

# KINGSTON ASH RECOVERY PROJECT MONTHLY REPORT December 2011

**Aerial Image of Kingston Ash Slide (12/02/2011)**



Date of imagery: 12/02/2011

Filename: ImageOnly\_20111202\_8411.pdf

Tennessee Valley Authority  
Geographic Information & Engineering

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Issue (Date/Time)  
01/05/2012 3:31:56 PM

# KINGSTON ASH RECOVERY PROJECT

## MONTHLY REPORT

December 2011

### SAFETY

- Thirteen (13) site-specific health, safety and environment (HSE) orientations were conducted during December – 2,061 year to date. Zero (0) site-specific refresher courses were conducted during the month of December - 356 year to date.
- Fifty-eight (58) safety observation reports (SORs) were submitted during December – 2,582 year to date; 2,581 are closed.
- The last recordable incident occurred on December 22, 2010 and became a recordable on December 28, 2010.

### INFRASTRUCTURE / ASH MANAGEMENT

- Efforts for site maintenance, dust control, and HAZWOPER control continued.
- Continued recovering cenospheres from the onsite ponds.

### ASH SLURRY & POND TSS CONTROL

- The total suspended solids (TSS) sampling was performed throughout the ash slurry system. The TSS of the sluice trench discharge averaged 53.8mg/L, the main ash pond effluent TSS averaged 34.0 and the stilling pond effluent averaged 13.0 for the month.
- The sluice trench effluent and ash pond effluent polymer addition rates were raised twice during the month in response to storm events and lateral expansion construction activities. The sluice trench polymer addition remained offline during November.
- The new ash pond outlet structure construction was underway throughout the month and construction is on schedule.
- The main ash pond area is being filled with perimeter wall stabilization (PWS) spoils and high moisture content ash from the middle embayment.

### ASH PROCESSING / BALLFIELD PREPARATION

- Trans Ash hauled dry fly ash from the silos and material was placed in the interim ash staging area (IASA). Geosyntec provided quality control and assurance during placement.
- The KIF plant operated from December 1-15, 2011, and was offline for remainder of the month.
- Ballfield photos from the silo cameras were provided to Geosyntec for their construction record when requested.

### DIKE REINFORCEMENT

- The draft on-scene coordinator (OSC) report was submitted to EPA on December 9, 2011. The submittal completes the EPA order time critical requirement for the Dike C work.
- The diffuser flow test was rescheduled for the week of January 9, 2012.

### ROUTINE MONITORING

#### Surface Water Sampling

- There were rainfall events greater than 0.5" that triggered storm flow sampling in Swan Pond embayment for December 6, 16, 23, and 27, 2011.
- Continued routine weekly surface water sampling at the stilling pond and Swan Pond embayment. All monthly stilling pond results received to date have shown compliance with the outfall National Pollutant Discharge Elimination System (NPDES) permit.
- Automated monitoring stations (Hydrolabs) are online continuously monitoring pH at three locations in the settling ditch system. The real-time pH results from the settling ditch system are monitored daily and used to make acid dosing decisions to control the pH of the outflow.
- Continued daily TSS monitoring at the sluice trench, ash pond, and stilling pond. Water quality for the month was good with no elevated TSS measurements at the stilling pond.

- Collected additional TSS measurements in conjunction with the drain pipe removal activities at the ash pond and the plant coming back online. The additional TSS monitoring was performed to measure the impacts to the TSS in the system and provide assurance that the drain pipe removal in the ash pond was not going to trigger permit exceedances. TSS results remained low enough during the work to avoid work stoppage.

**Air Sampling**

- All air monitoring results for December from the PM2.5 and PM10 TVA air samplers were below the current ambient air monitoring plan (AAMP) action levels.

**Data Management**

- Technical memoranda for benthic invertebrates, fish (revision), and bulk sediment and pore water are in process. The fish technical memorandum revision is undergoing comment resolution and expected for regulatory submittal by January 6, 2012.

**Biota Sampling**

- Benthic invertebrate community survey sampling was performed at Tennessee River locations weeks ending December 30, 2011. Sampling in the Clinch and Emory Rivers is scheduled for January 2012.

**Non-Routine Sampling**

- Collected composite sample of hydraulic oil from three drums for waste profile analysis.
- Completed additional set of soil borings in the middle embayment to determine depth of ash.
- Continued sample collection and on-site moisture testing in support of dredge cell and ballfield operations.

