

0094055

FINAL REPORT

CONSTRUCTION QUALITY ASSURANCE (CQA)

# SECTION

18 OF 20



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-001
Job Number:	S013213A00	Dates:	2/10/2010 to 2/12/2010
Contractor(s):	TradeWind Services (TWS)	Staff On-site	1

### LABORATORY TESTING

Base Soil Testing	BS-01	USCS Testing On-Going
Base Soil Testing	BS-02	USCS Testing On-Going
Base Soil Testing	BS-03	USCS Testing On-Going
Structural Fill	SF-01 N. and S. Embankment Fill	Proctor and USCS Testing On-Going
Structural Fill	SF-02 N. and S. Embankment Fill	Proctor and USCS Testing On-Going

### GENERAL ACTIVITIES

1. 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.
1. 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 Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled a cumulative total of 28,197 cubic yards of base soil to the stockpile this week. 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). The "Ladybug" water truck was utilized for dust suppression along the haul roads and throughout the excavation area.

  
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### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-002
Job Number:	S013213A00	Dates:	2/15/2010 to 2/19/2010
Contractor(s):	TradeWind Services (TWS)	Staff On-site	3

#### LABORATORY TESTING

Base Soil Testing	BS-01	USCS Testing On-Going
Base Soil Testing	BS-02	USCS Testing On-Going
Base Soil Testing	BS-03	USCS Testing On-Going
Base Soil Testing	BS-04	USCS Testing On-Going
Base Soil Testing	BS-05	USCS Testing On-Going
Base Soil Testing	BS-06	USCS Testing On-Going
Structural Fill	SF-01 N. and S. Embankment Fill	USCS, Proctor Complete
Structural Fill	SF-02 N. and S. Embankment Fill	USCS, Proctor Complete

#### GENERAL ACTIVITIES

1.0 Envirotech Personnel Joe Voss and Tyler Williams arrived on-site on Thursday, February 18<sup>th</sup>.

#### 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. Clearing and grubbing activities for Cell 10 were completed on Tuesday February 16<sup>th</sup>.

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 Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled a cumulative total of 66,027 cubic yards of base soil to the stockpile this week. 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). The "Ladybug" water truck was utilized for dust suppression along the haul roads and throughout the excavation area.

3.0 North Embankment Construction - CQA observed TWS moisture condition and compact the subgrade for north embankment. CQA performed in place density test and verified that the north embankment subgrade met the specification requirements. CQA observed TWS place, moisture condition and compacting lifts 1-2 on the north embankment. CQA performed in place density tests and verified that each lift was compacted per the specifications.

4.0 South Embankment Construction - CQA observed TWS moisture condition and compact the subgrade for south embankment. CQA performed in place density test and verified that the south embankment subgrade met the specification requirements.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-003
Job Number:	S013213A00	Dates:	2/22/10 to 2/26/10
Contractor(s):	TradeWind Services (TWS)	Daily Reports	05-016-009 to 05-016-013

### LABORATORY TESTING

Base Soil Testing	BS-01	USCS Testing On-Going
Base Soil Testing	BS-02	USCS Testing On-Going
Base Soil Testing	BS-03	USCS Testing On-Going
Base Soil Testing	BS-04	USCS Testing On-Going
Base Soil Testing	BS-05	USCS Testing On-Going
Base Soil Testing	BS-06	USCS Testing On-Going
Base Soil Testing	BS-07	USCS Testing On-Going
Base Soil Testing	BS-08	USCS Testing On-Going
Structural Fill	SF-03 N. and S. Embankment Fill	Testing On-Going

### GENERAL ACTIVITIES

- 1.0 Weekly Progress Meetings - CQA attended the construction contractor's weekly progress meeting on Tuesday, February 23, 2010 at 10:00 am.

### 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 Komatsu trucks and hauled to the base soil stockpile, south of Cell 10. TWS hauled a cumulative total of 88,725 cubic yards of base soil to the stockpile this week. 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). The "Ladybug" water truck was utilized for dust suppression along the haul roads and throughout the excavation area.

On Thursday, February 23, 2010 base soil excavation has been completed. On Wednesday, February 24, 2010 Roger's surveying was on-site to conduct the base soil survey.

- 2.0 North Embankment Construction - CQA observed TWS place, moisture condition and compact lifts 3 through 6 on north embankment. CQA performed in place density test and verified that each lift met the compaction specifications prior to placement of the next lift. CQA observed TWS excavate a buried PVC utility line that serviced the air monitor previously located within the Cell 10 footprint. CQA observed TWS removing all PVC piping from the excavation. Subsequent to removal of the PVC TWS began to backfill and compact the excavation. CQA tested each lift and verified that the compaction met contract specifications.

- 3.0 South Embankment Construction - CQA observed TWS place, moisture condition and compact lifts 1 through 4 on the south embankment. CQA tested each lift and verified that the compaction met contract specifications.

  
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### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-04
Job Number:	S013213A00	Dates:	3/1/10 to 3/5/10
Contractor(s):	TradeWind Services (TWS)	Daily Reports	05-016-014 to 05-016-018

LABORATORY TESTING		
Base Soil Testing	BS-01	USCS Testing On-Going
Base Soil Testing	BS-02	USCS Testing On-Going
Base Soil Testing	BS-03	USCS Testing On-Going
Base Soil Testing	BS-04	USCS Testing On-Going
Base Soil Testing	BS-05	USCS Testing On-Going
Base Soil Testing	BS-06	USCS Testing On-Going
Base Soil Testing	BS-07	USCS Testing On-Going
Base Soil Testing	BS-08	USCS Testing On-Going
Structural Fill	SF-04 N. and S. Embankment Fill	Proctor Completed, USCS On-Going
Structural Fill	SF-05 N. and S. Embankment Fill	Testing On-Going

GENERAL ACTIVITIES	
1.0	<u>Weekly Progress Meetings</u> – CQA attended the construction contractor’s weekly progress meeting at 10:00 in the WCH Trailer
2.0	<u>COA Progress Meeting</u> – CQA attended the construction contractors CQA meeting at 10:35 in the WCH Trailer.

CONSTRUCTION ACTIVITIES	
1.0	<u>Cell 10 Excavation</u> – CQA observed TWS utilizing the CAT 5110 excavator, the CAT 385 excavator and the Hitachi 1800 excavator to remove operations layer soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and transported to the operations soil stockpile, southeast of Cell 10. TWS removed a cumulative total of 129,272 cubic yards of soil from the footprint of Cell 10 this week.
2.0	<u>North Embankment Construction</u> – CQA observed TWS place, moisture condition and compact lifts 7 through 11 on north embankment. CQA performed in place density test and verified that each lift met the compaction specifications prior to placement of the next lift.
3.0	<u>South Embankment Construction</u> - CQA observed TWS place, moisture condition and compact lifts 3 through 8 on the south embankment. CQA performed in place density test and verified that each lift met the compaction specifications prior to placement of the next lift.
4.0	<u>Cell 9 Liner Tie In</u> - 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 remove the last 3- to 6-in. of soil over liner.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-005
Job Number:	S013213A00	Staff On-site	Dates: 3/8/10 to 3/12/10
Contractor(s):	TradeWind Services (TWS) 3	Reports:	5-016-019 to 5-016-023

### LABORATORY TESTING

Base Soil Testing	BS-01	USCS Complete
Base Soil Testing	BS-02	USCS Complete
Base Soil Testing	BS-03	USCS Complete
Base Soil Testing	BS-04	USCS Complete
Base Soil Testing	BS-05	USCS Complete
Base Soil Testing	BS-06	USCS Complete
Base Soil Testing	BS-07	USCS Testing On-Going
Base Soil Testing	BS-08	USCS Testing On-Going
Base Soil Testing	BS-09	USCS Testing On-Going
Base Soil Testing	BS-010	USCS Testing On-Going
Structural Fill	SF-03 N. and S. Embankment Fill	Proctor Complete, USCS Complete
Structural Fill	SF-04 N. and S. Embankment Fill	Proctor Complete, USCS Complete
Structural Fill	SF-05 N. and S. Embankment Fill	Proctor Complete, USCS Complete
Structural Fill	SF-06 N. and S. Embankment Fill	Proctor Complete, USCS Complete

### GENERAL ACTIVITIES

- 1.0 Weekly Progress Meetings - CQA attended the construction contractor's weekly progress meeting on Tuesday, March 9, 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 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 removed a cumulative total of 130,204 cubic yards of soil from the footprint of Cell 10 this week.  
  
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 place, moisture condition and compact lifts 12 through 13 on north embankment. CQA performed in place density test and verified that each lift met the compaction specifications prior to placement of the next lift. The north embankment is complete.
- 3.0 South Embankment Construction - CQA observed TWS place, moisture condition and compact lifts 9 through 10 on the south embankment. CQA performed in place density test and verified that each lift met the compaction specifications prior to placement of the next lift. The south embankment is complete.



### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-005
Job Number:	S013213A00	Staff On-site	Dates: 3/8/10 to 3/12/10
Contractor(s):	TradeWind Services (TWS) 3	Reports:	5-016-019 to 5-016-023

#### 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 from the liner tie in section while hand digging was utilized to remove the last few inches of soil from the liner. The liner tie in along the south embankment as well as 70% for the cell floor has been uncovered.
- 5.0 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.
- 6.0 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.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-006
Job Number:	S013213A00	Staff On-site	Dates: 3/15/10 to 3/19/10
Contractor(s):	TradeWind Services (TWS) 3	Reports:	5-016-024 to 5-016-028

LABORATORY TESTING		
Base Soil Testing	BS-07	USCS Testing Complete
Base Soil Testing	BS-08	USCS Testing Complete
Base Soil Testing	BS-09	USCS Testing Complete
Base Soil Testing	BS-10	USCS Testing Complete
Sub-grade Cell 9 Floor	SF-07	Proctor and USCS Testing Completed

GENERAL ACTIVITIES
<p>1.0 <u>Weekly Progress Meetings</u> – CQA attended the construction contractor’s weekly progress meeting on Tuesday, March 16, 2010 at 10:00 am. in the WCH Trailer.</p> <p>2.0 <u>COA Progress Meeting</u> – CQA attended the construction contractors CQA meeting at 10:30 am. in the WCH Trailer.</p> <p>3.0 <u>WCH “All Hands Meeting”</u> – Work was concluded at 14:00 on Wednesday, March 17, 2010. 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.</p>

CONSTRUCTION ACTIVITIES
<p>1.0 <u>Cell 10 Excavation</u> – 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 removed a cumulative total of 138,591 cubic yards of soil from the footprint of Cell 10 this week.</p> <p>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.</p> <p>2.0 <u>Cell 9 Sub-Grade</u> – CQA observed TWS utilize the CAT D6 GPS dozer to cut portions of the north and south embankments to grade.</p> <p>3.0 <u>Cell 9 Liner Tie In</u> – 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.</p> <p>4.0 <u>Pugmill</u> – TWS mobilized a second silo, three guppies, an auger and the pug on-site. As equipment arrived on-site TWS continued assembly of the pugmill.</p> <p>5.0 <u>Test Pad Area</u> – 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. The area was moisture conditioned and compacted with a vibratory smooth drum compactor.</p>



### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-006
Job Number:	S013213A00	Staff On-site	Dates: 3/15/10 to 3/19/10
Contractor(s):	TradeWind Services (TWS) 3	Reports:	5-016-024 to 5-016-028

#### CONSTRUCTION ACTIVITIES

- 6.0 Manhole 21 and 39 Construction - CQA observed TWS place and compact leveling gravel in bottom of the excavations for manholes 21 and 39. CQA tested and verified the compaction of the subgrade beneath each manhole met the contract specifications.
- 7.0 Lysimeter - CQA observed TWS excavate the riser trench in the north embankment of Cell 9. TWS also began excavation of the Cell 9 sump.
- 8.0 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.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-007
Job Number:	S013213A00	Staff On-site	Dates: 3/22/10 to 3/26/10
Contractor(s):	TradeWind Services (TWS) 4	Reports:	5-016-029 to 5-016-033

### 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 on Tuesday, March 23, 2010 at 10:30 am. in the WCH Trailer.
- 3.0 Radcon Stop Work - Subsequent to placement of manhole base sections 21 and 39, and prior to backfilling, 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. TWS removed a cumulative total of 152,955 cubic yards of soil from the footprint of Cell 10 this week.  
  
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.
- 1.0 Admix – CQA observed TWS continue to assemble the separate components of the pugmill including various conveyor belts, the screen plant and another feeder as well as electrical wiring, mechanical connections and safety fencing. 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. CQA observed Washington Trucking Co. delivering bentonite. Both bentonite silos P19 (east) and P9 (west) were filled with bentonite as were the three guppies placed next to the pugmill. The generator was started on Thursday, March 25, 2010 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. CQA tested and verified the subgrade for the test pad met the contract specifications. No pugmill calibrations were completed during the week.
- 2.0 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. 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. 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 met the contract specifications. 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.
- 3.0 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.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-008
Job Number:	S013213A00	Staff On-site	Dates: 3/29/10 to 4/2/10
Contractor(s):	TradeWind Services (TWS)	4	Reports: 5-016-034 to 5-016-038

FIELD TESTING		
Belt Scale Testing	4/2/2010	Met Contract Specifications

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

GENERAL ACTIVITIES
1.0 <u>Weekly Progress Meetings</u> – CQA attended the construction contractor’s weekly progress meeting on Tuesday, March 30, 2010 at 10:00 am. in the Tradewinds conference trailer.
2.0 <u>CQA Progress Meeting</u> – CQA attended the construction contractors CQA meeting on Tuesday, March 30, 2010 at 10:30 am. in the Tradewinds conference trailer.
3.0 <u>CQA Progress Meeting</u> – 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 <u>CQA Progress Meeting</u> – 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 <u>Cell 10 Excavation</u> – 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. TWS removed a cumulative total of 142,857 cubic yards of soil from the footprint of Cell 10 this week.  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.
1.0 <u>Admix Production</u> – CQA observed TWS resolving pugmill issues for the majority of the week. CQA verified the completion of the pugmill calibrations on Thursday, April 1, 2010 (Submittal 05-016-037) and admix production began on Friday, April 2, 2010 (Submittal 05-016-038). CQA verified belt scale measurements throughout the admix production met the contract specifications.
2.0 <u>Leachate Transmission Line</u> – CQA observed TWS utilize Hook’s Crane service to place manholes MH-32 and MH-33. Subsequent to placing manholes MH-32 and MH-33, TWS backfilled around the manholes. CQA tested each lift of the backfill and verified that the compaction met the contract specifications. CQA also observed TWS excavating manholes MH-34 and MH-35.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-009
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	3	Reports:
			5-016-039 to 5-016-043

FIELD TESTING		
05-18C-2 Admix Permeability	TP-04A, TP-11A, TP-13, TP-20, TP-28, TP-34, TP-37	In progress

LABORATORY TESTING		
05-18C-1 Admix Soil Testing	AM-01	USCS, Perm. and Std Proctor On-Going
05-14 Geotextile Testing	G100262	Passes Specification
05-14 Geotextile Testing	G100263	Passes Specification
05-14 Geotextile Testing	G100264	Passes Specification

GENERAL ACTIVITIES
1.0 <u>Weekly Progress Meetings</u> – CQA attended the construction contractor’s weekly progress meeting on Tuesday, April 6, 2010 at 10:00 am. in the WCH Trailer.
2.0 <u>CQA Progress Meeting</u> – CQA attended the construction contractors CQA meeting on Tuesday, April 6, 2010 at 10:30 am. in the WCH Trailer.
3.0 <u>Stop Work</u> – The construction area was closed on Report 05-016-042, Thursday, April 8, 2010 due to strong (40 mph+) winds causing low visibility. RadCon called a stop work for the Cells 9 and 10 construction.
4.0 <u>Washington State Department of Health</u> – Victoria Dix from the Washington Department of Health was on-site Report day 05-016-042, Thursday, April 8, 2010 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 <u>Cell 10 Excavation</u> – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to remove soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile. TWS removed a cumulative total of 131,085 cubic yards of soil from the footprint of Cell 10 in Week 9.
2.0 <u>Subgrade</u> – CQA observed TWS grading the interior slope of the south berm and floor of Cell 9 with a CAT D6 GPS dozer.
3.0 <u>Admix Production</u> – TWS produced a 1,256 tons of admix material for use in the construction of Cell 9. CQA verified that the bentonite content was within specifications.

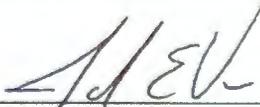


## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-009
Job Number:	S013213A00	Staff On-site	Dates: 4/5/10 to 4/9/10
Contractor(s):	TradeWind Services (TWS) 3	Reports:	5-016-039 to 5-016-043

### CONSTRUCTION ACTIVITIES

- 4.0 Admix Placement – CQA observed TWS constructing the test pad on the south end of the Cell 9 floor. TWS constructed the test pad to a finished thickness of 3-ft and CQA verified admix placement and construction methods. After the test pad construction was completed, CQA setup the Boutwell testing apparatus to confirm admix installation procedures. CQA continued to monitor the Boutwell testing.
- 5.0 Leachate Transmission Line – CQA observed TWS excavate the locations for MH-34 and MH-35. In addition, CQA observed TWS utilize Hook’s Crane service to place both manholes MH-34 and MH-35.
- 6.0 Crest Pad Building – CQA observed TWS placing and compacting lifts 1-4 on the Cell 9 crest pad. 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.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-010
Job Number:	S013213A00	Staff On-site	Dates: 4/12/10 to 4/16/10
Contractor(s):	TradeWind Services (TWS) 3	Reports:	5-016-044 to 5-016-048

### LABORATORY TESTING

Submittal 5-18D Admix Soil Testing	AM-01	USCS, Perm. and Std Proctor Completed
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### 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 at 10:30 am. on Tuesday, April 13, 2010 in the TWS conference trailer.

### CONSTRUCTION ACTIVITIES

- 1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to remove soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile. TWS removed a cumulative total of 147,546 cubic yards of soil from the footprint of Cell 10 in Week 10.  
  
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 Subgrade – CQA observed TWS grading the floor and interior north berm of 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.
- 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. CQA also observed TWS setting metal concrete forms in preparation for pouring the building pad.
- 5.0 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. CQA observed BMWC and TWS staff conducting training for HDPE pipe fusion welding in the pipe laydown yard.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-011
Job Number:	S013213A00	Staff On-site	Dates: 4/19/10 to 4/23/10
Contractor(s):	TradeWind Services (TWS) 2	Reports:	5-016-049 to 5-016-053

### 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 at 10:30 am. on Tuesday, April 20, 2010 in the TWS conference trailer.
- 3.0 Pipe Testing – On Thursday, April 22, Report 05-016-052, 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.
- 4.0 Geocomposite Testing – On Thursday, April 22, Report 05-016-052, 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.
- 5.0 Pipe Specifications – On Friday, April 23, Report 05-016-053, 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 excavator and the Hitachi 1800 excavator to remove soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile. TWS removed a cumulative total of 153,945 cubic yards of soil from the footprint of Cell 10 in Week 11.
- 2.0 Subgrade – CQA observed TWS grading the floor of 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 completed the Boutwell testing on the Admix Test Pad.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-011
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS) 2	Reports:	4/19/10 to 4/23/10
			5-016-049 to 5-016-053

### CONSTRUCTION ACTIVITIES

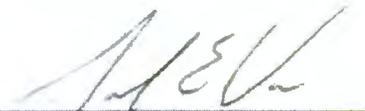
4.0 Cell 9 Crest Pad – BMWC installed the 2x6 in drain line in the Cell 9 crest pad. BMWC hydrostatically tested the inner 2 in. pipe, and pneumatically tested the 6 in. pipe. CQA verified that the 2x6 in. double containment pipe met testing specifications. BMWC also installed the 4x8 in discharge line in the Cell 9 crest pad and terminated the pipe 15 ft north of the crest pad building. BMWC hydrostatically tested the inner pipe, but did not test the outer pipe. Although the discharge line was tested, the entire discharge line has not been acceptability tested.

TWS trimmed the subgrade of the Cell 9 crest pad to grade with hand tools. After the double containment pipe was installed, TWS placed and compacted three (3) lifts of soil over the discharge line and one (1) lift of soil over the drainage line. CQA tested and verified that all lifts met compaction specifications.

TWS also completed excavating the trench for the leachate discharge line between MH-32 and Cell 9 crest pad.

5.0 Cell 10 Crest Pad – CQA observed TWS excavate the trench for the leachate discharge line between MH-33 and Cell 10 Crest Pad Building. BMWC placed the 4x8 in discharge pipe from the Cell 10 crest pad building to manhole 33. TWS placed and compacted 5 lifts of soil over the discharge pipe, and CQA tested and verified that the soil met specifications. However, later that day TWS learned that the pipe was placed at the wrong elevation; TWS will address this issue at a later date. See general activities for more information.

5.0 Leachate Transmission Line – CQA observed TWS setting the bases for manholes 36 and 37. CQA also observed TWS excavate and compact the subgrade for manhole 38. CQA tested and verified that the subgrade of manhole 38 met construction specifications.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-012
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	5	Reports:
			5-016-054 to 5-016-058

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

GENERAL ACTIVITIES
<p>1.0 <u>Weekly Progress Meetings</u> – CQA attended the construction contractor’s weekly progress meeting on Tuesday, April 27, 2010 at 10:00 am. in the TWS conference trailer.</p>
<p>2.0 <u>CQA Progress Meeting</u> – CQA attended the construction contractors CQA meeting at 10:30 am. on Tuesday, April 27, 2010 in the TWS conference trailer.</p>
<p>3.0 <u>HDPE Pipe Testing</u> – In daily report 56, Submittal 05-16-56, 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.</p>
<p>4.0 <u>Utility Backfill</u> – In daily report 56, Submittal 05-16-56, 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.</p>
<p>5.0 <u>Friction Angle Testing</u> – 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.</p>
<p>6.0 <u>Pipe Specifications</u> – In weekly report 11, Submittal 05-21-11, 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.</p>
<p>7.0 <u>HDPE Pipe Testing</u> – In daily report 58, Submittal 05-16-58, 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.</p>

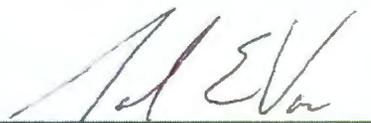


## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-012
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS) 5	Reports:	4/26/10 to 4/30/10
			5-016-054 to 5-016-058

### CONSTRUCTION ACTIVITIES

- 1.0 Cell 10 Excavation – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to remove soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile. TWS removed a cumulative total of 152,361 cubic yards of soil from the footprint of Cell 10 in Week 12.
- 2.0 Subgrade – CQA surveyors verified that the south interior slope and south half of the Cell 9 floor met design elevations. TWS moisture conditioned and compacted the Cell 9 floor. CQA tested and verified that the south half of the Cell 9 floor met compaction specifications.
- 3.0 Cell 9 Lysimeter – TWS excavated the lysimeter trench in the north embankment of Cell 9. BMWC welded the 8-in. lysimeter pipe and placed the pipe into the trench. TWS did not backfill the pipe.
- 4.0 Admix Production – TWS produced a total of 14,000 tons of admix in week 12, for a total of 17,856 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.
- 5.0 Cell 9 Crest Pad – BMWC installed the 4x8 in. discharge line from the Cell 9 crest pad to manhole 32. CQA verified that the pipe was placed with a minimum of a 2.0% slope. BMWC tested and CQA verified that the pipe met construction specifications. TWS then backfilled the discharge pipe to design grades.  
  
TWS also completed construction on the building forms and poured the Cell 9 crest pad concrete foundation.
- 6.0 Cell 10 Crest Pad – TWS excavated the 4x8 in. discharge pipe set during week 11. The pipe was cut and rewelded as to provide 3 ½ feet of cover. BMWC tested and CQA verified that the pipe met construction specifications. TWS then backfilled the discharge pipe to design grades.  
  
TWS also placed and compacted lifts 1-3 of the Cell 10 crest pad foundation. CQA tested and verified that lifts 1-2 met compaction specifications. TWS shall complete compaction of lift 3 at a later date.
- 5.0 Leachate Transmission Line – TWS backfilled around manholes 36 and 37, and CQA tested and verified that the backfill met compaction specifications.

  
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 DATE



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-013
Job Number:	S013213A00	Staff On-site	Dates: 5/3/10 to 5/7/10
Contractor(s):	TradeWind Services (TWS)	5	Reports: 5-016-059 to 5-016-063

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor, Perm. Completed
05-18D Admix Soil Testing	AM-03	USCS, Completed
05-18D Admix Soil Testing	AM-04	USCS, On-Going
05-18L Operations Soil	OS-01	USCS, Std Proctor Completed

GENERAL ACTIVITIES
1.0 <u>Weather Shutdown</u> – On May 3, 2010, Report 05-016-059, blowing dust from high winds caused low visibility conditions, which prompted a site wide shutdown of most activities due to safety concerns.
2.0 <u>Weekly Progress Meetings</u> – CQA attended the construction contractor’s weekly progress meeting on Tuesday, May 4, 2010 at 10:00 am. in the TWS conference trailer.
3.0 <u>COA Progress Meeting</u> – CQA attended the construction contractors CQA meeting at 10:30 am. on Tuesday, May 4, 2010 in the TWS conference trailer.
4.0 <u>Geosynthetic Materials Handling</u> – On May 6, 2010, Report 05-016-062, CQA observed TWS constructing an off-loading ramp and station for geosynthetic materials northeast of Cell 10 with the CAT D8 dozer.

CQA HOLD POINTS			
Submittal 05-18R Subgrade Hold 002	May 7, 2010	Grid M1 to M3	Passed

CONSTRUCTION ACTIVITIES
1.0 <u>Cell 10 Excavation</u> – CQA observed TWS utilizing the CAT 5110 excavator and the Hitachi 1800 excavator to remove soil from Cell 10. The soil was loaded into Komatsu and Payhauler trucks and hauled to the operations soil stockpile. TWS removed a cumulative total of 97,578 cubic yards of soil from the footprint of Cell 10 in Week 18. TWS completed the primary excavation of Cell 10 on Friday, May 7, 2010. The south ramp, which will be excavated at a later date, was left in place for construction traffic.
2.0 <u>Subgrade</u> – Due to the wind storm referenced in Report 05-016-059, TWS had to re-grade areas of the south floor in Cell 9. After TWS completed the re-grading process the CQA surveyors re-verified that the south interior slope and south half of the Cell 9 floor met design elevations. Some points along the top of the south slope of Cell 9 did not the tolerances specified in the specifications. Due to the high winds, some points were below grade by 0.30-ft. TWS subsequently wrote an SDDR rectify the situation.
3.0 <u>Cell 9 Lysimeter</u> – TWS backfilled the first lift in the Cell 9 lysimeter trench on May 5, 2010 (Report 05-016-061). CQA tested and verified that the backfill me the contract specifications.



### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-012
Job Number:	S013213A00	Staff On-site	Dates: 4/26/10 to 4/30/10
Contractor(s):	TradeWind Services (TWS)	5	Reports: 5-016-054 to 5-016-058

#### CONSTRUCTION ACTIVITIES

- 4.0 Admix Production – TWS produced a total of 16,492 tons of admix in week 13, for a total of 34,348 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.
- 5.0 Admix Placement – On May 7, 2010 (Report 05-016-063) 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.
- 6.0 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.
- 7.0 Cell 9 Crest Pad – CQA observed TWS backfill the discharge line between the Cell 9 crest pad and MH-32. CQA tested and verified that each lift placed met the contract specifications.
- 8.0 Cell 10 Crest Pad – CQA observed TWS place and compact the Cell 10 crest pad subgrade. CQA tested and verified that the subgrade met the contract specifications. CQA also observed TWS and BMWC place the 2x6-in HDPE drain line for the Cell 10 Crest Pad. CQA observed BMWC Hydrostatically test the inner containment and pneumatically test the outer containment of the HDPE drain line. CQA verified that the testing met the contract specifications.

  
 ENVIROTECH – CQA

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-014
Job Number:	S013213A00	Staff On-site	Dates: 5/10/10 to 5/14/10
Contractor(s):	TradeWind Services (TWS) 5	Reports:	5-016-064 to 5-016-068

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-02	USCS, Std Proctor, Perm. Completed
05-18D Admix Soil Testing	AM-04	USCS, On-Going
05-18D Admix Soil Testing	AM-05	USCS, Std Proctor, Perm On-Going
05-18D Admix Soil Testing	AM-06	USCS On-Going

GENERAL ACTIVITIES
1.0 <u>Weekly Progress Meetings</u> – CQA attended the construction contractor’s weekly progress meeting on Tuesday, May 11, 2010 at 10:00 am. in the TWS conference trailer.
2.0 <u>CQA Progress Meeting</u> – CQA attended the construction contractors CQA meeting at 10:30 am. on Tuesday, May 11, 2010 in the TWS conference trailer.

CQA HOLD POINTS			
Submittal 05-18R Subgrade Hold 002	May 10, 2010	Grids: N3, O3, P3	Passed
Submittal 05-18R Subgrade Hold 002	May 11, 2010	Grids: J1, K1 L1 N1, O1, P1, N2, O2, P2, N4, O4 and P4	Passed

CONSTRUCTION ACTIVITIES
1.0 <u>Admix Production</u> – TWS produced a total of 24,738 tons of admix in week 14, for a total of 59,086 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.
2.0 <u>Admix Placement</u> – CQA observed TWS place admix soil on floor of Cell 9 near the SW corner of the cell and along the western edge of the south embankment. TWS has completed lifts 1 through 5 in grids N1 through N4, O1 through O4 and P1 through P4. TWS has complete the sixth lift in grids M1 through M4, N4, O4 and P4. CQA tested and verified that all lifts placed met the contract specifications. 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.
3.0 <u>Subgrade</u> – On May 11, 2010 (Report 05-016-065) CQA verified that grids J1, K1, L1, O1, P1, N2, O2, P2 and N4, O4, P4 met the construction specifications. The subgrade hold point for the referenced cells was released and TWS began placing admix in these grids.
CQA also observed TWS utilizing the CAT 320 excavator to cut the Cell 9 riser trench and sump to grade. The riser trench had been previously excavated, however due to site activity and a recent wind storm; the trench had to be re-graded.

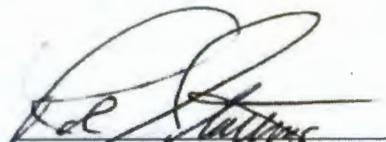


### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-014
Job Number:	S013213A00	Staff On-site	Dates: 5/10/10 to 5/14/10
Contractor(s):	TradeWind Services (TWS) 5	Reports:	5-016-064 to 5-016-068

#### CONSTRUCTION ACTIVITIES

Leachate Transmission – CQA observed TWS excavating the utility trench between MH-33 and MH-32 utilizing the CAT 380 excavator. TWS and BMWC placed the 10x16-in HDPE double contained pipe and portions of the pipe were covered with 12- to 18-in of soil to hold the pipe in place and the regulate the temperature of the pipe. The joints of the pipe were left exposed for acceptance testing purposes. CQA observed BMWC welding the 10x16-in HDPE and the 8x12-in HDPE piping for the tank penetrations from MH-39 and MH-21 respectively. The tank penetrations set aside after welding and not installed. CQA also observed BMWC welding 10x16-in HDPE piping for the leachate transmission system between manholes.

  
 ENVIROTECH - CQA

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-015
Job Number:	S013213A00	Staff On-site	Dates: 5/17/10 to 5/21/10
Contractor(s):	TradeWind Services (TWS) 3	Reports:	5-016-069 to 5-016-073

LABORATORY TESTING		
05-18D Admix Soil Testing	AM-05	USCS, Std Proctor, Perm Completed
05-18D Admix Soil Testing	AM-06	USCS Completed
05-18D Admix Soil Testing	AM-07	USCS Completed
05-18D Admix Soil Testing	AM-08	USCS On-Going

GENERAL ACTIVITIES	
1.0	<u>Weekly Progress Meetings</u> – CQA attended the construction contractor’s weekly progress meeting on Tuesday, May 18, 2010 at 10:00 am. in the TWS conference trailer.
2.0	<u>CQA Progress Meeting</u> – CQA attended the construction contractors CQA meeting at 10:20 am. on Tuesday, May 18, 2010 in the TWS conference trailer.

CQA HOLD POINTS			
Submittal 05-18R Subgrade Hold 005	May 17, 2010	Grids: L1, L2 and L3	Passed
Submittal 05-18R Subgrade Hold 006	May 18, 2010	Grids: L5 and M5	Passed
Submittal 05-18R Subgrade Hold 007	May 19, 2010	Grids: J2, K2, N5, O5 and P5	Passed
Submittal 05-18R Subgrade Hold 008	May 20, 2010	Grid: I1	Passed
Submittal 05-18R Subgrade Hold 009	May 21, 2010	Grid: K3	Passed

CONSTRUCTION ACTIVITIES	
1.0	<u>Admix Production</u> – TWS produced a total of 21,097 tons of admix in week 15, for a total of 80,183 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.
2.0	<u>Admix Placement</u> – CQA observed TWS place admix soil on floor of Cell 9 near the south toe of the cell and along the south embankment. TWS has completed lifts 1 through 6 in 22 of the 80 grids mostly in the southwest corner of Cell 9 and along the south embankment of Cell 9. CQA observed, tested and verified that the lifts placed met the contract specifications. See submittal 05-018J-073 Admix Field Data for full lift completion information in all grids.  CQA observed TWS clip the sixth lift to design grade using a CAT D6 GPS dozer then a the CAT 560 smooth drum roller was utilized to create a finished smooth surface.
3.0	<u>Subgrade</u> – CQA observed TWS moisture condition and compact the northern half of the Cell 9 subgrade through constant traffic from loaded Payhaulers, the loaded Payhauler water truck and the CAT 560 smooth drum roller. CQA tested and verified that the north half of the Cell 9 floor subgrade met the contract specifications. CQA surveyors are scheduled to be on-site Monday, May 24, 2010 to complete the Cell 9 subgrade survey. CQA verified that the subgrade in grids L1, L2, L3, L5 M5, J2, K2, N5, O5, P5, I1 and K3 met the contract specifications, and the hold points were release so that TWS could begin placing admix in the referenced grids.



### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-015
Job Number:	S013213A00	Staff On-site	Dates: 5/17/10 to 5/21/10
Contractor(s):	TradeWind Services (TWS) 3	Reports:	5-016-069 to 5-016-073

#### CONSTRUCTION ACTIVITIES

- 2.0 Subgrade (Cont.) - CQA also observed TWS utilizing the CAT 320 excavator to cut the Cell 9 riser trench and sump to grade. The riser trench had been previously excavated, however due to site activity and a recent wind storm; the trench had to be re-graded.
- 3.0 Leachate Transmission - CQA observed BMWC hydrostatically testing the inner containment of the 10x16-in HDPE leachate transmission line between MH-33 and MH-32. Hydrostatic pressure testing failed due to a failed weld of the inner containment. BMWC located the failed weld, removed the weld and repaired the section of piping. After the piping was repaired CQA observed BMWC hydrostatically and pneumatically test the entire length of pipe from MH-33 to MH-32. Both the hydrostatic and pneumatic testing met the contract specifications.  
  
CQA observed TWS backfilling the leachate transmission line between MH-33 and MH-32 using the CAT 330 excavator. CQA tested and verified that the lifts met the contract specifications.
- 4.0 Crest Pad Building 9 Backfill - CQA observed TWS place backfill around the Cell 9 crest pad building foundations. CQA tested and verified that the backfill met the contract specifications.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-016
Job Number:	S013213A00	Staff On-site	Dates:
			5/24/10 to 5/28/10
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			5-016-074 to 5-016-078

LABORATORY TESTING		
5-13-06 60 mil geomembrane	Reference No. G100456	Passed
5-13-07 60 mil geomembrane	Reference No. G100457	Passed
5-13-08 60 mil geomembrane	Reference No. G100459	Passed
5-13-09 60 mil geomembrane	Reference No. G100463	Passed
5-13-10 60 mil geomembrane	Reference No. G100469	Passed
5-13-11 Friction Angle Conformance Testing	May 26, 2010	Passed
5-13-12 60 mil geomembrane	Reference Number No. G100540	Passed
5-13-13 60 mil geomembrane	Reference Number No. G100555	Passed
5-15-08 geocomposite	Reference Number No. G100417	Passed
5-14-06 16 oz. Geotextile Testing	Reference No. G100273	Passed
5-14-07 16 oz. Geotextile Testing	Reference No. G100274	Passed
5-14-08 8 oz. Geotextile Testing	Reference No. G100460	Passed
5-14-09 8 oz. Geotextile Testing	Reference No. G100461	Passed
5-15-01 Geocomposite Testing	Reference No. G100311	Passed
5-15-02 Geocomposite Testing	Reference No. G100312	Passed
5-15-03 Geocomposite Testing	Reference No. G100313	Passed
5-15-04 Geocomposite Testing	Reference No. G100361	Passed
5-15-05 Geocomposite Testing	Reference No. G100362	Passed
5-15-06 Geocomposite Testing	Reference No. G100363	Passed
5-15-07 Geocomposite Testing	Reference No. G100415	Passed
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	USCS-Complete
05-18K Drainage Gravel Lab Testing	DG-C-01	USCS, Perm - Complete Std. Proctor - On-Going

CQA HOLD POINTS			
Submittal 5-18R Subgrade Hold 010	May 24, 2010	Grids: J3, J4, J5, K3, K4, and K5	Passed
Submittal 5-18R Subgrade Hold 011	May 25, 2010	Grids: I2	Passed
Submittal 05-18R Subgrade Hold 012	May 27, 2010	Grids: G1, G2, H1 and H2	Passed

GENERAL ACTIVITIES
<p>1.0 <u>Weekly Progress Meetings</u> - CQA attended the construction contractor's weekly progress meeting on Tuesday, May 25, 2010 at 10:00 am. in the TWS conference trailer.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-016	
Job Number:	S013213A00	Staff On-site	Dates:	5/24/10 to 5/28/10
Contractor(s):	TradeWind Services (TWS)	6	Reports:	5-016-074 to 5-016-078

### GENERAL ACTIVITIES (CONTINUED)

- 2.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting at 10:20 am. on Tuesday, May 25, 2010 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 on Tuesday, May 25, 2010 (Report 05-016-075). 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 on Tuesday, May 25, 2010 (Report 05-016-075), however after refilling the bentonite supply the pug mill was restarted later in the afternoon.
- 5.0 Weather – Weather delayed the start of geomembrane installation until next week. In addition, little work was accomplished on the admix soil on Wednesday, Thursday, or Friday due to continued rain showers.

### CONSTRUCTION ACTIVITIES

- 1.0 Subgrade – CQA observed TWS using the CAT D6 GPS dozers to cut Cell 10 to design grade. TWS also utilized the CAT 385 excavator and 2 Payhauler trucks to remove the grade trimmings from the Cell 10 floor. CQA also observed TWS using the Payhauler water truck and spray nozzle to maintain the subgrade moisture on the north embankment of Cell 9.
- 2.0 Admix Production – TWS produced a total of 14,805 tons of admix in week 16, for a total of 95,078 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.
- 3.0 Admix Placement – CQA observed TWS place admix soil on floor of Cell 9, along the Cell8/Cell 9 tie in and on the south embankment of Cell 9. Due to wet conditions for the majority of the week, admix placement was limited. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J Admix Field Density 077 for a more detailed admix placement schedule.

CQA observed TWS using a Payhauler water truck and spray nozzle to maintain the moisture content on the finished 6<sup>th</sup> lift of admix soil located on the south embankment and in the southwest corner of Cell 9. At the conclusion of each day placing admix, TWS used the CAT D6 GPS dozer to back drag the admix soil and the CAT 563 smooth drum roller to seal the admix to prevent excessive moisture loss.



### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-016
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	5/24/10 to 5/28/10
		Reports:	5-016-074 to 5-016-078

#### CONSTRUCTION ACTIVITIES (CONTINUED)

- 4.0 Anchor Trench – CQA observed TWS excavating the anchor trench at the top of the south embankment of Cell 9. The anchor trench was excavated with sloping side slopes and no sharp angles.
- 5.0 Leachate Transmission Line – TWS excavated the leachate transmission trench between MH-32 and MH-34. BMWC placed the 10x16 double containment pipe in the trench and tested the pipe as per specifications. CQA verified that the testing met construction specifications. TWS backfilled and compacted soil over the transmission line. CQA tested and verified that the backfill met project specifications. At the end of the week, the backfill was a couple feet below grade.  
  
BMWc also welded the 10-in by 16-in double containment pipe on the north berm that will be installed between MH-34 and MH-35.
- 6.0 Tank #3 – BMWc tested and CQA verified that the hydrostatic testing of the 2-in HDPE leak detection line for Tank 3 met contract specifications. After the leak detection line testing was completed, TWS backfilled over the pipes and subgrade of Tank #3 simultaneously. CQA tested and verified that the backfill met contract specifications.
- 7.0 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.
- 8.0 Geomembrane Delivery – Thirty (30) rolls of 60-mil HDPE geomembrane were delivered to site. Upon delivery CQA reviewed the rolls delivered and verified that they met the Subcontractor's (TWS) submittal log and the contract specifications. Three rolls were left in the lay down area and the remaining rolls were placed on the south berm.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-017
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			5-016-079 to 5-016-082

LABORATORY TESTING		
5-15-09 Geocomposite	Reference Number No. G100416	Passes Specification
5-18D Admix Soil Testing	AM-09	Std. Proctor: On-going
5-18D Admix Soil Testing	AM-11	USCS Testing: Completed
5-18D Admix Soil Testing	AM-12	USCS Testing: On-Going
5-18K Drainage Gravel Lab Testing	DG-C-01	Std. Proctor: On-Going

CQA HOLD POINTS			
Submittal 5-18R-013 Subgrade Hold 013	June 3, 2010	Grids: D1, D2, E1, E2, F1, and F2	Passed

GENERAL ACTIVITIES
<p>1.0 <u>Weather</u> – 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.</p> <p>2.0 <u>Weekly Meeting</u> – The weekly construction and weekly CQA meetings were canceled.</p> <p>3.0 <u>Weather</u> – Due to rain showers no admix placement activities were performed on Wednesday, June 2<sup>nd</sup> (Report 05-016-080) or Friday, June 4<sup>th</sup> (Report 05-016-082)</p> <p>4.0 <u>Survey</u> – 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.</p> <p>5.0 <u>Pugmill</u> – The pugmill experienced mechanical problems with the bentonite auger on Thursday and Friday, June 3<sup>rd</sup> and 4<sup>th</sup> (05-016-081 and 05-016-082) and was able to attain full production.</p> <p>6.0 <u>Geomembrane</u> – One (1) roll of 60 mil geomembrane that arrived on-site on Thursday, June 3<sup>rd</sup> (05-016-081) did not match the manifest, nor did CQA receive testing indicating that roll passed MQC or CQA conformance testing. The roll was rejected and marked with red paint.</p> <p>7.0 <u>Quality Assurance Audit</u> – Harry Mooney conducted an oversight audit of CQA activities on Friday, June 4<sup>th</sup> (Report 05-016-082). He interviewed employees and discussed training, job orientation, and testing procedures.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-017
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			6/1/2010 to 6/4/2010
			5-016-079 to 5-016-082

### CONSTRUCTION ACTIVITIES (CONTINUED)

1.0 Subgrade – CQA observed TWS the north embankment of Cell 10 to grade using the CAT D6 GPS dozer. TWS utilized the CAT 988 loader to load the trimmings from Cell 10 into three (3) Payhauler trucks. The trimmings were transported to the operations soil stockpile. CQA observed TWS using Payhauler water truck to moisture condition the subgrade of Cell 10 and the CAT 563 smooth drum roller to proof roll the subgrade of the Cell 10 floor. CQA also observed TWS track walking the north and south embankments with the CAT D6 dozer.

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 15,623 tons of admix in week 17, for a total of 110,701 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.

3.0 Admix Placement – CQA observed TWS place admix soil on floor and south embankment of Cell 9. Due to wet conditions for the majority of the week, admix placement was limited. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J Admix Field Density 082 for a more detailed admix placement schedule.

At the conclusion of each day placing admix, TWS used the CAT D6 GPS dozer to back drag the admix soil and the CAT 563 smooth drum roller to seal the admix to prevent excessive moisture loss. The final lift of admix was rolled with the CAT 563 smooth drum roller and the smaller double steel drum roller to prepare the surface for geomembrane placement.

4.0 Leachate Collection Pipe – CQA observed BMWC welding the 12-in leachate riser pipe. BMWC removed the weld beads for the pipe as part of the welding procedure.

5.0 Leachate Transmission Line – CQA observed TWS and BMWC place the 10x16-in HDPE pipe between MH-35 and MH-36. In addition, TWS backfilled the leachate transmission pipe between MH-32 and MH-34 and between MH-35 and MH-36

6.0 Geosynthetics – Five (5) truck load of geomembranes

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-018
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	5	6/7/2010 to 6/11/2010
		Reports:	5-16-083 to 5-16-087

LABORATORY TESTING		
5-13-14 60 mil Geomembrane	Reference No. G100580	Passes Specification
5-13-15 60 mil Geomembrane	Reference No. G100583	Passes Specification
5-13-16 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
5-13-19 60 mil Geomembrane	Reference No. G100622	Passes Specification
5-15-14 Geocomposite Testing	Reference No. G100435	Passes Specification
5-15-15 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	USCS, Std. Proctor: Passed
		Permeability: On-Going
5-18K Drainage Gravel Lab Testing	DG-C-01	Std. Proctor: Completed

CQA HOLD POINTS			
Submittal 5-18R-014 Subgrade Hold 014	June 9, 2010	Grids: H3, H4, H5, I3, I4, I5	Passed
Submittal 5-18R-015 Admix Hold 015	June 10, 2010	Panels: S-1 to S-5	Passed
Submittal 5-18R-016 Subgrade Hold 016	June 10, 2010	Grids: J6, K6, L6, and M6	Passed
Submittal 5-18R-017 Admix Hold 017	June 11, 2010	Panels: S-6 to S-9	Passed

GENERAL ACTIVITIES
<p>1.0 <u>Construction Stop Work</u> – In Report 5-16-084, work was halted on the admix liner and movement of all heavy equipment when the Payhauler water truck backed into and flattened a port-a-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.</p>
<p>2.0 <u>Geosynthetic Stop Work</u> – Work was halted in Report 5-16-083 when 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 initiated a fact finding mission in regards to the incident.</p> <p>In Report 5-16-084, 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.</p> <p>In Report 5-16-085, after several hours, the geosynthetic installer was able to locate and submit the paperwork for the spreader bar. By the time the paperwork was approved, the wind had increased to unsafe conditions for liner deployment, and the liner crew was unable to deploy liner.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-018
Job Number:	S013213A00	Staff On-site	Dates: 6/7/2010 to 6/11/2010
Contractor(s):	TradeWind Services (TWS) 5	Reports:	5-16-083 to 5-16-087

### GENERAL ACTIVITIES

- 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 Weather – Rain showers halted admix placement on Tuesday, June 8, 2010.

### CONSTRUCTION ACTIVITIES (CONTINUED)

- 1.0 Subgrade – CQA observed TWS trimming the north embankment of Cell 10 to grade using the CAT D6 GPS dozer. TWS utilized the CAT 988 loader to load the trimmings from Cell 10 into three (3) Payhauler trucks. The trimmings were transported to the operations soil stockpile. CQA observed TWS using Payhauler water truck to moisture condition the subgrade and the CAT 563 smooth drum roller to proof roll the subgrade.

In addition, CQA observed TWS re-grading the Cell 9 sump, which was eroded during rain showers over the weekend.

- 2.0 Admix Production – TWS produced a total of 14,017 tons of admix in week 18, for a total of 124,718 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.

- 3.0 Admix Placement – CQA observed TWS place admix soil on floor and south embankment of Cell 9. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J Admix Field Density 087 for a more detailed admix placement schedule.

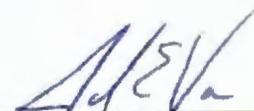
At the conclusion of each day placing admix, TWS used the CAT D6 GPS dozer to back drag the admix soil and the CAT 563 smooth drum roller to seal the admix to prevent excessive moisture loss. The final lift of admix was rolled with the CAT 563 smooth drum roller and the smaller double steel drum roller to prepare the surface for geomembrane placement.

- 4.0 Leachate Collection Pipe – CQA observed BMWC welding the 12-in leachate riser pipe. BMWC removed the weld beads for the pipe as part of the welding procedure.

- 5.0 Leachate Transmission Line – CQA observed BMWC welding the 10-in x 16-in double containment leachate transmission pipe east of Cell 10.

CQA observed TWS and BMWC test the leachate transmission line between MH-35 and MH-36. After testing was completed, TWS backfilled the leachate pipe between MH-35 and MH-36.

- 6.0 Geosynthetics – Seven (7) truck load of geocomposite and two (2) truck loads of geotextile were delivered to site.

  
ENVIROTECH – CQA

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-020
Job Number:	S013213A00	Staff On-site	Dates: 6/21/2010 to 6/25/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-093 to 5-16-097

### LABORATORY TESTING

5-18D Admix Soil Testing	AM-15	USCS Testing: Completed
5-18D Admix Soil Testing	AM-16	USCS Testing: Completed
5-18D Admix Soil Testing	AM-17	USCS Testing: Completed
5-18A Earthwork Structural Fill	SF-08	USCS, Proctor: Completed

### CQA HOLD POINTS

Submittal 5-18R-026 Subgrade Hold 026	June 21, 2010	Grids: E4 and E5	Passed
Submittal 5-18R-027 Admix Hold 027	June 22, 2010	Panels: S-36 to S-42	Passed
Submittal 5-18R-028 Subgrade Hold 028	June 24, 2010	Grids: A4, B4 and C4	Passed
Submittal 5-18R-029 Subgrade Hold 029	June 25, 2010	Grids: A3, B3 and C3	Passed

### GENERAL ACTIVITIES

- 1.0 Geomembrane Hold – On June 21, 2010 (Report 05-016-093) storm water run-off from weekend storm events eroded the admix liner and left pools of standing water. CQA placed a hold on all geomembrane placement over the unacceptable admix surface.
- 2.0 Stop Work – On June 21, 2010 (Report 05-016-093) frequent scattered showers caused liner repairs to be halted intermittently throughout the day.
- 3.0 Weekly Progress Meetings – CQA attended the construction contractor’s weekly progress meeting on Tuesday, June 22, 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 22, 2010 at 10:30 am. in the WCH conference room.
- 5.0 Leachate Transmission Pipe – On June 23, 2010 leachate transmission line backfill failed to meet contract specifications. CQA collected soil for structural fill proctor SF-08. Verification proctor SF-08 demonstrated that tests LT-102 and LT-103 failed to meet contract specifications. TWS shall address the deficiency in a later report.
- 6.0 Geomembrane Placement – ESI has requested to use a Bobcat skid loader to deploy the primary geomembrane over the geocomposite. TWS has submitted the submittal for the Bobcat, however the submittal has yet to be approved by WCH. Primary geomembrane placement is on hold until the issue is resolved.

### 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 also observed TWS preparing the subgrade for admix placement, moisture conditioning the subgrade as needed.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-020
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	5-16-093 to 5-16-097

### CONSTRUCTION ACTIVITIES

1.0 Admix Production – TWS produced a total of 24,628 tons of admix in week 20, for a total of 168,522 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.

2.0 Admix Placement – CQA observed TWS place admix soil on floor and north embankment of Cell 9. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J Admix Field Density 097 for a more detailed admix placement schedule.

At the conclusion of each day placing admix, TWS used the CAT D6 GPS dozer to back drag the admix soil and the CAT 563 smooth drum roller to seal the admix to prevent excessive moisture loss. The final lift of admix on the north slope between the tie in and the riser trench was rolled with the CAT 563 smooth drum roller and the smaller double steel drum roller to prepare the surface for geomembrane placement.

3.0 Drainage Gravel – CQA observed TWS hauling Type C gravel from the on-site stockpile to the Cell 9 lysimeter in International Payhaulers. The drainage gravel was spread around the sump utilizing a CAT 312 excavator. CQA verified that the TWS compacted the gravel by track-walking the CAT 312 excavator over the second lift. CQA continuously observed gravel placement to ensure no geosynthetics were damaged during installation.

In addition, CQA directed TWS to pump and remove the storm water run-off that had collected in the sump over the tertiary geomembrane.

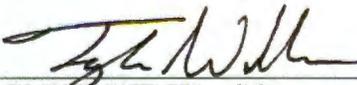
4.0 Leachate Transmission Line – CQA witnessed BMWC welding 10-in x 16-in double containment pipes in the BMWC laydown area. The pipe was stockpiled east of Cell 10.

CQA observed TWS backfilling the leachate transfer line between MH-37 and MH-38 with the CAT 312 excavator. TWS incorporated water into the fill material and the Hitachi trackhoe with attached hoe-pack compacted each lift. The first lift did not meet compaction specifications. CQA then observed TWS compacting with the jumping jack hand compactor. Since neither method produced passing CQA test results, CQA collected structural fill sample SF-08 to verify the selected proctor.

