

# KINGSTON ASH RECOVERY PROJECT MONTHLY REPORT September 2011

## Aerial Image of Kingston Ash Slide (08/31/2011)



Date of imagery: 08/31/2011

Tennessee Valley Authority  
Geographic Information & Engineering

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# KINGSTON ASH RECOVERY PROJECT

## MONTHLY REPORT

### September 2011

#### **SAFETY**

- Forty-three (43) site-specific HSE orientations were conducted during September – 2,003 to date. Zero (0) site-specific refresher courses were conducted during the month of September - 356 year to date.
- Forty one (41) Safety Observation Reports were submitted during September – 2,386 to date; 2,384 are closed.
- The last recordable incident occurred on December 22, 2010 and became a recordable on December 28, 2010.
- On Friday, September 23, 2011, a First Aid occurred when a worker received a contusion to his left hand and small abrasions when he fell off a platform while working at the Berkshire house.
- Twenty-five (25) industrial hygiene personal air monitor samples were collected over 5 days and 3 Similar Exposure Groups (SEGs) during the month of September; awaiting lab results. Primary focus was sampling of GeoCon batch plant operation.

#### **INFRASTRUCTURE / ASH MANAGEMENT**

- Efforts for site maintenance, dust control, and HAZWOPER control continued.
- Continued recovering cenospheres from the onsite ponds.
- Began building new MAP area.

#### **ASH SLURRY & POND TSS CONTROL**

- TVA Civil Projects dragline operated during the month of September and recovered 12,892 cubic yards of fly ash from the sluice trench.
- TSS sampling was performed throughout the ash slurry system. The total suspended solids (TSS) of the sluice trench discharge averaged 139.5 mg/L, the main ash pond effluent TSS averaged 18.1 and the stilling pond effluent averaged 13.3 for the month.
- The plant effluent, sluice trench effluent, and ash pond effluent polymer addition rates were adjusted as necessary during the month to remain within approved ranges. Polymer addition at the ash pond effluent was offline at month's end.
- An independent review of the 90% design package for the new ash pond outlet structure was completed during the month and work on the 100% and IFC design was nearing completion at the end of the month. Materials were ordered and construction schedule developed.
- Data from the September 6 bathymetric survey was interpreted and new volumes calculated for each pond.

#### **ASH PROCESSING / BALLFIELD PREPARATION**

- Geosyntec performed moisture testing and compaction verification throughout the month and is reporting weekly.
- Civil Projects performed moisture reduction processing of ash removed from the sluice trench to ready ash for placement in the interim ash storage area (IASA).
- Civil Projects performed plant ash placement throughout the month. The total ash stacked in the IASA from truck count was 6,224 cubic yards in September. End of month total stored in the interim ash storage area from truck count is estimated at 41,754 cubic yards.
- The number of KIF Plant units online averaged 3.3 for the 16 days operated. The plant was 14 days into a planned maintenance outage at month's end.

#### **DIKE REINFORCEMENT**

- Installation of five (5) new diffusers was completed on September 26. The temporary siphons were turned off at 6:00 pm on September 26.
- The overflow pipe was installed on September 27.
- The survey and inspection was completed in conjunction with divers on September 29. The diffusers were installed as per design and are operating properly.
- Stilling Pond outflow monitoring was returned to KIF plant operations.
- Diffuser flow test scheduled for early October 2011.

## **ROUTINE MONITORING**

### **Surface Water Sampling**

- There were rainfall events greater than 0.5" that triggered storm flow sampling in Swan Pond Embayment for the month of September.
- The Surface Water Plan was revised per negotiations with EPA/TDEC to eliminate storm flow sampling in the Emory and Clinch Rivers and remove the floating monitors from the rivers. Storm flow sampling will continue in Swan Pond Embayment when triggered by rainfall events >0.5 inches.
- Continued routine weekly surface water sampling at the Stilling Pond and Swan Pond Embayment.
- Continued daily pH and dissolved oxygen monitoring in the dirty water ditch and the settling basin through September 15, 2011. The readings were collected twice a day and included run off ditches that empty into the dirty water ditch.
- Continued daily TSS monitoring at the sluice trench, ash pond, and stilling pond

### **Air Sampling**

- All air monitoring results for the month of September from the PM2.5 and PM10 TVA air samplers were below the current Ambient Air Monitoring Plan (AAMP) action levels

### **Data Management**

- The ash deposit, seasonally exposed sediment and submerged sediment technical memoranda were combined due to the overlap of sampling locations. The technical memorandum has been drafted and is expected to be ready for submittal by September 30, 2011.

