Tennessee Valley Authority
Regulatory Submittal for Kingston Fossil Plant

Documents submitted:
On-Scene Coordinator Report for the Non-Time Critical Removal Action for the Embayment/Dredge Cell

EPA –AO-063

Date Submitted:
03/18/2015

Submitted to whom
Craig Zeller

Concurrence

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Approvals

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Tennessee Valley Authority, 1134 Swan Pond Road Trailer Park, Harriman, Tennessee 37748

March 18, 2015

Mr. Craig Zeller
U.S. Environmental Protection Agency
Region 4
61 Forsyth Street Southwest
Atlanta, Georgia 30303

Dear Mr. Zeller:

Please find enclosed the On-Scene Coordinator Report for the Non-Time Critical Removal Action. The enclosed report fulfills the requirements of Section XVI, paragraph 41 of the Administrative Order and Agreement on Consent. Please contact me if you have any questions.

Sincerely,

Carol Eimers

Carol Eimers
General Manager
Kingston Recovery Project

Enclosures

Document No. EPA-AO-063

Kingston Ash Recovery Project

On-Scene Coordinator Report for the Non-Time-Critical Removal Action for the Embayment/Dredge Cell

TVA Kingston Fossil Fuel Plant Release Site, Roane County, Tennessee

Tennessee Valley Authority

Revision	Description	Date
00	OSC Report for TVA Review	February 4, 2015
01	OSC Report for Regulator Review	February 25, 2015
02	OSC Report Final	August 27, 2015

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List of Acronyms

AECOM	AECOM Technology Corporation
ASTM	American Society for Testing Materials
BAM	Beta Attenuation Monitor
BERA	Baseline Ecological Risk Assessment
BOR	Bureau of Reclamation
CAG	Community Advisory Group
CAP	Corrective Action Plan
CB	cement-bentonite
CCR	Construction Certification Report
CCS	Chesapeake Containment Systems
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIP	Community Involvement Plan
cy	cubic yard
DSM	deep soil mixing
EDD	electronic data deliverable
EE/CA	Engineering Evaluation and Cost Analysis
EMHS	Emergency Management and Homeland Security
EnSafe	EnSafe, Inc.
EPA	U.S. Environmental Protection Agency
ERM	Emory River Mile
ESI	Environmental Standards, Inc.
F&AL	fish and aquatic life
FCN	Field Change Notice
FEM	Federal Equivalent Methods
FML	flexible membrane liner
FMLS	flexible membrane liner system
FRM	Federal Reference Method
ft	foot
GPS	global positioning system
Griffin	Griffin Dewatering Corporation
ICS	Incident Command System
Jacobs	Jacobs Engineering Group Inc.
JSA	job safety analysis
KIF	Kingston Fossil Plant
lb	pound
LiDAR	light detection and ranging
LLDPE	linear low density polyethylene
MCL	maximum contaminant level
mg/L	milligram per liter
mil	millimeter
min	minute
mm	millimeter
msl	mean sea level
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollution Discharge Elimination System
NPK	nitrogen, phosphorus, and potassium
O&M	operation and maintenance
OIG	Office of the Inspector General
OSC	On-Scene Coordinator

OSHA	Occupational Safety and Health Administration
oz	ounce
P&J	Phillips & Jordan, Inc.
PER	Problem Evaluation Report
PJB	pre-job brief
PLM	polarized light microscopy
POLREP	Pollution Report
psi	pound per square inch
PVC	polyvinyl chloride
PWS	perimeter wall stabilization
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
RAO	removal action objective
RFI	Request for Information
rpm	revolution per minute
RSI	Restoration Services Inc.
SCS	Site Construction Services
sf	square foot
SOP	Standard Operating Procedure
SOR	safety observation report
STA	Station
Stantec	Stantec Consulting Services Inc.
SWMP	Storm Water Management Plan
SWSHP	Site Wide Safety and Health Plan
sy	square yard
TDEC	Tennessee Department of Environmental Conservation
TDWS	Tennessee Domestic Water Supply Standard
TEOM	Tapered Element Oscillating Membrane
TLV	threshold limit value
TP	test parcel
TRM	Tennessee River Mile
TSS	total suspended solid
TVA	Tennessee Valley Authority
TWP	temporary well point
TWQC	Tennessee Water Quality Criterion
UCS	unconfined compressive strength
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WBS	Work Breakdown Structure

ACKNOWLEDGEMENT

Under penalty of law, I certify that to the best of my knowledge, after appropriate inquiries of all relevant parties involved in the preparation of the report, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Carol Eimers, TVA General Manager, Kingston Ash Recovery Project

Signature Carol Eimers

Date 8/31/15

EXECUTIVE SUMMARY

On December 22, 2008, approximately 5.4 million cubic yards (cy) of ash material were released into the environment from the Tennessee Valley Authority (TVA) Kingston Fossil Plant (plant) in Harriman, Roane County, Tennessee. In response to this release, TVA undertook immediate response actions and worked in close coordination with the U.S. Environmental Protection Agency (EPA), the Tennessee Department of Environmental and Conservation (TDEC), and other agencies to provide for the safety of area residents, to contain released ash and minimize its downstream migration, and to monitor and assess air and water quality. On January 12, 2009, TDEC issued a Commissioner's Order to TVA requiring, among other things, the comprehensive assessment, cleanup and restoration of areas impacted by the release. On May 11, 2009, an *Administrative Order and Agreement on Consent* (EPA Order) was signed between EPA and TVA providing the regulatory framework for the restoration efforts under the Comprehensive Environmental Response, Compensation, and Liability Act. TVA undertook response actions to achieve short-term strategic Site objectives defined in the EPA Order as time-critical removal actions. Those actions were summarized in an On-Scene Coordinator (OSC) Report. TVA subsequently undertook further response actions to achieve mid-term Site objectives as non-time-critical removal actions. This OSC Report summarizes the non-time-critical removal actions taken to comply with the EPA Order.

The non-time-critical removal actions were focused on removing ash from the Swan Pond Embayment. Actions included removing ash from both the North Embayment and Middle Embayment with land-based equipment. Recovered ash was then dry-stacked onsite in the Dredge Cell and Ash Pond as a single Ash Landfill. Closure of the Ash Landfill involved construction of a perimeter containment berm, and final cap and cover. Restoration of the ecosystem in the Swan Pond Embayment included establishment of a complex mosaic of wetlands. Other related routine actions included air monitoring and dust control, surface water monitoring, and storm water management.

EFFECTIVENESS OF REMOVAL ACTIONS

Effectiveness of Ash Removal. The ash was moved and shaped using bulldozers, backhoes, and amphibious equipment and then loaded onto articulating trucks by front end loaders and backhoes. Self-loading pan scrapers were also used for bulk excavation of the ash. A total of 2,293,000 cy (in-place volume) of material was removed from the Swan Pond Embayment, including 1,010,000 cy from the North Embayment (November 2010 through November 2011), 1,059,000 cy from the Middle Embayment (August 2010 through June 2014), and 224,000 cy from the Sediment Basin and Dike 2 area (September 2010 through August 2013). Ash removal was completed in a total of 45 months at a cost of approximately $43 million.

Production rates remained slower during the wetter winter months, gradually increasing to an average of 2,600 to 5,600 cy/workday in the summer. The maximum recorded daily productivity rate was 10,200 cy in a single day. Productivity was impacted due to the tight geographic area, which became smaller and smaller as the excavation worked its way out of each section of the embayment.

Upon completion of the ash removal from a portion of the embayment, confirmation sampling was conducted in a series of grids to verify removal. Concurrence forms were used to document the completion of ash removal; these concurrence forms were reviewed and signed by TVA and EPA, in consultation with TDEC. Although all accessible ash was removed, a small quantity of ash was left adjacent to Swan Pond Road and beneath Swan Pond Circle Road to prevent slope stability issues.

Significant volumes of ash were removed from other areas and consolidated into the Ash Landfill. These include the relic area of the Dredge Cell (1,502,000 cy), the Ball Field processing area (323,000 cy), and along Swan Pond Road (87,000 cy). In addition, about 175,000 cy of plant-generated ash settled out into the Ash Pond and 556,000 cy of spoils (when compacted) were generated during perimeter wall stabilization.

Effectiveness of Ash Processing. Ash processing consisted of temporary stockpiling and/or windrowing the material to dewater the recovered ash. Temporary ash storage and/or processing was necessary to condition the ash so as to meet moisture content requirements prior to ash stacking. Several ash processing areas were used during the non-time-critical removal action, including the former Ball Field, central Dredge Cell, Ash Pond, and relic area of the Dredge Cell. Lime treatment was also conducted during winter months to dry the ash. These ash processing areas, especially the relic area of the Dredge Cell, were also used for dewatering of spoils from the perimeter wall stabilization (PWS) slurry trenching operations.

Effectiveness of Ash Stacking. Ash stacking was implemented in stages in each quadrant of the Ash Landfill, progressing from the north and central Dredge Cell, to the Lateral Expansion, and then to the Ash Pond. However, these stages overlapped considerably, so that at any given time stacking operations were being conducted across the Site. Ash material was stacked using pan scrapers or dump trucks to place the material, dozers to spread the material, and smooth steel drum rollers to compact the material. A total of 3,595,000 cy (compacted volume) of ash material was stacked within the Ash Landfill including 1,488,000 cy in the Dredge Cell, 1,189,000 cy in the Lateral Expansion, and 918,000 cy in the Ash Pond. In addition, 475,000 cy of spoils generated during PWS activities were dried and stacked within the Ash Landfill.

Geotechnical instrumentation consisted of piezometers, slope inclinometers, and settlement plates, which were monitored continually throughout ash stacking. When instrument readings reached levels of concern, mitigation measures were implemented: Restrictions were placed on the rate of stacking to allow pore pressures to dissipate; rock buttress material was placed as a counterweight to slow lateral movements; and finger drains were installed to relieve pore pressures and stabilize soft wet areas. As a result, the ash stacking operations were effective in maintaining stability of the stack.

Productivity mirrored ash removal, and remained slower during the wetter winter months. Stacking averaged 2,600 to 4,600 cy/workday in the summer; the maximum recorded daily productivity rate was 8,540 cy in a single day. Productivity increased once the embayment ash removal was completed, and ash material could be hauled shorter distances from the relic area to active stacking areas. Productivity was impacted during infilling next to the perimeter containment berm due to the narrow geographic area between the berm and adjacent stacked embankment. Problems were encountered during ash stacking due primarily to prolonged wet weather that would degrade the stacking subgrade. Repairs included techniques such as waiting for the conditions to dry out, "clipping" the subgrade surface and replacing that material, and disking or blading the material in place to enhance drying.

Ash stacking, combined with monitoring of geotechnical instrumentation, was effective in constructing a stable embankment within the Ash Landfill. The ash stacking (including infill stacking) was completed July 2014, having taken 45 months to complete and at a cost of approximately $13 million.

Effectiveness of Perimeter Wall Stabilization. The PWS was the most significant component of the perimeter containment system. The stabilized perimeter was designed to contain material both under static conditions as well as following a seismic event. The PWS involved excavating a grid of slurry trench walls through saturated fly ash that were backfilled with self-hardening slurry composed of cement slag and bentonite (cement-bentonite [CB]) slurry. Each segment of the PWS system contained shear walls (perpendicular to the perimeter); some segments also contained an inboard and/or outboard perimeter wall (parallel to the perimeter). Each slurry trench wall panel was nominally 4-ft wide and excavated in "cuts" approximately 30-ft long. The PWS wall system was a total of 12,000-ft long, and varied from 60 to 100 ft in width. Each wall panel was 45 to 75 ft deep and embedded into the underlying bedrock 1.7 to 6.9 ft . Design strengths varied from 200 to 265 pounds per square inch.

Productivity averaged 540 to 1,130 cy/workday (in-place volume) across the various segments. The maximum recorded daily productivity rate was 2,400 cy in a single day. Productivity was initially impacted by numerous equipment breakdowns and repairs; to improve productivity, an additional rig was brought to the Site as spare equipment in case of breakdown of one of the operating rigs.

Upon completion of a portion of the PWS wall, quality control (QC) checks were conducted to verify wall integrity. These included depth soundings for rock embedment, horizontal and verticality surveys, unconfined compressive strength testing of grab and/or core samples, and coring for uniformity. Concurrence forms were used to document the QC and accepted wall integrity; these concurrence forms were reviewed and signed by TVA and EPA, in consultation with TDEC.

- Problems were encountered early in the trenching operations as work platform conditions deteriorated during trenching. Groundwater levels rose to near the ground surface, causing trench collapse and platform deterioration. Equipment support (layered crane mats) was impacted, requiring at times more than six layers of mats. Several options were tested for stabilization of the work platform so as to improve equipment support: stone/rock, stone/rock with geogrid reinforcing fabric, bottom ash, lime-treated fly ash, and cement-stabilized fly ash. Stone/rock surfacing was the most successful and cost-effective method for improving platform stability. Additional techniques proved helpful in abating near-surface groundwater levels that had led to deterioration of the platform: dewatering finger drains, raised platform elevation, and reducing spillage of slurry trench spoils onto the platform.

- Problems were encountered during trenching operations that led to excessive sloughing and/or sidewall collapse. Several conditions contributed to trench sidewall instability: shallow depth to groundwater in some areas, artesian groundwater pressures near the base of Pine Ridge, liquefiable sands and fly ash, closely spaced shear walls that exacerbated liquefaction, and hard rock that further exacerbated liquefaction. Improvements that were successful in reducing collapse included raising the working platform elevation, sequencing the wall installations by skipping more than one shear wall in a pattern, and dewatering using both shallow well points in the ash and wells in the deeper sands. These efforts reduced frequency of trench collapse, but did not eliminate trench instability issues.

- Coring for uniformity detected numerous inclusions of unsolidified materials in sections of the wall. Most of these defects were a result of platform instability and wall collapse, as discussed above, as well some areas of low strength. Mitigation of defects in the wall was accomplished by either excavating adjacent wall panels or by jet grouting of defects. Jet grouting consisted of pre-drilling 3- to 4-inch-diameter holes then pressure injecting cement grout to form columns nominally 4 ft in diameter within the unsolidified material. A total of 5,490 linear ft of adjacent wall panels and 3,275 jet grout columns were constructed to repair defects. Approximately 18% of the wall required defect mitigation.

- Construction joints between two adjacent wall panels that had partially cured resulted in numerous "cold joints". Sequencing of slurry trench panel excavations reduced, but did not eliminate the number of cold joints. Mitigation of cold joints in the wall was accomplished by either excavating adjacent wall panels or by jet grouting. Jet grouting, which was predominantly used, consisted of pre-drilling a pair of 12-inch-diameter holes then pressure injecting cement grout to form alternating 1 ft vertical intervals of jet-grout columns varying from 12 inches (pre-drill hole diameter) to 14 inches in diameter. In this way, the completed cold joint mitigation column was firmly socketed into the cured

PWS wall on either side of the joint. Approximately 20% of the construction joints required cold joint mitigation.

- Problems were encountered prior to construction of the PWS adjacent to the Stilling Pond in that the dike dividing the Stilling Pond from the Ash Pond was found to be unstable. TVA undertook emergency construction of a rock buttress to stabilize the dike. Clean rock and riprap materials, as well as rock retrieved from the Sediment Basin and Dike 2 removal, were placed in the Stilling Pond as a counterweight to improve dike stability during trench construction.

A rock buttress was also constructed on the outboard side of the perimeter wall for portions of PWS wall segments abutting the Middle Embayment. The purpose of the rock buttress was to provide a counterweight to resist movement and improve stability following a design earthquake event. The rock buttress, approximately 2,050-ft long, consisted of varying layers of sand, gravel, and stone riprap that were placed between the shear walls.

Once the rock buttress was in place, an earthen berm was constructed on top of the PWS wall. The perimeter berm extended a total of approximately 12,000 linear ft along the full circumference of the Ash Landfill. The perimeter berm consisted of an initial 12-inch layer of sand overlain by an embankment of compacted clayey borrow soil.

The PWS, combined with the rock buttress and perimeter berm, provided effective containment of the stacked material within the Ash Landfill. The PWS construction (including repairs) was completed in February 2014, having taken 31 months to complete and at a cost of approximately $130 million.

Effectiveness of Cap and Closure. Closure of the Ash Landfill included construction of a flexible membrane liner system (FMLS) and soil cap. The FMLS consisted of a multilayer cap built in the following successive layers: Subgrade preparation, 40-mil textured low linear density polyethylene geomembrane, geocomposite drainage medium, 20 inches of cap soil consisting of a silty or clayey borrow material, 4 inches of topsoil, and vegetative cover. Drainage systems were installed in conjunction with the FMLS and included: underdrain pipes in swales and ditches, downslope flumes lined with riprap, ditches lined with turf reinforcing mat, and low-water crossings of the perimeter access road lined with riprap.

During active capping operations, productivity averaged approximately 800,000 sf/month (in-place planar area) for the flexible membrane liner (FML), and 600,000 sf/month for the geocomposite and cover soil. The maximum recorded monthly productivity rate was 1,360,034 sf in a single month. Cap and closure in the Ash Landfill was completed on January 21, 2015, at a cost of approximately $34 million. Approximately 4.1 million cy of material were placed in the Ash Landfill during the non-time-critical removal action. Approximately 14.6 million cy were in place prior to the removal action, so that a total of approximately 18.7 million cy are ultimately contained in the Ash Landfill beneath the cap.

MONITORING AND ANALYTICAL RESULTS

Samples of environmental media were collected during the non-time-critical removal action for the Embayment/Dredge Cell to monitor the construction operations. Monitoring in the river system is reported separately and not discussed in this report.

Surface Water Monitoring. Water quality parameters, including metals and turbidity, were measured in the Clean Water Ditch, Settling Basin, and Stilling Pond. Average concentrations of some metals, including arsenic, were more than ten times as high in the embayment samples as in reference background samples taken from the Emory River. These results indicate likely impacts due to runoff from the ash in the embayment. Comparison of post-storm event to non-storm event sampling data indicates little appreciable difference in average metal concentrations. Time-based trends in concentrations of arsenic and selenium (representative of ash-related constituents) indicated that any prior impacts of runoff from ash in the embayment were abated by removal of the ash and covering of exposed ash in the Ash Landfill.

Air Monitoring. Ambient air monitoring was conducted throughout the non-time-critical removal action to assess impact of any resuspension of inhalable and respirable fly ash particles during remediation. In addition to particulate air concentrations (PM2.5 and PM10), air samples were analyzed for metals and crystalline silica. Project-specific action levels were established to track air quality. Data collected to date, both for personnel monitoring and ambient air monitoring, consistently show that personnel exposure to trace elements in the ash has been far below any established action limits and ambient air quality standards have not been exceeded.

Groundwater Monitoring. TVA collected groundwater samples from five shallow wells during the non-time-critical removal action. Results showed that no analyte exceeded its maximum contaminant level during the non-time-critical removal action. These results indicate that there were no observable adverse impacts on groundwater quality during the non-time-critical removal action, neither during filling of the Lateral Expansion and Ash Pond nor during PWS construction. Long-term groundwater monitoring began in September 2014 and will be reported as part of the post-closure reporting for the Ash Landfill.

SAFETY AND HEALTH

Safety and health incidents were reported through each contractor's safety and health management organization. Incidents of a serious nature were reviewed by a management team for corrective actions to be developed. Through the end of the non-time-critical removal action, 166 incidents were reported, including recordable injuries, first aid incidents, and near-misses. Ten recordable injuries occurred over the 4-1/2 years, including an irritation due to an insect bite, two fractures when workers slipped while climbing or descending from their equipment, a chipped tooth, and six sprains or strains.

Personal industrial hygiene monitoring was conducted using personal air sampling pumps with filters. Filters were analyzed for metals, respirable dust, total dust, and forms of silica. Results indicated that there were two analytes for which there was at least one reported exceedance of an exposure limit: silica as quartz and respirable dust. Statistical evaluation of air monitoring results showed that for all exposure groups and for all analytes, the results achieved a 95% confidence level that the 95th percentile of the exposures fall below the Site exposure levels.

Reportable environmental events, or incidents, included spills/releases of hazardous chemicals that may negatively impact human health or the environment. During the non-time-critical removal action, there were no serious environmental incidents. Most events involved release of small quantities of hydraulic fluid from excavators, dozers, or other heavy equipment involved in the cleanup effort. All such small quantity releases were immediately reported and cleaned up, with proper disposal of the materials.

PUBLIC INFORMATION AND COMMUNITY RELATIONS ACTIVITIES

TVA's community involvement program facilitated two-way communication between the community surrounding the Site and encouraged community involvement in Site activities. Numerous communication tools were used to interact with the community and expand understanding about the Site. These communication tools included establishment of an Administrative Record and Information Repository, website and electronic media, and a Community Advisory Group. TVA placed public notices announcing public comment periods in local newspapers and by email, held availability sessions and public meetings, prepared responsiveness summaries for each public comment period, issued fact sheets, newsletters, and handouts, and erected road signs. TVA maintained active media relations and identified opportunities to speak to local government bodies, schools, and civic/community organizations.

RESOURCES COMMITTED

TVA has recorded an estimate in the amount of $1.2 billion for the total cost of cleanup related to the incident. Costs incurred during the non-time-critical removal action related to the Embayment/Dredge Cell, totaled approximately $545 million. EPA costs incurred have totaled $12 million, including $7 million during the non-time-critical removal action.

DIFFICULTIES ENCOUNTERED AND CONCLUSIONS

Difficulties Encountered. Measures were taken during the non-time-critical removal action to improve construction operations and mitigate operational difficulties. The following summarizes key conclusions and lessons learned.

- Removal lessons learned. Mechanical excavation using land-based excavators was much safer, less costly, and offered better inspection of ash removal than dredging would have. Mechanical excavation also reduced the potential for release of petroleum products to water. Multiple methods of ash processing, including windrowing and lime treatment during the winter months and sun drying during summer months, proved effective at reducing moisture content of the excavated materials suitable for stacking. However, ash processing required considerable double-handling of materials, which added both cost and time.

- Ash stacking lessons learned. Geotechnical monitoring, including piezometers and inclinometers, proved critical to safely controlling ash stacking rates. Prolonged wet weather degraded the stacking subgrade and impaired productivity. Mitigation measures such as waiting for the conditions to dry out, "clipping" the subgrade surface and replacing that material, and disking or blading the material in place to enhance drying were effective at improving subgrade conditions, but were nominally successful during winter months.

- PWS lessons learned. CB slurry trenching was a relatively quick and effective means of constructing nearly 60,000 linear ft of wall panels keyed into bedrock. However, wall quality was impaired due to numerous Site conditions that contributed to sidewall collapse and formation of cold joints. Productivity was improved by initiating jet grouting for repair of defects, which allowed the large rigs to be used for wall production rather than repairs. Productivity was also improved by bringing an additional rig to the Site as spare equipment. Stability of the working platforms was improved by placing stone/rock on the inside edge of the platform, installing dewatering wells and/or finger drains, raising the platform above design grade for the top of the wall, and reducing spillage.

- Cap and closure lessons learned. Use of a multilayer cap was effective due to the lack of suitable low permeability clay onsite. Development of an onsite borrow area and construction of a bridge underpass were effective in avoiding high truck traffic over public roadways. Heavy rains degraded the cap subgrade because the ash is highly sensitive to erosion. Use of clay lining on steep ash slope sections and plastic lining of surface drainage ditches were effective in controlling erosion. The edges of the liner were buried in anchor trenches to avoid erosion beneath the FML.

- Dust control lessons learned. The primary method used for dust control was to apply a proprietary dust suppression agent (Flexterra®), either with or without grass seed mixture. Water trucks were used to wet down travel areas and ash piles, exposed surfaces were compacted by "slicking off" the surface, mobile water misters were used during the lime treatment operations, bag houses with seals or pressure control housings were used during slurry mixing operations, and vehicles were cleaned at a wash station to prevent ash tracking onto roadways.

Recommendations to Prevent Recurrence. Measures to prevent a recurrence of the release were addressed in the OSC Report for the time-critical removal action. Recurrence of a release due to a progressive slope failure at this Site can be prevented by construction of an engineered dry stack and perimeter containment, as was constructed during the non-time-critical removal action for the Embayment/Dredge Cell.

1 SUMMARY OF EVENTS

1.1 SITE CONDITIONS AND BACKGROUND

On December 22, 2008, approximately 5.4 million cubic yards (cy) of ash material were released into the environment from the Tennessee Valley Authority (TVA) Kingston Fossil Plant (plant) in Harriman, Roane County, Tennessee. In response to this release, an Incident Command System (ICS) Unified Command structure was implemented consisting of the U.S. Environmental Protection Agency (EPA) Region 4 as the lead agency, the Tennessee Department of Environmental and Conservation (TDEC), and TVA. TVA undertook immediate response actions and worked in close coordination with the EPA, TDEC, and other agencies to provide for the safety of area residents, to contain released ash and minimize its downstream migration, and to monitor and assess air and water quality. Following initial response actions, EPA transferred lead agency authority from EPA to TVA on January 11, 2009. On January 12, 2009, TDEC issued a Commissioner's Order to TVA requiring, among other things, the comprehensive assessment, cleanup and restoration of areas impacted by the release (TDEC 2009a). On May 11, 2009, an *Administrative Order and Agreement on Consent* (EPA Order) was signed between EPA and TVA providing the regulatory framework for the restoration efforts under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (EPA 2009b). TVA undertook response actions to achieve short-term strategic Site objectives defined in the EPA Order as time-critical removal actions. Those actions were summarized in an On-Scene Coordinator (OSC) Report (TVA 2011a). TVA subsequently undertook further response actions to achieve mid-term Site objectives as non-time-critical removal actions. This OSC Report summarizes the non-time-critical removal actions taken to comply with the EPA Order. This report has been prepared in conformance with the requirements of EPA's Office of Solid Waste and Emergency Response Directive No. 9360.3-03 (EPA 2007).

The TVA plant is located just off Swan Pond Road in Harriman, Roane County, Tennessee, near the city of Kingston (Figure 1). Construction of the plant began in 1951 and was completed in 1955. The plant typically generates 10 billion kilowatt-hours of electric power each year, enough to supply the needs of about 670,000 homes in the Tennessee Valley. The plant consumes approximately 14,000 tons of coal per day when operating at full power.

Ash material is a product of burning pulverized coal in generation plants. The Kingston plant can produce about 1,000 dry tons, or approximately 1,200 cy of ash per day when operating at full power. Ash material consists of both bottom ash and fly ash. Bottom ash is a coarse-grained material that is washed out of the bottom of the plant's production furnaces. Fly ash is a fine powdery material that is removed from the plant's exhaust stream by electrostatic precipitators. The collected bottom ash and fly ash has historically been sluiced as a water-based slurry to an Ash Pond for settling. Prior to the release, the ash was then dredged from the Ash Pond and piped to long-term unlined storage ponds, also known as dredge cells.

The dredge cells were permitted by TDEC on September 26, 2000, as a Class II Solid Waste Landfill under state regulations. The three permitted dredge cells (Cells 1, 2, and 3) that failed during the release (referred to as the "Dredge Cell") covered about 127 acres and stored about 16.2 million cy of both fly and bottom ash at the time of the release. A fourth permitted dredge cell (referred to as the "Lateral Expansion Area", or Cell 4) was being constructed at the time in the northern half of the Ash Pond. Together, the Ash Pond and Lateral Expansion area covered about 120 acres and contained about 4.0 million cy of ash at the time of the release. The Dredge Cell, Ash Pond, and Lateral Expansion areas therefore contained a combined total of approximately 20 million cy.

Ash is also present in other areas of the Kingston plant, having been generated from historical ash processing operations. The "Ball Field" is a triangular-shaped area located immediately north of the plant and south of the Dredge Cell; the Ball Field was one of the first disposal areas at the Kingston plant, and has at least 40 ft of underlying ash deposits. The "Stilling Pond" is a triangular-shaped area located immediately east of the Ash Pond and Lateral Expansion area; the Stilling Pond is used for final treatment of plant wastewaters prior to discharge under the plant's National Pollutant Discharge Elimination System (NPDES) permit; the Stilling Pond also has approximately 40 ft of underlying ash deposits. Quantities of ash present in the Ball Field and Stilling Pond areas are estimated to be less than 5 million cy.

The Kingston plant is located on the Emory River close to the confluence of the Clinch and Tennessee Rivers. The Emory River at the plant is impounded by Watts Bar Dam. The normal summer and winter pool levels of Watts Bar Reservoir in the vicinity of the plant are 741 and 735 ft mean sea level (msl), respectively. The Emory River originates on the Cumberland Plateau and its inflows to Watts Bar Reservoir are not controlled. Flows in the nearby Clinch River arm of Watts Bar Reservoir are controlled by Melton Hill Dam.

1.1.1 Initial Situation

On Monday, December 22, 2008, a containment dike surrounding a portion of the Class II landfill collapsed, releasing about 5.4 million cy of fly ash and bottom ash. The wet ash material flowed into area waters, including the Emory River, adjacent tributaries and sloughs, and adjoining shorelines. The released material covered about 300 acres of adjacent parts of Watts Bar Reservoir, including most of Swan Pond Embayment. Most of the released ash was on property under TVA's custody and control. Figure 2 illustrates the area prior to the dike failure, and Figure 3 shows the area on December 28, 2008, after the dike failure. No injuries occurred, but about 40 residences were directly affected by ash deposits or water surge. Three houses were severely damaged and were later demolished. Swan Pond Road, Swan Pond Circle Road, and portions of the rail line serving the plant were covered with ash. Water, electrical, and gas services to the adjacent area were interrupted.

1.1.2 Location of Hazardous Substance(s)

The ash material contains naturally-occurring metals and radionuclides that are hazardous substances as defined by CERCLA Section 101(14). The ash from the Ash Pond and Dredge Cells was tested for naturally-occurring inorganics after the dike failure occurred in December 2008. Coal, in its natural state, contains various inorganic constituents that can be concentrated and retained in the ash after burning the coal for power production. The specific chemical composition of fly ash depends on the source of the coal. The plant mostly uses eastern bituminous coal but also has used coal from Illinois and blends low-sulfur Western coal to reduce emissions. The ash is primarily composed of fine silica particles. Oxides of silicon, aluminum, iron, and calcium, chemically combined in an amorphous form, comprise 95 to 99% of fly ash. Ash contains variable amounts of magnesium, titanium, sulfur, sodium, and potassium. Ash also contains trace amounts (less than 1%) of other constituents that occur naturally in coal, such as arsenic, barium, beryllium, boron, copper, lead, mercury, nickel, selenium, thallium, vanadium, and zinc (TVA 2009a). In addition, ash contains naturally-occurring radionuclides, such as isotopes of uranium and thorium, their short-lived daughter products (such as radium), and potassium-40. Analytical data for ash and naturally-occurring soils in the region are discussed in the OSC Report for the time-critical removal action (TVA 2011a).

The released ash extended through several miles of riverways. The main area affected by the failure of the Dredge Cell was in the area nearest the plant, extending from Emory River Mile (ERM) 1.5 to 3.5. The ash may have traveled upstream as far as ERM 5.75 and as far downstream as Tennessee River Mile 564. Since that time, further downstream migration of ash has likely occurred into the Clinch and Tennessee Rivers. Implementation of the time-critical removal action in 2009 and 2010 removed more than 3,500,000 cy of ash and associated sediment from the river system and disposed of those materials at an offsite landfill. Volumes of ash remaining in the river system following the time-critical removal action were estimated at approximately 532,000 cy (TVA 2011a).

1.1.3 Cause of Release or Discharge

The cause of the release was described in the time-critical OSC Report (TVA 2011a). AECOM Technology Corporation (AECOM) published a Root Cause Analysis Report to identify the most probable mechanisms or factors that contributed to the failure (AECOM 2009). AECOM's conclusion was that rapid failure of the active Dredge Cell was progressive in nature due to four concurrent factors:

1. Fill Geometry and Setbacks. Perimeter dikes were built on high-void-ratio sluiced ash and underlying sensitive silt layer and set back from the older dikes built on firmer foundation layers.
2. Increased Fill Rates and Higher Loads. The elevation of the ash was increasing more rapidly compared to earlier years, which added load more quickly to the wet ash and underlying sensitive silt.
3. Soft, Weak Foundation Soils. Creep deformations caused a reduction in the available strength of the sensitive silt layer.
4. Hydraulically-Placed Loose Wet Ash. The ash remained very loose with a very sensitive structure, leading to low undrained shear strength under loading.

The TVA Office of the Inspector General (OIG) also published an Inspection Report (TVA OIG 2009). The findings of the OIG Inspection Report included that TVA's management practices or policies and procedures contributed to the release by allowing conditions to advance to the critical stage. Possible "red flags" were not acted on, ash management was not identified as a risk in TVA's Enterprise Risk Management program, and TVA culture relegated ash to the status of garbage at a landfill rather than treating it as a potential hazard to the public and the environment. TVA has since acted to address its ash management program and to improve its organizational effectiveness, including: organizational changes to address management and accountability issues; changes designed to alter the corporate culture which had de-emphasized the importance of ash management; and steps to assess ash storage facilities against dam safety guidelines.

A TDEC Advisory Board also published a report of lessons learned from the TVA Dredge Cell failure (TDEC 2009b). Findings/recommendations of the TDEC Advisory Board included: (1) emphasis on improved life-cycle engineering design, monitoring, inspection, and follow-up maintenance; and (2) understanding of the evolutionary process of the cell construction and methods to manage that evolution.

1.1.4 Injury/Possible Injury to Natural Resources

1.1.4.1 Notification of Natural Resource Trustees

The natural resource trustees were notified immediately after the release. TVA itself is one of the natural resource trustees for Watts Bar Reservoir, along with TDEC and the U.S. Fish and Wildlife Service (USFWS).

1.1.4.2 Assessment of Impacts to Natural Resource Conditions

Impacts to natural resources as a result of the release were described in the time-critical OSC Report (TVA 2011a). The released ash extended through several miles of riverways, completely covering the aquatic habitat in this portion of Watts Bar Reservoir. Bottom-dwelling animals were likely unable to escape the release and were smothered by ash deposits. Fish were stranded on shorelines and experienced physical trauma due to the ash, debris, and high levels of suspended solids. Approximately 2.5 acres of wetlands were filled entirely by ash. Although various species of wildlife may have been affected, it appears that low levels of immediate wildlife mortality were associated with the ash release. Bird colonies located on nearby islands remained intact and were not impacted. Over 50 acres of riparian-zone habitat were impacted by the release and subsequent remediation, changing the types of riparian habitat and their overall acreage.

Additional studies on natural resources in the river system have been conducted since the release, and are summarized in an Engineering Evaluation and Cost Analysis (EE/CA) for the River System (TVA 2012c), and an associated Baseline Ecological Risk Assessment (BERA). Results of those studies have indicated that there has been no ecologically significant impairment to the fish, fish-eating birds, mammals, amphibians, reptiles, or aquatic plant communities; no further actions have been recommended for those receptor groups. Benthic invertebrates (e.g., mayflies or snails) were considered to be at moderate risk in the Emory River and low risk in the Clinch River due to biouptake of arsenic and selenium in ash-contaminated sediment. Riparian-feeding birds (e.g., killdeer) that feed on benthic invertebrates in ash-impacted areas of the river system were considered at low risk due to biouptake of arsenic and selenium in their diet (larval mayflies and snails). Aerial-feeding birds (e.g., tree swallows) were also considered to be at low risk due to biouptake of selenium in their diet (adult mayflies). The BERA recommended risk management actions for these receptor groups. Potential actions were evaluated in the EE/CA for the River System (TVA 2012c). Long-term Monitored Natural Recovery is being implemented as a non-time-critical removal action to address residual ash in the river system in accordance with the approved Action Memorandum (TVA 2012d). The long-term monitoring continues to assess impacts to natural resources in the river system.

1.1.5 Efforts to Obtain Response by Responsible Parties

1.1.5.1 Incident Notification

EPA was the lead federal agency during the emergency response. TVA and Roane County Office of Emergency Management and Homeland Security (EMHS) responded immediately to the incident. On December 22, 2008, the National Response Center and EPA Region 4 were notified by TVA of the release. An EPA OSC responded to the release the same day. An ICS response organization was activated to manage the emergency phase of the release under Unified Command. Members of the Unified Command included TVA, EPA Region 4, TDEC, Roane County EMHS, Tennessee Emergency Management Agency, and Tennessee Department of Health. The U.S. Coast Guard, USFWS, and the U.S. Army Corps of Engineers (USACE) were also informed of the release. In addition, TVA staff also contacted the office of the State Historic Preservation Officer and federally-recognized tribes and informed them that there may have been impacts to known cultural resources. A decision was made by the Unified Command that the incident response would transition from the emergency phase to long-term recovery effective January 11, 2009. At that time, EPA transferred the lead federal agency role to TVA (EPA 2009a).

1.1.5.2 TDEC Commissioner’s Order

On January 12, 2009, TDEC issued a Commissioner’s Order, Case No. OGC09-0001 requiring action be taken as necessary to respond to the emergency under Tennessee Code Annotated §69-3-109 B0 (1), the Water Quality Control Act (TDEC 2009a). The TDEC Order required TVA to develop plans for environmental assessment, monitoring, protection of water supplies, ash management, and health and safety.

In March 2009, TVA issued a Corrective Action Plan (CAP), in response to the TDEC Commissioner’s Order (TVA 2009b). The CAP included the following elements:

- A plan for the comprehensive assessment of soil, surface water, and groundwater; remediation of affected media; and, restoration of all natural resources damaged as a result of the coal ash release.

- A plan for monitoring the air and water in the area during the cleanup process.

- A plan to ensure that public and private water supplies are protected from contamination and that alternative water supplies are provided if contamination is detected.

- A plan addressing both the short term and long term management of coal ash at the Kingston plant, including remediation and stabilization of the failed ash waste cells, proper management of the recovered ash, and a revised closure plan for the Class II ash disposal facility.

- A plan to address any health or safety hazards posed by the ash to workers and the public.

1.1.5.3 Emergency Response and Initial Recovery Actions

TVA undertook considerable emergency response and initial recovery actions immediately after the release happened (TVA 2011a). Actions included closing the Emory River to boat traffic; managing of river flows by controlling releases from nearby dams; controlling ash migration by constructing a Weir 1 across the Emory River and a Dike 2 across the Swan Pond Embayment; repairing damaged railroads, roads, and utilities; collecting cenospheres (floating ash residue) and floating debris from the river system; installing storm water management systems (clean water diversion, ash water collection, and settling basin); dust control systems; and dike stabilization. Comprehensive community outreach activities were implemented to provide for immediate safety and housing of affected residents, individual confidential health assessments, and multiple communication formats to provide local residents and officials with information on potential hazards and actions being taken.

1.1.5.4 EPA Administrative Order and Agreement on Consent

On May 11, 2009, an EPA Order was signed between EPA and TVA providing the regulatory framework for the restoration efforts under CERCLA (TVA 2009a). The EPA Order defined short-term strategic objectives for the Site, which were addressed during the time-critical removal action. Short-term objectives included: (1) prevent the coal ash release from negatively impacting public health and the environment; (2) contain and remove coal ash from the Emory River and the area east of Dike 2 as appropriate to restore flow and minimize further downstream migration of the ash material; and (3) ensure that coal ash material recovered during these efforts is properly managed pending ultimate disposal decisions or, to the extent required by limited storage capacity, properly disposed.

Mid-term strategic objectives, as defined in the EPA Order, included removing any remaining coal ash from the embayments and tributaries west of Dike 2 to the maximum extent practicable, removal of coal ash from impacted upland areas and surface soils to the maximum extent practicable, and proper disposal of all coal ash material recovered during these efforts. Mid-term objectives were addressed under the non-time-critical removal actions following completion of the time-critical actions.

1.1.5.5 Time-Critical Removal Action

Time-critical actions began following issuance of the EPA Order to address short-term strategic objectives for the Site. An Action Memorandum for the time-critical removal action was approved on August 4, 2009 (Jacobs 2009b). Time-critical actions included hydraulic and mechanical dredging of ash from the Emory River, mechanical excavation of ash from the Swan Pond Embayment east of Dike 2, dewatering and processing of the recovered ash (including water management), loading of the dewatered ash into railcars, transport of the ash via rail offsite, and ultimate disposal of the ash at the Arrowhead Landfill in Uniontown, Perry County, Alabama. Other related actions included cenospheres recovery, air monitoring and dust control, surface water monitoring, storm water management, dike stability evaluations and stabilization, and construction of a test embankment to demonstrate the constructability of dry ash stacking.

A pilot program for hydraulic dredging in the river began in March 20, 2009 and continued until July 20, 2009. At the end of the pilot program in July 20, 2009, nearly 468,000 cy of material had been removed by hydraulic dredging. Large-scale dredging of the Emory River began under the time-critical removal action in August, 2009, and was conducted in two phases. Phase 1 focused on removing the greatest volume of ash in the quickest time frame. At the end of Phase 1 on February 1, 2010, a total of 1.5 million cy of ash had been removed from the river, which opened the river channel and minimized downstream ash migration. Phase 2 focused on dredging to the original river bottom contours to further minimize the potential for ash migration downriver. This dredging was considered "precision" dredging, since shallow depths of ash were to be removed. At the end of Phase 2 in June 2010, an additional 750,000 cy of ash had been from the river. Figure 4 shows the area in August 2010, following completion of the time-critical activities.

Mechanical dredging using clamshells and backhoes was used in conjunction with hydraulic dredging to remove debris, rock, and/or ash deposits located far upstream. A total of 62,000 cy of ash were removed from the river by mechanical dredging. Land-based excavation of ash using bulldozers, backhoes, and amphibious equipment was implemented in the area east of Dike 2 at the mouth of the Swan Pond Embayment. A total of 737,000 cy were mechanically excavated east of Dike 2 from June 2009 through May 2010.

Recovered ash was dewatered, then loaded onto railcars for transport to the Arrowhead Landfill in Uniontown, Alabama, which is a permitted Class I, Subtitle D, facility (Permit No. 53-03). Offsite shipments began on July 2, 2009; the last train shipment left the Site on December 1, 2010. A total of 4,025,000 tons of material were disposed at the Arrowhead Landfill.

1.2 ORGANIZATION OF THE RESPONSE

1.2.1 Non-Time-Critical Removal Action

TVA prepared an EE/CA for the Embayment/Dredge Cell (Jacobs 2010b) to evaluate alternatives for restoration of the Swan Pond Embayment and for stabilization and closure of the former Dredge Cell and Ash Pond as a single Ash Landfill. An Action Memorandum for the non-time-critical removal action was approved on May 18, 2010 (Jacobs 2010d). To ensure smooth transition between time-critical and non-time-critical actions, EPA authorized the implementation of several transition activities, which included the following:

- Construction of a bridge and underpass at Swan Pond Circle Road.
- Consolidation of ash materials in the northernmost sections of the embayment.
- Recontouring and subgrade preparation in the central area of the Dredge Cell.

1.2.2 Phases of Response

The non-time-critical removal actions were focused on removing ash from the Swan Pond Embayment areas west of Dike 2. Figure 5 shows the areas addressed during non-time-critical activities. Actions included removing ash from both the North Embayment and Middle Embayment with land-based equipment. Recovered ash was then dry-stacked onsite in the Dredge Cell and Ash Pond. Closure of the

Dredge Cell and Ash Pond involved construction of a perimeter containment berm and final cap over the Ash Landfill. Efforts during this time also included continued dust management and storm water management. These activities are described in more detail below.

1.2.3 Role of Government Agencies and Contractors

The organization of the non-time-critical removal action was via the ICS under a Unified Command. While TVA retained responsibility as the lead federal agency, EPA retained approval authority over the actions taken to clean up the Site, in consultation with TDEC. TDEC also retained authority in specific areas, such as final closure of the Dredge Cell and Ash Pond. In addition, other agencies were involved such as the U.S. Coast Guard, Bureau of Reclamation (BOR), the Agency for Toxic Substances and Disease Registry, USACE, and the Tennessee Department of Health.

Three persons served as the Incident Commanders within the Unified Command for implementing the non-time-critical action, one for each of the agencies: TVA, EPA, and TDEC. Three persons have served as the Incident Commander and General Manager for TVA: Steve McCracken (between May 2010 and April 2012), Kathryn Nash (between April 2012 and January 2014), and Carol Eimers (since January 2014). EPA's Remedial Project Manager, Craig Zeller, was responsible for working with TVA to ensure that the requirements of the EPA Order were met during the non-time-critical action. TDEC's Incident Commander was Deputy Commissioner Paul Sloan, who was replaced by Shari Meghreblian on May 2, 2011. In addition, Barbara Scott served as the TDEC representative to the Site through October 2012.

In addition to the agencies mentioned, substantial contractor support was included in the organization. TVA hired Jacobs Engineering Group Inc. (Jacobs) under the direction of their Program Manager, Jack Howard to provide technical support to Site management, engineering, and construction. TVA's in-house construction organization, Civil Projects (later named Site Construction Services, or SCS), was responsible for ash removal from the embayment, ash stacking in the Dredge Cell and Ash Pond, and maintenance of the Site. Geo-Con, a trade name of the Environmental Barrier Company, LLC, was responsible for construction of the perimeter wall stabilization (PWS) system around the Ash Landfill. Phillips and Jordan, Inc. (P&J) was responsible for construction of the geosynthetic cap and soil cap. Stantec Consulting Services Inc. (Stantec) provided engineering design and construction quality control (QC) management for the Ash Landfill components and closure. Merit Construction was responsible for most of the ecosystem restoration work in the embayment. Both P&J and Merit were responsible for constructing separate phases of a recreational park in the Swan Pond community (not part of the CERCLA actions). Jacobs provided engineering design and construction QC for the recreational park.

1.3 CHRONOLOGICAL NARRATIVE OF RESPONSE ACTIONS

1.3.1 Threat Abatement Actions Taken

The released ash filled most of the Swan Pond Embayment to the north of the former Dredge Cell and Ash Pond area and an adjacent stretch of the Emory River. Emergency response actions were taken as initial threat abatement measures, as described in Section 1.1.5.3. Time-critical actions were taken for threat abatement to meet the short-term strategic objectives for the Site, as discussed in Section 1.1.5.5. Non-time-critical actions were taken to meet mid-term strategic objectives for the Site and included the following:

- Ash Removal. TVA's Civil Projects/SCS removed ash from the Swan Pond Embayment area west of Dike 2 using land-based and amphibious mechanical excavators (backhoes). Excavation began on August 11, 2010. Mechanical excavation was completed in the North Embayment area by November 19, 2011, and in the Middle Embayment area by March 29, 2013.

- Ash Processing. Ash processing activities were conducted concurrent with the mechanical excavation. Stockpiling of excavated ash that was too wet for dry stacking was conducted in several areas of the Site, including the Ball Field, central Dredge Cell, and relic area of the Dredge Cell. Dewatering was conducted by gravity drainage and by windrowing to enhance evaporation. Lime treatment of wetter ash was conducted on a portion of the recovered ash and PWS spoils during wet winter months, between January 13, 2010, and March 28, 2013.

- Ash Stacking. Ash placement within the former Dredge Cell and Ash Pond progressed in stages across the area. Initial subgrade preparation and recontouring began in the former Dredge Cell on August 11, 2010; the subgrade was completed and active ash stacking operations began on September 13, 2010. Ash stacking continued until July 1, 2014, when the final lift of ash was placed.

- Perimeter Containment. Perimeter containment included subgrade preparation, installation of a PWS system, and construction of an earthen berm surrounding the Ash Landfill. Construction of the PWS system began as a pilot test in April 2011; full-scale production of the first segment of the wall began on July 19, 2011. The final segment of the wall was completed on August 2, 2013; final repairs to the wall were made by installing replacement walls and by jet grouting, which was completed on February 20, 2014.

- Cap and Closure. Placement of the cap system over the stacked ash progressed in stages across the area. Initial cap placement began in the former Dredge Cell on June 18, 2013, and continued until January 21, 2015, when the final section of topsoil was placed over the cap.

- Ecosystem Restoration. Restoration of the ecosystem in the Swan Pond Embayment included establishment of a complex mosaic of forested, scrub-shrub, and emergent wetland plant communities. This included the restoration of floodplain microtopography and wetland hydrology (i.e., constructed vernal pools) that historically provided important off-channel, seasonal, aquatic habitat for amphibians, birds, and other semi-aquatic species. Enhancements included constructing weirs to control water levels in the North Embayment and constructing additional wetlands in the former borrow area. Ecosystem restoration will be described in an addendum to this OSC Report.

- Other Related Actions. Throughout the non-time-critical removal actions, TVA continued other related routine actions, including air monitoring and dust control, surface water monitoring, and storm water management. Dike stability evaluations and inspections were routinely conducted.

1.3.2 Alternative Technology Approaches Pursued

1.3.2.1 Removal Action Technology Alternatives

Several technologies were evaluated for removing and disposing of ash from the embayment, as described in an EE/CA for the Embayment/Dredge Cell (Jacobs 2010b). Technologies were evaluated as to their effectiveness, implementability, and cost. The following describes the alternatives considered. Under each alternative considered, the embayment would have been restored to an aquatic and riparian environment.

- Alternative 1: Excavate Embayment and Dispose Offsite (2.8 million cy); Grade and Close Dredge Cell. The actions under Alternative 1 would have removed the ash and other materials in the embayment and disposed of this material offsite. A perimeter containment system would have been installed to keep ash in the cell from entering the embayment in the future and the Dredge Cell would have been graded for drainage. The height of the closed cell would have been approximately 790 ft above msl.

- Alternative 2: Excavate Embayment and Portions of Dredge Cell and Dispose Offsite (6.8 million cy); Grade and Close Remainder of Dredge Cell. The actions under Alternative 2 would have removed the ash and other materials in the embayment, plus enough ash from the Dredge Cell to limit long-term reliance on a dike between the cell and the embayment, yet would have left enough ash to provide buttressing for the remaining dikes. The removed material would have been disposed offsite. The Dredge Cell would have been graded to a gradual slope, with a maximum height of the closed cell of approximately 780 ft msl at its highest point, although most of the Dredge Cell would have been below elevation 765 ft msl.

- Alternative 3: Excavate Embayment and Dispose Onsite; Close the Dredge Cell. The actions under Alternative 3 were ultimately selected for implementation. The Alternative used onsite disposal locations for the ash removed from the embayment. No material was taken offsite for disposal; instead, the ash and other material from the embayment were placed in compacted lifts in the Dredge Cell and Ash Pond. A PWS system was installed to keep ash in the cell from entering the embayment in the future and the Dredge Cell was graded for drainage. The height of the closed Ash landfill was constructed to approximately 790 ft msl.

Rationale for selection of Alternative 3 as the preferred alternative are presented in the *Action Memorandum for the Non-Time-Critical Removal Action for the Embayment/Dredge Cell* (Jacobs 2010d). The selected action is effective in meeting each of the removal action objectives (RAOs) for the Embayment/Dredge Cell, is effective in safely containing the ash and addressing each of the root causes of the release, minimizes offsite transportation and disposal impacts, results in comparable time to achieve RAOs, and is the most cost-effective.

1.3.2.2 Perimeter Wall Stabilization Technologies

Several technologies were evaluated for constructing the PWS system around the Ash Landfill. The alternate technologies and range of typical costs is listed below.

- Insitu soil-cement deep soil mixing. Using this technology, the foundation zone is stabilized by mechanically mixing in-situ soil materials with a cement grout slurry using a hollow-stem paddle mixer. Auger drilling equipment is used to create a soil/cement column. Successive columns are then installed to create a contiguous subsurface "wall" of soil/cement. These walls are then configured into the required grid pattern. Typical costs range from \$85 to \$95/cy. Deep soil mixing using a cutterhead device instead of augers is a similar technology, with typical costs ranging from \$125 to \$135/cy.

- Cement-bentonite slurry walls. Using this technology, the perimeter stabilization walls are installed by the slurry trench construction method. As the trench is excavated, viscous slurry is added to the trench to support the trench opening and maintain a stable trench. The slurry, a mixture of cement slag and bentonite, is a self-hardening slurry that becomes the permanent backfill and the stabilized wall material. Trenching creates a continuous linear CB wall. These walls are then configured into the required grid pattern. Typical costs of slurry trench technologies range from \$75 to \$85/cy.

- Jet grouting. Using this technology, the foundation zone is stabilized by injecting cement grout under high pressure to achieve in-situ mixing of the grout with the soil in the treatment zone. Retracting the injection nozzle creates a soil/cement column. Successive overlapping columns are then installed to create walls, which are then configured into the required grid pattern. Typical costs of jet grouting would be on the order of \$80/cy.

Two full-scale field demonstration tests were performed at the Site to evaluate PWS technologies.

- In August 2010, Remedial Construction Services (RECON) conducted a demonstration of the deep soil mixing (DSM) technology in the northern corner of the former Dredge Cell (RECON 2010). Overlapping DSM columns were installed to construct a test panel 20-ft long by 7-ft wide. RECON installed a total of 11 columns in 2 rows; each column was 5-ft in diameter and spaced 4-ft apart. Unconfined compressive strength (UCS) test results conducted on grab samples at varying depths ranged from 45 to 150 psi at 28 days (average 85 psi); UCS test results conducted on core samples ranged from 85 to 705 psi at 56 days (average 350 psi). The results of the demonstration test suggested that DSM would be an acceptable technique for perimeter stabilization. Difficulties were experienced in defining top of rock based on drilling resistance, but that 2-ft embedment into rock was possible.

- In April 2011, Geo-Con conducted a demonstration of the CB slurry wall technology in the northeast side of the Dredge Cell (Stantec 2011c). Slurry walls were configured in a grid pattern consistent with the final design layout of the PWS, including 3 shear walls and both inboard and outboard walls. Each wall was 4-ft wide. UCS test results were conducted on both 120 grab samples and 500 core samples for comparison. UCS test results for the grab samples ranged from 170 to over 400 psi at 56 days (average 305 psi); those for core samples ranged from 40 to 400 psi at 56 days (average 216 psi). The results of the demonstration test suggested that CB slurry wall technology would be an acceptable technique for perimeter stabilization. Difficulties were experienced in maintaining uniformity (avoiding inclusions greater than 6 inches in diameter) and although the mean strength was achieved, UCS results showed considerable variability.

These alternative technologies were evaluated during a competitive procurement process. Competing proposals were evaluated as to their technical and management approach, and cost. As a result of this evaluation, the CB slurry trenching technology was selected as providing the best potential value to TVA. The selected technology was considered to provide a better process for constructing a continuous uniform wall, a consistent product not impacted by variable in-situ materials, an effective means for excavating the bottom of the wall into hard rock at depth, and a reasonable cost. Design specifications were written to allow either insitu soil mixing (e.g., DSM) or slurry trenching techniques.

1.3.2.3 Ash Stacking Technologies

A *Test Embankment Program* (Stantec 2009a) was approved by TDEC in consultation with EPA during the time-critical removal action to test the stability and effectiveness of dry stacking technologies for disposal of recovered ash within the failed Dredge Cell footprint. The Test Embankment program was implemented to verify both geotechnical design parameters and construction methodology for dry ash stacking above hydraulically-placed Ash Pond deposits and material displaced during the release. Results of the Test Embankment program were considered during the non-time-critical removal action decision-making process under CERCLA.

The Test Embankment program was implemented within the central portion of the former Dredge Cell. Approximately 270,000 cy of compacted ash, were placed in the Test Embankment between July 2009 and March 2010. This included about 250,000 cy of recovered ash from the time-critical removal action and about 20,000 cy of ash from the relic area (Cell 1) of the Dredge Cell. Additional geotechnical engineering data were collected for use in evaluating and designing the ash stacking operations. Targeted geotechnical design parameters included settlement in response to loading, horizontal displacement, short- and long-term strength, pore pressure dissipation, and subsurface drainage. Geotechnical instrumentation consisting of piezometers, slope inclinometers, and settlement plates were installed prior to and during embankment construction. The following threshold limits were used for monitoring the Test Embankment, and subsequent full-scale ash stacking operations:

- Pore pressure ratio. The pore pressure ratio was defined as the change in pore water pressure, measured by the piezometers, divided by the change in fill pressure, estimated from surveyed cross sections routinely scheduled during the stacking operations. When the pore pressure ratio was 10% or below, stacking could continue with regular monitoring. When the pore pressure ratio was 10 to 15%, stacking could continue, but with an increase in monitoring. When the pore pressure ratio was greater than 15%, stacking was to be stopped until pressures dissipated or additional stability analyses demonstrated that the stack was stable.

- Displacement ratio. The displacement ratio was defined as the maximum horizontal displacement, measured by the slope inclinometers, divided by the vertical displacement, measured by the settlement plates. When the displacement ratio was 20% or below, stacking could continue with regular monitoring. When the displacement ratio was 20 to 30%, stacking could continue, but with an increase in monitoring. When the displacement ratio was greater than 30%, stacking was to be stopped until displacements stopped or additional stability analysis demonstrated that the stack was stable.

Results of the test can be found in the *Report of Test Embankment Program* (Stantec 2010b). The Test Embankment verified the methodologies of constructing an ash fill over challenging foundation conditions located in the failed Dredge Cell. It also demonstrated the importance of using geotechnical instrumentation and monitoring to avoid potential slope failures.

Estimated cost of ash stacking technologies was approximately $2.50 to $3.50/cy, but varied widely with weather conditions and source of ash being excavated.

1.3.2.4 Ash Drying Technologies

Ash drying technologies were evaluated as to their effectiveness in meeting the goal of drying the mechanically-excavated ash to a moisture content of near optimum moisture content (22 to 25%) to more than 5% above optimum moisture content (up to 30%). Technologies evaluated included windrowing, sun drying, lime treatment, and cement stabilization.

Windrowing

Windrowing involves air-drying of the excavated wet ash to lower the moisture content. The material is placed in piles and allowed to both drain by gravity and air dry through evaporation. The piles are then progressively moved, or "windrowed", using bulldozers and/or excavators to turn over the drying layer so as to optimize the rate of evaporation throughout the ash material. Windrowing was used for dewatering ash in the embayments themselves, Ball Field, central Dredge Cell, and Ash Pond. Ash piles were typically windrowed a minimum of 3 days (without rain) and at times up to several weeks to lower the moisture content to within the target range suitable for ash stacking. Estimated cost, assuming three dozers, three loaders, and nine haul vehicles is approximately $2M to $3M over a 6-month operations and maintenance (O&M) period (about $2/cy).

Sun Drying

Sun drying was evaluated as a technology for processing ash and PWS spoils during hot, dry weather (summer season). The sun drying technique involves spreading ash or spoils materials over sun drying plots in thin layers. The plots are then turned on a regular basis using a disc harrow or chisel point plow to optimize the rate of evaporation throughout the material. Disking and/or plowing also results in mixing of the wet materials with the underlying material (ash) in the sun drying plots.

In June 2011, an initial treatability test was performed on unsaturated ash using four sun drying plots established in the central area of the Dredge Cell (TVA 2011b). Each plot was approximately 40-ft by 100-ft in size, 18-inches deep, and containing 220 cy of unsaturated material (typically less than 30% moisture content). Results of the test indicated initial moisture contents were reduced by 2 to 3 percentage points within about a day of sun drying. Sun drying plots were subsequently established in the central Dredge Cell for production ash processing; Stantec provided field monitoring to verify that materials designated for processing in the central Dredge Cell were below saturation and did not drain additional water into the subgrade (into the ash stack embankment).

In August 2011, a second treatability test was performed on saturated spoils using five sun drying plots established in the relic area of the Dredge Cell (TVA 2011d). Each plot was approximately 180-ft by 510-ft in size, containing 1,700 cy of saturated material (moisture content greater than 30%) in each plot at a 6-inch depth. The test targeted a duration of 4 days of drying to reach a moisture content of 17 to 21%. Full-scale production was implemented in the relic area in late August 2011. Estimated cost for relic area sun drying and subsequent removal of ash was approximately $1M over a 6-month O&M period (about $3 to $5/cy).

Lime Treatment

Lime treatment was evaluated for processing ash and spoils during wet weather (winter season). Lime treatment involves adding lime kiln dust to the wet materials in a series of “pits” of known volume. Lime is a pozzolanic absorbent that reacts with water to form complex cementitious compounds upon curing. Lime kiln dust is a byproduct of quicklime (lime) production in high temperature rotary kilns. Initial treatability testing performed during the time-critical removal action indicated that suitable desiccation of the wet ash materials can be accomplished using lime at a rate of between 6 and 9% by weight. Treatment costs were estimated at $160/ton of lime used, or a treated cost of $8 to $15/cy of ash for material, equipment, and labor.

Leaching characteristics of the ash were used in evaluating the potential for migration of arsenic and selenium from the ash. Treatability testing included batch (shake) tests with varying pH (EPA proposed Method 1313), batch (shake) tests with varying liquid-solid ratio (EPA proposed Method 1316), and column tests (EPA proposed Method 1314). Results are reported in the Ash Leaching Test Results report and its Supplement A report (Jacobs 2010h, Jacobs 2011b). Results of the batch leaching tests indicated that although leaching of arsenic and selenium from untreated ash at higher pH (10 to 11) may increase the concentration of those constituents in the leachate, leaching from ash treated with lime at 6% by weight does not increase the concentrations of those constituents in the leachate. Results of the column tests indicated that although leaching from lime-treated into untreated ash may increase concentrations of arsenic or selenium in the leachate, results are not consistent between different types of tests. The testing concluded that lime applied at 6% by weight was acceptable for use in treating the ash.

In-situ lime treatment was also evaluated in a treatability test plot in the central Dredge Cell. Lime was delivered in 25-ton pneumatic tankers and transferred pneumatically into custom-built spreader trucks. The application rate of the lime was determined by a vane feeder controlled by the truck operator. Lime was spread at a maximum application rate of 6%, which equates to 54 lbs/sy. The lime was then mixed with the underlying ash using high-powered, self-propelled rotary mixers to a depth of 16 inches. The mixers were 400 to 600 horsepower with an 8-ft wide cutting drum. The rotor travelled in the opposite direction of the machine, resulting in “up-cut” action for thorough mixing. The in-situ lime test was done on May 16, 2011, in a test plot about 400 ft by 50 ft in size. Moisture content tests were done before and after liming. Only a small amount of dust was generated during the lime test, partly from the tracks of the spreader when it recirculated back to re-lime an area. Although the test successfully reduced the moisture content, the resulting material could not be adequately compacted.

In February 2013, a second in-situ lime treatment test was conducted. Changes were made in the in-situ treatment process (primarily mixing depth and compaction methodologies). The lime was mixed with the underlying ash to shallower depths of 8 and 12 inches. The treated plot was then compacted using a sheepsfoot roller followed by a smooth drum roller. These changes resulted in successful achievement of both moisture content and compaction density requirements. Moisture contents were reduced from an average of 25% down to 21% moisture.

Cement Stabilization

In-situ cement stabilization was evaluated for processing saturated ash in the embayment prior to excavation, which would eliminate or reduce the need for subsequent ash processing and double-handling of the recovered ash prior to stacking. Similar to lime treatment, cement stabilization uses a pozzolanic absorbent that reacts with water to form complex cementitious compounds upon curing. Between April and June 2011, a treatability study was conducted in the North Embayment and Lateral Expansion areas. Three alternative technologies were evaluated during a competitive procurement process. Competing proposals and proprietary products were evaluated as to their technical and management approach, effectiveness of stabilization, and cost. The purpose of the in-situ test was to demonstrate that the vendor could treat up to 6,000 cy/day of stabilized ash material and achieve a moisture content within -2 to +4% of its Proctor density optimum moisture content.

Each vendor proposed a similar treatment technology (i.e., in-situ mixing of reagent at about 5% by weight). Test areas were prepared with cells approximately 30 ft by 30 ft in area and 10-ft deep (Jacobs 2011c). The first company, WRScompass, applied Portland cement at an average rate of 5% to ash within the northern Lateral Expansion area, and treated a total of 12 cells (4,000 cy) in 4 days (WRScompass 2011). WRScompass applied the cement to the ash using pneumatic conveyance and an ash sifting container, then mixed it in with an excavator. Pre-test moisture content of the ash ranged from 44 to 56%, with an average of 50%. Post-test moisture content after about one week of curing ranged from 35 to 45%, with an average of 40%; and after about two weeks of curing, moisture content ranged from 23 to 36%, with an average of 29%. The second company, RECON, applied a proprietary product called E-Z-Sorb™ at an average rate of 5% to ash within the North Embayment, and treated a total of 7 cells (2,400 cy) in 7 workdays. RECON applied their product by end-dumping from a dump truck and mixing with an excavator. Pre-test moisture content of the ash averaged 37%, and post-test moisture content averaged 22%. The third company, Hayward Baker, applied Portland cement at rate ranging between 2 and 5% to ash in the North Embayment, and treated a total of 4 cells (1,200 cy) in 8 days. Hayward Baker applied cement using pneumatic conveyance to an excavator equipped with a rotating mixing tool. Pre-test moisture content averaged 33%, and post-test moisture content averaged 32%. Water had to be added to the ash-cement mixture for the mixing tool to be effective.

Leaching characteristics of the stabilized ash were used in evaluating the potential for migration of arsenic and selenium from the ash. Treatability testing included batch (shake) tests with varying pH (EPA proposed Method 1313), batch (shake) tests with varying liquid-solid ratio (EPA proposed Method 1316), and column tests (EPA proposed Method 1314). Results are reported in the Ash Leaching Test Results Supplement B report (Jacobs 2011e). Results of the batch leaching tests indicated that although leaching of arsenic and selenium from untreated ash at higher pH (10 to 11) may increase the concentration of those constituents in the leachate, leaching from ash treated with Portland cement or EZ Sorb™ at 5% by weight does not significantly increase the concentrations of arsenic and selenium in the leachate. Results of the column tests indicated that although leaching from treated into untreated ash may increase concentrations of arsenic or selenium in the leachate, the results suggest that the higher concentrations may be transitory and may be attenuated as the leachate moves through the untreated ash. Although results were mixed, the testing concluded that the two stabilization products applied at 5% by weight were acceptable for use in treating the ash.

Cost estimates for use of these two products ranged from $12.5 to $14.5/cy. The demonstration tests provided mixed results as to the effectiveness of the two products in achieving the target moisture content range, mixed results as to leaching characteristics, and costs considerably higher than use of lime stabilization. For these reasons, the cement stabilization products were not used in full-scale stabilization of ash for stacking purposes.

1.3.2.5 Cap Closure Alternatives

In January 2011, Stantec performed a geotechnical exploration of TVA-acquired property to assess its potential use as a source of borrow material for the soil cap (Stantec 2011b). Use of local borrow would avoid high costs and traffic impacts that would be associated with imported material. The borrow area investigation was performed on properties (referred to as Tract 1) located north of the Site on the former Gupton farm. A total of 22 borings and 15 test pits were conducted. The results of the borrow study indicated that significant volumes of borrow soils were available (approximately 2,244,000 cy). Approximately 1,777,000 cy of that material was classified as lean clays, fat clays, and elastic silts, which could be used for a wide variety of soil cap applications. However, the study concluded that these soils would not be capable of achieving the relatively low permeability required to meet TDEC Class II Disposal Facility cap requirements ($1x10^{-7}$ cm/s). For this reason, a geosynthetic cap material was selected for the closure design.

Approximately 328,000 cy was classified as silts, silty clays, and highly weathered shale, which would be more limited in soil cap applications, but could be used for vegetative cover. Approximately 92,000 cy was classified as topsoil. Approximately 47,000 cy was classified as sands; however, the sands would not be capable of achieving the relatively high permeability required to meet drainage layer requirements. The sand could be blended in with other soils for use in the vegetative cover.

In May 2012, TVA performed further evaluation of soils in the borrow area to determine whether the volume and quality of material available was suitable for use in the vegetative cover (Jacobs 2012b). The volume estimates indicated that sufficient material was available at the borrow area for the soil cap. However, a high percentage of that material would have a grain size fraction larger than the initial design requirement; a change was subsequently made to the design specifications to allow up to 3 inch rock to be used in the soil cap.

Between June and November 2013, Restoration Services Inc. (RSI), in association with Jacobs, performed further geotechnical exploration of the borrow area to determine the volume and quality of material available for use in constructing the soil cap. In particular, volume estimates indicated that some of the material would have a plasticity index less than 13%, which would not meet QC Plan requirements. A total of 167 borings using Geoprobe® direct push technology were installed to collect samples deeper than 10 ft from the ground surface. In addition, 17 test pits were excavated in areas where shallower depths were targeted. Atterberg limits laboratory results were conducted on samples collected from the borings/test pits to determine the soil plasticity. Results indicated that sufficient material was available within the borrow area to meet plasticity requirements for cap soil, although the boundaries of the borrow pits needed to be expanded. (TVA 2014a).

An agronomic analysis of the borrow area soil was performed to evaluate its ability as a medium to support the growth of vegetation. Samples of topsoil, subsoil, and soils at the bottom of the planned borrow area were collected using Geoprobe® sampling technology. The samples were sent offsite for agronomic and metals analysis. Results of those analyses indicated that additional soil amendment material would be needed to improve the soil for use as a growth medium (Jacobs 2012b).

In October 2012, a treatability study was conducted to evaluate the optimum soil amendments to reach a target of 80% vegetation coverage in one year on exposed subsoils at the borrow area. The test included the construction, maintenance, and monitoring of re-vegetation test plots to test three application rates of fertilizer amendments and two different mulching media. Eight test plots approximately 30-ft wide and 75-ft long were delineated within the test area. Each test plot received a lime addition of 224 lbs, based on soil test results recommending 4,356 lbs/acre of lime for establishment of grasses. Two types of organic mulch were tested: municipal waste and mushroom compost. Three fertilizer application rates were tested: two plots received 30-60-60 (lbs/acre nitrogen, phosphorus, and potassium [NPK]); four plots received 30-90-90 (lbs/acre NPK); and two plots received no fertilizer. Two plots received an additional application of high polymer Flexterra® mulch at the discretion of the seeding contractor. A single seed mix was applied to each plot at 118 lbs/acre. The test plots were monitored using photo plots and analysis on February 5, March 14, April 10, and May 21 of 2013. Analyses of the photo plot results indicate that Test Plot B4 (30-90-90 lbs/acre NPK; no compost) was the most successful of the eight test plots. Early photos show that emergence was earliest with Test Plots A2 and B2 but the overall coverage was quickly exceeded by B4. Results also indicate that neither biosolids nor mushroom compost were significant contributors to vegetative success. Test Plot A4 received the same treatments as B4 but the vegetative coverage of that plot (76%) was short of the 80% goal during final monitoring in May 2013. It was noted that during the contractor application of seed and amendments, Test Plot B4 was the final plot applied and the tank on the truck was emptied at that location. It is possible that Test Plot B4 received a higher rate of fertilizer and seed than the other seven plots.

As a result of the test plots, a fertilizer application rate of 30-90-90 lbs/acre NPK and two tons of lime equivalency per acre (2 tons/acre $CaCO_3$) were recommended to be applied with the seed mixture for establishment of vegetation on the Ash Landfill topsoil cap. As a best management practice application of water in the 2 weeks following application of the seed/amendment mixture were recommended to initiate seed germination and vegetative establishment (Jacobs 2013c).

2 EFFECTIVENESS OF REMOVAL ACTIONS

2.1 ACTIONS TAKEN BY TVA

Operations conducted under the non-time-critical removal action for the Embayment/Dredge Cell included ash removal from the embayment, ash processing and temporary ash storage, ash stacking, perimeter wall stabilization, cap construction for closure of the Ash Landfill, ecosystem restoration in the embayment, and other related actions. These activities are summarized in the following sections. Detailed documentation of the activities occurring during the non-time-critical removal actions were captured in daily and weekly reports. Photographs of the progress of the non-time-critical removal action are presented in Appendix A.

2.1.1 Ash Removal from the Swan Pond Embayment

Ash removal from the Swan Pond Embayment was implemented in stages. Initially, as part of transition activities, ash was removed from the Middle Embayment, until ash hauling from the North Embayment through the new bridge underpass could begin. Once the bulk of the ash in the North Embayment had been removed, ash removal operations were moved to the Middle Embayment. Ash was later removed from the Sediment Basin/Dike 2 area and from other areas outside of the Ash Landfill, such as the Clean Water Ditch and alongside Swan Pond Road. Figure 6 depicts the areas where ash was removed, and the total thickness of ash removed.

During the non-time-critical removal action, all ash material was removed using mechanical excavation and land-based equipment. There was no dredging of material during the non-time-critical removal action.

Ash removal was specified in a series of three EPA-approved design packages. An initial phase was specified in the *Kingston Ash Recovery Project, Non-Time-Critical Removal Action for the Swan Pond Embayment Ash Removal (Phase 1) Removal Design Package* (RDP-0112-A) (EPA approved September 16, 2010). This initial phase allowed for removal of ash in both the North Embayment and Middle Embayment to contours above water levels in Watts Bar Reservoir. The initial phase drawings were subsequently revised to allow for expansion of the Sediment Basin for sediment control and to modify contours in the Middle Embayment. This revision to RDP-0112-A was approved by EPA on October 27, 2010. These plans were further revised in July 2011, to provide for the construction of an earthen berm across the northern section of the North Embayment. This north berm allowed clean water flowing into the embayment from upstream areas to be diverted to the existing Clean Water Ditch, thereby segregating clean water from water in contact with ash in the North Embayment.

The second phase ash removal was specified in the *Kingston Ash Recovery Project, Non-Time-Critical Removal Action for the Swan Pond Embayment Ash Removal (Phase 2) Removal Design Package* (RDP-0112-B) (EPA approved August 18, 2011). The second phase allowed for final excavation of ash in the North Embayment to native sediments. Although the design package showed removal of the north berm, discussions with EPA and TDEC indicated that the berm may have permanent benefits for water control and ecological habitat management. Therefore, removal of the north dike was deferred for further consideration under the ecosystem restoration design.

Field Change Notice (FCN-039) was issued in October 2011, which modified the QC Plan and quality assurance (QA) procedures in regard to sampling and the roles and responsibilities for concurrence efforts, but did not change the sampling protocols. This improved team coordination and communications.

The third phase ash removal was specified in the *Kingston Ash Recovery Project, Non-Time-Critical Removal (Phase III) Action for the Swan Pond Embayment Ash Removal Design Package* (RDP-0112-C) (EPA approved December 8, 2011). This third phase allowed for final excavation of ash in the Middle Embayment, including the Sediment Basin and Dike 2 areas, to native sediments. The design provided for removal of ash in stages, progressing from west to east across the Middle Embayment. The design also provided for construction of a temporary Dike 3 to allow the ash to be removed in a dewatered excavation rather than by dredging.

2.1.1.1 North Embayment Ash Removal

TVA began the land-based excavation of ash from the North Embayment on November 20, 2010. The ash was moved and shaped using bulldozers, backhoes, and amphibious equipment, and then loaded onto articulating trucks by front end loaders and backhoes. Self-loading pan scrapers were also used for bulk excavation of the ash.

Appendix B presents daily statistics on the number of truckloads of ash removed, the trucked volume (calculated assuming a truck volume of 22 to 30 cy/truck), and the in-place volume (calculated using pre- and post-construction survey information).

Appendix B includes a histogram of the mechanical excavation production rates from the North Embayment. Production rates remained slower during the winter months, gradually increasing to an average of 5,600 cy/workday (in-place volume) between April and September 2011. The maximum recorded daily productivity rate was 10,200 cy in a single day. After the bulk of the material had been removed, production slowed once more as final cleanup and confirmation sampling was conducted. Ash removal from the North Embayment was completed on November 19, 2011. A total of 1,010,000 cy of material was removed from the North Embayment from November 2010 through November 2011.

Productivity was impacted due to the tight geographic area, which became smaller and smaller as the excavation worked its way out of the North Embayment. The tight area restricted the traffic haul patterns and spacing of equipment that could be used.

As the excavation neared native sediments at the bottom of the embayment, the recovered ash became increasingly wet and saturated. Therefore, rather than direct loading haul vehicles, the saturated materials were stockpiled within the embayment to allow them to drain prior to loading and hauling.

Difficulties were encountered during excavation throughout the embayment due to the inflow of water from groundwater seeps. Sumps and pumps were used as necessary to remove accumulated seepage water and to keep the area continually drained. In some areas in the northwestern portion of the embayment along Swan Pond Circle Road, seeps were either plugged with clay and/or controlled with a riprap filter.

To further isolate a series of springs and to divert upstream clean water run-on away from the ash-contaminated areas being excavated, an earthen berm (referred to as the north berm) was constructed across the embayment in June 2011 (Figure 7). Waters entering the embayment north of this berm were diverted directly to the Clean Water Ditch; therefore, the water elevation fluctuated with water levels in Watts Bar Reservoir. The berm was approximately 20-ft wide at the top, with 3:1 (horizontal:vertical) side slopes that sloped from a top elevation of 744.0 ft msl to the bottom of the embayment, which varies in elevation from 731.0 to 740.0 ft msl. The berm was designed with a 5-ft by 5-ft keyway to prevent water migration under the berm. The design sketches provided information on materials and compaction requirements (Jacobs 2011d). The north berm was constructed using select borrow material as structural fill, compacted to 85% maximum density at optimum moisture content in accordance with ASTM D-698.

FCN-026 modified the berm configuration slightly by clarifying requirements for compaction of the clay keyway beneath the berm to 85% of ASTM D698.

Although all accessible ash was removed, a small quantity of ash was left adjacent to Swan Pond Road and beneath Swan Pond Circle Road. These materials were not removed to prevent slope stability issues due to concerns over undermining the roadbed. The removal of ash from these areas would have required damaging and/or relocating the road and guard rails. These sections were covered with layers of No. 57 stone, No. 2 stone, and riprap as a filter to prevent future migration of the ash out into the embayment and as a buttress to improve slope stability and prevent erosion. The limited amount of remaining ash is effectively sealed by the road bed and the placement of the buttress material.

2.1.1.2 Middle Embayment Ash Removal

Ash removal from the Middle Embayment began on August 11, 2010, as part of transition activities from the time-critical to non-time-critical removal actions. More than 200,000 cy of material was removed during the transition activities between August and November 2010, at which time embayment excavation switched primarily to the North Embayment. Ash was removed using equipment similar to that described for the North Embayment.

Appendix B presents daily statistics on the number of truckloads of ash removed, the trucked volume (calculated assuming a truck volume of 22 to 30 cy/truck), and the in-place volume (calculated using pre- and post-construction survey information). Appendix B includes a histogram of the mechanical excavation production rates from the Middle Embayment.

Middle Embayment excavation resumed in earnest in November 2011 once the North Embayment was excavated. Production rates remained slower during the winter months, gradually increasing to an average of 2,600 cy/workday (in-place volume) between April and November 2012. The maximum recorded daily productivity rate was 6,100 cy in a single day. Production slowed once more in November 2012, as wet winter weather set in and as crews were diverted to construction of a Divider Dike Buttress (Section 2.1.4.9). The bulk of the ash was removed from the Middle Embayment by March 29, 2013, at which time production switched to the Sediment Basin and Dike 2 removal. Final cleanup and confirmation sampling was conducted through June 2014, when the haul road from the bridge underpass through the Middle Embayment was removed. A total of 1,059,000 cy of material was removed from the Middle Embayment from September 2010 through June 2014.

The West Storage Area was an approximately 11-acre area in the Middle Embayment, just west of Dike 2 near the Settling Basins. The West Storage Area had been used for ash storage during the time-critical removal action to store dry ash (Jacobs 2009a). Approximately 18,000 cy of time-critical ash remained in the West Storage Area after time-critical dredging was complete. Between September 16 and 26, 2010, that material was removed and stacked in the Dredge Cell.

The West Storage Area was also used for temporary storage of recovered ash from non-time-critical removal actions. Approximately 44,500 cy of ash removed from the North Embayment and 900 cy from the Sediment Basin were stored there and eventually removed.

Similar to the North Embayment, productivity was impacted due to the tight geographic area, which became smaller and smaller as the excavation worked its way out of the Middle Embayment. The tight area restricted the traffic haul patterns and spacing of equipment that could be used. The area restrictions were further aggravated by the need to maintain operational both “clean” haul roads and “dirty” haul roads that transected the embayment. Haul road locations were revised frequently to accommodate shifting excavation and traffic patterns.

Productivity was further hampered by Site conditions. Ash removal associated with construction of a rock buttress alongside perimeter containment Segments 1, 2, and 8 required excavation in panels between shear walls. Design specifications for the PWS wall restricted vertical differences in the height of ash on either side of a panel to less than 4 ft. Excavation was accomplished by constructing a "toe road" at the base of the buttress, and removing the ash in sections from the face of the completed PWS wall. In addition, ash removal required partial removal and reconstruction of the clean water ditch to get at the ash underlying the ditch berms. In May 2012, FCN-051 was issued to clarify compaction requirements for reconstruction of the Clean Water Ditch and allowing installation of a "bridge" lift of materials whenever wet, sloppy conditions were encountered in the bottom of the excavation.

Similar to conditions in the North Embayment, portions of the ash deposits alongside Swan Pond Road could not be removed due to concerns over undermining the road bed. Ash removal was restricted to maintain a safe support slope angle (no steeper than 2:1) for stability of Swan Pond Road. After excavation, the slope sections showing exposed ash were covered with sand, No. 57 stone, and quarried riprap or shotrock to prevent future migration of the ash out into the embayment. In May 2014, a similar "reverse filter" was placed at the toe of the PWS Segment 8 (Figure 12) slope, where small amounts of ash were observed seeping out of the riprap.

As the excavation progressed across the embayment and approached the elevation of native sediments at the bottom of the embayment, storm water management techniques had to be revised frequently. Natural grades at the bottom of the embayment resulted in three distinct sub-basins separated by higher ground. Each sub-basin drained toward the PWS wall, with no natural drainage outlet. Pumps were installed to handle storm water flows, and the water was discharged to the Sediment Basin. In addition, earthen berms were installed inside the embayment to separate storm water runoff in areas that had been cleaned of ash from dirty storm water runoff from ash-exposed areas within the Dredge Cell.

On July 4-5, 2013, a severe storm event occurred that resulted in flooding of the Emory River. Seepage through temporary Dike 3 exceeded the capacity of the pumps being used to drain the Middle Embayment, and the embayment became flooded. Auxiliary pumps were procured to assist in draining the embayment and techniques were deployed to reduce seepage through Dike 3, including a reverse filter on the outboard face of the dike and a clayey berm inboard of Dike 3.

By July 2014, all ash removal from the Middle Embayment had been completed and all areas on the Ash Landfill draining to the Middle Embayment had been capped and sodded or seeded. On September 25, 2014, the Dike 3 separating the embayment from the Emory River was intentionally breached, allowing the Middle Embayment to once again be permanently flooded and open to Watts Bar Reservoir.

2.1.1.3 Sediment Basin and Dike 2 Removal

During the emergency response phase, Dike 2 had been built across the Swan Pond Embayment to minimize the migration of ash from the embayment into the Emory River and to serve as a haul road. The material used to construct Dike 2 consisted primarily of shot rock, riprap, and smaller-sized rock on top of foundation silts and sands. Ash deposits that weren't accessible during the emergency response actions also underlay portions of Dike 2. As a result of ash removal and hauling operations throughout the time-critical and non-time-critical removal actions, the rock comprising Dike 2 had become permeated with ash.

To facilitate removal of Dike 2 and allow subsequent storm water management within the Middle Embayment, a supplemental dike (Dike 3) was constructed adjacent to Dike 2. Design of Dike 3 is included in the EPA-approved *Kingston Ash Recovery Project, Non-Time-Critical Removal (Phase III) Action for the Swan Pond Embayment Ash Removal Design Package* (RDP-0112-C) (EPA approved

December 8, 2011). Dike 3 was constructed when water levels in Watts Bar Reservoir were at a seasonal low, so that much of the dike could be built using clayey earthen borrow materials overlying native soils free of ash. In a small section of the deeper channel next to Dike C, rock was placed initially to the reservoir level to allow the construction of Dike 3 to be completed across the full width of the embayment. Construction of Dike 3 began on January 16, 2012, and was completed on February 29, 2012.

Removal of Dike 2 was performed gradually over time as ash-impacted rock materials were retrieved for beneficial reuse elsewhere on the Site. The retrieved rock was used to construct erosion protection check dams, to stabilize soft subgrade areas, and to construct the Divider Dike Buttress (Section 2.1.4.9.).

The Sediment Basin adjoining Dike 2 had also been built during the emergency response phase, and was expanded during the non-time-critical removal action to handle larger potential storm events. Similar to Dike 2, the material used to construct the Sediment Basin and its “finger dikes” consisted primarily of shot rock and riprap, which had become permeated with ash. Ash that collected in the Sediment Basin was routinely removed during the non-time-critical removal action. In November 2012, rock materials comprising the Sediment Basin were retrieved for construction of the Divider Dike Buttress. The remaining rock and sediment were subsequently removed to allow excavation of the underlying ash. In February 2013, a new, smaller sediment basin was constructed adjacent to Dike C and a new outlet structure was installed that discharged through Dike 3 to the Emory River. This allowed removal of the remaining ash from the area where the Sediment Basin had previously been located.

Appendix B presents daily statistics on the number of truckloads of ash removed from the Sediment Basin, the trucked volume (calculated assuming a truck volume of 22 to 30 cy/truck), and the in-place volume (calculated using pre-and post-construction survey information). Appendix B includes a histogram of the mechanical excavation production rates from the Sediment Basin and Dike 2. Ash removal between October 2010 and October 2012 was primarily for cleaning out accumulated sediment in the Sediment Basin, so that production rates were quite slow. Production rates increased in October 2012 as work in the adjoining Middle Embayment came to a close, yet remained relatively slow due to the volume of large rock being retrieved for reuse. Production rates were highest between April and June 2013, averaging approximately 2,100 cy/workday (in-place volume). Ash removal was completed on August 29, 2013. A total of 224,000 cy of material (in-place volume) was removed from the Sediment Basin and Dike 2 from September 2010 through August 2013.

2.1.1.4 Ash Removal from Other Areas

Final design grades for construction of the Ash Landfill required ash removal from other areas onsite, which contributed to the ash stacking quantities. Ash was removed from three primary areas onsite: the Ditch 1 area alongside Swan Pond Road, the Ball Field area including Ditch 11, and the relic area of the Dredge Cell.

Swan Pond Road Ash Removal. The area between the Ash Landfill perimeter berm and Swan Pond Road was excavated for the construction of Ditch 1. Although small quantities were removed beginning in February 2013, the primary excavation began near the end of September 2013. Initial excavations for Ditch 1 encountered soft, wet ash conditions that resulted in sloughing of the unstable slopes and poor bearing conditions. The area is under artesian groundwater conditions, and significant quantities of free water were observed entering the ditch, resulting in boils and flowing water within the excavation. Ground shaking was felt prominently in the area of the excavation, heightening risk of liquefaction of the ash.

Given the very soft, wet ash conditions, there was concern for worker safety and slope stability next to Swan Pond Road. Stantec, as the Engineer-of-Record, evaluated the Site conditions and assisted TVA's SCS construction group in establishing safe excavation protocols to ensure stability of the excavation, permanent slopes, and long-term protection of Swan Pond Road. As a result, the area was lowered approximately 5 ft to provide a platform from which to operate a long-reach excavator, the ditch excavation was undercut by 4 ft, and 2 ft of large-sized rock retrieved from the rock buttress adjacent to the Stilling Pond was used to stabilize the trench. Geotextile fabric was then manually pulled across the trench using ropes, and 2 ft of No. 2 aggregate placed on the geotextile to finish grade. The geotextile was then wrapped around the top of the No. 2 aggregate to create a "pillow" of rock that served as a French drain to lower the groundwater table. The rock base and fabric-wrapped rock "pillow" extended the full length of Ditch 1.

FCN-067 revised the width of Ditch 1 south of station (STA) 120+09.72 where excavation side slopes could have potentially undercut the Swan Pond Road roadbed. The 16-ft wide ditch was revised to taper to an 8-ft wide ditch, which reduced the volume of excavation and improved safety of the excavation next to Swan Pond Road.

Excavation of Ditch 1 was relatively slow due to the careful excavation and construction of the rock pillow. In January 2014, the ditch was discovered to be installed 2 ft lower than design grade due to miscommunication of survey grades beneath the rock pillow. The section of ditch constructed too low extended from STA 117+68 to STA 123+56 (approximately 600 ft), which included the section through the PWS wall. Corrective action to repair this nonconformance included pouring flowable fill to raise the outboard wall of Segment 8 back up to design grade, reconstructing the rock pillow from STA 123+29 to 117+56 with a transition to design grade from the misplaced pillow, and filling the remainder of the ditch (below the flexible membrane liner [FML]) with sandy earthfill (TVA 2014b).

Minor problems were encountered with ash-contaminated runoff impacting the stone in the rock pillow during construction for Ditch 1. Improved practices resulted in extra care being taken to keep ash-contaminated water away from the rock pillow, so as to maintain its integrity as a french drain. When unacceptable ash contamination was observed, the dirty rock was removed and replaced with new stone prior to wrapping with geotextile.

Excavation of Ditch 1 was completed on March 22, 2014. A total of 77,000 cy of ash were removed from the Ditch 1 area next to Swan Pond Road.

Ditch 11 was constructed in two distinct segments. The first segment, approximately 713-ft in length, was essentially an extension of Ditch 1 along Swan Pond Road, extending from STA190+00 at Ditch 1 to STA197+13 at its peak grade near Flume 18. Drainage in this segment of Ditch 11 flowed into Ditch 1 and ultimately discharged into the Middle Embayment. The second segment, approximately 3,055 ft in length, extended from STA 197+13 to STA 227+68. Drainage in this segment of Ditch 11 flowed alongside the Ball Field through the Ash Pond Outlet Structure and ultimately discharged into the Stilling Pond.

The design of Ditch 11 was revised in March 2014 to facilitate construction and improve groundwater control. High groundwater levels in the Ball Field area south of the Dredge Cell would have placed the FML below the water table. FCN-077 extended the french drain through the first segment of Ditch 11and expanded the FML limits along Swan Pond Road. This improved control of groundwater levels, consistent with Ditch 1. In addition, construction of the FML and cap soil liner in the second segment of Ditch 11 was deferred to a future date, when the Stilling Pond and Ball Field areas will be closed. As an interim measure, a 6-inch topsoil layer was placed in the bottom of the ditch to support vegetative growth and eliminate erosion of underlying ash. This improved constructability of the ditch by raising the excavation above the water table.

Excavation of the Swan Pond Road segment of Ditch 11 was relatively fast due to the shallower depth of excavation compared to Ditch 1. Excavation of the first segment and construction of the corresponding rock pillow began on March 31, 2014 and was completed on April 19, 2014. Approximately 10,000 cy were excavated from the first segment of Ditch 11 along Swan Pond Road. As a result, a total of 87,000 cy of material were removed from the Swan Pond Road corridor. Appendix B presents daily statistics on the number of truckloads of ash removed from the Swan Pond Road corridor and a histogram of the production rates.

Ball Field Ash Removal. The Ball Field was used as an ash processing area, both during the time-critical removal action and the non-time-critical removal action. As a result, ash and associated materials were constantly being added to and taken away from the Ball Field area, including materials from the embayments, from the PWS excavation, platform and road construction, lime treatment, and other sources. Final grading of the Ball Field leveled the area to Elevation 770 ft msl and excavated the second segment of Ditch 11 alongside the PWS berm. Excavation of the Ball Field segment of Ditch 11 began on April 21, beginning at the eastern end of the ditch and progressing westward. Excavation was completed on May 16, 2014. Final grading of the Ball Field was completed by June 30, 2014. Between November 2010 and June 2014, a net of 323,000 cy of materials were ultimately removed from the Ball Field area. Appendix B presents daily statistics on the number of truckloads of ash hauled to and/or from the Ball Field and a histogram of the net production rates.

Relic Area Ash Removal. Similarly, the relic area of the Dredge Cell was also used as an ash processing area, with wet spoils and other materials being added to and taken away from the relic area. Final grading of the relic area resulted in the surface being lowered 15 to 25 ft, and the excavated materials being hauled to active ash stacking areas. Between October 2010 and July 2014, a net of 1,502,000 cy of materials were ultimately removed from the relic area and stacked in the remaining areas of the Ash Landfill. Appendix B presents daily statistics on the number of truckloads of ash hauled from the relic area of the Dredge Cell and a histogram of the net production rates.

2.1.1.5 Concurrence Process for Ash Removal

Upon completion of the ash removal from a portion of the embayment, supporting information was compiled to document completion. Because the embayments were kept dewatered, all ash removal was completed using mechanical excavation. Verification of ash removal was based on the visual observations of the bottom of the excavation for the presence of ash, supplemented with polarized light microscopy (PLM) analysis of grab samples as confirmation of the visual observations.

Confirmation sampling was conducted in accordance with the Construction QC Plan included in the approved RDP-0112-A design package. A sampling grid of sections not greater than 200 ft by 200 ft was established; four discrete samples were collected from each grid section.

After the supporting information and confirmation sampling test results were gathered, a concurrence form was attached and the package was submitted to EPA for approval of the ash removal in that portion of the embayment. EPA consulted with TDEC prior to granting approval. Copies of the concurrence forms are presented in the *Construction Certification Report* (CCR), *Swan Pond Embayment Ash Removal* (Jacobs 2014d). Locations of the confirmation samples are shown in the CCR, which is provided in the Supporting Documents on DVD.

2.1.2 Ash Processing

Ash processing consisted of temporary stockpiling and/or windrowing the material to dewater the recovered ash. Temporary ash storage and/or processing was necessary to condition the ash so as to meet moisture content requirements prior to ash stacking. Several ash processing areas were used during the non-time-critical removal action, including the former Ball Field, central Dredge Cell, and relic area of the Dredge Cell, as shown on Figure 8. Lime treatment was also conducted during winter months to dry the ash. These ash processing areas were also used for dewatering of spoils from the PWS slurry trenching operations.

Ash processing was expensive and time-consuming, primarily due to the need to double-handle the materials, whether to turn windrows or to haul materials to and from ash processing areas. Sun drying was the most cost-effective method, but was only permitted within the relic area of the Dredge Cell and was only effective during hot, dry summer months. Windrowing was the more cost-effective method during wetter winter months, but took a much longer time to reduce moisture contents and required frequent turning of the windrow piles. Lime treatment was effective and quick, but was the most expensive method, and so was used to optimize stacking opportunities during winter months.

2.1.2.1 Ball Field Ash Processing

The Ball Field had been developed as an ash processing area during the time-critical removal action. By December 2010, when the last of the offsite shipments of time-critical ash was completed, most of the Ball Field had been cleared of ash to approximately elevation 770 ft msl. During the time-critical removal action, TVA had installed a wick drain system under the Ball Field to relieve ponded subsurface water, and placed a gravel demarcation layer to elevation 768 ft msl. Instrumentation had been installed at that level for use in geotechnical monitoring of temporary ash processing windrows. The TDEC-approved Ash Management Plan (TVA 2010c) recommended a 2 ft layer of ash be left to protect the wick drain system and installed instrumentation for subsequent ash management activities. In December 2011, construction of a new fly ash conversion facility was completed by the Kingston plant, and TDEC permitted a portion of the Ball Field for temporary storage of the dried fly ash pending identification of a permanent disposal facility. TVA, EPA, and TDEC agreed to leave the remaining ash as a more stable foundation for constructing a temporary stockpile for the dried fly ash generated by the plant. In August 2011, the CERCLA exclusion zone boundaries were modified to remove that portion of the Ball Field from the CERCLA Site. In lieu of excavating the time-critical ash remaining in the Ball Field above the former gravel demarcation layer, EPA and TDEC agreed that the plant-generated ash that had accumulated in the Ash Pond by gravity settling could remain. These volumes are comparable; it is estimated that approximately 140,000 cy of time-critical ash was left on the Ball Field for later disposal by the plant and approximately 175,000 cy of plant-generated ash was left in the Ash Pond for encapsulation within the closed Ash Landfill.

Three separate areas within the former Ball Field were used for ash storage and processing during the non-time-critical removal action: a 6-acre area located at the northern edge of the Ball Field next to the Dredge Cell, a 6-acre area located alongside the Sluice Trench between the Sluice Trench and Dragline Road, and a 6-acre section located on the west side of the Sluice Trench. These areas are shown on Figure 8.

The Ball Field ash processing area provided for stockpiling the ash in rows up to 30 ft in height. The piles were turned to promote evaporation using windrowing techniques. Once dried, the materials were removed and incorporated into active ash stacking operations within the Ash Landfill.

2.1.2.2 Central Dredge Cell Ash Processing

The central portion of the Dredge Cell had become filled with dry-stacked ash to near final grades by August 2011. At that time, wet materials from the embayments were being processed in the Ball Field; however, processing capacity in the Ball Field was limited due to the area available. To improve processing capacity and accelerate ash removal from the Middle Embayment, treatability tests were performed to demonstrate the effectiveness of ash processing in the central Dredge Cell, on top of the compacted ash (refer to Section 1.3.2.4). A Request for Information (RFI-050) was approved that authorized ash processing using sun-drying plots. Ash processing in the central Dredge Cell began on August 8, 2011, for processing of non-saturated materials from the embayments (<30% moisture content). Wet materials were spread in lifts less than 18 inches in thickness, and turned using disk harrow equipment twice a day. Sun drying was effective during the hot, dry summer months; drying for just 2 days helped lower the moisture contents substantially (to <25%).

By November 2011, wet weather conditions reduced the effectiveness of sun drying plots. Ash processing in the central Dredge Cell processing area changed to stockpiling the ash in rows up to 5 ft in height per the technical specifications. The piles were turned using mechanical excavators to promote evaporation using windrowing techniques. Once dried, the materials were removed and incorporated into active ash stacking operations within the Ash Landfill. In February 2013, as the available area became limited, ash processing was modified to allow stockpiling across the area of the central Dredge Cell, providing the stockpiles were at least 50 ft from the crest of any embankment and no more than 10-ft high (RFI-096). The area was used for ash processing until April 2013, when the area was graded in advance of cap closure.

2.1.2.3 Relic Area Dredge Cell Ash Processing

The relic area of the Dredge Cell, located at the southern end of the former Dredge Cell, is the portion of the Dredge Cell that did not fail during the 2008 release. Materials in the relic area therefore consisted of hydraulically-placed ash, rather than dry-stacked ash. The relic area was alternately used as a source of drier ash (e.g., to build the Test Embankment or to fill rail cars during the time-critical removal action) and as a material storage/laydown area (e.g., rock debris, used crane mats, or other materials).

In August 2011, spoils generated during the PWS slurry trenching operations were being processed in a series of pits to drain, then piled in the Ball Field in windrows, which required considerable double-handling of materials. To improve processing capacity and reduce double-handling of spoils, treatability tests were performed to demonstrate the effectiveness of spoils processing in the relic area of the Dredge Cell (refer to Section 1.3.2.4). A test plan (TVA 2011d) was prepared for sun drying of ash during hot, dry weather. Spoils processing in the relic area began on August 22, 2011 to condition spoils generated during construction of Segment 1 of the PWS wall. On November 14, 2011, drying of spoils on the relic area was curtailed, as the prolonged wet weather season set in. Drying of spoils resumed on April 20, 2012 to condition spoils generated during construction of Segment 7 of the PWS wall, and continued until August 16, 2012, once the Segment 7 construction was complete. A total of nearly 100,000 loose cy of spoils were processed in the relic area.

In addition to spoils, ash and mixed ash and spoils were processed in the relic area between April 2012 and November 2012. The purpose of this secondary processing was to accelerate drying of materials that were considered too wet to process in the central Dredge Cell. Materials generated either directly from excavations in the Middle Embayment or from other ash and spoils processing areas were taken to the relic, spread in lifts of about 18 inches, and disked or deep plowed to enhance drying. A total of nearly 140,000 loose cy of mixed ash and spoils were processed in the relic area during this time.

2.1.2.4 Lime Treatment Ash Processing

Lime treatment of ash and spoils was performed to reduce the moisture content of the material and thereby improve ash stacking production rates in prolonged wet weather. Heavy rains and wet subgrade conditions had resulted in ash in the embayment and in the surface of the Dredge Cell that exceeded the allowable moisture content range for stacking. Results of treatability tests (Section 1.3.2.4) concluded that lime applied at up to 6% by weight was acceptable for use in treating the ash. A Field Change Notice (FCN-006) was approved by EPA and TDEC for lime treatment during the winter of 2010-2011. Revisions to FCN-006 (FCN-044 and FCN-057) provided for lime treatment of ash and spoils during the winters of 2011-2012 and 2012-2013, respectively.

Lime was added to the ash in a series of lime treatment "boxes" located in the Ball Field. Two separate areas were used for lime treatment; one along the northernmost side of the Ball Field next to the Dredge Cell, and the other along the eastern side of the Ball Field, between the Sluice Trench and Dragline Road. The lime treatment boxes consisted of ash berms about 3- to 5-ft high; area dimensions, which varied in size, were measured daily to estimate the volume of ash per batch. In-place density and moisture content were measured within the treatment area to obtain an average dry unit weight of untreated material. Lime application was therefore based on a dry unit weight of 75 lbs/cubic ft (or 2,025 lbs/cy). During lime addition, the actual weight of lime spread across the treatment area was determined by counting the number (weight) of lime bags used. Appendix C provides daily statistics for the lime treatment, including average moisture contents measured before and after treatment and percent by weight of lime applied. Table 2-1 summarizes these results for the three winter seasons during which lime treatment was conducted. A total of 555,000 cy of ash and/or spoils were treated with an average of 4.4% lime by weight, reducing the average moisture content in the material by 2.6%. The volume of lime-treated material stacked in the Ash Landfill comprised less than 10% of the total volume of material stacked. The lime-treated materials were dispersed throughout the north Dredge Cell and Lateral Expansion areas, both vertically and horizontally, and intermixed with untreated materials.

Table 2-1. Results of Ash Processing by Lime Treatment

Winter Season	Dates of Operation	Volume of Ash Treated (cy)	Dry Weight of Lime Added (tons)	Average % Lime by weight	Average Moisture Content (before treatment)	Average Moisture Content (after treatment)
2010-2011	1/13/2011 - 6/15/2011	276,900	11,500	4.1%	26.5%	24.7%
2011-2012	12/15/2011 - 3/30/2012	126,300	5,600	4.4%	28.3%	26.0%
2012-2013	11/29/2012 - 3/28/2013	151,489	7,928	5.1%	30.1%	25.9%
	Total	**554,689**	**25,028**	**4.4%**	**28.0%**	**25.4%**

In-situ lime treatment was attempted in the central Dredge Cell for one week in May, 2011. For the treatability test plot (Section 1.3.2.4), which had blended materials to a 16-inch mix depth, the required density following compaction could not be achieved. Although the surface of the in-situ treatment plots appeared hard on the surface, the material remained soft ("fluffy") and moist underneath. Therefore, for production plots the mixer dropped back to a 12-inch mix depth; the required compaction still could not be achieved using a smooth-drum roller. The incoming material had highly variable moisture content in spots, yet the lime treatment operator could not adjust lime rate for those differing material moisture contents. To repair the in-situ plots not passing density tests, the material was turned using a dozer and chisel plow to assist in drying and in further mixing the material to 10 to 12 inches, then compacted using a sheepsfoot roller. In-situ lime treatment was not deemed viable at the Site, based on low production efficiency. The material became excessively soft and fluffy and could not be properly compacted. The material could not achieve consistent moisture content, whereas the lime treatment boxes used in the Ball Field could produce a more consistent product. For these reasons, in-situ lime treatment was not used for ash processing.

2.1.3 Ash Stacking

Ash stacking was implemented in stages in each quadrant of the Ash Landfill (Figure 9). In general, stacking progressed from the north and central Dredge Cell areas (Cells 2 and 3 of the landfill permit), to the Lateral Expansion, and then to the Ash Pond. However, these stages overlapped considerably, so that at any given time stacking operations were being conducted across the Site. During the non-time-critical removal action, all ash material was stacked using pan scrapers or dump trucks to place the material, dozers to spread the material, and smooth steel drum rollers to compact the material.

Ash stacking was specified in a series of seven EPA-approved design packages. Three packages defined stacking in the north and central Dredge Cell, two defined stacking in the Lateral Expansion, and two defined stacking in the Ash Pond and relic Dredge Cell. Ash Stacking in each quadrant is defined below.

Problems encountered during ash stacking that were common to all quadrants consisted of erosion repairs and winter operations:

- Fly ash consists of highly erosive silt-sized particles. Following heavy rain events, erosion channels and gullies would readily develop along the edges of the stacking areas. Best Management Practices, such as check dams as outlined in the Site Storm Water Management Plan (TVA 2010a, 2011c, 2013), were implemented, but did not eliminate erosion problems. Temporary seeding was implemented for exposed slopes or surfaces that would lay dormant for periods longer than two weeks. Temporary spray-on erosion control products were considered and tested by TVA at the plant, but were not cost-effective for short-term erosion control in active stacking areas. Erosion channels and gullies, if more than a foot deep, were repaired by excavating the feature to the width of a dozer, and re-stacking the ash.

- Winter operations were impacted by prolonged inclement weather. Rain events would saturate the exposed ash surface, which would remain wet for several days due to the low evaporation rates in the winter. Freezing temperatures would bring soil moisture to the surface and, upon thawing, would loosen and saturate the exposed ash surface. The surface was restored by clipping the loose, wet surface layer and re-stacking the ash.

2.1.3.1 North and Central Dredge Cell Ash Stacking

In order to facilitate the transition from time-critical to non-time-critical activities as defined by the EPA Order and to meet the expectation expressed by TDEC that ash removal from the North Embayment and Middle Embayment and restoration of the waters of the state continue without interruption, ash placement in the central Dredge Cell was initiated as a transition activity in April 2010. The central Dredge Cell was implemented in accordance with the *Central Area Re-Contouring Work Plan* (Jacobs 2010c), which was approved by EPA on April 12, 2010. The central area of the failed Dredge Cell was recontoured to build a subgrade in anticipation of subsequent dry stacking under non-time-critical actions, to improve drainage, and to stabilize the Dredge Cell against erosion. This work plan was later revised in July 2010 (approved by EPA on August 6, 2010) (Jacobs 2010f) and the subsequent recontouring was completed as part of the non-time-critical removal action. Recovered ash placement began on August 11, 2010, using material from the Middle Embayment, and the subgrade was completed a month later, on September 10, 2010. A total of 30,900 cy of ash was placed during the subgrade preparation in the central Dredge Cell.

Design of the ash stacking continued to evolve through this time period. Design of the subgrade recontouring began on February 3, 2010, with concepts of grading the subgrade to a series of channels within the Dredge Cell and placing a rock drainage layer as a working platform and capillary break. Draft design documents were prepared for the *Central Dredge Cell Working Platform Removal Design Package* (RDP-0113-A), but were never completed. Meanwhile, design of the overlying ash stacking began in April 2010, with concepts of placing an initial layer of stacked ash to a uniform grade of around 2% as a base for subsequent stacking. Draft design documents were prepared for the *Central Dredge Cell (Cell 3) Ash Stacking* (RDP-0113-B) in May 2010, but were never completed. On July 14, 2010, as a result of comments received from EPA, BOR, and TDEC, the TVA design team decided to eliminate the working platform and continue to stack ash to a uniform 2% grade across the bottom of the Dredge Cell (J. Benedict, personal communication, July 20, 2010). On August 4, 2010, the design team further decided to eliminate the need for a capillary break or drainage layer (J. Benedict, personal communication, August 11, 2010). As a result, both of the draft design packages (RDP-0113-A and RDP-0113-B) were deleted, and design of a new package was begun.

The initial phase of ash stacking was specified in the *Interim Dredge Cell Ash Stacking and Instrumentation Plan Removal Design Package* (RDP-0113-C), which was approved by EPA on September 9, 2010. This initial phase allowed for a drainage ditch around the northern and western sides of the Dredge Cell, with interim stacking at a 2% grade between approximately elevation 767 and 778 ft msl. Ash was specified to be compacted to 90% standard Proctor density and at a narrow moisture content range (-4% to +2%) of optimum. Similar to the Test Embankment program, geotechnical engineering data were collected for use in monitoring the ash stacking. Targeted geotechnical parameters included vertical and horizontal displacement, and pore pressure differences. Geotechnical instrumentation consisting of piezometers, slope inclinometers, and settlement plates were installed prior to ash stacking operations and were monitored continually throughout ash stacking. Ash stacking under this design began on September 13, 2010. Stacking progressed continuously through subsequent phases of stacking without interruption, so there was no specific completion date or separate volume of material stacked solely during this initial phase.

A second phase of ash stacking was specified in the *North and Central Dredge Cell (Cells 2 & 3) Ash Stacking* (RDP-0113-D), which EPA approved on December 22, 2010. This second phase allowed for stacking ash to a height between approximately elevation 777 ft msl and 784 ft msl. A third and final phase of ash stacking, referred to as "in-fill" stacking, was specified in *North and Central Dredge Cells (Cells 2&3) Closure Removal Design Package* (RDP-0113-G), approved by EPA on February 23, 2012. This final phase allowed for stacking ash to the final grade beneath the ultimate cap system, to a height between approximately elevation 775 ft msl and 791 ft msl.

Modifications to these design packages were made in accordance with TVA project procedures for implementing RFIs and FCNs. These modifications were applicable to later stacking in the Lateral Expansion and Ash Pond as well. Notable modifications included the following:

- FCN-006, FCN-044, and FCN-057 provided for lime-treated material to be stacked in the Dredge Cell. This improved the moisture content of wetter ash material, which allowed stacking to proceed during wet winter months.

- FCN-022, FCN-024, and FCN-032 modified details of the perimeter ditch grading. These modifications improved drainage while limiting unnecessary ash excavation inside the Dredge Cell.

- FCN-023 modified the frequency of Proctor density characterization tests from once every 10,000 cy (loose volume) to once every 50,000 cy (loose volume of material placed, since results from more than 65 tests showed little variation in test results. This improved data quality by eliminating unnecessary tests that would have provided similar results.

- FCN-033 modified the allowable moisture content range for the material being stacked from -4% to +2% to a range of -4% to +6%. Stantec prepared an evaluation (Stantec 2011d) of prior field compacted density and moisture content test results and concluded that materials compacted to 6% above optimum moisture were able to achieve required compacted density. To verify that the design strength (internal friction angle of 30 degrees) is achieved for constructed ash embankments at higher moisture values, a series of consolidated, undrained triaxial compression tests were performed on a sample of ash material recovered from the Site. Test specimens were compacted at various moisture contents (up to about 10% over optimum) to relatively consistent density (just below 90% of maximum dry density). Results indicated that the compacted wetter ash material met the required design strength. This improved stacking productivity by allowing wetter ash to be placed and compacted directly within the Ash Landfill rather than processing first.

- RFI-094 clarified the management of materials, such as rock or miscellaneous debris (e.g., splintered crane mats used during the PWS construction) that had become permeated with ash. Stantec developed an Embayment Debris Management Whitepaper (Stantec 2012a) that defined a Central Debris Zone for disposal of such materials within the Ash Landfill. The Central Debris Zone was not to extend beyond the crest of the final cap outslopes; a vertical cap buffer was to be maintained a minimum of 7 ft beneath final grade (5 ft beneath the FML); materials were not to be placed immediately beneath an underdrain pipe or drainage path; and rock materials were to be well blended with ash to eliminate voids in the rock fill.

Stantec required that any ash stockpile slope within the Dredge Cell be maintained no steeper than 6:1 . This requirement was frequently not met, but no adverse conditions were observed. Work packages involving stockpiling operations in the Dredge Cell were revised to require 6:1 slopes whenever equipment would be operating on top of the stockpile.

Problems were encountered during ash stacking in the Dredge Cell due primarily to weather impacts. Prolonged wet weather and cold, freezing weather would degrade the stacking subgrade. Repairs were conducted routinely and included techniques such as waiting for the conditions to dry out, “clipping” the top 6 inches to 1 ft of subgrade and replacing that material later, and disking or blading the material in place to enhance drying.

Construction QC is described in detail in the *Construction Certification Report, Ash Stacking* (Stantec 2014b). Monitoring of the geotechnical instrumentation during ash stacking did not reveal significant problems. Piezometers often indicated rising water levels due to recent rainfall events or seasonal high water table. Piezometric pressures were found to rise temporarily in very localized areas due to adjacent truck hauling or equipment operations; pressures were found to subside quickly after those localized activities ceased. Pore pressure ratios at some piezometer locations were found to exceed the threshold criteria; however, further evaluation concluded that the levels were not of concern, in part because the piezometer readings were not re-calibrated for seasonal effects. Slope inclinometers indicated overall movements in downslope directions. Displacement ratios at some slope inclinometer locations were found to exceed the threshold criteria; however, further evaluation concluded that the levels were not of concern, in part because the slope inclinometers were not re-calibrated for cumulative movement even when incremental movement had stopped. As a result, stacking in the Dredge Cell was not curtailed due to results of monitoring of the geotechnical instrumentation, although localized areas were occasionally avoided to allow pore pressures to dissipate.

In October 2012, stacking over much of the central Dredge Cell had been completed; as a result, areas available for stacking along the northern and western edges of the Dredge Cell became restricted. To improve stacking productivity, the QC Manager approved a modification of the specified maximum daily rate of stacking (2 ft/day) along a corridor on the west side of the central Dredge Cell, to allow up to 4 ft/day to be stacked. When up to 4 ft of fill was placed in 1 day, that area was required to rest for a day, allowing pore pressures to dissipate. Geotechnical monitoring was increased accordingly.

Appendix D presents daily statistics on the number of truckloads of ash placed, the trucked volume (calculated assuming a truck volume of 22 to 30 cy/truck), and the in-place volume (calculated using pre- and post-construction survey information).

Appendix D also presents a histogram of the ash stacking production rates within the north and central Dredge Cell. Production was not continuous in the Dredge Cell. Production rates remained slower during the winter months. Production also slowed as crews were diverted to stacking within the Lateral Expansion and Ash Pond and when the central Dredge Cell was used predominantly for ash processing. Infill stacking production slowed while crews waited for completion of the PWS walls and wall repairs along Segments 1 and 7.

Table 2-2 lists the maximum stacking rate, average daily stacking rate, and average weekly stacking rate for various operating periods. During active stacking operations, productivity averaged 2,120 to 4,170 cy/workday (in-place volume). The maximum recorded daily productivity rate was 7,800 cy in a single day. Ash stacking in the north and central Dredge Cell was completed on July 16, 2013. A total of 1,245,900 cy of material (in-place) were stacked in the Dredge Cell from September 2010 through July 2013. Total ash stacked in the Dredge Cell (including both subgrade preparation and production stacking phases) was therefore 1,286,000 cy (in-place).

Table 2-2. Stacking Productivity in the Central and Northern Dredge Cell

Dates of Stacking Operations	Maximum Daily Stacking Rate (cy/workday in place)	Average Daily Stacking Rate (cy/workday in place)	Average Weekly Stacking Rate (cy/week in place)
8/11/2010 - 9/10/2010[a]	2,760	1,720	7,000
9/13/2010 - 11/14/2010	4,800	3,350	15,300
11/15/2010 - 2/6/2011	4,610	2,120	4,800
2/7/2011 - 8/2/2011	7,800	4,170	19,600
8/3/2011 - 2/14/2012	Minor stacking; area used predominantly for ash processing		
2/15/2012 - 8/23/2012	7,020	2,820	12,100
8/25/2012 - 10/28/2012	Minor stacking; area used predominantly for ash processing		
10/29/2012 - 12/5/2012	5,930	3,160	16,100
12/6/2012 - 1/22/2013	Minor stacking; area used predominantly for ash processing		
1/23/2013 - 4/7/2013	4,680	2,250	10,600
4/8/2013 - 7/16/2013	Minor stacking; final contouring prior to cap placement		

Notes:
[a] Subgrade preparation phase

During the time-critical removal action, a Test Embankment had been built to demonstrate the stability of dry ash stacking. Approximately 250,000 cy of time-critical ash remained in the Test Embankment after time-critical dredging was complete. In accordance with the Action Memorandum for the

Embayment/Dredge Cell (Jacobs 2010d), the ash in the Test Embankment was left in place, and has been incorporated into the closed Ash Landfill. This quantity is not included in the ash stacking quantities reported for the Dredge Cell, as that work had been completed during the time-critical removal action.

2.1.3.2 Lateral Expansion Area Ash Stacking

Ash stacking in the Lateral Expansion area likewise consisted of subgrade preparation, initial stacking, and final infill stacking. Subgrade preparation began on October 5, 2010, as materials were placed in the Lateral Expansion area for processing (drying). On March 1, 2011, Stantec established subgrade elevations for recontouring of the Lateral Expansion (Stantec 2011a). Subgrade recontouring established a 2% grade between approximately elevation 763 ft msl and 777 ft msl. On March 31, 2011, the EPA Remedial Project Manager concurred with the recontouring concepts, which allowed for the subgrade to be completed in advance of ash stacking. The subgrade preparation was completed on August 6, 2011; a total of 187,300 cy of ash was placed during the subgrade preparation in the Lateral Expansion.

The initial phase of ash stacking was specified in the *Lateral Expansion (Cell 4) Ash Stacking Removal Design Package* (RDP-0114-A), which was approved by EPA on June 30, 2011. This initial phase allowed for a drainage ditch around the northern and eastern sides of the Lateral Expansion, with stacking at a 2% grade between approximately elevation 777 ft msl and 783 ft msl. Ash was specified to be compacted to 90% standard Proctor density. Geotechnical engineering data were collected for use in monitoring the ash stacking. Piezometers, slope inclinometers, and settlement plates were installed prior to ash stacking operations and were monitored continually throughout ash stacking. Ash stacking under this design began on September 13, 2010. Stacking progressed continuously through subsequent phases of stacking without interruption, so there was no specific completion date or separate volume of material stacked solely during this initial phase.

The final phase of in-fill ash stacking was specified in *Lateral Expansion (Cell 4) Closure Removal Design Package* (RDP-0114-C), approved by EPA on July 12, 2012. This final phase allowed for stacking ash to the final grade beneath the ultimate cap system, to a height between approximately elevation 778 ft msl and 793 ft msl.

Modifications to these design packages were made in accordance with TVA project procedures for implementing RFIs and FCNs. Modifications listed for the Dredge Cell were applicable to stacking in the Lateral Expansion as well. Additional modifications included the following:

- RFI-087 and RFI-089 restricted ash stacking during wall construction in the Lateral Expansion. Stantec evaluated slope stability (assuming fully undrained conditions), and noted that risk of slope failure could become more severe if the Lateral Expansion stacking limits were to be expanded toward the north during spoils operations. These restrictions were lifted once the PWS wall Segments 2 and 3 were complete.

Problems were encountered during ash stacking in the Lateral Expansion due to placement and compaction of ash overlying very soft, unconsolidated ash deposits nearly 40-ft deep. During stacking, consolidation of the subgrade induced pore pressures in the loose ash that had to dissipate to provide a stable platform for stacking. In July 2011, conditions in the southern edge of the Lateral Expansion area became soft, wet areas and "boils" were observed at the surface, the subgrade "pumped" under proof rolling, and similar features were observed that were caused by the water escaping from the consolidating ash. To improve the subgrade conditions and allow subsequent ash stacking, areas in which pumping occurred during proof rolling were either tilled, excavated, or left to stabilize in place. Softer ash material was excavated to a depth up to 3 ft and replaced with drier ash.

By late November 2011, subgrade conditions in the southeast corner of the Lateral Expansion had not firmed up sufficiently and slope inclinometer readings indicated greater movement. Therefore, in December 2011, a series of "finger drains" were installed by excavating trenches to a depth up to 6 ft and replacing with bottom ash to allow drainage of the subgrade. The finger drains were about 3-ft wide by 30-ft long and were installed on 50- to 100-ft centers to relieve the hydrostatic pressure and allow a pathway for the water to escape. Geotechnical monitoring of piezometers and inclinometers successfully demonstrated the relief of excess hydrostatic pressures, and the finger drains were successful in firming up the subgrade for subsequent ash stacking and compaction. Accelerated consolidation allowed stacking to continue without delay to the project schedule, avoiding costs of standby, remobilization, or extended program management oversight that might have resulted if stacking had needed to proceed more slowly. (Lessons Learned, LL-014, May 1, 2012).

Problems were also encountered in the northeastern corner of the Lateral Expansion. On October 25, 2011, Stantec restricted ash stacking based on geotechnical instrumentation measurements indicating horizontal movement of the ash material in the Lateral Expansion, and increased pore pressures at certain piezometer locations. Ash stacking in the Lateral Expansion was limited to a maximum of 1 ft/day until further notice. On November 7, 2011, Stantec increased the restricted area to include the full eastern edge of the Lateral Expansion and recommended that no construction activity occur in this restricted area. Stability analyses indicated a section of the Lateral Expansion with a marginal factor of safety. On November 8, 2011, Stantec restricted ash fill placement and compaction activities in the northwest corner of the Lateral Expansion based on instrumentation measurements indicating significant lateral deformation of the subgrade in this area. TVA undertook an emergency response to improve the stability of the stack, constructing a buttress of rock in the channel east of the Lateral Expansion area during the week of November 8, 2011. As a result of this action and subsequent slope inclinometer readings, on December 1, 2011, Stantec lifted the stacking restrictions for the northwest and southeast corners of the Lateral Expansion, but retained the 1 ft/day fill rate restriction. The channel fill was extended further north along the toe of the Lateral Expansion stack in the northeastern corner. As a result, on December 13, 2011, Stantec lifted the stacking restrictions for the northeast corner but retained the 1 ft/day fill rate restriction.

In June 2012, further problems were encountered in stacking along the southern edge of the Lateral Expansion. Slope inclinometers were showing movement at depth, and stability analyses indicated potentially low factors of safety in undrained conditions. On June 25, 2012, Stantec restricted further ash stacking in the southern region of the Lateral Expansion. A counterweight was constructed to provide a buttressing effect to the stack by placing a 3 ft bridging layer of ash across most of the ditch area separating the Lateral Expansion from the Ash Pond. Once the drainage ditch was filled, measurements of movements of the slope inclinometers became minimal or ceased. On August 6, 2012, Stantec relaxed the stacking restrictions, allowing for no more than 1 ft/day of fill height. Stacking plans were revised to encourage stacking across the full extent of the Lateral Expansion and Ash Pond areas, to spread out any loads and avoid rapid filling in any one area.

On Monday, August 26, 2013, Stantec issued stacking restrictions for the eastern edge of the Lateral Expansion due to observed movements in two slope inclinometers. The restrictions, originally allowing no more than 1-ft fill per day were revised to restrict all stacking and other construction activities either on the embankment or at the toe of the embankment (the spoils ditch between the Lateral Expansion and PWS Segment 3) until results of stability calculations could be evaluated. Between August 29 and September 4, 2013, the drainage channel along the toe of the east outslope of the Lateral Expansion was filled with an aggregate/ash mix from about 400 ft south of slope inclinometer SI-F17, located near the southeast corner of the Lateral, to about 150 ft north of SI-F17. Following placement of this buttress, vehicle traffic was permitted at the toe of the slope, but stacking remained restricted at the crest of the slope. The restriction to stacking was lifted on October 10, 2013, once the rate of lateral deformation measured by slope inclinometers had significantly slowed.

Problems were encountered in the eastern side of the Lateral Expansion, where an old inlet structure for a former weir (referred to as the Kennedy Weir) was encountered. The horizontal pipe from the bottom of the weir structure through the Divider Dike had previously been disconnected, and the pipe through the Divider Dike had been grouted full. The weir structure was abandoned in place by grouting the vertical inlet pipes to reduce the potential of overlying fill settlement impacts. The vertical pipes were filled with a minimum of three 80-pound bags of dry Type I cement and cut off at grade.

Appendix D presents daily statistics on the number of truckloads of ash placed, the trucked volume (calculated assuming a truck volume of 16 to 30 cy/truck), and the in-place volume (calculated using pre- and post-construction survey information). Appendix D includes a histogram of the ash stacking production rates within the Lateral Expansion. Production was not continuous in the Lateral Expansion. Similar to the Dredge Cell, production rates remained slower during the winter months. Production also slowed as crews were diverted to stacking simultaneously in the Dredge Cell and/or Ash Pond or to construction of the PWS platforms. Stacking in the Lateral Expansion occurred predominantly during two periods of time: one between June and November 2011 and the other between April and November 2013.

Table 2-3 lists the maximum stacking rate, average daily stacking rate, and average weekly stacking rate for various operating periods. During the two predominant active stacking operations, productivity averaged 3,570 to 3,800 cy/workday (in-place volume). The maximum recorded daily productivity rate was 8,540 cy in a single day. Ash stacking in the Lateral Expansion was substantially completed on November 6, 2013, although minor ash stacking occurred during subgrade preparation for the cap. A total of 1,002,000 cy of material (in-place) were stacked in the Lateral Expansion from August 2011 through April 2013. Total ash stacked in the Lateral Expansion (including both subgrade preparation and production stacking phases) was therefore 1,189,000 cy (in-place).

Table 2-3. Stacking Productivity in the Lateral Expansion

Dates of Stacking Operations	Maximum Daily Stacking Rate (cy/workday in place)	Average Daily Stacking Rate (cy/workday in place)	Average Weekly Stacking Rate (cy/week in place)
10/5/2010 - 6/16/2011	3,620	790	1,900
6/17/2011 - 11/22/2011	8,540	3,570	17,100
11/23/2011 - 4/9/2013	4,950	1,800	2,600
4/10/2013 - 11/6/2013	7,790	3,800	17,800

2.1.3.3 Ash Pond Ash Stacking

The Ash Pond was initially used to collect approximately 175,000 cy of plant-generated ash that had settled in the pond following completion of the time-critical removal action. Plant-generated ash ceased to collect in the Ash Pond after September 17, 2011, when the plant temporarily shut down power production operations. A new dry fly ash conversion facility had been completed by the time the plant started production, so that there was no longer any plant generated fly ash collecting in the Ash Pond.

Subgrade preparation began on August 5, 2011, but fill placement was intermittent. Because the Ash Pond was still being used as a settling pond, fill placement was predominantly for the disposition of wet, saturated materials from the embayments and spoils from the PWS construction. On September 20, 2011, Stantec established subgrade elevations for the Ash Pond (D. Fuller, personal communication, September 20, 2011) indicating a 2% grade between approximately Elevation 761 ft msl and 771 ft msl. Most of the Ash Pond subgrade was filled during the wet winter months, between December 2011 and April 2012. Final grading of the Ash Pond subgrade was completed on August 7, 2012. Approximately 179,800 cy of ash and 102,500 cy of spoils were placed in the Ash Pond subgrade.

The initial phase of ash stacking was specified in the *Ash Pond Ash Stacking Removal Design Package* (RDP-0114-D), which was approved by EPA on August 2, 2012. This initial phase allowed for a drainage ditch around the eastern and southern sides of the Ash Pond, and an intermediate drainage ditch between the Lateral Expansion and Ash Pond. Stacking was designed at a 2% grade between approximately elevation 774 ft msl and 781 ft msl. Ash was specified to be compacted to 90% standard Proctor density. Geotechnical engineering data were collected for use in monitoring the ash stacking. Piezometers, slope inclinometers, and settlement plates were installed prior to ash stacking operations and were monitored continually throughout ash stacking. Ash stacking under this design began on August 8, 2012. Stacking progressed through subsequent phases of stacking without interruption, so there was no specific completion date or separate volume of material stacked solely during this initial phase.

The final phase of in-fill ash stacking was specified in *South Dredge Cell (Cell 1) and Ash Pond Closure* (RDP-0113-H and RDP-0114-F), approved by EPA on August 2, 2013. This final phase allowed for stacking ash to the final grade beneath the ultimate cap system, to a height between approximately elevation 778 ft msl and 793 ft msl.

Appendix D presents daily statistics on the number of truckloads of ash placed, the trucked volume (calculated assuming a truck volume of 22 to 30 cy/truck), and the in-place volume (calculated using pre- and post-construction survey information). Appendix D includes a histogram of the ash stacking production rates within the Ash Pond. Production was not continuous in the Ash Pond. Similar to the Dredge Cell, production rates remained slower during the winter months. Production also slowed as crews were diverted to stacking simultaneously in the Lateral Expansion or to construction of the PWS platforms.

Table 2-4 lists the maximum stacking rate, average daily stacking rate, and average weekly stacking rate for various operating periods. During active stacking operations, productivity averaged between 2,190 and 2,990 cy/workday (in-place volume). The maximum recorded daily productivity rate was 6,375 cy in a single day. Ash stacking in the Ash Pond was completed on July 1, 2013. A total of 743,000 cy of material (in-place) were stacked in the Ash Pond from August 2012 through July 2014, which includes both subgrade preparation and production stacking phases.

Table 2-4. Stacking Productivity in the Ash Pond

Dates of Stacking Operations	Maximum Daily Stacking Rate (cy/workday in place)	Average Daily Stacking Rate (cy/workday in place)	Average Weekly Stacking Rate (cy/week in place)
8/8/2012 - 11/1/2012	5,610	2,190	9,200
11/2/2012 – 01/19/2014	Stacking intermittent due to wet weather and/or stacking in Lateral Expansion		
01/20/2014 – 07/01/2014	6,375	2,990	13,300

2.1.3.4 Ash Pond Outlet Structure

In March 2011, draining of the Ash Pond was being considered as a means of improving the stability of the Lateral Expansion stack and PWS wall foundation and as a precursor to filling of the Ash Pond. However, the Ash Pond was to continue to be used for gravity settling of plant-generated ash until the plant's dry fly ash conversion facility was operational. The Ash Pond water surface elevation was to be lowered gradually from Elevation 760.7 ft msl to Elevation 755 ft msl, just above the existing Stilling Pond water surface elevation.

On June 9, 2011, TDEC approved deleting the free water volume requirement for the Ash Pond, recognizing the total suspended solids (TSS) requirement as the ultimate measure of ash pond effectiveness (TDEC 2011). As a result, there was no regulatory need to maintain water levels in the Ash Pond.

New outlet structures were designed for control of discharges from the Ash Pond through the Divider Dike in the southeast corner of the Ash Pond. The *Ash Pond Outlet Structure Removal Design Package* (RDP-0114-G) was approved by EPA on September 15, 2011. The outlet structure, shown on Figure 10, consisted of eight stoplog-controlled spillway structures and eight 24-inch-diameter high-density polyethylene (HDPE) outlet pipes. Due to the anticipated short remaining life of the Ash Pond, prefabricated stoplog structures were preferred to cast-in-place concrete stoplog structures due to ease of installation and significant cost savings. A portion of the outlet pipes through the Divider Dike were encased in concrete to avoid internal erosion ("soil piping") of dike materials. The outlet pipes discharged onto a riprap bed in the Stilling Pond. The new structures were installed while the Ash Pond was still in operation; therefore, a temporary cofferdam was installed in the Ash Pond to isolate the construction area.