5.0 Geomembrane Deployment – CQA observed ESI deploying secondary geomembrane panels S-36 to S-42 over accepted admix subgrade on the floor of Cell 9. The sheets were deployed from the east end of the admix and pulled across the floor from east to west by a Kubota ATV. All panels were fusion welded together.

CQA observed ESI conducting repairs and testing on the secondary geomembrane. The CQA surveyors, Stratton Surveying, were on-site to conduct a seam survey of the secondary geomembrane.

6.0 Geocomposite – CQA observed ESI deploying geocomposite on the south berm and floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters. CQA also verified that the end seams on the slopes were staggered a minimum of 10-ft apart.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-021
Job Number:	S013213A00	Staff On-site	Dates: 6/28/2010 to 7/2/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-098 to 5-16-102

### LABORATORY TESTING

5-18D Admix Soil Testing	AM-17	USCS Testing: Completed
5-18D Admix Soil Testing	AM-18	USCS Testing: Completed
5-18D Admix Soil Testing	AM-19	USCS Testing: Collected

### CQA HOLD POINTS

Submittal 5-18R-030 Subgrade	June 28, 2010	Grids: A5, B5, C5, D4, and D5	Passed
Submittal 5-18R-031 Admix Surface	June 28, 2010	Panels: S-43 to S-44	Passed
Submittal 5-18R-032 Cell 9 Admix Surface	June 29, 2010	Panels: S-45 to S-50	Passed
Submittal 5-18R-033 Cell 10 Subgrade	June 29, 2010	Grids: G1, H1, I1	Passed
Submittal 5-18R-034 Cell 9 Primary Subgrade	June 29, 2010	Panels: P-01 to P-02	Passed
Submittal 5-18R-035 Primary Subgrade	June 30, 2010	Panels: P-03 to P-07	Passed
Submittal 5-18R-036 Cell 10 Subgrade	July 1, 2010	Grids: M7, M8, and M9	Passed
Submittal 5-18R-037 Cell 9 Primary Subgrade	July 1, 2010	Panels: P-08 to P-13	Passed
Submittal 5-18R-038 Cell 10 Subgrade	July 2, 2010	Grids: N7, O7, and P7	Passed

### GENERAL ACTIVITIES

- 1.0 Geomembrane Placement – On Friday, June 25, 2010, ESI requested approval to use a Bobcat 250 skid loader for deploying primary geomembrane over the geocomposite. WCH has approved the request with the stipulation that CQA can stop the activity at any point if they feel that the integrity of the liner, geocomposite or underlying subgrade is being adversely affected.
- 2.0 Saturday Work – On Thursday, June 24, 2010, CQA was informed by TWS that the pugmill would be operating on Saturday; therefore, CQA was on-site to observe the pugmill operations and collect belt scale measurements for Saturday, June 26, 2010.
- 3.0 Weekly Progress Meetings – CQA attended the construction contractor’s weekly progress meeting on Tuesday, June 29, 2010 at 10:00 am. in the WCH conference room.
- 4.0 CQA Progress Meeting – CQA weekly meeting was cancelled.
- 5.0 Secondary Geocomposite –On Tuesday, June 29, 2010 (Report 05-016-099) Jack Howard, WCH STR, noted that number of ties used on the butt seams for two (2) of the secondary geocomposite panels were inadequate. The two (2) inadequate seams had not been accepted by CQA, and ESI shall correct the seams prior to CQA acceptance.
- 6.0 Rain Event – On Friday, July 2, 2010 (Report 05-016-102) , at the end of the day, a small rain shower occurred. Since all geomembrane was seamed, no damage to the underlying subgrade occurred; however, the sump area was filled with water and will be addressed at a later date.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-021
Job Number:	S013213A00	Staff On-site	Dates: 6/28/2010 to 7/2/2010
Contractor(s):	TradeWind Services (TWS)	6	Reports: 5-16-098 to 5-16-102

### 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 also observed TWS preparing the subgrade for admix placement, moisture conditioning the subgrade as needed. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.
- 2.0 Admix Production – TWS produced a total of 29,024 tons of admix in week 21, for a total of 197,576 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.
- 3.0 Admix Placement – CQA observed TWS place admix soil on floor and north embankment of Cell 9 as well as in the Cell 9 lysimeter. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J-102 Admix Field Density for a more detailed admix placement schedule. CQA also observed TWS begin to place admix in the southwest corner of Cell 10.

At the conclusion of each day placing admix, TWS used the CAT D6 GPS dozer to back drag the admix soil and the CAT 563 smooth drum roller to seal the admix to prevent excessive moisture loss. The final lift of admix on the north slope between the tie in and the riser trench was rolled with the CAT 563 smooth drum roller and the smaller double steel drum roller to prepare the surface for geomembrane placement.

- 4.0 Drainage Gravel – On Wednesday, June 30, 2010 (Report 05-016-100) CQA observed TWS begin hauling Type A drainage gravel to the site. The gravel was stockpiled to the southeast of Cell 10.
- 5.0 Leachate Transmission Line – CQA witnessed BMWC welding 10-in x 16-in double containment pipes in the BMWC laydown area. CQA also observed BMWC welding the 12-in riser pipes for Cells 9 and 10. The pipes were stockpiled east of Cell 10.

CQA observed TWS completing the final grading and compaction of the backfill between MH-37 to MH-38.

- 6.0 Secondary Geomembrane Deployment – CQA observed ESI deploying secondary geomembrane panels S-43 to S-50 over accepted admix subgrade on the floor and north embankment of Cell 9. On the floor the sheets were deployed from the east end of the admix and pulled across the floor from east to west by a Kubota ATV. All panels were fusion welded together. On the north embankment, panels were pulled down the slope by hand then pulled across the floor with the Kubota ATV.

CQA observed ESI conducting repairs and non-destructive testing on the secondary geomembrane. The CQA surveyors, Stratton Surveying, were on-site to conduct a seam survey of the secondary geomembrane.

- 7.0 Primary Geomembrane Deployment – CQA observed ESI deploying primary geomembrane panels P-03 to P-13 over accepted secondary geomembrane on the south embankment and floor of Cell 9. A rub sheet as utilized under the primary liner to eliminate dragging the liner over the secondary geocomposite. CQA also observed ESI conducting repairs and non-destructive testing on the primary liner.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-021	
Job Number:	S013213A00	Staff On-site	Dates:	6/28/2010 to 7/2/2010
Contractor(s):	TradeWind Services (TWS)	6	Reports:	5-16-098 to 5-16-102

### CONSTRUCTION ACTIVITIES

8.0 Secondary Geocomposite – CQA observed ESI deploying secondary geocomposite along the south berm and floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters. CQA also verified that the end seams on the slopes were staggered a minimum of 10-ft apart.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-022
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			5-16-103 to 5-16-106

LABORATORY TESTING		
5-18D Admix Soil Testing	AM-19	USCS Testing: Completed
5-18D Admix Soil Testing	AM-20	USCS Testing: Completed
5-18D Admix Soil Testing	AM-21	USCS, Proctor, Perm Testing: On-Going
5-18D Admix Soil Testing	AM-22	USCS Testing: On-Going
5-18K Type A Drainage Gravel	DG-A-01	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-02	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-03	Perm and USCS: On-Going

CQA HOLD POINTS			
Submittal 5-18R-039 Cell 10 Subgrade	July 6, 2010	Grids: N8, O8, P8, and M10	Passed
Submittal 5-18R-040 Cell 9 Primary Subgrade	July 6, 2010	Panels: P-14 to P-17	Passed
Submittal 5-18R-041 Cell 10 Subgrade	July 7, 2010	Grids: N9, O9, and P9	Passed
Submittal 5-18R-042 Cell 10 Subgrade	July 8, 2010	Grids: N10, O10, and P10	Passed
Submittal 5-18R-043 Cell 9 Primary Subgrade	July 9, 2010	Panels: P-18 to P-21	Passed

GENERAL ACTIVITIES
<p>1.0 <b>Rain Event</b> – Rainstorms that occurred over the 4<sup>th</sup> of July holiday weekend left the Cell 9 sump heavily saturated and holding stormwater runoff. On Tuesday, July 6, 2010 (Report 05-016-106) CQA observed TWS began evacuating water from the Cell 9 sump with a submersible pump. The water was removed to the Cell 10 sump and the admix is being allowed to air dry.</p>
<p>2.0 <b>Surveyor</b> – On Tuesday, July 6, 2010 (Report 05-016-106) Stratton Surveying was on-site to capture the admix thickness on the north slope and floor as well as liner repair and seam locations.</p>
<p>3.0 <b>Composite Tie-in</b> – The design drawings show the secondary composite tie-in to the existing secondary drain gravel along the floor of Cell 9 to have a 2-ft overlap. TWS submitted an SDDR to request no overlap of the secondary drainage gravel to composite due to the limited amount of space available to perform the activity. The SDDR was voided.</p>
<p>4.0 <b>Geocomposite Receiving</b> – The geocomposite roll list provided by Skaps and the shipped roll list do not match. Geocomposite roll numbers 354710823 to 354710864 have been delivered to site, but neither show up on the information provided by the manufacturer nor have been conformance tested. CQA and CQC shall work on resolving the inconsistency.</p>
<p>5.0 <b>Geocomposite Tie-in</b> – On Thursday, July 8, 2010 Tyler Williams with CQA, WCH Engineer Tim Wintel and Roger Hoben with TWS met on the geocomposite tie-in. Tim indicated that the intent was either maintain 1-ft of drainage gravel or geocomposite over the secondary liner in all locations. However, Tim maintained that he had to verify the exact formation of the geocomposite tie-in with the design engineers.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-02
Job Number:	S013213A00	Staff On-site	Dates: 7/6/2010 to 7/9/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-103 to 5-16-106

### GENERAL ACTIVITIES

On Friday, July 9, 2010 ESI and TWS began working on the geocomposite tie-in on the Cell 9 floor as per conversations between WCH and TWS. However, CQA noted that the work did not meet the design drawings and without further direction from WCH, CQA could not certify that the tie-in matches the design drawings.

At the end of the day on Friday, Joseph Voss, CQA Engineer, met with Bill Melvin, WCH project lead, and Roger Hoben with TWS on the geocomposite tie-in. The conversation between the parties indicated that the geocomposite needed to be overlapped with 2-ft of drainage gravel. While either 1-ft of drainage gravel or geocomposite needed to be maintained at all times, no set height of drainage gravel was required over the geocomposite. TWS indicated that the tie-in would be built according to specifications, and no SDDR would be required.

### 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 also observed TWS preparing the subgrade for admix placement, moisture conditioning the subgrade as needed. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.
- 2.0 Admix Production – TWS produced a total of 17,377 tons of admix in week 22, for a total of 214,953 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.
- 3.0 Admix Placement – CQA observed TWS place admix soil on floor and south embankment of Cell 10. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J-106 Admix Field Density for a more detailed admix placement schedule.  
  
At the conclusion of each day placing admix, TWS used the CAT D6 GPS dozer to back drag the admix soil and the CAT 563 smooth drum roller to seal the admix to prevent excessive moisture loss.  
  
On Tuesday, July 6, 2010 the CQA surveyors were on-site to verify admix lift thickness on the north berm.
- 4.0 Drainage Gravel –CQA observed TWS haul 9,270-tons of Type A drainage gravel to the site. The gravel was stockpiled to the southeast of Cell 10.
- 5.0 Leachate Transmission Line –CQA observed BMWC welding the 12-in riser pipes for Cells 9 and 10. The pipes were stockpiled east of Cell 10.
- 6.0 Secondary Geocomposite – CQA observed ESI deploying secondary geocomposite along the south berm and floor of Cell 9. CQA ensured that the geocomposite was joined with plastic zip ties as per the contract specifications. CQA observed the geotextile side overlaps were secured by sewing and the end overlaps were secured by leisters. CQA also verified that the end seams on the slopes were staggered a minimum of 10-ft apart.



### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	05-021-022
Job Number:	S013213A00	Staff On-site	Dates: 7/6/2010 to 7/9/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-103 to 5-16-106

#### CONSTRUCTION ACTIVITIES

CQA observed ESI and TWS working on the geocomposite tie-in on the Cell 9 floor as per conversations between WCH and TWS. The gravel was shoveled back to make a 1-ft vertical cut, the geocomposite was butted up against the rock, and the 16 oz geotextile was lystered together around the existing drainage gravel.

- 7.0 Primary Geomembrane Deployment – CQA observed ESI deploying primary geomembrane panels P-14 to P-21 over accepted secondary geomembrane on the south embankment and floor of Cell 9. A rub sheet as utilized under the primary liner to eliminate dragging the liner over the secondary geocomposite. CQA also observed ESI conducting repairs and non-destructive testing on the primary liner.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-023
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			5-16-107 to 5-16-111

### LABORATORY TESTING

5-18D Admix Soil Testing	AM-21	USCS, Proctor, Perm Testing: Completed
5-18D Admix Soil Testing	AM-22	USCS Testing: On-Going
5-18D Admix Soil Testing	AM-23	USCS Testing: Completed
5-18D Admix Soil Testing	AM-24	USCS Testing: On-Going
5-18D Admix Soil Testing	AM-25	USCS, Proctor, Perm Testing: On-Going
5-18K Type A Drainage Gravel	DG-A-01	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-02	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-03	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-04	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-05	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-06	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-07	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-08	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-09	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-01	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-02	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-03	Perm and USCS: On-going
5-18A Structural Fill Base Course	SF-09	Proctor and USCS: On-going
5-18A Structural Fill Top Course	SF-10	Proctor and USCS: On-going

### CQA HOLD POINTS

Submittal 5-18R-044 Cell 10 Subgrade	July 13, 2010	Grids: L7, L8, L9, and L10
Submittal 5-18R-045 Cell 9 Admix Surface	July 13, 2010	Panels: S-51 to S-54
Submittal 5-18R-046 Cell 9 Primary Subgrade	July 13, 2010	Panels: P-22 to P-24
Submittal 5-18R-047 Cell 10 Subgrade	July 14, 2010	Grids: J7 and K7
Submittal 5-18R-048 Cell 9 Admix Surface	July 14, 2010	Panels: S-55 to S-57

### GENERAL ACTIVITIES

- 1.0 Geocomposite Tie-in – A meeting on the geocomposite tie-in was held on Monday, July 12, 2010 at 8:30 in the morning. At the end of the meeting, TWS said that the tie-in would be constructed as per design drawings as mentioned previously in Report 5-16-106.
  
- 2.0 Geosynthetic Placement – On Monday, July 12, 2010, due to high winds and blowing sand, no geomembrane was deployed. Geosynthetics installation was halted early due to the blowing sand.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-023
Job Number:	S013213A00	Staff On-site	Dates: 7/12/2010 to 7/16/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-107 to 5-16-111

### GENERAL ACTIVITIES

- 3.0 Weekly Progress Meetings – CQA attended the construction contractor’s weekly progress meeting on Tuesday, July 13, 2010 at 10:00 am. in the WCH conference room.
- 4.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, July 13, 2010 at 10:30 am. in the WCH conference room.
- 5.0 WCH Oversight – On Tuesday, July 13, 2010, CQA records were inspected by Mike Webb. Mike concentrated on the process of receiving geosynthetic materials.
- 6.0 DOE Audit – On Thursday, July 14, 2010, CQA was audited by DOE auditor Harry Moomey. Harry audited the production to installation of the geosynthetic liner. He inspected all aspects of the process, from the plant visit to observing the field process of installation.
- 7.0 Stop Work – Thursday, July 14, 2010 at approximately 13:20, all work in the trench was stopped due to a release on July 13, 2010 in the active Cell 7 and 8. A meeting was held in the work trailer detailing the events. An unknown metallic/sulfuric gas was released from the active cells. WCH stopped work on July 13, 2010 for worker safety on the landfill site; however, construction was allowed to proceed. Due to the poor communication of the hazard and nature of the release, work in the trench was shutdown indefinitely. All exposed workers were allow to have blood and urine testing conducted.

The stop work continued all for the rest of the week.

### 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 also observed TWS preparing the subgrade for admix placement, moisture conditioning the subgrade as needed. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.
- 2.0 Admix Production – TWS produced a total of 26,093 tons of admix in week 23, for a total of 245,740 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.
- 3.0 Admix Placement – CQA observed TWS place admix soil on the north slope and floor of Cell 10 as well as the south floor and south embankment of Cell 10. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J-106 Admix Field Density for a more detailed admix placement schedule.

At the conclusion of each day placing admix, TWS used the CAT D6 GPS dozer to back drag the admix soil and the CAT 563 smooth drum roller to seal the admix to prevent excessive moisture loss.

On Monday, July 12, 2010 the CQA surveyors were on-site to verify admix thickness in the Cell 9 sump and riser trench



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-023
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			5-16-107 to 5-16-111

### CONSTRUCTION ACTIVITIES

- 4.0 Anchor Trench – TWS excavated the anchor trench between the Cell 9 Crest Pad Building to the east edge of Cell 9 with the CAT 312 excavator.
- 5.0 Cell 10 Lysimeter – TWS excavated the Cell 10 lysimeter trench. BMWC placed the Cell 10 lysimeter pipe into the trench, and TWS backfilled the lysimeter pipe.
- 6.0 Secondary Geomembrane – ESI deployed secondary panels S-51 to S-57 on the north slope and floor of Cell 9, from the Cell 8/9 tie-in to the Cell 9 sump. In addition, ESI continued to conduct repairs and perform testing on deployed panels S-44 through S-55.
- 7.0 Secondary Geocomposite – ESI deployed secondary geocomposite over accepted secondary geomembrane east to west across the floor of Cell 9.
- 8.0 Primary Geomembrane – ESI deployed panels P-22 to P-24 east to west across the floor of Cell 9 over accepted secondary geocomposite. ESI performed repairs and conducted testing on the deployed geomembrane. ESI also repaired and tested a large wrinkle that had developed between panels P-1 and P-5.
- 9.0 Drainage Gravel – CQA observed TWS haul 4,968-tons of Type A drainage gravel to the site. The gravel was stockpiled to the southeast of Cell 10.
- TWS also produced and hauled Type B drainage gravel to the site. The gravel was stockpiled to the east of Cell 10.
- 10.0 Leachate Transmission Line – BMWC conducted hydrostatic testing and air pressure testing on the 16x10-in double containment pipe between MH-21 and MH-22. All testing met construction specifications. After the pipes had passed testing, TWS backfilled the pipes.
- TWS also excavated the trench for the drain lines exiting from MH-32 and MH-33 to the north berm. In addition, TWS excavated the double containment trench between MH-34 and MH-35.
- 11.0 North Ramp – TWS constructed the north access ramp for operations traffic.
- 12.0 Electrical Bank – TWS backfilled the electrical bank between Crest Pad 10 and the Crest Pad 10 electrical box.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-024
Job Number:	S013213A00	Staff On-site	Dates: 7/19/2010 to 7/24/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-112 to 5-16-117

LABORATORY TESTING		
5-18D Admix Soil Testing	AM-22	USCS Testing: Completed
5-18D Admix Soil Testing	AM-24	USCS Testing: Completed
5-18D Admix Soil Testing	AM-25	USCS, Proctor: Completed Perm Testing: On-Going
5-18D Admix Soil Testing	AM-26	USCS: Completed
5-18K Type A Drainage Gravel	DG-A-01	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-02	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-03	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-04	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-05	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-06	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-07	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-08	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-09	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-01	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-02	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-03	Perm and USCS: On-going
5-18A Structural Fill Base Course	SF-09	Proctor and USCS: On-going
5-18A Structural Fill Top Course	SF-10	Proctor and USCS: On-going
5-18A, 5-18Q Structural Fill Riser Pipe Backfill	SF-11	Proctor and USCS: On-going

CQA HOLD POINTS		
Submittal 5-18R-049 Cell 9 Primary Subgrade	July 19, 2010	Panels: P-25 to P-27
Submittal 5-18R-050 Cell 10 Subgrade	July 19, 2010	Grids: K8, K9, and K10
Submittal 5-18R-051 Cell 9 Primary Subgrade	July 20, 2010	Panels: P-28 to P-33
Submittal 5-18R-052 Cell 10 Subgrade	July 21, 2010	Grids: I7, J8, J9, J10 and D6
Submittal 5-18R-053 Cell 10 Subgrade	July 22, 2010	Grids: I8, I9, I10 and D7
Submittal 5-18R-054 Cell 9 Primary Subgrade	July 23, 2010	Panels: P-34 to P-37
Submittal 5-18R-055 Cell 10 Subgrade	July 23, 2010	Grids: F6
Submittal 5-18R-056 Cell 10 Subgrade	July 24, 2010	Grids: A6, B6, C6, A7, B7, C7, A9, B9, C9, D9, A10, B10, C10, and D10



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-024
Job Number:	S013213A00	Staff On-site	Dates: 7/19/2010 to 7/24/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-112 to 5-16-117

### GENERAL ACTIVITIES

- 1.0 Stop Work – On Monday, July, 19, 2010 at 10:30 WCH held a meeting to discuss the incident that triggered the stop work that occurred last Wednesday, July 14, 2010 (Report 5-16-109) in the active Cells 7 and 8. The stop work continued for trench operations. WCH announced the events that transpired prior to and immediately after the incident and discussed the new procedures in place to protect individuals working in Cells 9 and 10. The new procedures state that if there is ever a Stop Work in the active cells for similar incidents, that the same Stop Work will be initiated in Cells 9 and 10. The Stop Work was withdrawn and work in Cells 9 and 10 trench resumed at approximately 12:45.
- 2.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, July 20, 2010 at 10:00 am. in the WCH conference room.
- 3.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, July 20, 2010 at 10:30 am. in the WCH conference room.
- 4.0 Weather – In the afternoon of Thursday, July 22, 2010, high winds and windborne dust halted geomembrane deployment.
- 5.0 Housekeeping – On Thursday, July 22, 2010, the geosynthetic work area has become cluttered. Coupled with the high winds, the litter becomes both a quality issue and a safety issue. CQA has contacted WCH, TWS, and ESI with housekeeping concerns. ESI completed housekeeping on the liner until the work site met CQA approval. ESI shall continue to keep the work site in an orderly and clean manner in the future.
- 6.0 Admix – On Friday, July 23, 2010, during testing of the admix on the north berm of Cell 10, the dozer blade inadvertently pushed up subgrade material into the admix. The subgrade sand was removed and a Shelby Tube shall be collected in that area after the next lift is placed and tested.

### CONSTRUCTION ACTIVITIES

- 1.0 Subgrade – TWS proof rolled the subgrade with the CAT 563 smooth drum roller to keep a level and smooth surface for haul traffic. CQA also observed TWS preparing the subgrade for admix placement, moisture conditioning the subgrade as needed. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.  
  
TWS also trimmed the north berm of Cell 10 to grade. The grade trimmings were removed from Cell 10 to the operations stockpile. In addition, TWS excavated the lysimeter and the side slope riser trench in the north berm and floor of Cell 10.
- 2.0 Admix Production – TWS produced a total of 20,433 tons of admix in week 24, for a total of 266,173 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-024
Job Number:	S013213A00	Staff On-site	Dates: 7/19/2010 to 7/24/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-112 to 5-16-117

### CONSTRUCTION ACTIVITIES

3.0 Admix Placement – CQA observed TWS place admix soil on both the north and south half of Cell 10. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J-106 Admix Field Density for a more detailed admix placement schedule.

At the conclusion of each day placing admix, TWS used the CAT D6 GPS dozer to back drag the admix soil and the CAT 563 smooth drum roller to seal the admix to prevent excessive moisture loss.

CQA survey was on-site to capture admix thickness. During the survey, the CQA survey noted three (3) points were covered with admix soil prior to survey. CQA confirmed through photographic evidence that the subgrade was consistent with contract requirements for surface preparation and the grade was maintained between survey points. CQA with the aid of TWS excavated the admix until the subgrade was exposed. Stratton surveyed the points and CQA verified that points met grade requirements.

4.0 Secondary Geomembrane – ESI straightened secondary liner panel S-57 that became folded over due to lack of sandbags during the shutdown period. After the liner was straightened, CQA observed ESI fusion welding the panel S-57 to panel S-56.

5.0 Riser Trench – After ESI placed geocomposite in the side slope riser trench, BMWC and TWS installed the secondary side slope riser pipes in Cell 9. After the pipes were installed, TWS backfilled both pipes and ESI deployed geotextile over the backfill.

6.0 Secondary Geocomposite – ESI deployed secondary geocomposite over accepted secondary geomembrane east to west across the floor of Cell 9. ESI also deployed secondary geocomposite in the Cell 9 riser trench and secondary sump.

In addition, ESI and TWS constructed the geocomposite to drainage gravel tie-in along the Cell 7/9 tie-in as per specifications.

7.0 Primary Geomembrane – ESI deployed panels P-25 to P-37 east to west across the floor of Cell 9 over accepted secondary geocomposite. ESI performed repairs and conducted testing on the deployed geomembrane.

8.0 Drainage Gravel – CQA observed TWS haul 5,814-tons of Type A drainage gravel to the site. The gravel was stockpiled to the southeast of Cell 10.

TWS completed production and hauling of Type B drainage gravel to the site. The gravel was stockpiled to the east of Cell 10.

9.0 Leachate Transmission Line – BMWC placed the 4-in drain line from MH-32 and MH-33 to the north berm. After the lines were installed, BMWC pressure tested the line. TWS then backfilled both drain lines.