### **Biota Sampling**

- Raccoon trapping began week of September 18, 2011 and continues through the end of September.

### **River System EE/CA Sampling and Analysis**

- All sampling in support of the River System EE/CA is now complete.

### **Non-Routine Sampling**

- Collected a waste profile composite sample from 5 drums of hydraulic fluid.
- Continued concurrence sampling in the North Embayment as sections are deemed ready by operational sampling.
- Completed perimeter walls spoils study sampling in the relic, lateral expansion and west storage areas.
- Continued geoprobe sampling in the North Embayment in support of the excavation operations.
- Started perimeter wall spoils study sampling at the relic. A total of nine boreholes are planned including three each from the relic, the lateral expansion, and the west storage area.
- Continued sample collection and on-site moisture testing in support of dredge cell and ballfield operations.

## **DREDGE CELL**

- Continued PWS construction of Segment 1 and at the transition slope in the northwest corner of the dredge cell, spreading out the work locations to avoid areas where subgrade has become wet (see sketch).
- Stantec submitted the 60% removal design package RDP-0113-J for the north wall, Segment 8.
- Continued ash and spoils moisture processing in the central dredge cell and relic area.
- Continued operating sun drying beds for ash and spoils moisture conditioning on top of the central dredge cell and relic area.
- Presented an Execution Plan for design/construction of the perimeter containment to TVA management.
- Rain over Labor Day weekend delayed PWS construction of Segment 1 for a week.
- PWS spoils removal from Segment 1 was performed and work on the platform continued.

## **LATERAL EXPANSION**

- Rain over Labor Day weekend delayed field work for a week.
- Continued stacking ash in northern part of the lateral expansion; expanded the area for stacking based on proof-rolling the subgrade.
- Continued to work the surface in the southern part of the lateral expansion to provide a stable base for stacking.

## **RIVER EE / CA AND BERA**

- Arcadis completed the draft toxicity profiles
- Continued preparation of Technical Memorandums (of field work) and Technical Evaluations (of receptors).

## **EMBAYMENT RESTORATION AND RECREATION AREA DEVELOPMENT**

- TVA notified Jacobs of award for recreation master plan design and construction services contract.
- Began rebaselining and kickoff meeting planning for the Master Plan.

## **NORTH EMBAYMENT**

- Continued excavation of ash.
- Operational and concurrence sampling was completed for all areas north of the water control berm and the footprint of the planned church corner buttress.
- Completed installation of clay berm for water diversion.
- Performed confirmation sampling and reporting for verifying areas are clean of ash deposits.
- Began writing initial sections of the EE/CA report.
- Completed Swan Pond Road buttress along church curve and seeded area.
- Began ash removal and placing riprap along Swan Pond Circle Road slope.