Construction of the outlet structures was begun on December 1, 2011, and completed on February 13, 2012. Drawdown of water levels in the Ash Pond began on February 17, 2012; the pond drawdown was completed on March 12, 2012, for an average drawdown rate of 2.5 inches per day (Stantec 2012c).

2.1.3.5 Sluice Trench Outlet Piping

The Sluice Trench is a wide channel that carries discharge waters from the plant to the ash settling ponds. In preparation for closing the Ash Pond to allow construction of a working platform for the PWS, the Sluice Trench discharges had to be rerouted directly into the Stilling Pond, to bypass the Ash Pond. Originally planned as an open channel, the discharges were instead conveyed through pipes to improve stability of the ultimate Ash Landfill. The *Sluice Trench Outlet Piping Removal Design Package* (RDP-0114-H) was approved by EPA on June 20, 2012. The outlet piping, shown on Figure 11, consisted of three 48-inch-diameter HDPE pipes. A portion of the outlet pipes were encased in concrete to avoid internal erosion ("soil piping") of dike materials. Construction was begun on July 17, 2012, and was completed on September 17, 2012, when water was diverted from the Sluice Trench into the new outlet piping.

2.1.4 Perimeter Containment

The perimeter containment consisted of PWS walls with overlying earthen berm surrounding the Ash Landfill, and a rock buttress along Swan Pond Embayment. The perimeter containment was implemented in stages, or "segments". In general, construction of segments progressed from the north and central Dredge Cell segments, to the Lateral Expansion, then to the Ash Pond and Ball Field segments (Figure 12). The sequencing of wall construction was selected to optimize the corresponding sequencing of subsequent activities; namely, in-fill ash stacking and final cap and closure.

Perimeter containment was specified in a series of six EPA-approved design packages, as defined below. Perimeter baselines and corresponding stations were defined for three separate baselines: A, B, and C.

- Segment 1, *North Dredge Cell (Dike C) Perimeter Containment Removal Design Package* (RDP-0113-E), was approved by EPA on August 4, 2011. Segment 1 extended 1,800 ft from Dike D around the perimeter of the northern Dredge Cell adjacent to Swan Pond Embayment, STA A161+50 to STA A179+50.

- Segment 2, *Lateral Expansion (Cell 4) Perimeter Containment Removal Design Package* (RDP-0114-B), was approved by EPA on June 18, 2012. Segment 2 extended 2,232 ft from STA B323+72.58 to B328+75.66 and from STA A144+20.84 to STA A161+50, adjacent to Swan Pond Embayment.

- Segments 3 and 4, *Ash Pond Perimeter Containment Removal Design Package* (RDP-0114-E), was approved by EPA on December 6, 2012. Segment 3 extended 1,673 ft along the Divider Dike between the Ash Pond and the Stilling Pond, from STA B307+00 to STA B323+72.58. Segment 4 extended 1,000 ft along the south side of the Ash Pond, from STA B297+00 to STA B307+00.

- Segments 5 and 6, *Ball Field Corridor Perimeter Containment Removal Design Package* (RDP-0113-I), was approved by EPA on March 22, 2013. Segment 5 extended 2,068 ft from STA A204+50 to STA A225+18, separating the Ash Landfill from the Ball Field area. Segment 6 extended 690 ft from STA A197+60 to STA A204+50, connecting to Segments 5 and 7 at the corner of the relic area.

- Segment 7, *Swan Pond Road Corridor Perimeter Containment Removal Design Package* (RDP-0113-F), was approved by EPA on January 19, 2012. Segment 7 extended 1,810 ft from STA A179+50 to STA A197+60, offset approximately 100 ft from Swan Pond Road.

- Segment 8, *North Wall Perimeter Containment Removal Design Package* (RDP-0113-J), was approved by EPA on January 13, 2012. The north wall was a short segment connecting the northwest corner of Segment 1 to the abutment at Swan Pond Road, and was designed to contain the residual ash located outside of the Ash Landfill alongside Swan Pond Road. Segment 8 extended 714 ft from STA C401+28 to STA C408+42.

2.1.4.1 Perimeter Wall Stabilization

The PWS was the most significant component of the perimeter containment system. The stabilized perimeter was designed to contain material both under static conditions as well as following a seismic event. Design safety factors for the PWS foundation and slope stability were a minimum of 1.5 under long-term static loading (drained) conditions and a minimum of 1.3 for short-term static conditions. The design earthquake event was defined as having a 10% probability of exceedance in 250 years (recurrence interval of 2,373 years). The PWS was designed to meet the stability criteria after the occurrence of only one design earthquake event. The post-earthquake design safety factor for the PWS foundation and slope stability was greater than 1.0. Following the design earthquake event, ash from the closed facility was not to displace beyond the permitted boundary of the facility (Stantec 2012d). Deformations that did not exceed this limit were considered acceptable. Slope stability calculations (using FLAC and SLOPE-W) were performed at critical locations around the perimeter of the Ash Landfill. These calculations demonstrated that the perimeter foundation stabilization results in meeting the required safety factors. Calculations are presented in the corresponding design packages (Stantec 2012e). It should be noted that the stabilization process may reduce the hydraulic conductivity of various foundation layers, but the stabilized perimeter was not designed for groundwater retention.

The PWS involved excavating a grid of slurry trench walls through saturated fly ash that were backfilled with self-hardening slurry composed of cement slag and bentonite (CB slurry). A typical layout is shown on Figure 13. Each wall segment was designed individually, encompassing separate design elements that were modified as the design process matured. Table 2-5 summarizes the design elements used in each segment. The PWS extended nearly 12,000 ft around the closed Ash Landfill. Each segment contained shear walls (perpendicular to the perimeter) varying in length from 50 to 100 ft. The shear wall spacing varied from 14.6 ft to 20.4 ft. Segments 1, 2, 6, 7, and 8 contained an inboard perimeter wall (parallel to the perimeter). Segments 1, 2, and 8 also contained an outboard perimeter wall (parallel to the perimeter), which ran through the shear walls, creating a series of "buttress" walls 10-ft long. All of the slurry trench walls were 4-ft wide and were embedded into the underlying bedrock to depths varying from 1.7 to 6.9 ft, depending on the hardness of the rock and the particular design segment. Total design wall volume was 505,900 cy of CB slurry; actual volumes were calculated to be 516,739 cy, as shown on Table 2-5.

Table 2-5. PWS Wall Construction Summary

PWS Segment	Length of Segment (linear ft)	Soil Excavation Volume[1] (cy)	Rock Excavation Volume[2] (cy)	Total Volume (cy)	Number of Shear Walls	Total Length of Trenches (linear ft)
1	1,800	81,853	5,520	87,373	90	12,286
2	2,232	122,427	4,322	126,748	151	15,510
3	1,673	42,618	3,173	45,791	88	5,373
4	1,000	25,249	1,499	26,748	60	3,660
5	2,068	71,884	8,031	79,915	112	7,786
6	690	40,188	2,719	42,906	39	3,963
7	1,810	85,524	2,721	88,245	102	17,275
8	712	18,111	899	19,011	37	2,997
Total	11,985	487,855	28,884	516,739	679	68,851

Notes:

[1] Soil Excavation volume calculated by multiplying the measured depth to top of rock below the working platform elevation by the design length and by the design width of each trench cut.

[2] Rock Excavation volume calculated by multiplying the design rock embedment by the design length and by the design width of each trench cut.

Ground granulated blast furnace slag, commonly referred to as slag or slag-cement, was the primary cementitious component of the CB slurry mix. Bentonite was used in the CB slurry to keep the slag in suspension until the initial set, reduce shrinkage, and increase fluidity of the slurry. A small amount of Portland cement was used as a catalyst to aid initiation of the cementitious reaction of the slag. The design mix for the CB slurry initially consisted of 20% cement slag, 3% bentonite, and 0.5% Portland cement by weight for construction of the demonstration test wall. To ensure confidence in achieving required design strengths, the design mix for the production walls for Segment 1 increased the slag content to 25%. Once results of unconfined compressive strength tests demonstrated that the strength criteria could be easily achieved, the design mix was revised to 22% slag for the remaining wall segments.

Leaching characteristics of the hardened CB slurry were used in evaluating the potential for migration of arsenic and selenium from the PWS wall. Monolith leaching tests were performed in accordance with EPA Method 1315 on two core samples from cured walls. Results are reported in the Ash Leaching Test Results Supplement C Report (Jacobs 2011h). Results indicated that leaching from the CB panels resulted in very low concentrations (near the detection limit) of arsenic and selenium in the leachate. The low concentrations observed in the test were observed for only a few specimens during the 63-day test. The results indicated that pH in the leachate remained relatively high (above 10) even after 231 days of testing. The results for pH, conductivity, and oxidation-reduction potential indicated that after an initial increase, leaching rates of chemical species that were affecting the high pH, conductivity, and reduced conditions for oxidation-reduction potential were slowly decreasing. These conditions, although long-term, were transitory, and would not be environmentally detrimental. Therefore, use of the CB slurry was considered acceptable for use in constructing the PWS wall.

Improvements to the designs were made both to resolve problems encountered and to reduce overall project costs. The following describe the design improvements.

- FCN-034 provided for changes in the definition of what constituted a "cold joint". A cold joint was originally defined as a construction joint between two adjacent wall panels installed more than 7 days apart (more than 7 days of cure time between panels). Problems were encountered during construction of Segments 1 and 7 in that the 7-day limit did not allow for enough physical separation of the trench excavators, resulting in excessive buildup of water pressures and instability in the working platform, and requiring subsequent mitigation of the cold joint. Laboratory shear test data demonstrated an appropriate limit between 14 and 21days. Field tests were conducted on a test panel that, at different cure times, was excavated into so that observations could be made of any damage, cracking, or fracturing. Results suggested that up until about 14 days the excavation process did not cause excessive damage. Therefore, in September 2011, the cure time limit was increased to 14 days for 25% slag slurry.

- FCN-054 further modified the cold joint definition. Problems continued to be encountered during construction of Segment 7 due to platform instability and wall collapse that caused the excavators to move frequently around the segment to avoid unstable areas. This frequent movement resulted in a substantial number of cold joints requiring mitigation. Because the slag content in the CB slurry had changed from 25% to 22%, additional laboratory direct shear tests were conducted using cured specimens of CB slurry containing 22% slag. Although results were variable, the laboratory shear test data demonstrated acceptable joint shear strength up to 56 days of curing. Field tests were conducted on previously installed buttress walls that had cured between 10 and 28 days. Results suggested that for walls cured more than 20 days, the CB material showed brittle behavior and the excavation process caused fracturing. Therefore, in August 2012, the cure time limit was increased to 20 days for 22% slag slurry.

- FCN-037 and FCN-048 (not executed) provided for changes in rock embedment for Segments 1 and 7, respectively. During construction of these segments, problems were encountered in excavating through hard rock, slowing productivity substantially and increasing costs of operational standby. Additional calculations were performed to justify shallower depths of rock embedment in hard rock excavations than in soft rock excavations by taking advantage of the higher rock strength. Segment 6 design specifications provided for two separate rock embedment depths when encountering either hard rock or soft rock.

- FCN-052 modified the specification criterion for Adjusted Mean Strength from 280 to 220 psi and the Adjusted Exceedance Fraction (90%) from 145 to 130 psi for walls designed using the 200 psi design strength. In July 2012, TVA conducted additional testing of core hole samples for unconfined compressive strength. Two separate contract drillers were retained to evaluate whether drilling skills or methods affected core sample strengths. Results of core samples strengths were also compared to grab sample strengths to re-evaluate the correlation factor (grab:core). Results of that evaluation concluded that a correlation factor of 1.1 could be attained, regardless of contract driller. The change in correlation factor resulted in the modification of the Adjusted Mean Strength and Adjusted Exceedance Fraction. Although the data suggested a trend in strength gain with depth, the data were highly scattered and erratic; no change in design approach was recommended for strength gain with depth. (Stantec 2012e).

In March 2012, TVA and Stantec held a workshop to review the perimeter containment design approach. The workshop was to identify opportunities (changes in calculation procedures, design criteria, or assumptions) that could result in reduced PWS wall volume and thereby improve the cost-effectiveness of the PWS wall. Recommendations implemented following that workshop included the following:

- Design layouts were modified to eliminate inboard and outboard perimeter walls from segments not adjacent to Watts Bar Reservoir (i.e., to use shear walls only) for Segments 3, 4, and 5. Further calculations were performed to evaluate potential for ash to flow between the shear walls, considering embankment load, arching, and inertial forces. This change reduced wall volumes, but most significantly, it eliminated cold joints in those wall sections, which considerably improved the quality and cost-effectiveness of the PWS wall, avoiding more than $600,000 in potential cost.

- Design calculation procedures for rock embedment were modified to design for predicted lateral thrusts and to eliminate the design criterion that rock embedments be stronger than the walls. This change reduced the calculated depth of rock embedment.

- Design calculation procedures were modified to include vertical shear force on the back of the inboard wall, which as a stabilizing force would theoretically reduce overturning moments and corresponding pressures on the outboard toe of the wall. Design calculation assumptions in the liquefaction analysis for determination of Finn parameters were modified to allow for a different liquefaction-triggering ratio in the ash and sand in each segment. Design calculation procedures for dynamic loading were modified to design for representative, maximum sustained loads from predicted time history, rather than peak instantaneous peak dynamic wall strength. Design calculation procedures for computing inertial loads were modified to use accelerations from the dynamic simulation at the same model time as the design thrust, rather than peak ground acceleration in all cases. These changes led to reduced wall volumes for Segments 3, 4, 5, and 6.

- Design criteria were modified to increase the design strength and to account for CB strength gain over time. Unconfined compressive strength data for 60 sets of grab samples collected from Segments 1 and 8 were evaluated for strength gain at 28, 56, and 84 days cure time. As a result of that analysis, the design wall strength for Segments 3 through 6 was increased from 200 to 265 psi (which represented the unconfined strength at 84 days curing). Specifications for QC testing of grab samples were modified to provide for a range of acceptable mean strength test results, depending on the cure time of the grab sample. This change to a higher design strength led to reduced wall volumes for those segments (Stantec 2012f).

Geo-Con began construction of the production PWS wall on July 19, 2011 in Segment 1. PWS walls installed during the demonstration test were incorporated into the final Segment 1 PWS wall. Geo-Con mobilized two Komatsu 1250 long-reach excavators, each capable of excavating to depths up to 75 ft below ground surface. The excavators were equipped with 4-ft wide buckets and rock-ripping teeth to achieve rock embedment. Each wall section was installed in panels or "cuts" approximately 30-ft long, to accommodate both the reach of the excavator to the required depth and length of panel normally able to be completed in a day.

The CB slurry was mixed in stages, by first mixing the bentonite and water, and then adding the slag and Portland cement. Bentonite slurry was prepared using either a high-shear tank mixer or a jet-shear Vortex mixer, and discharged to a holding tank where it was constantly re-circulated to keep it mixed. The CB slurry was prepared by blending the bentonite slurry with cement in a high-speed colloidal mixer. The slag was added from a bulk silo via a screw feed auger. Portland cement was added by hand from small bags. The CB slurry was then transferred directly to the trench. Two complete CB slurry mixing operations were established to supply each of the two trenching operations.

Appendix E presents the daily PWS production and includes a histogram of the PWS wall production rates. Table 2-6 lists the maximum daily production rate, average daily production rate, and average weekly production rate for the various segments. Production was highly erratic, depending on weather, groundwater, platform stability, hard rock, and other conditions. Reported production rates should also be viewed with caution, because production time frames between segments overlapped. In particular, Segments 3 and 4 were constructed virtually at the same time, as were Segments 5 and 6, and 7 and 8. Productivity averaged 1,000 cy/workday (in-place volume) across the various segments. The maximum recorded daily productivity rate was 2,400 cy in a single day using two production rigs.

Table 2-6. PWS Wall Productivity

PWS Segment	Dates of Production	Maximum Daily Production Rate (cy/workday in place)	Average Daily Production Rate (cy/workday in place)	Average Weekly Production Rate (cy/week in place)
1	7/19/2011 - 2/8/2012	1,460	670	3,180
2	8/1/2012 - 12/18/2012	1,940	1,130	6,340
3	12/1/2012 - 3/15/2013	1,480	750	3,050
4	12/27/2012 - 3/21/2013	910	570	2,200
5	3/25/2013 - 8/5/2013	1,570	859	4,140
6	3/25/2013 - 716/2013	1,360	680	2,640
7	2/2/2012 - 8/15/2012	1,520	600	3,180
8	3/7/2012 - 4/17/2012	940	540	3,170
Combined[a]	7/19/2011 – 8/5/2013	2,400[a]	1,000[a]	4,970[a]

Notes:
[a] Combined production rates occurred during construction of more than one segment concurrently.

In October 2011, productivity was impacted by numerous equipment breakdowns and repairs, including major equipment damage to one of the Komatsu 1250 rigs. To improve productivity, an additional rig was mobilized to the Site on February 17, 2012, which provided spare equipment in case of breakdown of one of the operating rigs. The spare rig was kept onsite throughout the remainder of wall construction, and was dismantled beginning July 24, 2013.

The third rig was not used for production trenching except when one of the primary rigs was down. Use of the third rig was considered as a means of increasing production rates. However, the supply of cement slag available from suppliers within the U.S. was limited, and additional slag could not be procured. Therefore, the third rig was maintained as spare equipment only to avoid downtimes when one of the primary rigs was down.

Problems were encountered on three occasions when survey data discovered that a PWS wall panel had been installed at the wrong location. In April 2011, the first slurry wall panel installed for the PWS demonstration test was misaligned due to misunderstanding of survey information, as documented in

Problem Evaluation Report (PER) No. 356425. Another panel was installed adjacent to the misaligned panel to correct the error. In November 2011, shear wall SW1-88 located at Sta. A161+55.2 was incorrectly laid out, having its centerline approximately 10 ft to the west (PER No. 467902). Corrective actions included developing stricter surveyor work instruction packages and providing surveyor training. In September 2012, shear wall SW2-105 located at Sta. A154+36.5 was installed along the offset stakes southeast of the true alignment, rather than trench centerline stakes (PER No. 611604). Offset stakes had been used to line up the ends of the shear wall to the correct offset from baseline, not to identify trench centerline. Corrective actions included color coding the centerline stakes; having the operator verify the trench centerline location with a second party verifier; providing operator training; and installing an adjacent wall panel parallel to the misaligned wall.

QC included sampling of the CB slurry at depth for strength testing and sounding of the trench bottom for rock penetration. Sampling/sounding was originally planned to be accomplished by a worker casting the sampling and sounding devices from the sides of the trench. During the readiness review planning, concerns were raised about the stability of the side slopes as a safe working platform for the sampler. Geo-Con therefore designed and fabricated onsite a movable bridge that could span across the trench and improve worker safety by providing a stable working platform. Geo-Con also designed a hoisting mechanism to improve the ergonomic stress on workers retrieving the sampling/sounding devices. The safety bridge also improved productivity because samples could be taken faster and were of higher quality than samples taken from the unstable sides of the trenches.

To improve the depth sounding process and therefore improve productivity, a global positioning system (GPS) instrument was attached to the long-reach excavator to measure depths. While there were concerns whether the GPS equipment could survive the harsh conditions during trenching, the equipment did survive for the duration of the test. However, to protect the sensor during trenching (especially in hard rock conditions) the sensor had to be mounted on the excavator’s boom; as a result, the accuracy of depth measurements at the bottom of the trench could not be confidently attained to meet QC requirements. In addition, productivity did not improve during the testing period. For these reasons, the use of GPS-equipped excavator was discontinued following the test.

2.1.4.2 Working Platform Deterioration

Problems were encountered early in the trenching operations as work platform conditions deteriorated during trenching. Groundwater levels rose to near the ground surface, causing trench collapse and platform deterioration. Equipment support (layered crane mats) was impacted, requiring at times more than six layers of mats. Several options were tested for stabilization of the work platform so as to improve equipment support:

- Stone/rock surface. A 3-ft layer of stone/rock was placed over the entire working platform. While the stone supported the equipment, discharge of slurry and spillage of slurry trench spoils on the platform surface resulted in the stone also deteriorating badly, particularly in areas where the slurry trench cut through the platform.

- Stone/rock with geogrid reinforcing fabric. Strips of geogrid reinforcing fabric were placed on the platform surface prior to placing the 3-ft layer of stone/rock. Gaps were left in the geogrid along strips where the slurry trench would be excavated; slurry walls were spaced less than 20-ft apart. The geogrid did not improve performance over the stone/rock surface alone.

- Bottom ash surface. A 3-ft layer of bottom ash was placed at the surface of the working platform. Although more porous than fly ash, the bottom ash deteriorated rapidly during trenching. Quantities of bottom ash were limited, so further use was not considered viable.

- Lime-treated fly ash surface. Lime-treated fly ash had been successful in stabilizing wet ash during ash stacking and compaction. A 3-ft layer of compacted lime-treated ash was considered; however, experience in stacking showed that when the lime-treated ash became saturated, the stabilization improvement disappeared, so use of lime-treated ash was not considered further.

- Cement-stabilized fly ash surface. Cement-stabilized fly ash was not found to deteriorate as it became saturated, and had been successfully demonstrated in the loose, saturated ash deposits being retrieved from the Swan Pond Embayment of Watts Bar Reservoir. Geo-Con mixed cement with fly-ash in-situ to a depth of about 10 ft. The cement-stabilized surface was successful in providing support of construction equipment and associated trench sidewalls, but at a high cost.

Stone/rock surfacing was successful and most cost-effective for improving platform stability. The treatment was optimized by placing the stone/rock only on the inside edge of the platform, where equipment support deteriorated most and where excavating through the stone/rock could be avoided. The following additional techniques proved helpful in abating near-surface groundwater levels that had led to deterioration of the platform:

- Dewatering. Dewatering involved placing a row (or rows) of closely-spaced wick drains and vacuum dewatering along the PWS platform to draw down the water table. While not intended solely for platform stabilization (but for control of subsurface water levels), the dewatering was successful in areas where no other stabilization technique had been used.

- Finger drains. Finger drains were excavated between adjacent shear walls (about 20 ft apart), extending for about 75- to100-ft long, 5- to 6-ft deep, and filled with rock. The finger drains improved equipment support temporarily, but deteriorated as the trench excavation progressed along a wall section, becoming mixed with slurry and ash. Finger drains were not cost-effective due to dynamic water level rises at depth.

- Raised platform. The fly ash platform was raised 5 ft above design grade for the top of the wall to maintain at least 3 ft above the static groundwater level. Separation of the surface from the water table improved equipment support, but as with finger drains, the platform deteriorated as the trench progressed along a wall section and the groundwater levels rose nearer to the ground surface. The targeted depth to groundwater was therefore increased to a minimum of 4 ft, so as to maintain a higher differential head between the slurry in the trench and the surrounding groundwater level. This technique was successful when excavation was being made in soft rock. In Segment 2, the depth to groundwater was further increased to 10 ft below the slurry level, which allowed for "spikes" in piezometric pressures, which reduced the chance of trench collapse.

- Reduced spillage. Discharge of slurry or spillage of slurry trench spoils onto the surface of the platform exacerbated the platform deterioration; extra effort was required to avoid spillage near the equipment platform.

2.1.4.3 <u>Trench Collapse</u>

Problems were encountered during trenching operations as work progressed into areas of higher groundwater, artesian groundwater pressures, liquefiable sands, and hard rock. These problems were most severe during the slurry trench excavations in the western part of Segments 1, 7, and 6. Sidewall collapse occurred at higher frequency, leading to defective walls that had to be repaired. Excessive sloughing, water present in the trench or percolating through the slurry, cave-ins, etc., led to formation of defects (“inclusions”) and lower unconfined compressive strength test results. Several conditions contributed to trench sidewall instability (Lessons Learned, LL-012, May 1, 2012):

- Depth to groundwater. Both surface water draining from the former Dredge Cell and groundwater within the Dredge Cell flowed toward the perimeter, where the wall was being installed. Water from runoff, rainfall, and slurry operations influenced the water table in the area of trenching.

- Artesian groundwater pressures. As the wall neared the base of Pine Ridge, artesian pressures present at the base of the wall resulted in water levels above the ground surface in areas. Groundwater movement from the fractured shale bedrock into a layer of sand and gravel alluvium provided a continuing source of water and water pressure at the base of the wall. A relatively thin clay aquitard separated the sand/gravel alluvium from surficial saturated ash deposits. As the excavation approached and broke through the aquitard, water pressures would increase in the ash.

- Liquefiable sands and fly ash. Finer sands and silty sands in the alluvium were very loose and saturated (zero blow count sands). Previous design studies had shown these sands (as well as the overlying ash) would liquefy during an earthquake, and for this reason, the PWS wall was extended into bedrock. During trenching, machine vibrations and fluid flow caused by stirring action within the trench resulted in liquefaction of the sands and fly ash.

- Shear wall spacing. The grid of slurry trench walls spaced each shear wall less than 20-ft apart. Construction sequencing planned that every other shear wall be installed first, so that equipment would not have to set next to an uncured (unhardened) cement slag slurry trench. Wall collapse was exacerbated later, when constructing the intervening shear walls, because the cured walls on either side, which extended into bedrock, blocked the dissipation of porewater pressures that would build up in the liquefied sands and fly ash. Piezometric pressures were found to spike as high as 10 ft above the ground surface until dissipation could finally occur.

- Hard rock. During trenching, machine vibrations were further exacerbated as a result of encountering very hard rock. Excavation into the rock to achieve nearly 2-ft of embedment required heavy scraping and gouging of the rock surface for a long period of time (up to 6 hours for a 30-ft trench). This action increased both the energy intensity and duration of the vibrations leading to liquefaction of the sands.

As discussed above for working platform deterioration, raising the working platform increased the separation between the CB slurry level in the trench and the static groundwater level, which helped reduce sidewall collapse, especially in areas of soft rock excavation. Because working an area of the platform multiple times compounded the trench sidewall collapse, sequencing the wall installations by skipping more than one shear wall in a pattern and by separating the trench excavator rigs, helped improve both trench stability and platform stability. As a result, sequencing the shear walls was modified to install every fourth shear wall in Segments 2, 4, 5, and 6, and was increased to every sixth shear wall in much of Segment 3. Sequencing the trenching to install the inboard perimeter wall after the shear walls had been installed also helped improve platform stability and reduce the number of cold joints. In Segments 2 and 6, this sequencing method was successfully implemented.

Dewatering was also implemented by Griffin Dewatering Corporation (Griffin) in Segments 4, 5, 6, 7, and 8 to reduce trench sidewall collapse. Dewatering involved placing a row (or rows) of closely spaced wick drains along the PWS and vacuum dewatering to draw down the water table in the ash to a depth at least 10 ft below the work platform. Dewatering of the ash zone using 30- to 40-ft deep wick drains on both sides of the stabilized wall footprint was successful in Segments 4, 5, and 8 where the clay aquitard was thinner and depth to bedrock was less. In Segments 6 and 7, dewatering using 40-ft deep wick drains and 60-ft deep wells was implemented so as to tap into the deeper sands. These efforts improved, but did not eliminate, trench instability.

During construction of the PWS wall, the CB slurry levels within the open trenches were found to drop overnight, requiring the trenches to be refilled with CB slurry one or more times. Slurry drops of less than 5 ft were common in Segments 1, 2, 7, and 8; however, slurry drops of to 10 to 20 ft were common in Segments 3, 4, 5, and 6. Although the cause of the difference between the segments could not be determined, slurry drops of 10 ft or more are not uncommon in the construction industry, and should be expected. No evidence of trench collapse was observed as a result of the slurry drops.

2.1.4.4 Defective Wall Mitigations

Results of coring for wall integrity indicated numerous instances where inclusions of unsolidified materials were present in sections of the wall. Most of these defects were a result of platform instability and wall collapse, as discussed above. Mitigation of defects in the completed wall was accomplished by either excavating adjacent wall panels or by jet grouting of defects. (Stantec 2013a).

Approximately 19 adjacent wall panels were installed in Segment 1, one panel in Segment 7, nine panels in Segment 2, two panels in Segment 5, and 16 panels in Segment 6, for a total volume of repair of 38,800 cy. Numerous difficulties were encountered during slurry trenching of the repair walls. In addition to the conditions initially leading to platform instability and trench collapse, the repair walls also encountered large masses of hardened CB slurry, which required considerable time and effort to excavate through. The added effort impacted the overall project schedule by taking the production rigs off line to do repairs instead of building production walls.

During a team workshop on June 21, 2012, jet grouting was identified as a viable option to installing adjacent wall panels (J. Benedict, personal communication, June 21, 2012). Jet grouting offered several benefits that improved productivity. Because jet grouting could target discrete vertical zones, total volumes of grout needed to repair a given defect were much smaller than for adjacent CB wall panels. Because jet grouting used different drilling/injection equipment, the production rigs could be freed up to excavate production walls, significantly increasing productivity. Costs of jet grouting were comparable to slurry trenching, despite smaller volumes of grout. Costs of spoils management was avoided, but costs of QC testing (coring) were significantly higher due uncertainties in grout penetration between jet grout columns. Because of the improved productivity, the critical path schedule was trimmed by more than 3 months, avoiding considerable costs in program management and support infrastructure.

A jet grouting field demonstration test was held in July 2012 (Geo-Con 2012d). Twelve jet grout columns were installed in the Middle Embayment in a silty sand deposit using different combinations of test grouting parameters. Injection nozzle size varied between 2.5 and 3.0 mm; grouting pressure varied between 4,000 and 6,000 psi; extraction lift rate varied between 0.75 and 1.0 ft/min; and rotation rate varied between 4.5 and 6.0 rpm. Each column was grouted from 14 ft below ground surface to within 2 ft of the ground surface, for a total grouted length of 12 ft. The grout mix consisted of 44.0% Portland cement, 0.25% bentonite, and 55.75% water to achieve an unconfined compressive strength of 500 psi. Once columns had sufficiently cured, the test area was excavated to expose the test columns; measurements of column circumference were made at 1-ft intervals, and converted to estimated column diameter. Average column diameters for each of the test columns ranged from 2.6 to 4.4 ft (Geo-Con 2012e). As a result of the demonstration test, grouting parameters for full-scale production were selected, which included 3mm jet nozzles, 6,000 psi grouting pressure, 1 ft/min lift rate, and rotation rate of 6 rpm. The test report recommended use of a nominal column diameter of 4.8 ft for spacing calculations. Based on the General Mitigation Plan (Stantec 2013a), a spacing of 3.4 ft-on center was required for an average grab sample strength of 428 psi (Geo-Con 2012f).

Jet grouting was subsequently used to repair defects found in remaining wall segments. Figure 14 depicts a typical jet grouting configuration for defect repairs in a PWS wall. Jet grouting consisted of pre-drilling

3- to 4-inch diameter holes through the cured wall to bedrock at a spacing of 3.4 ft. QC testing included UCS strength testing of grout samples collected from the ground surface and mitigation core holes drilled half-way between completed jet grout columns. Improvements to the jet grouting process were made to reduce defects observed in those mitigation core holes. Most inclusions were observed at the bottom of the core hole, just above bedrock. In September 2012, the lift rate for the bottom 5 ft of the jet grout column was reduced to 0.5 ft/min in an attempt to achieve better mixing at the bottom. Later, in April 2013, this procedure was altered once again; the lift rate was changed back to 1 ft/min, but the bottom 5 ft of the column was jetted twice (double-stroke) to achieve better mixing.

A second team workshop was held on October 31, 2012 to evaluate the progress of the initial jet grouting and defects observed in mitigation core holes (Geosystems 2012). As a result of those discussions, supplemental investigations were conducted for use in evaluating jet grouting success.

- Downhole geophysical logging was conducted at 14 selected core holes to determine whether conditions observed in core holes drilled within the cured PWS walls were accurately represented by the samples taken from those core holes. S&ME, Inc. performed optical televiewer, acoustic televiewer, core hole verticality, electrical resistivity, gamma, and spontaneous potential geophysical logging between November 25 and December 5, 2012 (S&ME 2013). Results suggested that the in-situ conditions are adequately represented by the core hole samples and that poor core recovery is likely attributed to the absence of CB slurry material or weak/brittle slurry material. Clay, sand, or ash materials were readily discernible and distinguishable from CB slurry; grout was also readily distinguishable from CB slurry. The core holes appeared to remain within the horizontal limits of the CB wall, with average tilt of less than 0.5 degrees from vertical and maximum offset of about 0.3 ft.

- Inclined core holes were drilled at two locations to determine whether gaps were present between adjacent jet grout columns (S&ME 2013). No gaps could be discerned from the inclined core holes, suggesting sufficient overlap of jetting between grout columns.

- A training/review session was held with the six core loggers on October 31, 2012, with an emphasis on recognition of jet grout and defect characteristics in a consistent manner

Jet grouting production typically averaged approximately 10 to 14 jet grout columns per workday across the various segments. In November 2012, jet grout mitigation became critical to the schedule completion of the containment berm, and subsequent ash stacking and capping. Productivity was slowed due to numerous equipment breakdowns. To improve productivity, two additional pre-drill rigs and two additional grouting rigs were mobilized to the size, which provided spare equipment in case of breakdown. Jet grouting in the final segment (Segment 6) was completed on February 20, 2014.

Table 2-7 lists the length of replacement walls and number of jet grout columns installed in each of the wall segments to repair defects due either to inclusions or to low strength. A total of 3,275 jet grout columns and 4,498 linear ft of replacement wall were completed across all segments between December 2011 and February 2014. Across all wall segments, an average of 18% of the walls were repaired either by using replacement walls or jet grout columns.

Table 2-7. Summary of Defect Mitigation

PWS Segment	Length of Replacement Walls to Repair Inclusions (ft)	No. of Jet Grout Columns to Repair Inclusions	Length of Replacement Walls to Repair Low Strength (ft)	Percent of Total Wall Length Repaired[a]
Segment 1	848	3	1,079	16%
Segment 2	0	1015	826	20%
Segment 3 & 4	0	419	0	10%
Segment 5 & 6	997	604	484	26%
Segment 7	70	1194	0	18%
Segment 8	194	40	0	10%
Total all Segments	2,109	3,275	2,389	18%

Notes:

[a] Includes length of wall defects repaired using replacement walls and jet grout columns.

2.1.4.5 Cold Joint Mitigations

As discussed in Section 2.1.4.1, a "cold joint" was defined as a construction joint between two adjacent wall panels installed more than 7 days apart; this criterion eventually was revised to 14 days and ultimately 20 days. Due to problems encountered with platform stability and trench collapse, the sequencing of slurry trench excavations resulted in numerous cold joints, particularly in Segments 1 and 7. Mitigation of cold joints in the completed wall was accomplished by either excavating adjacent wall panels or by jet grouting. (Stantec 2013a).

Adjacent wall panels were installed beginning in July 2011. Approximately eight adjacent wall panels, each about 8-ft long, were installed for cold joint repairs in Segment 1; quantities are included in the mitigation volumes reported in Section 2.1.4.4 for wall defects. FCN-045 modified the configuration of adjacent wall panels by eliminating the need for rock embedment for cold joint repair. However, using adjacent wall panels was time-consuming and required large volumes of trench excavation and cement bentonite backfill.

Jet grouting was used predominantly for cold joint mitigations after March 2012. A field demonstration test plan (Geo-Con 2012d) was initially developed to perform cold joint mitigations using jet grouting. Figure 15 depicts a typical jet grouting configuration for cold joint repairs in a PWS wall. A pair of 12-inch-diameter holes were pre-drilled at each cold joint using air rotary drilling techniques. During jet grouting, the lift rate and injection pressure was alternated so as to form alternating 1-ft vertical intervals of jet-grout columns varying from 12 inches (pre-drill hole diameter) to 14 inches (jet grout column diameter). In this way, the completed cold joint mitigation column was firmly socketed into the cured PWS wall on either side of the joint. The cold joint grout mix was similar to that used for jet grouting of defects, to achieve a UCS strength of 315 psi for wet grab samples.

The field demonstration test was performed on January 12 and 13, 2012. Test columns consisting of eight "shallow" columns installed to a depth of 10 ft at two outboard cold joints (located at shear walls #83 and #85), and two columns installed to full depth at an inboard cold joint (located at shear wall #86). Full-scale production of the cold joint mitigations began on March 12, 2012, in accordance with the *Jet Grouting for Mitigation of Cold Joints, Perimeter Wall Stabilization, Quality Control Plan for Full Scale Installation* (Geo-Con 2012c).

Each cold joint location was initially pre-drilled with two 12-inch-diameter pilot holes on 2-ft centers. However, problems were encountered during jet grouting when the holes either collapsed or grout blew out the side of the wall joint. Therefore, spacing of the pilot holes was changed to 1.2-ft centers beginning April 4, 2012, which improved success of the cold joint jet grouting. Because grout could blow out the side of one column to the other column in a pair, the first column in a pair was allowed to cure before predrilling the second column. Spacing at 1.2-ft centers continued until the completion of Segment 1 cold joint repairs on June 6, 2012. Cold joint columns in remaining segments were again spaced at 2-ft centers.

Verticality surveys were conducted of each pre-drill hole using a down-hole survey instrument (magnetic or gyroscope-type) to confirm that core holes were within a tolerance of 1% of vertical. Problems were encountered in pre-drilling cold joint holes in Segment 7, when several of the holes were found to be unacceptably out of plumb. Therefore, a sonic rig was mobilized in January 2013 to complete pre-drilling of cold joints which improved success of the core hole verticality.

Grab samples of the cold joint grout mix were intended to be obtained using a sampler that was capable of retrieving a discrete sample at specified depths. However, due to the small diameter core hole, the sampler used for CB trench sampling could not be inserted into the cold joint core holes. Samples of grout return were therefore collected at the ground surface while jet grouting was being performed at various depths. Samples were tested for UCS strength. Initial results from the demonstration test indicated low strength results, that tended to decline depending on the time of day at which samples were taken. Potential causes were that segregation (sedimentation) of cement/water had occurred in the grout, or that the initial set phase of Portland cement hydration had been interrupted. For the test program, a 6-inch line had been used to transfer the Portland cement grout from the batch plant to an auxiliary holding tank. This line was approximately 1,000 ft in length and held nearly two batches of grout without agitation for an extended period of time; the cement began to segregate and harden in the line prior to reaching the auxiliary mixer. There was also a time period of nearly 5 hours between the mixing of the grout and its injection, which could have interrupted the cement set phase. To improve UCS strength in the cold joint mitigation columns, Geo-Con replaced the 6-inch line with a 2.5-inch flexible grout hose and disposed of any grout that remained unused longer than 2.5 hours after mixing (Geo-Con 2012b).

Results of UCS strength testing from production columns indicated acceptable strength with few exceptions. Following curing of the jet grout columns, at least 10% of the cold joints were cored to full depth at a location half-way between the two columns in a pair to verify uniformity (no inclusions). Whenever strengths or uniformity cores were found to be deficient, the columns were redrilled and regrouted.

Table 2-8 lists the length of replacement walls and the number of jet grout columns installed in each of the wall segments to repair cold joints. Design changes for Segments 3, 4, and 5 eliminated the need for inboard or outboard walls, which eliminated the risk of cold joints and was therefore a significant design improvement. A total of 64 linear ft of replacement walls and 386 jet grout columns were used to repair 197 cold joints between July 2011 and February 2014. The typical productivity rate for cold joint repairs was completion of approximately two columns per day. Across all wall segments, an average of 20% of the cold joints were repaired by using either replacement walls or jet grout columns.

Table 2-8. Summary of Cold Joint Mitigation

PWS Segment	Length of Replacement Walls to Repair Cold Joints	No. of Jet Grout Columns to Repair Cold Joints	Number of Joints Repaired	Percent of Total Joints Repaired[a]
Segment 1	64	228	118	43%
Segment 2	0	14	7	2%
Segment 3 & 4	0	0	0	0%
Segment 5 & 6	0	20	10	26%
Segment 7	0	104	52	50%
Segment 8	0	20	10	9%
Total all Segments	64	386	197	20%

Notes:
[a] Includes cold joints repaired using replacement walls and jet grout columns.

2.1.4.6 Concurrence Form Process for PWS

Upon completion of a portion of the PWS wall, supporting information was compiled to document completion and satisfaction of all QC requirements. Each wall segment was divided into a series of test parcels. In each test parcel, QC testing included checks of rock embedment, checks for horizontal and vertical alignment, UCS laboratory testing of grab samples and core samples to confirm suitable strength of the wall, and coring through completed wall sections to confirm continuity of the wall.

- Checks for rock embedment were completed by making soundings during slurry trench excavation. Excavation continued until sufficient rock embedment was reached. No further mitigation was required.

- Checks for horizontal and vertical alignment resulted in three walls having been excavated at an incorrect location, as discussed in Section 2.1.4.1. All walls were installed with acceptable vertical alignment.

- Results of UCS testing generally indicated wall sections passing the specification requirements for Adjusted Mean Strength and Adjusted Exceedance Fraction. For test parcels (TPs) not meeting requirements, extending the curing period and retesting any stored samples frequently proved successful. In Segment 1 (TP-121), core hole samples were collected for testing, since there were no stored samples remaining, and those results showed the wall passing strength requirements. However, in Segment 2 (TP-212, -213, -214, and -215), Segment 5 (TP-506), and Segment 6 (TP-606 and -608) retesting of samples even after 112 days of curing did not produce acceptable strength results; therefore, replacement walls were excavated adjacent to the original wall sections.

- Results of confirmation coring for continuity and inclusions, and mitigation of defects and cold joints is discussed in Sections 2.1.4.4 and 2.1.4.5. Field Assessment forms (letters from Stantec) were completed to outline where continuity corings were to be drilled. Depending on the results of those corings, additional delineation corings were drilled to better define the extent of an identified defect. Field Addendums were prepared to outline where mitigation panels or jet grout mitigation holes were to be installed.

Results of QC testing are presented in concurrence forms and supporting documentation for the respective TP. The concurrence packages were submitted to EPA for approval of the PWS wall completion in that portion of the perimeter containment. Copies of the concurrence forms are presented in the *Construction Certification Report*, *Ash Landfill Perimeter Containment* (Stantec 2014a). Details of the coring and mitigation are presented on the respective concurrence form for each test parcel.

2.1.4.7 Rock Buttress

A rock buttress was constructed on the outboard side of the perimeter wall for portions of Segments 1, 2, and 8 abutting the Middle Embayment. The purpose of the rock buttress was to provide counterweight to the stabilized perimeter to resist movement and improve stability following a design earthquake event.

The rock buttress, shown on Figure 16 extended a total of approximately 2,050 linear ft along the dike. The buttress tied into its Swan Pond Road abutment near the western end of Segment 8 and tied into the Dike C buttress near the western end of Segment 2 (TVA 2012a). The buttress consisted of varying layers of sand, gravel, and stone riprap, as shown on the figure. The bottom of the rock buttress extended to the bottom of natural embayment sediments, but no deeper than elevation 743 ft msl between the buttress walls, to avoid undercutting the wall. The final outboard slope of the rock buttress was 2:1.

- FCN-040 modified the length of the rock buttress for Segment 1 where it ties into Segment 8 so that it would not extend beyond the Segment 8 tie-in.

- FCN-046 modified the cross-section for the rock buttress, adding a graded filter over any ash layer remaining below the rock buttress.

During construction, concerns were raised regarding the potential deterioration of PWS wall sections if left exposed for long durations. Stantec prepared a plan for evaluating several methods and proprietary agents for desiccation control (Stantec 2012c). FCN-047 modified that plan slightly by changing the specific walls tested and adding another proprietary agent. Five buttress/shear walls were exposed to a depth of 4 ft below ground surface and for a length of about 4 ft. The exposed surfaces were treated with the following moisture control agents: Mincryl X50™ acrylic-vinyl emulsion, Flexterra®, Quikcrete® Acrylic Concrete Sealer, water misting, and one control panel. Visual observations of the wall surfaces were made over a 3-week period from January 30 to February 24, 2012. The control wall showed evidence of moisture loss, fracturing, and spalling. The other four methods were found to be effective, although Flexterra® did not adhere well to the vertical wall surfaces. As a result of this test, spraying or misting with water was chosen as the method used during buttress construction to prevent wall desiccation. FCN-049 modified the buttress construction procedures to require periodic moisture control in the exposed walls.

2.1.4.8 Perimeter Berm

Once the rock buttress was in place, the final perimeter berm was constructed on top of the PWS wall. The purpose of the perimeter berm was to provide stable containment at the toe of the outside slope of the ash landfill.

The perimeter berm extended a total of approximately 11,300 linear ft along the full circumference of the Ash Landfill. The perimeter berm consisted of an initial 12-inch layer of No. 10 manufactured sand overlain by 3 inches of No. 57 stone, and an embankment of compacted clayey borrow soil. The top of the berm was constructed to a width of 20 ft to accommodate a perimeter access road. The perimeter berm embankment was constructed to 3:1 outboard slopes.

FCN-058 and FCN-059 eliminated the No. 57 stone layer, which had been added to protect the underlying sand. During construction, it was found that the clayey borrow soil could be placed directly on the compacted sand layer without damaging the sand. FCN-061 clarified the tie-in of the stone layer at the rock toe along Segment 4, limiting the need for the rock toe only to the section between STA B306+15 and STA B326+62.

2.1.4.9 Divider Dike Buttress

During discussions held at the Site on October 30 and November 13, 2012, Stantec advised TVA that the configuration of the dike dividing the Stilling Pond from the Ash Pond (referred to as the "Divider Dike") would not meet TVA criteria for stability during construction. Stability would be impaired due to critical, undrained conditions that may develop during PWS trench excavation. Based on pore pressure measurements recorded during construction in prior PWS segments, the repeated action of the excavator bucket working at depth within a slurry trench induces significant excess pore pressures in the surrounding ground. Elevated pore pressures are generated in the material immediately adjacent to the trench and for some significant, lateral distance away from the trench. The Divider Dike was constructed entirely of ash with steep outboard slopes, and was founded on a thick deposit of saturated, sluiced ash; conditions that would be adversely impacted by elevated pore pressures.

Stantec recommended construction of a rock buttress on the outboard slope of the Divider Dike prior to PWS construction (Stantec 2012g). The rock buttress consisted of extending the PWS working platform at least 40.5 ft east of the wall baseline, flattening the dike slope to as flat as 6:1, and constructing an 65- to 85-ft wide bench at elevation 756.5 ft msl within the Stilling Pond with 4:1 slope to the bottom of the pond. Figure 17 depicts the location and typical cross-section of the Divider Dike buttress.

To avoid delays to the PWS wall construction, TVA immediately began construction of the Divider Dike buttress on November 14, 2012. Clean rock and riprap materials containing few fines were placed initially as a dike at the toe of the buttress within the Stilling Pond, which served to minimize suspended solids in the Stilling Pond during the remainder of the buttress construction. Then rock retrieved from the Sediment Basin and Dike 2 removal was placed in the stillwater between the riprap dike and the Divider Dike to construct the bench area and dike slope above the water level. Because the rock buttress provided adequate slope protection, the design restriction against disturbing vegetation along the Divider Dike was lifted, as documented in FCN-060. Construction of the Divider Dike buttress was completed on December 26, 2012. Approximately 35,000 cy of clean rock riprap and 19,000 cy of retrieved rock were used to construct the buttress. While some of this rock riprap was subsequently retrieved for use in stabilizing the subgrade for Ditch 1, the majority of the buttress remains in place in the Stilling Pond.

2.1.5 Cap and Closure

Similar to ash stacking, the final cap and closure was implemented in stages in each quadrant of the Ash Landfill. In general, stacking progressed from the north and central Dredge Cell areas (Cells 2 and 3 of the landfill permit), to the Lateral Expansion (Cell 4), then to the Ash Pond and relic area of the Dredge Cell (Cell 1), which were closed last.

P&J was the contractor procured for construction of the cap and closure. Chesapeake Containment Systems (CCS) was a subcontractor to P&J for the installation of the geosynthetic materials (geomembrane, geocomposite, and geotextile).

Closure of the Ash Landfill was specified in a series of three EPA-approved design packages. One package defined closure in the north and central Dredge Cell, one defined closure in the Lateral Expansion, and one defined closure in both the Ash Pond and relic Dredge Cell. Each closure design package provided for construction of an "inner berm" behind the perimeter containment berm and corresponding infill stacking, as well as for the construction of the flexible membrane liner system (FMLS) and soil cap.

The FMLS consisted of a multilayer cap built in the following successive layers, as depicted on Figure 18:

- Subgrade preparation was completed by SCS. The surface of the ash stack was contoured to final design grades by clipping areas above design grades and filling areas below grade to promote positive drainage. Subgrade slopes were designed for a minimum 1% slope in the swales and nominally 2% slope across the surface of the Ash Landfill. Rocks larger than 1-inch in size were picked out of the subgrade surface and sand was used to fill any divots. The subgrade was compacted to 90% standard Proctor density using a smooth drum roller, and the completed surface was surveyed to within an accuracy of ±0.2-ft vertical prior to turnover to P&J.

- The geomembrane consisted of a 40-mil textured linear low density polyethylene (LLDPE) liner with heat-welded seams. The geomembrane product was GSE UltraFlex, textured on both sides, as manufactured by GSE Environmental (GSE).

- The geocomposite consisted of a geonet, laminated to a non-woven geotextile on both sides, with plastic ties and sewn seams. The geocomposite product was GSE FabriNet TRx geocomposite, as manufactured by GSE.

- The cap soil consisted of a silty or clayey material obtained from the TVA borrow area off Berkshire Road. The cap soil was manually picked to remove rocks larger than 3 inches in diameter. The cap soil was placed with low-ground pressure equipment to avoid damage to the geomembrane. The cap soil layer was placed to a nominal thickness of 20 inches and was not compacted. Haul roads over the FMLS were overbuilt to a depth of 4 ft to avoid damage to the geomembrane.

- Topsoil was also obtained from the TVA borrow area. Topsoil was manually picked to remove rocks larger than 3 inches in diameter and was placed soon after the cap soil to minimize erosion of the cap soil. The topsoil layer was placed to a nominal thickness of 4 inches and was not compacted.

- Final closure of the Ash Landfill included hydroseeding and/or sodding of the exposed topsoil. Hydroseeding was conducted by Holleman using the design seed mix and results of test vegetation plots in the borrow area for selection of admix materials. Sodding was done (by TVA's Total Property Management and Tri-Turf Sod Farms, Inc.) in lieu of hydroseeding in select areas, including outslopes, some ditches, and the cap area alongside Swan Pond Road so as to establish a vegetative cover quickly. Holleman, P&J, SCS, and other contractors provided temporary irrigation of newly-vegetated areas using a water spray from the hydroseeding equipment, water trucks, irrigation pipe with spray nozzles, or other suitable equipment.

Drainage systems were installed in conjunction with the FMLS and included the following:

- Underdrain pipes were placed in swales and ditches and consisted of 4- to 6-inch-diameter perforated (HDPE with bell-and-spigot snap-in-place bands, taped in place. The underdrain pipes were enshrouded in a gravel filter wrapped with geotextile. The geotextile was 16 oz/sy GSE Nonwoven Geotextile, as manufactured by GSE.

- Downslope flumes were lined with Class A-1 Riprap, underlain by geotextile.

- Some of the ditches on top of the landfill were lined with turf reinforcing mat ETSC-70/30, as manufactured by ErosionTech. Ditch 1 was lined with sod and coconut fiber erosion control matting Excel-R2, as manufactured by Western Excelsior. Ditch 11 was lined with straw erosion control matting.

- Low-water crossings of the perimeter access road were lined with riprap in lieu of an articulated block mat as shown on the design drawings. Culverts and headwalls were installed in some locations in the Lateral Expansion lieu of low-water crossings.

A permanent access road was constructed on top of the perimeter berm surrounding the Ash Landfill. The permanent access road consisted of multiple layers of earthen borrow, geosynthetic materials, and aggregate.

During the contractor bidding period for the cap construction, changes to the design were made to improve cost-effectiveness and constructability of the cap. These changes were documented in FCN-053. The original design specified 60-mil textured LLDPE for the geomembrane, also referred to as the FML. The 60-mil thickness was intended to reduce risk of liner penetration during construction. To improve cost-effectiveness, the design was modified to specify 40-mil textured LLDPE for the FML. The original design also prohibited any material greater than 1 inch in size from being placed over the geocomposite, which would have required screening of all borrow materials to achieve 1-inch maximum size. Upon further evaluation, it was recognized that the geocomposite layer provides puncture resistance for protection of the FML against small rock particles. Therefore, to improve cost-effectiveness and constructability and to maximize use of onsite borrow materials, the design was modified to allow materials up to 3 inches in diameter.

Improvements to the designs were made both to resolve problems encountered and to reduce overall project costs. The following describe the design improvements affecting each cap area.

- FCN-063 revised project specifications based on the geocomposite manufacturer's certification. Because the manufacturer (GSE) allowed up to 4-inch size stone above the geocomposite, the requirement for stone size was changed from 3inch to 4inch. Similarly, because GSE certified that the geocomposite is stable when left exposed to sunlight if covered within 30 days of the installation, the requirement for limiting exposure time was changed from 15 days to 30 days. This improved constructability of the cover by optimizing use of materials available from the borrow area and by allowing flexibility in when the geocomposite needed to be covered.

- FCN-064 revised the side slopes for underdrain pipe trenches. Construction of 2:1 side slopes, as shown on the design drawings, was proven to be too difficult for onsite excavation equipment; therefore, the requirement was changed to 3:1. This improved constructability by allowing use of onsite equipment, flattened the slope for easier FML and geocomposite placement, and resulted in a better radius for bending of the underdrain pipe at intersections.

- FCN-065 revised the final grading slightly to accommodate driveways on ridge tops, which improved accessibility by watering trucks to the top of the landfill. A minimum 3 ft of cover soil was placed to protect the FML and geocomposite from lighter vehicle loads involved in monitoring and maintenance activities.

- RFI-114 replaced articulated block mat at low-water crossings with grouted riprap. This provided for easier construction in areas where crane lifting of the mats would have been difficult. RFI-156 further modified the low-water crossing by eliminating the need to grout the riprap.

- FCN-074 replaced the multi-layered surfacing materials for the permanent access road with a reinforced matting layer for additional load capacity. TVA's operation and maintenance organization had requested the road upgrade to eliminate weight restrictions on future maintenance vehicles using the perimeter access road on an infrequent basis. The road cross-section was modified by adding a geogrid reinforcement (Tensar® Tx-90) and No. 02 aggregate. This provided for easier construction and better durability for construction traffic as well as lifting weight restrictions on maintenance vehicles. In addition, access ramps were provided to allow access to the perimeter road from the former Divider Dike.

- FCN-071 replaced the design vegetative seed mix with a mixture consisting solely of fescue and bermuda grass seed. TVA experience has indicated that this mixture provides adequate grass growth while improving vehicle accessibility on slopes and providing for easier maintenance.

- FCN-072 provided for the placement of gravel on the outside slopes of Ditch1 and Ditch 11 where the sand drainage layer discharged onto the slope. This improvement prevented erosion of the sand layer, which would have been exposed on the 4:1 slopes.

In September 2013, concern was raised over potential damage to emerging vegetation (grass cover) due to geese grazing on the surface of the cap. To discourage grazing and improve vegetation growth, TVA erected several plastic coyote decoys within the grassy areas. The decoys were relocated around the Site on a routine basis to keep the geese confused. The decoys were initially quite successful at discouraging grazing by geese, but became less effective as the geese became familiar with the decoys.

Several techniques were used to establish permanent vegetation. Hydroseeding with vegetative seed mix and mulch was used predominantly over the broad, flatter landfill surface. Commercially-grown sod was used to stabilize slopes steeper than 4:1, and to stabilize surfaces draining directly to the Middle Embayment or Watts Bar Reservoir, such as the banks of Ditch 1 or the area downslope of the diversion berm in the Lateral Expansion. In those seeded and/or sodded areas where grass either died or did not provide proper cover, the areas were overseeded using additional lime, fertilizer, and seed placed by broadcast techniques.

Appendix F presents monthly productivity rates for the FMLS construction, including geomembrane, geocomposite, and soil cover (cap soil and topsoil combined) and includes a histogram of the FMLS production rates. Table 2-9 summarizes the monthly productivity. Production was controlled by the rate of soil cap placement, since the geomembrane and geocomposite layers could be placed much more quickly than the soil cap. Cap construction, and in particular FML installation, was limited during the winter months; FML installation was curtailed in December, January, and February. The reported cap soil placement productivity was greater during months when temporary haul roads were being built, and less during months when the haul roads were being removed, since the quantities were based on truck haul counts rather than cap in place. During active capping operations, productivity averaged approximately 800,000 sf/month (in-place planar area) for the FML, and 600,000 sf/month for the geocomposite and cover soil. The maximum recorded monthly productivity rate was 1,360,034 sf in a single month.

Table 2-9. Cap and Closure Productivity in the Ash Landfill

Dates of Cap and Closure Operations	Monthly FML Placement (sf planar area)	Monthly Geocomposite Placement (sf planar area)	Monthly Cover Soil Placement (sf planar area)
June 2013	478,391	0	0
July 2013	574,048	386,589	180,792
August 2013	654,899	674,937	416,718
September 2013	887,274	603,429	937,472
October 2013	911,192	649,014	979,727
November 2013	934,747	584,226	739,044
December 2013	0	403,527	351,368
January 2014	0	231,293	473,322
February 2014	0	605,729	201,093
March 2014	434,223	619,780	474,085
April 2014	755,933	607,685	737,388
May 2014	460,849	416,207	392,571
June 2014	1,027,205	671,620	613,764
July 2014	803,753	817,262	613,516
August 2014	1,624,675	1,093,366	431,083
September 2014	0	928,568	1,360,034
October 2014	161,918	123,167	438,571
November 2014	71,768	180,244	0
December 2014	54,642	51,294	59,896
January 2015	0	4,336	151,401
Total	9,835,517	9,652,273	9,551,845

2.1.5.1 North and Central Dredge Cell Closure

Design of the cap and closure of the north and central Dredge Cell was defined in *North and Central Dredge Cell (Cells 2 & 3) Closure Removal Design Package* (RDP-0113-G), approved by EPA on February 23, 2012.

The closure of the north and central Dredge Cell was divided into three areas for purposes of tracking construction (Figure 19). Cap Area I was located in the northwest corner of the former Dredge Cell and was the first area to be capped. Cap Area II was located along the western side of the Dredge Cell and extended partially into the relic area of the Dredge Cell. Cap Area VII extended along Swan Pond Road outside of the perimeter wall, and includes the area of Ditch 1. Boundaries between cap areas were set at topographic high points, or ridges, where the FML could be halted temporarily without creating erosion impacts.

Placement of the FML in Cap Area I began on June 21, 2013. Placement of the geocomposite began on July 17, 2013, once more than 15 acres of FML had been placed. Placement of the cap soil began on July 18, 2013 by building an access ramp up the northwest slope of the Ash Landfill near Flume 5. Placement of topsoil began on September 14, 2013. Placement of the FMLS continued in this alternating sequence across Cap Areas I and II.

Erosion control was of considerable concern during construction of the north and central Dredge Cell cap. The ash subgrade is highly sensitive to erosion from runoff. Heavy rains caused extensive erosion of exposed ash on steep slopes, especially in designed downslope flume areas. The following approaches were employed to prevent or minimize erosion of the ash subgrade; particularly in the ditches and flumes where runoff is designed to collect.

- Erosion control mat, silt fences, check dams, and clay dams were tried with limited success, as the ash eroded beneath and around the structures.

- Down-comer pipes were installed in flumes to collect and convey runoff down the slope. Down-comer pipes were originally effective on the northern slope of the landfill, but encountered numerous problems on the western slope as the ash eroded from around the pipe.

- Plastic sheeting was installed as ditch lining and was effective when installed in the relatively flat-graded ditches on the surface of the landfill. Anchoring the edges of the plastic sheeting in temporary trenches was effective in the ditches and prevented scouring beneath the plastic. Plastic sheeting, when installed on the steeper side slopes, encountered numerous problems as the ash eroded from around the sides or beneath the plastic.

- Ash was removed from the downslope flumes and replaced with less erodible clay borrow material as ditch lining. Clay lining was relatively effective, particularly when combined with the plastic sheeting.

Use of clay lining on steep ash slope sections and plastic lining of surface drainage ditches were eventually adopted as the most effective methods to successfully control erosion due to heavy rains.

Typically, once the geomembrane was installed, erosion was readily controlled. However, in the first panels of Cap Area I, heavy rains in early July 2013 caused considerable erosion of ash from beneath the geomembrane at Flume 6. Water had seeped beneath the edges of the liner on the side of the capped area, found its way beneath the liner to Flume 6, and scoured the ash up to 1-ft deep, which accumulated at the toe of the slope beneath the liner. To prevent future recurrence, the edges of the liner were buried in anchor trenches whenever the edge was to be exposed for more than a week.

Cap Area VII comprised the area encompassing Ditch 1 alongside Swan Pond Road. Considerable large-size rock was encountered during the excavation of Ditch 1. In addition, No. 02 aggregate was placed on top of the French drain in Ditch 1 as ballast to protect the geotextile wrapping from damage due to storm flows in the open ditch. As a result, the subgrade was too rocky to be acceptable beneath the FML. Several options were considered, including removing the large-size rock, placing a geotextile cushion, placing a geocomposite cushion, or placing a layer of borrow soil on top of the existing subgrade prior to placing the FML. FCN-078 modified the cover profile over Ditch 1 by placing a nominal 6-inch thick layer of borrow material as a soil cushion over the rocky subgrade. This raised the subgrade elevation by 6 inches; therefore, after receiving concurrence of EPA and TDEC, the total thickness of cover soil above the FML was reduced to 18 inches in the bottom and side slopes of Ditch 1, which allowed for the final ditch grades to be maintained as designed. Because the geocomposite drainage layer discharged directly into the ditch, there was no geocomposite in the bottom of the ditch. To protect the FML from any inadvertent oversized rock in the cover soil, a geotextile was placed as a cushion layer over the FML in Cap Area VII wherever the geocomposite was absent.

Cap and closure in the north and central Dredge Cell (Cap Areas I, II, and VII) was completed on September 24, 2014, when the final section of sod was placed.

2.1.5.2 Lateral Expansion Closure

Design of the cap and closure of the Lateral Expansion area was defined in *Lateral Expansion (Cell 4) Closure Removal Design Package* (RDP-0114-C), approved by EPA on July 12, 2012. FCN-055 modified the storm water discharge pipe through the perimeter containment system to a single 48-inch HDPE pipe, in lieu of reinforced concrete piping, which improved constructability.

The closure of the Lateral Expansion area was divided up into two areas for purposes of tracking construction (Figure 19). Cap Area III was located in the northwest half of the Lateral Expansion and was capped in sequence following Cap Area II. Cap Area IV was located in the southeast half of the Lateral Expansion and was capped following Cap Area III. As in the former Dredge Cell, boundaries between cap areas were set at topographic high points, or ridges.

Improvements to the design were made both to resolve problems encountered and to reduce overall project costs. The following describe the design improvements.

- FCN-036 and FCN-055 revised the size and material for the storm water discharge pipe through the PWS wall in Lateral Expansion Cap Area III. FCN-036 revised the size from one 48-inch reinforced concrete pipe to two 42-inch HDPE pipes. FCN-055 revised the size back to 48-inch diameter, but left the material as HDPE. The final modification improved constructability by using light-weight pipe material.

- FCN-056 revised the location of the drop inlet and drainage pipe through the PWS wall in Lateral Expansion Cap Area III to Sta. A162+06.1, which improved constructability by avoiding any excavation through cured PWS shear walls. The realignment also matched the pipe location in FCN-036.

- FCN-062 revised the temporary drainage structures in Lateral Expansion Cap Area III to eliminate drainage pipes and manholes and replace them with a series of berms and ditches. This improved constructability by avoiding pipe installation on the outboard side of Dike C, improved environmental management by avoiding potential releases to Watts Bar Reservoir, and improved project performance by reducing both cost and time to construct the temporary drainage.

- FCN-070 revised the flume underdrain pipe discharges in the Lateral Expansion Cap Area to eliminate discharges onto the relatively flat outer slopes of the landfill. The pipes were lowered slightly and extended to the bottom of the slopes, where they connected to the slope toe underdrain pipe. This improved long-term maintenance by eliminating a nuisance for mowing and small animal burrowing.

Placement of the FML in Cap Area III began on October 21, 2013. Placement of the geocomposite, cap soil, and topsoil continued in sequence across Cap Areas III and IV. To minimize subgrade preparation difficulties during wet winter months, the FML was placed quickly across most of Cap Areas III and a small portion of Cap Area IV, far in advance of the geocomposite placement. FML placement was halted in mid-November 2013 as persistent rains and freezing weather prevented further subgrade preparation.

One lesson learned during cap placement in Cap Area III is that both rainfall and freezing weather would impair the compacted ash surface during the winter. Following winter rains, the ash surface would not dry out for several days. In December 2013, subgrade preparation was attempted during a week-long window of sunny weather. The top few inches of ash were removed from one section of Cap Area IV and replaced with bottom ash, and by mid-week the surface had become sufficiently dry to support equipment. However, freezing temperatures overnight caused the surface to deteriorate again, becoming soft and saturated. Further attempts to prepare the subgrade were abandoned and FML placement was halted until March 2014.

FML placement was completed in Cap Areas III and IV between October 2013 and April 2014; geocomposite placement didn't begin until mid-November 2013, and continued sporadically until May 2014, just prior to cap soil placement, so as to minimize potential exposure to ultraviolet radiation. While the bulk of the cap was completed in early May 2014, final cap construction was delayed pending completion of the perimeter access road with associated culvert pipe installation. Cap and closure in the Lateral Expansion (Cap Areas III and IV) was therefore completed on January 21, 2015, when the final section of the perimeter access road was completed and the final section of topsoil was placed over the cap.

2.1.5.3 Ash Pond and Relic Dredge Cell Closure

Design of the cap and closure of the Ash Pond and relic area of the Dredge Cell was defined in a single, combined package, *South Dredge Cell (Cell 1) Closure Removal Design Package* (RDP-0113-H) approved by EPA on August 2, 2013 (Stantec 2013b) and *Ash Pond Closure Removal Design Package* (RDP-0114-F) approved by EPA on August 2, 2013. The closure of these areas was divided up into two areas for purposes of tracking construction (Figure 19). Cap Area V was located in the Ash Pond and Cap Area VI was located in the relic area of the Dredge Cell. The areas were capped concurrently in stages while ash movement from the relic area to the Ash Pond was completed during final ash stacking.

Improvements to the design were made both to resolve problems encountered and to reduce overall project costs. The following describe the design improvements.

- FCN-068 revised surface grades in the relic area to flatten the exterior slopes. This improved long-term slope maintenance and reduced ash fill requirements adjacent to the perimeter berm. RFI-147 further adjusted the surface grades in the eastern end of the relic area to accommodate actual fill quantities available at the completion of ash stacking.

- RFI-106 revised the targeted surface grades in the Ash Pond to lower the overall surface by about 3 ft. This reduced the ash fill requirements to match anticipated ash excavation quantities. Final grades were adjusted in the Ash Pond as necessary based on actual material quantities stacked.

Placement of the FML began in Cap Area VI on May 13, 2014. Placement of the FML alternated back and forth between Cap Area VI and Cap Area V, as the ash stacking and relic ash removal progressed concurrently. Placement of geocomposite, cap soil, and topsoil continued in a similar alternating pattern.

FML placement over the stacked ash was completed in Cap Areas V and VI on August 16, 2014; geocomposite placement was completed on October 1, 2014, just prior to cap soil placement, so as to minimize potential exposure to ultraviolet radiation. Cap soil placement was completed on October 23, 2014, and topsoil placement was completed on November 20, 2014. Smaller areas of cap and cover adjacent to the perimeter access road continued to be completed in sequential sections through January 21, 2015.

The area encompassing Ditch 11 between the Ash Landfill and the Ball Field comprised a portion of Cap Areas V and VI. As discussed in Section 2.1.1.4, the design of Ditch 11 was revised in March 2014 to facilitate construction and improve groundwater control. FCN-077 expanded the FML limits along Swan Pond Road but deferred the FML and cap soil cover along the Ball Field to a future date, when the Stilling Pond and Ball Field areas will be closed. As an interim measure, a 6-inch topsoil layer was placed in the bottom of Ditch 11 to support vegetative growth and eliminate erosion of underlying ash.

Subgrade preparation in Cap Area VI was impacted due to presence of cenospheres and liquefiable ash in the historical deposits that surfaced as the ash removal approached final grades. In the western half of the former relic area, the presence of cenospheres resulted in rapid drying of the surface and subsequent rutting of the subgrade under light equipment traffic. The surface was improved either by replacing with a thin layer of bottom ash or by continuously wetting the surface using a water truck. In June 2014, an area approximately 150 ft in diameter near Flume 16 became unstable due to liquefaction of the underlying saturated ash, resulting in water boils and "quicksand" conditions. Attempts to stabilize the surface by overexcavating and replacing with shot rock were not successful, as the rocks sank into the liquefied ash. The surface was ultimately stabilized by successively turning the upper 3 ft of ash to dry, and restricting construction traffic in the area to allow pore pressures to dissipate.

Heavy rains in early July 2014 caused considerable erosion of ash from beneath the geomembrane at Flume 12 in Cap Area V. Water had seeped beneath the edges of the liner on the side of the capped area, found its way beneath the liner to Flume 12, and scoured the ash up to 4-ft deep. The geomembrane was split apart, the subgrade repaired and the geomembrane subsequently replaced.

2.1.5.4 Geotechnical Instrumentation and Abandonment

Prior to cap construction, some of the geotechnical instrumentation that had been installed for monitoring of the ash stacking was removed, so as to reduce long-term monitoring and eliminate unnecessary penetrations through the FML cap. The geotechnical instrumentation included piezometers, slope inclinometers, settlement plates, and temporary well points. The method of abandonment for each type of instrument is listed in Table 2-10. Pneumatic and vibrating wire-type piezometers, settlement plates, and any instrumentation extended solely within the ash deposits were abandoned by cutting the riser pipes off about 1-ft below the ground surface. Slope Inclinometers, which extended into bedrock, were abandoned by tremie grouting full depth. Standpipe piezometers and temporary well points (including dewatering well points) that extended to bedrock were abandoned by overdrilling and tremie grouting in accordance with TVA-KIF-SOP-46 *Standard Operating Procedure for Groundwater Monitoring Well Abandonment*. Abandonment was performed in phases, just prior to FMLS construction in each quadrant of the cap and closure.

Table 2-10. Abandonment of Geotechnical Instrumentation

Instrument Type	No. of Instruments Abandoned	Instrument Description	Instrument Abandonment Procedure
Piezometer, Type A	36	Vibrating wire piezometer with 1 ft sand "screen" intervals separated by a bentonite seal. Signal cable conduits extend to the ground surface. PVC protective casing present at ground surface.	Cut off cable conduits and PVC casing pipe 1 ft below grade; cap PVC casing.
Piezometer, Type B	21	Vibrating wire piezometer fully backfilled with cement-bentonite grout. No sand "screen" intervals. 1-inch PVC carrier pipe for cable conduits.	Cut off cable conduits and PVC carrier pipe 1 ft below grade; cap PVC casing.
Piezometer, Type C	22	Pneumatic piezometer with 1 ft sand "screen" intervals separated by cement-bentonite seal. Pneumatic tubes extend to ground surface. PVC protecting casing present at ground surface.	Cut off pneumatic tubes and PVC casing pipe 1 ft below grade; plug tube ends with caulking; cap PVC casing.

Instrument Type	No. of Instruments Abandoned	Instrument Description	Instrument Abandonment Procedure
Piezometer, Type D	33	Standpipe piezometer with ~10-ft sand screen intervals separated by a bentonite seal. 1-1/4 inch PVC standpipes extend to ground surface. PVC or steel protective casing present at ground surface.	Remove protective casing; overdrill the piezometer and grout with cement-bentonite grout from bedrock to ground surface.
Slope Inclinometer, Type E	84	2-3/4 inch standpipe fully encased in grout.	Cut off standpipe 1 ft below grade; tremie grout standpipe from bottom to top.
Settlement Plate, Type F	27	4 inch steel pipe surrounding 2-1/2 inch steel pipe; set in ash	Cut off steel pipes 1 ft below grade.
Temporary Well Point, Type TWP	43	PVC well point with 10 ft or greater screen interval. Includes both TVA (EE/CA) wells and Griffin dewatering wells.	Remove protective casing, where present; overdrill the TWP and grout with cement-bentonite grout from bedrock to ground surface.

Notes:
Geotechnical instrumentation extending solely in ash was cut off 1 ft below grade.
For definitions, see the List of Acronyms.

2.1.5.5 Monitoring Well Construction

The long-term groundwater monitoring well network is also described in the *Closure/Post-Closure Plan for the Ash Landfill* (TVA 2014b); a total of five shallow wells and three bedrock wells are included in that long-term monitoring network. Three new wells (Wells 22B, 27A, and 27B) were installed by S&ME during the non-time critical action. Well pair 27A (alluvial well) and 27B (bedrock well) was installed between July 8 and 23, 2014; Well 22B (bedrock well) was installed between July 24 and August 4, 2014. The monitoring well construction report is included in Appendix G.

2.1.5.6 Borrow Area Management

The borrow area was located on approximately 254 acres of property acquired by TVA that is located approximately 1 mile north of the Ash Landfill, off Berkshire Road, next to the North Embayment (Figure 20). The borrow area was used to provide soil materials for construction of Dike 3, the perimeter berm, and the soil cap. The disturbed sections of the borrow area covered approximately 132 acres, which included areas used for excavation, stripping of topsoil, stockpiling, and haul roads. The borrow area was developed in seven phases. Phases 1, 2, 3, 4, and 6 extended along Berkshire Road south of the TVA power transmission lines. Phases 5 and 7 were located beneath and north of the power transmission lines.

In January 2011, Stantec performed a geotechnical exploration of the TVA-acquired property to assess its use as a source of borrow material (Stantec 2011b). A total of 22 borings and 15 test pits were conducted at select locations within the northern portion of the borrow area. The results of that borrow study indicated that sufficient volumes of borrow soils would be available for use in the Dredge Cell closure. Approximately 1,777,000 cy of material were classified as leans clays, fat clays, and elastic silts that would be suitable as cap soil. Testing indicated that the soils would not be capable of achieving the relatively low permeability target (1x10-7 cm/s) that would be required to meet TDEC Class II Disposal

Facility requirements for a clay cap. Therefore, Stantec recommended the alternative FMLS with use of the borrow soils as cap soil overlying the FML.

Between June and November 2013, Jacobs and RSI performed supplemental geotechnical explorations of the borrow area to assess whether the borrow soils would be capable of achieving the QC requirements of the closure design (TVA 2014a). Those requirements included a restriction that the cap soil have a plasticity index of 13 or greater; initial test results showed several areas of sandier soils that would not meet this requirement. The study provided additional information on plasticity index, material type, and potential depths of borrow area excavations. A total of 184 borings and test pits were sampled at select locations. Geoprobe direct push sampling was used to collect samples more than 10 ft below ground surface. Test pits were excavated to collect samples up to 10 ft below ground surface. Results of those explorations indicated that sufficient material could not be obtained from the planned phased operation of the borrow area. Borrow areas in phases south of the TVA power transmission lines, especially in Phases 1 and 6, contained excessive amounts of sand and weathered rock. Jacobs recommended that additional phases be excavated beneath the TVA power transmission lines, designated Phases 7a and 7b.

The borrow area explorations indicated that much of the borrow soil would contain excessive amounts of weathered rock, predominantly shale or chert. Design requirements, amended through FCN-063, restricted the size of any rock fragment to no more than 4-inch size. Initial plans provided for potential screening of the borrow soils to remove rocks larger than 4-inch size. However, P&J offered an alternative of hand-picking larger rocks out of the material upon placement in the Ash Landfill cap, which improved borrow operations by saving cost of expensive screening equipment, improving worker safety, and avoiding potential schedule delays due to screening equipment downtime.

The borrow area grading, storm water retention, and erosion and sediment control were managed in accordance with the *Stormwater Pollution Prevention Plan, North Borrow Area Project* (TVA 2012b), which was approved by EPA on August 2, 2012. Each phase drained to one of three sediment ponds. A series of ditches and pipes conveyed runoff from the excavation areas to the sediment ponds. A series of diversion berms and ditches diverted runon away from the borrow areas. Existing wetland areas were impacted along the North Embayment and its tributary stream; the area of sediment Pond 3 was converted into an enhanced wetland as a part of the ecosystem restoration.

Total volume of material removed from the borrow area is estimated at 1,100,000 cy (in-place volume), from borrow areas both north and south of the TVA transmission lines.

Following borrow area operations, the area was graded to drain and hydroseeded to establish protective grass cover. The area south of the TVA transmission lines, along Berkshire Road, was regraded to accommodate plans for future construction of a ball field complex. That area will be licensed to Roane County for development of the recreational area. Approximately 240,000 cy of soil were moved within the borrow area ball field complex for this regrading.

Grass establishment was difficult in the borrow area due to the lack of topsoil, which had been stripped for use on the Ash Landfill, and lack of irrigation. Although initial test plots had proven successful in establishing a suitable grass cover in a reasonable timeframe, during closeout of the borrow area, vegetation grew only sparsely over broad areas. Therefore, in July 2014, amendments were added to the seed mix to enhance seed and germination and the seed mix was revised. ProPlus® "NeutraLime™ Dry" was applied at a rate of 300 pounds per acre; Pennington® "All Purpose Fertilizer 19-19-19" was applied at a rate of 400 pounds per acre; and ProPlus® "JumpStart™" was added at a rate of 2.5 gallons/acre. In the northern sections of the borrow area (Phases 5, 7A, and 7B) seed was applied using two techniques. The first technique, used for the sloped areas (defined as 4 horizontal to 1 vertical or steeper), involved tracking the area with a dozer to break up the existing surface and then hydroseeding with a native grass seed mix consisting of 33 native plant species at a rate of 11.4 pounds/acre. The second technique, used in the flatter areas, involved breaking up the surface with a disc, distributing the native grass seed mix using a seed drill, then mulching using a hydroseeder. In the southern sections of the borrow area (Phases 1, 2, 3, 4, and 6), seed was also applied using the same two techniques. However, the seed mix used the flatter areas in the future sports complex was changed to a summer-fall grass seed dominated by fescue, annual rye, and Bermuda at a rate of 132 pounds/acre. Steeper slopes were also protected using a straw erosion control matting. Because grass establishment was not fully achieved prior to the winter season, additional overseeding is anticipated as maintenance activities in the spring of 2015.

2.1.5.7 Concurrence Form Process for Closure

Upon completion of each component of the multilayer cap process, supporting information was compiled to document completion and satisfaction of all QC requirements. Results of QC testing are presented in the *Construction Certification Report, Cap and Closure* (Stantec 2015). Concurrence/approval was documented for the following:

- Subgrade preparation. The density and moisture content were confirmed at random points across the subgrade. The subgrade elevations were confirmed at specific pre-selected points, referred to as "confirmation points" to within an accuracy of ±0.2 ft. Concurrence/approval forms were signed by the P&J Superintendent, CCS Superintendent, TVA/SCS Construction Manager, and Stantec QC Manager, or designee.

- FML installation. The results of laboratory seam testing of destructive samples were confirmed. Field inspection of penetrations and nondestructive testing of seams was completed. Field inspection of the geomembrane surface was completed to confirm that the surface was free of objects that may inflict damage and free of observable defects. Concurrence/approval forms were signed by the P&J Superintendent, CCS Superintendent, TVA/SCS Construction Manager, and Stantec QC Manager, or designee.

- Geocomposite installation. Field inspections of geocomposite installation were completed; no concurrence documentation was required for this component.

- Cap soil placement. Borrow area tests were used to confirm plasticity requirements. Field inspections of rock size were completed to confirm gradation requirements. The final grade elevations were confirmed at the same confirmation points as the subgrade and compared to the subgrade elevations; depth of the cap soil was confirmed to within an accuracy of ±0.2 ft. The QC Manager signed the survey comparison tables to document acceptability of the cap soil thickness.

- Topsoil placement. Final grade elevations were confirmed at the same confirmation points as the subgrade and compared to the subgrade elevations; total depth of cover (cap soil and topsoil) was confirmed to within an accuracy of -0.0 to +0.2 ft. The QC Manager signed the survey comparison tables to document acceptability of the cover thickness.

2.1.6 Ecosystem Restoration

The ecosystem restoration activities began in the spring of 2014, and continued beyond the completion of the Ash Landfill. Those activities will be described in an addendum to this OSC Report.

2.1.7 Storm Water Management

Storm water was managed in accordance with the approved *Site Storm Water Management Plan (SWMP), Kingston Ash Recovery Project*, *Revision 1* (TVA 2010a), approved by EPA on September 16, 2010. The SWMP was a revision of the previous SWMP, updated for the non-time-critical removal actions. A second revision of the SWMP, approved by EPA on July 11, 2011, clarified compliance and organizational changes in the project (TVA 2011c). A third revision of the SWMP, approved by EPA on September 5, 2013, clarified changes in the project (TVA 2013).

The SWMP provided a general plan for erosion and sediment control to protect the adjacent surface water bodies. The SWMP addressed sediment and ash migration as well as spills from construction activities. In accordance with the SWMP, twice-weekly inspections were performed of Site slopes, drainages, and settling basins. Best management practices were implemented for erosion and sediment control that included the following:

- Diversion berms/diversion ditches
- Downslope pipe flumes to carry diverted water to the bottom of the slopes
- Gravel berms or check dams
- Gravel and riprap ditch lining
- Sand bag barriers
- Dugout ditch barriers
- Straw bale barriers or silt fences
- Biodegradable filtration logs
- Grading and compacting the ash surfaces using dozers tracking upslope
- Erosion and dust control products such as Flexterra® or vegetation by hydromulching
- Repair and replacement of erosion gullies or washouts
- Large sediment traps in ditches
- Energy dissipaters in areas of surface runoff to capture sediment and ash

All storm water in contact with ash within the embayments drained to a series of “dirty water” ditches that discharged to the Settling Basin located in the Middle Embayment next to Dike 2. Storm water runoff from the former Dredge Cell drained to the dirty water ditches. Runoff from the Lateral Expansion, Ash Pond, and relic area of the Dredge Cell drained to a perimeter ditch which discharged to the Stilling Pond through either through the old Ash Pond outlet or new Ash Pond Outlet Structure (Agridrains). The office/support areas were located next to the Ball Field and drained to existing Site ditches and pipes that eventually discharged to the plant intake channel.

A series of clean water ditches had been installed in the Swan Pond Embayment during the time-critical removal action to bypass upgradient surface water around the ash. The clean water ditches carried storm water around the ash to discharge directly to the Emory River, thereby minimizing the load on the Settling Basin. Following establishment of the final vegetative cover on the Ash Landfill, the clean water ditches were removed, allowing all waters to flow through the embayments. Direct flow from the Middle Embayment was opened to the Emory River on September 25, 2014. The North Embayment was fully opened to the Middle Embayment on January 27, 2015, at which time the water flowed through the bridge underpass.

Modifications were made to the storm water management facilities during the course of the non-time-critical removal action.

- In September 2010, "finger dikes" were added to the Settling Basin to increase retention time and improve removal of ash from storm water discharges (TVA 2011c).

- In the fall of 2010, the Settling Basin was enlarged to provide greater holding volume and thereby improve sediment capture. The modification was documented in a revision of the RDP-0112-A embayment excavation design, approved by EPA on October 27, 2010.

- In February 2013, a long, narrow temporary settling basin was constructed at the toe of the rock buttress at Segments 1 and 8 to allow excavation of ash within the original Settling Basin (TVA 2013). In June 2014, the temporary settling basin was verified clean, and the berms dismantled prior to flooding of the Middle Embayment.

2.1.7.1 Dust Management

Dust management was performed throughout the non-time-critical removal action in accordance with the *Site Dust Control and Air Monitoring Plan* (Jacobs 2010a), approved by EPA on July 23, 2010. All contractors were responsible for controlling their operations to minimize dust generation. Dust suppression and control activities in the active construction areas were task- and weather-specific. This included engineered measures that protected equipment operators working in the ash area, management or training procedures that limited employee exposure, and operational procedures during heavy dusting conditions (such as warm, dry weather or windy conditions).

The equipment operating in the ash containing areas (excavators, dump trucks, dozers, etc.) had enclosed cabs that were air conditioned, heated, and filtered. A program was in place to inspect door gaskets, air conditioning units, filters, and other devices that seal the cabs to make sure they are properly maintained including keeping the inside cab area clean from ash buildup.

Management and training procedures were established to protect other personnel that work in the area (those that are not in equipment cabs). Workers were encouraged to stop operations if dust was sighted and to call for a water truck to control the dust.

Application of a proprietary dust suppression agent (Flexterra®) was the primary method of dust suppression on the ash deposits, either with or without grass seed mixture. During the time-critical removal action, several trial plots of various seed mixes and fertilizer combinations had been planted and the most effective mixture was selected for application. The grass seed and fertilizer were mixed with the Flexterra® solution and applied with hydroseeding equipment. The Flexterra® matrix held the seed in place while it germinated and developed a root structure. Vegetation effectively grew in the ash and stabilized the surface.

Water trucks were used to wet down travel areas as well as open ash piles when conditions dictated. The normal travel areas around the facility (public roads, paved in-plant roads) were routinely sprayed by water trucks and cleaned by sweeper vacuum trucks, as conditions warranted. The unpaved gravel haul roads were sprayed with water trucks. These dust suppression methods worked well except during extreme cold weather. To control fugitive dusting on unpaved haul roads, TVA sprayed a calcium chloride solution on the gravel roads. Calcium chloride attracts moisture, which helped to keep the road surface slightly damp, reducing dusting.

As construction activities were completed in a given area, the remaining ash deposits were contoured to reduce the slopes. Exposed surfaces were compacted by "slicking off" the surface to control dust.

Mobile water misters were used to control dust during the lime treatment operations, and prevent dust from migrating. Silos and batch processing units were used for storage and mixing of cement or other admixtures during PWS operations. These units maintained positive dust control measures, including bag houses with seals or pressure control housings to eliminate dust emissions.

Vehicle traffic out of the exclusion zones underwent a cleaning procedure at a vehicle wash station, which reduced ash transfer, and reduced fugitive dust on roads throughout the facility. The vehicle wash station was phased out of operation once all CERCLA ash had been covered by FML within the Ash Landfill, which occurred on August 16, 2014. Dismantling of the vehicle wash station was completed in December 2014, and removed from the Site in January 2015.

2.1.8 Listing of Quantities and Types of Materials Addressed

2.1.8.1 Ash Recovery Volumes

The project objectives were to remove the remaining ash from the Swan Pond Embayment. Therefore, volumes removed were key to effective implementation of the actions. Table 2-11 lists the estimated quantities of materials removed.

Table 2-11. Listing of the Quantities of Materials Removed

Removal Activity	Material	Ash Removed (cy loose)	Ash Removed (cy in-place)
Excavate North Embayment	Ash, sediment	1,225,000	1,010,000
Excavate Middle Embayment	Ash, sediment	1,493,000	1,059,000
Remove Settling Basins / Dike 2	Ash, sediment, retrieved rock	315,000	224,000
	Total Ash and Sediment Removed	**3,033,000**	**2,293,000**
Excavate along Swan Pond Road	Ash, sediment	123,000	87,000
Restore Ball Field (net removed)	Ash, sediment	456,000	323,000
Relic area of Dredge Cell - cut	Ash, sediment	2,119,000	1,502,000
Plant-generated fly ash	Ash, sediment	175,000	175,000
Spoils from PWS (design volume)	Ash, soil, slurry	784,000	556,000
	Total All Materials Removed	**6,690,000**	**4,936,000**

The volume of material removed was estimated by counting the number of truck or pan scraper loads and multiplying by the assumed volume per truckload. Each of the trucks was assumed to carry an average of 22 cy; each pan scraper was assumed to carry an average of 30 cy. A compaction factor of 71% was typically applied to reflect the difference between the in-place ash volume in the embayment versus loose ash volume in a truck/pan scraper. Because volumes estimated by counting truckloads are highly uncertain, the total volumes were corrected by comparing light detection and ranging (LiDAR) and/or manual land survey topographic surfaces prior to the excavation to those after excavation.

The volume of spoils generated during slurry trench excavation for the PWS was estimated as the in-place volume of the completed wall. Although this may underestimate the total volume of spoils, the error is small. No compaction factor was applied to the spoils volumes.

2.1.8.2 Listing of Ultimate Destinations of Materials Disposed

The project objectives were also to ensure that the ash recovered during the response actions is properly managed (stored) and properly disposed. Therefore, the ultimate destinations of materials disposed were key to effective implementation of the actions. All ash that was removed during the non-time-critical removal action was disposed onsite in the Ash Landfill. Table 2-12 lists the estimated quantities and disposal locations.

The volume of material disposed was also estimated by counting the number of truck or pan scraper loads. A compaction factor of 165% was typically applied to reflect the difference between the in-place ash volume as compacted in the Ash Landfill versus nominal loose ash volume in a truck/pan scraper. Because volumes estimated by counting truckloads are highly uncertain, the total volumes were corrected by comparing LiDAR and/or manual land survey topographic surfaces prior to ash stacking to those after ash stacking was completed. Volumes calculated from truck haul counts are within 2% of volumes calculated from pre- and post-construction surveys, which is reasonable given the multiple factors influencing the volumes, including effects of consolidation settlement, compaction variability, and material variability.

Table 2-12. Listing of the Quantities and Ultimate Destinations of Materials Disposed

Disposal Location	Material	Ash Stacked (cy loose)	Ash Stacked (cy in-place)
Dredge Cell (2 & 3) – subgrade	Ash, sediment	44,000	31,000
Dredge Cell (Cells 2 & 3) – stacking	Ash, sediment	2,234,000	1,255,000
Dredge Cell (Cell 1 relic area) – stacking	Ash, sediment	285,000	202,000
Lateral Expansion (Cell 4) – subgrade	Ash, sediment	264,000	187,000
Lateral Expansion – stacking	Ash, sediment	1,653,000	1,002,000
Ash Pond – plant-generated ash	Ash[a]	175,000	175,000
Ash Pond – subgrade	Ash, sediment	297,000	180,000
Ash Pond – stacking	Ash, sediment	929,000	563,000
Total Ash and Sediment Disposed		**5,881,000**	**3,595,000**
Stilling Pond – Segment 3 rock buttress	Retrieved rock[b]	25,000	18,000
Spoils from PWS (design volume)[c]	Ash, soil, slurry	784,000	475,000
Total All Materials Disposed		**6,690,000**	**4,088,000**

Notes:

[a] Includes volume of plant-generated fly ash settled in pond
[b] Does not include volume of imported riprap placed in Stilling Pond for the Segment 3 buttress
[c] Spoils were mixed with ash and co-disposed in the Ash Landfill without differentiation of location (Dredge Cell, Ash Pond, or Lateral Expansion)

2.1.8.3 Estimate of Ash Remaining

Although the project's strategic objectives were to remove all ash from the embayment, some ash could not be effectively or safely removed. Ash beneath paved roadway embankments (Swan Pond Road and Swan Pond Circle Road) could not be removed without endangering the roadway. Ash located below elevation 743 ft msl next to the PWS buttress wall could not be removed without endangering wall stability (as shown on the approved design drawings).

Estimated volumes of ash estimated to be remaining in the embayment at the end of the non-time-critical action are listed in Table 2-13. These estimates are based on interpretations of data from multiple sources, including visual surveys; the estimates therefore have inherent uncertainty.

In particular, the quantity of ash remaining beneath Swan Pond Road is highly uncertain. Stantec reviewed historical data, including topographic maps, aerial photographs, borings, and test pits (Stantec 2013d) and concluded that it did not appear that significant amounts of ash (in terms of thickness) are present beneath Swan Pond Road. The estimate assumes ash is present up to 19-ft thick at the edge of the FML, and extends beneath Swan Pond Road at a 2:1 slope.

The materials left in place have been covered to prevent migration into the embayment and to prevent contact by human or ecological receptors. Ash within embankment slopes along Swan Pond Road and Swan Pond Circle Road and beneath the PWS buttress has been covered with sand, gravel, and riprap. Ash beneath the roadways has been covered with asphalt. Ash beneath the rail lines has been covered with railroad ballast.

Table 2-13. Estimated Quantities of Materials Remaining in the Swan Pond Embayment

Embayment Section	Location Description	Quantity Remaining (cy)
North Embayment	Beneath Swan Pond Road; Concurrence KRP-11-04	1
North Embayment, Middle Embayment	Beneath Swan Pond Circle Road	29,500
Middle Embayment	Beneath Swan Pond Road; Concurrence KRP-12-01 and KRP-12-03	2,200
Middle Embayment	Below rock berm at the PWS buttress, below elevation 743 ft msl	14,200
Swan Pond Road	Below Swan Pond Road and rail lines, southwest of the Segment 8 PWS wall	31,500
	Total Ash Remaining	**77,400**

2.2 ACTIONS TAKEN BY STATE AND LOCAL FORCES

Actions taken by TDEC during the non-time-critical removal action included participating in reviews of engineering design work for the Ash Landfill closure and formal design review meetings, and in reviews of Site monitoring plans and results of air, surface water, storm water, and groundwater monitoring. TDEC maintained onsite personnel through October 2012. TDEC provided resources to review all regulatory documents produced by TVA; EPA consulted with TDEC prior to EPA approving any work. TDEC maintained primary regulatory oversight of the plant's active ash production, including dry fly ash and bottom ash management, temporary stockpiling of ash in the Ball Field area, ultimate disposal of that ash in the plant's gypsum landfill, and ongoing management of Stilling Pond operations under the plant's NPDES permit.

On June 14, 2010, the TDEC Commissioner Jim Fyke and the Deputy Commissioner Paul Sloan announced the issuance of a Commissioner's Order against TVA assessing $11.5 million in penalties in response to the release. The penalties address violations of the *Tennessee Water Quality Control Act* and the *Tennessee Solid Waste Disposal Act*. Long-term plans for ash management are still being developed; currently TVA is placing dry fly ash in temporary piles within the Ball Field area.

2.3 ACTIONS TAKEN BY FEDERAL AGENCIES AND SPECIAL TEAMS

2.3.1 U.S. Environmental Protection Agency

EPA Region 4 programs supported the EPA OSC throughout the non-time-critical removal action. The Community Involvement Coordinator from the EPA Region 4 Office of External Affairs coordinated and helped plan public outreach activities with TVA and TDEC, and provided assistance in creating and distributing press releases for the Site. The EPA Region 4 Technical Support Services of the Superfund Division assisted the OSC in determining risk assessment concerning the Emory River. EPA contractor Black & Veatch provided human health and ecological risk assessment support concerning the Emory River.

EPA Superfund Technical Assessment and Response Team contractors (Tetra Tech and OTIE) provided additional support. Tetra Tech conducted surface water monitoring and sampling, provided community involvement support, and supported database and mapping activities. EPA contractor OTIE provided data management and mapping support including a dedicated website for the Site.

The EPA Region 4 Science and Ecosystem Support Division conducted quarterly audits of TVA's air monitoring network and reviewed data management plans and quality assurance plans for compliance with Region 4 sampling protocols. The EPA Emergency Response Team conducted quarterly Site safety and health audits in addition to reviewing the SWSHP.

2.3.2 Bureau of Reclamation

The BOR assisted the EPA in providing engineering consultation and review. Engineering technical assistance was provided for a variety of issues, including review of individual removal design packages and demonstration testing results. In March 2010, the BOR evaluated the state of practice and reliability of seismic retrofitting of embankment dam foundations using soil-cement columns emplaced by deep soils mixing methods, and issued recommendations for design of the PWS.

The BOR provided onsite engineering oversight and review of construction activities throughout the non-time-critical removal action. BOR technical experts also conducted Site visits to observe construction progress and QC processes. In August 2011, the BOR visited the Site to observe results of the test section for the PWS slurry trench wall, recommending that full scale construction should proceed. In April 2013, the BOR visited the Site to discuss potential internal erosion of ash by groundwater flow along the Segments 6 and 7 PWS wall. In August 2013, the BOR observed the cap and cover installation, providing comments regarding overlaps of geocomposite seams, vehicle operations on top of the geocomposite, wrinkles in the geomembrane, rock size in the cap soil, and overlap of the bottom geotextile within the geocomposite material (BOR 2013). In March 2014, the BOR made a follow-up visit to the Site, noting improvements since their previous visit. The BOR recommended that contaminated geosysthetics along the boundary with the relic area of the Dredge Cell be mitigated prior to resuming capping operations in that area, and that TVA consider cutting out large wrinkles and folds in the geomembrane. In January 2015, the BOR participated in the pre-final inspection Site visit for closure of the Ash Landfill.

2.3.3 U.S. Army Corps of Engineers

The USACE, Engineering Research and Development Center, Waterways Experimentation Station, performed baseline fate and transport modeling of the Emory and Clinch Rivers sediment. Flume testing was performed using ash, native sediment, and ash-sediment mixes to provide model input data on critical shear stress and bed scour (erosion rates). The model was established to represent how the river system would respond to periodic floods and low flow periods, particularly and ash distribution as a result of natural attenuation processes of sediment deposition and scour.

3 MONITORING AND ANALYTICAL RESULTS

3.1 DATA MANAGEMENT PROGRAM

Samples of environmental media were collected during the non-time-critical removal action and were subjected to a variety of chemical analyses. These data supported TVA's objectives of monitoring the construction operations to prevent releases. Monitoring in the river system was reported separately and is not discussed in this OSC Report.

To ensure that project objectives were met, a comprehensive environmental QA Program was developed. QA for analytical data associated with the TVA Kingston Ash Recovery Project is described in the Site-wide *Quality Assurance Program Plan, TVA Kingston Fossil Plant Ash Recovery Project* (TVA-KIF-QAPP) (Environmental Standards, Inc. [ESI] 2009b, 2010b, 2013b). The TVA-KIF-QAPP provides an overall framework for QA and data management activities associated with the TVA Kingston Ash Recovery Project. Project-specific QAPPs were developed for specific sampling and monitoring activities when QA requirements more stringent than those presented in the TVA-KIF-QAPP were required to support the data quality objectives for the sampling and monitoring tasks.

3.1.1 Quality Assurance Oversight Activities

Third-party oversight was performed of a variety of representative sample collection activities to check that the collection of environmental samples met project objectives and adhered to project planning documents (Table 3-1). Summaries were prepared for each oversight event, documenting the activities observed, including observations, recommendations, and corrective actions, as appropriate. The frequency and types of QA oversights were dependent on the phase of the project and the prevalent sampling activity. Between August 2010 and February 2015, the QA team performed 267 third-party oversights of sampling activities.

Table 3-1. Third-Party Oversight During the Non-Time-Critical Removal Action

Type of Sampling Activity	Number of Oversights
Routine surface water and storm-induced surface water sampling	50
Swan Pond Embayment sampling	27
Stilling Pond (including low-level mercury sampling)	10
Ambient air monitoring	23
Sediment and submerged ash sampling	53
Groundwater sampling	29
Soil boring and well installation	9
Hydrolab change-outs and calibrations	15
Plaintiff sampling events	2
Miscellaneous (waste management, special studies)	25
Industrial hygiene	6
Biota	18
Total Number of Oversights	**267**

Laboratory audits were conducted of each of the contracted analytical laboratories to check for compliance with the contractual technical requirements, the TVA-KIF-QAPP, and referenced analytical methods (Table 3-2). Laboratory audits included review of personnel qualifications, equipment, documentation, sampling techniques, analytical methods, and adherence to QA procedures. Audits of laboratories conducting chemical and radiological analyses of project samples were performed by the TVA Technical Liaison/QA Officer and the ESI QA Manager. Audits of laboratories performing toxicological testing were conducted by the TVA senior toxicologist in accordance with TVA's toxicological monitoring program. Reports were prepared for each of the laboratory audits, including observations, recommendations, and corrective actions, as appropriate.

Table 3-2. Laboratory Audits Conducted During the Non-Time-Critical Removal Action

Laboratory	Facility Location	Audit Date	Matrices/Analyses for Kingston Ash Recovery Project
ALS	Salt Lake City, UT	January 2013	Industrial hygiene (dust, metals)
Bureau Veritas	Novi, MI	July 2009	Ambient air (particulate matter, metals)
Bureau Veritas	Kennesaw, GA	March 2010	Ash (PLM)
Environmental Enterprises USA	Slidell, LA	April 2010 June 2011	Toxicological analyses
Frontier Geosciences, Inc.	Seattle, WA	July 2010	Metals speciation
Galson	Syracuse, NY	March 2009	Ambient air (silica)
GEL Laboratories	Charleston, SC	October 2010	Radiological analyses
Great Lakes Environmental Center	Traverse City, MI	May 2011	Toxicological analyses

EPA performed five quarterly audits of the ambient air monitoring network during non-time-critical activities between October 2010 and December 2012. These quarterly audits consisted of a review of sampling activities, sampling equipment, laboratory results, and data management. EPA also collected and analyzed split samples at their discretion.

3.1.2 Verification/Validation Process

The analytical data generated from the sampling activities were compared with the defined QA objectives and criteria for precision, accuracy, representativeness, completeness, and comparability and sensitivity. The primary goal of these procedures was to check that the data reported are representative of conditions at the Site.

TVA's contracted laboratories performing chemical analyses were required to submit three types of deliverables: (1) a limited (Level 1) data package containing sample results and batch QC sample results; (2) a fully-documented (Level 4) data package including raw data for all analyses; and (3) electronic data deliverables (EDDs) for loading to EarthSoft's EQuIS® database. Data generated from toxicological testing was submitted, reviewed, and stored in accordance with TVA's toxicological monitoring program.

EDDs were subjected to completeness and correctness testing during loading to the EQuIS database; once loaded to the database, the data were subjected to verification. As defined in the TVA-KIF-QAPP, data verification involved comparison of the data loaded in the EQuIS database to the results reported in the Level 1 data package. In addition, data verification included review of the batch QC summary forms for compliance with the applicable methods and for data usability with respect to the project data quality objectives and the TVA-KIF-QAPP. Data that have undergone verification are generally considered acceptable for use by project personnel.

Following receipt of the Level 4 data package, data were subjected to validation. As defined in the TVA-KIF-QAPP, data validation included review of raw data and associated QC summary forms for compliance with the applicable methods and for data usability with respect to the appropriate guidance documents. This full data validation expanded upon the completeness, correctness, and usability assessment performed during verification to include evaluation of instrumental QC analyses, review of sample preparation information, and recalculation of reported results from raw data.

Initially, 100% of the chemical analysis data were subjected to data validation; the frequency of full validation was reduced for some data streams as they matured. All laboratory reported data used for project decision-making or risk assessment underwent data verification, at a minimum. Analytical data were reported to the agencies after verification. Data were reported to the public following data validation where data validation was requested; if data validation was not requested, data were available for public consumption following verification.

3.1.3 Database Management

A comprehensive data management plan was developed for the project to ensure that all environmental data associated with the project were appropriately maintained and accessible to data end users. The *Data Management Plan for the TVA KIF Ash Recovery Project* (ESI 2010a, 2013a) outlined data management activities from pre-planning of sampling events to reporting and analysis, with particular emphasis on completeness, data usability, and defensibility of the data.

Data were collected from several data streams and consolidated in a single project EQuIS database. QA procedures have been implemented at each step in the data transfer process to ensure that a complete, correct data set is maintained. In addition, sample planning and tracking processes were developed to control the flow of historical/legacy data, fixed-base laboratory data, field data, and continuous monitoring data into the project database.

Data were reported from the project EQuIS database to EPA's Scribe.net database. These data will be migrated to an EQuIS database administered by EPA. In addition, a subset of ambient air monitoring data was reported to the EPA Air Quality System database.

The primary environmental monitoring activities associated with the non-time-critical removal action included surface water, air, and groundwater monitoring. Results of the monitoring and analysis are summarized in Appendix H and presented in the following sections.

3.2 SURFACE WATER MONITORING

Surface water quality was monitored in accordance with the *Kingston Ash Recovery Project Non-Time-Critical Removal Action Surface Water Monitoring Plan* (Jacobs 2011f), approved by EPA on August 1, 2011 and subsequent revisions (Jacobs 2012a, Jacobs 2013b, Jacobs 2014b). The SWMP was a revision of the time-critical SWMP, with sampling and analysis applicable to non-time-critical activities. Surface water monitoring in support of the non-time-critical activities was conducted at three locations (Figure 21): the Clean Water Ditch discharge (CWDITCH/CWDITCHE), the Settling Basin discharge (SETTB), and the Stilling Pond permitted outfall (Location AP_IMP001).

As TVA's efforts progressed from completion of the time-critical removal action to implementation of the non-time-critical removal action for the Swan Pond Embayment and Dredge Cell, surface water monitoring was tailored to collect data to assess the impact of these actions on river system water quality. TVA completed an evaluation of routine and storm-event surface water monitoring data collected between January 1, 2011 and January 26, 2012 and concluded that a revision of the Surface Water Monitoring Plan was warranted. The revised plan (Jacobs 2012a) also considered the planned removal of Dike 2 and the relocation of the Clean Water Ditch ISCO® sampling platform to accommodate construction of Dike 3. The principal modifications to the plan were reduction of the frequency of sampling of the Swan Pond Embayment and the Stilling Pond, and elimination of analysis for dissolved inorganic constituents.

Sampling at the Swan Pond Embayment consisted of weekly manual grab samples at the Clean Water Ditch (CWDITCH) and the Clean Water Ditch sampling platform (CWDITCHE) upstream of the discharge to the Emory River (Figure 21). Clean Water Ditch samples were analyzed for TSS and total ash-related constituents. In addition, an automated composite sample was collected from the Clean Water Ditch (CWDISCOE) following a local rainfall event of >0.5 inch in a 24-hour period. Sampling at the Stilling Pond consisted of collecting a weekly grab sample at the NPDES-permitted outfall; samples were analyzed for TSS and total ash-related constituents.

The Surface Water Monitoring Plan was again revised in February 2013 as a result of the reconstruction of the Clean Water Ditch berm and elimination of the Settling Basin (Jacobs 2013b). Runoff from Dredge Cell operations was pumped from a small settling pond directly into the Clean Water Ditch, where it intermingled with water from the North and West Embayments before being discharged at the eastern end of the Clean Water Ditch. The only change to the monitoring plan was the elimination of the Settling Basin sample location (SETTB); analytical requirements and sample frequencies remained unchanged for the CWDITCH and CWDITCHE.

The Surface Water Monitoring Plan was again revised in April 2014 to reflect impending closure of the Ash Landfill (Jacobs 2014b). One modification to this plan was the decision to terminate surface water monitoring upon removal of all ash from the small settling pond in the Middle Embayment, which occurred on July 20, 2014. A second modification to this plan was the decision to transfer responsibility for monitoring of the Stilling Pond to the plant under normal NPDES permit requirements, upon completion of the FML installation over the Ash Landfill; which occurred on August 7, 2014. The analytical requirements and sample frequencies remained unchanged until that time.

3.2.1 Clean Water Ditch Sampling

Sampling of the Clean Water Ditch was used to represent discharges from the Swan Pond Embayment during the non-time-critical removal action. Table H-1 in Appendix H provides summary statistics for surface water samples collected from the Clean Water Ditch during routine (non-storm event) sampling. During the non-time-critical removal action, there were 42 exceedances of the Tennessee Domestic Water Supply Standard (TDWS) and Tennessee Water Quality Criterion for Human Consumption of Water and Organisms (TWQC) for dissolved arsenic and 83 exceedances for total arsenic in samples collected from the clean water ditch. Lead exceeded the TWQC in 3 samples. Dissolved selenium exceeded the Tennessee Water Quality Criterion for Fish and Aquatic Life (F&AL) in 15 samples while total selenium exceeded the F&AL in 21 samples. Total and dissolved thallium were detected in 1 and 2 samples, respectively; detected thallium concentrations exceed the TWQC because the detection limit is less than the TWQC.

Table H-2 in Appendix H provides summary statistics for surface water samples collected from the Clean Water Ditch during post-storm event sampling. Results are remarkably similar to non-storm event sampling. During the non-time-critical removal action, there were 53 exceedances of the TDWS and TWQC for dissolved arsenic and 90 exceedances for arsenic in the Clean Water Ditch. Total lead exceeded the TDWS in 1 sample and the TWQC in 16 samples in the Clean Water Ditch. Total and dissolved selenium exceeded the F&AL in 28 samples in the Clean Water Ditch. Total thallium was detected in 12 samples in the Clean Water Ditch; detected thallium concentrations exceed the TWQC. Comparison of post-storm event to non-storm event sampling data indicates no appreciable difference in average metal concentrations in post-storm event samples from non-storm event samples (less than a factor of three).

Comparison of Clean Water Ditch samples to Emory River reference background indicates average concentrations of several analytes (total and dissolved arsenic, total and dissolved molybdenum, and dissolved vanadium) were more than ten times as high in the embayment as in reference background.

Time-based trends in concentrations of arsenic and selenium (representative of ash-related constituents) were evaluated for the Clean Water Ditch. Concentrations of arsenic and selenium in the Clean Water Ditch declined as ash was removed from the embayment and exposed ash in the Ash Landfill became covered, in particular after January 2013. For example, total arsenic concentrations in non-storm event sampling declined from annual averages of 0.025 to 0.015 mg/L between 2010 and 2012 to an annual average of less than 0.0045 mg/L in 2013. Total arsenic in 2014 (annual average of 0.003 mg/L) was slightly higher than Emory River reference background (less than a factor of five). Results of storm event sampling were similar to non-storm event; arsenic declined from annual averages of 0.02 to 0.03 mg/L between 2010 and 2012 to an annual average of 0.004 mg/L in 2014. These results indicate any prior impacts of runoff from ash in the embayment have been abated by removal of the ash and covering of exposed ash in the Ash Landfill.

3.2.2 Settling Basin Sampling

Sampling of the Settling Basin was used to evaluate its operational effectiveness in controlling sediment-laden runoff. Non-storm event samples were collected from the Settling Basin between August 27, 2010 and February 2, 2013 (Table H-3 in Appendix H). Results are similar to non-storm event sampling, indicating little difference between non-storm and storm events. There were 90 exceedances of the TDWS and TWQC and 2 exceedances of the F&AL for dissolved arsenic and 100 exceedances of the TDWS and TWQC and 6 exceedances of the F&AL for arsenic in the Settling Basin. Dissolved antimony exceeded the TDWS in 12 samples and TWQC in 15 samples, respectively. Total antimony exceeded the TDWS in 11 samples and TWQC in 17 samples, respectively. Total and dissolved selenium exceeded the F&AL in 62 and 70 samples, respectively in the Settling Basin. Total and dissolved thallium were detected in 12 and 27samples, respectively; detected thallium concentrations exceed the TWQC.

Table H-4 in Appendix H provides summary statistics for post-storm event sampling of the Settling Basin for samples collected between August 27, 2010 and February 26, 2013. There were 69 exceedances of the TDWS and TWQC and 6 exceedances of the F&AL for dissolved arsenic. Total arsenic exceeded the TDWS and TWQC in 78 samples and the F&AL in 10 samples collected from the Settling Basin. Dissolved antimony exceeded the TDWS in 6 samples and the TWQC in 10 samples. Total antimony exceeded the TDWS in 5 samples and the TWQC in 7 samples. Total lead exceeded the TWQC in one sample; dissolved mercury also in one sample. Dissolved selenium exceeded the F&AL in 58 samples while total selenium exceeded the F&AL in 65 samples. Total and dissolved thallium were detected in 5 and 2 samples, respectively; detected thallium concentrations exceed the TWQC.

Comparison of Settling Basin samples to Clean Water Ditch samples indicates no appreciable difference. In fact, for several analytes, concentrations in samples from the Clean Water Ditch were actually higher than those from the Settling Basin. These results show that the operation of the Settling Basin was effective in controlling sediment-laden runoff.

3.2.3 Stilling Pond Sampling

Sampling of the Stilling Pond was used to confirm compliance with NPDES discharge requirements and to evaluate potential impacts of runoff from the Ash Landfill that discharges to the Stilling Pond. Summary statistics for Stilling Pond samples are presented in Table H-5 in Appendix H. During the non-time-critical removal action, there were no exceedances of TSS limits established in the NPDES permit. There were 41 exceedances of the TDWS and TWQC for dissolved arsenic and 48 exceedances for total arsenic in samples collected from the Stilling Pond. Cadmium exceeded the F&AL in 2 samples. Total and dissolved selenium exceeded the F&AL in 40 samples. Total and dissolved thallium were detected in 20 and 23 samples, respectively; any detected thallium concentration exceeded the TWQC because the detection limit is less than the TWQC. Comparison of Stilling Pond samples to Emory River reference background indicate both dissolved and total arsenic was more than ten times higher in the Stilling Pond samples, which had been in direct contact with ash.

Time-based trends indicate concentrations of arsenic and selenium have declined in the Stilling Pond since late September 2011. During active dredging and operation of the Ash Pond, concentrations had been nearly five times higher; however once those operations stopped, concentrations have remained consistently low.

3.3 AIR MONITORING

Airborne dust monitoring has been occurring since the initial release occurred. Data collected to date, both for personnel monitoring and ambient air monitoring, consistently show that personnel exposure to trace elements in the ash has been far below any established action limits and ambient air standards have not been exceeded.

Personnel monitoring was performed as described in the Site Wide Safety and Health Plan (SWSHP) (Jacobs 2010g). Selected personnel were periodically monitored for potential silica exposure. Personnel were selected to represent a variety of job responsibilities (e.g., equipment operators, laborers, and drivers). Results of the personnel air monitoring are presented in Section 4.

This section presents a summary evaluation of ambient air monitoring data collected from August 1, 2010 through August 27, 2014, for the non-time-critical removal action. Ambient air monitoring was conducted in accordance with the *Site Dust Control and Air Monitoring Plan* (Jacobs 2010a) , which was revised and approved by EPA on July 23, 2010 for the non-time-critical removal action. The following key changes to air monitoring were made at that time.

- Mobile monitoring for PM10 was discontinued. However, the instruments remained available as an investigative tool should action limits be exceeded at fixed station monitors.

- The number of fixed sampling stations was reduced from 10 to 5. Locations of the fixed sampling stations are shown on Figure 22.

- Mercury was removed as a metal for analysis by EPA method IO-3.5 as this method was not applicable to the analysis of mercury. Analysis of the remaining 11 metal constituents and crystalline silica continued through July 2011, at which time the analysis was discontinued.

- A continuous reading Beta Attenuation Monitor (BAM) was installed at each of the 5 fixed stations.

- Low-volume filter-based sampling for PM2.5 and PM10 was discontinued except for one PM2.5 sampler at PS07 that continued for a period of correlation with the new BAM instrumentation.

- A continuous Tapered Element Oscillating Membrane (TEOM) instrument measuring PM2.5 was converted to measure PM10 at station PS09.

- As more information and documentation became available, the air monitoring methods transitioned from Federal Reference Methods (FRM) to Federal Equivalent Methods (FEM) which provided information in a timelier manner to support dust control and to assure protection of public health.

The purpose of the ambient air monitoring was to assess impact to local air quality at or near the plant during implementation of the removal action. The resuspension of inhalable and respirable fly ash particles by strong winds was of greatest concern. EPA has established National Ambient Air Quality Standards (NAAQS) that define levels of air quality that EPA deems protective of public health. The NAAQS were used in the sense that they are applicable, relevant, and appropriate requirements for this project, although they are not relevant for other regulatory purposes (e.g., to determine attainment status). Data were made available to regulatory agencies and the public as they became available and underwent QA review. Meteorological information was collected from instrumentation operated by TVA at stations PS07 and PS10, and used to evaluate air monitoring results.

Air monitoring data were compared to the relevant NAAQS for particulate matter using data for PM2.5 and PM10 on a time-weighted, 24-hour average basis. Whenever an action level was exceeded, any visible airborne releases occurring at the Site were identified so that onsite activities or dust suppression measures could be modified to prevent recurrence. Data were made available to regulatory agencies and the public as they became available and underwent quality assurance review. Results of the ambient air monitoring, including BAM, TEOM, metals, and particulates, are presented in Table H-6 in Appendix H.

It should be noted that a few results for PM10 from station PS09 continued to be collected using a BGI PQ200 instrument at the start of the non-time-critical removal action due to delays in setting up the BAM 1020 instrumentation at this station. These results, which used the more conservative FRM methodology, are also summarized on Table H-6 in Appendix H.

No NAAQS or risk-based limits were exceeded during the non-time-critical removal action. Any excursions beyond action levels triggered investigations with subsequent reports to regulators. For each excursion, the high results were due to either high regional air quality levels or were due to non-project related activities such as homeowners in the project's vicinity burning brush.

It should be noted that TDEC operated a TEOM for PM10 at station PS07 and a TEOM for PM2.5 at station PS10 during the non-time-critical removal action and that EPA also operated air monitoring equipment at station PS07 through February 19, 2014. TDEC and EPA results are not included in this OSC Report.

In August 2011, measurement of PM10 by TEOM was discontinued at PS09; however TVA continued to monitor for PM2.5 using FEM. On August 27, 2014, once all ash had been covered on the Site, air monitoring was discontinued and the instrumentation was disassembled and removed from the Site. The *Site Dust Control and Air Monitoring Plan* (Jacobs 2014c) was revised at that time to describe the discontinuation of air monitoring for the remainder of the non-time-critical removal action.

3.4 GROUNDWATER MONITORING

Compliance monitoring of the Dredge Cell and Ash Pond area is being conducted in accordance with its operating permit No. IDL 73-0094, issued by TDEC on September 12, 2006. As a permitted industrial waste landfill, the Dredge Cell is subject to TDEC Rule 1200-01-07 for Solid Waste Processing and Disposal. These standards set methods, the suite of analysis, and frequencies of sampling for monitoring of groundwater.

Groundwater monitoring was accomplished through a network of 5 wells during the non-time-critical removal action (Figure 23). Two wells (6-AR and 22) were located in the Ash Landfill area and 3 wells (AD-1, AD-2, and AD-3) were located in the Ball Field area. The 5 wells are shallow groundwater wells screened in the alluvial aquifer zone.

Groundwater data are summarized in Table H-7 in Appendix H for the time period July 12, 2010 through June 11, 2014. Concentrations of each metal analyte are compared to its corresponding maximum contaminant level (MCL) for those analytes where MCLs are available, per TDEC Water Quality Criteria for Domestic Water Supplies, Rule 1200-4-3.03(1)(j). Results for shallow groundwater monitoring wells show there were no exceedances of primary MCLs. Concentrations of aluminum, iron, and manganese in both bedrock and shallow groundwater samples have exceeded the secondary MCLs for these constituents. Concentrations of sulfate and total dissolved solids exceeded the secondary MCLs for these constituents in shallow groundwater samples only. Secondary MCLs are not health based but rather based on aesthetics (e.g., taste, color, and odor).

These results indicate that there were no observable adverse impacts on groundwater quality during the non-time-critical removal action, whether during filling of the Lateral Expansion and Ash Pond or during PWS construction. Long-term groundwater monitoring began in September 2014, and will be reported as part of the long-term monitoring of the river system.

4 SAFETY AND HEALTH

4.1 HEALTH AND SAFETY PROGRAM

4.1.1 Site Wide Safety and Health Plan

The Kingston Ash Recovery Project developed the *Site Wide Safety and Health Plan (SWSHP) for the TVA Kingston Fossil Plant Ash Release Response* (Jacobs 2010g, 2013a, 2014a), which governed the overall health and safety program. The SWSHP was prepared and controlled by the Site Safety Officer and approved by EPA in consultation with TDEC. The SWSHP was updated periodically during the non-time-critical removal action to apply to operations at the Site, being revised five times during this period.

The SWSHP was written to apply to general construction safety as well as CERCLA remediation activities. The plan addressed both Site safety hazards and worker health hazards and compliance with TVA and Occupational Safety and Health Administration (OSHA) standards. The SWSHP described the potential hazards at the Site, the health hazard monitoring, and personal protective equipment required for the protection of workers. In addition, the SWSHP addressed work zones, Site control, personal hygiene, medical surveillance, training, hazard communication, and emergency response. The SWSHP provided the framework for conducting safe work, including job-specific hazard analysis, meetings, logs, reports, and recordkeeping.

EPA review and audits of the safety and health program were provided through the EPA Region 4 Environmental Response Team. EPA conducted 6 audits during the non-time-critical removal action: October 7, 2010, January 26, 2011, April 28, 2011, August 31, 2011, October 18, 2012, and June 27, 2013.

4.1.2 Safety and Health Program Management

TVA was responsible for safety on the project. Jacobs was responsible for managing the Safety and Health Program for the Site as an agent for TVA. Jacobs Safety personnel and construction managers supported the development and implementation of task plans and challenged work methods that did not meet Site requirements and provided suggestions for improvement. They had the authority to request any work being conducted by any contractor to be done in a different manner to improve safety. Each contractor was responsible for implementing the Safety and Health Program and complying with their corporate requirements.

Every individual onsite had the right and obligation to stop any activity or address any condition on the spot that is an immediate safety hazard. Every individual onsite was required to have continuous safety awareness, vigilance of jobsite conditions, and questioning attitude toward safety. Every individual had authority to stop any work that is dangerous to life and/or health with no fear of repercussions.

All onsite workers were required to complete two types of Site-specific training: Site orientation and ammonia training. In addition, all field workers with access to the Exclusion Zones and Contamination Reduction Zones were required to complete 40-hour Hazardous Waste Operations and Emergency Response training. All craft workers were required to complete OSHA 10-hour construction safety training. Some specialized workers were required to take additional training for tasks such as elevated work, cranes, heavy equipment, water operations, or railroad work.

4.1.3 Safety and Health Planning Tools

The Work Package process was a systematic way of establishing the means and methods for task completion and identifying the potential health and safety hazards associated with major phases of work on the project and the methods to avoid, control, and mitigate those hazards. The work crews, in consultation with the Site Safety and Health Officer, developed task-specific Work Packages for the planned work. The Work Packages were reviewed and approved by the Site Safety Officer or their designee and the appropriate operations manager or team lead. The Work Packages were then used to brief work crews in identifying and controlling hazards prior to beginning a task.

The Job Safety Analysis (JSA) was a task-specific planning tool completed by the work crews and was reviewed on the actual day of activity. The work crew and supervisor participated in developing the JSA as a collective effort. The following steps were used to assist in developing a JSA:

- Align the major steps of the JSA with the Work Package step text.
- Review the SWSHP for hazards and controls applicable to the work to be performed.
- Consider weather, nearby activities, changing conditions, and other relevant items that may impact plans.

A Pre-Job Briefing (PJB) or “Plan of the Day” was conducted before the start of any shift to check that the Site environment was safe for planned activities. The superintendent and Jacobs Safety professional responsible for the area conducted a walk-down of the area. Notes were taken of hazards, changed conditions, tools out of place, trip hazards, equipment paths, flagging locations, and housekeeping issues (e.g., trash, items out of place). Any issues identified were brought to the crew’s attention in the Plan of the Day, and appropriate changes were made to the JSAs and PJB checklist to correct or work around the issue. Similarly, the JSAs were reviewed and modified if there were any changes to the work scope during the work shift.

A “Two-Minute Rule” was implemented to raise worker awareness of jobsite safety. The rules asks that workers take 2 minutes to think about the work to be done whenever they arrive at a work location, are about to work with risky equipment, encounter a potential safety hazard, or see any other change in work layout sequence, activity, tools, etc.

The Safety Observation Report (SOR) process was implemented for identifying potential workplace hazards and unsafe actions of workers, and conversely, for identifying and documenting safe acts and safe workplace conditions. The process was designed to minimize workplace injuries and illnesses, and damage to the environment in both the field and the office. In accordance with the SOR process, observations were made by any individual of the work in progress, the observations were recorded on a form, and analyzed to identify causes of safe/unsafe acts or conditions, to develop safety trends, and to provide feedback to the workforce. Safety call-in hotlines were also established for workers to report safety observations. Worker observations of unsafe conditions or acts were documented and tracked through the corrective action phase. Good work practices were also documented in this process.

Safety and Health Standard Operating Procedures (SOPs) were developed to outline specific program requirements. A total of 35 SOPs were developed, covering such diverse topics as program processes and tools, high-hazard work activity requirements, and weather-related work safety requirements.

Informal Site inspections were performed several times per day by Safety personnel and construction managers. Findings of those Site inspections were identified in weekly reports that were sent to the TVA Site Safety Officer. Any action items were tracked until closed. Weekly audits of specific work areas and activities were performed by a team of management and craft workers from various project organizations. Program audits were also performed by both TVA and EPA.

4.2 SAFETY AND HEALTH INCIDENTS

Safety and health incidents were reported to TVA through each of the contractor's onsite safety and health management organizations. All incidents, regardless of the severity, were reported to management, and investigations were completed of each incident. Incidents of a serious nature were reviewed by a management team for corrective actions to be developed. During the non-time-critical removal action, 166 incidents were reported and reviewed, including recordable injuries, first aid incidents, and near-misses. Ten recordable injuries occurred over the 4-1/2 years resulting in lost time, including an irritation due to an insect bite, two fractures when workers slipped while climbing or descending from their equipment, a chipped tooth, and six reported sprains or strains.

The project safety and health statistics for the non-time-critical removal action are summarized in Table 4-1. Additional information on the types of incidents, type of injury, body area, description, and actions is summarized in Tables I-1 and I-2 in Appendix I.

Table 4-1. Summary of Project Safety and Health Incidents

Incident Type	FY2010[a]	FY2011	FY2012	FY2013	FY2014	FY2015[b]	Project Total
Number of Recordable Injuries	1	2	1	3	3	0	10
Number of Worker-Hours	240,000	1,100,000	900,000	810,000	610,000	100,000	3,760,000
Total Recordable Incident Rate	0.83	0.36	0.22	0.74	0.98	0	0.53
Number of First Aid Incidents	8	15	14	10	10	1	58
Number of Near Misses	4	21	23	23	25	2	98
Type of Injury (Includes both recordable and first aid incidents):							
Sprains / Strains	1	7	7	8	4	1	28
Lacerations / Punctures	1	4	3	4	5	0	17
Contusions / Bruises	0	3	1	0	0	0	4
Insect Bites	6	0	0	0	2	0	8
Exposure	1	1	1	1	0	0	4
Fractures	0	0	1	0	2	0	3
Foreign Body	0	2	2	0	0	0	4

Notes:

[a] August through September 2010
[b] October through December 2014

4.3 INDUSTRIAL HYGIENE

The goal of the industrial hygiene monitoring program was to characterize potential worker exposure to airborne contaminants from the ash material to ensure adequacy of controls and worker protection. TVA had contracted with EnSafe for industrial hygiene monitoring until May 19, 2010 (EnSafe 2010), at which point TVA transferred monitoring to Jacobs for execution under the non-time-critical removal action (Jacobs 2014e). Monitoring was discontinued when the final air monitoring sample was collected on June 10, 2014. Air monitoring was performed to determine whether specific work activities would result in airborne concentrations of a variety of constituents exceeding applicable exposure limits. Measured concentrations were compared to four types of exposure limits:

1. OSHA Permissible Exposure Limit Time-Weighted Average
2. Tennessee OSHA Permissible Exposure Limit Time-Weighted Average
3. American Conference of Governmental Industrial Hygienists Threshold Limit Value
4. National Institute for Occupational Safety and Health Recommended Exposure Limit

Monitoring was conducted under the supervision of a certified industrial hygienist. Personal air samples were collected from employees' breathing zones to determine personal exposures while performing tasks associated with the non-time-critical ash recovery. TVA personnel and contractors were sampled from eight similar exposure groups: equipment operators, truck drivers, mechanics, perimeter wall crews, drill crews, hydroseed crews, laborers, and Site-wide support staff. During the sampling, none of the employees were observed wearing respiratory protection. Throughout this period, employees typically worked 10- to 12-hour shifts. The employees were monitored for durations of 8 to 11 hours during normal operations. Equivalent levels of exposure were assumed for unsampled periods of the work shift.

During the non-time-critical removal action, targeted sampling of analytes included respirable and total dust, metals, and silica. Personal air monitoring was conducted using personal air sampling pumps that were calibrated before and after sampling. Respirable dust and silica samples were collected on preweighed polyvinyl chloride filters using a 10-mm nylon cyclone. Metal and total dust samples were collected on matched weight mixed cellulose ester filter media. Monitoring protocols are described in the *Industrial Hygiene Monitoring Plan, General/Final Report* (Jacobs 2014e).

Statistical evaluation of air monitoring results was conducted in August 2014. The evaluation addressed arsenic, beryllium, quartz, respirable dust, and total dust results from July 2010 to June 2014. Results for all exposure groups and for all analytes achieved a 95% confidence level that the 95th percentile of the exposures fall below the Site exposure levels. The statistical analysis was conservative because results were evaluated for shift-adjusted exposure levels (Brief and Scala method) and because one half the Tennessee OSHA permissible exposure level was used for quartz.

Silica was a parameter used for screening, by adding the values for quartz, tridymite, and cristobalite and by assuming the detection limit value for non-detected parameters. Since there is no exposure limit for total silica, the most conservative exposure limit for quartz was used. Results of that screening showed a potential for exceedance of an exposure limit, and therefore detailed analysis was conducted for silica as quartz.

There were two analytes for which there was at least one reported exceedance of an exposure limit: quartz and respirable dust. Table 4-2 summarizes the sampling results. It should be noted that most of the exceedances for quartz and respirable dust were for the perimeter wall crew, and in particular, the batch plant mix operators, who are exposed routinely to airborne dust from powdered cement slag, Portland cement, and bentonite that are mixed together at the batch plant. Workers at the batch plant, therefore, wore respirators for personal protection.

For quartz, one sample out of 62 total samples for equipment operators and 5 samples out of 182 total samples for the perimeter wall crew exceeded their respective average shift-adjusted exposure level. The maximum time-weighted average result calculated for quartz was 0.1048 mg/m^3, compared to the average shift-adjusted exposure level of 0.28 mg/m^3 for the perimeter wall crew.

For respirable dust, 3 samples out of 200 total samples exceeded their respective average shift-adjusted exposure level. The maximum time-weighted average result calculated for respirable dust was 16.0 mg/m^3, compared to the average shift-adjusted exposure level of 2.702 mg/m^3 for the perimeter wall crew.