10.0 Electrical Bank – TWS backfilled the electrical bank line between Crest Pad 10 and the Crest Pad 10 electrical bank box.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-025
Job Number:	S013213A00	Staff On-site	Dates:
			7/26/2010 to 7/30/2010
Contractor(s):	TradeWind Services (TWS) 7	Reports:	5-16-118 to 5-16-122

LABORATORY TESTING		
5-18D Admix Soil Testing	AM-25	Perm Testing: Passed
5-18D Admix Soil Testing	AM-27	USCS and Proctor: Passed
5-18D Admix Soil Testing	AM-28	USCS Testing: Passed
5-18D Admix Soil Testing	AM-29	USCS: Passed Perm, and Proctor: On-going
5-18D Admix Soil Testing	AM-30	USCS: On-going
5-18K Type A Drainage Gravel	DG-A-01	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-02	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-03	Perm and USCS: On-Going
5-18K Type A Drainage Gravel	DG-A-04	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-05	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-06	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-07	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-08	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-09	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-10	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-11	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-12	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-01	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-02	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-03	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-C-02	Perm and USCS: On-going
5-18A Structural Fill Base Course	SF-09	Proctor and USCS: On-going
5-18A Structural Fill Top Course	SF-10	Proctor and USCS: On-going
5-18A, 5-18Q Structural Fill Riser Pipe Backfill	SF-11	Proctor and USCS: On-going

CQA HOLD POINTS		
Submittal 5-18R-057 Cell 10 Subgrade	July 26, 2010	Grids: E10, F10, G10
Submittal 5-18R-058 Cell 9 Admix	July 26, 2010	Panels: S-58 to S-59
Submittal 5-18R-059 Cell 9 Subgrade	July 27, 2010	Panels: T-1 to T-3
Submittal 5-18R-060 Cell 10 Subgrade	July 28, 2010	Grids: E9, F9, G9 Panels: T-4 to T-11
Submittal 5-18R-061 Cell 10 Admix	July 28, 2010	Panels: S-1 to S-2
Submittal 5-18R-062 Cell 10 Subgrade	July 29, 2010	Grids: E6
Submittal 5-18R-063 Cell 9 Admix	July 29, 2010	Panels: S-60 to S-62
Submittal 5-18R-064 Cell 10 Admix	July 29, 2010	Panels: S-3 to S-4



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-025
Job Number:	S013213A00	Staff On-site	Dates: 7/26/2010 to 7/30/2010
Contractor(s):	TradeWind Services (TWS)	7	Reports: 5-16-118 to 5-16-122

### GENERAL ACTIVITIES

- 1.0 Bentonite Delivery – On Monday, July 26, 2010, CQA inspected the TWS railroad siding located in north Richland by Horn Rapids. The rail cars were divided into three (3) compartments, with each compartment holding approximately 33 tons. The bentonite was gravity feed from the bottom of the cars into augers. The augers conveyed the bentonite into blow trucks that in turn transport the bentonite to the construction site.
- 2.0 Stop Work – On Monday, July 26, 2010, a stop work was ordered by CQA on geomembrane activities at 14:00 when liner temperature reached 104 degrees 12 inches above the liner.
- 3.0 Non-conforming Geocomposite Rolls – On Tuesday, July 27, 2010, ESI moved a roll of non-conforming geocomposite from the holding area to the construction area. CQA and the ESI superintendent both noted the non-conforming roll in the construction area. The roll was removed from the construction area and replaced in the holding area.
- 4.0 Panel Deployment – On Wednesday, July 28, 2010, ESI used the track bobcat to deploy geomembrane on the south slope. CQA contacted WCH, who halted use of the track bobcat on the Cell 10 slope. WCH indicated that the track bobcat was not approved for use on the side slopes. Later that day, WCH approved the track bobcat for pulling geomembrane panels down the slopes.
- 5.0 Weather Delay – On Friday, July 30, 2010, during the morning hours, a rain and lightning storm delayed the start of construction activities until approximately 8:10. The Cell 9 and 10 sumps were half filled with storm water and the section of admix left exposed gathered storm water. Upon CQA inspection, no storm water from the limited storm water penetrated under the secondary geomembrane.

### CONSTRUCTION ACTIVITIES

- 1.0 Subgrade – TWS proof rolled the subgrade with the CAT 563 smooth drum roller to keep a level and smooth surface for haul traffic. CQA also observed TWS preparing the subgrade for admix placement, moisture conditioning the subgrade as needed. CQA verified that moisture had penetrated 4-in into the subgrade prior to admix placement.  
  
The CQA Surveyors verified that the subgrade met design drawings.
- 2.0 Admix Production – TWS produced a total of 24,940 tons of admix in week 25, for a total of 291,113 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications. The pugmill operated Saturday, July 31, 2010.
- 3.0 Tertiary Sump – BMWC placed the bootless penetration on the lysimeter pipe in Cell 10. ESI then installed the tertiary geomembrane and overlying geotextile. BMWC placed the remaining lysimeter pipe into the tertiary sump. TWS then hauled and placed Type C drainage gravel into the lysimeter sump.
- 4.0 Anchor Trench – TWS excavated the anchor trench on the south embankment of Cell 10, from the Cell 9/10 break line to the east termination of Cell 10.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-025
Job Number:	S013213A00	Staff On-site	Dates: 7/26/2010 to 7/30/2010
Contractor(s):	TradeWind Services (TWS) 7	Reports:	5-16-118 to 5-16-122

### CONSTRUCTION ACTIVITIES

5.0 Admix Placement – CQA observed TWS place admix soil on both the north and south half of Cell 10. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J-106 Admix Field Density for a more detailed admix placement schedule.

At the conclusion of each day placing admix, TWS used the CAT D6 GPS dozer to back drag the admix soil and the CAT 563 smooth drum roller to seal the admix to prevent excessive moisture loss.

The CQA surveyors verified the thickness of the admix in Cell 10.

In addition, ruts created by the payhauler trucks while placing Type B drainage gravel into the Cell 9 sump (See Secondary Drainage Gravel). TWS repaired the rutting to the admix in Cell 9. During the repair, excess water was added to the admix subgrade, creating a surface that was unacceptable secondary liner placement.

6.0 Secondary Geomembrane – ESI deployed panels S-58 to S-62 on the north berm and floor of Cell 9. At the end of the day, Thursday, July 29, 2010, a section of admix where panel S-59 was to be repaired did not meet construction specifications for excess water and stability. ESI chose to wait until Friday, July 30, to repair panel S-59, leaving a 40-ft long hole in the secondary geomembrane. At the end of the day Friday, July 30, 2010, the same section of admix did not meet construction specifications for excess water and stability. ESI again chose to wait until Monday, August 2, 2010 to repair panel S-59.

7.0 Secondary Drainage Gravel – TWS hauled Type B drainage gravel into the Cell 9 sump in payhauler, resulting in 6-8 in deep ruts in the admix surface. After the drainage gravel was placed into the sump, the gravel was spread and graded. TWS repaired the rutting to the admix surface.

8.0 Secondary Geocomposite – ESI continued to repair and test the deployed secondary geomembrane. ESI deployed secondary geocomposite over accepted secondary geomembrane east to west across the floor of Cell 9. ESI also deployed secondary geocomposite in the Cell 9 riser trench and secondary sump.

In addition, ESI and TWS constructed the geocomposite to drainage gravel tie-in along the Cells 8/9 tie-in as per specifications.

9.0 Primary Geomembrane – ESI continued to repair and test the deployed primary geomembrane. The destructive sample DP-26 collected from the primary geomembrane in report Monday, July 26, 2010, failed to meet specifications. CQA marked destructive samples DP-26A and DP-26B to encompass the failed portion of the weld. ESI tested and capped the seam between samples DP-26A and DP-26B.

10.0 Drainage Gravel – CQA observed TWS haul 14,076-tons of Type A drainage gravel to the site. The gravel was stockpiled to the southeast of Cell 10. In addition, American Rock hauled 1,179 tons of Type C drainage gravel to site. The material was stockpiled north of Cell 10.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-026
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	7	8/02/2010 to 8/07/2010
		Reports:	5-16-123 to 5-16-128

### LABORATORY TESTING

5-18D Admix Soil Testing	AM-33	USCS, Proctor, Perm: Passed
5-18D Admix Soil Testing	AM-34	USCS: Passed
5-18D Admix Soil Testing	AM-29	Perm, and Proctor: Passed
5-18D Admix Soil Testing	AM-30	USCS: Passed
5-18D Admix Soil Testing	AM-31	USCS: Passed
5-18D Admix Soil Testing	AM-32	USCS: Passed
5-18D Admix Soil Testing	AM-33	USCS, Proctor, Perm: On-going
5-18K Type A Drainage Gravel	DG-A-01	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-02	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-03	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-04	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-05	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-06	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-07	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-08	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-09	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-10	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-11	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-12	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-13	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-14	Perm and USCS: On-going
5-18K Type B Drainage Gravel	DG-B-01	Perm and USCS: Passed
5-18K Type B Drainage Gravel	DG-B-02	Perm and USCS: Passed
5-18K Type B Drainage Gravel	DG-B-03	Perm and USCS: Passed
5-18K Type B Drainage Gravel	DG-C-02	Perm and USCS: On-going
5-18A Structural Fill Base Course	SF-09	Proctor and USCS: Completed
5-18A Structural Fill Top Course	SF-10	Proctor and USCS: Completed
5-18A, 5-18Q Structural Fill Riser Pipe Backfill	SF-11	Proctor and USCS: Completed

### CQA HOLD POINTS

Submittal 5-18R-067 Cell 10 Subgrade	August 2, 2010	Grids: G7 and F7
Submittal 5-18R-068 Cell 10 Admix	August 2, 2010	Panels: S-5 to S-12
Submittal 5-18R-069 Cell 10 Admix	August 3, 2010	Panels: S-13 to S-27
Submittal 5-18R-070 Cell 10 Subgrade	August 4, 2010	Grids: E8, E9, and E10
Submittal 5-18R-071 Cell 9 Primary Subgrade	August 4, 2010	Panels: P-42
Submittal 5-18R-073 Cell 10 Subgrade	August 5, 2010	Grids: D8
Submittal 5-18R-074 Cell 10 Admix	August 5, 2010	Panels: S-28 To S-34
Submittal 5-18R-075 Cell 10 Subgrade	August 6, 2010	Grids: A8, B8, and C8
Submittal 5-18R-076 Cell 10 Admix	August 6, 2010	Panels: S-35 To S-55
Submittal 5-18R-077 Cell 9 Admix	August 7, 2010	Panels: S-67 To S-72



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-026
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	7	Reports:
			5-16- 123 to 5-16-128

### GENERAL ACTIVITIES

1.0 **Cell 9 Sump Repair** – Saturday July 31<sup>st</sup>, 2010, the site received approximately 0.42-in of rain. As a result the water flooded the Cell 9 sump and the backwater rose over the exposed portion of panel S-59. Storm water was introduced under the secondary geomembrane. TWS began pumping the storm water from the Cell 9 sump on Monday, August 2<sup>nd</sup>, 2010. **Note: the photolog of this event will be submitted with a later report.**

Wednesday, August 4<sup>th</sup>, 2010 – TWS continues to pump the storm water from the Cell 9 sump. Dave Enin with EPA and Owen Roberts with DOE were on-site to survey the damage to the Cell 9 sump and discuss repair details. ESI is cutting holes in the secondary geomembrane in the Cell 9 sump to release the trapped water under the Cell 9 secondary geomembrane. Near the middle of the day, TWS leistered a patch over the exposed area in secondary panel S-59.

Thursday, August 5<sup>th</sup>, 2010– ESI cut and removed or peeled back the secondary geomembrane in the Cell 9 sump to expose the underlying admix material. The geomembrane was cut on the floor of Cell 9 up to the sump, but not in the sump. In addition, ESI cut and peeled back an entry corridor from the east end of the secondary geomembrane to the sump to allow for equipment access.

Friday, August 6<sup>th</sup>, 2010 –TWS utilized the CAT 312 excavator to remove the Type B drainage gravel from the Cell 9 secondary sump. Approximately ¾ of the gravel in the sump was removed from the east side and center of the Cell 9 sump and stockpiled on the west side of the sump. As the gravel was removed, the underlying geosynthetic was removed in order to expose the admix surface. The underlying admix surface was saturated with water; therefore, TWS laborers removed the excess water. The admix was left exposed to dry overnight.

Saturday, August 7<sup>th</sup>, 2010 –TWS and ESI restored and rebuilt the Cell 9 sump. The admix surface dried overnight to an unsaturated condition, with small pockets of saturated admix. CQA witnessed TWS regrading the admix surface with hand tools. CQA then observed TWS utilizing the double smooth drum roller to finish and seal the entire exposed admix surface. CQA tested and verified that the repaired admix met construction specifications. See Submittal 5-18J for more information. Stratton Survey was on-site to verify that the admix surface was built as per the design drawings.

CQA observed ESI deploying five (5) Cell 9 secondary geomembrane panels, S-67 thru S-72, in the Cell 9 sump. The first panel was deployed under the Cell 9 riser pipes along with the secondary geocomposite. The subsequent panels were placed to the east and west of panel S-67. The panels were fusion welded together with the double wedge welder. A large triangular group of panels were removed when the Cell 9 floor was opened up for drying. CQA witnessed ESI double wedge welding the panel back into the same location. In addition, CQA observed ESI conducting repairs to the deployed secondary geomembrane as necessary. After the welding and repairs were completed, CQA witnessed ESI performing air and vacuum testing on the deployed secondary geomembrane.

2.0 **Cell 10 Sump** – The storm water also flooded the Cell 10 sump during the Saturday, July 31<sup>st</sup> storm; however, no storm water was introduced under the geomembrane. TWS is pumping the storm water from the sump.

3.0 **Sand Cone** – On Friday, July 30<sup>th</sup>, 2010, CQA technicians performed a sand cone test; however, prior to weighing back the oven dried sample, the soil was placed into the waste soil container. CQA is initiating SDDR-04 to cover the failed sand cone test.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-026
Job Number:	S013213A00 Staff On-site	Dates:	8/02/2010 to 8/07/2010
Contractor(s):	TradeWind Services (TWS) 7	Reports:	5-16- 123 to 5-16-128

### GENERAL ACTIVITIES (CONTINUED)

- 4.0 Weekly Progress Meetings – CQA attended the construction contractor's weekly progress meeting on Tuesday, August 3, 2010 at 10:00 am. in the WCH conference room.
- 5.0 CQA Progress Meeting – CQA attended the construction contractors CQA meeting on Tuesday, August 3, 2010 at 10:30 am. in the WCH conference room.
- 6.0 Stop Work – Thursday, August 5<sup>th</sup>, 2010, a stop work was called on geomembrane welding activities at 14:00 when temperatures 12-in over the geomembrane rose over 105 degrees Fahrenheit.

### CONSTRUCTION ACTIVITIES

- 1.0 Subgrade – TWS completed excavation of the Cell 10 subgrade, removing the last of the material on the east side of Cell 10 and trimming the subgrade to grade. The CQA surveyors verified that the Cell 10 subgrade was constructed as per the design drawings.
- 2.0 Admix Production – TWS produced a total of 27,927 tons of admix in week 26, for a total of 315,032 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications.
- 3.0 Admix Placement – TWS placed admix soil on north slope and floor Cell 10 as well as the Cell 10 sump. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J Admix Field Density for a more detailed admix placement schedule. TWS also trimmed the admix termination on the east side of Cell 10. After the last lift of admix was placed, TWS trimmed the admix to grade and utilized smooth drum rollers to finish the admix for secondary geomembrane placement.
- 1.0 Anchor Trench – TWS excavated the anchor trench on the north berm of Cell 10, from the Cell 9/10 break line to the Cell 10 Crest Pad building.
- 4.0 Secondary Geomembrane – ESI deployed Cell 10 secondary geomembrane panels S-05 to S-55 on the south slope and floor of Cell 10, covering the entire south slope and south half of Cell 10 with secondary geomembrane. ESI performed repairs and conducted geomembrane CQC testing as required.
- 5.0 Secondary Geocomposite – ESI completed the secondary drainage gravel tie-in between Cells 7 and 9 to the extents of the deployed primary geomembrane.
- 6.0 Primary Geomembrane – ESI performed repairs, extrusion welding, and nondestructive testing to completed the primary tie-in between Cells 7 and 9.
- 7.0 Tertiary Sump – TWS hauled, and spread Type C drainage gravel into the lysimeter sump. After the CQA surveyor verified that the drainage gravel met design grades, ESI placed 16 oz. geotextile over the drainage gravel.

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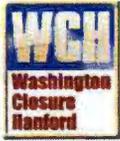
## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-027
Job Number:	S013213A00	Staff On-site	Dates: 8/09/2010 to 8/13/2010
Contractor(s):	TradeWind Services (TWS) 7	Reports:	5-16- 129 to 5-16-133

LABORATORY TESTING		
5-18D Admix Soil Testing	AM-33	USCS, Proctor, Perm: Passed
5-18D Admix Soil Testing	AM-34	USCS: Passed
5-18K Type A Drainage Gravel	DG-A-13	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-14	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-15	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-16	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-17	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-18	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-19	Perm and USCS: On-going
5-18K Type C Drainage Gravel	DG-C-02	Perm and USCS: On-going

CQA HOLD POINTS		
Submittal 5-18R-078 Cell 10 Admix	August 9, 2010	Panels: S-56
Submittal 5-18R-079 Cell 10 Subgrade	August 10, 2010	Grids: E8, F8, and G8
Submittal 5-18R-080 Cell 9 Admix	August 10, 2010	Panels: S-73 to S-77
Submittal 5-18R-081 Cell 10 Primary Subgrade	August 10, 2010	Panels: P-1 to P-7

GENERAL ACTIVITIES
<p>1.0 <u>The Sump Repair Activities</u> – Sump repair activities continued. A day-by-day break down of activities follows.</p> <p><u>Monday, August 9<sup>th</sup>, 2010</u> – CQA observed ESI completing the repairs for the secondary geomembrane in Cell 9. CQA witnessed ESI completing air and vacuum testing on the secondary geomembrane repair in Cell 9. In addition, the CQA surveyors completed a survey of the repair area.</p> <p>After the testing and survey was complete, CQA observed ESI placing two (2) new rolls of secondary geocomposite into the Cell 9 sump. CQA verified that the geocomposite panels on the floor were intact and undamaged. After the rolls were deployed, ESI joined all the geocomposite rolls together and CQA verified that all geocomposite rolls were joined together as per construction specifications. CQA also witnessed ESI leistering 8 oz. geotextile over the butt seams as per construction specifications.</p> <p>After the secondary geocomposite was placed into the Cell 9 sump, TWS replaced the Type B drainage gravel in the Cell 9 sump with the CAT 312 excavator aided by the TWS surveyor. The Type B drainage gravel was spread from the stockpiled gravel across the sump and graded with the aid of the TWS surveyor. The CQA surveyor was on-site to verify that the gravel met the design drawings. Subsequent to the removal of the CAT 312 excavator from Cell 9, the access road was compacted with the double smooth drum roller, and the secondary geomembrane replaced and repaired.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-027
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	7	Reports:
			5-16- 129 to 5-16-133

### GENERAL ACTIVITIES (CONTINUED)

2.0 The Sump Repair Activities – Sump repair activities continued. A day-by-day break down of activities continues.

Tuesday, August 10, 2010 – CQA witnessed ESI deploying Cell 9 secondary geomembrane panels S-73 to S-75 to the east of the Cell 9 sump. After the panels were placed, CQA witnessed ESI fusion welding the panels together. CQA also observed ESI performing extrusion repairs to the secondary geomembrane as needed.

Wednesday, August 11, 2010 – CQA observed ESI air pressure testing panels S-73 to S-75. CQA also witnessed ESI performing vacuum testing on the repairs to the secondary geomembrane.

This above narrative documents the construction contractor TWS and its subcontractor ESI actions to repair the Cell 9 sump. CQA certifies that the Cell 9 sump repair has been completed and all installed materials meet contract specifications. **Note: The photolog of the repair is attached to this report.**

3.0 Weekly Progress Meetings – CQA attended the construction contractor’s weekly progress meeting on Tuesday, August 10, 2010 at 10:00 am. in the meeting trailer.

4.0 Beryllium Training – CQA attended the Hanford worker training presentation on Beryllium exposure at 6:00 in the Meeting trailer.

5.0 Geocomposite Exposure – Secondary geocomposite on the west side of the Cell 9 floor has been exposed for 13 days. Since the secondary geocomposite will not be covered by primary geomembrane prior to 14 days of exposure, ESI chose to expose the alternative side of the geocomposite. CQA observed ESI removing the ties on every other panel of secondary geocomposite exposed in Cell 9. Every other panel of geocomposite was then flipped over and placed over the neighboring panel of geocomposite; thereby, exposing the geotextile on the underside of the geocomposite. As the alternative side of the geotextile has been exposed, ESI has 14 days to cover the remaining geocomposite.

6.0 Weather – ESI was preparing to deploy secondary geomembrane on the north slope of Cell 10, but safety issues stemming from high sustained winds halted liner deployment.

7.0 Secondary Geomembrane Wrinkles – CQA has been tracking the wrinkles that developed on Cell 9 north slope secondary panels S-47 to S-51. ESI has divided and lessened the wrinkles by “walking” them out, ESI believes that the wrinkles are now within specification and will not fold over during operations placement. CQA noted that at the moment, the wrinkles were within specification, but if the wrinkles do not meet specifications during operations placement, all four layers will need to be cut and repaired. CQA contacted WCH and explained the quality concern to Bill Melvin.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-027
Job Number:	S013213A00	Staff On-site	Dates: 8/09/2010 to 8/13/2010
Contractor(s):	TradeWind Services (TWS)	7	Reports: 5-16-129 to 5-16-133

### CONSTRUCTION ACTIVITIES

- 1.0 Admix Production – TWS produced a total of 7,672 tons of admix in week 27, for a total of 326,712 tons of admix. CQA performed belt scale measurements and verified that the admix met the contract specifications. TWS has completed admix production and has demobilized the pug mill.
- 2.0 Admix Placement – TWS placed admix soil on north slope and floor Cell 10. CQA observed, tested and verified that the lifts placed met the contract specifications. Please refer to submittal 5-18J Admix Field Density 092 for a more detailed admix placement schedule. TWS has completed placement of admix material for the near future. TWS left a haul road for gravel and operations placement into Cell 9; after Cell 9 is completed, TWS shall place the remaining admix into Cell 10.
- 3.0 Secondary Geomembrane – ESI placed secondary geomembrane panels S-76 to S-77 east of the Cell 9 sump to the edge of Cell 9. ESI performed repairs and conducted geomembrane CQC testing as required.  
  
ESI also placed a panel of secondary geomembrane into Cell 10 in preparation for the construction of the primary gravel haul road in Cell 10.
- 4.0 Primary Geomembrane – ESI deployed Cell 10 primary panels P-1 to P-7 on west side of the Cell 10 floor in preparation for constructing the drainage gravel haul road entrance in Cell 10.
- 5.0 Primary Geotextile – ESI placed geotextile into the west side of Cell 10 and over the north and south floor of Cell 9.
- 6.0 Primary Drainage Gravel – TWS constructed the gravel haul road entrance to Cell 9 on the west side of Cell 10. The gravel road was approximately 7-ft tall, and the gravel was spread utilizing a CAT 325 trackhoe.
- 7.0 Drainage Gravel – TWS hauled 6,093 tones of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10.
- 8.0 Leachate Transmission Line – BMWC pressure tested the 16x10-in leachate transmission pipe from MH-38 to MH-9.  
  
TWS placed and compacted eight (8) lifts of soil, lifts 2-9, over the leachate transmission pipe between MH-34 and MH-35. In addition, TWS placed and compacted three (3) lifts of soil, lifts 2-4, over the leachate transmission pipe between MH-38 to MH-39.
- 9.0 Tank #3 – TWS poured concrete for the tank #3 ring wall. IMT was on-site to perform concrete testing as per the contract specifications.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-028
Job Number:	S013213A00	Staff On-site	Dates: 8/16/2010 to 8/20/2010
Contractor(s):	TradeWind Services (TWS)	7	Reports: 5-16-134 to 5-16-138

LABORATORY TESTING		
5-18K Type A Drainage Gravel	DG-A-13	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-14	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-15	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-16	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-17	Perm and USCS: Failed
5-18K Type A Drainage Gravel	DG-A-18	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-19	Perm and USCS: Passed
5-18K Type A Drainage Gravel	DG-A-20	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-C-02A	Perm and USCS: On-going

CQA HOLD POINTS		
Submittal 5-18R-082 Cell 10 Admix	August 16, 2010	Panels: S-57 to S-66
Submittal 5-18R-083 Cell 10 Admix	August 17, 2010	Panels: S-67 to S-68
Submittal 5-18R-084 Cell 10 Admix	August 20, 2010	Panels: S-69 to S-82

GENERAL ACTIVITIES
<p>1.0 <u>Drainage Gravel</u> – On Monday Test DG-C-02 had 5% of fines pass through the No. 100 sieve, not meeting the construction specifications of 4% passing the No. 100 sieve. CQA initially failed the test and collected sample DG-C-02A in response. At a later date, Tim Wintel, WCH Project Engineer reviewed the permeability results and approved the material for use in Cell construction.</p>
<p>2.0 <u>Weekly Progress Meetings</u> – CQA attended the construction contractor’s weekly progress meeting on Tuesday, August 17, 2010 at 10:00 am. in the meeting trailer.</p>
<p>3.0 <u>Shelby Tubes</u> – An error in field reporting was discovered on Wednesday, August 18, 2010. Shelby Tubes SL-455 and SL-475 were not logged into the field testing log correctly. The tests were noted correctly in the field paperwork, but the tests were not placed into the daily field tracking. The samples were shipped, tested, and passed testing. CQA reported the testing results Wednesday, August 18, 2010.</p>
<p>4.0 <u>Failed Gravel Testing</u> – On Wednesday, August 18, 2010, DG-A-17 failed to meet construction specifications on more than one sieve. The test results from DG-A-17 appear to be inaccurate and are not consistent with either the other twenty (20) CQA gravel tests or visual inspection. CQA shall resample DG-A-17 to verify gravel consistency.</p>
<p>5.0 <u>Geotextile and Geocomposite Exposure</u> – On Thursday, August 19, 2010, the geocomposite in the Cell 9 secondary riser trench reached its 14 day exposure limit, and the geotextile in the Cell 9 secondary riser trench has passed its 14 day exposure limit by 8 days. Therefore, ESI has decided to cover the entire riser trench with a 20 mil rub sheet to prolong the UV exposure date. CQA has rejected the geotextile material in the Cell 9 riser trench; ESI shall remove and replace the geotextile at a later date.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-028	
Job Number:	S013213A00	Staff On-site	Dates:	8/16/2010 to 8/20/2010
Contractor(s):	TradeWind Services (TWS)	7	Reports:	5-16-134 to 5-16-138

### GENERAL ACTIVITIES

- 7.0 DOE CQA Oversight – On Thursday, August 19, 2010, Harry Moomey, part of the DOE CQA oversight effort, was on-site to observe gravel placement in Cell 9.
- 8.0 Secondary Sump – On Friday, August 20, 2010, ESI and TWS decided to leave the admix exposed south of the Cell 10 secondary sump. In order to protect the sump over the weekend, ESI buried the leading edge of the secondary geomembrane in the admix material. In addition, TWS created temporary berm out of admix material in order to protect the Cell 10 sump from run-off storm water.