**DREDGE CELL**

- Continued PWS construction of Segment 1 at the transition slope in the northwest corner of the dredge cell and Segment 1B in the eastern end of the Segment. Work locations are being spread out to avoid areas where subgrade has become wet.
- Completed preparation of the Segment 8 working platform, including test sections for rock surfacing, rock surfacing with geogrid reinforcement, and bottom ash, but holding off on the lime-treated test section until just prior to wall construction.
- Stantec design team continued running computer FLAC models for redesign of Segments 7 and 8.
- Stacking continued in north dredge cell until conditions became too wet.
- Stantec design team was onsite to evaluate defect and cold joint repairs.

**LATERAL EXPANSION**

- Restrictions remain that limit stacking to a maximum of 1 foot per day. These restrictions are in response to lateral movements observed in several slope inclinometers.
- No stacking was done for much of the month in the lateral expansion due to wet conditions; stacking continued the last week of the month.
- Wet ash was placed in the ash pond in preparation of the subgrade prior to stacking.

**RIVER EE / CA AND BERA**

- Delivered a summary of the preliminary evaluation of ecological and human health risks to TVA site management.
- Continued evaluation of nature and extent.

**EMBAYMENT RESTORATION AND RECREATION AREA DEVELOPMENT**

- Met with the community advisory group (CAG) personnel for briefing on the master plan.
- Presented the draft master plan to TVA site management and to regulators.

**NORTH EMBAYMENT**

- Continued writing initial sections of the engineering evaluation/cost analysis (EE/CA) report.
- All concurrence documents approved by EPA and TDEC.

**MIDDLE EMBAYMENT**

- Continued bulk excavation work from west to east.