Table 4-2. Summary of Industrial Hygiene Sampling Results

Exposure Group	No. of Results > Shift-Adjusted Exposure Level / No. of Samples				
	Arsenic	**Beryllium**	**Quartz**	**Respirable Dust**	**Total Dust**
Equipment Operators	0 / 8	0 / 8	1 / 62	0 / 139	0 / 20
Truck Drivers	0 / 9	0 / 8	0 / 56	0 / 100	0 / 17
Mechanics	0 / 4	0 / 4	0 / 21	0 / 36	0 / 4
Perimeter Wall Crews	0 / 0	0 / 0	4 / 182	3 / 200	0 / 0
Drill Crews	0 / 0	0 / 0	0 / 36	0 / 45	0 / 0
Hydroseed Crews	0 / 4	0 / 4	0 / 15	0 / 21	0 / 4
Laborers	0 / 13	0 /13	0 / 87	0 / 135	0 / 18
Support Staff	0 / 4	0 / 4	0 / 15	0 / 84	0 / 4

Notes:
Sampling results for non-time-critical removal action (July 2010 to June 2014)
Results reported in mg/m^3

4.4 ENVIRONMENTAL INCIDENTS

TVA requires a corrective action for any event resulting from human activities or Acts of Nature that has the potential to negatively impact human health or the environment and/or environmental compliance. Environmental incidents are urgent events that require external reporting to comply with environmental regulations and are tracked and reported using TVA's Environmental Incident Information System. Response and reporting of environmental events and incidents has been conducted in accordance with TVA's Environmental Management Procedure 18, *Environmental Incident Response Notification Procedure*. Environmental incidents may include:

- Spills/releases of hazardous chemicals/products or oil;
- Accidental releases of pollutants to air, land, or water (does not include permitted releases or non-emergency permit exceedances);
- Fish and other wildlife kills;
- Discovery of hazardous or potentially hazardous containers (i.e., tanks, drums, etc.)/materials in public waters or dumped on TVA land in the Tennessee Valley;
- Fires; and
- Any other incidents that require external reporting to comply with regulations or have potential to negatively impact human health or the environment.

During the non-time-critical removal action, there were no serious environmental incidents that resulted in any negative impact to human health or the environment. Under TVA's procedures, therefore, there were no Reportable Environmental Events during the non-time-critical removal action. Minor events that were under direct control of Site personnel, did not require immediate external reporting, and did not threaten human health or the environment, were tracked as non-reportable environmental events. These minor environmental incidents are summarized in Table 4-3.

Table 4-3. Summary of Project Environmental Incidents

Incident Type	FY 2010[a]	FY 2011	FY2012	FY2013	FY2014	FY2015	Project Totals[a]
Number of Reportable Environmental Events	0	0	0	0	0	0	0
Number of Non-Reportable Environmental Events	0	0	0	0	0	0	54
Type of Event (includes both reportable and non-reportable):							
Hydraulic Fluid Release	0	1	3	14	7	1	26
Fuel Release	0	3	4	3	0	0	10
Coolant Release	0	1	0	0	1	2	4
Transmission Oil Release	0	0	1	1	0	0	2
Engine Oil Release	0	0	0	9	0	0	9
Water Sheen	0	1	0	2	0	0	3
NPDES Exceedance	0	0	0	0	0	0	0

Notes:
[a] July to December 2010

Most events involve release of small quantities of hydraulic fluid from excavators, dozers, or other heavy equipment involved in the cleanup effort. All such small quantity releases were immediately reported and cleaned up to eliminate the spilled substance.

A fish kill incident occurred on October 2, 2014, as crews began dewatering of the Clean Water Ditch located at the northern side of the Swan Pond Embayment. TVA biologists assessed the fish mortality and relocated the remaining living fish. Seines and dip nets were used to collect as many fish as possible from a depression in the dewatered ditch. Between 1,800 and 2,300 fish were successfully collected from the ditch and relocated to the Swan Pond Embayment.

Some fish in the ditch could not be recovered by the active collection efforts and suffered mortality. To estimate the number of fish lost, TVA biologists independently identified and counted fish in approximately one third of the depression. Independent counts were compared for each species and the highest estimate/count was used. This information was then used to extrapolate numbers of fish for the remaining two thirds of the depression, determining the extent of fish mortality. An estimated 871 fish were lost in the depression with young-of-year Clupeids (shad) and bluegill comprising roughly 88 percent of the total count.

Monetary values for the fish were determined by reference to American Fisheries Society monetary replacement values (Southwick and Loftus 2003). Fish were assigned a value based on region, species, size and/or weight, defaulting to the largest size class observed for each species. The replacement value for the lost fish totaled $212.51.

5 PUBLIC INFORMATION AND COMMUNITY RELATIONS ACTIVITIES

Community relations activities were performed to promote open communication among citizens, TVA, EPA, TDEC, and other agencies, and provide opportunities to the community for meaningful and active involvement in the cleanup process.

5.1 COMMUNITY INVOLVEMENT PROGRAM

In October 2009, TVA developed a draft Community Involvement Plan (CIP) to facilitate two-way communication between the community surrounding the Site and TVA and to encourage community involvement in Site activities (TVA 2009d). Since then, TVA has updated the CIP three times to reflect updated project status in 2010, 2012, and 2013. TVA has utilized the community involvement activities outlined in the CIP to ensure that residents are continuously informed and provided opportunities to be involved. The CIP presented TVA's community involvement program and listed resources available.

Interviews with the community showed that Roane County residents receive their information in a wide variety of ways. No single communication method is guaranteed to reach everyone who is interested in the recovery effort, so TVA used a variety of methods – from the Internet to conventional media to face-to-face meetings – to interact with the public. The following communications tools have been used to interact with the community and expand understanding about the Site. Some tools are a required part of the CERCLA information and decision-making process; others were chosen by TVA to improve communications regarding the Site.

5.2 INFORMATION REPOSITORIES

5.2.1 Administrative Record

The Administrative Record is defined as a set of documents which form the basis for selection of a response action under Section 113(j) of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986. In May 2009, TVA established the Administrative Record at the Kingston Public Library. TVA has continued to add new documents as they became available. The Administrative Record has also been made available on disk at the Harriman Public Library. Copies of the Administrative Record are also stored at the EPA Region 4 Regional Office.

5.2.2 Website and Electronic Media

TVA's Kingston Ash Recovery Project website, located at http://www.tva.com/kingston, was established in the early days of the cleanup. The website was updated regularly throughout the non-time-critical removal action with environmental information, sampling results, and the latest news regarding the recovery project. Once the non-time-critical removal action was completed, much of the information was archived and removed from the active website. However, key documents, including this OSC Report, will continue to be made available to the public on the website.

EPA also produced and maintains a website that is accessible to the public at www.epakingstontva.com. The website includes up-to-date Site photos, maps, documents out for public comment, and additional information of community interest. The website provides an extensive Document Library containing key documents developed for each of Phases 1, 2, and 3 of the cleanup, including decision documents, designs, work plans, and cleanup concurrence forms. The website also provides the Pollution Reports (POLREPs) that EPA produced weekly through April 2011, and monthly thereafter. The POLREPS contained information on work updates, production numbers, meteorological information, and community involvement activities.

5.3 COMMUNITY ADVISORY GROUP

In August 2009, EPA helped the community form the Roane County Community Advisory Group (CAG), which was commissioned to assist community members learn about the Site and participate in the decision-making process. The CAG was made up of community members and was designed to serve as the focal point for the exchange of information among the local community and TVA, TDEC, EPA, and other pertinent agencies involved in the remediation. TVA and EPA, as requested, provided support to the group as it developed bylaws, invited members, developed meeting schedules, and determined the activities of the group. TVA and EPA officials attended CAG meetings when invited to share information about project progress for the purpose of relaying that information to the community. On November 23, 2009, the CAG was awarded up to $50,000 in funding under the Technical Assistance Plan to hire a technical advisor who could help CAG members understand Site cleanup issues and enable the group to share this information to others in the community.

TVA and EPA met with the CAG as requested, provided emails about Site activities, and made information available to members of the CAG throughout the cleanup process. Weekly Site Updates were emailed to the CAG members. The last meeting with the CAG was in December 2013. The CAG has requested a final public meeting, which TVA, in concert with EPA, will conduct in late spring/summer 2015.

5.4 BRIEFINGS FOR PUBLIC OFFICIALS

On a periodic basis throughout the non-time-critical removal action, TVA and EPA held briefings and offered tours of the project Site for public officials. Weekly Site Updates were emailed to elected officials.

5.5 PUBLIC NOTICES, FACT SHEETS, AND NEWSLETTERS

TVA placed display advertisements in the front section of local newspapers (not in the classifieds) announcing the availability of work plans, decision documents and other important Site documents, and the beginning of public comment periods. TVA also emailed those who have asked to be notified electronically of such announcements. The ads generally ran in the local newspaper and a weekly advertising paper published by the same company for 3 consecutive days.

Fact sheets or newsletters were mailed (or emailed when desired) to Roane County residents and other interested parties, made available at the Kingston Public Library and other locations, or published in the Roane County News. Fact sheets and newsletters were prepared and distributed throughout the non-time-critical removal action; approximately seven fact sheets were prepared by TVA and seven were prepared by EPA. Copies of these fact sheets are included in the references on the DVD attached to this OSC Report.

TVA and EPA worked actively with local, regional, and national news media to ensure that news outlets had access to accurate information about the cleanup process. In addition to responding to requests for interviews and information, TVA and EPA issued news releases, held news conferences, and gave media tours. Weekly Site Updates were emailed to the public, as requested. In addition, TVA hosted monthly Site tours and maintained an overlook observation deck for the public to view Site progress.

5.6 PUBLIC MEETINGS AND PUBLIC COMMENTS

TVA, EPA, and TDEC held joint public meetings to brief the public on activities at the Site and allow members of the community to interact with TVA personnel regarding the ash release. Meetings held during public comment periods included the opportunity for the public to present formal comments to TVA and the regulators. TVA announced upcoming public meetings in local newspapers and on message boards near the plant. Seven public meetings were held between August 2010 and May 2013. A final public meeting is expected to be held in late spring/summer 2015.

5.6.1 Public Comment Periods

Announcements of public comment periods appeared in local newspapers and TVA fact sheets and were emailed to those who had asked to be notified electronically of such announcements. The announcements included details on duration, how to make comments, where to submit comments, etc. TVA solicited comments on the following draft documents: the CIP, and the EE/CAs and Action Memorandums for both the Embayment/Dredge Cell and the River System. Comment periods were announced as documents and plans were released. Comment periods lasted a minimum of 30 days.

5.6.2 Responsiveness Summaries

TVA prepared a responsiveness summary for each public comment period. The responsiveness summary included an overview of the document(s) being reviewed and a summary of comments received and TVA's responses. For the non-time-critical removal action, the responsiveness summary was made available within 30 days of the close of the public comment periods, and before the start of the removal actions.

6 RESOURCES COMMITTED

6.1 TENNESSEE VALLEY AUTHORITY COSTS

Costs incurred during the non-time-critical removal action for the Embayment/Dredge Cell totaled approximately $540 million. Actual costs of the work performed have been captured in accordance with the project Work Breakdown Structure (WBS). Table 6-1 lists the WBS elements associated with the non-time-critical removal action, and the costs incurred.

Table 6-1. TVA Costs Incurred During the Non-Time-Critical Removal Action for the Embayment/Dredge Cell

Work Breakdown Structure Element	Time-Critical Costs Incurred	Non-Time-Critical Costs Incurred[c]	Total Costs Incurred[d]
WBS 01.01 - Program Management	$28,800,000[a]	$42,900,000	$71,700,000
WBS 01.02 - Government Relations, Legal, Health	$29,000,000[a]	$102,400,000	$131,400,000
WBS 01.03 - Community Outreach	$42,200,000[a]	$10,500,000	$52,700,000
WBS 01.04 - Infrastructure	$108,200,000[a]	$94,200,000	$202,400,000
WBS 01.05 - Ash Dredging & Processing	$106,400,000[b]	--	$106,400,000
WBS 01.06 - Cenosphere Recovery	$11,100,000[b]	--	$11,100,000
WBS 01.07 - Skimmer Wall	$15,900,000[b]	--	$15,900,000
WBS 01.08 - Ash Disposition	$184,400,000[b]	--	$184,400,000
WBS 01.09 - Peninsula Ash Processing Area	$500,000[b]	--	$500,000
WBS 01.10 - Dike Reinforcement	$17,300,000[b]	--	$17,300,000
WBS 01.11 - Environmental Management	$26,300,000[a]	$30,200,000	$56,500,000
WBS 01.12 - Embayment Restoration	$3,300,000[a]	$34,900,000	$38,200,000
WBS 01.13 - Failed Dredge Cell	$8,900,000[a]	$122,400,000	$131,300,000
WBS 01.14 - Lateral Expansion / Ash Pond	--	$63,100,000	$63,100,000
WBS 01.15 - River Restoration	--	$4,800,000	$4,800,000
WBS 01.16 - Embayment Restoration	--	$16,500,000	$16,500,000
WBS 01.99 - Other	$15,300,000[a]	$22,700,000	$38,000,000
Project Total	**$597,600,000**	**$544,600,000**	**$1,142,200,000**

Notes:

[a] Actual Cost of Work Performed through June 30, 2010.
[b] Actual Cost of Work Performed through July 31, 2015 (updated Time-Critical Removal Action costs).
[c] Actual Cost of Work Performed from July 1, 2010 through July 31, 2015 (net Non-Time-Critical Removal Action costs).
[d] Actual Cost of Work Performed through July 31, 2015.

Costs associated with the primary components of the non-time-critical removal action were estimated based on direct contractor charges and by prorating associated project management, field management, design engineering, and QC oversight costs. These estimated costs include $43 million for ash removal from the embayments, $130 million for perimeter containment system, $13 million for ash stacking, and $34 million for cap and closure.

TVA has recorded an estimate in the amount of $1.2 billion for the total cost of cleanup related to the release. The $1.2 billion estimate includes, among other things, a reasonable estimate of costs related to ash dredging and processing, ash disposition, infrastructure repair, Dredge Cell repair, root cause analysis, certain legal and settlement costs, environmental impact studies and remediation, human health assessments, community outreach and support, regulatory oversight, cenosphere recovery, skimmer wall installation, construction of temporary ash storage areas, dike reinforcement, project management, and certain other remediation costs associated with the cleanup.

TVA has not included the following categories of costs in the above estimate since it has determined that these costs are currently either not probable or not reasonably estimable: penalties (other than the penalties set out in the TDEC order), regulatory directives, natural resources damages, outcome of lawsuits, future claims, long-term environmental impact costs, final long-term disposition of ash processing area, costs associated with new laws and regulations, and costs of remediating any discovered mixed waste during ash removal process. There are certain other costs that will be incurred that have not been included in the estimate as they are appropriately accounted for in other areas of the financial statements. Associated capital asset purchases are recorded in property, plant, and equipment. Ash handling and disposition from current plant operations are recorded in operating expenses. A portion of the Stilling Pond closure costs are also not included in the estimate as those costs are included in the non-nuclear asset retirement obligation liability.

6.2 U.S. ENVIRONMENTAL PROTECTION AGENCY COSTS

Work Breakdown Structure Element	Time-Critical Costs Incurred	Non-Time-Critical Costs Incurred	Total Costs Incurred
U.S. Environmental Protection Agency	$2,047,000	$3,512,000	$5,559,000
Department of Interior – Bureau of Reclamation	$300,000	$1,327,000	$1,627,000
U.S. Army Corps of Engineers	$107,000	$592,000	$699,000
Department of Homeland Security – USCG	$176,000	$75,000	$251,000
Superfund Technical Assessment and Response Team (TetraTech EMI, OTIE)	$2,370,000	$1,194,000	$356,4000
Lab Analysis, Supplies & Miscellaneous	0	$317,000	$317,000
Black & Veatch	0	$189,000	$189,000
Project Total	**$5,000,000**	**$7,206,000**	**$12,206,000**

7 DIFFICULTIES ENCOUNTERED AND CONCLUSIONS

This section of the OSC Report records the challenges encountered in implementing the non-time-critical removal action. In general, adverse environmental conditions were encountered that affected the response, as discussed below. However, there were no issues encountered in intergovernmental coordination, and there were no difficulties encountered in complying with applicable or relevant and appropriate policies and regulations.

7.1 DIFFICULTIES ENCOUNTERED AND MEASURES TAKEN

Measures were taken during the non-time-critical removal action to improve construction operations and mitigate operational difficulties. The following summarizes key conclusions and lessons learned.

- Removal lessons learned. Mechanical excavation using land-based excavators was much safer, less costly, and offered better inspection of ash removal than dredging would have. Mechanical excavation also reduced the potential for release of petroleum products to water. Difficulties were encountered in processing the ash to achieve the target moisture content. Multiple methods of ash processing, including windrowing and lime treatment during the winter months, and sun drying during summer months, proved effective at reducing moisture content of the excavated materials suitable for stacking. However, ash processing required considerable double-handling of materials, which added both cost and time.

- Ash stacking lessons learned. Geotechnical monitoring, including piezometers and inclinometers, proved critical to safely controlling ash stacking rates. Difficulties were frequently encountered during stacking due to prolonged periods of wet weather, which degraded the stacking subgrade and impaired productivity. Mitigation measures such as waiting for the conditions to dry out, "clipping" the subgrade surface and replacing that material, and disking or blading the material in place to enhance drying were effective at improving subgrade conditions, but were nominally successful during winter months.

- PWS lessons learned. CB slurry trenching was a relatively quick and effective means of constructing nearly 60,000 linear ft of wall panels keyed into bedrock. Difficulties were encountered due to numerous Site conditions that contributed to sidewall collapse and formation of cold joints, which impacted wall quality. Productivity was improved by initiating jet grouting for repair of defects, which allowed the large rigs to be used for wall production rather than repairs. Productivity was also improved by bringing an additional rig to the Site as spare equipment.

  - Problems were encountered early in the trenching operations as work platform conditions deteriorated during trenching. Groundwater levels rose to near the ground surface, causing trench collapse and platform deterioration. Equipment support (layered crane mats) was impacted, requiring at times more than six layers of mats. Construction of a stone/rock work surface was the most successful and cost-effective method for improving platform stability. Additional techniques proved helpful in abating near-surface groundwater levels that had led to deterioration of the platform: dewatering finger drains, raised platform elevation, and reducing spillage of slurry trench spoils onto the platform.

  - Problems were encountered during trenching operations that led to excessive sloughing and/or sidewall collapse. Several conditions contributed to trench sidewall instability: shallow depth to groundwater in some areas, artesian groundwater pressures near the base of Pine Ridge, liquefiable sands and fly ash, closely spaced shear walls that exacerbated liquefaction, and hard rock that further exacerbated liquefaction. Improvements that were successful in reducing collapse included raising the working platform elevation, sequencing the wall installations by skipping more than one shear wall in a pattern, and dewatering using both shallow well points in the ash and wells in the deeper sands. These efforts improved, but did not eliminate, trench instability.

- Coring for uniformity detected numerous inclusions of unsolidified materials in sections of the wall. Most of these defects were a result of platform instability and wall collapse, as discussed above, as well some areas of low strength. Mitigation of defects in the wall was accomplished by either excavating adjacent wall panels or by jet grouting of defects. Approximately 18% of the wall required defect mitigation.

- Construction joints between two adjacent wall panels that had partially cured resulted in numerous "cold joints". Sequencing of slurry trench panel excavations reduced, but did not eliminate the number of cold joints. Mitigation of cold joints in the wall was accomplished by either excavating adjacent wall panels or by jet grouting. Approximately 20% of the construction joints required cold joint mitigation.

- Problems were encountered prior to construction of the PWS adjacent to the Stilling Pond in that the dike dividing the Stilling Pond from the Ash Pond was found to be unstable. TVA undertook emergency construction of a rock buttress to stabilize the dike.

- Cap and closure lessons learned. Use of a multilayer cap was effective due to the lack of suitable low permeability clay onsite. Development of an onsite borrow area and construction of a bridge underpass were effective in avoiding high truck traffic over public roadways, not only for hauling borrow soil, but for the hauling of ash removed from the North Embayment. Difficulties were encountered due to prolonged wet weather, which degraded the cap subgrade and required additional ash processing. Heavy rains further degraded the cap subgrade because the ash is highly sensitive to erosion. Use of clay lining on steep ash slope sections and plastic lining of surface drainage ditches were found to be effective in controlling erosion. In addition, the edges of the liner were buried in anchor trenches whenever the edges were exposed for more than a week, to avoid erosion beneath the FML.

- Dust control lessons learned. The primary method used for dust control was to apply a proprietary dust suppression agent (Flexterra®), either with or without grass seed mixture. Water trucks were used to wet down travel areas and ash piles, exposed surfaces were compacted by "slicking off" the surface, mobile water misters were used during the lime treatment operations, bag houses with seals or pressure control housings were used during slurry mixing operations, and vehicles were cleaned at a wash station to prevent ash tracking onto roadways.

7.2 MEANS TO PREVENT A RECURRENCE OF THE DISCHARGE OR RELEASE

The cause of the release was described in the time-critical removal action OSC Report (TVA 2011a). Rapid failure of the active Dredge Cell was progressive in nature due to four concurrent factors (AECOM 2009): fill geometry, increased fill rates, soft foundation soils, and loose wet ash. Recurrence of a release due to a progressive slope failure can be prevented by construction of an engineered dry stack and perimeter containment, as was constructed during the non-time-critical removal action for the Embayment/Dredge Cell.

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TVA 2011c. July 11, 2011 (EPA approval). *Site Storm Water Management Plan, Kingston Ash Recovery Project.* Revision 2. Document No. EPA-AO-002-R1.

TVA 2011d. August 2011. *Test Plan, Rev. 01, Sun Drying of Wet Ash*.

TVA 2011e. August 15, 2011. *Kingston Ash Recovery Project Sun Drying Ash Processing Test Plan - Relic*.

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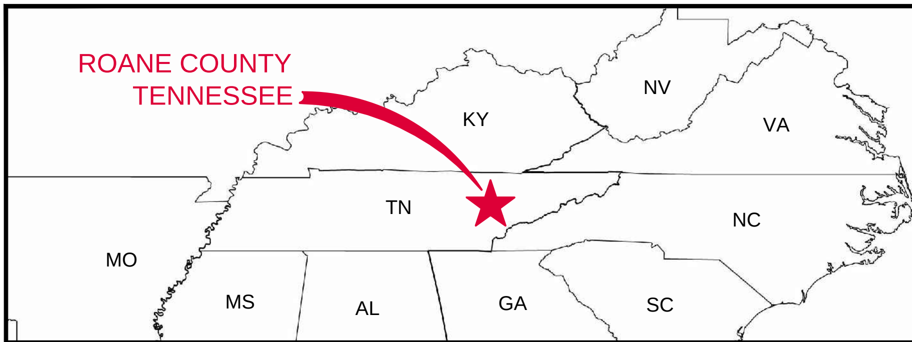
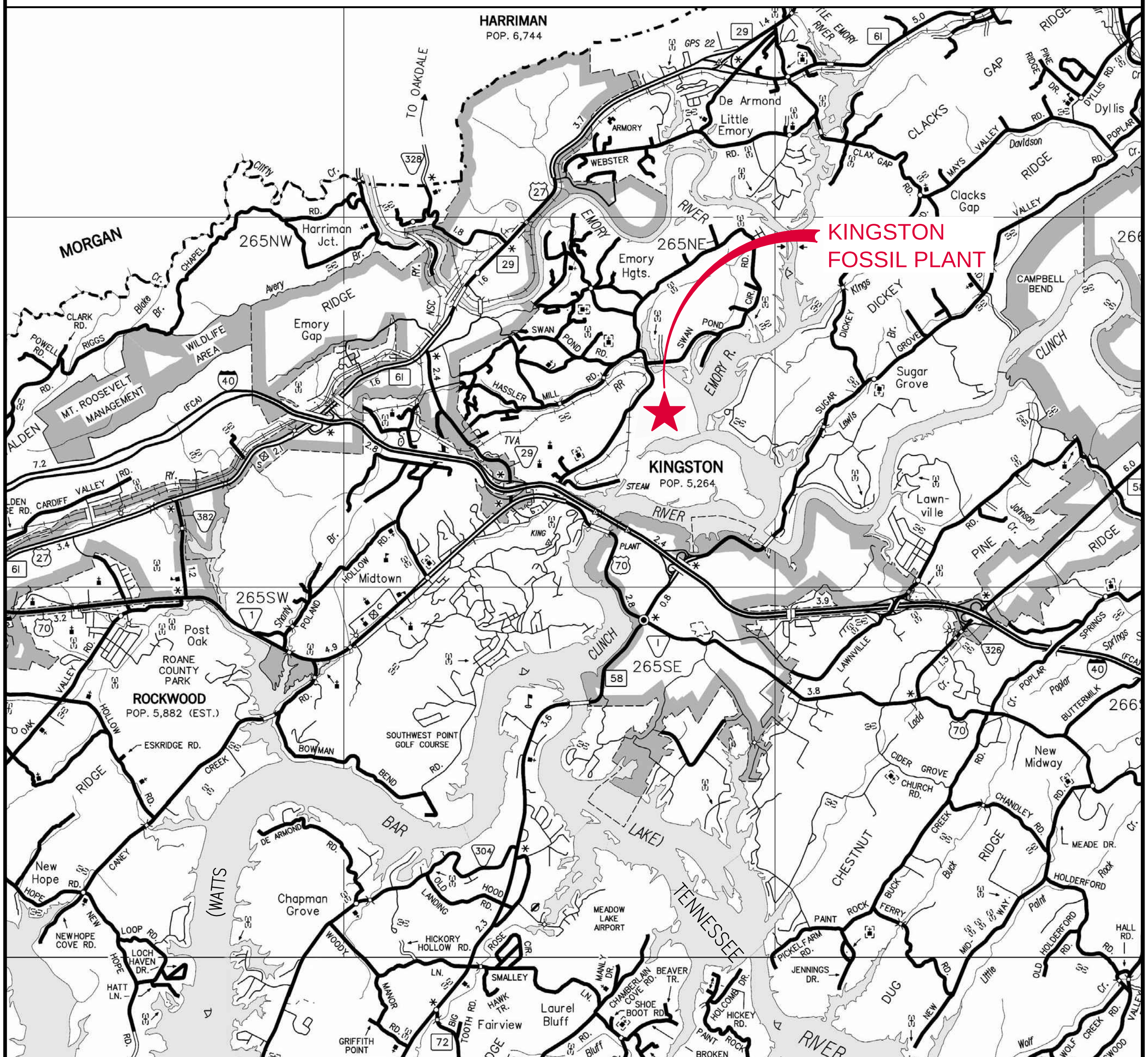
Figures



LOCATION MAP



SOURCE:
GENERAL HIGHWAY MAP, ROANE COUNTY, TENNESSEE
TENNESSEE DEPARTMENT OF TRANSPORTATION, 2006

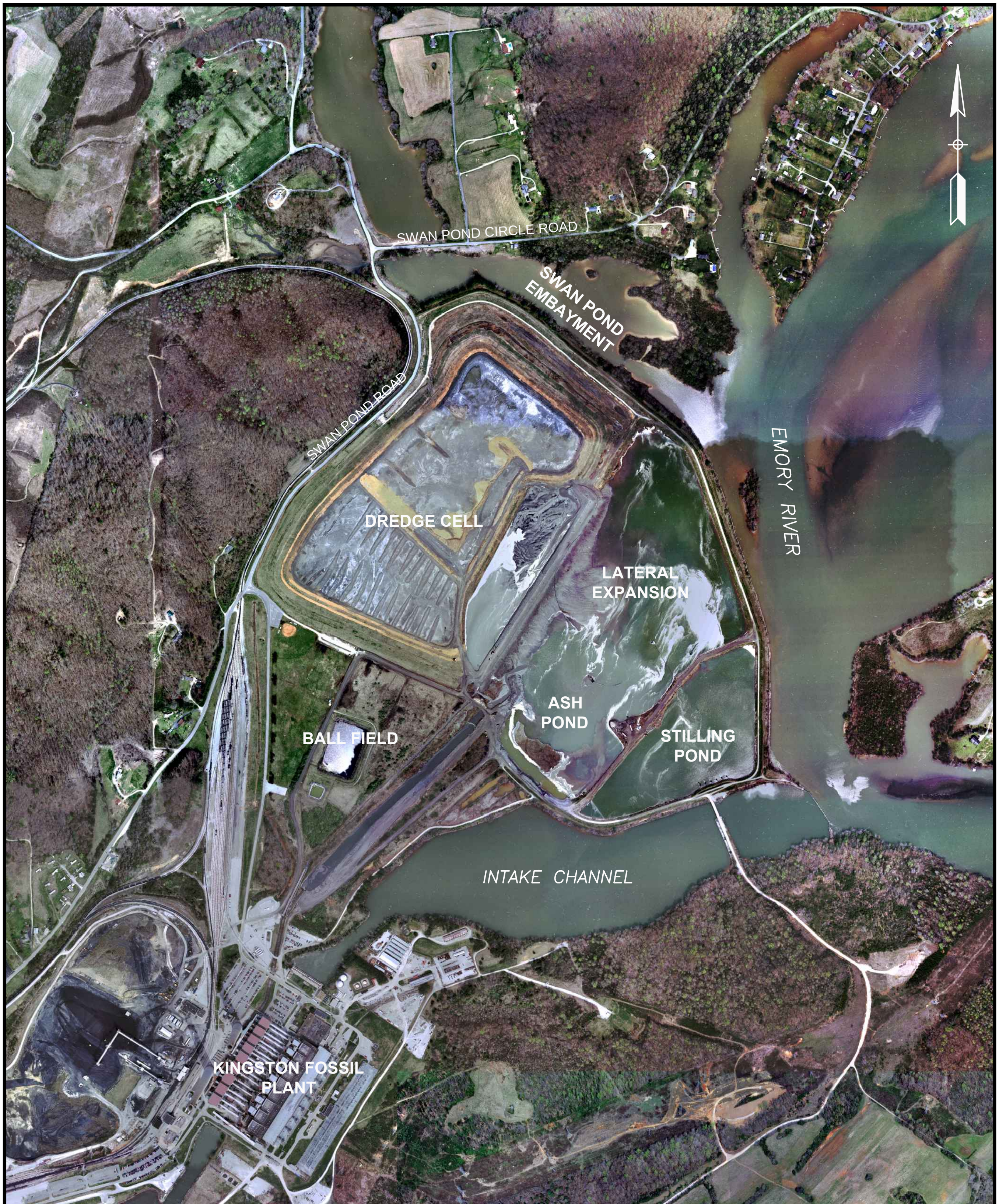
0 1 2 4
SCALE IN MILES

FIGURE 1
LOCATION OF THE
KINGSTON FOSSIL PLANT

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 01 Location of the KIF.dwg Nov 17,2014 -bperatro



DATE OF PHOTO: APRIL 5, 2005

0 750 1500 3000
SCALE IN FEET

FIGURE 2
KINGSTON FOSSIL PLANT
PRE-SPILL CONDITIONS
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 02 KIF Pre-Spill Conditions.dwg Nov 17,2014 -bperatro

DATE OF PHOTO: DECEMBER 28, 2008

0 750 1500 3000

SCALE IN FEET

FIGURE 3
KINGSTON FOSSIL PLANT
POST ASH SPILL CONDITIONS
KINGSTON ASH RECOVERY PROJECT

DATE: 17 Nov 2014

PHASE: OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 03 KIF Post-Spill Conditions.dwg Nov 17,2014 -bperatro

DATE OF PHOTO: AUGUST 25, 2010

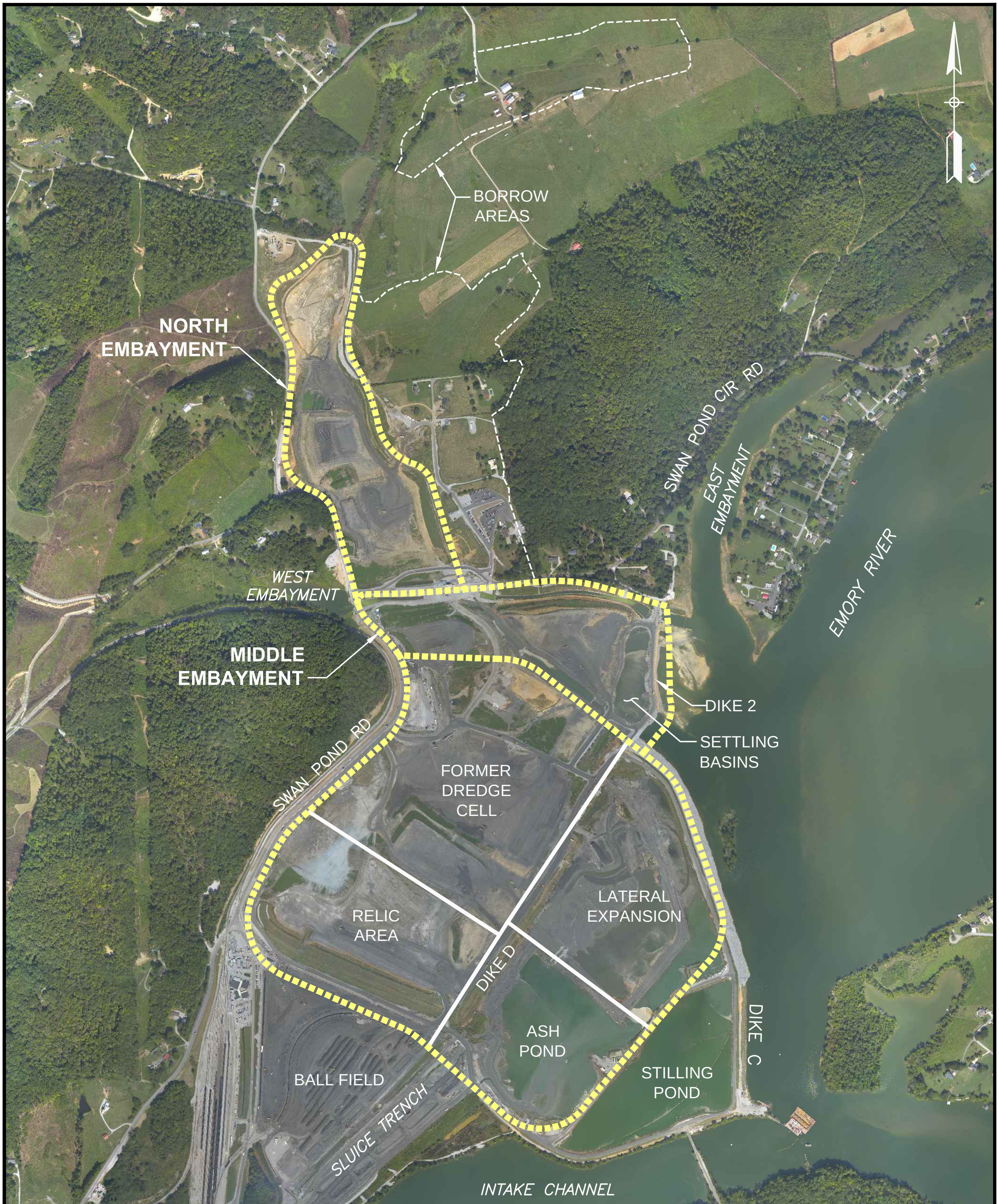
0 750 1500 3000
SCALE IN FEET

FIGURE 4
CONDITIONS AT START OF THE NON-TIME-CRITICAL REMOVAL ACTION

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 04 KIF End of TC Conditions_rev.dwg Nov 17,2014 -bperatro



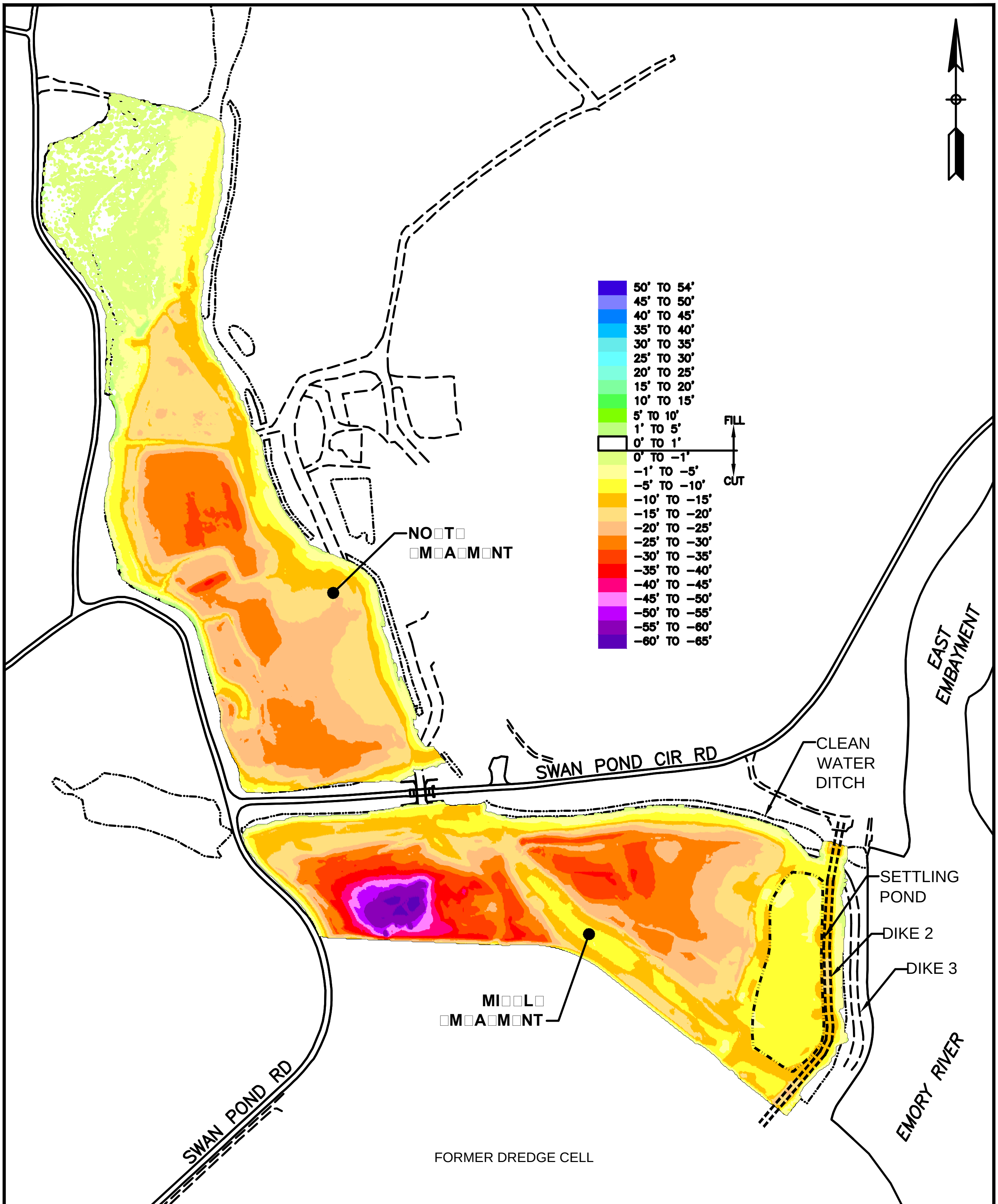
DATE OF PHOTO: SEPTEMBER 21, 2010

0 600 1200 2400
SCALE IN FEET

FIGURE 5
KEY SITE FEATURES OF THE NON-TIME-CRITICAL REMOVAL ACTION
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 05 Key Site Features.dwg Nov 17,2014 -bperatro



0 300 600 1200

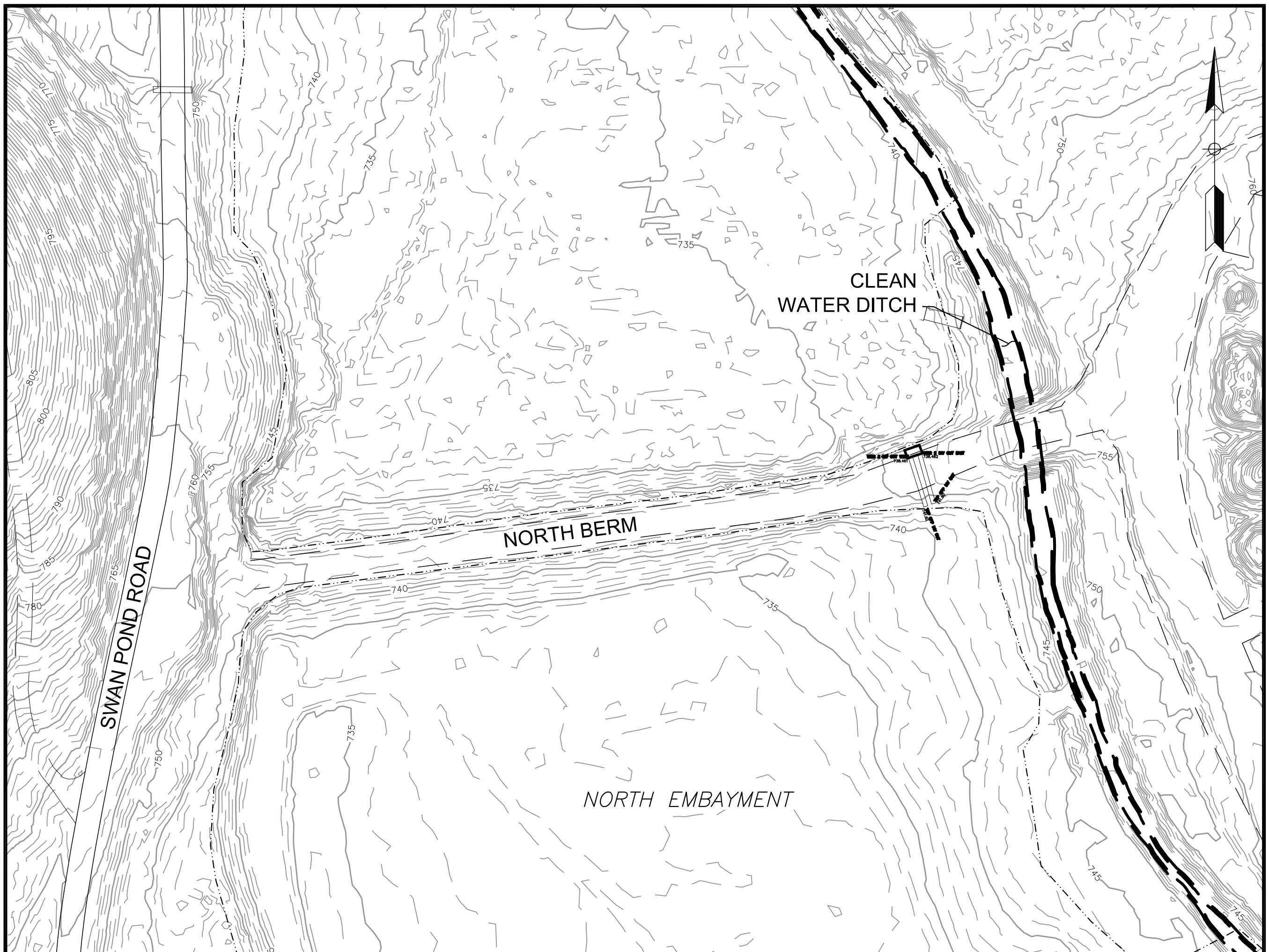
SCALE IN FEET

FIGURE 6
EMBAYMENT ASH REMOVAL

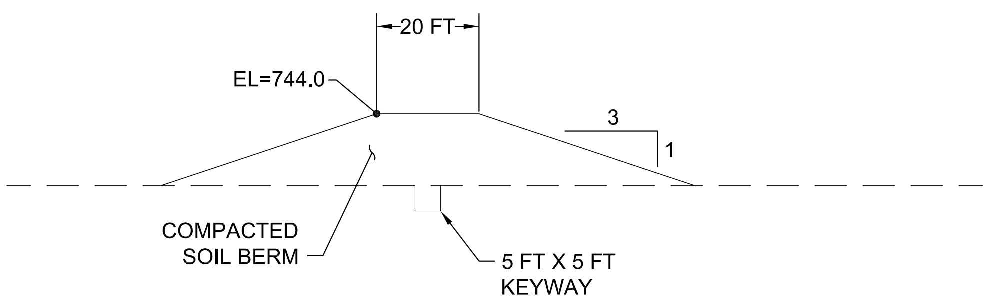
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 06 Embayment Ash Removal.dwg Nov 20,2014 -bperatro



NORTH BERM PLAN



NORTH BERM PROFILE

NTS

DATE OF TOPO: OCTOBER 29, 2013

0 75 150 300

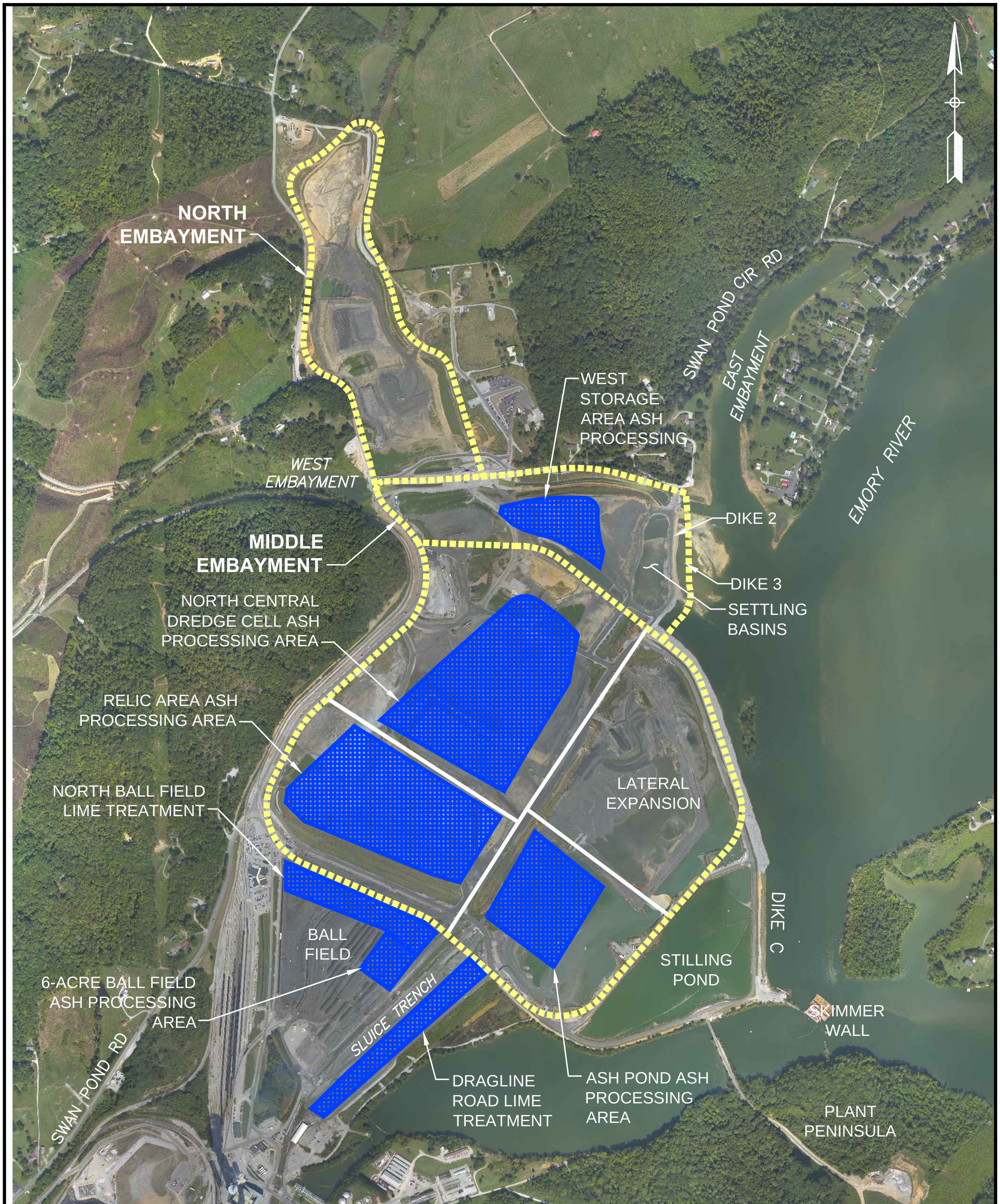
SCALE IN FEET

FIGURE 7
NORTH BERM

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 07 North Berm.dwg Nov 17,2014 -bperatro



I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 08 Ash Processing Areas.dwg Nov 17,2014 -bperatro

DATE OF PHOTO: SEPTEMBER 21, 2010

0 600 1200 2400
SCALE IN FEET

FIGURE 8
LOCATIONS OF
ASH PROCESSING AREAS
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

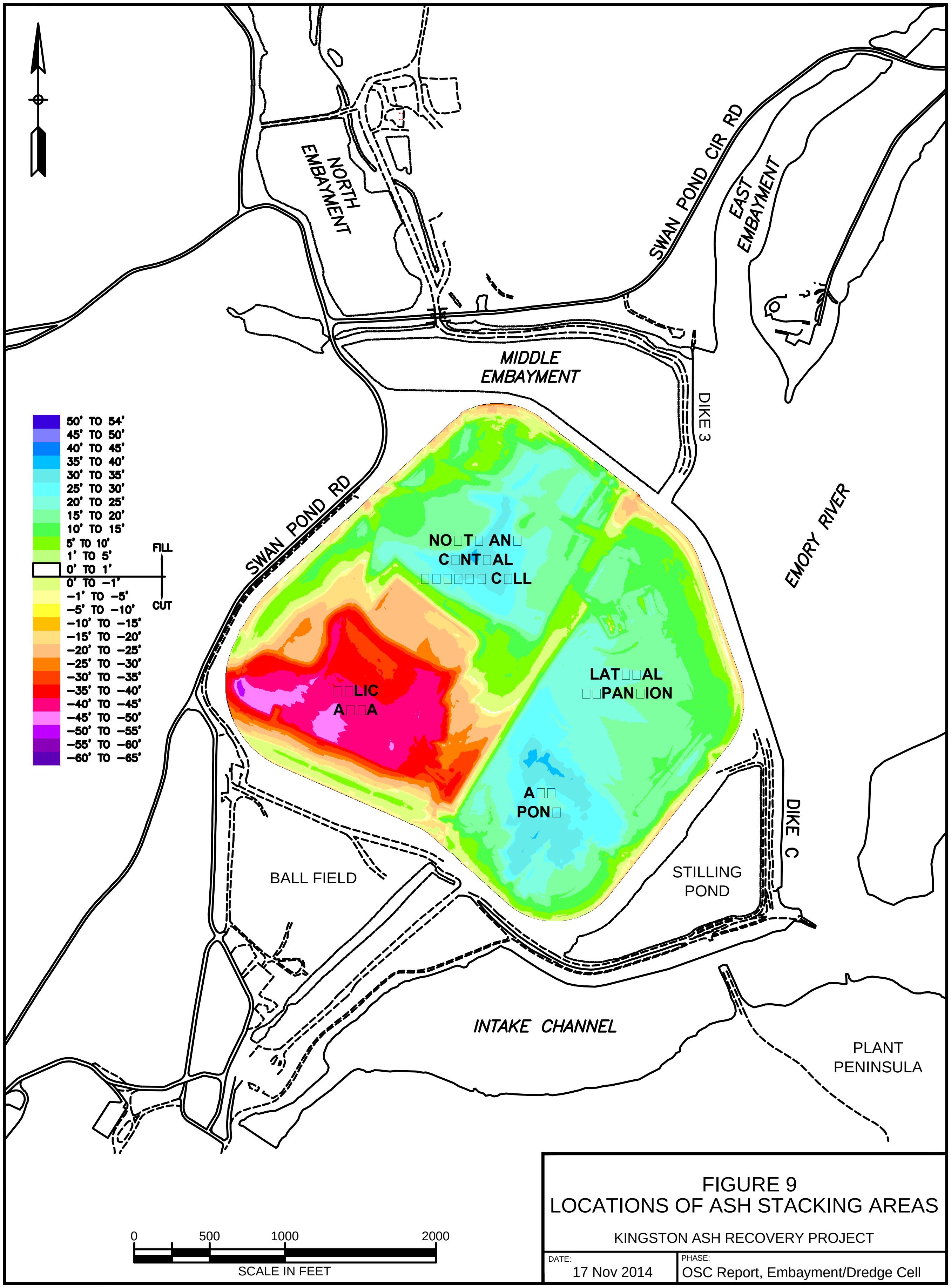
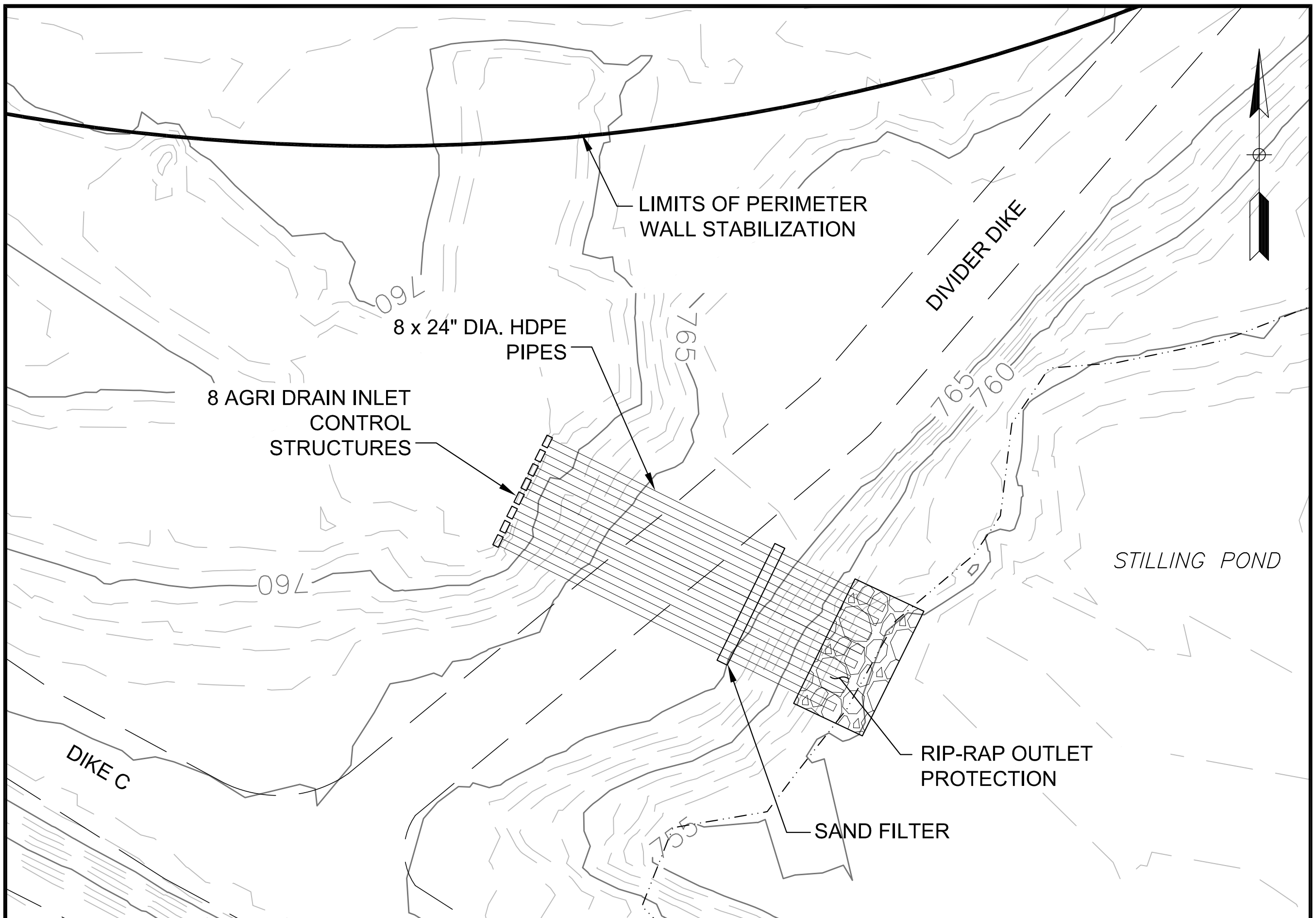


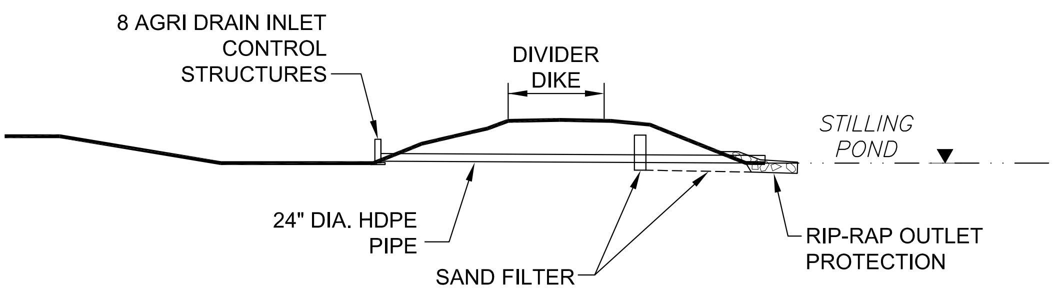
FIGURE 9
LOCATIONS OF ASH STACKING AREAS

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell



OUTLET STRUCTURE PLAN



OUTLET STRUCTURE PROFILE

DATE OF TOPO: OCTOBER 29, 2013

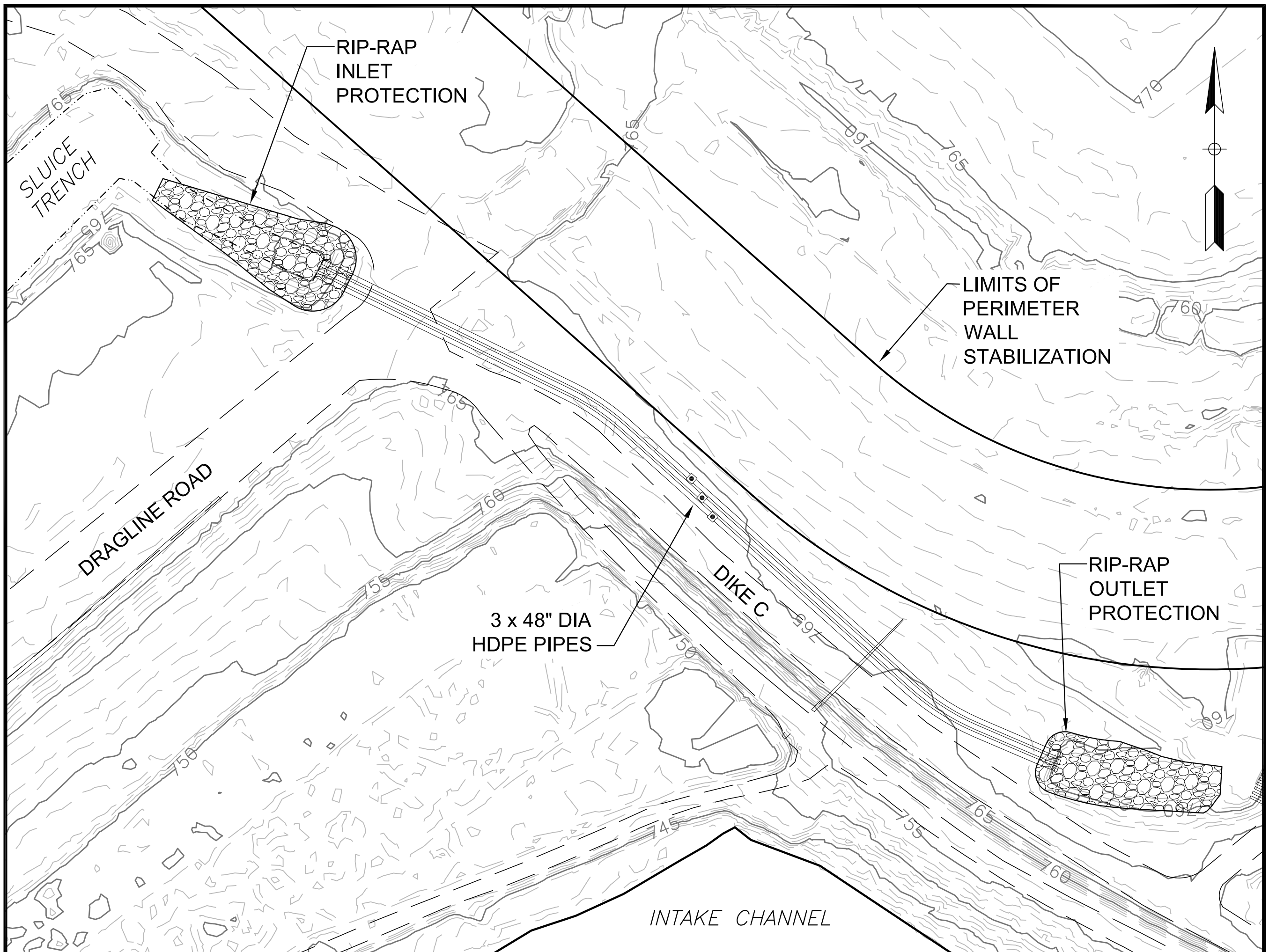
0 25 50 100
SCALE IN FEET

FIGURE 10
ASH POND OUTLET STRUCTURE

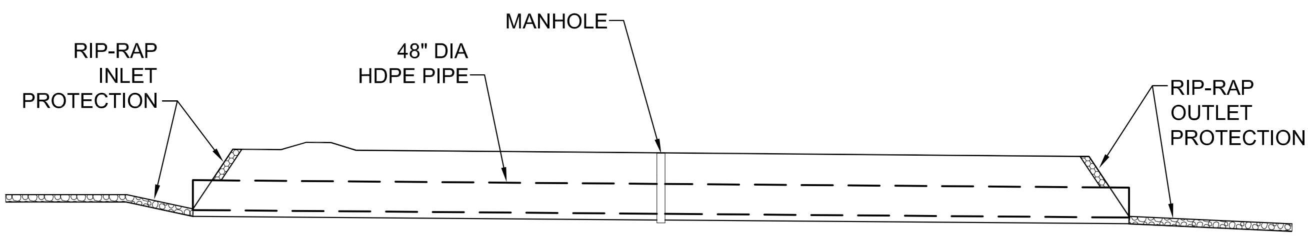
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 10 Ash Pond Outlet Structure.dwg Nov 17,2014 -bperatro



OUTLET STRUCTURE PLAN



OUTLET STRUCTURE PROFILE

DATE OF TOPO: OCTOBER 29, 2013

0 75 150 300

SCALE IN FEET

FIGURE 11
SLUICE TRENCH OUTLET PIPING

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 11 Sluice Trench Outlet Piping.dwg Nov 17,2014 -bperatro

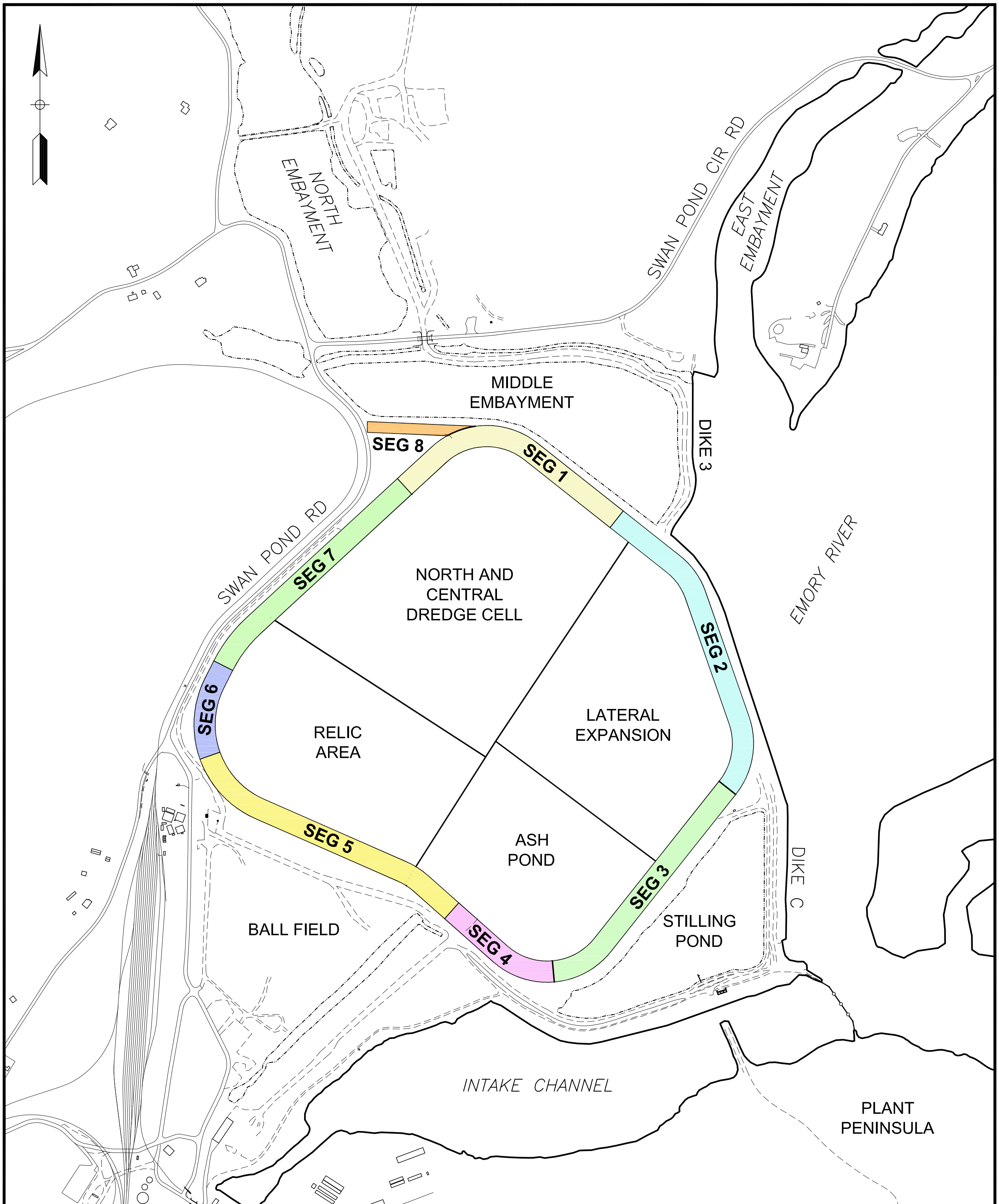
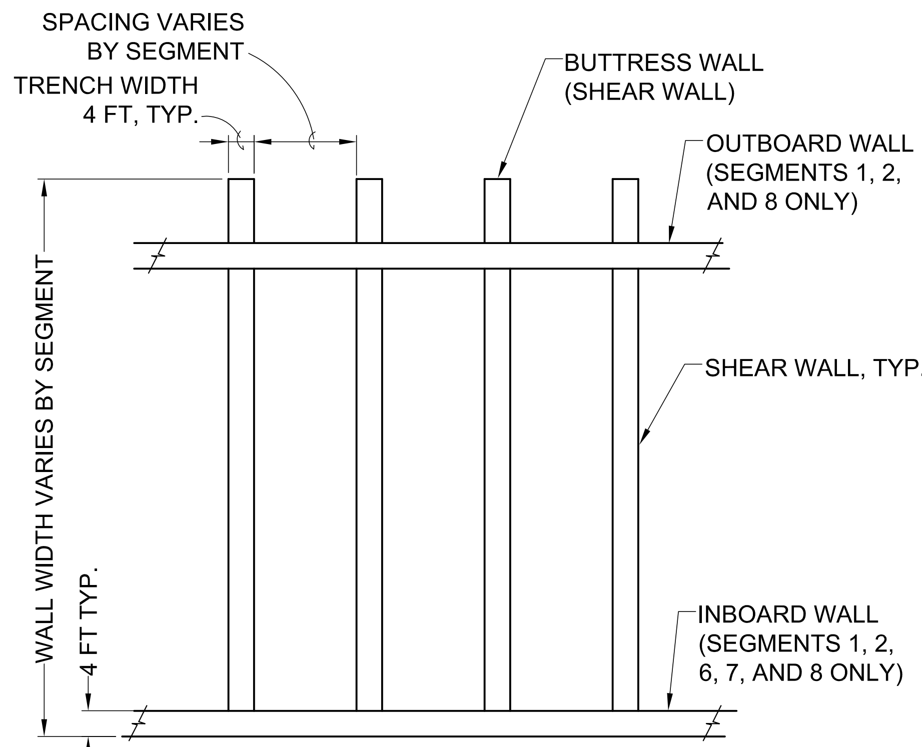


FIGURE 12
PERIMETER WALL STABILIZATION LOCATIONS OF WALL SEGMENTS

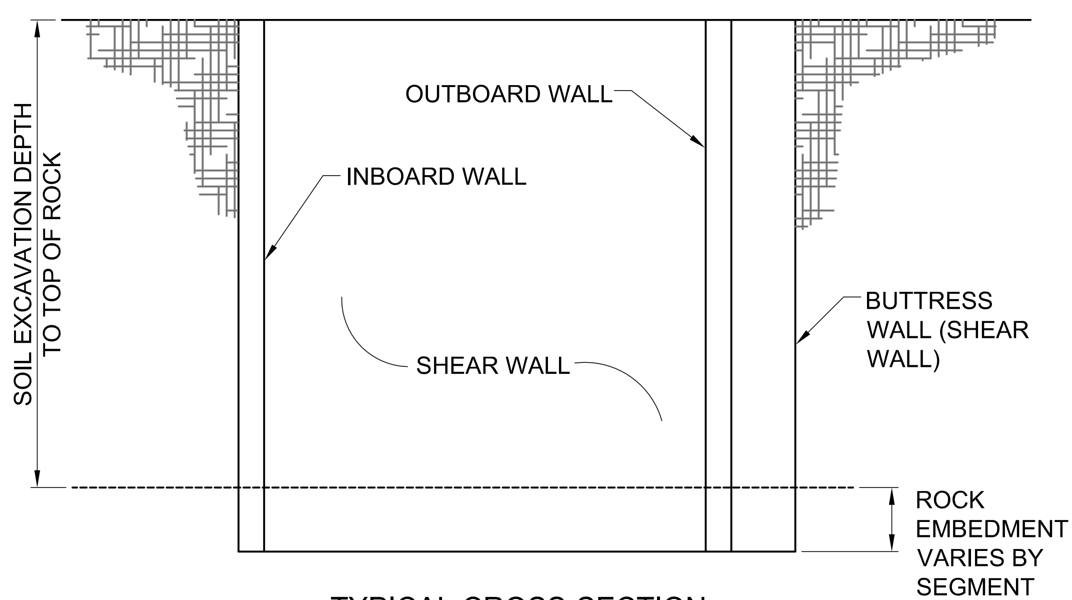
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 12 PWS Location of Wall Segments.dwg Nov 18,2014 -bperatro



TYPICAL PLAN LAYOUT
NOT TO SCALE

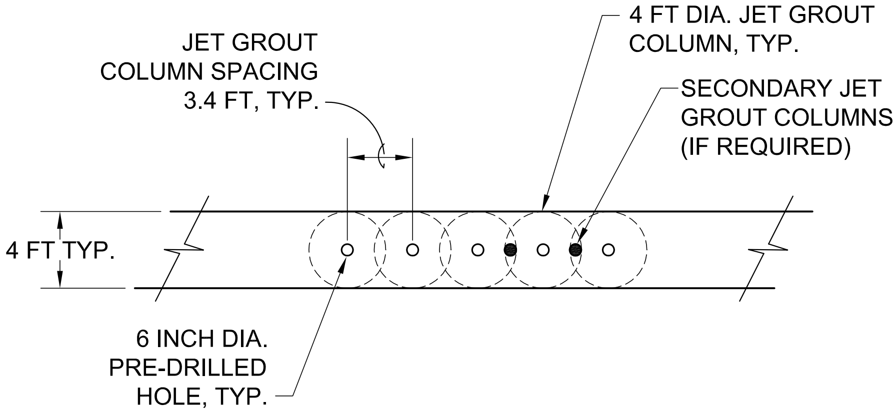


TYPICAL CROSS-SECTION
NOT TO SCALE

FIGURE 13
PERIMETER WALL STABILIZATION
TYPICAL LAYOUT
KINGSTON ASH RECOVERY PROJECT

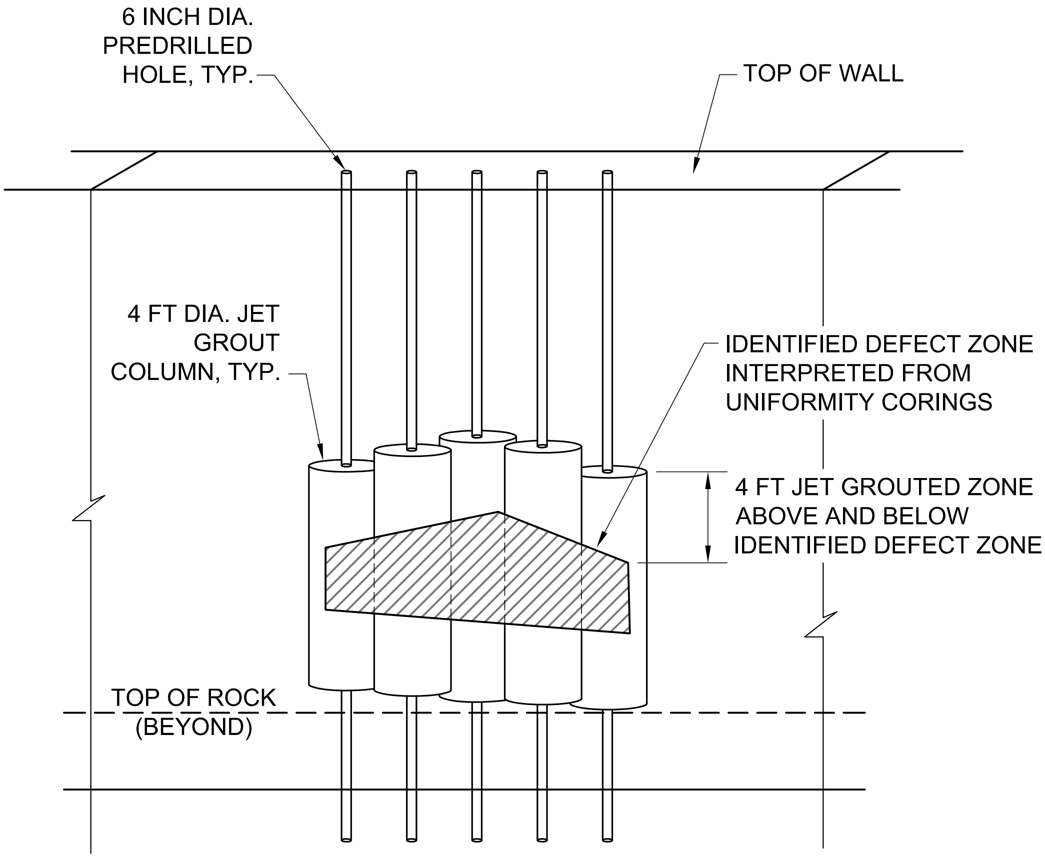
DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 13 PWS Typical Layout.dwg Nov 18,2014 -bperatro



TYPICAL PLAN LAYOUT

NOT TO SCALE



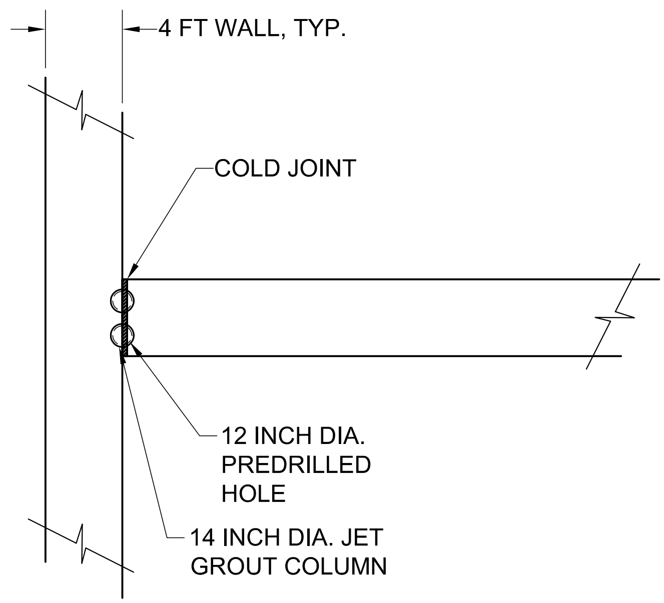
TYPICAL CROSS-SECTION

NOT TO SCALE

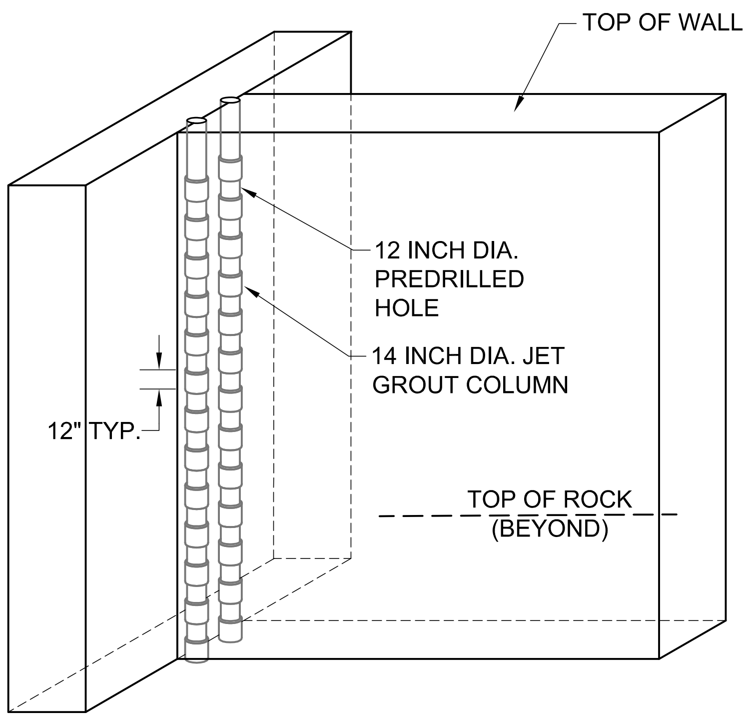
FIGURE 14
PWS TYPICAL JET GROUT COLUMNS
FOR REPAIR OF DEFECTS
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 14-15 PWS Typical Repairs.dwg Nov 18,2014 -bperatro



TYPICAL PLAN LAYOUT
NOT TO SCALE

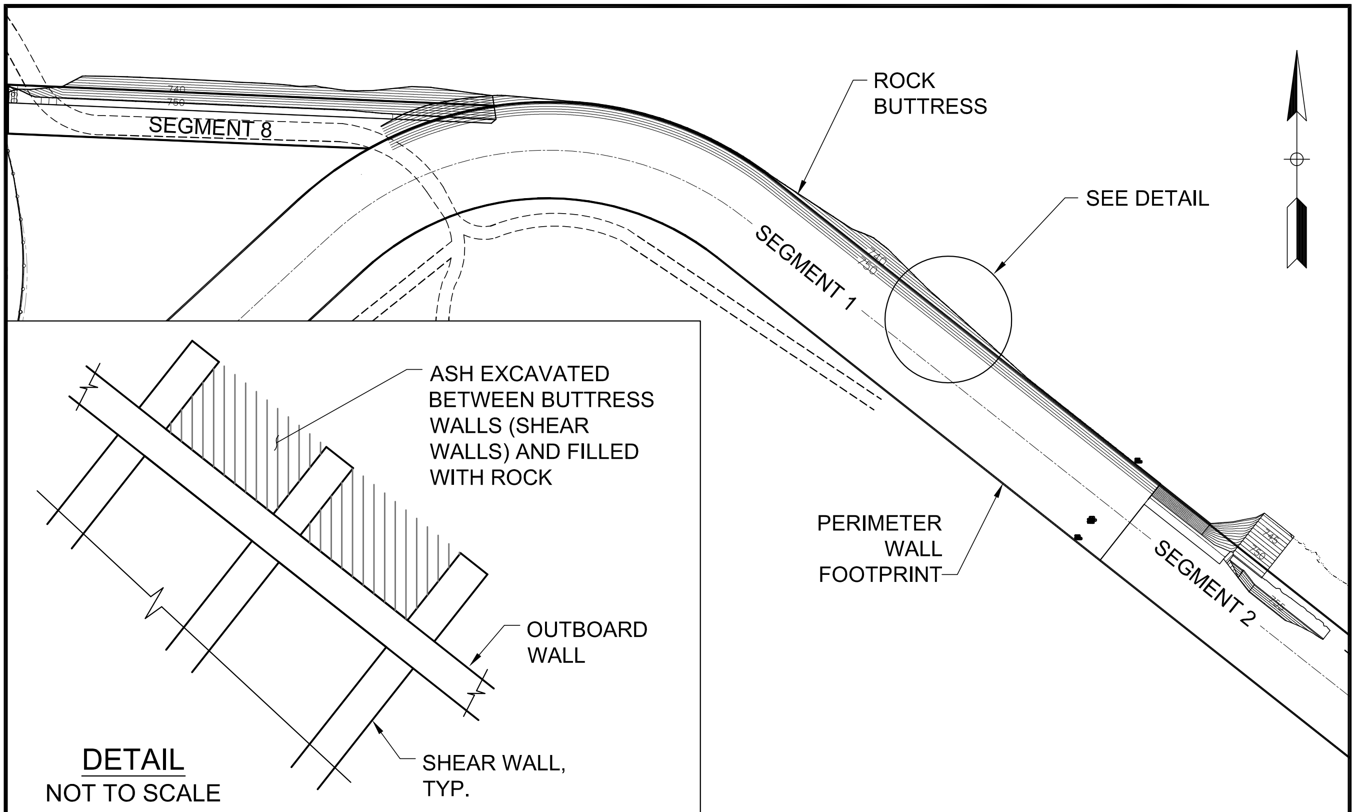


TYPICAL CROSS-SECTION
NOT TO SCALE

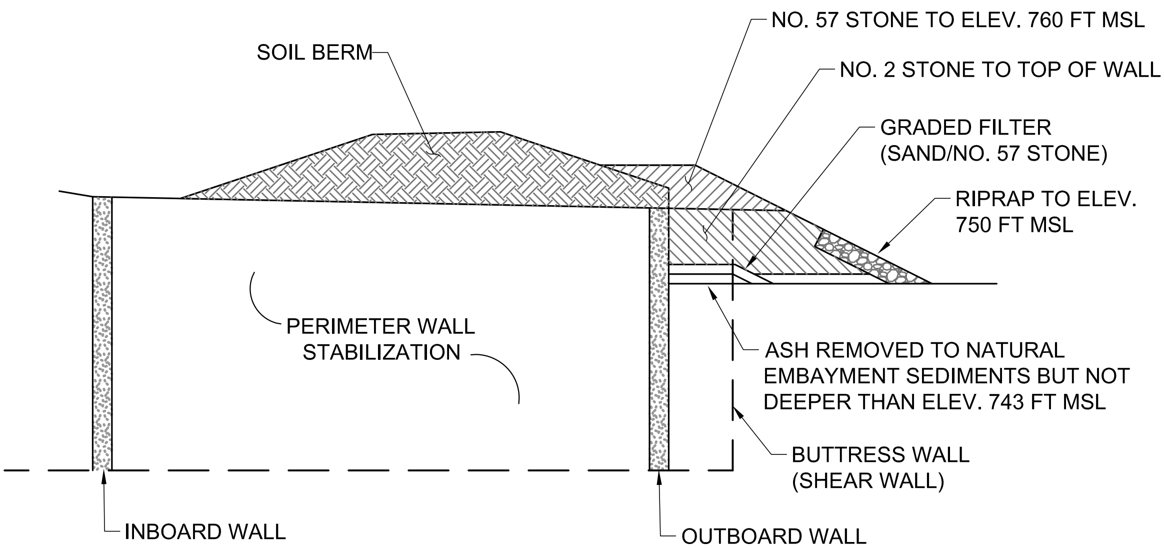
FIGURE 15
PWS TYPICAL JET GROUT COLUMNS
FOR REPAIR OF COLD JOINTS
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 14-15 PWS Typical Repairs.dwg Nov 18,2014 -bperatro



ROCK BUTTRESS PLAN
1" = 300'

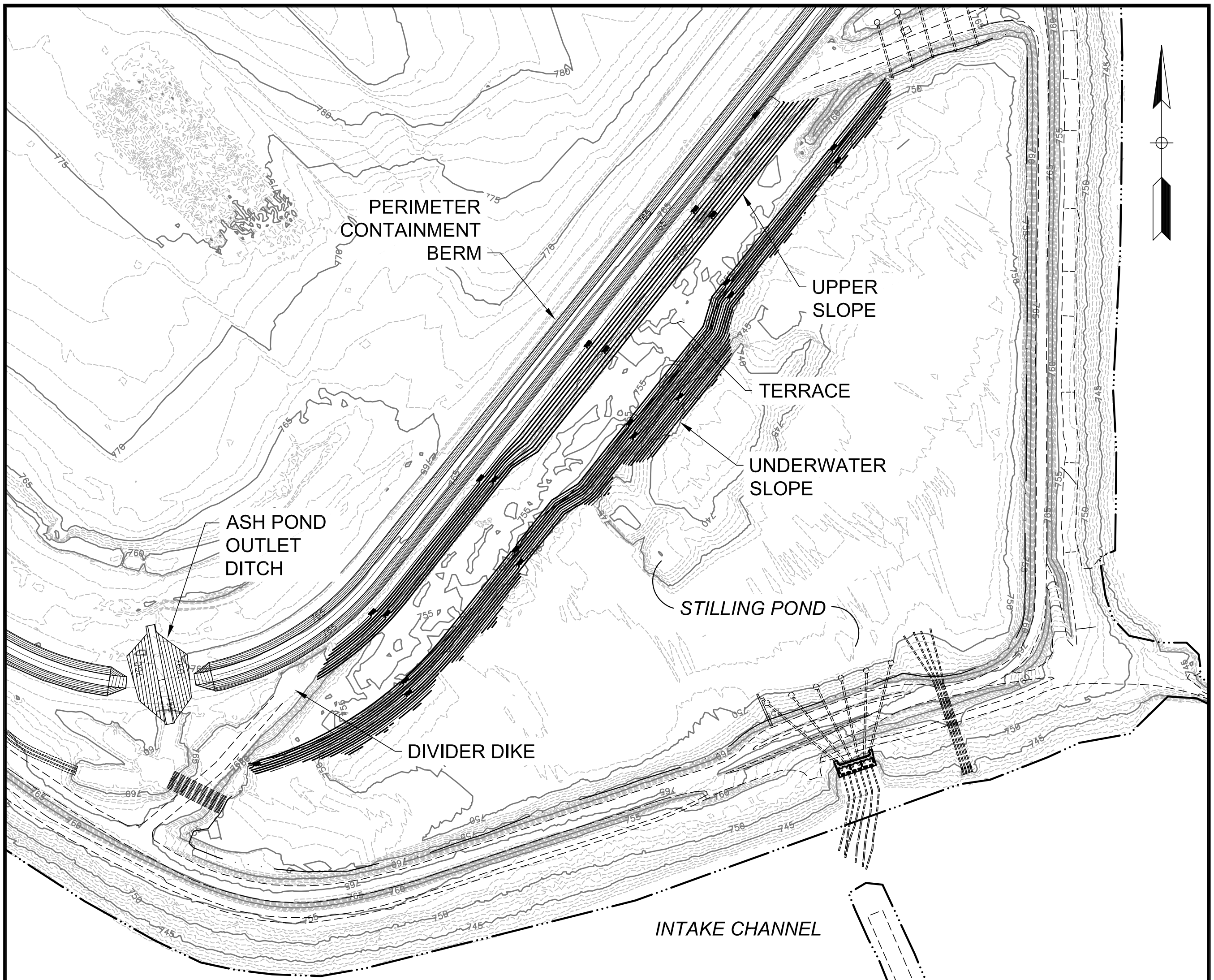


ROCK BUTTRESS PROFILE
1" = 30'

FIGURE 16
PERIMETER WALL STABILIZATION
ROCK BUTTRESS
KINGSTON ASH RECOVERY PROJECT

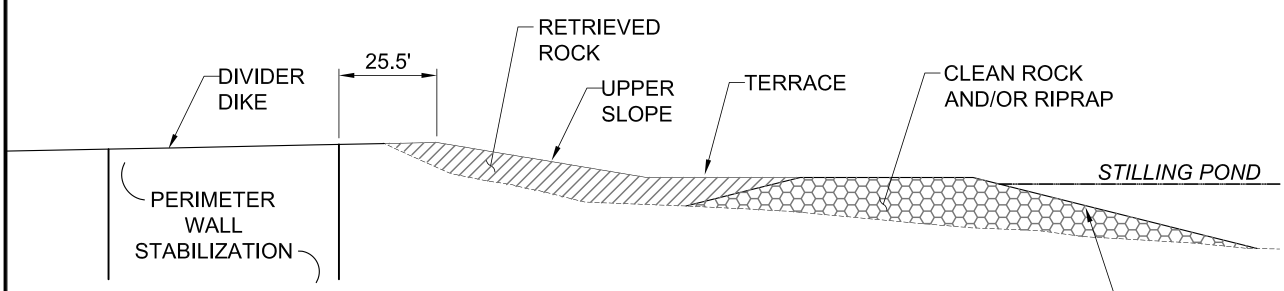
DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 16 PWS Rock Buttress.dwg Nov 18,2014 -bperatro



DIVIDER DIKE PLAN

1" = 300'



DIVIDER DIKE PROFILE

NOT TO SCALE

DATE OF TOPO: OCTOBER 29, 2013

0 150 300 600

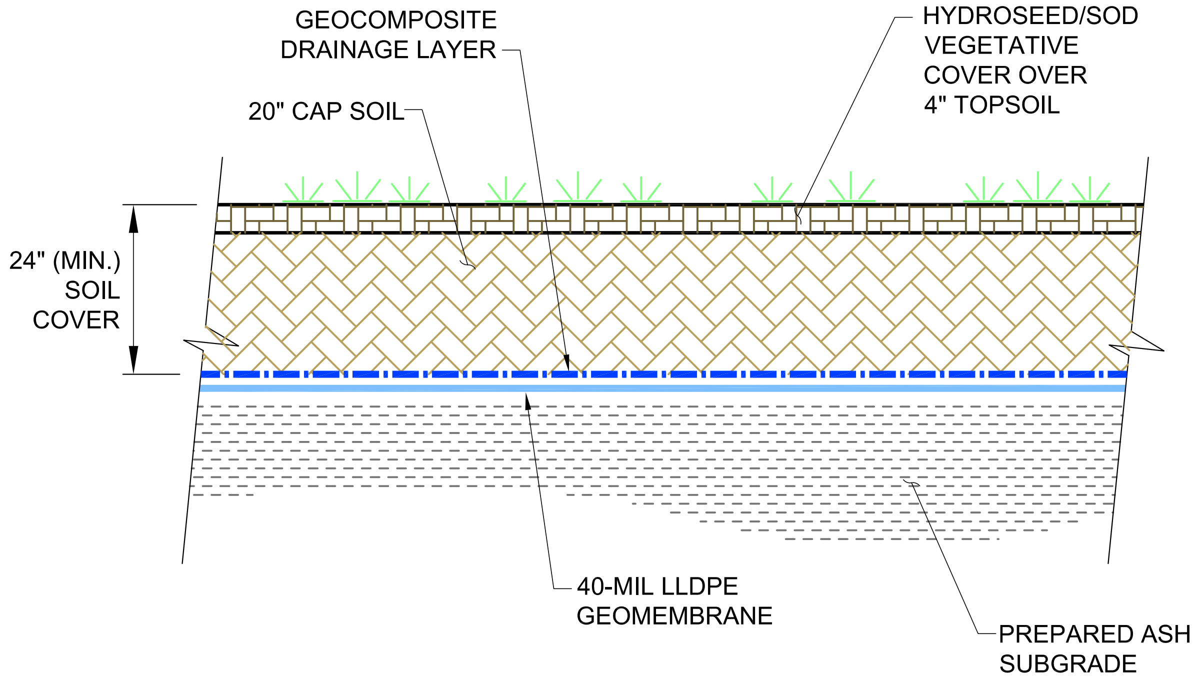
SCALE IN FEET

FIGURE 17
PERIMETER WALL STABILIZATION DIVIDER DIKE BUTTRESS

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cel

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 17 PWS Divider Dike Berm.dwg Jan 07,2015 -bperatro



TYPICAL CROSS-SECTION
FLEXIBLE MEMBRANE LINER (FML) SYSTEM
NOT TO SCALE

FIGURE 18
CAP AND CLOSURE
TYPICAL CAP SECTION
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 18 Cap Typical Section.dwg Nov 18,2014 -bperatro

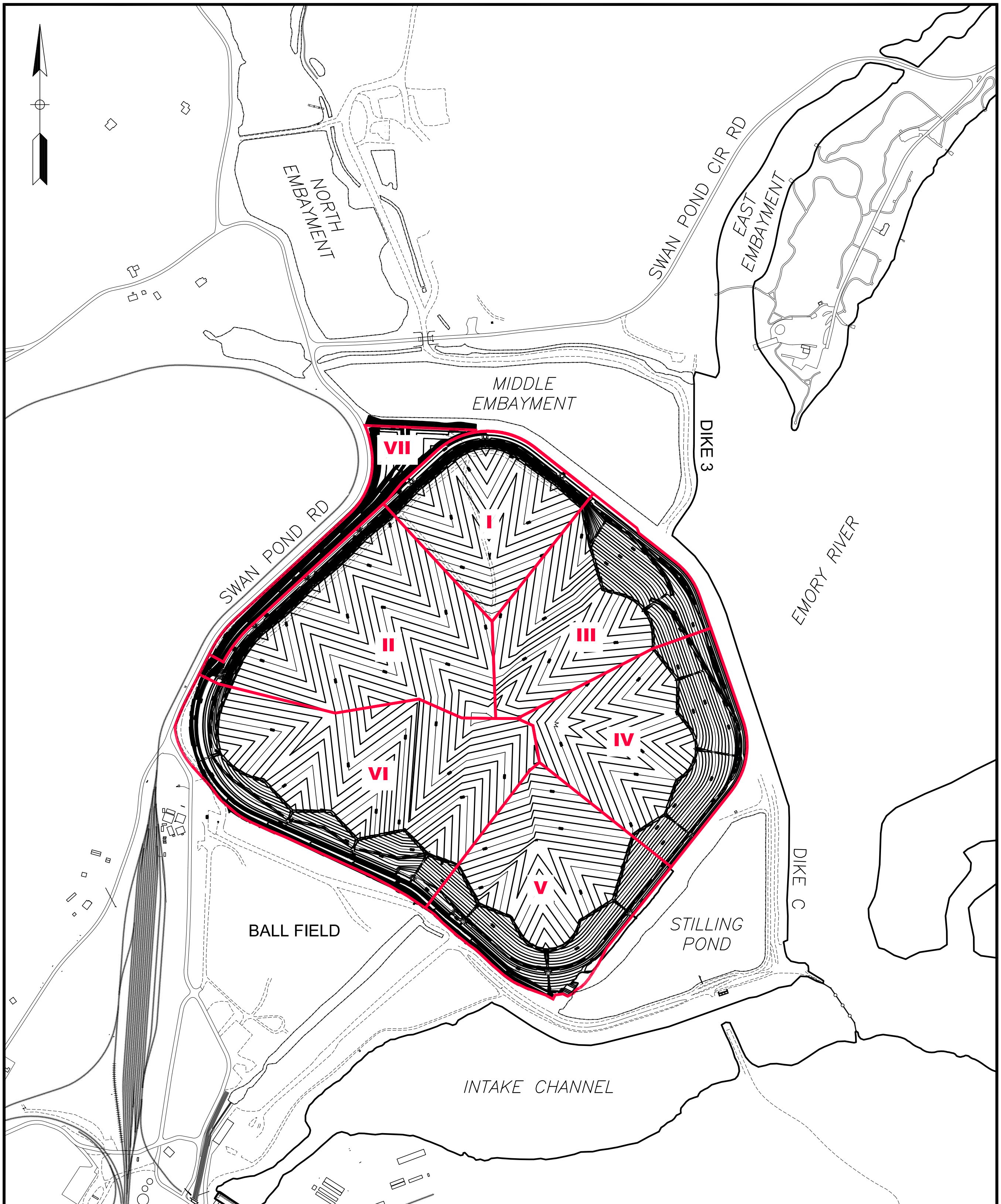
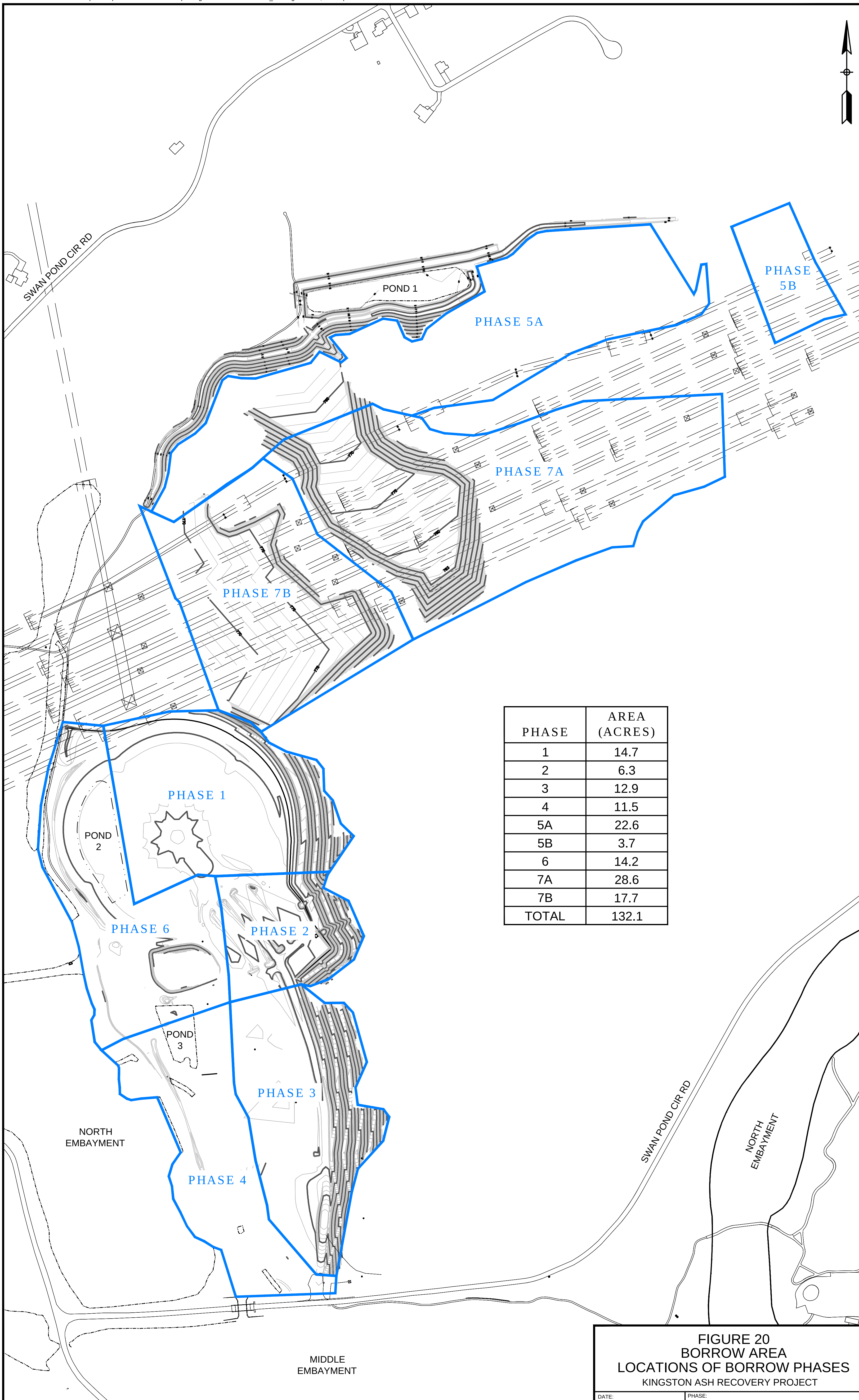


FIGURE 19
CAP AND CLOSURE
LOCATIONS OF CAP AREAS
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

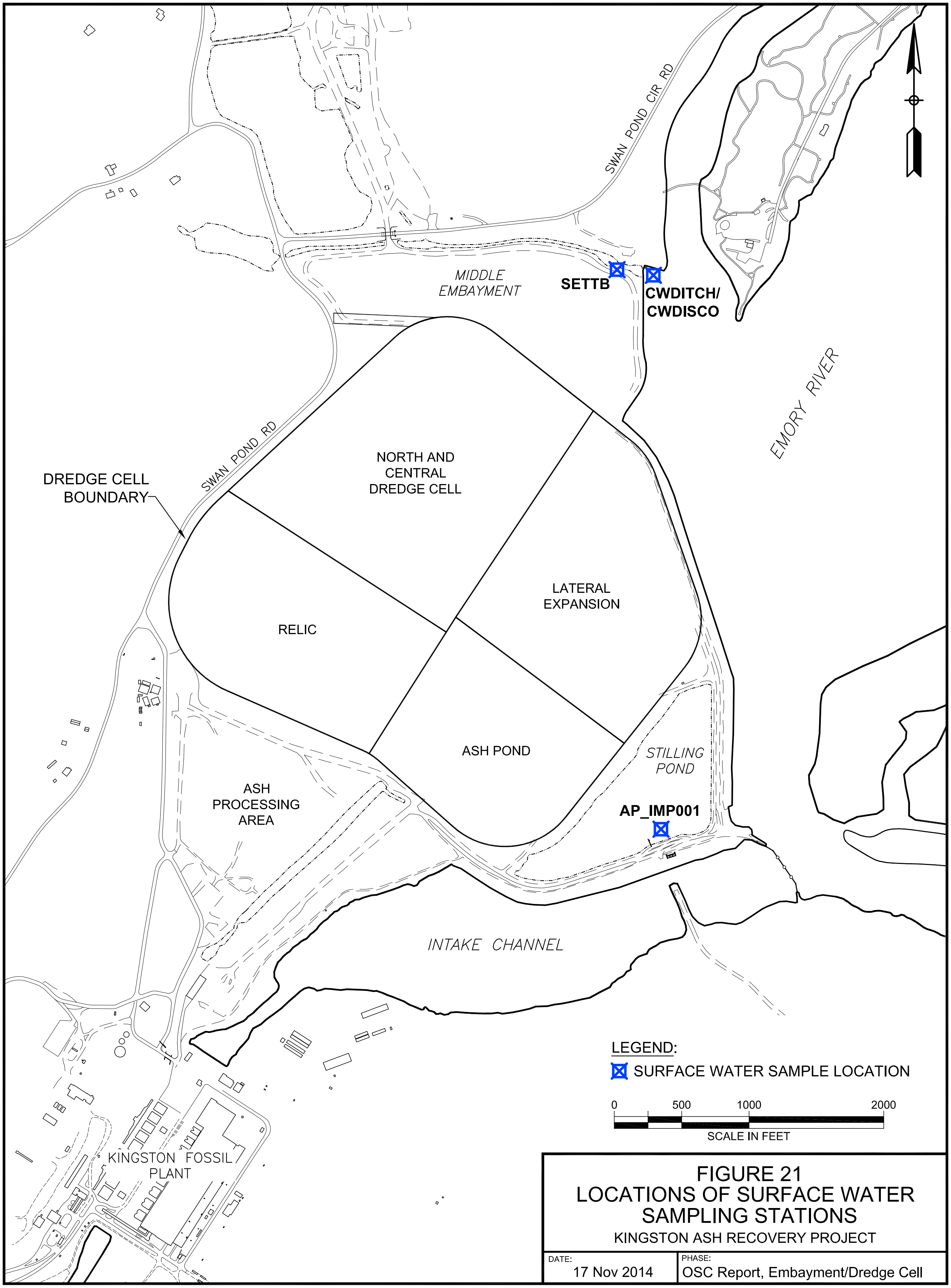
I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 19 Cap Areas.dwg Nov 18,2014 -bperatro



PHASE	AREA (ACRES)
1	14.7
2	6.3
3	12.9
4	11.5
5A	22.6
5B	3.7
6	14.2
7A	28.6
7B	17.7
TOTAL	132.1

FIGURE 20
BORROW AREA
LOCATIONS OF BORROW PHASES
KINGSTON ASH RECOVERY PROJECT

DATE: 29 Jan 2015
PHASE: OSC Report, Embayment/Dredge Cell



I:\0002 ENGINEERING\Civil\Report Graphics\NTC OSC Final Report\Fig 21 Surface Water Samples.dwg Nov 21,2014 -bperatro

FIGURE 21
LOCATIONS OF SURFACE WATER SAMPLING STATIONS
KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

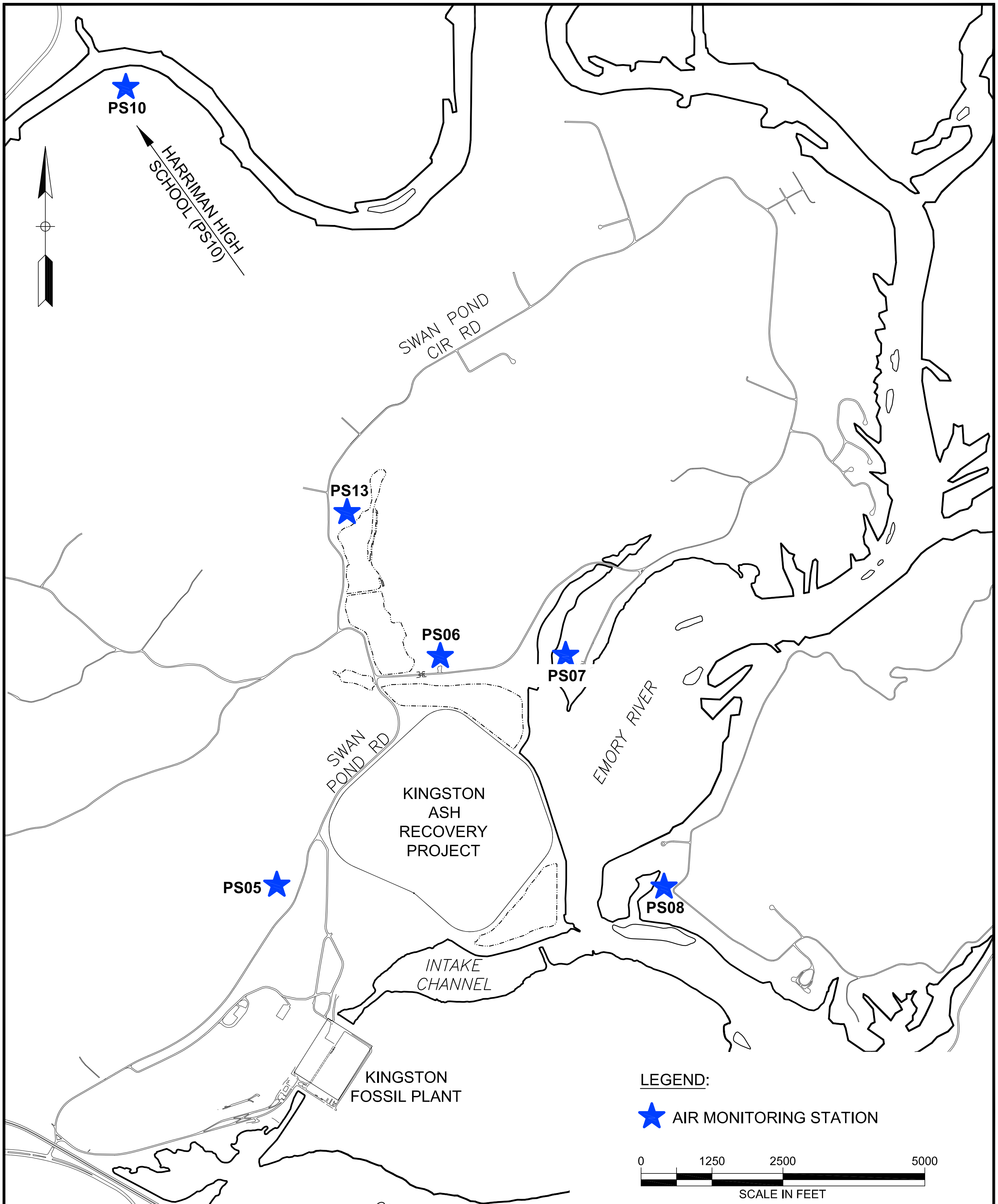


FIGURE 22
LOCATIONS OF AIR MONITORING STATIONS
KINGSTON ASH RECOVERY PROJECT

DATE: 17 Nov 2014
PHASE: OSC Report, Embayment/Dredge Cell

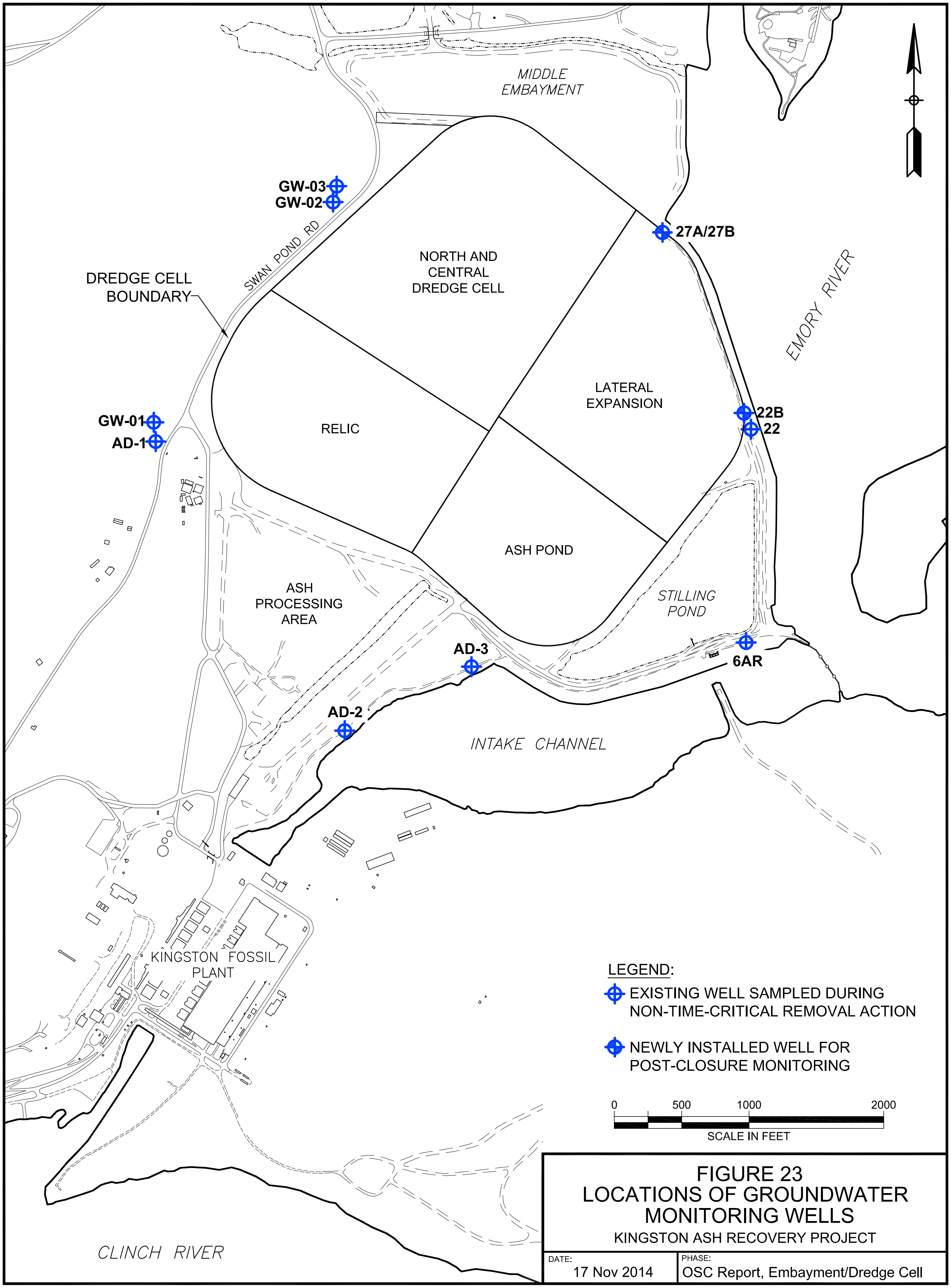


FIGURE 23
LOCATIONS OF GROUNDWATER MONITORING WELLS

KINGSTON ASH RECOVERY PROJECT

DATE:	PHASE:
17 Nov 2014	OSC Report, Embayment/Dredge Cell

APPENDIX A

Photo Log

APPENDIX A: PHOTO LOG
Non-Time-Critical Removal Action

1A – Aerial image of the Kingston Ash Recovery Project site after release. December 28, 2008.

1B – Aerial image of the Kingston Ash Recovery Project site following Non-Time-Critical Removal Action. November 3, 2014.

2A – Oblique of the failed Dredge Cell after release (viewing from the southwest). January 8, 2009.

2B – Oblique of the failed Dredge Cell during Non-Time-Critical Removal Action. November 18, 2014.

3A – Oblique of the failed Dredge Cell after release (viewing from the north). January 8, 2009.

3B – Oblique of the failed Dredge Cell during Non-Time-Critical Removal Action. August 30, 2013.

4A – Oblique of the failed Dredge Cell after release (viewing from the east). January 7, 2009.

4B – Oblique of the failed Dredge Cell during Non-Time-Critical Removal Action. November 18, 2014.

5A – Oblique of the North Embayment after release (viewing from the east). January 8, 2009.

5B – Oblique of the North Embayment during Non-Time-Critical Removal Action. November 18, 2014.

6A – Oblique of the Middle Embayment after release (viewing from the east). January 8, 2009.

6B – Oblique of the Middle Embayment during Non-Time-Critical Removal Action. November 18, 2014.

7A – Ash Removal: Excavating ash from the North Embayment using amphibious long-reach backhoe excavators and trackhoes. August 16, 2011.

7B – Ash Removal: Bottom of the North Embayment following ash removal. September 19, 2011.

8A – Ash Removal: Construction of the North Berm through the North Embayment. June 13, 2011.

8B – Ash Removal: Completed North Berm diverting stormwater from the lower half of the North Embayment. September 18, 2011.

9A – Ash Removal: Excavating ash from the Middle Embayment using trackhoes and articulated dump trucks. April 30, 2013.

9B – Ash Removal: Bottom of the Middle Embayment following ash removal. June 13, 2013.

10A – Ash Removal: Excavating ash from the Clean Water Ditch in the Middle Embayment prior to rebuilding the ditch. March 7, 2012.

10B – Ash Removal: Haul roads traversing the Middle Embayment during the Non-Time-Critical Removal Action. December 31, 2013.

11A – Ash Removal: Excavating ash and removing finger dikes from the Sediment Basin. December 13, 2012.

11B – Ash Removal: Bottom of Sediment Basin following ash removal and excavating Dike 2. February 7, 2013.

12A – Ash Removal: Construction of Dike 3 on the east side of Dike 2 as a cofferdam for holding back the Emory River from the embayments. June 18, 2013.

12B – Ash Removal: Retaining pond used to reduce seepage through a riprap section of Dike 3. March 20, 2014

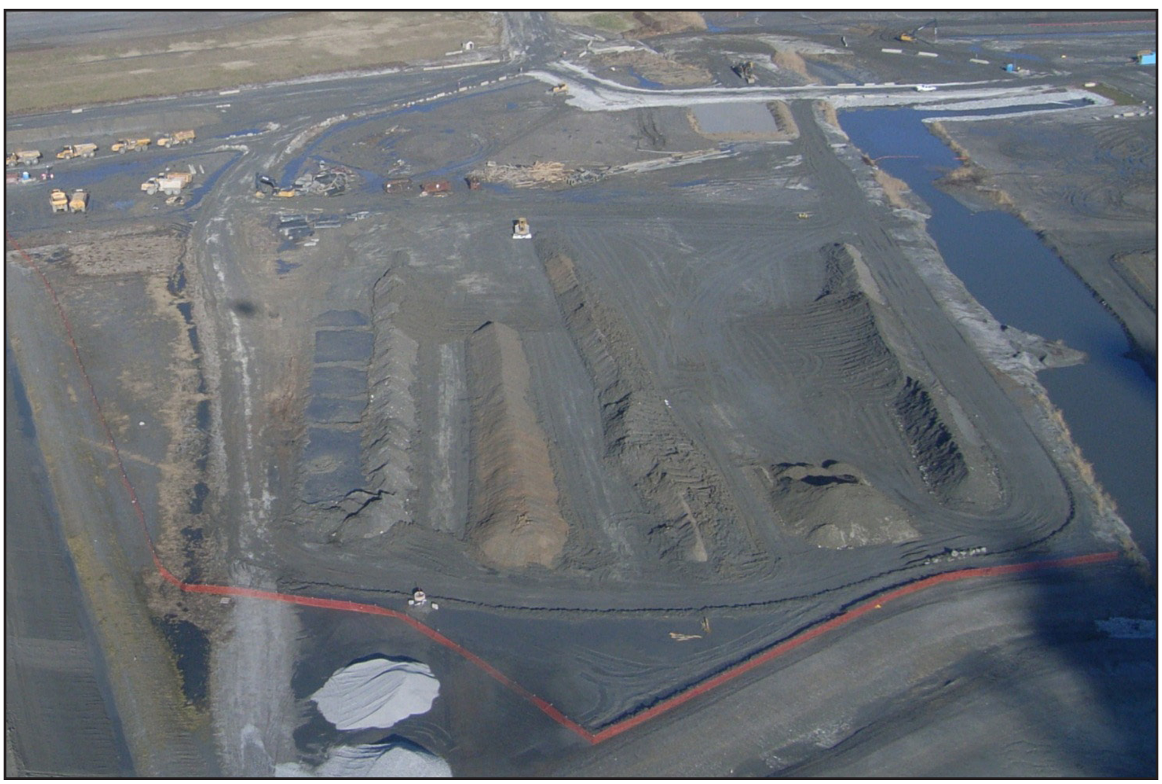
13A – Ash Removal: Removal of Dike 3 and flooding of the Middle Embayment. September 25, 2014.

13B – Ash Removal: Removal of the Clean Water Ditch from operation by filling with borrow soil. October 20, 2014.

14A – Ash Removal: Removal of ash from Ditch 1 along Swan Pond Road. December 31, 2013.

14B – Ash Removal: Removal of ash from the relic portion of the southern Dredge Cell using tractors equipped with pan scrapers. July 18, 2013.

15A – Ash Processing: Using windrows in the Ball Field area. May 23, 2011.



15B – Ash Processing: Using windrows in the Ball Field area. January 3, 2013.

16A – Ash Processing: Using windrows in the Central Dredge Cell area. January 3, 2013.

16B – Ash Processing: Using sundrying plots in the relic area of the Dredge Cell. February 17, 2013.

17A – Ash Processing: Using lime treatment plots in the Ball Field area; application of lime. February 8, 2011.

17B – Ash Processing: Using lime treatment; lime mixing equipment. April 13, 2011.

18A – Ash Stacking: Stacking in the Dredge Cell during the subgrade recontouring phase. September 16, 2010.

18B – Ash Stacking: Using dozer and smooth drum roller in the Dredge Cell to stack the ash. May 11, 2011.

19A – Ash Stacking: Infill stacking next to the perimeter berm in the Dredge Cell. April 10, 2013.

19B – Ash stacking: Stacking in the Lateral Expansion during the subgrade recontouring phase. May 23, 2011.

20A – Ash Stacking: Stacking in the Ash Pond during the subgrade recontouring phase. March 18, 2012.

20B – Ash stacking: Stabilization of the subgrade in the Ash Pond using a gravel base. March 20, 2014.

21A – Ash Stacking: "Clipping" off wet subgrade to allow stacking to continue in wet or freezing weather during the winter. April 3, 2014.

21B – Ash Stacking: Erosion damage to edge of ash stack following storm event. August 12, 2013.

22A – Ash Stacking: Mud boils inducing wet subgrade conditions during ash stacking in the Lateral Expansion. November 8, 2011.

22B – Ash Stacking: Repair of mud boils by excavation of wet subgrade for construction of French drains. November 8, 2011.

23A – Ash Stacking: Geotechnical instrumentation used for monitoring ash stacking; piezometers (white) and slope inclinometers (blue). August 30, 2011.

23B – Ash Stacking: Stantec monitoring of geotechnical instrumentation. October 22, 2014.

24A – Ash Pond Outlet Structure (Agridrains). March 10, 2012.

24B – Sluice Trench Outlet Piping under construction. August 1, 2012.

25A – Perimeter Wall Stabilization (PWS): Long-reach excavators used for slurry trench construction. July 21, 2011.

25B – PWS: Rock excavating teeth on bucket of long-reach excavators. April 14, 2011.

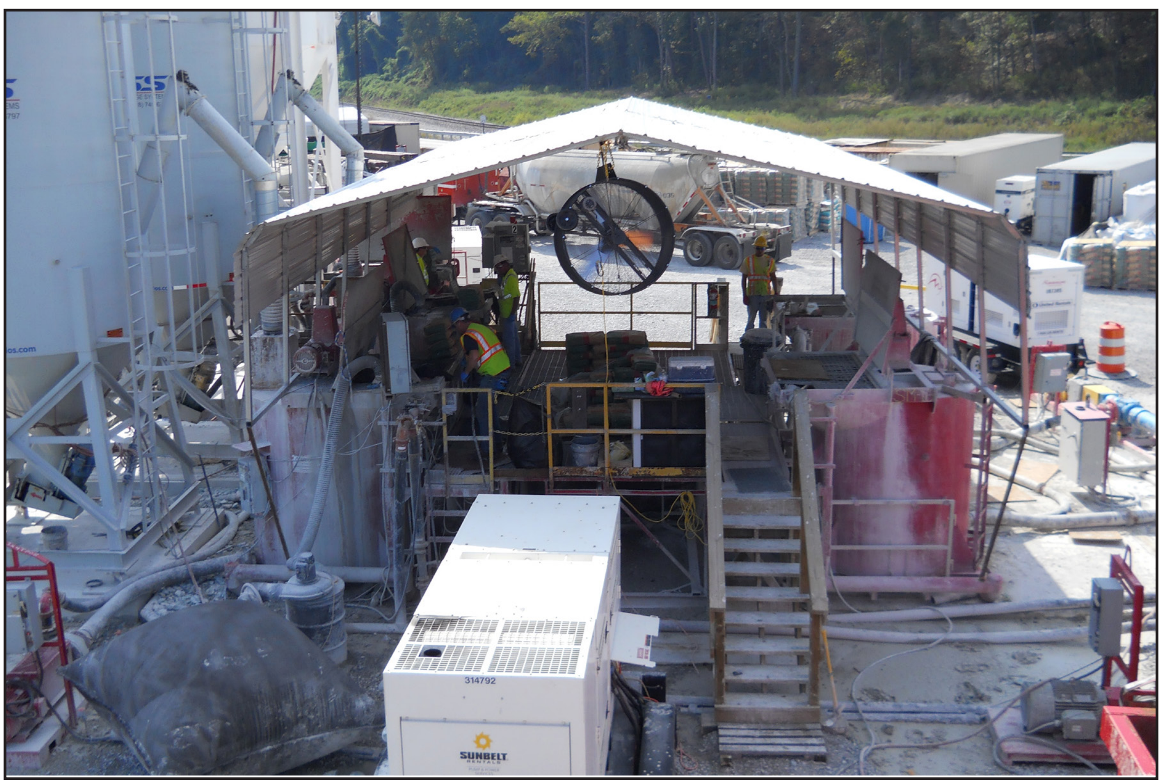
26A – PWS: Slurry trench excavation. April 11, 2011.

26B – PWS: Management of spoils from the slurry trench excavation. May 13, 2013.

27A – PWS: Quality control of slurry trench included measuring trench depth and obtaining grab samples. August 30, 2011.

27B – PWS: Cured walls exposed at the buttress along the Middle Embayment. March 20, 2012.

28A – PWS: Batch Plant used to supply cement slag-bentonite slurry for the PWS construction.
May 23, 2011.



28B – PWS: Batch Plant used to supply cement slag-bentonite slurry for the PWS construction.
April 13, 2011.

29A – PWS: Platform deterioration occurred due to rainfall and high water table, resulting in very wet conditions under excavator. September 29, 2011.

29B – PWS: Platform deterioration resulted in use of crane mats oftentimes stacked several layers thick. September 14, 2011.

30A – PWS: Platform deterioration due to spoils spillage onto ground surface next to the trench. May 13, 2013.

30B – PWS: Slurry trench collapse, resulting in wide trench at top. September 23, 2011.

31A – PWS: Slurry trench overnight drop in slurry level to several feet below ground surface. December 4, 2013.

31B – PWS: Slurry trench construction platform stabilized with rock surfacing on inboard side of wall. March 6 2012.

32A – PWS: Slurry trench construction platform stabilized by raising the platform above ground. February 12, 2012.

32B – PWS: Slurry trench construction stabilized using Griffin dewatering system (deep wells and shallow well points). June 14, 2012.

33A – PWS: GeoCon (Armstrong Drilling) predrilling holes for jet grout mitigation of wall defects. January 20, 2014.

33B – PWS: Predrilled hole in wall for mitigation of wall defects. August 30, 2011.

34A – PWS: S&ME logging cores of cured grout for quality control of wall uniformity. May 5, 2011.

34B – PWS: S&ME laboratory testing sample break for quality control of wall strength. May 2011.

35A – PWS: Constructing haul road at toe of rock buttress along Segment 8 of the perimeter wall. September 24, 2012.

35B – Perimeter Containment: Placing No. 02 stone as rock buttress along Segment 8 of the perimeter wall. October 09, 2012.

36A – Perimeter Containment: Placing rock in Stilling Pond as a buttress to stabilize the divider dike prior to slurry wall construction. December 11, 2012.

36B – Perimeter Containment: Completed buttress along the divider dike. December 27, 2012.

37A – Perimeter Containment: Placing sand as filter layer for construction of the perimeter containment berm. March 20, 2014.

37B – Perimeter Containment: Placing clay as embankment for construction of the perimeter containment berm. December 5, 2012.

38A – Cap and Closure: Preparing subgrade using GPS grader. July 29, 2013.

38B – Cap and Closure: Preparing subgrade using skid steer roller preparing subgrade for ditch at top of perimeter slope. August 2013.

39A – Cap and Closure: Phillips & Jordan (P&J) placing multilayer cap - flexible membrane liner, geocomposite, and cap soil. September 16, 2013.

39B – Cap and Closure: Chesapeake Containment Systems (CCS) hot seam welding of the flexible membrane liner. July 2013.

40A – Cap and Closure: CCS field seam testing for quality control of the flexible membrane liner (FML). September 30, 2013.

40B – Cap and Closure: Edge of FML installed in an anchor trench to prevent erosion undermining of the FML. January 20, 2014.

41A – Cap and Closure: Geocomposite drainage layer (geonet between layers of geotextile). July 18, 2013.

41B – Cap and Closure: CCS sewing seam of geocomposite drainage layer. September 14, 2013.

42A – Cap and Closure: P&J placing cap soil over the geocomposite. July 18, 2013.

42B – Cap and Closure: P&J placing topsoil over the cap soil layer. September 14, 2013.

43A – Cap and Closure: Underdrain pipe in geotextile-wrapped gravel bedding for drainage of the cap soil. August 10, 2013.

43B – Cap and Closure: Vegetative surface of completed cap and cover. October 14, 2013.

44A – Cap and Closure: Riprap-lined downslope flumes of completed cap and cover. March 20, 2014.

44B – Cap and Closure: Riprap at low water crossing of perimeter road. January 28, 2015.

45A – Cap and Closure: Perimeter Road - completed cap and cover. October 20, 2014.

45B – Cap and Closure: Completed cap and cover at Ditch 1 along Swan Pond Road. October 20, 2014.

46A – Borrow Area: P&J borrow pit operations. October 20, 2014.

46B – Borrow Area: Rock outcrops encountered in borrow pits. November 8, 2013.

47A – Stormwater Management: Ditch lined with plastic tarp for erosion control. August 10, 2013.

47B – Stormwater Management: Placing clay to line ditch in flumes for erosion control. August 28, 2013.

48A – Stormwater Management: Clean Water Ditch used to bypass stormwater around the Middle Embayment. April 5, 2013.

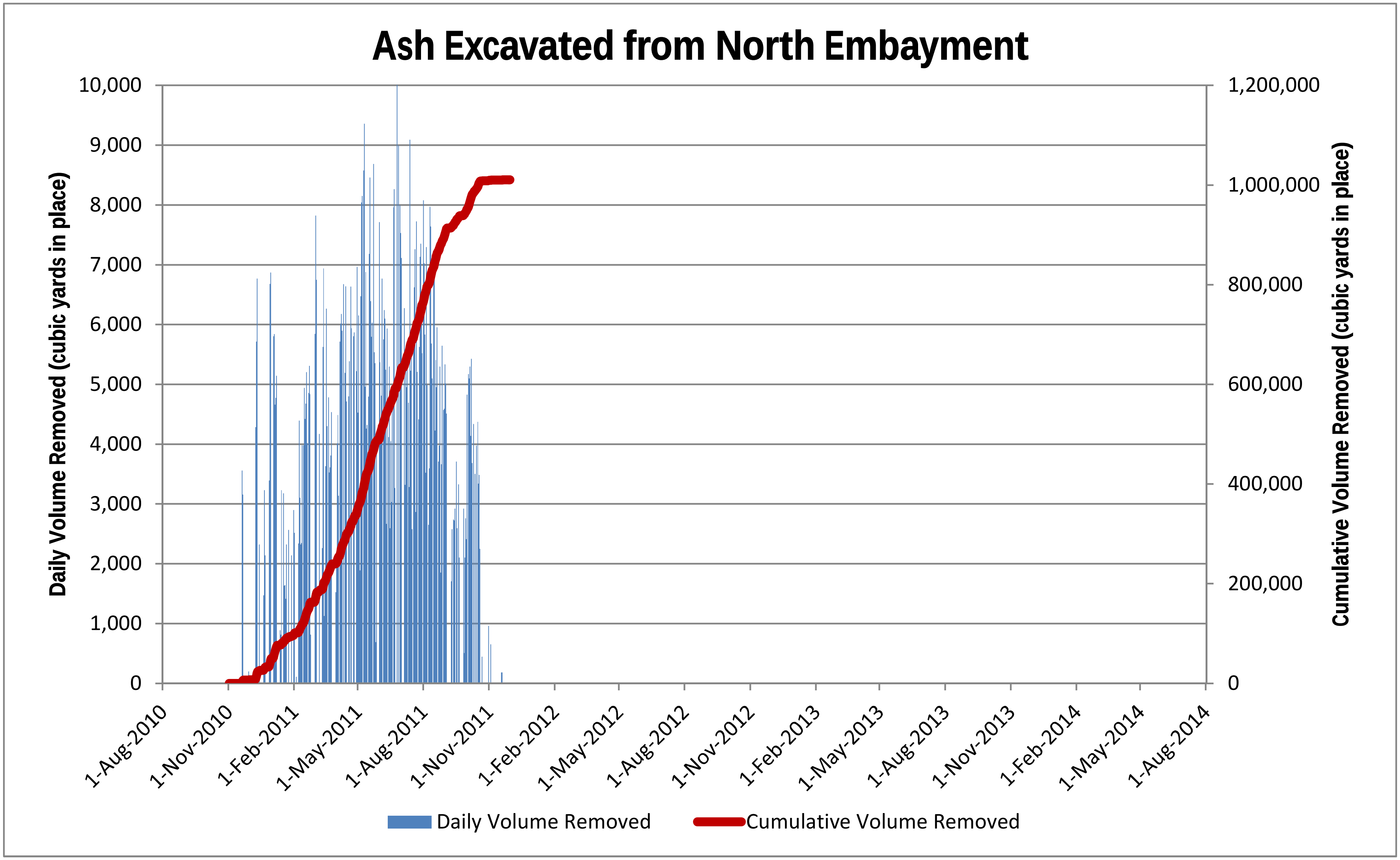
48B – Stormwater Management: Sediment Basin in the Middle Embayment used to treat stormwater from the Site. November 2, 2011.

