate Transmission Line – CQA observed TWS excavate manholes # 21 and #39. After excavation TWS placed a layer of crushed gravel for leveling material. CQA tested and verified the subgrade below each of the manholes met the contract specifications.

ENVIROTECH – CQA DATE 4/18/10

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-028
Job Number:	S013213A00	Staff On-site	Date:	Friday, March 19, 2010
Contractor(s):	TradeWind Services	3	Weather:	Cloudy–Hi: 59 °F Lo:35 °F Wind-14mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 55-56	Tyler Williams Book 1	Pages 44-45	Jimmy Stallings Book 1	Page 15

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30.573 cubic yards of soil to the operations soil stockpile on Friday, March 19, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Pugmill –CQA observed TWS mobilize three guppies, an auger and the pug on-site. As equipment arrived on-site TWS continued assembly of the pugmill.

3.0 Lysimeter – CQA observed TWS excavate the riser trench in the north embankment of Cell 9. TWS also began excavation of the Cell 9 sump.

4.0 Cell 9 Sub-Grade – CQA observed TWS utilize the CAT D6 GPS dozer to cut portions of the north and south embankments to grade.

ENVIROTECH - CQA

3/22/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-029
Job Number:	S013213A00	Staff On-site	Date:	Monday, March 22, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear–Hi: 62 °F Lo:38 °F Wind-23mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 57-58	Tyler Williams Book 1	Page 46	Jimmy Stallings Book 1	Page 16

FIELD TESTING			
Submittal 5-18C Cell 9 Subgrade	Test Pad Subgrade	SG 9-1 through SG 9-4	Pass

GENERAL ACTIVITIES

1.0 Radcon Stop Work - Subsequent to placement of manhole base sections 21 and 39, Radcon arrived on site and initiated a stop work due to their concern over notification requirements for site evaluation.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,339 cubic yards of soil to the operations soil stockpile on Monday, March 22, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Admix – CQA observed TWS continue to assemble the separate components of the pugmill including various conveyor belts, the screen plant and another feeder. CQA tested and verified the subgrade for the test pad met the contract specifications.

3.0 Leachate Transmission Line – CQA observed TWS mobilize the bases of the pre-fabricated concrete manholes 21 and 39 on-site and set the sections in place utilizing Hook's Cranes service.

ENVIROTECH – CQA

4/10/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-030
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, March 23, 2010
Contractor(s):	TradeWind Services	3	Weather:	Cloudy–Hi: 41 °F Lo:35 °F Wind-9mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 59-60	Tyler Williams Book 1	Pages 47-48	Jimmy Stallings Book 1	Page 17

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, March 23, 2010 at 10:00 am. in the WCH Trailer.

2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting at 10:30 am. in the WCH Trailer.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30.474 cubic yards of soil to the operations soil stockpile on Tuesday, March 23, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Admix – CQA observed TWS continue set up of the pugmill including electrical wiring and mechanical connections. Ecology blocks were also placed around the pugmill for safety barricades.

3.0 Leachate Transmission Line – CQA observed TWS utilize the Hitachi 200 to excavate manhole MH-32 and MH-33. Subsequent to excavating the manholes, TWS moisture conditioned and compacted the subgrade.

4.0 As-Built Survey – CQA observed both Rogers Surveying and Stratton Surveying conducting an as-built survey of the subgrade beneath the area of the test pad in Cell 9 prior to test pad placement. Rogers surveying conducted an independent subgrade survey for TWS while Stratton conducted an independent subgrade survey for CQA. Stratton Surveying provided verbal on-site verification that the subgrade in the test pad area met the contract specifications.

ENVIROTECH – CQA

3/24/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-031
Job Number:	S013213A00 Staff On-site	Date:	Wednesday, March 24, 2010
Contractor(s):	TradeWind Services 4	Weather:	Clear–Hi: 61 °F Lo:30 °F Wind-14mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 61-62	Tyler Williams Book 1	Pages 49-51	Jimmy Stallings Book 1	Page 18
Joe Voss	Page 13				

FIELD TESTING			
Submittal 5-18B Manhole # 21	Lifts 1 through 4	MH21-03 to MH21-06	Pass
Submittal 5-18B Manhole # 32	Sub-Grade	MH32-01 to MH32-02	Pass
Submittal 5-18B Manhole # 33	Sub-Grade	MH33-01 to MH33-02	Pass
Submittal 5-18B Manhole # 39	Lifts 1 through 4	MH39-03 to MH39-06	Pass

GENERAL ACTIVITIES

1.0 Leachate Transmission Line – Subgrade test data for manholes 21 and 39, completed on March 18, 2010, have been revised to reflect updated numbering system and are included herein.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,267 cubic yards of soil to the operations soil stockpile on Tuesday, March 23, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Admix – CQA observed TWS continue setup of the pugmill including electrical wiring and mechanical connections. CQA observed Powell Scale Company calibrate the green bentonite silos. Both bentonite silos P19 (east) and P9 (west) were calibrated on Wednesday, March 24, 2010.

3.0 Leachate Transmission Line – CQA observed TWS backfill around manholes #21 and #39. Both manholes were backfilled up to the pipe inverts. Subsequent to placing each lift CQA tested and verified that each lift placed around both manholes met the contract specifications. In addition, CQA tested and verified that the subgrade of manholes #32 and #33 me the contract specifications.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-032
Job Number:	S013213A00	Staff On-site	Date:	Thursday, March 26, 2010
Contractor(s):	TradeWind Services	4	Weather:	Cloudy–Hi: 63 °F Lo:35 °F Wind-16mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 63	Tyler Williams Book 1	Pages 52-53	Jimmy Stallings Book 1	Page 19
Joe Voss Book 1	Page 14-15				

GENERAL ACTIVITIES

1.0 Geosynthetics - CQA began sampling for conformance testing for geocomposites and geotextiles at SKAPS.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 31,266 cubic yards of soil to the operations soil stockpile on Tuesday, March 23, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Admix – CQA observed TWS continue setup of the pugmill including electrical wiring, mechanical connections and final setting of conveyor belts. CQA observed Washington Trucking Co. delivering bentonite throughout the day. Both bentonite silos P19 (east) and P9 (west) were filled with bentonite as were the three guppies placed next to the pugmill.

3.0 Leachate Transmission Line – CQA observed WCH conducting a geophysical survey along the north embankment to mark all utilities in preparation for the excavation of the leachate transmission line.

ENVIROTECH – CQA 3/29/10 DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-033
Job Number:	S013213A00	Staff On-site	Date:	Friday, March 26, 2010
Contractor(s):	TradeWind Services	4	Weather:	Clear–Hi: 62 °F Lo:44 °F Wind-30mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 64	Tyler Williams Book 1	Pages 54-57	Jimmy Stallings Book 1	Page 20
Joe Voss Book 1	Page 16				

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,609 cubic yards of soil to the operations soil stockpile on Tuesday, March 23, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Admix – CQA observed TWS continue setup of the pugmill including electrical wiring, mechanical connections and safety fencing. CQA observed Washington Trucking Co. delivering bentonite throughout the day. The generator was started today so the conveyor belts and the bentonite augers could be tested. TWS encountered a problem with the load cell on the P19 (east) bentonite silo. The bentonite had to be unloaded from the silo into a waiting truck. No pugmill calibrations occurred today.

ENVIROTECH – CQA

5/7/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-034
Job Number:	S013213A00	Staff On-site	Date:	Monday, March 29, 2010
Contractor(s):	TradeWind Services	4	Weather:	Clear–Hi: 60 °F Lo:47 °F Wind-47mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 65	Tyler Williams Book 1	Pages 58-61	Joe Voss Book 1	Page 17
Rob Stallings	N/A				

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 26,487 cubic yards of soil to the operations soil stockpile on Monday, March 29, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control in the high wind.

2.0 Admix – CQA observed TWS reload the silo with a known weight of bentonite to calibrate the scale readout on silo P19 (east). After the silo was refilled CQA observed the calibration of the bentonite vein feeder for silo P19 (east). Upon commencement of the calibration of the vein feeder for the P9 (west) silo an electrical anomaly was discovered. The calibration of the P9 (west) silo will continue after the electrical issue is resolved. No belt scale or water meter calibrations occurred today.

ENVIROTECH – CQA

3/30/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-035
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, March 30, 2010
Contractor(s):	TradeWind Services	4	Weather:	Hi: 60 °F Lo:40 °F Wind-15mph Rain: 0.07-in

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 66-67	Tyler Williams Book 1	Pages 62-63	Joe Voss Book 1	Pages 18-19
Rob Stallings	N/A				

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, March 30, 2010 at 10:00 am. in the WCH Trailer.

2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, March 30, 2010 at 10:30 am. in the WCH Trailer.

3.0 CQA Progress Meeting – During the CQA progress meeting, CQA received authorization from WCH to perform only the first stage of the two stage Boutwell hydraulic conductivity infiltration test (ASTM D6391). CQA is awaiting the authorizing documentation.

4.0 CQA Progress Meeting – During the CQA progress meeting, CQA received authorization from WCH to utilize Precision Geosynthetic Laboratories for geosynthetic conformance testing and utilize Texas Research Institute (TRI) performing the geosynthetic friction angle conformance tests. CQA is awaiting the authorizing documentation.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 29,439 cubic yards of soil to the operations soil stockpile on Tuesday, March 29, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control in the high wind.

2.0 Admix – CQA observed TWS performing maintenance on the CAT generator for the pugmill setup. Currently the generator is not working properly; therefore no pugmill calibrations were completed today.

3.0 Leachate Transmission Line – CQA observed TWS utilize Hook's Crane Service to place manholes MH-32 and MH-33 in the north embankment.

ENVIROTECH – CQA

3/31/10
DATE

Washington Closure Hanford

ENVIROTECH

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-036
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, March 31, 2010
Contractor(s):	TradeWind Services	4	Weather:	Hi: 57 °F Lo:37 °F Wind-15mph (avg.)

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 68-69	Tyler Williams Book 1	Pages 64-66	Joe Voss Book 1	Page 20
Rob Stallings	N/A				

FIELD TESTING			
Submittal 5-18B Manhole No. 32	Lift No. 1-4	MH32-03 to MH32-06	Pass
Submittal 5-18B Manhole No. 33	Lift No. 1-10	MH33-03 to MH33-12	Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,546 cubic yards of soil to the operations soil stockpile on Wednesday, March 29, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Pugmill – TWS worked most of the day to repair the generator and the stacker belt. Water flow calibrations were begun at 16:30. Water flow calibrations could not be completed do to pump/piping problems.

3.0 Leachate Transmission Line – CQA observed TWS backfilling around manholes MH-32 and MH-33. CQA observed TWS place moisture condition and hand compact each lift placed. Subsequent to placing and compacting each lift CQA tested and verified that the compaction met the contract specifications.

Paul E Van 4/16/10

ENVIROTECH – CQA DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-037
Job Number:	S013213A00	Staff On-site	Date:	Thursday, April 1, 2010
Contractor(s):	TradeWind Services	4	Weather:	Hi: 57 °F Lo:28 °F Wind-14mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 70-71	Tyler Williams Book 1	Pages 67-70	Joe Voss Book 1	Page 21-22

FIELD TESTING			
Submittal 5-18E Pugmill Calibrations	Attached		Pass

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 29,268 cubic yards of soil to the operations soil stockpile on Thursday, April 1, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Pugmill – CQA observed TWS working most of the day to repair the P9 (west) bentonite silo scale. After the scale was repaired and calibrated by Powell Scale Co. the vein feeder for the P9 (west) silo was calibrated. CQA observed TWS calibrating the base soil belt scale and the totalizer belt scale. CQA verified that the pugmill calibrations are complete.

3.0 Leachate Transmission Line – CQA observed TWS excavating manhole MH-34 and beginning to excavate MH-35.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-038
Job Number:	S013213A00	Staff On-site	Date:	Friday, April 2, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 43 °F Lo:32 °F Wind-17mph Rain 0.2-in

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 72-73	Tyler Williams Book 1	Pages 71-72	Joe Voss Book 1	Page 23-24

FIELD TESTING		
Submittal 5-18E Belt Scale Testing	4/2/2010	Met Contract Specifications

LABORATORY TESTING		
Submittal 5-18D Admix Soil Testing	AM-01	Sample Collected for USCS, Permeability and Std Proctor

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 27,117 cubic yards of soil to the operations soil stockpile on Friday, April 1, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the water wagon were utilized along the haul road and in the excavation for dust control.

2.0 Admix Production – CQA observed TWS producing admix material for the admix test pad. CQA performed belt scale verifications of the admix material. CQA verified belt scale measurements met the contract specifications.

3.0 Leachate Transmission Line – CQA observed TWS excavating manhole MH-35.

ENVIROTECH – CQA

DATE 4/16/10

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-039
Job Number:	S013213A00	Staff On-site	Date:	Monday, April 5, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 61 °F Lo:26 °F Wind-31mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 74-75	Tyler Williams Book 1	Pages 74-76	Joe Voss Book 1	Page 25-27

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	4/15/10	1,256 Tons	Pass
Submittal 5-18G Test Pad Field Density	Lift Nos. 1-3	TP-1 through TP-18B	Pass
Submittal 5-18G Admix Test Pad Perm.	Lift Nos. 1-3	TP-04A, TP-11A, TP-13	In progress

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-01	USCS, Permeability and Std Proctor On-Going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,420 cubic yards of soil to the operations soil stockpile on Monday, April 5, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Admix Production – TWS produced 1,256 tons of admix on Monday, April 5, 2010 for a cumulative total of 3,856 tons of admix produced. CQA verified that TWS is currently out of bentonite. Admix production will continue when the next shipment of bentonite is received. CQA verified that the admix material contained between 11% and 14% bentonite by dry weight base soil with an average of 13.3% bentonite.

3.0 Admix Placement – CQA observed TWS begin placing admix to construct the test pad along the center of the south toe of Cell 9. CQA utilized Stratton Surveying to verify all locations and elevations.

TWS utilized two Payhauler trucks to transport the admix from the pugmill to the test pad location in Cell 9. The first lift of admix material was spread in a 12-in lift utilizing the CAT D6 GPS dozer. TWS compacted the admix with a CAT 825 compactor, which has a gross weight of approximately 70,000-lb and is equipped with 7 ¾ in. pegs.

The 825 compactor speed was set at 4.2 miles/hour for lift 1. After compacting lift 1, the compacted lift thickness was determined to be 4-in and the admix failed to meet compaction specifications. Due to the low density readings, TWS compacted lift 1 with another 1.5 passes on the CAT 825 compactor. After the resulting tests failed, TWS slowed the compactor speed from 4.2 miles/hour (3rd gear) to 2.1 miles/hour (2nd gear).

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-039
Job Number:	S013213A00	Staff On-site	Date:	Monday, April 5, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 61 °F Lo:26 °F Wind-31mph

CONSTRUCTION ACTIVITIES

4.0 Admix Placement (Continued) – TWS placed additional material to bring the lift thickness of lift 1 to 8-in. TWS compacted lift 1 at 2.1 miles/hour with the CAT 825 compactor completing 3 passes on the lift. After recompacting the lift 1, the lift thickness was determined to be approximately 9-in. The lift was cut with the CAT D6 GPS dozer to a surveyed thickness of 8-in. and CQA tested and verified that the in-place admix material on lift 1 met construction specifications.

TWS placed 10-in of loose material on lift 2 with the CAT D6 GPS dozer. The material was compacted with the CAT 825 compactor to a lift thickness of 6-in. Lift 2 failed to meet compaction specifications. TWS placed addition water onto the test pad and recompacted the admix material. CQA tested and verified that lift 2 met construction specifications.

TWS placed lift 3 in a similar manner to lift 2. CQA verified that lift 3 of the test pad met construction specifications except for the southwest corner of the test pad. TWS moisture conditioned and compacted the failing area with the CAT 825. CQA tested and verified that lift 3 of the admix test pad met contract specifications.

CQA conducted compacting testing as per the contract specifications. After each lift was placed and compacted CQA performed the a minimum of six (6) in place density tests (ASTM 6938), a sand cone test (ASTM D1556) and a collected a Shelby tube sample (ASTM 5084). After failed testing, the failed portion of the lift was moisture conditioned as necessary and recompacted. CQA verified that lifts 1 through 3 met the contract specifications. CQA will await final permeability (Shelby tube) confirmation. At the conclusion of the day, TWS static rolled the test pad with the CAT CS563D smooth drum roller, creating a smooth surface to prevent blowing sand from infiltrating the into the CAT 825 compacter tracks. The remaining lifts are anticipated to be placed on Tuesday, April 6, 2010.