### CONSTRUCTION ACTIVITIES

- 1.0 Lysimeter – TWS installed the Cell 9 lysimeter pipe boot and sock in the Cell 9 anchor trench
- 2.0 Anchor Trench – TWS excavated the anchor trench between the Cell 10 Crest Pad Building and the eastern extents of Cell 10. All anchor trench has been excavated.
- 3.0 Admix Placement – TWS moisture conditioned and maintained the finished admix surface.
- 4.0 Secondary Geomembrane – ESI deployed secondary geomembrane panels S-57 to S-82 on the north slope and floor of Cell 10, covering the entire north slope of Cell 10 and most of the north half of the floor with secondary geomembrane. ESI performed repairs and conducted geomembrane CQC testing as required.
- In addition, ESI welded and repaired the Cell 9 secondary geomembrane tie-in between Cells 8 and 9. ESI performed CQC testing as required.
- 5.0 Secondary Geocomposite – ESI completed the geocomposite tie-in for Cell 9. After the tie-in was completed, ESI deployed secondary geocomposite on the north slope and floor of Cell 9, from the Cell 9 tie-in to the Cell 9 riser trench.
- 6.0 Primary Geomembrane – ESI welding and repairing the Cell 9 primary geomembrane tie-in between Cells 8 and 9. ESI performed CQC testing as required.
- 7.0 Secondary Sump – After ESI deployed geomembrane in the Cell 10 riser trench and sump, ESI installed secondary geocomposite in the sump and riser trench. TWS placed both secondary riser pipes into the trench and backfilled the pipes in the riser trench with base soil. After the pipes were backfilled, ESI installed a panel of 16 oz geotextile over the backfill.
- In addition, TWS placed and spread Type B drainage gravel into the Cell 10 secondary sump. Rock placement was not completed prior to the weekend; therefore, TWS protected the sump from infiltration (See General Activities).



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-028
Job Number:	S013213A00	Staff On-site	Dates: 8/16/2010 to 8/20/2010
Contractor(s):	TradeWind Services (TWS) 7	Reports:	5-16-134 to 5-16-138

### CONSTRUCTION ACTIVITIES

8.0 Primary Drainage Gravel – TWS continued placing drainage gravel into Cell 9. TWS constructed three (3) 7-ft high haul roads across Cell 9, the southwest road, west road, and northwest road. After TWS had completed hauling operations, two (2) CAT D6 LGP dozers, aided by laborers, spread and compacted the drainage gravel in a 1-ft high lift across the south half of Cell 9.

9.0 Drainage Gravel – TWS hauled approximately 4,600 tones of Type A drainage gravel to site. The gravel was stockpiled to the southeast of Cell 10. TWS completed production of Type A drainage gravel.

10.0 Leachate Transmission Line – TWS placed and compacted two (2) lifts of soil, lifts 10-11, over the leachate transmission pipe between MH-34 and MH-35. TWS also placed and compacted five (5) lifts of soil, lifts 1-5, over the leachate transmission pipe between MH-38 to MH-9.

In addition, TWS excavated the leachate transmission trench between MH-36 and MH-37.

BMWC completed pressure testing two (2) 3-in riser discharge lines and four (4) 1½-in riser discharge lines for Cells 9 and 10.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-029	
Job Number:	S013213A00	Staff On-site	Dates:	8/23/2010 to 8/27/2010
Contractor(s):	TradeWind Services (TWS)	6	Reports:	5-16-139 to 5-16-143

### LABORATORY TESTING

5-18K Type A Drainage Gravel	DG-A-17A	Perm and USCS: On-going
5-18K Type A Drainage Gravel	DG-A-20	Perm: Passed USCS: Failed (Material Passed – WCH)
5-18K Type A Drainage Gravel	DG-C-02A	Perm and USCS: Passed

### CQA HOLD POINTS

Submittal 5-18R-085 Cell 10 Admix	August 23, 2010	Panels: S-83 to S-84
Submittal 5-18R-086 Cell 9 Primary Subgrade	August 24, 2010	Panels: P-43 to P-50
Submittal 5-18R-087 Cell 10 Admix	August 27, 2010	Panels: S-85 to S-117

### GENERAL ACTIVITIES

- 1.0 Drainage Gravel Testing – On Monday, August 23<sup>rd</sup>, 2010, Drainage gravel sample DG-A-20 failed to meet sieve specifications on the ¼ inch sieve. After review of the testing and permeability by the WCH engineer, it was determined that the rock sample met project specifications.
- 2.0 Weekly Progress Meeting – CQA attended the construction subcontractor's weekly progress meeting on Tuesday, August 24, 2010 at 10:00 am. in the meeting trailer.
- 3.0 CQA Weekly Progress Meeting – CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, August 24, 2010 at 10:15 am in the meeting trailer.
- 4.0 EPA and DOE Visit – On Tuesday August 24<sup>th</sup>, 2010, Owen Robertson and Dave Einan were on-site to inspect the construction project.
- 5.0 DOE Oversight – On Wednesday, August 25<sup>th</sup>, 2010, Harry Moomey, DOE CQA Oversight, was on-site to observe the GPR activities on the Cell 9 primary drainage gravel.
- 6.0 High Wind – Due to high winds in the afternoon, no geomembrane deployment was allowed on Thursday, August 26<sup>th</sup>, 2010. During the afternoon, high winds picked up and twisted the secondary geocomposite on the north slope of Cell 10. The geocomposite was inspected by CQA and rejoined and re-sewn to the in-place secondary geocomposite.
- 7.0 TWS Construction Activities – On Friday, August 27<sup>th</sup>, 2010, TWS performed no construction activities.
- 8.0 Secondary Geomembrane Subgrade – On Friday, August 27<sup>th</sup>, 2010, a portion of the secondary geomembrane subgrade was unacceptable for geomembrane deployment. ESI chose to deploy secondary geomembrane over this section to protect the underlying admix surface over the weekend. At a future date, ESI will cut and remove panels S-114 and S-116, and TWS shall finish the surface prior to CQA subgrade approval.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-029	
Job Number:	S013213A00	Staff On-site	Dates:	8/23/2010 to 8/27/2010
Contractor(s):	TradeWind Services (TWS)	6	Reports:	5-16-139 to 5-16-143

### CONSTRUCTION ACTIVITIES

- 1.0 Admix Placement – TWS moisture conditioned and maintained the finished admix surface.
- 2.0 Secondary Geomembrane – ESI deployed secondary geomembrane panels S-85 to S-117 on the north half of the Cell 10 floor, covering the secondary drainage gravel access road and the admix directly south of the deployed secondary geomembrane in Cell 10. ESI performed repairs and conducted geomembrane CQC testing as required. CQA surveyor performed the secondary liner as-built.
- In addition, ESI cut the secondary geomembrane on the north slope of Cell 9 east of the riser trench to remove large wrinkles that had developed on panels P-58 and P-59. After the wrinkles were removed, the panel was welded back together.
- 3.0 Secondary Geocomposite – ESI completed the drainage gravel/geocomposite tie-in for Cell 9. After the tie-in was completed, ESI deployed secondary geocomposite on the north slope and floor of Cells 9 and 10. (see picture log for more information).
- 4.0 Primary Geomembrane – ESI deployed primary geomembrane panels P-43 to P-50 from the Cell 9 tie-in to the west side of the Cell 9 sump. ESI performed repairs and conducted geomembrane CQC testing as required. The CQA surveyor performed the primary liner as-built.
- 5.0 Secondary Sump – TWS completed placing and spreading Type B drainage gravel in the Cell 10 secondary sump. The CQA surveyor was on-site to verify grades and thickness of the secondary drainage gravel.
- TWS repaired the admix liner south of the Cell 10 sump where the International Payhaulers accessed the Cell 10 sump. TWS intentionally left the admix in the haul area overbuilt. After the admix was reconditioned, recompact and trimmed, CQA witnessed that the ruts from the payhaulers and the pegs from the compactors did not penetrate past the overbuilt admix. The admix surface was finished with a CAT CS 563 smooth drum roller. The CQA surveyor was on-site to verify the admix thickness of the repair area.
- After the admix rutting was resolved, ESI deployed secondary geomembrane panels S-83 to S-84 south of the Cell 10 sump over the Cell 10 secondary drainage gravel access road. ESI performed repairs and conducted CQC testing as required. The CQA surveyor performed the secondary liner as-built.
- 6.0 Primary Drainage Gravel – TWS continued placing drainage gravel into Cell 9. TWS used two (2) CAT D6 LGP dozers, aided by laborers, to spread and compacted the drainage gravel in a 1-ft high lift across the south three quarters of Cell 9. After TWS completed spreading and compacting the admix, WCH used ground penetrating radar (GPR) to investigate possible rutting under the three (3) haul roads. No evidence of rutting was found.



### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-029
Job Number:	S013213A00	Staff On-site	Dates: 8/23/2010 to 8/27/2010
Contractor(s):	TradeWind Services (TWS)	6	Reports: 5-16-139 to 5-16-143

#### CONSTRUCTION ACTIVITIES

7.0 Leachate Transmission Line – TWS excavated the leachate transmission trench between MH-36 and MH-37. After the trench was completed, TWS placed the leachate pipe into the trench and BMWC connected the pipe to the manholes. After BMWC completed pipe testing, TWS placed, moisture conditioned, and compacted six (6) lifts of backfill over the leachate transmission pipes.

In addition, TWS excavated the leachate transmission trench between MH-36 and MH-37.

BMWC completed pressure testing two (2) 3-in riser discharge lines and four (4) 1½-in riser discharge lines for Cells 9 and 10.

8.0 Tank #3 – After the concrete had reached strength, TWS backfilled Tank #3 foundation ringwall.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-030
Job Number:	S013213A00	Staff On-site	Dates: 8/30/2010 to 9/3/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-144 to 5-16-148

### LABORATORY TESTING

5-18K Type A Drainage Gravel	DG-A-17A	Perm and USCS: On-going
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### CQA HOLD POINTS

Submittal 5-18R-088 Cell 9 Primary Subgrade	September, 3, 2010	Panels: P-51 to P-56
Submittal 5-18R-089 Cell 10 Admix Surface	September, 3, 2010	Panels: S-118

### GENERAL ACTIVITIES

- 1.0 Lysimeter Pipe – On Monday August 30<sup>th</sup>, 2010, CQA met with Bill Melvin, WCH project lead, Randy Story, superintendent for ESI, and Nick, TWS liaison with ESI, about the lysimeter pipe in Cell 10. The pipe is daylighting in the bottom of the anchor trench floor, making the pipe boot difficult to install. Reviewing the design, CQA and WCH concluded that a pipe boot was not necessary in the anchor trench for the Cell 10 lysimeter pipe. CQA shall discuss with WCH engineering tomorrow.
- 2.0 Geotextile Exposure – On Monday August 30<sup>th</sup>, 2010, WCH has transmitted an SDDR to TWS indicating that the geotextile has a 28 day exposure window. WCH shall transmit the change to Envirotech at a later date,
- 3.0 Weekly Progress Meeting –CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, August 31<sup>st</sup>, 2010 at 10:00 am. in the meeting trailer.
- 4.0 CQA Weekly Progress Meeting – CQA attended the CQA subcontractor’s weekly progress meeting on Tuesday, August 31<sup>st</sup>, 2010 at 10:15 am in the meeting trailer.
- 5.0 Lysimeter Pipe – On Tuesday August 31<sup>st</sup>, 2010, CQA met with Bill Melvin, WCH project lead, and Tim Wintel, WCH Project Engineer, about the lysimeter pipe in Cell 10 discussed in Monday, August 30, 2010. The pipe is daylighting in the bottom of the anchor trench floor, making the pipe boot difficult to install. Reviewing the design, CQA and WCH concluded that a pipe boot was not necessary in the anchor trench for the Cell 10 lysimeter pipe. A design change notice is required to allow no boot on the lysimeter pipe. Tim has agreed to initiate the design change.
- 6.0 Secondary Riser Pipes – On Tuesday August 31<sup>st</sup>, 2010, CQA met with Bill Melvin, WCH project lead, and Tim Wintel, WCH Project Engineer about the secondary riser pipe penetrations. Randy Story, ESI superintendent, has suggested that the pipe boots be welded and not clamped. CQA and WCH agreed with his recommendation, and a design change is required to modify the boot detail. Tim has agreed to initiate the design change.
- 7.0 Storm water – On Wednesday September 1<sup>st</sup>, 2010, Storm water collected in the Cell 9 and 10 sumps and in the access road across Cell 10. TWS removed the storm water from the Cell 10 sump.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-030
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			8/30/2010 to 9/3/2010
			5-16-144 to 5-16-148

### GENERAL ACTIVITIES

8.0 Cell 9 Secondary Sump Repair – On Thursday September 2<sup>nd</sup>, 2010, TWS pumped the storm water from the Tuesday rain event from the Cell 9 secondary sump to the Cell 10 secondary sump. After the water level had been sufficiently reduced, CQA witnessed storm water under the secondary geomembrane on the north side of the Cell 10 sump. CQA and ESI began investigating the source of the storm water introduction using hand shovels to remove the secondary drainage gravel.

A hole in the secondary geomembrane appears to be the most likely cause of the storm water introduction. A significant amount of storm water was introduced under the secondary geomembrane; therefore, the size of the hole must be significant. By the end of the day, the hole in the liner was not found.

9.0 Cell 9 Secondary Sump Repair – On Friday September 3<sup>rd</sup>, 2010, TWS, ESI, and CQA continued the investigation in the Cell 9 sump. TWS removed the overbearing secondary drainage gravel from the toe and crotch of the Cell 9 sump with a CAT 303 rubber-track excavator. ESI peeled back the secondary geocomposite to expose the underlying secondary geomembrane. The investigation discovered a hole in the secondary geomembrane at the northwest shoulder of the sump. The hole was a circular hole approximately 3-in. in diameter that was cut during the first sump repair to evaluate the admix underneath the secondary geomembrane. During the first repair, the hole was covered with geocomposite prior to beginning repairs and was not logged.

After the hole was discovered, a release hole was cut at the rock line in the Cell 9 riser trench to release the trapped water. The water was walked to the release hole and pumped out. The hole was propped open and the admix underneath was allowed to dry. CQA evaluated the admix in the locations of the ponded water and the release hole; CQA determined that the admix met the stability requirements in the construction specifications.

ESI patched, welded, and non-destructively testing both holes in the secondary geomembrane. CQA verified that the secondary geocomposite and geotextile were placed and joined over the secondary geomembrane as per construction specifications. TWS utilized the rubber tracked CAT 303 excavator to replace the drainage gravel in the Cell 9 sump.

Following the repair, CQA initiated a non-conformance report, NCR-01. NCR-01 triggered a corrective action, which included a conference call with the CQA officer, Rob Stallings. CQA met internally and completed the corrective action associated with NCR-01.

### CONSTRUCTION ACTIVITIES

1.0 Secondary Geomembrane – ESI performed repairs and conducted testing on the secondary geomembrane in Cells 9 and 10 as required. The CQA surveyor performed the secondary liner as-built.

Part of the repairs included removing 264-ft of weld S-4/S-5 on the floor of Cell 10. The weld was cut out, and secondary panel S-118 was placed in between the panels. Panels S-4 and S-5 were double wedge welded to either side of panel S-118.

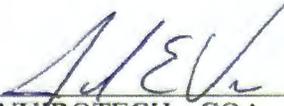


## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-030
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			5-16-144 to 5-16-148

### CONSTRUCTION ACTIVITIES

- 2.0 Secondary Geocomposite – ESI deployed and joined eighty-one (81) rolls of secondary geocomposite on the north slope and floor of Cells 9 and 10.
- 3.0 Primary Geomembrane – ESI deployed primary geomembrane panels P-51 to P-56 in Cell 9 east of the Cell 9 sump.  
ESI also performed repairs and conducted geomembrane CQC testing as required on the primary geomembrane in Cell 9. The CQA surveyor performed the primary liner as-built.
- 4.0 Secondary Sump – Storm water was found under the Cell 9 secondary sump, see General Activities for details.
- 5.0 Leachate Transmission Pipe – CQA witnessed BMWC pressure tested the entire length of the inner 10-in leachate containment pipe between MH-9 and MH-33 on August 31<sup>st</sup>, 2010. CQA witnessed the testing and verified the results.  
In addition, TWS continued backfilling and compacting the leachate transmission pipe between MH-36 and MH-37. TWS placed and compacted eight (8) lifts of backfill (lifts 7 – 14) over the pipe. After TWS completed the backfill, TWS placed and compacted two (2) lifts of base/top course rock over the operations haul road between MH-36 and MH-37.
- 6.0 Tank #1 – TWS and BMWC began demolition on Tank #1 north west of Cell 9. The tank liner was placed in the middle of the tank and the supporting tank walls were removed.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-031
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	5-16-149 to 5-16-152

### LABORATORY TESTING

5-18K Type A Drainage Gravel	DG-A-17A	Perm and USCS: On-going
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### CQA HOLD POINTS

Submittal 5-18R-090 Cell 9 Primary Subgrade	September, 8, 2010	Panels: P-57 to P-58
Submittal 5-18R-091 Cell 9 Primary Subgrade	September, 9, 2010	Panels: P-59 to P-61
Submittal 5-18R-092 Cell 10 Primary Subgrade	September, 9, 2010	Panels: P-11 to P-12
Submittal 5-18R-093 Cell 9 Primary Subgrade	September, 10, 2010	Panels: P-62 to P-67
Submittal 5-18R-094 Cell 10 Primary Subgrade	September, 10, 2010	Panels: P-13 to P-18

### GENERAL ACTIVITIES

1.0 Storm water – On Tuesday September 7<sup>th</sup>, 2010, heavy rain showers halted work on-site. Standing water on the composite and geomembrane suspended all geomembrane placement activities. No geomembrane was placed.

On Wednesday September 8<sup>th</sup>, 2010, light showers occurred during morning hours. TWS continued pumping the Cell 9 sump into the Cell 10 sump. After the Cell 9 Sump was completed, TWS pumped the Cell 10 secondary sump storm water past the east termination of Cell 10. Geomembrane deployment/welding was suspended several times during the day due to weather conditions.

On Thursday September 9<sup>th</sup>, 2010, storm water collected in the Cell 9 sump overnight, leaving water 2-3 inches above the secondary drainage gravel. CQA and TWS inspected the Cell 9 and Cell 10 sump, no infiltration of storm water under the secondary geomembrane occurred.

2.0 Weekly Progress Meeting – CQA attended the construction subcontractor's weekly progress meeting on Tuesday, September 7<sup>th</sup>, 2010 at 10:00 am. in the meeting trailer.

3.0 CQA Weekly Progress Meeting – CQA attended the CQA subcontractor's weekly progress meeting on Tuesday, September 7<sup>th</sup>, 2010 at 10:15 am in the meeting trailer.

4.0 Cell 9 Secondary Sump Repair – On Tuesday September 7<sup>th</sup>, 2010, TWS completed replacement and grading of the secondary drainage gravel in the Cell 9 sump with the CAT 303 rubber track excavator aided by the TWS surveyor. Stratton Surveying was on-site to as-built the secondary drainage gravel. CQA has verified that the Cell 9 sump has been constructed as per contract specifications. This completes the Cell 9 secondary sump repair.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-031
Job Number:	S013213A00	Staff On-site	Dates: 9/7/2010 to 9/10/2010
Contractor(s):	TradeWind Services (TWS)	6	Reports: 5-16-149 to 5-16-152

### GENERAL ACTIVITIES

- 5.0 Plan of Tomorrow Meeting – On Wednesday September 8<sup>th</sup>, 2010, CQA attended the plan of tomorrow meeting. The Cell 9 sump issues and corrective actions resulting from the Non-Conformance Reports authored independently by TWS and CQA were discussed. The corrective actions following the two (2) NCRs include a procedural change in how CQA documents liner repairs and a procedural change to conducting repairs on geomembrane that has overbearing materials. The CQA Corrective Action Report will provide further details. The CQA Engineer met with the CQA field personnel to discuss the corrective actions and the procedural changes resulting from the Corrective Action Report that was triggered by 5-19-01 NCR-01.
- 6.0 Geocomposite Deployment – On Thursday September 9<sup>th</sup>, 2010, following comments by Jack Howard, WCH Construction STR, CQA modified the procedure for geocomposite joining inspection. From this point forward, no geotextile will be sewn or leistered over geocomposite joints until CQA paints a green approval dot on the overlap.
- 7.0 CQA/CQC Geomembrane Repair Log Verification On Thursday September 9<sup>th</sup>, 2010, a TWS representative conducted a verification of both ESI and CQA geomembrane repair logs. He verified that all the repair locations on the south half of the Cell 10 secondary geomembrane were captured in the repair log entries. The TWS representative discovered no inconsistencies between the repairs and entries in either repair log.
- 8.0 Plan of Tomorrow Meeting – On Thursday September 9<sup>th</sup>, 2010, CQA attended the plan of tomorrow meeting. The Cell 9 sump issues and corrective actions resulting from the Non-Conformance Reports authored independently by TWS and CQA were discussed. See the CQA Corrective Action Report for further details on the CQA corrective actions. Following the meeting the CQA Engineer met again with the CQA field personnel to discuss the corrective actions and the procedural changes resulting from the Corrective Action Report that was triggered by 5-19-01 NCR-01.
- 9.0 WCH Geomembrane Deployment Verification On Thursday September 9<sup>th</sup>, 2010 following the plan of tomorrow meeting, Mike Webb with WCH QA also performed a geomembrane repair log verification. While Mike Webb also noted no inconsistencies in the repair log entries, he did discover a soft patch of admix in the Cell 9 floor.
- The soft patch is due to rain water infiltration under a leistered patch on September 3<sup>rd</sup>, 2010. The leistered patch was extrusion welded September 8<sup>th</sup>, 2010. While the admix under the leistered patch met admix stability, the water had pooled at low point in the liner approximately 30-ft away. Due to the threat of additional rain, the location was left sealed; ESI shall repair this location at a later date.
- 10.0 Secondary Geomembrane Repair On Friday September 10<sup>th</sup>, 2010, CQA continued to track the soft patch located yesterday under the Cell 10 secondary geomembrane resulting from rainwater infiltrating under a leistered patch. A second soft area was found in the center section of Cell 10 resulting from a leistered patch. ESI did not repair either area; CQA shall continue to track the repairs.
- 11.0 EPA Visit – On Friday September 10<sup>th</sup>, 2010, Dave Einan with EPA was on-site to verify the Cell 10 sump repair and ensure that no other holes in the secondary geomembrane existed.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-031
Job Number:	S013213A00	Staff On-site	Dates: 9/7/2010 to 9/10/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-149 to 5-16-152

### CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane – ESI performed repairs and conducted testing on the secondary geomembrane on the north half of Cell 10 as required. The CQA surveyor performed the secondary liner as-built.
- 2.0 Secondary Geocomposite – ESI deployed and joined forty-two (42) rolls of secondary geocomposite on the north slope and floor of Cell 10.
- 3.0 Cell 9 Secondary Sump – ESI deployed 16 oz. geotextile over the secondary drainage gravel in the Cell 9 sump. All panels were double wedge welded together and leistered to the secondary geocomposite.
- 4.0 Primary Geomembrane – ESI deployed primary geomembrane panels P-57 to P-67 on the north slope and floor of Cell 9. This completes the primary geomembrane deployment in Cell 9. All panels were double wedge welded together.  
  
In addition, ESI deployed primary geomembrane panels P-11 to P-18 on the north slope and floor of Cell 10, west of the Cell 10 sump. The panels were double wedge welded together.  
  
ESI also performed repairs and conducted geomembrane CQC testing as required on the primary geomembrane in Cell 9. The CQA surveyor performed the primary liner as-built.
- 5.0 Tank #1 – TWS and BMWC continued demolition on Tank #1 north west of Cell 9. The tank liner was placed into roll-off containers and transported to the active ERDF cells. After the area was down-posted, WCH performed a ground penetrating radar (GPR) survey of the area.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-032
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	5-16-153 to 5-16-157

LABORATORY TESTING		
5-18K Type A Drainage Gravel	DG-A-17A	Perm and USCS: On-going

CQA HOLD POINTS		
Submittal 5-18R-095 Cell 10 Primary Subgrade	September, 14, 2010	Panels: P-19 to P-27
Submittal 5-18R-096 Cell 10 Primary Subgrade	September 15, 2010	Panels: P-28 to P-38
Submittal 5-18R-097 Cell 10 Primary Subgrade	September 16, 2010	Panels: P-39 to P-48

GENERAL ACTIVITIES	
1.0	<p><u>Secondary Geomembrane Repair</u> – On Monday, September 13<sup>th</sup>, 2010, CQA examined the soft patch in the center of the Cell 10 floor, near the S-85/S-89 intersection, and determined that it healed itself over the weekend. CQA and CQC inspection found that the water had been absorbed and distributed through the admix material resulting in a firm and stable surface.</p> <p>The soft patch on the south half of Cell 10 near secondary geomembrane panel S-118 has also shrunk in size but still remains unacceptable. CQA continues to track the soft patch located near panel S-118 in Cell 10.</p>
2.0	<p><u>Weekly Progress Meeting</u> – CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, September 14<sup>th</sup>, 2010 at 10:00 am. in the meeting trailer.</p>
3.0	<p><u>CQA Weekly Progress Meeting</u> – CQA attended the CQA subcontractor’s weekly progress meeting on Tuesday, September 14<sup>th</sup>, 2010 at 10:15 am in the meeting trailer.</p>
4.0	<p><u>Cell 9 Sump Repair Presentation</u> – On Tuesday, September 14<sup>th</sup>, 2010, Bill Melvin, WCH lead, presented the Cell 9 sump repairs to DOE and EPA representatives at 10:30 am in the meeting trailer.</p>
5.0	<p><u>Cell 10 Termination</u> – On Wednesday, September 15<sup>th</sup>, 2010, CQA noted that the Cell 10 termination was not being constructed as per design drawings. CQA met with TWS CQC, Dave Sterly, and ESI Superintendent, Randy Story, to discuss the construction of the Cell 10 termination. ESI had placed secondary geocomposite and primary geomembrane over the termination and 3-ft over the toe of slope.</p> <p>Following the conversation, CQA observed ESI cutting back the secondary geocomposite and primary geomembrane to the dimensions provided in the design drawings. In addition, ESI cut the primary geomembrane at the toe of slope as to include the rain flap diagram as provided in the design drawings. CQA also discussed alternatives with the WCH staff concerning the Cell 10 termination rain flap. The WCH engineer, Tim Wintel, is discussing alternatives with the engineering staff.</p>
6.0	<p><u>Storm water</u> – On Thursday, September 16<sup>th</sup>, overnight storms filled both Cell 9 and Cell 10 sumps with water. CQA observed TWS pumping the storm water from the Cell 9 sump to the Cell 10 sump and from the Cell 10 sump past the east termination of Cell 10. TWS completed removing the stormwater on Friday, September 17<sup>th</sup>, and CQA inspected the subgrade and verified that the subgrade met construction specifications.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-032
Job Number:	S013213A00	Staff On-site	Dates: 9/13/2010 to 9/17/2010
Contractor(s):	TradeWind Services (TWS) 6	Reports:	5-16-153 to 5-16-157

### CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane – ESI performed repairs and conducted testing on the secondary geomembrane on the north half of Cell 10 as required. The CQA surveyor performed the secondary liner as-built.
- 2.0 Secondary Geocomposite – ESI deployed and joined thirty (30) rolls of secondary geocomposite on the north slope and floor of Cell 10.
- 3.0 Secondary Riser Trench – ESI removed the blow sand from the Cell 10 secondary riser trench that had accumulated due to windblown dust. The sand was placed into sand bags and used to anchor the deployed primary geomembrane in Cell 10.
- 4.0 Cell 10 Secondary Sump – ESI deployed 16 oz. geotextile over the secondary drainage gravel in the Cell 10 sump. All panels were sewn together and leistered to the secondary geocomposite.
- 5.0 Primary Geomembrane – ESI deployed thirty (30) panels of primary geomembrane in Cell 10. ESI placed and double wedge welded panels P-19 to P-48 on the north slope and floor of Cell 10.