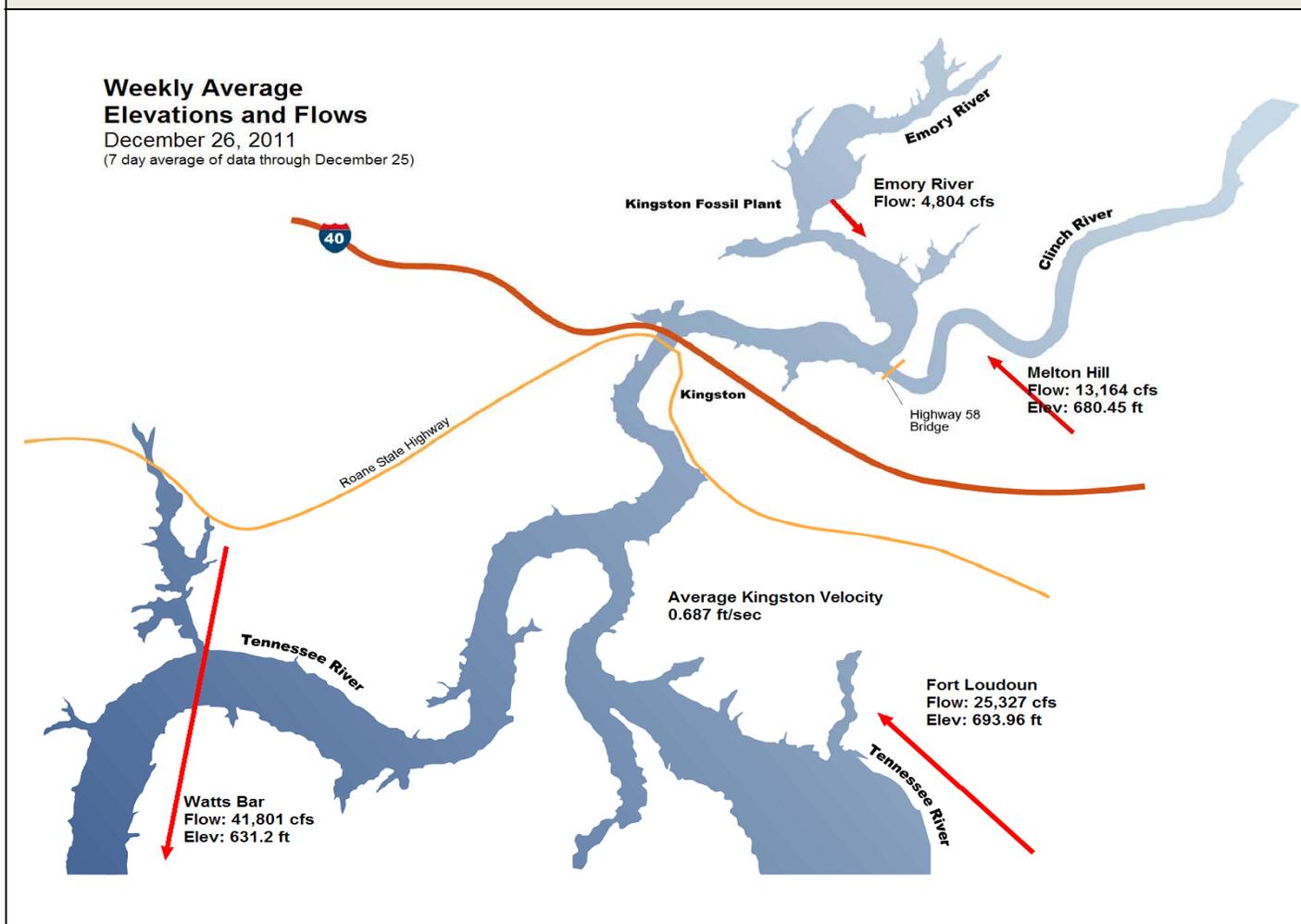
## TVA PROPERTY DEMOLITION

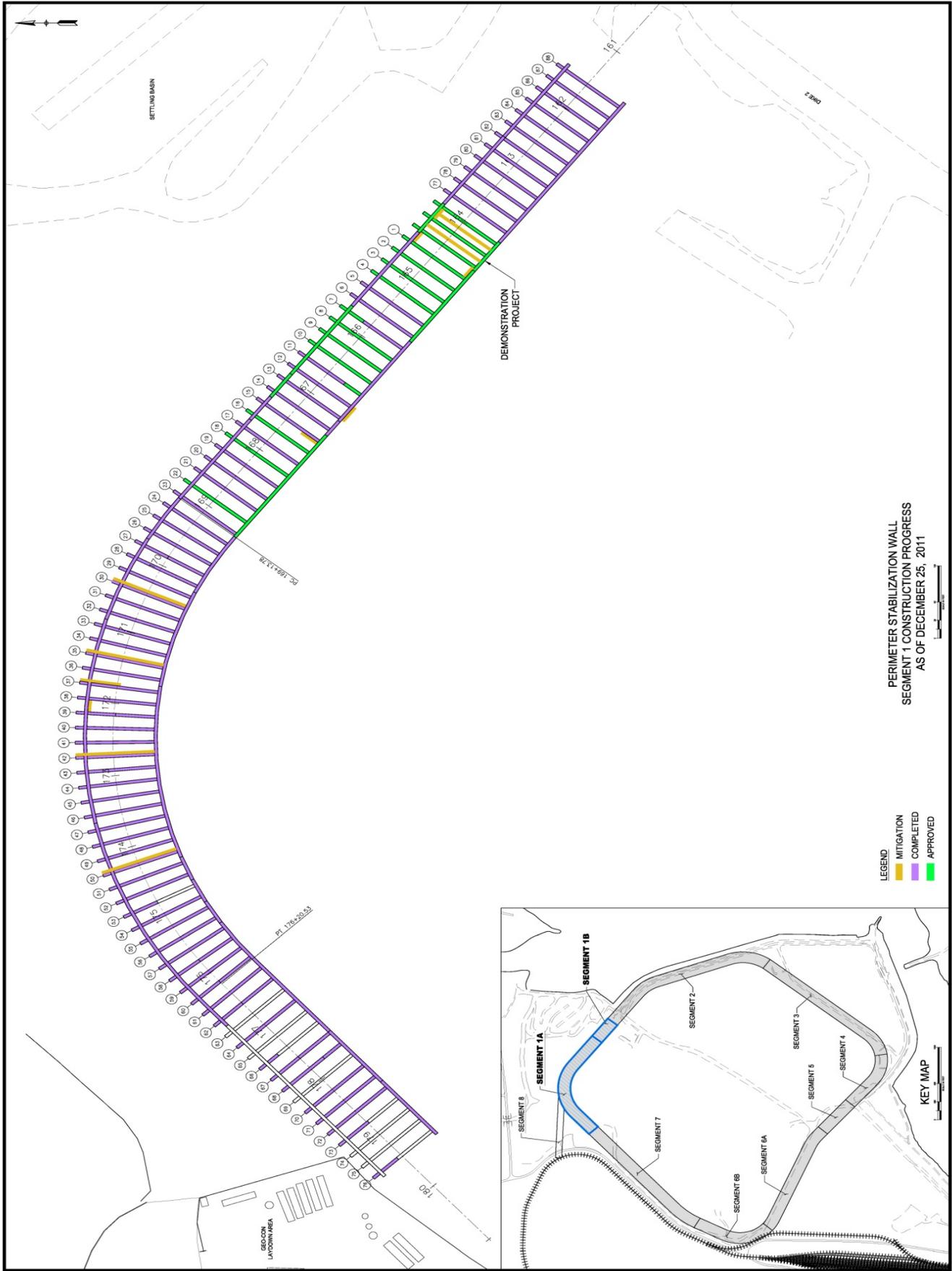
- Continued abatement activities on Swan Pond Road and Lakeshore Drive.
- Continued working demolition activities on Swan Pond Road and Swan Pond Circle Road.
- Restoration of sites on Swan Pond Road and Swan Pond Circle.
- Began erosion control and demolition activities on Lakeshore Drive.
- Activities slowed near the end of the month due to heavy rain.