ENVIROTECH – CQA DATE 4/16/10

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-040
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, April 6, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 60 °F Lo:42 °F Wind-36mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 76-77	Tyler Williams Book 1	Pages 77-79	Joe Voss Book 1	Page 28-29

FIELD TESTING			
Submittal 5-18B Test Pad Field Density	Lift Nos. 4-6	TP-19 through TP-37	Pass
Submittal 5-18G Admix Test Pad Permeability	Lift Nos. 1-6 and Test Pad Repair	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	In progress

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-01	USCS, Perm. and Std Proctor On-Going

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, March 30, 2010 at 10:00 am. in the WCH Trailer.

2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, March 30, 2010 at 10:30 am. in the WCH Trailer.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,366 cubic yards of soil to the operations soil stockpile on Tuesday, April 6, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Admix Production – TWS is currently out of bentonite. Admix production will continue at a future date.

3.0 Admix Placement – CQA observed TWS placing and compacting the soil liner test fill as per specifications. TWS utilized two Payhauler trucks to transport the admix from the pugmill to the test pad location in Cell 9. The material was spread and placed with a CAT D6 GPS dozer and compacted with a CAT 825 compacter making 3 full passes across each portion of the placed lift at 2.1 mile/hour (2nd gear). The CAT 825 compacter has a gross weight of approximately 70,000-lb and is equipped with 7 ¾ in. pegs.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-040
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, April 6, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 60 °F Lo:42 °F Wind-36mph

CONSTRUCTION ACTIVITIES

3.0 Admix Placement – CQA observed TWS placing admix on lifts 4 through 6 for the test pad. Initially, the southwest corner of the test pad failed to meet construction specifications on lift 4. TWS continued rolling the failing area of lift 4 with the CAT 825 compactor until the admix met construction specifications. CQA verified that test pad lifts 4 to 6 met initial project specifications. CQA, aided by Stratton Surveying, verified that uncompacted lift thicknesses for lifts 4 through 6 were 6-in above the previously compacted lift

After the completion of testing on lift 6, TWS gouged a 10-ft by 5-ft hole in the admix surface with an excavator as directed by CQA. TWS demonstrated the repair methodology on the gouged hole. TWS first laid back the corners of the hole as to allow the compactor access. The hole was filled in with admix and compacted by making 3 passes with the CAT 825 compactor at 2.1 miles/hour. CQA verified that the repair met construction specifications; in addition, CQA collected a Shelby tube for further analysis.

After the conclusion of the repair, TWS cut the final lift to grade and static rolled the test pad with the CAT CS563D smooth drum roller, creating a relatively smooth finished surface. CQA, aided by Stratton Surveying, verified the test pad met the required 3-foot thickness and grading tolerances in the construction specifications.

CQA confirmed lift bonding by excavating three (3) test pits into the test pad to the subgrade. CQA verified that the lifts were properly bonded together.

CQA aided by DHI, began installing the Boutwell Hydraulic Conductivity tests (ASTM D6391) on lift 6. At the end of the day, CQA covered the test locations with plastic. CQA shall complete Boutwell installation in Report 41.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-041
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, April 7, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 61 °F Lo:40 °F Wind-30mph Rain 0.01-in

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 78-79	Tyler Williams Book 1	Pages 80-82	Joe Voss Book 1	Page 31

FIELD TESTING			
Submittal 5-18A-2 Cell 9 Crest Pad Building	Lift Nos. 1-4	CP9-01 through CP9-10	Pass
Submittal 5-18G Admix Test Pad Permeability	Lift Nos. 1-6 and Test Pad Repair	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	In progress

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-01	USCS, Perm. and Std Proctor On-Going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation - CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 29,808 cubic yards of soil to the operations soil stockpile on Wednesday, April 7, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Test Pad – CQA installed five (5) Boutwell test apparatus and one (1) control apparatus as per ASTM D6391. The Boutwell testing devices were augured and sealed in place by placing bentonite around the casings. The area around the Boutwell boreholes was covered with plastic and the bentonite seals will be allowed to hydrate overnight for a minimum of 12-hours. CQA shall complete installation of the Boutwell test apparatus at a later date.

3.0 Crest Pad Building – CQA observed TWS placing lifts 1-4 on the Cell 9 crest pad. TWS utilized the CAT D6 dozer and the CAT 312 excavator to place the fill and the CAT CS563D compactor to compact the lifts. CQA tested and verified that lifts 1-4 met the contract specifications. Subsequent to placing the last lift, CQA observed TWS excavating the Cell 9 crest pad building footing and setting concrete forms.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-042
Job Number:	S013213A00	Staff On-site	Date:	Thursday, April 8, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 56 °F Lo:43 °F Wind-46mph Rain 0.02-in

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 80	Tyler Williams Book 1	Pages 83-84	Joe Voss Book 1	Pages 32-33

FIELD TESTING			
Submittal 5-18G Admix Test Pad Permeability	Lift Nos. 1-6 and Test Pad Repair	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	In progress

LABORATORY TESTING		
Submittal 5-18D Admix Soil Testing	AM-01	USCS, Perm. and Std Proctor On-Going

GENERAL NOTES

1.0 Stop Work – Due to strong (40 mph+) winds causing low visibility in the construction area, Radcon called a stop work for the Cells 9 and 10 construction.

2.0 Washington State Department of Health – Victoria Dix from the Washington Department of Health was on-site to present Envirotech with a permanent Radioactive Materials License. Victoria conducted a full surveillance of Envirotech's Radiation Control Plan and storage facilities; she found Envirotech's procedures and facilities in full compliance with the regulations.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 9,261 cubic yards of soil to the operations soil stockpile on Thursday, April 8, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control due to the high winds.

2.0 Test Pad – CQA completed the Boutwell setup and initiated the Boutwells testing. Due to the forecasted low temperatures, CQA utilize a 5:1 mixture of ethyl alcohol and water to prevent the water in the Boutwell test apparatus from freezing. Subsequent to filling the Boutwells, CQA began taking readings according to the scheduled recommended in ASTM D6391.

Joseph E Voss 4/16/10

ENVIROTECH – CQA DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-043
Job Number:	S013213A00	Staff On-site	Date:	Friday, April 9, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 57 °F Lo:30 °F Wind-20 mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 81-82	Tyler Williams Book 1	Pages 85	Joe Voss Book 1	Pages 34

FIELD TESTING			
Submittal 5-18G Admix Test Pad Permeability	Lift Nos. 1-6 and Test Pad Repair	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	In progress

LABORATORY TESTING		
Submittal 5-18D Admix Soil Testing	AM-01	USCS, Perm. and Std Proctor On-Going
Submittal 5-14 Geotextile Testing	G100262	Passes Specification
Submittal 5-14 Geotextile Testing	G100263	Passes Specification
Submittal 5-14 Geotextile Testing	G100264	Passes Specification

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 31,230 cubic yards of soil to the operations soil stockpile on Friday, April 9, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control due to the high winds.

2.0 Subgrade – CQA observed TWS grading the interior slope of the south berm and floor of Cell 9 with a CAT D6 GPS dozer.

3.0 Test Pad – CQA continued taking Boutwell measurements. CQA will continue to collect Boutwell data throughout the weekend, from 4/10/10 to 4/11/10.

4.0 Leachate Transmission Line – CQA observed TWS setting and placing manholes 34 and 35 with a crane.

ENVIROTECH – CQA

DATE 4/16/10

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-044
Job Number:	S013213A00	Staff On-site	Date:	Monday, April 12, 2010
Contractor(s):	TradeWind Services	2	Weather:	Hi: 64 °F Lo:47 °F Wind-22 mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 83-85	Joe Voss Book 1	Pages 35		

FIELD TESTING			
Submittal 5-18G Admix Test Pad Permeability	Lift Nos. 1-6 and Test Pad Repair	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	In progress
Submittal 5-18B Manhole Backfill 34	Lift Nos. 1-5	MH34-03 to MH34-07	Passed
Submittal 5-18B Manhole Backfill 35	Lift Nos. 1-5	MH35-03 to MH35-07	Passed

LABORATORY TESTING		
Submittal 5-18D Admix Soil Testing	AM-01	USCS, Perm. and Std Proctor On-Going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 27,675 cubic yards of soil to the operations soil stockpile on Monday, April 12, 2010. The CAT 5110 excavator was shut down early for repairs.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control due to the high winds.

2.0 Subgrade – CQA observed TWS grading the floor and interior north berm of Cell 9 with a CAT D6 GPS dozer.

3.0 Test Pad – CQA continued taking Boutwell measurements on the test pad.

4.0 Leachate Transmission Line – CQA observed TWS backfilling manholes 34 and 35 to the bottom of the pipe inverts. TWS utilized a Hitachi 200 excavator to place five (5) lifts of soil in the annular space. The soil was moisture conditioned with a water truck and compacted with two (2) jumping jack hand compactors. CQA tested and verified that each lift met compaction specifications.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-045
Job Number:	S013213A00 Staff On-site	Date:	Tuesday, April 13, 2010
Contractor(s):	TradeWind Services 3	Weather:	Hi: 63 °F Lo:46 °F Wind-22mph Rain - Trace

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 86-87	Tyler Williams Book 1	Pages 88-89	Joe Voss Book 1	Page 36

FIELD TESTING			
Submittal 5-18G Admix Test Pad Permeability	Lift Nos. 1-6 and Test Pad Repair	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	In progress

LABORATORY TESTING		
Submittal 5-18D Admix Soil Testing	AM-01	USCS and Std Proctor Completed Permeability On-Going

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, April 13, 2010 at 10:00 am. in the TWS conference trailer.

2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, April 13, 2010 at 10:30 am. in the TWS conference trailer.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,645 cubic yards of soil to the operations soil stockpile on Tuesday, April 13, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS grading the floor Cell 9 with a CAT D6 GPS dozer. CQA also observed TWS loading the excess soil into Payhaulers with the CAT 385 excavator and hauling the soil to the stockpile.

3.0 Test Pad – CQA continued taking Boutwell measurements on the test pad.

ENVIROTECH – CQA

4/16/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-046
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, April 14, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 68 °F Lo:33 °F Wind-18mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 88-89	Tyler Williams Book 1	Page 90	Joe Voss Book 1	Pages 37-38

FIELD TESTING			
Submittal 5-18G Admix Test Pad Permeability	Lift Nos. 1-6 and Test Pad Repair	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	In progress

LABORATORY TESTING		
Submittal 5-18D Admix Soil Testing	AM-01	USCS and Std Proctor Completed Permeability On-Going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,438 cubic yards of soil to the operations soil stockpile on Wednesday, April 14, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS grading the floor Cell 9 with a CAT D6 GPS dozer.

3.0 Test Pad – CQA continued taking Boutwell measurements on the test pad.

4.0 Cell 9 Crest Pad – CQA observed TWS excavating the subgrade of the Cell 9 crest pad utilizing hand shovels to match the design subgrade elevation.

5.0 Leachate Transmission Line - CQA observed BMWC and TWS staff conducting training for HDPE pipe fusion welding in the pipe laydown yard.

ENVIROTECH – CQA

4/16/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-047
Job Number:	S013213A00	Staff On-site	Date:	Thursday, April 15, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 71°F Lo:46 °F Wind-15mph Rain: 0.02-in

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 90	Tyler Williams Book 1	Pages 90-91	Joe Voss Book 1	Pages 39-40

FIELD TESTING			
Submittal 5-18G Admix Test Pad Permeability	Lift Nos. 1-6 and Test Pad Repair	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	In progress

LABORATORY TESTING		
Submittal 5-18D Admix Soil Testing	AM-01	Permeability On-Going

GENERAL ACTIVITIES

1.0 Stop Work – CQA initiated a stop work on the leachate transmission line pipe welding until welder manufacture certificates and welder training documents have been received and reviewed by CQA personnel. CQA released the stop work at 12:30 once the documents were received and reviewed.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 29,853 cubic yards of soil to the operations soil stockpile on Thursday, April 15, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Test Pad – CQA continued taking Boutwell measurements on the test pad.

3.0 Cell 9 Crest Pad – CQA observed TWS continuing to set concrete forms for the Cell 9 crest pad.

4.0 Leachate Transmission Line - CQA observed one truck load of 16-in double wall HDPE pipe being delivered on-site today. CQA also observed BMWC performing maintenance on the HDPE pipe welders.

ENVIROTECH – CQA

4/16/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-048
Job Number:	S013213A00	Staff On-site	Date:	Friday, April 16, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 77°F Lo:46 °F Wind-24mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 91	Tyler Williams Book 1	Pages 93-94	Joe Voss Book 1	Page 41

FIELD TESTING			
Submittal 5-18G Admix Test Pad Permeability	Lift Nos. 1-6 and Test Pad Repair	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	Completed Pass

LABORATORY TESTING		
Submittal 5-18D Admix Soil Testing	AM-01	Permeability Completed

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 28,935 cubic yards of soil to the operations soil stockpile on Friday, April 16, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Test Pad – CQA continued taking Boutwell measurements on the test pad.

3.0 Cell 9 Crest Pad – CQA observed TWS continuing to set concrete forms for the Cell 9 crest pad.

ENVIROTECH – CQA

4/19/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-049
Job Number:	S013213A00 Staff On-site	Date:	Monday, April 19, 2010
Contractor(s):	TradeWind Services 3	Weather:	Hi: 81°F Lo:51 °F Wind-17mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 92	Tyler Williams Book 1	Pages 97-98	Joe Voss Book 1	Pages 42-43

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,204 cubic yards of soil to the operations soil stockpile on Monday, April 19, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Test Pad – CQA continued taking Boutwell measurements on the test pad.

3.0 Cell 9 Crest Pad – CQA observed TWS continuing to prepare the Cell 9 crest pad for concrete and piping.

4.0 Leachate Collection System – CQA observed BMWC welding together 2-in HDPE pipe

ENVIROTECH – CQA

4/21/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING INC

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-050
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, April 20, 2010
Contractor(s):	TradeWind Services	2	Weather:	Hi: 76°F Lo:52 °F Wind-35mph

FIELD NOTEBOOKS					
Tyler Williams Book 1	Pages 99-100	Joe Voss Book 1	Pages 44-46		

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, April 20, 2010 at 10:00 am. in the TWS conference trailer.

2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, April 20, 2010 at 10:30 am. in the TWS conference trailer.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,393 cubic yards of soil to the operations soil stockpile on Tuesday, April 20, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Test Pad – CQA continued taking Boutwell measurements on the test pad.

3.0 Cell 9 Crest Pad – CQA observed TWS continuing to prepare the Cell 9 crest pad. CQA observed the delivery of rebar for the Cell 9 crest pad footings and floor. CQA also observed BMWC install the double containment 2"x6" HDPE drain line for the Cell 9 crest pad building and the double containment 4"x8" HDPE discharge line. The HDPE discharge line was capped with a blind flange 30-ft. north of the Cell 9 crest pad building and both inner and outer pipes were filled with water in preparation for hydrostatic testing to be conducted on Wednesday, April 21, 2010. The HDPE drain line was also capped with a blind flange approximately 20-ft. south of the Cell 9 crest pad building and filled with waster in preparation for hydrostatic testing to be conducted on Wednesday, April 21, 2010.

4.0 Leachate Collection System – CQA observed TWS excavate manhole MH-36. CQA also observed TWS place and compact base rock for the subgrade of the manhole.

ENVIROTECH – CQA

4/21/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-051
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, April 21, 2010
Contractor(s):	TradeWind Services	2	Weather:	Overcast Hi: 75°F Lo: 51°F Rain: 0.58"-in. Wind-34 mph

FIELD NOTEBOOKS					
Tyler Williams Book 1	Page 101-103	Joe Voss Book 1	Pages 47-50		

FIELD TESTING			
Submittal 5-18B Manhole Backfill 36	Lift: Subgrade	MH36-01 to MH36-02	Passed
Submittal 5-18B Manhole Backfill 37	Lift: Subgrade	MH37-01 to MH37-02	Passed
Submittal 5-18B Crest Pad 9	Lift: 1	CP-11	Failed

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,717 cubic yards of soil to the operations soil stockpile on Wednesday, April 21, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Test Pad – CQA completed the Boutwell testing on the Admix Test Pad.

3.0 Cell 9 Crest Pad – CQA observed TWS constructing the Cell 9 crest pad. BMWC hydrostatically tested the Cell 9 crest pad building 4x8 in. HDPE double containment discharge line installed in Report 50. CQA observed the testing and verified that no leaks were observed in the outer 8-in diameter pipe. This test does not qualify as final acceptance, and the pipe will be retested at a later date when the discharge pipe installation is completed.