49A – Dust and Erosion Control: Holleman spraying haul roads with water to minimize dust. April 8, 2013.

49B – Dust and Erosion Control: Holleman spraying Flexterra to minimize dust and erosion. May 29, 2012.

APPENDIX B

Daily Production Statistics - Embayment Ash Removal



Ash Excavated from North Embayment
Daily Volume Removed (cubic yards in place)
Cumulative Volume Removed (cubic yards in place)
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
1-Aug-2010
1-Nov-2010
1-Feb-2011
1-May-2011
1-Aug-2011
1-Nov-2011
1-Feb-2012
1-May-2012
1-Aug-2012
1-Nov-2012
1-Feb-2013
1-May-2013
1-Aug-2013
1-Nov-2013
1-Feb-2014
1-May-2014
1-Aug-2014
Daily Volume Removed
Cumulative Volume Removed

Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
1-Nov-2010	0	0	0	0	0	0
2-Nov-2010	0	0	0	0	0	0
3-Nov-2010	0	0	0	0	0	0
4-Nov-2010	0	0	0	0	0	0
5-Nov-2010	0	0	0	0	0	0
6-Nov-2010	0	0	0	0	0	0
7-Nov-2010	0	0	0	0	0	0
8-Nov-2010	0	0	0	0	0	0
9-Nov-2010	0	0	0	0	0	0
10-Nov-2010	0	0	0	0	0	0
11-Nov-2010	0	0	0	0	0	0
12-Nov-2010	0	0	0	0	0	0
13-Nov-2010	0	0	0	0	0	0
14-Nov-2010	0	0	0	0	0	0
15-Nov-2010	0	0	0	0	0	0
16-Nov-2010	0	0	0	0	0	0
17-Nov-2010	0	0	0	0	0	0
18-Nov-2010	0	0	0	0	0	0
19-Nov-2010	0	0	0	0	0	0
20-Nov-2010	196	4,312	0	0	3,557	3,557
21-Nov-2010	174	3,828	0	0	3,158	6,716
22-Nov-2010	0	0	0	0	0	6,716
23-Nov-2010	0	0	0	0	0	6,716
24-Nov-2010	0	0	0	0	0	6,716
25-Nov-2010	0	0	0	0	0	6,716
26-Nov-2010	0	0	0	0	0	6,716
27-Nov-2010	0	0	0	0	0	6,716
28-Nov-2010	0	0	0	0	0	6,716
29-Nov-2010	11	242	0	0	200	6,915
30-Nov-2010	0	0	0	0	0	6,915
1-Dec-2010	0	0	0	0	0	6,915
2-Dec-2010	0	0	0	0	0	6,915
3-Dec-2010	0	0	0	0	0	6,915
4-Dec-2010	0	0	0	0	0	6,915
5-Dec-2010	0	0	0	0	0	6,915
6-Dec-2010	0	0	0	0	0	6,915
7-Dec-2010	0	0	0	0	0	6,915
8-Dec-2010	0	0	0	0	0	6,915
9-Dec-2010	236	5,192	0	0	4,283	11,199
10-Dec-2010	315	6,930	0	0	5,717	16,916
11-Dec-2010	373	8,206	0	0	6,770	23,686
12-Dec-2010	0	0	0	0	0	23,686

Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
13-Dec-2010	0	0	0	0	0	23,686
14-Dec-2010	128	2,816	0	0	2,323	26,009
15-Dec-2010	0	0	0	0	0	26,009
16-Dec-2010	0	0	0	0	0	26,009
17-Dec-2010	0	0	0	0	0	26,009
18-Dec-2010	0	0	0	0	0	26,009
19-Dec-2010	0	0	0	0	0	26,009
20-Dec-2010	81	1,782	0	0	1,470	27,479
21-Dec-2010	178	3,916	0	0	3,231	30,710
22-Dec-2010	118	2,596	0	0	2,142	32,852
23-Dec-2010	0	0	0	0	0	32,852
24-Dec-2010	0	0	0	0	0	32,852
25-Dec-2010	0	0	0	0	0	32,852
26-Dec-2010	0	0	0	0	0	32,852
27-Dec-2010	0	0	0	0	0	32,852
28-Dec-2010	187	4,114	0	0	3,394	36,246
29-Dec-2010	334	7,348	25	750	6,681	42,926
30-Dec-2010	343	7,546	26	780	6,869	49,795
31-Dec-2010	0	0	0	0	0	49,795
1-Jan-2011	0	0	0	0	0	49,795
2-Jan-2011	0	0	0	0	0	49,795
3-Jan-2011	283	6,226	27	810	5,805	55,600
4-Jan-2011	289	6,358	24	720	5,839	61,439
5-Jan-2011	239	5,258	13	390	4,660	66,099
6-Jan-2011	244	5,368	14	420	4,775	70,874
7-Jan-2011	263	5,786	15	450	5,145	76,019
8-Jan-2011	0	0	0	0	0	76,019
9-Jan-2011	0	0	0	0	0	76,019
10-Jan-2011	0	0	0	0	0	76,019
11-Jan-2011	0	0	0	0	0	76,019
12-Jan-2011	49	1,078	0	0	889	76,908
13-Jan-2011	45	990	0	0	817	77,725
14-Jan-2011	178	3,916	0	0	3,231	80,956
15-Jan-2011	0	0	0	0	0	80,956
16-Jan-2011	0	0	0	0	0	80,956
17-Jan-2011	175	3,850	0	0	3,176	84,132
18-Jan-2011	90	1,980	0	0	1,634	85,765
19-Jan-2011	74	1,628	12	360	1,640	87,405
20-Jan-2011	78	1,716	0	0	1,416	88,821
21-Jan-2011	98	2,156	22	660	2,323	91,144
22-Jan-2011	0	0	0	0	0	91,144
23-Jan-2011	0	0	0	0	0	91,144

Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
24-Jan-2011	114	2,508	20	600	2,564	93,708
25-Jan-2011	0	0	0	0	0	93,708
26-Jan-2011	0	0	0	0	0	93,708
27-Jan-2011	0	0	0	0	0	93,708
28-Jan-2011	92	2,024	19	570	2,140	95,849
29-Jan-2011	0	0	0	0	0	95,849
30-Jan-2011	0	0	0	0	0	95,849
31-Jan-2011	116	2,552	32	960	2,897	98,746
1-Feb-2011	95	2,090	32	960	2,516	101,262
2-Feb-2011	0	0	0	0	0	101,262
3-Feb-2011	0	0	0	0	0	101,262
4-Feb-2011	6	132	0	0	109	101,371
5-Feb-2011	0	0	0	0	0	101,371
6-Feb-2011	0	0	0	0	0	101,371
7-Feb-2011	88	1,936	30	900	2,340	103,711
8-Feb-2011	219	4,818	17	510	4,396	108,106
9-Feb-2011	148	3,256	17	510	3,107	111,213
10-Feb-2011	128	2,816	0	0	2,323	113,537
11-Feb-2011	113	2,486	12	360	2,348	115,884
12-Feb-2011	192	4,224	20	600	3,980	119,864
13-Feb-2011	0	0	0	0	0	119,864
14-Feb-2011	173	3,806	34	1,020	3,981	123,846
15-Feb-2011	230	5,060	31	930	4,942	128,787
16-Feb-2011	196	4,312	35	1,050	4,424	133,211
17-Feb-2011	214	4,708	32	960	4,676	137,887
18-Feb-2011	239	5,258	35	1,050	5,204	143,091
19-Feb-2011	179	3,938	31	930	4,016	147,107
20-Feb-2011	0	0	0	0	0	147,107
21-Feb-2011	224	4,928	32	960	4,858	151,965
22-Feb-2011	238	5,236	40	1,200	5,310	157,275
23-Feb-2011	220	4,840	34	1,020	4,835	162,109
24-Feb-2011	45	990	0	0	817	162,926
25-Feb-2011	0	0	0	0	0	162,926
26-Feb-2011	0	0	0	0	0	162,926
27-Feb-2011	0	0	0	0	0	162,926
28-Feb-2011	0	0	0	0	0	162,926
1-Mar-2011	0	0	0	0	0	162,926
2-Mar-2011	322	7,084	0	0	5,844	168,770
3-Mar-2011	375	8,250	41	1,230	7,821	176,591
4-Mar-2011	331	7,282	30	900	6,750	183,341
5-Mar-2011	0	0	0	0	0	183,341
6-Mar-2011	0	0	0	0	0	183,341

Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
7-Mar-2011	0	0	0	0	0	183,341
8-Mar-2011	193	4,246	27	810	4,171	187,513
9-Mar-2011	0	0	0	0	0	187,513
10-Mar-2011	0	0	0	0	0	187,513
11-Mar-2011	0	0	0	0	0	187,513
12-Mar-2011	122	2,684	2	60	2,264	189,776
13-Mar-2011	269	5,918	30	900	5,625	195,401
14-Mar-2011	340	7,480	31	930	6,938	202,340
15-Mar-2011	62	1,364	0	0	1,125	203,465
16-Mar-2011	83	1,826	0	0	1,506	204,971
17-Mar-2011	200	4,400	0	0	3,630	208,601
18-Mar-2011	258	5,676	64	1,920	6,267	214,868
19-Mar-2011	237	5,214	0	0	4,302	219,170
20-Mar-2011	0	0	0	0	0	219,170
21-Mar-2011	213	4,686	37	1,110	4,782	223,951
22-Mar-2011	178	3,916	12	360	3,528	227,479
23-Mar-2011	199	4,378	0	0	3,612	231,091
24-Mar-2011	210	4,620	0	0	3,812	234,902
25-Mar-2011	183	4,026	49	1,470	4,534	239,436
26-Mar-2011	0	0	0	0	0	239,436
27-Mar-2011	0	0	0	0	0	239,436
28-Mar-2011	0	0	0	0	0	239,436
29-Mar-2011	0	0	0	0	0	239,436
30-Mar-2011	0	0	0	0	0	239,436
31-Mar-2011	84	1,848	0	0	1,525	240,961
1-Apr-2011	119	2,618	0	0	2,160	243,121
2-Apr-2011	221	4,862	0	0	4,011	247,132
3-Apr-2011	220	4,840	20	600	4,488	251,620
4-Apr-2011	136	2,992	27	810	3,137	254,757
5-Apr-2011	0	0	0	0	0	254,757
6-Apr-2011	240	5,280	55	1,650	5,717	260,474
7-Apr-2011	255	5,610	56	1,680	6,014	266,488
8-Apr-2011	260	5,720	59	1,770	6,179	272,667
9-Apr-2011	239	5,258	63	1,890	5,897	278,565
10-Apr-2011	0	0	0	0	0	278,565
11-Apr-2011	271	5,962	71	2,130	6,676	285,240
12-Apr-2011	0	0	0	0	0	285,240
13-Apr-2011	196	4,312	66	1,980	5,191	290,431
14-Apr-2011	303	6,666	46	1,380	6,638	297,069
15-Apr-2011	208	4,576	38	1,140	4,716	301,785
16-Apr-2011	0	0	0	0	0	301,785
17-Apr-2011	0	0	0	0	0	301,785

Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
18-Apr-2011	169	3,718	70	2,100	4,800	306,585
19-Apr-2011	174	3,828	90	2,700	5,386	311,970
20-Apr-2011	0	0	0	0	0	311,970
21-Apr-2011	251	5,522	84	2,520	6,635	318,605
22-Apr-2011	218	4,796	80	2,400	5,937	324,542
23-Apr-2011	0	0	0	0	0	324,542
24-Apr-2011	0	0	0	0	0	324,542
25-Apr-2011	234	5,148	63	1,890	5,806	330,348
26-Apr-2011	243	5,346	59	1,770	5,871	336,219
27-Apr-2011	0	0	0	0	0	336,219
28-Apr-2011	0	0	0	0	0	336,219
29-Apr-2011	210	4,620	57	1,710	5,222	341,441
30-Apr-2011	280	6,160	76	2,280	6,963	348,404
1-May-2011	195	4,290	40	1,200	4,529	352,933
2-May-2011	294	6,468	33	990	6,153	359,086
3-May-2011	153	3,366	11	330	3,049	362,135
4-May-2011	104	2,288	0	0	1,888	364,023
5-May-2011	298	6,556	43	1,290	6,473	370,496
6-May-2011	390	8,580	39	1,170	8,044	378,540
7-May-2011	404	8,888	33	990	8,149	386,689
8-May-2011	0	0	0	0	0	386,689
9-May-2011	362	7,964	81	2,430	8,575	395,264
10-May-2011	416	9,152	73	2,190	9,357	404,621
11-May-2011	186	4,092	64	1,920	4,960	409,581
12-May-2011	289	6,358	66	1,980	6,879	416,460
13-May-2011	198	4,356	27	810	4,262	420,722
14-May-2011	238	5,236	0	0	4,320	425,042
15-May-2011	0	0	0	0	0	425,042
16-May-2011	196	4,312	50	1,500	4,795	429,837
17-May-2011	284	6,248	82	2,460	7,184	437,021
18-May-2011	338	7,436	94	2,820	8,461	445,482
19-May-2011	269	5,918	61	1,830	6,392	451,874
20-May-2011	269	5,918	37	1,110	5,798	457,672
21-May-2011	286	6,292	34	1,020	6,032	463,704
22-May-2011	0	0	0	0	0	463,704
23-May-2011	375	8,250	76	2,280	8,687	472,392
24-May-2011	305	6,710	0	0	5,536	477,927
25-May-2011	295	6,490	0	0	5,354	483,282
26-May-2011	38	836	0	0	690	483,971
27-May-2011	226	4,972	0	0	4,102	488,073
28-May-2011	0	0	0	0	0	488,073
29-May-2011	0	0	0	0	0	488,073

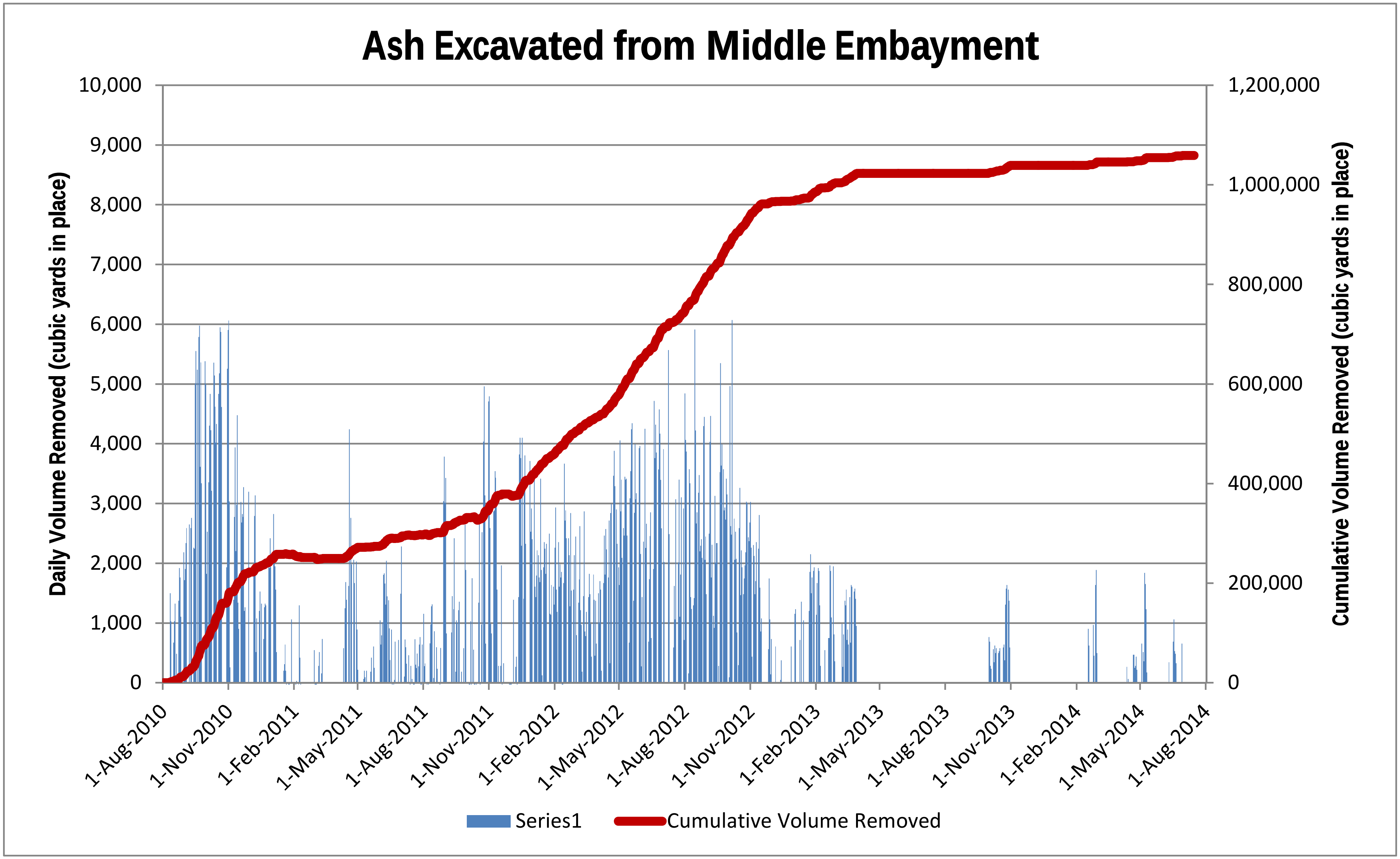
Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
30-May-2011	0	0	0	0	0	488,073
31-May-2011	425	9,350	0	0	7,714	495,787
1-Jun-2011	296	6,512	0	0	5,372	501,159
2-Jun-2011	232	5,104	0	0	4,211	505,370
3-Jun-2011	265	5,830	0	0	4,810	510,180
4-Jun-2011	373	8,206	0	0	6,770	516,950
5-Jun-2011	0	0	0	0	0	516,950
6-Jun-2011	317	6,974	0	0	5,754	522,704
7-Jun-2011	344	7,568	0	0	6,244	528,947
8-Jun-2011	336	7,392	0	0	6,098	535,046
9-Jun-2011	289	6,358	0	0	5,245	540,291
10-Jun-2011	147	3,234	0	0	2,668	542,959
11-Jun-2011	327	7,194	0	0	5,935	548,894
12-Jun-2011	0	0	0	0	0	548,894
13-Jun-2011	227	4,994	0	0	4,120	553,014
14-Jun-2011	292	6,424	0	0	5,300	558,314
15-Jun-2011	143	3,146	0	0	2,595	560,909
16-Jun-2011	223	4,906	0	0	4,047	564,957
17-Jun-2011	167	3,674	0	0	3,031	567,988
18-Jun-2011	272	5,984	0	0	4,937	572,925
19-Jun-2011	0	0	0	0	0	572,925
20-Jun-2011	339	7,458	73	2,190	7,960	580,884
21-Jun-2011	428	9,416	20	600	8,263	589,147
22-Jun-2011	165	3,630	11	330	3,267	592,414
23-Jun-2011	0	0	0	0	0	592,414
24-Jun-2011	0	0	0	0	0	592,414
25-Jun-2011	517	11,374	33	990	10,200	602,615
26-Jun-2011	0	0	0	0	0	602,615
27-Jun-2011	411	9,042	62	1,860	8,994	611,609
28-Jun-2011	0	0	0	0	0	611,609
29-Jun-2011	390	8,580	37	1,110	7,994	619,603
30-Jun-2011	415	9,130	0	0	7,532	627,135
1-Jul-2011	392	8,624	0	0	7,115	634,250
2-Jul-2011	0	0	0	0	0	634,250
3-Jul-2011	0	0	0	0	0	634,250
4-Jul-2011	0	0	0	0	0	634,250
5-Jul-2011	332	7,304	10	300	6,273	640,523
6-Jul-2011	183	4,026	0	0	3,321	643,845
7-Jul-2011	304	6,688	0	0	5,518	649,362
8-Jul-2011	273	6,006	0	0	4,955	654,317
9-Jul-2011	309	6,798	0	0	5,608	659,926
10-Jul-2011	0	0	0	0	0	659,926

Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
11-Jul-2011	249	5,478	7	210	4,693	664,618
12-Jul-2011	166	3,652	11	330	3,285	667,904
13-Jul-2011	456	10,032	33	990	9,093	676,997
14-Jul-2011	288	6,336	0	0	5,227	682,224
15-Jul-2011	257	5,654	32	960	5,457	687,680
16-Jul-2011	142	3,124	0	0	2,577	690,258
17-Jul-2011	0	0	0	0	0	690,258
18-Jul-2011	331	7,282	0	0	6,008	696,265
19-Jul-2011	365	8,030	0	0	6,625	702,890
20-Jul-2011	400	8,800	0	0	7,260	710,150
21-Jul-2011	158	3,476	0	0	2,868	713,018
22-Jul-2011	386	8,492	29	870	7,724	720,741
23-Jul-2011	287	6,314	0	0	5,209	725,951
24-Jul-2011	0	0	0	0	0	725,951
25-Jul-2011	235	5,170	6	180	4,414	730,364
26-Jul-2011	310	6,820	0	0	5,627	735,991
27-Jul-2011	393	8,646	0	0	7,133	743,124
28-Jul-2011	405	8,910	0	0	7,351	750,474
29-Jul-2011	334	7,348	0	0	6,062	756,537
30-Jul-2011	296	6,512	6	180	5,521	762,057
31-Jul-2011	0	0	0	0	0	762,057
1-Aug-2011	445	9,790	0	0	8,077	770,134
2-Aug-2011	387	8,514	0	0	7,024	777,158
3-Aug-2011	294	6,468	20	600	5,831	782,989
4-Aug-2011	194	4,268	0	0	3,521	786,510
5-Aug-2011	402	8,844	0	0	7,296	793,807
6-Aug-2011	275	6,050	0	0	4,991	798,798
7-Aug-2011	0	0	0	0	0	798,798
8-Aug-2011	146	3,212	0	0	2,650	801,448
9-Aug-2011	198	4,356	0	0	3,594	805,042
10-Aug-2011	439	9,658	0	0	7,968	813,009
11-Aug-2011	421	9,262	0	0	7,641	820,651
12-Aug-2011	313	6,886	0	0	5,681	826,332
13-Aug-2011	281	6,182	0	0	5,100	831,432
14-Aug-2011	0	0	0	0	0	831,432
15-Aug-2011	370	8,140	0	0	6,716	838,147
16-Aug-2011	386	8,492	0	0	7,006	845,153
17-Aug-2011	233	5,126	0	0	4,229	849,382
18-Aug-2011	298	6,556	0	0	5,409	854,791
19-Aug-2011	273	6,006	0	0	4,955	859,746
20-Aug-2011	309	6,798	14	420	5,955	865,701
21-Aug-2011	0	0	0	0	0	865,701

Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
22-Aug-2011	188	4,136	12	360	3,709	869,410
23-Aug-2011	219	4,818	0	0	3,975	873,385
24-Aug-2011	292	6,424	0	0	5,300	878,684
25-Aug-2011	102	2,244	0	0	1,851	880,536
26-Aug-2011	202	4,444	0	0	3,666	884,202
27-Aug-2011	311	6,842	0	0	5,645	889,847
28-Aug-2011	0	0	0	0	0	889,847
29-Aug-2011	252	5,544	0	0	4,574	894,420
30-Aug-2011	253	5,566	0	0	4,592	899,012
31-Aug-2011	268	5,896	19	570	5,334	904,347
1-Sep-2011	253	5,566	17	510	5,013	909,360
2-Sep-2011	224	4,928	18	540	4,511	913,871
3-Sep-2011	0	0	0	0	0	913,871
4-Sep-2011	0	0	0	0	0	913,871
5-Sep-2011	0	0	0	0	0	913,871
6-Sep-2011	0	0	0	0	0	913,871
7-Sep-2011	0	0	0	0	0	913,871
8-Sep-2011	0	0	0	0	0	913,871
9-Sep-2011	94	2,068	0	0	1,706	915,577
10-Sep-2011	142	3,124	0	0	2,577	918,154
11-Sep-2011	0	0	0	0	0	918,154
12-Sep-2011	151	3,322	0	0	2,741	920,895
13-Sep-2011	150	3,300	0	0	2,723	923,617
14-Sep-2011	161	3,542	0	0	2,922	926,539
15-Sep-2011	0	0	0	0	0	926,539
16-Sep-2011	188	4,136	12	360	3,709	930,249
17-Sep-2011	143	3,146	0	0	2,595	932,844
18-Sep-2011	0	0	0	0	0	932,844
19-Sep-2011	167	3,674	12	360	3,328	936,172
20-Sep-2011	116	2,552	0	0	2,105	938,277
21-Sep-2011	0	0	0	0	0	938,277
22-Sep-2011	0	0	0	0	0	938,277
23-Sep-2011	0	0	0	0	0	938,277
24-Sep-2011	0	0	0	0	0	938,277
25-Sep-2011	0	0	0	0	0	938,277
26-Sep-2011	161	3,542	0	0	2,922	941,200
27-Sep-2011	28	616	0	0	508	941,708
28-Sep-2011	116	2,552	0	0	2,105	943,813
29-Sep-2011	152	3,344	0	0	2,759	946,572
30-Sep-2011	133	2,926	0	0	2,414	948,986
1-Oct-2011	266	5,852	0	0	4,828	953,814
2-Oct-2011	0	0	0	0	0	953,814

Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
3-Oct-2011	274	6,028	8	240	5,171	958,985
4-Oct-2011	281	6,182	0	0	5,100	964,085
5-Oct-2011	292	6,424	0	0	5,300	969,385
6-Oct-2011	228	5,016	0	0	4,138	973,523
7-Oct-2011	299	6,578	0	0	5,427	978,950
8-Oct-2011	203	4,466	0	0	3,684	982,634
9-Oct-2011	0	0	0	0	0	982,634
10-Oct-2011	239	5,258	0	0	4,338	986,972
11-Oct-2011	0	0	0	0	0	986,972
12-Oct-2011	193	4,246	0	0	3,503	990,475
13-Oct-2011	0	0	0	0	0	990,475
14-Oct-2011	219	4,818	0	0	3,975	994,450
15-Oct-2011	0	0	0	0	0	994,450
16-Oct-2011	241	5,302	0	0	4,374	998,824
17-Oct-2011	184	4,048	0	0	3,340	1,002,164
18-Oct-2011	192	4,224	0	0	3,485	1,005,649
19-Oct-2011	124	2,728	0	0	2,251	1,007,899
20-Oct-2011	0	0	0	0	0	1,007,899
21-Oct-2011	0	0	0	0	0	1,007,899
22-Oct-2011	25	539	0	0	445	1,008,344
23-Oct-2011	0	0	0	0	0	1,008,344
24-Oct-2011	0	0	0	0	0	1,008,344
25-Oct-2011	0	0	0	0	0	1,008,344
26-Oct-2011	0	0	0	0	0	1,008,344
27-Oct-2011	0	0	0	0	0	1,008,344
28-Oct-2011	0	0	0	0	0	1,008,344
29-Oct-2011	0	0	0	0	0	1,008,344
30-Oct-2011	0	0	0	0	0	1,008,344
31-Oct-2011	53	1,166	0	0	962	1,009,306
1-Nov-2011	0	0	0	0	0	1,009,306
2-Nov-2011	0	0	0	0	0	1,009,306
3-Nov-2011	36	792	0	0	653	1,009,959
4-Nov-2011	0	0	0	0	0	1,009,959
5-Nov-2011	0	0	0	0	0	1,009,959
6-Nov-2011	0	0	0	0	0	1,009,959
7-Nov-2011	0	0	0	0	0	1,009,959
8-Nov-2011	0	0	0	0	0	1,009,959
9-Nov-2011	0	0	0	0	0	1,009,959
10-Nov-2011	0	0	0	0	0	1,009,959
11-Nov-2011	0	0	0	0	0	1,009,959
12-Nov-2011	0	0	0	0	0	1,009,959
13-Nov-2011	0	0	0	0	0	1,009,959

Date	Ash Excavated From North Embayment					
	SCS Number Loads	Trucked Volume @ 22 yds	SCS Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
14-Nov-2011	0	0	0	0	0	1,009,959
15-Nov-2011	0	0	0	0	0	1,009,959
16-Nov-2011	0	0	0	0	0	1,009,959
17-Nov-2011	0	0	0	0	0	1,009,959
18-Nov-2011	10	220	0	0	182	1,010,141
19-Nov-2011	10	220	0	0	182	1,010,322
20-Nov-2011	0	0	0	0	0	1,010,322
21-Nov-2011	0	0	0	0	0	1,010,322
22-Nov-2011	0	0	0	0	0	1,010,322
23-Nov-2011	0	0	0	0	0	1,010,322
24-Nov-2011	0	0	0	0	0	1,010,322
25-Nov-2011	0	0	0	0	0	1,010,322
26-Nov-2011	0	0	0	0	0	1,010,322
27-Nov-2011	0	0	0	0	0	1,010,322
28-Nov-2011	0	0	0	0	0	1,010,322
29-Nov-2011	0	0	0	0	0	1,010,322
30-Nov-2011	0	0	0	0	0	1,010,322


Ash Excavated from Middle Embayment
Daily Volume Removed (cubic yards in place)
Cumulative Volume Removed (cubic yards in place)
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
1-Aug-2010
1-Nov-2010
1-Feb-2011
1-May-2011
1-Aug-2011
1-Nov-2011
1-Feb-2012
1-May-2012
1-Aug-2012
1-Nov-2012
1-Feb-2013
1-May-2013
1-Aug-2013
1-Nov-2013
1-Feb-2014
1-May-2014
1-Aug-2014
Series1
Cumulative Volume Removed

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
1-Aug-2010	0	0	0	0	0	0	0	0
2-Aug-2010	0	0	0	0	0	0	0	0
3-Aug-2010	0	0	0	0	0	0	0	0
4-Aug-2010	0	0	0	0	0	0	0	0
5-Aug-2010	0	0	0	0	0	0	0	0
6-Aug-2010	0	0	0	0	0	0	0	0
7-Aug-2010	0	0	0	0	0	0	0	0
8-Aug-2010	0	0	0	0	0	0	0	0
9-Aug-2010	0	0	0	0	0	0	0	0
10-Aug-2010	0	0	0	0	0	0	0	0
11-Aug-2010	0	0	96	2,112	0	0	1,497	1,497
12-Aug-2010	0	0	66	1,452	0	0	1,029	2,527
13-Aug-2010	0	0	0	0	0	0	0	2,527
14-Aug-2010	0	0	0	0	0	0	0	2,527
15-Aug-2010	0	0	0	0	0	0	0	2,527
16-Aug-2010	0	0	43	946	0	0	671	3,198
17-Aug-2010	0	0	66	1,452	0	0	1,029	4,227
18-Aug-2010	0	0	85	1,870	0	0	1,326	5,553
19-Aug-2010	0	0	0	0	0	0	0	5,553
20-Aug-2010	0	0	31	682	0	0	484	6,036
21-Aug-2010	0	0	0	0	0	0	0	6,036
22-Aug-2010	0	0	0	0	0	0	0	6,036
23-Aug-2010	0	0	88	1,936	0	0	1,373	7,409
24-Aug-2010	0	0	123	2,706	0	0	1,919	9,328
25-Aug-2010	0	0	113	2,486	0	0	1,763	11,090
26-Aug-2010	0	0	71	1,562	0	0	1,107	12,198
27-Aug-2010	0	0	0	0	0	0	0	12,198
28-Aug-2010	0	0	0	0	0	0	0	12,198
29-Aug-2010	0	0	0	0	0	0	0	12,198
30-Aug-2010	0	0	140	3,080	0	0	2,184	14,381
31-Aug-2010	0	0	110	2,420	0	0	1,716	16,097
1-Sep-2010	0	0	122	2,684	0	0	1,903	18,000
2-Sep-2010	0	0	150	3,300	0	0	2,340	20,340
3-Sep-2010	0	0	166	3,652	0	0	2,589	22,929
4-Sep-2010	0	0	0	0	0	0	0	22,929
5-Sep-2010	0	0	0	0	0	0	0	22,929
6-Sep-2010	0	0	0	0	0	0	0	22,929
7-Sep-2010	0	0	170	3,740	0	0	2,652	25,581
8-Sep-2010	0	0	0	0	0	0	0	25,581
9-Sep-2010	0	0	166	3,652	0	0	2,589	28,170
10-Sep-2010	0	0	177	3,894	0	0	2,761	30,931
11-Sep-2010	0	0	0	0	0	0	0	30,931
12-Sep-2010	0	0	0	0	0	0	0	30,931
13-Sep-2010	0	0	145	3,190	0	0	2,262	33,193

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
14-Sep-2010	0	0	144	3,168	0	0	2,246	35,439
15-Sep-2010	0	0	321	7,062	0	0	5,007	40,446
16-Sep-2010	0	0	356	7,832	0	0	5,553	45,999
17-Sep-2010	0	0	0	0	0	0	0	45,999
18-Sep-2010	0	0	284	6,248	38	1,140	5,238	51,237
19-Sep-2010	0	0	0	0	0	0	0	51,237
20-Sep-2010	0	0	371	8,162	0	0	5,787	57,023
21-Sep-2010	0	0	195	4,290	138	4,140	5,977	63,000
22-Sep-2010	0	0	199	4,378	24	720	3,614	66,615
23-Sep-2010	0	0	300	6,600	32	960	5,360	71,975
24-Sep-2010	0	0	214	4,708	0	0	3,338	75,313
25-Sep-2010	0	0	0	0	0	0	0	75,313
26-Sep-2010	0	0	0	0	0	0	0	75,313
27-Sep-2010	0	0	0	0	0	0	0	75,313
28-Sep-2010	0	0	0	0	0	0	0	75,313
29-Sep-2010	0	0	345	7,590	0	0	5,381	80,694
30-Sep-2010	0	0	315	6,930	4	120	4,998	85,693
1-Oct-2010	0	0	117	2,574	0	0	1,825	87,518
2-Oct-2010	0	0	162	3,564	0	0	2,527	90,044
3-Oct-2010	0	0	0	0	0	0	0	90,044
4-Oct-2010	0	0	215	4,730	0	0	3,354	93,398
5-Oct-2010	0	0	276	6,072	0	0	4,305	97,703
6-Oct-2010	0	0	310	6,820	0	0	4,835	102,538
7-Oct-2010	0	0	271	5,962	0	0	4,227	106,765
8-Oct-2010	0	0	206	4,532	0	0	3,213	109,979
9-Oct-2010	0	0	0	0	0	0	0	109,979
10-Oct-2010	0	0	0	0	0	0	0	109,979
11-Oct-2010	0	0	267	5,874	56	1,680	5,356	115,334
12-Oct-2010	0	0	267	5,874	46	1,380	5,143	120,478
13-Oct-2010	0	0	232	5,104	47	1,410	4,618	125,096
14-Oct-2010	0	0	210	4,620	35	1,050	4,020	129,116
15-Oct-2010	0	0	200	4,400	57	1,710	4,332	133,448
16-Oct-2010	0	0	0	0	0	0	0	133,448
17-Oct-2010	0	0	0	0	0	0	0	133,448
18-Oct-2010	0	0	235	5,170	55	1,650	4,835	138,283
19-Oct-2010	0	0	257	5,654	55	1,650	5,179	143,462
20-Oct-2010	0	0	316	6,952	48	1,440	5,950	149,412
21-Oct-2010	0	0	315	6,930	45	1,350	5,871	155,282
22-Oct-2010	0	0	244	5,368	38	1,140	4,614	159,897
23-Oct-2010	0	0	0	0	0	0	0	159,897
24-Oct-2010	0	0	0	0	0	0	0	159,897
25-Oct-2010	0	0	0	0	0	0	0	159,897
26-Oct-2010	0	0	0	0	0	0	0	159,897
27-Oct-2010	0	0	0	0	0	0	0	159,897

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
28-Oct-2010	0	0	0	0	0	0	0	159,897
29-Oct-2010	0	0	124	2,728	0	0	1,934	161,831
30-Oct-2010	0	0	337	7,414	0	0	5,257	167,087
31-Oct-2010	0	0	298	6,556	59	1,770	5,903	172,990
1-Nov-2010	0	0	319	7,018	51	1,530	6,061	179,051
2-Nov-2010	0	0	185	4,070	7	210	3,035	182,085
3-Nov-2010	0	0	7	154	7	210	258	182,343
4-Nov-2010	0	0	0	0	0	0	0	182,343
5-Nov-2010	0	0	0	0	0	0	0	182,343
6-Nov-2010	0	0	0	0	0	0	0	182,343
7-Nov-2010	0	0	0	0	0	0	0	182,343
8-Nov-2010	0	0	89	1,958	0	0	1,388	183,732
9-Nov-2010	0	0	178	3,916	0	0	2,776	186,508
10-Nov-2010	0	0	209	4,598	32	960	3,941	190,449
11-Nov-2010	0	0	88	1,936	39	1,170	2,202	192,651
12-Nov-2010	0	0	131	2,882	44	1,320	2,979	195,630
13-Nov-2010	0	0	287	6,314	0	0	4,477	200,107
14-Nov-2010	0	0	86	1,892	0	0	1,341	201,448
15-Nov-2010	0	0	58	1,276	0	0	905	202,353
16-Nov-2010	0	0	0	0	0	0	0	202,353
17-Nov-2010	0	0	0	0	0	0	0	202,353
18-Nov-2010	0	0	194	4,268	0	0	3,026	205,379
19-Nov-2010	0	0	172	3,784	0	0	2,683	208,062
20-Nov-2010	0	0	181	3,982	0	0	2,823	210,885
21-Nov-2010	0	0	178	3,916	0	0	2,776	213,661
22-Nov-2010	0	0	180	3,960	22	660	3,276	216,937
23-Nov-2010	0	0	77	1,694	0	0	1,201	218,138
24-Nov-2010	0	0	81	1,782	0	0	1,263	219,401
25-Nov-2010	0	0	0	0	0	0	0	219,401
26-Nov-2010	0	0	0	0	0	0	0	219,401
27-Nov-2010	0	0	0	0	0	0	0	219,401
28-Nov-2010	0	0	0	0	0	0	0	219,401
29-Nov-2010	0	0	205	4,510	0	0	3,198	222,599
30-Nov-2010	0	0	0	0	0	0	0	222,599
1-Dec-2010	0	0	0	0	0	0	0	222,599
2-Dec-2010	0	0	0	0	0	0	0	222,599
3-Dec-2010	0	0	0	0	0	0	0	222,599
4-Dec-2010	0	0	0	0	0	0	0	222,599
5-Dec-2010	0	0	0	0	0	0	0	222,599
6-Dec-2010	0	0	120	2,640	0	0	1,872	224,471
7-Dec-2010	0	0	179	3,938	0	0	2,792	227,263
8-Dec-2010	0	0	201	4,422	0	0	3,135	230,398
9-Dec-2010	0	0	33	726	0	0	515	230,913
10-Dec-2010	0	0	69	1,518	0	0	1,076	231,989

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
11-Dec-2010	0	0	0	0	0	0	0	231,989
12-Dec-2010	0	0	0	0	0	0	0	231,989
13-Dec-2010	0	0	0	0	0	0	0	231,989
14-Dec-2010	0	0	77	1,694	0	0	1,201	233,190
15-Dec-2010	0	0	98	2,156	0	0	1,529	234,719
16-Dec-2010	0	0	0	0	0	0	0	234,719
17-Dec-2010	0	0	85	1,870	0	0	1,326	236,045
18-Dec-2010	0	0	0	0	0	0	0	236,045
19-Dec-2010	0	0	0	0	0	0	0	236,045
20-Dec-2010	0	0	47	1,034	0	0	733	236,778
21-Dec-2010	0	0	81	1,782	0	0	1,263	238,041
22-Dec-2010	0	0	85	1,870	0	0	1,326	239,367
23-Dec-2010	0	0	83	1,826	0	0	1,295	240,662
24-Dec-2010	0	0	0	0	0	0	0	240,662
25-Dec-2010	0	0	0	0	0	0	0	240,662
26-Dec-2010	0	0	0	0	0	0	0	240,662
27-Dec-2010	0	0	126	2,772	0	0	1,965	242,627
28-Dec-2010	0	0	123	2,706	0	0	1,919	244,545
29-Dec-2010	0	0	155	3,410	0	0	2,418	246,963
30-Dec-2010	0	0	124	2,728	0	0	1,934	248,897
31-Dec-2010	0	0	0	0	0	0	0	248,897
1-Jan-2011	0	0	0	0	0	0	0	248,897
2-Jan-2011	0	0	0	0	0	0	0	248,897
3-Jan-2011	0	0	181	3,982	0	0	2,823	251,721
4-Jan-2011	0	0	140	3,080	0	0	2,184	253,904
5-Jan-2011	0	0	125	2,750	0	0	1,950	255,854
6-Jan-2011	0	0	100	2,200	0	0	1,560	257,414
7-Jan-2011	0	0	33	726	0	0	515	257,929
8-Jan-2011	0	0	0	0	0	0	0	257,929
9-Jan-2011	0	0	0	0	0	0	0	257,929
10-Jan-2011	0	0	0	0	0	0	0	257,929
11-Jan-2011	0	0	0	0	0	0	0	257,929
12-Jan-2011	0	0	0	0	0	0	0	257,929
13-Jan-2011	0	0	0	0	0	0	0	257,929
14-Jan-2011	0	0	0	0	0	0	0	257,929
15-Jan-2011	0	0	0	0	0	0	0	257,929
16-Jan-2011	0	0	0	0	0	0	0	257,929
17-Jan-2011	0	0	13	286	0	0	203	258,131
18-Jan-2011	0	0	20	440	0	0	312	258,443
19-Jan-2011	0	0	41	902	0	0	640	259,083
20-Jan-2011	0	0	13	286	0	0	203	259,286
21-Jan-2011	0	0	-76	-1,672	0	0	-1,185	258,100
22-Jan-2011	0	0	0	0	0	0	0	258,100
23-Jan-2011	0	0	0	0	0	0	0	258,100

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
24-Jan-2011	0	0	-47	-1,034	0	0	-733	257,367
25-Jan-2011	0	0	-3	-66	0	0	-47	257,320
26-Jan-2011	0	0	0	0	0	0	0	257,320
27-Jan-2011	0	0	0	0	0	0	0	257,320
28-Jan-2011	0	0	68	1,496	0	0	1,061	258,381
29-Jan-2011	0	0	0	0	0	0	0	258,381
30-Jan-2011	0	0	0	0	0	0	0	258,381
31-Jan-2011	0	0	-127	-2,794	0	0	-1,981	256,400
1-Feb-2011	0	0	-77	-1,694	0	0	-1,201	255,199
2-Feb-2011	0	0	0	0	0	0	0	255,199
3-Feb-2011	0	0	-101	-2,222	0	0	-1,575	253,623
4-Feb-2011	0	0	2	44	0	0	31	253,655
5-Feb-2011	0	0	0	0	0	0	0	253,655
6-Feb-2011	0	0	0	0	0	0	0	253,655
7-Feb-2011	0	0	-118	-2,596	0	0	-1,841	251,814
8-Feb-2011	0	0	83	1,826	0	0	1,295	253,109
9-Feb-2011	0	0	27	594	0	0	421	253,530
10-Feb-2011	0	0	-113	-2,486	0	0	-1,763	251,767
11-Feb-2011	0	0	0	0	0	0	0	251,767
12-Feb-2011	0	0	0	0	0	0	0	251,767
13-Feb-2011	0	0	0	0	0	0	0	251,767
14-Feb-2011	0	0	0	0	0	0	0	251,767
15-Feb-2011	0	0	0	0	0	0	0	251,767
16-Feb-2011	0	0	0	0	0	0	0	251,767
17-Feb-2011	0	0	0	0	0	0	0	251,767
18-Feb-2011	0	0	0	0	0	0	0	251,767
19-Feb-2011	0	0	0	0	0	0	0	251,767
20-Feb-2011	0	0	0	0	0	0	0	251,767
21-Feb-2011	0	0	0	0	0	0	0	251,767
22-Feb-2011	0	0	0	0	0	0	0	251,767
23-Feb-2011	0	0	0	0	0	0	0	251,767
24-Feb-2011	0	0	0	0	0	0	0	251,767
25-Feb-2011	0	0	0	0	0	0	0	251,767
26-Feb-2011	0	0	0	0	0	0	0	251,767
27-Feb-2011	0	0	0	0	0	0	0	251,767
28-Feb-2011	0	0	0	0	0	0	0	251,767
1-Mar-2011	0	0	35	770	0	0	546	252,313
2-Mar-2011	0	0	-81	-1,782	0	0	-1,263	251,050
3-Mar-2011	0	0	-109	-2,398	0	0	-1,700	249,350
4-Mar-2011	0	0	-96	-2,112	0	0	-1,497	247,852
5-Mar-2011	0	0	0	0	0	0	0	247,852
6-Mar-2011	0	0	0	0	0	0	0	247,852
7-Mar-2011	0	0	18	396	0	0	281	248,133
8-Mar-2011	0	0	33	726	0	0	515	248,648

	Ash Excavated From Middle Embayment							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
9-Mar-2011	0	0	0	0	0	0	0	248,648
10-Mar-2011	0	0	0	0	0	0	0	248,648
11-Mar-2011	0	0	10	220	0	0	156	248,804
12-Mar-2011	0	0	47	1,034	0	0	733	249,537
13-Mar-2011	0	0	0	0	0	0	0	249,537
14-Mar-2011	0	0	0	0	0	0	0	249,537
15-Mar-2011	0	0	0	0	0	0	0	249,537
16-Mar-2011	0	0	0	0	0	0	0	249,537
17-Mar-2011	0	0	0	0	0	0	0	249,537
18-Mar-2011	0	0	0	0	0	0	0	249,537
19-Mar-2011	0	0	0	0	0	0	0	249,537
20-Mar-2011	0	0	0	0	0	0	0	249,537
21-Mar-2011	0	0	0	0	0	0	0	249,537
22-Mar-2011	0	0	0	0	0	0	0	249,537
23-Mar-2011	0	0	0	0	0	0	0	249,537
24-Mar-2011	0	0	0	0	0	0	0	249,537
25-Mar-2011	0	0	0	0	0	0	0	249,537
26-Mar-2011	0	0	0	0	0	0	0	249,537
27-Mar-2011	0	0	0	0	0	0	0	249,537
28-Mar-2011	0	0	0	0	0	0	0	249,537
29-Mar-2011	0	0	0	0	0	0	0	249,537
30-Mar-2011	0	0	0	0	0	0	0	249,537
31-Mar-2011	0	0	0	0	0	0	0	249,537
1-Apr-2011	0	0	0	0	0	0	0	249,537
2-Apr-2011	0	0	0	0	0	0	0	249,537
3-Apr-2011	0	0	0	0	0	0	0	249,537
4-Apr-2011	0	0	0	0	0	0	0	249,537
5-Apr-2011	0	0	0	0	0	0	0	249,537
6-Apr-2011	0	0	0	0	0	0	0	249,537
7-Apr-2011	0	0	0	0	0	0	0	249,537
8-Apr-2011	0	0	0	0	0	0	0	249,537
9-Apr-2011	0	0	0	0	0	0	0	249,537
10-Apr-2011	0	0	0	0	0	0	0	249,537
11-Apr-2011	0	0	37	814	0	0	577	250,114
12-Apr-2011	0	0	0	0	0	0	0	250,114
13-Apr-2011	0	0	80	1,760	0	0	1,248	251,362
14-Apr-2011	0	0	108	2,376	0	0	1,685	253,046
15-Apr-2011	0	0	89	1,958	0	0	1,388	254,435
16-Apr-2011	0	0	0	0	0	0	0	254,435
17-Apr-2011	0	0	0	0	0	0	0	254,435
18-Apr-2011	0	0	104	2,288	0	0	1,622	256,057
19-Apr-2011	0	0	272	5,984	0	0	4,243	260,299
20-Apr-2011	0	0	0	0	0	0	0	260,299
21-Apr-2011	0	0	177	3,894	0	0	2,761	263,060

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
22-Apr-2011	0	0	127	2,794	0	0	1,981	265,041
23-Apr-2011	0	0	0	0	0	0	0	265,041
24-Apr-2011	0	0	0	0	0	0	0	265,041
25-Apr-2011	0	0	132	2,904	0	0	2,059	267,100
26-Apr-2011	0	0	107	2,354	0	0	1,669	268,769
27-Apr-2011	0	0	0	0	0	0	0	268,769
28-Apr-2011	0	0	0	0	0	0	0	268,769
29-Apr-2011	0	0	130	2,860	0	0	2,028	270,797
30-Apr-2011	0	0	57	1,254	0	0	889	271,686
1-May-2011	0	0	14	308	0	0	218	271,904
2-May-2011	0	0	0	0	0	0	0	271,904
3-May-2011	0	0	0	0	0	0	0	271,904
4-May-2011	0	0	0	0	0	0	0	271,904
5-May-2011	0	0	0	0	0	0	0	271,904
6-May-2011	0	0	0	0	0	0	0	271,904
7-May-2011	0	0	0	0	0	0	0	271,904
8-May-2011	0	0	0	0	0	0	0	271,904
9-May-2011	0	0	4	88	0	0	62	271,967
10-May-2011	0	0	13	286	0	0	203	272,170
11-May-2011	0	0	6	132	0	0	94	272,263
12-May-2011	0	0	0	0	0	0	0	272,263
13-May-2011	0	0	13	286	0	0	203	272,466
14-May-2011	0	0	0	0	0	0	0	272,466
15-May-2011	0	0	0	0	0	0	0	272,466
16-May-2011	0	0	0	0	0	0	0	272,466
17-May-2011	0	0	0	0	0	0	0	272,466
18-May-2011	0	0	0	0	0	0	0	272,466
19-May-2011	0	0	12	264	0	0	187	272,653
20-May-2011	0	0	27	594	0	0	421	273,074
21-May-2011	0	0	0	0	0	0	0	273,074
22-May-2011	0	0	0	0	0	0	0	273,074
23-May-2011	0	0	39	858	0	0	608	273,683
24-May-2011	0	0	16	352	0	0	250	273,932
25-May-2011	0	0	0	0	0	0	0	273,932
26-May-2011	0	0	0	0	0	0	0	273,932
27-May-2011	0	0	0	0	0	0	0	273,932
28-May-2011	0	0	0	0	0	0	0	273,932
29-May-2011	0	0	0	0	0	0	0	273,932
30-May-2011	0	0	0	0	0	0	0	273,932
31-May-2011	0	0	0	0	0	0	0	273,932
1-Jun-2011	0	0	67	1,474	0	0	1,045	274,977
2-Jun-2011	0	0	41	902	0	0	640	275,617
3-Jun-2011	0	0	44	968	5	150	793	276,409
4-Jun-2011	0	0	65	1,430	0	0	1,014	277,423

	Ash Excavated From Middle Embayment							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
5-Jun-2011	0	0	0	0	0	0	0	277,423
6-Jun-2011	0	0	0	0	85	2,550	1,808	279,231
7-Jun-2011	0	0	0	0	86	2,580	1,829	281,060
8-Jun-2011	0	0	0	0	78	2,340	1,659	282,719
9-Jun-2011	0	0	84	1,848	0	0	1,310	284,030
10-Jun-2011	0	0	131	2,882	0	0	2,043	286,073
11-Jun-2011	0	0	0	0	68	2,040	1,446	287,519
12-Jun-2011	0	0	0	0	0	0	0	287,519
13-Jun-2011	0	0	0	0	65	1,950	1,383	288,902
14-Jun-2011	0	0	38	836	15	450	912	289,814
15-Jun-2011	0	0	19	418	4	120	381	290,195
16-Jun-2011	0	0	0	0	0	0	0	290,195
17-Jun-2011	0	0	57	1,254	0	0	889	291,084
18-Jun-2011	0	0	-66	-1,452	0	0	-1,029	290,055
19-Jun-2011	0	0	0	0	0	0	0	290,055
20-Jun-2011	0	0	15	330	-38	-1,140	-574	289,480
21-Jun-2011	0	0	3	66	0	0	47	289,527
22-Jun-2011	0	0	44	968	0	0	686	290,214
23-Jun-2011	0	0	0	0	0	0	0	290,214
24-Jun-2011	0	0	0	0	0	0	0	290,214
25-Jun-2011	0	0	0	0	0	0	0	290,214
26-Jun-2011	0	0	0	0	0	0	0	290,214
27-Jun-2011	0	0	46	1,012	0	0	718	290,931
28-Jun-2011	0	0	0	0	0	0	0	290,931
29-Jun-2011	0	0	0	0	0	0	0	290,931
30-Jun-2011	0	0	37	814	43	1,290	1,492	292,423
1-Jul-2011	0	0	63	1,386	61	1,830	2,280	294,703
2-Jul-2011	0	0	0	0	0	0	0	294,703
3-Jul-2011	0	0	0	0	0	0	0	294,703
4-Jul-2011	0	0	0	0	0	0	0	294,703
5-Jul-2011	0	0	-22	-484	21	630	104	294,806
6-Jul-2011	0	0	0	0	34	1,020	723	295,530
7-Jul-2011	0	0	0	0	28	840	596	296,125
8-Jul-2011	0	0	4	88	12	360	318	296,443
9-Jul-2011	0	0	0	0	0	0	0	296,443
10-Jul-2011	0	0	0	0	0	0	0	296,443
11-Jul-2011	0	0	-10	-220	29	870	461	296,904
12-Jul-2011	0	0	0	0	0	0	0	296,904
13-Jul-2011	0	0	-81	-1,782	0	0	-1,263	295,640
14-Jul-2011	0	0	-20	-440	28	840	284	295,924
15-Jul-2011	0	0	0	0	0	0	0	295,924
16-Jul-2011	0	0	4	88	0	0	62	295,986
17-Jul-2011	0	0	0	0	0	0	0	295,986
18-Jul-2011	0	0	-22	-484	0	0	-343	295,643

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
19-Jul-2011	0	0	-57	-1,254	0	0	-889	294,754
20-Jul-2011	0	0	14	308	24	720	729	295,483
21-Jul-2011	0	0	14	308	4	120	303	295,786
22-Jul-2011	0	0	-47	-1,034	46	1,380	245	296,032
23-Jul-2011	0	0	-15	-330	34	1,020	489	296,521
24-Jul-2011	0	0	0	0	0	0	0	296,521
25-Jul-2011	0	0	-7	-154	18	540	274	296,794
26-Jul-2011	0	0	0	0	30	900	638	297,433
27-Jul-2011	0	0	0	0	36	1,080	766	298,198
28-Jul-2011	0	0	-115	-2,530	22	660	-1,326	296,872
29-Jul-2011	0	0	-67	-1,474	28	840	-450	296,423
30-Jul-2011	0	0	0	0	30	900	638	297,061
31-Jul-2011	0	0	0	0	0	0	0	297,061
1-Aug-2011	0	0	33	726	30	900	1,153	298,214
2-Aug-2011	0	0	-8	-176	19	570	279	298,493
3-Aug-2011	0	0	48	1,056	-20	-600	323	298,817
4-Aug-2011	0	0	0	0	0	0	0	298,817
5-Aug-2011	0	0	0	0	0	0	0	298,817
6-Aug-2011	0	0	-151	-3,322	0	0	-2,355	296,461
7-Aug-2011	0	0	0	0	0	0	0	296,461
8-Aug-2011	0	0	-59	-1,298	8	240	-750	295,711
9-Aug-2011	0	0	0	0	0	0	0	295,711
10-Aug-2011	0	0	0	0	31	930	659	296,371
11-Aug-2011	0	0	42	924	15	450	974	297,345
12-Aug-2011	0	0	82	1,804	0	0	1,279	298,624
13-Aug-2011	0	0	76	1,672	6	180	1,313	299,937
14-Aug-2011	0	0	0	0	0	0	0	299,937
15-Aug-2011	0	0	-18	-396	17	510	81	300,018
16-Aug-2011	0	0	32	704	17	510	861	300,878
17-Aug-2011	0	0	0	0	0	0	0	300,878
18-Aug-2011	0	0	0	0	0	0	0	300,878
19-Aug-2011	0	0	0	0	28	840	596	301,474
20-Aug-2011	0	0	0	0	11	330	234	301,708
21-Aug-2011	0	0	0	0	0	0	0	301,708
22-Aug-2011	0	0	0	0	0	0	0	301,708
23-Aug-2011	0	0	0	0	0	0	0	301,708
24-Aug-2011	0	0	-52	-1,144	5	150	-705	301,003
25-Aug-2011	-14	-224	42	924	4	120	581	301,584
26-Aug-2011	0	0	0	0	0	0	0	301,584
27-Aug-2011	0	0	0	0	0	0	0	301,584
28-Aug-2011	0	0	0	0	0	0	0	301,584
29-Aug-2011	0	0	158	3,476	27	810	3,039	304,623
30-Aug-2011	0	0	199	4,378	32	960	3,785	308,408
31-Aug-2011	0	0	193	4,246	0	0	3,010	311,418

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
1-Sep-2011	0	0	202	4,444	13	390	3,427	314,846
2-Sep-2011	0	0	53	1,166	0	0	827	315,672
3-Sep-2011	0	0	0	0	0	0	0	315,672
4-Sep-2011	0	0	0	0	0	0	0	315,672
5-Sep-2011	0	0	0	0	0	0	0	315,672
6-Sep-2011	0	0	0	0	0	0	0	315,672
7-Sep-2011	0	0	0	0	0	0	0	315,672
8-Sep-2011	0	0	0	0	0	0	0	315,672
9-Sep-2011	0	0	54	1,188	0	0	842	316,515
10-Sep-2011	0	0	93	2,046	0	0	1,451	317,965
11-Sep-2011	0	0	0	0	0	0	0	317,965
12-Sep-2011	0	0	79	1,738	0	0	1,232	319,197
13-Sep-2011	0	0	155	3,410	0	0	2,418	321,615
14-Sep-2011	0	0	0	0	0	0	0	321,615
15-Sep-2011	0	0	12	264	0	0	187	321,802
16-Sep-2011	0	0	67	1,474	0	0	1,045	322,847
17-Sep-2011	0	0	64	1,408	0	0	998	323,846
18-Sep-2011	0	0	0	0	0	0	0	323,846
19-Sep-2011	0	0	78	1,716	0	0	1,217	325,062
20-Sep-2011	0	0	87	1,914	0	0	1,357	326,419
21-Sep-2011	0	0	0	0	0	0	0	326,419
22-Sep-2011	0	0	0	0	0	0	0	326,419
23-Sep-2011	0	0	12	264	0	0	187	326,607
24-Sep-2011	0	0	0	0	0	0	0	326,607
25-Sep-2011	0	0	0	0	0	0	0	326,607
26-Sep-2011	0	0	29	638	6	180	580	327,186
27-Sep-2011	0	0	0	0	0	0	0	327,186
28-Sep-2011	0	0	160	3,520	7	210	2,645	329,831
29-Sep-2011	0	0	121	2,662	0	0	1,887	331,718
30-Sep-2011	0	0	0	0	0	0	0	331,718
1-Oct-2011	0	0	0	0	0	0	0	331,718
2-Oct-2011	0	0	0	0	0	0	0	331,718
3-Oct-2011	0	0	0	0	0	0	0	331,718
4-Oct-2011	0	0	-8	-176	0	0	-125	331,594
5-Oct-2011	0	0	-23	-506	0	0	-359	331,235
6-Oct-2011	0	0	14	308	38	1,140	1,027	332,262
7-Oct-2011	0	0	-109	-2,398	20	600	-1,275	330,987
8-Oct-2011	-35	-560	0	0	101	3,030	1,751	332,738
9-Oct-2011	0	0	0	0	0	0	0	332,738
10-Oct-2011	0	0	0	0	26	780	553	333,291
11-Oct-2011	-28	-448	0	0	0	0	-318	332,973
12-Oct-2011	0	0	-193	-4,246	0	0	-3,010	329,963
13-Oct-2011	0	0	0	0	0	0	0	329,963
14-Oct-2011	0	0	-209	-4,598	0	0	-3,260	326,703

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
15-Oct-2011	0	0	0	0	0	0	0	326,703
16-Oct-2011	0	0	0	0	0	0	0	326,703
17-Oct-2011	0	0	86	1,892	0	0	1,341	328,044
18-Oct-2011	0	0	171	3,762	0	0	2,667	330,712
19-Oct-2011	0	0	-124	-2,728	0	0	-1,934	328,777
20-Oct-2011	0	0	0	0	0	0	0	328,777
21-Oct-2011	0	0	20	440	31	930	971	329,749
22-Oct-2011	0	0	162	3,553	0	0	2,519	332,268
23-Oct-2011	0	0	0	0	0	0	0	332,268
24-Oct-2011	0	0	252	5,544	5	150	4,037	336,305
25-Oct-2011	0	0	318	6,996	0	0	4,960	341,265
26-Oct-2011	0	0	201	4,422	0	0	3,135	344,400
27-Oct-2011	0	0	42	924	0	0	655	345,055
28-Oct-2011	0	0	0	0	0	0	0	345,055
29-Oct-2011	0	0	0	0	0	0	0	345,055
30-Oct-2011	0	0	0	0	0	0	0	345,055
31-Oct-2011	0	0	302	6,644	0	0	4,711	349,766
1-Nov-2011	0	0	302	6,644	4	120	4,796	354,562
2-Nov-2011	0	0	166	3,652	0	0	2,589	357,151
3-Nov-2011	0	0	63	1,386	0	0	983	358,134
4-Nov-2011	0	0	53	1,166	0	0	827	358,960
5-Nov-2011	0	0	0	0	0	0	0	358,960
6-Nov-2011	0	0	0	0	0	0	0	358,960
7-Nov-2011	0	0	184	4,048	0	0	2,870	361,830
8-Nov-2011	0	0	185	4,070	0	0	2,886	364,716
9-Nov-2011	0	0	227	4,994	0	0	3,541	368,257
10-Nov-2011	0	0	220	4,840	0	0	3,432	371,688
11-Nov-2011	0	0	196	4,312	0	0	3,057	374,745
12-Nov-2011	0	0	100	2,200	0	0	1,560	376,305
13-Nov-2011	0	0	0	0	0	0	0	376,305
14-Nov-2011	0	0	18	396	0	0	281	376,586
15-Nov-2011	0	0	0	0	0	0	0	376,586
16-Nov-2011	0	0	0	0	0	0	0	376,586
17-Nov-2011	0	0	18	396	0	0	281	376,867
18-Nov-2011	0	0	126	2,772	0	0	1,965	378,832
19-Nov-2011	0	0	-6	-132	0	0	-94	378,739
20-Nov-2011	0	0	0	0	0	0	0	378,739
21-Nov-2011	0	0	21	462	0	0	328	379,066
22-Nov-2011	0	0	0	0	0	0	0	379,066
23-Nov-2011	0	0	0	0	0	0	0	379,066
24-Nov-2011	0	0	0	0	0	0	0	379,066
25-Nov-2011	0	0	0	0	0	0	0	379,066
26-Nov-2011	0	0	0	0	0	0	0	379,066
27-Nov-2011	0	0	0	0	0	0	0	379,066

	Ash Excavated From Middle Embayment							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
28-Nov-2011	0	0	0	0	0	0	0	379,066
29-Nov-2011	0	0	-51	-1,122	0	0	-795	378,271
30-Nov-2011	0	0	-55	-1,210	0	0	-858	377,413
1-Dec-2011	0	0	-60	-1,320	0	0	-936	376,477
2-Dec-2011	0	0	-123	-2,706	0	0	-1,919	374,558
3-Dec-2011	0	0	0	0	0	0	0	374,558
4-Dec-2011	0	0	0	0	0	0	0	374,558
5-Dec-2011	0	0	89	1,958	0	0	1,388	375,947
6-Dec-2011	0	0	0	0	0	0	0	375,947
7-Dec-2011	0	0	0	0	0	0	0	375,947
8-Dec-2011	0	0	17	374	0	0	265	376,212
9-Dec-2011	0	0	28	616	0	0	437	376,648
10-Dec-2011	0	0	-19	-418	0	0	-296	376,352
11-Dec-2011	0	0	0	0	0	0	0	376,352
12-Dec-2011	0	0	92	2,024	0	0	1,435	377,787
13-Dec-2011	0	0	245	5,390	0	0	3,822	381,609
14-Dec-2011	0	0	263	5,786	0	0	4,102	385,711
15-Dec-2011	0	0	241	5,302	0	0	3,759	389,470
16-Dec-2011	0	0	147	3,234	0	0	2,293	391,763
17-Dec-2011	0	0	263	5,786	0	0	4,102	395,865
18-Dec-2011	0	0	0	0	0	0	0	395,865
19-Dec-2011	0	0	90	1,980	0	0	1,404	397,269
20-Dec-2011	0	0	214	4,708	0	0	3,338	400,607
21-Dec-2011	0	0	244	5,368	0	0	3,806	404,413
22-Dec-2011	0	0	149	3,278	0	0	2,324	406,737
23-Dec-2011	0	0	0	0	0	0	0	406,737
24-Dec-2011	0	0	0	0	0	0	0	406,737
25-Dec-2011	0	0	0	0	0	0	0	406,737
26-Dec-2011	0	0	0	0	0	0	0	406,737
27-Dec-2011	0	0	0	0	0	0	0	406,737
28-Dec-2011	0	0	238	5,236	0	0	3,712	410,449
29-Dec-2011	0	0	162	3,564	0	0	2,527	412,976
30-Dec-2011	0	0	187	4,114	0	0	2,917	415,893
31-Dec-2011	0	0	154	3,388	0	0	2,402	418,295
1-Jan-2012	0	0	0	0	0	0	0	418,295
2-Jan-2012	0	0	0	0	0	0	0	418,295
3-Jan-2012	0	0	218	4,796	0	0	3,400	421,695
4-Jan-2012	0	0	103	2,266	0	0	1,607	423,302
5-Jan-2012	0	0	92	2,024	0	0	1,435	424,737
6-Jan-2012	0	0	115	2,530	0	0	1,794	426,531
7-Jan-2012	0	0	142	3,124	0	0	2,215	428,746
8-Jan-2012	0	0	0	0	0	0	0	428,746
9-Jan-2012	0	0	137	3,014	0	0	2,137	430,883
10-Jan-2012	0	0	113	2,486	0	0	1,763	432,645

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
11-Jan-2012	0	0	108	2,376	0	0	1,685	434,330
12-Jan-2012	0	0	219	4,818	0	0	3,416	437,746
13-Jan-2012	0	0	121	2,662	0	0	1,887	439,633
14-Jan-2012	0	0	8	176	0	0	125	439,758
15-Jan-2012	0	0	0	0	0	0	0	439,758
16-Jan-2012	0	0	124	2,728	0	0	1,934	441,692
17-Jan-2012	0	0	151	3,322	0	0	2,355	444,047
18-Jan-2012	0	0	144	3,168	0	0	2,246	446,294
19-Jan-2012	0	0	117	2,574	0	0	1,825	448,118
20-Jan-2012	0	0	149	3,278	0	0	2,324	450,443
21-Jan-2012	0	0	0	0	0	0	0	450,443
22-Jan-2012	0	0	0	0	0	0	0	450,443
23-Jan-2012	0	0	0	0	0	0	0	450,443
24-Jan-2012	0	0	160	3,520	0	0	2,496	452,938
25-Jan-2012	0	0	74	1,628	0	0	1,154	454,093
26-Jan-2012	0	0	73	1,606	0	0	1,139	455,231
27-Jan-2012	0	0	105	2,310	0	0	1,638	456,869
28-Jan-2012	0	0	0	0	0	0	0	456,869
29-Jan-2012	0	0	0	0	0	0	0	456,869
30-Jan-2012	0	0	103	2,266	0	0	1,607	458,476
31-Jan-2012	0	0	84	1,848	0	0	1,310	459,786
1-Feb-2012	0	0	145	3,190	0	0	2,262	462,048
2-Feb-2012	0	0	188	4,136	0	0	2,932	464,980
3-Feb-2012	0	0	100	2,200	0	0	1,560	466,540
4-Feb-2012	0	0	76	1,672	0	0	1,185	467,725
5-Feb-2012	0	0	0	0	0	0	0	467,725
6-Feb-2012	0	0	151	3,322	0	0	2,355	470,080
7-Feb-2012	0	0	103	2,266	0	0	1,607	471,687
8-Feb-2012	0	0	127	2,794	0	0	1,981	473,668
9-Feb-2012	0	0	113	2,486	0	0	1,763	475,431
10-Feb-2012	0	0	119	2,618	0	0	1,856	477,287
11-Feb-2012	0	0	-24	-528	0	0	-374	476,912
12-Feb-2012	0	0	-65	-1,430	0	0	-1,014	475,899
13-Feb-2012	0	0	107	2,354	0	0	1,669	477,568
14-Feb-2012	0	0	235	5,170	0	0	3,666	481,233
15-Feb-2012	0	0	174	3,828	0	0	2,714	483,947
16-Feb-2012	0	0	185	4,070	0	0	2,886	486,833
17-Feb-2012	0	0	155	3,410	0	0	2,418	489,250
18-Feb-2012	0	0	0	0	0	0	0	489,250
19-Feb-2012	0	0	0	0	0	0	0	489,250
20-Feb-2012	0	0	155	3,410	0	0	2,418	491,668
21-Feb-2012	0	0	137	3,014	0	0	2,137	493,805
22-Feb-2012	0	0	82	1,804	0	0	1,279	495,084
23-Feb-2012	0	0	182	4,004	0	0	2,839	497,923

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
24-Feb-2012	0	0	99	2,178	0	0	1,544	499,467
25-Feb-2012	0	0	0	0	0	0	0	499,467
26-Feb-2012	0	0	0	0	0	0	0	499,467
27-Feb-2012	0	0	100	2,200	0	0	1,560	501,027
28-Feb-2012	0	0	137	3,014	0	0	2,137	503,164
29-Feb-2012	0	0	0	0	0	0	0	503,164
1-Mar-2012	0	0	157	3,454	0	0	2,449	505,613
2-Mar-2012	0	0	51	1,122	0	0	795	506,408
3-Mar-2012	0	0	0	0	0	0	0	506,408
4-Mar-2012	0	0	0	0	0	0	0	506,408
5-Mar-2012	0	0	86	1,892	0	0	1,341	507,750
6-Mar-2012	0	0	111	2,442	0	0	1,731	509,481
7-Mar-2012	0	0	168	3,696	0	0	2,620	512,101
8-Mar-2012	0	0	78	1,716	0	0	1,217	513,318
9-Mar-2012	0	0	62	1,364	0	0	967	514,285
10-Mar-2012	0	0	12	264	0	0	187	514,472
11-Mar-2012	0	0	0	0	0	0	0	514,472
12-Mar-2012	0	0	93	2,046	0	0	1,451	515,923
13-Mar-2012	0	0	184	4,048	0	0	2,870	518,793
14-Mar-2012	0	0	55	1,210	0	0	858	519,651
15-Mar-2012	0	0	50	1,100	0	0	780	520,431
16-Mar-2012	0	0	76	1,672	0	0	1,185	521,616
17-Mar-2012	0	0	0	0	0	0	0	521,616
18-Mar-2012	0	0	0	0	0	0	0	521,616
19-Mar-2012	0	0	92	2,024	0	0	1,435	523,051
20-Mar-2012	0	0	117	2,574	0	0	1,825	524,876
21-Mar-2012	0	0	95	2,090	0	0	1,482	526,358
22-Mar-2012	0	0	63	1,386	0	0	983	527,341
23-Mar-2012	0	0	28	616	0	0	437	527,777
24-Mar-2012	0	0	0	0	0	0	0	527,777
25-Mar-2012	0	0	0	0	0	0	0	527,777
26-Mar-2012	0	0	116	2,552	0	0	1,809	529,587
27-Mar-2012	0	0	89	1,958	0	0	1,388	530,975
28-Mar-2012	0	0	29	638	0	0	452	531,427
29-Mar-2012	0	0	88	1,936	0	0	1,373	532,800
30-Mar-2012	0	0	42	924	0	0	655	533,455
31-Mar-2012	0	0	0	0	0	0	0	533,455
1-Apr-2012	0	0	0	0	0	0	0	533,455
2-Apr-2012	0	0	96	2,112	0	0	1,497	534,953
3-Apr-2012	0	0	64	1,408	0	0	998	535,951
4-Apr-2012	0	0	109	2,398	0	0	1,700	537,651
5-Apr-2012	0	0	100	2,200	0	0	1,560	539,211
6-Apr-2012	0	0	13	286	0	0	203	539,414
7-Apr-2012	0	0	0	0	0	0	0	539,414

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
8-Apr-2012	0	0	0	0	0	0	0	539,414
9-Apr-2012	0	0	107	2,354	0	0	1,669	541,083
10-Apr-2012	0	0	158	3,476	0	0	2,464	543,547
11-Apr-2012	0	0	116	2,552	0	0	1,809	545,356
12-Apr-2012	0	0	165	3,630	0	0	2,574	547,930
13-Apr-2012	0	0	143	3,146	0	0	2,231	550,161
14-Apr-2012	0	0	0	0	0	0	0	550,161
15-Apr-2012	0	0	0	0	0	0	0	550,161
16-Apr-2012	0	0	113	2,486	0	0	1,763	551,923
17-Apr-2012	0	0	174	3,828	0	0	2,714	554,637
18-Apr-2012	0	0	21	462	0	0	328	554,965
19-Apr-2012	0	0	182	4,004	0	0	2,839	557,804
20-Apr-2012	0	0	192	4,224	0	0	2,995	560,798
21-Apr-2012	0	0	0	0	0	0	0	560,798
22-Apr-2012	0	0	0	0	0	0	0	560,798
23-Apr-2012	0	0	222	4,884	0	0	3,463	564,261
24-Apr-2012	0	0	249	5,478	0	0	3,884	568,145
25-Apr-2012	0	0	211	4,642	0	0	3,291	571,436
26-Apr-2012	0	0	0	0	0	0	0	571,436
27-Apr-2012	0	0	186	4,092	0	0	2,901	574,338
28-Apr-2012	0	0	149	3,278	0	0	2,324	576,662
29-Apr-2012	0	0	0	0	0	0	0	576,662
30-Apr-2012	0	0	124	2,728	0	0	1,934	578,596
1-May-2012	0	0	105	2,310	0	0	1,638	580,234
2-May-2012	0	0	260	5,720	0	0	4,055	584,289
3-May-2012	0	0	184	4,048	0	0	2,870	587,159
4-May-2012	0	0	218	4,796	0	0	3,400	590,559
5-May-2012	0	0	134	2,948	0	0	2,090	592,650
6-May-2012	0	0	0	0	0	0	0	592,650
7-May-2012	0	0	166	3,652	0	0	2,589	595,239
8-May-2012	0	0	158	3,476	0	0	2,464	597,703
9-May-2012	0	0	221	4,862	0	0	3,447	601,150
10-May-2012	0	0	218	4,796	0	0	3,400	604,551
11-May-2012	0	0	219	4,818	0	0	3,416	607,967
12-May-2012	0	0	158	3,476	0	0	2,464	610,431
13-May-2012	0	0	0	0	0	0	0	610,431
14-May-2012	0	0	0	0	0	0	0	610,431
15-May-2012	0	0	43	946	0	0	671	611,102
16-May-2012	0	0	198	4,356	0	0	3,088	614,190
17-May-2012	0	0	227	4,994	0	0	3,541	617,731
18-May-2012	0	0	272	5,984	0	0	4,243	621,974
19-May-2012	0	0	224	4,928	40	1,200	4,345	626,319
20-May-2012	0	0	0	0	0	0	0	626,319
21-May-2012	0	0	88	1,936	0	0	1,373	627,691

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
22-May-2012	0	0	80	1,760	75	2,250	2,843	630,534
23-May-2012	0	0	139	3,058	86	2,580	3,997	634,532
24-May-2012	0	0	85	1,870	82	2,460	3,070	637,602
25-May-2012	0	0	97	2,134	78	2,340	3,172	640,774
26-May-2012	0	0	0	0	0	0	0	640,774
27-May-2012	0	0	0	0	0	0	0	640,774
28-May-2012	0	0	0	0	0	0	0	640,774
29-May-2012	0	0	73	1,606	131	3,930	3,925	644,699
30-May-2012	0	0	96	2,112	116	3,480	3,965	648,663
31-May-2012	0	0	59	1,298	58	1,740	2,154	650,817
1-Jun-2012	0	0	8	176	7	210	274	651,091
2-Jun-2012	0	0	92	2,024	0	0	1,435	652,526
3-Jun-2012	0	0	0	0	0	0	0	652,526
4-Jun-2012	0	0	71	1,562	59	1,770	2,362	654,888
5-Jun-2012	0	0	0	0	0	0	0	654,888
6-Jun-2012	0	0	102	2,244	125	3,750	4,250	659,138
7-Jun-2012	0	0	82	1,804	46	1,380	2,257	661,396
8-Jun-2012	0	0	82	1,804	65	1,950	2,662	664,057
9-Jun-2012	0	0	0	0	0	0	0	664,057
10-Jun-2012	0	0	0	0	0	0	0	664,057
11-Jun-2012	0	0	44	968	0	0	686	664,744
12-Jun-2012	0	0	88	1,936	17	510	1,734	666,478
13-Jun-2012	0	0	62	1,364	70	2,100	2,456	668,934
14-Jun-2012	0	0	101	2,222	60	1,800	2,852	671,785
15-Jun-2012	0	0	48	1,056	0	0	749	672,534
16-Jun-2012	0	0	0	0	0	0	0	672,534
17-Jun-2012	0	0	0	0	0	0	0	672,534
18-Jun-2012	0	0	122	2,684	0	0	1,903	674,437
19-Jun-2012	0	0	147	3,234	114	3,420	4,718	679,155
20-Jun-2012	0	0	136	2,992	77	2,310	3,759	682,914
21-Jun-2012	0	0	172	3,784	77	2,310	4,321	687,234
22-Jun-2012	0	0	138	3,036	80	2,400	3,854	691,089
23-Jun-2012	0	0	0	0	0	0	0	691,089
24-Jun-2012	0	0	0	0	0	0	0	691,089
25-Jun-2012	0	0	158	3,476	52	1,560	3,571	694,659
26-Jun-2012	0	0	195	4,290	72	2,160	4,573	699,232
27-Jun-2012	0	0	180	3,960	64	1,920	4,169	703,401
28-Jun-2012	0	0	136	2,992	60	1,800	3,398	706,799
29-Jun-2012	0	0	129	2,838	27	810	2,586	709,385
30-Jun-2012	0	0	0	0	0	0	0	709,385
1-Jul-2012	0	0	0	0	0	0	0	709,385
2-Jul-2012	0	0	199	4,378	38	1,140	3,912	713,297
3-Jul-2012	0	0	116	2,552	10	300	2,022	715,319
4-Jul-2012	0	0	0	0	0	0	0	715,319

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
5-Jul-2012	0	0	0	0	0	0	0	715,319
6-Jul-2012	0	0	0	0	0	0	0	715,319
7-Jul-2012	0	0	0	0	0	0	0	715,319
8-Jul-2012	0	0	0	0	0	0	0	715,319
9-Jul-2012	0	0	286	6,292	52	1,560	5,567	720,886
10-Jul-2012	0	0	79	1,738	59	1,770	2,487	723,374
11-Jul-2012	0	0	0	0	0	0	0	723,374
12-Jul-2012	0	0	0	0	0	0	0	723,374
13-Jul-2012	0	0	0	0	0	0	0	723,374
14-Jul-2012	0	0	0	0	0	0	0	723,374
15-Jul-2012	0	0	0	0	0	0	0	723,374
16-Jul-2012	0	0	38	836	0	0	593	723,966
17-Jul-2012	0	0	104	2,288	0	0	1,622	725,588
18-Jul-2012	0	0	68	1,496	0	0	1,061	726,649
19-Jul-2012	0	0	197	4,334	0	0	3,073	729,722
20-Jul-2012	0	0	0	0	0	0	0	729,722
21-Jul-2012	0	0	0	0	0	0	0	729,722
22-Jul-2012	0	0	0	0	0	0	0	729,722
23-Jul-2012	0	0	129	2,838	0	0	2,012	731,734
24-Jul-2012	0	0	218	4,796	0	0	3,400	735,134
25-Jul-2012	0	0	71	1,562	0	0	1,107	736,242
26-Jul-2012	0	0	116	2,552	0	0	1,809	738,051
27-Jul-2012	0	0	199	4,378	0	0	3,104	741,155
28-Jul-2012	0	0	0	0	0	0	0	741,155
29-Jul-2012	0	0	0	0	0	0	0	741,155
30-Jul-2012	0	0	187	4,114	0	0	2,917	744,072
31-Jul-2012	0	0	46	1,012	0	0	718	744,790
1-Aug-2012	0	0	121	2,662	139	4,170	4,844	749,633
2-Aug-2012	0	0	67	1,474	142	4,260	4,065	753,699
3-Aug-2012	0	0	248	5,456	0	0	3,868	757,567
4-Aug-2012	0	0	0	0	0	0	0	757,567
5-Aug-2012	0	0	0	0	0	0	0	757,567
6-Aug-2012	0	0	10	220	0	0	156	757,723
7-Aug-2012	0	0	229	5,038	0	0	3,572	761,295
8-Aug-2012	0	0	214	4,708	0	0	3,338	764,633
9-Aug-2012	0	0	92	2,024	0	0	1,435	766,068
10-Aug-2012	0	0	45	990	25	750	1,234	767,302
11-Aug-2012	0	0	0	0	0	0	0	767,302
12-Aug-2012	0	0	0	0	0	0	0	767,302
13-Aug-2012	0	0	83	1,826	0	0	1,295	768,596
14-Aug-2012	0	0	91	2,002	0	0	1,419	770,016
15-Aug-2012	0	0	244	5,368	99	2,970	5,912	775,927
16-Aug-2012	0	0	137	3,014	98	2,940	4,221	780,149
17-Aug-2012	0	0	171	3,762	0	0	2,667	782,816

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
18-Aug-2012	0	0	183	4,026	0	0	2,854	785,671
19-Aug-2012	0	0	0	0	0	0	0	785,671
20-Aug-2012	0	0	204	4,488	0	0	3,182	788,853
21-Aug-2012	0	0	223	4,906	0	0	3,478	792,331
22-Aug-2012	0	0	141	3,102	0	0	2,199	794,530
23-Aug-2012	0	0	147	3,234	0	0	2,293	796,823
24-Aug-2012	0	0	154	3,388	0	0	2,402	799,225
25-Aug-2012	0	0	134	2,948	0	0	2,090	801,315
26-Aug-2012	0	0	0	0	0	0	0	801,315
27-Aug-2012	0	0	158	3,476	86	2,580	4,294	805,609
28-Aug-2012	0	0	172	3,784	83	2,490	4,448	810,057
29-Aug-2012	0	0	132	2,904	0	0	2,059	812,116
30-Aug-2012	0	0	157	3,454	0	0	2,449	814,565
31-Aug-2012	0	0	95	2,090	0	0	1,482	816,047
1-Sep-2012	0	0	0	0	0	0	0	816,047
2-Sep-2012	0	0	0	0	0	0	0	816,047
3-Sep-2012	0	0	0	0	0	0	0	816,047
4-Sep-2012	0	0	160	3,520	0	0	2,496	818,543
5-Sep-2012	0	0	152	3,344	78	2,340	4,030	822,573
6-Sep-2012	0	0	135	2,970	111	3,330	4,467	827,039
7-Sep-2012	0	0	113	2,486	0	0	1,763	828,802
8-Sep-2012	0	0	148	3,256	0	0	2,309	831,110
9-Sep-2012	0	0	0	0	0	0	0	831,110
10-Sep-2012	0	0	72	1,584	0	0	1,123	832,233
11-Sep-2012	0	0	59	1,298	0	0	920	833,154
12-Sep-2012	0	0	105	2,310	70	2,100	3,127	836,280
13-Sep-2012	0	0	88	1,936	30	900	2,011	838,291
14-Sep-2012	0	0	150	3,300	0	0	2,340	840,631
15-Sep-2012	0	0	150	3,300	0	0	2,340	842,971
16-Sep-2012	0	0	0	0	0	0	0	842,971
17-Sep-2012	0	0	18	396	0	0	281	843,251
18-Sep-2012	0	0	0	0	0	0	0	843,251
19-Sep-2012	0	0	226	4,972	0	0	3,525	846,776
20-Sep-2012	0	0	197	4,334	107	3,210	5,349	852,125
21-Sep-2012	0	0	233	5,126	0	0	3,634	855,759
22-Sep-2012	0	0	256	5,632	0	0	3,993	859,753
23-Sep-2012	0	0	0	0	0	0	0	859,753
24-Sep-2012	0	0	229	5,038	0	0	3,572	863,324
25-Sep-2012	0	0	185	4,070	0	0	2,886	866,210
26-Sep-2012	0	0	188	4,136	0	0	2,932	869,143
27-Sep-2012	0	0	175	3,850	0	0	2,730	871,872
28-Sep-2012	0	0	219	4,818	0	0	3,416	875,288
29-Sep-2012	0	0	202	4,444	0	0	3,151	878,439
30-Sep-2012	0	0	0	0	0	0	0	878,439

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
1-Oct-2012	0	0	0	0	0	0	0	878,439
2-Oct-2012	0	0	6	132	0	0	94	878,533
3-Oct-2012	0	0	182	4,004	100	3,000	4,966	883,498
4-Oct-2012	0	0	168	3,696	0	0	2,620	886,119
5-Oct-2012	0	0	159	3,498	0	0	2,480	888,599
6-Oct-2012	0	0	250	5,500	102	3,060	6,069	894,668
7-Oct-2012	0	0	0	0	0	0	0	894,668
8-Oct-2012	0	0	0	0	0	0	0	894,668
9-Oct-2012	0	0	176	3,872	0	0	2,745	897,413
10-Oct-2012	0	0	132	2,904	0	0	2,059	899,472
11-Oct-2012	0	0	162	3,564	0	0	2,527	901,999
12-Oct-2012	0	0	133	2,926	0	0	2,075	904,074
13-Oct-2012	0	0	54	1,188	0	0	842	904,916
14-Oct-2012	0	0	0	0	0	0	0	904,916
15-Oct-2012	0	0	19	418	0	0	296	905,212
16-Oct-2012	0	0	166	3,652	0	0	2,589	907,801
17-Oct-2012	0	0	209	4,598	0	0	3,260	911,061
18-Oct-2012	0	0	94	2,068	0	0	1,466	912,528
19-Oct-2012	0	0	142	3,124	0	0	2,215	914,743
20-Oct-2012	0	0	124	2,728	0	0	1,934	916,677
21-Oct-2012	0	0	0	0	0	0	0	916,677
22-Oct-2012	0	0	95	2,090	0	0	1,482	918,159
23-Oct-2012	0	0	112	2,464	0	0	1,747	919,906
24-Oct-2012	0	0	126	2,772	0	0	1,965	921,871
25-Oct-2012	0	0	140	3,080	0	0	2,184	924,055
26-Oct-2012	0	0	186	4,092	6	180	3,029	927,083
27-Oct-2012	0	0	193	4,246	0	0	3,010	930,094
28-Oct-2012	0	0	0	0	0	0	0	930,094
29-Oct-2012	0	0	156	3,432	0	0	2,433	932,527
30-Oct-2012	0	0	152	3,344	0	0	2,371	934,898
31-Oct-2012	0	0	172	3,784	0	0	2,683	937,581
1-Nov-2012	0	0	194	4,268	0	0	3,026	940,607
2-Nov-2012	0	0	145	3,190	0	0	2,262	942,869
3-Nov-2012	0	0	28	616	0	0	437	943,305
4-Nov-2012	0	0	0	0	0	0	0	943,305
5-Nov-2012	0	0	130	2,860	13	390	2,304	945,610
6-Nov-2012	0	0	136	2,992	0	0	2,121	947,731
7-Nov-2012	0	0	95	2,090	0	0	1,482	949,213
8-Nov-2012	0	0	109	2,398	0	0	1,700	950,913
9-Nov-2012	0	0	151	3,322	0	0	2,355	953,268
10-Nov-2012	0	0	0	0	0	0	0	953,268
11-Nov-2012	0	0	0	0	0	0	0	953,268
12-Nov-2012	0	0	144	3,168	0	0	2,246	955,514
13-Nov-2012	0	0	180	3,960	0	0	2,808	958,322

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
14-Nov-2012	0	0	102	2,244	0	0	1,591	959,913
15-Nov-2012	0	0	55	1,210	0	0	858	960,771
16-Nov-2012	0	0	69	1,518	0	0	1,076	961,847
17-Nov-2012	0	0	0	0	0	0	0	961,847
18-Nov-2012	0	0	0	0	0	0	0	961,847
19-Nov-2012	0	0	0	0	0	0	0	961,847
20-Nov-2012	0	0	0	0	0	0	0	961,847
21-Nov-2012	0	0	0	0	0	0	0	961,847
22-Nov-2012	0	0	0	0	0	0	0	961,847
23-Nov-2012	0	0	0	0	0	0	0	961,847
24-Nov-2012	0	0	0	0	0	0	0	961,847
25-Nov-2012	0	0	0	0	0	0	0	961,847
26-Nov-2012	0	0	36	792	0	0	562	962,409
27-Nov-2012	0	0	112	2,464	0	0	1,747	964,156
28-Nov-2012	0	0	68	1,496	0	0	1,061	965,216
29-Nov-2012	0	0	9	198	0	0	140	965,357
30-Nov-2012	0	0	47	1,034	0	0	733	966,090
1-Dec-2012	0	0	0	0	0	0	0	966,090
2-Dec-2012	0	0	0	0	0	0	0	966,090
3-Dec-2012	0	0	0	0	0	0	0	966,090
4-Dec-2012	0	0	0	0	0	0	0	966,090
5-Dec-2012	0	0	0	0	0	0	0	966,090
6-Dec-2012	0	0	39	858	0	0	608	966,698
7-Dec-2012	0	0	0	0	0	0	0	966,698
8-Dec-2012	0	0	0	0	0	0	0	966,698
9-Dec-2012	0	0	0	0	0	0	0	966,698
10-Dec-2012	0	0	0	0	0	0	0	966,698
11-Dec-2012	0	0	0	0	0	0	0	966,698
12-Dec-2012	0	0	0	0	0	0	0	966,698
13-Dec-2012	0	0	3	66	0	0	47	966,745
14-Dec-2012	0	0	24	528	0	0	374	967,119
15-Dec-2012	0	0	0	0	0	0	0	967,119
16-Dec-2012	0	0	0	0	0	0	0	967,119
17-Dec-2012	0	0	0	0	0	0	0	967,119
18-Dec-2012	0	0	0	0	0	0	0	967,119
19-Dec-2012	0	0	0	0	0	0	0	967,119
20-Dec-2012	0	0	0	0	0	0	0	967,119
21-Dec-2012	0	0	0	0	0	0	0	967,119
22-Dec-2012	0	0	0	0	0	0	0	967,119
23-Dec-2012	0	0	0	0	0	0	0	967,119
24-Dec-2012	0	0	0	0	0	0	0	967,119
25-Dec-2012	0	0	0	0	0	0	0	967,119
26-Dec-2012	0	0	0	0	0	0	0	967,119
27-Dec-2012	0	0	0	0	0	0	0	967,119

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
28-Dec-2012	0	0	39	858	0	0	608	967,728
29-Dec-2012	0	0	0	0	0	0	0	967,728
30-Dec-2012	0	0	0	0	0	0	0	967,728
31-Dec-2012	0	0	0	0	0	0	0	967,728
1-Jan-2013	0	0	0	0	0	0	0	967,728
2-Jan-2013	0	0	74	1,628	0	0	1,154	968,882
3-Jan-2013	0	0	79	1,738	0	0	1,232	970,114
4-Jan-2013	0	0	0	0	0	0	0	970,114
5-Jan-2013	0	0	0	0	0	0	0	970,114
6-Jan-2013	0	0	0	0	0	0	0	970,114
7-Jan-2013	0	0	0	0	0	0	0	970,114
8-Jan-2013	0	0	0	0	0	0	0	970,114
9-Jan-2013	0	0	46	1,012	0	0	718	970,832
10-Jan-2013	0	0	0	0	0	0	0	970,832
11-Jan-2013	0	0	87	1,914	0	0	1,357	972,189
12-Jan-2013	0	0	0	0	0	0	0	972,189
13-Jan-2013	0	0	0	0	0	0	0	972,189
14-Jan-2013	0	0	67	1,474	0	0	1,045	973,234
15-Jan-2013	0	0	0	0	0	0	0	973,234
16-Jan-2013	0	0	0	0	0	0	0	973,234
17-Jan-2013	0	0	0	0	0	0	0	973,234
18-Jan-2013	0	0	0	0	0	0	0	973,234
19-Jan-2013	0	0	0	0	0	0	0	973,234
20-Jan-2013	0	0	0	0	0	0	0	973,234
21-Jan-2013	0	0	0	0	0	0	0	973,234
22-Jan-2013	0	0	77	1,694	0	0	1,201	974,435
23-Jan-2013	0	0	119	2,618	0	0	1,856	976,291
24-Jan-2013	0	0	138	3,036	0	0	2,153	978,443
25-Jan-2013	0	0	96	2,112	0	0	1,497	979,941
26-Jan-2013	0	0	113	2,486	0	0	1,763	981,703
27-Jan-2013	0	0	0	0	0	0	0	981,703
28-Jan-2013	0	0	120	2,640	0	0	1,872	983,575
29-Jan-2013	0	0	124	2,728	0	0	1,934	985,509
30-Jan-2013	0	0	0	0	0	0	0	985,509
31-Jan-2013	0	0	0	0	0	0	0	985,509
1-Feb-2013	0	0	73	1,606	0	0	1,139	986,648
2-Feb-2013	0	0	107	2,354	0	0	1,669	988,317
3-Feb-2013	0	0	0	0	0	0	0	988,317
4-Feb-2013	0	0	123	2,706	0	0	1,919	990,235
5-Feb-2013	0	0	120	2,640	0	0	1,872	992,107
6-Feb-2013	0	0	83	1,826	0	0	1,295	993,402
7-Feb-2013	0	0	18	396	0	0	281	993,683
8-Feb-2013	0	0	0	0	0	0	0	993,683
9-Feb-2013	0	0	0	0	0	0	0	993,683

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
10-Feb-2013	0	0	0	0	0	0	0	993,683
11-Feb-2013	0	0	0	0	0	0	0	993,683
12-Feb-2013	0	0	0	0	0	0	0	993,683
13-Feb-2013	0	0	35	770	0	0	546	994,229
14-Feb-2013	0	0	0	0	0	0	0	994,229
15-Feb-2013	0	0	0	0	0	0	0	994,229
16-Feb-2013	0	0	0	0	0	0	0	994,229
17-Feb-2013	0	0	0	0	0	0	0	994,229
18-Feb-2013	0	0	48	1,056	0	0	749	994,977
19-Feb-2013	0	0	48	1,056	0	0	749	995,726
20-Feb-2013	0	0	126	2,772	0	0	1,965	997,691
21-Feb-2013	0	0	120	2,640	0	0	1,872	999,563
22-Feb-2013	0	0	70	1,540	0	0	1,092	1,000,655
23-Feb-2013	0	0	0	0	0	0	0	1,000,655
24-Feb-2013	0	0	0	0	0	0	0	1,000,655
25-Feb-2013	0	0	125	2,750	0	0	1,950	1,002,605
26-Feb-2013	0	0	52	1,144	0	0	811	1,003,416
27-Feb-2013	0	0	23	506	0	0	359	1,003,775
28-Feb-2013	0	0	0	0	0	0	0	1,003,775
1-Mar-2013	0	0	0	0	0	0	0	1,003,775
2-Mar-2013	0	0	0	0	0	0	0	1,003,775
3-Mar-2013	0	0	0	0	0	0	0	1,003,775
4-Mar-2013	0	0	0	0	0	0	0	1,003,775
5-Mar-2013	0	0	0	0	0	0	0	1,003,775
6-Mar-2013	0	0	0	0	0	0	0	1,003,775
7-Mar-2013	0	0	0	0	0	0	0	1,003,775
8-Mar-2013	0	0	0	0	0	0	0	1,003,775
9-Mar-2013	0	0	63	1,386	0	0	983	1,004,757
10-Mar-2013	0	0	17	374	0	0	265	1,005,022
11-Mar-2013	0	0	52	1,144	0	0	811	1,005,833
12-Mar-2013	0	0	0	0	0	0	0	1,005,833
13-Mar-2013	0	0	88	1,936	0	0	1,373	1,007,206
14-Mar-2013	0	0	83	1,826	0	0	1,295	1,008,501
15-Mar-2013	0	0	100	2,200	0	0	1,560	1,010,061
16-Mar-2013	0	0	46	1,012	0	0	718	1,010,778
17-Mar-2013	0	0	57	1,254	0	0	889	1,011,667
18-Mar-2013	0	0	41	902	0	0	640	1,012,307
19-Mar-2013	0	0	0	0	0	0	0	1,012,307
20-Mar-2013	0	0	92	2,024	0	0	1,435	1,013,742
21-Mar-2013	0	0	43	946	0	0	671	1,014,412
22-Mar-2013	0	0	105	2,310	0	0	1,638	1,016,050
23-Mar-2013	0	0	103	2,266	0	0	1,607	1,017,657
24-Mar-2013	0	0	0	0	0	0	0	1,017,657
25-Mar-2013	0	0	0	0	0	0	0	1,017,657

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
26-Mar-2013	0	0	98	2,156	0	0	1,529	1,019,185
27-Mar-2013	0	0	101	2,222	0	0	1,575	1,020,761
28-Mar-2013	0	0	90	1,980	0	0	1,404	1,022,165
29-Mar-2013	0	0	61	1,342	0	0	951	1,023,116
30-Mar-2013	0	0	0	0	0	0	0	1,023,116
31-Mar-2013	0	0	0	0	0	0	0	1,023,116
1-Apr-2013	0	0	0	0	0	0	0	1,023,116
2-Apr-2013	0	0	0	0	0	0	0	1,023,116
3-Apr-2013	0	0	0	0	0	0	0	1,023,116
4-Apr-2013	0	0	0	0	0	0	0	1,023,116
5-Apr-2013	0	0	0	0	0	0	0	1,023,116
6-Apr-2013	0	0	0	0	0	0	0	1,023,116
7-Apr-2013	0	0	0	0	0	0	0	1,023,116
8-Apr-2013	0	0	0	0	0	0	0	1,023,116
9-Apr-2013	0	0	0	0	0	0	0	1,023,116
10-Apr-2013	0	0	0	0	0	0	0	1,023,116
11-Apr-2013	0	0	0	0	0	0	0	1,023,116
12-Apr-2013	0	0	0	0	0	0	0	1,023,116
13-Apr-2013	0	0	0	0	0	0	0	1,023,116
14-Apr-2013	0	0	0	0	0	0	0	1,023,116
15-Apr-2013	0	0	0	0	0	0	0	1,023,116
16-Apr-2013	0	0	0	0	0	0	0	1,023,116
17-Apr-2013	0	0	0	0	0	0	0	1,023,116
18-Apr-2013	0	0	0	0	0	0	0	1,023,116
19-Apr-2013	0	0	0	0	0	0	0	1,023,116
20-Apr-2013	0	0	0	0	0	0	0	1,023,116
21-Apr-2013	0	0	0	0	0	0	0	1,023,116
22-Apr-2013	0	0	0	0	0	0	0	1,023,116
23-Apr-2013	0	0	0	0	0	0	0	1,023,116
24-Apr-2013	0	0	0	0	0	0	0	1,023,116
25-Apr-2013	0	0	0	0	0	0	0	1,023,116
26-Apr-2013	0	0	0	0	0	0	0	1,023,116
27-Apr-2013	0	0	0	0	0	0	0	1,023,116
28-Apr-2013	0	0	0	0	0	0	0	1,023,116
29-Apr-2013	0	0	0	0	0	0	0	1,023,116
30-Apr-2013	0	0	0	0	0	0	0	1,023,116
1-May-2013	0	0	0	0	0	0	0	1,023,116
2-May-2013	0	0	0	0	0	0	0	1,023,116
3-May-2013	0	0	0	0	0	0	0	1,023,116
4-May-2013	0	0	0	0	0	0	0	1,023,116
5-May-2013	0	0	0	0	0	0	0	1,023,116
6-May-2013	0	0	0	0	0	0	0	1,023,116
7-May-2013	0	0	0	0	0	0	0	1,023,116
8-May-2013	0	0	0	0	0	0	0	1,023,116

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
9-May-2013	0	0	0	0	0	0	0	1,023,116
10-May-2013	0	0	0	0	0	0	0	1,023,116
11-May-2013	0	0	0	0	0	0	0	1,023,116
12-May-2013	0	0	0	0	0	0	0	1,023,116
13-May-2013	0	0	0	0	0	0	0	1,023,116
14-May-2013	0	0	0	0	0	0	0	1,023,116
15-May-2013	0	0	0	0	0	0	0	1,023,116
16-May-2013	0	0	0	0	0	0	0	1,023,116
17-May-2013	0	0	0	0	0	0	0	1,023,116
18-May-2013	0	0	0	0	0	0	0	1,023,116
19-May-2013	0	0	0	0	0	0	0	1,023,116
20-May-2013	0	0	0	0	0	0	0	1,023,116
21-May-2013	0	0	0	0	0	0	0	1,023,116
22-May-2013	0	0	0	0	0	0	0	1,023,116
23-May-2013	0	0	0	0	0	0	0	1,023,116
24-May-2013	0	0	0	0	0	0	0	1,023,116
25-May-2013	0	0	0	0	0	0	0	1,023,116
26-May-2013	0	0	0	0	0	0	0	1,023,116
27-May-2013	0	0	0	0	0	0	0	1,023,116
28-May-2013	0	0	0	0	0	0	0	1,023,116
29-May-2013	0	0	0	0	0	0	0	1,023,116
30-May-2013	0	0	0	0	0	0	0	1,023,116
31-May-2013	0	0	0	0	0	0	0	1,023,116
1-Jun-2013	0	0	0	0	0	0	0	1,023,116
2-Jun-2013	0	0	0	0	0	0	0	1,023,116
3-Jun-2013	0	0	0	0	0	0	0	1,023,116
4-Jun-2013	0	0	0	0	0	0	0	1,023,116
5-Jun-2013	0	0	0	0	0	0	0	1,023,116
6-Jun-2013	0	0	0	0	0	0	0	1,023,116
7-Jun-2013	0	0	0	0	0	0	0	1,023,116
8-Jun-2013	0	0	0	0	0	0	0	1,023,116
9-Jun-2013	0	0	0	0	0	0	0	1,023,116
10-Jun-2013	0	0	0	0	0	0	0	1,023,116
11-Jun-2013	0	0	0	0	0	0	0	1,023,116
12-Jun-2013	0	0	0	0	0	0	0	1,023,116
13-Jun-2013	0	0	0	0	0	0	0	1,023,116
14-Jun-2013	0	0	0	0	0	0	0	1,023,116
15-Jun-2013	0	0	0	0	0	0	0	1,023,116
16-Jun-2013	0	0	0	0	0	0	0	1,023,116
17-Jun-2013	0	0	0	0	0	0	0	1,023,116
18-Jun-2013	0	0	0	0	0	0	0	1,023,116
19-Jun-2013	0	0	0	0	0	0	0	1,023,116
20-Jun-2013	0	0	0	0	0	0	0	1,023,116
21-Jun-2013	0	0	0	0	0	0	0	1,023,116

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
22-Jun-2013	0	0	0	0	0	0	0	1,023,116
23-Jun-2013	0	0	0	0	0	0	0	1,023,116
24-Jun-2013	0	0	0	0	0	0	0	1,023,116
25-Jun-2013	0	0	0	0	0	0	0	1,023,116
26-Jun-2013	0	0	0	0	0	0	0	1,023,116
27-Jun-2013	0	0	0	0	0	0	0	1,023,116
28-Jun-2013	0	0	0	0	0	0	0	1,023,116
29-Jun-2013	0	0	0	0	0	0	0	1,023,116
30-Jun-2013	0	0	0	0	0	0	0	1,023,116
1-Jul-2013	0	0	0	0	0	0	0	1,023,116
2-Jul-2013	0	0	0	0	0	0	0	1,023,116
3-Jul-2013	0	0	0	0	0	0	0	1,023,116
4-Jul-2013	0	0	0	0	0	0	0	1,023,116
5-Jul-2013	0	0	0	0	0	0	0	1,023,116
6-Jul-2013	0	0	0	0	0	0	0	1,023,116
7-Jul-2013	0	0	0	0	0	0	0	1,023,116
8-Jul-2013	0	0	0	0	0	0	0	1,023,116
9-Jul-2013	0	0	0	0	0	0	0	1,023,116
10-Jul-2013	0	0	0	0	0	0	0	1,023,116
11-Jul-2013	0	0	0	0	0	0	0	1,023,116
12-Jul-2013	0	0	0	0	0	0	0	1,023,116
13-Jul-2013	0	0	0	0	0	0	0	1,023,116
14-Jul-2013	0	0	0	0	0	0	0	1,023,116
15-Jul-2013	0	0	0	0	0	0	0	1,023,116
16-Jul-2013	0	0	0	0	0	0	0	1,023,116
17-Jul-2013	0	0	0	0	0	0	0	1,023,116
18-Jul-2013	0	0	0	0	0	0	0	1,023,116
19-Jul-2013	0	0	0	0	0	0	0	1,023,116
20-Jul-2013	0	0	0	0	0	0	0	1,023,116
21-Jul-2013	0	0	0	0	0	0	0	1,023,116
22-Jul-2013	0	0	0	0	0	0	0	1,023,116
23-Jul-2013	0	0	0	0	0	0	0	1,023,116
24-Jul-2013	0	0	0	0	0	0	0	1,023,116
25-Jul-2013	0	0	0	0	0	0	0	1,023,116
26-Jul-2013	0	0	0	0	0	0	0	1,023,116
27-Jul-2013	0	0	0	0	0	0	0	1,023,116
28-Jul-2013	0	0	0	0	0	0	0	1,023,116
29-Jul-2013	0	0	0	0	0	0	0	1,023,116
30-Jul-2013	0	0	0	0	0	0	0	1,023,116
31-Jul-2013	0	0	0	0	0	0	0	1,023,116
1-Aug-2013	0	0	0	0	0	0	0	1,023,116
2-Aug-2013	0	0	0	0	0	0	0	1,023,116
3-Aug-2013	0	0	0	0	0	0	0	1,023,116
4-Aug-2013	0	0	0	0	0	0	0	1,023,116

	Ash Excavated From Middle Embayment							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
5-Aug-2013	0	0	0	0	0	0	0	1,023,116
6-Aug-2013	0	0	0	0	0	0	0	1,023,116
7-Aug-2013	0	0	0	0	0	0	0	1,023,116
8-Aug-2013	0	0	0	0	0	0	0	1,023,116
9-Aug-2013	0	0	0	0	0	0	0	1,023,116
10-Aug-2013	0	0	0	0	0	0	0	1,023,116
11-Aug-2013	0	0	0	0	0	0	0	1,023,116
12-Aug-2013	0	0	0	0	0	0	0	1,023,116
13-Aug-2013	0	0	0	0	0	0	0	1,023,116
14-Aug-2013	0	0	0	0	0	0	0	1,023,116
15-Aug-2013	0	0	0	0	0	0	0	1,023,116
16-Aug-2013	0	0	0	0	0	0	0	1,023,116
17-Aug-2013	0	0	0	0	0	0	0	1,023,116
18-Aug-2013	0	0	0	0	0	0	0	1,023,116
19-Aug-2013	0	0	0	0	0	0	0	1,023,116
20-Aug-2013	0	0	0	0	0	0	0	1,023,116
21-Aug-2013	0	0	0	0	0	0	0	1,023,116
22-Aug-2013	0	0	0	0	0	0	0	1,023,116
23-Aug-2013	0	0	0	0	0	0	0	1,023,116
24-Aug-2013	0	0	0	0	0	0	0	1,023,116
25-Aug-2013	0	0	0	0	0	0	0	1,023,116
26-Aug-2013	0	0	0	0	0	0	0	1,023,116
27-Aug-2013	0	0	0	0	0	0	0	1,023,116
28-Aug-2013	0	0	0	0	0	0	0	1,023,116
29-Aug-2013	0	0	0	0	0	0	0	1,023,116
30-Aug-2013	0	0	0	0	0	0	0	1,023,116
31-Aug-2013	0	0	0	0	0	0	0	1,023,116
1-Sep-2013	0	0	0	0	0	0	0	1,023,116
2-Sep-2013	0	0	0	0	0	0	0	1,023,116
3-Sep-2013	0	0	0	0	0	0	0	1,023,116
4-Sep-2013	0	0	0	0	0	0	0	1,023,116
5-Sep-2013	0	0	0	0	0	0	0	1,023,116
6-Sep-2013	0	0	0	0	0	0	0	1,023,116
7-Sep-2013	0	0	0	0	0	0	0	1,023,116
8-Sep-2013	0	0	0	0	0	0	0	1,023,116
9-Sep-2013	0	0	0	0	0	0	0	1,023,116
10-Sep-2013	0	0	0	0	0	0	0	1,023,116
11-Sep-2013	0	0	0	0	0	0	0	1,023,116
12-Sep-2013	0	0	0	0	0	0	0	1,023,116
13-Sep-2013	0	0	0	0	0	0	0	1,023,116
14-Sep-2013	0	0	0	0	0	0	0	1,023,116
15-Sep-2013	0	0	0	0	0	0	0	1,023,116
16-Sep-2013	0	0	0	0	0	0	0	1,023,116
17-Sep-2013	0	0	0	0	0	0	0	1,023,116

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
18-Sep-2013	0	0	0	0	0	0	0	1,023,116
19-Sep-2013	0	0	0	0	0	0	0	1,023,116
20-Sep-2013	0	0	0	0	0	0	0	1,023,116
21-Sep-2013	0	0	0	0	0	0	0	1,023,116
22-Sep-2013	0	0	0	0	0	0	0	1,023,116
23-Sep-2013	0	0	0	0	0	0	0	1,023,116
24-Sep-2013	0	0	0	0	0	0	0	1,023,116
25-Sep-2013	0	0	0	0	0	0	0	1,023,116
26-Sep-2013	0	0	0	0	0	0	0	1,023,116
27-Sep-2013	0	0	0	0	0	0	0	1,023,116
28-Sep-2013	0	0	0	0	0	0	0	1,023,116
29-Sep-2013	0	0	0	0	0	0	0	1,023,116
30-Sep-2013	0	0	0	0	0	0	0	1,023,116
1-Oct-2013	0	0	49	1,078	0	0	764	1,023,880
2-Oct-2013	0	0	44	968	0	0	686	1,024,567
3-Oct-2013	0	0	18	396	0	0	281	1,024,847
4-Oct-2013	0	0	15	330	0	0	234	1,025,081
5-Oct-2013	0	0	0	0	0	0	0	1,025,081
6-Oct-2013	0	0	0	0	0	0	0	1,025,081
7-Oct-2013	0	0	36	792	0	0	562	1,025,643
8-Oct-2013	0	0	22	484	0	0	343	1,025,986
9-Oct-2013	0	0	40	880	0	0	624	1,026,610
10-Oct-2013	0	0	32	704	0	0	499	1,027,109
11-Oct-2013	0	0	37	814	0	0	577	1,027,686
12-Oct-2013	0	0	0	0	0	0	0	1,027,686
13-Oct-2013	0	0	0	0	0	0	0	1,027,686
14-Oct-2013	0	0	32	704	0	0	499	1,028,185
15-Oct-2013	0	0	34	748	0	0	530	1,028,716
16-Oct-2013	0	0	37	814	0	0	577	1,029,293
17-Oct-2013	0	0	0	0	0	0	0	1,029,293
18-Oct-2013	0	0	0	0	0	0	0	1,029,293
19-Oct-2013	0	0	0	0	0	0	0	1,029,293
20-Oct-2013	0	0	0	0	0	0	0	1,029,293
21-Oct-2013	0	0	38	836	0	0	593	1,029,886
22-Oct-2013	0	0	41	902	0	0	640	1,030,525
23-Oct-2013	0	0	24	528	0	0	374	1,030,899
24-Oct-2013	0	0	84	1,848	0	0	1,310	1,032,210
25-Oct-2013	0	0	101	2,222	0	0	1,575	1,033,785
26-Oct-2013	0	0	105	2,310	0	0	1,638	1,035,423
27-Oct-2013	0	0	0	0	0	0	0	1,035,423
28-Oct-2013	0	0	100	2,200	0	0	1,560	1,036,983
29-Oct-2013	0	0	88	1,936	0	0	1,373	1,038,355
30-Oct-2013	0	0	38	836	0	0	593	1,038,948
31-Oct-2013	0	0	0	0	0	0	0	1,038,948

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
1-Nov-2013	0	0	0	0	0	0	0	1,038,948
2-Nov-2013	0	0	0	0	0	0	0	1,038,948
3-Nov-2013	0	0	0	0	0	0	0	1,038,948
4-Nov-2013	0	0	0	0	0	0	0	1,038,948
5-Nov-2013	0	0	0	0	0	0	0	1,038,948
6-Nov-2013	0	0	0	0	0	0	0	1,038,948
7-Nov-2013	0	0	0	0	0	0	0	1,038,948
8-Nov-2013	0	0	0	0	0	0	0	1,038,948
9-Nov-2013	0	0	0	0	0	0	0	1,038,948
10-Nov-2013	0	0	0	0	0	0	0	1,038,948
11-Nov-2013	0	0	0	0	0	0	0	1,038,948
12-Nov-2013	0	0	0	0	0	0	0	1,038,948
13-Nov-2013	0	0	0	0	0	0	0	1,038,948
14-Nov-2013	0	0	0	0	0	0	0	1,038,948
15-Nov-2013	0	0	0	0	0	0	0	1,038,948
16-Nov-2013	0	0	0	0	0	0	0	1,038,948
17-Nov-2013	0	0	0	0	0	0	0	1,038,948
18-Nov-2013	0	0	0	0	0	0	0	1,038,948
19-Nov-2013	0	0	0	0	0	0	0	1,038,948
20-Nov-2013	0	0	0	0	0	0	0	1,038,948
21-Nov-2013	0	0	0	0	0	0	0	1,038,948
22-Nov-2013	0	0	0	0	0	0	0	1,038,948
23-Nov-2013	0	0	0	0	0	0	0	1,038,948
24-Nov-2013	0	0	0	0	0	0	0	1,038,948
25-Nov-2013	0	0	0	0	0	0	0	1,038,948
26-Nov-2013	0	0	0	0	0	0	0	1,038,948
27-Nov-2013	0	0	0	0	0	0	0	1,038,948
28-Nov-2013	0	0	0	0	0	0	0	1,038,948
29-Nov-2013	0	0	0	0	0	0	0	1,038,948
30-Nov-2013	0	0	0	0	0	0	0	1,038,948
1-Dec-2013	0	0	0	0	0	0	0	1,038,948
2-Dec-2013	0	0	0	0	0	0	0	1,038,948
3-Dec-2013	0	0	0	0	0	0	0	1,038,948
4-Dec-2013	0	0	0	0	0	0	0	1,038,948
5-Dec-2013	0	0	0	0	0	0	0	1,038,948
6-Dec-2013	0	0	0	0	0	0	0	1,038,948
7-Dec-2013	0	0	0	0	0	0	0	1,038,948
8-Dec-2013	0	0	0	0	0	0	0	1,038,948
9-Dec-2013	0	0	0	0	0	0	0	1,038,948
10-Dec-2013	0	0	0	0	0	0	0	1,038,948
11-Dec-2013	0	0	0	0	0	0	0	1,038,948
12-Dec-2013	0	0	0	0	0	0	0	1,038,948
13-Dec-2013	0	0	0	0	0	0	0	1,038,948
14-Dec-2013	0	0	0	0	0	0	0	1,038,948

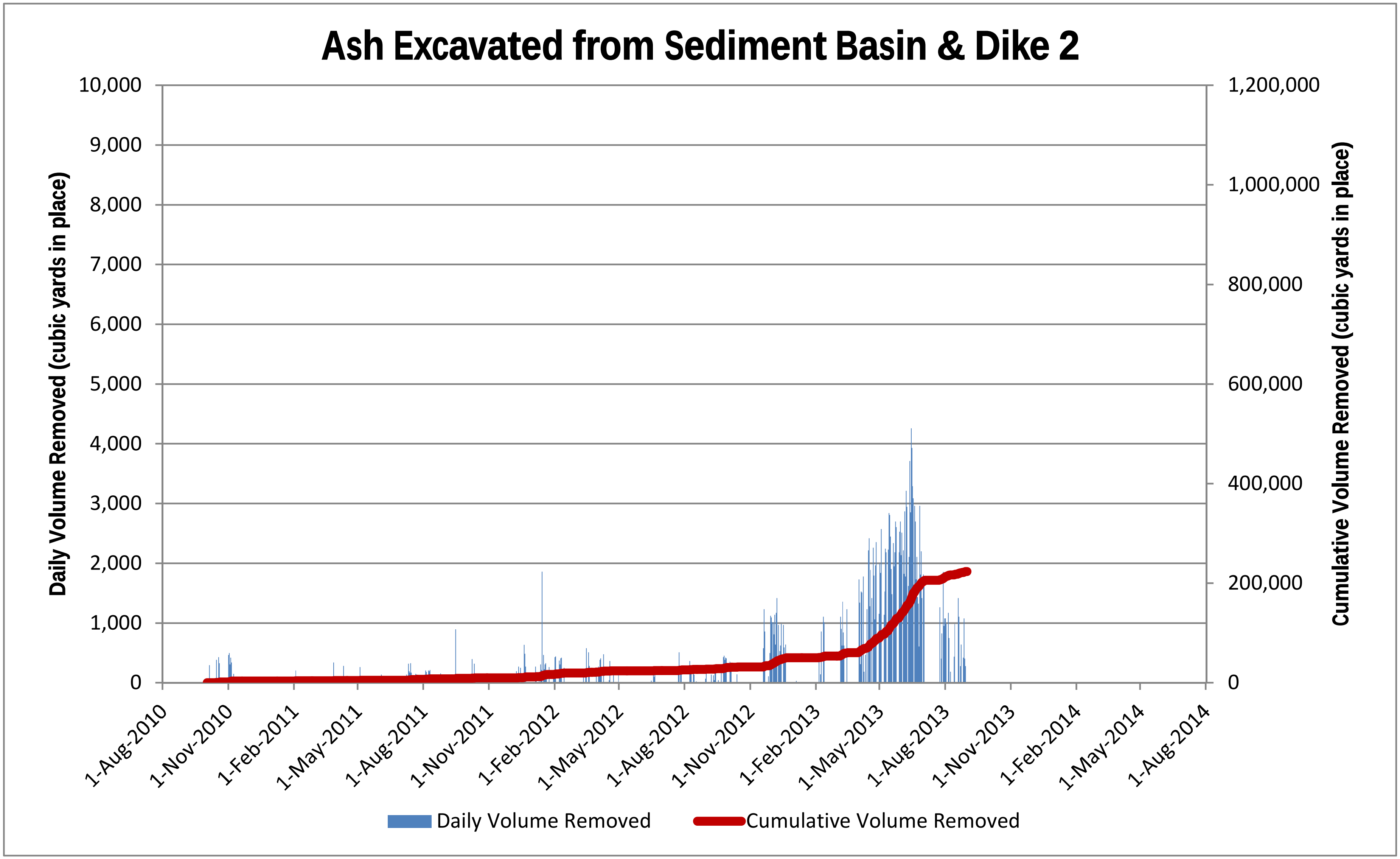
Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
15-Dec-2013	0	0	0	0	0	0	0	1,038,948
16-Dec-2013	0	0	0	0	0	0	0	1,038,948
17-Dec-2013	0	0	0	0	0	0	0	1,038,948
18-Dec-2013	0	0	0	0	0	0	0	1,038,948
19-Dec-2013	0	0	0	0	0	0	0	1,038,948
20-Dec-2013	0	0	0	0	0	0	0	1,038,948
21-Dec-2013	0	0	0	0	0	0	0	1,038,948
22-Dec-2013	0	0	0	0	0	0	0	1,038,948
23-Dec-2013	0	0	0	0	0	0	0	1,038,948
24-Dec-2013	0	0	0	0	0	0	0	1,038,948
25-Dec-2013	0	0	0	0	0	0	0	1,038,948
26-Dec-2013	0	0	0	0	0	0	0	1,038,948
27-Dec-2013	0	0	0	0	0	0	0	1,038,948
28-Dec-2013	0	0	0	0	0	0	0	1,038,948
29-Dec-2013	0	0	0	0	0	0	0	1,038,948
30-Dec-2013	0	0	0	0	0	0	0	1,038,948
31-Dec-2013	0	0	0	0	0	0	0	1,038,948
1-Jan-2014	0	0	0	0	0	0	0	1,038,948
2-Jan-2014	0	0	0	0	0	0	0	1,038,948
3-Jan-2014	0	0	0	0	0	0	0	1,038,948
4-Jan-2014	0	0	0	0	0	0	0	1,038,948
5-Jan-2014	0	0	0	0	0	0	0	1,038,948
6-Jan-2014	0	0	0	0	0	0	0	1,038,948
7-Jan-2014	0	0	0	0	0	0	0	1,038,948
8-Jan-2014	0	0	0	0	0	0	0	1,038,948
9-Jan-2014	0	0	0	0	0	0	0	1,038,948
10-Jan-2014	0	0	0	0	0	0	0	1,038,948
11-Jan-2014	0	0	0	0	0	0	0	1,038,948
12-Jan-2014	0	0	0	0	0	0	0	1,038,948
13-Jan-2014	0	0	0	0	0	0	0	1,038,948
14-Jan-2014	0	0	0	0	0	0	0	1,038,948
15-Jan-2014	0	0	0	0	0	0	0	1,038,948
16-Jan-2014	0	0	0	0	0	0	0	1,038,948
17-Jan-2014	0	0	0	0	0	0	0	1,038,948
18-Jan-2014	0	0	0	0	0	0	0	1,038,948
19-Jan-2014	0	0	0	0	0	0	0	1,038,948
20-Jan-2014	0	0	0	0	0	0	0	1,038,948
21-Jan-2014	0	0	0	0	0	0	0	1,038,948
22-Jan-2014	0	0	0	0	0	0	0	1,038,948
23-Jan-2014	0	0	0	0	0	0	0	1,038,948
24-Jan-2014	0	0	0	0	0	0	0	1,038,948
25-Jan-2014	0	0	0	0	0	0	0	1,038,948
26-Jan-2014	0	0	0	0	0	0	0	1,038,948
27-Jan-2014	0	0	0	0	0	0	0	1,038,948

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
28-Jan-2014	0	0	0	0	0	0	0	1,038,948
29-Jan-2014	0	0	0	0	0	0	0	1,038,948
30-Jan-2014	0	0	0	0	0	0	0	1,038,948
31-Jan-2014	0	0	0	0	0	0	0	1,038,948
1-Feb-2014	0	0	0	0	0	0	0	1,038,948
2-Feb-2014	0	0	0	0	0	0	0	1,038,948
3-Feb-2014	0	0	0	0	0	0	0	1,038,948
4-Feb-2014	0	0	0	0	0	0	0	1,038,948
5-Feb-2014	0	0	0	0	0	0	0	1,038,948
6-Feb-2014	0	0	0	0	0	0	0	1,038,948
7-Feb-2014	0	0	0	0	0	0	0	1,038,948
8-Feb-2014	0	0	0	0	0	0	0	1,038,948
9-Feb-2014	0	0	0	0	0	0	0	1,038,948
10-Feb-2014	0	0	0	0	0	0	0	1,038,948
11-Feb-2014	0	0	0	0	0	0	0	1,038,948
12-Feb-2014	0	0	0	0	0	0	0	1,038,948
13-Feb-2014	0	0	0	0	0	0	0	1,038,948
14-Feb-2014	0	0	0	0	0	0	0	1,038,948
15-Feb-2014	0	0	0	0	0	0	0	1,038,948
16-Feb-2014	0	0	0	0	0	0	0	1,038,948
17-Feb-2014	0	0	58	1,276	0	0	905	1,039,853
18-Feb-2014	0	0	40	880	0	0	624	1,040,477
19-Feb-2014	0	0	0	0	0	0	0	1,040,477
20-Feb-2014	0	0	0	0	0	0	0	1,040,477
21-Feb-2014	0	0	0	0	0	0	0	1,040,477
22-Feb-2014	0	0	0	0	0	0	0	1,040,477
23-Feb-2014	0	0	0	0	0	0	0	1,040,477
24-Feb-2014	0	0	62	1,364	0	0	967	1,041,444
25-Feb-2014	0	0	29	638	0	0	452	1,041,896
26-Feb-2014	0	0	0	0	0	0	0	1,041,896
27-Feb-2014	0	0	105	2,310	0	0	1,638	1,043,534
28-Feb-2014	0	0	121	2,662	0	0	1,887	1,045,421
1-Mar-2014	0	0	32	704	0	0	499	1,045,920
2-Mar-2014	0	0	0	0	0	0	0	1,045,920
3-Mar-2014	0	0	0	0	0	0	0	1,045,920
4-Mar-2014	0	0	0	0	0	0	0	1,045,920
5-Mar-2014	0	0	0	0	0	0	0	1,045,920
6-Mar-2014	0	0	0	0	0	0	0	1,045,920
7-Mar-2014	0	0	0	0	0	0	0	1,045,920
8-Mar-2014	0	0	0	0	0	0	0	1,045,920
9-Mar-2014	0	0	0	0	0	0	0	1,045,920
10-Mar-2014	0	0	0	0	0	0	0	1,045,920
11-Mar-2014	0	0	0	0	0	0	0	1,045,920
12-Mar-2014	0	0	0	0	0	0	0	1,045,920

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
13-Mar-2014	0	0	0	0	0	0	0	1,045,920
14-Mar-2014	0	0	0	0	0	0	0	1,045,920
15-Mar-2014	0	0	0	0	0	0	0	1,045,920
16-Mar-2014	0	0	0	0	0	0	0	1,045,920
17-Mar-2014	0	0	0	0	0	0	0	1,045,920
18-Mar-2014	0	0	0	0	0	0	0	1,045,920
19-Mar-2014	0	0	0	0	0	0	0	1,045,920
20-Mar-2014	0	0	0	0	0	0	0	1,045,920
21-Mar-2014	0	0	0	0	0	0	0	1,045,920
22-Mar-2014	0	0	0	0	0	0	0	1,045,920
23-Mar-2014	0	0	0	0	0	0	0	1,045,920
24-Mar-2014	0	0	0	0	0	0	0	1,045,920
25-Mar-2014	0	0	0	0	0	0	0	1,045,920
26-Mar-2014	0	0	0	0	0	0	0	1,045,920
27-Mar-2014	0	0	0	0	0	0	0	1,045,920
28-Mar-2014	0	0	0	0	0	0	0	1,045,920
29-Mar-2014	0	0	0	0	0	0	0	1,045,920
30-Mar-2014	0	0	0	0	0	0	0	1,045,920
31-Mar-2014	0	0	0	0	0	0	0	1,045,920
1-Apr-2014	0	0	0	0	0	0	0	1,045,920
2-Apr-2014	0	0	0	0	0	0	0	1,045,920
3-Apr-2014	0	0	0	0	0	0	0	1,045,920
4-Apr-2014	0	0	0	0	0	0	0	1,045,920
5-Apr-2014	0	0	0	0	0	0	0	1,045,920
6-Apr-2014	0	0	0	0	0	0	0	1,045,920
7-Apr-2014	0	0	0	0	0	0	0	1,045,920
8-Apr-2014	0	0	0	0	0	0	0	1,045,920
9-Apr-2014	0	0	0	0	0	0	0	1,045,920
10-Apr-2014	0	0	0	0	0	0	0	1,045,920
11-Apr-2014	0	0	0	0	0	0	0	1,045,920
12-Apr-2014	0	0	17	374	0	0	265	1,046,186
13-Apr-2014	0	0	0	0	0	0	0	1,046,186
14-Apr-2014	0	0	4	88	0	0	62	1,046,248
15-Apr-2014	0	0	0	0	0	0	0	1,046,248
16-Apr-2014	0	0	0	0	0	0	0	1,046,248
17-Apr-2014	0	0	0	0	0	0	0	1,046,248
18-Apr-2014	0	0	0	0	0	0	0	1,046,248
19-Apr-2014	0	0	0	0	0	0	0	1,046,248
20-Apr-2014	0	0	0	0	0	0	0	1,046,248
21-Apr-2014	0	0	30	660	0	0	468	1,046,716
22-Apr-2014	0	0	30	660	0	0	468	1,047,184
23-Apr-2014	0	0	16	352	0	0	250	1,047,433
24-Apr-2014	0	0	18	396	0	0	281	1,047,714
25-Apr-2014	0	0	28	616	0	0	437	1,048,151