## **COMMUNICATIONS**

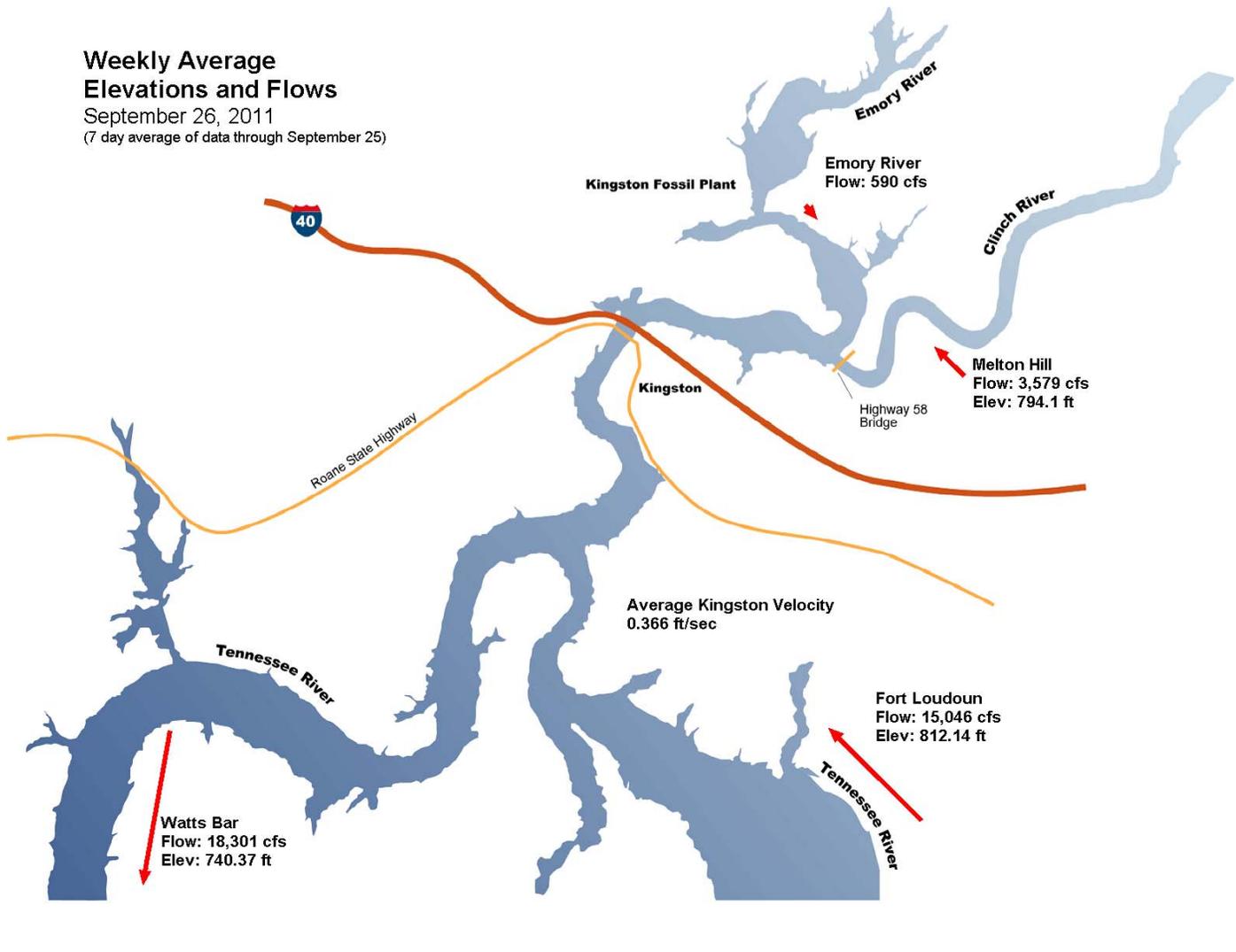
- Added Weekly Dike C Reports and Weekly Area Resident Updates to Kingston Ash Recovery website.
- Sent weekly updates to the CAG, public officials and members of the public who have signed up to receive weekly emails.
- Updated Administrative Record with work plans and relevant documents.
- Continued to respond to calls and visits from residents.
- Distributed *Inside the Cell* newsletter to site and plant employees.
- Updated site bulletin boards.
- Spoke to the Harriman Rotary Club on September 15 and to the Rockwood Rotary Club on September 26 to discuss the conceptual recreation designs for some of the property purchased by TVA after the spill.
- Attended Cherokee Middle School construction dedication on September 26.

# RIVER OPERATIONS

## Weekly Average Elevations and Flows

September 26, 2011

(7 day average of data through September 25)