BMWC also tested the 2x6 in. HDPE double containment drainage line in the Cell 9 crest pad building. The drainage line was tested three (3) times, and the drainage pipe failed to hold the required pressure three (3) times. After the third failed test, BMWC removed a gasket from the testing apparatus and will replace the failed gasket at a future date.

CQA observed DHI backfilling, moisture conditioning, and compacting the 4x8 in. HDPE double containment pipe in the crest pad building. The initial lift was flooded with water and compacted with a jumping jack hand compactor. Subsequent CQA testing failed due to high water contents. DHI will recompact the failed area at a later date.

4.0 Leachate Collection System – CQA observed TWS excavate manhole MH-37. CQA also observed TWS place and compact base rock for the subgrade of the manhole. CQA tested and verified that the subgrade of MH-36, placed in Report 50, and the subgrade of MH-37 met compaction specifications.

CQA also observed TWS excavating the Cell 10 discharge piping trench from MH-33 to the Cell 10 crest pad building into the north embankment with the CAT 312 excavator aided by the CQC surveyor.

ENVIROTECH – CQA

4/23/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-052
Job Number:	S013213A00	Staff On-site	Date:	Thursday, April 22, 2010
Contractor(s):	TradeWind Services	2	Weather:	Pt. Cloudy: Hi: 74°F Lo: 49°F Wind-34 mph

FIELD NOTEBOOKS					
Tyler Williams Book 1	Page 105-110	Joe Voss Book 1	Pages 51-54		

FIELD TESTING			
Submittal 5-18B Crest Pad 9 Discharge Line	Lift: 1-3	CP9-11A to CP9-13A	Passed
Submittal 5-18B Crest Pad 9 Drainage Line	Lift: 1	CP9-14	Failed

GENERAL ACTIVITIES

1.0 Pipe Testing – CQA met with WCH Engineering, Tim Wintle, and WCH Lead, Bill Melvin, along with TWS project manager, Kurt Massey, to develop a new pipe testing specification. The current specification has the inner pipe of the double containment piping tested at 31.5 – 30.0 psi with an allowable pressure drop to 30.0 psi. This specification was not attainable; therefore, a new specification was developed to allow for an initial pressure of 30-40 psi with an allowable pressure drop of 5%, not drop below 30 psi. CQA received verbal confirmation of the new specification in order to verify concurrent pipe testing of the 2x6 in. double containment pipe in the Cell 9 Crest Pad building. Engineering will provide a change to the specifications at a later date.

2.0 Geocomposite Testing – CQA teleconferenced WCH engineers Bill Borlaug and Tim Wintle about geocomposite testing. Currently the geosynthetics specification does not provide a seat time for the geocomposite transmissivity testing. Bill Borlaug indicated that a seat time of 15 minutes is specified based upon the design calculations. Engineering will provide a change to the specifications at a later date.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 31,221 cubic yards of soil to the operations soil stockpile on Thursday, April 22, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS trimming the floor of Cell 9 to grade with a CAT D6 GPS dozer. Excess cut material was placed in windrows on the east side of Cell 9.

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-052
Job Number:	S013213A00	Staff On-site	Date:	Thursday, April 22, 2010
Contractor(s):	TradeWind Services	2	Weather:	Pt. Cloudy: Hi: 74°F Lo: 49°F Wind-34 mph

CONSTRUCTION ACTIVITIES

3.0 Cell 9 Crest Pad – CQA observed TWS continuing work on the Cell 9 Crest Pad. TWS recompacted the failed area from Report 05-016-051, lift 1 on the Cell 9 discharge pipeline, with a jumping jack hand compactor. CQA tested and verified that lift 1 met testing specifications. TWS placed two (2) additional lifts of soil, lifts 2-3, over the discharge line under the Cell 9, and compacted each lift with a jumping jack hand compactor. CQA tested and verified that lifts 1-3 met construction specifications.

BMWC continued testing the 2x6 in. HDPE double containment drainage line in the Cell 9 crest pad building. The inner pipe of the drain line was pressurized to 34 psi. After one (1) hour, the pipe pressure was 33 psi, a passing test. BMWC removed the hydrostatic pressure from the pipe and re-pressurized the pipe to 33 psi. After one (1) hour, the pressure read 30 psi, a failing test. TWS covered the exposed end of the pipe with soil and saturated the overlying soil as to insulate the pipe from the rising temperatures. The test was restarted at 34 psi, and after one (1) hour, the test pressure remained 34 psi, a passing test.

TWS compacted one (1) lift of soil over the 2x6 in. HDPE double containment drainage line in the Cell 9 crest pad building. The material was moisture conditioned and compacted with a jumping jack hand compactor. The lift failed to meet construction specifications. TWS will recompact the lift at a later date.

BMWC tested the outer pipe of the 2x6 in. HDPE double containment drainage line in the Cell 9 crest pad building pneumatically. The pressure in the outer pipe was increased to 11 psi and held for 2 hours. After two (2) hours, the pressure remained 11 psi. All the joints were inspected with a soap water solution; CQA confirmed no leaks were observed in the welds.

TWS continued to work on constructing the Cell 9 concrete forms and installing electrical components.

4.0 Cell 10 Crest Pad – CQA observed BMWC welding and setting the Cell 10 double containment leachate discharge pipe into the excavated trench between MH-33 and the Cell 10 crest pad building.

5.0 Leachate Collection System – CQA observed TWS setting manholes 36 and 37 utilizing Hook's Crain to set both manholes. The manholes were placed on compacted subgrade that CQA had verified in report 05-016-51.

ENVIROTECH – CQA DATE 4/26/10

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-053
Job Number:	S013213A00	Staff On-site	Date:	Friday, April 23, 2010
Contractor(s):	TradeWind Services	2	Weather:	Pt. Cloudy: Hi: 71°F Lo: 46°F Wind- 30 mph

FIELD NOTEBOOKS					
Tyler Williams Book 1	Page 111-113	Joe Voss Book 1	Pages 55-56		

FIELD TESTING			
Submittal 5-18B Crest Pad 9	Lift: 1	CP9-14A	Passed
Submittal 5-18B Cell 10 Leachate Transmission Line	Lift: 1-5	LT-01 to LT-5B	Passed
Submittal 5-18B Manhole 38	Lift: Subgrade	MH38-01 to MH38-02	Passed

GENERAL ACTIVITIES

1.0 Pipe Specifications – TWS compacted five (5) lifts of soil over the Cell 10 discharge pipeline in the north berm between MH-33 and the Cell 10 crest pad building. Later in the day, TWS discovered that the pipe was set 3-ft below final grade; however, according to the design drawings, the pipe is to be set 3.5-ft below the final grade. TWS shall address the pipe depth at a later date.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 31,410 cubic yards of soil to the operations soil stockpile on Friday, April 23, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS utilizing the CAT 385 excavator to remove the Cell 9 grading trimmings. The soil was loaded into Payhaulers and hauled to the operations soil stockpile, southeast of Cell 10.

3.0 Cell 9 Crest Pad – CQA observed TWS continuing work on the Cell 9 Crest Pad. TWS recompacted the failed area from Report 05-016-052, lift 1, on the Cell 9 drainage pipe, with a jumping jack hand compactor. CQA tested and verified that lift 1 met testing specifications. CQA then observed TWS excavating the Cell 9 crest pad base to grade utilizing shovels aided by a laser level. TWS continued to work on constructing the Cell 9 crest pad concrete forms and installing electrical components.

CQA also observed TWS excavating the Cell 9 discharge line between MH-32 and the Cell 9 crest pad building with the CAT 312 excavator.

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-053
Job Number:	S013213A00	Staff On-site	Date:	Friday, April 23, 2010
Contractor(s):	TradeWind Services	2	Weather:	Pt. Cloudy: Hi: 71°F Lo: 46°F Wind- 30 mph

CONSTRUCTION ACTIVITIES

4.0 Cell 10 Crest Pad – CQA observed TWS placing and compacting five (5) lifts of soil over the Cell 10 discharge pipe line between MH-33 and the Cell 10 crest pad building. The soil was placed with the CAT 312 excavator as to leave the joints of the pipe exposed for future testing. TWS placed five (5) lifts of soil over the pipe. Each lift of soil was moisture conditioned and compacted with jumping jack hand compactors. CQA tested and verified that lifts 1-5 met compaction specifications.

5.0 Leachate Collection System – CQA observed TWS placing and compacting rock into the MH-38 subgrade. CQA tested and verified that the subgrade met compaction requirements.

ENVIROTECH – CQA

4/26/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-054
Job Number:	S013213A00	Staff On-site	Date:	Monday, April 26, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 65 °F Lo:43 °F Wind-19mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 93-94	Joe Voss Book 1	Pages 59-57	Tyler Williams Book 1	Pages 114-116

GENERAL ACTIVITIES

1.0 Pipe Specifications – In Report 05-16-053, TWS placed the Cell 10 crest pad discharge pipe too shallow in the embankment. In order to correct the pipe depth, TWS excavated the pipe, lengthened the riser pipe, over-excavated the original trench, and replaced the line back into the Cell 10 discharge pipe trench.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,618 cubic yards of soil to the operations soil stockpile on Monday, April 26, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA mobilized Stratton Surveying on-site to perform the subgrade survey for the interior south embankment and south half of the Cell 9 floor.

3.0 Cell 9 Crest Pad – CQA observed TWS continuing work on the Cell 9 Crest Pad. CQA observed TWS placing rebar in the Cell 9 Crest Pad Building Foundation. CQA observed BMWC placing the remainder of the 4x8 in. double containment discharge pipe between the Cell 9 crest pad building and MH-32. The pipe was welded with two 45-degree bends in order to maintain 3 ½ ft. of soil cover over the discharge pipe. Subsequent to welding the remainder of the discharge pipe, CQA surveyed the alignment and found the slope of the pipe to be 1.6%, which was less than the minimum 2.0% slope specified in the contract documents. TWS raised and secured the crest pad end of the discharge pipe in order to create the 2.0% slope. CQA surveyed and verified that the pipe met the minimum 2.0% slope specified in the contract documents.

4.0 Cell 10 Crest Pad – CQA also observed TWS excavating and removing the 4x8 in. double containment discharge pipe between the Cell 10 crest pad and MH-32 with a CAT 312 excavator and hand tools. Subsequent to removing the piping, TWS excavated the utility trench another ½ foot to allow for 3.5-ft of soil cover over the pipe. BMWC removed the entire discharge pipe, and welded an extension onto the discharge riser pipe in order to extend the pipe below 3.5 ft in depth. BWMC then replaced the 4x8 in. discharge pipe back into the Cell 10 discharge trench.

ENVIROTECH – CQA

4/27/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-055
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, April 27, 2010
Contractor(s):	TradeWind Services	3	Weather:	Overcast: Hi: 69°F Lo:48 °F Wind-30 mph Rain: Trace

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 95-96	Joe Voss Book 1	Pages 60-61	Tyler Williams Book 1	Pages 117-122

FIELD TESTING			
Submittal 5-18B Manhole 37	Lifts: 1-5	MH37-03 to MH37-07	Passed
Submittal 5-18B Manhole 36	Lifts: 1-4	MH36-03 to MH36-06	Passed
Submittal 5-18E Belt Scale Measurements	April 27, 2010	2,765 Tons	Passed

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, April 27, 2010 at 10:00 am. in the TWS conference trailer.

2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, April 27, 2010 at 10:30 am. in the TWS conference trailer.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 29,790 cubic yards of soil to the operations soil stockpile on Tuesday, April 27, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS moisture conditioning the interior south slope and floor of Cell 9.

3.0 Admix Production – TWS produced a total of 2,765 tones of admix material. CQA performed belt scale measurements and verified that the admix met the contract specifications.

4.0 Cell 9 Lysimeter – CQA observed BMWC welding the 6-in. lysimeter pipe in the BMWC laydown yard. Subsequent to welding each pipe section, BMWC removed the weld bead from interior of the pipe.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-055
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, April 27, 2010
Contractor(s):	TradeWind Services	3	Weather:	Overcast: Hi: 69°F Lo:48 °F Wind-30 mph Rain: Trace

CONSTRUCTION ACTIVITIES

5.0 Cell 9 Crest Pad – CQA observed TWS continuing work on the Cell 9 Crest Pad. BMWC conducted pipe acceptance testing of the 4x8 in. Cell 9 discharge pipe. The inner pipe was filled with water and hydrostatically tested. The gauge indicated that the water in the pipe was losing pressure; therefore, BMWC cooled the pipe closer to initial ambient temperatures using water. CQA observed BMWC testing the Cell 9 outer double containment discharge pipe pneumatically. CQA inspected each joint with a soap-water mixture and verified that no joints leaked and that the pipe did not lose pressure. CQA verified that the Cell 9 discharge pipe met testing specifications.

6.0 Leachate Transmission Line – CQA observed TWS backfilling manholes 37 and 36 with the Hatachi 200 excavator and compacting the fill with two (2) jumping jack hand compactors. TWS placed and compacted five (5) lifts of soil, lifts 1-5, around manhole 37 and four (4) lifts of soil, lifts 1-4, around manhole 36. CQA tested and verified that each lift met compaction specifications.

ENVIROTECH – CQA

4/28/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-056
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, April 28, 2010
Contractor(s):	TradeWind Services	3	Weather:	Overcast: Hi: 65°F Lo:43 °F Wind-32 mph Rain: 0.04"

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 97	Joe Voss Book 1	Pages 62-64	Tyler Williams Book 1	Pages 123-127

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	April 28, 2010	3,587 Tons	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor Samples Collected
05-18M Operations Soil	OS-01	USCS, Std Proctor Samples Collected

GENERAL ACTIVITIES

1.0 HDPE Pipe Testing – CQA met with WCH and TWS on HDPE pipe testing. In the meeting, TWS agreed to submit a SDDR revising the testing procedure to a two (2) hour pressure drop test with an allowable 5% fall in pressure every hour. This will replace the current specification, which calls for two, one (1) hour test with the pressure removed from the system in-between testing periods.

2.0 Utility Backfill – TWS submitted a SDDR to revise the utility backfill specification. During a meeting, WCH responded that the acceptable practice of utility backfill would take into account the pipe depth. If the top of the pipe is 7-ft or more below the finished surface, the lifts below 5-ft from finished surface are allowed to be 1-ft in thickness.

3.0 Friction Angle Testing – CQA collected operations soils and admix soils for use in friction angle testing. The samples were shipped to TRI labs in Austin, TX. Portions of both the admix sample, AM-02, and the operations sample, OS-01, shall be tested on-site for construction properties.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 31,311 cubic yards of soil to the operations soil stockpile on Wednesday, April 28, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS moisture conditioning the interior south slope of Cell 9.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-056
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, April 28, 2010
Contractor(s):	TradeWind Services	3	Weather:	Overcast: Hi: 65°F Lo:43 °F Wind-32 mph Rain: 0.04"

CONSTRUCTION ACTIVITIES

3.0 Admix Production – TWS produced a total of 3,587 tones of admix material. CQA performed belt scale measurements and clod size observations and verified that the admix met the contract specifications. CQA collected sample AM-02 from the pugmill.

4.0 Cell 9 Lysimeter – CQA observed BMWC welding the 8-in. lysimeter pipe in the BMWC laydown yard. Subsequent to welding each pipe section, BMWC removed the weld bead from interior of the pipe.

5.0 Cell 9 Crest Pad – CQA observed TWS placing concrete for the Cell 9 crest pad foundation. TWS utilized a pump truck to transfer the concrete from all five (5) concrete trucks to the Cell 9 foundation.

6.0 Leachate Transmission Line – BMWC conducted pipe acceptance testing of the 4x8 in. Cell 10 discharge pipe. The inner pipe was filled with water and hydrostatically tested. CQA verified that the inner pipe met testing specifications. CQA observed BMWC testing the Cell 10 outer double containment discharge pipe pneumatically. CQA inspected each joint with a soap-water mixture and verified that no joints leaked and that the pipe did not lose pressure. CQA verified that the Cell 10 discharge pipe met testing specifications.

ENVIROTECH – CQA 5/7/10 DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-057
Job Number:	S013213A00	Staff On-site	Date:	Thursday, April 29, 2010
Contractor(s):	TradeWind Services	3	Weather:	Overcast: Hi: 61°F Lo:45 °F Wind-37 mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 98-99	Joe Voss Book 1	Page 65	Tyler Williams Book 1	Pages 128-129

FIELD TESTING			
Submittal 5-18B Cell 10 Discharge Utility Trench	Lifts: 1-8	LT-06 to LT	Passed
Submittal 5-18B Earthwork Crest Pad 10	Lifts: Subgrade – 2	CP10-01 to CP10-06	Passed
Submittal 5-18E Belt Scale Measurements	April 29, 2010	4,315 Tons	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor On-going
05-18M Operations Soil	OS-01	USCS, Std Proctor On-going

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 29,853 cubic yards of soil to the operations soil stockpile on Thursday, April 29, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS moisture conditioning the interior south slope and floor of Cell 9.