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
26-Apr-2014	0	0	14	308	0	0	218	1,048,369
27-Apr-2014	0	0	0	0	0	0	0	1,048,369
28-Apr-2014	0	0	0	0	0	0	0	1,048,369
29-Apr-2014	0	0	0	0	0	0	0	1,048,369
30-Apr-2014	0	0	0	0	0	0	0	1,048,369
1-May-2014	0	0	0	0	0	0	0	1,048,369
2-May-2014	0	0	0	0	0	0	0	1,048,369
3-May-2014	0	0	42	924	0	0	655	1,049,024
4-May-2014	0	0	0	0	0	0	0	1,049,024
5-May-2014	0	0	33	726	0	0	515	1,049,539
6-May-2014	0	0	23	506	0	0	359	1,049,898
7-May-2014	0	0	118	2,596	0	0	1,841	1,051,738
8-May-2014	0	0	106	2,332	0	0	1,653	1,053,392
9-May-2014	0	0	79	1,738	0	0	1,232	1,054,624
10-May-2014	0	0	11	242	0	0	172	1,054,796
11-May-2014	0	0	0	0	0	0	0	1,054,796
12-May-2014	0	0	0	0	0	0	0	1,054,796
13-May-2014	0	0	0	0	0	0	0	1,054,796
14-May-2014	0	0	0	0	0	0	0	1,054,796
15-May-2014	0	0	0	0	0	0	0	1,054,796
16-May-2014	0	0	0	0	0	0	0	1,054,796
17-May-2014	0	0	0	0	0	0	0	1,054,796
18-May-2014	0	0	0	0	0	0	0	1,054,796
19-May-2014	0	0	0	0	0	0	0	1,054,796
20-May-2014	0	0	0	0	0	0	0	1,054,796
21-May-2014	0	0	0	0	0	0	0	1,054,796
22-May-2014	0	0	0	0	0	0	0	1,054,796
23-May-2014	0	0	0	0	0	0	0	1,054,796
24-May-2014	0	0	0	0	0	0	0	1,054,796
25-May-2014	0	0	0	0	0	0	0	1,054,796
26-May-2014	0	0	0	0	0	0	0	1,054,796
27-May-2014	0	0	0	0	0	0	0	1,054,796
28-May-2014	0	0	0	0	0	0	0	1,054,796
29-May-2014	0	0	0	0	0	0	0	1,054,796
30-May-2014	0	0	0	0	0	0	0	1,054,796
31-May-2014	0	0	0	0	0	0	0	1,054,796
1-Jun-2014	0	0	0	0	0	0	0	1,054,796
2-Jun-2014	0	0	0	0	0	0	0	1,054,796
3-Jun-2014	0	0	0	0	0	0	0	1,054,796
4-Jun-2014	0	0	0	0	0	0	0	1,054,796
5-Jun-2014	0	0	0	0	0	0	0	1,054,796
6-Jun-2014	0	0	0	0	0	0	0	1,054,796
7-Jun-2014	0	0	0	0	0	0	0	1,054,796
8-Jun-2014	0	0	0	0	0	0	0	1,054,796

Date	Ash Excavated From Middle Embayment							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
9-Jun-2014	0	0	0	0	0	0	0	1,054,796
10-Jun-2014	0	0	22	484	0	0	343	1,055,139
11-Jun-2014	0	0	0	0	0	0	0	1,055,139
12-Jun-2014	0	0	0	0	0	0	0	1,055,139
13-Jun-2014	0	0	0	0	0	0	0	1,055,139
14-Jun-2014	0	0	0	0	0	0	0	1,055,139
15-Jun-2014	0	0	0	0	0	0	0	1,055,139
16-Jun-2014	0	0	44	968	0	0	686	1,055,825
17-Jun-2014	0	0	68	1,496	0	0	1,061	1,056,886
18-Jun-2014	0	0	34	748	0	0	530	1,057,416
19-Jun-2014	0	0	31	682	0	0	484	1,057,900
20-Jun-2014	0	0	21	462	0	0	328	1,058,227
21-Jun-2014	0	0	0	0	0	0	0	1,058,227
22-Jun-2014	0	0	0	0	0	0	0	1,058,227
23-Jun-2014	0	0	0	0	0	0	0	1,058,227
24-Jun-2014	0	0	0	0	0	0	0	1,058,227
25-Jun-2014	0	0	0	0	0	0	0	1,058,227
26-Jun-2014	0	0	0	0	0	0	0	1,058,227
27-Jun-2014	0	0	0	0	0	0	0	1,058,227
28-Jun-2014	0	0	42	924	0	0	655	1,058,882
29-Jun-2014	0	0	0	0	0	0	0	1,058,882
30-Jun-2014	0	0	0	0	0	0	0	1,058,882
1-Jul-2014	0	0	0	0	0	0	0	1,058,882
2-Jul-2014	0	0	0	0	0	0	0	1,058,882
3-Jul-2014	0	0	0	0	0	0	0	1,058,882
4-Jul-2014	0	0	0	0	0	0	0	1,058,882
5-Jul-2014	0	0	0	0	0	0	0	1,058,882
6-Jul-2014	0	0	0	0	0	0	0	1,058,882
7-Jul-2014	0	0	0	0	0	0	0	1,058,882
8-Jul-2014	0	0	0	0	0	0	0	1,058,882
9-Jul-2014	0	0	0	0	0	0	0	1,058,882
10-Jul-2014	0	0	0	0	0	0	0	1,058,882
11-Jul-2014	0	0	0	0	0	0	0	1,058,882
12-Jul-2014	0	0	0	0	0	0	0	1,058,882
13-Jul-2014	0	0	0	0	0	0	0	1,058,882
14-Jul-2014	0	0	0	0	0	0	0	1,058,882
15-Jul-2014	0	0	0	0	0	0	0	1,058,882


Ash Excavated from Sediment Basin & Dike 2
Daily Volume Removed (cubic yards in place)
Cumulative Volume Removed (cubic yards in place)
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
1-Aug-2010
1-Nov-2010
1-Feb-2011
1-May-2011
1-Aug-2011
1-Nov-2011
1-Feb-2012
1-May-2012
1-Aug-2012
1-Nov-2012
1-Feb-2013
1-May-2013
1-Aug-2013
1-Nov-2013
1-Feb-2014
1-May-2014
1-Aug-2014
Daily Volume Removed
Cumulative Volume Removed

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
1-Oct-2010	0	0	0	0	0	0
2-Oct-2010	0	0	0	0	0	0
3-Oct-2010	0	0	0	0	0	0
4-Oct-2010	0	0	0	0	0	0
5-Oct-2010	26	416	0	0	295	295
6-Oct-2010	0	0	0	0	0	295
7-Oct-2010	0	0	0	0	0	295
8-Oct-2010	0	0	0	0	0	295
9-Oct-2010	0	0	0	0	0	295
10-Oct-2010	0	0	0	0	0	295
11-Oct-2010	0	0	0	0	0	295
12-Oct-2010	0	0	0	0	0	295
13-Oct-2010	0	0	0	0	0	295
14-Oct-2010	0	0	0	0	0	295
15-Oct-2010	34	544	0	0	386	681
16-Oct-2010	0	0	0	0	0	681
17-Oct-2010	0	0	0	0	0	681
18-Oct-2010	38	608	0	0	431	1,112
19-Oct-2010	29	464	0	0	329	1,441
20-Oct-2010	0	0	0	0	0	1,441
21-Oct-2010	0	0	0	0	0	1,441
22-Oct-2010	0	0	0	0	0	1,441
23-Oct-2010	0	0	0	0	0	1,441
24-Oct-2010	0	0	0	0	0	1,441
25-Oct-2010	0	0	0	0	0	1,441
26-Oct-2010	0	0	0	0	0	1,441
27-Oct-2010	0	0	0	0	0	1,441
28-Oct-2010	0	0	0	0	0	1,441
29-Oct-2010	0	0	0	0	0	1,441
30-Oct-2010	0	0	0	0	0	1,441
31-Oct-2010	0	0	0	0	0	1,441
1-Nov-2010	41	656	0	0	465	1,906
2-Nov-2010	44	704	0	0	499	2,405
3-Nov-2010	27	432	0	0	306	2,711
4-Nov-2010	37	592	0	0	420	3,131
5-Nov-2010	30	480	0	0	340	3,471
6-Nov-2010	0	0	0	0	0	3,471
7-Nov-2010	0	0	0	0	0	3,471
8-Nov-2010	13	208	0	0	147	3,619
9-Nov-2010	0	0	0	0	0	3,619
10-Nov-2010	0	0	0	0	0	3,619
11-Nov-2010	0	0	0	0	0	3,619

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
12-Nov-2010	0	0	0	0	0	3,619
13-Nov-2010	0	0	0	0	0	3,619
14-Nov-2010	0	0	0	0	0	3,619
15-Nov-2010	0	0	0	0	0	3,619
16-Nov-2010	0	0	0	0	0	3,619
17-Nov-2010	0	0	0	0	0	3,619
18-Nov-2010	0	0	0	0	0	3,619
19-Nov-2010	0	0	0	0	0	3,619
20-Nov-2010	0	0	0	0	0	3,619
21-Nov-2010	0	0	0	0	0	3,619
22-Nov-2010	0	0	0	0	0	3,619
23-Nov-2010	0	0	0	0	0	3,619
24-Nov-2010	0	0	0	0	0	3,619
25-Nov-2010	0	0	0	0	0	3,619
26-Nov-2010	0	0	0	0	0	3,619
27-Nov-2010	0	0	0	0	0	3,619
28-Nov-2010	0	0	0	0	0	3,619
29-Nov-2010	0	0	0	0	0	3,619
30-Nov-2010	0	0	0	0	0	3,619
1-Dec-2010	0	0	0	0	0	3,619
2-Dec-2010	0	0	0	0	0	3,619
3-Dec-2010	0	0	0	0	0	3,619
4-Dec-2010	0	0	0	0	0	3,619
5-Dec-2010	0	0	0	0	0	3,619
6-Dec-2010	0	0	0	0	0	3,619
7-Dec-2010	0	0	0	0	0	3,619
8-Dec-2010	0	0	0	0	0	3,619
9-Dec-2010	0	0	0	0	0	3,619
10-Dec-2010	0	0	0	0	0	3,619
11-Dec-2010	0	0	0	0	0	3,619
12-Dec-2010	0	0	0	0	0	3,619
13-Dec-2010	0	0	0	0	0	3,619
14-Dec-2010	0	0	0	0	0	3,619
15-Dec-2010	0	0	0	0	0	3,619
16-Dec-2010	0	0	0	0	0	3,619
17-Dec-2010	0	0	0	0	0	3,619
18-Dec-2010	0	0	0	0	0	3,619
19-Dec-2010	0	0	0	0	0	3,619
20-Dec-2010	0	0	0	0	0	3,619
21-Dec-2010	0	0	0	0	0	3,619
22-Dec-2010	0	0	0	0	0	3,619
23-Dec-2010	0	0	0	0	0	3,619

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
24-Dec-2010	0	0	0	0	0	3,619
25-Dec-2010	0	0	0	0	0	3,619
26-Dec-2010	0	0	0	0	0	3,619
27-Dec-2010	0	0	0	0	0	3,619
28-Dec-2010	0	0	0	0	0	3,619
29-Dec-2010	0	0	0	0	0	3,619
30-Dec-2010	0	0	0	0	0	3,619
31-Dec-2010	0	0	0	0	0	3,619
1-Jan-2011	0	0	0	0	0	3,619
2-Jan-2011	0	0	0	0	0	3,619
3-Jan-2011	0	0	0	0	0	3,619
4-Jan-2011	0	0	0	0	0	3,619
5-Jan-2011	0	0	0	0	0	3,619
6-Jan-2011	0	0	0	0	0	3,619
7-Jan-2011	0	0	0	0	0	3,619
8-Jan-2011	0	0	0	0	0	3,619
9-Jan-2011	0	0	0	0	0	3,619
10-Jan-2011	0	0	0	0	0	3,619
11-Jan-2011	0	0	0	0	0	3,619
12-Jan-2011	0	0	0	0	0	3,619
13-Jan-2011	9	144	0	0	102	3,721
14-Jan-2011	7	112	0	0	79	3,800
15-Jan-2011	0	0	0	0	0	3,800
16-Jan-2011	0	0	0	0	0	3,800
17-Jan-2011	0	0	0	0	0	3,800
18-Jan-2011	0	0	0	0	0	3,800
19-Jan-2011	0	0	0	0	0	3,800
20-Jan-2011	0	0	0	0	0	3,800
21-Jan-2011	0	0	0	0	0	3,800
22-Jan-2011	0	0	0	0	0	3,800
23-Jan-2011	0	0	0	0	0	3,800
24-Jan-2011	0	0	0	0	0	3,800
25-Jan-2011	0	0	0	0	0	3,800
26-Jan-2011	0	0	0	0	0	3,800
27-Jan-2011	0	0	0	0	0	3,800
28-Jan-2011	0	0	0	0	0	3,800
29-Jan-2011	0	0	0	0	0	3,800
30-Jan-2011	0	0	0	0	0	3,800
31-Jan-2011	0	0	0	0	0	3,800
1-Feb-2011	0	0	0	0	0	3,800
2-Feb-2011	0	0	0	0	0	3,800
3-Feb-2011	18	288	0	0	204	4,004

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
4-Feb-2011	0	0	0	0	0	4,004
5-Feb-2011	0	0	0	0	0	4,004
6-Feb-2011	0	0	0	0	0	4,004
7-Feb-2011	0	0	0	0	0	4,004
8-Feb-2011	0	0	0	0	0	4,004
9-Feb-2011	0	0	0	0	0	4,004
10-Feb-2011	0	0	0	0	0	4,004
11-Feb-2011	0	0	0	0	0	4,004
12-Feb-2011	0	0	0	0	0	4,004
13-Feb-2011	0	0	0	0	0	4,004
14-Feb-2011	0	0	0	0	0	4,004
15-Feb-2011	0	0	0	0	0	4,004
16-Feb-2011	0	0	0	0	0	4,004
17-Feb-2011	0	0	0	0	0	4,004
18-Feb-2011	0	0	0	0	0	4,004
19-Feb-2011	0	0	0	0	0	4,004
20-Feb-2011	0	0	0	0	0	4,004
21-Feb-2011	0	0	0	0	0	4,004
22-Feb-2011	0	0	0	0	0	4,004
23-Feb-2011	0	0	0	0	0	4,004
24-Feb-2011	0	0	0	0	0	4,004
25-Feb-2011	0	0	0	0	0	4,004
26-Feb-2011	0	0	0	0	0	4,004
27-Feb-2011	0	0	0	0	0	4,004
28-Feb-2011	0	0	0	0	0	4,004
1-Mar-2011	0	0	0	0	0	4,004
2-Mar-2011	0	0	0	0	0	4,004
3-Mar-2011	0	0	0	0	0	4,004
4-Mar-2011	0	0	0	0	0	4,004
5-Mar-2011	0	0	0	0	0	4,004
6-Mar-2011	0	0	0	0	0	4,004
7-Mar-2011	0	0	0	0	0	4,004
8-Mar-2011	0	0	0	0	0	4,004
9-Mar-2011	0	0	0	0	0	4,004
10-Mar-2011	0	0	0	0	0	4,004
11-Mar-2011	0	0	0	0	0	4,004
12-Mar-2011	0	0	0	0	0	4,004
13-Mar-2011	0	0	0	0	0	4,004
14-Mar-2011	0	0	0	0	0	4,004
15-Mar-2011	0	0	0	0	0	4,004
16-Mar-2011	0	0	0	0	0	4,004
17-Mar-2011	0	0	0	0	0	4,004

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
18-Mar-2011	0	0	0	0	0	4,004
19-Mar-2011	0	0	0	0	0	4,004
20-Mar-2011	0	0	0	0	0	4,004
21-Mar-2011	0	0	0	0	0	4,004
22-Mar-2011	0	0	0	0	0	4,004
23-Mar-2011	0	0	0	0	0	4,004
24-Mar-2011	0	0	0	0	0	4,004
25-Mar-2011	0	0	0	0	0	4,004
26-Mar-2011	0	0	0	0	0	4,004
27-Mar-2011	0	0	0	0	0	4,004
28-Mar-2011	30	480	0	0	340	4,345
29-Mar-2011	0	0	0	0	0	4,345
30-Mar-2011	0	0	0	0	0	4,345
31-Mar-2011	0	0	0	0	0	4,345
1-Apr-2011	0	0	0	0	0	4,345
2-Apr-2011	0	0	0	0	0	4,345
3-Apr-2011	0	0	0	0	0	4,345
4-Apr-2011	0	0	0	0	0	4,345
5-Apr-2011	0	0	0	0	0	4,345
6-Apr-2011	0	0	0	0	0	4,345
7-Apr-2011	0	0	0	0	0	4,345
8-Apr-2011	0	0	0	0	0	4,345
9-Apr-2011	0	0	0	0	0	4,345
10-Apr-2011	0	0	0	0	0	4,345
11-Apr-2011	25	400	0	0	284	4,628
12-Apr-2011	0	0	0	0	0	4,628
13-Apr-2011	0	0	0	0	0	4,628
14-Apr-2011	0	0	0	0	0	4,628
15-Apr-2011	0	0	0	0	0	4,628
16-Apr-2011	0	0	0	0	0	4,628
17-Apr-2011	0	0	0	0	0	4,628
18-Apr-2011	0	0	0	0	0	4,628
19-Apr-2011	0	0	0	0	0	4,628
20-Apr-2011	0	0	0	0	0	4,628
21-Apr-2011	0	0	0	0	0	4,628
22-Apr-2011	0	0	0	0	0	4,628
23-Apr-2011	0	0	0	0	0	4,628
24-Apr-2011	0	0	0	0	0	4,628
25-Apr-2011	0	0	0	0	0	4,628
26-Apr-2011	0	0	0	0	0	4,628
27-Apr-2011	0	0	0	0	0	4,628
28-Apr-2011	0	0	0	0	0	4,628

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
29-Apr-2011	0	0	0	0	0	4,628
30-Apr-2011	0	0	0	0	0	4,628
1-May-2011	0	0	0	0	0	4,628
2-May-2011	0	0	0	0	0	4,628
3-May-2011	0	0	0	0	0	4,628
4-May-2011	23	368	0	0	261	4,889
5-May-2011	0	0	0	0	0	4,889
6-May-2011	0	0	0	0	0	4,889
7-May-2011	0	0	0	0	0	4,889
8-May-2011	0	0	0	0	0	4,889
9-May-2011	0	0	0	0	0	4,889
10-May-2011	0	0	0	0	0	4,889
11-May-2011	0	0	0	0	0	4,889
12-May-2011	0	0	0	0	0	4,889
13-May-2011	0	0	0	0	0	4,889
14-May-2011	0	0	0	0	0	4,889
15-May-2011	0	0	0	0	0	4,889
16-May-2011	0	0	0	0	0	4,889
17-May-2011	0	0	0	0	0	4,889
18-May-2011	0	0	0	0	0	4,889
19-May-2011	0	0	0	0	0	4,889
20-May-2011	0	0	0	0	0	4,889
21-May-2011	0	0	0	0	0	4,889
22-May-2011	0	0	0	0	0	4,889
23-May-2011	0	0	0	0	0	4,889
24-May-2011	0	0	0	0	0	4,889
25-May-2011	0	0	0	0	0	4,889
26-May-2011	0	0	0	0	0	4,889
27-May-2011	0	0	0	0	0	4,889
28-May-2011	0	0	0	0	0	4,889
29-May-2011	0	0	0	0	0	4,889
30-May-2011	0	0	0	0	0	4,889
31-May-2011	0	0	0	0	0	4,889
1-Jun-2011	0	0	0	0	0	4,889
2-Jun-2011	0	0	0	0	0	4,889
3-Jun-2011	12	192	0	0	136	5,025
4-Jun-2011	0	0	0	0	0	5,025
5-Jun-2011	0	0	0	0	0	5,025
6-Jun-2011	0	0	0	0	0	5,025
7-Jun-2011	0	0	0	0	0	5,025
8-Jun-2011	0	0	0	0	0	5,025
9-Jun-2011	0	0	0	0	0	5,025

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
10-Jun-2011	0	0	0	0	0	5,025
11-Jun-2011	0	0	0	0	0	5,025
12-Jun-2011	0	0	0	0	0	5,025
13-Jun-2011	0	0	0	0	0	5,025
14-Jun-2011	0	0	0	0	0	5,025
15-Jun-2011	0	0	0	0	0	5,025
16-Jun-2011	0	0	0	0	0	5,025
17-Jun-2011	0	0	0	0	0	5,025
18-Jun-2011	0	0	0	0	0	5,025
19-Jun-2011	0	0	0	0	0	5,025
20-Jun-2011	0	0	0	0	0	5,025
21-Jun-2011	0	0	0	0	0	5,025
22-Jun-2011	0	0	0	0	0	5,025
23-Jun-2011	0	0	0	0	0	5,025
24-Jun-2011	0	0	0	0	0	5,025
25-Jun-2011	0	0	0	0	0	5,025
26-Jun-2011	0	0	0	0	0	5,025
27-Jun-2011	0	0	0	0	0	5,025
28-Jun-2011	0	0	0	0	0	5,025
29-Jun-2011	0	0	0	0	0	5,025
30-Jun-2011	0	0	0	0	0	5,025
1-Jul-2011	0	0	0	0	0	5,025
2-Jul-2011	0	0	0	0	0	5,025
3-Jul-2011	0	0	0	0	0	5,025
4-Jul-2011	0	0	0	0	0	5,025
5-Jul-2011	0	0	0	0	0	5,025
6-Jul-2011	0	0	0	0	0	5,025
7-Jul-2011	0	0	0	0	0	5,025
8-Jul-2011	12	192	0	0	136	5,162
9-Jul-2011	0	0	0	0	0	5,162
10-Jul-2011	0	0	0	0	0	5,162
11-Jul-2011	28	448	0	0	318	5,479
12-Jul-2011	17	272	0	0	193	5,672
13-Jul-2011	15	240	0	0	170	5,842
14-Jul-2011	29	464	0	0	329	6,171
15-Jul-2011	15	240	0	0	170	6,341
16-Jul-2011	0	0	0	0	0	6,341
17-Jul-2011	0	0	0	0	0	6,341
18-Jul-2011	0	0	0	0	0	6,341
19-Jul-2011	11	176	0	0	125	6,466
20-Jul-2011	0	0	0	0	0	6,466
21-Jul-2011	13	208	0	0	147	6,614

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
22-Jul-2011	12	192	0	0	136	6,750
23-Jul-2011	0	0	0	0	0	6,750
24-Jul-2011	0	0	0	0	0	6,750
25-Jul-2011	0	0	0	0	0	6,750
26-Jul-2011	0	0	0	0	0	6,750
27-Jul-2011	0	0	0	0	0	6,750
28-Jul-2011	0	0	0	0	0	6,750
29-Jul-2011	0	0	0	0	0	6,750
30-Jul-2011	0	0	0	0	0	6,750
31-Jul-2011	0	0	0	0	0	6,750
1-Aug-2011	0	0	0	0	0	6,750
2-Aug-2011	0	0	0	0	0	6,750
3-Aug-2011	12	192	0	0	136	6,886
4-Aug-2011	18	288	0	0	204	7,090
5-Aug-2011	16	256	0	0	182	7,272
6-Aug-2011	0	0	0	0	0	7,272
7-Aug-2011	0	0	0	0	0	7,272
8-Aug-2011	18	288	0	0	204	7,476
9-Aug-2011	17	272	0	0	193	7,669
10-Aug-2011	19	304	0	0	216	7,884
11-Aug-2011	0	0	0	0	0	7,884
12-Aug-2011	0	0	0	0	0	7,884
13-Aug-2011	0	0	0	0	0	7,884
14-Aug-2011	0	0	0	0	0	7,884
15-Aug-2011	0	0	0	0	0	7,884
16-Aug-2011	0	0	0	0	0	7,884
17-Aug-2011	0	0	0	0	0	7,884
18-Aug-2011	0	0	0	0	0	7,884
19-Aug-2011	0	0	0	0	0	7,884
20-Aug-2011	0	0	0	0	0	7,884
21-Aug-2011	0	0	0	0	0	7,884
22-Aug-2011	0	0	0	0	0	7,884
23-Aug-2011	0	0	0	0	0	7,884
24-Aug-2011	0	0	0	0	0	7,884
25-Aug-2011	14	224	0	0	159	8,043
26-Aug-2011	0	0	0	0	0	8,043
27-Aug-2011	0	0	0	0	0	8,043
28-Aug-2011	0	0	0	0	0	8,043
29-Aug-2011	0	0	0	0	0	8,043
30-Aug-2011	0	0	0	0	0	8,043
31-Aug-2011	0	0	0	0	0	8,043
1-Sep-2011	0	0	0	0	0	8,043

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
2-Sep-2011	0	0	0	0	0	8,043
3-Sep-2011	0	0	0	0	0	8,043
4-Sep-2011	0	0	0	0	0	8,043
5-Sep-2011	0	0	0	0	0	8,043
6-Sep-2011	0	0	0	0	0	8,043
7-Sep-2011	0	0	0	0	0	8,043
8-Sep-2011	0	0	0	0	0	8,043
9-Sep-2011	0	0	0	0	0	8,043
10-Sep-2011	0	0	0	0	0	8,043
11-Sep-2011	0	0	0	0	0	8,043
12-Sep-2011	9	144	0	0	102	8,145
13-Sep-2011	0	0	0	0	0	8,145
14-Sep-2011	0	0	0	0	0	8,145
15-Sep-2011	79	1,264	0	0	896	9,041
16-Sep-2011	0	0	0	0	0	9,041
17-Sep-2011	0	0	0	0	0	9,041
18-Sep-2011	0	0	0	0	0	9,041
19-Sep-2011	0	0	0	0	0	9,041
20-Sep-2011	0	0	0	0	0	9,041
21-Sep-2011	0	0	0	0	0	9,041
22-Sep-2011	0	0	0	0	0	9,041
23-Sep-2011	0	0	0	0	0	9,041
24-Sep-2011	0	0	0	0	0	9,041
25-Sep-2011	0	0	0	0	0	9,041
26-Sep-2011	0	0	0	0	0	9,041
27-Sep-2011	0	0	0	0	0	9,041
28-Sep-2011	0	0	0	0	0	9,041
29-Sep-2011	0	0	0	0	0	9,041
30-Sep-2011	0	0	0	0	0	9,041
1-Oct-2011	0	0	0	0	0	9,041
2-Oct-2011	0	0	0	0	0	9,041
3-Oct-2011	0	0	0	0	0	9,041
4-Oct-2011	0	0	0	0	0	9,041
5-Oct-2011	0	0	0	0	0	9,041
6-Oct-2011	0	0	0	0	0	9,041
7-Oct-2011	0	0	0	0	0	9,041
8-Oct-2011	35	560	0	0	397	9,438
9-Oct-2011	0	0	0	0	0	9,438
10-Oct-2011	0	0	0	0	0	9,438
11-Oct-2011	28	448	0	0	318	9,756
12-Oct-2011	0	0	0	0	0	9,756
13-Oct-2011	0	0	0	0	0	9,756

	Ash Excavated From Sediment Basin & Dike 2					
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
14-Oct-2011	0	0	0	0	0	9,756
15-Oct-2011	0	0	0	0	0	9,756
16-Oct-2011	0	0	0	0	0	9,756
17-Oct-2011	0	0	0	0	0	9,756
18-Oct-2011	0	0	0	0	0	9,756
19-Oct-2011	0	0	0	0	0	9,756
20-Oct-2011	0	0	0	0	0	9,756
21-Oct-2011	0	0	0	0	0	9,756
22-Oct-2011	0	0	0	0	0	9,756
23-Oct-2011	0	0	0	0	0	9,756
24-Oct-2011	0	0	0	0	0	9,756
25-Oct-2011	0	0	0	0	0	9,756
26-Oct-2011	0	0	0	0	0	9,756
27-Oct-2011	0	0	0	0	0	9,756
28-Oct-2011	0	0	0	0	0	9,756
29-Oct-2011	0	0	0	0	0	9,756
30-Oct-2011	0	0	0	0	0	9,756
31-Oct-2011	0	0	0	0	0	9,756
1-Nov-2011	0	0	0	0	0	9,756
2-Nov-2011	0	0	0	0	0	9,756
3-Nov-2011	0	0	0	0	0	9,756
4-Nov-2011	0	0	0	0	0	9,756
5-Nov-2011	0	0	0	0	0	9,756
6-Nov-2011	0	0	0	0	0	9,756
7-Nov-2011	0	0	0	0	0	9,756
8-Nov-2011	0	0	0	0	0	9,756
9-Nov-2011	0	0	0	0	0	9,756
10-Nov-2011	0	0	0	0	0	9,756
11-Nov-2011	0	0	0	0	0	9,756
12-Nov-2011	0	0	0	0	0	9,756
13-Nov-2011	0	0	0	0	0	9,756
14-Nov-2011	0	0	0	0	0	9,756
15-Nov-2011	0	0	0	0	0	9,756
16-Nov-2011	0	0	0	0	0	9,756
17-Nov-2011	0	0	0	0	0	9,756
18-Nov-2011	0	0	0	0	0	9,756
19-Nov-2011	0	0	0	0	0	9,756
20-Nov-2011	0	0	0	0	0	9,756
21-Nov-2011	0	0	0	0	0	9,756
22-Nov-2011	0	0	0	0	0	9,756
23-Nov-2011	0	0	0	0	0	9,756
24-Nov-2011	0	0	0	0	0	9,756

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
25-Nov-2011	0	0	0	0	0	9,756
26-Nov-2011	0	0	0	0	0	9,756
27-Nov-2011	0	0	0	0	0	9,756
28-Nov-2011	0	0	0	0	0	9,756
29-Nov-2011	0	0	0	0	0	9,756
30-Nov-2011	0	0	0	0	0	9,756
1-Dec-2011	0	0	0	0	0	9,756
2-Dec-2011	0	0	0	0	0	9,756
3-Dec-2011	0	0	0	0	0	9,756
4-Dec-2011	0	0	0	0	0	9,756
5-Dec-2011	8	128	0	0	91	9,847
6-Dec-2011	0	0	0	0	0	9,847
7-Dec-2011	0	0	0	0	0	9,847
8-Dec-2011	0	0	0	0	0	9,847
9-Dec-2011	17	272	0	0	193	10,039
10-Dec-2011	0	0	0	0	0	10,039
11-Dec-2011	0	0	0	0	0	10,039
12-Dec-2011	24	384	0	0	272	10,312
13-Dec-2011	0	0	0	0	0	10,312
14-Dec-2011	0	0	0	0	0	10,312
15-Dec-2011	22	352	0	0	250	10,561
16-Dec-2011	0	0	0	0	0	10,561
17-Dec-2011	0	0	0	0	0	10,561
18-Dec-2011	0	0	0	0	0	10,561
19-Dec-2011	0	0	0	0	0	10,561
20-Dec-2011	56	896	0	0	635	11,197
21-Dec-2011	43	688	0	0	488	11,684
22-Dec-2011	24	384	0	0	272	11,957
23-Dec-2011	0	0	0	0	0	11,957
24-Dec-2011	0	0	0	0	0	11,957
25-Dec-2011	0	0	0	0	0	11,957
26-Dec-2011	0	0	0	0	0	11,957
27-Dec-2011	0	0	0	0	0	11,957
28-Dec-2011	0	0	0	0	0	11,957
29-Dec-2011	0	0	0	0	0	11,957
30-Dec-2011	0	0	0	0	0	11,957
31-Dec-2011	0	0	0	0	0	11,957
1-Jan-2012	0	0	0	0	0	11,957
2-Jan-2012	0	0	0	0	0	11,957
3-Jan-2012	0	0	0	0	0	11,957
4-Jan-2012	0	0	0	0	0	11,957
5-Jan-2012	24	384	0	0	272	12,229

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
6-Jan-2012	13	208	0	0	147	12,376
7-Jan-2012	0	0	0	0	0	12,376
8-Jan-2012	0	0	0	0	0	12,376
9-Jan-2012	0	0	0	0	0	12,376
10-Jan-2012	16	256	0	0	182	12,558
11-Jan-2012	0	0	0	0	0	12,558
12-Jan-2012	27	432	0	0	306	12,864
13-Jan-2012	19	304	0	0	216	13,080
14-Jan-2012	164	2,624	0	0	1,860	14,940
15-Jan-2012	0	0	0	0	0	14,940
16-Jan-2012	41	656	0	0	465	15,405
17-Jan-2012	20	320	0	0	227	15,632
18-Jan-2012	27	432	0	0	306	15,938
19-Jan-2012	29	464	0	0	329	16,267
20-Jan-2012	18	288	0	0	204	16,471
21-Jan-2012	0	0	0	0	0	16,471
22-Jan-2012	0	0	0	0	0	16,471
23-Jan-2012	0	0	0	0	0	16,471
24-Jan-2012	23	368	0	0	261	16,732
25-Jan-2012	0	0	0	0	0	16,732
26-Jan-2012	0	0	0	0	0	16,732
27-Jan-2012	0	0	0	0	0	16,732
28-Jan-2012	0	0	0	0	0	16,732
29-Jan-2012	0	0	0	0	0	16,732
30-Jan-2012	7	112	0	0	79	16,812
31-Jan-2012	11	176	0	0	125	16,937
1-Feb-2012	38	608	0	0	431	17,368
2-Feb-2012	39	624	0	0	442	17,810
3-Feb-2012	0	0	0	0	0	17,810
4-Feb-2012	0	0	0	0	0	17,810
5-Feb-2012	0	0	0	0	0	17,810
6-Feb-2012	0	0	0	0	0	17,810
7-Feb-2012	33	528	0	0	374	18,184
8-Feb-2012	27	432	0	0	306	18,491
9-Feb-2012	36	576	0	0	408	18,899
10-Feb-2012	37	592	0	0	420	19,319
11-Feb-2012	0	0	0	0	0	19,319
12-Feb-2012	0	0	0	0	0	19,319
13-Feb-2012	0	0	0	0	0	19,319
14-Feb-2012	22	352	0	0	250	19,568
15-Feb-2012	0	0	0	0	0	19,568
16-Feb-2012	0	0	0	0	0	19,568

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
17-Feb-2012	0	0	0	0	0	19,568
18-Feb-2012	0	0	0	0	0	19,568
19-Feb-2012	0	0	0	0	0	19,568
20-Feb-2012	0	0	0	0	0	19,568
21-Feb-2012	0	0	0	0	0	19,568
22-Feb-2012	0	0	0	0	0	19,568
23-Feb-2012	0	0	0	0	0	19,568
24-Feb-2012	0	0	0	0	0	19,568
25-Feb-2012	0	0	0	0	0	19,568
26-Feb-2012	0	0	0	0	0	19,568
27-Feb-2012	0	0	0	0	0	19,568
28-Feb-2012	0	0	0	0	0	19,568
29-Feb-2012	0	0	0	0	0	19,568
1-Mar-2012	0	0	0	0	0	19,568
2-Mar-2012	0	0	0	0	0	19,568
3-Mar-2012	0	0	0	0	0	19,568
4-Mar-2012	0	0	0	0	0	19,568
5-Mar-2012	0	0	0	0	0	19,568
6-Mar-2012	0	0	0	0	0	19,568
7-Mar-2012	0	0	0	0	0	19,568
8-Mar-2012	0	0	0	0	0	19,568
9-Mar-2012	0	0	0	0	0	19,568
10-Mar-2012	0	0	0	0	0	19,568
11-Mar-2012	0	0	0	0	0	19,568
12-Mar-2012	17	272	0	0	193	19,761
13-Mar-2012	0	0	0	0	0	19,761
14-Mar-2012	0	0	0	0	0	19,761
15-Mar-2012	12	192	0	0	136	19,897
16-Mar-2012	51	816	0	0	579	20,476
17-Mar-2012	0	0	0	0	0	20,476
18-Mar-2012	0	0	0	0	0	20,476
19-Mar-2012	45	720	0	0	510	20,986
20-Mar-2012	25	400	0	0	284	21,270
21-Mar-2012	0	0	0	0	0	21,270
22-Mar-2012	0	0	0	0	0	21,270
23-Mar-2012	0	0	0	0	0	21,270
24-Mar-2012	0	0	0	0	0	21,270
25-Mar-2012	0	0	0	0	0	21,270
26-Mar-2012	0	0	0	0	0	21,270
27-Mar-2012	0	0	0	0	0	21,270
28-Mar-2012	0	0	0	0	0	21,270
29-Mar-2012	0	0	0	0	0	21,270

	Ash Excavated From Sediment Basin & Dike 2					
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
30-Mar-2012	14	224	0	0	159	21,429
31-Mar-2012	0	0	0	0	0	21,429
1-Apr-2012	0	0	0	0	0	21,429
2-Apr-2012	24	384	0	0	272	21,701
3-Apr-2012	17	272	0	0	193	21,894
4-Apr-2012	34	544	0	0	386	22,280
5-Apr-2012	36	576	0	0	408	22,688
6-Apr-2012	22	352	0	0	250	22,938
7-Apr-2012	0	0	0	0	0	22,938
8-Apr-2012	0	0	0	0	0	22,938
9-Apr-2012	42	672	0	0	476	23,414
10-Apr-2012	0	0	0	0	0	23,414
11-Apr-2012	0	0	0	0	0	23,414
12-Apr-2012	0	0	0	0	0	23,414
13-Apr-2012	0	0	0	0	0	23,414
14-Apr-2012	0	0	0	0	0	23,414
15-Apr-2012	0	0	0	0	0	23,414
16-Apr-2012	0	0	0	0	0	23,414
17-Apr-2012	4	64	0	0	45	23,459
18-Apr-2012	32	512	0	0	363	23,822
19-Apr-2012	0	0	0	0	0	23,822
20-Apr-2012	0	0	0	0	0	23,822
21-Apr-2012	0	0	0	0	0	23,822
22-Apr-2012	0	0	0	0	0	23,822
23-Apr-2012	13	208	0	0	147	23,970
24-Apr-2012	0	0	0	0	0	23,970
25-Apr-2012	0	0	0	0	0	23,970
26-Apr-2012	0	0	0	0	0	23,970
27-Apr-2012	0	0	0	0	0	23,970
28-Apr-2012	0	0	0	0	0	23,970
29-Apr-2012	0	0	0	0	0	23,970
30-Apr-2012	15	240	0	0	170	24,140
1-May-2012	0	0	0	0	0	24,140
2-May-2012	0	0	0	0	0	24,140
3-May-2012	0	0	0	0	0	24,140
4-May-2012	0	0	0	0	0	24,140
5-May-2012	0	0	0	0	0	24,140
6-May-2012	0	0	0	0	0	24,140
7-May-2012	0	0	0	0	0	24,140
8-May-2012	0	0	0	0	0	24,140
9-May-2012	0	0	0	0	0	24,140
10-May-2012	0	0	0	0	0	24,140

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
11-May-2012	0	0	0	0	0	24,140
12-May-2012	0	0	0	0	0	24,140
13-May-2012	0	0	0	0	0	24,140
14-May-2012	0	0	0	0	0	24,140
15-May-2012	0	0	0	0	0	24,140
16-May-2012	0	0	0	0	0	24,140
17-May-2012	0	0	0	0	0	24,140
18-May-2012	0	0	0	0	0	24,140
19-May-2012	0	0	0	0	0	24,140
20-May-2012	0	0	0	0	0	24,140
21-May-2012	0	0	0	0	0	24,140
22-May-2012	0	0	0	0	0	24,140
23-May-2012	0	0	0	0	0	24,140
24-May-2012	0	0	0	0	0	24,140
25-May-2012	0	0	0	0	0	24,140
26-May-2012	0	0	0	0	0	24,140
27-May-2012	0	0	0	0	0	24,140
28-May-2012	0	0	0	0	0	24,140
29-May-2012	0	0	0	0	0	24,140
30-May-2012	0	0	0	0	0	24,140
31-May-2012	0	0	0	0	0	24,140
1-Jun-2012	0	0	0	0	0	24,140
2-Jun-2012	0	0	0	0	0	24,140
3-Jun-2012	0	0	0	0	0	24,140
4-Jun-2012	0	0	0	0	0	24,140
5-Jun-2012	0	0	0	0	0	24,140
6-Jun-2012	0	0	0	0	0	24,140
7-Jun-2012	0	0	0	0	0	24,140
8-Jun-2012	0	0	0	0	0	24,140
9-Jun-2012	0	0	0	0	0	24,140
10-Jun-2012	0	0	0	0	0	24,140
11-Jun-2012	0	0	0	0	0	24,140
12-Jun-2012	0	0	0	0	0	24,140
13-Jun-2012	0	0	0	0	0	24,140
14-Jun-2012	0	0	0	0	0	24,140
15-Jun-2012	3	48	0	0	34	24,174
16-Jun-2012	0	0	0	0	0	24,174
17-Jun-2012	0	0	0	0	0	24,174
18-Jun-2012	12	192	0	0	136	24,310
19-Jun-2012	9	144	0	0	102	24,412
20-Jun-2012	22	352	0	0	250	24,662
21-Jun-2012	0	0	0	0	0	24,662

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
22-Jun-2012	0	0	0	0	0	24,662
23-Jun-2012	0	0	0	0	0	24,662
24-Jun-2012	0	0	0	0	0	24,662
25-Jun-2012	0	0	0	0	0	24,662
26-Jun-2012	0	0	0	0	0	24,662
27-Jun-2012	0	0	0	0	0	24,662
28-Jun-2012	0	0	0	0	0	24,662
29-Jun-2012	0	0	0	0	0	24,662
30-Jun-2012	0	0	0	0	0	24,662
1-Jul-2012	0	0	0	0	0	24,662
2-Jul-2012	0	0	0	0	0	24,662
3-Jul-2012	0	0	0	0	0	24,662
4-Jul-2012	0	0	0	0	0	24,662
5-Jul-2012	0	0	0	0	0	24,662
6-Jul-2012	0	0	0	0	0	24,662
7-Jul-2012	0	0	0	0	0	24,662
8-Jul-2012	0	0	0	0	0	24,662
9-Jul-2012	0	0	0	0	0	24,662
10-Jul-2012	0	0	0	0	0	24,662
11-Jul-2012	0	0	0	0	0	24,662
12-Jul-2012	0	0	0	0	0	24,662
13-Jul-2012	0	0	0	0	0	24,662
14-Jul-2012	0	0	0	0	0	24,662
15-Jul-2012	0	0	0	0	0	24,662
16-Jul-2012	0	0	0	0	0	24,662
17-Jul-2012	0	0	0	0	0	24,662
18-Jul-2012	0	0	0	0	0	24,662
19-Jul-2012	0	0	0	0	0	24,662
20-Jul-2012	0	0	0	0	0	24,662
21-Jul-2012	0	0	0	0	0	24,662
22-Jul-2012	0	0	0	0	0	24,662
23-Jul-2012	13	208	0	0	147	24,809
24-Jul-2012	45	720	0	0	510	25,320
25-Jul-2012	0	0	0	0	0	25,320
26-Jul-2012	19	304	0	0	216	25,535
27-Jul-2012	22	352	0	0	250	25,785
28-Jul-2012	0	0	0	0	0	25,785
29-Jul-2012	0	0	0	0	0	25,785
30-Jul-2012	0	0	0	0	0	25,785
31-Jul-2012	0	0	0	0	0	25,785
1-Aug-2012	0	0	0	0	0	25,785
2-Aug-2012	0	0	0	0	0	25,785

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
3-Aug-2012	0	0	0	0	0	25,785
4-Aug-2012	0	0	0	0	0	25,785
5-Aug-2012	0	0	0	0	0	25,785
6-Aug-2012	0	0	0	0	0	25,785
7-Aug-2012	0	0	0	0	0	25,785
8-Aug-2012	32	512	0	0	363	26,148
9-Aug-2012	21	336	0	0	238	26,386
10-Aug-2012	22	352	0	0	250	26,636
11-Aug-2012	0	0	0	0	0	26,636
12-Aug-2012	0	0	0	0	0	26,636
13-Aug-2012	21	336	0	0	238	26,874
14-Aug-2012	12	192	0	0	136	27,010
15-Aug-2012	0	0	0	0	0	27,010
16-Aug-2012	0	0	0	0	0	27,010
17-Aug-2012	2	32	0	0	23	27,033
18-Aug-2012	0	0	0	0	0	27,033
19-Aug-2012	0	0	0	0	0	27,033
20-Aug-2012	0	0	0	0	0	27,033
21-Aug-2012	0	0	0	0	0	27,033
22-Aug-2012	0	0	0	0	0	27,033
23-Aug-2012	0	0	0	0	0	27,033
24-Aug-2012	0	0	0	0	0	27,033
25-Aug-2012	0	0	0	0	0	27,033
26-Aug-2012	0	0	0	0	0	27,033
27-Aug-2012	0	0	0	0	0	27,033
28-Aug-2012	0	0	0	0	0	27,033
29-Aug-2012	0	0	0	0	0	27,033
30-Aug-2012	6	96	0	0	68	27,101
31-Aug-2012	18	288	0	0	204	27,305
1-Sep-2012	0	0	0	0	0	27,305
2-Sep-2012	0	0	0	0	0	27,305
3-Sep-2012	0	0	0	0	0	27,305
4-Sep-2012	0	0	0	0	0	27,305
5-Sep-2012	0	0	0	0	0	27,305
6-Sep-2012	0	0	0	0	0	27,305
7-Sep-2012	12	192	0	0	136	27,441
8-Sep-2012	0	0	0	0	0	27,441
9-Sep-2012	0	0	0	0	0	27,441
10-Sep-2012	11	176	0	0	125	27,566
11-Sep-2012	4	64	0	0	45	27,611
12-Sep-2012	26	416	0	0	295	27,906
13-Sep-2012	22	352	0	0	250	28,156

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
14-Sep-2012	0	0	0	0	0	28,156
15-Sep-2012	0	0	0	0	0	28,156
16-Sep-2012	0	0	0	0	0	28,156
17-Sep-2012	4	64	0	0	45	28,201
18-Sep-2012	0	0	0	0	0	28,201
19-Sep-2012	0	0	0	0	0	28,201
20-Sep-2012	0	0	0	0	0	28,201
21-Sep-2012	25	400	0	0	284	28,485
22-Sep-2012	0	0	0	0	0	28,485
23-Sep-2012	0	0	0	0	0	28,485
24-Sep-2012	38	608	0	0	431	28,916
25-Sep-2012	40	640	0	0	454	29,370
26-Sep-2012	34	544	0	0	386	29,755
27-Sep-2012	37	592	0	0	420	30,175
28-Sep-2012	36	576	0	0	408	30,583
29-Sep-2012	0	0	0	0	0	30,583
30-Sep-2012	0	0	0	0	0	30,583
1-Oct-2012	0	0	0	0	0	30,583
2-Oct-2012	0	0	0	0	0	30,583
3-Oct-2012	31	496	0	0	352	30,935
4-Oct-2012	21	336	0	0	238	31,173
5-Oct-2012	26	416	0	0	295	31,468
6-Oct-2012	0	0	0	0	0	31,468
7-Oct-2012	0	0	0	0	0	31,468
8-Oct-2012	0	0	0	0	0	31,468
9-Oct-2012	0	0	0	0	0	31,468
10-Oct-2012	0	0	0	0	0	31,468
11-Oct-2012	0	0	0	0	0	31,468
12-Oct-2012	0	0	0	0	0	31,468
13-Oct-2012	0	0	9	198	140	31,609
14-Oct-2012	0	0	0	0	0	31,609
15-Oct-2012	0	0	0	0	0	31,609
16-Oct-2012	0	0	0	0	0	31,609
17-Oct-2012	0	0	0	0	0	31,609
18-Oct-2012	0	0	0	0	0	31,609
19-Oct-2012	0	0	0	0	0	31,609
20-Oct-2012	0	0	0	0	0	31,609
21-Oct-2012	0	0	0	0	0	31,609
22-Oct-2012	0	0	0	0	0	31,609
23-Oct-2012	0	0	0	0	0	31,609
24-Oct-2012	0	0	0	0	0	31,609
25-Oct-2012	0	0	0	0	0	31,609

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
26-Oct-2012	0	0	0	0	0	31,609
27-Oct-2012	0	0	0	0	0	31,609
28-Oct-2012	0	0	0	0	0	31,609
29-Oct-2012	0	0	0	0	0	31,609
30-Oct-2012	0	0	0	0	0	31,609
31-Oct-2012	0	0	0	0	0	31,609
1-Nov-2012	0	0	0	0	0	31,609
2-Nov-2012	0	0	0	0	0	31,609
3-Nov-2012	0	0	0	0	0	31,609
4-Nov-2012	0	0	0	0	0	31,609
5-Nov-2012	0	0	0	0	0	31,609
6-Nov-2012	0	0	0	0	0	31,609
7-Nov-2012	0	0	0	0	0	31,609
8-Nov-2012	0	0	0	0	0	31,609
9-Nov-2012	0	0	0	0	0	31,609
10-Nov-2012	0	0	0	0	0	31,609
11-Nov-2012	0	0	0	0	0	31,609
12-Nov-2012	0	0	0	0	0	31,609
13-Nov-2012	0	0	0	0	0	31,609
14-Nov-2012	0	0	0	0	0	31,609
15-Nov-2012	0	0	0	0	0	31,609
16-Nov-2012	0	0	0	0	0	31,609
17-Nov-2012	0	0	0	0	0	31,609
18-Nov-2012	0	0	0	0	0	31,609
19-Nov-2012	0	0	37	814	577	32,186
20-Nov-2012	0	0	79	1,738	1,232	33,418
21-Nov-2012	0	0	55	1,210	858	34,276
22-Nov-2012	0	0	0	0	0	34,276
23-Nov-2012	0	0	0	0	0	34,276
24-Nov-2012	0	0	0	0	0	34,276
25-Nov-2012	0	0	0	0	0	34,276
26-Nov-2012	0	0	7	154	109	34,385
27-Nov-2012	0	0	0	0	0	34,385
28-Nov-2012	0	0	32	704	499	34,884
29-Nov-2012	0	0	72	1,584	1,123	36,007
30-Nov-2012	0	0	70	1,540	1,092	37,099
1-Dec-2012	0	0	65	1,430	1,014	38,113
2-Dec-2012	0	0	0	0	0	38,113
3-Dec-2012	0	0	65	1,430	1,014	39,127
4-Dec-2012	0	0	52	1,144	811	39,938
5-Dec-2012	0	0	73	1,606	1,139	41,077
6-Dec-2012	0	0	41	902	640	41,716

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
7-Dec-2012	0	0	75	1,650	1,170	42,886
8-Dec-2012	0	0	91	2,002	1,419	44,305
9-Dec-2012	0	0	0	0	0	44,305
10-Dec-2012	0	0	62	1,364	967	45,272
11-Dec-2012	0	0	20	440	312	45,584
12-Dec-2012	0	0	34	748	530	46,115
13-Dec-2012	0	0	40	880	624	46,739
14-Dec-2012	0	0	63	1,386	983	47,721
15-Dec-2012	0	0	0	0	0	47,721
16-Dec-2012	0	0	0	0	0	47,721
17-Dec-2012	0	0	62	1,364	967	48,688
18-Dec-2012	0	0	38	836	593	49,281
19-Dec-2012	0	0	24	528	374	49,656
20-Dec-2012	0	0	41	902	640	50,295
21-Dec-2012	0	0	0	0	0	50,295
22-Dec-2012	0	0	0	0	0	50,295
23-Dec-2012	0	0	0	0	0	50,295
24-Dec-2012	0	0	0	0	0	50,295
25-Dec-2012	0	0	0	0	0	50,295
26-Dec-2012	0	0	0	0	0	50,295
27-Dec-2012	0	0	0	0	0	50,295
28-Dec-2012	0	0	0	0	0	50,295
29-Dec-2012	0	0	0	0	0	50,295
30-Dec-2012	0	0	0	0	0	50,295
31-Dec-2012	0	0	0	0	0	50,295
1-Jan-2013	0	0	0	0	0	50,295
2-Jan-2013	0	0	0	0	0	50,295
3-Jan-2013	0	0	0	0	0	50,295
4-Jan-2013	0	0	2	44	31	50,326
5-Jan-2013	0	0	0	0	0	50,326
6-Jan-2013	0	0	0	0	0	50,326
7-Jan-2013	0	0	0	0	0	50,326
8-Jan-2013	0	0	0	0	0	50,326
9-Jan-2013	0	0	0	0	0	50,326
10-Jan-2013	0	0	0	0	0	50,326
11-Jan-2013	0	0	0	0	0	50,326
12-Jan-2013	0	0	0	0	0	50,326
13-Jan-2013	0	0	0	0	0	50,326
14-Jan-2013	0	0	0	0	0	50,326
15-Jan-2013	0	0	0	0	0	50,326
16-Jan-2013	0	0	0	0	0	50,326
17-Jan-2013	0	0	0	0	0	50,326

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
18-Jan-2013	0	0	0	0	0	50,326
19-Jan-2013	0	0	0	0	0	50,326
20-Jan-2013	0	0	0	0	0	50,326
21-Jan-2013	0	0	0	0	0	50,326
22-Jan-2013	0	0	0	0	0	50,326
23-Jan-2013	0	0	0	0	0	50,326
24-Jan-2013	0	0	0	0	0	50,326
25-Jan-2013	0	0	0	0	0	50,326
26-Jan-2013	0	0	0	0	0	50,326
27-Jan-2013	0	0	0	0	0	50,326
28-Jan-2013	0	0	0	0	0	50,326
29-Jan-2013	0	0	0	0	0	50,326
30-Jan-2013	0	0	0	0	0	50,326
31-Jan-2013	0	0	0	0	0	50,326
1-Feb-2013	0	0	0	0	0	50,326
2-Feb-2013	0	0	0	0	0	50,326
3-Feb-2013	0	0	0	0	0	50,326
4-Feb-2013	0	0	0	0	0	50,326
5-Feb-2013	0	0	28	616	437	50,763
6-Feb-2013	0	0	0	0	0	50,763
7-Feb-2013	0	0	9	198	140	50,903
8-Feb-2013	0	0	55	1,210	858	51,761
9-Feb-2013	0	0	0	0	0	51,761
10-Feb-2013	0	0	0	0	0	51,761
11-Feb-2013	0	0	71	1,562	1,107	52,869
12-Feb-2013	0	0	65	1,430	1,014	53,883
13-Feb-2013	0	0	0	0	0	53,883
14-Feb-2013	0	0	0	0	0	53,883
15-Feb-2013	0	0	0	0	0	53,883
16-Feb-2013	0	0	0	0	0	53,883
17-Feb-2013	0	0	0	0	0	53,883
18-Feb-2013	0	0	0	0	0	53,883
19-Feb-2013	0	0	0	0	0	53,883
20-Feb-2013	0	0	0	0	0	53,883
21-Feb-2013	0	0	0	0	0	53,883
22-Feb-2013	0	0	0	0	0	53,883
23-Feb-2013	0	0	0	0	0	53,883
24-Feb-2013	0	0	0	0	0	53,883
25-Feb-2013	0	0	0	0	0	53,883
26-Feb-2013	0	0	0	0	0	53,883
27-Feb-2013	0	0	0	0	0	53,883
28-Feb-2013	0	0	0	0	0	53,883

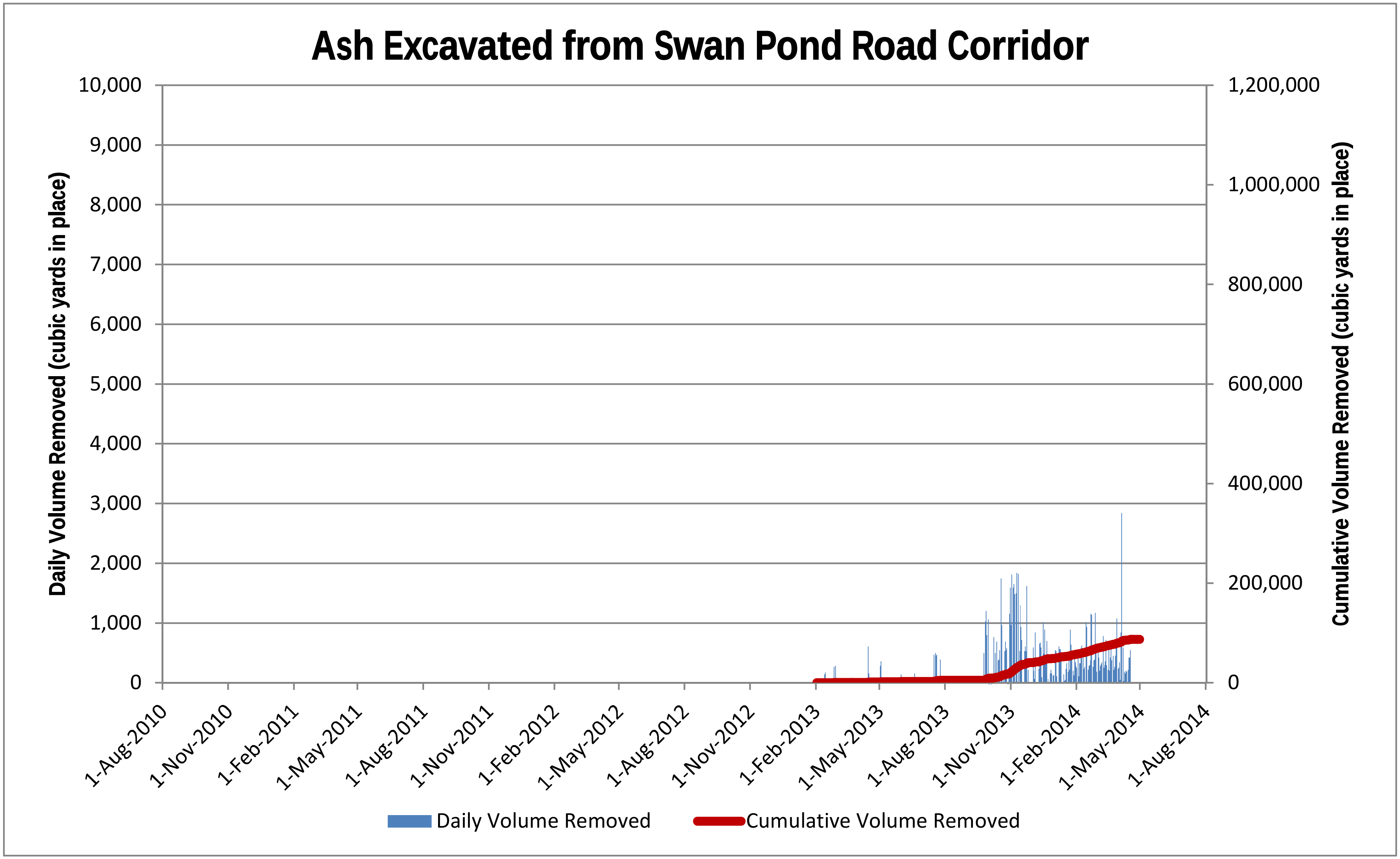
	Ash Excavated From Sediment Basin & Dike 2					
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
1-Mar-2013	0	0	0	0	0	53,883
2-Mar-2013	0	0	0	0	0	53,883
3-Mar-2013	0	0	0	0	0	53,883
4-Mar-2013	0	0	0	0	0	53,883
5-Mar-2013	0	0	0	0	0	53,883
6-Mar-2013	0	0	0	0	0	53,883
7-Mar-2013	0	0	71	1,562	1,107	54,990
8-Mar-2013	0	0	58	1,276	905	55,895
9-Mar-2013	0	0	40	880	624	56,519
10-Mar-2013	0	0	87	1,914	1,357	57,876
11-Mar-2013	0	0	54	1,188	842	58,718
12-Mar-2013	0	0	40	880	624	59,342
13-Mar-2013	0	0	0	0	0	59,342
14-Mar-2013	0	0	0	0	0	59,342
15-Mar-2013	0	0	0	0	0	59,342
16-Mar-2013	0	0	79	1,738	1,232	60,574
17-Mar-2013	0	0	0	0	0	60,574
18-Mar-2013	0	0	0	0	0	60,574
19-Mar-2013	0	0	0	0	0	60,574
20-Mar-2013	0	0	0	0	0	60,574
21-Mar-2013	0	0	0	0	0	60,574
22-Mar-2013	0	0	0	0	0	60,574
23-Mar-2013	0	0	0	0	0	60,574
24-Mar-2013	0	0	0	0	0	60,574
25-Mar-2013	0	0	0	0	0	60,574
26-Mar-2013	0	0	0	0	0	60,574
27-Mar-2013	0	0	0	0	0	60,574
28-Mar-2013	0	0	0	0	0	60,574
29-Mar-2013	0	0	0	0	0	60,574
30-Mar-2013	0	0	0	0	0	60,574
31-Mar-2013	0	0	0	0	0	60,574
1-Apr-2013	0	0	0	0	0	60,574
2-Apr-2013	0	0	111	2,442	1,731	62,306
3-Apr-2013	0	0	86	1,892	1,341	63,647
4-Apr-2013	0	0	20	440	312	63,959
5-Apr-2013	0	0	98	2,156	1,529	65,487
6-Apr-2013	0	0	97	2,134	1,513	67,001
7-Apr-2013	0	0	0	0	0	67,001
8-Apr-2013	0	0	114	2,508	1,778	68,779
9-Apr-2013	0	0	12	264	187	68,966
10-Apr-2013	0	0	0	0	0	68,966
11-Apr-2013	0	0	30	660	468	69,434

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
12-Apr-2013	0	0	0	0	0	69,434
13-Apr-2013	0	0	79	1,738	1,232	70,666
14-Apr-2013	0	0	0	0	0	70,666
15-Apr-2013	0	0	142	3,124	2,215	72,881
16-Apr-2013	0	0	155	3,410	2,418	75,299
17-Apr-2013	0	0	82	1,804	1,279	76,578
18-Apr-2013	0	0	121	2,662	1,887	78,465
19-Apr-2013	0	0	0	0	0	78,465
20-Apr-2013	0	0	91	2,002	1,419	79,884
21-Apr-2013	0	0	0	0	0	79,884
22-Apr-2013	0	0	145	3,190	2,262	82,146
23-Apr-2013	0	0	115	2,530	1,794	83,940
24-Apr-2013	0	0	68	1,496	1,061	85,001
25-Apr-2013	0	0	126	2,772	1,965	86,966
26-Apr-2013	0	0	151	3,322	2,355	89,321
27-Apr-2013	0	0	0	0	0	89,321
28-Apr-2013	0	0	0	0	0	89,321
29-Apr-2013	0	0	0	0	0	89,321
30-Apr-2013	0	0	74	1,628	1,154	90,475
1-May-2013	0	0	128	2,816	1,997	92,472
2-May-2013	0	0	118	2,596	1,841	94,313
3-May-2013	0	0	165	3,630	2,574	96,886
4-May-2013	0	0	0	0	0	96,886
5-May-2013	0	0	0	0	0	96,886
6-May-2013	0	0	0	0	0	96,886
7-May-2013	0	0	73	1,606	1,139	98,025
8-May-2013	0	0	98	2,156	1,529	99,554
9-May-2013	0	0	144	3,168	2,246	101,800
10-May-2013	0	0	140	3,080	2,184	103,983
11-May-2013	0	0	0	0	0	103,983
12-May-2013	0	0	0	0	0	103,983
13-May-2013	0	0	143	3,146	2,231	106,214
14-May-2013	0	0	182	4,004	2,839	109,053
15-May-2013	0	0	180	3,960	2,808	111,860
16-May-2013	0	0	157	3,454	2,449	114,309
17-May-2013	0	0	122	2,684	1,903	116,212
18-May-2013	0	0	95	2,090	1,482	117,694
19-May-2013	0	0	0	0	0	117,694
20-May-2013	0	0	150	3,300	2,340	120,034
21-May-2013	0	0	125	2,750	1,950	121,983
22-May-2013	0	0	140	3,080	2,184	124,167
23-May-2013	0	0	173	3,806	2,698	126,866

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
24-May-2013	0	0	167	3,674	2,605	129,470
25-May-2013	0	0	0	0	0	129,470
26-May-2013	0	0	0	0	0	129,470
27-May-2013	0	0	0	0	0	129,470
28-May-2013	0	0	140	3,080	2,184	131,654
29-May-2013	0	0	162	3,564	2,527	134,181
30-May-2013	0	0	173	3,806	2,698	136,880
31-May-2013	0	0	137	3,014	2,137	139,016
1-Jun-2013	0	0	161	3,542	2,511	141,528
2-Jun-2013	0	0	0	0	0	141,528
3-Jun-2013	0	0	142	3,124	2,215	143,743
4-Jun-2013	0	0	117	2,574	1,825	145,568
5-Jun-2013	0	0	184	4,048	2,870	148,438
6-Jun-2013	0	0	114	2,508	1,778	150,216
7-Jun-2013	0	0	206	4,532	3,213	153,429
8-Jun-2013	0	0	189	4,158	2,948	156,377
9-Jun-2013	0	0	0	0	0	156,377
10-Jun-2013	0	0	104	2,288	1,622	157,999
11-Jun-2013	0	0	135	2,970	2,106	160,105
12-Jun-2013	0	0	238	5,236	3,712	163,817
13-Jun-2013	0	0	183	4,026	2,854	166,672
14-Jun-2013	0	0	273	6,006	4,258	170,930
15-Jun-2013	0	0	252	5,544	3,931	174,861
16-Jun-2013	0	0	211	4,642	3,291	178,152
17-Jun-2013	0	0	198	4,356	3,088	181,240
18-Jun-2013	0	0	0	0	0	181,240
19-Jun-2013	0	0	190	4,180	2,964	184,204
20-Jun-2013	0	0	173	3,806	2,698	186,902
21-Jun-2013	0	0	111	2,442	1,731	188,634
22-Jun-2013	0	0	135	2,970	2,106	190,739
23-Jun-2013	0	0	92	2,024	1,435	192,174
24-Jun-2013	0	0	85	1,870	1,326	193,500
25-Jun-2013	0	0	39	858	608	194,109
26-Jun-2013	0	0	190	4,180	2,964	197,072
27-Jun-2013	0	0	116	2,552	1,809	198,882
28-Jun-2013	0	0	141	3,102	2,199	201,081
29-Jun-2013	0	0	91	2,002	1,419	202,500
30-Jun-2013	0	0	0	0	0	202,500
1-Jul-2013	0	0	116	2,552	1,809	204,310
2-Jul-2013	0	0	107	2,354	1,669	205,979
3-Jul-2013	0	0	0	0	0	205,979
4-Jul-2013	0	0	0	0	0	205,979

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
5-Jul-2013	0	0	0	0	0	205,979
6-Jul-2013	0	0	0	0	0	205,979
7-Jul-2013	0	0	0	0	0	205,979
8-Jul-2013	0	0	0	0	0	205,979
9-Jul-2013	0	0	0	0	0	205,979
10-Jul-2013	0	0	0	0	0	205,979
11-Jul-2013	0	0	0	0	0	205,979
12-Jul-2013	0	0	0	0	0	205,979
13-Jul-2013	0	0	0	0	0	205,979
14-Jul-2013	0	0	0	0	0	205,979
15-Jul-2013	0	0	0	0	0	205,979
16-Jul-2013	0	0	0	0	0	205,979
17-Jul-2013	0	0	0	0	0	205,979
18-Jul-2013	0	0	0	0	0	205,979
19-Jul-2013	0	0	0	0	0	205,979
20-Jul-2013	0	0	0	0	0	205,979
21-Jul-2013	0	0	0	0	0	205,979
22-Jul-2013	0	0	0	0	0	205,979
23-Jul-2013	0	0	0	0	0	205,979
24-Jul-2013	0	0	81	1,782	1,263	207,242
25-Jul-2013	0	0	0	0	0	207,242
26-Jul-2013	0	0	26	572	406	207,648
27-Jul-2013	0	0	53	1,166	827	208,474
28-Jul-2013	0	0	0	0	0	208,474
29-Jul-2013	0	0	119	2,618	1,856	210,331
30-Jul-2013	0	0	61	1,342	951	211,282
31-Jul-2013	0	0	69	1,518	1,076	212,358
1-Aug-2013	0	0	69	1,518	1,076	213,435
2-Aug-2013	0	0	63	1,386	983	214,417
3-Aug-2013	0	0	0	0	0	214,417
4-Aug-2013	0	0	0	0	0	214,417
5-Aug-2013	0	0	75	1,650	1,170	215,587
6-Aug-2013	0	0	48	1,056	749	216,336
7-Aug-2013	0	0	0	0	0	216,336
8-Aug-2013	0	0	12	264	187	216,523
9-Aug-2013	0	0	0	0	0	216,523
10-Aug-2013	0	0	0	0	0	216,523
11-Aug-2013	0	0	0	0	0	216,523
12-Aug-2013	0	0	0	0	0	216,523
13-Aug-2013	0	0	28	616	437	216,960
14-Aug-2013	0	0	63	1,386	983	217,942
15-Aug-2013	0	0	0	0	0	217,942

Date	Ash Excavated From Sediment Basin & Dike 2					
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	In Place Volume	Cumulative
16-Aug-2013	0	0	0	0	0	217,942
17-Aug-2013	0	0	0	0	0	217,942
18-Aug-2013	0	0	0	0	0	217,942
19-Aug-2013	0	0	91	2,002	1,419	219,362
20-Aug-2013	0	0	71	1,562	1,107	220,469
21-Aug-2013	0	0	0	0	0	220,469
22-Aug-2013	0	0	18	396	281	220,750
23-Aug-2013	0	0	41	902	640	221,390
24-Aug-2013	0	0	0	0	0	221,390
25-Aug-2013	0	0	0	0	0	221,390
26-Aug-2013	0	0	27	594	421	221,811
27-Aug-2013	0	0	69	1,518	1,076	222,887
28-Aug-2013	0	0	26	572	406	223,292
29-Aug-2013	0	0	18	396	281	223,573
30-Aug-2013	0	0	0	0	0	223,573
31-Aug-2013	0	0	0	0	0	223,573



Ash Excavated from Swan Pond Road Corridor
Daily Volume Removed (cubic yards in place)
Cumulative Volume Removed (cubic yards in place)
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
1-Aug-2010
1-Nov-2010
1-Feb-2011
1-May-2011
1-Aug-2011
1-Nov-2011
1-Feb-2012
1-May-2012
1-Aug-2012
1-Nov-2012
1-Feb-2013
1-May-2013
1-Aug-2013
1-Nov-2013
1-Feb-2014
1-May-2014
1-Aug-2014
Daily Volume Removed
Cumulative Volume Removed

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
1-Feb-2013	0	0	0	0	0	0
2-Feb-2013	0	0	0	0	0	0
3-Feb-2013	0	0	0	0	0	0
4-Feb-2013	0	0	0	0	0	0
5-Feb-2013	0	0	0	0	0	0
6-Feb-2013	0	0	0	0	0	0
7-Feb-2013	0	0	0	0	0	0
8-Feb-2013	0	0	0	0	0	0
9-Feb-2013	0	0	0	0	0	0
10-Feb-2013	0	0	0	0	0	0
11-Feb-2013	0	0	0	0	0	0
12-Feb-2013	0	0	0	0	0	0
13-Feb-2013	9	198	0	0	140	140
14-Feb-2013	11	242	0	0	172	312
15-Feb-2013	0	0	0	0	0	312
16-Feb-2013	0	0	0	0	0	312
17-Feb-2013	0	0	0	0	0	312
18-Feb-2013	0	0	0	0	0	312
19-Feb-2013	0	0	0	0	0	312
20-Feb-2013	0	0	0	0	0	312
21-Feb-2013	0	0	0	0	0	312
22-Feb-2013	0	0	0	0	0	312
23-Feb-2013	0	0	0	0	0	312
24-Feb-2013	0	0	0	0	0	312
25-Feb-2013	0	0	0	0	0	312
26-Feb-2013	17	374	0	0	265	577
27-Feb-2013	0	0	0	0	0	577
28-Feb-2013	18	396	0	0	281	858
1-Mar-2013	0	0	0	0	0	858
2-Mar-2013	0	0	0	0	0	858
3-Mar-2013	0	0	0	0	0	858
4-Mar-2013	0	0	0	0	0	858
5-Mar-2013	0	0	0	0	0	858
6-Mar-2013	0	0	0	0	0	858
7-Mar-2013	0	0	0	0	0	858
8-Mar-2013	0	0	0	0	0	858
9-Mar-2013	0	0	0	0	0	858
10-Mar-2013	0	0	0	0	0	858
11-Mar-2013	0	0	0	0	0	858
12-Mar-2013	0	0	0	0	0	858
13-Mar-2013	0	0	0	0	0	858
14-Mar-2013	0	0	0	0	0	858
15-Mar-2013	0	0	0	0	0	858

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
16-Mar-2013	0	0	0	0	0	858
17-Mar-2013	0	0	0	0	0	858
18-Mar-2013	0	0	0	0	0	858
19-Mar-2013	0	0	0	0	0	858
20-Mar-2013	0	0	0	0	0	858
21-Mar-2013	0	0	0	0	0	858
22-Mar-2013	0	0	0	0	0	858
23-Mar-2013	0	0	0	0	0	858
24-Mar-2013	0	0	0	0	0	858
25-Mar-2013	0	0	0	0	0	858
26-Mar-2013	0	0	0	0	0	858
27-Mar-2013	0	0	0	0	0	858
28-Mar-2013	0	0	0	0	0	858
29-Mar-2013	0	0	0	0	0	858
30-Mar-2013	0	0	0	0	0	858
31-Mar-2013	0	0	0	0	0	858
1-Apr-2013	0	0	0	0	0	858
2-Apr-2013	0	0	0	0	0	858
3-Apr-2013	0	0	0	0	0	858
4-Apr-2013	0	0	0	0	0	858
5-Apr-2013	0	0	0	0	0	858
6-Apr-2013	0	0	0	0	0	858
7-Apr-2013	0	0	0	0	0	858
8-Apr-2013	0	0	0	0	0	858
9-Apr-2013	0	0	0	0	0	858
10-Apr-2013	0	0	0	0	0	858
11-Apr-2013	0	0	0	0	0	858
12-Apr-2013	0	0	0	0	0	858
13-Apr-2013	0	0	0	0	0	858
14-Apr-2013	0	0	0	0	0	858
15-Apr-2013	39	858	0	0	608	1,466
16-Apr-2013	10	220	0	0	156	1,622
17-Apr-2013	0	0	0	0	0	1,622
18-Apr-2013	0	0	0	0	0	1,622
19-Apr-2013	0	0	0	0	0	1,622
20-Apr-2013	0	0	0	0	0	1,622
21-Apr-2013	0	0	0	0	0	1,622
22-Apr-2013	0	0	0	0	0	1,622
23-Apr-2013	0	0	0	0	0	1,622
24-Apr-2013	0	0	0	0	0	1,622
25-Apr-2013	0	0	0	0	0	1,622
26-Apr-2013	0	0	0	0	0	1,622
27-Apr-2013	0	0	0	0	0	1,622

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
28-Apr-2013	0	0	0	0	0	1,622
29-Apr-2013	0	0	0	0	0	1,622
30-Apr-2013	0	0	0	0	0	1,622
1-May-2013	0	0	0	0	0	1,622
2-May-2013	18	396	0	0	281	1,903
3-May-2013	23	506	0	0	359	2,262
4-May-2013	0	0	0	0	0	2,262
5-May-2013	0	0	0	0	0	2,262
6-May-2013	0	0	0	0	0	2,262
7-May-2013	0	0	0	0	0	2,262
8-May-2013	0	0	0	0	0	2,262
9-May-2013	0	0	0	0	0	2,262
10-May-2013	0	0	0	0	0	2,262
11-May-2013	0	0	0	0	0	2,262
12-May-2013	0	0	0	0	0	2,262
13-May-2013	0	0	0	0	0	2,262
14-May-2013	0	0	0	0	0	2,262
15-May-2013	0	0	0	0	0	2,262
16-May-2013	0	0	0	0	0	2,262
17-May-2013	0	0	0	0	0	2,262
18-May-2013	0	0	0	0	0	2,262
19-May-2013	0	0	0	0	0	2,262
20-May-2013	0	0	0	0	0	2,262
21-May-2013	0	0	0	0	0	2,262
22-May-2013	0	0	0	0	0	2,262
23-May-2013	0	0	0	0	0	2,262
24-May-2013	0	0	0	0	0	2,262
25-May-2013	0	0	0	0	0	2,262
26-May-2013	0	0	0	0	0	2,262
27-May-2013	0	0	0	0	0	2,262
28-May-2013	0	0	0	0	0	2,262
29-May-2013	0	0	0	0	0	2,262
30-May-2013	0	0	0	0	0	2,262
31-May-2013	9	198	0	0	140	2,402
1-Jun-2013	0	0	0	0	0	2,402
2-Jun-2013	0	0	0	0	0	2,402
3-Jun-2013	0	0	0	0	0	2,402
4-Jun-2013	0	0	0	0	0	2,402
5-Jun-2013	0	0	0	0	0	2,402
6-Jun-2013	0	0	0	0	0	2,402
7-Jun-2013	0	0	0	0	0	2,402
8-Jun-2013	0	0	0	0	0	2,402
9-Jun-2013	0	0	0	0	0	2,402

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
10-Jun-2013	0	0	0	0	0	2,402
11-Jun-2013	0	0	0	0	0	2,402
12-Jun-2013	0	0	0	0	0	2,402
13-Jun-2013	0	0	0	0	0	2,402
14-Jun-2013	0	0	0	0	0	2,402
15-Jun-2013	0	0	0	0	0	2,402
16-Jun-2013	0	0	0	0	0	2,402
17-Jun-2013	0	0	0	0	0	2,402
18-Jun-2013	0	0	0	0	0	2,402
19-Jun-2013	10	220	0	0	156	2,558
20-Jun-2013	0	0	0	0	0	2,558
21-Jun-2013	0	0	0	0	0	2,558
22-Jun-2013	0	0	0	0	0	2,558
23-Jun-2013	0	0	0	0	0	2,558
24-Jun-2013	0	0	0	0	0	2,558
25-Jun-2013	0	0	0	0	0	2,558
26-Jun-2013	0	0	0	0	0	2,558
27-Jun-2013	0	0	0	0	0	2,558
28-Jun-2013	0	0	0	0	0	2,558
29-Jun-2013	0	0	0	0	0	2,558
30-Jun-2013	0	0	0	0	0	2,558
1-Jul-2013	5	110	0	0	78	2,636
2-Jul-2013	0	0	0	0	0	2,636
3-Jul-2013	0	0	0	0	0	2,636
4-Jul-2013	0	0	0	0	0	2,636
5-Jul-2013	0	0	0	0	0	2,636
6-Jul-2013	0	0	0	0	0	2,636
7-Jul-2013	0	0	0	0	0	2,636
8-Jul-2013	0	0	0	0	0	2,636
9-Jul-2013	0	0	0	0	0	2,636
10-Jul-2013	0	0	0	0	0	2,636
11-Jul-2013	1	22	0	0	16	2,652
12-Jul-2013	0	0	0	0	0	2,652
13-Jul-2013	0	0	0	0	0	2,652
14-Jul-2013	0	0	0	0	0	2,652
15-Jul-2013	0	0	0	0	0	2,652
16-Jul-2013	30	660	0	0	468	3,120
17-Jul-2013	0	0	0	0	0	3,120
18-Jul-2013	32	704	0	0	499	3,619
19-Jul-2013	29	638	0	0	452	4,071
20-Jul-2013	30	660	0	0	468	4,539
21-Jul-2013	0	0	0	0	0	4,539
22-Jul-2013	5	110	0	0	78	4,617

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
23-Jul-2013	0	0	0	0	0	4,617
24-Jul-2013	0	0	0	0	0	4,617
25-Jul-2013	25	550	0	0	390	5,007
26-Jul-2013	0	0	0	0	0	5,007
27-Jul-2013	0	0	0	0	0	5,007
28-Jul-2013	0	0	0	0	0	5,007
29-Jul-2013	0	0	0	0	0	5,007
30-Jul-2013	0	0	0	0	0	5,007
31-Jul-2013	0	0	0	0	0	5,007
1-Aug-2013	0	0	0	0	0	5,007
2-Aug-2013	0	0	0	0	0	5,007
3-Aug-2013	0	0	0	0	0	5,007
4-Aug-2013	0	0	0	0	0	5,007
5-Aug-2013	0	0	0	0	0	5,007
6-Aug-2013	0	0	0	0	0	5,007
7-Aug-2013	0	0	0	0	0	5,007
8-Aug-2013	0	0	0	0	0	5,007
9-Aug-2013	0	0	0	0	0	5,007
10-Aug-2013	0	0	0	0	0	5,007
11-Aug-2013	0	0	0	0	0	5,007
12-Aug-2013	0	0	0	0	0	5,007
13-Aug-2013	0	0	0	0	0	5,007
14-Aug-2013	0	0	0	0	0	5,007
15-Aug-2013	0	0	0	0	0	5,007
16-Aug-2013	0	0	0	0	0	5,007
17-Aug-2013	0	0	0	0	0	5,007
18-Aug-2013	0	0	0	0	0	5,007
19-Aug-2013	0	0	0	0	0	5,007
20-Aug-2013	0	0	0	0	0	5,007
21-Aug-2013	0	0	0	0	0	5,007
22-Aug-2013	0	0	0	0	0	5,007
23-Aug-2013	0	0	0	0	0	5,007
24-Aug-2013	0	0	0	0	0	5,007
25-Aug-2013	0	0	0	0	0	5,007
26-Aug-2013	0	0	0	0	0	5,007
27-Aug-2013	0	0	0	0	0	5,007
28-Aug-2013	0	0	0	0	0	5,007
29-Aug-2013	0	0	0	0	0	5,007
30-Aug-2013	0	0	0	0	0	5,007
31-Aug-2013	0	0	0	0	0	5,007
1-Sep-2013	0	0	0	0	0	5,007
2-Sep-2013	0	0	0	0	0	5,007
3-Sep-2013	0	0	0	0	0	5,007

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
4-Sep-2013	0	0	0	0	0	5,007
5-Sep-2013	0	0	0	0	0	5,007
6-Sep-2013	0	0	0	0	0	5,007
7-Sep-2013	0	0	0	0	0	5,007
8-Sep-2013	0	0	0	0	0	5,007
9-Sep-2013	0	0	0	0	0	5,007
10-Sep-2013	0	0	0	0	0	5,007
11-Sep-2013	0	0	0	0	0	5,007
12-Sep-2013	0	0	0	0	0	5,007
13-Sep-2013	0	0	0	0	0	5,007
14-Sep-2013	0	0	0	0	0	5,007
15-Sep-2013	0	0	0	0	0	5,007
16-Sep-2013	0	0	0	0	0	5,007
17-Sep-2013	0	0	0	0	0	5,007
18-Sep-2013	0	0	0	0	0	5,007
19-Sep-2013	0	0	0	0	0	5,007
20-Sep-2013	0	0	0	0	0	5,007
21-Sep-2013	0	0	0	0	0	5,007
22-Sep-2013	0	0	0	0	0	5,007
23-Sep-2013	0	0	0	0	0	5,007
24-Sep-2013	32	704	0	0	499	5,506
25-Sep-2013	0	0	0	0	0	5,506
26-Sep-2013	66	1,452	0	0	1,029	6,536
27-Sep-2013	77	1,694	0	0	1,201	7,737
28-Sep-2013	51	1,122	0	0	795	8,532
29-Sep-2013	0	0	0	0	0	8,532
30-Sep-2013	68	1,496	0	0	1,061	9,593
1-Oct-2013	-13	-286	0	0	-203	9,390
2-Oct-2013	0	0	0	0	0	9,390
3-Oct-2013	-1	-22	0	0	-16	9,374
4-Oct-2013	-15	-330	0	0	-234	9,140
5-Oct-2013	0	0	0	0	0	9,140
6-Oct-2013	0	0	0	0	0	9,140
7-Oct-2013	6	132	0	0	94	9,234
8-Oct-2013	49	1,078	0	0	764	9,998
9-Oct-2013	1	22	0	0	16	10,014
10-Oct-2013	32	704	0	0	499	10,513
11-Oct-2013	10	220	0	0	156	10,669
12-Oct-2013	44	968	0	0	686	11,355
13-Oct-2013	0	0	0	0	0	11,355
14-Oct-2013	24	528	0	0	374	11,730
15-Oct-2013	25	550	0	0	390	12,120
16-Oct-2013	35	770	0	0	546	12,666

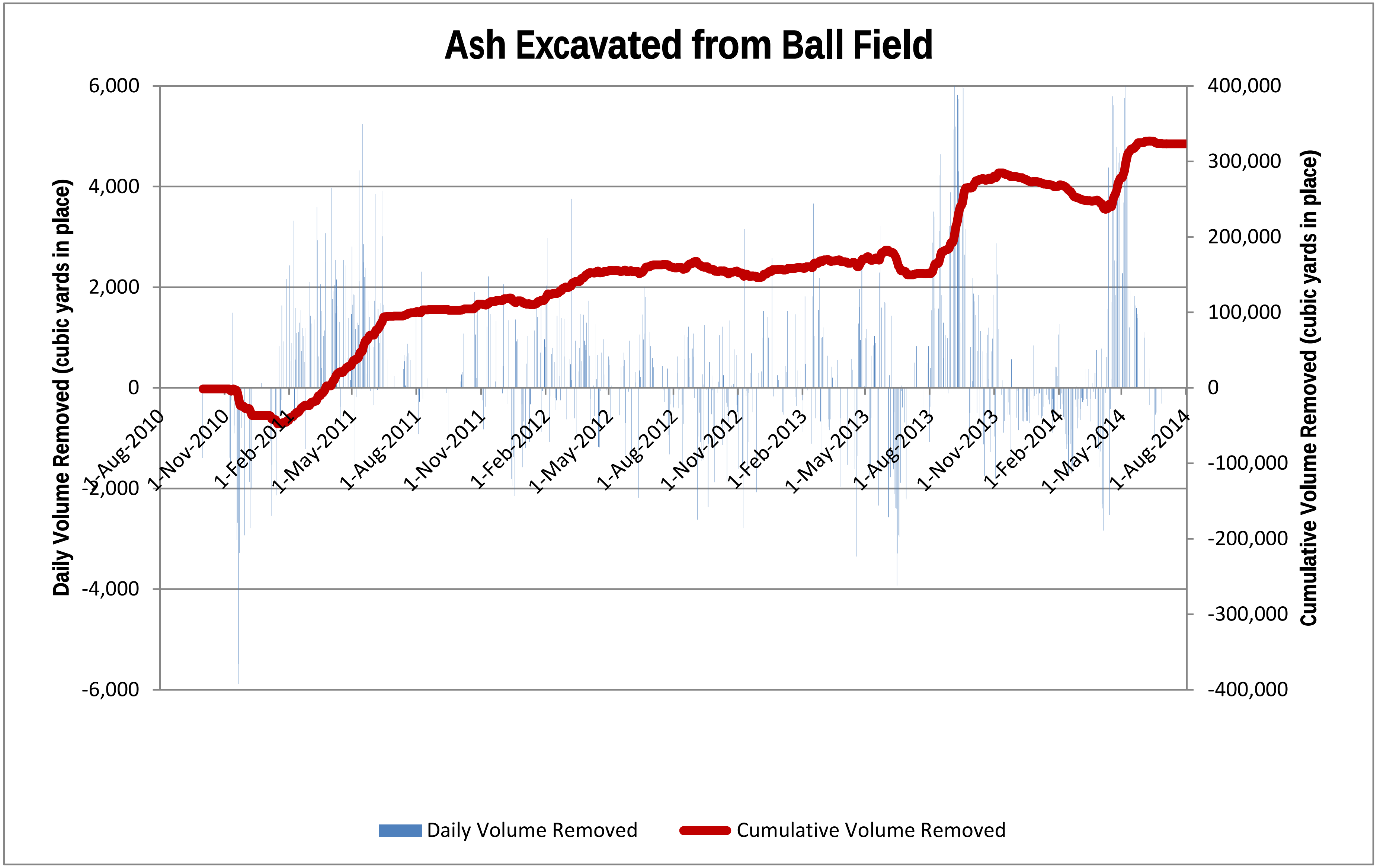
Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
17-Oct-2013	0	0	0	0	0	12,666
18-Oct-2013	112	2,464	0	0	1,747	14,413
19-Oct-2013	62	1,364	0	0	967	15,380
20-Oct-2013	0	0	0	0	0	15,380
21-Oct-2013	10	220	0	0	156	15,536
22-Oct-2013	-1	-22	0	0	-16	15,520
23-Oct-2013	34	748	0	0	530	16,050
24-Oct-2013	44	968	0	0	686	16,737
25-Oct-2013	35	770	0	0	546	17,283
26-Oct-2013	37	814	0	0	577	17,860
27-Oct-2013	0	0	0	0	0	17,860
28-Oct-2013	-5	-110	0	0	-78	17,782
29-Oct-2013	6	132	0	0	94	17,875
30-Oct-2013	74	1,628	0	0	1,154	19,030
31-Oct-2013	102	2,244	0	0	1,591	20,621
1-Nov-2013	62	1,364	0	0	967	21,588
2-Nov-2013	116	2,552	0	0	1,809	23,397
3-Nov-2013	0	0	0	0	0	23,397
4-Nov-2013	102	2,244	0	0	1,591	24,988
5-Nov-2013	106	2,332	0	0	1,653	26,641
6-Nov-2013	95	2,090	0	0	1,482	28,123
7-Nov-2013	0	0	0	0	0	28,123
8-Nov-2013	96	2,112	0	0	1,497	29,621
9-Nov-2013	118	2,596	0	0	1,841	31,461
10-Nov-2013	0	0	0	0	0	31,461
11-Nov-2013	117	2,574	0	0	1,825	33,286
12-Nov-2013	0	0	0	0	0	33,286
13-Nov-2013	34	748	0	0	530	33,816
14-Nov-2013	83	1,826	0	0	1,295	35,111
15-Nov-2013	60	1,320	0	0	936	36,047
16-Nov-2013	46	1,012	0	0	718	36,764
17-Nov-2013	0	0	0	0	0	36,764
18-Nov-2013	0	0	0	0	0	36,764
19-Nov-2013	0	0	0	0	0	36,764
20-Nov-2013	34	748	0	0	530	37,295
21-Nov-2013	39	858	0	0	608	37,903
22-Nov-2013	34	748	0	0	530	38,433
23-Nov-2013	104	2,288	0	0	1,622	40,056
24-Nov-2013	0	0	0	0	0	40,056
25-Nov-2013	14	308	0	0	218	40,274
26-Nov-2013	0	0	0	0	0	40,274
27-Nov-2013	0	0	0	0	0	40,274
28-Nov-2013	0	0	0	0	0	40,274

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
29-Nov-2013	0	0	0	0	0	40,274
30-Nov-2013	0	0	0	0	0	40,274
1-Dec-2013	0	0	0	0	0	40,274
2-Dec-2013	38	836	0	0	593	40,867
3-Dec-2013	13	286	0	0	203	41,070
4-Dec-2013	4	88	0	0	62	41,132
5-Dec-2013	54	1,188	0	0	842	41,974
6-Dec-2013	0	0	0	0	0	41,974
7-Dec-2013	0	0	0	0	0	41,974
8-Dec-2013	0	0	0	0	0	41,974
9-Dec-2013	0	0	0	0	0	41,974
10-Dec-2013	15	330	0	0	234	42,208
11-Dec-2013	42	924	0	0	655	42,863
12-Dec-2013	43	946	0	0	671	43,534
13-Dec-2013	38	836	0	0	593	44,127
14-Dec-2013	6	132	0	0	94	44,220
15-Dec-2013	0	0	0	0	0	44,220
16-Dec-2013	65	1,430	0	0	1,014	45,234
17-Dec-2013	31	682	0	0	484	45,718
18-Dec-2013	57	1,254	0	0	889	46,607
19-Dec-2013	28	616	0	0	437	47,044
20-Dec-2013	27	594	0	0	421	47,465
21-Dec-2013	45	990	0	0	702	48,167
22-Dec-2013	0	0	0	0	0	48,167
23-Dec-2013	4	88	0	0	62	48,229
24-Dec-2013	0	0	0	0	0	48,229
25-Dec-2013	0	0	0	0	0	48,229
26-Dec-2013	10	220	0	0	156	48,385
27-Dec-2013	14	308	0	0	218	48,603
28-Dec-2013	10	220	0	0	156	48,759
29-Dec-2013	0	0	0	0	0	48,759
30-Dec-2013	8	176	0	0	125	48,884
31-Dec-2013	8	176	0	0	125	49,009
1-Jan-2014	0	0	0	0	0	49,009
2-Jan-2014	35	770	0	0	546	49,555
3-Jan-2014	34	748	0	0	530	50,085
4-Jan-2014	7	154	0	0	109	50,194
5-Jan-2014	0	0	0	0	0	50,194
6-Jan-2014	0	0	0	0	0	50,194
7-Jan-2014	39	858	0	0	608	50,803
8-Jan-2014	36	792	0	0	562	51,364
9-Jan-2014	36	792	0	0	562	51,926
10-Jan-2014	24	528	0	0	374	52,300

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
11-Jan-2014	0	0	0	0	0	52,300
12-Jan-2014	0	0	0	0	0	52,300
13-Jan-2014	0	0	0	0	0	52,300
14-Jan-2014	9	198	0	0	140	52,440
15-Jan-2014	2	44	0	0	31	52,472
16-Jan-2014	3	66	0	0	47	52,518
17-Jan-2014	15	330	0	0	234	52,752
18-Jan-2014	21	462	0	0	328	53,080
19-Jan-2014	0	0	0	0	0	53,080
20-Jan-2014	12	264	0	0	187	53,267
21-Jan-2014	28	616	0	0	437	53,704
22-Jan-2014	14	308	0	0	218	53,922
23-Jan-2014	57	1,254	0	0	889	54,811
24-Jan-2014	41	902	0	0	640	55,451
25-Jan-2014	29	638	0	0	452	55,903
26-Jan-2014	0	0	0	0	0	55,903
27-Jan-2014	13	286	0	0	203	56,106
28-Jan-2014	8	176	0	0	125	56,231
29-Jan-2014	32	704	0	0	499	56,730
30-Jan-2014	22	484	0	0	343	57,073
31-Jan-2014	18	396	0	0	281	57,354
1-Feb-2014	16	352	0	0	250	57,603
2-Feb-2014	0	0	0	0	0	57,603
3-Feb-2014	27	594	0	0	421	58,025
4-Feb-2014	7	154	0	0	109	58,134
5-Feb-2014	21	462	0	0	328	58,461
6-Feb-2014	21	462	0	0	328	58,789
7-Feb-2014	37	814	0	0	577	59,366
8-Feb-2014	40	880	0	0	624	59,990
9-Feb-2014	0	0	0	0	0	59,990
10-Feb-2014	33	726	0	0	515	60,505
11-Feb-2014	15	330	0	0	234	60,739
12-Feb-2014	17	374	0	0	265	61,004
13-Feb-2014	0	0	0	0	0	61,004
14-Feb-2014	65	1,430	0	0	1,014	62,018
15-Feb-2014	60	1,320	0	0	936	62,954
16-Feb-2014	0	0	0	0	0	62,954
17-Feb-2014	14	308	0	0	218	63,172
18-Feb-2014	18	396	0	0	281	63,453
19-Feb-2014	19	418	0	0	296	63,749
20-Feb-2014	24	528	0	0	374	64,123
21-Feb-2014	74	1,628	0	0	1,154	65,278
22-Feb-2014	73	1,606	0	0	1,139	66,416

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
23-Feb-2014	0	0	0	0	0	66,416
24-Feb-2014	17	374	0	0	265	66,681
25-Feb-2014	24	528	0	0	374	67,056
26-Feb-2014	25	550	0	0	390	67,446
27-Feb-2014	75	1,650	0	0	1,170	68,616
28-Feb-2014	41	902	0	0	640	69,255
1-Mar-2014	12	264	0	0	187	69,442
2-Mar-2014	0	0	0	0	0	69,442
3-Mar-2014	41	902	0	0	640	70,082
4-Mar-2014	27	594	0	0	421	70,503
5-Mar-2014	13	286	0	0	203	70,706
6-Mar-2014	18	396	0	0	281	70,986
7-Mar-2014	20	440	0	0	312	71,298
8-Mar-2014	22	484	0	0	343	71,642
9-Mar-2014	0	0	0	0	0	71,642
10-Mar-2014	50	1,100	0	0	780	72,422
11-Mar-2014	16	352	0	0	250	72,671
12-Mar-2014	19	418	0	0	296	72,967
13-Mar-2014	23	506	0	0	359	73,326
14-Mar-2014	46	1,012	0	0	718	74,044
15-Mar-2014	19	418	0	0	296	74,340
16-Mar-2014	0	0	0	0	0	74,340
17-Mar-2014	14	308	0	0	218	74,558
18-Mar-2014	43	946	0	0	671	75,229
19-Mar-2014	13	286	0	0	203	75,432
20-Mar-2014	27	594	0	0	421	75,853
21-Mar-2014	36	792	0	0	562	76,415
22-Mar-2014	24	528	0	0	374	76,789
23-Mar-2014	0	0	0	0	0	76,789
24-Mar-2014	29	638	0	0	452	77,241
25-Mar-2014	14	308	0	0	218	77,460
26-Mar-2014	17	374	0	0	265	77,725
27-Mar-2014	29	638	0	0	452	78,177
28-Mar-2014	42	924	0	0	655	78,832
29-Mar-2014	69	1,518	0	0	1,076	79,909
30-Mar-2014	0	0	0	0	0	79,909
31-Mar-2014	15	330	0	0	234	80,143
1-Apr-2014	16	352	0	0	250	80,392
2-Apr-2014	22	484	0	0	343	80,735
3-Apr-2014	3	66	0	0	47	80,782
4-Apr-2014	54	1,188	0	0	842	81,624
5-Apr-2014	182	4,004	0	0	2,839	84,463
6-Apr-2014	0	0	0	0	0	84,463

Date	Ash Excavated From Swan Pond Road Corridor					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
7-Apr-2014	38	836	0	0	593	85,056
8-Apr-2014	2	44	0	0	31	85,087
9-Apr-2014	12	264	0	0	187	85,274
10-Apr-2014	10	220	0	0	156	85,430
11-Apr-2014	13	286	0	0	203	85,633
12-Apr-2014	12	264	0	0	187	85,820
13-Apr-2014	0	0	0	0	0	85,820
14-Apr-2014	14	308	0	0	218	86,039
15-Apr-2014	27	594	0	0	421	86,460
16-Apr-2014	27	594	0	0	421	86,881
17-Apr-2014	35	770	0	0	546	87,427
18-Apr-2014	0	0	0	0	0	87,427
19-Apr-2014	0	0	0	0	0	87,427
20-Apr-2014	0	0	0	0	0	87,427
21-Apr-2014	0	0	0	0	0	87,427
22-Apr-2014	0	0	0	0	0	87,427
23-Apr-2014	0	0	0	0	0	87,427
24-Apr-2014	0	0	0	0	0	87,427
25-Apr-2014	0	0	0	0	0	87,427
26-Apr-2014	0	0	0	0	0	87,427
27-Apr-2014	0	0	0	0	0	87,427
28-Apr-2014	0	0	0	0	0	87,427
29-Apr-2014	0	0	0	0	0	87,427
30-Apr-2014	0	0	0	0	0	87,427


Ash Excavated from Ball Field
Daily Volume Removed (cubic yards in place)
Cumulative Volume Removed (cubic yards in place)
6,000
4,000
2,000
0
-2,000
-4,000
-6,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
1-Aug-2010
1-Nov-2010
1-Feb-2011
1-May-2011
1-Aug-2011
1-Nov-2011
1-Feb-2012
1-May-2012
1-Aug-2012
1-Nov-2012
1-Feb-2013
1-May-2013
1-Aug-2013
1-Nov-2013
1-Feb-2014
1-May-2014
1-Aug-2014
Daily Volume Removed
Cumulative Volume Removed

	Ash Excavated From Ball Field							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
30-Sep-2010	0	0	-84	-1,848	-4	-120	-1,395	-1,395
1-Oct-2010	0	0	0	0	0	0	0	-1,395
2-Oct-2010	0	0	0	0	0	0	0	-1,395
3-Oct-2010	0	0	0	0	0	0	0	-1,395
4-Oct-2010	0	0	0	0	0	0	0	-1,395
5-Oct-2010	0	0	0	0	0	0	0	-1,395
6-Oct-2010	0	0	0	0	0	0	0	-1,395
7-Oct-2010	0	0	0	0	0	0	0	-1,395
8-Oct-2010	0	0	0	0	0	0	0	-1,395
9-Oct-2010	0	0	0	0	0	0	0	-1,395
10-Oct-2010	0	0	0	0	0	0	0	-1,395
11-Oct-2010	0	0	0	0	0	0	0	-1,395
12-Oct-2010	0	0	0	0	0	0	0	-1,395
13-Oct-2010	0	0	0	0	0	0	0	-1,395
14-Oct-2010	0	0	0	0	0	0	0	-1,395
15-Oct-2010	0	0	0	0	0	0	0	-1,395
16-Oct-2010	0	0	0	0	0	0	0	-1,395
17-Oct-2010	0	0	0	0	0	0	0	-1,395
18-Oct-2010	0	0	0	0	0	0	0	-1,395
19-Oct-2010	0	0	0	0	0	0	0	-1,395
20-Oct-2010	0	0	0	0	0	0	0	-1,395
21-Oct-2010	0	0	0	0	0	0	0	-1,395
22-Oct-2010	0	0	0	0	0	0	0	-1,395
23-Oct-2010	0	0	0	0	0	0	0	-1,395
24-Oct-2010	0	0	0	0	0	0	0	-1,395
25-Oct-2010	0	0	0	0	0	0	0	-1,395
26-Oct-2010	0	0	0	0	0	0	0	-1,395
27-Oct-2010	0	0	0	0	0	0	0	-1,395
28-Oct-2010	0	0	0	0	0	0	0	-1,395
29-Oct-2010	0	0	0	0	0	0	0	-1,395
30-Oct-2010	0	0	0	0	0	0	0	-1,395
31-Oct-2010	0	0	0	0	0	0	0	-1,395
1-Nov-2010	0	0	0	0	0	0	0	-1,395
2-Nov-2010	0	0	0	0	0	0	0	-1,395
3-Nov-2010	0	0	0	0	0	0	0	-1,395
4-Nov-2010	0	0	0	0	0	0	0	-1,395
5-Nov-2010	0	0	0	0	0	0	0	-1,395
6-Nov-2010	0	0	0	0	0	0	0	-1,395
7-Nov-2010	0	0	0	0	0	0	0	-1,395
8-Nov-2010	0	0	-89	-1,958	0	0	-1,388	-2,784
9-Nov-2010	0	0	-96	-2,112	0	0	-1,497	-4,281
10-Nov-2010	0	0	-16	-352	0	0	-250	-4,531
11-Nov-2010	0	0	106	2,332	0	0	1,653	-2,877
12-Nov-2010	0	0	96	2,112	0	0	1,497	-1,380

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
13-Nov-2010	0	0	0	0	0	0	0	-1,380
14-Nov-2010	0	0	-48	-1,056	0	0	-749	-2,128
15-Nov-2010	0	0	-58	-1,276	0	0	-905	-3,033
16-Nov-2010	0	0	0	0	0	0	0	-3,033
17-Nov-2010	0	0	0	0	0	0	0	-3,033
18-Nov-2010	0	0	-194	-4,268	0	0	-3,026	-6,059
19-Nov-2010	0	0	-172	-3,784	0	0	-2,683	-8,742
20-Nov-2010	0	0	-377	-8,294	0	0	-5,880	-14,622
21-Nov-2010	0	0	-352	-7,744	0	0	-5,490	-20,113
22-Nov-2010	0	0	-180	-3,960	-22	-660	-3,276	-23,388
23-Nov-2010	0	0	-15	-330	0	0	-234	-23,622
24-Nov-2010	0	0	-51	-1,122	0	0	-795	-24,418
25-Nov-2010	0	0	0	0	0	0	0	-24,418
26-Nov-2010	0	0	0	0	0	0	0	-24,418
27-Nov-2010	0	0	0	0	0	0	0	-24,418
28-Nov-2010	0	0	0	0	0	0	0	-24,418
29-Nov-2010	0	0	-188	-4,136	0	0	-2,932	-27,350
30-Nov-2010	0	0	0	0	0	0	0	-27,350
1-Dec-2010	0	0	0	0	0	0	0	-27,350
2-Dec-2010	0	0	0	0	0	0	0	-27,350
3-Dec-2010	0	0	0	0	0	0	0	-27,350
4-Dec-2010	0	0	0	0	0	0	0	-27,350
5-Dec-2010	0	0	0	0	0	0	0	-27,350
6-Dec-2010	0	0	-120	-2,640	0	0	-1,872	-29,222
7-Dec-2010	0	0	-179	-3,938	0	0	-2,792	-32,014
8-Dec-2010	0	0	-185	-4,070	0	0	-2,886	-34,900
9-Dec-2010	0	0	-128	-2,816	0	0	-1,997	-36,896
10-Dec-2010	0	0	0	0	0	0	0	-36,896
11-Dec-2010	0	0	0	0	0	0	0	-36,896
12-Dec-2010	0	0	0	0	0	0	0	-36,896
13-Dec-2010	0	0	0	0	0	0	0	-36,896
14-Dec-2010	0	0	0	0	0	0	0	-36,896
15-Dec-2010	0	0	0	0	0	0	0	-36,896
16-Dec-2010	0	0	0	0	0	0	0	-36,896
17-Dec-2010	0	0	0	0	0	0	0	-36,896
18-Dec-2010	0	0	0	0	0	0	0	-36,896
19-Dec-2010	0	0	0	0	0	0	0	-36,896
20-Dec-2010	0	0	0	0	0	0	0	-36,896
21-Dec-2010	0	0	0	0	0	0	0	-36,896
22-Dec-2010	0	0	0	0	0	0	0	-36,896
23-Dec-2010	0	0	6	132	0	0	94	-36,803
24-Dec-2010	0	0	0	0	0	0	0	-36,803
25-Dec-2010	0	0	0	0	0	0	0	-36,803
26-Dec-2010	0	0	0	0	0	0	0	-36,803

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
27-Dec-2010	0	0	0	0	0	0	0	-36,803
28-Dec-2010	0	0	0	0	0	0	0	-36,803
29-Dec-2010	0	0	0	0	0	0	0	-36,803
30-Dec-2010	0	0	0	0	0	0	0	-36,803
31-Dec-2010	0	0	0	0	0	0	0	-36,803
1-Jan-2011	0	0	0	0	0	0	0	-36,803
2-Jan-2011	0	0	0	0	0	0	0	-36,803
3-Jan-2011	0	0	0	0	0	0	0	-36,803
4-Jan-2011	0	0	0	0	0	0	0	-36,803
5-Jan-2011	0	0	-68	-1,496	0	0	-1,061	-37,863
6-Jan-2011	0	0	-163	-3,586	0	0	-2,542	-40,406
7-Jan-2011	0	0	-98	-2,156	0	0	-1,529	-41,935
8-Jan-2011	0	0	0	0	0	0	0	-41,935
9-Jan-2011	0	0	0	0	0	0	0	-41,935
10-Jan-2011	0	0	0	0	0	0	0	-41,935
11-Jan-2011	0	0	0	0	0	0	0	-41,935
12-Jan-2011	0	0	-49	-1,078	0	0	-764	-42,699
13-Jan-2011	0	0	-115	-2,530	-16	-480	-2,134	-44,833
14-Jan-2011	0	0	-166	-3,652	0	0	-2,589	-47,422
15-Jan-2011	0	0	0	0	0	0	0	-47,422
16-Jan-2011	0	0	0	0	0	0	0	-47,422
17-Jan-2011	0	0	53	1,166	0	0	827	-46,595
18-Jan-2011	0	0	-48	-1,056	0	0	-749	-47,344
19-Jan-2011	0	0	-33	-726	0	0	-515	-47,859
20-Jan-2011	0	0	-7	-154	-6	-180	-237	-48,096
21-Jan-2011	0	0	105	2,310	0	0	1,638	-46,458
22-Jan-2011	0	0	0	0	0	0	0	-46,458
23-Jan-2011	0	0	0	0	0	0	0	-46,458
24-Jan-2011	0	0	59	1,298	0	0	920	-45,538
25-Jan-2011	0	0	0	0	0	0	0	-45,538
26-Jan-2011	0	0	0	0	0	0	0	-45,538
27-Jan-2011	0	0	0	0	0	0	0	-45,538
28-Jan-2011	0	0	139	3,058	0	0	2,168	-43,370
29-Jan-2011	0	0	0	0	0	0	0	-43,370
30-Jan-2011	0	0	0	0	0	0	0	-43,370
31-Jan-2011	0	0	90	1,980	0	0	1,404	-41,966
1-Feb-2011	0	0	156	3,432	0	0	2,433	-39,532
2-Feb-2011	0	0	0	0	0	0	0	-39,532
3-Feb-2011	0	0	34	748	0	0	530	-39,002
4-Feb-2011	0	0	57	1,254	0	0	889	-38,113
5-Feb-2011	0	0	0	0	0	0	0	-38,113
6-Feb-2011	0	0	0	0	0	0	0	-38,113
7-Feb-2011	0	0	213	4,686	0	0	3,322	-34,791
8-Feb-2011	0	0	-43	-946	0	0	-671	-35,461

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
9-Feb-2011	0	0	36	792	0	0	562	-34,900
10-Feb-2011	0	0	102	2,244	0	0	1,591	-33,309
11-Feb-2011	0	0	70	1,540	0	0	1,092	-32,217
12-Feb-2011	0	0	-24	-528	0	0	-374	-32,591
13-Feb-2011	0	0	0	0	0	0	0	-32,591
14-Feb-2011	0	0	71	1,562	0	0	1,107	-31,484
15-Feb-2011	0	0	83	1,826	0	0	1,295	-30,189
16-Feb-2011	0	0	101	2,222	0	0	1,575	-28,614
17-Feb-2011	0	0	99	2,178	0	0	1,544	-27,070
18-Feb-2011	0	0	47	1,034	0	0	733	-26,337
19-Feb-2011	0	0	76	1,672	0	0	1,185	-25,151
20-Feb-2011	0	0	0	0	0	0	0	-25,151
21-Feb-2011	0	0	66	1,452	0	0	1,029	-24,122
22-Feb-2011	0	0	33	726	0	0	515	-23,607
23-Feb-2011	0	0	76	1,672	0	0	1,185	-22,421
24-Feb-2011	0	0	-78	-1,716	0	0	-1,217	-23,638
25-Feb-2011	0	0	0	0	0	0	0	-23,638
26-Feb-2011	0	0	0	0	0	0	0	-23,638
27-Feb-2011	0	0	0	0	0	0	0	-23,638
28-Feb-2011	0	0	0	0	0	0	0	-23,638
1-Mar-2011	0	0	0	0	0	0	0	-23,638
2-Mar-2011	0	0	135	2,970	0	0	2,106	-21,532
3-Mar-2011	0	0	92	2,024	0	0	1,435	-20,097
4-Mar-2011	0	0	82	1,804	0	0	1,279	-18,818
5-Mar-2011	0	0	0	0	0	0	0	-18,818
6-Mar-2011	0	0	0	0	0	0	0	-18,818
7-Mar-2011	0	0	0	0	0	0	0	-18,818
8-Mar-2011	0	0	87	1,914	0	0	1,357	-17,461
9-Mar-2011	0	0	0	0	0	0	0	-17,461
10-Mar-2011	0	0	0	0	0	0	0	-17,461
11-Mar-2011	0	0	0	0	0	0	0	-17,461
12-Mar-2011	0	0	230	5,060	0	0	3,588	-13,874
13-Mar-2011	0	0	188	4,136	0	0	2,932	-10,941
14-Mar-2011	0	0	40	880	0	0	624	-10,317
15-Mar-2011	0	0	-30	-660	0	0	-468	-10,785
16-Mar-2011	0	0	0	0	0	0	0	-10,785
17-Mar-2011	0	0	132	2,904	0	0	2,059	-8,726
18-Mar-2011	0	0	98	2,156	0	0	1,529	-7,198
19-Mar-2011	0	0	25	550	0	0	390	-6,808
20-Mar-2011	0	0	0	0	0	0	0	-6,808
21-Mar-2011	0	0	66	1,452	0	0	1,029	-5,778
22-Mar-2011	0	0	98	2,156	0	0	1,529	-4,250
23-Mar-2011	0	0	73	1,606	0	0	1,139	-3,111
24-Mar-2011	0	0	197	4,334	0	0	3,073	-38

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
25-Mar-2011	0	0	160	3,520	0	0	2,496	2,457
26-Mar-2011	0	0	0	0	0	0	0	2,457
27-Mar-2011	0	0	0	0	0	0	0	2,457
28-Mar-2011	0	0	0	0	0	0	0	2,457
29-Mar-2011	0	0	0	0	0	0	0	2,457
30-Mar-2011	0	0	0	0	0	0	0	2,457
31-Mar-2011	0	0	0	0	0	0	0	2,457
1-Apr-2011	0	0	0	0	0	0	0	2,457
2-Apr-2011	0	0	255	5,610	0	0	3,977	6,435
3-Apr-2011	0	0	113	2,486	0	0	1,763	8,197
4-Apr-2011	0	0	123	2,706	0	0	1,919	10,116
5-Apr-2011	0	0	0	0	0	0	0	10,116
6-Apr-2011	0	0	131	2,882	0	0	2,043	12,159
7-Apr-2011	0	0	163	3,586	0	0	2,542	14,702
8-Apr-2011	0	0	95	2,090	0	0	1,482	16,184
9-Apr-2011	0	0	138	3,036	0	0	2,153	18,336
10-Apr-2011	0	0	0	0	0	0	0	18,336
11-Apr-2011	0	0	104	2,288	0	0	1,622	19,958
12-Apr-2011	0	0	0	0	0	0	0	19,958
13-Apr-2011	0	0	84	1,848	0	0	1,310	21,269
14-Apr-2011	0	0	-24	-528	0	0	-374	20,894
15-Apr-2011	0	0	-42	-924	0	0	-655	20,239
16-Apr-2011	0	0	0	0	0	0	0	20,239
17-Apr-2011	0	0	0	0	0	0	0	20,239
18-Apr-2011	0	0	35	770	0	0	546	20,785
19-Apr-2011	0	0	163	3,586	0	0	2,542	23,328
20-Apr-2011	0	0	0	0	0	0	0	23,328
21-Apr-2011	0	0	81	1,782	0	0	1,263	24,591
22-Apr-2011	0	0	156	3,432	0	0	2,433	27,024
23-Apr-2011	0	0	0	0	0	0	0	27,024
24-Apr-2011	0	0	0	0	0	0	0	27,024
25-Apr-2011	0	0	38	836	0	0	593	27,617
26-Apr-2011	0	0	89	1,958	0	0	1,388	29,005
27-Apr-2011	0	0	0	0	0	0	0	29,005
28-Apr-2011	0	0	0	0	0	0	0	29,005
29-Apr-2011	0	0	10	220	0	0	156	29,161
30-Apr-2011	0	0	94	2,068	0	0	1,466	30,627
1-May-2011	0	0	180	3,960	0	0	2,808	33,435
2-May-2011	0	0	106	2,332	0	0	1,653	35,088
3-May-2011	0	0	119	2,618	0	0	1,856	36,945
4-May-2011	0	0	-104	-2,288	0	0	-1,622	35,322
5-May-2011	0	0	118	2,596	0	0	1,841	37,163
6-May-2011	0	0	75	1,650	0	0	1,170	38,333
7-May-2011	0	0	-12	-264	0	0	-187	38,146

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
8-May-2011	0	0	0	0	0	0	0	38,146
9-May-2011	0	0	83	1,826	0	0	1,295	39,440
10-May-2011	0	0	80	1,760	0	0	1,248	40,688
11-May-2011	0	0	277	6,094	0	0	4,321	45,009
12-May-2011	0	0	136	2,992	0	0	2,121	47,130
13-May-2011	0	0	43	946	0	0	671	47,801
14-May-2011	0	0	-2	-44	0	0	-31	47,770
15-May-2011	0	0	0	0	0	0	0	47,770
16-May-2011	0	0	336	7,392	0	0	5,241	53,011
17-May-2011	0	0	183	4,026	0	0	2,854	55,865
18-May-2011	0	0	160	3,520	0	0	2,496	58,361
19-May-2011	0	0	141	3,102	0	0	2,199	60,560
20-May-2011	0	0	153	3,366	0	0	2,386	62,946
21-May-2011	0	0	18	396	0	0	281	63,227
22-May-2011	0	0	0	0	0	0	0	63,227
23-May-2011	0	0	59	1,298	0	0	920	64,147
24-May-2011	0	0	92	2,024	14	420	1,733	65,880
25-May-2011	0	0	174	3,828	0	0	2,714	68,594
26-May-2011	0	0	90	1,980	0	0	1,404	69,998
27-May-2011	0	0	-4	-88	0	0	-62	69,936
28-May-2011	0	0	0	0	0	0	0	69,936
29-May-2011	0	0	0	0	0	0	0	69,936
30-May-2011	0	0	0	0	0	0	0	69,936
31-May-2011	0	0	-22	-484	0	0	-343	69,593
1-Jun-2011	0	0	52	1,144	0	0	811	70,404
2-Jun-2011	0	0	111	2,442	0	0	1,731	72,135
3-Jun-2011	0	0	247	5,434	0	0	3,853	75,988
4-Jun-2011	0	0	69	1,518	0	0	1,076	77,064
5-Jun-2011	0	0	0	0	0	0	0	77,064
6-Jun-2011	0	0	113	2,486	-85	-2,550	-45	77,019
7-Jun-2011	0	0	100	2,200	0	0	1,560	78,578
8-Jun-2011	0	0	88	1,936	0	0	1,373	79,951
9-Jun-2011	0	0	57	1,254	0	0	889	80,840
10-Jun-2011	0	0	204	4,488	0	0	3,182	84,022
11-Jun-2011	0	0	108	2,376	0	0	1,685	85,707
12-Jun-2011	0	0	0	0	0	0	0	85,707
13-Jun-2011	0	0	193	4,246	0	0	3,010	88,717
14-Jun-2011	0	0	251	5,522	0	0	3,915	92,632
15-Jun-2011	0	0	106	2,332	0	0	1,653	94,286
16-Jun-2011	0	0	0	0	0	0	0	94,286
17-Jun-2011	0	0	0	0	0	0	0	94,286
18-Jun-2011	0	0	0	0	0	0	0	94,286
19-Jun-2011	0	0	0	0	0	0	0	94,286
20-Jun-2011	0	0	36	792	0	0	562	94,847

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
21-Jun-2011	0	0	0	0	0	0	0	94,847
22-Jun-2011	0	0	0	0	0	0	0	94,847
23-Jun-2011	0	0	0	0	0	0	0	94,847
24-Jun-2011	0	0	0	0	0	0	0	94,847
25-Jun-2011	0	0	0	0	0	0	0	94,847
26-Jun-2011	0	0	0	0	0	0	0	94,847
27-Jun-2011	0	0	0	0	0	0	0	94,847
28-Jun-2011	0	0	0	0	0	0	0	94,847
29-Jun-2011	0	0	0	0	0	0	0	94,847
30-Jun-2011	0	0	15	330	0	0	234	95,081
1-Jul-2011	0	0	0	0	0	0	0	95,081
2-Jul-2011	0	0	0	0	0	0	0	95,081
3-Jul-2011	0	0	0	0	0	0	0	95,081
4-Jul-2011	0	0	0	0	0	0	0	95,081
5-Jul-2011	0	0	0	0	0	0	0	95,081
6-Jul-2011	0	0	0	0	0	0	0	95,081
7-Jul-2011	0	0	0	0	0	0	0	95,081
8-Jul-2011	0	0	0	0	0	0	0	95,081
9-Jul-2011	0	0	0	0	0	0	0	95,081
10-Jul-2011	0	0	0	0	0	0	0	95,081
11-Jul-2011	0	0	0	0	0	0	0	95,081
12-Jul-2011	0	0	0	0	0	0	0	95,081
13-Jul-2011	0	0	24	528	0	0	374	95,456
14-Jul-2011	0	0	42	924	0	0	655	96,111
15-Jul-2011	0	0	34	748	0	0	530	96,641
16-Jul-2011	0	0	3	66	0	0	47	96,688
17-Jul-2011	0	0	0	0	0	0	0	96,688
18-Jul-2011	0	0	40	880	0	0	624	97,312
19-Jul-2011	0	0	56	1,232	0	0	873	98,185
20-Jul-2011	0	0	44	968	0	0	686	98,871
21-Jul-2011	0	0	0	0	0	0	0	98,871
22-Jul-2011	0	0	0	0	0	0	0	98,871
23-Jul-2011	0	0	35	770	0	0	546	99,417
24-Jul-2011	0	0	0	0	0	0	0	99,417
25-Jul-2011	0	0	0	0	0	0	0	99,417
26-Jul-2011	0	0	0	0	0	0	0	99,417
27-Jul-2011	0	0	0	0	0	0	0	99,417
28-Jul-2011	0	0	0	0	0	0	0	99,417
29-Jul-2011	0	0	0	0	0	0	0	99,417
30-Jul-2011	0	0	0	0	0	0	0	99,417
31-Jul-2011	0	0	98	2,156	0	0	1,529	100,946
1-Aug-2011	0	0	0	0	0	0	0	100,946
2-Aug-2011	0	0	0	0	0	0	0	100,946
3-Aug-2011	-12	-192	0	0	0	0	-136	100,810

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
4-Aug-2011	-18	-288	-46	-1,012	0	0	-922	99,888
5-Aug-2011	-16	-256	-6	-132	0	0	-275	99,613
6-Aug-2011	0	0	0	0	0	0	0	99,613
7-Aug-2011	0	0	0	0	0	0	0	99,613
8-Aug-2011	-18	-288	161	3,542	0	0	2,307	101,920
9-Aug-2011	-17	-272	113	2,486	0	0	1,570	103,490
10-Aug-2011	-19	-304	0	0	0	0	-216	103,274
11-Aug-2011	0	0	0	0	0	0	0	103,274
12-Aug-2011	0	0	0	0	0	0	0	103,274
13-Aug-2011	0	0	0	0	0	0	0	103,274
14-Aug-2011	0	0	0	0	0	0	0	103,274
15-Aug-2011	0	0	0	0	0	0	0	103,274
16-Aug-2011	0	0	0	0	0	0	0	103,274
17-Aug-2011	0	0	12	264	0	0	187	103,462
18-Aug-2011	0	0	0	0	0	0	0	103,462
19-Aug-2011	0	0	0	0	0	0	0	103,462
20-Aug-2011	0	0	0	0	0	0	0	103,462
21-Aug-2011	0	0	0	0	0	0	0	103,462
22-Aug-2011	0	0	0	0	0	0	0	103,462
23-Aug-2011	0	0	0	0	0	0	0	103,462
24-Aug-2011	0	0	0	0	0	0	0	103,462
25-Aug-2011	0	0	0	0	0	0	0	103,462
26-Aug-2011	0	0	0	0	0	0	0	103,462
27-Aug-2011	0	0	0	0	0	0	0	103,462
28-Aug-2011	0	0	0	0	0	0	0	103,462
29-Aug-2011	0	0	0	0	0	0	0	103,462
30-Aug-2011	0	0	0	0	0	0	0	103,462
31-Aug-2011	0	0	0	0	0	0	0	103,462
1-Sep-2011	0	0	0	0	0	0	0	103,462
2-Sep-2011	0	0	0	0	0	0	0	103,462
3-Sep-2011	0	0	0	0	0	0	0	103,462
4-Sep-2011	0	0	0	0	0	0	0	103,462
5-Sep-2011	0	0	0	0	0	0	0	103,462
6-Sep-2011	0	0	0	0	0	0	0	103,462
7-Sep-2011	0	0	0	0	0	0	0	103,462
8-Sep-2011	0	0	0	0	0	0	0	103,462
9-Sep-2011	0	0	35	770	0	0	546	104,007
10-Sep-2011	0	0	0	0	0	0	0	104,007
11-Sep-2011	0	0	0	0	0	0	0	104,007
12-Sep-2011	-9	-144	0	0	0	0	-102	103,905
13-Sep-2011	0	0	0	0	0	0	0	103,905
14-Sep-2011	0	0	0	0	0	0	0	103,905
15-Sep-2011	-79	-1,264	-12	-264	0	0	-1,083	102,822
16-Sep-2011	0	0	0	0	0	0	0	102,822

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
17-Sep-2011	0	0	0	0	0	0	0	102,822
18-Sep-2011	0	0	0	0	0	0	0	102,822
19-Sep-2011	0	0	0	0	0	0	0	102,822
20-Sep-2011	0	0	0	0	0	0	0	102,822
21-Sep-2011	0	0	0	0	0	0	0	102,822
22-Sep-2011	0	0	0	0	0	0	0	102,822
23-Sep-2011	0	0	0	0	0	0	0	102,822
24-Sep-2011	0	0	0	0	0	0	0	102,822
25-Sep-2011	0	0	0	0	0	0	0	102,822
26-Sep-2011	0	0	0	0	0	0	0	102,822
27-Sep-2011	0	0	0	0	0	0	0	102,822
28-Sep-2011	0	0	0	0	0	0	0	102,822
29-Sep-2011	0	0	0	0	0	0	0	102,822
30-Sep-2011	0	0	0	0	0	0	0	102,822
1-Oct-2011	0	0	0	0	0	0	0	102,822
2-Oct-2011	0	0	0	0	0	0	0	102,822
3-Oct-2011	0	0	8	176	0	0	125	102,947
4-Oct-2011	0	0	17	374	0	0	265	103,212
5-Oct-2011	0	0	20	440	0	0	312	103,524
6-Oct-2011	0	0	0	0	0	0	0	103,524
7-Oct-2011	0	0	69	1,518	0	0	1,076	104,600
8-Oct-2011	0	0	0	0	0	0	0	104,600
9-Oct-2011	0	0	0	0	0	0	0	104,600
10-Oct-2011	0	0	0	0	0	0	0	104,600
11-Oct-2011	0	0	0	0	0	0	0	104,600
12-Oct-2011	0	0	0	0	0	0	0	104,600
13-Oct-2011	0	0	0	0	0	0	0	104,600
14-Oct-2011	0	0	0	0	0	0	0	104,600
15-Oct-2011	0	0	0	0	0	0	0	104,600
16-Oct-2011	0	0	0	0	0	0	0	104,600
17-Oct-2011	0	0	0	0	0	0	0	104,600
18-Oct-2011	0	0	0	0	0	0	0	104,600
19-Oct-2011	0	0	0	0	0	0	0	104,600
20-Oct-2011	0	0	0	0	0	0	0	104,600
21-Oct-2011	0	0	0	0	0	0	0	104,600
22-Oct-2011	0	0	122	2,684	0	0	1,903	106,503
23-Oct-2011	0	0	0	0	0	0	0	106,503
24-Oct-2011	0	0	68	1,496	0	0	1,061	107,564
25-Oct-2011	0	0	0	0	9	270	191	107,755
26-Oct-2011	0	0	0	0	68	2,040	1,446	109,202
27-Oct-2011	0	0	77	1,694	25	750	1,733	110,934
28-Oct-2011	0	0	0	0	0	0	0	110,934
29-Oct-2011	0	0	0	0	0	0	0	110,934
30-Oct-2011	0	0	0	0	0	0	0	110,934

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
31-Oct-2011	0	0	0	0	0	0	0	110,934
1-Nov-2011	0	0	0	0	0	0	0	110,934
2-Nov-2011	0	0	0	0	0	0	0	110,934
3-Nov-2011	0	0	-16	-352	0	0	-250	110,685
4-Nov-2011	0	0	-53	-1,166	0	0	-827	109,858
5-Nov-2011	0	0	0	0	0	0	0	109,858
6-Nov-2011	0	0	0	0	0	0	0	109,858
7-Nov-2011	0	0	-24	-528	0	0	-374	109,484
8-Nov-2011	0	0	0	0	0	0	0	109,484
9-Nov-2011	0	0	78	1,716	0	0	1,217	110,700
10-Nov-2011	0	0	-1	-22	0	0	-16	110,685
11-Nov-2011	0	0	142	3,124	0	0	2,215	112,900
12-Nov-2011	0	0	0	0	0	0	0	112,900
13-Nov-2011	0	0	0	0	0	0	0	112,900
14-Nov-2011	0	0	94	2,068	0	0	1,466	114,366
15-Nov-2011	0	0	0	0	0	0	0	114,366
16-Nov-2011	0	0	0	0	0	0	0	114,366
17-Nov-2011	0	0	0	0	0	0	0	114,366
18-Nov-2011	0	0	0	0	0	0	0	114,366
19-Nov-2011	0	0	0	0	0	0	0	114,366
20-Nov-2011	0	0	0	0	0	0	0	114,366
21-Nov-2011	0	0	8	176	0	0	125	114,491
22-Nov-2011	0	0	85	1,870	0	0	1,326	115,817
23-Nov-2011	0	0	0	0	0	0	0	115,817
24-Nov-2011	0	0	0	0	0	0	0	115,817
25-Nov-2011	0	0	0	0	0	0	0	115,817
26-Nov-2011	0	0	0	0	0	0	0	115,817
27-Nov-2011	0	0	0	0	0	0	0	115,817
28-Nov-2011	0	0	0	0	0	0	0	115,817
29-Nov-2011	0	0	0	0	0	0	0	115,817
30-Nov-2011	0	0	0	0	0	0	0	115,817
1-Dec-2011	0	0	-7	-154	0	0	-109	115,707
2-Dec-2011	0	0	28	616	0	0	437	116,144
3-Dec-2011	0	0	132	2,904	0	0	2,059	118,203
4-Dec-2011	0	0	0	0	0	0	0	118,203
5-Dec-2011	0	0	0	0	0	0	0	118,203
6-Dec-2011	0	0	0	0	0	0	0	118,203
7-Dec-2011	0	0	0	0	0	0	0	118,203
8-Dec-2011	0	0	0	0	0	0	0	118,203
9-Dec-2011	-17	-272	-8	-176	0	0	-318	117,885
10-Dec-2011	0	0	86	1,892	0	0	1,341	119,227
11-Dec-2011	0	0	0	0	0	0	0	119,227
12-Dec-2011	0	0	0	0	0	0	0	119,227
13-Dec-2011	0	0	0	0	0	0	0	119,227