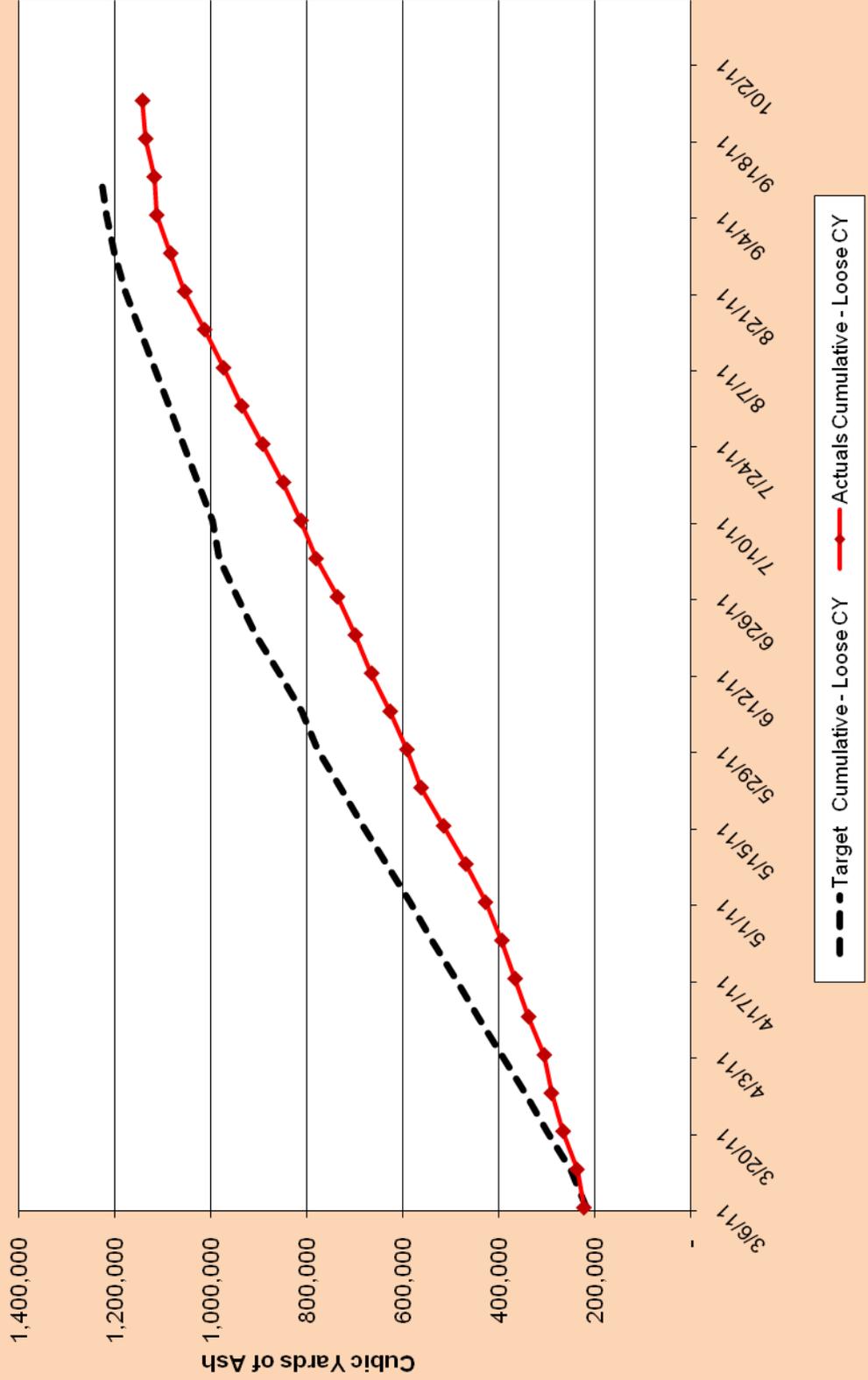


Kingston Ash Recovery Project		September 2011		Field Report
Safety		Monthly Total	FY – Cumulative Total	
Near Misses		0	2	
First Aid Incidents		1	15	
Recordable Incidents		0	2	
Recordable Lost Time Incidents		0	0	
Environmental	Matrix	Samples	Analyses	Results
Organization - TVA	Air – Real Time (Final)	--	--	267,188
Organization - TVA	Air – Fixed (as of 9/25/11)	5,704	--	8,212
Organization - TVA	Surface / Utility Water	5,460	46,898	231,721
Organization - TVA	Groundwater (spring & well)	213	2,170	10,733
Organization - TVA	Ash	754	1,307	9,793
Organization - TVA	Soil / Sediment	928	1,891	12,962
Organization - TVA	Biota	4,143	9,384	109,298