3.0 Admix Production – TWS produced a total of 4,315 tons of admix material. CQA performed belt scale measurements and clod size observations and verified that the admix met the contract specifications.

4.0 Cell 9 Lysimeter – CQA observed BMWC welding the 8-in. lysimeter pipe in the BMWC laydown yard. Subsequent to welding each pipe section, BMWC removed the weld bead from interior of the pipe. CQA verified that all interior beads were removed from the 8-in HDPE lysimeter pipe.

5.0 Cell 10 Crest Pad – CQA observed TWS construction the Cell 10 crest pad subgrade. Prior to placing any fill, CQA verified that in-place subgrade met compaction specifications. CQA then observed TWS placing two (2) lifts of soil for the Crest Pad 10 foundation. TWS placed the soil with a Payhauler and leveled the soil with a CAT 980 front-end loader. A CAT smooth drum roller compacted the soil, and CQA tested and verified that the soil met construction specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-057
Job Number:	S013213A00	Staff On-site	Date:	Thursday, April 29, 2010
Contractor(s):	TradeWind Services	3	Weather:	Overcast: Hi: 61°F Lo:45 °F Wind-37 mph

CONSTRUCTION ACTIVITIES

6.0 Leachate Transmission Line – CQA observed TWS placing eight (8) lifts of backfill over the Cell 10 discharge pipeline that was pressure tested in Report 05-16-056. TWS placed the soil backfill with the Hitachi 200 excavator and compacted the soil with the CAT 320 excavator with attached pneumatic compactor. TWS compacted around the buried pipes with a jumping jack hand compactor. CQA tested and verified that the backfilled soil met compaction specifications.

ENVIROTECH – CQA

5/7/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-058
Job Number:	S013213A00	Staff On-site	Date:	Friday, April 30, 2010
Contractor(s):	TradeWind Services	3	Weather:	Partly Cloudy: Hi: 70°F Lo:48 °F Wind-37 mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 100-101	Joe Voss Book 1	Page 66-67	Tyler Williams Book 1	Pages 130-132

FIELD TESTING			
Submittal 5-18C Earthwork Subgrade	Lifts: Subgrade	SG-05 to SG-027	Passed
Submittal 5-18E Belt Scale Measurements	April 29, 2010	3,333 Tons	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor, Perm. On-going
05-18M Operations Soil	OS-01	USCS, Std Proctor On-going

GENERAL ACTIVITIES

1.0 HDPE Pipe Testing – CQA met with Bill Melvin, WCH project lead, and Charlie Skiba, WCH CQA STR, on pipe inspection hold points. TWS requested to install and backfill the HDPE piping at risk while awaiting submittal approval on the pipes. CQA and WCH agreed to allow TWS to place pipe at risk with verification from CQA that all piping identification had been recorded prior to installation.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 30,789 cubic yards of soil to the operations soil stockpile on Friday, April 30, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS moisture conditioning the interior south slope and floor of Cell 9. TWS compacted the subgrade of Cell 9 with the Payhauler water truck. CQA tested and verified that the subgrade on the southern half of the Cell 9 floor met compaction specifications.

3.0 Admix Production – TWS produced a total of 3,333 tons of admix material. CQA performed belt scale measurements and clod size observations and verified that the admix met the contract specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-058
Job Number:	S013213A00	Staff On-site	Date:	Friday, April 30, 2010
Contractor(s):	TradeWind Services	3	Weather:	Partly Cloudy: Hi: 70°F Lo:48 °F Wind-37 mph

CONSTRUCTION ACTIVITIES

4.0 Cell 9 Lysimeter – CQA observed TWS excavating the Cell 9 lysimeter trench in the north embankment with a Bobcat 334G excavator. Subsequent to excavating the trench, BMWC placed the 8-in HDPE lysimeter riser pipe into the lysimeter trench. CQA executed the piping installation hold point found in Table 4-3 of the CQA plan, as the pipe had not passed CQA receipt inspection. After discussion with WCH (see General Activities Section), CQA removed the hold on piping installation; however, TWS did not place any backfill over the Cell 9 lysimeter pipe.

5.0 Cell 10 Crest Pad – CQA observed TWS construction the Cell 10 crest pad subgrade. CQA observed TWS placing, moisture conditioning and compacting one (1) lift of material, lift 3, for the Cell 10 crest pad subgrade. TWS did not complete compaction on lift 3; CQA shall test the third lift of the Cell 10 crest pad subgrade at a later date.

ENVIROTECH – CQA

5/7/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-059
Job Number:	S013213A00	Staff On-site	Date:	Monday, May 3, 2010
Contractor(s):	TradeWind Services	3	Weather:	Cloudy: Hi: 64°F Lo:39 °F Wind-60 mph Rain-Trace

FIELD NOTEBOOKS					
Lucas Hay Book 1	Page 102	Joe Voss Book 1	Page 68	Tyler Williams Book 1	Pages 133-134

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 3, 2010	2,571 Tons	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor, Perm. On-going
05-18D Admix Soil Testing	AM-03	USCS On-going
05-18L Operations Soil	OS-01	USCS, Std Proctor On-going
05-13-01 100 mil geomembrane	Reference No. G100324	Passes
05-13-02 60 mil geomembrane	Reference No. G100407	Passes
05-13-03 60 mil geomembrane	Reference No. G100408	Passes

GENERAL ACTIVITIES

1.0 Weather Shutdown – At 9:30, blowing dust from high winds caused low visibility conditions, which prompted a site wide shutdown of most activities due to safety concerns.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 9,549 cubic yards of soil to the operations soil stockpile on Monday, May 3, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS grading and moisture conditioning the subgrade of Cell 9 with a CAT D6 GPS dozer and a water truck.

3.0 Admix Production – TWS produced a total of 2,571 tons of admix material. CQA performed belt scale measurements and clod size observations and verified that the admix met the contract specifications.

ENVIROTECH – CQA DATE 5/4/10

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-060
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, May 4, 2010
Contractor(s):	TradeWind Services	5	Weather:	Cloudy: Hi: 57 °F Lo:37 °F Wind-30 mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 103-105	Joe Voss Book 1	Page 69-70	Tyler Williams Book 1	Pages 135-137

FIELD TESTING			
Submittal 5-18B Leachate Transmission line	Lifts:1-6	LT-09 to LT-14	Passed
Submittal 5-18B Cell 10 Crest Pad	Lift: 3	CP10-7 to CP10-8	Passed
Submittal 5-18E Belt Scale Measurements	April 29, 2010	2,637 Tons	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor, Perm. On-going
05-18M Operations Soil	OS-01	USCS, Std Proctor On-going

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, April 27, 2010 at 10:00 am. in the TWS conference trailer.

2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, April 27, 2010 at 10:30 am. in the TWS conference trailer.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 29,394 cubic yards of soil to the operations soil stockpile on Tuesday, May 4, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Subgrade – CQA observed TWS removing the wind-blown sand from the Cell 9 subgrade with a CAT D6 GPS dozer that was deposited during the wind storm on Monday, May 3, 2010. The CQA surveyors were on-site to resurvey the southern half of Cell 9, as well as 200-ft further north on the subgrade floor. In addition, CQA observed TWS moisture conditioning the interior south slope and floor of Cell 9. The CQA survey located several points out of tolerance due to wind-blown sand. TWS will regrade the locations as needed and the CQA surveyor shall perform the acceptance survey at a later date.

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-060
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, May 4, 2010
Contractor(s):	TradeWind Services	5	Weather:	Cloudy: Hi: 57 °F Lo:37 °F Wind-30 mph

CONSTRUCTION ACTIVITIES

3.0 Admix Production – TWS produced a total of 2,637 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

4.0 Cell 9 Lysimeter – The wind storm from Monday, May 3, 2010, placed the first lift of soil over the lysimeter pipe. TWS did not compact or remove the fill. The CQA surveyors located the lysimeter pipe for final acceptance.

5.0 Cell 9 Crest Pad – CQA observed TWS backfilling the Cell 9 discharge pipe between the crest pad and manhole 32. The soil was placed with the Hitachi 200 and compacted with a pneumatic compactor attached to the CAT 320 excavator. TWS placed and compacted lifts 1-6 over the discharge pipe. CQA tested and verified that all six (6) lifts met construction specifications.

6.0 Cell 10 Crest Pad – CQA observed TWS compacting the Cell 10 crest pad subgrade with a smooth drum roller. CQA tested and verified that the third lift of the Cell 10 crest pad subgrade placed on Friday April 30, 2010 met construction specifications.

ENVIROTECH – CQA

5/6/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-061
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, May 5, 2010
Contractor(s):	TradeWind Services	3	Weather:	Cloudy: Hi: 59 °F Lo:37 °F Wind-26mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 106-108	Tyler Williams Book 1	Pages 137-139	Joe Voss Book 1	Page 71

FIELD TESTING			
Submittal 5-18B Leachate Transmission line	Lifts:7-10	LT-15 to LT-18	Passed
Submittal 5-18Q Cell 9 Lysimeter Pipe	Lift: 1	LY9-01	Passed
Submittal 5-18E Belt Scale Measurements	May 5, 2010	3,443 Tons	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor Competed Perm. On-going
05-18D Admix Soil Testing	AM-03	USCS Completed
05-18M Operations Soil	OS-01	USCS, Std Proctor Completed

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation - CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 28,530 cubic yards of soil to the operations soil stockpile on Wednesday, May 5, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Cell 9 Subgrade – CQA observed TWS removing windblown sand from the south toe of Cell 9 utilizing hand shovels and a CAT fork lift with a bucket attachment. CQA also observed TWS re-grading along the Cell 7/8 – Cell 9 tie in using the CAT D6 GPS dozer. TWS utilized a hose and manual labor to moisture condition the interior south slope of Cell 9 and the "Ladybug" water truck was utilized to moisture condition the Cell 9 floor.

3.0 Admix Production – TWS produced a total of 3,443 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

4.0 Cell 9 Lysimeter – The wind storm from Monday, May 3, 2010, placed the first lift of soil over the lysimeter pipe. TWS moisture conditioned and compacted the first lift over the lysimeter pipe. CQA tested and verified the lift met contract specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-061
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, May 5, 2010
Contractor(s):	TradeWind Services	3	Weather:	Hi: 59 °F Lo:37 °F Wind-26mph

CONSTRUCTION ACTIVITIES

6.0 Cell 10 Crest Pad – CQA observed TWS removing the top 4-in of the Cell 10 Crest Pad. Although CQA had already verified that the lifts met contract specifications, TWS personnel desired a higher level of compaction. Therefore the top 4-in were removed, the area scarified, and additional material was placed, moisture conditioned and compacted.

7.0 Leachate Collection System – CQA observed BMWC testing the 2x6-in double containment HDPE drain line in the Cell 10 Crest Pad. BMWC hydrostatically tested the inner containment pipe and pneumatically tested the outer containment pipe. CQA verified that the pipe met the contract specifications.

ENVIROTECH – CQA

5/6/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-062
Job Number:	S013213A00 Staff On-site	Date:	Thursday, May 6, 2010
Contractor(s):	TradeWind Services 3	Weather:	Cloudy: Hi: 64 °F Lo:35 °F Wind-27mph Rain: 0.04-in.

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 109-111	Tyler Williams Book 1	Pages 140	Joe Voss Book 1	Page 72

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 6, 2010	3,588 Tons	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor Competed Perm. On-going
05-18D Admix Soil Testing	AM-04	Sample Collected. USCS On-going
05-15-01 Geocomposite Conformance	Reference No. G100311	Passes
05-15-01 Geocomposite Conformance	Reference No. G100312	Passes
05-15-01 Geocomposite Conformance	Reference No. G100313	Passes

GENERAL ACTIVITIES

1.0 Geosynthetic Materials Handling – CQA observed TWS constructing an off-loading ramp and station for geosynthetic materials northeast of Cell 10 with the CAT D8 dozer.

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 and the Hitachi 1800 excavators to excavate soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 21,735 cubic yards of soil to the operations soil stockpile on Thursday, May 6, 2010.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

With the exception of the south ramp, excavation was completed. The CAT 5110 was removed from Cell 10, and TWS began dissembling the CAT 5110 excavator.

In addition, a CAT D6 GPS dozer began trimming the subgrade of Cell 10 to design grade.

2.0 Cell 10 Subgrade – CQA observed TWS utilizing a CAT D6 GPS dozer to trim the subgrade of Cell 10 to design grade.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-062
Job Number:	S013213A00	Staff On-site	Date:	Thursday, May 6, 2010
Contractor(s):	TradeWind Services	3	Weather:	Cloudy: Hi: 64 °F Lo:35 °F Wind-27mph Rain: 0.04-in.

CONSTRUCTION ACTIVITIES

3.0 Cell 9 Subgrade – The CQA surveyors were on-site to verify that the subgrade met design grade within construction tolerances. CQA observed TWS removing windblown sand as needed to met design grades on the subgrade.

In addition, CQA observed TWS utilizing a laborer with a hose to moisture condition the subgrade of the south interior slope. TWS also used the "ladybug" water truck to moisture condition the subgrade on the south quarter of the floor and side slope. After the subgrade of the floor was moisture conditioned, TWS utilized a smooth drum compactor to give the subgrade a smooth finish.

4.0 Admix Production – TWS produced a total of 3,588 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications. CQA collected admix sample AM-04.

5.0 Cell 9 Crest Pad – CQA observed TWS removing the concrete forms from around the Cell 9 crest pad building.

ENVIROTECH – CQA

5/7/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-063
Job Number:	S013213A00	Staff On-site	Date:	Friday, May 7, 2010
Contractor(s):	TradeWind Services	5	Weather:	Pt. Cloudy: Hi: 67 °F Lo:32 °F Wind-25mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 112-113	Tyler Williams Book 1	Pages 141-143	Joe Voss Book 1	Page 73

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 7, 2010	4,253 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 1 to 2	SL-001 to SL-006	Passed

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 002	May 7, 2010	Grid M1 to M23	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor Competed Perm. On-going
05-18D Admix Soil Testing	AM-04	USCS On-going
05-13-04 60 mil geomembrane	Reference No. G100433	Passes
05-13-05 60 mil geomembrane	Reference No. G100444	Passes
05-14-04 60 mil 8oz geotextile	Reference No. G100445	Passes
05-14-05 60 mil 8 oz geotextile	Reference No. G100446	Passes

CONSTRUCTION ACTIVITIES

1.0 Cell 10 Excavation – CQA observed TWS utilizing the Hitachi 1800 excavator to remove soil from Cell 10. The soil was loaded into Komatsu trucks and hauled to the operations soil stockpile, southeast of Cell 10. TWS hauled 8,370 cubic yards of soil to the operations soil stockpile on Friday, May 7, 2010. TWS has completed the primary excavation of Cell 10. A south ramp, which shall be excavated at a later date, was left in-place for construction traffic.

CQA observed TWS maintaining the haul roads for the Komatsu and Payhauler trucks with the CAT 834 rubber tired dozer with attached B/G (back grader). The "Ladybug" water truck and the "Junebug" water truck were utilized along the haul road and in the excavation for dust control.

2.0 Cell 10 Subgrade – CQA observed TWS utilizing a CAT D6 GPS dozer to trim the subgrade of Cell 10 to design grade.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-063
Job Number:	S013213A00	Staff On-site	Date:	Friday, May 7, 2010
Contractor(s):	TradeWind Services	5	Weather:	Pt. Cloudy: Hi: 67 °F Lo:32 °F Wind-25mph

CONSTRUCTION ACTIVITIES

3.0 Cell 9 Subgrade – The CQA surveyors were on-site to verify that the subgrade met design grade within construction tolerances. CQA's initial inspection of grids M1 to M3 found large amounts of blow sand still present, particularly at the toe of the south berm and on the east side of the test fill. CQA informed TWS that the material was not acceptable, and that the loose blow sand was to be removed prior to placing admix. TWS removed the non-conforming material with a CAT D6 dozer and proof rolled the area with a CS-563 smooth drum roller. CQA inspected, tested, surveyed, and verified that the admix subgrade met construction specifications.

In addition, CQA observed TWS utilizing a laborer with a hose to moisture condition the subgrade of the south interior slope. TWS also used the "ladybug" water truck to moisture condition the subgrade on the south quarter of the floor.