## COMMUNICATIONS

- Added 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.
- Updated site bulletin boards.
- Facilitated a meeting between the Roane County CAG and the planning team for the embayment restoration project.
- Produced a full-page photo page for the December 16 edition of the Roane County News illustrating progress of clean-up on the project.
- Conducted a public meeting December 8 at the Roane County High School where an update on site activities was provided.
- Hosted local media outlets as well as Associated Press to cover the third anniversary of the ash spill.

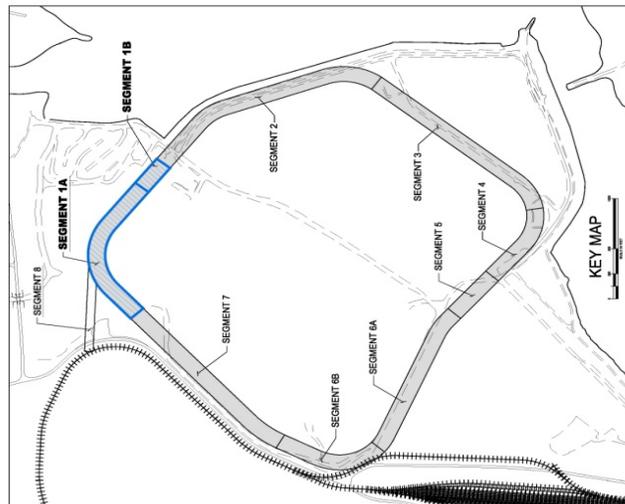
## RIVER OPERATIONS





PERIMETER STABILIZATION WALL  
 SEGMENT 1 CONSTRUCTION PROGRESS  
 AS OF DECEMBER 25, 2011

LEGEND  
 MITIGATION  
 COMPLETED  
 APPROVED

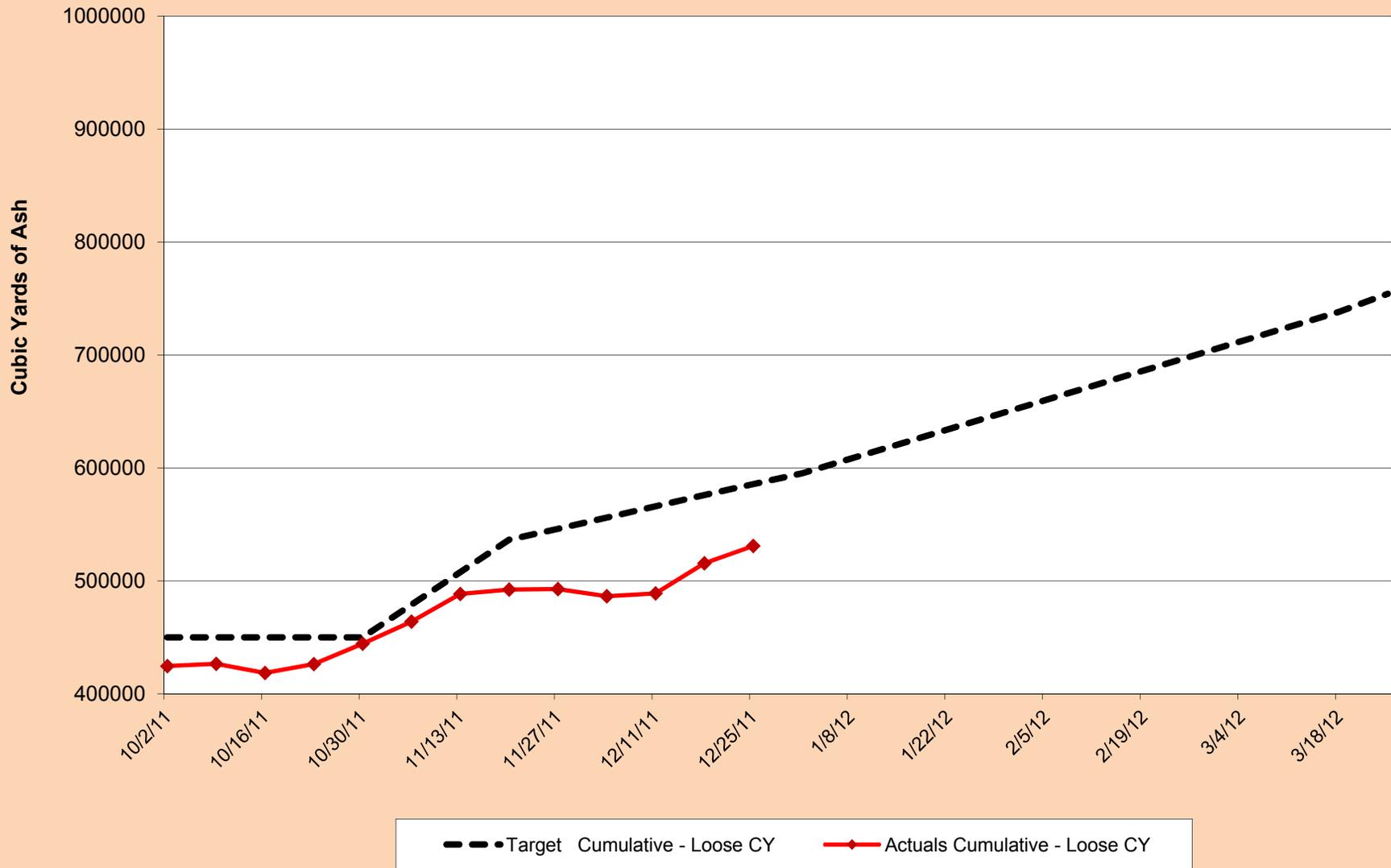


Kingston Ash Recovery Project		December 2011		Field Report
Safety		Monthly Total	FY – Cumulative Total	
Near Misses		0	0	
First Aid Incidents		0	3	
Recordable Incidents		0	0	
Recordable Lost Time Incidents		0	0	
Environmental	Matrix	Samples	Analyses	Results
Organization - TVA	Surface / Utility Water	5,526	47,302	255,619
Organization - TVA	Groundwater (spring & well)	241	2,512	14,709
Organization - TVA	Ash	756	1,333	9,973
Organization - TVA	Soil / Sediment	940	1,919	14,742
Organization - TVA	Biota	4,143	9,384	110,768