ESI also performed repairs and conducted geomembrane CQC testing as required on the primary geomembrane in Cells 9 and 10. The CQA surveyor performed the primary liner as-built.

CQA failed destructive test DP-03 on seam P12/P13 in Cell 10. Initially, destructive testing was performed 10-ft to either side of the failing destructive test. Initial destructive testing by ESI failed, and the extents of the failed seam were expanded by 25-ft. After the ESI testing passed, CQA collected and verified that the seam met construction specifications through independent destructive testing.

- 6.0 Primary Geotextile – ESI deployed twenty-six (26) rolls of 16 oz. geotextile over the primary geomembrane on the Cell 9 floor. The geotextile was deployed from the Cell 8/9 tie-in to the Cell 9 termination. No primary geotextile was placed in the Cell 9 sump.
- 7.0 Tank #4 – TWS began constructing Tank 4 in the location of the removed Tank 1. TWS placed four (4) lifts of soil on the southwest half of the foundation to bring the southwest half to grade. TWS also placed one (1) lift of soil on the northeast half of the foundation. TWS then excavated trenches for the 10x16-in inlet line, the 4x8-in drain line, and the 2-in leak detection line.

BMWC welded, installed, and pressure tested all three tank lines. TWS placed four (4) lifts of backfill over the drain line and three (3) lifts of backfill over the leak detection line to bring the pipes existing grade. TWS placed five (5) lifts of soil over the inlet line that left the backfill approximately 1-ft lower than the existing grade. TWS shall complete backfill of the Tank 4 pipes at a later date.

ENVIROTECH – CQA

9/28/10  
DATE



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-033
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	7	Reports:
			5-16-158 to 5-16-162

LABORATORY TESTING		
5-18K Type A Drainage Gravel	DG-A-17A	Perm and USCS: On-going

CQA HOLD POINTS		
Submittal 5-18R-098 Cell 10 Primary Subgrade	September 21, 2010	Panels: P-49 to P-51

GENERAL ACTIVITIES
<p>1.0 <u>Secondary Geomembrane Repair</u> – The soft patch on the south half of Cell 10 remains, CQA shall continue to track the soft spot in the admix near panels S-118 in Cell 10.</p> <p>2.0 <u>Storm water</u> – Rain though out the weekend caused the Cells 9 and 10 sumps to fill with storm water. TWS pumped the storm water from Cell 9 and Cell 10 sumps. CQA verified that the subgrade under the sumps was firm and continued to meet construction specifications.</p> <p style="padding-left: 40px;">On September 23, 2010, rain caused additional stormwater to accumulate in both sumps. The stormwater remained in the primary and sump throughout the weekend.</p> <p>3.0 <u>High Winds</u> – On Monday September 20, 2010, high winds limited geotextile placement in Cell 10.</p> <p>4.0 <u>Weekly Progress Meeting</u> – CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, September 21<sup>st</sup>, 2010 at 10:00 am. in the meeting trailer.</p> <p>5.0 <u>CQA Weekly Progress Meeting</u> – CQA attended the CQA subcontractor’s weekly progress meeting on Tuesday, September 21<sup>st</sup>, 2010 at 10:15 am in the meeting trailer.</p> <p>6.0 <u>Equipment Damage</u> – On Tuesday September 21, 2010, during spreading of the drainage gravel in Cell 9, the Hitachi 200 listed to the side and the operator placed the bucket on a 6-in thick layer of drainage gravel to compensate. Upon investigation, ESI and CQA found the liner to be damaged. The location was repaired, tested and surveyed by Stratton Survey.</p> <p>7.0 <u>Geomembrane</u> – On September 21, 2010, a spool of LLDPE welding rod was brought into Cell 10 for the purpose of performing extrusion repairs. CQA noted the presence of the welding rod the morning of September 22, 2010, after ESI had completed the first repair that day. CQA tracked and verified that the welding rod was first used the morning of September 22, 2010 and only one (1) repair was performed with the LLDPE extrusion rod.</p> <p style="padding-left: 40px;">ESI returned the LLDPE welding rod to the liner holding area. ESI capped the non-conforming patch with an HDPE welded patch. ESI met with the welders to ensure HDPE welding rod is used for HDPE welding operations.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-033
Job Number:	S013213A00	Staff On-site	Dates: 9/20/2010 to 9/24/2010
Contractor(s):	TradeWind Services (TWS) 7	Reports:	5-16-158 to 5-16-162

### CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane – The CQA surveyor performed the secondary liner as-built.
- 2.0 Primary Geomembrane – ESI deployed three (3) panels of primary geomembrane in Cell 10. ESI placed and double wedge welded panels P-49 to P-51 on the north half of the Cell 10 floor near the Cell 9/10 crest. ESI also installed the primary liner penetration socks and boots for the Cell 10 secondary riser pipes.  
  
ESI also performed repairs and conducted geomembrane CQC testing as required on the primary geomembrane in Cells 9 and 10. The CQA surveyor performed the primary liner as-built.  
  
CQA failed two (2) destructive tests in Cell 10, DP-09 and DP-29 on seams P18/P19 and P45/P47, respectively. The failed seams were bracketed and the seams retested to ensure compliance with the contract specifications.
- 3.0 Primary Geotextile – ESI deployed thirty-nine (39) rolls of 16 oz. geotextile over the primary geomembrane on the Cell 10 floor. The geotextile was deployed from the Cell 9/10 tie-in to the Cell 10 termination. No primary geotextile was placed in the Cell 10 sump.
- 4.0 Primary Geocomposite – ESI deployed fifty-four (54) panels of primary geocomposite on the north slope of Cell 9 from the Cell 8/9 tie-in to the Cell 9/10 division. The geocomposite was joined with plastic zip tie and the geotextile was sewn or leistered as required.  
  
ESI deployed forty-four (44) panels of primary geocomposite on the north slope of Cell 10 from the Cell 9/ division to two panels shy of the Cell 10 termination. The geocomposite was joined with plastic zip tie and the geotextile was sewn or leistered as required.
- 5.0 Primary Drainage Gravel – TWS placing drainage gravel into Cells 9 and 10. TWS constructed three (3) 7-ft high road across the Cells 9 and 10. TWS placed the Cell 9 north gravel haul road from grid I6 to grid D2, the Cell 10 northeast haul road from grid H6 to grid D10, and the Cell 10 north haul road from grid H6 to grid D6. TWS used two (2) CAT D6 LGP dozers, aided by laborers, to spread the gravel from the haul road across both Cells 9 and 10 in a 1-ft high lift. After TWS completed spreading and compacting the gravel, WCH used ground penetrating radar (GPR) to investigate possible rutting under the three (3) haul roads. Results of the GPR findings have not been released.
- 6.0 Tank #4 – TWS continued constructing Tank 4 foundation. TWS placed the final two (2) lifts of soil over the 16x10-in inlet pipe. TWS also placed the last lift of soil over the northeast half of the Tank 4 foundation to bring the foundation to grade. TWS then excavated the Tank 4 ring wall trench and place concrete forms into the trench.

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9/20/10  
DATE

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-034
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			5-16-163 to 5-16-168

LABORATORY TESTING		
5-18K Type A Drainage Gravel	DG-A-17A	Perm and USCS: On-going

FIELD TESTING			
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 10 Center Haul Road	SL-1012	Perm: On-going

CQA HOLD POINTS		
Submittal 5-18R-099 Cell 10 Subgrade	September 28, 2010	Grids: H7, H8, H9, H10, and I7

GENERAL ACTIVITIES
<p>1.0 <u>Secondary Geomembrane Repair</u> – CQA investigated and the soft patch on the south half of Cell 10 has healed significantly, reducing in size. CQA shall continue to track the soft spot in the admix near panel S-118 in Cell 10.</p> <p>2.0 <u>Ground Penetrating Radar</u> – On Monday September 27, 2010, CQA was notified that the ground penetrating radar discovered no evidence of rutting under the drainage gravel haul roads in Cell 9.</p> <p>3.0 <u>Ground Penetrating Radar</u> – On Tuesday September 28, 2010, CQA was notified that the ground penetrating radar discovered no evidence of rutting under the Cell 10 northeast drainage gravel haul road.</p> <p>4.0 <u>Weekly Progress Meeting</u> – CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, September 28<sup>th</sup>, 2010 at 10:00 am. in the meeting trailer.</p> <p>5.0 <u>CQA Weekly Progress Meeting</u> – CQA attended the CQA subcontractor’s weekly progress meeting on Tuesday September 28<sup>th</sup>, 2010 at 10:15 am in the meeting trailer.</p> <p>6.0 <u>Evacuation/Take Cover Drill</u> – CQA was part of the evacuation drill that was transformed into a take cover drill at 14:20 on Wednesday September 29<sup>th</sup>, 2010. The drill lasted for approximately one (1) hour before work resumed.</p> <p>7.0 <u>Work Hours</u> – On Wednesday September 29<sup>th</sup>, 2010, TWS with WCH approval has begun 12 hour shift with Saturday work. CQA met with Dana Looney with WCH to discuss financial coverage for the additional work.</p> <p>8.0 <u>Storm water</u> – Stormwater remained in both the Cell 9 and 10 sumps until Thursday September 30<sup>th</sup>, 2010, when TWS pumped the stormwater from the Cell 9 sump to the Cell 10 sump.</p>

CONSTRUCTION ACTIVITIES
<p>1.0 <u>Subgrade</u> – TWS removed the saturated admix/soil mixture that had accumulated on the Cell 9 access road that bisected Cell 10 and placed fresh soil onto the subgrade. The CQA surveyors performed an as-built of the admix subgrade.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-033
Job Number:	S013213A00	Staff On-site	Dates: 9/20/2010 to 9/24/2010
Contractor(s):	TradeWind Services (TWS) 7	Reports:	5-16-158 to 5-16-162

### CONSTRUCTION ACTIVITIES

- 2.0 Admix Placement – TWS placed and compacted six (6) lifts of soil over the Cell 9 access road that bisected Cell 10 in grid cells H7, H8, H9, H10, and I7. After the admix was placed, TWS trimmed the soil to grade and finished the surface with smooth drum rollers. All admix in Cell 10 has been placed.
- 3.0 Secondary Geomembrane – ESI completed repairs and testing on the secondary geomembrane on the south half of Cell 10. In addition, ESI placed secondary geomembrane panels P-119 to P-133 over the central section of Cell 10 in grid cells H7, H8, H9, H10, and I7. After the geomembrane was placed, ESI began testing and repairing the center section of Cell 10 secondary geomembrane. ESI placed the geomembrane at risk since the permeability testing had not been completed.
- 4.0 Secondary Geocomposite – ESI deployed twenty-nine (29) rolls of secondary geocomposite on the south berm of Cell 10 from the Cell 9/10 tie-in east toward the Cell 10 termination.
- 5.0 Primary Geomembrane – ESI welded the rain flap detail on the north slope and north floor as per construction specifications. In addition, ESI performed repairs and testing on the primary geomembrane in Cell 10 as required.
- CQA failed two (2) destructive tests in Cell 10, DP-09 and DP-29 on seams P18/P19 and P45/P47, respectively. The failed seams were bracketed and the seams retested to ensure compliance with the contract specifications.
- 6.0 Primary Geotextile – ESI deployed one (1) roll of 16 oz. geotextile over the primary geomembrane on the south side of the Cell 10 floor. The geocomposite was joined with plastic zip tie and the geotextile was sewn or leistered as required.
- 7.0 Primary Geocomposite – ESI deployed sixteen (16) panels of primary geocomposite on the north slope of Cell 10, completing placement of the primary geocomposite on the north berm. The geocomposite was joined with plastic zip tie and the geotextile was sewn or leistered as required.
- 8.0 Leachate Collection Pipes – TWS excavated a trench in the primary drainage gravel for the leachate collection pipes. TWS placed the leachate collection pipe and the clean out riser in Cell 9 from the top of the south slope to approximately 80-ft south of the Cell 9 sump. In addition, TWS placed the leachate collection pipe from the center of Cell 10 to approximately 20-ft south of the Cell 10 sump. After the pipes were in-place, TWS built a 1-ft high drainage gravel berm over the leachate collection pipes.
- 9.0 Primary Drainage Gravel – TWS completed drainage gravel placement in Cells 9 and on the north half of Cell 10. The gravel was placed 1-ft across both cells. In addition, TWS constructed 1-ft high berms over the 12-in primary leachate pipes in Cells 9 and 10. After the Cell 9 berm was completed, TWS stockpiled the excess gravel on the Cell 9/10 division. Ground penetrating radar indicated that the admix under the drainage gravel had not been disturbed.
- 10.0 Tank #4 – TWS continued to construct the rebar forms for the concrete foundation. After the forms were constructed, TWS poured the concrete foundation of Tank #4 on Friday October 1, 2010.

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10/27/10  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-035
Job Number:	S013213A00	Staff On-site	Dates:
		7	10/4/2010 to 10/8/2010
Contractor(s):	TradeWind Services (TWS)	7	Reports:
			5-16-169 to 5-16-173

LABORATORY TESTING		
5-18K Type A Drainage Gravel	DG-A-17A	Perm and USCS: Passed
5-18M Operations Soil	OP-2	USCS: Passed
5-18M Operations Soil	OP-3	USCS: Passed
5-18M Operations Soil	OP-4	USCS: Passed
5-18M Operations Soil	OP-5	USCS and Proctor on-going
5-18M Operations Soil	OP-6	USCS: Passed
5-18M Operations Soil	OP-7	USCS: Passed
5-18M Operations Soil	OP-8	USCS: Passed
5-18M Operations Soil	OP-9	USCS: Passed
5-18M Operations Soil	OP-10	USCS and Proctor on-going
5-18M Operations Soil	OP-11	USCS: Passed
5-18M Operations Soil	OP-12	USCS on-going
5-18M Operations Soil	OP-13	USCS on-going
5-18M Operations Soil	OP-14	USCS on-going
5-18M Operations Soil	OP-15	USCS and Proctor on-going
5-18M Operations Soil	OP-16	USCS on-going
5-18M Operations Soil	OP-17	USCS on-going
5-18M Operations Soil	OP-18	USCS on-going
5-18M Operations Soil	OP-19	USCS on-going
5-18M Operations Soil	OP-20	USCS on-going
5-18M Operations Soil	OP-21	USCS on-going
5-18M Operations Soil	OP-22	USCS on-going
5-18M Operations Soil	OP-23	USCS on-going
5-18M Operations Soil	OP-24	USCS on-going

FIELD TESTING			
Submittal 5-18J Admix Field Testing Permeability	Lift No. 3 – Cell 10 Center Haul Road	SL-1012	Perm: Passed

CQA HOLD POINTS		
Submittal 5-18R-100 Cell 10 Admix Surface	Tuesday, October 5, 2010	Panels: S-118 to S-133

GENERAL ACTIVITIES
<p>1.0 <u>Secondary Geomembrane Repair</u> – On Tuesday, October 5<sup>th</sup>, 2010, CQA investigated the soft patch in the admix near panels S-118 in Cell 10 and found the admix firm and stable. CQA concluded that the admix healed itself and the soft patch in the admix does not exist.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-035
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	7	10/4/2010 to 10/8/2010
		Reports:	5-16-169 to 5-16-173

### GENERAL ACTIVITIES

- 2.0 Weekly Progress Meeting –CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, October 5<sup>th</sup>, 2010 at 10:00 am. in the meeting trailer.
- 3.0 Operations Placement – TWS began hauling operations material to the top of the north embankment. The soil was stockpiled in the Cell 9 north anchor trench and pushed down the slope over 2-3 feet of operations material with a CAT D6 dozer. CQA notified WCH, who met to decide if the placement met the intent of the contract specifications. WCH staff concluded that the placement of the operations material did not meet the intent of section 3.4.1.e of the contract specifications 0600X-SP-C0078 Rev 1, which states, "Operations layer material placed on the side slopes shall be pushed up from the bottom of the slope."
- WCH staff halted operations placement on the side slope and informed TWS to place operations material in a manner consistent with the contract specifications. TWS resumed placing operations material on the side slopes by pushing material up from the bottom of the slope consistent with section 3.4.1.e of 0600X-SP-C0078 Rev. 1.
- CQA held a meeting the CQA trailer with all CQA staff on-site readdressing the technicians roles, duties, and actions. In addition, the CQA engineer reviewed the approved methods of operation soil placement with the CQA staff.
- 4.0 Destructive Sampling – Cell 10 primary liner sample DP-74 was accidentally thrown away by the ESI operator. ESI cut a new destructive sample DP-74A from the original weld. CQA tested and verified that the destruct met construction specifications.

### CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geomembrane – ESI conducted repairs and performed non-destructive testing on the secondary geomembrane panels S-119 to S-133 as required by CQC and CQA. The CQA surveyors performed the secondary liner as-built.
- 2.0 Secondary Geocomposite – ESI deployed one hundred twenty (120) rolls of secondary geocomposite on the Cell 10 south berm and south half of the Cell 10 floor.
- 3.0 Cell 9 Sump – ESI deployed and welded the 100-mil rub sheet in the Cell 9 sump. The sheet was set over the secondary geomembrane in the Cell 9 sump and extended 5-ft onto the Cell 9 floor; however, the 100-mil rub sheet was not welded to the secondary geomembrane. ESI deployed one (1) roll of 16 oz. primary geotextile in the Cell 9 sump.
- TWS placed Type B drainage gravel on the west side of the Cell 9 sump over the 16 oz. primary geotextile with a CAT 312 excavator. After the drainage gravel was placed, the CQA surveyors verified the gravel thickness. ESI then deployed one (1) roll of 8 oz. primary geotextile over the Type B drainage gravel, and TWS placed 3-ft of operations soil over the geotextile.
- TWS installed the primary riser pipes in Cell 9 though the Crest Pad 9 stem wall, into the Cell 9 sump over the flat stock.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-035
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	7	10/4/2010 to 10/8/2010
		Reports:	5-16-169 to 5-16-173

### CONSTRUCTION ACTIVITIES

- 4.0 Leachate Collection Pipes – TWS connected the Cell 9 leachate collection pipes to the Cell 9 riser pipe. After the pipe electro-fusion welded, TWS placed a 1-ft high drainage gravel berm over the pipe.
- 5.0 Primary Geocomposite – ESI completed connecting the plastic zip ties and sewing and leistering the geotextile portion of the north slope geocomposite. No additional geocomposite was deployed.
- 6.0 Anchor Trench – TWS placed and compacted 6-7 lifts of fill in the west side of the Cell 9 north anchor trench.
- 7.0 Leachate Transmission – TWS completed backfilling around manhole MH34 and MH35. TWS placed and compacted seven (7) lifts of soil around MH34 and eight (8) lifts of soil around MH35.
- In addition, BMWC began assembling the leachate collection piping in the Cell 9 crest pad.
- 8.0 Operation Soil – TWS hauled operations soil into the construction area in Komatsu dump trucks. TWS utilized a CAT D8 and a CAT D6 LGP dozer to construct a road parallel to the toe of the north slope, just south of the Cell 9 and 10 sump. The road turned south in the middle of Cell 9 and proceeded toward the south berm.
- TWS then began placing operations up and down the slope near the Cell 7/9 tie-in. A stop work was called on operations placement (See General Activities) down the slope. TWS continued spreading operation up the north slope and over to the Cell 9 riser trench. QA observed TWS spreading the operations soil from the Cell 9 center haul road and the Cell 9 north haul road across Cell 9.
- 9.0 Tank #4 – TWS stripped the forms from the Tank #4 ring wall.
- 10.0 Acceptance Testing – BMWC and TWS performed the 2-hour pump test for the secondary pump in Cell 9 and the secondary pump in Cell 10 as per the construction specifications.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-036
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	10/11/2010 to 10/16/2010
		Reports:	5-16-175 to 5-16-180

LABORATORY TESTING		
5-18M Operations Soil	OP-5	USCS and Proctor: Passed
5-18M Operations Soil	OP-10	USCS and Proctor: Passed
5-18M Operations Soil	OP-12	USCS: Passed
5-18M Operations Soil	OP-13	USCS: Passed
5-18M Operations Soil	OP-14	USCS: Passed
5-18M Operations Soil	OP-15	USCS and Proctor Passed
5-18M Operations Soil	OP-16	USCS: Passed
5-18M Operations Soil	OP-17	USCS: Passed
5-18M Operations Soil	OP-18	USCS: Passed
5-18M Operations Soil	OP-19	USCS: Passed
5-18M Operations Soil	OP-20	USCS and Proctor on-going
5-18M Operations Soil	OP-21	USCS: Passed
5-18M Operations Soil	OP-22	USCS: Passed
5-18M Operations Soil	OP-23	USCS: Passed
5-18M Operations Soil	OP-24	USCS: Passed
5-18M Operations Soil	OP-25	USCS and Proctor on-going
5-18M Operations Soil	OP-26	USCS on-going
5-18M Operations Soil	OP-27	USCS on-going
5-18M Operations Soil	OP-28	USCS on-going
5-18M Operations Soil	OP-29	USCS on-going
5-18M Operations Soil	OP-30	USCS and Proctor on-going
5-18M Operations Soil	OP-31	USCS on-going
5-18M Operations Soil	OP-32	USCS on-going
5-18M Operations Soil	OP-33	USCS on-going
5-18M Operations Soil	OP-34	USCS on-going
5-18M Operations Soil	OP-35	USCS and Proctor on-going
5-18M Operations Soil	OP-36	USCS on-going
5-18M Operations Soil	OP-37	USCS on-going
5-18M Operations Soil	OP-38	USCS on-going
5-18M Operations Soil	OP-39	USCS on-going
5-18M Operations Soil	OP-40	USCS and Proctor on-going
5-18M Operations Soil	OP-41	USCS on-going
5-18M Operations Soil	OP-42	USCS on-going
5-18M Operations Soil	OP-43	USCS on-going
5-18M Operations Soil	OP-44	USCS on-going



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-036
Job Number:	S013213A00	Staff On-site	Dates: 10/11/2010 to 10/16/2010
Contractor(s):	TradeWind Services (TWS)	6	Reports: 5-16-175 to 5-16-180

CQA HOLD POINTS		
Submittal 5-18R-101 Cell 10 Primary Subgrade	October 11, 2010	Panels: P-54 to P-62
Submittal 5-18R-102 Cell 10 Primary Subgrade	October 12, 2010	Panels: P-63 to P-77
Submittal 5-18R-103 Cell 10 Primary Subgrade	October 13, 2010	Panels: P-78 to P-83
Submittal 5-18R-104 Cell 10 Primary Subgrade	October 14, 2010	Panels: P-84 to P-91

GENERAL ACTIVITIES
<p>1.0 <u>Primary Geomembrane</u> – CQA notified WCH that ESI was continuing to deploy primary geomembrane in a check board pattern across the Cell 10 floor. WCH responded that the deployment pattern was acceptable.</p>
<p>2.0 <u>Cell 9 Sump</u> – On Monday October 11<sup>th</sup>, 2010 CQA informed the WCH engineer, Tim Wintel, that TWS could not secure the riser pipes to the flat stock in the Cell 9 sump as per specifications due to the deflection in the Cell 9 riser pipes. The WCH engineer indicated that he was aware of the situation and would only require TWS to secure the pipe to the best of their ability.</p>
<p>3.0 <u>Weekly Progress Meeting</u> – CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, October 12<sup>th</sup>, 2010 at 10:00 am. in the meeting trailer.</p>
<p>4.0 <u>CQA Weekly Progress Meeting</u> – CQA attended the CQA subcontractor’s weekly progress meeting on Tuesday, October 12<sup>th</sup>, 2010 at 10:15 am in the meeting trailer.</p>
<p>5.0 <u>Cell 9 Primary Riser Pipe Trench</u> – On Tuesday October 12<sup>th</sup>, 2010 WCH called a stop work on the Cell 9 riser trench backfill. A disagreement on the compaction of the Cell 9 riser trench occurred between CQA, TWS and WCH. The specification on the riser backfill is unclear, requiring 8-in lifts; however, the primary riser pipe is 18-in in height and it is difficult to impossible to compact in the confined space on a 3:1 slope. In addition, the pipe should be protected as in the utility trench specification or no compaction within 1-ft over the riser pipe. The pipe trench is 2.5-ft deep and the pipe is 18-in. As such, CQA discussion with WCH and TWS has indicated that only 1 lift is required. CQA checked with Cells 7&amp;8 construction, and discovered this was the method employed on the previous Cells as well.</p>
<p>6.0 <u>CQA SDDR-06</u> – CQA was given verbal confirmation that CQA SDDR-06 was approved on Tuesday October 12<sup>th</sup>, 2010. The SDDR requested a lifting of the compaction testing on the anchor trenches, as the placement is a method specification, not an end compaction specification.</p>
<p>7.0 <u>Operations Cover</u> – During placement of the riser pipes in Cell 10 on Thursday October 14<sup>th</sup>, 2010, CQA and WCH noted that less than 3-ft of operations cover was present west of the riser trench at the Cell 10 shoulder. Initially the correct amount of cover was present, but due to the displacement of material from the CAT 330 excavator, the cover was reduced below 3-ft. TWS corrected the situation by placing additional operations material in the non-conforming location.</p>
<p>8.0 <u>Operations Soil</u> – On Friday October 15<sup>th</sup>, 2010 TWS began placing operations soil on the Cell 9 and 10 slopes in a 1.5-ft high lift with the CAT D6 dozers in order minimize UV exposure to the primary geocomposite. The operations soil will be thickened to the required 3-ft at a later date.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-036
Job Number:	S013213A00	Staff On-site	Dates: 10/11/2010 to 10/16/2010
Contractor(s):	TradeWind Services (TWS)	6	Reports: 5-16-175 to 5-16-180

### GENERAL ACTIVITIES

- 9.0 Leachate Collection Pipe – Overnight, the 12-in primary leachate riser pipe pulled out of the coupler to the 12-in leachate collection pipe in Cell 10 due to the contraction of the riser pipe. BMWC refitted and electro-fusion welded the riser pipe to the collection pipe.