4.0 Admix Production – TWS produced a total of 4,253 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

5.0 Admix Placement –CQA observed TWS placing two (2) lifts of admix soil in grids M1 to M3 on the south floor of Cell 9 with International Payhauler trucks. CQA observed TWS spreading the soil with a CAT D6 GPS dozer and compacting the soil with a CAT 825 compactor making 3 passes in third gear as per the test pad investigations. CQA tested and verified that the soil placed on lifts 1-2 of zones M1 to M3 met soil liner construction specifications.

At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and the smooth drum roller proof rolled to the admix to seal in the moisture.

ENVIROTECH – CQA

5/10/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-064
Job Number:	S013213A00	Staff On-site	Date:	Monday, May 10, 2010
Contractor(s):	TradeWind Services	4	Weather:	Cloudy: Hi: 55 °F Lo:43 °F Wind: 17-mph Rain: 0.11-in.

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 114-116	Tyler Williams Book 1	Pages 144-145	Joe Voss Book 1	Page 74

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 10, 2010	4,556 Tons	Passed
Submittal 5-18J Admix Field Testing	Lift: 1	SL-006 to SL-009B	Passed
Submittal 5-18Q Cell 9 Lysimeter	Cell 9 Lysimeter Backfill	LY-02	Passed

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 003	May 10, 2010	Grid N3, O3, P3	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor Competed Perm. Completed
05-18D Admix Soil Testing	AM-04	USCS On-going

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 4,556 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

2.0 Leachate Transmission Line – CQA observed TWS excavating the utility trench between MH-32 and MH-33 utilizing the CAT 330C excavator. CQA also observed BMWC welding 10x16-in HDPE double contained leachate piping. BMWC utilized a canopy over the welding machine to protect the welds and the welder from the rain.

3.0 Admix Placement –CQA observed TWS place one (1) lift of admix soil in grids N3, O3 and P3 on the south interior slope of Cell 9 with International Payhauler trucks. CQA observed TWS spreading the soil with a CAT D6 GPS dozer and a CAT D8 dozer. After the admix was placed TWS compacted the lift with a CAT 825 compactor. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. Due to the 3:1 side slopes the CAT 825 compactor was assisted up the slope with a CAT D4 dozer. Once at the top of the slope the CAT D4 dozer retreats back down the slope allowing the compacter to track back down the slope under it's own power. CQA tested and verified that the soil placed for lift 1 of zones N3, O3 and P3 met soil liner construction specifications.

At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and the smooth drum roller proof rolled to the admix to seal in the moisture.

ENVIROTECH – CQA

8/20/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-065
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, May 11, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 80 °F Lo:49 °F Wind: 36-mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 117-119	Tyler Williams Book 1	Pages 146-147	Jimmy Stallings Book 1	Page 22

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 11, 2010	3,689 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 1 and 2	SL-010 to SL-024	Passed

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 004	May 11, 2010	Grids: J1, K1 L1 N1, O1, P1, N2, O2, P2, N4, O4 and P4	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-04	USCS Completed

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 3,689 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

2.0 Cell 9 Subgrade - CQA inspected, tested, surveyed, and verified that the admix subgrade for grids J1, K1, L1, O1, P1, N2, O2, P2 and N4, O4, P4 met construction specifications prior to the placement of admix soil.

3.0 Admix Placement –CQA observed TWS place one (1) lift of admix soil in grids J1, K1 and L1 on the Cell 9 floor. TWS also placed the first lift of admix soil in grids N1, O1, P1, N2, O2, P2 and N4, O4, P4 on the south interior slope of Cell 9. CQA observed TWS place the second lift of admix soil in grids N4, O4, and P4. TWS utilized International Payhauler trucks, two (2) CAT D6 GPS dozers and a CAT D8 dozer to place the admix soil and a CAT 825 sheepsfoot compactor to compact the soil. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. Due to the 3:1 side slopes the CAT 825 compactor was assisted up the slope with a CAT D4 dozer. Once at the top of the slope the CAT D4 dozer retreats back down the slope allowing the compacter to track back down the slope under its own power. CQA tested and verified that the soil placed in the zones referenced above met soil liner construction specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-065
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, May 11, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 80 °F Lo:49 °F Wind: 36-mph

CONSTRUCTION ACTIVITIES

4.0 Admix Placement –CQA observed TWS place the third lift on the Cell 9 floor in grids M1, M2 and M3 using the same methods and equipment as described above.. TWS also placed the second lift on the Cell 9 interior side slopes in grids N3, O3 end P3 using the same methods and equipment as described above. These grids will be tested at a later date.

At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and the smooth drum roller proof rolled to the admix to seal in the moisture.

5.0 Leachate Transmission Line – CQA observed TWS excavating the utility trench between MH-32 and MH-33 utilizing the CAT 330C excavator. TWS and BMWC placed the 10x16-in leachate line between MH-32 and MH-33.

ENVIROTECH CQA

5/12/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-066
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, May 12, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 79 °F Lo:52 °F Wind: 21-mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 120-121	Tyler Williams Book 1	Pages 148-149	Jimmy Stallings Book 1	Page 23

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 12, 2010	5,161 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 2,3 and 4	SL-025 to SL-052	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 Floor Grid M1	SL-31	Permeability : On-Going

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-05	Sample Collected USCS, Std. Proctor, Perm: On-Going

GENERAL NOTES

1.0 Admix Production – TWS informed CQA that starting on Wednesday, May12, 2010 TWS will operate the pugmill until 19:00 to increase production.

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 5,161 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

2.0 Admix Placement –CQA observed TWS place and compact the second and third lifts in grids N1, N2, N3 O1, O2, O3 and P1, P2, P3. CQA tested and verified that the lifts met the contract specifications. CQA also observed TWS place and compact the third lift in grids N4, O4, and P4. CQA tested and verified that the third lift met the contract specifications.

TWS also placed and compacted the fourth lift in grids M1, M2, M3 and M4. During placement of the fourth lift over grids M1, M2, M3 and M4, TWS removed the top 18-in of the test pad and spread it across grids M1, M2, and M3. After incorporating the removed portion of the test pad into lift four for grids M1, M2, and M3, TWS moisture conditioned and compacted the lift. CQA tested and verified that the fourth lift met the contract specifications.

TWS utilized International Payhauler trucks and two (2) CAT D6 GPS dozers to place the admix soil. Two Payhauler water trucks were used to moisture condition the soil during placement and a CAT 825 sheepsfoot compactor was used to compact the soil. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. Due to the 3:1 side slopes the CAT 825 compactor was assisted up the 3:1 side slope with a CAT D4 dozer. CQA tested and verified that the soil placed in the zones referenced above met soil liner construction specifications.

Washington Closure Hanford

ENVIROTECH
ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-066
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, May 12, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 79 °F Lo:52 °F Wind: 21-mph

CONSTRUCTION ACTIVITIES

2.0 Admix Placement – At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and the smooth drum roller proof rolled to the admix to seal in the moisture.

3.0 Leachate Transmission Line – CQA observed BMWC set each end the leachate transmission line between MH-32 and MH-33 in the respective manholes and fill the inner containment with water. CQA observed TWS covering the leachate transmission line with 12- to 18-in of soil, leaving the welds exposed for testing. The purpose of the soil was to hold the pipe in place and to regulate expansion/contraction due to temperature changes.

ENVIROTECH – CQA

5/14/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-067
Job Number:	S013213A00	Staff On-site	Date:	Thursday, May 13, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 81 °F Lo:44 °F Wind: 20-mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 122-124	Tyler Williams Book 1	Pages 150-151	Jimmy Stallings Book 1	Page 24

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 13, 2010	5,613 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 4 and 5	SL-053 to SL-066	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 Floor Grid M1	SL-31	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9 S. Embankment – Grid O2	SL-60	Permeability : On-Going

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-05	USCS, Std. Proctor, Perm: On-Going

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 5,613 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

2.0 Admix Placement –CQA observed TWS place and compact the fourth lift in grids N1 through N4, O1 through O4, P1 through P4 on the south interior embankment of Cell 9. CQA tested and verified that the fourth lift in the above mentioned grids met the contract specifications. CQA also observed TWS place and compact the fifth lift in grids M1 and M2. CQA tested and verified that the fifth lift met the contract specifications. TWS utilized International Payhauler trucks and two (2) CAT D6 GPS dozers to place the admix soil. Two Payhauler water trucks were used to moisture condition the soil during placement and a CAT 825 sheepsfoot compactor was used to compact the soil. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. Due to the 3:1 side slopes the CAT 825 compactor was assisted up the 3:1 side slope with a CAT D4 dozer. CQA tested and verified that the soil placed in the zones referenced above met soil liner construction specifications.

At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and the smooth drum roller proof rolled to the admix to seal in the moisture.

3.0 Leachate Transmission Line – CQA observed BMWC welding 10x16-in HDPE pipe for the tank penetration from MH-39. CQA also observed BMWC preparing the 8x12-in HDPE components for the tank penetration from MH-21.

ENVIROTECH – CQA

5/14/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-068
Job Number:	S013213A00	Staff On-site	Date:	Friday, May 14, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 86 °F Lo:44 °F Wind: 18-mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 125-127	Tyler Williams Book 1	Pages 152-153	Jimmy Stallings Book 1	Page 25

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 14, 2010	5,719 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 2,3,5 and 6	SL-067 to SL-093	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 Floor Grid M1	SL-31	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9 S. Embankment – Grid O2	SL-60	Permeability : On-Going

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-05	USCS, Std. Proctor, Perm: On-Going
05-18D Admix Soil Testing	AM-06	Sample Collected USCS, Std. Proctor, Perm: On-Going

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 5,719 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

2.0 Admix Placement –CQA observed TWS place and compact the second and third lifts in grids L1, K1 and J1 in the southwest corner of Cell 9. CQA tested and verified that the second and third lift in the above mentioned grids met the contract specifications. CQA observed TWS place and compact the fifth lift in grids N1 through N4, O1 through O4, P1 through P4 and M3 and M4. CQA tested and verified that the fifth lift in the referenced grids met the contract specifications. CQA also observed TWS place and compact the sixth lift in grids M1 through M4 and N4, O4 and P4. TWS utilized International Payhauler trucks and two (2) CAT D6 GPS dozers to place the admix soil. Two Payhauler water trucks were used to moisture condition the soil during placement and a CAT 825 sheepsfoot compactor was used to compact the soil. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. Due to the 3:1 side slopes the CAT 825 compactor was assisted up the 3:1 side slope with a CAT D4 dozer. CQA tested and verified that the soil placed in the zones referenced above met soil liner construction specifications.

At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and the smooth drum roller proof rolled to the admix to seal in the moisture.

3.0 Cell 9 Subgrade – CQA observed TWS using the CAT 320 excavator to shape the riser trench between the Cell 9 sump and the Cell 9 crest pad building. The riser trench was previous excavated on March 19th, 2010 (Report 05-016-028). However, due to construction traffic and blowing sand the riser trench had to be re-excavated.

4.0 Leachate Transmission Line – CQA observed BMWC welding 10x16-in HDPE pipe for the leachate transmission between MH-32 and MH-34.

ENVIROTECH – CQA

5/17/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-069
Job Number:	S013213A00	Staff On-site	Date:	Monday, May 17, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 79 °F Lo:60 °F Wind: 18-mph

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 128-129	Tyler Williams Book 1	Pages 153-155	Rob Stallings	N/A

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 17, 2010	3,004 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 1,4, and 6	SL-094 to SL-108	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 Floor Grid M1	SL-31	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9 S. Embankment – Grid O2	SL-60	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid P1	SL-100	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid N1	SL-102	Permeability : On-Going

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 005	May 17, 2010	Grids: L2, L3, L4	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-05	USCS –Completed Std. Proctor, Perm: On-Going
05-18D Admix Soil Testing	AM-06	Sample Collected USCS, On-Going

GENERAL ACTIVITIES

1. Pugmill Shutdown – Due to mechanical problems, the pugmill was down for repairs from 13:30 through the end of the day.

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 3,004 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

2.0 Cell 9 Subgrade – CQA observed TWS using the CAT 320 excavator and the CAT D4 dozer to shape the Cell 9 sump.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-069
Job Number:	S013213A00	Staff On-site	Date:	Monday, May 17, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 79 °F Lo:60 °F Wind: 18-mph

CONSTRUCTION ACTIVITIES

Admix Placement –CQA observed TWS place and compact the first lift in grids L2, L3, and L4 of Cell 9. CQA tested and verified that the first lift in the above mentioned grids met the contract specifications. CQA observed TWS place and compact the fourth lift in grids J1, K1 and L1. CQA tested and verified that thefourth lift in the referenced grids met the contract specifications. CQA also observed TWS place and compact the sixth lift in grids N1 through N3, O1 through O3 and P1 through P3. CQA tested and verified that the sixth lift in the above mention grids me the contract specifications.

TWS utilized International Payhauler trucks and two (2) CAT D6 GPS dozers to place the admix soil. Two Payhauler water trucks were used to moisture condition the soil during placement and a CAT 825 sheepsfoot compactor was used to compact the soil. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. Due to the 3:1 side slopes the CAT 825 compactor was assisted up the 3:1 side slope with a CAT D4 dozer. CQA tested and verified that the soil placed in the zones referenced above met soil liner construction specifications.

At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and the smooth drum roller proof rolled to the admix to seal in the moisture.

3.0 Leachate Transmission Line – CQA observed BMWC hydrostatically testing the inner containment of the 10x16-in HDPE leachate transmission line between MH-33 and MH-32. Prior to beginning the test the inner containment was filled with water. The test began at 8:35 at a pressure of 37-psi., at 9:40 the pressure remained at 37psi, a passing test. After the passing hydrostatic test BMWC proceeded to drill and tap the outer containment for pneumatic testing. Upon drilling through the outer containment water began to spray from the hole indicating that the outer containment was full of water. It was determined that the inner containment contained a failed weld and that the water had been pumped into the inner and outer containment prior to beginning the hydrostatic test. BMWC attempted to locate the failed weld by pushing pressurized air through the pipe and listening for signs of leaks with stethoscopes. The location of the failed weld has yet to be determined.

ENVIROTECH – CQA

5/19/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-070
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, May 18, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 65 °F Lo:46 °F Wind: 9-mph Rain : 0.31-in

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 130-131	Tyler Williams Book 1	Pages 156-157	Rob Stallings	N/A

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 18, 2010	4,381Tons	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 Floor Grid M1	SL-31	Permeability : Complete
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9 S. Embankment – Grid O2	SL-60	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid P1	SL-100	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid N1	SL-102	Permeability : On-Going

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 006	May 18, 2010	Grids: L5, M5	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-05	Perm –Completed Std. Proctor –On-Going
05-18D Admix Soil Testing	AM-06	USCS – On-Going
05-18D Admix Soil Testing	AM-07	Sample Collected USCS: On-Going

GENERAL ACTIVITIES

1. Pugmill Shutdown – Due to mechanical problems, the pugmill was not started until 10:30.

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 4,381 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications. Due to mechanical problems the pugmill was not started until 10:30.

2.0 Admix Placement – Due to the rain and wet conditions, admix placement did not begin until 14:15. CQA observed TWS place the first lift of admix in grids L5 and M5. TWS choose not to compact the first lift until a later.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-070
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, May 18, 2010
Contractor(s):	TradeWind Services	3	Weather:	Clear: Hi: 65 °F Lo:46 °F Wind: 9-mph Rain : 0.31-in

CONSTRUCTION ACTIVITIES

3.0 Cell 9 Subgrade – CQA observed TWS using the CAT 320 excavator and the CAT D4 dozer to shape the Cell 9 sump. CQA also observed TWS use the CAT 385 excavator to load the trimmings from the Cell 9 subgrade into Payhauler trucks that subsequently transported the trimmings to the operations soil stockpile. CQA observed TWS using the CAT D6 GPS dozer to cut the north interior embankment of the Cell 9 subgrade to grade.

4.0 Leachate Transmission Line – CQA observed BMWC using air pressure to attempt to locate the failed seam in the leachate transmission line between MH-33 and MH-32. BMWC forced pressurized air through the inner containment, which bled into the outer containment, while BMWC used stethoscopes to locate the "hissing" caused by the failed seam. Once the failed seam was located BMWC used a chainsaw to remove the failed seam then welded in a new section of pipe. Once the repair had been made BMWC filled the pipe with water in preparation for hydrostatic testing the following day.