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
14-Dec-2011	0	0	-116	-2,552	0	0	-1,809	117,417
15-Dec-2011	0	0	-125	-2,750	0	0	-1,950	115,468
16-Dec-2011	0	0	0	0	0	0	0	115,468
17-Dec-2011	0	0	-88	-1,936	0	0	-1,373	114,095
18-Dec-2011	0	0	0	0	0	0	0	114,095
19-Dec-2011	0	0	-138	-3,036	0	0	-2,153	111,943
20-Dec-2011	0	0	87	1,914	0	0	1,357	113,300
21-Dec-2011	0	0	59	1,298	0	0	920	114,220
22-Dec-2011	0	0	62	1,364	0	0	967	115,187
23-Dec-2011	0	0	0	0	0	0	0	115,187
24-Dec-2011	0	0	0	0	0	0	0	115,187
25-Dec-2011	0	0	0	0	0	0	0	115,187
26-Dec-2011	0	0	0	0	0	0	0	115,187
27-Dec-2011	0	0	0	0	0	0	0	115,187
28-Dec-2011	0	0	-50	-1,100	0	0	-780	114,407
29-Dec-2011	0	0	-21	-462	0	0	-328	114,080
30-Dec-2011	0	0	-101	-2,222	0	0	-1,575	112,504
31-Dec-2011	0	0	-43	-946	0	0	-671	111,833
1-Jan-2012	0	0	0	0	0	0	0	111,833
2-Jan-2012	0	0	0	0	0	0	0	111,833
3-Jan-2012	0	0	-77	-1,694	0	0	-1,201	110,632
4-Jan-2012	0	0	31	682	0	0	484	111,116
5-Jan-2012	0	0	-41	-902	0	0	-640	110,476
6-Jan-2012	0	0	66	1,452	0	0	1,029	111,506
7-Jan-2012	0	0	0	0	0	0	0	111,506
8-Jan-2012	0	0	0	0	0	0	0	111,506
9-Jan-2012	0	0	-69	-1,518	0	0	-1,076	110,430
10-Jan-2012	0	0	-21	-462	0	0	-328	110,102
11-Jan-2012	0	0	0	0	0	0	0	110,102
12-Jan-2012	0	0	0	0	0	0	0	110,102
13-Jan-2012	0	0	0	0	0	0	0	110,102
14-Jan-2012	0	0	0	0	0	0	0	110,102
15-Jan-2012	0	0	0	0	0	0	0	110,102
16-Jan-2012	0	0	73	1,606	0	0	1,139	111,241
17-Jan-2012	0	0	0	0	0	0	0	111,241
18-Jan-2012	0	0	0	0	0	0	0	111,241
19-Jan-2012	0	0	105	2,310	0	0	1,638	112,878
20-Jan-2012	0	0	90	1,980	0	0	1,404	114,282
21-Jan-2012	0	0	0	0	0	0	0	114,282
22-Jan-2012	0	0	0	0	0	0	0	114,282
23-Jan-2012	0	0	0	0	0	0	0	114,282
24-Jan-2012	0	0	45	990	0	0	702	114,984
25-Jan-2012	0	0	109	2,398	0	0	1,700	116,684
26-Jan-2012	0	0	-56	-1,232	0	0	-873	115,811

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
27-Jan-2012	0	0	-4	-88	0	0	-62	115,749
28-Jan-2012	0	0	0	0	0	0	0	115,749
29-Jan-2012	0	0	0	0	0	0	0	115,749
30-Jan-2012	0	0	62	1,364	0	0	967	116,716
31-Jan-2012	0	0	123	2,706	0	0	1,919	118,634
1-Feb-2012	0	0	52	1,144	0	0	811	119,445
2-Feb-2012	0	0	130	2,860	0	0	2,028	121,473
3-Feb-2012	0	0	191	4,202	0	0	2,979	124,452
4-Feb-2012	0	0	0	0	0	0	0	124,452
5-Feb-2012	0	0	0	0	0	0	0	124,452
6-Feb-2012	0	0	-69	-1,518	0	0	-1,076	123,376
7-Feb-2012	0	0	24	528	0	0	374	123,750
8-Feb-2012	0	0	-11	-242	0	0	-172	123,579
9-Feb-2012	0	0	43	946	0	0	671	124,249
10-Feb-2012	0	0	51	1,122	0	0	795	125,045
11-Feb-2012	0	0	0	0	0	0	0	125,045
12-Feb-2012	0	0	0	0	0	0	0	125,045
13-Feb-2012	0	0	33	726	0	0	515	125,560
14-Feb-2012	0	0	-28	-616	0	0	-437	125,123
15-Feb-2012	0	0	-13	-286	0	0	-203	124,920
16-Feb-2012	0	0	-16	-352	0	0	-250	124,671
17-Feb-2012	0	0	92	2,024	0	0	1,435	126,106
18-Feb-2012	0	0	0	0	0	0	0	126,106
19-Feb-2012	0	0	0	0	0	0	0	126,106
20-Feb-2012	0	0	121	2,662	0	0	1,887	127,993
21-Feb-2012	0	0	15	330	0	0	234	128,227
22-Feb-2012	0	0	-16	-352	0	0	-250	127,977
23-Feb-2012	0	0	89	1,958	0	0	1,388	129,366
24-Feb-2012	0	0	144	3,168	0	0	2,246	131,612
25-Feb-2012	0	0	0	0	0	0	0	131,612
26-Feb-2012	0	0	0	0	0	0	0	131,612
27-Feb-2012	0	0	40	880	0	0	624	132,236
28-Feb-2012	0	0	88	1,936	0	0	1,373	133,608
29-Feb-2012	0	0	0	0	0	0	0	133,608
1-Mar-2012	0	0	-40	-880	0	0	-624	132,984
2-Mar-2012	0	0	2	44	0	0	31	133,015
3-Mar-2012	0	0	0	0	0	0	0	133,015
4-Mar-2012	0	0	0	0	0	0	0	133,015
5-Mar-2012	0	0	56	1,232	0	0	873	133,889
6-Mar-2012	0	0	37	814	0	0	577	134,466
7-Mar-2012	0	0	30	660	0	0	468	134,934
8-Mar-2012	0	0	10	220	0	0	156	135,090
9-Mar-2012	0	0	241	5,302	0	0	3,759	138,849
10-Mar-2012	0	0	0	0	0	0	0	138,849

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
11-Mar-2012	0	0	0	0	0	0	0	138,849
12-Mar-2012	0	0	106	2,332	0	0	1,653	140,503
13-Mar-2012	0	0	-39	-858	0	0	-608	139,894
14-Mar-2012	0	0	60	1,320	0	0	936	140,830
15-Mar-2012	0	0	31	682	0	0	484	141,314
16-Mar-2012	0	0	-59	-1,298	0	0	-920	140,393
17-Mar-2012	0	0	0	0	0	0	0	140,393
18-Mar-2012	0	0	0	0	0	0	0	140,393
19-Mar-2012	0	0	21	462	0	0	328	140,721
20-Mar-2012	0	0	51	1,122	0	0	795	141,516
21-Mar-2012	0	0	94	2,068	0	0	1,466	142,983
22-Mar-2012	0	0	115	2,530	0	0	1,794	144,776
23-Mar-2012	0	0	34	748	0	0	530	145,307
24-Mar-2012	0	0	0	0	0	0	0	145,307
25-Mar-2012	0	0	0	0	0	0	0	145,307
26-Mar-2012	0	0	93	2,046	0	0	1,451	146,757
27-Mar-2012	0	0	60	1,320	0	0	936	147,693
28-Mar-2012	0	0	55	1,210	0	0	858	148,551
29-Mar-2012	0	0	48	1,056	0	0	749	149,300
30-Mar-2012	0	0	83	1,826	0	0	1,295	150,594
31-Mar-2012	0	0	0	0	0	0	0	150,594
1-Apr-2012	0	0	0	0	0	0	0	150,594
2-Apr-2012	0	0	111	2,442	0	0	1,731	152,326
3-Apr-2012	0	0	41	902	0	0	640	152,965
4-Apr-2012	0	0	-14	-308	0	0	-218	152,747
5-Apr-2012	0	0	-41	-902	0	0	-640	152,107
6-Apr-2012	0	0	0	0	0	0	0	152,107
7-Apr-2012	0	0	0	0	0	0	0	152,107
8-Apr-2012	0	0	0	0	0	0	0	152,107
9-Apr-2012	0	0	3	66	0	0	47	152,154
10-Apr-2012	0	0	-36	-792	0	0	-562	151,593
11-Apr-2012	0	0	64	1,408	0	0	998	152,591
12-Apr-2012	0	0	81	1,782	0	0	1,263	153,854
13-Apr-2012	0	0	11	242	0	0	172	154,026
14-Apr-2012	0	0	42	924	0	0	655	154,681
15-Apr-2012	0	0	0	0	0	0	0	154,681
16-Apr-2012	0	0	-75	-1,650	0	0	-1,170	153,511
17-Apr-2012	0	0	-76	-1,672	0	0	-1,185	152,326
18-Apr-2012	0	0	0	0	0	0	0	152,326
19-Apr-2012	0	0	-4	-88	0	0	-62	152,263
20-Apr-2012	0	0	45	990	0	0	702	152,965
21-Apr-2012	0	0	0	0	0	0	0	152,965
22-Apr-2012	0	0	0	0	0	0	0	152,965
23-Apr-2012	0	0	62	1,364	0	0	967	153,932

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
24-Apr-2012	0	0	17	374	0	0	265	154,198
25-Apr-2012	0	0	0	0	0	0	0	154,198
26-Apr-2012	0	0	0	0	0	0	0	154,198
27-Apr-2012	0	0	-3	-66	0	0	-47	154,151
28-Apr-2012	0	0	14	308	0	0	218	154,369
29-Apr-2012	0	0	0	0	0	0	0	154,369
30-Apr-2012	-15	-240	51	1,122	0	0	625	154,994
1-May-2012	0	0	29	638	0	0	452	155,447
2-May-2012	0	0	36	792	0	0	562	156,008
3-May-2012	0	0	-44	-968	0	0	-686	155,322
4-May-2012	0	0	3	66	0	0	47	155,369
5-May-2012	0	0	0	0	0	0	0	155,369
6-May-2012	0	0	0	0	0	0	0	155,369
7-May-2012	0	0	0	0	0	0	0	155,369
8-May-2012	0	0	0	0	0	0	0	155,369
9-May-2012	0	0	0	0	0	0	0	155,369
10-May-2012	0	0	0	0	0	0	0	155,369
11-May-2012	0	0	0	0	0	0	0	155,369
12-May-2012	0	0	0	0	0	0	0	155,369
13-May-2012	0	0	0	0	0	0	0	155,369
14-May-2012	0	0	0	0	0	0	0	155,369
15-May-2012	0	0	-43	-946	0	0	-671	154,698
16-May-2012	0	0	-35	-770	0	0	-546	154,152
17-May-2012	0	0	-2	-44	0	0	-31	154,121
18-May-2012	0	0	26	572	0	0	406	154,527
19-May-2012	0	0	0	0	0	0	0	154,527
20-May-2012	0	0	0	0	0	0	0	154,527
21-May-2012	0	0	28	616	0	0	437	154,963
22-May-2012	0	0	45	990	0	0	702	155,665
23-May-2012	0	0	35	770	0	0	546	156,211
24-May-2012	0	0	-45	-990	0	0	-702	155,509
25-May-2012	0	0	-86	-1,892	0	0	-1,341	154,168
26-May-2012	0	0	0	0	0	0	0	154,168
27-May-2012	0	0	0	0	0	0	0	154,168
28-May-2012	0	0	0	0	0	0	0	154,168
29-May-2012	0	0	-5	-110	0	0	-78	154,090
30-May-2012	0	0	60	1,320	0	0	936	155,026
31-May-2012	0	0	24	528	0	0	374	155,400
1-Jun-2012	0	0	0	0	0	0	0	155,400
2-Jun-2012	0	0	-92	-2,024	0	0	-1,435	153,965
3-Jun-2012	0	0	0	0	0	0	0	153,965
4-Jun-2012	0	0	0	0	0	0	0	153,965
5-Jun-2012	0	0	0	0	0	0	0	153,965
6-Jun-2012	0	0	0	0	0	0	0	153,965

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
7-Jun-2012	0	0	7	154	0	0	109	154,074
8-Jun-2012	0	0	20	440	0	0	312	154,386
9-Jun-2012	0	0	0	0	0	0	0	154,386
10-Jun-2012	0	0	0	0	0	0	0	154,386
11-Jun-2012	0	0	-62	-1,364	0	0	-967	153,419
12-Jun-2012	0	0	-140	-3,080	0	0	-2,184	151,235
13-Jun-2012	0	0	22	484	0	0	343	151,579
14-Jun-2012	0	0	68	1,496	0	0	1,061	152,639
15-Jun-2012	-3	-48	16	352	0	0	216	152,855
16-Jun-2012	0	0	0	0	0	0	0	152,855
17-Jun-2012	0	0	0	0	0	0	0	152,855
18-Jun-2012	-12	-192	102	2,244	0	0	1,455	154,310
19-Jun-2012	-9	-144	68	1,496	0	0	959	155,268
20-Jun-2012	-22	-352	144	3,168	0	0	1,997	157,265
21-Jun-2012	0	0	69	1,518	0	0	1,076	158,341
22-Jun-2012	0	0	116	2,552	0	0	1,809	160,150
23-Jun-2012	0	0	0	0	0	0	0	160,150
24-Jun-2012	0	0	0	0	0	0	0	160,150
25-Jun-2012	0	0	0	0	0	0	0	160,150
26-Jun-2012	0	0	0	0	0	0	0	160,150
27-Jun-2012	0	0	0	0	0	0	0	160,150
28-Jun-2012	0	0	71	1,562	0	0	1,107	161,258
29-Jun-2012	0	0	53	1,166	0	0	827	162,084
30-Jun-2012	0	0	0	0	0	0	0	162,084
1-Jul-2012	0	0	0	0	0	0	0	162,084
2-Jul-2012	0	0	38	836	0	0	593	162,677
3-Jul-2012	0	0	26	572	0	0	406	163,083
4-Jul-2012	0	0	0	0	0	0	0	163,083
5-Jul-2012	0	0	0	0	0	0	0	163,083
6-Jul-2012	0	0	0	0	0	0	0	163,083
7-Jul-2012	0	0	0	0	0	0	0	163,083
8-Jul-2012	0	0	0	0	0	0	0	163,083
9-Jul-2012	0	0	0	0	0	0	0	163,083
10-Jul-2012	0	0	0	0	0	0	0	163,083
11-Jul-2012	0	0	0	0	0	0	0	163,083
12-Jul-2012	0	0	0	0	0	0	0	163,083
13-Jul-2012	0	0	0	0	0	0	0	163,083
14-Jul-2012	0	0	0	0	0	0	0	163,083
15-Jul-2012	0	0	0	0	0	0	0	163,083
16-Jul-2012	0	0	28	616	0	0	437	163,520
17-Jul-2012	0	0	-3	-66	0	0	-47	163,473
18-Jul-2012	0	0	0	0	0	0	0	163,473
19-Jul-2012	0	0	-18	-396	0	0	-281	163,192
20-Jul-2012	0	0	0	0	0	0	0	163,192

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
21-Jul-2012	0	0	0	0	0	0	0	163,192
22-Jul-2012	0	0	0	0	0	0	0	163,192
23-Jul-2012	-13	-208	34	748	0	0	383	163,575
24-Jul-2012	-45	-720	-27	-594	0	0	-932	162,643
25-Jul-2012	0	0	-49	-1,078	0	0	-764	161,879
26-Jul-2012	-19	-304	-71	-1,562	0	0	-1,323	160,556
27-Jul-2012	-22	-352	-5	-110	0	0	-328	160,228
28-Jul-2012	0	0	0	0	0	0	0	160,228
29-Jul-2012	0	0	0	0	0	0	0	160,228
30-Jul-2012	0	0	0	0	0	0	0	160,228
31-Jul-2012	0	0	-46	-1,012	0	0	-718	159,511
1-Aug-2012	0	0	-25	-550	0	0	-390	159,121
2-Aug-2012	0	0	0	0	0	0	0	159,121
3-Aug-2012	0	0	-16	-352	0	0	-250	158,871
4-Aug-2012	0	0	0	0	0	0	0	158,871
5-Aug-2012	0	0	0	0	0	0	0	158,871
6-Aug-2012	0	0	40	880	0	0	624	159,495
7-Aug-2012	0	0	19	418	0	0	296	159,792
8-Aug-2012	-32	-512	-3	-66	0	0	-410	159,382
9-Aug-2012	-21	-336	13	286	0	0	-35	159,346
10-Aug-2012	-22	-352	17	374	0	0	16	159,362
11-Aug-2012	0	0	0	0	0	0	0	159,362
12-Aug-2012	0	0	0	0	0	0	0	159,362
13-Aug-2012	-21	-336	-6	-132	0	0	-332	159,030
14-Aug-2012	-12	-192	-91	-2,002	0	0	-1,556	157,475
15-Aug-2012	0	0	-46	-1,012	0	0	-718	156,757
16-Aug-2012	0	0	67	1,474	0	0	1,045	157,802
17-Aug-2012	-2	-32	38	836	0	0	570	158,372
18-Aug-2012	0	0	0	0	0	0	0	158,372
19-Aug-2012	0	0	0	0	0	0	0	158,372
20-Aug-2012	0	0	35	770	104	3,120	2,758	161,130
21-Aug-2012	0	0	65	1,430	0	0	1,014	162,144
22-Aug-2012	0	0	78	1,716	0	0	1,217	163,361
23-Aug-2012	0	0	38	836	0	0	593	163,953
24-Aug-2012	0	0	14	308	0	0	218	164,172
25-Aug-2012	0	0	0	0	0	0	0	164,172
26-Aug-2012	0	0	0	0	0	0	0	164,172
27-Aug-2012	0	0	50	1,100	0	0	780	164,952
28-Aug-2012	0	0	50	1,100	0	0	780	165,732
29-Aug-2012	0	0	69	1,518	0	0	1,076	166,808
30-Aug-2012	-6	-96	44	968	0	0	618	167,426
31-Aug-2012	-18	-288	0	0	0	0	-204	167,222
1-Sep-2012	0	0	0	0	0	0	0	167,222
2-Sep-2012	0	0	0	0	0	0	0	167,222

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
3-Sep-2012	0	0	0	0	0	0	0	167,222
4-Sep-2012	0	0	-168	-3,696	0	0	-2,620	164,601
5-Sep-2012	0	0	-62	-1,364	0	0	-967	163,634
6-Sep-2012	0	0	-22	-484	0	0	-343	163,291
7-Sep-2012	-12	-192	-23	-506	0	0	-495	162,796
8-Sep-2012	0	0	-69	-1,518	0	0	-1,076	161,720
9-Sep-2012	0	0	0	0	0	0	0	161,720
10-Sep-2012	-11	-176	-85	-1,870	0	0	-1,451	160,269
11-Sep-2012	-4	-64	20	440	0	0	267	160,536
12-Sep-2012	-26	-416	23	506	0	0	64	160,600
13-Sep-2012	-22	-352	-76	-1,672	0	0	-1,435	159,165
14-Sep-2012	0	0	80	1,760	0	0	1,248	160,413
15-Sep-2012	0	0	0	0	0	0	0	160,413
16-Sep-2012	0	0	0	0	0	0	0	160,413
17-Sep-2012	-4	-64	0	0	0	0	-45	160,367
18-Sep-2012	0	0	0	0	0	0	0	160,367
19-Sep-2012	0	0	-152	-3,344	0	0	-2,371	157,996
20-Sep-2012	0	0	-71	-1,562	0	0	-1,107	156,889
21-Sep-2012	-25	-400	51	1,122	0	0	512	157,401
22-Sep-2012	0	0	0	0	0	0	0	157,401
23-Sep-2012	0	0	0	0	0	0	0	157,401
24-Sep-2012	-38	-608	-6	-132	0	0	-525	156,876
25-Sep-2012	-40	-640	26	572	0	0	-48	156,828
26-Sep-2012	-34	-544	40	880	0	0	238	157,066
27-Sep-2012	-37	-592	-27	-594	0	0	-841	156,225
28-Sep-2012	-36	-576	-94	-2,068	0	0	-1,875	154,351
29-Sep-2012	0	0	0	0	0	0	0	154,351
30-Sep-2012	0	0	0	0	0	0	0	154,351
1-Oct-2012	0	0	0	0	0	0	0	154,351
2-Oct-2012	0	0	-6	-132	0	0	-94	154,257
3-Oct-2012	-31	-496	19	418	0	0	-55	154,202
4-Oct-2012	-21	-336	23	506	0	0	121	154,322
5-Oct-2012	-26	-416	86	1,892	0	0	1,046	155,369
6-Oct-2012	0	0	-23	-506	0	0	-359	155,010
7-Oct-2012	0	0	0	0	0	0	0	155,010
8-Oct-2012	0	0	0	0	0	0	0	155,010
9-Oct-2012	0	0	-73	-1,606	0	0	-1,139	153,871
10-Oct-2012	0	0	78	1,716	0	0	1,217	155,088
11-Oct-2012	0	0	16	352	0	0	250	155,338
12-Oct-2012	0	0	-42	-924	0	0	-655	154,683
13-Oct-2012	0	0	-54	-1,188	0	0	-842	153,840
14-Oct-2012	0	0	0	0	0	0	0	153,840
15-Oct-2012	0	0	-19	-418	0	0	-296	153,544
16-Oct-2012	0	0	-121	-2,662	0	0	-1,887	151,657

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
17-Oct-2012	0	0	-24	-528	0	0	-374	151,282
18-Oct-2012	0	0	-44	-968	0	0	-686	150,596
19-Oct-2012	0	0	85	1,870	0	0	1,326	151,922
20-Oct-2012	0	0	86	1,892	0	0	1,341	153,263
21-Oct-2012	0	0	0	0	0	0	0	153,263
22-Oct-2012	0	0	3	66	0	0	47	153,310
23-Oct-2012	0	0	0	0	0	0	0	153,310
24-Oct-2012	0	0	0	0	0	0	0	153,310
25-Oct-2012	0	0	5	110	0	0	78	153,388
26-Oct-2012	0	0	49	1,078	0	0	764	154,152
27-Oct-2012	0	0	0	0	0	0	0	154,152
28-Oct-2012	0	0	0	0	0	0	0	154,152
29-Oct-2012	0	0	42	924	0	0	655	154,807
30-Oct-2012	0	0	-22	-484	0	0	-343	154,464
31-Oct-2012	0	0	-31	-682	0	0	-484	153,981
1-Nov-2012	0	0	-103	-2,266	0	0	-1,607	152,374
2-Nov-2012	0	0	0	0	0	0	0	152,374
3-Nov-2012	0	0	0	0	0	0	0	152,374
4-Nov-2012	0	0	0	0	0	0	0	152,374
5-Nov-2012	0	0	0	0	0	0	0	152,374
6-Nov-2012	0	0	0	0	0	0	0	152,374
7-Nov-2012	0	0	-96	-2,112	0	0	-1,497	150,877
8-Nov-2012	0	0	-179	-3,938	0	0	-2,792	148,085
9-Nov-2012	0	0	-32	-704	0	0	-499	147,585
10-Nov-2012	0	0	202	4,444	0	0	3,151	150,736
11-Nov-2012	0	0	0	0	0	0	0	150,736
12-Nov-2012	0	0	-10	-220	0	0	-156	150,580
13-Nov-2012	0	0	-4	-88	0	0	-62	150,518
14-Nov-2012	0	0	-112	-2,464	0	0	-1,747	148,771
15-Nov-2012	0	0	-6	-132	0	0	-94	148,677
16-Nov-2012	0	0	-69	-1,518	0	0	-1,076	147,601
17-Nov-2012	0	0	0	0	0	0	0	147,601
18-Nov-2012	0	0	0	0	0	0	0	147,601
19-Nov-2012	0	0	19	418	0	0	296	147,897
20-Nov-2012	0	0	44	968	0	0	686	148,584
21-Nov-2012	0	0	-31	-682	0	0	-484	148,100
22-Nov-2012	0	0	0	0	0	0	0	148,100
23-Nov-2012	0	0	0	0	0	0	0	148,100
24-Nov-2012	0	0	0	0	0	0	0	148,100
25-Nov-2012	0	0	0	0	0	0	0	148,100
26-Nov-2012	0	0	1	22	0	0	16	148,116
27-Nov-2012	0	0	-133	-2,926	0	0	-2,075	146,041
28-Nov-2012	0	0	0	0	0	0	0	146,041
29-Nov-2012	0	0	0	0	0	0	0	146,041

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
30-Nov-2012	0	0	19	418	0	0	296	146,338
1-Dec-2012	0	0	0	0	0	0	0	146,338
2-Dec-2012	0	0	0	0	0	0	0	146,338
3-Dec-2012	0	0	0	0	0	0	0	146,338
4-Dec-2012	0	0	21	462	0	0	328	146,665
5-Dec-2012	0	0	64	1,408	0	0	998	147,663
6-Dec-2012	0	0	95	2,090	0	0	1,482	149,145
7-Dec-2012	0	0	98	2,156	0	0	1,529	150,674
8-Dec-2012	0	0	0	0	0	0	0	150,674
9-Dec-2012	0	0	0	0	0	0	0	150,674
10-Dec-2012	0	0	0	0	0	0	0	150,674
11-Dec-2012	0	0	0	0	0	0	0	150,674
12-Dec-2012	0	0	66	1,452	0	0	1,029	151,703
13-Dec-2012	0	0	90	1,980	0	0	1,404	153,107
14-Dec-2012	0	0	64	1,408	0	0	998	154,105
15-Dec-2012	0	0	0	0	0	0	0	154,105
16-Dec-2012	0	0	0	0	0	0	0	154,105
17-Dec-2012	0	0	0	0	0	0	0	154,105
18-Dec-2012	0	0	0	0	0	0	0	154,105
19-Dec-2012	0	0	41	902	91	2,730	2,575	156,680
20-Dec-2012	0	0	0	0	0	0	0	156,680
21-Dec-2012	0	0	-11	-242	0	0	-172	156,509
22-Dec-2012	0	0	0	0	0	0	0	156,509
23-Dec-2012	0	0	0	0	0	0	0	156,509
24-Dec-2012	0	0	0	0	0	0	0	156,509
25-Dec-2012	0	0	0	0	0	0	0	156,509
26-Dec-2012	0	0	0	0	0	0	0	156,509
27-Dec-2012	0	0	16	352	0	0	250	156,758
28-Dec-2012	0	0	10	220	0	0	156	156,914
29-Dec-2012	0	0	0	0	0	0	0	156,914
30-Dec-2012	0	0	0	0	0	0	0	156,914
31-Dec-2012	0	0	0	0	0	0	0	156,914
1-Jan-2013	0	0	0	0	0	0	0	156,914
2-Jan-2013	0	0	0	0	0	0	0	156,914
3-Jan-2013	0	0	-31	-682	0	0	-484	156,431
4-Jan-2013	0	0	-34	-748	0	0	-530	155,901
5-Jan-2013	0	0	0	0	0	0	0	155,901
6-Jan-2013	0	0	0	0	0	0	0	155,901
7-Jan-2013	0	0	28	616	0	0	437	156,337
8-Jan-2013	0	0	0	0	0	0	0	156,337
9-Jan-2013	0	0	20	440	0	0	312	156,649
10-Jan-2013	0	0	98	2,156	0	0	1,529	158,178
11-Jan-2013	0	0	0	0	0	0	0	158,178
12-Jan-2013	0	0	0	0	0	0	0	158,178

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
13-Jan-2013	0	0	0	0	0	0	0	158,178
14-Jan-2013	0	0	0	0	0	0	0	158,178
15-Jan-2013	0	0	0	0	0	0	0	158,178
16-Jan-2013	0	0	0	0	0	0	0	158,178
17-Jan-2013	0	0	0	0	0	0	0	158,178
18-Jan-2013	0	0	0	0	0	0	0	158,178
19-Jan-2013	0	0	0	0	0	0	0	158,178
20-Jan-2013	0	0	0	0	0	0	0	158,178
21-Jan-2013	0	0	-17	-374	4	120	-180	157,998
22-Jan-2013	0	0	-33	-726	93	2,790	1,463	159,461
23-Jan-2013	0	0	-23	-506	0	0	-359	159,102
24-Jan-2013	0	0	22	484	0	0	343	159,446
25-Jan-2013	0	0	0	0	0	0	0	159,446
26-Jan-2013	0	0	0	0	0	0	0	159,446
27-Jan-2013	0	0	0	0	0	0	0	159,446
28-Jan-2013	0	0	-37	-814	0	0	-577	158,868
29-Jan-2013	0	0	21	462	0	0	328	159,196
30-Jan-2013	0	0	0	0	0	0	0	159,196
31-Jan-2013	0	0	-16	-352	0	0	-250	158,946
1-Feb-2013	0	0	-56	-1,232	0	0	-873	158,073
2-Feb-2013	0	0	0	0	0	0	0	158,073
3-Feb-2013	0	0	0	0	0	0	0	158,073
4-Feb-2013	0	0	40	880	56	1,680	1,815	159,888
5-Feb-2013	0	0	2	44	21	630	478	160,366
6-Feb-2013	0	0	0	0	0	0	0	160,366
7-Feb-2013	0	0	-1	-22	0	0	-16	160,350
8-Feb-2013	0	0	-3	-66	0	0	-47	160,303
9-Feb-2013	0	0	0	0	0	0	0	160,303
10-Feb-2013	0	0	0	0	0	0	0	160,303
11-Feb-2013	0	0	0	0	0	0	0	160,303
12-Feb-2013	0	0	0	0	0	0	0	160,303
13-Feb-2013	0	0	-71	-1,562	0	0	-1,107	159,196
14-Feb-2013	0	0	-16	-352	0	0	-250	158,946
15-Feb-2013	0	0	96	2,112	15	450	1,816	160,763
16-Feb-2013	0	0	14	308	162	4,860	3,664	164,427
17-Feb-2013	0	0	66	1,452	0	0	1,029	165,456
18-Feb-2013	0	0	0	0	0	0	0	165,456
19-Feb-2013	0	0	-39	-858	0	0	-608	164,848
20-Feb-2013	0	0	0	0	0	0	0	164,848
21-Feb-2013	0	0	0	0	0	0	0	164,848
22-Feb-2013	0	0	0	0	0	0	0	164,848
23-Feb-2013	0	0	0	0	73	2,190	1,553	166,401
24-Feb-2013	0	0	0	0	0	0	0	166,401
25-Feb-2013	0	0	-6	-132	107	3,210	2,182	168,583

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
26-Feb-2013	0	0	-43	-946	0	0	-671	167,912
27-Feb-2013	0	0	-92	-2,024	0	0	-1,435	166,477
28-Feb-2013	0	0	-3	-66	49	1,470	995	167,473
1-Mar-2013	0	0	65	1,430	0	0	1,014	168,487
2-Mar-2013	0	0	77	1,694	0	0	1,201	169,688
3-Mar-2013	0	0	0	0	0	0	0	169,688
4-Mar-2013	0	0	0	0	0	0	0	169,688
5-Mar-2013	0	0	0	0	0	0	0	169,688
6-Mar-2013	0	0	0	0	0	0	0	169,688
7-Mar-2013	0	0	0	0	0	0	0	169,688
8-Mar-2013	0	0	41	902	0	0	640	170,327
9-Mar-2013	0	0	-40	-880	0	0	-624	169,703
10-Mar-2013	0	0	-50	-1,100	0	0	-780	168,924
11-Mar-2013	0	0	-54	-1,188	0	0	-842	168,081
12-Mar-2013	0	0	-40	-880	0	0	-624	167,457
13-Mar-2013	0	0	0	0	0	0	0	167,457
14-Mar-2013	0	0	27	594	0	0	421	167,878
15-Mar-2013	0	0	13	286	0	0	203	168,081
16-Mar-2013	0	0	0	0	0	0	0	168,081
17-Mar-2013	0	0	0	0	0	0	0	168,081
18-Mar-2013	0	0	0	0	0	0	0	168,081
19-Mar-2013	0	0	30	660	0	0	468	168,549
20-Mar-2013	0	0	0	0	7	210	149	168,698
21-Mar-2013	0	0	0	0	0	0	0	168,698
22-Mar-2013	0	0	35	770	0	0	546	169,244
23-Mar-2013	0	0	16	352	0	0	250	169,494
24-Mar-2013	0	0	0	0	0	0	0	169,494
25-Mar-2013	0	0	0	0	0	0	0	169,494
26-Mar-2013	0	0	-126	-2,772	0	0	-1,965	167,528
27-Mar-2013	0	0	-39	-858	0	0	-608	166,920
28-Mar-2013	0	0	0	0	0	0	0	166,920
29-Mar-2013	0	0	0	0	0	0	0	166,920
30-Mar-2013	0	0	0	0	0	0	0	166,920
31-Mar-2013	0	0	0	0	0	0	0	166,920
1-Apr-2013	0	0	0	0	0	0	0	166,920
2-Apr-2013	0	0	0	0	0	0	0	166,920
3-Apr-2013	0	0	-15	-330	0	0	-234	166,686
4-Apr-2013	0	0	0	0	0	0	0	166,686
5-Apr-2013	0	0	-98	-2,156	0	0	-1,529	165,157
6-Apr-2013	0	0	0	0	0	0	0	165,157
7-Apr-2013	0	0	0	0	0	0	0	165,157
8-Apr-2013	0	0	0	0	0	0	0	165,157
9-Apr-2013	0	0	0	0	0	0	0	165,157
10-Apr-2013	0	0	0	0	0	0	0	165,157

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
11-Apr-2013	0	0	37	814	0	0	577	165,734
12-Apr-2013	0	0	0	0	0	0	0	165,734
13-Apr-2013	0	0	23	506	0	0	359	166,093
14-Apr-2013	0	0	0	0	0	0	0	166,093
15-Apr-2013	0	0	0	0	0	0	0	166,093
16-Apr-2013	0	0	-104	-2,288	0	0	-1,622	164,471
17-Apr-2013	0	0	0	0	0	0	0	164,471
18-Apr-2013	0	0	-215	-4,730	0	0	-3,354	161,117
19-Apr-2013	0	0	0	0	0	0	0	161,117
20-Apr-2013	0	0	-87	-1,914	0	0	-1,357	159,760
21-Apr-2013	0	0	82	1,804	0	0	1,279	161,039
22-Apr-2013	0	0	103	2,266	0	0	1,607	162,646
23-Apr-2013	0	0	126	2,772	0	0	1,965	164,611
24-Apr-2013	0	0	61	1,342	0	0	951	165,563
25-Apr-2013	0	0	157	3,454	0	0	2,449	168,012
26-Apr-2013	0	0	153	3,366	0	0	2,386	170,398
27-Apr-2013	0	0	0	0	0	0	0	170,398
28-Apr-2013	0	0	0	0	0	0	0	170,398
29-Apr-2013	0	0	0	0	0	0	0	170,398
30-Apr-2013	0	0	2	44	0	0	31	170,429
1-May-2013	0	0	63	1,386	0	0	983	171,412
2-May-2013	0	0	62	1,364	0	0	967	172,379
3-May-2013	0	0	75	1,650	0	0	1,170	173,549
4-May-2013	0	0	0	0	0	0	0	173,549
5-May-2013	0	0	0	0	0	0	0	173,549
6-May-2013	0	0	-70	-1,540	0	0	-1,092	172,457
7-May-2013	0	0	-114	-2,508	0	0	-1,778	170,679
8-May-2013	0	0	-98	-2,156	0	0	-1,529	169,150
9-May-2013	0	0	-38	-836	0	0	-593	168,558
10-May-2013	0	0	41	902	0	0	640	169,197
11-May-2013	0	0	0	0	0	0	0	169,197
12-May-2013	0	0	0	0	0	0	0	169,197
13-May-2013	0	0	54	1,188	0	0	842	170,039
14-May-2013	0	0	66	1,452	0	0	1,029	171,069
15-May-2013	0	0	57	1,254	0	0	889	171,958
16-May-2013	0	0	0	0	0	0	0	171,958
17-May-2013	0	0	0	0	0	0	0	171,958
18-May-2013	0	0	-95	-2,090	0	0	-1,482	170,476
19-May-2013	0	0	0	0	0	0	0	170,476
20-May-2013	0	0	-150	-3,300	0	0	-2,340	168,137
21-May-2013	0	0	-40	-880	137	4,110	2,290	170,427
22-May-2013	0	0	0	0	188	5,640	3,999	174,425
23-May-2013	0	0	0	0	151	4,530	3,212	177,637
24-May-2013	0	0	0	0	75	2,250	1,595	179,232

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
25-May-2013	0	0	0	0	0	0	0	179,232
26-May-2013	0	0	0	0	0	0	0	179,232
27-May-2013	0	0	0	0	0	0	0	179,232
28-May-2013	0	0	0	0	80	2,400	1,702	180,934
29-May-2013	0	0	0	0	79	2,370	1,680	182,614
30-May-2013	0	0	0	0	0	0	0	182,614
31-May-2013	0	0	0	0	0	0	0	182,614
1-Jun-2013	0	0	0	0	0	0	0	182,614
2-Jun-2013	0	0	0	0	0	0	0	182,614
3-Jun-2013	0	0	-165	-3,630	0	0	-2,574	180,041
4-Jun-2013	0	0	-123	-2,706	102	3,060	251	180,292
5-Jun-2013	0	0	0	0	0	0	0	180,292
6-Jun-2013	0	0	-114	-2,508	0	0	-1,778	178,513
7-Jun-2013	0	0	-73	-1,606	121	3,630	1,435	179,948
8-Jun-2013	0	0	-52	-1,144	0	0	-811	179,137
9-Jun-2013	0	0	0	0	0	0	0	179,137
10-Jun-2013	0	0	-104	-2,288	0	0	-1,622	177,515
11-Jun-2013	0	0	-135	-2,970	0	0	-2,106	175,409
12-Jun-2013	0	0	-31	-682	0	0	-484	174,926
13-Jun-2013	0	0	-153	-3,366	0	0	-2,386	172,539
14-Jun-2013	0	0	-154	-3,388	0	0	-2,402	170,137
15-Jun-2013	0	0	-252	-5,544	0	0	-3,931	166,207
16-Jun-2013	0	0	-211	-4,642	0	0	-3,291	162,915
17-Jun-2013	0	0	-188	-4,136	0	0	-2,932	159,983
18-Jun-2013	0	0	0	0	0	0	0	159,983
19-Jun-2013	0	0	-190	-4,180	0	0	-2,964	157,019
20-Jun-2013	0	0	-121	-2,662	0	0	-1,887	155,132
21-Jun-2013	0	0	-4	-88	0	0	-62	155,070
22-Jun-2013	0	0	3	66	0	0	47	155,116
23-Jun-2013	0	0	-25	-550	0	0	-390	154,726
24-Jun-2013	0	0	0	0	0	0	0	154,726
25-Jun-2013	0	0	-5	-110	0	0	-78	154,648
26-Jun-2013	0	0	-44	-968	0	0	-686	153,962
27-Jun-2013	0	0	0	0	0	0	0	153,962
28-Jun-2013	0	0	-141	-3,102	0	0	-2,199	151,763
29-Jun-2013	0	0	-142	-3,124	0	0	-2,215	149,548
30-Jun-2013	0	0	0	0	0	0	0	149,548
1-Jul-2013	0	0	0	0	0	0	0	149,548
2-Jul-2013	0	0	0	0	0	0	0	149,548
3-Jul-2013	0	0	0	0	0	0	0	149,548
4-Jul-2013	0	0	0	0	0	0	0	149,548
5-Jul-2013	0	0	0	0	0	0	0	149,548
6-Jul-2013	0	0	0	0	0	0	0	149,548
7-Jul-2013	0	0	0	0	0	0	0	149,548

	Ash Excavated From Ball Field							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
8-Jul-2013	0	0	0	0	0	0	0	149,548
9-Jul-2013	0	0	54	1,188	0	0	842	150,390
10-Jul-2013	0	0	32	704	0	0	499	150,889
11-Jul-2013	0	0	0	0	0	0	0	150,889
12-Jul-2013	0	0	0	0	0	0	0	150,889
13-Jul-2013	0	0	53	1,166	0	0	827	151,716
14-Jul-2013	0	0	0	0	0	0	0	151,716
15-Jul-2013	0	0	0	0	0	0	0	151,716
16-Jul-2013	0	0	0	0	0	0	0	151,716
17-Jul-2013	0	0	0	0	0	0	0	151,716
18-Jul-2013	0	0	0	0	0	0	0	151,716
19-Jul-2013	0	0	0	0	0	0	0	151,716
20-Jul-2013	0	0	0	0	0	0	0	151,716
21-Jul-2013	0	0	0	0	0	0	0	151,716
22-Jul-2013	0	0	-26	-572	0	0	-406	151,311
23-Jul-2013	0	0	0	0	0	0	0	151,311
24-Jul-2013	0	0	0	0	0	0	0	151,311
25-Jul-2013	0	0	0	0	0	0	0	151,311
26-Jul-2013	0	0	0	0	0	0	0	151,311
27-Jul-2013	0	0	0	0	0	0	0	151,311
28-Jul-2013	0	0	0	0	0	0	0	151,311
29-Jul-2013	0	0	0	0	23	690	489	151,800
30-Jul-2013	0	0	0	0	39	1,170	830	152,629
31-Jul-2013	0	0	-69	-1,518	0	0	-1,076	151,553
1-Aug-2013	0	0	-24	-528	0	0	-374	151,179
2-Aug-2013	0	0	25	550	0	0	390	151,569
3-Aug-2013	0	0	99	2,178	0	0	1,544	153,113
4-Aug-2013	0	0	0	0	0	0	0	153,113
5-Aug-2013	0	0	185	4,070	0	0	2,886	155,998
6-Aug-2013	0	0	166	3,652	43	1,290	3,504	159,502
7-Aug-2013	0	0	169	3,718	36	1,080	3,402	162,904
8-Aug-2013	0	0	63	1,386	28	840	1,578	164,482
9-Aug-2013	0	0	0	0	0	0	0	164,482
10-Aug-2013	0	0	0	0	0	0	0	164,482
11-Aug-2013	0	0	0	0	0	0	0	164,482
12-Aug-2013	0	0	0	0	0	0	0	164,482
13-Aug-2013	0	0	101	2,222	0	0	1,575	166,058
14-Aug-2013	0	0	95	2,090	77	2,310	3,120	169,177
15-Aug-2013	0	0	107	2,354	120	3,600	4,221	173,399
16-Aug-2013	0	0	119	2,618	131	3,930	4,643	178,041
17-Aug-2013	0	0	118	2,596	0	0	1,841	179,882
18-Aug-2013	0	0	0	0	0	0	0	179,882
19-Aug-2013	0	0	0	0	0	0	0	179,882
20-Aug-2013	0	0	83	1,826	0	0	1,295	181,176

	Ash Excavated From Ball Field							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
21-Aug-2013	0	0	38	836	0	0	593	181,769
22-Aug-2013	0	0	0	0	0	0	0	181,769
23-Aug-2013	0	0	67	1,474	0	0	1,045	182,814
24-Aug-2013	0	0	0	0	0	0	0	182,814
25-Aug-2013	0	0	0	0	0	0	0	182,814
26-Aug-2013	0	0	63	1,386	0	0	983	183,797
27-Aug-2013	0	0	-18	-396	8	240	-111	183,686
28-Aug-2013	0	0	41	902	45	1,350	1,597	185,283
29-Aug-2013	0	0	63	1,386	105	3,150	3,216	188,499
30-Aug-2013	0	0	84	1,848	121	3,630	3,884	192,383
31-Aug-2013	0	0	0	0	0	0	0	192,383
1-Sep-2013	0	0	0	0	0	0	0	192,383
2-Sep-2013	0	0	0	0	0	0	0	192,383
3-Sep-2013	0	0	70	1,540	94	2,820	3,091	195,474
4-Sep-2013	0	0	96	2,112	171	5,130	5,135	200,609
5-Sep-2013	0	0	149	3,278	184	5,520	6,238	206,846
6-Sep-2013	0	0	153	3,366	132	3,960	5,194	212,041
7-Sep-2013	0	0	125	2,750	172	5,160	5,608	217,649
8-Sep-2013	0	0	0	0	0	0	0	217,649
9-Sep-2013	0	0	132	2,904	177	5,310	5,824	223,473
10-Sep-2013	0	0	147	3,234	162	4,860	5,739	229,211
11-Sep-2013	0	0	70	1,540	151	4,530	4,304	233,515
12-Sep-2013	0	0	99	2,178	109	3,270	3,863	237,377
13-Sep-2013	0	0	82	1,804	96	2,880	3,321	240,698
14-Sep-2013	0	0	0	0	61	1,830	1,297	241,996
15-Sep-2013	0	0	0	0	0	0	0	241,996
16-Sep-2013	0	0	94	2,068	120	3,600	4,019	246,014
17-Sep-2013	0	0	219	4,818	174	5,220	7,117	253,131
18-Sep-2013	0	0	149	3,278	171	5,130	5,961	259,093
19-Sep-2013	0	0	36	792	98	2,940	2,646	261,739
20-Sep-2013	0	0	74	1,628	94	2,820	3,154	264,892
21-Sep-2013	0	0	0	0	0	0	0	264,892
22-Sep-2013	0	0	0	0	0	0	0	264,892
23-Sep-2013	0	0	0	0	0	0	0	264,892
24-Sep-2013	0	0	58	1,276	0	0	905	265,797
25-Sep-2013	0	0	0	0	0	0	0	265,797
26-Sep-2013	0	0	-66	-1,452	0	0	-1,029	264,768
27-Sep-2013	0	0	-32	-704	0	0	-499	264,268
28-Sep-2013	0	0	-12	-264	47	1,410	813	265,081
29-Sep-2013	0	0	0	0	0	0	0	265,081
30-Sep-2013	0	0	-68	-1,496	56	1,680	130	265,211
1-Oct-2013	0	0	20	440	88	2,640	2,184	267,395
2-Oct-2013	0	0	0	0	88	2,640	1,872	269,267
3-Oct-2013	0	0	20	440	66	1,980	1,716	270,983

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
4-Oct-2013	0	0	65	1,430	38	1,140	1,822	272,805
5-Oct-2013	0	0	52	1,144	30	900	1,449	274,254
6-Oct-2013	0	0	0	0	0	0	0	274,254
7-Oct-2013	0	0	-32	-704	0	0	-499	273,755
8-Oct-2013	0	0	47	1,034	0	0	733	274,488
9-Oct-2013	0	0	83	1,826	26	780	1,848	276,336
10-Oct-2013	0	0	-51	-1,122	0	0	-795	275,540
11-Oct-2013	0	0	0	0	0	0	0	275,540
12-Oct-2013	0	0	0	0	53	1,590	1,127	276,667
13-Oct-2013	0	0	0	0	0	0	0	276,667
14-Oct-2013	0	0	0	0	17	510	362	277,029
15-Oct-2013	0	0	-4	-88	37	1,110	725	277,754
16-Oct-2013	0	0	-72	-1,584	0	0	-1,123	276,631
17-Oct-2013	0	0	0	0	0	0	0	276,631
18-Oct-2013	0	0	-112	-2,464	0	0	-1,747	274,884
19-Oct-2013	0	0	0	0	0	0	0	274,884
20-Oct-2013	0	0	0	0	0	0	0	274,884
21-Oct-2013	0	0	13	286	23	690	692	275,576
22-Oct-2013	0	0	13	286	40	1,200	1,054	276,629
23-Oct-2013	0	0	18	396	43	1,290	1,195	277,824
24-Oct-2013	0	0	-103	-2,266	84	2,520	180	278,005
25-Oct-2013	0	0	-94	-2,068	40	1,200	-615	277,389
26-Oct-2013	0	0	-82	-1,804	0	0	-1,279	276,110
27-Oct-2013	0	0	0	0	0	0	0	276,110
28-Oct-2013	0	0	0	0	34	1,020	723	276,833
29-Oct-2013	0	0	0	0	46	1,380	978	277,812
30-Oct-2013	0	0	0	0	87	2,610	1,850	279,662
31-Oct-2013	0	0	0	0	77	2,310	1,638	281,300
1-Nov-2013	0	0	-62	-1,364	0	0	-967	280,333
2-Nov-2013	0	0	-116	-2,552	0	0	-1,809	278,524
3-Nov-2013	0	0	0	0	0	0	0	278,524
4-Nov-2013	0	0	0	0	135	4,050	2,871	281,395
5-Nov-2013	0	0	0	0	106	3,180	2,255	283,650
6-Nov-2013	0	0	0	0	55	1,650	1,170	284,819
7-Nov-2013	0	0	0	0	0	0	0	284,819
8-Nov-2013	0	0	0	0	0	0	0	284,819
9-Nov-2013	0	0	0	0	0	0	0	284,819
10-Nov-2013	0	0	0	0	0	0	0	284,819
11-Nov-2013	0	0	-39	-858	22	660	-140	284,679
12-Nov-2013	0	0	0	0	7	210	149	284,828
13-Nov-2013	0	0	-26	-572	20	600	20	284,848
14-Nov-2013	0	0	-83	-1,826	19	570	-891	283,957
15-Nov-2013	0	0	-60	-1,320	13	390	-659	283,298
16-Nov-2013	0	0	-46	-1,012	0	0	-718	282,580

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
17-Nov-2013	0	0	0	0	0	0	0	282,580
18-Nov-2013	0	0	0	0	0	0	0	282,580
19-Nov-2013	0	0	0	0	0	0	0	282,580
20-Nov-2013	0	0	-34	-748	0	0	-530	282,050
21-Nov-2013	0	0	-39	-858	15	450	-289	281,761
22-Nov-2013	0	0	-34	-748	0	0	-530	281,231
23-Nov-2013	0	0	-104	-2,288	0	0	-1,622	279,608
24-Nov-2013	0	0	0	0	0	0	0	279,608
25-Nov-2013	0	0	-14	-308	37	1,110	569	280,177
26-Nov-2013	0	0	0	0	0	0	0	280,177
27-Nov-2013	0	0	0	0	0	0	0	280,177
28-Nov-2013	0	0	0	0	0	0	0	280,177
29-Nov-2013	0	0	0	0	0	0	0	280,177
30-Nov-2013	0	0	0	0	0	0	0	280,177
1-Dec-2013	0	0	0	0	0	0	0	280,177
2-Dec-2013	0	0	-38	-836	0	0	-593	279,584
3-Dec-2013	0	0	-13	-286	0	0	-203	279,381
4-Dec-2013	0	0	-4	-88	0	0	-62	279,319
5-Dec-2013	0	0	-54	-1,188	0	0	-842	278,477
6-Dec-2013	0	0	0	0	0	0	0	278,477
7-Dec-2013	0	0	0	0	0	0	0	278,477
8-Dec-2013	0	0	0	0	0	0	0	278,477
9-Dec-2013	0	0	0	0	0	0	0	278,477
10-Dec-2013	0	0	-15	-330	0	0	-234	278,243
11-Dec-2013	0	0	-42	-924	0	0	-655	277,588
12-Dec-2013	0	0	-43	-946	0	0	-671	276,917
13-Dec-2013	0	0	-38	-836	0	0	-593	276,324
14-Dec-2013	0	0	-6	-132	0	0	-94	276,231
15-Dec-2013	0	0	0	0	0	0	0	276,231
16-Dec-2013	0	0	-65	-1,430	17	510	-652	275,578
17-Dec-2013	0	0	-31	-682	0	0	-484	275,095
18-Dec-2013	0	0	-57	-1,254	11	330	-655	274,440
19-Dec-2013	0	0	-23	-506	0	0	-359	274,081
20-Dec-2013	0	0	-27	-594	0	0	-421	273,660
21-Dec-2013	0	0	-45	-990	0	0	-702	272,958
22-Dec-2013	0	0	0	0	0	0	0	272,958
23-Dec-2013	0	0	-4	-88	0	0	-62	272,896
24-Dec-2013	0	0	0	0	0	0	0	272,896
25-Dec-2013	0	0	0	0	0	0	0	272,896
26-Dec-2013	0	0	-10	-220	47	1,410	844	273,739
27-Dec-2013	0	0	-14	-308	0	0	-218	273,521
28-Dec-2013	0	0	-10	-220	0	0	-156	273,365
29-Dec-2013	0	0	0	0	0	0	0	273,365
30-Dec-2013	0	0	-8	-176	0	0	-125	273,240

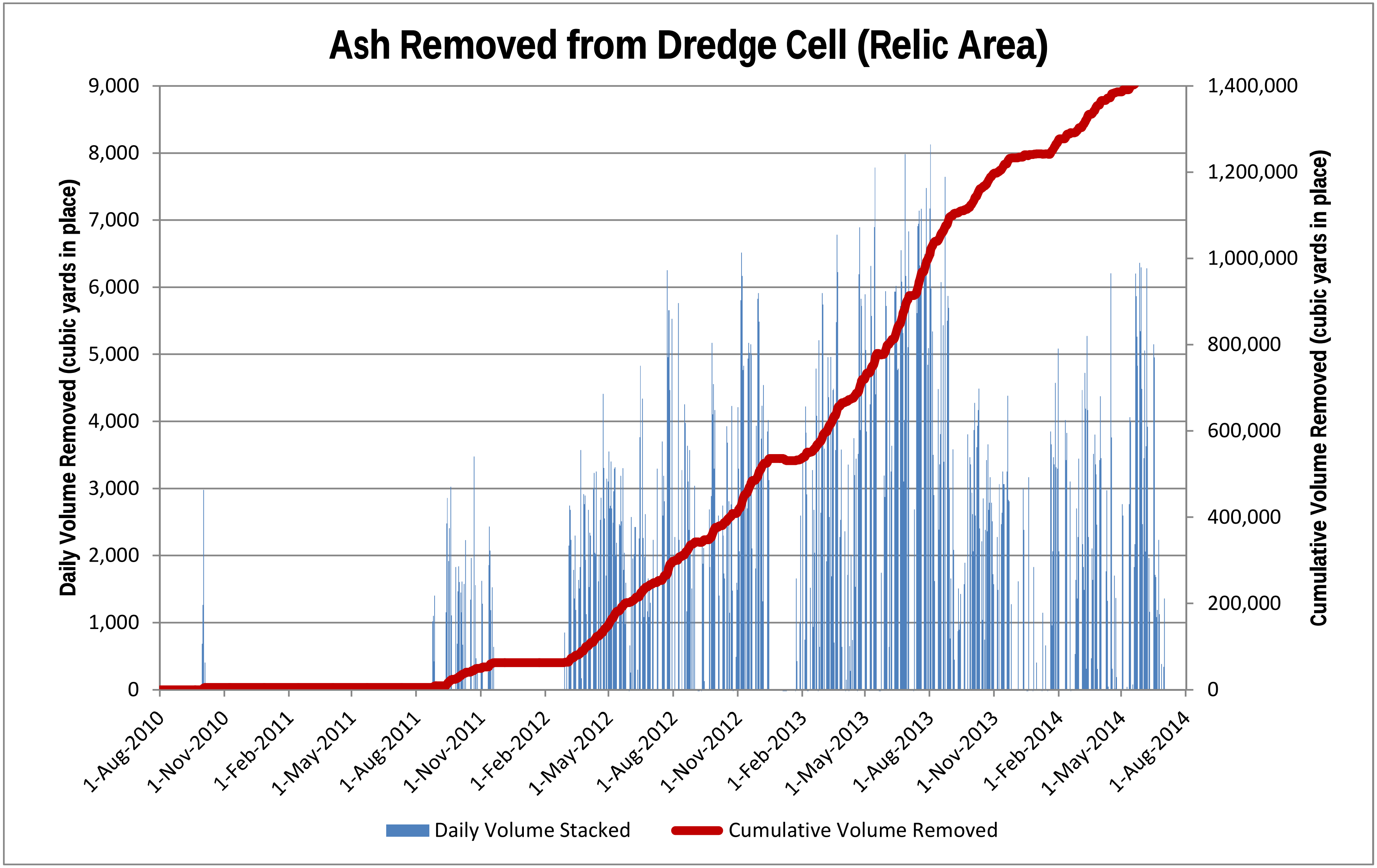
	Ash Excavated From Ball Field							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
31-Dec-2013	0	0	-8	-176	0	0	-125	273,115
1-Jan-2014	0	0	0	0	0	0	0	273,115
2-Jan-2014	0	0	-35	-770	0	0	-546	272,569
3-Jan-2014	0	0	-34	-748	0	0	-530	272,039
4-Jan-2014	0	0	-7	-154	0	0	-109	271,930
5-Jan-2014	0	0	0	0	0	0	0	271,930
6-Jan-2014	0	0	0	0	0	0	0	271,930
7-Jan-2014	0	0	-39	-858	0	0	-608	271,322
8-Jan-2014	0	0	-36	-792	0	0	-562	270,760
9-Jan-2014	0	0	-36	-792	0	0	-562	270,198
10-Jan-2014	0	0	-24	-528	0	0	-374	269,824
11-Jan-2014	0	0	0	0	0	0	0	269,824
12-Jan-2014	0	0	0	0	0	0	0	269,824
13-Jan-2014	0	0	0	0	0	0	0	269,824
14-Jan-2014	0	0	-9	-198	0	0	-140	269,684
15-Jan-2014	0	0	-2	-44	0	0	-31	269,653
16-Jan-2014	0	0	-3	-66	0	0	-47	269,606
17-Jan-2014	0	0	-15	-330	0	0	-234	269,372
18-Jan-2014	0	0	-21	-462	0	0	-328	269,044
19-Jan-2014	0	0	0	0	0	0	0	269,044
20-Jan-2014	0	0	-12	-264	0	0	-187	268,857
21-Jan-2014	0	0	-28	-616	0	0	-437	268,420
22-Jan-2014	0	0	-14	-308	0	0	-218	268,202
23-Jan-2014	0	0	-57	-1,254	0	0	-889	267,313
24-Jan-2014	0	0	-41	-902	0	0	-640	266,673
25-Jan-2014	0	0	-29	-638	0	0	-452	266,221
26-Jan-2014	0	0	0	0	0	0	0	266,221
27-Jan-2014	0	0	27	594	0	0	421	266,642
28-Jan-2014	0	0	26	572	0	0	406	267,048
29-Jan-2014	0	0	-32	-704	0	0	-499	266,549
30-Jan-2014	0	0	15	330	0	0	234	266,783
31-Jan-2014	0	0	68	1,496	0	0	1,061	267,843
1-Feb-2014	0	0	24	528	42	1,260	1,268	269,111
2-Feb-2014	0	0	0	0	0	0	0	269,111
3-Feb-2014	0	0	-27	-594	0	0	-421	268,690
4-Feb-2014	0	0	-7	-154	0	0	-109	268,581
5-Feb-2014	0	0	-21	-462	0	0	-328	268,253
6-Feb-2014	0	0	-21	-462	0	0	-328	267,925
7-Feb-2014	0	0	-37	-814	0	0	-577	267,348
8-Feb-2014	0	0	-40	-880	0	0	-624	266,724
9-Feb-2014	0	0	0	0	0	0	0	266,724
10-Feb-2014	0	0	-59	-1,298	0	0	-920	265,804
11-Feb-2014	0	0	-78	-1,716	0	0	-1,217	264,587
12-Feb-2014	0	0	-72	-1,584	0	0	-1,123	263,464

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
13-Feb-2014	0	0	0	0	0	0	0	263,464
14-Feb-2014	0	0	-110	-2,420	0	0	-1,716	261,749
15-Feb-2014	0	0	-60	-1,320	0	0	-936	260,813
16-Feb-2014	0	0	0	0	0	0	0	260,813
17-Feb-2014	0	0	-71	-1,562	0	0	-1,107	259,705
18-Feb-2014	0	0	-53	-1,166	0	0	-827	258,879
19-Feb-2014	0	0	-109	-2,398	0	0	-1,700	257,178
20-Feb-2014	0	0	-99	-2,178	0	0	-1,544	255,634
21-Feb-2014	0	0	-107	-2,354	0	0	-1,669	253,965
22-Feb-2014	0	0	-73	-1,606	0	0	-1,139	252,827
23-Feb-2014	0	0	0	0	0	0	0	252,827
24-Feb-2014	0	0	-15	-330	0	0	-234	252,593
25-Feb-2014	0	0	-24	-528	0	0	-374	252,218
26-Feb-2014	0	0	-25	-550	20	600	35	252,254
27-Feb-2014	0	0	-75	-1,650	17	510	-808	251,445
28-Feb-2014	0	0	-41	-902	20	600	-214	251,231
1-Mar-2014	0	0	-38	-836	0	0	-593	250,639
2-Mar-2014	0	0	0	0	0	0	0	250,639
3-Mar-2014	0	0	-41	-902	0	0	-640	249,999
4-Mar-2014	0	0	-27	-594	0	0	-421	249,578
5-Mar-2014	0	0	-13	-286	0	0	-203	249,375
6-Mar-2014	0	0	-18	-396	0	0	-281	249,094
7-Mar-2014	0	0	-20	-440	0	0	-312	248,782
8-Mar-2014	0	0	-22	-484	5	150	-237	248,546
9-Mar-2014	0	0	0	0	0	0	0	248,546
10-Mar-2014	0	0	-35	-770	0	0	-546	248,000
11-Mar-2014	0	0	24	528	0	0	374	248,374
12-Mar-2014	0	0	-14	-308	0	0	-218	248,156
13-Mar-2014	0	0	-23	-506	0	0	-359	247,797
14-Mar-2014	0	0	-6	-132	0	0	-94	247,703
15-Mar-2014	0	0	24	528	0	0	374	248,078
16-Mar-2014	0	0	0	0	0	0	0	248,078
17-Mar-2014	0	0	-14	-308	0	0	-218	247,859
18-Mar-2014	0	0	-43	-946	0	0	-671	247,189
19-Mar-2014	0	0	0	0	0	0	0	247,189
20-Mar-2014	0	0	6	132	0	0	94	247,282
21-Mar-2014	0	0	40	880	0	0	624	247,906
22-Mar-2014	0	0	-5	-110	0	0	-78	247,828
23-Mar-2014	0	0	0	0	0	0	0	247,828
24-Mar-2014	0	0	-29	-638	35	1,050	292	248,120
25-Mar-2014	0	0	-14	-308	0	0	-218	247,902
26-Mar-2014	0	0	-8	-176	41	1,230	747	248,649
27-Mar-2014	0	0	5	110	0	0	78	248,727
28-Mar-2014	0	0	-55	-1,210	0	0	-858	247,869

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
29-Mar-2014	0	0	-78	-1,716	0	0	-1,217	246,653
30-Mar-2014	0	0	0	0	0	0	0	246,653
31-Mar-2014	0	0	-101	-2,222	0	0	-1,575	245,077
1-Apr-2014	0	0	-81	-1,782	0	0	-1,263	243,814
2-Apr-2014	0	0	50	1,100	0	0	780	244,594
3-Apr-2014	0	0	-46	-1,012	-75	-2,250	-2,313	242,281
4-Apr-2014	0	0	-54	-1,188	-73	-2,190	-2,395	239,886
5-Apr-2014	0	0	-182	-4,004	0	0	-2,839	237,047
6-Apr-2014	0	0	0	0	0	0	0	237,047
7-Apr-2014	0	0	-38	-836	0	0	-593	236,454
8-Apr-2014	0	0	-6	-132	0	0	-94	236,361
9-Apr-2014	0	0	-10	-220	36	1,080	610	236,970
10-Apr-2014	0	0	-17	-374	16	480	75	237,046
11-Apr-2014	0	0	-2	-44	75	2,250	1,564	238,610
12-Apr-2014	0	0	87	1,914	142	4,260	4,377	242,987
13-Apr-2014	0	0	0	0	0	0	0	242,987
14-Apr-2014	0	0	-166	-3,652	3	90	-2,525	240,462
15-Apr-2014	0	0	-27	-594	0	0	-421	240,040
16-Apr-2014	0	0	11	242	0	0	172	240,212
17-Apr-2014	0	0	18	396	67	2,010	1,706	241,918
18-Apr-2014	0	0	235	5,170	100	3,000	5,793	247,710
19-Apr-2014	0	0	210	4,620	110	3,300	5,615	253,326
20-Apr-2014	0	0	0	0	0	0	0	253,326
21-Apr-2014	0	0	45	990	86	2,580	2,531	255,857
22-Apr-2014	0	0	69	1,518	36	1,080	1,842	257,699
23-Apr-2014	0	0	161	3,542	0	0	2,511	260,210
24-Apr-2014	0	0	217	4,774	66	1,980	4,789	264,999
25-Apr-2014	0	0	185	4,070	50	1,500	3,949	268,948
26-Apr-2014	0	0	208	4,576	58	1,740	4,478	273,426
27-Apr-2014	0	0	0	0	0	0	0	273,426
28-Apr-2014	0	0	73	1,606	166	4,980	4,669	278,095
29-Apr-2014	0	0	0	0	0	0	0	278,095
30-Apr-2014	0	0	0	0	0	0	0	278,095
1-May-2014	0	0	0	0	0	0	0	278,095
2-May-2014	0	0	146	3,212	0	0	2,277	280,373
3-May-2014	0	0	232	5,104	3	90	3,683	284,055
4-May-2014	0	0	0	0	0	0	0	284,055
5-May-2014	0	0	199	4,378	125	3,750	5,763	289,818
6-May-2014	0	0	260	5,720	135	4,050	6,927	296,745
7-May-2014	0	0	77	1,694	132	3,960	4,009	300,754
8-May-2014	0	0	74	1,628	158	4,740	4,515	305,268
9-May-2014	0	0	92	2,024	144	4,320	4,498	309,766
10-May-2014	0	0	94	2,068	28	840	2,062	311,828
11-May-2014	0	0	0	0	0	0	0	311,828

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
12-May-2014	0	0	77	1,694	0	0	1,201	313,029
13-May-2014	0	0	124	2,728	0	0	1,934	314,963
14-May-2014	0	0	117	2,574	0	0	1,825	316,788
15-May-2014	0	0	0	0	0	0	0	316,788
16-May-2014	0	0	0	0	0	0	0	316,788
17-May-2014	0	0	3	66	0	0	47	316,835
18-May-2014	0	0	0	0	0	0	0	316,835
19-May-2014	0	0	117	2,574	0	0	1,825	318,660
20-May-2014	0	0	105	2,310	0	0	1,638	320,298
21-May-2014	0	0	0	0	0	0	0	320,298
22-May-2014	0	0	102	2,244	0	0	1,591	321,889
23-May-2014	0	0	63	1,386	19	570	1,387	323,276
24-May-2014	0	0	0	0	69	2,070	1,468	324,743
25-May-2014	0	0	0	0	0	0	0	324,743
26-May-2014	0	0	0	0	0	0	0	324,743
27-May-2014	0	0	0	0	0	0	0	324,743
28-May-2014	0	0	0	0	0	0	0	324,743
29-May-2014	0	0	0	0	0	0	0	324,743
30-May-2014	0	0	0	0	0	0	0	324,743
31-May-2014	0	0	0	0	0	0	0	324,743
1-Jun-2014	0	0	0	0	0	0	0	324,743
2-Jun-2014	0	0	0	0	47	1,410	1,000	325,743
3-Jun-2014	0	0	0	0	52	1,560	1,106	326,849
4-Jun-2014	0	0	0	0	0	0	0	326,849
5-Jun-2014	0	0	0	0	0	0	0	326,849
6-Jun-2014	0	0	0	0	0	0	0	326,849
7-Jun-2014	0	0	0	0	0	0	0	326,849
8-Jun-2014	0	0	0	0	0	0	0	326,849
9-Jun-2014	0	0	-4	-88	21	630	384	327,233
10-Jun-2014	0	0	-22	-484	0	0	-343	326,890
11-Jun-2014	0	0	0	0	0	0	0	326,890
12-Jun-2014	0	0	0	0	0	0	0	326,890
13-Jun-2014	0	0	0	0	0	0	0	326,890
14-Jun-2014	0	0	0	0	0	0	0	326,890
15-Jun-2014	0	0	0	0	0	0	0	326,890
16-Jun-2014	0	0	-44	-968	0	0	-686	326,204
17-Jun-2014	0	0	-68	-1,496	0	0	-1,061	325,143
18-Jun-2014	0	0	-34	-748	0	0	-530	324,613
19-Jun-2014	0	0	-31	-682	0	0	-484	324,129
20-Jun-2014	0	0	-32	-704	0	0	-499	323,630
21-Jun-2014	0	0	0	0	0	0	0	323,630
22-Jun-2014	0	0	0	0	0	0	0	323,630
23-Jun-2014	0	0	0	0	0	0	0	323,630
24-Jun-2014	0	0	0	0	0	0	0	323,630

Date	Ash Excavated From Ball Field							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	In Place Volume	Cumulative
25-Jun-2014	0	0	0	0	0	0	0	323,630
26-Jun-2014	0	0	0	0	0	0	0	323,630
27-Jun-2014	0	0	-20	-440	0	0	-312	323,318
28-Jun-2014	0	0	0	0	0	0	0	323,318
29-Jun-2014	0	0	0	0	0	0	0	323,318
30-Jun-2014	0	0	0	0	0	0	0	323,318
1-Jul-2014	0	0	0	0	0	0	0	323,318
2-Jul-2014	0	0	0	0	0	0	0	323,318
3-Jul-2014	0	0	0	0	0	0	0	323,318
4-Jul-2014	0	0	0	0	0	0	0	323,318
5-Jul-2014	0	0	0	0	0	0	0	323,318
6-Jul-2014	0	0	0	0	0	0	0	323,318
7-Jul-2014	0	0	0	0	0	0	0	323,318
8-Jul-2014	0	0	0	0	0	0	0	323,318
9-Jul-2014	0	0	0	0	0	0	0	323,318
10-Jul-2014	0	0	0	0	0	0	0	323,318
11-Jul-2014	0	0	0	0	0	0	0	323,318
12-Jul-2014	0	0	0	0	0	0	0	323,318
13-Jul-2014	0	0	0	0	0	0	0	323,318
14-Jul-2014	0	0	0	0	0	0	0	323,318
15-Jul-2014	0	0	0	0	0	0	0	323,318
16-Jul-2014	0	0	0	0	0	0	0	323,318
17-Jul-2014	0	0	0	0	0	0	0	323,318
18-Jul-2014	0	0	0	0	0	0	0	323,318
19-Jul-2014	0	0	0	0	0	0	0	323,318
20-Jul-2014	0	0	0	0	0	0	0	323,318
21-Jul-2014	0	0	0	0	0	0	0	323,318
22-Jul-2014	0	0	0	0	0	0	0	323,318
23-Jul-2014	0	0	0	0	0	0	0	323,318
24-Jul-2014	0	0	0	0	0	0	0	323,318
25-Jul-2014	0	0	0	0	0	0	0	323,318
26-Jul-2014	0	0	0	0	0	0	0	323,318
27-Jul-2014	0	0	0	0	0	0	0	323,318
28-Jul-2014	0	0	0	0	0	0	0	323,318
29-Jul-2014	0	0	0	0	0	0	0	323,318
30-Jul-2014	0	0	0	0	0	0	0	323,318
31-Jul-2014	0	0	0	0	0	0	0	323,318


Ash Removed from Dredge Cell (Relic Area)
Daily Volume Removed (cubic yards in place)
Cumulative Volume Removed (cubic yards in place)
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
1-Aug-2010
1-Nov-2010
1-Feb-2011
1-May-2011
1-Aug-2011
1-Nov-2011
1-Feb-2012
1-May-2012
1-Aug-2012
1-Nov-2012
1-Feb-2013
1-May-2013
1-Aug-2013
1-Nov-2013
1-Feb-2014
1-May-2014
1-Aug-2014
Daily Volume Stacked
Cumulative Volume Removed

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
1-Aug-2010	0	0	0	0	0	0
2-Aug-2010	0	0	0	0	0	0
3-Aug-2010	0	0	0	0	0	0
4-Aug-2010	0	0	0	0	0	0
5-Aug-2010	0	0	0	0	0	0
6-Aug-2010	0	0	0	0	0	0
7-Aug-2010	0	0	0	0	0	0
8-Aug-2010	0	0	0	0	0	0
9-Aug-2010	0	0	0	0	0	0
10-Aug-2010	0	0	0	0	0	0
11-Aug-2010	0	0	0	0	0	0
12-Aug-2010	0	0	0	0	0	0
13-Aug-2010	0	0	0	0	0	0
14-Aug-2010	0	0	0	0	0	0
15-Aug-2010	0	0	0	0	0	0
16-Aug-2010	0	0	0	0	0	0
17-Aug-2010	0	0	0	0	0	0
18-Aug-2010	0	0	0	0	0	0
19-Aug-2010	0	0	0	0	0	0
20-Aug-2010	0	0	0	0	0	0
21-Aug-2010	0	0	0	0	0	0
22-Aug-2010	0	0	0	0	0	0
23-Aug-2010	0	0	0	0	0	0
24-Aug-2010	0	0	0	0	0	0
25-Aug-2010	0	0	0	0	0	0
26-Aug-2010	0	0	0	0	0	0
27-Aug-2010	0	0	0	0	0	0
28-Aug-2010	0	0	0	0	0	0
29-Aug-2010	0	0	0	0	0	0
30-Aug-2010	0	0	0	0	0	0
31-Aug-2010	0	0	0	0	0	0
1-Sep-2010	0	0	0	0	0	0
2-Sep-2010	0	0	0	0	0	0
3-Sep-2010	0	0	0	0	0	0
4-Sep-2010	0	0	0	0	0	0
5-Sep-2010	0	0	0	0	0	0
6-Sep-2010	0	0	0	0	0	0
7-Sep-2010	0	0	0	0	0	0
8-Sep-2010	0	0	0	0	0	0
9-Sep-2010	0	0	0	0	0	0
10-Sep-2010	0	0	0	0	0	0
11-Sep-2010	0	0	0	0	0	0
12-Sep-2010	0	0	0	0	0	0

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
13-Sep-2010	0	0	0	0	0	0
14-Sep-2010	0	0	0	0	0	0
15-Sep-2010	0	0	0	0	0	0
16-Sep-2010	0	0	0	0	0	0
17-Sep-2010	0	0	0	0	0	0
18-Sep-2010	0	0	0	0	0	0
19-Sep-2010	0	0	0	0	0	0
20-Sep-2010	0	0	0	0	0	0
21-Sep-2010	0	0	0	0	0	0
22-Sep-2010	0	0	0	0	0	0
23-Sep-2010	0	0	0	0	0	0
24-Sep-2010	0	0	0	0	0	0
25-Sep-2010	0	0	0	0	0	0
26-Sep-2010	0	0	0	0	0	0
27-Sep-2010	0	0	0	0	0	0
28-Sep-2010	0	0	0	0	0	0
29-Sep-2010	0	0	0	0	0	0
30-Sep-2010	44	968	0	0	686	686
1-Oct-2010	81	1,782	0	0	1,263	1,950
2-Oct-2010	127	2,794	47	1,410	2,981	4,930
3-Oct-2010	0	0	0	0	0	4,930
4-Oct-2010	26	572	0	0	406	5,336
5-Oct-2010	0	0	0	0	0	5,336
6-Oct-2010	0	0	0	0	0	5,336
7-Oct-2010	0	0	0	0	0	5,336
8-Oct-2010	0	0	0	0	0	5,336
9-Oct-2010	0	0	0	0	0	5,336
10-Oct-2010	0	0	0	0	0	5,336
11-Oct-2010	0	0	0	0	0	5,336
12-Oct-2010	0	0	0	0	0	5,336
13-Oct-2010	0	0	0	0	0	5,336
14-Oct-2010	0	0	0	0	0	5,336
15-Oct-2010	0	0	0	0	0	5,336
16-Oct-2010	0	0	0	0	0	5,336
17-Oct-2010	0	0	0	0	0	5,336
18-Oct-2010	0	0	0	0	0	5,336
19-Oct-2010	0	0	0	0	0	5,336
20-Oct-2010	0	0	0	0	0	5,336
21-Oct-2010	0	0	0	0	0	5,336
22-Oct-2010	0	0	0	0	0	5,336
23-Oct-2010	0	0	0	0	0	5,336
24-Oct-2010	0	0	0	0	0	5,336
25-Oct-2010	0	0	0	0	0	5,336

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
26-Oct-2010	0	0	0	0	0	5,336
27-Oct-2010	0	0	0	0	0	5,336
28-Oct-2010	0	0	0	0	0	5,336
29-Oct-2010	0	0	0	0	0	5,336
30-Oct-2010	0	0	0	0	0	5,336
31-Oct-2010	0	0	0	0	0	5,336
1-Nov-2010	0	0	0	0	0	5,336
2-Nov-2010	0	0	0	0	0	5,336
3-Nov-2010	0	0	0	0	0	5,336
4-Nov-2010	0	0	0	0	0	5,336
5-Nov-2010	0	0	0	0	0	5,336
6-Nov-2010	0	0	0	0	0	5,336
7-Nov-2010	0	0	0	0	0	5,336
8-Nov-2010	0	0	0	0	0	5,336
9-Nov-2010	0	0	0	0	0	5,336
10-Nov-2010	0	0	0	0	0	5,336
11-Nov-2010	0	0	0	0	0	5,336
12-Nov-2010	0	0	0	0	0	5,336
13-Nov-2010	0	0	0	0	0	5,336
14-Nov-2010	0	0	0	0	0	5,336
15-Nov-2010	0	0	0	0	0	5,336
16-Nov-2010	0	0	0	0	0	5,336
17-Nov-2010	0	0	0	0	0	5,336
18-Nov-2010	0	0	0	0	0	5,336
19-Nov-2010	0	0	0	0	0	5,336
20-Nov-2010	0	0	0	0	0	5,336
21-Nov-2010	0	0	0	0	0	5,336
22-Nov-2010	0	0	0	0	0	5,336
23-Nov-2010	0	0	0	0	0	5,336
24-Nov-2010	0	0	0	0	0	5,336
25-Nov-2010	0	0	0	0	0	5,336
26-Nov-2010	0	0	0	0	0	5,336
27-Nov-2010	0	0	0	0	0	5,336
28-Nov-2010	0	0	0	0	0	5,336
29-Nov-2010	0	0	0	0	0	5,336
30-Nov-2010	0	0	0	0	0	5,336
1-Dec-2010	0	0	0	0	0	5,336
2-Dec-2010	0	0	0	0	0	5,336
3-Dec-2010	0	0	0	0	0	5,336
4-Dec-2010	0	0	0	0	0	5,336
5-Dec-2010	0	0	0	0	0	5,336
6-Dec-2010	0	0	0	0	0	5,336
7-Dec-2010	0	0	0	0	0	5,336

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
8-Dec-2010	0	0	0	0	0	5,336
9-Dec-2010	0	0	0	0	0	5,336
10-Dec-2010	0	0	0	0	0	5,336
11-Dec-2010	0	0	0	0	0	5,336
12-Dec-2010	0	0	0	0	0	5,336
13-Dec-2010	0	0	0	0	0	5,336
14-Dec-2010	0	0	0	0	0	5,336
15-Dec-2010	0	0	0	0	0	5,336
16-Dec-2010	0	0	0	0	0	5,336
17-Dec-2010	0	0	0	0	0	5,336
18-Dec-2010	0	0	0	0	0	5,336
19-Dec-2010	0	0	0	0	0	5,336
20-Dec-2010	0	0	0	0	0	5,336
21-Dec-2010	0	0	0	0	0	5,336
22-Dec-2010	0	0	0	0	0	5,336
23-Dec-2010	0	0	0	0	0	5,336
24-Dec-2010	0	0	0	0	0	5,336
25-Dec-2010	0	0	0	0	0	5,336
26-Dec-2010	0	0	0	0	0	5,336
27-Dec-2010	0	0	0	0	0	5,336
28-Dec-2010	0	0	0	0	0	5,336
29-Dec-2010	0	0	0	0	0	5,336
30-Dec-2010	0	0	0	0	0	5,336
31-Dec-2010	0	0	0	0	0	5,336
1-Jan-2011	0	0	0	0	0	5,336
2-Jan-2011	0	0	0	0	0	5,336
3-Jan-2011	0	0	0	0	0	5,336
4-Jan-2011	0	0	0	0	0	5,336
5-Jan-2011	0	0	0	0	0	5,336
6-Jan-2011	0	0	0	0	0	5,336
7-Jan-2011	0	0	0	0	0	5,336
8-Jan-2011	0	0	0	0	0	5,336
9-Jan-2011	0	0	0	0	0	5,336
10-Jan-2011	0	0	0	0	0	5,336
11-Jan-2011	0	0	0	0	0	5,336
12-Jan-2011	0	0	0	0	0	5,336
13-Jan-2011	0	0	0	0	0	5,336
14-Jan-2011	0	0	0	0	0	5,336
15-Jan-2011	0	0	0	0	0	5,336
16-Jan-2011	0	0	0	0	0	5,336
17-Jan-2011	0	0	0	0	0	5,336
18-Jan-2011	0	0	0	0	0	5,336
19-Jan-2011	0	0	0	0	0	5,336

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
20-Jan-2011	0	0	0	0	0	5,336
21-Jan-2011	0	0	0	0	0	5,336
22-Jan-2011	0	0	0	0	0	5,336
23-Jan-2011	0	0	0	0	0	5,336
24-Jan-2011	0	0	0	0	0	5,336
25-Jan-2011	0	0	0	0	0	5,336
26-Jan-2011	0	0	0	0	0	5,336
27-Jan-2011	0	0	0	0	0	5,336
28-Jan-2011	0	0	0	0	0	5,336
29-Jan-2011	0	0	0	0	0	5,336
30-Jan-2011	0	0	0	0	0	5,336
31-Jan-2011	0	0	0	0	0	5,336
1-Feb-2011	0	0	0	0	0	5,336
2-Feb-2011	0	0	0	0	0	5,336
3-Feb-2011	0	0	0	0	0	5,336
4-Feb-2011	0	0	0	0	0	5,336
5-Feb-2011	0	0	0	0	0	5,336
6-Feb-2011	0	0	0	0	0	5,336
7-Feb-2011	0	0	0	0	0	5,336
8-Feb-2011	0	0	0	0	0	5,336
9-Feb-2011	0	0	0	0	0	5,336
10-Feb-2011	0	0	0	0	0	5,336
11-Feb-2011	0	0	0	0	0	5,336
12-Feb-2011	0	0	0	0	0	5,336
13-Feb-2011	0	0	0	0	0	5,336
14-Feb-2011	0	0	0	0	0	5,336
15-Feb-2011	0	0	0	0	0	5,336
16-Feb-2011	0	0	0	0	0	5,336
17-Feb-2011	0	0	0	0	0	5,336
18-Feb-2011	0	0	0	0	0	5,336
19-Feb-2011	0	0	0	0	0	5,336
20-Feb-2011	0	0	0	0	0	5,336
21-Feb-2011	0	0	0	0	0	5,336
22-Feb-2011	0	0	0	0	0	5,336
23-Feb-2011	0	0	0	0	0	5,336
24-Feb-2011	0	0	0	0	0	5,336
25-Feb-2011	0	0	0	0	0	5,336
26-Feb-2011	0	0	0	0	0	5,336
27-Feb-2011	0	0	0	0	0	5,336
28-Feb-2011	0	0	0	0	0	5,336
1-Mar-2011	0	0	0	0	0	5,336
2-Mar-2011	0	0	0	0	0	5,336
3-Mar-2011	0	0	0	0	0	5,336

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
4-Mar-2011	0	0	0	0	0	5,336
5-Mar-2011	0	0	0	0	0	5,336
6-Mar-2011	0	0	0	0	0	5,336
7-Mar-2011	0	0	0	0	0	5,336
8-Mar-2011	0	0	0	0	0	5,336
9-Mar-2011	0	0	0	0	0	5,336
10-Mar-2011	0	0	0	0	0	5,336
11-Mar-2011	0	0	0	0	0	5,336
12-Mar-2011	0	0	0	0	0	5,336
13-Mar-2011	0	0	0	0	0	5,336
14-Mar-2011	0	0	0	0	0	5,336
15-Mar-2011	0	0	0	0	0	5,336
16-Mar-2011	0	0	0	0	0	5,336
17-Mar-2011	0	0	0	0	0	5,336
18-Mar-2011	0	0	0	0	0	5,336
19-Mar-2011	0	0	0	0	0	5,336
20-Mar-2011	0	0	0	0	0	5,336
21-Mar-2011	0	0	0	0	0	5,336
22-Mar-2011	0	0	0	0	0	5,336
23-Mar-2011	0	0	0	0	0	5,336
24-Mar-2011	0	0	0	0	0	5,336
25-Mar-2011	0	0	0	0	0	5,336
26-Mar-2011	0	0	0	0	0	5,336
27-Mar-2011	0	0	0	0	0	5,336
28-Mar-2011	0	0	0	0	0	5,336
29-Mar-2011	0	0	0	0	0	5,336
30-Mar-2011	0	0	0	0	0	5,336
31-Mar-2011	0	0	0	0	0	5,336
1-Apr-2011	0	0	0	0	0	5,336
2-Apr-2011	0	0	0	0	0	5,336
3-Apr-2011	0	0	0	0	0	5,336
4-Apr-2011	0	0	0	0	0	5,336
5-Apr-2011	0	0	0	0	0	5,336
6-Apr-2011	0	0	0	0	0	5,336
7-Apr-2011	0	0	0	0	0	5,336
8-Apr-2011	0	0	0	0	0	5,336
9-Apr-2011	0	0	0	0	0	5,336
10-Apr-2011	0	0	0	0	0	5,336
11-Apr-2011	0	0	0	0	0	5,336
12-Apr-2011	0	0	0	0	0	5,336
13-Apr-2011	0	0	0	0	0	5,336
14-Apr-2011	0	0	0	0	0	5,336
15-Apr-2011	0	0	0	0	0	5,336

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
16-Apr-2011	0	0	0	0	0	5,336
17-Apr-2011	0	0	0	0	0	5,336
18-Apr-2011	0	0	0	0	0	5,336
19-Apr-2011	0	0	0	0	0	5,336
20-Apr-2011	0	0	0	0	0	5,336
21-Apr-2011	0	0	0	0	0	5,336
22-Apr-2011	0	0	0	0	0	5,336
23-Apr-2011	0	0	0	0	0	5,336
24-Apr-2011	0	0	0	0	0	5,336
25-Apr-2011	0	0	0	0	0	5,336
26-Apr-2011	0	0	0	0	0	5,336
27-Apr-2011	0	0	0	0	0	5,336
28-Apr-2011	0	0	0	0	0	5,336
29-Apr-2011	0	0	0	0	0	5,336
30-Apr-2011	0	0	0	0	0	5,336
1-May-2011	0	0	0	0	0	5,336
2-May-2011	0	0	0	0	0	5,336
3-May-2011	0	0	0	0	0	5,336
4-May-2011	0	0	0	0	0	5,336
5-May-2011	0	0	0	0	0	5,336
6-May-2011	0	0	0	0	0	5,336
7-May-2011	0	0	0	0	0	5,336
8-May-2011	0	0	0	0	0	5,336
9-May-2011	0	0	0	0	0	5,336
10-May-2011	0	0	0	0	0	5,336
11-May-2011	0	0	0	0	0	5,336
12-May-2011	0	0	0	0	0	5,336
13-May-2011	0	0	0	0	0	5,336
14-May-2011	0	0	0	0	0	5,336
15-May-2011	0	0	0	0	0	5,336
16-May-2011	0	0	0	0	0	5,336
17-May-2011	0	0	0	0	0	5,336
18-May-2011	0	0	0	0	0	5,336
19-May-2011	0	0	0	0	0	5,336
20-May-2011	0	0	0	0	0	5,336
21-May-2011	0	0	0	0	0	5,336
22-May-2011	0	0	0	0	0	5,336
23-May-2011	0	0	0	0	0	5,336
24-May-2011	0	0	0	0	0	5,336
25-May-2011	0	0	0	0	0	5,336
26-May-2011	0	0	0	0	0	5,336
27-May-2011	0	0	0	0	0	5,336
28-May-2011	0	0	0	0	0	5,336

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
29-May-2011	0	0	0	0	0	5,336
30-May-2011	0	0	0	0	0	5,336
31-May-2011	0	0	0	0	0	5,336
1-Jun-2011	0	0	0	0	0	5,336
2-Jun-2011	0	0	0	0	0	5,336
3-Jun-2011	0	0	0	0	0	5,336
4-Jun-2011	0	0	0	0	0	5,336
5-Jun-2011	0	0	0	0	0	5,336
6-Jun-2011	0	0	0	0	0	5,336
7-Jun-2011	0	0	0	0	0	5,336
8-Jun-2011	0	0	0	0	0	5,336
9-Jun-2011	0	0	0	0	0	5,336
10-Jun-2011	0	0	0	0	0	5,336
11-Jun-2011	0	0	0	0	0	5,336
12-Jun-2011	0	0	0	0	0	5,336
13-Jun-2011	0	0	0	0	0	5,336
14-Jun-2011	0	0	0	0	0	5,336
15-Jun-2011	0	0	0	0	0	5,336
16-Jun-2011	0	0	0	0	0	5,336
17-Jun-2011	0	0	0	0	0	5,336
18-Jun-2011	0	0	0	0	0	5,336
19-Jun-2011	0	0	0	0	0	5,336
20-Jun-2011	0	0	0	0	0	5,336
21-Jun-2011	0	0	0	0	0	5,336
22-Jun-2011	0	0	0	0	0	5,336
23-Jun-2011	0	0	0	0	0	5,336
24-Jun-2011	0	0	0	0	0	5,336
25-Jun-2011	0	0	0	0	0	5,336
26-Jun-2011	0	0	0	0	0	5,336
27-Jun-2011	0	0	0	0	0	5,336
28-Jun-2011	0	0	0	0	0	5,336
29-Jun-2011	0	0	0	0	0	5,336
30-Jun-2011	0	0	0	0	0	5,336
1-Jul-2011	0	0	0	0	0	5,336
2-Jul-2011	0	0	0	0	0	5,336
3-Jul-2011	0	0	0	0	0	5,336
4-Jul-2011	0	0	0	0	0	5,336
5-Jul-2011	0	0	0	0	0	5,336
6-Jul-2011	0	0	0	0	0	5,336
7-Jul-2011	0	0	0	0	0	5,336
8-Jul-2011	0	0	0	0	0	5,336
9-Jul-2011	0	0	0	0	0	5,336
10-Jul-2011	0	0	0	0	0	5,336

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
11-Jul-2011	0	0	0	0	0	5,336
12-Jul-2011	0	0	0	0	0	5,336
13-Jul-2011	0	0	0	0	0	5,336
14-Jul-2011	0	0	0	0	0	5,336
15-Jul-2011	0	0	0	0	0	5,336
16-Jul-2011	0	0	0	0	0	5,336
17-Jul-2011	0	0	0	0	0	5,336
18-Jul-2011	0	0	0	0	0	5,336
19-Jul-2011	0	0	0	0	0	5,336
20-Jul-2011	0	0	0	0	0	5,336
21-Jul-2011	0	0	0	0	0	5,336
22-Jul-2011	0	0	0	0	0	5,336
23-Jul-2011	0	0	0	0	0	5,336
24-Jul-2011	0	0	0	0	0	5,336
25-Jul-2011	0	0	0	0	0	5,336
26-Jul-2011	0	0	0	0	0	5,336
27-Jul-2011	0	0	0	0	0	5,336
28-Jul-2011	0	0	0	0	0	5,336
29-Jul-2011	0	0	0	0	0	5,336
30-Jul-2011	0	0	0	0	0	5,336
31-Jul-2011	0	0	0	0	0	5,336
1-Aug-2011	0	0	0	0	0	5,336
2-Aug-2011	0	0	0	0	0	5,336
3-Aug-2011	0	0	0	0	0	5,336
4-Aug-2011	0	0	0	0	0	5,336
5-Aug-2011	0	0	0	0	0	5,336
6-Aug-2011	0	0	0	0	0	5,336
7-Aug-2011	0	0	0	0	0	5,336
8-Aug-2011	0	0	0	0	0	5,336
9-Aug-2011	0	0	0	0	0	5,336
10-Aug-2011	0	0	0	0	0	5,336
11-Aug-2011	0	0	0	0	0	5,336
12-Aug-2011	0	0	0	0	0	5,336
13-Aug-2011	0	0	0	0	0	5,336
14-Aug-2011	0	0	0	0	0	5,336
15-Aug-2011	0	0	0	0	0	5,336
16-Aug-2011	0	0	0	0	0	5,336
17-Aug-2011	0	0	0	0	0	5,336
18-Aug-2011	0	0	0	0	0	5,336
19-Aug-2011	0	0	0	0	0	5,336
20-Aug-2011	0	0	0	0	0	5,336
21-Aug-2011	0	0	0	0	0	5,336
22-Aug-2011	0	0	0	0	0	5,336

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
23-Aug-2011	0	0	0	0	0	5,336
24-Aug-2011	53	1,166	9	270	1,018	6,354
25-Aug-2011	57	1,254	10	300	1,102	7,456
26-Aug-2011	27	594	0	0	421	7,877
27-Aug-2011	90	1,980	0	0	1,404	9,281
28-Aug-2011	0	0	0	0	0	9,281
29-Aug-2011	0	0	0	0	0	9,281
30-Aug-2011	0	0	0	0	0	9,281
31-Aug-2011	0	0	0	0	0	9,281
1-Sep-2011	0	0	0	0	0	9,281
2-Sep-2011	0	0	0	0	0	9,281
3-Sep-2011	0	0	0	0	0	9,281
4-Sep-2011	0	0	0	0	0	9,281
5-Sep-2011	0	0	0	0	0	9,281
6-Sep-2011	0	0	0	0	0	9,281
7-Sep-2011	0	0	0	0	0	9,281
8-Sep-2011	0	0	0	0	0	9,281
9-Sep-2011	0	0	0	0	0	9,281
10-Sep-2011	0	0	0	0	0	9,281
11-Sep-2011	0	0	0	0	0	9,281
12-Sep-2011	74	1,628	0	0	1,154	10,435
13-Sep-2011	159	3,498	0	0	2,480	12,915
14-Sep-2011	160	3,520	17	510	2,857	15,772
15-Sep-2011	0	0	0	0	0	15,772
16-Sep-2011	123	2,706	0	0	1,919	17,691
17-Sep-2011	97	2,134	42	1,260	2,406	20,097
18-Sep-2011	0	0	0	0	0	20,097
19-Sep-2011	183	4,026	8	240	3,025	23,122
20-Sep-2011	71	1,562	0	0	1,107	24,229
21-Sep-2011	0	0	0	0	0	24,229
22-Sep-2011	0	0	0	0	0	24,229
23-Sep-2011	0	0	0	0	0	24,229
24-Sep-2011	0	0	0	0	0	24,229
25-Sep-2011	0	0	0	0	0	24,229
26-Sep-2011	86	1,892	23	690	1,831	26,060
27-Sep-2011	0	0	0	0	0	26,060
28-Sep-2011	44	968	0	0	686	26,746
29-Sep-2011	94	2,068	0	0	1,466	28,213
30-Sep-2011	118	2,596	0	0	1,841	30,053
1-Oct-2011	103	2,266	0	0	1,607	31,660
2-Oct-2011	0	0	0	0	0	31,660
3-Oct-2011	93	2,046	0	0	1,451	33,110
4-Oct-2011	74	1,628	0	0	1,154	34,265

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
5-Oct-2011	42	924	45	1,350	1,612	35,877
6-Oct-2011	43	946	0	0	671	36,548
7-Oct-2011	0	0	0	0	0	36,548
8-Oct-2011	101	2,222	0	0	1,575	38,123
9-Oct-2011	0	0	0	0	0	38,123
10-Oct-2011	132	2,904	8	240	2,229	40,352
11-Oct-2011	0	0	0	0	0	40,352
12-Oct-2011	0	0	0	0	0	40,352
13-Oct-2011	0	0	0	0	0	40,352
14-Oct-2011	0	0	0	0	0	40,352
15-Oct-2011	0	0	0	0	0	40,352
16-Oct-2011	0	0	0	0	0	40,352
17-Oct-2011	86	1,892	0	0	1,341	41,693
18-Oct-2011	126	2,772	0	0	1,965	43,659
19-Oct-2011	0	0	0	0	0	43,659
20-Oct-2011	0	0	0	0	0	43,659
21-Oct-2011	0	0	0	0	0	43,659
22-Oct-2011	77	1,694	107	3,210	3,477	47,136
23-Oct-2011	0	0	0	0	0	47,136
24-Oct-2011	100	2,200	0	0	1,560	48,696
25-Oct-2011	0	0	22	660	468	49,163
26-Oct-2011	0	0	0	0	0	49,163
27-Oct-2011	16	352	5	150	356	49,519
28-Oct-2011	0	0	0	0	0	49,519
29-Oct-2011	0	0	0	0	0	49,519
30-Oct-2011	0	0	0	0	0	49,519
31-Oct-2011	0	0	0	0	0	49,519
1-Nov-2011	20	440	0	0	312	49,831
2-Nov-2011	104	2,288	0	0	1,622	51,454
3-Nov-2011	59	1,298	17	510	1,282	52,735
4-Nov-2011	0	0	0	0	0	52,735
5-Nov-2011	0	0	0	0	0	52,735
6-Nov-2011	0	0	0	0	0	52,735
7-Nov-2011	0	0	0	0	0	52,735
8-Nov-2011	0	0	0	0	0	52,735
9-Nov-2011	0	0	0	0	0	52,735
10-Nov-2011	0	0	0	0	0	52,735
11-Nov-2011	17	374	0	0	265	53,001
12-Nov-2011	119	2,618	0	0	1,856	54,857
13-Nov-2011	156	3,432	0	0	2,433	57,290
14-Nov-2011	133	2,926	0	0	2,075	59,365
15-Nov-2011	76	1,672	0	0	1,185	60,550
16-Nov-2011	0	0	0	0	0	60,550

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
17-Nov-2011	98	2,156	0	0	1,529	62,079
18-Nov-2011	0	0	0	0	0	62,079
19-Nov-2011	41	902	0	0	640	62,718
20-Nov-2011	0	0	0	0	0	62,718
21-Nov-2011	0	0	0	0	0	62,718
22-Nov-2011	0	0	0	0	0	62,718
23-Nov-2011	0	0	0	0	0	62,718
24-Nov-2011	0	0	0	0	0	62,718
25-Nov-2011	0	0	0	0	0	62,718
26-Nov-2011	0	0	0	0	0	62,718
27-Nov-2011	0	0	0	0	0	62,718
28-Nov-2011	0	0	0	0	0	62,718
29-Nov-2011	0	0	0	0	0	62,718
30-Nov-2011	0	0	0	0	0	62,718
1-Dec-2011	0	0	0	0	0	62,718
2-Dec-2011	0	0	0	0	0	62,718
3-Dec-2011	0	0	0	0	0	62,718
4-Dec-2011	0	0	0	0	0	62,718
5-Dec-2011	0	0	0	0	0	62,718
6-Dec-2011	0	0	0	0	0	62,718
7-Dec-2011	0	0	0	0	0	62,718
8-Dec-2011	0	0	0	0	0	62,718
9-Dec-2011	0	0	0	0	0	62,718
10-Dec-2011	0	0	0	0	0	62,718
11-Dec-2011	0	0	0	0	0	62,718
12-Dec-2011	0	0	0	0	0	62,718
13-Dec-2011	0	0	0	0	0	62,718
14-Dec-2011	0	0	0	0	0	62,718
15-Dec-2011	0	0	0	0	0	62,718
16-Dec-2011	0	0	0	0	0	62,718
17-Dec-2011	0	0	0	0	0	62,718
18-Dec-2011	0	0	0	0	0	62,718
19-Dec-2011	0	0	0	0	0	62,718
20-Dec-2011	0	0	0	0	0	62,718
21-Dec-2011	0	0	0	0	0	62,718
22-Dec-2011	0	0	0	0	0	62,718
23-Dec-2011	0	0	0	0	0	62,718
24-Dec-2011	0	0	0	0	0	62,718
25-Dec-2011	0	0	0	0	0	62,718
26-Dec-2011	0	0	0	0	0	62,718
27-Dec-2011	0	0	0	0	0	62,718
28-Dec-2011	0	0	0	0	0	62,718
29-Dec-2011	0	0	0	0	0	62,718

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
30-Dec-2011	0	0	0	0	0	62,718
31-Dec-2011	0	0	0	0	0	62,718
1-Jan-2012	0	0	0	0	0	62,718
2-Jan-2012	0	0	0	0	0	62,718
3-Jan-2012	0	0	0	0	0	62,718
4-Jan-2012	0	0	0	0	0	62,718
5-Jan-2012	0	0	0	0	0	62,718
6-Jan-2012	0	0	0	0	0	62,718
7-Jan-2012	0	0	0	0	0	62,718
8-Jan-2012	0	0	0	0	0	62,718
9-Jan-2012	0	0	0	0	0	62,718
10-Jan-2012	0	0	0	0	0	62,718
11-Jan-2012	0	0	0	0	0	62,718
12-Jan-2012	0	0	0	0	0	62,718
13-Jan-2012	0	0	0	0	0	62,718
14-Jan-2012	0	0	0	0	0	62,718
15-Jan-2012	0	0	0	0	0	62,718
16-Jan-2012	0	0	0	0	0	62,718
17-Jan-2012	0	0	0	0	0	62,718
18-Jan-2012	0	0	0	0	0	62,718
19-Jan-2012	0	0	0	0	0	62,718
20-Jan-2012	0	0	0	0	0	62,718
21-Jan-2012	0	0	0	0	0	62,718
22-Jan-2012	0	0	0	0	0	62,718
23-Jan-2012	0	0	0	0	0	62,718
24-Jan-2012	0	0	0	0	0	62,718
25-Jan-2012	0	0	0	0	0	62,718
26-Jan-2012	0	0	0	0	0	62,718
27-Jan-2012	0	0	0	0	0	62,718
28-Jan-2012	0	0	0	0	0	62,718
29-Jan-2012	0	0	0	0	0	62,718
30-Jan-2012	0	0	0	0	0	62,718
31-Jan-2012	0	0	0	0	0	62,718
1-Feb-2012	0	0	0	0	0	62,718
2-Feb-2012	0	0	0	0	0	62,718
3-Feb-2012	0	0	0	0	0	62,718
4-Feb-2012	0	0	0	0	0	62,718
5-Feb-2012	0	0	0	0	0	62,718
6-Feb-2012	0	0	0	0	0	62,718
7-Feb-2012	0	0	0	0	0	62,718
8-Feb-2012	0	0	0	0	0	62,718
9-Feb-2012	0	0	0	0	0	62,718
10-Feb-2012	0	0	0	0	0	62,718

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
11-Feb-2012	0	0	0	0	0	62,718
12-Feb-2012	0	0	0	0	0	62,718
13-Feb-2012	0	0	0	0	0	62,718
14-Feb-2012	0	0	0	0	0	62,718
15-Feb-2012	0	0	0	0	0	62,718
16-Feb-2012	0	0	0	0	0	62,718
17-Feb-2012	0	0	0	0	0	62,718
18-Feb-2012	0	0	0	0	0	62,718
19-Feb-2012	0	0	0	0	0	62,718
20-Feb-2012	0	0	0	0	0	62,718
21-Feb-2012	0	0	0	0	0	62,718
22-Feb-2012	0	0	0	0	0	62,718
23-Feb-2012	0	0	0	0	0	62,718
24-Feb-2012	0	0	0	0	0	62,718
25-Feb-2012	0	0	0	0	0	62,718
26-Feb-2012	0	0	0	0	0	62,718
27-Feb-2012	0	0	0	0	0	62,718
28-Feb-2012	0	0	40	1,200	851	63,569
29-Feb-2012	0	0	0	0	0	63,569
1-Mar-2012	0	0	0	0	0	63,569
2-Mar-2012	0	0	21	630	447	64,016
3-Mar-2012	0	0	0	0	0	64,016
4-Mar-2012	0	0	0	0	0	64,016
5-Mar-2012	0	0	101	3,030	2,148	66,164
6-Mar-2012	0	0	129	3,870	2,744	68,908
7-Mar-2012	0	0	126	3,780	2,680	71,588
8-Mar-2012	0	0	105	3,150	2,233	73,821
9-Mar-2012	0	0	0	0	0	73,821
10-Mar-2012	0	0	0	0	0	73,821
11-Mar-2012	0	0	0	0	0	73,821
12-Mar-2012	0	0	84	2,520	1,787	75,608
13-Mar-2012	0	0	64	1,920	1,361	76,969
14-Mar-2012	0	0	108	3,240	2,297	79,266
15-Mar-2012	0	0	56	1,680	1,191	80,457
16-Mar-2012	0	0	0	0	0	80,457
17-Mar-2012	0	0	0	0	0	80,457
18-Mar-2012	0	0	0	0	0	80,457
19-Mar-2012	19	418	63	1,890	1,636	82,094
20-Mar-2012	0	0	71	2,130	1,510	83,604
21-Mar-2012	0	0	86	2,580	1,829	85,433
22-Mar-2012	0	0	168	5,040	3,573	89,006
23-Mar-2012	0	0	8	240	170	89,177
24-Mar-2012	0	0	0	0	0	89,177

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
25-Mar-2012	0	0	0	0	0	89,177
26-Mar-2012	0	0	137	4,110	2,914	92,091
27-Mar-2012	0	0	130	3,900	2,765	94,856
28-Mar-2012	0	0	136	4,080	2,893	97,748
29-Mar-2012	0	0	91	2,730	1,936	99,684
30-Mar-2012	0	0	53	1,590	1,127	100,811
31-Mar-2012	0	0	0	0	0	100,811
1-Apr-2012	0	0	0	0	0	100,811
2-Apr-2012	0	0	126	3,780	2,680	103,491
3-Apr-2012	0	0	72	2,160	1,531	105,023
4-Apr-2012	0	0	110	3,300	2,340	107,362
5-Apr-2012	0	0	108	3,240	2,297	109,660
6-Apr-2012	0	0	0	0	0	109,660
7-Apr-2012	0	0	0	0	0	109,660
8-Apr-2012	0	0	0	0	0	109,660
9-Apr-2012	0	0	141	4,230	2,999	112,659
10-Apr-2012	0	0	152	4,560	3,233	115,892
11-Apr-2012	0	0	96	2,880	2,042	117,934
12-Apr-2012	0	0	95	2,850	2,021	119,954
13-Apr-2012	0	0	153	4,590	3,254	123,209
14-Apr-2012	0	0	0	0	0	123,209
15-Apr-2012	0	0	0	0	0	123,209
16-Apr-2012	0	0	76	2,280	1,617	124,825
17-Apr-2012	0	0	94	2,820	1,999	126,825
18-Apr-2012	0	0	0	0	0	126,825
19-Apr-2012	0	0	119	3,570	2,531	129,356
20-Apr-2012	24	528	117	3,510	2,863	132,219
21-Apr-2012	0	0	0	0	0	132,219
22-Apr-2012	0	0	0	0	0	132,219
23-Apr-2012	111	2,442	126	3,780	4,411	136,630
24-Apr-2012	17	374	143	4,290	3,307	139,937
25-Apr-2012	0	0	120	3,600	2,552	142,489
26-Apr-2012	0	0	0	0	0	142,489
27-Apr-2012	0	0	80	2,400	1,702	144,191
28-Apr-2012	0	0	148	4,440	3,148	147,339
29-Apr-2012	0	0	0	0	0	147,339
30-Apr-2012	0	0	146	4,380	3,105	150,444
1-May-2012	0	0	167	5,010	3,552	153,996
2-May-2012	0	0	127	3,810	2,701	156,698
3-May-2012	4	88	126	3,780	2,742	159,440
4-May-2012	0	0	160	4,800	3,403	162,843
5-May-2012	0	0	127	3,810	2,701	165,544
6-May-2012	0	0	0	0	0	165,544

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
7-May-2012	0	0	117	3,510	2,489	168,033
8-May-2012	0	0	139	4,170	2,957	170,990
9-May-2012	0	0	155	4,650	3,297	174,286
10-May-2012	0	0	156	4,680	3,318	177,605
11-May-2012	0	0	94	2,820	1,999	179,604
12-May-2012	0	0	103	3,090	2,191	181,795
13-May-2012	0	0	0	0	0	181,795
14-May-2012	0	0	0	0	0	181,795
15-May-2012	0	0	0	0	0	181,795
16-May-2012	0	0	116	3,480	2,467	184,262
17-May-2012	0	0	115	3,450	2,446	186,708
18-May-2012	0	0	150	4,500	3,191	189,899
19-May-2012	0	0	118	3,540	2,510	192,408
20-May-2012	0	0	0	0	0	192,408
21-May-2012	18	396	142	4,260	3,301	195,710
22-May-2012	0	0	84	2,520	1,787	197,496
23-May-2012	0	0	96	2,880	2,042	199,538
24-May-2012	0	0	46	1,380	978	200,517
25-May-2012	0	0	75	2,250	1,595	202,112
26-May-2012	0	0	0	0	0	202,112
27-May-2012	0	0	0	0	0	202,112
28-May-2012	0	0	0	0	0	202,112
29-May-2012	0	0	0	0	0	202,112
30-May-2012	-5	-110	0	0	-78	202,034
31-May-2012	0	0	31	930	659	202,693
1-Jun-2012	0	0	12	360	255	202,948
2-Jun-2012	0	0	121	3,630	2,574	205,522
3-Jun-2012	0	0	0	0	0	205,522
4-Jun-2012	0	0	92	2,760	1,957	207,479
5-Jun-2012	0	0	0	0	0	207,479
6-Jun-2012	0	0	95	2,850	2,021	209,500
7-Jun-2012	0	0	114	3,420	2,425	211,924
8-Jun-2012	0	0	114	3,420	2,425	214,349
9-Jun-2012	0	0	0	0	0	214,349
10-Jun-2012	0	0	0	0	0	214,349
11-Jun-2012	0	0	14	420	298	214,647
12-Jun-2012	0	0	0	0	0	214,647
13-Jun-2012	0	0	106	3,180	2,255	216,902
14-Jun-2012	0	0	177	5,310	3,765	220,666
15-Jun-2012	0	0	227	6,810	4,828	225,495
16-Jun-2012	0	0	0	0	0	225,495
17-Jun-2012	0	0	0	0	0	225,495
18-Jun-2012	0	0	204	6,120	4,339	229,834

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
19-Jun-2012	6	132	102	3,060	2,263	232,097
20-Jun-2012	0	0	51	1,530	1,085	233,182
21-Jun-2012	0	0	93	2,790	1,978	235,160
22-Jun-2012	0	0	123	3,690	2,616	237,776
23-Jun-2012	0	0	0	0	0	237,776
24-Jun-2012	0	0	0	0	0	237,776
25-Jun-2012	0	0	55	1,650	1,170	238,946
26-Jun-2012	0	0	78	2,340	1,659	240,605
27-Jun-2012	0	0	51	1,530	1,085	241,690
28-Jun-2012	0	0	76	2,280	1,617	243,306
29-Jun-2012	0	0	61	1,830	1,297	244,604
30-Jun-2012	0	0	0	0	0	244,604
1-Jul-2012	0	0	0	0	0	244,604
2-Jul-2012	0	0	71	2,130	1,510	246,114
3-Jul-2012	0	0	105	3,150	2,233	248,347
4-Jul-2012	0	0	0	0	0	248,347
5-Jul-2012	0	0	0	0	0	248,347
6-Jul-2012	0	0	0	0	0	248,347
7-Jul-2012	0	0	0	0	0	248,347
8-Jul-2012	0	0	0	0	0	248,347
9-Jul-2012	0	0	155	4,650	3,297	251,644
10-Jul-2012	0	0	76	2,280	1,617	253,260
11-Jul-2012	0	0	0	0	0	253,260
12-Jul-2012	0	0	0	0	0	253,260
13-Jul-2012	0	0	0	0	0	253,260
14-Jul-2012	0	0	0	0	0	253,260
15-Jul-2012	0	0	0	0	0	253,260
16-Jul-2012	0	0	174	5,220	3,701	256,961
17-Jul-2012	0	0	122	3,660	2,595	259,556
18-Jul-2012	0	0	150	4,500	3,191	262,747
19-Jul-2012	0	0	132	3,960	2,808	265,555
20-Jul-2012	0	0	0	0	0	265,555
21-Jul-2012	0	0	0	0	0	265,555
22-Jul-2012	0	0	0	0	0	265,555
23-Jul-2012	0	0	294	8,820	6,253	271,808
24-Jul-2012	0	0	233	6,990	4,956	276,764
25-Jul-2012	0	0	266	7,980	5,658	282,422
26-Jul-2012	0	0	266	7,980	5,658	288,079
27-Jul-2012	0	0	210	6,300	4,467	292,546
28-Jul-2012	0	0	0	0	0	292,546
29-Jul-2012	0	0	0	0	0	292,546
30-Jul-2012	0	0	260	7,800	5,530	298,076
31-Jul-2012	0	0	0	0	0	298,076

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
1-Aug-2012	0	0	0	0	0	298,076
2-Aug-2012	0	0	0	0	0	298,076
3-Aug-2012	0	0	107	3,210	2,276	300,352
4-Aug-2012	0	0	0	0	0	300,352
5-Aug-2012	0	0	0	0	0	300,352
6-Aug-2012	0	0	0	0	0	300,352
7-Aug-2012	0	0	0	0	0	300,352
8-Aug-2012	0	0	271	8,130	5,764	306,116
9-Aug-2012	0	0	105	3,150	2,233	308,350
10-Aug-2012	0	0	0	0	0	308,350
11-Aug-2012	0	0	0	0	0	308,350
12-Aug-2012	0	0	0	0	0	308,350
13-Aug-2012	0	0	154	4,620	3,276	311,625
14-Aug-2012	0	0	0	0	0	311,625
15-Aug-2012	0	0	0	0	0	311,625
16-Aug-2012	0	0	0	0	0	311,625
17-Aug-2012	0	0	200	6,000	4,254	315,879
18-Aug-2012	0	0	187	5,610	3,977	319,857
19-Aug-2012	0	0	0	0	0	319,857
20-Aug-2012	0	0	55	1,650	1,170	321,027
21-Aug-2012	0	0	171	5,130	3,637	324,664
22-Aug-2012	0	0	146	4,380	3,105	327,769
23-Aug-2012	0	0	112	3,360	2,382	330,152
24-Aug-2012	0	0	168	5,040	3,573	333,725
25-Aug-2012	0	0	104	3,120	2,212	335,937
26-Aug-2012	0	0	0	0	0	335,937
27-Aug-2012	0	0	71	2,130	1,510	337,447
28-Aug-2012	0	0	0	0	0	337,447
29-Aug-2012	-19	-418	117	3,510	2,192	339,639
30-Aug-2012	0	0	0	0	0	339,639
31-Aug-2012	-22	-484	159	4,770	3,039	342,678
1-Sep-2012	0	0	0	0	0	342,678
2-Sep-2012	0	0	0	0	0	342,678
3-Sep-2012	0	0	0	0	0	342,678
4-Sep-2012	0	0	0	0	0	342,678
5-Sep-2012	-15	-330	0	0	-234	342,444
6-Sep-2012	-17	-374	0	0	-265	342,179
7-Sep-2012	-24	-528	0	0	-374	341,805
8-Sep-2012	0	0	0	0	0	341,805
9-Sep-2012	0	0	0	0	0	341,805
10-Sep-2012	-21	-462	0	0	-328	341,477
11-Sep-2012	-14	-308	114	3,420	2,206	343,683
12-Sep-2012	-20	-440	103	3,090	1,879	345,562

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
13-Sep-2012	-50	-1,100	136	4,080	2,113	347,675
14-Sep-2012	-86	-1,892	69	2,070	126	347,801
15-Sep-2012	0	0	0	0	0	347,801
16-Sep-2012	0	0	0	0	0	347,801
17-Sep-2012	0	0	0	0	0	347,801
18-Sep-2012	0	0	0	0	0	347,801
19-Sep-2012	0	0	0	0	0	347,801
20-Sep-2012	0	0	0	0	0	347,801
21-Sep-2012	-28	-616	147	4,410	2,690	350,491
22-Sep-2012	-60	-1,320	130	3,900	1,829	352,321
23-Sep-2012	0	0	0	0	0	352,321
24-Sep-2012	-25	-550	154	4,620	2,886	355,206
25-Sep-2012	0	0	243	7,290	5,169	360,375
26-Sep-2012	0	0	193	5,790	4,105	364,480
27-Sep-2012	-31	-682	237	7,110	4,557	369,037
28-Sep-2012	0	0	155	4,650	3,297	372,334
29-Sep-2012	0	0	196	5,880	4,169	376,503
30-Sep-2012	0	0	0	0	0	376,503
1-Oct-2012	0	0	0	0	0	376,503
2-Oct-2012	0	0	0	0	0	376,503
3-Oct-2012	0	0	0	0	0	376,503
4-Oct-2012	0	0	122	3,660	2,595	379,098
5-Oct-2012	0	0	66	1,980	1,404	380,502
6-Oct-2012	0	0	0	0	0	380,502
7-Oct-2012	0	0	0	0	0	380,502
8-Oct-2012	0	0	0	0	0	380,502
9-Oct-2012	0	0	0	0	0	380,502
10-Oct-2012	0	0	129	3,870	2,744	383,246
11-Oct-2012	-15	-330	119	3,570	2,297	385,543
12-Oct-2012	-32	-704	105	3,150	1,734	387,277
13-Oct-2012	0	0	78	2,340	1,659	388,936
14-Oct-2012	0	0	0	0	0	388,936
15-Oct-2012	0	0	0	0	0	388,936
16-Oct-2012	-6	-132	189	5,670	3,926	392,863
17-Oct-2012	-42	-924	204	6,120	3,684	396,547
18-Oct-2012	0	0	0	0	0	396,547
19-Oct-2012	0	0	132	3,960	2,808	399,354
20-Oct-2012	0	0	54	1,620	1,149	400,503
21-Oct-2012	0	0	0	0	0	400,503
22-Oct-2012	-22	-484	146	4,380	2,762	403,265
23-Oct-2012	-33	-726	223	6,690	4,228	407,493
24-Oct-2012	-62	-1,364	115	3,450	1,479	408,972
25-Oct-2012	-41	-902	0	0	-640	408,333

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
26-Oct-2012	0	0	0	0	0	408,333
27-Oct-2012	0	0	0	0	0	408,333
28-Oct-2012	0	0	0	0	0	408,333
29-Oct-2012	0	0	23	690	489	408,822
30-Oct-2012	0	0	75	2,250	1,595	410,417
31-Oct-2012	0	0	70	2,100	1,489	411,906
1-Nov-2012	0	0	198	5,940	4,211	416,118
2-Nov-2012	-7	-154	160	4,800	3,294	419,412
3-Nov-2012	0	0	97	2,910	2,063	421,475
4-Nov-2012	0	0	0	0	0	421,475
5-Nov-2012	0	0	273	8,190	5,807	427,282
6-Nov-2012	-5	-110	310	9,300	6,516	433,797
7-Nov-2012	0	0	290	8,700	6,168	439,966
8-Nov-2012	0	0	224	6,720	4,764	444,730
9-Nov-2012	-4	-88	230	6,900	4,830	449,560
10-Nov-2012	0	0	135	4,050	2,871	452,431
11-Nov-2012	0	0	0	0	0	452,431
12-Nov-2012	0	0	135	4,050	2,871	455,303
13-Nov-2012	0	0	0	0	0	455,303
14-Nov-2012	0	0	127	3,810	2,701	458,004
15-Nov-2012	0	0	232	6,960	4,935	462,939
16-Nov-2012	0	0	243	7,290	5,169	468,107
17-Nov-2012	0	0	236	7,080	5,020	473,127
18-Nov-2012	0	0	0	0	0	473,127
19-Nov-2012	0	0	242	7,260	5,147	478,274
20-Nov-2012	0	0	235	7,050	4,998	483,273
21-Nov-2012	0	0	99	2,970	2,106	485,379
22-Nov-2012	0	0	0	0	0	485,379
23-Nov-2012	0	0	0	0	0	485,379
24-Nov-2012	0	0	0	0	0	485,379
25-Nov-2012	0	0	0	0	0	485,379
26-Nov-2012	0	0	85	2,550	1,808	487,187
27-Nov-2012	0	0	185	5,550	3,935	491,121
28-Nov-2012	0	0	0	0	0	491,121
29-Nov-2012	0	0	274	8,220	5,828	496,949
30-Nov-2012	0	0	278	8,340	5,913	502,863
1-Dec-2012	0	0	258	7,740	5,488	508,350
2-Dec-2012	0	0	0	0	0	508,350
3-Dec-2012	0	0	147	4,410	3,127	511,477
4-Dec-2012	0	0	176	5,280	3,744	515,220
5-Dec-2012	0	0	199	5,970	4,233	519,453
6-Dec-2012	0	0	62	1,860	1,319	520,772
7-Dec-2012	-17	-374	226	6,780	4,542	525,314

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
8-Dec-2012	0	0	0	0	0	525,314
9-Dec-2012	0	0	0	0	0	525,314
10-Dec-2012	0	0	0	0	0	525,314
11-Dec-2012	0	0	0	0	0	525,314
12-Dec-2012	0	0	0	0	0	525,314
13-Dec-2012	-15	-330	192	5,760	3,850	529,164
14-Dec-2012	0	0	189	5,670	4,020	533,184
15-Dec-2012	0	0	147	4,410	3,127	536,310
16-Dec-2012	0	0	0	0	0	536,310
17-Dec-2012	0	0	0	0	0	536,310
18-Dec-2012	0	0	0	0	0	536,310
19-Dec-2012	0	0	0	0	0	536,310
20-Dec-2012	0	0	0	0	0	536,310
21-Dec-2012	0	0	0	0	0	536,310
22-Dec-2012	0	0	0	0	0	536,310
23-Dec-2012	0	0	0	0	0	536,310
24-Dec-2012	0	0	0	0	0	536,310
25-Dec-2012	0	0	0	0	0	536,310
26-Dec-2012	0	0	0	0	0	536,310
27-Dec-2012	0	0	0	0	0	536,310
28-Dec-2012	0	0	0	0	0	536,310
29-Dec-2012	0	0	0	0	0	536,310
30-Dec-2012	0	0	0	0	0	536,310
31-Dec-2012	0	0	0	0	0	536,310
1-Jan-2013	0	0	0	0	0	536,310
2-Jan-2013	0	0	0	0	0	536,310
3-Jan-2013	0	0	0	0	0	536,310
4-Jan-2013	-26	-572	0	0	-406	535,905
5-Jan-2013	-56	-1,232	0	0	-873	535,031
6-Jan-2013	-62	-1,364	0	0	-967	534,064
7-Jan-2013	-100	-2,200	0	0	-1,560	532,504
8-Jan-2013	-77	-1,694	0	0	-1,201	531,303
9-Jan-2013	-16	-352	4	120	-164	531,139
10-Jan-2013	0	0	0	0	0	531,139
11-Jan-2013	0	0	0	0	0	531,139
12-Jan-2013	0	0	0	0	0	531,139
13-Jan-2013	0	0	0	0	0	531,139
14-Jan-2013	0	0	0	0	0	531,139
15-Jan-2013	0	0	0	0	0	531,139
16-Jan-2013	0	0	0	0	0	531,139
17-Jan-2013	0	0	0	0	0	531,139
18-Jan-2013	0	0	0	0	0	531,139
19-Jan-2013	0	0	0	0	0	531,139

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
20-Jan-2013	0	0	0	0	0	531,139
21-Jan-2013	0	0	0	0	0	531,139
22-Jan-2013	28	616	-43	-1,290	-478	530,661
23-Jan-2013	0	0	78	2,340	1,659	532,320
24-Jan-2013	0	0	20	600	425	532,745
25-Jan-2013	0	0	0	0	0	532,745
26-Jan-2013	0	0	0	0	0	532,745
27-Jan-2013	0	0	0	0	0	532,745
28-Jan-2013	0	0	47	1,410	1,000	533,745
29-Jan-2013	0	0	122	3,660	2,595	536,340
30-Jan-2013	0	0	0	0	0	536,340
31-Jan-2013	0	0	0	0	0	536,340
1-Feb-2013	0	0	164	4,920	3,488	539,828
2-Feb-2013	0	0	0	0	0	539,828
3-Feb-2013	0	0	0	0	0	539,828
4-Feb-2013	26	572	16	480	746	540,574
5-Feb-2013	58	1,276	156	4,680	4,223	544,797
6-Feb-2013	-27	-594	200	6,000	3,833	548,630
7-Feb-2013	-52	-1,144	175	5,250	2,911	551,541
8-Feb-2013	-55	-1,210	0	0	-858	550,683
9-Feb-2013	-47	-1,034	0	0	-733	549,950
10-Feb-2013	0	0	0	0	0	549,950
11-Feb-2013	0	0	0	0	0	549,950
12-Feb-2013	-9	-198	78	2,340	1,519	551,469
13-Feb-2013	0	0	0	0	0	551,469
14-Feb-2013	0	0	0	0	0	551,469
15-Feb-2013	0	0	154	4,620	3,276	554,744
16-Feb-2013	0	0	44	1,320	936	555,680
17-Feb-2013	0	0	126	3,780	2,680	558,360
18-Feb-2013	0	0	96	2,880	2,042	560,402
19-Feb-2013	0	0	0	0	0	560,402
20-Feb-2013	0	0	225	6,750	4,786	565,188
21-Feb-2013	0	0	192	5,760	4,084	569,272
22-Feb-2013	0	0	0	0	0	569,272
23-Feb-2013	0	0	-5	-150	-106	569,165
24-Feb-2013	0	0	245	7,350	5,211	574,376
25-Feb-2013	0	0	30	900	638	575,015
26-Feb-2013	0	0	0	0	0	575,015
27-Feb-2013	0	0	124	3,720	2,637	577,652
28-Feb-2013	0	0	178	5,340	3,786	581,438
1-Mar-2013	0	0	278	8,340	5,913	587,351
2-Mar-2013	0	0	270	8,100	5,743	593,094
3-Mar-2013	0	0	0	0	0	593,094

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
4-Mar-2013	-15	-330	180	5,400	3,595	596,689
5-Mar-2013	0	0	0	0	0	596,689
6-Mar-2013	0	0	0	0	0	596,689
7-Mar-2013	0	0	90	2,700	1,914	598,603
8-Mar-2013	0	0	177	5,310	3,765	602,368
9-Mar-2013	0	0	233	6,990	4,956	607,324
10-Mar-2013	0	0	205	6,150	4,360	611,684
11-Mar-2013	0	0	121	3,630	2,574	614,258
12-Mar-2013	0	0	0	0	0	614,258
13-Mar-2013	44	968	201	6,030	4,962	619,219
14-Mar-2013	43	946	48	1,440	1,692	620,911
15-Mar-2013	12	264	176	5,280	3,931	624,842
16-Mar-2013	0	0	210	6,300	4,467	629,308
17-Mar-2013	0	0	211	6,330	4,488	633,796
18-Mar-2013	0	0	33	990	702	634,498
19-Mar-2013	0	0	0	0	0	634,498
20-Mar-2013	0	0	168	5,040	3,573	638,072
21-Mar-2013	13	286	248	7,440	5,478	643,549
22-Mar-2013	79	1,738	261	7,830	6,784	650,333
23-Mar-2013	31	682	270	8,100	6,226	656,560
24-Mar-2013	0	0	0	0	0	656,560
25-Mar-2013	0	0	0	0	0	656,560
26-Mar-2013	0	0	107	3,210	2,276	658,835
27-Mar-2013	-79	-1,738	177	5,310	2,533	661,368
28-Mar-2013	-95	-2,090	238	7,140	3,580	664,948
29-Mar-2013	-38	-836	58	1,740	641	665,589
30-Mar-2013	0	0	0	0	0	665,589
31-Mar-2013	0	0	0	0	0	665,589
1-Apr-2013	0	0	0	0	0	665,589
2-Apr-2013	-19	-418	125	3,750	2,362	667,952
3-Apr-2013	-195	-4,290	136	4,080	-149	667,803
4-Apr-2013	-34	-748	32	960	150	667,953
5-Apr-2013	0	0	0	0	0	667,953
6-Apr-2013	-193	-4,246	222	6,660	1,712	669,665
7-Apr-2013	-179	-3,938	289	8,670	3,355	673,020
8-Apr-2013	-198	-4,356	111	3,330	-727	672,292
9-Apr-2013	-302	-6,644	252	7,560	649	672,942
10-Apr-2013	-211	-4,642	168	5,040	282	673,224
11-Apr-2013	-155	-3,410	208	6,240	2,006	675,230
12-Apr-2013	0	0	0	0	0	675,230
13-Apr-2013	-187	-4,114	172	5,160	742	675,972
14-Apr-2013	0	0	0	0	0	675,972
15-Apr-2013	-95	-2,090	246	7,380	3,751	679,723

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
16-Apr-2013	-58	-1,276	193	5,790	3,200	682,923
17-Apr-2013	-72	-1,584	125	3,750	1,536	684,459
18-Apr-2013	0	0	162	4,860	3,446	687,904
19-Apr-2013	0	0	0	0	0	687,904
20-Apr-2013	0	0	-11	-330	-234	687,670
21-Apr-2013	-177	-3,894	295	8,850	3,514	691,184
22-Apr-2013	-12	-264	300	9,000	6,194	697,378
23-Apr-2013	0	0	324	9,720	6,891	704,270
24-Apr-2013	0	0	182	5,460	3,871	708,141
25-Apr-2013	0	0	274	8,220	5,828	713,969
26-Apr-2013	0	0	269	8,070	5,722	719,690
27-Apr-2013	0	0	0	0	0	719,690
28-Apr-2013	0	0	0	0	0	719,690
29-Apr-2013	0	0	0	0	0	719,690
30-Apr-2013	0	0	0	0	0	719,690
1-May-2013	-49	-1,078	313	9,390	5,893	725,584
2-May-2013	-23	-506	255	7,650	5,065	730,649
3-May-2013	0	0	181	5,430	3,850	734,498
4-May-2013	0	0	0	0	0	734,498
5-May-2013	0	0	0	0	0	734,498
6-May-2013	0	0	0	0	0	734,498
7-May-2013	0	0	0	0	0	734,498
8-May-2013	0	0	200	6,000	4,254	738,752
9-May-2013	0	0	297	8,910	6,317	745,070
10-May-2013	0	0	262	7,860	5,573	750,642
11-May-2013	0	0	0	0	0	750,642
12-May-2013	0	0	0	0	0	750,642
13-May-2013	0	0	226	6,780	4,807	755,449
14-May-2013	-8	-176	330	9,900	6,894	762,344
15-May-2013	0	0	366	10,980	7,785	770,129
16-May-2013	0	0	207	6,210	4,403	774,531
17-May-2013	0	0	237	7,110	5,041	779,572
18-May-2013	0	0	0	0	0	779,572
19-May-2013	0	0	0	0	0	779,572
20-May-2013	0	0	0	0	0	779,572
21-May-2013	-64	-1,408	-14	-420	-1,296	778,276
22-May-2013	-37	-814	-33	-990	-1,279	776,997
23-May-2013	-43	-946	-30	-900	-1,309	775,689
24-May-2013	0	0	82	2,460	1,744	777,433
25-May-2013	0	0	0	0	0	777,433
26-May-2013	0	0	0	0	0	777,433
27-May-2013	0	0	0	0	0	777,433
28-May-2013	-4	-88	153	4,590	3,192	780,625