### CONSTRUCTION ACTIVITIES

- 1.0 Secondary Geocomposite – CQA witnessed ESI completing the joining the geocomposite on the Cell 10 floor and side slopes. The geocomposite was joined together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- On Tuesday October 12<sup>th</sup>, 2010 CQA observed ESI peeling back the primary geomembrane on the Cell 10 floor in order to walk out a wrinkle in the secondary geocomposite. After the wrinkle was walked to the edge, the primary geomembrane was replaced.
- 2.0 Primary Geocomposite – ESI deployed twenty two (22) panels of primary geocomposite over the south berm of Cell 10. CQA observed ESI completing the joining of the primary geocomposite on the north and south slope of Cell 10. ESI joined the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the butt seams.
- 3.0 Primary Geomembrane – CQA observed ESI deploying thirty seven (37) panels of primary geomembrane on the south floor of Cell 10. Panels P-54 to P-91 were deployed from the east termination and pulled across Cell 10 with a track bobcat. ESI continued deploying panels in a checkerboard fashion across Cell 10. After the panels were deployed, ESI utilized two (2) double wedge fusion welders to weld the panels together.
- On Tuesday October 12<sup>th</sup>, 2010 the CQA surveyor was on-site to capture the primary liner as-built.
- ESI performed repairs and conducted non-destructive testing on deployed primary geomembrane panels P-54 to P-83 on the floor of Cell 10. In addition, ESI extrusion welded the primary to secondary termination weld located on the crest between Cells 10 and 11 in the location of the north haul road.
- 4.0 Primary Geotextile – CQA observed ESI deploying twenty-six (26) rolls of 16 oz. geotextile over approved primary geomembrane on the Cell 10 floor. After ESI placed and unrolled the panels by hand, the 16 oz. geotextile was sewn together as per specifications.
- 5.0 Cell 9 Sump – CQA observed TWS placing and fine grading the Type B drainage gravel in the Cell 9 sump with the CAT 312 excavator aided by the TWS surveyor. After the gravel was graded, the CQA surveyor, Stratton Survey, verified that the gravel met the design drawings.

After CQA approved the gravel placement, ESI deployed one (1) roll of 8 oz. geotextile over the Type B drainage gravel in the Cell 9 sump. The geotextile was sewn together and leistered to the primary geocomposite on the Cell 9 slope.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-036
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			5-16-175 to 5-16-180

### CONSTRUCTION ACTIVITIES

- 6.0 Cell 10 Sump – CQA observed TWS utilizing the CAT 312 excavator to place and spread the Type B drainage gravel into the Cell 10 sump aided by the TWS surveyor. The gravel was placed on the west side of the sump, to allow TWS access to the riser pipes for installation. The CQA surveyor was on-site to verify that the gravel met the design drawings. CQA also observed TWS place the HDPE flatstock in the Cell 10 sump. After the flatstock was in place TWS used the CAT 330 to place the primary riser pipes through the stem wall and down the riser trench.
- 7.0 Operation Soil – TWS continued spreading operations on the Cell 9 floor. The soil was spread across the floor of Cell 9 in a 3-ft high lift with the two (2) CAT D6 dozers and the CAT D8 dozer.
- By the end of the week, 95% of the Cell 9 floor was covered with operations soil and 100% of the Cell 9 north slope was covered. Approximately 15% of the Cell 10 north slope was covered with operations material. The Cell 10 north slope and portions of the Cell 9 north slope have approximately 1.5-ft of operations soil cover. More operations soil will be added at a later date to reach a total depth of 3-ft. of operations soil.
- In addition, TWS placed riser pipe backfill up the riser trench in Cell 9 with a CAT D8 dozer. The soil was placed in one (1) lift 1-ft above the primary 18-in riser pipe. The backfill was halted half-way up the slope due to a stop work called by WCH. See General Activities for more information.
- 8.0 Tank 4 – CQA observed TWS placing six (6) lift of backfill around the Tank 4 ring wall with a CAT 330 excavator. The fill was moisture conditioned and compacted with two (2) jumping jack hand compactors. CQA tested and verified that lift 6 (6) met compaction specifications. The backfill around the ring wall was completed.
- 9.0 Cell 10 Crest Pad - CQA observed BMWC installing the Cell 10 secondary leachate collection pumps and discharge piping in the Cell 10 Crest Pad building. BMWC also installed the head works piping in the Cell 10 crest pad building.
- 10.0 Anchor Trench - CQA observed ESI backfilling the Cell 9 anchor trench west of the crest pad building. TWS used the Hitachi 2000 excavator to place 6 lifts of backfill in the anchor trench. The backfill was moisture conditioned and compacted with the CAT 312 with attached hoe pack.
- 11.0 Cell 9 Riser Trench –CQA observed BMWC connecting the Cell 9 drain line to the primary riser pipe in the riser trench. BMWC utilized fusion couplers to connect the pipes together.
- CQA also witnessed TWS placing the remaining riser pipe backfill up the riser trench in Cell 9 with a CAT D6 dozer. The pipe backfill was moisture conditioned by a laborer with a water hose and compacted with the CAT 312 excavator with attached hoe-pack. CQA tested and verified that the compaction met construction specifications.
- 12.0 Leachate Transmission – CQA observed TWS placing and compacting four (4) lifts of backfill around manhole #36. The fill was placed with the CAT 330 excavator, moisture conditioned, and compacted with a jumping jack hand compactor. CQA tested and verified that lifts 5-8 of the manhole #36 backfill met compaction specifications.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-037
Job Number:	S013213A00	Staff On-site	Dates:
		8	10/18/2010 to 10/22/2010
Contractor(s):	TradeWind Services (TWS)	8	Reports:
			5-16-181 to 5-16-185

LABORATORY TESTING		
5-18M Operations Soil	OP-25	USCS and Proctor: Passed
5-18M Operations Soil	OP-26	USCS Passed
5-18M Operations Soil	OP-27	USCS Passed
5-18M Operations Soil	OP-28	USCS Passed
5-18M Operations Soil	OP-29	USCS Passed
5-18M Operations Soil	OP-30	USCS and Proctor: Passed
5-18M Operations Soil	OP-31	USCS Passed
5-18M Operations Soil	OP-32	USCS Passed
5-18M Operations Soil	OP-33	USCS Passed
5-18M Operations Soil	OP-34	USCS Passed
5-18M Operations Soil	OP-35	USCS and Proctor: Passed
5-18M Operations Soil	OP-36	USCS Passed
5-18M Operations Soil	OP-37	USCS Passed
5-18M Operations Soil	OP-38	USCS Passed
5-18M Operations Soil	OP-39	USCS Passed
5-18M Operations Soil	OP-40	USCS and Proctor: Passed
5-18M Operations Soil	OP-41	USCS Passed
5-18M Operations Soil	OP-42	USCS Passed
5-18M Operations Soil	OP-43	USCS Passed
5-18M Operations Soil	OP-44	USCS Passed
5-18M Operations Soil	OP-45	USCS and Proctor: Passed
5-18M Operations Soil	OP-46	USCS: Passed
5-18M Operations Soil	OP-47	USCS: Passed
5-18M Operations Soil	OP-48	USCS: Passed
5-18M Operations Soil	OP-49	USCS: Passed
5-18M Operations Soil	OP-50	USCS and Proctor on-going
5-18M Operations Soil	OP-51	USCS: Passed
5-18M Operations Soil	OP-52	USCS: Passed
5-18M Operations Soil	OP-53	USCS: Passed
5-18M Operations Soil	OP-54	USCS: Passed
5-18M Operations Soil	OP-55	USCS and Proctor on-going

CQA HOLD POINTS		
Submittal 5-18R-105 Cell 10 Primary Subgrade	October 18, 2010	Panels: P-92 to P-101
Submittal 5-18R-106 Cell 10 Primary Subgrade	October 19, 2010	Panels: P-102



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-037
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	8	Reports:
			5-16-181 to 5-16-185

### FIELD TESTING

Submittal 5-18B: Manhole 36 Fill	Lifts: 9-13	MH36-11 to MH36-15	Passed
Submittal 5-18Q: Cell 10 Primary Riser	Lift: 1	RT10-03	Passed

### GENERAL ACTIVITIES

- 1.0 Weekly Progress Meeting –CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, October 19<sup>th</sup>, 2010 at 10:00 am. in the meeting trailer.
- 2.0 CQA Weekly Progress Meeting – CQA attended the CQA subcontractor’s weekly progress meeting on Tuesday, October 19<sup>th</sup>, 2010 at 10:15 am in the meeting trailer.
- 3.0 North Anchor Trench – On Tuesday October 19<sup>th</sup>, 2010 CQA observed that the air vent holes in the secondary-primary liner systems were not welded in the anchor trench prior to backfilling of the anchor trench. Upon notifying TWS CQC, Dave Sterly, he immediately halted operations and began discussing repair options. CQA also informed CQA STR Charlie Skiba with WCH.  
  
On Wednesday October 20<sup>th</sup>, 2010 TWS voluntarily decided to excavate the Cells 9 and 10 north anchor trench to uncover the vent holes in the north anchor trench. CQA observed TWS utilizing the Hitachi 200 to excavate the six (6) locations that were backfilled. When the Hitachi 200 excavator came close to the liner, the excavator was removed and two (2) TWS laborers completed the excavation with hand tools. CQA verified that the liner was not damaged during excavation.  
  
Following the removal the anchor trench backfill, CQA witnessed ESI welding extrusion beads over the twelve (12) vent holes in the primary/secondary geomembrane in the Cells 9 and 10 north anchor trench.
- 4.0 CQA Officer Visit – The CQA officer, Rob Stallings, was on-site to inspect the Cell construction and CQA activities.
- 5.0 Cell 10 Primary Geomembrane – CQA extrusion weld destructive tests DP-80, DP-81, and DP-82 failed to meet contract specifications. CQA and ESI repeatedly bracketed the destructive testing and retested. Upon investigation, CQA discovered that ESI had changed grinder operators Wednesday October 20, 2010. After a discussion following several failed destructive samples, ESI decided to remove or cap all extrusion welds back to the last destruct passed on October 19<sup>th</sup>, 2010. All extrusion welds conducted on October 20<sup>th</sup> and 21<sup>st</sup> were capped.  
  
As a corrective action, the grinder operator was replaced and will grid no additional seams.
- 6.0 Department of Health Inspection – The Washington Department of Health was on-site to conduct the annual inspection of the portable nuclear gauge permit. Victoria Dix inspected the Envirotech program, storage, and portable nuclear gauge. Victoria Dix indicated that no deficiencies with one note to replace the serial plates on the Troxler unit.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-037
Job Number:	S013213A00	Staff On-site	Dates: 10/18/2010 to 10/22/2010
Contractor(s):	TradeWind Services (TWS)	8	Reports: 5-16-181 to 5-16-185

### CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane – CQA observed ESI deploying eleven (11) panels of primary geomembrane on the south slope and floor of Cell 10. Panels P-92 to P-102 were deployed from the top of the south slope down onto the floor of Cell 10. ESI utilized a rub sheet anytime primary geomembrane was to be pulled over geocomposite. The panels were walked to the toe and pulled out over the floor with a track bobcat. After the panels were deployed, ESI utilized three (3) double wedge fusion welders to weld the panels together.

ESI performed repairs and conducted non-destructive testing on deployed primary geomembrane panels on the south half of the Cell 10 south slope and floor. ESI also capped failing sections of extrusion welds made between Tuesday October 19<sup>th</sup> and Wednesday October 20<sup>th</sup>, 2010. See General Activities for information regarding failed Destructive Tests.

The CQA Surveyor, Stratton Surveying, was on site on Tuesday and Wednesday October 19<sup>th</sup> and 20<sup>th</sup>, 2010 to capture the primary liner survey.

- 2.0 Primary Geotextile – CQA observed ESI deploying sixteen (16) rolls of 16 oz. geotextile on the floor and down the 3:1 termination slope on the east side of the Cell 10 floor. CQA observed ESI double wedge welding the 16 oz. textile to the previously deployed geotextile on the Cell 10 floor.
- 3.0 Cell 10 Sump – TWS deployed, and ESI sewed one (1) roll of 8 oz. geotextile over the drainage gravel. The geotextile was leistered to the primary geocomposite on the north slope.

In addition, BMWC completed welding the 12-in leachate collection pipe to the 12-in riser pipe south of the Cell 10 sump that was started Thursday, October 19, 2010. After the pipe was fused, TWS utilized the CAT 312 excavator aided by the TWS surveyor to fill and grade the Type A drainage gravel over the pipe.

After the drainage gravel was placed as per design drawings, the CQA surveyor, Stratton Survey, verified the gravel thickness.

In addition, TWS placed one (1) lift of fill over the primary riser pipes in Cell 10 with the CAT D6 LGP dozer. The soil was moisture conditioned with a water hose and compacted with the CAT 312 excavator with an attached hoe pack compactor. CQA tested and verified that lift 1 of the primary riser pipe backfill met compaction specifications.

- 4.0 Operation Soil – TWS hauled and spread operations soil in Cells 9 and 10. TWS hauled soil to the north toe of slope in Cells 9 and 10. TWS utilized the CAT D8 dozer to stockpile soil at the bottom of the Cell 10 slope, while two (2) CAT D6 dozers to spread the operations soil up the Cell 10 slope in a continuous 1.5-ft high lift. By the end of the week 100% of the north slope of Cells 9 and 10 were covered with a minimum of 1.5-ft of operations material. Approximately 95% of the Cell 9 floor was covered with operations material. After the north slope of Cells 9 and 10 were covered TWS concentrated on increasing the thickness of the operations soil to the 3-ft required..

- 5.0 Anchor Trench – CQA observed TWS backfilling the north anchor trench. TWS backfilled the air release points in the north anchor trench in Cells 9 and 10 using the Hitachi 200 to place 5-6 lifts of backfill. After the backfill was place TWS moisture conditioned and compacted the backfill with the CAT 312 with attached hoe pack. See General Activities for more information.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-037
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	8	Reports:
			10/18/2010 to 10/22/2010
			5-16-181 to 5-16-185

### CONSTRUCTION ACTIVITIES

- 6.0 Leachate Transmission – CQA observed TWS placing five (5) lifts of fill around manhole MH-36 with the CAT 330 excavator. TWS compacted lifts 9-10 with a jump jack hand compactor and lifts 11-13 with the CAT 563 compactor. CQA tested and verified that lifts 9-13 met compaction specifications.
- 7.0 Primary Drainage Gravel – TWS placed Type A gravel in Cell 10. TWS hauled the gravel to the north end of the primary gravel placement in Cell 10. The gravel was spread with one (1) CAT D6 LGP dozer in a 1-ft thick lift across the Cell 10 floor in grid cells G7 to G10, H7 to H10 and I6 to J10. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any trapped wrinkles or other deficiencies.
- 8.0 Cell 9 Crest Pad Building – BMWC continued to assemble the Leachate collection piping in the Cell 9 Crest Pad Building



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-038
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	5	10/25/2010 to 10/30/2010
		Reports:	5-16-186 to 5-16-191

### LABORATORY TESTING

5-18M Operations Soil	OP-50	USCS and Proctor Passed
5-18M Operations Soil	OP-55	USCS and Proctor Passed
5-18M Operations Soil	OP-56	USCS: On-going
5-18M Operations Soil	OP-57	USCS: On-going
5-18M Operations Soil	OP-58	USCS: On-going
5-18M Operations Soil	OP-59	USCS: On-going
5-18M Operations Soil	OP-60	USCS and Proctor on-going

### GENERAL ACTIVITIES

- 1.0 Weather – Due to low temperatures, high winds, and a chance for rain, ESI performed no geomembrane detail work on Monday October 25<sup>th</sup>, 2010.
- 2.0 Ground Penetrating Radar – WCH performed a ground penetrating radar (GPR) survey of the primary drainage gravel haul road in Cell 10, which found no evidence of admix displacement under the drainage gravel road in Cell 10.
- 3.0 Weekly Progress Meeting – CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, October 26<sup>th</sup>, 2010 at 10:00 am. in the meeting trailer.
- 4.0 CQA Weekly Progress Meeting – CQA attended the CQA subcontractor’s weekly progress meeting on Tuesday, October 26<sup>th</sup>, 2010 at 10:15 am in the meeting trailer.
- 5.0 Primary Drainage Gravel – TWS received permission from WCH engineering to blend the excess Type B drainage gravel with the Type A drainage gravel for placement in the Cell 10 primary drainage gravel layer.

### CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane – The CQA surveyor was on-site to conduct the primary liner as-built survey of Cell 10. CQA observed ESI performing repairs and conducting non-destructive testing on deployed primary geomembrane panels on the south half of the Cell 10. CQA witnessed ESI construct, weld and spark test two (2) 12-in pipe boots around the two secondary riser pipes in Cell 9 and weld and spark test one (1) 8-in pipe boot around the lysimeter riser pipe in Cell 9. CQA verified that the boots were constructed as per the design drawings.  
  
CQA also observed ESI beginning welding the secondary geomembrane to the primary geomembrane in the south anchor trench.  
  
CQA failed one destructive sample from extrusion welding performed Friday October 29<sup>th</sup>, 2010. CQA shall bracket the failed test and retest the extrusion weld at a later date.
- 2.0 Primary Geocomposite - CQA observed ESI deploying forty nine (49) rolls of primary geocomposite on the south slope of Cell 9 west of the center line of Cell 9. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-038
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	5	10/25/2010 to 10/30/2010
		Reports:	5-16-186 to 5-16-191

### CONSTRUCTION ACTIVITIES

- 3.0 Primary Drainage Gravel – TWS placed stockpiled Type A gravel in Cell 10. The gravel was spread with two (2) CAT D6 LGP dozers in a 1-ft thick lift across the Cell 10 floor in grid cells J6 to K10 and J6 to M6. During the placement of Type A gravel, CQA continuously observed gravel placement, and a TWS laborer was present to address any deficiencies. The CQA surveyor, Stratton Surveying was on-site to capture the as-built survey of the primary drainage gravel
- 4.0 Primary Geotextile – CQA observed ESI deploying seven (7) rolls of 16 oz. geotextile over approved secondary geomembrane on the south side of the Cell 10 floor and along the Cell 10 east termination. After the geotextile was deployed, CQA observed ESI double wedge welding and/or sewing panels together as per specifications.
- 5.0 Anchor Trench – CQA observed ESI backfilling the Cell 9 and 10 north anchor trenches. TWS used the Hitachi 200 to place 5-6 lifts of backfill into the air release points on the north anchor trench. Each lift was moisture conditioned and compacted with the CAT 312 excavator with attached hoe-pack. The final lift of soil was compacted with the CAT CS 563 compactor for the entire length of the anchor trench.
- 6.0 Leachate Collection – CQA observed TWS utilizing a CAT 312 excavator to remove the drainage gravel though the center line of Cell 10 from the exposed leachate collection pipe to the edge of the placed gravel in Cell 10. In order to keep from damaging the underlying geosynthetics, TWS laborers removed the last 2-3 inches of drainage gravel with shovels. After the trench was completed, TWS placed the 12-in HDPE perforated leachate collection pipe into the trench. CQA observed and verified that no rock was trapped between the pipe and the underlying geotextile. Jake Williams, TWS certified welder, electro-fusion welded the in-place 12-in pipe leachate collection pipe to the installed pipe. After the pipe was welded, the CAT 312 excavator replaced the gravel and constructed a 1-ft high berm over the installed leachate collection pipe with the aid of the TWS surveyor.
- The CQA surveyor, Stratton surveying, was on-site to capture the as-built of the 12-in Leachate collection pipe in Cell 10.
- 7.0 8 oz. Geotextile – After the as-built of the drainage gravel was completed, CQA observed ESI deploying twenty three (23) rolls of 8 oz. geotextile (Type A) over approved primary drainage gravel on the south side of the Cell 10 floor in front of the operations placement. After ESI placed and unrolled the panels by hand, the 8 oz. geotextile was sewn together as per specifications.
- 8.0 Operation Soil – TWS spread operations soil in Cells 9 and 10. TWS utilized the CAT D8 dozer and two (2) CAT D6 dozers to spread the operations soil up the Cell 10 slope. The dozers concentrated on increasing the thickness of the operations soil on the Cell 9 and 10 slope to 3-ft of thickness.

CQA also observed TWS constructing the north slope rain flap detail and termination berm in Cell 10. Sand bags were placed underneath the rain flap to prop it in a more vertical direction. The CAT 312 excavator placed soil between the rain flap and the primary geomembrane. As the CAT 312 excavator placed soil from the bottom of the slope, the sand bags were removed. CQA verified that the rain flap was constructed as per the design drawings.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-038
Job Number:	S013213A00	Staff On-site	Dates: 10/25/2010 to 10/30/2010
Contractor(s):	TradeWind Services (TWS) 5	Reports:	5-16-186 to 5-16-191

### CONSTRUCTION ACTIVITIES

Operation Soil – CQA observed TWS utilizing the CAT D8 dozer to place three (3) 7-ft high operations haul road north to south in Cell 10. TWS hauled operations soil from the excavation stockpile in three (3) Komatsu payhauleders. The soil was hauled over the north haul road and placed at the end of the north-south Cell 9/10 haul road where the CAT D8 dozer and two (2) D6 LGP dozers spread the material across the south slope.

CQA witnessed TWS utilizing one (1) CAT D6 dozer to spread stockpiled operations soil south, across the Cell 10 floor over the 8 oz. geotextile. CQA also observed TWS utilizing the one (1) CAT D6 dozers to trim the operations soil on the north slope of Cells 9 and 10 to grade.

After the north-south Cell 9/10 haul road was constructed, CQA observed one (1) CAT D8 dozer and two (2) CAT D6 dozers spreading the operations soil from the road across Cells 9 and 10 in a continuous 3-ft thick lift.

9.0 Tank #3 – CQA performed a post-construction walk-down and acceptance of the Tank #3 installation, including tank construction, concrete foundation, and grouting. However, CQA did not accept the subgrade of the tank foundation, TWS shall correct the subgrade prior to liner installation.

10.0 Tank #4 – CQA performed a preliminary post-construction walk-down and acceptance of the Tank #4 installation. The grouting was not completed, subgrade not acceptable, and two (2) of the anchor bolt assemblies were not attached correctly. CQA shall re-inspect Tank #4 prior to acceptance.

11.0 Site Work – CQA observed TWS constructing a ramp into Cell 10 for drainage gravel placement.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-039
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			5-16-192 to 5-16-197

### LABORATORY TESTING

5-18M Operations Soil	OP-56	USCS: Passed
5-18M Operations Soil	OP-57	USCS: Passed
5-18M Operations Soil	OP-58	USCS: Passed
5-18M Operations Soil	OP-59	USCS: Passed
5-18M Operations Soil	OP-60	USCS and Proctor on-going

### CQA HOLD POINTS

Submittal 5-18R-107 Tank #3	November 1, 2010	Tank #3 Acceptance
Submittal 5-18R-108 Tank #4	November 5, 2010	Tank #4 Acceptance

### GENERAL ACTIVITIES

- 1.0 Weekly Progress Meeting – CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, November 2<sup>nd</sup>, 2010 at 10:00 am. in the meeting trailer.
- 2.0 COA Weekly Progress Meeting – CQA attended the COA subcontractor’s weekly progress meeting on Tuesday, November 2<sup>nd</sup>, 2010 at 10:15 am in the meeting trailer.
- 3.0 Trailer Move – CQA Trailer (MO-623) was moved to the new location, northeast of the operations truck scales. CQA set up a temporary office in TWS’s meeting room then moved to WCH’s conference room. CQA is expected to occupy the trailer at its new location the first of next week.

### CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane – CQA observed ESI conducting repairs on the primary geomembrane on the south slope of Cell 10. ESI bracketed the failing destructive test DP-85 on the south slope of Cell 10. Destructive sample DP-85 was removed from the second weld performed on that day, ESI capped the first weld and collected destructive sample DP-85A from the next repair. Sample DP-85A passed contract specifications, and ESI capped the failed repair. After the repairs were completed, CQA observed ESI performing vacuum testing on the remaining extrusion welds.  
  
In addition, CQA observed ESI continuing to weld the primary to the secondary geomembrane in the Cells 9 and 10 anchor trench.  
  
The CQA surveyor, Stratton Surveying, was on-site to capture the as-built geomembrane survey.
- 2.0 Primary Geocomposite – CQA observed ESI deploying thirty three (33) rolls of primary geocomposite on the south slope of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering patches over the Cell 7/9 tie-in and butt seams.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-039
Job Number:	S013213A00	Staff On-site	Dates: 11/1/2010 to 11/6/2010
Contractor(s):	TradeWind Services (TWS)	6	Reports: 5-16-192 to 5-16-197

### CONSTRUCTION ACTIVITIES

3.0 Primary Drainage Gravel - CQA observed TWS constructing a ramp in the southeast corner of Cell 10 from operations soil. Prior to constructing the ramp, TWS protected the liner termination with scrap geosynthetics. After the ramp was constructed, TWS hauled drainage gravel into Cell 10. TWS constructed a road east to west near the south toe of slope in Cell 10. Gravel was hauled into the cells in two (2) International payhaulers and stockpiled at the end of the road with a CAT D6 LGP dozer. The stockpiled gravel was spread across Cell 10 with a CAT 312 excavator while a CAT D6 LGP dozer clipped the drainage gravel to design grade. CQA inspectors and TWS laborers were present during gravel placement to ensure no wrinkles were trapped or trampoline in the liner were covered with drainage gravel.

CQA also observed utilizing the Hitachi 200 excavator grading the drainage gravel near the toe of the slope in Cell 9. After the gravel had been graded, the Hitachi 200 excavated the primary leachate collection pipe trench in Cell 10. The trench stretched from the day-lighted 12-in leachate collection pipe near the center of Cell 10 to the south toe of the Cell 10 slope. During excavation, TWS tore the 16 oz. geotextile in three (3) locations. Each tear was documented, inspected, and no damage to the underlying primary geomembrane was discovered. CQA observed ESI repairing the geotextile in the damaged areas.

After the 12-in Leachate collection pipe was placed and welded, TWS utilized the CAT 312 to grade the drainage gravel over and around the pipe

In addition, the CAT D6 dozer placed the drainage gravel over the primary geocomposite at the toe of the south slope of Cell 9. The CQA surveyor, Stratton Surveying, was on-site to capture the as-built drainage gravel survey in Cell 9.

4.0 8 oz. Geotextile - CQA observed ESI unrolling twelve (12) full rolls and other partially deployed 8 oz. geotextile rolls on the floor of Cell 9 at the toe of the south slope. After the geotextile was unrolled, the panels were sewn together and leistered to the primary geocomposite as required.