ENVIROTECH – CQA

5/19/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-071
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, May 19, 2010
Contractor(s):	TradeWind Services	3	Weather:	Pt. Cloudy : Hi: 78 °F Lo:46 °F Wind: 52-mph Rain : 0.14-in

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 132-134	Tyler Williams Book 2	Pages 1-2	Rob Stallings	N/A

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 19, 2010	5,468Tons	Passed
Submittal 5-18B Leachate Transmission line	Lifts:Sub,1,2	LT-019 to LT-024	Passed
Submittal 5-18J Admix Field Testing	Lifts: 1,2,3 and 5	SL-109 to SL-130	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9 S. Embankment – Grid O2	SL-60	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid P1	SL-100	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid N1	SL-102	Permeability : On-Going

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 007	May 19, 2010	Grids: J2, K2, N5, O5, P5	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-05	Std. Proctor – Completed
05-18D Admix Soil Testing	AM-06	USCS – On-Going
05-18D Admix Soil Testing	AM-07	USCS: On-Going
05-18D Admix Soil Testing	AM-08	Sample Collected USCS: On-Going

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 5,468 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications. Based on the three belt scale measurements recorded by CQA, the average bentonite content for Wednesday, May 19, 2010 was calculated to be 11.8% based on the dry weight of the base soil.

2.0 Admix Placement – CQA observed TWS place and compact the first lift in grids J2, K2, L5, M5, N5, O5 and P5 in Cell 9. CQA tested and verified that the first lift in the above mentioned grids met the contract specifications. CQA observed TWS place and compact the second lift in grids J2, K2, M5 and L2 through L5. CQA tested and verified that the second lift in the referenced grids met the contract specifications. CQA also observed TWS place and compact the third lift in grids L2 through L5 and M5. CQA tested and verified that the third lift in the above mention grids me the contract specifications. CQA observed TWS place and compact the fifth lift of admix soil in grids J1, K1 and L1. CQA tested and verified that the fifth lift place in the referenced grid met the contract specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-071
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, May 19, 2010
Contractor(s):	TradeWind Services	3	Weather:	Pt. Cloudy : Hi: 78 °F Lo:46 °F Wind: 52-mph Rain : 0.14-in

CONSTRUCTION ACTIVITIES

TWS utilized International Payhauler trucks and two (2) CAT D6 GPS dozers to place the admix soil. Two Payhauler water trucks were used to moisture condition the soil during placement and a CAT 825 sheepsfoot compactor was used to compact the soil. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. Due to the 3:1 side slopes the CAT 825 compactor was assisted up the 3:1 side slope with a CAT D4 dozer. CQA tested and verified that the soil placed in the zones referenced above met soil liner construction specifications.

At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and the smooth drum roller proof rolled to the admix to seal in the moisture.

3.0 Cell 9 Subgrade – CQA observed TWS using the CAT D6 GPS dozer to cut the north interior embankment of the Cell 9 subgrade to grade. CQA also observed TWS using the CAT 560 smooth drum roller to smooth the finished floor subgrade of Cell 9.

4.0 Leachate Transmission Line – CQA observed BMWC hydrostatically test the 10x16-in double contained HDPE leachate transmission line between MH-33 and MH-32. CQA also observed BMWC pressurize the outer containment with air while a BMWC employee soap tested all joints in the 10xx16-in HDPE pipe between MH-33 and MH-32. CQA verified that the both the hydrostatic and the pneumatic/soap test met the contract specifications. CQA also observed TWS backfilling the leachate transmission line between MH-33 and MH-32 using the CAT 330 excavator. After the backfill was placed the soil was moisture conditioned with the International water truck and a TWS laborer with a water hose. TWS place two lifts over the leachate transmission line. CQA tested and verified that the lifts me the contract specifications.

ENVIROTECH – CQA

5/20/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-072
Job Number:	S013213A00	Staff On-site	Date:	Thursday, May 20, 2010
Contractor(s):	TradeWind Services	3	Weather:	Pt. Cloudy : Hi: 58 °F Lo:36 °F Wind: 10-mph Rain : 0.00-in

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 135-137	Tyler Williams Book 2	Pages 3-4	Rob Stallings	N/A

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 20, 2010	5,304Tons	Passed
Submittal 5-18B Leachate Transmission line	Lifts:3, 4	LT-025 to LT-028	Passed
Submittal 5-18B Crest Pad 9 Backfill	Lifts:1,2,3,4	CP9-15 to CP9-18	Passed
Submittal 5-18J Admix Field Testing	Lifts: 1,2,3 and 5	SL-131 to SL-145	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9 S. Embankment – Grid O2	SL-60	Permeability : Completed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid P1	SL-100	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid N1	SL-102	Permeability : On-Going

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 008	May 20, 2010	Grids: 15	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-06	USCS: Complete
05-18D Admix Soil Testing	AM-07	USCS: Complete
05-18D Admix Soil Testing	AM-08	Sample Collected USCS: On-Going

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 5,304 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

3.0 Cell 9 Subgrade – CQA verified that the subgrade in grid 11 met the contract specifications and released Cell 9 Subgrade Hold Point 05-018R-008 for grid 11. CQA observed TWS using the CAT D6 GPS dozer to cut the north interior embankment of the Cell 9 subgrade to grade. CQA also observed TWS using Payhauler water truck to moisture condition the floor of Cell 9 and the CAT 560 smooth drum roller to smooth the finished floor subgrade of Cell 9.

4.0 Cell 9 Crest Pad – CQA observed TWS place backfill around the Cell 9 crest pad building foundation. TWS utilized the International water truck to moisture condition the soil and the CAT 312C excavator with the Hoe Pack and a laborer with a "Jumping Jack" hand compacter to compact the backfill. CQA tested and verified that the backfill placed met the contract specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-072
Job Number:	S013213A00	Staff On-site	Date:	Thursday, May 20, 2010
Contractor(s):	TradeWind Services	3	Weather:	Pt. Cloudy : Hi: 58 °F Lo:36 °F Wind: 10-mph Rain : 0.00-in

CONSTRUCTION ACTIVITIES

2.0 Admix Placement – CQA observed TWS place and compact the third lift in grids K2 and J2 in Cell 9. CQA tested and verified that the third lift in the above mentioned grids met the contract specifications. CQA observed TWS place and compact the fourth lift in grids L2 through L5, M5, J2 and K2. CQA tested and verified that the fourth lift in the referenced grids met the contract specifications. CQA also observed TWS place and compact the fifth lift in grids L2 through L5 and M5. CQA tested and verified that the fifth lift in the above mention grids met the contract specifications. CQA observed TWS place and compact the first lift of admix soil in grid I1. CQA tested and verified that the first lift place in grid I1 met the contract specifications.

TWS utilized International Payhauler trucks and two (2) CAT D6 GPS dozers to place the admix soil. Two Payhauler water trucks were used to moisture condition the soil during placement and a CAT 825 sheepsfoot compactor was used to compact the soil. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. Due to the 3:1 side slopes the CAT 825 compactor was assisted up the 3:1 side slope with a CAT D4 dozer. CQA tested and verified that the soil placed in the zones referenced above met soil liner construction specifications.

At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and then back dragged the admix with the dozer blade to seal in the moisture.

5.0 Leachate Transmission Line – CQA BMWC begin the hydrostatic test the inner 8x12-in HDPE tank penetration from MH-21. However, after 20-min. the hydrostatic pressure had dropped 2-psi, a failing test. BMWC will retest the pipe section on Friday morning during cooler temperatures. CQA also observed TWS backfilling the leachate transmission line between MH-33 and MH-32 using the CAT 330 excavator. After the backfill was placed the soil was moisture conditioned with the International water truck. TWS place lifts three and four over the leachate transmission line. CQA tested and verified that the lifts met the contract specifications.

ENVIROTECH – CQA

5/24/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-073
Job Number:	S013213A00	Staff On-site	Date:	Friday, May 21, 2010
Contractor(s):	TradeWind Services	3	Weather:	Pt. Cloudy : Hi: 62 °F Lo:36 °F Wind: 21-mph Rain : 0.00-in

FIELD NOTEBOOKS					
Lucas Hay Book 1	Pages 138-140	Tyler Williams Book 2	Pages 6-9	Rob Stallings	N/A

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 21, 2010	2,940Tons	Passed
Submittal 5-18B Leachate Transmission line	Lifts:5, 6, 7, 8, 9, 10	LT-029 to LT-040	Passed
Submittal 5-18C Earthwork Subgrade	Subgrade	SG-28 to SG-51	Passed
Submittal 5-18J Admix Field Testing	Lifts: 2,5 and 6	SL-146 to SL-154	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid P1	SL-100	Permeability : Complete
Submittal 5-18J Admix Field Testing Permeability	Lift No. 6 – Cell 9 S. Embankment – Grid N1	SL-102	Permeability : Complete

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 009	May 21, 2010	Grids: K3	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-08	USCS: On-Going

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 2,940 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications. Due to a low amount of bentonite in the silos and in on-site storage, TWS shut the pugmill down at approximately 13:30 to perform routine maintenance.

2.0 Cell 9 Subgrade –CQA observed TWS using the Payhauler water truck to moisture condition the floor of Cell 9 and the CAT 560 smooth drum roller to smooth the finished floor subgrade of Cell 9. CQA tested and verified that the subgrade for the floor of Cell 9 met the contract specifications. CQA also performed a moisture verification on the north embankment of Cell 9 to ensure that the soil contained moisture to a depth of 4-in from the surface.

3.0 Admix Placement – CQA observed TWS using two CAT D6 GPS dozers to clip the sixth lift to finished grade in the completed grids. After the sixth lift was clipped to grade a CAT D6 dozer was utilized to back drag the clipped area so that two CAT 563 smooth drum rollers could finish the sixth lift. The clipped admix was pushed aside and used as the second, fifth and sixth lifts on the Cell 9 floor. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids. CQA tested and verified that each lift place was properly moisture condition, compacted and that the lift met the contract specifications.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-073
Job Number:	S013213A00	Staff On-site	Date:	Friday, May 21, 2010
Contractor(s):	TradeWind Services	3	Weather:	Pt. Cloudy : Hi: 62 °F Lo:36 °F Wind: 21-mph Rain : 0.00-in

CONSTRUCTION ACTIVITIES

4.0 Leachate Transmission Line – CQA observed BMWC hydrostatically test the inner containment for the tank penetrations from MH-21 and MH-39. CQA also observed BMWC pneumatically test the tank penetrations from MH-21 and MH-39. Both tank penetrations met the contract specification testing requirements. BMWC installed the leak detection fittings to the 8x12-in HDPE in MH-21 and to the 10x16-in HDPE in MH-39. Subsequent to installing the leak detection fitting CQA observed BMWC re-run the pneumatic test for the outer containment on both pipes and soap test the fittings. CQA observed TWS using the CAT 330 excavator to excavate the utility trench between MH-32 and MH-34.

ENVIROTECH – CQA

5/26/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-074
Job Number:	S013213A00	Staff On-site	Date:	Monday, May 24, 2010
Contractor(s):	TradeWind Services	6	Weather:	Pt. Cloudy: Hi: 71°F Lo: 36°F Wind-15 mph

FIELD NOTEBOOKS			
Lucas Hay Book 1	Pages 141-143	Tyler Williams Book 2	Pages 10-13
Joe Voss Book 1	Pages 78-79	James Schut Book 1	Page 1

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 24, 2010	5,596 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 1,2,3 and 6	SL-155- to SL-168	Passed

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 010	May 24, 2010	Grids: J3, J4, J5, K3, K4, and K5	Passed

LABORATORY TESTING		
5-13-06 60 mil geomembrane	Reference No. G100456	Passes Specification
5-13-07 60 mil geomembrane	Reference No. G100457	Passes Specification
5-13-08 60 mil geomembrane	Reference No. G100459	Passes Specification
5-13-09 60 mil geomembrane	Reference No. G100463	Passes Specification
5-13-10 60 mil geomembrane	Reference No. G100469	Passes Specification
5-14-06 16 oz. Geotextile Testing	Reference No. G100273	Passes Specification
5-14-07 16 oz. Geotextile Testing	Reference No. G100274	Passes Specification
5-14-08 8 oz. Geotextile Testing	Reference No. G100460	Passes Specification
5-14-08 8 oz. Geotextile Testing	Reference No. G100461	Passes Specification
5-15-01 Geocomposite Testing	Reference No. G100311	Passes Specification
5-15-02 Geocomposite Testing	Reference No. G100312	Passes Specification
5-15-03 Geocomposite Testing	Reference No. G100313	Passes Specification
5-15-04 Geocomposite Testing	Reference No. G100361	Passes Specification
5-15-05 Geocomposite Testing	Reference No. G100362	Passes Specification
5-15-06 Geocomposite Testing	Reference No. G100363	Passes Specification
5-15-07 Geocomposite Testing	Reference No. G100415	Passes Specification
05-18D Admix Soil Testing	AM-08	USCS: On-Going
05-18D Admix Soil Testing	AM-09	Sample Collected USCS, Proctor, Perm: On-Going

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-074
Job Number:	S013213A00	Staff On-site	Date:	Monday, May 24, 2010
Contractor(s):	TradeWind Services	6	Weather:	Pt. Cloudy: Hi: 71°F Lo: 36°F Wind-15 mph

CONSTRUCTION ACTIVITIES

1.0 Cell 9 Subgrade – CQA observed TWS moisture conditioning the admix subgrade and completing a final proof roll of the admix subgrade with a CAT CS 563 smooth drum roller prior to admix placement. CQA verified that the subgrade in grids J3, J4, J5, K3, K4, and K5 met the contract specifications and released Cell 9 Subgrade Hold Point 05-018R-010. Stratton Surveying was on-site to complete the subgrade survey on the floor of Cell 9.

2.0 Admix Production – TWS produced a total of 5,596 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

3.0 Admix Placement – TWS utilized International Payhauler trucks and two (2) CAT D6 GPS dozers to place the admix soil. Two Payhauler water trucks were used to moisture condition the soil during placement and a CAT 825 sheepsfoot compactor was used to compact the soil. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. CQA observed TWS place and compact admix on the south half of the Cell 9 floor and interior slope. Due to the 3:1 side slopes the CAT 825 compactor was assisted up the 3:1 side slope with a CAT D4 dozer. CQA tested and verified that the soil placed in the zones referenced in Submittal 5-18J Admix Field Testing 074 met soil liner construction specifications.

At the end of the day, after admix placement was completed, the CAT D6 dozer track-walked the final lift and then back dragged the admix with the dozer blade to seal in the moisture.

CQA observed TWS proof roll and moisture condition the admix surface that was cut to grade on Friday, May 21 with the CAT CS 563 smooth drum roller in preparation for geomembrane placement.

4.0 Tank 3 Installation – CQA observed BMWC begin the hydrostatic test the 2-in HDPE leak detection line for Tank 3. Initial testing failed to meet construction specifications, subsequent testing of the 2-in. line met contract specifications.

5.0 Leachate Transmission Line – CQA observed TWS excavating the leachate transmission trench between manhole 32 and manhole 34 with the CAT 312 excavator aided by the TWS surveyor.

ENVIROTECH – CQA

5/27/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-075
Job Number:	S013213A00 Staff On-site	Date:	Tuesday, May 25, 2010
Contractor(s):	TradeWind Services 4	Weather:	Pt. Cloudy : Hi: 74 °F Lo:47 °F Wind: 17-mph Rain : 0.00-in

FIELD NOTEBOOKS			
Lucas Hay Book 1	Pages 144-146	Joe Voss Book 1	Pages 80-81
Tyler Williams Book 2	Pages 16-17	James Schut Book 1	Page: 2

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	May 25, 2010	4,528 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 1, 2, 3, 4, 5	SL-169 to SL-190	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 2 – Cell 9 Floor: Grid J5	SL-174	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9/Cell 8 Tie In Cell 9 Floor: Grid I1	SL-176	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 S. Embankment – Grid P5	SL-177	Permeability : On-Going

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 011	May 25, 2010	Grids: I2	Passed

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-08	USCS- Complete
05-18D Admix Soil Testing	AM-09	USCS- Complete Std. Proctor, Perm- On-Going
05-18D Admix Soil Testing	AM-10	Sample Collected USCS- On-Going
05-18K Drainage Gravel Lab Testing	DG-C-01	Sample Collected USCS, Std. Proctor, Perm - OnGoing

GENERAL ACTIVITIES

1.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, May 25, 2010 at 10:00 am. in the TWS conference trailer.

2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, May 25, 2010 at 10:30 am. in the TWS conference trailer.

3.0 DOE On-Site Visit – CQA escorted DOE representative, Harry Mooney, around the ERDF Cells 9 and 10 site. The DOE representative was shown the admix soil testing procedures. CQA discussed the process for collecting admix samples and demonstrated the process for testing the admix soil. The DOE representative was also given an overview of the process for taking belt scale measurements at the pug mill.