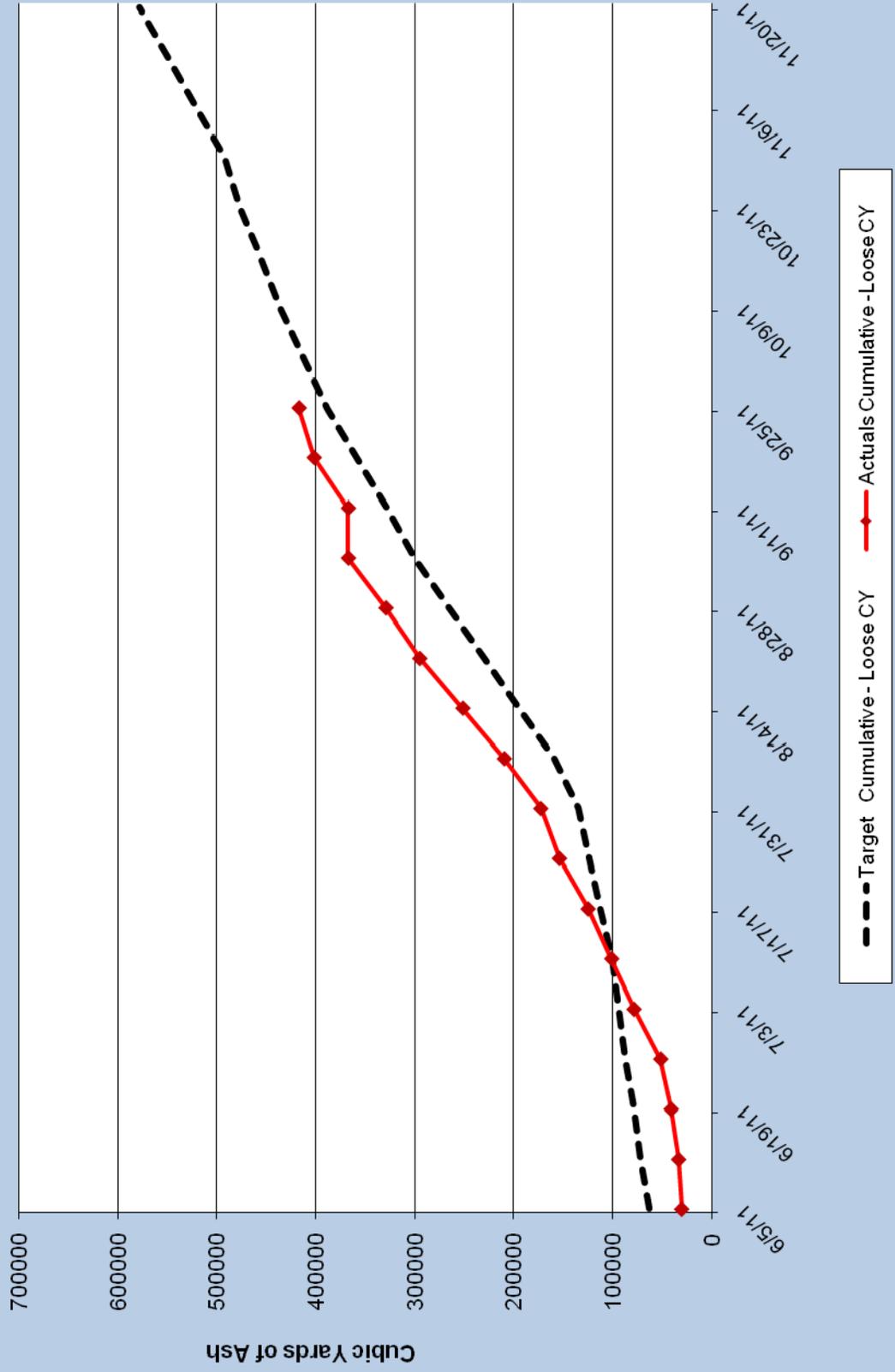
Work Description	Period Work Performed (CYIP)	PTD Work Performed (CYIP)
<b>Ash Removal / Excavation</b>		
Total Removed from Middle Embayment	20,300	331,719
Total Removed from North Embayment	38,363	815,553
Total Removed from Settling Basins / Dike 2	998	9,041
<b>Excavated Total</b>	<b>59,661</b>	<b>1,156,313</b>
Work Description	Period Work Performed (CCY)	PTD Work Performed (CCY)
<b>Placement</b>		
Total Placed in Dredge Cell	8,001	806,058
Total Placed in Lateral Expansion	70,765	365,158
Total Placed in Ash Pond	1,872	5,945
<b>Placed Total</b>	<b>80,635</b>	<b>1,177,161</b>
Work Description	Period Work Performed (CCY)	PTD Work Performed (CCY)
<b>Storage Handling</b>		
Total Removed from Lateral Expansion	-	5,179
Total Removed from Dredge Cell	53,961	101,371
Total Removed from Ballfield	546	287,785
<b>Removed from Storage Total</b>	<b>54,507</b>	<b>394,335</b>
<b>Net Removed to(from) Ballfield Storage</b>	<b>640</b>	<b>(101,293)</b>