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
29-May-2013	0	0	135	4,050	2,871	783,496
30-May-2013	-16	-352	291	8,730	5,940	789,436
31-May-2013	0	0	269	8,070	5,722	795,158
1-Jun-2013	-9	-198	244	7,320	5,049	800,207
2-Jun-2013	0	0	0	0	0	800,207
3-Jun-2013	0	0	0	0	0	800,207
4-Jun-2013	-60	-1,320	74	2,220	638	800,845
5-Jun-2013	0	0	247	7,410	5,254	806,099
6-Jun-2013	0	0	0	0	0	806,099
7-Jun-2013	0	0	153	4,590	3,254	809,353
8-Jun-2013	0	0	171	5,130	3,637	812,990
9-Jun-2013	0	0	0	0	0	812,990
10-Jun-2013	0	0	0	0	0	812,990
11-Jun-2013	0	0	0	0	0	812,990
12-Jun-2013	0	0	279	8,370	5,934	818,925
13-Jun-2013	0	0	279	8,370	5,934	824,859
14-Jun-2013	0	0	283	8,490	6,019	830,879
15-Jun-2013	0	0	251	7,530	5,339	836,217
16-Jun-2013	0	0	224	6,720	4,764	840,982
17-Jun-2013	0	0	225	6,750	4,786	845,768
18-Jun-2013	0	0	0	0	0	845,768
19-Jun-2013	0	0	0	0	0	845,768
20-Jun-2013	0	0	269	8,070	5,722	851,489
21-Jun-2013	0	0	308	9,240	6,551	858,040
22-Jun-2013	0	0	286	8,580	6,083	864,124
23-Jun-2013	0	0	265	7,950	5,637	869,760
24-Jun-2013	0	0	250	7,500	5,318	875,078
25-Jun-2013	0	0	146	4,380	3,105	878,183
26-Jun-2013	0	0	189	5,670	4,020	882,203
27-Jun-2013	145	3,190	269	8,070	7,983	890,186
28-Jun-2013	124	2,728	199	5,970	6,167	896,353
29-Jun-2013	111	2,442	191	5,730	5,794	902,147
30-Jun-2013	0	0	0	0	0	902,147
1-Jul-2013	60	1,320	196	5,880	5,105	907,252
2-Jul-2013	44	968	289	8,670	6,833	914,085
3-Jul-2013	0	0	0	0	0	914,085
4-Jul-2013	0	0	0	0	0	914,085
5-Jul-2013	0	0	0	0	0	914,085
6-Jul-2013	0	0	0	0	0	914,085
7-Jul-2013	0	0	0	0	0	914,085
8-Jul-2013	0	0	0	0	0	914,085
9-Jul-2013	-20	-440	0	0	-312	913,773
10-Jul-2013	17	374	114	3,420	2,690	916,463

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
11-Jul-2013	0	0	0	0	0	916,463
12-Jul-2013	0	0	0	0	0	916,463
13-Jul-2013	141	3,102	178	5,340	5,985	922,449
14-Jul-2013	0	0	264	7,920	5,615	928,064
15-Jul-2013	83	1,826	264	7,920	6,910	934,974
16-Jul-2013	99	2,178	254	7,620	6,947	941,921
17-Jul-2013	200	4,400	189	5,670	7,140	949,060
18-Jul-2013	175	3,850	169	5,070	6,324	955,385
19-Jul-2013	127	2,794	197	5,910	6,171	961,556
20-Jul-2013	232	5,104	167	5,010	7,171	968,727
21-Jul-2013	0	0	0	0	0	968,727
22-Jul-2013	0	0	0	0	0	968,727
23-Jul-2013	0	0	0	0	0	968,727
24-Jul-2013	191	4,202	155	4,650	6,276	975,003
25-Jul-2013	129	2,838	211	6,330	6,500	981,503
26-Jul-2013	122	2,684	202	6,060	6,199	987,702
27-Jul-2013	238	5,236	177	5,310	7,477	995,179
28-Jul-2013	0	0	0	0	0	995,179
29-Jul-2013	110	2,420	147	4,410	4,842	1,000,022
30-Jul-2013	156	3,432	125	3,750	5,092	1,005,114
31-Jul-2013	0	0	0	0	0	1,005,114
1-Aug-2013	224	4,928	173	5,190	7,174	1,012,288
2-Aug-2013	221	4,862	220	6,600	8,127	1,020,414
3-Aug-2013	116	2,552	196	5,880	5,978	1,026,392
4-Aug-2013	0	0	0	0	0	1,026,392
5-Aug-2013	71	1,562	199	5,970	5,340	1,031,733
6-Aug-2013	73	1,606	111	3,330	3,500	1,035,232
7-Aug-2013	70	1,540	85	2,550	2,900	1,038,132
8-Aug-2013	41	902	46	1,380	1,618	1,039,750
9-Aug-2013	0	0	0	0	0	1,039,750
10-Aug-2013	0	0	0	0	0	1,039,750
11-Aug-2013	0	0	0	0	0	1,039,750
12-Aug-2013	0	0	0	0	0	1,039,750
13-Aug-2013	110	2,420	130	3,900	4,481	1,044,231
14-Aug-2013	93	2,046	44	1,320	2,386	1,046,617
15-Aug-2013	105	2,310	81	2,430	3,361	1,049,978
16-Aug-2013	168	3,696	56	1,680	3,812	1,053,790
17-Aug-2013	155	3,410	172	5,160	6,076	1,059,866
18-Aug-2013	0	0	0	0	0	1,059,866
19-Aug-2013	0	0	0	0	0	1,059,866
20-Aug-2013	111	2,442	174	5,220	5,432	1,065,298
21-Aug-2013	72	1,584	107	3,210	3,399	1,068,697
22-Aug-2013	0	0	0	0	0	1,068,697

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
23-Aug-2013	212	4,664	204	6,120	7,646	1,076,343
24-Aug-2013	0	0	0	0	0	1,076,343
25-Aug-2013	0	0	0	0	0	1,076,343
26-Aug-2013	35	770	233	6,990	5,502	1,081,845
27-Aug-2013	4	88	273	8,190	5,869	1,087,714
28-Aug-2013	114	2,508	184	5,520	5,692	1,093,406
29-Aug-2013	84	1,848	79	2,370	2,991	1,096,396
30-Aug-2013	49	1,078	0	0	764	1,097,160
31-Aug-2013	0	0	78	2,340	1,659	1,098,820
1-Sep-2013	0	0	0	0	0	1,098,820
2-Sep-2013	0	0	0	0	0	1,098,820
3-Sep-2013	92	2,024	101	3,030	3,583	1,102,403
4-Sep-2013	86	1,892	35	1,050	2,086	1,104,489
5-Sep-2013	0	0	21	630	447	1,104,935
6-Sep-2013	0	0	0	0	0	1,104,935
7-Sep-2013	0	0	0	0	0	1,104,935
8-Sep-2013	0	0	0	0	0	1,104,935
9-Sep-2013	0	0	0	0	0	1,104,935
10-Sep-2013	0	0	41	1,230	872	1,105,807
11-Sep-2013	0	0	71	2,130	1,510	1,107,318
12-Sep-2013	0	0	42	1,260	893	1,108,211
13-Sep-2013	0	0	46	1,380	978	1,109,189
14-Sep-2013	82	1,804	7	210	1,428	1,110,617
15-Sep-2013	0	0	0	0	0	1,110,617
16-Sep-2013	0	0	0	0	0	1,110,617
17-Sep-2013	0	0	0	0	0	1,110,617
18-Sep-2013	0	0	0	0	0	1,110,617
19-Sep-2013	0	0	74	2,220	1,574	1,112,191
20-Sep-2013	0	0	89	2,670	1,893	1,114,084
21-Sep-2013	0	0	0	0	0	1,114,084
22-Sep-2013	0	0	0	0	0	1,114,084
23-Sep-2013	0	0	0	0	0	1,114,084
24-Sep-2013	0	0	179	5,370	3,807	1,117,892
25-Sep-2013	0	0	0	0	0	1,117,892
26-Sep-2013	0	0	0	0	0	1,117,892
27-Sep-2013	0	0	163	4,890	3,467	1,121,359
28-Sep-2013	0	0	158	4,740	3,361	1,124,719
29-Sep-2013	0	0	0	0	0	1,124,719
30-Sep-2013	0	0	138	4,140	2,935	1,127,655
1-Oct-2013	0	0	123	3,690	2,616	1,130,271
2-Oct-2013	0	0	97	2,910	2,063	1,132,334
3-Oct-2013	0	0	182	5,460	3,871	1,136,205
4-Oct-2013	0	0	201	6,030	4,275	1,140,480

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
5-Oct-2013	0	0	122	3,660	2,595	1,143,075
6-Oct-2013	0	0	0	0	0	1,143,075
7-Oct-2013	0	0	170	5,100	3,616	1,146,691
8-Oct-2013	0	0	185	5,550	3,935	1,150,626
9-Oct-2013	0	0	196	5,880	4,169	1,154,795
10-Oct-2013	0	0	211	6,330	4,488	1,159,283
11-Oct-2013	0	0	113	3,390	2,404	1,161,687
12-Oct-2013	0	0	0	0	0	1,161,687
13-Oct-2013	0	0	0	0	0	1,161,687
14-Oct-2013	0	0	104	3,120	2,212	1,163,899
15-Oct-2013	0	0	49	1,470	1,042	1,164,941
16-Oct-2013	0	0	134	4,020	2,850	1,167,791
17-Oct-2013	0	0	0	0	0	1,167,791
18-Oct-2013	0	0	35	1,050	744	1,168,536
19-Oct-2013	0	0	112	3,360	2,382	1,170,918
20-Oct-2013	0	0	0	0	0	1,170,918
21-Oct-2013	0	0	161	4,830	3,424	1,174,342
22-Oct-2013	0	0	111	3,330	2,361	1,176,703
23-Oct-2013	0	0	172	5,160	3,658	1,180,362
24-Oct-2013	0	0	126	3,780	2,680	1,183,042
25-Oct-2013	0	0	131	3,930	2,786	1,185,828
26-Oct-2013	0	0	149	4,470	3,169	1,188,997
27-Oct-2013	0	0	0	0	0	1,188,997
28-Oct-2013	0	0	131	3,930	2,786	1,191,784
29-Oct-2013	0	0	118	3,540	2,510	1,194,293
30-Oct-2013	0	0	81	2,430	1,723	1,196,016
31-Oct-2013	0	0	74	2,220	1,574	1,197,590
1-Nov-2013	0	0	0	0	0	1,197,590
2-Nov-2013	0	0	0	0	0	1,197,590
3-Nov-2013	0	0	0	0	0	1,197,590
4-Nov-2013	0	0	0	0	0	1,197,590
5-Nov-2013	0	0	107	3,210	2,276	1,199,866
6-Nov-2013	0	0	70	2,100	1,489	1,201,355
7-Nov-2013	0	0	0	0	0	1,201,355
8-Nov-2013	0	0	144	4,320	3,063	1,204,418
9-Nov-2013	0	0	0	0	0	1,204,418
10-Nov-2013	0	0	0	0	0	1,204,418
11-Nov-2013	0	0	116	3,480	2,467	1,206,885
12-Nov-2013	0	0	124	3,720	2,637	1,209,523
13-Nov-2013	0	0	153	4,590	3,254	1,212,777
14-Nov-2013	0	0	144	4,320	3,063	1,215,840
15-Nov-2013	0	0	144	4,320	3,063	1,218,903
16-Nov-2013	0	0	0	0	0	1,218,903

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
17-Nov-2013	0	0	0	0	0	1,218,903
18-Nov-2013	0	0	0	0	0	1,218,903
19-Nov-2013	0	0	153	4,590	3,254	1,222,157
20-Nov-2013	0	0	206	6,180	4,382	1,226,539
21-Nov-2013	0	0	133	3,990	2,829	1,229,368
22-Nov-2013	0	0	132	3,960	2,808	1,232,175
23-Nov-2013	0	0	0	0	0	1,232,175
24-Nov-2013	0	0	0	0	0	1,232,175
25-Nov-2013	0	0	60	1,800	1,276	1,233,452
26-Nov-2013	0	0	0	0	0	1,233,452
27-Nov-2013	0	0	0	0	0	1,233,452
28-Nov-2013	0	0	0	0	0	1,233,452
29-Nov-2013	0	0	0	0	0	1,233,452
30-Nov-2013	0	0	0	0	0	1,233,452
1-Dec-2013	0	0	0	0	0	1,233,452
2-Dec-2013	0	0	0	0	0	1,233,452
3-Dec-2013	0	0	0	0	0	1,233,452
4-Dec-2013	0	0	0	0	0	1,233,452
5-Dec-2013	0	0	76	2,280	1,617	1,235,068
6-Dec-2013	0	0	0	0	0	1,235,068
7-Dec-2013	0	0	0	0	0	1,235,068
8-Dec-2013	0	0	0	0	0	1,235,068
9-Dec-2013	0	0	0	0	0	1,235,068
10-Dec-2013	0	0	0	0	0	1,235,068
11-Dec-2013	0	0	0	0	0	1,235,068
12-Dec-2013	0	0	141	4,230	2,999	1,238,067
13-Dec-2013	0	0	112	3,360	2,382	1,240,449
14-Dec-2013	0	0	0	0	0	1,240,449
15-Dec-2013	0	0	0	0	0	1,240,449
16-Dec-2013	0	0	0	0	0	1,240,449
17-Dec-2013	0	0	-73	-2,190	-1,553	1,238,897
18-Dec-2013	0	0	-37	-1,110	-787	1,238,110
19-Dec-2013	0	0	-10	-300	-213	1,237,897
20-Dec-2013	0	0	149	4,470	3,169	1,241,066
21-Dec-2013	0	0	0	0	0	1,241,066
22-Dec-2013	0	0	0	0	0	1,241,066
23-Dec-2013	0	0	0	0	0	1,241,066
24-Dec-2013	0	0	0	0	0	1,241,066
25-Dec-2013	0	0	0	0	0	1,241,066
26-Dec-2013	0	0	-35	-1,050	-744	1,240,322
27-Dec-2013	0	0	86	2,580	1,829	1,242,151
28-Dec-2013	0	0	0	0	0	1,242,151
29-Dec-2013	0	0	0	0	0	1,242,151

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
30-Dec-2013	0	0	0	0	0	1,242,151
31-Dec-2013	0	0	19	570	404	1,242,555
1-Jan-2014	0	0	0	0	0	1,242,555
2-Jan-2014	0	0	0	0	0	1,242,555
3-Jan-2014	0	0	0	0	0	1,242,555
4-Jan-2014	0	0	0	0	0	1,242,555
5-Jan-2014	0	0	0	0	0	1,242,555
6-Jan-2014	0	0	0	0	0	1,242,555
7-Jan-2014	0	0	0	0	0	1,242,555
8-Jan-2014	0	0	-74	-2,220	-1,574	1,240,981
9-Jan-2014	0	0	54	1,620	1,149	1,242,130
10-Jan-2014	0	0	0	0	0	1,242,130
11-Jan-2014	0	0	0	0	0	1,242,130
12-Jan-2014	0	0	0	0	0	1,242,130
13-Jan-2014	0	0	31	930	659	1,242,789
14-Jan-2014	0	0	0	0	0	1,242,789
15-Jan-2014	0	0	0	0	0	1,242,789
16-Jan-2014	0	0	-53	-1,590	-1,127	1,241,662
17-Jan-2014	0	0	0	0	0	1,241,662
18-Jan-2014	0	0	0	0	0	1,241,662
19-Jan-2014	0	0	0	0	0	1,241,662
20-Jan-2014	0	0	181	5,430	3,850	1,245,512
21-Jan-2014	0	0	172	5,160	3,658	1,249,170
22-Jan-2014	0	0	45	1,350	957	1,250,127
23-Jan-2014	0	0	97	2,910	2,063	1,252,190
24-Jan-2014	0	0	163	4,890	3,467	1,255,657
25-Jan-2014	0	0	158	4,740	3,361	1,259,018
26-Jan-2014	0	0	0	0	0	1,259,018
27-Jan-2014	0	0	215	6,450	4,573	1,263,591
28-Jan-2014	0	0	156	4,680	3,318	1,266,909
29-Jan-2014	0	0	0	0	0	1,266,909
30-Jan-2014	0	0	155	4,650	3,297	1,270,206
31-Jan-2014	0	0	239	7,170	5,084	1,275,290
1-Feb-2014	0	0	97	2,910	2,063	1,277,353
2-Feb-2014	0	0	0	0	0	1,277,353
3-Feb-2014	0	0	0	0	0	1,277,353
4-Feb-2014	0	0	0	0	0	1,277,353
5-Feb-2014	0	0	0	0	0	1,277,353
6-Feb-2014	0	0	0	0	0	1,277,353
7-Feb-2014	0	0	0	0	0	1,277,353
8-Feb-2014	0	0	0	0	0	1,277,353
9-Feb-2014	0	0	0	0	0	1,277,353
10-Feb-2014	0	0	189	5,670	4,020	1,281,373

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
11-Feb-2014	0	0	161	4,830	3,424	1,284,797
12-Feb-2014	0	0	180	5,400	3,829	1,288,626
13-Feb-2014	0	0	0	0	0	1,288,626
14-Feb-2014	0	0	0	0	0	1,288,626
15-Feb-2014	0	0	0	0	0	1,288,626
16-Feb-2014	0	0	0	0	0	1,288,626
17-Feb-2014	0	0	146	4,380	3,105	1,291,731
18-Feb-2014	0	0	-20	-600	-425	1,291,306
19-Feb-2014	0	0	0	0	0	1,291,306
20-Feb-2014	0	0	0	0	0	1,291,306
21-Feb-2014	0	0	0	0	0	1,291,306
22-Feb-2014	0	0	0	0	0	1,291,306
23-Feb-2014	0	0	0	0	0	1,291,306
24-Feb-2014	0	0	25	750	532	1,291,838
25-Feb-2014	0	0	77	2,310	1,638	1,293,475
26-Feb-2014	0	0	127	3,810	2,701	1,296,177
27-Feb-2014	0	0	64	1,920	1,361	1,297,538
28-Feb-2014	0	0	107	3,210	2,276	1,299,814
1-Mar-2014	0	0	162	4,860	3,446	1,303,260
2-Mar-2014	0	0	0	0	0	1,303,260
3-Mar-2014	0	0	0	0	0	1,303,260
4-Mar-2014	0	0	0	0	0	1,303,260
5-Mar-2014	0	0	0	0	0	1,303,260
6-Mar-2014	0	0	210	6,300	4,467	1,307,726
7-Mar-2014	0	0	102	3,060	2,170	1,309,896
8-Mar-2014	0	0	86	2,580	1,829	1,311,725
9-Mar-2014	0	0	70	2,100	1,489	1,313,214
10-Mar-2014	0	0	222	6,660	4,722	1,317,936
11-Mar-2014	0	0	197	5,910	4,190	1,322,126
12-Mar-2014	20	440	0	0	312	1,322,438
13-Mar-2014	53	1,166	209	6,270	5,272	1,327,710
14-Mar-2014	19	418	182	5,460	4,168	1,331,878
15-Mar-2014	0	0	107	3,210	2,276	1,334,154
16-Mar-2014	0	0	0	0	0	1,334,154
17-Mar-2014	0	0	0	0	0	1,334,154
18-Mar-2014	0	0	0	0	0	1,334,154
19-Mar-2014	0	0	22	660	468	1,334,622
20-Mar-2014	0	0	99	2,970	2,106	1,336,727
21-Mar-2014	0	0	77	2,310	1,638	1,338,365
22-Mar-2014	70	1,540	114	3,420	3,517	1,341,882
23-Mar-2014	0	0	0	0	0	1,341,882
24-Mar-2014	91	2,002	112	3,360	3,802	1,345,683
25-Mar-2014	0	0	158	4,740	3,361	1,349,044

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
26-Mar-2014	0	0	151	4,530	3,212	1,352,256
27-Mar-2014	50	1,100	79	2,370	2,460	1,354,716
28-Mar-2014	2	44	13	390	308	1,355,024
29-Mar-2014	0	0	0	0	0	1,355,024
30-Mar-2014	0	0	0	0	0	1,355,024
31-Mar-2014	0	0	161	4,830	3,424	1,358,448
1-Apr-2014	50	1,100	169	5,070	4,375	1,362,823
2-Apr-2014	3	66	160	4,800	3,450	1,366,273
3-Apr-2014	0	0	0	0	0	1,366,273
4-Apr-2014	0	0	0	0	0	1,366,273
5-Apr-2014	0	0	0	0	0	1,366,273
6-Apr-2014	0	0	0	0	0	1,366,273
7-Apr-2014	0	0	0	0	0	1,366,273
8-Apr-2014	0	0	0	0	0	1,366,273
9-Apr-2014	0	0	83	2,490	1,765	1,368,038
10-Apr-2014	57	1,254	98	2,940	2,974	1,371,012
11-Apr-2014	85	1,870	0	0	1,326	1,372,338
12-Apr-2014	3	66	0	0	47	1,372,384
13-Apr-2014	0	0	0	0	0	1,372,384
14-Apr-2014	0	0	0	0	0	1,372,384
15-Apr-2014	0	0	0	0	0	1,372,384
16-Apr-2014	177	3,894	162	4,860	6,207	1,378,591
17-Apr-2014	102	2,244	102	3,060	3,761	1,382,351
18-Apr-2014	20	440	0	0	312	1,382,663
19-Apr-2014	0	0	0	0	0	1,382,663
20-Apr-2014	0	0	0	0	0	1,382,663
21-Apr-2014	109	2,398	0	0	1,700	1,384,364
22-Apr-2014	1	22	0	0	16	1,384,379
23-Apr-2014	10	220	57	1,710	1,368	1,385,748
24-Apr-2014	12	264	0	0	187	1,385,935
25-Apr-2014	0	0	0	0	0	1,385,935
26-Apr-2014	0	0	0	0	0	1,385,935
27-Apr-2014	0	0	0	0	0	1,385,935
28-Apr-2014	0	0	0	0	0	1,385,935
29-Apr-2014	0	0	0	0	0	1,385,935
30-Apr-2014	0	0	0	0	0	1,385,935
1-May-2014	0	0	0	0	0	1,385,935
2-May-2014	0	0	130	3,900	2,765	1,388,700
3-May-2014	0	0	122	3,660	2,595	1,391,295
4-May-2014	0	0	0	0	0	1,391,295
5-May-2014	0	0	0	0	0	1,391,295
6-May-2014	0	0	0	0	0	1,391,295
7-May-2014	0	0	0	0	0	1,391,295

Date	Ash Removed from Dredge Cell (Relic Area)					
	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
8-May-2014	0	0	0	0	0	1,391,295
9-May-2014	0	0	2	60	43	1,391,337
10-May-2014	0	0	0	0	0	1,391,337
11-May-2014	0	0	0	0	0	1,391,337
12-May-2014	0	0	130	3,900	2,765	1,394,102
13-May-2014	0	0	191	5,730	4,063	1,398,165
14-May-2014	0	0	188	5,640	3,999	1,402,164
15-May-2014	0	0	0	0	0	1,402,164
16-May-2014	0	0	0	0	0	1,402,164
17-May-2014	5	110	0	0	78	1,402,242
18-May-2014	0	0	0	0	0	1,402,242
19-May-2014	0	0	86	2,580	1,829	1,404,071
20-May-2014	0	0	102	3,060	2,170	1,406,241
21-May-2014	84	1,848	230	6,900	6,202	1,412,443
22-May-2014	27	594	256	7,680	5,866	1,418,309
23-May-2014	62	1,364	202	6,060	5,264	1,423,573
24-May-2014	97	2,134	156	4,680	4,831	1,428,404
25-May-2014	0	0	0	0	0	1,428,404
26-May-2014	0	0	0	0	0	1,428,404
27-May-2014	157	3,454	184	5,520	6,363	1,434,766
28-May-2014	100	2,200	178	5,340	5,346	1,440,112
29-May-2014	116	2,552	211	6,330	6,297	1,446,410
30-May-2014	139	3,058	109	3,270	4,487	1,450,896
31-May-2014	146	3,212	9	270	2,469	1,453,365
1-Jun-2014	0	0	0	0	0	1,453,365
2-Jun-2014	160	3,520	45	1,350	3,453	1,456,818
3-Jun-2014	117	2,574	152	4,560	5,058	1,461,876
4-Jun-2014	132	2,904	0	0	2,059	1,463,935
5-Jun-2014	140	3,080	68	2,040	3,630	1,467,565
6-Jun-2014	134	2,948	197	5,910	6,280	1,473,845
7-Jun-2014	115	2,530	100	3,000	3,921	1,477,766
8-Jun-2014	0	0	0	0	0	1,477,766
9-Jun-2014	115	2,530	8	240	1,964	1,479,730
10-Jun-2014	65	1,430	7	210	1,163	1,480,893
11-Jun-2014	0	0	0	0	0	1,480,893
12-Jun-2014	0	0	0	0	0	1,480,893
13-Jun-2014	0	0	0	0	0	1,480,893
14-Jun-2014	0	0	0	0	0	1,480,893
15-Jun-2014	0	0	0	0	0	1,480,893
16-Jun-2014	82	1,804	182	5,460	5,150	1,486,043
17-Jun-2014	143	3,146	128	3,840	4,953	1,490,996
18-Jun-2014	28	616	60	1,800	1,713	1,492,709
19-Jun-2014	30	660	57	1,710	1,680	1,494,389

	Ash Removed from Dredge Cell (Relic Area)					
Date	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
20-Jun-2014	4	88	48	1,440	1,083	1,495,472
21-Jun-2014	0	0	56	1,680	1,191	1,496,664
22-Jun-2014	0	0	0	0	0	1,496,664
23-Jun-2014	0	0	105	3,150	2,233	1,498,897
24-Jun-2014	0	0	53	1,590	1,127	1,500,024
25-Jun-2014	0	0	0	0	0	1,500,024
26-Jun-2014	0	0	0	0	0	1,500,024
27-Jun-2014	0	0	18	540	383	1,500,407
28-Jun-2014	0	0	0	0	0	1,500,407
29-Jun-2014	0	0	0	0	0	1,500,407
30-Jun-2014	0	0	16	480	340	1,500,747
1-Jul-2014	0	0	64	1,920	1,361	1,502,109
2-Jul-2014	0	0	0	0	0	1,502,109
3-Jul-2014	0	0	0	0	0	1,502,109
4-Jul-2014	0	0	0	0	0	1,502,109
5-Jul-2014	0	0	0	0	0	1,502,109
6-Jul-2014	0	0	0	0	0	1,502,109
7-Jul-2014	0	0	0	0	0	1,502,109
8-Jul-2014	0	0	0	0	0	1,502,109
9-Jul-2014	0	0	0	0	0	1,502,109
10-Jul-2014	0	0	0	0	0	1,502,109
11-Jul-2014	0	0	0	0	0	1,502,109
12-Jul-2014	0	0	0	0	0	1,502,109
13-Jul-2014	0	0	0	0	0	1,502,109
14-Jul-2014	0	0	0	0	0	1,502,109
15-Jul-2014	0	0	0	0	0	1,502,109
16-Jul-2014	0	0	0	0	0	1,502,109
17-Jul-2014	0	0	0	0	0	1,502,109
18-Jul-2014	0	0	0	0	0	1,502,109
19-Jul-2014	0	0	0	0	0	1,502,109
20-Jul-2014	0	0	0	0	0	1,502,109
21-Jul-2014	0	0	0	0	0	1,502,109
22-Jul-2014	0	0	0	0	0	1,502,109
23-Jul-2014	0	0	0	0	0	1,502,109
24-Jul-2014	0	0	0	0	0	1,502,109
25-Jul-2014	0	0	0	0	0	1,502,109
26-Jul-2014	0	0	0	0	0	1,502,109
27-Jul-2014	0	0	0	0	0	1,502,109
28-Jul-2014	0	0	0	0	0	1,502,109
29-Jul-2014	0	0	0	0	0	1,502,109
30-Jul-2014	0	0	0	0	0	1,502,109
31-Jul-2014	0	0	0	0	0	1,502,109

APPENDIX C

Daily Production Statistics - Lime Treatment

Lime Treatment 2010-2011					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
1/13/2011	2,800	99.26	3.5%	29.9%	28.3%
1/14/2011	1,530	74.62	4.8%	28.7%	27.8%
1/15/2011	-	-	-	-	-
1/16/2011	-	-	-	-	-
1/17/2011	2,365	119.85	5.0%	28.2%	30.2%
1/18/2011	1,896	74.95	3.9%	24.9%	-
1/19/2011	2,217	68.43	3.0%	-	26.4%
1/20/2011	2,289	98.83	4.3%	28.4%	27.3%
1/21/2011	1,604	95.93	5.9%	23.8%	22.5%
1/22/2011	-	-	-	-	-
1/23/2011	-	-	-	-	-
1/24/2011	2,950	123.39	4.1%	27.3%	23.7%
1/25/2011	2,423	99.51	4.1%	26.9%	23.9%
1/26/2011	2,668	123.34	4.6%	28.3%	25.9%
1/27/2011	2,555	124.76	4.8%	29.1%	25.8%
1/28/2011	2,389	123.83	5.1%	28.8%	24.7%
1/29/2011	-	-	-	-	-
1/30/2011	-	-	-	-	-
1/31/2011	2,666	124.50	4.6%	29.0%	23.4%
2/1/2011	1,306	76.23	5.8%	28.3%	23.7%
2/2/2011	1,620	72.97	4.4%	30.5%	24.5%
2/3/2011	2,021	119.00	5.8%	25.2%	26.2%
2/4/2011	-	-	-	-	26.4%
2/5/2011	-	-	-	-	-
2/6/2011	-	-	-	-	-
2/7/2011	-	-	-	-	25.1%
2/8/2011	2,769	147.70	5.3%	29.6%	-
2/9/2011	2,122	125.16	5.8%	28.5%	25.6%
2/10/2011	2,083	120.18	5.7%	25.9%	26.4%
2/11/2011	2,223	122.63	5.4%	26.6%	26.3%
2/12/2011	2,084	122.64	5.8%	26.1%	23.4%
2/13/2011	-	-	-	-	-
2/14/2011	2,555	114.89	4.4%	22.2%	19.8%
2/15/2011	2,444	120.26	4.9%	23.9%	22.7%
2/16/2011	2,388	114.78	4.7%	23.2%	22.5%
2/17/2011	2,642	120.69	4.5%	23.6%	22.4%
2/18/2011	2,915	144.20	4.9%	29.5%	22.9%
2/19/2011	2,194	120.73	5.4%	27.4%	23.0%
2/20/2011	-	-	-	-	-
2/21/2011	3,452	145.58	4.2%	27.0%	24.1%
2/22/2011	2,415	122.04	5.0%	27.6%	25.1%

Lime Treatment 2010-2011					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
2/23/2011	2,416	123.30	5.0%	28.1%	24.3%
2/24/2011	3,604	174.54	4.8%	26.2%	-
2/25/2011	-	-	-	-	-
2/26/2011	-	-	-	-	-
2/27/2011	-	-	-	-	-
2/28/2011	-	-	-	-	-
3/1/2011	-	-	-	-	-
3/2/2011	-	-	-	-	24.7%
3/3/2011	3,387	149.67	4.4%	30.1%	23.8%
3/4/2011	3,018	148.77	4.9%	28.4%	25.4%
3/5/2011	-	-	-	-	-
3/6/2011	-	-	-	-	-
3/7/2011	3,022	173.36	5.7%	28.1%	26.3%
3/8/2011	1,971	117.52	5.9%	26.5%	25.5%
3/9/2011	2,111	121.14	5.7%	-	-
3/10/2011	-	-	-	-	-
3/11/2011	2,272	121.82	5.3%	27.0%	23.5%
3/12/2011	2,110	115.92	5.4%	29.9%	24.7%
3/13/2011	2,277	71.08	3.1%	25.1%	23.6%
3/14/2011	3,982	117.37	2.9%	24.9%	24.9%
3/15/2011	2,416	119.16	4.9%	-	-
3/16/2011	2,460	155.01	6.2%	28.9%	25.3%
3/17/2011	3,470	146.62	4.2%	25.0%	25.6%
3/18/2011	2,534	145.68	5.7%	27.9%	25.8%
3/19/2011	-	-	-	-	24.8%
3/20/2011	-	-	-	-	-
3/21/2011	4,054	148.94	3.6%	25.8%	25.5%
3/22/2011	4,748	147.89	3.1%	22.5%	23.9%
3/23/2011	1,555	72.41	4.6%	28.9%	22.6%
3/24/2011	-	-	-	26.0%	23.3%
3/25/2011	3,749	117.74	3.1%	31.0%	21.9%
3/26/2011	-	-	-	-	-
3/27/2011	-	-	-	-	-
3/28/2011	2,666	122.83	4.6%	21.6%	-
3/29/2011	-	-	-	-	-
3/30/2011	-	-	-	-	-
3/31/2011	-	-	-	-	-
4/1/2011	-	-	-	-	-
4/2/2011	-	-	-	-	-
4/3/2011	-	-	-	-	25.5%
4/4/2011	4,055	120.67	2.9%	22.7%	-

Lime Treatment 2010-2011					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
4/5/2011	2,222	73.43	3.3%	28.3%	-
4/6/2011	1,444	75.11	5.1%	-	24.7%
4/7/2011	2,556	123.71	4.8%	26.1%	24.3%
4/8/2011	2,639	119.09	4.5%	27.1%	24.1%
4/9/2011	-	-	-	24.0%	23.6%
4/10/2011	-	-	-	-	-
4/11/2011	-	-	-	-	23.3%
4/12/2011	4,194	151.21	3.6%	24.4%	-
4/13/2011	2,000	91.89	4.5%	24.3%	25.4%
4/14/2011	2,694	117	4.3%	25.6%	22.7%
4/15/2011	2,444	123.21	5.0%	25.5%	-
4/16/2011	-	-	-	-	-
4/17/2011	-	-	-	-	-
4/18/2011	2,722	123.12	4.5%	28.0%	26.4%
4/19/2011	2,555	119.25	4.6%	25.6%	27.9%
4/20/2011	-	-	-	-	-
4/21/2011	5,000	146.84	2.9%	23.0%	24.5%
4/22/2011	2,611	97.51	3.7%	-	25.8%
4/23/2011	-	-	-	-	-
4/24/2011	-	-	-	-	-
4/25/2011	-	-	-	22.9%	21.6%
4/26/2011	3,833	118.17	3.0%	22.5%	22.2%
4/27/2011	-	-	-	-	-
4/28/2011	1,944	92.32	4.7%	26.1%	-
4/29/2011	1,889	70.39	3.7%	-	22.8%
4/30/2011	2,167	95.32	4.3%	25.0%	24.6%
5/1/2011	3,000	96.80	3.2%	25.0%	25.2%
5/2/2011	3,333	118.75	3.5%	24.7%	24.1%
5/3/2011	2,666	93.81	3.5%	26.0%	25.4%
5/4/2011	2,222	119.40	5.3%	25.3%	-
5/5/2011	3,662	116.49	3.1%	25.0%	24.4%
5/6/2011	4,376	119.56	2.7%	28.7%	24.1%
5/7/2011	-	-	-	-	26.0%
5/8/2011	-	-	-	-	-
5/9/2011	-	-	-	25.4%	24.6%
5/10/2011	4,827	171.50	3.5%	27.2%	-
5/11/2011	3,759	147.80	3.9%	25.2%	25.9%
5/12/2011	2,917	119.55	4.0%	27.1%	24.5%
5/13/2011	4,666	164.53	3.5%	30.7%	24.1%
5/14/2011	3,402	112.36	3.3%	-	-
5/15/2011	-	-	-	-	-

Lime Treatment 2010-2011					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
5/16/2011	2,872	119.44	4.1%	28.8%	24.8%
5/17/2011	3,046	119.34	3.9%	30.5%	25.7%
5/18/2011	2,418	115.88	4.7%	28.9%	24.5%
5/19/2011	3,520	171.12	4.8%	29.0%	27.4%
5/20/2011	4,641	190.74	4.1%	28.4%	26.4%
5/21/2011	2,715	121.28	4.4%	24.5%	25.7%
5/22/2011	-	-	-	-	-
5/23/2011	4,028	189.26	4.6%	28.6%	21.8%
5/24/2011	2,639	117.95	4.4%	25.5%	25.4%
5/25/2011	1,956	68.90	3.5%	27.2%	-
5/26/2011	3,139	120.78	3.8%	28.2%	24.5%
5/27/2011	1,666	71.32	4.2%	-	26.8%
5/28/2011	-	-	-	-	-
5/29/2011	-	-	-	-	-
5/30/2011	-	-	-	-	-
5/31/2011	-	-	-	-	-
6/1/2011	3,166	119.84	3.70%	27.2%	25.7%
6/2/2011	3,389	118.93	3.50%	25.9%	24.4%
6/3/2011	1,711	71.61	4.10%	26.1%	22.8%
6/4/2011	-	-	-	-	-
6/5/2011	-	-	-	-	-
6/6/2011	-	-	-	25.5%	26.2%
6/7/2011	4,278	126.36	2.90%	23.1%	24.3%
6/8/2011	4,777	119.48	2.50%	28.3%	23.0%
6/9/2011	3,600	91.18	2.50%	25.4%	24.2%
6/10/2011	2,700	72.28	2.60%	26.1%	25.0%
6/11/2011	-	-	-	-	24.6%
6/12/2011	-	-	-	-	-
6/13/2011	-	-	-	23.1%	-
6/14/2011	4,733	119.15	2.50%	25.3%	-
6/15/2011	4,667	117.22	2.50%	24.9%	25.5%
6/16/2011	-	-	-	-	-
6/17/2011	-	-	-	-	-
6/18/2011	-	-	-	-	-
6/19/2011	-	-	-	-	-
6/20/2011	-	-	-	-	25.1%
6/21/2011	-	-	-	-	-
6/22/2011	-	-	-	-	-
6/23/2011	-	-	-	-	-
Total	**276,867**	**11,473**	**4.1%**	**26.5%**	**24.7%**

Lime Treatment 2011-2012					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
12/14/2011	-	-	-	28.9%	-
12/15/2011	2,302	96	4.1%	31.5%	-
12/16/2011	-	-	-	-	-
12/17/2011	-	-	-	-	-
12/18/2011	-	-	-	-	-
12/19/2011	1,898	97	5.0%	-	-
12/20/2011	2,831	119	4.1%	27.4%	30.2%
12/21/2011	2,691	117	4.3%	32.5%	28.2%
12/22/2011	2,160	121	5.5%	-	27.3%
12/23/2011	-	-	-	-	-
12/24/2011	-	-	-	-	-
12/25/2011	-	-	-	-	-
12/26/2011	-	-	-	-	-
12/27/2011	-	-	-	-	-
12/28/2011	2,610	122	4.6%	31.8%	-
12/29/2011	1,980	97	4.8%	29.4%	26.6%
12/30/2011	2,700	121	4.4%	29.9%	27.1%
12/31/2011	-	-	-	-	-
1/1/2012	-	-	-	-	-
1/2/2012	-	-	-	-	-
1/3/2012	3,000	119	3.9%	25.8%	24.2%
1/4/2012	2,981	119	3.9%	25.4%	26.6%
1/5/2012	3,465	139	4.0%	26.3%	25.9%
1/6/2012	1,791	73	4.0%	25.3%	26.3%
1/7/2012	-	-	-	-	-
1/8/2012	-	-	-	-	-
1/9/2012	2,310	95	4.1%	-	23.7%
1/10/2012	2,130	92	4.3%	28.2%	25.0%
1/11/2012	-	-	-	-	-
1/12/2012	1,740	94	5.4%	-	-
1/13/2012	1,950	93	4.7%	-	-
1/14/2012	-	-	-	-	26.3%
1/15/2012	-	-	-	-	-
1/16/2012	-	-	-	-	25.7%
1/17/2012	1,494	71	4.7%	-	-
1/18/2012	2,302	119	5.1%	28.8%	28.8%
1/19/2012	1,922	96	4.9%	-	26.9%
1/20/2012	2,365	94	3.9%	-	25.7%
1/21/2012	-	-	-	-	-
1/22/2012	-	-	-	-	-
1/23/2012	-	-	-	-	-
1/24/2012	1,920	97	5.0%	28.9%	29.0%

Lime Treatment 2011-2012					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
1/25/2012	2,003	93	4.6%	30.1%	27.0%
1/26/2012	-	-	-	-	-
1/27/2012	1,980	97	4.8%	-	-
1/28/2012	-	-	-	-	-
1/29/2012	-	-	-	-	-
1/30/2012	-	-	-	-	27.1%
1/31/2012	1,920	101	5.2%	27.4%	27.1%
2/1/2012	2,190	97	4.4%	28.3%	26.0%
2/2/2012	2,021	97	4.7%	28.3%	26.1%
2/3/2012	2,146	97	4.4%	30.0%	26.0%
2/4/2012	-	-	-	-	-
2/5/2012	-	-	-	-	-
2/6/2012	-	-	-	29.9%	26.9%
2/7/2012	1,980	99.33	5.0%	28.3%	26.4%
2/8/2012	2,348	97.98	4.1%	26.0%	25.6%
2/9/2012	2,550	99.89	3.9%	26.8%	25.8%
2/10/2012	2,220	95.97	4.3%	26.5%	25.9%
2/11/2012	-	-	-	-	-
2/12/2012	-	-	-	-	-
2/13/2012	-	-	-	28.3%	26.2%
2/14/2012	-	-	-	28.9%	-
2/15/2012	3,081	119.83	3.8%	30.1%	27.4%
2/16/2012	1,560	72.89	4.6%	31.8%	26.4%
2/17/2012	2,900	122.67	4.2%	30.6%	26.2%
2/18/2012	-	-	-	-	-
2/19/2012	-	-	-	-	-
2/20/2012	-	-	-	28.0%	26.7%
2/21/2012	2,280	96.55	4.2%	28.4%	26.6%
2/22/2012	2,340	98.84	4.2%	27.6%	25.4%
2/23/2012	2,458	122.91	4.9%	28.8%	25.7%
2/24/2012	2,806	122.67	4.3%	26.4%	25.7%
2/25/2012	-	-	-	-	-
2/26/2012	-	-	-	-	-
2/27/2012	-	-	-	26.2%	24.9%
2/28/2012	1,980	96.92	4.8%	24.9%	23.1%
2/29/2012	-	-	-	28.3%	-
3/1/2012	2,220	99.36	4.4%	29.1%	25.2%
3/2/2012	2,580	121.02	4.6%	-	25.0%
3/3/2012	-	-	-	-	-
3/4/2012	-	-	-	-	-
3/5/2012	-	-	-	27.6%	25.7%
3/6/2012	2,530	95.86	3.7%	27.9%	26.1%

Lime Treatment 2011-2012					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
3/7/2012	2,281	97.51	4.2%	29.7%	26.5%
3/8/2012	2,888	122.67	4.2%	27.7%	26.3%
3/9/2012	-	-	-	29.3%	27.0%
3/10/2012	-	-	-	-	-
3/11/2012	-	-	-	-	-
3/12/2012	-	-	-	28.7%	27.0%
3/13/2012	2,333	97.4	4.1%	27.3%	27.0%
3/14/2012	2,126	99.1	4.6%	28.0%	26.4%
3/15/2012	2,302	98.1	4.2%	-	-
3/16/2012	2,302	97.9	4.2%	28.6%	25.1%
3/17/2012	-	-	-	-	-
3/18/2012	-	-	-	-	-
3/19/2012	-	-	-	26.7%	25.2%
3/20/2012	2,177	98.8	4.5%	25.6%	25.9%
3/21/2012	2,052	98.9	4.8%	28.1%	24.6%
3/22/2012	2,302	100	4.3%	27.8%	23.5%
3/23/2012	-	-	-	28.6%	24.7%
3/24/2012	-	-	-	-	-
3/25/2012	-	-	-	-	-
3/26/2012	-	-	-	29.8%	24.5%
3/27/2012	2,220	97.44	4.3%	27.2%	-
3/28/2012	2,050	96.02	4.6%	26.7%	24.3%
3/29/2012	2,430	95.11	3.9%	26.9%	24.3%
3/30/2012	2,220	98.67	4.4%	29.9%	24.0%
3/31/2012	-	-	-	-	-
4/1/2012	-	-	-	-	-
Total	**126,318**	**5,630**	**4.4%**	**28.3%**	**26.0%**

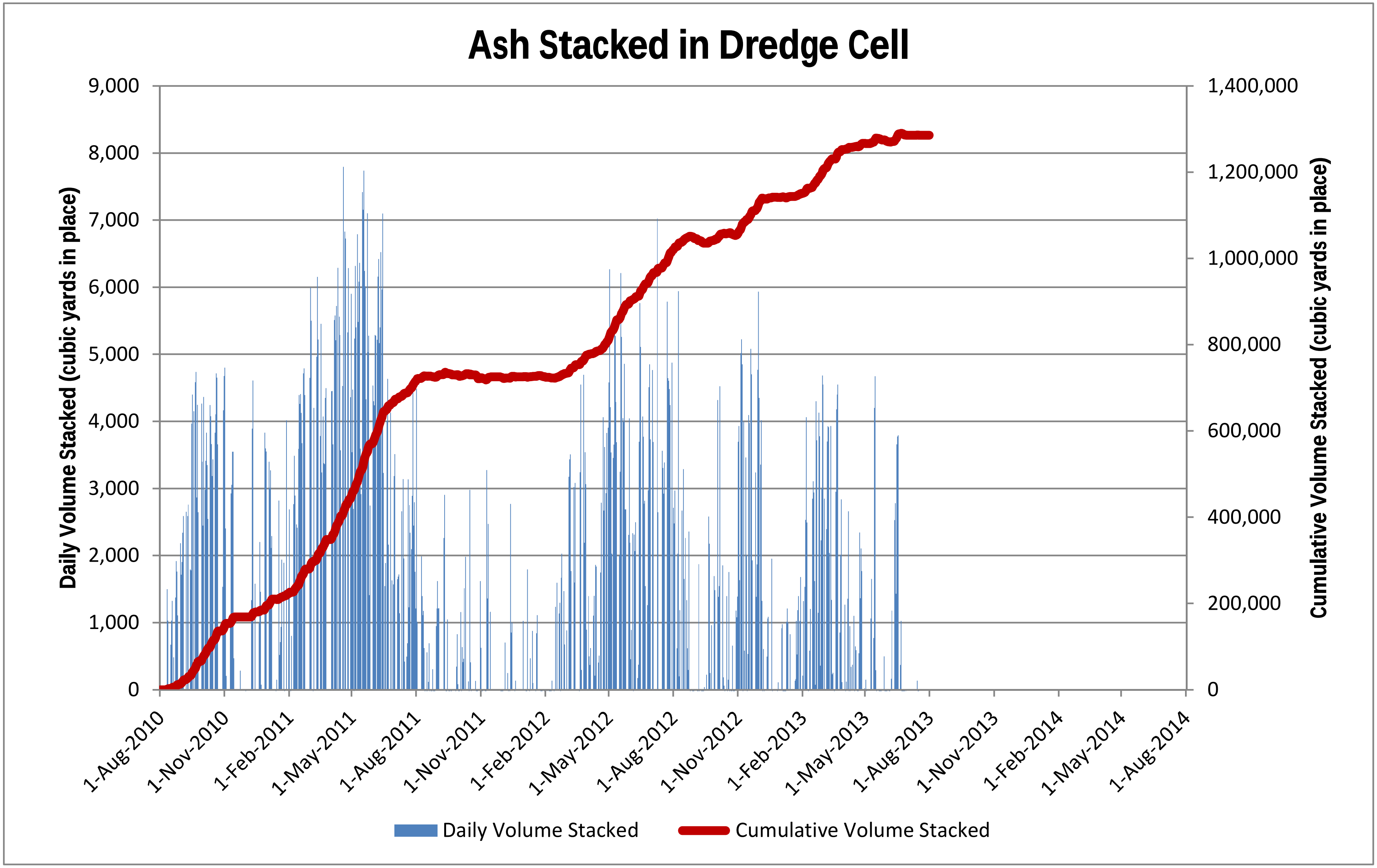
Lime Treatment 2012-2013					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
11/28/2011	-	-	-	29.9%	-
11/29/2011	2,209	124.98	5.6%	-	-
11/30/2011	2,265	97.95	4.3%	-	22.5%
12/1/2012	-	-	-	-	-
12/2/2012	-	-	-	-	-
12/3/2012	-	-	-	-	25.8%
12/4/2012	1,920	101.05	5.2%	28.9%	-
12/5/2012	-	-	-	-	-
12/6/2012	2,241	122.59	5.4%	-	-
12/7/2012	1,290	73.26	5.6%	-	-
12/8/2012	-	-	-	-	-
12/9/2012	-	-	-	-	-
12/10/2012	-	-	-	-	-
12/11/2012	1,608	75.61	4.6%	26.9%	-
12/12/2012	2,209	127.99	5.7%	23.9%	24.6%
12/13/2012	2,370	126.32	5.3%	26.5%	25.0%
12/14/2012	1,457	75.78	5.1%	25.9%	23.1%
12/15/2012	-	-	-	-	-
12/16/2012	-	-	-	-	-
12/17/2012	-	-	-	-	-
12/18/2012	1,312	77.02	5.8%	-	-
12/19/2012	1,340	75.49	5.6%	-	24.8%
12/20/2012	-	-	-	-	-
12/21/2012	-	-	-	-	-
12/22/2012	-	-	-	-	-
12/23/2012	-	-	-	-	-
12/24/2012	-	-	-	-	-
12/25/2012	-	-	-	-	-
12/26/2012	-	-	-	-	-
12/27/2012	-	-	-	-	-
12/28/2012	-	-	-	-	-
12/29/2012	-	-	-	-	-
12/30/2012	-	-	-	-	-
1/1/2013	-	-	-	-	-
1/2/2013	1,680	101.05	5.9%	30.4%	-
1/3/2013	1,685	101.17	5.9%	35.0%	27.6%
1/4/2013	1,991	100.21	5.0%	31.5%	27.3%
1/5/2013	-	-	-	-	-
1/6/2013	-	-	-	-	-
1/7/2013	2,567	128.48	4.9%	31.9%	26.5%
1/8/2013	2,715	130.94	4.8%	29.5%	28.0%
1/9/2013	2,570	131.09	5.0%	33.6%	26.0%

Lime Treatment 2012-2013					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
1/10/2013	2,370	104.88	4.4%	30.2%	27.6%
1/11/2013	1,836	105.43	5.67%	36.1%	26.1%
1/12/2013	-	-	-	-	27.2%
1/13/2013	-	-	-	-	-
1/14/2013	-	-	-	-	-
1/15/2013	-	-	-	-	-
1/16/2013	1,867	103.89	4.85%	30.3%	-
1/17/2013			-	-	-
1/18/2013	1,697	103.17	5.30%	32.6%	26.8%
1/19/2013	-	-	-	-	-
1/20/2013	-	-	-	-	-
1/21/2013	-	-	-	-	27.8%
1/22/2013	2,214	104.44	4.11%	27.5%	25.1%
1/23/2013	2,163	130.00	5.24%	30.4%	25.2%
1/24/2013	1,918	125.19	5.69%	-	24.6%
1/25/2013	-	-	-	-	-
1/26/2013	-	-	-	-	24.5%
1/27/2013	-	-	-	-	-
1/28/2013	2,411	130.23	4.71%	33.8%	-
1/29/2013	1,841	103.76	4.91%	30.5%	24.3%
1/30/2013	-	-	-	-	-
1/31/2013	2,317	129.10	4.86%	32.4%	28.3%
2/1/2013	2,147	130.55	5.30%	-	27.6%
2/2/2013	-	-	-	-	-
2/3/2013	-	-	-	-	-
2/4/2013	2,281	132.8	5.07%	31.9%	-
2/5/2013	2,981	158.54	4.63%	29.5%	29.2%
2/6/2013	2,735	155.41	5.61%	30.3%	27.5%
2/7/2013	2,153	131.65	5.33%	30.2%	25.8%
2/8/2013	1,737	103.71	5.60%	29.0%	24.7%
2/9/2013	-	-	-	-	-
2/10/2013	-	-	-	-	-
2/11/2013	2,402	132.75	5.46%	30.8%	26.1%
2/12/2013	2,662	158.07	5.86%	31.3%	25.0%
2/13/2013	1,348	78.78	5.77%	32.2%	24.0%
2/14/2013	2,333	130.1	5.51%	33.0%	25.4%
2/15/2013	2,601	130.84	4.97%	-	27.6%
2/16/2013	-	-	-	-	25.5%
2/17/2013	-		-	28.6%	-
2/18/2013	1,555	77.75	4.94%	-	-
2/19/2013	2,538	132.48	5.16%	30.6%	-
2/20/2013	1,926	105.45	5.41%	28.8%	24.3%

Lime Treatment 2012-2013					
Date	Total Treated Volume (cy)	Total Weight of Lime Applied (tons)	Effective Application Rate (%)	Average Moisture Content (%) (pre-trmt)	Average Moisture Content (%) (post-trmt)
2/21/2013	3,189	157.47	4.88%	25.5%	25.5%
2/22/2013	2,612	130.65	4.94%	28.4%	24.4%
2/23/2013	-	-	-	-	24.5%
2/24/2013	-	-	-	-	24.5%
2/25/2013	2,988	157.45	5.20%	30.9%	24.9%
2/26/2013	1,582	78.92	4.93%	31.2%	26.2%
2/27/2013	2,245	106.37	4.68%	33.7%	24.8%
2/28/2013	3,041	158.99	5.16%	29.3%	26.8%
3/1/2013	3,240	157.21	4.79%	28.9%	24.6%
3/2/2013	-		-	-	-
3/3/2013	-		-	-	-
3/4/2013	2,412	126.53	5.18%	-	-
3/5/2013	-		-	-	-
3/6/2013	2,773	155.41	5.54%	30.1%	27.2%
3/7/2013	3,137	156.63	4.93%	32.8%	25.9%
3/8/2013	2,545	125.83	4.88%	31.2%	26.3%
3/9/2013	-		-	-	24.6%
3/10/2013	-		-	-	-
3/11/2013	1,815	78.01	4.25%	26.9%	-
3/12/2013	3,189	155.42	4.81%	-	-
3/13/2013	1,893	78.09	4.07%	26.5%	25.8%
3/14/2013	2,359	105.01	4.40%	29.7%	26.9%
3/15/2013	3,527	156.49	4.38%	31.3%	24.3%
3/16/2013	-		-	-	24.8%
3/17/2013	-		-	-	-
3/18/2013	2,411	104.92	4.30%	24.7%	-
3/19/2013	3,397	158.39	4.61%	30.5%	21.2%
3/20/2013	3,143	156.98	4.93%	28.5%	25.6%
3/21/2013	2,981	156.73	5.19%	31.9%	25.4%
3/22/2013	2,028	104.34	5.08%	30.4%	26.5%
3/23/2013	-		-	-	-
3/24/2013	-		-	-	-
3/25/2013	2,126	102.48	4.76%	30.5%	33.3%
3/26/2013	2,380	128.93	5.35%	30.1%	25.1%
3/27/2013	2,810	155.41	5.46%	30.3%	25.5%
3/28/2013	2,204	105.2	4.71%	-	25.0%
3/29/2013	-	-	-	-	31.4%
3/30/2013	-	-	-	-	-
3/31/2013	-	-	-	-	-
Total	**151,489**	**7,928**	**5.1%**	**30.1%**	**25.9%**

APPENDIX D

Daily Production Statistics - Ash Stacking



Ash Stacked in Dredge Cell
Daily Volume Stacked (cubic yards in place)
Cumulative Volume Stacked (cubic yards in place)
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
1-Aug-2010
1-Nov-2010
1-Feb-2011
1-May-2011
1-Aug-2011
1-Nov-2011
1-Feb-2012
1-May-2012
1-Aug-2012
1-Nov-2012
1-Feb-2013
1-May-2013
1-Aug-2013
1-Nov-2013
1-Feb-2014
1-May-2014
1-Aug-2014
Daily Volume Stacked
Cumulative Volume Stacked

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
1-Aug-2010	0	0	0	0	0	0
2-Aug-2010	0	0	0	0	0	0
3-Aug-2010	0	0	0	0	0	0
4-Aug-2010	0	0	0	0	0	0
5-Aug-2010	0	0	0	0	0	0
6-Aug-2010	0	0	0	0	0	0
7-Aug-2010	0	0	0	0	0	0
8-Aug-2010	0	0	0	0	0	0
9-Aug-2010	0	0	0	0	0	0
10-Aug-2010	0	0	0	0	0	0
11-Aug-2010	96	2,112	0	0	1,497	1,497
12-Aug-2010	66	1,452	0	0	1,029	2,527
13-Aug-2010	0	0	0	0	0	2,527
14-Aug-2010	0	0	0	0	0	2,527
15-Aug-2010	0	0	0	0	0	2,527
16-Aug-2010	43	946	0	0	671	3,198
17-Aug-2010	66	1,452	0	0	1,029	4,227
18-Aug-2010	85	1,870	0	0	1,326	5,553
19-Aug-2010	0	0	0	0	0	5,553
20-Aug-2010	31	682	0	0	484	6,036
21-Aug-2010	0	0	0	0	0	6,036
22-Aug-2010	0	0	0	0	0	6,036
23-Aug-2010	88	1,936	0	0	1,373	7,409
24-Aug-2010	123	2,706	0	0	1,919	9,328
25-Aug-2010	113	2,486	0	0	1,763	11,090
26-Aug-2010	71	1,562	0	0	1,107	12,198
27-Aug-2010	0	0	0	0	0	12,198
28-Aug-2010	0	0	0	0	0	12,198
29-Aug-2010	0	0	0	0	0	12,198
30-Aug-2010	140	3,080	0	0	2,184	14,381
31-Aug-2010	110	2,420	0	0	1,716	16,097
1-Sep-2010	122	2,684	0	0	1,903	18,000
2-Sep-2010	150	3,300	0	0	2,340	20,340
3-Sep-2010	166	3,652	0	0	2,589	22,929
4-Sep-2010	0	0	0	0	0	22,929
5-Sep-2010	0	0	0	0	0	22,929
6-Sep-2010	0	0	0	0	0	22,929
7-Sep-2010	170	3,740	0	0	2,652	25,581
8-Sep-2010	0	0	0	0	0	25,581
9-Sep-2010	166	3,652	0	0	2,589	28,170
10-Sep-2010	177	3,894	0	0	2,761	30,931
11-Sep-2010	0	0	0	0	0	30,931

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
12-Sep-2010						
13-Sep-2010	145	3,190	0	0	1,792	32,723
14-Sep-2010	144	3,168	0	0	1,780	34,503
15-Sep-2010	321	7,062	0	0	3,967	38,470
16-Sep-2010	356	7,832	0	0	4,400	42,870
17-Sep-2010	0	0	0	0	0	42,870
18-Sep-2010	284	6,248	38	1,140	4,151	47,021
19-Sep-2010	0	0	0	0	0	47,021
20-Sep-2010	371	8,162	0	0	4,585	51,606
21-Sep-2010	195	4,290	138	4,140	4,736	56,342
22-Sep-2010	199	4,378	24	720	2,864	59,206
23-Sep-2010	300	6,600	32	960	4,247	63,453
24-Sep-2010	214	4,708	0	0	2,645	66,098
25-Sep-2010	0	0	0	0	0	66,098
26-Sep-2010	0	0	0	0	0	66,098
27-Sep-2010	0	0	0	0	0	66,098
28-Sep-2010	0	0	0	0	0	66,098
29-Sep-2010	345	7,590	0	0	4,264	70,362
30-Sep-2010	275	6,050	0	0	3,399	73,761
1-Oct-2010	198	4,356	0	0	2,447	76,208
2-Oct-2010	289	6,358	47	1,410	4,364	80,572
3-Oct-2010	0	0	0	0	0	80,572
4-Oct-2010	241	5,302	0	0	2,979	83,551
5-Oct-2010	276	6,072	0	0	3,411	86,962
6-Oct-2010	310	6,820	0	0	3,831	90,794
7-Oct-2010	271	5,962	0	0	3,349	94,143
8-Oct-2010	206	4,532	0	0	2,546	96,689
9-Oct-2010	0	0	0	0	0	96,689
10-Oct-2010	0	0	0	0	0	96,689
11-Oct-2010	267	5,874	56	1,680	4,244	100,933
12-Oct-2010	267	5,874	46	1,380	4,075	105,008
13-Oct-2010	232	5,104	47	1,410	3,660	108,668
14-Oct-2010	210	4,620	35	1,050	3,185	111,853
15-Oct-2010	200	4,400	57	1,710	3,433	115,286
16-Oct-2010	0	0	0	0	0	115,286
17-Oct-2010	0	0	0	0	0	115,286
18-Oct-2010	235	5,170	55	1,650	3,831	119,117
19-Oct-2010	257	5,654	55	1,650	4,103	123,221
20-Oct-2010	316	6,952	48	1,440	4,715	127,935
21-Oct-2010	315	6,930	45	1,350	4,652	132,587
22-Oct-2010	244	5,368	38	1,140	3,656	136,243
23-Oct-2010	0	0	0	0	0	136,243

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
24-Oct-2010	0	0	0	0	0	136,243
25-Oct-2010	0	0	0	0	0	136,243
26-Oct-2010	0	0	0	0	0	136,243
27-Oct-2010	0	0	0	0	0	136,243
28-Oct-2010	0	0	0	0	0	136,243
29-Oct-2010	124	2,728	0	0	1,533	137,776
30-Oct-2010	337	7,414	0	0	4,165	141,941
31-Oct-2010	298	6,556	59	1,770	4,678	146,618
1-Nov-2010	319	7,018	51	1,530	4,802	151,421
2-Nov-2010	185	4,070	7	210	2,404	153,825
3-Nov-2010	7	154	7	210	204	154,030
4-Nov-2010	0	0	0	0	0	154,030
5-Nov-2010	0	0	0	0	0	154,030
6-Nov-2010	0	0	0	0	0	154,030
7-Nov-2010	0	0	0	0	0	154,030
8-Nov-2010	0	0	0	0	0	154,030
9-Nov-2010	82	1,804	0	0	1,013	155,043
10-Nov-2010	193	4,246	32	960	2,925	157,968
11-Nov-2010	194	4,268	39	1,170	3,055	161,023
12-Nov-2010	227	4,994	44	1,320	3,547	164,570
13-Nov-2010	287	6,314	0	0	3,547	168,117
14-Nov-2010	38	836	0	0	470	168,587
15-Nov-2010	0	0	0	0	0	168,587
16-Nov-2010	0	0	0	0	0	168,587
17-Nov-2010	0	0	0	0	0	168,587
18-Nov-2010	0	0	0	0	0	168,587
19-Nov-2010	0	0	0	0	0	168,587
20-Nov-2010	0	0	0	0	0	168,587
21-Nov-2010	0	0	0	0	0	168,587
22-Nov-2010	0	0	0	0	0	168,587
23-Nov-2010	23	506	0	0	284	168,871
24-Nov-2010	0	0	0	0	0	168,871
25-Nov-2010	0	0	0	0	0	168,871
26-Nov-2010	0	0	0	0	0	168,871
27-Nov-2010	0	0	0	0	0	168,871
28-Nov-2010	0	0	0	0	0	168,871
29-Nov-2010	0	0	0	0	0	168,871
30-Nov-2010	0	0	0	0	0	168,871
1-Dec-2010	-2	-44	0	0	-25	168,847
2-Dec-2010	0	0	0	0	0	168,847
3-Dec-2010	0	0	0	0	0	168,847
4-Dec-2010	0	0	0	0	0	168,847

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
5-Dec-2010	0	0	0	0	0	168,847
6-Dec-2010	0	0	0	0	0	168,847
7-Dec-2010	0	0	0	0	0	168,847
8-Dec-2010	0	0	0	0	0	168,847
9-Dec-2010	108	2,376	0	0	1,335	170,181
10-Dec-2010	315	6,930	0	0	3,893	174,075
11-Dec-2010	373	8,206	0	0	4,610	178,685
12-Dec-2010	0	0	0	0	0	178,685
13-Dec-2010	0	0	0	0	0	178,685
14-Dec-2010	128	2,816	0	0	1,582	180,267
15-Dec-2010	0	0	0	0	0	180,267
16-Dec-2010	0	0	0	0	0	180,267
17-Dec-2010	0	0	0	0	0	180,267
18-Dec-2010	0	0	0	0	0	180,267
19-Dec-2010	0	0	0	0	0	180,267
20-Dec-2010	81	1,782	0	0	1,001	181,268
21-Dec-2010	178	3,916	0	0	2,200	183,468
22-Dec-2010	118	2,596	0	0	1,458	184,926
23-Dec-2010	6	132	0	0	74	185,000
24-Dec-2010	0	0	0	0	0	185,000
25-Dec-2010	0	0	0	0	0	185,000
26-Dec-2010	0	0	0	0	0	185,000
27-Dec-2010	0	0	0	0	0	185,000
28-Dec-2010	310	6,820	0	0	3,831	188,832
29-Dec-2010	257	5,654	25	750	3,598	192,430
30-Dec-2010	252	5,544	26	780	3,553	195,983
31-Dec-2010	0	0	0	0	0	195,983
1-Jan-2011	0	0	0	0	0	195,983
2-Jan-2011	0	0	0	0	0	195,983
3-Jan-2011	238	5,236	27	810	3,397	199,379
4-Jan-2011	210	4,620	24	720	3,000	202,379
5-Jan-2011	247	5,434	13	390	3,272	205,651
6-Jan-2011	152	3,344	14	420	2,115	207,766
7-Jan-2011	165	3,630	15	450	2,292	210,058
8-Jan-2011	0	0	0	0	0	210,058
9-Jan-2011	0	0	0	0	0	210,058
10-Jan-2011	0	0	0	0	0	210,058
11-Jan-2011	0	0	0	0	0	210,058
12-Jan-2011	0	0	0	0	0	210,058
13-Jan-2011	-70	-1,540	-16	-480	-1,135	208,923
14-Jan-2011	12	264	0	0	148	209,071
15-Jan-2011	0	0	0	0	0	209,071

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
16-Jan-2011	0	0	0	0	0	209,071
17-Jan-2011	228	5,016	0	0	2,818	211,889
18-Jan-2011	42	924	0	0	519	212,408
19-Jan-2011	41	902	12	360	709	213,117
20-Jan-2011	84	1,848	-6	-180	937	214,054
21-Jan-2011	127	2,794	22	660	1,940	215,995
22-Jan-2011	0	0	0	0	0	215,995
23-Jan-2011	0	0	0	0	0	215,995
24-Jan-2011	126	2,772	20	600	1,894	217,889
25-Jan-2011	-3	-66	0	0	-37	217,852
26-Jan-2011	0	0	0	0	0	217,852
27-Jan-2011	0	0	0	0	0	217,852
28-Jan-2011	299	6,578	19	570	4,016	221,868
29-Jan-2011	0	0	0	0	0	221,868
30-Jan-2011	0	0	0	0	0	221,868
31-Jan-2011	79	1,738	32	960	1,516	223,384
1-Feb-2011	174	3,828	32	960	2,690	226,074
2-Feb-2011	0	0	0	0	0	226,074
3-Feb-2011	-67	-1,474	0	0	-828	225,245
4-Feb-2011	65	1,430	0	0	803	226,049
5-Feb-2011	0	0	0	0	0	226,049
6-Feb-2011	0	0	0	0	0	226,049
7-Feb-2011	183	4,026	30	900	2,767	228,816
8-Feb-2011	259	5,698	17	510	3,488	232,304
9-Feb-2011	211	4,642	17	510	2,894	235,198
10-Feb-2011	117	2,574	0	0	1,446	236,644
11-Feb-2011	183	4,026	12	360	2,464	239,108
12-Feb-2011	168	3,696	20	600	2,413	241,522
13-Feb-2011	0	0	0	0	0	241,522
14-Feb-2011	244	5,368	34	1,020	3,589	245,111
15-Feb-2011	313	6,886	31	930	4,391	249,502
16-Feb-2011	297	6,534	35	1,050	4,261	253,762
17-Feb-2011	313	6,886	32	960	4,408	258,170
18-Feb-2011	286	6,292	35	1,050	4,125	262,295
19-Feb-2011	255	5,610	31	930	3,674	265,969
20-Feb-2011	0	0	0	0	0	265,969
21-Feb-2011	338	7,436	32	960	4,717	270,686
22-Feb-2011	333	7,326	40	1,200	4,790	275,476
23-Feb-2011	309	6,798	34	1,020	4,392	279,868
24-Feb-2011	0	0	0	0	0	279,868
25-Feb-2011	0	0	0	0	0	279,868
26-Feb-2011	0	0	0	0	0	279,868

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
27-Feb-2011	0	0	0	0	0	279,868
28-Feb-2011	0	0	0	0	0	279,868
1-Mar-2011	0	0	0	0	0	279,868
2-Mar-2011	376	8,272	0	0	4,647	284,515
3-Mar-2011	429	9,438	41	1,230	5,993	290,508
4-Mar-2011	404	8,888	30	900	5,499	296,007
5-Mar-2011	0	0	0	0	0	296,007
6-Mar-2011	0	0	0	0	0	296,007
7-Mar-2011	-28	-616	0	0	-346	295,661
8-Mar-2011	303	6,666	27	810	4,200	299,861
9-Mar-2011	0	0	0	0	0	299,861
10-Mar-2011	0	0	0	0	0	299,861
11-Mar-2011	0	0	0	0	0	299,861
12-Mar-2011	399	8,778	2	60	4,965	304,826
13-Mar-2011	457	10,054	30	900	6,154	310,980
14-Mar-2011	380	8,360	31	930	5,219	316,199
15-Mar-2011	0	0	0	0	0	316,199
16-Mar-2011	0	0	0	0	0	316,199
17-Mar-2011	306	6,732	0	0	3,782	319,981
18-Mar-2011	354	7,788	64	1,920	5,454	325,435
19-Mar-2011	262	5,764	0	0	3,238	328,674
20-Mar-2011	0	0	0	0	0	328,674
21-Mar-2011	279	6,138	37	1,110	4,072	332,745
22-Mar-2011	257	5,654	12	360	3,379	336,124
23-Mar-2011	272	5,984	0	0	3,362	339,486
24-Mar-2011	352	7,744	0	0	4,351	343,836
25-Mar-2011	297	6,534	49	1,470	4,497	348,333
26-Mar-2011	0	0	0	0	0	348,333
27-Mar-2011	0	0	0	0	0	348,333
28-Mar-2011	0	0	0	0	0	348,333
29-Mar-2011	0	0	0	0	0	348,333
30-Mar-2011	0	0	0	0	0	348,333
31-Mar-2011	0	0	0	0	0	348,333
1-Apr-2011	0	0	0	0	0	348,333
2-Apr-2011	360	7,920	0	0	4,449	352,783
3-Apr-2011	333	7,326	20	600	4,453	357,235
4-Apr-2011	259	5,698	27	810	3,656	360,892
5-Apr-2011	0	0	0	0	0	360,892
6-Apr-2011	371	8,162	55	1,650	5,512	366,404
7-Apr-2011	375	8,250	56	1,680	5,579	371,983
8-Apr-2011	341	7,502	59	1,770	5,209	377,192
9-Apr-2011	377	8,294	63	1,890	5,721	382,913

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
10-Apr-2011	0	0	0	0	0	382,913
11-Apr-2011	412	9,064	71	2,130	6,289	389,202
12-Apr-2011	0	0	0	0	0	389,202
13-Apr-2011	360	7,920	66	1,980	5,562	394,763
14-Apr-2011	365	8,030	46	1,380	5,287	400,050
15-Apr-2011	237	5,214	38	1,140	3,570	403,620
16-Apr-2011	0	0	0	0	0	403,620
17-Apr-2011	0	0	0	0	0	403,620
18-Apr-2011	271	5,962	70	2,100	4,529	408,149
19-Apr-2011	508	11,176	90	2,700	7,796	415,944
20-Apr-2011	0	0	0	0	0	415,944
21-Apr-2011	438	9,636	84	2,520	6,829	422,774
22-Apr-2011	435	9,570	80	2,400	6,725	429,498
23-Apr-2011	0	0	0	0	0	429,498
24-Apr-2011	0	0	0	0	0	429,498
25-Apr-2011	345	7,590	63	1,890	5,326	434,824
26-Apr-2011	428	9,416	59	1,770	6,284	441,108
27-Apr-2011	0	0	0	0	0	441,108
28-Apr-2011	0	0	0	0	0	441,108
29-Apr-2011	275	6,050	57	1,710	4,360	445,468
30-Apr-2011	374	8,228	76	2,280	5,903	451,371
1-May-2011	232	5,104	40	1,200	3,542	454,913
2-May-2011	317	6,974	33	990	4,474	459,387
3-May-2011	203	4,466	11	330	2,694	462,081
4-May-2011	-29	-638	0	0	-358	461,723
5-May-2011	365	8,030	43	1,290	5,236	466,959
6-May-2011	458	10,076	39	1,170	6,318	473,277
7-May-2011	392	8,624	33	990	5,401	478,678
8-May-2011	0	0	0	0	0	478,678
9-May-2011	439	9,658	81	2,430	6,791	485,469
10-May-2011	344	7,568	73	2,190	5,482	490,951
11-May-2011	405	8,910	64	1,920	6,084	497,035
12-May-2011	425	9,350	66	1,980	6,365	503,400
13-May-2011	254	5,588	27	810	3,594	506,995
14-May-2011	236	5,192	0	0	2,917	509,912
15-May-2011	0	0	0	0	0	509,912
16-May-2011	532	11,704	50	1,500	7,418	517,330
17-May-2011	467	10,274	82	2,460	7,154	524,484
18-May-2011	498	10,956	94	2,820	7,739	532,223
19-May-2011	422	9,284	61	1,830	6,244	538,467
20-May-2011	436	9,592	37	1,110	6,012	544,479
21-May-2011	304	6,688	34	1,020	4,330	548,809

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
22-May-2011	0	0	0	0	0	548,809
23-May-2011	471	10,362	76	2,280	7,102	555,912
24-May-2011	388	8,536	14	420	5,031	560,943
25-May-2011	427	9,394	0	0	5,278	566,221
26-May-2011	114	2,508	0	0	1,409	567,630
27-May-2011	222	4,884	0	0	2,744	570,374
28-May-2011	0	0	0	0	0	570,374
29-May-2011	0	0	0	0	0	570,374
30-May-2011	0	0	0	0	0	570,374
31-May-2011	367	8,074	0	0	4,536	574,909
1-Jun-2011	348	7,656	0	0	4,301	579,211
2-Jun-2011	343	7,546	0	0	4,239	583,450
3-Jun-2011	421	9,262	5	150	5,288	588,738
4-Jun-2011	427	9,394	0	0	5,278	594,015
5-Jun-2011	0	0	0	0	0	594,015
6-Jun-2011	422	9,284	0	0	5,216	599,231
7-Jun-2011	381	8,382	86	2,580	6,158	605,389
8-Jun-2011	413	9,086	78	2,340	6,419	611,808
9-Jun-2011	418	9,196	0	0	5,166	616,975
10-Jun-2011	437	9,614	0	0	5,401	622,376
11-Jun-2011	435	9,570	68	2,040	6,522	628,898
12-Jun-2011	0	0	0	0	0	628,898
13-Jun-2011	394	8,668	65	1,950	5,965	634,863
14-Jun-2011	554	12,188	15	450	7,100	641,963
15-Jun-2011	256	5,632	4	120	3,231	645,195
16-Jun-2011	0	0	0	0	0	645,195
17-Jun-2011	125	2,750	0	0	1,545	646,740
18-Jun-2011	153	3,366	0	0	1,891	648,631
19-Jun-2011	0	0	0	0	0	648,631
20-Jun-2011	324	7,128	0	0	4,004	652,635
21-Jun-2011	375	8,250	0	0	4,635	657,270
22-Jun-2011	164	3,608	8	240	2,162	659,432
23-Jun-2011	0	0	0	0	0	659,432
24-Jun-2011	0	0	0	0	0	659,432
25-Jun-2011	326	7,172	6	180	4,130	663,562
26-Jun-2011	0	0	0	0	0	663,562
27-Jun-2011	132	2,904	0	0	1,631	665,194
28-Jun-2011	0	0	0	0	0	665,194
29-Jun-2011	127	2,794	0	0	1,570	666,763
30-Jun-2011	199	4,378	43	1,290	3,184	669,948
1-Jul-2011	201	4,422	61	1,830	3,512	673,460
2-Jul-2011	0	0	0	0	0	673,460

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
3-Jul-2011	0	0	0	0	0	673,460
4-Jul-2011	0	0	0	0	0	673,460
5-Jul-2011	98	2,156	26	780	1,649	675,109
6-Jul-2011	90	1,980	34	1,020	1,685	676,795
7-Jul-2011	101	2,222	28	840	1,720	678,515
8-Jul-2011	76	1,672	12	360	1,142	679,657
9-Jul-2011	0	0	0	0	0	679,657
10-Jul-2011	0	0	0	0	0	679,657
11-Jul-2011	166	3,652	36	1,080	2,658	682,315
12-Jul-2011	0	0	0	0	0	682,315
13-Jul-2011	209	4,598	33	990	3,139	685,454
14-Jul-2011	120	2,640	28	840	1,955	687,409
15-Jul-2011	34	748	0	0	420	687,830
16-Jul-2011	0	0	0	0	0	687,830
17-Jul-2011	0	0	0	0	0	687,830
18-Jul-2011	40	880	0	0	494	688,324
19-Jul-2011	56	1,232	0	0	692	689,016
20-Jul-2011	221	4,862	24	720	3,136	692,152
21-Jul-2011	94	2,068	4	120	1,229	693,381
22-Jul-2011	149	3,278	54	1,620	2,752	696,133
23-Jul-2011	143	3,146	34	1,020	2,340	698,474
24-Jul-2011	0	0	0	0	0	698,474
25-Jul-2011	145	3,190	18	540	2,096	700,569
26-Jul-2011	234	5,148	0	0	2,892	703,461
27-Jul-2011	314	6,908	36	1,080	4,488	707,949
28-Jul-2011	168	3,696	22	660	2,447	710,396
29-Jul-2011	188	4,136	28	840	2,796	713,192
30-Jul-2011	100	2,200	31	930	1,758	714,950
31-Jul-2011	98	2,156	0	0	1,211	716,161
1-Aug-2011	322	7,084	30	900	4,485	720,647
2-Aug-2011	71	1,562	8	240	1,012	721,659
3-Aug-2011	0	0	0	0	0	721,659
4-Aug-2011	0	0	0	0	0	721,659
5-Aug-2011	0	0	0	0	0	721,659
6-Aug-2011	0	0	0	0	0	721,659
7-Aug-2011	0	0	0	0	0	721,659
8-Aug-2011	161	3,542	0	0	1,990	723,649
9-Aug-2011	113	2,486	0	0	1,397	725,045
10-Aug-2011	90	1,980	0	0	1,112	726,158
11-Aug-2011	95	2,090	0	0	1,174	727,332
12-Aug-2011	83	1,826	-24	-720	621	727,953
13-Aug-2011	-80	-1,760	0	0	-989	726,965

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
14-Aug-2011	0	0	0	0	0	726,965
15-Aug-2011	-7	-154	0	0	-87	726,878
16-Aug-2011	45	990	0	0	556	727,434
17-Aug-2011	-20	-440	-21	-630	-601	726,833
18-Aug-2011	34	748	-18	-540	117	726,950
19-Aug-2011	22	484	25	750	693	727,643
20-Aug-2011	-40	-880	0	0	-494	727,149
21-Aug-2011	0	0	0	0	0	727,149
22-Aug-2011	-59	-1,298	2	60	-696	726,453
23-Aug-2011	-61	-1,342	-17	-510	-1,040	725,413
24-Aug-2011	37	814	-9	-270	306	725,718
25-Aug-2011	-17	-374	-15	-450	-463	725,256
26-Aug-2011	-18	-396	-13	-390	-442	724,814
27-Aug-2011	2	44	-21	-630	-329	724,485
28-Aug-2011	0	0	0	0	0	724,485
29-Aug-2011	119	2,618	-31	-930	948	725,433
30-Aug-2011	98	2,156	0	0	1,211	726,644
31-Aug-2011	131	2,882	0	0	1,619	728,263
1-Sep-2011	98	2,156	0	0	1,211	729,475
2-Sep-2011	131	2,882	-24	-720	1,215	730,689
3-Sep-2011	0	0	0	0	0	730,689
4-Sep-2011	0	0	0	0	0	730,689
5-Sep-2011	0	0	0	0	0	730,689
6-Sep-2011	0	0	0	0	0	730,689
7-Sep-2011	0	0	0	0	0	730,689
8-Sep-2011	0	0	0	0	0	730,689
9-Sep-2011	183	4,026	0	0	2,262	732,951
10-Sep-2011	235	5,170	0	0	2,904	735,856
11-Sep-2011	0	0	0	0	0	735,856
12-Sep-2011	-82	-1,804	-43	-1,290	-1,738	734,117
13-Sep-2011	-133	-2,926	-5	-150	-1,728	732,389
14-Sep-2011	93	2,046	-6	-180	1,048	733,438
15-Sep-2011	0	0	0	0	0	733,438
16-Sep-2011	20	440	-21	-630	-107	733,331
17-Sep-2011	-64	-1,408	-9	-270	-943	732,388
18-Sep-2011	0	0	0	0	0	732,388
19-Sep-2011	19	418	-32	-960	-304	732,084
20-Sep-2011	-94	-2,068	-70	-2,100	-2,342	729,742
21-Sep-2011	0	0	0	0	0	729,742
22-Sep-2011	0	0	0	0	0	729,742
23-Sep-2011	0	0	0	0	0	729,742
24-Sep-2011	0	0	0	0	0	729,742

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
25-Sep-2011	0	0	0	0	0	729,742
26-Sep-2011	-1	-22	-10	-300	-181	729,561
27-Sep-2011	28	616	0	0	346	729,907
28-Sep-2011	86	1,892	-14	-420	827	730,734
29-Sep-2011	94	2,068	-64	-1,920	83	730,817
30-Sep-2011	-215	-4,730	-78	-2,340	-3,972	726,845
1-Oct-2011	39	858	-33	-990	-74	726,771
2-Oct-2011	0	0	0	0	0	726,771
3-Oct-2011	170	3,740	-56	-1,680	1,157	727,929
4-Oct-2011	37	814	-48	-1,440	-352	727,577
5-Oct-2011	-10	-220	45	1,350	635	728,212
6-Oct-2011	36	792	-2	-60	411	728,623
7-Oct-2011	55	1,210	-13	-390	461	729,084
8-Oct-2011	211	4,642	-65	-1,950	1,512	730,596
9-Oct-2011	0	0	0	0	0	730,596
10-Oct-2011	125	2,750	26	780	1,983	732,579
11-Oct-2011	0	0	0	0	0	732,579
12-Oct-2011	0	0	0	0	0	732,579
13-Oct-2011	0	0	0	0	0	732,579
14-Oct-2011	10	220	0	0	124	732,703
15-Oct-2011	-351	-7,722	0	0	-4,338	728,365
16-Oct-2011	241	5,302	0	0	2,979	731,343
17-Oct-2011	33	726	0	0	408	731,751
18-Oct-2011	-71	-1,562	-59	-1,770	-1,872	729,879
19-Oct-2011	0	0	0	0	0	729,879
20-Oct-2011	0	0	0	0	0	729,879
21-Oct-2011	0	0	0	0	0	729,879
22-Oct-2011	0	0	0	0	0	729,879
23-Oct-2011	0	0	0	0	0	729,879
24-Oct-2011	87	1,914	-56	-1,680	131	730,011
25-Oct-2011	-144	-3,168	-3	-90	-1,830	728,180
26-Oct-2011	-211	-4,642	-17	-510	-2,894	725,286
27-Oct-2011	-236	-5,192	-60	-1,800	-3,928	721,358
28-Oct-2011	0	0	0	0	0	721,358
29-Oct-2011	0	0	0	0	0	721,358
30-Oct-2011	0	0	0	0	0	721,358
31-Oct-2011	131	2,882	0	0	1,619	722,977
1-Nov-2011	75	1,650	-18	-540	624	723,600
2-Nov-2011	-26	-572	0	0	-321	723,279
3-Nov-2011	-168	-3,696	0	0	-2,076	721,203
4-Nov-2011	0	0	0	0	0	721,203
5-Nov-2011	0	0	0	0	0	721,203

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
6-Nov-2011	0	0	0	0	0	721,203
7-Nov-2011	-63	-1,386	-42	-1,260	-1,487	719,716
8-Nov-2011	-158	-3,476	-32	-960	-2,492	717,224
9-Nov-2011	265	5,830	0	0	3,275	720,499
10-Nov-2011	110	2,420	0	0	1,360	721,859
11-Nov-2011	200	4,400	0	0	2,472	724,331
12-Nov-2011	0	0	0	0	0	724,331
13-Nov-2011	0	0	0	0	0	724,331
14-Nov-2011	94	2,068	0	0	1,162	725,493
15-Nov-2011	0	0	0	0	0	725,493
16-Nov-2011	0	0	0	0	0	725,493
17-Nov-2011	0	0	0	0	0	725,493
18-Nov-2011	0	0	0	0	0	725,493
19-Nov-2011	0	0	0	0	0	725,493
20-Nov-2011	0	0	0	0	0	725,493
21-Nov-2011	0	0	0	0	0	725,493
22-Nov-2011	0	0	0	0	0	725,493
23-Nov-2011	0	0	0	0	0	725,493
24-Nov-2011	0	0	0	0	0	725,493
25-Nov-2011	0	0	0	0	0	725,493
26-Nov-2011	0	0	0	0	0	725,493
27-Nov-2011	0	0	0	0	0	725,493
28-Nov-2011	0	0	0	0	0	725,493
29-Nov-2011	-51	-1,122	0	0	-630	724,862
30-Nov-2011	-55	-1,210	0	0	-680	724,183
1-Dec-2011	-67	-1,474	0	0	-828	723,354
2-Dec-2011	-123	-2,706	0	0	-1,520	721,834
3-Dec-2011	0	0	0	0	0	721,834
4-Dec-2011	0	0	0	0	0	721,834
5-Dec-2011	57	1,254	0	0	704	722,539
6-Dec-2011	0	0	0	0	0	722,539
7-Dec-2011	0	0	0	0	0	722,539
8-Dec-2011	0	0	0	0	0	722,539
9-Dec-2011	20	440	0	0	247	722,786
10-Dec-2011	-17	-374	0	0	-210	722,576
11-Dec-2011	0	0	0	0	0	722,576
12-Dec-2011	-25	-550	0	0	-309	722,267
13-Dec-2011	224	4,928	0	0	2,769	725,035
14-Dec-2011	69	1,518	0	0	853	725,888
15-Dec-2011	81	1,782	0	0	1,001	726,889
16-Dec-2011	0	0	0	0	0	726,889
17-Dec-2011	0	0	0	0	0	726,889

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
18-Dec-2011	0	0	0	0	0	726,889
19-Dec-2011	-138	-3,036	0	0	-1,706	725,184
20-Dec-2011	11	242	0	0	136	725,320
21-Dec-2011	0	0	0	0	0	725,320
22-Dec-2011	0	0	0	0	0	725,320
23-Dec-2011	0	0	0	0	0	725,320
24-Dec-2011	0	0	0	0	0	725,320
25-Dec-2011	0	0	0	0	0	725,320
26-Dec-2011	0	0	0	0	0	725,320
27-Dec-2011	0	0	0	0	0	725,320
28-Dec-2011	0	0	0	0	0	725,320
29-Dec-2011	0	0	0	0	0	725,320
30-Dec-2011	0	0	0	0	0	725,320
31-Dec-2011	83	1,826	0	0	1,026	726,345
1-Jan-2012	0	0	0	0	0	726,345
2-Jan-2012	0	0	0	0	0	726,345
3-Jan-2012	0	0	0	0	0	726,345
4-Jan-2012	-46	-1,012	0	0	-569	725,777
5-Jan-2012	-162	-3,564	0	0	-2,002	723,775
6-Jan-2012	145	3,190	0	0	1,792	725,567
7-Jan-2012	0	0	0	0	0	725,567
8-Jan-2012	0	0	0	0	0	725,567
9-Jan-2012	-12	-264	0	0	-148	725,418
10-Jan-2012	38	836	0	0	470	725,888
11-Jan-2012	0	0	0	0	0	725,888
12-Jan-2012	0	0	0	0	0	725,888
13-Jan-2012	71	1,562	0	0	878	726,766
14-Jan-2012	8	176	0	0	99	726,865
15-Jan-2012	0	0	0	0	0	726,865
16-Jan-2012	0	0	0	0	0	726,865
17-Jan-2012	0	0	0	0	0	726,865
18-Jan-2012	-38	-836	0	0	-470	726,395
19-Jan-2012	68	1,496	0	0	840	727,235
20-Jan-2012	90	1,980	0	0	1,112	728,348
21-Jan-2012	0	0	0	0	0	728,348
22-Jan-2012	0	0	0	0	0	728,348
23-Jan-2012	0	0	0	0	0	728,348
24-Jan-2012	0	0	0	0	0	728,348
25-Jan-2012	-35	-770	0	0	-433	727,915
26-Jan-2012	-80	-1,760	0	0	-989	726,926
27-Jan-2012	-65	-1,430	0	0	-803	726,123
28-Jan-2012	0	0	0	0	0	726,123

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
29-Jan-2012	0	0	0	0	0	726,123
30-Jan-2012	-33	-726	0	0	-408	725,715
31-Jan-2012	-83	-1,826	0	0	-1,026	724,689
1-Feb-2012	-8	-176	0	0	-99	724,590
2-Feb-2012	0	0	0	0	0	724,590
3-Feb-2012	-6	-132	0	0	-74	724,516
4-Feb-2012	0	0	0	0	0	724,516
5-Feb-2012	0	0	0	0	0	724,516
6-Feb-2012	-48	-1,056	0	0	-593	723,923
7-Feb-2012	-46	-1,012	0	0	-569	723,354
8-Feb-2012	-37	-814	0	0	-457	722,897
9-Feb-2012	-26	-572	0	0	-321	722,576
10-Feb-2012	11	242	0	0	136	722,712
11-Feb-2012	0	0	0	0	0	722,712
12-Feb-2012	0	0	0	0	0	722,712
13-Feb-2012	-28	-616	0	0	-346	722,366
14-Feb-2012	0	0	0	0	0	722,366
15-Feb-2012	100	2,200	0	0	1,236	723,602
16-Feb-2012	0	0	0	0	0	723,602
17-Feb-2012	129	2,838	0	0	1,594	725,196
18-Feb-2012	0	0	0	0	0	725,196
19-Feb-2012	0	0	0	0	0	725,196
20-Feb-2012	92	2,024	0	0	1,137	726,333
21-Feb-2012	105	2,310	0	0	1,298	727,631
22-Feb-2012	-9	-198	0	0	-111	727,520
23-Feb-2012	135	2,970	0	0	1,669	729,188
24-Feb-2012	164	3,608	0	0	2,027	731,215
25-Feb-2012	0	0	0	0	0	731,215
26-Feb-2012	0	0	0	0	0	731,215
27-Feb-2012	119	2,618	0	0	1,471	732,686
28-Feb-2012	0	0	40	1,200	674	733,360
29-Feb-2012	0	0	0	0	0	733,360
1-Mar-2012	0	0	0	0	0	733,360
2-Mar-2012	43	946	21	630	885	734,245
3-Mar-2012	0	0	0	0	0	734,245
4-Mar-2012	0	0	0	0	0	734,245
5-Mar-2012	119	2,618	101	3,030	3,173	737,418
6-Mar-2012	102	2,244	129	3,870	3,435	740,853
7-Mar-2012	112	2,464	126	3,780	3,508	744,361
8-Mar-2012	0	0	105	3,150	1,770	746,131
9-Mar-2012	0	0	0	0	0	746,131
10-Mar-2012	0	0	0	0	0	746,131

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
11-Mar-2012	0	0	0	0	0	746,131
12-Mar-2012	130	2,860	84	2,520	3,022	749,153
13-Mar-2012	42	924	64	1,920	1,598	750,751
14-Mar-2012	102	2,244	108	3,240	3,081	753,832
15-Mar-2012	0	0	0	0	0	753,832
16-Mar-2012	0	0	0	0	0	753,832
17-Mar-2012	0	0	0	0	0	753,832
18-Mar-2012	0	0	0	0	0	753,832
19-Mar-2012	0	0	0	0	0	753,832
20-Mar-2012	-15	-330	3	90	-135	753,697
21-Mar-2012	145	3,190	86	2,580	3,242	756,939
22-Mar-2012	139	3,058	168	5,040	4,549	761,488
23-Mar-2012	13	286	8	240	296	761,784
24-Mar-2012	0	0	0	0	0	761,784
25-Mar-2012	0	0	0	0	0	761,784
26-Mar-2012	193	4,246	137	4,110	4,694	766,478
27-Mar-2012	0	0	130	3,900	2,191	768,669
28-Mar-2012	101	2,222	136	4,080	3,540	772,209
29-Mar-2012	124	2,728	91	2,730	3,066	775,276
30-Mar-2012	0	0	53	1,590	893	776,169
31-Mar-2012	0	0	0	0	0	776,169
1-Apr-2012	0	0	0	0	0	776,169
2-Apr-2012	-59	-1,298	126	3,780	1,394	777,563
3-Apr-2012	-58	-1,276	72	2,160	497	778,060
4-Apr-2012	-120	-2,640	110	3,300	371	778,431
5-Apr-2012	-97	-2,134	108	3,240	621	779,052
6-Apr-2012	0	0	0	0	0	779,052
7-Apr-2012	0	0	0	0	0	779,052
8-Apr-2012	0	0	0	0	0	779,052
9-Apr-2012	-103	-2,266	141	4,230	1,103	780,156
10-Apr-2012	-94	-2,068	152	4,560	1,400	781,556
11-Apr-2012	-114	-2,508	96	2,880	209	781,765
12-Apr-2012	21	462	95	2,850	1,861	783,625
13-Apr-2012	-60	-1,320	153	4,590	1,837	785,462
14-Apr-2012	0	0	0	0	0	785,462
15-Apr-2012	0	0	0	0	0	785,462
16-Apr-2012	-71	-1,562	76	2,280	403	785,866
17-Apr-2012	-87	-1,914	94	2,820	509	786,375
18-Apr-2012	0	0	0	0	0	786,375
19-Apr-2012	-21	-462	119	3,570	1,746	788,121
20-Apr-2012	66	1,452	117	3,510	2,788	790,908
21-Apr-2012	0	0	0	0	0	790,908

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
22-Apr-2012	0	0	0	0	0	790,908
23-Apr-2012	157	3,454	126	3,780	4,064	794,972
24-Apr-2012	21	462	143	4,290	2,670	797,642
25-Apr-2012	129	2,838	120	3,600	3,617	801,259
26-Apr-2012	0	0	0	0	0	801,259
27-Apr-2012	128	2,816	80	2,400	2,930	804,189
28-Apr-2012	108	2,376	148	4,440	3,829	808,018
29-Apr-2012	0	0	0	0	0	808,018
30-Apr-2012	117	2,574	146	4,380	3,907	811,925
1-May-2012	143	3,146	167	5,010	4,582	816,507
2-May-2012	334	7,348	127	3,810	6,269	822,776
3-May-2012	169	3,718	126	3,780	4,212	826,988
4-May-2012	68	1,496	160	4,800	3,537	830,525
5-May-2012	-9	-198	127	3,810	2,029	832,554
6-May-2012	0	0	0	0	0	832,554
7-May-2012	120	2,640	117	3,510	3,455	836,009
8-May-2012	106	2,332	139	4,170	3,653	839,662
9-May-2012	227	4,994	155	4,650	5,418	845,080
10-May-2012	214	4,708	156	4,680	5,274	850,354
11-May-2012	219	4,818	94	2,820	4,291	854,645
12-May-2012	158	3,476	103	3,090	3,689	858,334
13-May-2012	0	0	0	0	0	858,334
14-May-2012	0	0	0	0	0	858,334
15-May-2012	0	0	0	0	0	858,334
16-May-2012	4	88	116	3,480	2,004	860,339
17-May-2012	106	2,332	115	3,450	3,248	863,587
18-May-2012	298	6,556	150	4,500	6,211	869,798
19-May-2012	210	4,620	158	4,740	5,258	875,057
20-May-2012	0	0	0	0	0	875,057
21-May-2012	134	2,948	142	4,260	4,049	879,106
22-May-2012	106	2,332	159	4,770	3,990	883,096
23-May-2012	145	3,190	182	5,460	4,860	887,956
24-May-2012	43	946	128	3,840	2,689	890,644
25-May-2012	9	198	153	4,590	2,690	893,334
26-May-2012	0	0	0	0	0	893,334
27-May-2012	0	0	0	0	0	893,334
28-May-2012	0	0	0	0	0	893,334
29-May-2012	8	176	131	3,930	2,307	895,641
30-May-2012	169	3,718	116	3,480	4,044	899,685
31-May-2012	56	1,232	89	2,670	2,192	901,877
1-Jun-2012	11	242	19	570	456	902,333
2-Jun-2012	-93	-2,046	121	3,630	890	903,223

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
3-Jun-2012	0	0	0	0	0	903,223
4-Jun-2012	-17	-374	151	4,530	2,335	905,558
5-Jun-2012	-65	-1,430	0	0	-803	904,754
6-Jun-2012	-113	-2,486	220	6,600	2,311	907,066
7-Jun-2012	-51	-1,122	160	4,800	2,066	909,132
8-Jun-2012	-42	-924	179	5,370	2,498	911,630
9-Jun-2012	0	0	0	0	0	911,630
10-Jun-2012	0	0	0	0	0	911,630
11-Jun-2012	-5	-110	14	420	174	911,804
12-Jun-2012	7	154	17	510	373	912,177
13-Jun-2012	59	1,298	176	5,280	3,696	915,872
14-Jun-2012	143	3,146	237	7,110	5,762	921,634
15-Jun-2012	104	2,288	227	6,810	5,111	926,745
16-Jun-2012	0	0	0	0	0	926,745
17-Jun-2012	0	0	0	0	0	926,745
18-Jun-2012	185	4,070	106	3,180	4,073	930,818
19-Jun-2012	166	3,652	102	3,060	3,771	934,589
20-Jun-2012	122	2,684	75	2,250	2,772	937,361
21-Jun-2012	101	2,222	93	2,790	2,816	940,177
22-Jun-2012	125	2,750	0	0	1,545	941,722
23-Jun-2012	0	0	0	0	0	941,722
24-Jun-2012	0	0	0	0	0	941,722
25-Jun-2012	102	2,244	0	0	1,261	942,983
26-Jun-2012	134	2,948	78	2,340	2,971	945,953
27-Jun-2012	208	4,576	115	3,450	4,509	950,462
28-Jun-2012	207	4,554	136	4,080	4,851	955,313
29-Jun-2012	182	4,004	88	2,640	3,733	959,045
30-Jun-2012	0	0	0	0	0	959,045
1-Jul-2012	0	0	0	0	0	959,045
2-Jul-2012	237	5,214	109	3,270	4,766	963,812
3-Jul-2012	142	3,124	115	3,450	3,693	967,505
4-Jul-2012	0	0	0	0	0	967,505
5-Jul-2012	0	0	0	0	0	967,505
6-Jul-2012	0	0	0	0	0	967,505
7-Jul-2012	0	0	0	0	0	967,505
8-Jul-2012	0	0	0	0	0	967,505
9-Jul-2012	286	6,292	207	6,210	7,024	974,529
10-Jul-2012	30	660	135	4,050	2,646	977,175
11-Jul-2012	0	0	0	0	0	977,175
12-Jul-2012	0	0	0	0	0	977,175
13-Jul-2012	0	0	0	0	0	977,175
14-Jul-2012	0	0	0	0	0	977,175

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
15-Jul-2012	0	0	0	0	0	977,175
16-Jul-2012	51	1,122	174	5,220	3,563	980,738
17-Jul-2012	101	2,222	122	3,660	3,304	984,042
18-Jul-2012	32	704	150	4,500	2,924	986,966
19-Jul-2012	94	2,068	132	3,960	3,387	990,352
20-Jul-2012	0	0	0	0	0	990,352
21-Jul-2012	0	0	0	0	0	990,352
22-Jul-2012	0	0	0	0	0	990,352
23-Jul-2012	67	1,474	294	8,820	5,783	996,135
24-Jul-2012	58	1,276	233	6,990	4,644	1,000,779
25-Jul-2012	10	220	266	7,980	4,607	1,005,386
26-Jul-2012	0	0	266	7,980	4,483	1,009,869
27-Jul-2012	57	1,254	210	6,300	4,244	1,014,113
28-Jul-2012	0	0	0	0	0	1,014,113
29-Jul-2012	0	0	0	0	0	1,014,113
30-Jul-2012	40	880	260	7,800	4,876	1,018,989
31-Jul-2012	0	0	0	0	0	1,018,989
1-Aug-2012	30	660	139	4,170	2,713	1,021,703
2-Aug-2012	7	154	142	4,260	2,480	1,024,183
3-Aug-2012	108	2,376	97	2,910	2,970	1,027,152
4-Aug-2012	0	0	0	0	0	1,027,152
5-Aug-2012	0	0	0	0	0	1,027,152
6-Aug-2012	50	1,100	0	0	618	1,027,770
7-Aug-2012	164	3,608	0	0	2,027	1,029,797
8-Aug-2012	111	2,442	271	8,130	5,939	1,035,736
9-Aug-2012	16	352	0	0	198	1,035,934
10-Aug-2012	62	1,364	25	750	1,188	1,037,122
11-Aug-2012	0	0	0	0	0	1,037,122
12-Aug-2012	0	0	0	0	0	1,037,122
13-Aug-2012	6	132	154	4,620	2,670	1,039,792
14-Aug-2012	0	0	0	0	0	1,039,792
15-Aug-2012	131	2,882	99	2,970	3,288	1,043,079
16-Aug-2012	0	0	98	2,940	1,652	1,044,731
17-Aug-2012	0	0	0	0	0	1,044,731
18-Aug-2012	183	4,026	0	0	2,262	1,046,993
19-Aug-2012	0	0	0	0	0	1,046,993
20-Aug-2012	108	2,376	0	0	1,335	1,048,327
21-Aug-2012	50	1,100	0	0	618	1,048,945
22-Aug-2012	24	528	0	0	297	1,049,242
23-Aug-2012	38	836	112	3,360	2,357	1,051,599
24-Aug-2012	0	0	0	0	0	1,051,599
25-Aug-2012	-46	-1,012	0	0	-569	1,051,031

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
26-Aug-2012	0	0	0	0	0	1,051,031
27-Aug-2012	0	0	0	0	0	1,051,031
28-Aug-2012	-120	-2,640	0	0	-1,483	1,049,548
29-Aug-2012	-55	-1,210	0	0	-680	1,048,868
30-Aug-2012	-241	-5,302	0	0	-2,979	1,045,889
31-Aug-2012	0	0	0	0	0	1,045,889
1-Sep-2012	0	0	0	0	0	1,045,889
2-Sep-2012	0	0	0	0	0	1,045,889
3-Sep-2012	0	0	0	0	0	1,045,889
4-Sep-2012	-353	-7,766	0	0	-4,363	1,041,526
5-Sep-2012	-42	-924	0	0	-519	1,041,007
6-Sep-2012	0	0	111	3,330	1,871	1,042,878
7-Sep-2012	-146	-3,212	0	0	-1,804	1,041,074
8-Sep-2012	0	0	0	0	0	1,041,074
9-Sep-2012	0	0	0	0	0	1,041,074
10-Sep-2012	-286	-6,292	0	0	-3,535	1,037,539
11-Sep-2012	-73	-1,606	0	0	-902	1,036,636
12-Sep-2012	-56	-1,232	0	0	-692	1,035,944
13-Sep-2012	-57	-1,254	0	0	-704	1,035,240
14-Sep-2012	104	2,288	-74	-2,220	38	1,035,278
15-Sep-2012	0	0	0	0	0	1,035,278
16-Sep-2012	0	0	0	0	0	1,035,278
17-Sep-2012	18	396	0	0	222	1,035,500
18-Sep-2012	0	0	0	0	0	1,035,500
19-Sep-2012	0	0	0	0	0	1,035,500
20-Sep-2012	63	1,386	107	3,210	2,582	1,038,083
21-Sep-2012	176	3,872	0	0	2,175	1,040,258
22-Sep-2012	20	440	0	0	247	1,040,505
23-Sep-2012	0	0	0	0	0	1,040,505
24-Sep-2012	78	1,716	0	0	964	1,041,469
25-Sep-2012	0	0	0	0	0	1,041,469
26-Sep-2012	0	0	0	0	0	1,041,469
27-Sep-2012	0	0	0	0	0	1,041,469
28-Sep-2012	137	3,014	0	0	1,693	1,043,162
29-Sep-2012	120	2,640	0	0	1,483	1,044,645
30-Sep-2012	0	0	0	0	0	1,044,645
1-Oct-2012	0	0	0	0	0	1,044,645
2-Oct-2012	0	0	0	0	0	1,044,645
3-Oct-2012	213	4,686	100	3,000	4,318	1,048,963
4-Oct-2012	112	2,464	0	0	1,384	1,050,348
5-Oct-2012	125	2,750	0	0	1,545	1,051,893
6-Oct-2012	227	4,994	102	3,060	4,525	1,056,417

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
7-Oct-2012	0	0	0	0	0	1,056,417
8-Oct-2012	0	0	0	0	0	1,056,417
9-Oct-2012	0	0	0	0	0	1,056,417
10-Oct-2012	-26	-572	129	3,870	1,853	1,058,270
11-Oct-2012	15	330	0	0	185	1,058,456
12-Oct-2012	5	110	0	0	62	1,058,517
13-Oct-2012	-114	-2,508	0	0	-1,409	1,057,108
14-Oct-2012	0	0	0	0	0	1,057,108
15-Oct-2012	0	0	0	0	0	1,057,108
16-Oct-2012	113	2,486	0	0	1,397	1,058,505
17-Oct-2012	-24	-528	0	0	-297	1,058,208
18-Oct-2012	12	264	0	0	148	1,058,357
19-Oct-2012	142	3,124	0	0	1,755	1,060,112
20-Oct-2012	124	2,728	-120	-3,600	-490	1,059,622
21-Oct-2012	0	0	0	0	0	1,059,622
22-Oct-2012	-158	-3,476	0	0	-1,953	1,057,669
23-Oct-2012	-193	-4,246	0	0	-2,385	1,055,284
24-Oct-2012	75	1,650	-16	-480	657	1,055,941
25-Oct-2012	-117	-2,578	0	0	-1,448	1,054,493
26-Oct-2012	-77	-1,698	0	0	-954	1,053,539
27-Oct-2012	-21	-464	0	0	-261	1,053,278
28-Oct-2012	0	0	0	0	0	1,053,278
29-Oct-2012	64	1,408	23	690	1,179	1,054,457
30-Oct-2012	-15	-330	75	2,250	1,079	1,055,535
31-Oct-2012	17	374	70	2,100	1,390	1,056,925
1-Nov-2012	29	638	198	5,940	3,696	1,060,621
2-Nov-2012	100	2,200	160	4,800	3,933	1,064,553
3-Nov-2012	0	0	97	2,910	1,635	1,066,188
4-Nov-2012	0	0	0	0	0	1,066,188
5-Nov-2012	16	352	286	8,580	5,018	1,071,206
6-Nov-2012	0	0	310	9,300	5,225	1,076,431
7-Nov-2012	-3	-66	290	8,700	4,851	1,081,281
8-Nov-2012	-38	-836	0	0	-470	1,080,812
9-Nov-2012	10	220	230	6,900	4,000	1,084,812
10-Nov-2012	-137	-3,014	135	4,050	582	1,085,394
11-Nov-2012	0	0	0	0	0	1,085,394
12-Nov-2012	96	2,112	135	4,050	3,462	1,088,856
13-Nov-2012	162	3,564	0	0	2,002	1,090,858
14-Nov-2012	-71	-1,562	0	0	-878	1,089,980
15-Nov-2012	43	946	0	0	531	1,090,512
16-Nov-2012	0	0	243	7,290	4,096	1,094,607
17-Nov-2012	0	0	236	7,080	3,978	1,098,585

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
18-Nov-2012	0	0	0	0	0	1,098,585
19-Nov-2012	81	1,782	242	7,260	5,080	1,103,665
20-Nov-2012	60	1,320	235	7,050	4,702	1,108,367
21-Nov-2012	21	462	99	2,970	1,928	1,110,295
22-Nov-2012	0	0	0	0	0	1,110,295
23-Nov-2012	0	0	0	0	0	1,110,295
24-Nov-2012	0	0	0	0	0	1,110,295
25-Nov-2012	0	0	0	0	0	1,110,295
26-Nov-2012	146	3,212	85	2,550	3,237	1,113,532
27-Nov-2012	112	2,464	0	0	1,384	1,114,916
28-Nov-2012	151	3,322	0	0	1,866	1,116,783
29-Nov-2012	105	2,310	206	6,180	4,770	1,121,552
30-Nov-2012	101	2,222	278	8,340	5,934	1,127,486
1-Dec-2012	0	0	258	7,740	4,348	1,131,834
2-Dec-2012	0	0	0	0	0	1,131,834
3-Dec-2012	71	1,562	147	4,410	3,355	1,135,189
4-Dec-2012	85	1,870	176	5,280	4,017	1,139,206
5-Dec-2012	58	1,276	36	1,080	1,324	1,140,530
6-Dec-2012	105	2,310	-167	-5,010	-1,517	1,139,013
7-Dec-2012	49	1,078	0	0	606	1,139,618
8-Dec-2012	0	0	-117	-3,510	-1,972	1,137,647
9-Dec-2012	0	0	0	0	0	1,137,647
10-Dec-2012	0	0	0	0	0	1,137,647
11-Dec-2012	0	0	0	0	0	1,137,647
12-Dec-2012	40	880	0	0	494	1,138,141
13-Dec-2012	86	1,892	0	0	1,063	1,139,204
14-Dec-2012	88	1,936	0	0	1,088	1,140,292
15-Dec-2012	0	0	0	0	0	1,140,292
16-Dec-2012	0	0	0	0	0	1,140,292
17-Dec-2012	0	0	0	0	0	1,140,292
18-Dec-2012	0	0	0	0	0	1,140,292
19-Dec-2012	34	748	91	2,730	1,954	1,142,245
20-Dec-2012	-10	-220	0	0	-124	1,142,122
21-Dec-2012	0	0	0	0	0	1,142,122
22-Dec-2012	0	0	0	0	0	1,142,122
23-Dec-2012	0	0	0	0	0	1,142,122
24-Dec-2012	0	0	0	0	0	1,142,122
25-Dec-2012	0	0	0	0	0	1,142,122
26-Dec-2012	0	0	0	0	0	1,142,122
27-Dec-2012	-64	-1,408	0	0	-791	1,141,331
28-Dec-2012	9	198	0	0	111	1,141,442
29-Dec-2012	0	0	0	0	0	1,141,442

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
30-Dec-2012	0	0	0	0	0	1,141,442
31-Dec-2012	0	0	0	0	0	1,141,442
1-Jan-2013	0	0	0	0	0	1,141,442
2-Jan-2013	74	1,628	0	0	915	1,142,357
3-Jan-2013	79	1,738	0	0	976	1,143,333
4-Jan-2013	-35	-770	0	0	-433	1,142,900
5-Jan-2013	-56	-1,232	0	0	-692	1,142,208
6-Jan-2013	-62	-1,364	0	0	-766	1,141,442
7-Jan-2013	-72	-1,584	0	0	-890	1,140,552
8-Jan-2013	-60	-1,320	0	0	-742	1,139,811
9-Jan-2013	82	1,804	0	0	1,013	1,140,824
10-Jan-2013	98	2,156	0	0	1,211	1,142,035
11-Jan-2013	81	1,782	0	0	1,001	1,143,036
12-Jan-2013	0	0	0	0	0	1,143,036
13-Jan-2013	0	0	0	0	0	1,143,036
14-Jan-2013	67	1,474	0	0	828	1,143,865
15-Jan-2013	0	0	0	0	0	1,143,865
16-Jan-2013	0	0	0	0	0	1,143,865
17-Jan-2013	0	0	0	0	0	1,143,865
18-Jan-2013	0	0	0	0	0	1,143,865
19-Jan-2013	0	0	0	0	0	1,143,865
20-Jan-2013	0	0	0	0	0	1,143,865
21-Jan-2013	0	0	8	240	135	1,143,999
22-Jan-2013	13	286	0	0	161	1,144,160
23-Jan-2013	83	1,826	0	0	1,026	1,145,186
24-Jan-2013	138	3,036	-70	-2,100	526	1,145,712
25-Jan-2013	96	2,112	0	0	1,187	1,146,898
26-Jan-2013	113	2,486	0	0	1,397	1,148,295
27-Jan-2013	0	0	0	0	0	1,148,295
28-Jan-2013	83	1,826	0	0	1,026	1,149,321
29-Jan-2013	136	2,992	0	0	1,681	1,151,002
30-Jan-2013	0	0	0	0	0	1,151,002
31-Jan-2013	-16	-352	0	0	-198	1,150,804
1-Feb-2013	17	374	0	0	210	1,151,014
2-Feb-2013	107	2,354	0	0	1,322	1,152,336
3-Feb-2013	0	0	0	0	0	1,152,336
4-Feb-2013	124	2,728	0	0	1,533	1,153,869
5-Feb-2013	205	4,510	0	0	2,534	1,156,403
6-Feb-2013	56	1,232	200	6,000	4,063	1,160,466
7-Feb-2013	-37	-814	175	5,250	2,492	1,162,958
8-Feb-2013	0	0	0	0	0	1,162,958
9-Feb-2013	-47	-1,034	0	0	-581	1,162,377

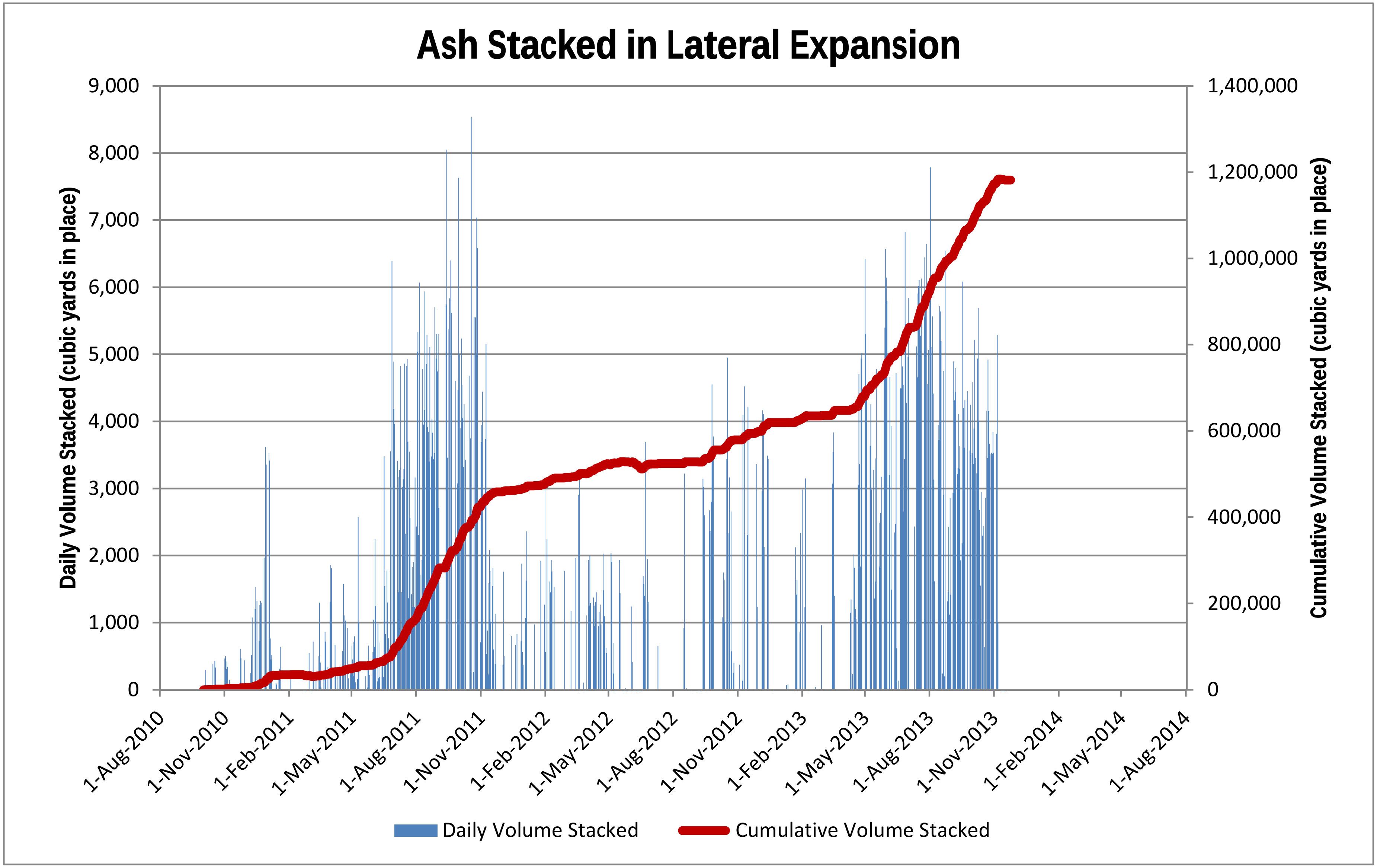
Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
10-Feb-2013	0	0	0	0	0	1,162,377
11-Feb-2013	47	1,034	0	0	581	1,162,958
12-Feb-2013	-9	-198	78	2,340	1,203	1,164,161
13-Feb-2013	0	0	0	0	0	1,164,161
14-Feb-2013	0	0	0	0	0	1,164,161
15-Feb-2013	0	0	169	5,070	2,848	1,167,009
16-Feb-2013	14	308	174	5,220	3,106	1,170,115
17-Feb-2013	66	1,452	126	3,780	2,939	1,173,054
18-Feb-2013	0	0	96	2,880	1,618	1,174,672
19-Feb-2013	6	132	0	0	74	1,174,747
20-Feb-2013	41	902	225	6,750	4,299	1,179,045
21-Feb-2013	39	858	192	5,760	3,718	1,182,763
22-Feb-2013	0	0	0	0	0	1,182,763
23-Feb-2013	0	0	68	2,040	1,146	1,183,909
24-Feb-2013	0	0	245	7,350	4,129	1,188,039
25-Feb-2013	119	2,618	137	4,110	3,780	1,191,818
26-Feb-2013	29	638	0	0	358	1,192,177
27-Feb-2013	11	242	124	3,720	2,226	1,194,403
28-Feb-2013	0	0	178	5,340	3,000	1,197,403
1-Mar-2013	0	0	278	8,340	4,685	1,202,088
2-Mar-2013	0	0	270	8,100	4,551	1,206,639
3-Mar-2013	0	0	0	0	0	1,206,639
4-Mar-2013	-15	-330	180	5,400	2,848	1,209,487
5-Mar-2013	0	0	0	0	0	1,209,487
6-Mar-2013	0	0	0	0	0	1,209,487
7-Mar-2013	71	1,562	90	2,700	2,394	1,211,881
8-Mar-2013	58	1,276	177	5,310	3,700	1,215,581
9-Mar-2013	0	0	233	6,990	3,927	1,219,508
10-Mar-2013	37	814	205	6,150	3,912	1,223,421
11-Mar-2013	0	0	121	3,630	2,039	1,225,460
12-Mar-2013	0	0	0	0	0	1,225,460
13-Mar-2013	44	968	201	6,030	3,931	1,229,392
14-Mar-2013	43	946	48	1,440	1,340	1,230,732
15-Mar-2013	9	198	7	210	229	1,230,961
16-Mar-2013	0	0	15	450	253	1,231,214
17-Mar-2013	0	0	0	0	0	1,231,214
18-Mar-2013	0	0	-44	-1,320	-742	1,230,472
19-Mar-2013	0	0	0	0	0	1,230,472
20-Mar-2013	0	0	175	5,250	2,949	1,233,422
21-Mar-2013	0	0	248	7,440	4,180	1,237,602
22-Mar-2013	0	0	261	7,830	4,399	1,242,000
23-Mar-2013	0	0	270	8,100	4,551	1,246,551

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
24-Mar-2013	0	0	0	0	0	1,246,551
25-Mar-2013	0	0	0	0	0	1,246,551
26-Mar-2013	-77	-1,694	107	3,210	852	1,247,403
27-Mar-2013	-79	-1,738	177	5,310	2,007	1,249,409
28-Mar-2013	-95	-2,090	238	7,140	2,837	1,252,247
29-Mar-2013	-70	-1,540	58	1,740	112	1,252,359
30-Mar-2013	0	0	0	0	0	1,252,359
31-Mar-2013	0	0	0	0	0	1,252,359
1-Apr-2013	0	0	0	0	0	1,252,359
2-Apr-2013	-68	-1,496	125	3,750	1,266	1,253,625
3-Apr-2013	-195	-4,290	136	4,080	-118	1,253,507
4-Apr-2013	-34	-748	32	960	119	1,253,626
5-Apr-2013	0	0	0	0	0	1,253,626
6-Apr-2013	-193	-4,246	222	6,660	1,356	1,254,983
7-Apr-2013	-179	-3,938	289	8,670	2,658	1,257,641
8-Apr-2013	-198	-4,356	111	3,330	-576	1,257,065
9-Apr-2013	-267	-5,874	252	7,560	947	1,258,012
10-Apr-2013	-286	-6,292	168	5,040	-703	1,257,308
11-Apr-2013	-256	-5,632	208	6,240	342	1,257,650
12-Apr-2013	0	0	0	0	0	1,257,650
13-Apr-2013	-169	-3,718	146	4,380	372	1,258,022
14-Apr-2013	0	0	0	0	0	1,258,022
15-Apr-2013	-80	-1,760	124	3,720	1,101	1,259,123
16-Apr-2013	-137	-3,014	82	2,460	-311	1,258,812
17-Apr-2013	-46	-1,012	72	2,160	645	1,259,457
18-Apr-2013	-94	-2,068	104	3,120	591	1,260,048
19-Apr-2013	0	0	0	0	0	1,260,048
20-Apr-2013	-87	-1,914	-11	-330	-1,261	1,258,787
21-Apr-2013	-177	-3,894	127	3,810	-47	1,258,740
22-Apr-2013	-12	-264	41	1,230	543	1,259,283
23-Apr-2013	0	0	139	4,170	2,343	1,261,625
24-Apr-2013	0	0	81	2,430	1,365	1,262,990
25-Apr-2013	0	0	125	3,750	2,107	1,265,097
26-Apr-2013	15	330	94	2,820	1,770	1,266,867
27-Apr-2013	0	0	0	0	0	1,266,867
28-Apr-2013	0	0	0	0	0	1,266,867
29-Apr-2013	0	0	0	0	0	1,266,867
30-Apr-2013	2	44	0	0	25	1,266,892
1-May-2013	-41	-902	0	0	-507	1,266,385
2-May-2013	12	264	0	0	148	1,266,533
3-May-2013	61	1,342	-48	-1,440	-55	1,266,478
4-May-2013	0	0	0	0	0	1,266,478

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
5-May-2013	0	0	0	0	0	1,266,478
6-May-2013	0	0	0	0	0	1,266,478
7-May-2013	0	0	0	0	0	1,266,478
8-May-2013	0	0	0	0	0	1,266,478
9-May-2013	0	0	63	1,890	1,062	1,267,540
10-May-2013	0	0	98	2,940	1,652	1,269,192
11-May-2013	0	0	0	0	0	1,269,192
12-May-2013	0	0	0	0	0	1,269,192
13-May-2013	-85	-1,870	108	3,240	770	1,269,961
14-May-2013	-110	-2,420	330	9,900	4,202	1,274,163
15-May-2013	-121	-2,662	366	10,980	4,673	1,278,836
16-May-2013	-65	-1,430	65	1,950	292	1,279,129
17-May-2013	-72	-1,584	27	810	-435	1,278,694
18-May-2013	0	0	0	0	0	1,278,694
19-May-2013	0	0	0	0	0	1,278,694
20-May-2013	0	0	0	0	0	1,278,694
21-May-2013	-93	-2,046	-14	-420	-1,385	1,277,308
22-May-2013	-60	-1,320	24	720	-337	1,276,971
23-May-2013	-71	-1,562	-24	-720	-1,282	1,275,689
24-May-2013	-84	-1,848	14	420	-802	1,274,887
25-May-2013	0	0	0	0	0	1,274,887
26-May-2013	0	0	0	0	0	1,274,887
27-May-2013	0	0	0	0	0	1,274,887
28-May-2013	-69	-1,518	80	2,400	496	1,275,383
29-May-2013	-64	-1,408	-36	-1,080	-1,398	1,273,985
30-May-2013	-66	-1,452	0	0	-816	1,273,169
31-May-2013	-94	-2,068	0	0	-1,162	1,272,007
1-Jun-2013	-94	-2,068	0	0	-1,162	1,270,845
2-Jun-2013	0	0	0	0	0	1,270,845
3-Jun-2013	0	0	0	0	0	1,270,845
4-Jun-2013	-66	-1,452	0	0	-816	1,270,030
5-Jun-2013	-63	-1,386	37	1,110	-155	1,269,875
6-Jun-2013	0	0	0	0	0	1,269,875
7-Jun-2013	-66	-1,452	58	1,740	162	1,270,036
8-Jun-2013	-26	-572	89	2,670	1,179	1,271,215
9-Jun-2013	0	0	0	0	0	1,271,215
10-Jun-2013	0	0	0	0	0	1,271,215
11-Jun-2013	0	0	0	0	0	1,271,215
12-Jun-2013	0	0	150	4,500	2,528	1,273,743
13-Jun-2013	0	0	165	4,950	2,781	1,276,524
14-Jun-2013	8	176	79	2,370	1,430	1,277,954
15-Jun-2013	0	0	217	6,510	3,657	1,281,612

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
16-Jun-2013	0	0	224	6,720	3,775	1,285,387
17-Jun-2013	0	0	225	6,750	3,792	1,289,179
18-Jun-2013	0	0	0	0	0	1,289,179
19-Jun-2013	0	0	0	0	0	1,289,179
20-Jun-2013	0	0	22	660	371	1,289,550
21-Jun-2013	0	0	61	1,830	1,028	1,290,578
22-Jun-2013	-37	-814	0	0	-457	1,290,121
23-Jun-2013	-77	-1,694	0	0	-952	1,289,169
24-Jun-2013	-122	-2,684	0	0	-1,508	1,287,661
25-Jun-2013	-77	-1,694	0	0	-952	1,286,709
26-Jun-2013	-50	-1,100	0	0	-618	1,286,092
27-Jun-2013	0	0	0	0	0	1,286,092
28-Jun-2013	0	0	-10	-300	-169	1,285,923
29-Jun-2013	0	0	0	0	0	1,285,923
30-Jun-2013	0	0	0	0	0	1,285,923
1-Jul-2013	0	0	0	0	0	1,285,923
2-Jul-2013	0	0	0	0	0	1,285,923
3-Jul-2013	0	0	0	0	0	1,285,923
4-Jul-2013	0	0	0	0	0	1,285,923
5-Jul-2013	0	0	0	0	0	1,285,923
6-Jul-2013	0	0	0	0	0	1,285,923
7-Jul-2013	0	0	0	0	0	1,285,923
8-Jul-2013	0	0	0	0	0	1,285,923
9-Jul-2013	0	0	0	0	0	1,285,923
10-Jul-2013	0	0	0	0	0	1,285,923
11-Jul-2013	0	0	0	0	0	1,285,923
12-Jul-2013	0	0	0	0	0	1,285,923
13-Jul-2013	0	0	0	0	0	1,285,923
14-Jul-2013	0	0	8	240	135	1,286,058
15-Jul-2013	-10	-220	0	0	-124	1,285,934
16-Jul-2013	-6	-132	0	0	-74	1,285,860
17-Jul-2013	0	0	0	0	0	1,285,860
18-Jul-2013	0	0	0	0	0	1,285,860
19-Jul-2013	0	0	0	0	0	1,285,860
20-Jul-2013	0	0	0	0	0	1,285,860
21-Jul-2013	0	0	0	0	0	1,285,860
22-Jul-2013	0	0	0	0	0	1,285,860
23-Jul-2013	0	0	0	0	0	1,285,860
24-Jul-2013	0	0	0	0	0	1,285,860
25-Jul-2013	0	0	0	0	0	1,285,860
26-Jul-2013	0	0	0	0	0	1,285,860
27-Jul-2013	0	0	0	0	0	1,285,860

Date	Ash Stacked In Dredge Cell					
	Number Loads from Middle	Trucked Volume @ 22 yds	Number Loads from Middle	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
28-Jul-2013	0	0	0	0	0	1,285,860
29-Jul-2013	0	0	0	0	0	1,285,860
30-Jul-2013	0	0	0	0	0	1,285,860
31-Jul-2013	0	0	0	0	0	1,285,860



Ash Stacked in Lateral Expansion
Daily Volume Stacked (cubic yards in place)
Cumulative Volume Stacked (cubic yards in place)
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
1-Aug-2010
1-Nov-2010
1-Feb-2011
1-May-2011
1-Aug-2011
1-Nov-2011
1-Feb-2012
1-May-2012
1-Aug-2012
1-Nov-2012
1-Feb-2013
1-May-2013
1-Aug-2013
1-Nov-2013
1-Feb-2014
1-May-2014
1-Aug-2014
Daily Volume Stacked
Cumulative Volume Stacked

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
1-Oct-2010	0	0	0	0	0	0	0	0
2-Oct-2010	0	0	0	0	0	0	0	0
3-Oct-2010	0	0	0	0	0	0	0	0
4-Oct-2010	0	0	0	0	0	0	0	0
5-Oct-2010	26	416	0	0	0	0	295	295
6-Oct-2010	0	0	0	0	0	0	0	295
7-Oct-2010	0	0	0	0	0	0	0	295
8-Oct-2010	0	0	0	0	0	0	0	295
9-Oct-2010	0	0	0	0	0	0	0	295
10-Oct-2010	0	0	0	0	0	0	0	295
11-Oct-2010	0	0	0	0	0	0	0	295
12-Oct-2010	0	0	0	0	0	0	0	295
13-Oct-2010	0	0	0	0	0	0	0	295
14-Oct-2010	0	0	0	0	0	0	0	295
15-Oct-2010	34	544	0	0	0	0	386	681
16-Oct-2010	0	0	0	0	0	0	0	681
17-Oct-2010	0	0	0	0	0	0	0	681
18-Oct-2010	38	608	0	0	0	0	431	1,112
19-Oct-2010	29	464	0	0	0	0	329	1,441
20-Oct-2010	0	0	0	0	0	0	0	1,441
21-Oct-2010	0	0	0	0	0	0	0	1,441
22-Oct-2010	0	0	0	0	0	0	0	1,441
23-Oct-2010	0	0	0	0	0	0	0	1,441
24-Oct-2010	0	0	0	0	0	0	0	1,441
25-Oct-2010	0	0	0	0	0	0	0	1,441
26-Oct-2010	0	0	0	0	0	0	0	1,441
27-Oct-2010	0	0	0	0	0	0	0	1,441
28-Oct-2010	0	0	0	0	0	0	0	1,441
29-Oct-2010	0	0	0	0	0	0	0	1,441
30-Oct-2010	0	0	0	0	0	0	0	1,441
31-Oct-2010	0	0	0	0	0	0	0	1,441
1-Nov-2010	41	656	0	0	0	0	465	1,906
2-Nov-2010	44	704	0	0	0	0	499	2,406
3-Nov-2010	27	432	0	0	0	0	306	2,712
4-Nov-2010	37	592	0	0	0	0	420	3,132
5-Nov-2010	30	480	0	0	0	0	340	3,472
6-Nov-2010	0	0	0	0	0	0	0	3,472
7-Nov-2010	0	0	0	0	0	0	0	3,472
8-Nov-2010	13	208	0	0	0	0	148	3,620
9-Nov-2010	0	0	0	0	0	0	0	3,620
10-Nov-2010	0	0	0	0	0	0	0	3,620
11-Nov-2010	0	0	0	0	0	0	0	3,620
12-Nov-2010	0	0	0	0	0	0	0	3,620
13-Nov-2010	0	0	0	0	0	0	0	3,620