4.0 Pug mill Operations – Due to low levels of bentonite the pug mill was shut down at approximately 10:30, however after refilling the bentonite supply the pug mill was restarted later in the afternoon.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-075
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, May 25, 2010
Contractor(s):	TradeWind Services	4	Weather:	Pt. Cloudy : Hi: 74 °F Lo:47 °F Wind: 17-mph Rain : 0.00-in

CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 4,528 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

2.0 Admix Placement – CQA observed TWS using two CAT D6 GPS dozers to place admix in on the floor of Cell 9 and along the east edge of the south embankment of Cell 9. CQA observed TWS use one CAT 825 sheepsfoot compactor to compact the admix. CQA observed TWS use the CAT 563 smooth drum roller to proof roll the finished admix to maintain a sealed, smooth finish. CQA also observed TWS using the CAT 330 excavator to excavate the anchor trench along the south shoulder of Cell 9. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

3.0 Leachate Tank #3 – CQA observed BMWC hydrostatically and pneumatically test the 4x8-in HDPE discharge line from future leachate tank No. 3. During the hydrostatic test CQA observed BMWC soap test all of the welds in the 4x8-in HDPE. Both the hydrostatic and pneumatic testing met the contract specifications. BMWC along with TWS installed the 10x16-in HDPE leachate transmission line between MH-32 and MH-34. Once the piping was in place TWS placed 12- to 18-in of soil over the pipe to hold the pipe and control the expansion/contraction effects due to temperature changes. The joints of the 10x16-in pipe were left exposed so that each of the welds could be soap tested during the pneumatic testing to be performed at a later date. BMWC also filled the inner containment of the 10x16-in pipe with water in preparation for hydrostatic testing, also to be performed at a later date.

4.0 Geomembrane Delivery – Ten (10) rolls of 60-mil HDPE geomembrane were delivered to site today. Upon delivery CQA reviewed the rolls delivered and verified that they met the Subcontractor's (TWS) submittal log and the contract specifications.

ENVIROTECH – CQA

10/27/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-076
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, May 26, 2010
Contractor(s):	TradeWind Services	6	Weather:	Overcast : Hi: 52°F Lo: 68°F Wind: 22-mph Rain : 0.28-in

FIELD NOTEBOOKS			
Lucas Hay Book 1	Pages 147-149	Joe Voss Book 1	Pages 82-83
Tyler Williams Book 2	Pages 18-19	James Schut Book 1	Page: 3

FIELD TESTING			
Submittal 5-18B Tank 3 Structural Fill	Lifts: 1, 2, 3, 4	LT-041 to LT-054	Passed
Submittal 5-18C Cell 9 Lysimeter Subgrade	Lifts: SG	SG -52	Passed
Submittal 5-18E Belt Scale Measurements	May 26, 2010	3,693 Tons	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 2 – Cell 9 Floor: Grid J5	SL-174	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9/Cell 8 Tie In Cell 9 Floor: Grid I1	SL-176	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 S. Embankment – Grid P5	SL-177	Permeability : On-Going

LABORATORY TESTING		
5-13-11 Friction Angle Conformance Testing	May 26, 2010	Passed
5-18D Admix Soil Testing	AM-09	Std. Proctor, Perm- On-Going
5-18D Admix Soil Testing	AM-10	USCS- Complete
5-18K Drainage Gravel Lab Testing	DG-C-01	USCS, Std. Proctor, Perm: On-Going

GENERAL ACTIVITIES

1.0 Weather – Due to precipitation from last night, water has collected on the subgrade of Cell 9 and in the Cell 9 sump. The admix material has become increasingly wet and difficult to work. Admix placement operations were shut down for the day.

2.0 Pug mill Operations – The pug mill experienced mechanical problems and had to be shut down at 15:00.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-076
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, May 26, 2010
Contractor(s):	TradeWind Services	6	Weather:	Overcast : Hi: 52°F Lo: 68°F Wind: 22-mph Rain : 0.28-in

CONSTRUCTION ACTIVITIES

1.0 Subgrade – CQA observed TWS grading the south slope and south floor of Cell 10 with two CAT D6 dozers. The grade trimmings were stockpiled on the Cell 10 floor. After the trimmings were removed, TWS compacted the subgrade with a CAT CS 563 smooth drum roller.

CQA also observed TWS utilizing a CAT D6 dozer and a CAT road grader to create damns in the middle of Cell 9 to prevent the rainwater from reaching the Cell 9 sump and ponding in the sump.

In addition, CQA observed TWS compacting the Cell 9 sump. After compaction was completed, CQA tested and verified that the subgrade met contract specifications.

Stratton Survey was on-site to verify grades on the lysimeter sump subgrade and locate the lysimeter pipe.

2.0 Admix Production – TWS produced a total of 3,693 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

3.0 Admix Placement – No admix placement activities were performed. Stratton Survey was on-site to verify admix grades on the south slope and floor of Cell 9. The west toe of the south slope was below design grade from washout from the rain event.

3.0 Tank 3 – CQA observed TWS placing and compacting fill over the piping in the tank #3 pad. The fill was placed with the Hitachi 200 trackhoe and compacted with two (2) jumping jack hand compactors to 95% proctor. CQA tested and verified that lifts 1-4 of the structural fill met the 95% compacted density required in the specifications.

In addition, CQA observed BMWC welding the 10-in by 16-in double containment line on the north berm of Cell 10 that is to be placed between manhole -34 and manhole-35.

Stratton Survey was on-site to as-build design locations of the manholes 34 and 35 as well as the piping between the manholes.

ENVIROTECH – CQA 5/28/10 DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-077
Job Number:	S013213A00	Staff On-site	Date:	Thursday, May 27, 2010
Contractor(s):	TradeWind Services	4	Weather:	Overcast : Hi: 51°F Lo: 71°F Wind: 26-mph Rain : 0.14-in

FIELD NOTEBOOKS			
Lucas Hay Book 1	Pages 150-152	Joe Voss Book 1	Pages 84
Tyler Williams Book 2	Pages 20-21	James Schut Book 1	Page: 4-5

FIELD TESTING			
Submittal 5-18B Tank 3 Structural Fill	Lift: 1	T3-01 to T3-02	Passed
Submittal 5-18B Leachate Transmission	Lifts: SG - 1	LT-55 to LT-58	Passed
Submittal 5-18E Belt Scale Measurements	May 27, 2010	988 Tons	Passed
Submittal 5-18J Admix Field Testing	Lift: 1	SL-191to SL-194	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 2 – Cell 9 Floor: Grid J5	SL-174	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9/Cell 8 Tie In Cell 9 Floor: Grid I1	SL-176	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 S. Embankment – Grid P5	SL-177	Permeability : On-Going

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 012	May 27, 2010	Grids: G1, G2, H1, and H2	Passed

LABORATORY TESTING		
5-13-12 60 mil geomembrane	Reference Number No. G100540	Passes Specification
5-13-13 60 mil geomembrane	Reference Number No. G100555	Passes Specification
5-15-08 geocomposite	Reference Number No. G100417	Passes Specification
5-18D Admix Soil Testing	AM-09	Std. Proctor, Perm- On-Going
5-18K Drainage Gravel Lab Testing	DG-C-01	USCS, Perm: Complete Std. Proctor: On-Going

GENERAL ACTIVITIES

1.0 Weather – Morning rain delayed the start of the admix placement activities until the afternoon.

2.0 Pug mill Operations – The pug mill experienced mechanical problems and had was not started until 14:00.

3.0 Liner Meeting – CQA met with Todd Story, the liner subcontractor superintendent to discuss liner installation procedures and the liner placement plan.

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-077
Job Number:	S013213A00	Staff On-site	Date:	Thursday, May 27, 2010
Contractor(s):	TradeWind Services	4	Weather:	Overcast : Hi: 51°F Lo: 71°F Wind: 26-mph Rain : 0.14-in

CONSTRUCTION ACTIVITIES

1.0 Subgrade – CQA observed TWS removing the grade trimmings from the Cell 10 floor with the CAT 385 excavator and Payhauler trucks. TWS graded and compacted the Cell 10 floor with two CAT D6 dozers and the CAT CS 563 smooth drum roller.

CQA observed TWS pumping and spraying the water detained by the subgrade damns onto the Cell 9 subgrade.

CQA observed TWS utilizing a Payhauler water truck and the CAT CS 563 smooth drum roller to prepare the subgrade surface prior to admix placement in Cell 9. See CQA hold point 5-18R-012 for more information.

2.0 Admix Production – TWS produced a total of 988 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

3.0 Admix Placement – Admix placement began in the afternoon. CQA observed TWS using International Payhauler trucks and two (2) CAT D6 GPS dozers to place admix soil. A CAT 825 sheepsfoot compactor was used to compact the soil. The CAT 825 compactor made 3 passes in third gear as per the test pad investigations. CQA observed TWS place and compact the first lift of admix in the center of Cell 9. CQA tested and verified that each lift placed was met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight. Previously finished admix soil moisture was maintained due to the morning rain showers.

3.0 Geomembrane – CQA observed ESI, the liner subcontractor, moving all 30 rolls of HDPE line on-site to the south berm.

4.0 Tank 3 – CQA observed TWS placing and compacting fill over the piping in the tank #3 pad. The fill was placed with the Hitachi 200 trackhoe and compacted with two (2) jumping jack hand compactors to 95% proctor. CQA tested and verified that lifts 1-4 of the structural fill met the 95% compacted density required in the specifications.

5.0 Leachate Transmission Line – CQA witnessed BMWC hydrostatically testing in inner pipe and pneumatically testing the outer pipe of the 10-in by 16-in double containment line on the north berm of Cell 10 that is to be placed between manhole -34 and manhole-35.

ENVIROTECH – CQA

6/1/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-078
Job Number:	S013213A00 Staff On-site	Date:	Friday, May 28, 2010
Contractor(s):	TradeWind Services 4	Weather:	Overcast : Hi: 64°F Lo: 51°F Wind: 29-mph Rain : 0.27-in

FIELD NOTEBOOKS			
Lucas Hay Book 1	Pages 153-154	Joe Voss Book 1	Page 85
Tyler Williams Book 2	Pages 23	James Schut Book 1	Page: 6

FIELD TESTING			
Submittal 5-18B Leachate Transmission	Lifts: SG - 1	LT-59 to LT-70	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 2 – Cell 9 Floor: Grid J5	SL-174	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9/Cell 8 Tie In Cell 9 Floor: Grid I1	SL-176	Permeability : On-Going
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 S. Embankment – Grid P5	SL-177	Permeability : On-Going

LABORATORY TESTING		
5-18D Admix Soil Testing	AM-09	Std. Proctor, Perm- On-Going
5-18K Drainage Gravel Lab Testing	DG-C-01	Std. Proctor: On-Going

GENERAL ACTIVITIES

1.0 Weather – Admix placement activities were canceled due to wet weather.

2.0 Pug mill Operations – The pug mill did not operate due to a bentonite shortage.

CONSTRUCTION ACTIVITIES

1.0 Subgrade – CQA observed TWS grading the Cell 10 floor and south embankment with two (2) CAT D6 dozers. Grade trimmings were stockpiled in the center of the Cell 10 floor. TWS compacted the Cell 10 floor with the CAT CS 563 smooth drum roller and TWS compacted the south embankment with three (3) CAT D6 dozers. The dozers completed three (3) passes over the entire subgrade of the south embankment.

CQA also observed TWS compacting the north interior slope of Cell 9 with two (2) D6 dozers. The dozers track-walked the embankment, making three passes over the entire slope. Moisture was provided by the continuing rain showers.

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING INC

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-078
Job Number:	S013213A00	Staff On-site	Date:	Friday, May 28, 2010
Contractor(s):	TradeWind Services	4	Weather:	Overcast : Hi: 64°F Lo: 51°F Wind: 29-mph Rain : 0.27-in

CONSTRUCTION ACTIVITIES

2.0 Leachate Transmission Line – CQA witnessed BMWC weld the 10-in by 16 in. double containment pipe on the north berm. BMWC utilized a tent to protect the welding surface from precipitation.

CQA also observed TWS backfilling the leachate transmission line between MH-32 and MH-34. TWS placed 6 lifts of soil, lifts 2 through 7, with the CAT 312 excavator and compacted the lifts with a double smooth drum roller. Lifts 2 and 3 were over 5-ft below finished grade, and were placed 12-in thick. The remaining lifts, 4-7, were placed at 6-in thick. CQA tested and verified that soil met compaction specifications.

3.0 Geocomposite – Two truckloads of geocomposite were delivered to site. TWS and ESI unloaded all 54 geocomposite rolls into the unloading area north of the construction trailers. All geocomposite rolls were covered with a plastic tarp to minimize UV and dust exposure.

ENVIROTECH – CQA

6/1/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-016-079
Job Number:	S013213A00 Staff On-site	Date:	Tuesday, June 1, 2010
Contractor(s):	TradeWind Services 5	Weather:	Pt. Cloudy : Hi: 76°F Lo: 52°F Wind: 22-mph

FIELD NOTEBOOKS			
Lucas Hay Book 1	Pages 155-157	Joe Voss Book 1	Page 86-87
Tyler Williams Book 2	Pages 24-27		

FIELD TESTING			
Submittal 5-18B Leachate Transmission	Lifts: 8-11	LT-71 to LT-78	Passed
Submittal 5-18E Belt Scale Measurements	June 1, 2010	5,380 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 2-6	SL-195 to SL-218	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 2 – Cell 9 Floor: Grid J5	SL-174	Permeability : Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 4 – Cell 9/Cell 8 Tie In Cell 9 Floor: Grid I1	SL-176	Permeability : Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 9 S. Embankment – Grid P5	SL-177	Permeability : Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 5 – Cell 9 S. Embankment – Grid N5	SL-205	Sample Collected Perm: On going

LABORATORY TESTING		
5-15-09 Geocomposite	Reference Number No. G100416	Passes Specification
5-18D Admix Soil Testing	AM-11	Sample Collected USCS Testing: On-going
5-18D Admix Soil Testing	AM-09	Std. Proctor: On-Going Permeability: Passed
5-18K Drainage Gravel Lab Testing	DG-C-01	Std. Proctor: On-Going

GENERAL ACTIVITIES

1.0 Weather – Due to rain showers over the weekend, the run-off storm water filled the sumps and altered the grade of the admix subgrade and admix surface.

2.0 Weekly Meeting – The weekly construction and weekly CQA meetings were canceled.

CONSTRUCTION ACTIVITIES

1.0 Subgrade – The CQA surveyor performed the as-build survey of the south half of the Cell 10 subgrade.

2.0 Admix Production – TWS produced a total of 5,380 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-079
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, June 1, 2010
Contractor(s):	TradeWind Services	5	Weather:	Pt. Cloudy : Hi: 76°F Lo: 52°F Wind: 22-mph

CONSTRUCTION ACTIVITIES

3.0 Admix Placement – CQA observed TWS using two CAT D6 GPS dozers to place admix in on the floor of Cell 9 and along the east edge of the south embankment of Cell 9. CQA observed TWS use one CAT 825 sheepsfoot compactor to compact the admix. CQA observed TWS use the CAT 563 smooth drum roller to proof roll the finished admix to maintain a sealed, smooth finish. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

CQA also observed TWS preparing the admix surface for liner placement. TWS utilized a small gator ATV to drag a fence around to rough up the admix surface. The surface was rerolled with the double smooth drum roller. In addition, the tie-in was pulled back and rolled with the double smooth drum roller. TWS laborers also worked on preparing the admix surface by correcting minor deficiencies, including removing the angles on the anchor trench, knocking down ruts, and removing silt at the toe of slope due to the recent rain storms.

Stratton Surveying was on-site to perform the admix as-build survey and verify admix thickness. Stratton Surveyed resurveyed all points on the admix to ensure 3-ft of admix material remained after the rain storms.

4.0 Leachate Collection Pipe – CQA observed BMWC welding 150-ft of the 12-in leachate riser pipe for Cell 9. BMWC removed the weld beads for the pipe as part of the welding procedure.

5.0 Leachate Transmission Line – CQA witnessed TWS backfilling the leachate transmission line between MH-32 and MH-34. TWS placed 4 lifts of soil, lifts 8 through 11, with the CAT 312 excavator and compacted the lifts with a double smooth drum roller up to final grade. CQA tested and verified that soil met compaction specifications.

3.0 Geomembrane – Five (5) truckloads of geomembrane were delivered to site. TWS and ESI unloaded all fifty (50) geomembrane rolls and two (2) pallets of geomembrane extrusion rod to the unloading area north of the construction trailers.