For period ending September 30, 2011

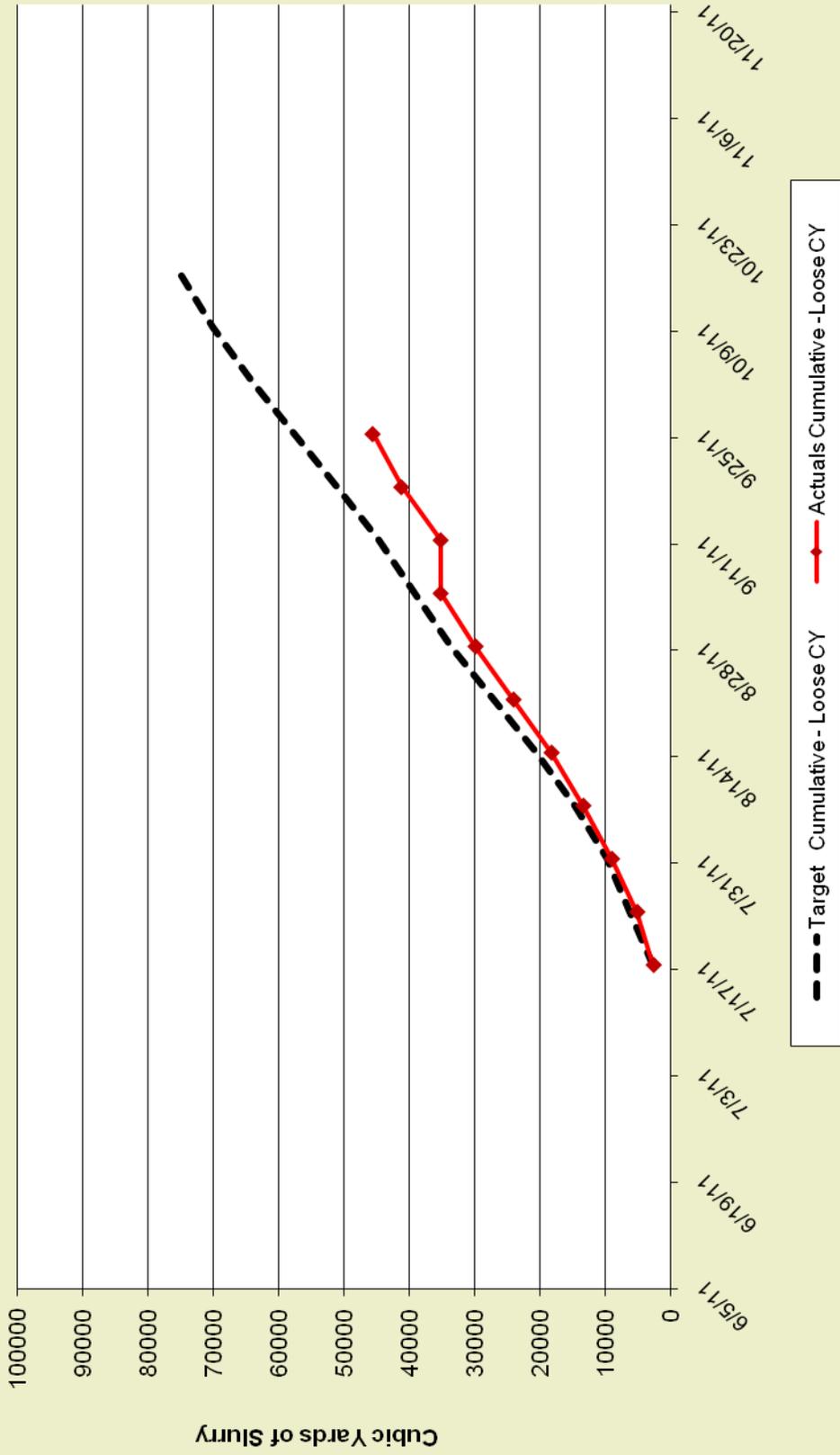
### Ash Excavation from North Embayment - Weekly as of September 25