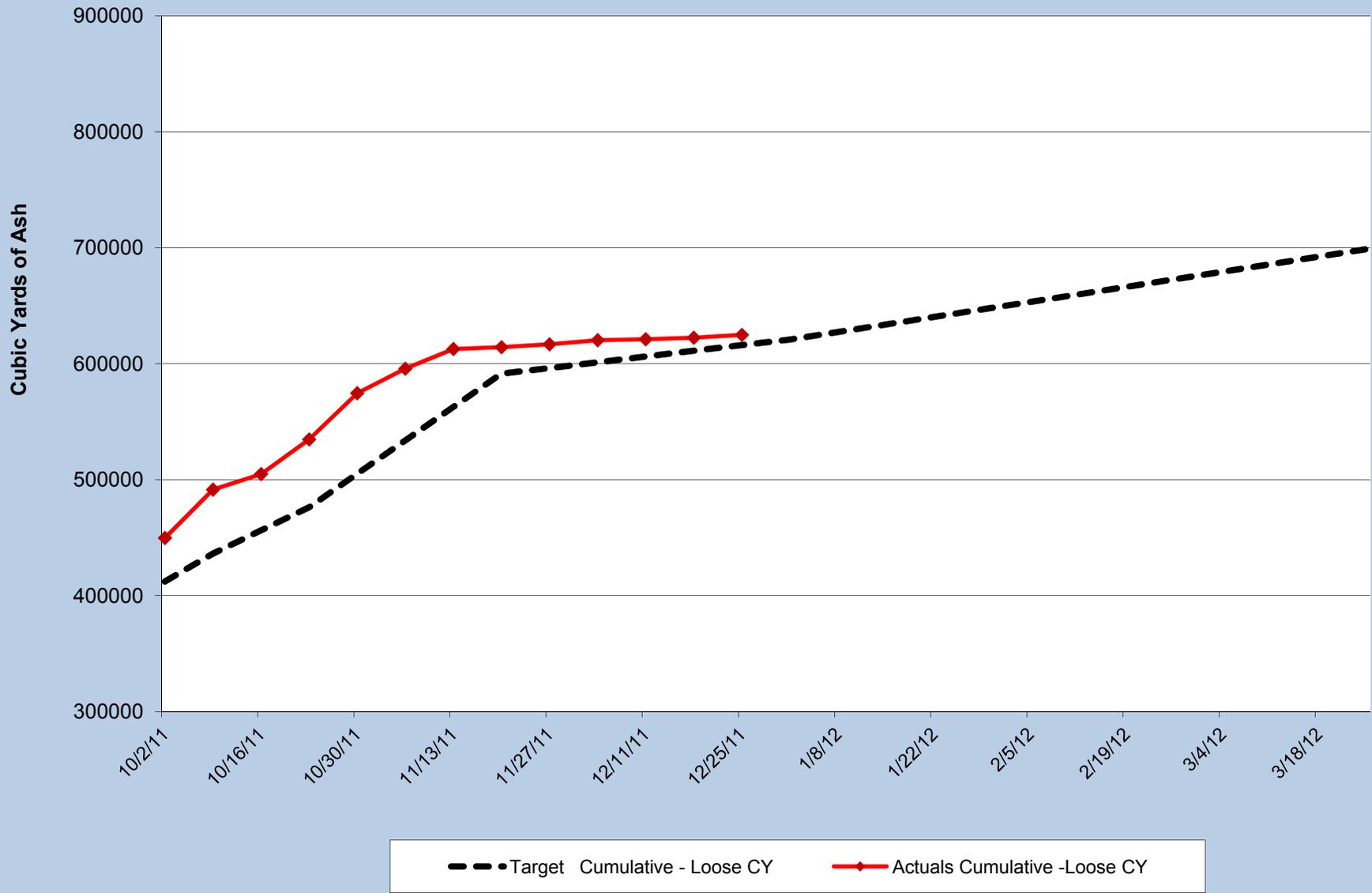
Work Description	Period Work Performed (CYIP)	PTD Work Performed (CYIP)
<b>Ash Removal / Excavation</b>		
Total Removed from Middle Embayment	40,882	412,043
Total Removed from North Embayment	-	1,010,322
Total Removed from Settling Basins / Dike 2	2,201	11,957
<b>Excavated Total</b>	<b>43,083</b>	<b>1,434,321</b>
Work Description	Period Work Performed (CCY)	PTD Work Performed (CCY)
<b>Placement</b>		
Total Placed in Dredge Cell	2,027	770,574
Total Placed in Lateral Expansion	9,638	491,198
Total Placed in Ash Pond	47,284	64,139
<b>Placed Total</b>	<b>58,949</b>	<b>1,325,911</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	1,653	216,241
Total Removed from Ballfield	8,220	311,822
<b>Removed from Storage Total</b>	<b>9,874</b>	<b>533,242</b>
<b>Net Removed to(from) Ballfield Storage</b>	<b>3,983</b>	<b>(88,890)</b>

For period ending December 31, 2011

### Ash Excavation from Middle Embayment as of December 25



### Ash Stacking in Lateral Expansion as of December 25



**Perimeter Wall Stabilization Segments 1A, 1B, 8 & 7  
as of December 25**