ENVIROTECH – CQA

6/4/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-080
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, June 2, 2010
Contractor(s):	TradeWind Services	3	Weather:	Pt. Cloudy : Hi: 62°F Lo: 53°F Wind: 28-mph Rain: 0.36"

FIELD NOTEBOOKS			
Lucas Hay Book 1	Pages 158-160	Joe Voss Book 1	Page 88-90
Tyler Williams Book 2	Pages 28-31		

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	June 2, 2010	4,694Tons	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 5 – Cell 9 S. Embankment – Grid N5	SL-205	Permeability : On-Going

LABORATORY TESTING		
5-18D Admix Soil Testing	AM-11	USCS Testing: On-going
5-18D Admix Soil Testing	AM-09	Std. Proctor: On-Going
5-18K Drainage Gravel Lab Testing	DG-C-01	Std. Proctor: On-Going

GENERAL ACTIVITIES

1.0 Weather – Due to rain showers no admix placement activities were performed.

2.0 Survey – The survey performed on June 1, 2010 indicated that the admix was only 2-ft thick over point 2025. After several meetings with WCH, TWS, and Stratton Surveying, it was determined that the design point 2025 elevation was incorrect on the design drawings. The initial coordinate recorded by the surveyor was recorded in the correct location at the toe of the admix tie-in, but the elevation did not match the design drawings. The incorrect elevation prompted the surveyor to take his shot on the admix tie-in to match the design elevation. However, the design elevation was incorrect, causing the error to show up when the admix surface was surveyed. Since the correct elevation was surveyed initially on the subgrade at the admix tie-in toe of slope, CQA will utilize that point to verify admix thickness.

CONSTRUCTION ACTIVITIES

1.0 Subgrade – CQA observed TWS clipping the north slope and floor of Cell 10 to grade with the CAT D6 dozer. TWS utilized the CAT 988 front-end loader to load the grade trimmings from the south half of Cell 10 into three (3) payhaulers. The trimmings were hauled to the operations stockpile.

The CQA surveyor performed the as-build survey of the south half of the Cell 10 subgrade.

2.0 Admix Production – TWS produced a total of 4,694 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-080
Job Number:	S013213A00	Staff On-site	Date:	Wednesday, June 2, 2010
Contractor(s):	TradeWind Services	3	Weather:	Pt. Cloudy : Hi: 62°F Lo: 53°F Wind: 28-mph Rain: 0.36"

CONSTRUCTION ACTIVITIES

3.0 Leachate Transmission Line – CQA witnessed BMWC weld the 3-in and 12-in HDPE pipes. BMWC utilized a tent to protect the welding surface from precipitation.

CQA observed TWS utilizing the CAT 330 excavator and Hitachi 200 to excavate the leachate trench between MH-35 and MH-36. CQA also observed TWS excavating the duct bank between crest pads 9 and 10 with the CAT 312 excavator.

3.0 Geocomposite – One truckload of geocomposite was delivered to site. TWS and ESI unloaded all 27 geocomposite rolls into the unloading area north of the construction trailers. All geocomposite rolls were covered with a plastic tarp to minimize UV and dust exposure.

4.0 Geotextile – One truckload of 8 oz. geotextile was delivered to site. TWS and ESI unloaded all 27 geocomposite rolls into the unloading area north of the construction trailers. All geotextile rolls were covered with a plastic tarp to minimize UV and dust exposure.

ENVIROTECH – CQA

6/4/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-081
Job Number:	S013213A00	Staff On-site	Date:	Thursday, June 3, 2010
Contractor(s):	TradeWind Services	4	Weather:	Cloudy : Hi: 69°F Lo: 47°F Wind: 18-mph Rain: 0.13"

FIELD NOTEBOOKS			
James Schut Book 1	Page: 7-9	Joe Voss Book 1	Pages 91-93
Tyler Williams Book 2	Pages 32-34	Matt Lunday	Pages 1-2

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	June 2, 2010	2,028 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 1 - 4	SL-219 to SL-246	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 5 – Cell 9 S. Embankment – Grid N5	SL-205	Permeability : On-Going

CQA HOLD POINTS			
Submittal 5-18R-013 Subgrade Hold 013	June 3, 2010	Grids: D1, D2, E1, E2, F1, and F2	Passed

LABORATORY TESTING		
5-18D Admix Soil Testing	AM-09	Std. Proctor: On-Going
5-18D Admix Soil Testing	AM-11	USCS Testing: Passed
5-18D Admix Soil Testing	AM-12	Sample Collected, USCS Testing: On-Going
5-18K Drainage Gravel Lab Testing	DG-C-01	Std. Proctor: On-Going

GENERAL ACTIVITIES

1.0 Pugmill – The pugmill experienced mechanical problems with the bentonite auger and was able to attain full production.

2.0 Geomembrane – One (1) roll of 60 mil geomembrane that arrived on-site did not match the manifest, nor did CQA receive testing indicating that roll passed MQC or CQA conformance testing. The roll was rejected and painted red.

CONSTRUCTION ACTIVITIES

1.0 Subgrade – CQA observed TWS proof rolling the subgrade with the CAT 563 smooth drum roller and the moisture conditioning the subgrade with the Payhauler water trucks prior to admix placement on the subgrade. CQA verified that the subgrade of Cell 9 met construction specifications prior to placement of the first lift of admix material.

2.0 Admix Production – TWS produced a total of 2,028 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications. CQA collected admix sample AM-12.

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING, INC.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-081
Job Number:	S013213A00	Staff On-site	Date:	Thursday, June 3, 2010
Contractor(s):	TradeWind Services	4	Weather:	Cloudy : Hi: 69°F Lo: 47°F Wind: 18-mph Rain: 0.13"

CONSTRUCTION ACTIVITIES

3.0 Admix Placement – CQA observed TWS using two CAT D6 GPS dozers to place admix in on the center of Cell 9 and along the west tie-in. CQA observed TWS use one CAT 825 sheepsfoot compactor to compact the admix. CQA observed TWS use the CAT 563 smooth drum roller to proof roll the finished admix to maintain a sealed, smooth finish. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

TWS pealed back the tie-in to Cell 8 and found water trapped under the geomembrane. The admix was in poor condition and the tie-in was not completely exposed for joining the new geomembrane to the existing geomembrane. After CQA discussions with the liner installer and TWS, CQA observed TWS removing the overbearing operations layer on the Cell 9 tie-in in order to expose the existing secondary and primary geomembranes. TWS also exposed the admix along the Cell 9 tie-in to dry so the material could be worked at a later date.

4.0 Geosynthetics – CQA conducted receiving inspections on the geomembrane, 8oz. geotextile, and geocomposite in the off-loading area and on the south berm.

5.0 Leachate Transmission Line – CQA witnessed BMWC weld the 12-in HDPE riser pipes. The weld beads were removed from the pipes, and the pipes were placed on the north embankment. In addition, CQA witnessed BMWS and TWS place the 10-in x 16-in double containment pipe between MH-35 and MH-36. TWS also set MH-34 and placed the ring over MH-32.

CQA observed TWS excavating the duct bank between crest pads 9 and 10 with the CAT 312 excavator. American electric was placed the electrical conduit onto the trench floor.

ENVIROTECH – CQA

6/7/10
DATE

Washington Closure Hanford

ENVIROTECH ENGINEERING & CONSULTING INC

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-082
Job Number:	S013213A00	Staff On-site	Date:	Friday, June 4, 2010
Contractor(s):	TradeWind Services	5	Weather:	Overcast : Hi: 71.5°F Lo: 48.9°F Wind: 31-mph Rain: 0.26"

FIELD NOTEBOOKS			
Luke Hay Book 1	Page: 1	Joe Voss Book 1	Pages 94-95
Tyler Williams Book 2	Pages 35-36	James Schut Book 1	Page: 10
Matt Lunday	Pages 3		

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	June 4, 2010	3,521 Tons	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 5 – Cell 9 S. Embankment – Grid N5	SL-205	Permeability : On-Going

LABORATORY TESTING		
5-18D Admix Soil Testing	AM-09	Std. Proctor: On-Going
5-18D Admix Soil Testing	AM-12	USCS Testing: On-Going
5-18K Drainage Gravel Lab Testing	DG-C-01	Std. Proctor: On-Going

GENERAL ACTIVITIES

1.0 Weather – Due to rain showers no admix placement activities were performed.

2.0 Pugmill – The pugmill experienced mechanical problems with the bentonite auger and was able to attain full production.

3.0 Quality Assurance Audit – Harry Mooney conducted an oversight audit of CQA activities. He interviewed employees and discussed training, job orientation, and testing procedures.

CONSTRUCTION ACTIVITIES

1.0 Subgrade – CQA observed TWS trimming the Cell 10 subgrade to grade with three (3) CAT D6 dozers. The grade tproof rolling the subgrade with the CAT 563 smooth drum roller and the moisture conditioning the subgrade with the Payhauler water trucks prior to admix placement on the subgrade.

2.0 Admix Production – TWS produced a total of 3,521 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications. For a short duration of time, admix was produced with a bentonite content of 15.7%. The higher than average material was segregated, and fully incorporated with the existing admix stockpile that has an average bentonite content under 12%.

3.0 Geosynthetics – CQA conducted receiving inspections on the geomembrane, 8oz. geotextile, and geocomposite in the off-loading area and on the south berm.

4.0 Leachate Transmission Line – CQA witnessed BMWC weld the 12-in HDPE riser pipes. The weld beads were removed from the pipes, and the pipes were placed on the north embankment.

ENVIROTECH – CQA

6/9/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-083
Job Number:	S013213A00	Staff On-site	Date:	Monday, June 7, 2010
Contractor(s):	TradeWind Services	5	Weather:	Clear : Hi: 80°F Lo: 58°F Wind: 28-mph

FIELD NOTEBOOKS			
James Schut Book 1	Page: 11-12	Joe Voss Book 1	Pages 96-98
Tyler Williams Book 2	Pages 37-41	Matt Lunday	Pages 4-5

FIELD TESTING			
Submittal 5-18E Belt Scale Measurements	June 7, 2010	4,367 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 2-6	SL-247 to SL-269	Passed
Submittal 5-18J Admix Field Testing Permeability	Lift No. 5 – Cell 9 S. Embankment – Grid N5	SL-205	Permeability : Passed

LABORATORY TESTING		
5-13-14 60 mil geomembrane	Reference No. G100580	Passes Specification
5-13-15 60 mil geomembrane	Reference No. G100583	Passes Specification
5-15-014 Geocomposite Testing	Reference No. G100435	Passes Specification
5-15-015 Geocomposite Testing	Reference No. G100436	Passes Specification
5-18D Admix Soil Testing	AM-09	Std. Proctor: Completed
5-18D Admix Soil Testing	AM-12	USCS Testing: Passed
5-18D Admix Soil Testing	AM-13	Sample Collected: USCS Testing, Permeability, Std. Proctor: On-Going
5-18K Drainage Gravel Lab Testing	DG-C-01	Std. Proctor: On-Going

GENERAL ACTIVITIES

1.0 Pugmill – The pugmill experienced mechanical problems with the bentonite auger and was able to attain full production.

2.0 Weather – The admix surface was damaged by stormwater runoff over the weekend. The water eroded the finished surface of the admix, and the water and fines collected in the Cell 9 sump. See below under admix placement for repair details.

3.0 Geosynthetic Installation Stop Work – Work was halted on the geosynthetic installer when the forklift he as utilizing tipped forward onto its nose. The forklift operator was able to recover and place the all four wheels onto the subgrade. WCH has initiated a fact finding mission in regards to the incident.

CONSTRUCTION ACTIVITIES

1.0 Subgrade – CQA observed TWS proof rolling the subgrade with the CAT 563 smooth drum roller to keep a level and smooth surface for haul traffic.

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-083
Job Number:	S013213A00	Staff On-site	Date:	Monday, June 7, 2010
Contractor(s):	TradeWind Services	5	Weather:	Clear : Hi: 80°F Lo: 58°F Wind: 28-mph

CONSTRUCTION ACTIVITIES

2.0 Admix Production – TWS produced a total of 4,367 tons of admix material. CQA performed belt scale measurements, clod size observations and verified that the admix met the contract specifications. CQA collected admix sample AM-13.

3.0 Admix Placement – CQA observed TWS using two CAT D6 GPS dozers to place admix in on the center of Cell 9 and along the west tie-in. CQA observed TWS use two (2) CAT 825 sheepsfoot compactor to compact the admix. CQA observed TWS use the CAT 563 smooth drum roller to proof roll the finished admix to maintain a sealed, smooth finish. CQA tested and verified that each lift placed was properly moisture condition, compacted and that the lift met the contract specifications. Please refer to Submittal 5-18J Admix Field Data for lift completion data for all grids.

At the end of the day all unfinished admix was back dragged with the blade on the CAT D6 dozer to seal the admix. Sealing the admix prevent excessive moisture loss overnight.

Stratton Survey was on-site to capture a previously non-conforming admix survey point. In addition, Stratton verified that the toe of the admix slope met design tolerances. During the survey, TWS removed excess silt from the toe of slope that placed the admix out-of tolerance.

TWS, ESI (Geosynthetic Installer), and CQA walked the admix subgrade for acceptance for liner deployment. CQA and ESI noted that excessive moisture was present in the southwest corner of the cell floor and the surrounding admix was in poor condition due to recent rain showers.

CQA observed TWS back-dragging the rain-damaged admix surface with a CAT D6 dozer blade then re-rolling the surface with the CAT CS 563 smooth drum roller, followed by the small double smooth drum roller. The southwest corner of the Cell 9 floor was repaired by mucking out approximately 2-in of the over-saturated admix material. The non-conforming admix material was replaced by fresh admix and reworked into the final lift with hand tools. After the repairs were completed, ESI and CQA approved the surface for liner installation.

4.0 Cell 10 Crest Pad Building – CQA observed DHI pouring the vertical concrete walls for the Cell 10 crest pad building. The concrete placement was aided by a concrete pump truck, and CQA verified that the concrete was tested as per the contract specification by an Intermountain Materials Testing technician.

5.0 Leachate Transmission Line – CQA witnessed BMWC weld the 12-in HDPE riser pipes. The weld beads were removed from the pipes.

CQA witnessed BMWS test the 10-in x 16-in double containment pipe between MH-35 and MH-36. CQA verified that both the inner and outer pipes met testing specifications.

ENVIROTECH – CQA

6/8/10
DATE

CQA DAILY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction		Report Number:	05-016-084
Job Number:	S013213A00	Staff On-site	Date:	Tuesday, June 8, 2010
Contractor(s):	TradeWind Services	4	Weather:	Pt. Cloudy : Hi: 79°F Lo: 46°F Wind: 28-mph Rain: 0.18-in

FIELD NOTEBOOKS			
James Schut Book 1	Page: 13-15	Joe Voss Book 1	Pages 99-100
Tyler Williams Book 2	Pages 42-	Matt Lunday	Pages 6-7

FIELD TESTING			
Submittal 5-18B MH-35 to MH-36 Backfill	Lifts: 1-3	LT-79 to LT-84	Passed
Submittal 5-18E Belt Scale Measurements	June 8, 2010	4,342 Tons	Passed
Submittal 5-18J Admix Field Testing	Lifts: 2-6	SL-247 to SL-269	Passed

LABORATORY TESTING		
5-13-16 60 mil geomembrane	Reference No. G100597	Passes Specification
5-13-17 60 mil geomembrane	Reference No. G100604	Passes Specification
5-13-18 60 mil geomembrane	Reference No. G100610	Passes Specification
5-18D Admix Soil Testing	AM-13	USCS Testing Passed Permeability, Std. Proctor: On-Going
5-18K Drainage Gravel Lab Testing	DG-C-01	Std. Proctor: Completed

GENERAL ACTIVITIES

1.0 Construction Stop Work - Work was halted on the admix liner and movement of all heavy equipment when the Payhauler water truck backed into and flattened a porta-john located on the Cell 10 floor. Work was halted at approximately 8:45 and resumed at approximately 14:00 after corrective actions were completed.

2.0 Geosynthetic Stop Work - The geosynthetic installer performed a safety demonstration with the fork-lift that levered off the ground yesterday causing the geosynthetic stop work order. However, work was halted again after it was discovered that the spread bar used to pull the liner was under-rated. After the geosynthetic installer located and transported a higher rated spread bar to site, the paperwork for the bar could not be located in a timely manner. No geosynthetic material was deployed.

3.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, June 8, 2010 at 10:00 am. in the WCH conference room.

4.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, June 8, 2010 at 10:30 am. in the WCH conference room.

5.0 CQA Survevor's Meeting - The CQA engineers met with Stratton Surveying perform a site walk-down and address future surveying concerns.