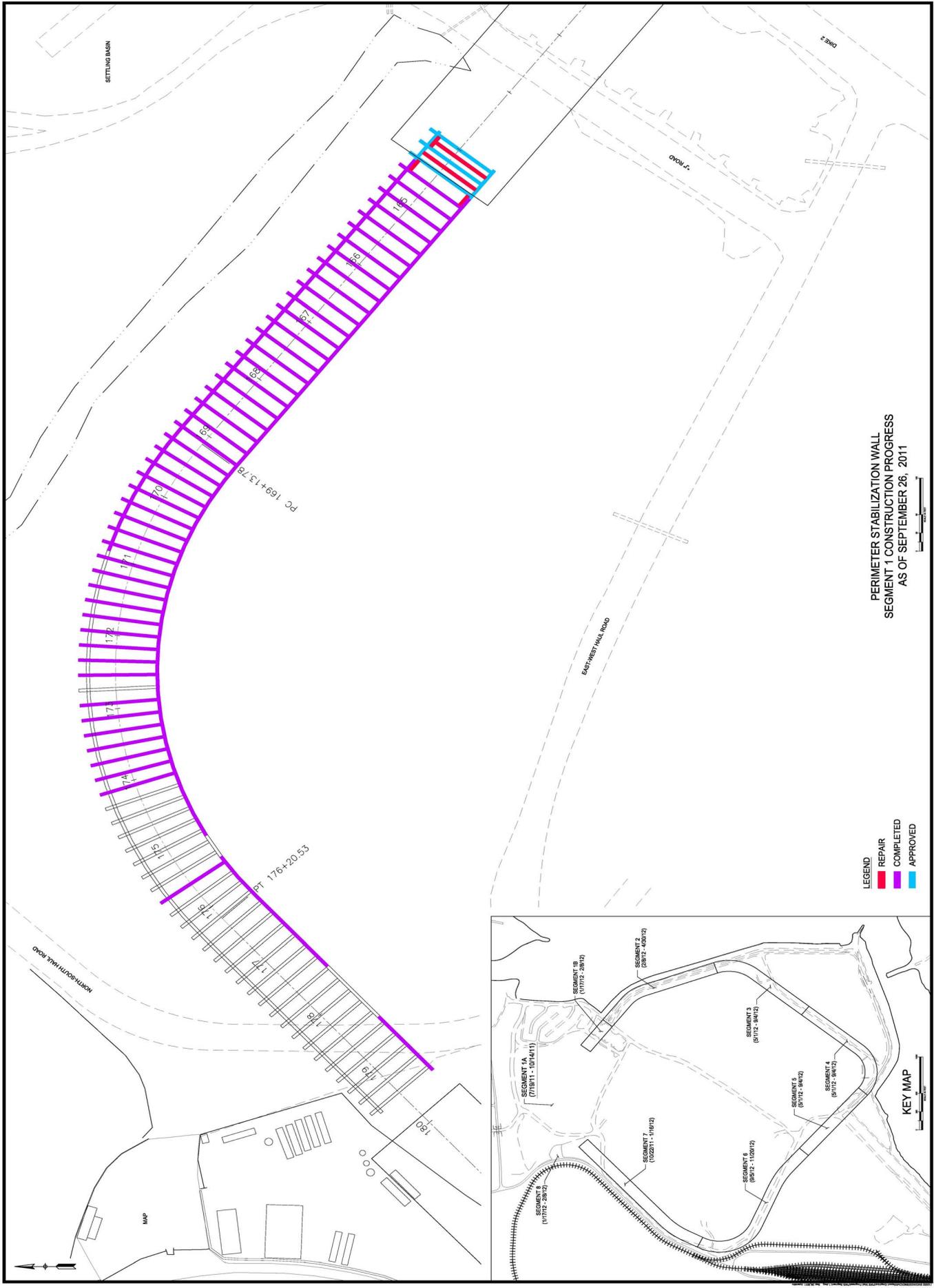


### Ash Stacking in Lateral Expansion - Weekly as of September 25



Perimeter Wall Stabilization Segment 1A -  
Weekly as of September 25





PERIMETER STABILIZATION WALL  
 SEGMENT 1 CONSTRUCTION PROGRESS  
 AS OF SEPTEMBER 26, 2011

LEGEND  
 ■ REPAIR  
 ■ COMPLETED  
 ■ APPROVED

KEY MAP