5.0 Primary Leachate Collection - CQA observed TWS placing the 12-in leachate collection pipe and clean out pipe down the south slope of Cell 10. The pipe was anchored by the CAT 330 at the top shoulder and pulled down the slope with the CAT 312 excavator aided by laborers and spotters. The pipe was placed into the leachate collection pipe trench in the floor of Cell 10 and attached to the existing leachate collection pipe. CQA observed BMWC utilizing a fusion coupler to join the existing pipe to the placed 12-in HDPE leachate collection pipe. After the pipe was in-place, TWS utilized the CAT 312 excavator aided by the TWS surveyor to place and grade drainage gravel over the leachate collection pipe as per design drawings. The CQA surveyor, Stratton Surveying, was on-site to capture the as-built of the primary leachate collection pipe in Cell 10.

6.0 Operation Soil - TWS hauled operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north haul road and placed at the end of the west north-south Cell 10 haul roads where the CAT D8 dozer spread the material across the floor. CQA observed TWS utilizing the CAT D8 dozer and two (2) CAT D6 dozers to place operations soil in Cell 10. TWS spread the east and west side north-south haul roads in a 3-ft lift across the central section of Cell 10, while the CAT D6 dozer was used to extend the west north-south road toward the south slope of Cell 9. CQA also observed TWS utilizing the CAT D8 dozer to push operations to the south slope, where one (1) CAT D6 dozer spread the operations up the south slope of Cell 9.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-039
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	6	Reports:
			11/1/2010 to 11/6/2010
			5-16-192 to 5-16-197

### CONSTRUCTION ACTIVITIES

In addition, CQA observed American Fence boring and placing fence posts in the Cell 9 termination berm on the north slope and floor of Cell 9.

- 7.0 Anchor Trench – TWS began placing and compacting fill in the south anchor trench on the west end of Cell 9. Fill was placed with a CAT 330 excavator and compacted with a hoe-pack attached to a CAT 312 excavator. CQA observed compaction of the backfill and noted that the material was going in dry. CQA had TWS add water to the backfill and recompact. CQA observed that all placed lifts were placed per contract specifications.
- 8.0 Crest Pad 9 – CQA witnessed BMWC conducting hydraulic pressure testing on the PVC piping in the Cell 9 Crest Pad building. The piping held 74 psi of pressure for one hour with a drop of one (1) psi. CQA certifies that the piping system met the hydraulic pressure testing specifications.
- 9.0 Tank #3 – After removal of excess rocks and debris from the Tank #3 subgrade, CQA and ESI accepted the subgrade of Tank #3 for geosynthetics placement. CQA then observed ESI installing two (2) rolls of 16 oz. geotextile into Tank #3. CQA also observed ESI hanging and welding 9 panels of LLDPE on the wall of Tank #3 using the anchor bolts along the top of the tank to keep the panels in place. ESI also placed and welded seven (7) panels of LLDPE on the floor of Tank #3. Once all 16 panels were in place and welded ESI began installing the baton strip along the top of the tank.
- CQA observed ESI leistering the wall panels to the floor in Tank #3. After wall panels were leistered to the floor, CQA observed ESI extrusion welding repairs, as indicated by CQA, and extrusion welding the wall panels to the floor panels. CQA also observed ESI continuing to install the baton strip in Tank #3.
- CQA collected and tested three (3) destructive samples from Tank #3. All destructive tests passed. The CQA surveyor, Stratton Surveying, was on-site to capture the Tank #3 secondary liner survey.
- 10.0 Tank #4 – CQA observed ESI removing rocks and debris from the subgrade of Tank #4. After the debris was removed, ESI and CQA approved Tank #4 for geosynthetics placement. CQA witnessed ESI deploying two (2) rolls of secondary 16 oz. geotextile along the wall and floor of Tank #4. CQA observed ESI deploying six (6) panels of secondary geomembrane on the walls of Tank #4. After the panels were hung on the walls, ESI installed a few baton strips to hold the panels in place until the remaining wall panels can be placed and all wall panels can be welded together.



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-040
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	5	11/8/2010 to 11/12/2010
		Reports:	5-16-198 to 5-16-202

### LABORATORY TESTING

5-18M Operations Soil	OP-60	USCS and Proctor on-going
5-18M Operations Soil	OP-61	USCS on-going
5-18M Operations Soil	OP-62	USCS on-going
5-18M Operations Soil	OP-63	USCS on-going
5-18M Operations Soil	OP-64	USCS on-going
5-18M Operations Soil	OP-65	USCS and Proctor on-going

### GENERAL ACTIVITIES

- 1.0 Trailer Move – CQA received an occupancy permit to re-enter the CQA trailer on Wednesday November 10<sup>th</sup>, 2010.
- 2.0 Rain Event – Rain water collected on the floor of Tanks #3 and #4 the mornings of Monday and Wednesday November 8<sup>th</sup> and 10<sup>th</sup>, 2010. ESI spent a significant part Monday and Wednesday removing the water with sump pumps and pushing water toward the floor drain.
- 3.0 Cell 10 Primary Drainage Gravel – A trampoline effect had developed at the toe of the south slope of Cell 10. CQA placed a hold for drainage gravel placement at the toe of the south slope of Cell 10 until the trampoline was relaxed. CQA verified that ESI cut and repaired the primary geomembrane on Friday November 12<sup>th</sup>, 2010. The primary geomembrane was cut at the toe of the south slope in Cell 10, relaxing the trampoline effect. Subsequent to cutting and repairing the primary geomembrane at the toe of the south slope in Cell 10, CQA released the hold for drainage gravel placement.
- 4.0 Tank #3 Leak – On Monday November 8<sup>th</sup>, 2010 a leak was noticed in the sight glass in the leak detection manhole of Tank #3, which subsequently filled with storm water. The sight glass was not tested during the hydraulic test, but added later by BMW. BMW tightened the gasket attaching the sight glass to the pipe, stopping the leak.
- 5.0 Safety Celebration – Non-critical work on-site was halted at 13:45 Thursday, November 11<sup>th</sup>, 2010 for a Safety Celebration at the Toyota Center. All liner activities were critical work, and CQA did not attend the safety celebration.

### CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane – CQA witnessed ESI extrusion welding the rain flap detail on the south slope of Cell 10. ESI cut the primary geomembrane and made the primary to secondary extrusion weld, then the primary to primary extrusion weld and finally welded the 12-in rainflap. CQA observed ESI performing vacuum testing on the extrusion welds on the south slope of Cell 10.  
  
CQA collected two destructive samples, DP-87 and DP-88. Sample DP-87 failed to meet contract specifications. CQA bracketed the test from the first weld of the day to DP-87A. CQA verified that sample DP-87A met contract specifications. Stratton Surveying was on-site to capture the primary liner seam survey



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-040
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	5	Reports:
			5-16-198 to 5-16-202

### CONSTRUCTION ACTIVITIES

- 2.0 Primary Geocomposite – CQA observed ESI deploying twenty-four (24) rolls of primary geocomposite on the south slope of Cell 10. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together. In addition, CQA observed ESI overlapping and leistering the primary geotextile on the floor of Cell 10 and the primary geocomposite on the south slope of Cell 10.
- 3.0 Primary Drainage Gravel – Stratton Survey was on-site to capture the as-built of the Cell 10 primary drainage gravel at the toe of the south slope.
- 4.0 Primary Geotextile – CQA observed ESI deploying one (1) roll of 16 oz. geotextile over the end termination of Cell 10 at the south east toe of slope. The geotextile was sewn to the adjoining geotextile and leistered to the primary geocomposite on the Cell 10 slope termination.

- 5.0 Operation Soil – CQA observed TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the north-south haul road and placed at the toe of south slope in Cell 9. CQA observed TWS utilizing the CAT D8 dozer to spread operations to the south slope, where two (2) CAT D6 dozers spread the operations up the south slope of Cell 9

In addition, CQA observed American fence utilizing a pump truck to place concrete anchors for the termination fence on the north slope and floor of Cell 9.

- 6.0 Anchor Trench – TWS continued placing and compacting fill in the south anchor trench of Cells 9 and 10. Fill was placed with a CAT 330 excavator and compacted with a hoe-pack attached to a CAT 312 excavator. CQA observed compaction of the backfill and noted that the material was going in dry. CQA had TWS add water to the backfill and recompact. CQA observed that all placed lifts were placed per contract specifications.
- 7.0 Tank #3 – After ESI removed the storm water from Tank #3, CQA observed ESI extrusion welding repairs between the wall panels and the floor panels. ESI also performed vacuum testing on the extrusion welds made in Tank #3 and installed all baton strips at the top rim of Tank #3.

ESI placed a 4-in transfer hose into Tank #3 protected by a 100-mill rub sheet. TWS then proceeded to fill Tank #3. Tank #3 was filled to 7-ft by Friday November 12<sup>th</sup>, 2010.

- 8.0 Tank #4 – CQA witnessed ESI deploying eight (8) panels of secondary geomembrane on the wall and floor of Tank #4. Panels S-7 through S-14 were double wedge welded together, and the seams were pressure tested. After the fusion welding was completed, CQA observed ESI leistering and welding patches in Tank #4 at the panel intersections and other repair locations. In addition, ESI began placing baton strips around the rim of Tank #4. After all repairs were made, CQA observed ESI conducting vacuum and spark tests on all extrusion repairs.

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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-041
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	5	Reports:
			11/15/2010 to 11/20/2010
			5-16-203 to 5-16-208

LABORATORY TESTING		
5-18M Operations Soil	OP-60	USCS and Proctor on-going
5-18M Operations Soil	OP-61	USCS on-going
5-18M Operations Soil	OP-62	USCS on-going
5-18M Operations Soil	OP-63	USCS on-going
5-18M Operations Soil	OP-64	USCS on-going
5-18M Operations Soil	OP-65	USCS and Proctor on-going
5-18M Operations Soil	OP-66	USCS on-going
5-18M Operations Soil	OP-67	USCS on-going
5-18M Operations Soil	OP-68	USCS on-going
5-18M Operations Soil	OP-69	USCS on-going
5-18M Operations Soil	OP-70	USCS and Proctor on-going

GENERAL ACTIVITIES
<p>1.0 <u>Weather</u> – High winds swept the construction area Monday night, but rapidly fell Tuesday morning.</p> <p>2.0 <u>Weekly Progress Meeting</u> –CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, November 16<sup>th</sup>, 2010 at 10:00 am. in the MO-607 Conference Room.</p> <p>3.0 <u>CQA Weekly Progress Meeting</u> – CQA attended the CQA subcontractor’s weekly progress meeting on Tuesday, November 16<sup>th</sup>, 2010 at 10:30 am in the MO-607 Conference Room.</p> <p>4.0 <u>Tank #3</u> – The rub sheet placed under the water fill pipe in Tank 3 floated away, exposing the 40-mil geomembrane to the fill pipe and metal couplings. The end of the hose was vigorously moving during the fill/emptying process. CQA will investigate the liner following water removal from Tank #3.</p> <p style="margin-left: 40px;">The secondary geomembrane Tank #3 has ripped over the baton strip bolts on the north and east sides of the tank. It appears that cold temperature of the water caused the liner to trampoline at the bottom of the ringwall. The weight of water combined with one-third of the required anchor bolts installed caused the liner to rip away from the anchor bolts. ESI began repairing the torn bolt holes and re-hanging the liner on the Tank #3 walls.</p> <p>5.0 <u>Tank #4</u> – Upon inspection, CQA also located tears in the geomembrane from the anchor bolts in Tank #4. The tears are less pronounced in Tank #4. CQA directed ESI to repair all tears in the secondary geomembrane. In addition, water was left in Tank #4 overnight, the surface of the water froze, leaving a thin layer of surface ice that thawed during the day.</p> <p>6.0 <u>Manhole 10</u> – Manhole 10 was flooded when TWS unhooked the Tank #3 and #4 pump hoses. TWS pumped and removed the excess water from MH-10.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-041	
Job Number:	S013213A00	Staff On-site	Dates:	11/15/2010 to 11/20/2010
Contractor(s):	TradeWind Services (TWS)	5	Reports:	5-16-203 to 5-16-208

### CONSTRUCTION ACTIVITIES

- 1.0 Primary Geomembrane – CQA observed ESI vacuum testing the rain flap weld on the south slope of Cell 10. All geomembrane installation activities were completed in Cell 10 on Monday November 15<sup>th</sup>, 2010.
- 2.0 Drainage Gravel – CQA observed TWS utilizing a CAT 312 excavator to place the last of the primary drainage gravel to grade at the southeast toe of slope and around the Cell 10 clean-out pipe. Stratton Survey was on-site to complete the as-built survey of the primary drainage gravel in Cell 10.
- 3.0 8 oz. Geotextile – After the drainage gravel was graded, CQA observed ESI placing 8 oz. geotextile over the primary drainage gravel. The geotextile was sewn to the surrounding geotextile and leistered to the primary geocomposite on the south slope of Cell 10.
- 4.0 Operation Soil – TWS continued to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil in Cell 10. CQA observed TWS utilizing two (2) CAT D6 LGP dozers to spread operations soil up the southwest slope of Cell 10. A third CAT D6 LGP GPS dozer was used to grade the south slope of Cell 10, south embankment anchor trench berm, and the Cell 9/10 termination berm on the south slope and south half of the cell floor.

CQA also observed TWS utilizing the CAT 330 excavator to remove the north haul road ramp. The excavated soil was stockpiled in Cell 10, where two (2) CAT D6 LGP dozers to spread the operations soil on the north side of the Cell 10 floor and up the north slope constructing the Cell 10 termination berm on the north slope.

CQA witnessed TWS placing operation soil to constructing the Cell 10 rain flap on the south slope. A TWS laborer propped the rain flap in a vertical direction, while a CAT D6 dozer placed operations soil to the west of the rain flap, anchoring it into place.

In addition, CQA observed American Fence auguring and setting fence post on the south slope and floor of the Cell 9 termination berm using a bobcat with an attached auger. Fence posts were placed into the holes and concrete was placed into the holes. After the concrete was in-place, the fence posts were leveled. American Fence utilized a concrete pump truck to place concrete into the fence holes on the south slope, and a skid-steer bobcat with attached concrete bucket to place concrete in the fence holes on the floor termination berm.

At the end of the day on Friday November 19<sup>th</sup>, 2010, CQA verified that the south slope of Cell 10 was completely covered with operations soil and the admix beneath protected from freezing temperatures.

- 5.0 Cell 10 Leachate Collection Pipe – CQA observed TWS straightening the leachate collection clean-out pipe to the TWS survey marks with the CAT 312 excavator prior to covering with operations soil. Stratton Survey was on-site to as-built the location of the Cell 10 leachate collection pipe and primary clean-out riser pipe.
- 6.0 Anchor Trench – CQA observed TWS placing and compacting five (5) lifts of backfill in the Cell 10 anchor trench. The soil was placed with a CAT D6 dozer, moisture conditioned with a water truck, and compacted with a CAT 312 excavator with attached hoe-pack. CQA verifies that the fill was placed as per specifications.



### COA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-041
Job Number:	S013213A00	Staff On-site	Dates: 11/15/2010 to 11/20/2010
Contractor(s):	TradeWind Services (TWS)	5	Reports: 5-16-203 to 5-16-208

#### CONSTRUCTION ACTIVITIES

7.0 Tank #3 – CQA observed Leak Location Services (LLS) performing the electronic leak detection survey on the side walls of Tank #3. After LLS completed the electronic leak detection of Tank #3 it was determined that seven (7) leaks were present on the floor of Tank #3 and it was determined there were no leaks on the side walls. After TWS transferred the 18-in of water from Tank #3 to Tank #4, ESI repaired and non-destructively tested all seven locations. LLS retested the repaired liner and found no leaks present on the floor or walls of Tank #3.

In addition, Stratton Survey was on-site to capture the as-built locations of the secondary repairs in Tank #3.

8.0 Tank #4 – CQA witnessed ESI completing vacuum and spark testing on the repairs in Tank #4. After the repairs were completed, TWS transferred 18-in of water from Tank #3 to Tank #4.

CQA observed LLS performing the electronic leak detection survey on Tank #4 floor. Leak Detection Services discovered and marked three (3) holes located on the south side of Tank #4 in the 40-mil geomembrane. After TWS removed the 18-in of water from Tank #4, ESI repaired and non-destructively tested all three locations. LLS retested the repaired liner and found no leaks present on the floor or walls of Tank #4.

In addition, Stratton Survey was on-site to capture the as-built locations of the secondary repairs in Tank #3.

On Saturday November 20<sup>th</sup>, 2010 CQA observed ESI installing two (2) rolls of geocomposite into Tank #3. CQA witnessed ESI joining the geocomposite together with plastic zip ties as per construction specifications. After the panels were joined, CQA observed ESI sewing the flaps together and leistering the butt seams. ESI covered the tank floor with geocomposite.



### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-042
Job Number:	S013213A00	Staff On-site	Dates: 11/22/2010 to 11/23/2010
Contractor(s):	TradeWind Services (TWS) 2	Reports:	5-16-209 to 5-16-210

#### LABORATORY TESTING

5-18M Operations Soil	OP-60	USCS and Proctor on-going
5-18M Operations Soil	OP-61	USCS on-going
5-18M Operations Soil	OP-62	USCS on-going
5-18M Operations Soil	OP-63	USCS on-going
5-18M Operations Soil	OP-64	USCS on-going
5-18M Operations Soil	OP-65	USCS and Proctor on-going
5-18M Operations Soil	OP-66	USCS on-going
5-18M Operations Soil	OP-67	USCS on-going
5-18M Operations Soil	OP-68	USCS on-going
5-18M Operations Soil	OP-69	USCS on-going
5-18M Operations Soil	OP-70	USCS and Proctor on-going

#### GENERAL ACTIVITIES

1.0 Weather – Snow fell continuously throughout the day Monday November 22<sup>nd</sup>, 2010; ESI left site after the POD due to cold weather and falling snow.

Due to weather conditions, TWS conducted no construction activities on Tuesday November 23<sup>rd</sup>, 2010.

2.0 Holiday – Due to the Thanksgiving holiday, the site was closed on November 24<sup>th</sup>, 25<sup>th</sup> and 26th, 2010.

#### CONSTRUCTION ACTIVITIES

1.0 Operation Soil – TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil on the south half of Cell 10 with the CAT D8 dozer and two (2) CAT D6 LGP GPS dozers.



### CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-043
Job Number:	S013213A00	Staff On-site	Dates: 11/29/2010 to 12/2/2010
Contractor(s):	TradeWind Services (TWS) 3	Reports:	5-16-211 to 5-16-214

#### LABORATORY TESTING

5-18M Operations Soil	OP-60	USCS and Proctor Passed
5-18M Operations Soil	OP-61	USCS Passed
5-18M Operations Soil	OP-62	USCS Passed
5-18M Operations Soil	OP-63	USCS Passed
5-18M Operations Soil	OP-64	USCS on-going
5-18M Operations Soil	OP-65	USCS and Proctor Passed
5-18M Operations Soil	OP-66	USCS on-going
5-18M Operations Soil	OP-67	USCS on-going
5-18M Operations Soil	OP-68	USCS on-going
5-18M Operations Soil	OP-69	USCS on-going
5-18M Operations Soil	OP-70	USCS and Proctor on-going

#### GENERAL ACTIVITIES

- 1.0 Weather – Due to weather conditions, ESI conducted no construction activities this week. The site was shut-down at 12:15 on Tuesday November 30<sup>th</sup>, 2010 due to deteriorating weather conditions. CQA was not on-site on Thursday December 2<sup>nd</sup>, 2010. No site activities occurred on Friday December 3<sup>rd</sup>, 2010.
- 2.0 Photo Log – Due to limited activity on site, there is no photo log for week 43
- 3.0 Weekly Progress Meeting – CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, November 30<sup>th</sup>, 2010 at 10:00 am. in the WCH trailer.
- 4.0 CQA Weekly Progress Meeting – CQA attended the CQA subcontractor’s weekly progress meeting on Tuesday, November 30<sup>th</sup>, 2010 at 10:15 am in the meeting trailer.

#### CONSTRUCTION ACTIVITIES

- 1.0 Operation Soil – TWS continuing to haul operations soil from the excavation stockpile in two (2) Komatsu payhaulers. The soil was hauled over the south toe of slope haul road and spread using the CAT D8 dozer. CQA observed TWS placing and grading operations soil on the south half of Cell 10 with the CAT D8 dozer and two (2) CAT D6 LGP GPS dozers. TWS completed spreading operations material in Cell 10 with the dozers. Additional material was hauled to the Cell 10 entrance ramp in preparation for the operations road placement through Cell 10. CQA surveyors were on-site to as-built the operations soil in Cells 9 and 10. CQA also verified that the operation survey in the area of the Cell 10 floor haul road met specifications.  
  
In addition, CQA observed TWS placing chain link fence onto the Cell 9 termination posts. American Fence augured fence holes into the Cell 10 berm and placed fence posts into the augured holes. American Fence utilized a concrete pump truck to place concrete into the fence holes on the slope, and a skid-steer bobcat with attached concrete bucket to place concrete in the fence holes on the floor termination berm.
- 2.0 Lysimeter – TWS constructed the Cell 9 and 10 lysimeter pads at the top of the north berm. TWS formed each pad with 2x4 wood beams and placed rebar into the forms. TWS finished the concrete pads and installed bollards around the pads and the electrical vault and panel in Cell 9.

  
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## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-044
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	5	Reports:
			5-16-215 to 5-16-219

LABORATORY TESTING		
5-18M Operations Soil	OP-64	USCS on-going
5-18M Operations Soil	OP-66	USCS on-going
5-18M Operations Soil	OP-67	USCS on-going
5-18M Operations Soil	OP-68	USCS on-going
5-18M Operations Soil	OP-69	USCS on-going
5-18M Operations Soil	OP-70	USCS and Proctor on-going
5-18M Operations Soil	OP-71	USCS on-going
5-18M Operations Soil	OP-72	USCS on-going
5-18M Operations Soil	OP-73	USCS on-going
5-18M Operations Soil	OP-74	USCS on-going
5-18M Operations Soil	OP-75	USCS and Proctor on-going
5-18M Operations Soil	OP-76	USCS on-going

FIELD TESTING			
Submittal 5-18B: Raw Water Line Fill	Lifts: 1-4	RAW-01 to RAW-08	Passed
Submittal 5-18B: South Access Road	Lift: 1	SAR-01 to SAR-06	Passed
Submittal 5-18N: Operations Soil Cell 9	Lift: 1	OL9-01 to OL9-54	Passed
Submittal 5-18N: Operations Soil Cell 10	Lift: 1	OL10-01 to OL10-54	Passed

CQA HOLD POINTS		
Submittal 5-18R-109 Tank #4	December 9, 2010	Tank #4 Secondary Acceptance

GENERAL ACTIVITIES
<p>1.0 <u>Weather</u> – Due to weather conditions, ESI conducted no construction activities Monday, Tuesday, Wednesday or Saturday December 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup> or 11<sup>th</sup>, 2010..</p> <p>2.0 <u>Accelerated Schedule</u> – On Monday December 6<sup>th</sup>, 2010 CQA was informed by Bill Melvin, the WCH project manager, that WCH was intending to significantly accelerate the project schedule. Funds will be made available to accelerate the schedule.</p> <p>3.0 <u>Schedule Meeting</u> – CQA attended a meeting on Tuesday, December 7<sup>th</sup> 2010 in MO-607 to define the accelerated schedule and set goals for construction and documentation submittals.</p> <p>4.0 <u>Weekly Progress Meeting</u> – CQA attended the DOE and EPA interface meeting over the Cell 9 liner report on Tuesday, December 7<sup>th</sup>, 2010 at 10:00 am. in the MO-607 Conference Room.</p> <p>5.0 <u>Weekly Progress Meeting</u> –CQA attended the construction subcontractor’s weekly progress meeting on Tuesday, December 7<sup>th</sup>, 2010 at 10:00 am. in the MO-607 Conference Room.</p>



## CQA WEEKLY CONSTRUCTION REPORT

Project ID:	01-0032 ERDF Cells 9-10 Construction	Report Number:	5-21-044
Job Number:	S013213A00	Staff On-site	Dates:
Contractor(s):	TradeWind Services (TWS)	5	5-16-215 to 5-16-219

### GENERAL ACTIVITIES

6.0 Tanks and Reporting – Due to continuing repair problems associated with the secondary geomembrane in Tank #3, ESI moved operations to Tank #4 to better accommodate the accelerated schedule. Following the move to Tank #4, the final reporting shall now be divided into four reports with Cell 9 report and Tank #4 report to match the accelerated schedule and Tank #3 and Cell 10 reports to follow.

### CONSTRUCTION ACTIVITIES

1.0 South Embankment – CQA observed TWS placing top course rock over the south cell access road, south of Cell 10. The gravel was spread with a dozer and compacted with a CS-563 smooth drum roller. CQA tested and verified that lift 1 of the south access road met contract specifications.

2.0 Electrical Vaults – CQA observed TWS placing concrete bollards around the Cell 10 electrical vault and electrical panel on the north berm of Cell 10.

3.0 Operation Soil – American Fence hung fabric on the Cell 9 termination fence as per construction drawings. Stratton Surveying was on-site to capture the as-built of the operations on the floor of Cells 9 and 10. CQA completed operations testing in Cells 9 and 10. CQA tested and verified that all placed operations soil met construction requirements.

4.0 Crest Pad 9 – CQA observed Total Energy calibrating the secondary and primary transducers in Crest Pad 9. In addition, TWS attempted to perform the 2-hour pump test for the primary pumps in Crest Pad 9. However, neither the primary low flow pump nor the primary high flow pump performed correctly. During the testing, the flow meters malfunctioned, providing erroneous readings. BMWC replaced the flow meters in the Cell 9 Crest Pad. CQA observed TWS attempting to perform the 2-hour pump test for the primary pumps in Crest Pad 9, however; the low flow pump continued to pump at a high rate and the high flow pump never functioned above 40 gpm. After turning off the pumps, significant backpressure was observed in the all pump discharge lines.

BMWC and TWS pulled the high flow pump from the Cell 9 sump and replaced the pump with a spare pump borrowed from operations. After the pump was installed, the flow rates remained low. After speaking with Total Energy, the electrical resistance constants in the flow meters were not set correctly. The pumps were delivering higher flows than the meters were reading. Total Energy re-set the flow meters in the Cell 9 Crest Pad and TWS conducted the 2-hour pump tests for the primary high-flow and low-flow pumps.

TWS began the dry-run of the Acceptance Test Procedures (ATP) for Cell 9. After encountering several problems with alarms, set-points, and pump functions, TWS halted the dry-run and contacted Total Energy to repair the system. Total Energy shall be on-site Monday, December 12 to fix the system and complete the dry-run.

5.0 Manholes – American Electric installed flood switches in MH-32 though the previously trenched electrical conduit. In addition, American Electric installed wireless flood switches in MH-34, MH-35 and MH-36.