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
14-Nov-2010	0	0	0	0	0	0	0	3,620
15-Nov-2010	0	0	0	0	0	0	0	3,620
16-Nov-2010	0	0	0	0	0	0	0	3,620
17-Nov-2010	0	0	0	0	0	0	0	3,620
18-Nov-2010	0	0	0	0	0	0	0	3,620
19-Nov-2010	0	0	0	0	0	0	0	3,620
20-Nov-2010	0	0	0	0	0	0	0	3,620
21-Nov-2010	0	0	0	0	0	0	0	3,620
22-Nov-2010	0	0	0	0	0	0	0	3,620
23-Nov-2010	0	0	39	858	0	0	609	4,228
24-Nov-2010	0	0	30	660	0	0	468	4,696
25-Nov-2010	0	0	0	0	0	0	0	4,696
26-Nov-2010	0	0	0	0	0	0	0	4,696
27-Nov-2010	0	0	0	0	0	0	0	4,696
28-Nov-2010	0	0	0	0	0	0	0	4,696
29-Nov-2010	0	0	28	616	0	0	437	5,133
30-Nov-2010	0	0	0	0	0	0	0	5,133
1-Dec-2010	0	0	2	44	0	0	31	5,165
2-Dec-2010	0	0	0	0	0	0	0	5,165
3-Dec-2010	0	0	0	0	0	0	0	5,165
4-Dec-2010	0	0	0	0	0	0	0	5,165
5-Dec-2010	0	0	0	0	0	0	0	5,165
6-Dec-2010	0	0	0	0	0	0	0	5,165
7-Dec-2010	0	0	0	0	0	0	0	5,165
8-Dec-2010	0	0	16	352	0	0	250	5,414
9-Dec-2010	0	0	33	726	0	0	515	5,929
10-Dec-2010	0	0	69	1,518	0	0	1,077	7,006
11-Dec-2010	0	0	0	0	0	0	0	7,006
12-Dec-2010	0	0	0	0	0	0	0	7,006
13-Dec-2010	0	0	0	0	0	0	0	7,006
14-Dec-2010	0	0	77	1,694	0	0	1,201	8,207
15-Dec-2010	0	0	98	2,156	0	0	1,529	9,736
16-Dec-2010	0	0	0	0	0	0	0	9,736
17-Dec-2010	0	0	85	1,870	0	0	1,326	11,062
18-Dec-2010	0	0	0	0	0	0	0	11,062
19-Dec-2010	0	0	0	0	0	0	0	11,062
20-Dec-2010	0	0	47	1,034	0	0	733	11,796
21-Dec-2010	0	0	81	1,782	0	0	1,264	13,060
22-Dec-2010	0	0	85	1,870	0	0	1,326	14,386
23-Dec-2010	0	0	83	1,826	0	0	1,295	15,681
24-Dec-2010	0	0	0	0	0	0	0	15,681
25-Dec-2010	0	0	0	0	0	0	0	15,681
26-Dec-2010	0	0	0	0	0	0	0	15,681
27-Dec-2010	0	0	126	2,772	0	0	1,966	17,647

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
28-Dec-2010	0	0	0	0	0	0	0	17,647
29-Dec-2010	0	0	232	5,104	0	0	3,620	21,267
30-Dec-2010	0	0	215	4,730	0	0	3,355	24,621
31-Dec-2010	0	0	0	0	0	0	0	24,621
1-Jan-2011	0	0	0	0	0	0	0	24,621
2-Jan-2011	0	0	0	0	0	0	0	24,621
3-Jan-2011	0	0	226	4,972	0	0	3,526	28,148
4-Jan-2011	0	0	219	4,818	0	0	3,417	31,565
5-Jan-2011	0	0	49	1,078	0	0	765	32,329
6-Jan-2011	0	0	29	638	0	0	452	32,782
7-Jan-2011	0	0	33	726	0	0	515	33,296
8-Jan-2011	0	0	0	0	0	0	0	33,296
9-Jan-2011	0	0	0	0	0	0	0	33,296
10-Jan-2011	0	0	0	0	0	0	0	33,296
11-Jan-2011	0	0	0	0	0	0	0	33,296
12-Jan-2011	0	0	0	0	0	0	0	33,296
13-Jan-2011	9	144	0	0	0	0	102	33,399
14-Jan-2011	7	112	0	0	0	0	79	33,478
15-Jan-2011	0	0	0	0	0	0	0	33,478
16-Jan-2011	0	0	0	0	0	0	0	33,478
17-Jan-2011	0	0	13	286	0	0	203	33,681
18-Jan-2011	0	0	20	440	0	0	312	33,993
19-Jan-2011	0	0	41	902	0	0	640	34,633
20-Jan-2011	0	0	0	0	0	0	0	34,633
21-Jan-2011	0	0	0	0	0	0	0	34,633
22-Jan-2011	0	0	0	0	0	0	0	34,633
23-Jan-2011	0	0	0	0	0	0	0	34,633
24-Jan-2011	0	0	0	0	0	0	0	34,633
25-Jan-2011	0	0	0	0	0	0	0	34,633
26-Jan-2011	0	0	0	0	0	0	0	34,633
27-Jan-2011	0	0	0	0	0	0	0	34,633
28-Jan-2011	0	0	0	0	0	0	0	34,633
29-Jan-2011	0	0	0	0	0	0	0	34,633
30-Jan-2011	0	0	0	0	0	0	0	34,633
31-Jan-2011	0	0	0	0	0	0	0	34,633
1-Feb-2011	0	0	0	0	0	0	0	34,633
2-Feb-2011	0	0	0	0	0	0	0	34,633
3-Feb-2011	18	288	0	0	0	0	204	34,837
4-Feb-2011	0	0	0	0	0	0	0	34,837
5-Feb-2011	0	0	0	0	0	0	0	34,837
6-Feb-2011	0	0	0	0	0	0	0	34,837
7-Feb-2011	0	0	0	0	0	0	0	34,837
8-Feb-2011	0	0	0	0	0	0	0	34,837
9-Feb-2011	0	0	0	0	0	0	0	34,837

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
10-Feb-2011	0	0	0	0	0	0	0	34,837
11-Feb-2011	0	0	0	0	0	0	0	34,837
12-Feb-2011	0	0	0	0	0	0	0	34,837
13-Feb-2011	0	0	0	0	0	0	0	34,837
14-Feb-2011	0	0	0	0	0	0	0	34,837
15-Feb-2011	0	0	0	0	0	0	0	34,837
16-Feb-2011	0	0	0	0	0	0	0	34,837
17-Feb-2011	0	0	0	0	0	0	0	34,837
18-Feb-2011	0	0	0	0	0	0	0	34,837
19-Feb-2011	0	0	0	0	0	0	0	34,837
20-Feb-2011	0	0	0	0	0	0	0	34,837
21-Feb-2011	0	0	-48	-1,056	0	0	-749	34,088
22-Feb-2011	0	0	-62	-1,364	0	0	-967	33,121
23-Feb-2011	0	0	-13	-286	0	0	-203	32,918
24-Feb-2011	0	0	-33	-726	0	0	-515	32,403
25-Feb-2011	0	0	0	0	0	0	0	32,403
26-Feb-2011	0	0	0	0	0	0	0	32,403
27-Feb-2011	0	0	0	0	0	0	0	32,403
28-Feb-2011	0	0	0	0	0	0	0	32,403
1-Mar-2011	0	0	35	770	0	0	546	32,949
2-Mar-2011	0	0	0	0	0	0	0	32,949
3-Mar-2011	0	0	-71	-1,562	0	0	-1,108	31,841
4-Mar-2011	0	0	-87	-1,914	0	0	-1,357	30,484
5-Mar-2011	0	0	0	0	0	0	0	30,484
6-Mar-2011	0	0	0	0	0	0	0	30,484
7-Mar-2011	0	0	46	1,012	0	0	718	31,201
8-Mar-2011	0	0	10	220	0	0	156	31,357
9-Mar-2011	0	0	0	0	0	0	0	31,357
10-Mar-2011	0	0	0	0	0	0	0	31,357
11-Mar-2011	0	0	10	220	0	0	156	31,513
12-Mar-2011	0	0	0	0	0	0	0	31,513
13-Mar-2011	0	0	0	0	0	0	0	31,513
14-Mar-2011	0	0	0	0	0	0	0	31,513
15-Mar-2011	0	0	32	704	0	0	499	32,013
16-Mar-2011	0	0	83	1,826	0	0	1,295	33,308
17-Mar-2011	0	0	26	572	0	0	406	33,713
18-Mar-2011	0	0	2	44	0	0	31	33,745
19-Mar-2011	0	0	0	0	0	0	0	33,745
20-Mar-2011	0	0	0	0	0	0	0	33,745
21-Mar-2011	0	0	0	0	0	0	0	33,745
22-Mar-2011	0	0	19	418	0	0	296	34,041
23-Mar-2011	0	0	0	0	0	0	0	34,041
24-Mar-2011	0	0	55	1,210	0	0	858	34,899
25-Mar-2011	0	0	46	1,012	0	0	718	35,617

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
26-Mar-2011	0	0	0	0	0	0	0	35,617
27-Mar-2011	0	0	0	0	0	0	0	35,617
28-Mar-2011	30	480	0	0	0	0	340	35,957
29-Mar-2011	0	0	0	0	0	0	0	35,957
30-Mar-2011	0	0	0	0	0	0	0	35,957
31-Mar-2011	0	0	84	1,848	0	0	1,311	37,268
1-Apr-2011	0	0	119	2,618	0	0	1,857	39,125
2-Apr-2011	0	0	116	2,552	0	0	1,810	40,935
3-Apr-2011	0	0	0	0	0	0	0	40,935
4-Apr-2011	0	0	0	0	0	0	0	40,935
5-Apr-2011	0	0	0	0	0	0	0	40,935
6-Apr-2011	0	0	0	0	0	0	0	40,935
7-Apr-2011	0	0	43	946	0	0	671	41,606
8-Apr-2011	0	0	14	308	0	0	218	41,824
9-Apr-2011	0	0	0	0	0	0	0	41,824
10-Apr-2011	0	0	0	0	0	0	0	41,824
11-Apr-2011	25	400	0	0	0	0	284	42,108
12-Apr-2011	0	0	0	0	0	0	0	42,108
13-Apr-2011	0	0	0	0	0	0	0	42,108
14-Apr-2011	0	0	22	484	0	0	343	42,451
15-Apr-2011	0	0	18	396	0	0	281	42,732
16-Apr-2011	0	0	0	0	0	0	0	42,732
17-Apr-2011	0	0	0	0	0	0	0	42,732
18-Apr-2011	0	0	37	814	0	0	577	43,309
19-Apr-2011	0	0	101	2,222	0	0	1,576	44,885
20-Apr-2011	0	0	0	0	0	0	0	44,885
21-Apr-2011	0	0	71	1,562	0	0	1,108	45,993
22-Apr-2011	0	0	66	1,452	0	0	1,030	47,023
23-Apr-2011	0	0	0	0	0	0	0	47,023
24-Apr-2011	0	0	0	0	0	0	0	47,023
25-Apr-2011	0	0	59	1,298	0	0	921	47,943
26-Apr-2011	0	0	11	242	0	0	172	48,115
27-Apr-2011	0	0	0	0	0	0	0	48,115
28-Apr-2011	0	0	0	0	0	0	0	48,115
29-Apr-2011	0	0	18	396	0	0	281	48,396
30-Apr-2011	0	0	23	506	0	0	359	48,755
1-May-2011	0	0	42	924	0	0	655	49,410
2-May-2011	0	0	29	638	0	0	452	49,862
3-May-2011	0	0	13	286	0	0	203	50,065
4-May-2011	23	368	29	638	0	0	713	50,779
5-May-2011	0	0	51	1,122	0	0	796	51,574
6-May-2011	0	0	7	154	0	0	109	51,684
7-May-2011	0	0	0	0	0	0	0	51,684
8-May-2011	0	0	0	0	0	0	0	51,684

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
9-May-2011	0	0	10	220	0	0	156	51,840
10-May-2011	0	0	165	3,630	0	0	2,574	54,414
11-May-2011	0	0	64	1,408	0	0	999	55,413
12-May-2011	0	0	0	0	0	0	0	55,413
13-May-2011	0	0	0	0	0	0	0	55,413
14-May-2011	0	0	0	0	0	0	0	55,413
15-May-2011	0	0	0	0	0	0	0	55,413
16-May-2011	0	0	0	0	0	0	0	55,413
17-May-2011	0	0	0	0	0	0	0	55,413
18-May-2011	0	0	0	0	0	0	0	55,413
19-May-2011	0	0	0	0	0	0	0	55,413
20-May-2011	0	0	13	286	0	0	203	55,616
21-May-2011	0	0	0	0	0	0	0	55,616
22-May-2011	0	0	0	0	0	0	0	55,616
23-May-2011	0	0	2	44	0	0	31	55,647
24-May-2011	0	0	25	550	0	0	390	56,037
25-May-2011	0	0	42	924	0	0	655	56,692
26-May-2011	0	0	14	308	0	0	218	56,911
27-May-2011	0	0	0	0	0	0	0	56,911
28-May-2011	0	0	0	0	0	0	0	56,911
29-May-2011	0	0	0	0	0	0	0	56,911
30-May-2011	0	0	0	0	0	0	0	56,911
31-May-2011	0	0	36	792	0	0	562	57,472
1-Jun-2011	0	0	67	1,474	0	0	1,045	58,518
2-Jun-2011	0	0	41	902	0	0	640	59,157
3-Jun-2011	12	192	135	2,970	0	0	2,243	61,400
4-Jun-2011	0	0	80	1,760	0	0	1,248	62,648
5-Jun-2011	0	0	0	0	0	0	0	62,648
6-Jun-2011	0	0	8	176	0	0	125	62,773
7-Jun-2011	0	0	63	1,386	0	0	983	63,756
8-Jun-2011	0	0	11	242	0	0	172	63,928
9-Jun-2011	0	0	12	264	0	0	187	64,115
10-Jun-2011	0	0	45	990	0	0	702	64,817
11-Jun-2011	0	0	0	0	0	0	0	64,817
12-Jun-2011	0	0	0	0	0	0	0	64,817
13-Jun-2011	0	0	26	572	0	0	406	65,223
14-Jun-2011	0	0	27	594	0	0	421	65,644
15-Jun-2011	0	0	12	264	0	0	187	65,831
16-Jun-2011	0	0	223	4,906	0	0	3,479	69,311
17-Jun-2011	0	0	99	2,178	0	0	1,545	70,855
18-Jun-2011	0	0	53	1,166	0	0	827	71,682
19-Jun-2011	0	0	0	0	0	0	0	71,682
20-Jun-2011	0	0	66	1,452	35	1,050	1,774	73,457
21-Jun-2011	0	0	56	1,232	20	600	1,299	74,756

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
22-Jun-2011	0	0	45	990	3	90	766	75,522
23-Jun-2011	0	0	0	0	0	0	0	75,522
24-Jun-2011	0	0	0	0	0	0	0	75,522
25-Jun-2011	0	0	191	4,202	27	810	3,555	79,077
26-Jun-2011	0	0	0	0	0	0	0	79,077
27-Jun-2011	0	0	325	7,150	62	1,860	6,390	85,467
28-Jun-2011	0	0	0	0	0	0	0	85,467
29-Jun-2011	0	0	263	5,786	37	1,110	4,891	90,357
30-Jun-2011	0	0	268	5,896	0	0	4,182	94,539
1-Jul-2011	0	0	254	5,588	0	0	3,963	98,502
2-Jul-2011	0	0	0	0	0	0	0	98,502
3-Jul-2011	0	0	0	0	0	0	0	98,502
4-Jul-2011	0	0	0	0	0	0	0	98,502
5-Jul-2011	0	0	212	4,664	5	150	3,414	101,916
6-Jul-2011	0	0	93	2,046	0	0	1,451	103,367
7-Jul-2011	0	0	203	4,466	0	0	3,167	106,535
8-Jul-2011	12	192	201	4,422	0	0	3,272	109,807
9-Jul-2011	0	0	309	6,798	0	0	4,821	114,628
10-Jul-2011	0	0	0	0	0	0	0	114,628
11-Jul-2011	28	448	73	1,606	0	0	1,457	116,085
12-Jul-2011	17	272	166	3,652	11	330	3,017	119,102
13-Jul-2011	15	240	190	4,180	0	0	3,135	122,237
14-Jul-2011	29	464	190	4,180	0	0	3,294	125,530
15-Jul-2011	15	240	257	5,654	32	960	4,861	130,391
16-Jul-2011	0	0	149	3,278	0	0	2,325	132,716
17-Jul-2011	0	0	0	0	0	0	0	132,716
18-Jul-2011	0	0	309	6,798	0	0	4,821	137,538
19-Jul-2011	11	176	308	6,776	0	0	4,930	142,468
20-Jul-2011	0	0	237	5,214	0	0	3,698	146,166
21-Jul-2011	13	208	78	1,716	0	0	1,365	147,530
22-Jul-2011	12	192	190	4,180	21	630	3,548	151,078
23-Jul-2011	0	0	164	3,608	0	0	2,559	153,637
24-Jul-2011	0	0	0	0	0	0	0	153,637
25-Jul-2011	0	0	83	1,826	6	180	1,423	155,060
26-Jul-2011	0	0	76	1,672	30	900	1,824	156,884
27-Jul-2011	0	0	79	1,738	0	0	1,233	158,116
28-Jul-2011	0	0	122	2,684	0	0	1,904	160,020
29-Jul-2011	0	0	79	1,738	0	0	1,233	161,252
30-Jul-2011	0	0	196	4,312	5	150	3,165	164,417
31-Jul-2011	0	0	0	0	0	0	0	164,417
1-Aug-2011	0	0	156	3,432	0	0	2,434	166,851
2-Aug-2011	0	0	308	6,776	11	330	5,040	171,891
3-Aug-2011	0	0	342	7,524	0	0	5,336	177,227
4-Aug-2011	0	0	148	3,256	0	0	2,309	179,536

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
5-Aug-2011	0	0	389	8,558	0	0	6,070	185,606
6-Aug-2011	0	0	110	2,420	0	0	1,716	**187,322**
7-Aug-2011								187,322
8-Aug-2011	0	0	75	1,650	8	240	1,145	188,467
9-Aug-2011	0	0	145	3,190	0	0	1,933	190,401
10-Aug-2011	0	0	316	6,952	31	930	4,777	195,178
11-Aug-2011	0	0	276	6,072	15	450	3,953	199,130
12-Aug-2011	0	0	280	6,160	24	720	4,170	203,300
13-Aug-2011	0	0	437	9,614	6	180	5,936	209,236
14-Aug-2011	0	0	0	0	0	0	0	209,236
15-Aug-2011	0	0	341	7,502	17	510	4,856	214,092
16-Aug-2011	0	0	373	8,206	17	510	5,282	219,374
17-Aug-2011	0	0	265	5,830	21	630	3,915	223,289
18-Aug-2011	0	0	264	5,808	18	540	3,847	227,137
19-Aug-2011	0	0	251	5,522	3	90	3,401	230,538
20-Aug-2011	0	0	349	7,678	25	750	5,108	235,646
21-Aug-2011	0	0	0	0	0	0	0	235,646
22-Aug-2011	0	0	247	5,434	10	300	3,475	239,121
23-Aug-2011	0	0	280	6,160	17	510	4,042	243,163
24-Aug-2011	0	0	256	5,632	23	690	3,832	246,995
25-Aug-2011	0	0	218	4,796	29	870	3,434	250,429
26-Aug-2011	0	0	247	5,434	13	390	3,530	253,958
27-Aug-2011	0	0	399	8,778	21	630	5,702	259,660
28-Aug-2011	0	0	0	0	0	0	0	259,660
29-Aug-2011	0	0	291	6,402	58	1,740	4,935	264,595
30-Aug-2011	0	0	354	7,788	32	960	5,302	269,897
31-Aug-2011	0	0	330	7,260	19	570	4,745	274,642
1-Sep-2011	0	0	357	7,854	30	900	5,305	279,947
2-Sep-2011	0	0	146	3,212	42	1,260	2,710	282,658
3-Sep-2011	0	0	0	0	0	0	0	282,658
4-Sep-2011	0	0	0	0	0	0	0	282,658
5-Sep-2011	0	0	0	0	0	0	0	282,658
6-Sep-2011	0	0	0	0	0	0	0	282,658
7-Sep-2011	0	0	0	0	0	0	0	282,658
8-Sep-2011	0	0	0	0	0	0	0	282,658
9-Sep-2011	0	0	0	0	0	0	0	282,658
10-Sep-2011	0	0	0	0	0	0	0	282,658
11-Sep-2011	0	0	0	0	0	0	0	282,658
12-Sep-2011	0	0	372	8,184	43	1,290	5,742	288,400
13-Sep-2011	0	0	597	13,134	5	150	8,051	296,450
14-Sep-2011	0	0	228	5,016	23	690	3,458	299,909
15-Sep-2011	0	0	0	0	0	0	0	299,909
16-Sep-2011	0	0	358	7,876	33	990	5,373	305,282
17-Sep-2011	0	0	368	8,096	51	1,530	5,834	311,116

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
18-Sep-2011	0	0	0	0	0	0	0	311,116
19-Sep-2011	0	0	409	8,998	52	1,560	6,399	317,515
20-Sep-2011	0	0	326	7,172	70	2,100	5,619	323,134
21-Sep-2011	0	0	0	0	0	0	0	323,134
22-Sep-2011	0	0	0	0	0	0	0	323,134
23-Sep-2011	0	0	0	0	0	0	0	323,134
24-Sep-2011	0	0	0	0	0	0	0	323,134
25-Sep-2011	0	0	0	0	0	0	0	323,134
26-Sep-2011	0	0	292	6,424	39	1,170	4,602	327,737
27-Sep-2011	0	0	0	0	0	0	0	327,737
28-Sep-2011	0	0	202	4,444	21	630	3,075	330,812
29-Sep-2011	0	0	248	5,456	64	1,920	4,470	335,282
30-Sep-2011	0	0	466	10,252	78	2,340	7,632	342,914
1-Oct-2011	0	0	330	7,260	33	990	5,000	347,914
2-Oct-2011	0	0	0	0	0	0	0	347,914
3-Oct-2011	0	0	205	4,510	64	1,920	3,897	351,810
4-Oct-2011	0	0	327	7,194	48	1,440	5,233	357,043
5-Oct-2011	0	0	341	7,502	0	0	4,547	361,590
6-Oct-2011	0	0	249	5,478	40	1,200	4,047	365,637
7-Oct-2011	0	0	204	4,488	33	990	3,320	368,957
8-Oct-2011	0	0	93	2,046	166	4,980	4,258	373,215
9-Oct-2011	0	0	0	0	0	0	0	373,215
10-Oct-2011	0	0	246	5,412	8	240	3,425	376,641
11-Oct-2011	0	0	0	0	0	0	0	376,641
12-Oct-2011	0	0	0	0	0	0	0	376,641
13-Oct-2011	0	0	0	0	0	0	0	376,641
14-Oct-2011	0	0	0	0	0	0	0	376,641
15-Oct-2011	0	0	351	7,722	0	0	4,680	381,321
16-Oct-2011	0	0	0	0	0	0	0	381,321
17-Oct-2011	0	0	281	6,182	0	0	3,747	385,067
18-Oct-2011	0	0	560	12,320	59	1,770	8,539	393,607
19-Oct-2011	0	0	0	0	0	0	0	393,607
20-Oct-2011	0	0	0	0	0	0	0	393,607
21-Oct-2011	0	0	20	440	0	0	267	393,874
22-Oct-2011	0	0	271	5,962	107	3,210	5,559	399,432
23-Oct-2011	0	0	0	0	0	0	0	399,432
24-Oct-2011	0	0	333	7,326	61	1,830	5,549	404,981
25-Oct-2011	0	0	328	7,216	34	1,020	4,992	409,973
26-Oct-2011	0	0	412	9,064	85	2,550	7,039	417,012
27-Oct-2011	0	0	371	8,162	90	2,700	6,583	423,595
28-Oct-2011	0	0	0	0	0	0	0	423,595
29-Oct-2011	0	0	0	0	0	0	0	423,595
30-Oct-2011	0	0	0	0	0	0	0	423,595
31-Oct-2011	0	0	53	1,166	0	0	707	424,301

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
1-Nov-2011	0	0	247	5,434	22	660	3,693	427,995
2-Nov-2011	0	0	296	6,512	0	0	3,947	431,941
3-Nov-2011	0	0	310	6,820	17	510	4,442	436,384
4-Nov-2011	0	0	0	0	0	0	0	436,384
5-Nov-2011	0	0	0	0	0	0	0	436,384
6-Nov-2011	0	0	0	0	0	0	0	436,384
7-Nov-2011	0	0	223	4,906	42	1,260	3,737	440,121
8-Nov-2011	0	0	343	7,546	32	960	5,155	445,276
9-Nov-2011	0	0	40	880	0	0	533	445,809
10-Nov-2011	0	0	66	1,452	0	0	880	446,689
11-Nov-2011	0	0	17	374	0	0	227	446,916
12-Nov-2011	0	0	119	2,618	0	0	1,587	448,503
13-Nov-2011	0	0	156	3,432	0	0	2,080	450,583
14-Nov-2011	0	0	133	2,926	0	0	1,773	452,356
15-Nov-2011	0	0	76	1,672	0	0	1,013	453,369
16-Nov-2011	0	0	0	0	0	0	0	453,369
17-Nov-2011	0	0	116	2,552	0	0	1,547	454,916
18-Nov-2011	0	0	136	2,992	0	0	1,813	456,729
19-Nov-2011	0	0	45	990	0	0	600	457,329
20-Nov-2011	0	0	0	0	0	0	0	457,329
21-Nov-2011	0	0	29	638	0	0	387	457,716
22-Nov-2011	0	0	85	1,870	0	0	1,133	458,849
23-Nov-2011	0	0	0	0	0	0	0	458,849
24-Nov-2011	0	0	0	0	0	0	0	458,849
25-Nov-2011	0	0	0	0	0	0	0	458,849
26-Nov-2011	0	0	0	0	0	0	0	458,849
27-Nov-2011	0	0	0	0	0	0	0	458,849
28-Nov-2011	0	0	0	0	0	0	0	458,849
29-Nov-2011	0	0	0	0	0	0	0	458,849
30-Nov-2011	0	0	0	0	0	0	0	458,849
1-Dec-2011	0	0	0	0	0	0	0	458,849
2-Dec-2011	0	0	28	616	0	0	373	459,223
3-Dec-2011	0	0	132	2,904	0	0	1,760	460,983
4-Dec-2011	0	0	0	0	0	0	0	460,983
5-Dec-2011	8	128	32	704	0	0	504	461,487
6-Dec-2011	0	0	0	0	0	0	0	461,487
7-Dec-2011	0	0	0	0	0	0	0	461,487
8-Dec-2011	0	0	0	0	0	0	0	461,487
9-Dec-2011	0	0	0	0	0	0	0	461,487
10-Dec-2011	0	0	0	0	0	0	0	461,487
11-Dec-2011	0	0	0	0	0	0	0	461,487
12-Dec-2011	0	0	0	0	0	0	0	461,487
13-Dec-2011	0	0	0	0	0	0	0	461,487
14-Dec-2011	0	0	60	1,320	0	0	800	462,287

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
15-Dec-2011	0	0	0	0	0	0	0	462,287
16-Dec-2011	0	0	0	0	0	0	0	462,287
17-Dec-2011	0	0	0	0	0	0	0	462,287
18-Dec-2011	0	0	0	0	0	0	0	462,287
19-Dec-2011	0	0	0	0	0	0	0	462,287
20-Dec-2011	0	0	50	1,100	0	0	667	462,954
21-Dec-2011	0	0	0	0	0	0	0	462,954
22-Dec-2011	0	0	62	1,364	0	0	827	463,780
23-Dec-2011	0	0	0	0	0	0	0	463,780
24-Dec-2011	0	0	0	0	0	0	0	463,780
25-Dec-2011	0	0	0	0	0	0	0	463,780
26-Dec-2011	0	0	0	0	0	0	0	463,780
27-Dec-2011	0	0	0	0	0	0	0	463,780
28-Dec-2011	0	0	54	1,188	0	0	720	464,500
29-Dec-2011	0	0	141	3,102	0	0	1,880	466,380
30-Dec-2011	0	0	42	924	0	0	560	466,940
31-Dec-2011	0	0	28	616	0	0	373	467,314
1-Jan-2012	0	0	0	0	0	0	0	467,314
2-Jan-2012	0	0	0	0	0	0	0	467,314
3-Jan-2012	0	0	80	1,760	0	0	1,067	468,380
4-Jan-2012	0	0	122	2,684	0	0	1,627	470,007
5-Jan-2012	0	0	177	3,894	0	0	2,360	472,367
6-Jan-2012	0	0	0	0	0	0	0	472,367
7-Jan-2012	0	0	0	0	0	0	0	472,367
8-Jan-2012	0	0	0	0	0	0	0	472,367
9-Jan-2012	0	0	0	0	0	0	0	472,367
10-Jan-2012	0	0	0	0	0	0	0	472,367
11-Jan-2012	0	0	0	0	0	0	0	472,367
12-Jan-2012	0	0	0	0	0	0	0	472,367
13-Jan-2012	0	0	0	0	0	0	0	472,367
14-Jan-2012	0	0	0	0	0	0	0	472,367
15-Jan-2012	0	0	0	0	0	0	0	472,367
16-Jan-2012	0	0	73	1,606	0	0	973	473,340
17-Jan-2012	0	0	0	0	0	0	0	473,340
18-Jan-2012	0	0	0	0	0	0	0	473,340
19-Jan-2012	0	0	0	0	0	0	0	473,340
20-Jan-2012	0	0	0	0	0	0	0	473,340
21-Jan-2012	0	0	0	0	0	0	0	473,340
22-Jan-2012	0	0	0	0	0	0	0	473,340
23-Jan-2012	0	0	0	0	0	0	0	473,340
24-Jan-2012	0	0	0	0	0	0	0	473,340
25-Jan-2012	0	0	144	3,168	0	0	1,920	475,260
26-Jan-2012	0	0	0	0	0	0	0	475,260
27-Jan-2012	0	0	0	0	0	0	0	475,260

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
28-Jan-2012	0	0	0	0	0	0	0	475,260
29-Jan-2012	0	0	0	0	0	0	0	475,260
30-Jan-2012	0	0	95	2,090	0	0	1,267	476,527
31-Jan-2012	0	0	228	5,016	0	0	3,040	479,567
1-Feb-2012	0	0	42	924	0	0	560	480,127
2-Feb-2012	0	0	0	0	0	0	0	480,127
3-Feb-2012	0	0	168	3,696	0	0	2,240	482,367
4-Feb-2012	0	0	0	0	0	0	0	482,367
5-Feb-2012	0	0	0	0	0	0	0	482,367
6-Feb-2012	0	0	0	0	0	0	0	482,367
7-Feb-2012	0	0	121	2,662	0	0	1,613	483,980
8-Feb-2012	0	0	109	2,398	0	0	1,453	485,434
9-Feb-2012	0	0	145	3,190	0	0	1,933	487,367
10-Feb-2012	0	0	132	2,904	0	0	1,760	489,127
11-Feb-2012	0	0	0	0	0	0	0	489,127
12-Feb-2012	0	0	0	0	0	0	0	489,127
13-Feb-2012	0	0	115	2,530	0	0	1,533	490,660
14-Feb-2012	0	0	0	0	0	0	0	490,660
15-Feb-2012	0	0	0	0	0	0	0	490,660
16-Feb-2012	0	0	0	0	0	0	0	490,660
17-Feb-2012	0	0	0	0	0	0	0	490,660
18-Feb-2012	0	0	0	0	0	0	0	490,660
19-Feb-2012	0	0	0	0	0	0	0	490,660
20-Feb-2012	0	0	0	0	0	0	0	490,660
21-Feb-2012	0	0	0	0	0	0	0	490,660
22-Feb-2012	0	0	0	0	0	0	0	490,660
23-Feb-2012	0	0	0	0	0	0	0	490,660
24-Feb-2012	0	0	0	0	0	0	0	490,660
25-Feb-2012	0	0	0	0	0	0	0	490,660
26-Feb-2012	0	0	0	0	0	0	0	490,660
27-Feb-2012	0	0	0	0	0	0	0	490,660
28-Feb-2012	0	0	133	2,926	0	0	1,773	492,434
29-Feb-2012	0	0	0	0	0	0	0	492,434
1-Mar-2012	0	0	0	0	0	0	0	492,434
2-Mar-2012	0	0	0	0	0	0	0	492,434
3-Mar-2012	0	0	0	0	0	0	0	492,434
4-Mar-2012	0	0	0	0	0	0	0	492,434
5-Mar-2012	0	0	0	0	0	0	0	492,434
6-Mar-2012	0	0	0	0	0	0	0	492,434
7-Mar-2012	0	0	0	0	0	0	0	492,434
8-Mar-2012	0	0	88	1,936	0	0	1,173	493,607
9-Mar-2012	0	0	0	0	0	0	0	493,607
10-Mar-2012	0	0	0	0	0	0	0	493,607
11-Mar-2012	0	0	0	0	0	0	0	493,607

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
12-Mar-2012	0	0	0	0	0	0	0	493,607
13-Mar-2012	0	0	0	0	0	0	0	493,607
14-Mar-2012	0	0	0	0	0	0	0	493,607
15-Mar-2012	0	0	71	1,562	56	1,680	1,965	495,572
16-Mar-2012	0	0	0	0	0	0	0	495,572
17-Mar-2012	0	0	0	0	0	0	0	495,572
18-Mar-2012	0	0	0	0	0	0	0	495,572
19-Mar-2012	0	0	132	2,904	63	1,890	2,905	498,477
20-Mar-2012	0	0	154	3,388	68	2,040	3,290	501,767
21-Mar-2012	0	0	-52	-1,144	0	0	-693	501,074
22-Mar-2012	0	0	0	0	0	0	0	501,074
23-Mar-2012	0	0	0	0	0	0	0	501,074
24-Mar-2012	0	0	0	0	0	0	0	501,074
25-Mar-2012	0	0	0	0	0	0	0	501,074
26-Mar-2012	0	0	8	176	0	0	107	501,180
27-Mar-2012	0	0	0	0	0	0	0	501,180
28-Mar-2012	0	0	-69	-1,518	0	0	-920	500,260
29-Mar-2012	0	0	-19	-418	0	0	-253	500,007
30-Mar-2012	0	0	83	1,826	0	0	1,107	501,114
31-Mar-2012	0	0	0	0	0	0	0	501,114
1-Apr-2012	0	0	0	0	0	0	0	501,114
2-Apr-2012	0	0	145	3,190	0	0	1,933	503,047
3-Apr-2012	0	0	94	2,068	0	0	1,253	504,300
4-Apr-2012	0	0	150	3,300	0	0	2,000	506,300
5-Apr-2012	0	0	97	2,134	0	0	1,293	507,594
6-Apr-2012	0	0	0	0	0	0	0	507,594
7-Apr-2012	0	0	0	0	0	0	0	507,594
8-Apr-2012	0	0	0	0	0	0	0	507,594
9-Apr-2012	0	0	103	2,266	0	0	1,373	508,967
10-Apr-2012	0	0	94	2,068	0	0	1,253	510,220
11-Apr-2012	0	0	71	1,562	0	0	947	511,167
12-Apr-2012	0	0	98	2,156	0	0	1,307	512,474
13-Apr-2012	0	0	109	2,398	0	0	1,453	513,927
14-Apr-2012	0	0	0	0	0	0	0	513,927
15-Apr-2012	0	0	0	0	0	0	0	513,927
16-Apr-2012	0	0	71	1,562	0	0	947	514,874
17-Apr-2012	0	0	87	1,914	0	0	1,160	516,034
18-Apr-2012	0	0	0	0	0	0	0	516,034
19-Apr-2012	0	0	95	2,090	0	0	1,267	517,300
20-Apr-2012	0	0	73	1,606	0	0	973	518,274
21-Apr-2012	0	0	0	0	0	0	0	518,274
22-Apr-2012	0	0	0	0	0	0	0	518,274
23-Apr-2012	0	0	111	2,442	0	0	1,480	519,754
24-Apr-2012	0	0	152	3,344	0	0	2,027	521,780

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
25-Apr-2012	0	0	82	1,804	0	0	1,093	522,874
26-Apr-2012	0	0	0	0	0	0	0	522,874
27-Apr-2012	0	0	47	1,034	0	0	627	523,500
28-Apr-2012	0	0	41	902	0	0	547	524,047
29-Apr-2012	0	0	0	0	0	0	0	524,047
30-Apr-2012	0	0	-54	-1,188	0	0	-720	523,327
1-May-2012	0	0	-87	-1,914	0	0	-1,160	522,167
2-May-2012	0	0	-40	-880	0	0	-533	521,634
3-May-2012	0	0	-37	-814	0	0	-493	521,140
4-May-2012	0	0	153	3,366	0	0	2,040	523,180
5-May-2012	0	0	143	3,146	0	0	1,907	525,087
6-May-2012	0	0	0	0	0	0	0	525,087
7-May-2012	0	0	18	396	0	0	240	525,327
8-May-2012	0	0	52	1,144	0	0	693	526,020
9-May-2012	0	0	-6	-132	0	0	-80	525,940
10-May-2012	0	0	-21	-462	0	0	-280	525,660
11-May-2012	0	0	0	0	0	0	0	525,660
12-May-2012	0	0	0	0	0	0	0	525,660
13-May-2012	0	0	0	0	0	0	0	525,660
14-May-2012	0	0	0	0	0	0	0	525,660
15-May-2012	0	0	0	0	0	0	0	525,660
16-May-2012	0	0	145	3,190	0	0	1,933	527,594
17-May-2012	0	0	108	2,376	0	0	1,440	529,034
18-May-2012	0	0	0	0	0	0	0	529,034
19-May-2012	0	0	0	0	0	0	0	529,034
20-May-2012	0	0	0	0	0	0	0	529,034
21-May-2012	0	0	0	0	0	0	0	529,034
22-May-2012	0	0	0	0	0	0	0	529,034
23-May-2012	0	0	-28	-616	0	0	-373	528,660
24-May-2012	0	0	-34	-748	0	0	-453	528,207
25-May-2012	0	0	2	44	0	0	27	528,234
26-May-2012	0	0	0	0	0	0	0	528,234
27-May-2012	0	0	0	0	0	0	0	528,234
28-May-2012	0	0	0	0	0	0	0	528,234
29-May-2012	0	0	-19	-418	0	0	-253	527,980
30-May-2012	0	0	-18	-396	0	0	-240	527,740
31-May-2012	0	0	-48	-1,056	0	0	-640	527,100
1-Jun-2012	0	0	-11	-242	0	0	-147	526,954
2-Jun-2012	0	0	93	2,046	0	0	1,240	528,194
3-Jun-2012	0	0	0	0	0	0	0	528,194
4-Jun-2012	0	0	31	682	0	0	413	528,607
5-Jun-2012	0	0	-117	-2,574	0	0	-1,560	527,047
6-Jun-2012	0	0	-73	-1,606	0	0	-973	526,074
7-Jun-2012	0	0	-166	-3,652	0	0	-2,213	523,860

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
8-Jun-2012	0	0	-142	-3,124	0	0	-1,893	521,967
9-Jun-2012	0	0	0	0	0	0	0	521,967
10-Jun-2012	0	0	0	0	0	0	0	521,967
11-Jun-2012	0	0	-152	-3,344	0	0	-2,027	519,940
12-Jun-2012	0	0	-140	-3,080	0	0	-1,867	518,074
13-Jun-2012	0	0	-122	-2,684	0	0	-1,627	516,447
14-Jun-2012	0	0	-177	-3,894	0	0	-2,360	514,087
15-Jun-2012	0	0	-152	-3,344	0	0	-2,027	512,060
16-Jun-2012	0	0	0	0	0	0	0	512,060
17-Jun-2012	0	0	0	0	0	0	0	512,060
18-Jun-2012	0	0	-139	-3,058	98	2,940	-72	511,989
19-Jun-2012	0	0	-20	-440	108	3,240	1,697	513,686
20-Jun-2012	0	0	46	1,012	53	1,590	1,577	515,263
21-Jun-2012	0	0	0	0	77	2,310	1,400	516,663
22-Jun-2012	0	0	0	0	203	6,090	3,691	520,354
23-Jun-2012	0	0	0	0	0	0	0	520,354
24-Jun-2012	0	0	0	0	0	0	0	520,354
25-Jun-2012	0	0	0	0	107	3,210	1,945	522,299
26-Jun-2012	0	0	0	0	72	2,160	1,309	523,608
27-Jun-2012	0	0	0	0	0	0	0	523,608
28-Jun-2012	0	0	0	0	0	0	0	523,608
29-Jun-2012	0	0	0	0	0	0	0	523,608
30-Jun-2012	0	0	0	0	0	0	0	523,608
1-Jul-2012	0	0	0	0	0	0	0	523,608
2-Jul-2012	0	0	0	0	0	0	0	523,608
3-Jul-2012	0	0	0	0	0	0	0	523,608
4-Jul-2012	0	0	0	0	0	0	0	523,608
5-Jul-2012	0	0	0	0	0	0	0	523,608
6-Jul-2012	0	0	0	0	0	0	0	523,608
7-Jul-2012	0	0	0	0	0	0	0	523,608
8-Jul-2012	0	0	0	0	0	0	0	523,608
9-Jul-2012	0	0	0	0	0	0	0	523,608
10-Jul-2012	0	0	49	1,078	0	0	653	524,261
11-Jul-2012	0	0	0	0	0	0	0	524,261
12-Jul-2012	0	0	0	0	0	0	0	524,261
13-Jul-2012	0	0	0	0	0	0	0	524,261
14-Jul-2012	0	0	0	0	0	0	0	524,261
15-Jul-2012	0	0	0	0	0	0	0	524,261
16-Jul-2012	0	0	0	0	0	0	0	524,261
17-Jul-2012	0	0	0	0	0	0	0	524,261
18-Jul-2012	0	0	0	0	0	0	0	524,261
19-Jul-2012	0	0	0	0	0	0	0	524,261
20-Jul-2012	0	0	0	0	0	0	0	524,261
21-Jul-2012	0	0	0	0	0	0	0	524,261

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
22-Jul-2012	0	0	0	0	0	0	0	524,261
23-Jul-2012	0	0	0	0	0	0	0	524,261
24-Jul-2012	0	0	0	0	0	0	0	524,261
25-Jul-2012	0	0	0	0	0	0	0	524,261
26-Jul-2012	0	0	0	0	0	0	0	524,261
27-Jul-2012	0	0	0	0	0	0	0	524,261
28-Jul-2012	0	0	0	0	0	0	0	524,261
29-Jul-2012	0	0	0	0	0	0	0	524,261
30-Jul-2012	0	0	0	0	0	0	0	524,261
31-Jul-2012	0	0	0	0	0	0	0	524,261
1-Aug-2012	0	0	0	0	0	0	0	524,261
2-Aug-2012	0	0	0	0	0	0	0	524,261
3-Aug-2012	0	0	0	0	0	0	0	524,261
4-Aug-2012	0	0	0	0	0	0	0	524,261
5-Aug-2012	0	0	0	0	0	0	0	524,261
6-Aug-2012	0	0	0	0	0	0	0	524,261
7-Aug-2012	0	0	0	0	0	0	0	524,261
8-Aug-2012	0	0	0	0	0	0	0	524,261
9-Aug-2012	0	0	0	0	0	0	0	524,261
10-Aug-2012	0	0	0	0	0	0	0	524,261
11-Aug-2012	0	0	0	0	0	0	0	524,261
12-Aug-2012	0	0	0	0	0	0	0	524,261
13-Aug-2012	0	0	0	0	0	0	0	524,261
14-Aug-2012	0	0	0	0	0	0	0	524,261
15-Aug-2012	0	0	0	0	0	0	0	524,261
16-Aug-2012	0	0	69	1,518	0	0	920	525,181
17-Aug-2012	0	0	33	726	153	4,590	3,222	528,403
18-Aug-2012	0	0	0	0	0	0	0	528,403
19-Aug-2012	0	0	0	0	0	0	0	528,403
20-Aug-2012	0	0	2	44	0	0	27	528,430
21-Aug-2012	0	0	0	0	0	0	0	528,430
22-Aug-2012	0	0	0	0	0	0	0	528,430
23-Aug-2012	0	0	0	0	0	0	0	528,430
24-Aug-2012	0	0	0	0	0	0	0	528,430
25-Aug-2012	0	0	0	0	0	0	0	528,430
26-Aug-2012	0	0	0	0	0	0	0	528,430
27-Aug-2012	0	0	-4	-88	0	0	-53	528,377
28-Aug-2012	0	0	0	0	0	0	0	528,377
29-Aug-2012	0	0	0	0	0	0	0	528,377
30-Aug-2012	0	0	0	0	0	0	0	528,377
31-Aug-2012	0	0	0	0	0	0	0	528,377
1-Sep-2012	0	0	0	0	0	0	0	528,377
2-Sep-2012	0	0	0	0	0	0	0	528,377
3-Sep-2012	0	0	0	0	0	0	0	528,377

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
4-Sep-2012	0	0	0	0	0	0	0	528,377
5-Sep-2012	0	0	-31	-682	0	0	-413	527,963
6-Sep-2012	0	0	-17	-374	0	0	-227	527,737
7-Sep-2012	0	0	-5	-110	0	0	-67	527,670
8-Sep-2012	0	0	0	0	0	0	0	527,670
9-Sep-2012	0	0	0	0	0	0	0	527,670
10-Sep-2012	0	0	-10	-220	0	0	-133	527,537
11-Sep-2012	0	0	0	0	0	0	0	527,537
12-Sep-2012	0	0	0	0	173	5,190	3,145	530,682
13-Sep-2012	0	0	0	0	166	4,980	3,018	533,700
14-Sep-2012	0	0	0	0	143	4,290	2,600	536,300
15-Sep-2012	0	0	0	0	0	0	0	536,300
16-Sep-2012	0	0	0	0	0	0	0	536,300
17-Sep-2012	0	0	0	0	0	0	0	536,300
18-Sep-2012	0	0	0	0	0	0	0	536,300
19-Sep-2012	0	0	-6	-132	0	0	-80	536,220
20-Sep-2012	0	0	0	0	0	0	0	536,220
21-Sep-2012	0	0	0	0	147	4,410	2,673	538,893
22-Sep-2012	0	0	0	0	130	3,900	2,364	541,257
23-Sep-2012	0	0	0	0	0	0	0	541,257
24-Sep-2012	0	0	0	0	154	4,620	2,800	544,057
25-Sep-2012	0	0	10	220	243	7,290	4,552	548,608
26-Sep-2012	0	0	0	0	193	5,790	3,509	552,117
27-Sep-2012	0	0	-40	-880	237	7,110	3,776	555,893
28-Sep-2012	0	0	0	0	0	0	0	555,893
29-Sep-2012	0	0	0	0	0	0	0	555,893
30-Sep-2012	0	0	0	0	0	0	0	555,893
1-Oct-2012	0	0	0	0	0	0	0	555,893
2-Oct-2012	0	0	0	0	0	0	0	555,893
3-Oct-2012	0	0	0	0	0	0	0	555,893
4-Oct-2012	0	0	0	0	0	0	0	555,893
5-Oct-2012	0	0	0	0	0	0	0	555,893
6-Oct-2012	0	0	0	0	0	0	0	555,893
7-Oct-2012	0	0	0	0	0	0	0	555,893
8-Oct-2012	0	0	0	0	0	0	0	555,893
9-Oct-2012	0	0	0	0	0	0	0	555,893
10-Oct-2012	0	0	81	1,782	0	0	1,080	556,973
11-Oct-2012	0	0	131	2,882	0	0	1,747	558,720
12-Oct-2012	0	0	76	1,672	0	0	1,013	559,733
13-Oct-2012	0	0	123	2,706	0	0	1,640	561,373
14-Oct-2012	0	0	0	0	0	0	0	561,373
15-Oct-2012	0	0	0	0	0	0	0	561,373
16-Oct-2012	0	0	0	0	189	5,670	3,436	564,809
17-Oct-2012	0	0	93	2,046	204	6,120	4,949	569,758

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
18-Oct-2012	0	0	-5	-110	0	0	-67	569,692
19-Oct-2012	0	0	-5	-110	132	3,960	2,333	572,025
20-Oct-2012	0	0	0	0	174	5,220	3,164	575,189
21-Oct-2012	0	0	0	0	0	0	0	575,189
22-Oct-2012	0	0	0	0	146	4,380	2,655	577,843
23-Oct-2012	0	0	43	946	0	0	573	578,417
24-Oct-2012	0	0	-72	-1,584	52	1,560	-15	578,402
25-Oct-2012	0	0	19	418	0	0	253	578,655
26-Oct-2012	0	0	30	660	0	0	400	579,055
27-Oct-2012	0	0	0	0	0	0	0	579,055
28-Oct-2012	0	0	0	0	0	0	0	579,055
29-Oct-2012	0	0	0	0	0	0	0	579,055
30-Oct-2012	0	0	0	0	0	0	0	579,055
31-Oct-2012	0	0	0	0	0	0	0	579,055
1-Nov-2012	0	0	0	0	0	0	0	579,055
2-Nov-2012	0	0	0	0	0	0	0	579,055
3-Nov-2012	0	0	28	616	0	0	373	579,429
4-Nov-2012	0	0	0	0	0	0	0	579,429
5-Nov-2012	0	0	0	0	0	0	0	579,429
6-Nov-2012	0	0	0	0	0	0	0	579,429
7-Nov-2012	0	0	10	220	0	0	133	579,562
8-Nov-2012	0	0	2	44	224	6,720	4,099	583,661
9-Nov-2012	0	0	0	0	0	0	0	583,661
10-Nov-2012	0	0	339	7,458	0	0	4,520	588,181
11-Nov-2012	0	0	0	0	0	0	0	588,181
12-Nov-2012	0	0	0	0	0	0	0	588,181
13-Nov-2012	0	0	0	0	0	0	0	588,181
14-Nov-2012	0	0	0	0	127	3,810	2,309	590,490
15-Nov-2012	0	0	0	0	232	6,960	4,218	594,709
16-Nov-2012	0	0	0	0	0	0	0	594,709
17-Nov-2012	0	0	0	0	0	0	0	594,709
18-Nov-2012	0	0	0	0	0	0	0	594,709
19-Nov-2012	0	0	0	0	0	0	0	594,709
20-Nov-2012	0	0	0	0	0	0	0	594,709
21-Nov-2012	0	0	0	0	0	0	0	594,709
22-Nov-2012	0	0	0	0	0	0	0	594,709
23-Nov-2012	0	0	0	0	0	0	0	594,709
24-Nov-2012	0	0	0	0	0	0	0	594,709
25-Nov-2012	0	0	0	0	0	0	0	594,709
26-Nov-2012	0	0	0	0	0	0	0	594,709
27-Nov-2012	0	0	0	0	185	5,550	3,364	598,072
28-Nov-2012	0	0	0	0	0	0	0	598,072
29-Nov-2012	0	0	0	0	68	2,040	1,236	599,309
30-Nov-2012	0	0	0	0	0	0	0	599,309

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
1-Dec-2012	0	0	0	0	0	0	0	599,309
2-Dec-2012	0	0	0	0	0	0	0	599,309
3-Dec-2012	0	0	0	0	0	0	0	599,309
4-Dec-2012	0	0	0	0	0	0	0	599,309
5-Dec-2012	0	0	0	0	163	4,890	2,964	602,272
6-Dec-2012	0	0	0	0	229	6,870	4,164	606,436
7-Dec-2012	0	0	0	0	226	6,780	4,109	610,545
8-Dec-2012	0	0	0	0	117	3,510	2,127	612,672
9-Dec-2012	0	0	0	0	0	0	0	612,672
10-Dec-2012	0	0	0	0	0	0	0	612,672
11-Dec-2012	0	0	0	0	0	0	0	612,672
12-Dec-2012	0	0	0	0	0	0	0	612,672
13-Dec-2012	0	0	0	0	192	5,760	3,491	616,163
14-Dec-2012	0	0	0	0	189	5,670	3,436	619,600
15-Dec-2012	0	0	0	0	0	0	0	619,600
16-Dec-2012	0	0	0	0	0	0	0	619,600
17-Dec-2012	0	0	0	0	0	0	0	619,600
18-Dec-2012	0	0	0	0	0	0	0	619,600
19-Dec-2012	0	0	0	0	0	0	0	619,600
20-Dec-2012	0	0	0	0	0	0	0	619,600
21-Dec-2012	0	0	-11	-242	0	0	-147	619,453
22-Dec-2012	0	0	0	0	0	0	0	619,453
23-Dec-2012	0	0	0	0	0	0	0	619,453
24-Dec-2012	0	0	0	0	0	0	0	619,453
25-Dec-2012	0	0	0	0	0	0	0	619,453
26-Dec-2012	0	0	0	0	0	0	0	619,453
27-Dec-2012	0	0	0	0	0	0	0	619,453
28-Dec-2012	0	0	0	0	0	0	0	619,453
29-Dec-2012	0	0	0	0	0	0	0	619,453
30-Dec-2012	0	0	0	0	0	0	0	619,453
31-Dec-2012	0	0	0	0	0	0	0	619,453
1-Jan-2013	0	0	0	0	0	0	0	619,453
2-Jan-2013	0	0	0	0	0	0	0	619,453
3-Jan-2013	0	0	0	0	0	0	0	619,453
4-Jan-2013	0	0	0	0	0	0	0	619,453
5-Jan-2013	0	0	0	0	0	0	0	619,453
6-Jan-2013	0	0	0	0	0	0	0	619,453
7-Jan-2013	0	0	0	0	0	0	0	619,453
8-Jan-2013	0	0	0	0	0	0	0	619,453
9-Jan-2013	0	0	0	0	4	120	73	619,526
10-Jan-2013	0	0	0	0	0	0	0	619,526
11-Jan-2013	0	0	6	132	0	0	80	619,606
12-Jan-2013	0	0	0	0	0	0	0	619,606
13-Jan-2013	0	0	0	0	0	0	0	619,606

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
14-Jan-2013	0	0	0	0	0	0	0	619,606
15-Jan-2013	0	0	0	0	0	0	0	619,606
16-Jan-2013	0	0	0	0	0	0	0	619,606
17-Jan-2013	0	0	0	0	0	0	0	619,606
18-Jan-2013	0	0	0	0	0	0	0	619,606
19-Jan-2013	0	0	0	0	0	0	0	619,606
20-Jan-2013	0	0	0	0	0	0	0	619,606
21-Jan-2013	0	0	0	0	-4	-120	-73	619,533
22-Jan-2013	0	0	91	2,002	50	1,500	2,122	621,655
23-Jan-2013	0	0	0	0	78	2,340	1,418	623,074
24-Jan-2013	0	0	0	0	90	2,700	1,636	624,710
25-Jan-2013	0	0	0	0	0	0	0	624,710
26-Jan-2013	0	0	0	0	0	0	0	624,710
27-Jan-2013	0	0	0	0	0	0	0	624,710
28-Jan-2013	0	0	0	0	47	1,410	855	625,564
29-Jan-2013	0	0	9	198	122	3,660	2,338	627,903
30-Jan-2013	0	0	0	0	0	0	0	627,903
31-Jan-2013	0	0	0	0	0	0	0	627,903
1-Feb-2013	0	0	0	0	164	4,920	2,982	630,884
2-Feb-2013	0	0	0	0	0	0	0	630,884
3-Feb-2013	0	0	0	0	0	0	0	630,884
4-Feb-2013	0	0	-6	-132	72	2,160	1,229	632,114
5-Feb-2013	0	0	-5	-110	177	5,310	3,152	635,265
6-Feb-2013	0	0	0	0	0	0	0	635,265
7-Feb-2013	0	0	-15	-330	0	0	-200	635,065
8-Feb-2013	0	0	0	0	0	0	0	635,065
9-Feb-2013	0	0	0	0	0	0	0	635,065
10-Feb-2013	0	0	0	0	0	0	0	635,065
11-Feb-2013	0	0	0	0	0	0	0	635,065
12-Feb-2013	0	0	0	0	0	0	0	635,065
13-Feb-2013	0	0	0	0	0	0	0	635,065
14-Feb-2013	0	0	0	0	0	0	0	635,065
15-Feb-2013	0	0	0	0	0	0	0	635,065
16-Feb-2013	0	0	0	0	0	0	0	635,065
17-Feb-2013	0	0	0	0	0	0	0	635,065
18-Feb-2013	0	0	0	0	0	0	0	635,065
19-Feb-2013	0	0	3	66	0	0	40	635,105
20-Feb-2013	0	0	0	0	0	0	0	635,105
21-Feb-2013	0	0	0	0	0	0	0	635,105
22-Feb-2013	0	0	0	0	0	0	0	635,105
23-Feb-2013	0	0	0	0	0	0	0	635,105
24-Feb-2013	0	0	0	0	0	0	0	635,105
25-Feb-2013	0	0	0	0	0	0	0	635,105
26-Feb-2013	0	0	0	0	0	0	0	635,105

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
27-Feb-2013	0	0	0	0	0	0	0	635,105
28-Feb-2013	0	0	72	1,584	0	0	960	636,065
1-Mar-2013	0	0	0	0	0	0	0	636,065
2-Mar-2013	0	0	0	0	0	0	0	636,065
3-Mar-2013	0	0	0	0	0	0	0	636,065
4-Mar-2013	0	0	0	0	0	0	0	636,065
5-Mar-2013	0	0	0	0	0	0	0	636,065
6-Mar-2013	0	0	0	0	0	0	0	636,065
7-Mar-2013	0	0	0	0	0	0	0	636,065
8-Mar-2013	0	0	0	0	0	0	0	636,065
9-Mar-2013	0	0	0	0	0	0	0	636,065
10-Mar-2013	0	0	0	0	0	0	0	636,065
11-Mar-2013	0	0	0	0	0	0	0	636,065
12-Mar-2013	0	0	0	0	0	0	0	636,065
13-Mar-2013	0	0	0	0	0	0	0	636,065
14-Mar-2013	0	0	0	0	0	0	0	636,065
15-Mar-2013	0	0	0	0	169	5,070	3,073	639,138
16-Mar-2013	0	0	0	0	195	5,850	3,545	642,683
17-Mar-2013	0	0	0	0	211	6,330	3,836	646,520
18-Mar-2013	0	0	0	0	77	2,310	1,400	647,920
19-Mar-2013	0	0	0	0	0	0	0	647,920
20-Mar-2013	0	0	0	0	0	0	0	647,920
21-Mar-2013	0	0	0	0	0	0	0	647,920
22-Mar-2013	0	0	0	0	0	0	0	647,920
23-Mar-2013	0	0	0	0	0	0	0	647,920
24-Mar-2013	0	0	0	0	0	0	0	647,920
25-Mar-2013	0	0	0	0	0	0	0	647,920
26-Mar-2013	0	0	0	0	0	0	0	647,920
27-Mar-2013	0	0	0	0	0	0	0	647,920
28-Mar-2013	0	0	0	0	0	0	0	647,920
29-Mar-2013	0	0	0	0	0	0	0	647,920
30-Mar-2013	0	0	0	0	0	0	0	647,920
31-Mar-2013	0	0	0	0	0	0	0	647,920
1-Apr-2013	0	0	0	0	0	0	0	647,920
2-Apr-2013	0	0	0	0	0	0	0	647,920
3-Apr-2013	0	0	0	0	0	0	0	647,920
4-Apr-2013	0	0	0	0	0	0	0	647,920
5-Apr-2013	0	0	0	0	0	0	0	647,920
6-Apr-2013	0	0	0	0	0	0	0	647,920
7-Apr-2013	0	0	0	0	0	0	0	647,920
8-Apr-2013	0	0	0	0	0	0	0	647,920
9-Apr-2013	0	0	0	0	0	0	0	647,920
10-Apr-2013	0	0	86	1,892	0	0	1,147	649,066
11-Apr-2013	0	0	101	2,222	0	0	1,347	650,413

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
12-Apr-2013	0	0	0	0	0	0	0	650,413
13-Apr-2013	0	0	-18	-396	26	780	233	650,646
14-Apr-2013	0	0	0	0	0	0	0	650,646
15-Apr-2013	0	0	-15	-330	122	3,660	2,018	652,664
16-Apr-2013	0	0	-15	-330	111	3,330	1,818	654,482
17-Apr-2013	0	0	18	396	53	1,590	1,204	655,686
18-Apr-2013	0	0	0	0	58	1,740	1,055	656,740
19-Apr-2013	0	0	0	0	0	0	0	656,740
20-Apr-2013	0	0	0	0	0	0	0	656,740
21-Apr-2013	0	0	0	0	168	5,040	3,055	659,795
22-Apr-2013	0	0	0	0	259	7,770	4,709	664,504
23-Apr-2013	0	0	0	0	185	5,550	3,364	667,867
24-Apr-2013	0	0	0	0	101	3,030	1,836	669,704
25-Apr-2013	0	0	167	3,674	149	4,470	4,936	674,640
26-Apr-2013	0	0	138	3,036	175	5,250	5,022	679,661
27-Apr-2013	0	0	0	0	0	0	0	679,661
28-Apr-2013	0	0	0	0	0	0	0	679,661
29-Apr-2013	0	0	0	0	0	0	0	679,661
30-Apr-2013	0	0	0	0	0	0	0	679,661
1-May-2013	0	0	55	1,210	313	9,390	6,424	686,086
2-May-2013	0	0	50	1,100	255	7,650	5,303	691,389
3-May-2013	0	0	14	308	229	6,870	4,350	695,739
4-May-2013	0	0	0	0	0	0	0	695,739
5-May-2013	0	0	0	0	0	0	0	695,739
6-May-2013	0	0	0	0	0	0	0	695,739
7-May-2013	0	0	0	0	0	0	0	695,739
8-May-2013	0	0	0	0	200	6,000	3,636	699,375
9-May-2013	0	0	0	0	234	7,020	4,255	703,630
10-May-2013	0	0	0	0	164	4,920	2,982	706,612
11-May-2013	0	0	0	0	0	0	0	706,612
12-May-2013	0	0	0	0	0	0	0	706,612
13-May-2013	0	0	85	1,870	118	3,540	3,279	709,890
14-May-2013	0	0	102	2,244	0	0	1,360	711,250
15-May-2013	0	0	121	2,662	0	0	1,613	712,864
16-May-2013	0	0	65	1,430	142	4,260	3,448	716,312
17-May-2013	0	0	72	1,584	210	6,300	4,778	721,090
18-May-2013	0	0	0	0	0	0	0	721,090
19-May-2013	0	0	0	0	0	0	0	721,090
20-May-2013	0	0	0	0	0	0	0	721,090
21-May-2013	0	0	0	0	137	4,110	2,491	723,581
22-May-2013	0	0	-19	-418	115	3,450	1,838	725,419
23-May-2013	0	0	0	0	145	4,350	2,636	728,055
24-May-2013	0	0	43	946	143	4,290	3,173	731,229
25-May-2013	0	0	0	0	0	0	0	731,229

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
26-May-2013	0	0	0	0	0	0	0	731,229
27-May-2013	0	0	0	0	0	0	0	731,229
28-May-2013	0	0	150	3,300	153	4,590	4,782	736,010
29-May-2013	0	0	64	1,408	250	7,500	5,399	741,409
30-May-2013	0	0	96	2,112	291	8,730	6,571	747,980
31-May-2013	0	0	94	2,068	269	8,070	6,144	754,124
1-Jun-2013	0	0	102	2,244	244	7,320	5,796	759,921
2-Jun-2013	0	0	0	0	0	0	0	759,921
3-Jun-2013	0	0	0	0	0	0	0	759,921
4-Jun-2013	0	0	0	0	176	5,280	3,200	763,121
5-Jun-2013	0	0	63	1,386	210	6,300	4,658	767,779
6-Jun-2013	0	0	0	0	0	0	0	767,779
7-Jun-2013	0	0	0	0	216	6,480	3,927	771,706
8-Jun-2013	0	0	0	0	82	2,460	1,491	773,197
9-Jun-2013	0	0	0	0	0	0	0	773,197
10-Jun-2013	0	0	0	0	0	0	0	773,197
11-Jun-2013	0	0	0	0	0	0	0	773,197
12-Jun-2013	0	0	0	0	129	3,870	2,345	775,543
13-Jun-2013	0	0	30	660	114	3,420	2,473	778,015
14-Jun-2013	0	0	76	1,672	204	6,120	4,722	782,738
15-Jun-2013	0	0	0	0	34	1,020	618	783,356
16-Jun-2013	0	0	0	0	0	0	0	783,356
17-Jun-2013	0	0	10	220	0	0	133	783,489
18-Jun-2013	0	0	0	0	0	0	0	783,489
19-Jun-2013	0	0	0	0	0	0	0	783,489
20-Jun-2013	0	0	0	0	247	7,410	4,491	787,980
21-Jun-2013	0	0	0	0	247	7,410	4,491	792,471
22-Jun-2013	0	0	0	0	286	8,580	5,200	797,671
23-Jun-2013	0	0	0	0	265	7,950	4,818	802,489
24-Jun-2013	0	0	0	0	250	7,500	4,545	807,035
25-Jun-2013	0	0	0	0	146	4,380	2,655	809,689
26-Jun-2013	0	0	0	0	189	5,670	3,436	813,126
27-Jun-2013	0	0	145	3,190	269	8,070	6,824	819,950
28-Jun-2013	0	0	124	2,728	209	6,270	5,453	825,403
29-Jun-2013	0	0	60	1,320	191	5,730	4,273	829,676
30-Jun-2013	0	0	0	0	0	0	0	829,676
1-Jul-2013	0	0	105	2,310	196	5,880	4,964	834,640
2-Jul-2013	0	0	44	968	289	8,670	5,841	840,481
3-Jul-2013	0	0	0	0	0	0	0	840,481
4-Jul-2013	0	0	0	0	0	0	0	840,481
5-Jul-2013	0	0	0	0	0	0	0	840,481
6-Jul-2013	0	0	0	0	0	0	0	840,481
7-Jul-2013	0	0	0	0	0	0	0	840,481
8-Jul-2013	0	0	0	0	0	0	0	840,481

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
9-Jul-2013	0	0	0	0	0	0	0	840,481
10-Jul-2013	0	0	27	594	114	3,420	2,433	842,914
11-Jul-2013	0	0	0	0	0	0	0	842,914
12-Jul-2013	0	0	0	0	0	0	0	842,914
13-Jul-2013	0	0	141	3,102	178	5,340	5,116	848,030
14-Jul-2013	0	0	0	0	256	7,680	4,655	852,684
15-Jul-2013	0	0	83	1,826	264	7,920	5,907	858,591
16-Jul-2013	0	0	105	2,310	254	7,620	6,018	864,609
17-Jul-2013	0	0	200	4,400	189	5,670	6,103	870,712
18-Jul-2013	0	0	175	3,850	169	5,070	5,406	876,118
19-Jul-2013	0	0	127	2,794	197	5,910	5,275	881,394
20-Jul-2013	0	0	232	5,104	167	5,010	6,130	887,523
21-Jul-2013	0	0	0	0	0	0	0	887,523
22-Jul-2013	0	0	0	0	0	0	0	887,523
23-Jul-2013	0	0	0	0	0	0	0	887,523
24-Jul-2013	0	0	272	5,984	155	4,650	6,445	893,968
25-Jul-2013	0	0	129	2,838	211	6,330	5,556	899,524
26-Jul-2013	0	0	148	3,256	202	6,060	5,646	905,170
27-Jul-2013	0	0	257	5,654	177	5,310	6,645	911,815
28-Jul-2013	0	0	0	0	0	0	0	911,815
29-Jul-2013	0	0	110	2,420	170	5,100	4,558	916,373
30-Jul-2013	0	0	156	3,432	164	4,920	5,062	921,435
31-Jul-2013	0	0	0	0	0	0	0	921,435
1-Aug-2013	0	0	224	4,928	173	5,190	6,132	927,567
2-Aug-2013	0	0	284	6,248	220	6,600	7,787	935,354
3-Aug-2013	0	0	116	2,552	196	5,880	5,110	940,464
4-Aug-2013	0	0	0	0	0	0	0	940,464
5-Aug-2013	0	0	146	3,212	199	5,970	5,565	946,029
6-Aug-2013	0	0	121	2,662	154	4,620	4,413	950,442
7-Aug-2013	0	0	70	1,540	121	3,630	3,133	953,575
8-Aug-2013	0	0	53	1,166	50	1,500	1,616	955,191
9-Aug-2013	0	0	0	0	0	0	0	955,191
10-Aug-2013	0	0	0	0	0	0	0	955,191
11-Aug-2013	0	0	0	0	0	0	0	955,191
12-Aug-2013	0	0	0	0	0	0	0	955,191
13-Aug-2013	0	0	119	2,618	130	3,900	3,950	959,141
14-Aug-2013	0	0	114	2,508	121	3,630	3,720	962,861
15-Aug-2013	0	0	155	3,410	201	6,030	5,721	968,583
16-Aug-2013	0	0	168	3,696	187	5,610	5,640	974,223
17-Aug-2013	0	0	155	3,410	172	5,160	5,194	979,417
18-Aug-2013	0	0	0	0	0	0	0	979,417
19-Aug-2013	0	0	18	396	0	0	240	979,657
20-Aug-2013	0	0	119	2,618	174	5,220	4,750	984,407
21-Aug-2013	0	0	72	1,584	107	3,210	2,905	987,312

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
22-Aug-2013	0	0	15	330	0	0	200	987,512
23-Aug-2013	0	0	212	4,664	204	6,120	6,536	994,048
24-Aug-2013	0	0	0	0	0	0	0	994,048
25-Aug-2013	0	0	0	0	0	0	0	994,048
26-Aug-2013	0	0	62	1,364	27	810	1,318	995,366
27-Aug-2013	0	0	4	88	77	2,310	1,453	996,819
28-Aug-2013	0	0	114	2,508	50	1,500	2,429	999,248
29-Aug-2013	0	0	84	1,848	0	0	1,120	1,000,368
30-Aug-2013	0	0	49	1,078	121	3,630	2,853	1,003,221
31-Aug-2013	0	0	0	0	78	2,340	1,418	1,004,640
1-Sep-2013	0	0	0	0	0	0	0	1,004,640
2-Sep-2013	0	0	0	0	0	0	0	1,004,640
3-Sep-2013	0	0	92	2,024	94	2,820	2,936	1,007,575
4-Sep-2013	0	0	86	1,892	206	6,180	4,892	1,012,467
5-Sep-2013	0	0	59	1,298	194	5,820	4,314	1,016,781
6-Sep-2013	0	0	153	3,366	132	3,960	4,440	1,021,221
7-Sep-2013	0	0	125	2,750	172	5,160	4,794	1,026,015
8-Sep-2013	0	0	0	0	0	0	0	1,026,015
9-Sep-2013	0	0	0	0	177	5,310	3,218	1,029,234
10-Sep-2013	0	0	0	0	182	5,460	3,309	1,032,543
11-Sep-2013	0	0	52	1,144	188	5,640	4,112	1,036,654
12-Sep-2013	0	0	99	2,178	127	3,810	3,629	1,040,283
13-Sep-2013	0	0	82	1,804	121	3,630	3,293	1,043,577
14-Sep-2013	0	0	82	1,804	46	1,380	1,930	1,045,506
15-Sep-2013	0	0	0	0	0	0	0	1,045,506
16-Sep-2013	0	0	0	0	120	3,600	2,182	1,047,688
17-Sep-2013	0	0	219	4,818	174	5,220	6,084	1,053,772
18-Sep-2013	0	0	82	1,804	171	5,130	4,202	1,057,974
19-Sep-2013	0	0	36	792	172	5,160	3,607	1,061,581
20-Sep-2013	0	0	74	1,628	183	5,490	4,314	1,065,895
21-Sep-2013	0	0	0	0	0	0	0	1,065,895
22-Sep-2013	0	0	0	0	0	0	0	1,065,895
23-Sep-2013	0	0	0	0	0	0	0	1,065,895
24-Sep-2013	0	0	90	1,980	179	5,370	4,455	1,070,350
25-Sep-2013	0	0	0	0	0	0	0	1,070,350
26-Sep-2013	0	0	0	0	0	0	0	1,070,350
27-Sep-2013	0	0	45	990	163	4,890	3,564	1,073,914
28-Sep-2013	0	0	39	858	205	6,150	4,247	1,078,161
29-Sep-2013	0	0	0	0	0	0	0	1,078,161
30-Sep-2013	0	0	0	0	194	5,820	3,527	1,081,688
1-Oct-2013	0	0	56	1,232	211	6,330	4,583	1,086,271
2-Oct-2013	0	0	0	0	185	5,550	3,364	1,089,635
3-Oct-2013	0	0	37	814	187	5,610	3,893	1,093,528
4-Oct-2013	0	0	65	1,430	239	7,170	5,212	1,098,740

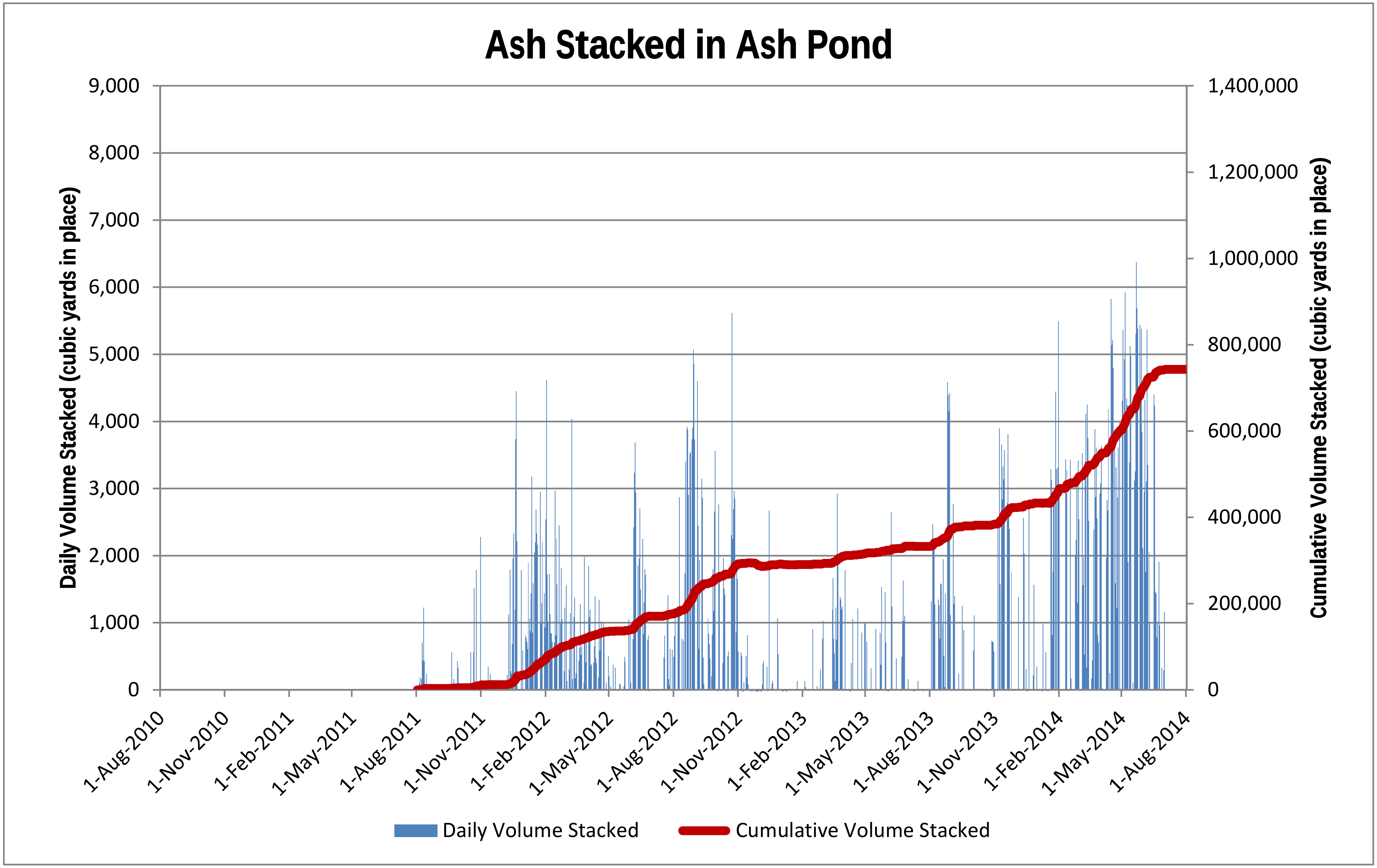
Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
5-Oct-2013	0	0	52	1,144	152	4,560	3,457	1,102,197
6-Oct-2013	0	0	0	0	0	0	0	1,102,197
7-Oct-2013	0	0	10	220	170	5,100	3,224	1,105,421
8-Oct-2013	0	0	118	2,596	185	5,550	4,937	1,110,358
9-Oct-2013	0	0	124	2,728	222	6,660	5,690	1,116,048
10-Oct-2013	0	0	13	286	211	6,330	4,010	1,120,058
11-Oct-2013	0	0	47	1,034	113	3,390	2,681	1,122,739
12-Oct-2013	0	0	44	968	53	1,590	1,550	1,124,289
13-Oct-2013	0	0	0	0	0	0	0	1,124,289
14-Oct-2013	0	0	56	1,232	121	3,630	2,947	1,127,236
15-Oct-2013	0	0	55	1,210	86	2,580	2,297	1,129,533
16-Oct-2013	0	0	0	0	134	4,020	2,436	1,131,969
17-Oct-2013	0	0	0	0	0	0	0	1,131,969
18-Oct-2013	0	0	0	0	35	1,050	636	1,132,606
19-Oct-2013	0	0	62	1,364	112	3,360	2,863	1,135,469
20-Oct-2013	0	0	0	0	0	0	0	1,135,469
21-Oct-2013	0	0	61	1,342	184	5,520	4,159	1,139,627
22-Oct-2013	0	0	53	1,166	151	4,530	3,452	1,143,080
23-Oct-2013	0	0	76	1,672	215	6,450	4,922	1,148,002
24-Oct-2013	0	0	25	550	210	6,300	4,152	1,152,154
25-Oct-2013	0	0	42	924	171	5,130	3,669	1,155,823
26-Oct-2013	0	0	60	1,320	149	4,470	3,509	1,159,332
27-Oct-2013	0	0	0	0	0	0	0	1,159,332
28-Oct-2013	0	0	40	880	165	4,950	3,533	1,162,865
29-Oct-2013	0	0	40	880	164	4,920	3,515	1,166,380
30-Oct-2013	0	0	59	1,298	168	5,040	3,841	1,170,221
31-Oct-2013	0	0	59	1,298	151	4,530	3,532	1,173,754
1-Nov-2013	0	0	0	0	0	0	0	1,173,754
2-Nov-2013	0	0	0	0	0	0	0	1,173,754
3-Nov-2013	0	0	0	0	0	0	0	1,173,754
4-Nov-2013	0	0	102	2,244	135	4,050	3,815	1,177,568
5-Nov-2013	0	0	106	2,332	213	6,390	5,286	1,182,854
6-Nov-2013	0	0	0	0	55	1,650	1,000	1,183,854
7-Nov-2013	0	0	0	0	0	0	0	1,183,854
8-Nov-2013	0	0	0	0	0	0	0	1,183,854
9-Nov-2013	0	0	0	0	0	0	0	1,183,854
10-Nov-2013	0	0	0	0	0	0	0	1,183,854
11-Nov-2013	0	0	-28	-616	0	0	-373	1,183,481
12-Nov-2013	0	0	-34	-748	0	0	-453	1,183,027
13-Nov-2013	0	0	-6	-132	0	0	-80	1,182,947
14-Nov-2013	0	0	-13	-286	0	0	-173	1,182,774
15-Nov-2013	0	0	-54	-1,188	0	0	-720	1,182,054
16-Nov-2013	0	0	0	0	0	0	0	1,182,054
17-Nov-2013	0	0	0	0	0	0	0	1,182,054

	Ash Stacked In Lateral Expansion							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
18-Nov-2013	0	0	0	0	0	0	0	1,182,054
19-Nov-2013	0	0	0	0	0	0	0	1,182,054
20-Nov-2013	0	0	-5	-110	0	0	-67	1,181,987
21-Nov-2013	0	0	0	0	0	0	0	1,181,987
22-Nov-2013	0	0	0	0	0	0	0	1,181,987
23-Nov-2013	0	0	0	0	0	0	0	1,181,987
24-Nov-2013	0	0	0	0	0	0	0	1,181,987
25-Nov-2013	0	0	0	0	0	0	0	1,181,987
26-Nov-2013	0	0	0	0	0	0	0	1,181,987
27-Nov-2013	0	0	0	0	0	0	0	1,181,987
28-Nov-2013	0	0	0	0	0	0	0	1,181,987
29-Nov-2013	0	0	0	0	0	0	0	1,181,987
30-Nov-2013	0	0	0	0	0	0	0	1,181,987
1-Dec-2013	0	0	0	0	0	0	0	1,181,987
2-Dec-2013	0	0	0	0	0	0	0	1,181,987
3-Dec-2013	0	0	0	0	0	0	0	1,181,987
4-Dec-2013	0	0	0	0	0	0	0	1,181,987
5-Dec-2013	0	0	0	0	0	0	0	1,181,987
6-Dec-2013	0	0	0	0	0	0	0	1,181,987
7-Dec-2013	0	0	0	0	0	0	0	1,181,987
8-Dec-2013	0	0	0	0	0	0	0	1,181,987
9-Dec-2013	0	0	0	0	0	0	0	1,181,987
10-Dec-2013	0	0	0	0	0	0	0	1,181,987
11-Dec-2013	0	0	0	0	0	0	0	1,181,987
12-Dec-2013	0	0	0	0	0	0	0	1,181,987
13-Dec-2013	0	0	0	0	0	0	0	1,181,987
14-Dec-2013	0	0	0	0	0	0	0	1,181,987
15-Dec-2013	0	0	0	0	0	0	0	1,181,987
16-Dec-2013	0	0	0	0	0	0	0	1,181,987
17-Dec-2013	0	0	0	0	-61	-1,830	-1,109	1,180,878
18-Dec-2013	0	0	0	0	-25	-750	-455	1,180,424
19-Dec-2013	0	0	0	0	-7	-210	-127	1,180,297
20-Dec-2013	0	0	0	0	0	0	0	1,180,297
21-Dec-2013	0	0	0	0	0	0	0	1,180,297
22-Dec-2013	0	0	0	0	0	0	0	1,180,297
23-Dec-2013	0	0	0	0	0	0	0	1,180,297
24-Dec-2013	0	0	0	0	0	0	0	1,180,297
25-Dec-2013	0	0	0	0	0	0	0	1,180,297
26-Dec-2013	0	0	0	0	0	0	0	1,180,297
27-Dec-2013	0	0	0	0	0	0	0	1,180,297
28-Dec-2013	0	0	0	0	0	0	0	1,180,297
29-Dec-2013	0	0	0	0	0	0	0	1,180,297
30-Dec-2013	0	0	0	0	0	0	0	1,180,297
31-Dec-2013	0	0	0	0	0	0	0	1,180,297

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
1-Jan-2014	0	0	0	0	0	0	0	1,180,297
2-Jan-2014	0	0	0	0	0	0	0	1,180,297
3-Jan-2014	0	0	0	0	0	0	0	1,180,297
4-Jan-2014	0	0	0	0	0	0	0	1,180,297
5-Jan-2014	0	0	0	0	0	0	0	1,180,297
6-Jan-2014	0	0	0	0	0	0	0	1,180,297
7-Jan-2014	0	0	0	0	0	0	0	1,180,297
8-Jan-2014	0	0	0	0	0	0	0	1,180,297
9-Jan-2014	0	0	0	0	0	0	0	1,180,297
10-Jan-2014	0	0	0	0	0	0	0	1,180,297
11-Jan-2014	0	0	0	0	0	0	0	1,180,297
12-Jan-2014	0	0	0	0	0	0	0	1,180,297
13-Jan-2014	0	0	0	0	0	0	0	1,180,297
14-Jan-2014	0	0	0	0	0	0	0	1,180,297
15-Jan-2014	0	0	0	0	0	0	0	1,180,297
16-Jan-2014	0	0	0	0	0	0	0	1,180,297
17-Jan-2014	0	0	0	0	0	0	0	1,180,297
18-Jan-2014	0	0	0	0	0	0	0	1,180,297
19-Jan-2014	0	0	0	0	0	0	0	1,180,297
20-Jan-2014	0	0	0	0	0	0	0	1,180,297
21-Jan-2014	0	0	0	0	0	0	0	1,180,297
22-Jan-2014	0	0	0	0	0	0	0	1,180,297
23-Jan-2014	0	0	0	0	0	0	0	1,180,297
24-Jan-2014	0	0	0	0	0	0	0	1,180,297
25-Jan-2014	0	0	0	0	0	0	0	1,180,297
26-Jan-2014	0	0	0	0	0	0	0	1,180,297
27-Jan-2014	0	0	0	0	0	0	0	1,180,297
28-Jan-2014	0	0	0	0	0	0	0	1,180,297
29-Jan-2014	0	0	0	0	0	0	0	1,180,297
30-Jan-2014	0	0	0	0	0	0	0	1,180,297
31-Jan-2014	0	0	0	0	0	0	0	1,180,297
1-Feb-2014	0	0	0	0	0	0	0	1,180,297
2-Feb-2014	0	0	0	0	0	0	0	1,180,297
3-Feb-2014	0	0	0	0	0	0	0	1,180,297
4-Feb-2014	0	0	0	0	0	0	0	1,180,297
5-Feb-2014	0	0	0	0	0	0	0	1,180,297
6-Feb-2014	0	0	0	0	0	0	0	1,180,297
7-Feb-2014	0	0	0	0	0	0	0	1,180,297
8-Feb-2014	0	0	0	0	0	0	0	1,180,297
9-Feb-2014	0	0	0	0	0	0	0	1,180,297
10-Feb-2014	0	0	0	0	0	0	0	1,180,297
11-Feb-2014	0	0	0	0	0	0	0	1,180,297
12-Feb-2014	0	0	0	0	0	0	0	1,180,297
13-Feb-2014	0	0	0	0	0	0	0	1,180,297

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
14-Feb-2014	0	0	0	0	0	0	0	1,180,297
15-Feb-2014	0	0	0	0	0	0	0	1,180,297
16-Feb-2014	0	0	0	0	0	0	0	1,180,297
17-Feb-2014	0	0	0	0	0	0	0	1,180,297
18-Feb-2014	0	0	0	0	0	0	0	1,180,297
19-Feb-2014	0	0	0	0	0	0	0	1,180,297
20-Feb-2014	0	0	0	0	0	0	0	1,180,297
21-Feb-2014	0	0	0	0	0	0	0	1,180,297
22-Feb-2014	0	0	0	0	0	0	0	1,180,297
23-Feb-2014	0	0	0	0	0	0	0	1,180,297
24-Feb-2014	0	0	-52	-1,144	0	0	-693	1,179,603
25-Feb-2014	0	0	-34	-748	0	0	-453	1,179,150
26-Feb-2014	0	0	-30	-660	0	0	-400	1,178,750
27-Feb-2014	0	0	50	1,100	50	1,500	1,576	1,180,326
28-Feb-2014	0	0	0	0	28	840	509	1,180,835
1-Mar-2014	0	0	32	704	3	90	481	1,181,316
2-Mar-2014	0	0	0	0	0	0	0	1,181,316
3-Mar-2014	0	0	0	0	0	0	0	1,181,316
4-Mar-2014	0	0	0	0	0	0	0	1,181,316
5-Mar-2014	0	0	0	0	0	0	0	1,181,316
6-Mar-2014	0	0	0	0	16	480	291	1,181,607
7-Mar-2014	0	0	0	0	16	480	291	1,181,898
8-Mar-2014	0	0	0	0	-18	-540	-327	1,181,570
9-Mar-2014	0	0	0	0	41	1,230	745	1,182,316
10-Mar-2014	0	0	11	242	38	1,140	838	1,183,154
11-Mar-2014	0	0	0	0	0	0	0	1,183,154
12-Mar-2014	0	0	0	0	0	0	0	1,183,154
13-Mar-2014	0	0	0	0	14	420	255	1,183,408
14-Mar-2014	0	0	0	0	19	570	345	1,183,754
15-Mar-2014	0	0	0	0	0	0	0	1,183,754
16-Mar-2014	0	0	0	0	0	0	0	1,183,754
17-Mar-2014	0	0	0	0	0	0	0	1,183,754
18-Mar-2014	0	0	0	0	0	0	0	1,183,754
19-Mar-2014	0	0	0	0	22	660	400	1,184,154
20-Mar-2014	0	0	0	0	99	2,970	1,800	1,185,954
21-Mar-2014	0	0	0	0	77	2,310	1,400	1,187,354
22-Mar-2014	0	0	0	0	48	1,440	873	1,188,226
23-Mar-2014	0	0	0	0	0	0	0	1,188,226
24-Mar-2014	0	0	0	0	0	0	0	1,188,226
25-Mar-2014	0	0	0	0	0	0	0	1,188,226
26-Mar-2014	0	0	0	0	0	0	0	1,188,226
27-Mar-2014	0	0	0	0	0	0	0	1,188,226
28-Mar-2014	0	0	0	0	0	0	0	1,188,226
29-Mar-2014	0	0	0	0	0	0	0	1,188,226

Date	Ash Stacked In Lateral Expansion							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
30-Mar-2014	0	0	0	0	0	0	0	1,188,226
31-Mar-2014	0	0	0	0	0	0	0	1,188,226
1-Apr-2014	0	0	0	0	36	1,080	655	1,188,881
2-Apr-2014	0	0	0	0	15	450	273	1,189,154
3-Apr-2014	0	0	0	0	0	0	0	1,189,154
4-Apr-2014	0	0	0	0	0	0	0	1,189,154
5-Apr-2014	0	0	0	0	0	0	0	1,189,154
6-Apr-2014	0	0	0	0	0	0	0	1,189,154
7-Apr-2014	0	0	0	0	0	0	0	1,189,154
8-Apr-2014	0	0	0	0	0	0	0	1,189,154
9-Apr-2014	0	0	0	0	13	390	236	1,189,390
10-Apr-2014	0	0	0	0	0	0	0	1,189,390


Ash Stacked in Ash Pond
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
Daily Volume Stacked (cubic yards in place)
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Cumulative Volume Stacked (cubic yards in place)
1-Aug-2010
1-Nov-2010
1-Feb-2011
1-May-2011
1-Aug-2011
1-Nov-2011
1-Feb-2012
1-May-2012
1-Aug-2012
1-Nov-2012
1-Feb-2013
1-May-2013
1-Aug-2013
1-Nov-2013
1-Feb-2014
1-May-2014
1-Aug-2014
Daily Volume Stacked
Cumulative Volume Stacked

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
1-Aug-2011	0	0	0	0	0	0	0	0
2-Aug-2011	0	0	0	0	0	0	0	0
3-Aug-2011	0	0	0	0	0	0	0	0
4-Aug-2011	0	0	0	0	0	0	0	0
5-Aug-2011	0	0	7	154	0	0	93	93
6-Aug-2011	0	0	14	308	0	0	186	280
6-Aug-2011	0	0	0	0	0	0	0	280
8-Aug-2011	0	0	12	264	0	0	160	440
9-Aug-2011	0	0	53	1,166	0	0	706	1,145
10-Aug-2011	0	0	33	726	0	0	440	1,585
11-Aug-2011	0	0	92	2,024	0	0	1,225	2,810
12-Aug-2011	0	0	32	704	0	0	426	3,236
13-Aug-2011	0	0	0	0	0	0	0	3,236
14-Aug-2011	0	0	0	0	0	0	0	3,236
15-Aug-2011	0	0	18	396	0	0	240	3,476
16-Aug-2011	0	0	0	0	0	0	0	3,476
17-Aug-2011	0	0	0	0	0	0	0	3,476
18-Aug-2011	0	0	0	0	0	0	0	3,476
19-Aug-2011	0	0	0	0	0	0	0	3,476
20-Aug-2011	0	0	0	0	0	0	0	3,476
21-Aug-2011	0	0	0	0	0	0	0	3,476
22-Aug-2011	0	0	0	0	0	0	0	3,476
23-Aug-2011	0	0	0	0	0	0	0	3,476
24-Aug-2011	0	0	0	0	0	0	0	3,476
25-Aug-2011	0	0	0	0	0	0	0	3,476
26-Aug-2011	0	0	0	0	0	0	0	3,476
27-Aug-2011	0	0	0	0	0	0	0	3,476
28-Aug-2011	0	0	0	0	0	0	0	3,476
29-Aug-2011	0	0	0	0	0	0	0	3,476
30-Aug-2011	0	0	0	0	0	0	0	3,476
31-Aug-2011	0	0	0	0	0	0	0	3,476
1-Sep-2011	0	0	0	0	0	0	0	3,476
2-Sep-2011	0	0	0	0	0	0	0	3,476
3-Sep-2011	0	0	0	0	0	0	0	3,476
4-Sep-2011	0	0	0	0	0	0	0	3,476
5-Sep-2011	0	0	0	0	0	0	0	3,476
6-Sep-2011	0	0	0	0	0	0	0	3,476
7-Sep-2011	0	0	0	0	0	0	0	3,476
8-Sep-2011	0	0	0	0	0	0	0	3,476
9-Sep-2011	0	0	0	0	0	0	0	3,476
10-Sep-2011	0	0	0	0	0	0	0	3,476
11-Sep-2011	0	0	0	0	0	0	0	3,476
12-Sep-2011	0	0	0	0	0	0	0	3,476
13-Sep-2011	0	0	0	0	0	0	0	3,476

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
14-Sep-2011	0	0	0	0	0	0	0	3,476
15-Sep-2011	0	0	0	0	0	0	0	3,476
16-Sep-2011	0	0	0	0	0	0	0	3,476
17-Sep-2011	0	0	0	0	0	0	0	3,476
18-Sep-2011	0	0	0	0	0	0	0	3,476
19-Sep-2011	0	0	0	0	0	0	0	3,476
20-Sep-2011	0	0	42	924	0	0	559	4,036
21-Sep-2011	0	0	0	0	0	0	0	4,036
22-Sep-2011	0	0	0	0	0	0	0	4,036
23-Sep-2011	0	0	12	264	0	0	160	4,195
24-Sep-2011	0	0	0	0	0	0	0	4,195
25-Sep-2011	0	0	0	0	0	0	0	4,195
26-Sep-2011	0	0	0	0	0	0	0	4,195
27-Sep-2011	0	0	0	0	0	0	0	4,195
28-Sep-2011	0	0	32	704	0	0	426	4,622
29-Sep-2011	0	0	25	550	0	0	333	4,955
30-Sep-2011	0	0	0	0	0	0	0	4,955
1-Oct-2011	0	0	0	0	0	0	0	4,955
2-Oct-2011	0	0	0	0	0	0	0	4,955
3-Oct-2011	0	0	0	0	0	0	0	4,955
4-Oct-2011	0	0	0	0	0	0	0	4,955
5-Oct-2011	0	0	0	0	0	0	0	4,955
6-Oct-2011	0	0	0	0	0	0	0	4,955
7-Oct-2011	0	0	0	0	0	0	0	4,955
8-Oct-2011	0	0	0	0	0	0	0	4,955
9-Oct-2011	0	0	0	0	0	0	0	4,955
10-Oct-2011	0	0	0	0	0	0	0	4,955
11-Oct-2011	0	0	0	0	0	0	0	4,955
12-Oct-2011	0	0	0	0	0	0	0	4,955
13-Oct-2011	0	0	0	0	0	0	0	4,955
14-Oct-2011	0	0	0	0	0	0	0	4,955
15-Oct-2011	0	0	0	0	0	0	0	4,955
16-Oct-2011	0	0	0	0	0	0	0	4,955
17-Oct-2011	0	0	42	924	0	0	559	5,514
18-Oct-2011	0	0	0	0	0	0	0	5,514
19-Oct-2011	0	0	0	0	0	0	0	5,514
20-Oct-2011	0	0	0	0	0	0	0	5,514
21-Oct-2011	0	0	0	0	31	930	563	6,077
22-Oct-2011	0	0	114	2,508	0	0	1,518	7,595
23-Oct-2011	0	0	0	0	0	0	0	7,595
24-Oct-2011	0	0	0	0	0	0	0	7,595
25-Oct-2011	0	0	134	2,948	0	0	1,785	9,380
26-Oct-2011	0	0	0	0	0	0	0	9,380
27-Oct-2011	0	0	0	0	0	0	0	9,380

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
28-Oct-2011	0	0	0	0	0	0	0	9,380
29-Oct-2011	0	0	0	0	0	0	0	9,380
30-Oct-2011	0	0	0	0	0	0	0	9,380
31-Oct-2011	0	0	171	3,762	0	0	2,278	11,658
1-Nov-2011	0	0	0	0	0	0	0	11,658
2-Nov-2011	0	0	0	0	0	0	0	11,658
3-Nov-2011	0	0	0	0	0	0	0	11,658
4-Nov-2011	0	0	0	0	0	0	0	11,658
5-Nov-2011	0	0	0	0	0	0	0	11,658
6-Nov-2011	0	0	0	0	0	0	0	11,658
7-Nov-2011	0	0	0	0	0	0	0	11,658
8-Nov-2011	0	0	0	0	0	0	0	11,658
9-Nov-2011	0	0	0	0	0	0	0	11,658
10-Nov-2011	0	0	0	0	0	0	0	11,658
11-Nov-2011	0	0	26	572	0	0	346	12,004
12-Nov-2011	0	0	0	0	0	0	0	12,004
13-Nov-2011	0	0	0	0	0	0	0	12,004
14-Nov-2011	0	0	18	396	0	0	240	12,244
15-Nov-2011	0	0	0	0	0	0	0	12,244
16-Nov-2011	0	0	0	0	0	0	0	12,244
17-Nov-2011	0	0	0	0	0	0	0	12,244
18-Nov-2011	0	0	0	0	0	0	0	12,244
19-Nov-2011	0	0	0	0	0	0	0	12,244
20-Nov-2011	0	0	0	0	0	0	0	12,244
21-Nov-2011	0	0	0	0	0	0	0	12,244
22-Nov-2011	0	0	0	0	0	0	0	12,244
23-Nov-2011	0	0	0	0	0	0	0	12,244
24-Nov-2011	0	0	0	0	0	0	0	12,244
25-Nov-2011	0	0	0	0	0	0	0	12,244
26-Nov-2011	0	0	0	0	0	0	0	12,244
27-Nov-2011	0	0	0	0	0	0	0	12,244
28-Nov-2011	0	0	0	0	0	0	0	12,244
29-Nov-2011	0	0	0	0	0	0	0	12,244
30-Nov-2011	0	0	0	0	0	0	0	12,244
1-Dec-2011	0	0	0	0	0	0	0	12,244
2-Dec-2011	0	0	0	0	0	0	0	12,244
3-Dec-2011	0	0	0	0	0	0	0	12,244
4-Dec-2011	0	0	0	0	0	0	0	12,244
5-Dec-2011	0	0	0	0	0	0	0	12,244
6-Dec-2011	0	0	0	0	0	0	0	12,244
7-Dec-2011	0	0	0	0	0	0	0	12,244
8-Dec-2011	0	0	17	374	0	0	226	12,470
9-Dec-2011	0	0	0	0	0	0	0	12,470
10-Dec-2011	0	0	84	1,848	0	0	1,119	13,589

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
11-Dec-2011	0	0	0	0	0	0	0	13,589
12-Dec-2011	24	384	117	2,574	0	0	1,791	15,380
13-Dec-2011	0	0	21	462	0	0	280	15,659
14-Dec-2011	0	0	18	396	0	0	240	15,899
15-Dec-2011	22	352	35	770	0	0	679	16,578
16-Dec-2011	0	0	147	3,234	0	0	1,958	18,536
17-Dec-2011	0	0	175	3,850	0	0	2,331	20,867
18-Dec-2011	0	0	0	0	0	0	0	20,867
19-Dec-2011	0	0	90	1,980	0	0	1,199	22,066
20-Dec-2011	56	896	240	5,280	0	0	3,739	25,805
21-Dec-2011	43	688	303	6,666	0	0	4,452	30,257
22-Dec-2011	24	384	149	3,278	0	0	2,217	32,474
23-Dec-2011	0	0	0	0	0	0	0	32,474
24-Dec-2011	0	0	0	0	0	0	0	32,474
25-Dec-2011	0	0	0	0	0	0	0	32,474
26-Dec-2011	0	0	0	0	0	0	0	32,474
27-Dec-2011	0	0	0	0	0	0	0	32,474
28-Dec-2011	0	0	134	2,948	0	0	1,785	34,258
29-Dec-2011	0	0	0	0	0	0	0	34,258
30-Dec-2011	0	0	44	968	0	0	586	34,844
31-Dec-2011	0	0	0	0	0	0	0	34,844
1-Jan-2012	0	0	0	0	0	0	0	34,844
2-Jan-2012	0	0	0	0	0	0	0	34,844
3-Jan-2012	0	0	61	1,342	0	0	812	35,657
4-Jan-2012	0	0	58	1,276	0	0	772	36,429
5-Jan-2012	24	384	36	792	0	0	712	37,141
6-Jan-2012	13	208	36	792	0	0	605	37,747
7-Jan-2012	0	0	142	3,124	0	0	1,891	39,638
8-Jan-2012	0	0	0	0	0	0	0	39,638
9-Jan-2012	0	0	80	1,760	0	0	1,066	40,703
10-Jan-2012	16	256	54	1,188	0	0	874	41,578
11-Jan-2012	0	0	108	2,376	0	0	1,438	43,016
12-Jan-2012	27	432	219	4,818	0	0	3,178	46,194
13-Jan-2012	19	304	50	1,100	0	0	850	47,044
14-Jan-2012	164	2,624	0	0	0	0	1,589	48,633
15-Jan-2012	0	0	0	0	0	0	0	48,633
16-Jan-2012	41	656	124	2,728	0	0	2,049	50,682
17-Jan-2012	20	320	151	3,322	0	0	2,205	52,887
18-Jan-2012	27	432	182	4,004	0	0	2,686	55,572
19-Jan-2012	29	464	154	3,388	0	0	2,332	57,904
20-Jan-2012	18	288	149	3,278	0	0	2,159	60,063
21-Jan-2012	0	0	0	0	0	0	0	60,063
22-Jan-2012	0	0	0	0	0	0	0	60,063
23-Jan-2012	0	0	0	0	0	0	0	60,063

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
24-Jan-2012	23	368	205	4,510	0	0	2,953	63,016
25-Jan-2012	0	0	74	1,628	0	0	986	64,002
26-Jan-2012	0	0	97	2,134	0	0	1,292	65,294
27-Jan-2012	0	0	166	3,652	0	0	2,211	67,505
28-Jan-2012	0	0	0	0	0	0	0	67,505
29-Jan-2012	0	0	0	0	0	0	0	67,505
30-Jan-2012	7	112	103	2,266	0	0	1,440	68,944
31-Jan-2012	11	176	62	1,364	0	0	932	69,876
1-Feb-2012	38	608	163	3,586	0	0	2,539	72,416
2-Feb-2012	39	624	318	6,996	0	0	4,613	77,029
3-Feb-2012	0	0	129	2,838	0	0	1,718	78,747
4-Feb-2012	0	0	76	1,672	0	0	1,012	79,759
5-Feb-2012	0	0	0	0	0	0	0	79,759
6-Feb-2012	0	0	130	2,860	0	0	1,731	81,490
7-Feb-2012	33	528	61	1,342	0	0	1,132	82,623
8-Feb-2012	27	432	44	968	0	0	848	83,470
9-Feb-2012	36	576	37	814	0	0	842	84,312
10-Feb-2012	37	592	27	594	0	0	718	85,030
11-Feb-2012	0	0	0	0	0	0	0	85,030
12-Feb-2012	0	0	0	0	0	0	0	85,030
13-Feb-2012	0	0	53	1,166	0	0	706	85,736
14-Feb-2012	22	352	207	4,554	0	0	2,970	88,706
15-Feb-2012	0	0	61	1,342	0	0	812	89,518
16-Feb-2012	0	0	169	3,718	0	0	2,251	91,769
17-Feb-2012	0	0	118	2,596	0	0	1,572	93,341
18-Feb-2012	0	0	0	0	0	0	0	93,341
19-Feb-2012	0	0	0	0	0	0	0	93,341
20-Feb-2012	0	0	184	4,048	0	0	2,451	95,791
21-Feb-2012	0	0	47	1,034	0	0	626	96,417
22-Feb-2012	0	0	75	1,650	0	0	999	97,416
23-Feb-2012	0	0	136	2,992	0	0	1,811	99,228
24-Feb-2012	0	0	79	1,738	0	0	1,052	100,280
25-Feb-2012	0	0	0	0	0	0	0	100,280
26-Feb-2012	0	0	0	0	0	0	0	100,280
27-Feb-2012	0	0	21	462	0	0	280	100,559
28-Feb-2012	0	0	92	2,024	0	0	1,225	101,785
29-Feb-2012	0	0	0	0	0	0	0	101,785
1-Mar-2012	0	0	117	2,574	0	0	1,558	103,343
2-Mar-2012	0	0	10	220	0	0	133	103,476
3-Mar-2012	0	0	0	0	0	0	0	103,476
4-Mar-2012	0	0	0	0	0	0	0	103,476
5-Mar-2012	0	0	23	506	0	0	306	103,783
6-Mar-2012	0	0	46	1,012	0	0	613	104,395
7-Mar-2012	0	0	86	1,892	0	0	1,145	105,541

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
8-Mar-2012	0	0	0	0	0	0	0	105,541
9-Mar-2012	0	0	303	6,666	0	0	4,036	109,576
10-Mar-2012	0	0	12	264	0	0	160	109,736
11-Mar-2012	0	0	0	0	0	0	0	109,736
12-Mar-2012	17	272	69	1,518	0	0	1,084	110,820
13-Mar-2012	0	0	103	2,266	0	0	1,372	112,192
14-Mar-2012	0	0	13	286	0	0	173	112,365
15-Mar-2012	12	192	10	220	0	0	249	112,614
16-Mar-2012	51	816	17	374	0	0	720	113,335
17-Mar-2012	0	0	0	0	0	0	0	113,335
18-Mar-2012	0	0	0	0	0	0	0	113,335
19-Mar-2012	45	720	0	0	0	0	436	113,770
20-Mar-2012	25	400	29	638	0	0	628	114,399
21-Mar-2012	0	0	96	2,112	0	0	1,279	115,677
22-Mar-2012	0	0	39	858	0	0	519	116,197
23-Mar-2012	0	0	49	1,078	0	0	653	116,849
24-Mar-2012	0	0	0	0	0	0	0	116,849
25-Mar-2012	0	0	0	0	0	0	0	116,849
26-Mar-2012	0	0	8	176	0	0	107	116,956
27-Mar-2012	0	0	149	3,278	0	0	1,985	118,941
28-Mar-2012	0	0	52	1,144	0	0	693	119,633
29-Mar-2012	0	0	31	682	0	0	413	120,046
30-Mar-2012	14	224	42	924	0	0	695	120,741
31-Mar-2012	0	0	0	0	0	0	0	120,741
1-Apr-2012	0	0	0	0	0	0	0	120,741
2-Apr-2012	24	384	121	2,662	0	0	1,844	122,585
3-Apr-2012	17	272	69	1,518	0	0	1,084	123,669
4-Apr-2012	34	544	65	1,430	0	0	1,195	124,864
5-Apr-2012	36	576	1	22	0	0	362	125,226
6-Apr-2012	22	352	13	286	0	0	386	125,612
7-Apr-2012	0	0	0	0	0	0	0	125,612
8-Apr-2012	0	0	0	0	0	0	0	125,612
9-Apr-2012	42	672	0	0	0	0	407	126,019
10-Apr-2012	0	0	49	1,078	0	0	653	126,672
11-Apr-2012	0	0	105	2,310	0	0	1,398	128,070
12-Apr-2012	0	0	36	792	0	0	479	128,549
13-Apr-2012	0	0	30	660	0	0	400	128,949
14-Apr-2012	0	0	0	0	0	0	0	128,949
15-Apr-2012	0	0	0	0	0	0	0	128,949
16-Apr-2012	0	0	14	308	0	0	186	129,135
17-Apr-2012	4	64	98	2,156	0	0	1,344	130,479
18-Apr-2012	32	512	21	462	0	0	590	131,069
19-Apr-2012	0	0	59	1,298	0	0	786	131,855
20-Apr-2012	0	0	77	1,694	0	0	1,026	132,880

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
21-Apr-2012	0	0	0	0	0	0	0	132,880
22-Apr-2012	0	0	0	0	0	0	0	132,880
23-Apr-2012	13	208	65	1,430	0	0	992	133,872
24-Apr-2012	0	0	70	1,540	0	0	932	134,804
25-Apr-2012	0	0	0	0	0	0	0	134,804
26-Apr-2012	0	0	0	0	0	0	0	134,804
27-Apr-2012	0	0	8	176	0	0	107	134,911
28-Apr-2012	0	0	0	0	0	0	0	134,911
29-Apr-2012	0	0	0	0	0	0	0	134,911
30-Apr-2012	0	0	38	836	0	0	506	135,417
1-May-2012	0	0	15	330	0	0	200	135,617
2-May-2012	0	0	0	0	0	0	0	135,617
3-May-2012	0	0	4	88	0	0	53	135,670
4-May-2012	0	0	0	0	0	0	0	135,670
5-May-2012	0	0	0	0	0	0	0	135,670
6-May-2012	0	0	0	0	0	0	0	135,670
7-May-2012	0	0	28	616	0	0	373	136,043
8-May-2012	0	0	0	0	0	0	0	136,043
9-May-2012	0	0	0	0	0	0	0	136,043
10-May-2012	0	0	25	550	0	0	333	136,376
11-May-2012	0	0	0	0	0	0	0	136,376
12-May-2012	0	0	0	0	0	0	0	136,376
13-May-2012	0	0	0	0	0	0	0	136,376
14-May-2012	0	0	0	0	0	0	0	136,376
15-May-2012	0	0	0	0	0	0	0	136,376
16-May-2012	0	0	7	154	0	0	93	136,469
17-May-2012	0	0	6	132	0	0	80	136,549
18-May-2012	0	0	0	0	0	0	0	136,549
19-May-2012	0	0	0	0	0	0	0	136,549
20-May-2012	0	0	0	0	0	0	0	136,549
21-May-2012	0	0	0	0	0	0	0	136,549
22-May-2012	0	0	4	88	0	0	53	136,602
23-May-2012	0	0	37	814	0	0	493	137,095
24-May-2012	0	0	31	682	0	0	413	137,508
25-May-2012	0	0	0	0	0	0	0	137,508
26-May-2012	0	0	0	0	0	0	0	137,508
27-May-2012	0	0	0	0	0	0	0	137,508
28-May-2012	0	0	0	0	0	0	0	137,508
29-May-2012	0	0	79	1,738	0	0	1,052	138,560
30-May-2012	0	0	0	0	0	0	0	138,560
31-May-2012	0	0	75	1,650	0	0	999	139,559
1-Jun-2012	0	0	8	176	0	0	107	139,666
2-Jun-2012	0	0	0	0	0	0	0	139,666
3-Jun-2012	0	0	0	0	0	0	0	139,666

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
4-Jun-2012	0	0	57	1,254	0	0	759	140,425
5-Jun-2012	0	0	182	4,004	0	0	2,424	142,849
6-Jun-2012	0	0	243	5,346	0	0	3,236	146,085
7-Jun-2012	0	0	277	6,094	0	0	3,689	149,775
8-Jun-2012	0	0	221	4,862	0	0	2,943	152,718
9-Jun-2012	0	0	0	0	0	0	0	152,718
10-Jun-2012	0	0	0	0	0	0	0	152,718
11-Jun-2012	0	0	139	3,058	0	0	1,851	154,570
12-Jun-2012	0	0	81	1,782	0	0	1,079	155,648
13-Jun-2012	0	0	147	3,234	0	0	1,958	157,606
14-Jun-2012	0	0	203	4,466	0	0	2,704	160,310
15-Jun-2012	0	0	112	2,464	0	0	1,492	161,802
16-Jun-2012	0	0	0	0	0	0	0	161,802
17-Jun-2012	0	0	0	0	0	0	0	161,802
18-Jun-2012	0	0	169	3,718	0	0	2,251	164,053
19-Jun-2012	0	0	54	1,188	6	180	828	164,881
20-Jun-2012	0	0	98	2,156	0	0	1,305	166,186
21-Jun-2012	0	0	135	2,970	0	0	1,798	167,984
22-Jun-2012	0	0	129	2,838	0	0	1,718	169,702
23-Jun-2012	0	0	0	0	0	0	0	169,702
24-Jun-2012	0	0	0	0	0	0	0	169,702
25-Jun-2012	0	0	56	1,232	0	0	746	170,448
26-Jun-2012	0	0	61	1,342	0	0	812	171,260
27-Jun-2012	0	0	-28	-616	0	0	-373	170,888
28-Jun-2012	0	0	0	0	0	0	0	170,888
29-Jun-2012	0	0	0	0	0	0	0	170,888
30-Jun-2012	0	0	0	0	0	0	0	170,888
1-Jul-2012	0	0	0	0	0	0	0	170,888
2-Jul-2012	0	0	0	0	0	0	0	170,888
3-Jul-2012	0	0	0	0	0	0	0	170,888
4-Jul-2012	0	0	0	0	0	0	0	170,888
5-Jul-2012	0	0	0	0	0	0	0	170,888
6-Jul-2012	0	0	0	0	0	0	0	170,888
7-Jul-2012	0	0	0	0	0	0	0	170,888
8-Jul-2012	0	0	0	0	0	0	0	170,888
9-Jul-2012	0	0	0	0	0	0	0	170,888
10-Jul-2012	0	0	0	0	0	0	0	170,888
11-Jul-2012	0	0	0	0	0	0	0	170,888
12-Jul-2012	0	0	0	0	0	0	0	170,888
13-Jul-2012	0	0	0	0	0	0	0	170,888
14-Jul-2012	0	0	0	0	0	0	0	170,888
15-Jul-2012	0	0	0	0	0	0	0	170,888
16-Jul-2012	0	0	0	0	0	0	0	170,888
17-Jul-2012	0	0	0	0	0	0	0	170,888

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
18-Jul-2012	0	0	36	792	0	0	479	171,367
19-Jul-2012	0	0	61	1,342	0	0	812	172,179
20-Jul-2012	0	0	0	0	0	0	0	172,179
21-Jul-2012	0	0	0	0	0	0	0	172,179
22-Jul-2012	0	0	0	0	0	0	0	172,179
23-Jul-2012	0	0	89	1,958	0	0	1,185	173,365
24-Jul-2012	0	0	106	2,332	0	0	1,412	174,777
25-Jul-2012	0	0	12	264	0	0	160	174,936
26-Jul-2012	0	0	5	110	0	0	67	175,003
27-Jul-2012	0	0	46	1,012	0	0	613	175,616
28-Jul-2012	0	0	0	0	0	0	0	175,616
29-Jul-2012	0	0	0	0	0	0	0	175,616
30-Jul-2012	0	0	45	990	0	0	599	176,215
31-Jul-2012	0	0	0	0	0	0	0	176,215
1-Aug-2012	0	0	37	814	0	0	493	176,708
2-Aug-2012	0	0	60	1,320	0	0	799	177,507
3-Aug-2012	0	0	74	1,628	10	300	1,167	178,674
4-Aug-2012	0	0	0	0	0	0	0	178,674
5-Aug-2012	0	0	0	0	0	0	0	178,674
6-Aug-2012	0	0	0	0	0	0	0	178,674
7-Aug-2012	0	0	84	1,848	0	0	1,119	179,793
8-Aug-2012								179,793
8-Aug-2012	0	0	90	1,980	0	0	1,200	180,993
9-Aug-2012	0	0	72	1,584	105	3,150	2,869	183,862
10-Aug-2012	0	0	0	0	0	0	0	183,862
11-Aug-2012	0	0	0	0	0	0	0	183,862
12-Aug-2012	0	0	0	0	0	0	0	183,862
13-Aug-2012	0	0	57	1,254	0	0	760	184,622
14-Aug-2012	0	0	0	0	0	0	0	184,622
15-Aug-2012	0	0	55	1,210	0	0	733	185,355
16-Aug-2012	0	0	0	0	0	0	0	185,355
17-Aug-2012	0	0	66	1,452	47	1,410	1,735	187,090
18-Aug-2012	0	0	0	0	187	5,610	3,400	190,490
19-Aug-2012	0	0	0	0	0	0	0	190,490
20-Aug-2012	0	0	77	1,694	159	4,770	3,918	194,407
21-Aug-2012	0	0	58	1,276	171	5,130	3,882	198,290
22-Aug-2012	0	0	19	418	146	4,380	2,908	201,198
23-Aug-2012	0	0	0	0	0	0	0	201,198
24-Aug-2012	0	0	35	770	168	5,040	3,521	204,719
25-Aug-2012	0	0	124	2,728	104	3,120	3,544	208,263
26-Aug-2012	0	0	0	0	0	0	0	208,263
27-Aug-2012	0	0	66	1,452	157	4,710	3,735	211,998
28-Aug-2012	0	0	180	3,960	83	2,490	3,909	215,907
29-Aug-2012	0	0	221	4,862	117	3,510	5,074	220,981

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
30-Aug-2012	0	0	364	8,008	0	0	4,853	225,834
31-Aug-2012	0	0	63	1,386	159	4,770	3,731	229,565
1-Sep-2012	0	0	0	0	0	0	0	229,565
2-Sep-2012	0	0	0	0	0	0	0	229,565
3-Sep-2012	0	0	0	0	0	0	0	229,565
4-Sep-2012	0	0	345	7,590	0	0	4,600	234,165
5-Sep-2012	0	0	77	1,694	78	2,340	2,445	236,610
6-Sep-2012	0	0	46	1,012	0	0	613	237,223
7-Sep-2012	0	0	145	3,190	0	0	1,933	239,157
8-Sep-2012	0	0	0	0	0	0	0	239,157
9-Sep-2012	0	0	0	0	0	0	0	239,157
10-Sep-2012	0	0	236	5,192	0	0	3,147	242,303
11-Sep-2012	0	0	59	1,298	114	3,420	2,859	245,163
12-Sep-2012	0	0	36	792	0	0	480	245,643
13-Sep-2012	0	0	7	154	0	0	93	245,736
14-Sep-2012	0	0	0	0	0	0	0	245,736
15-Sep-2012	0	0	0	0	0	0	0	245,736
16-Sep-2012	0	0	0	0	0	0	0	245,736
17-Sep-2012	0	0	0	0	0	0	0	245,736
18-Sep-2012	0	0	0	0	0	0	0	245,736
19-Sep-2012	0	0	80	1,760	0	0	1,067	246,803
20-Sep-2012	0	0	63	1,386	0	0	840	247,643
21-Sep-2012	0	0	51	1,122	0	0	680	248,323
22-Sep-2012	0	0	35	770	0	0	467	248,789
23-Sep-2012	0	0	0	0	0	0	0	248,789
24-Sep-2012	0	0	15	330	0	0	200	248,989
25-Sep-2012	0	0	62	1,364	0	0	827	249,816
26-Sep-2012	0	0	135	2,970	0	0	1,800	251,616
27-Sep-2012	0	0	88	1,936	0	0	1,173	252,789
28-Sep-2012	0	0	-12	-264	155	4,650	2,658	255,447
29-Sep-2012	0	0	0	0	196	5,880	3,564	259,011
30-Sep-2012	0	0	0	0	0	0	0	259,011
1-Oct-2012	0	0	0	0	0	0	0	259,011
2-Oct-2012	0	0	0	0	0	0	0	259,011
3-Oct-2012	0	0	-12	-264	0	0	-160	258,851
4-Oct-2012	0	0	41	902	122	3,660	2,765	261,616
5-Oct-2012	0	0	36	792	66	1,980	1,680	263,296
6-Oct-2012	0	0	0	0	0	0	0	263,296
7-Oct-2012	0	0	0	0	0	0	0	263,296
8-Oct-2012	0	0	0	0	0	0	0	263,296
9-Oct-2012	0	0	0	0	0	0	0	263,296
10-Oct-2012	0	0	30	660	0	0	400	263,696
11-Oct-2012	0	0	-15	-330	119	3,570	1,964	265,660
12-Oct-2012	0	0	-30	-660	105	3,150	1,509	267,169

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
13-Oct-2012	0	0	0	0	78	2,340	1,418	268,587
14-Oct-2012	0	0	0	0	0	0	0	268,587
15-Oct-2012	0	0	0	0	0	0	0	268,587
16-Oct-2012	0	0	-74	-1,628	0	0	-987	267,600
17-Oct-2012	0	0	38	836	0	0	507	268,107
18-Oct-2012	0	0	43	946	0	0	573	268,680
19-Oct-2012	0	0	0	0	0	0	0	268,680
20-Oct-2012	0	0	0	0	0	0	0	268,680
21-Oct-2012	0	0	0	0	0	0	0	268,680
22-Oct-2012	0	0	173	3,806	0	0	2,307	270,987
23-Oct-2012	0	0	117	2,574	223	6,690	5,615	276,601
24-Oct-2012	0	0	61	1,342	79	2,370	2,250	278,851
25-Oct-2012	0	0	202	4,448	0	0	2,696	281,547
26-Oct-2012	0	0	214	4,712	6	180	2,965	284,512
27-Oct-2012	0	0	214	4,710	0	0	2,855	287,366
28-Oct-2012	0	0	0	0	0	0	0	287,366
29-Oct-2012	0	0	64	1,408	0	0	853	288,220
30-Oct-2012	0	0	145	3,190	0	0	1,933	290,153
31-Oct-2012	0	0	124	2,728	0	0	1,653	291,806
1-Nov-2012	0	0	43	946	0	0	573	292,380
2-Nov-2012	0	0	1	22	0	0	13	292,393
3-Nov-2012	0	0	0	0	0	0	0	292,393
4-Nov-2012	0	0	0	0	0	0	0	292,393
5-Nov-2012	0	0	42	924	0	0	560	292,953
6-Nov-2012	0	0	38	836	0	0	507	293,460
7-Nov-2012	0	0	-8	-176	0	0	-107	293,353
8-Nov-2012	0	0	-34	-748	0	0	-453	292,900
9-Nov-2012	0	0	9	198	0	0	120	293,020
10-Nov-2012	0	0	0	0	0	0	0	293,020
11-Nov-2012	0	0	0	0	0	0	0	293,020
12-Nov-2012	0	0	38	836	0	0	507	293,526
13-Nov-2012	0	0	14	308	0	0	187	293,713
14-Nov-2012	0	0	61	1,342	0	0	813	294,526
15-Nov-2012	0	0	6	132	0	0	80	294,606
16-Nov-2012	0	0	0	0	0	0	0	294,606
17-Nov-2012	0	0	0	0	0	0	0	294,606
18-Nov-2012	0	0	0	0	0	0	0	294,606
19-Nov-2012	0	0	-25	-550	0	0	-333	294,273
20-Nov-2012	0	0	0	0	0	0	0	294,273
21-Nov-2012	0	0	-45	-990	0	0	-600	293,673
22-Nov-2012	0	0	0	0	0	0	0	293,673
23-Nov-2012	0	0	0	0	0	0	0	293,673
24-Nov-2012	0	0	0	0	0	0	0	293,673
25-Nov-2012	0	0	0	0	0	0	0	293,673

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
26-Nov-2012	0	0	-102	-2,244	0	0	-1,360	292,313
27-Nov-2012	0	0	-133	-2,926	0	0	-1,773	290,540
28-Nov-2012	0	0	-83	-1,826	0	0	-1,107	289,433
29-Nov-2012	0	0	-96	-2,112	0	0	-1,280	288,153
30-Nov-2012	0	0	-35	-770	0	0	-467	287,686
1-Dec-2012	0	0	0	0	0	0	0	287,686
2-Dec-2012	0	0	0	0	0	0	0	287,686
3-Dec-2012	0	0	-71	-1,562	0	0	-947	286,740
4-Dec-2012	0	0	-64	-1,408	0	0	-853	285,886
5-Dec-2012	0	0	6	132	0	0	80	285,966
6-Dec-2012	0	0	29	638	0	0	387	286,353
7-Dec-2012	0	0	32	704	0	0	427	286,780
8-Dec-2012	0	0	0	0	0	0	0	286,780
9-Dec-2012	0	0	0	0	0	0	0	286,780
10-Dec-2012	0	0	0	0	0	0	0	286,780
11-Dec-2012	0	0	0	0	0	0	0	286,780
12-Dec-2012	0	0	26	572	0	0	347	287,126
13-Dec-2012	0	0	-8	-176	0	0	-107	287,020
14-Dec-2012	0	0	0	0	0	0	0	287,020
15-Dec-2012	0	0	0	0	147	4,410	2,673	289,692
16-Dec-2012	0	0	0	0	0	0	0	289,692
17-Dec-2012	0	0	0	0	0	0	0	289,692
18-Dec-2012	0	0	0	0	0	0	0	289,692
19-Dec-2012	0	0	7	154	0	0	93	289,786
20-Dec-2012	0	0	10	220	0	0	133	289,919
21-Dec-2012	0	0	0	0	0	0	0	289,919
22-Dec-2012	0	0	0	0	0	0	0	289,919
23-Dec-2012	0	0	0	0	0	0	0	289,919
24-Dec-2012	0	0	0	0	0	0	0	289,919
25-Dec-2012	0	0	0	0	0	0	0	289,919
26-Dec-2012	0	0	0	0	0	0	0	289,919
27-Dec-2012	0	0	80	1,760	0	0	1,067	290,986
28-Dec-2012	0	0	40	880	0	0	533	291,519
29-Dec-2012	0	0	0	0	0	0	0	291,519
30-Dec-2012	0	0	0	0	0	0	0	291,519
31-Dec-2012	0	0	0	0	0	0	0	291,519
1-Jan-2013	0	0	0	0	0	0	0	291,519
2-Jan-2013	0	0	0	0	0	0	0	291,519
3-Jan-2013	0	0	-31	-682	0	0	-413	291,106
4-Jan-2013	0	0	-23	-506	0	0	-307	290,799
5-Jan-2013	0	0	0	0	0	0	0	290,799
6-Jan-2013	0	0	0	0	0	0	0	290,799
7-Jan-2013	0	0	0	0	0	0	0	290,799
8-Jan-2013	0	0	-17	-374	0	0	-227	290,572

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
9-Jan-2013	0	0	-32	-704	0	0	-427	290,146
10-Jan-2013	0	0	0	0	0	0	0	290,146
11-Jan-2013	0	0	0	0	0	0	0	290,146
12-Jan-2013	0	0	0	0	0	0	0	290,146
13-Jan-2013	0	0	0	0	0	0	0	290,146
14-Jan-2013	0	0	0	0	0	0	0	290,146
15-Jan-2013	0	0	0	0	0	0	0	290,146
16-Jan-2013	0	0	0	0	0	0	0	290,146
17-Jan-2013	0	0	0	0	0	0	0	290,146
18-Jan-2013	0	0	0	0	0	0	0	290,146
19-Jan-2013	0	0	0	0	0	0	0	290,146
20-Jan-2013	0	0	0	0	0	0	0	290,146
21-Jan-2013	0	0	0	0	0	0	0	290,146
22-Jan-2013	0	0	0	0	0	0	0	290,146
23-Jan-2013	0	0	0	0	0	0	0	290,146
24-Jan-2013	0	0	10	220	0	0	133	290,279
25-Jan-2013	0	0	0	0	0	0	0	290,279
26-Jan-2013	0	0	0	0	0	0	0	290,279
27-Jan-2013	0	0	0	0	0	0	0	290,279
28-Jan-2013	0	0	0	0	0	0	0	290,279
29-Jan-2013	0	0	0	0	0	0	0	290,279
30-Jan-2013	0	0	0	0	0	0	0	290,279
31-Jan-2013	0	0	0	0	0	0	0	290,279
1-Feb-2013	0	0	0	0	0	0	0	290,279
2-Feb-2013	0	0	0	0	0	0	0	290,279
3-Feb-2013	0	0	0	0	0	0	0	290,279
4-Feb-2013	0	0	10	220	0	0	133	290,412
5-Feb-2013	0	0	3	66	0	0	40	290,452
6-Feb-2013	0	0	0	0	0	0	0	290,452
7-Feb-2013	0	0	0	0	0	0	0	290,452
8-Feb-2013	0	0	0	0	0	0	0	290,452
9-Feb-2013	0	0	0	0	0	0	0	290,452
10-Feb-2013	0	0	0	0	0	0	0	290,452
11-Feb-2013	0	0	0	0	0	0	0	290,452
12-Feb-2013	0	0	0	0	0	0	0	290,452
13-Feb-2013	0	0	0	0	0	0	0	290,452
14-Feb-2013	0	0	0	0	0	0	0	290,452
15-Feb-2013	0	0	68	1,496	0	0	907	291,359
16-Feb-2013	0	0	0	0	0	0	0	291,359
17-Feb-2013	0	0	0	0	0	0	0	291,359
18-Feb-2013	0	0	0	0	0	0	0	291,359
19-Feb-2013	0	0	0	0	0	0	0	291,359
20-Feb-2013	0	0	0	0	0	0	0	291,359
21-Feb-2013	0	0	4	88	0	0	53	291,412

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
22-Feb-2013	0	0	0	0	0	0	0	291,412
23-Feb-2013	0	0	0	0	0	0	0	291,412
24-Feb-2013	0	0	0	0	0	0	0	291,412
25-Feb-2013	0	0	0	0	0	0	0	291,412
26-Feb-2013	0	0	23	506	0	0	307	291,719
27-Feb-2013	0	0	0	0	0	0	0	291,719
28-Feb-2013	0	0	0	0	0	0	0	291,719
1-Mar-2013	0	0	57	1,254	0	0	760	292,479
2-Mar-2013	0	0	77	1,694	0	0	1,027	293,506
3-Mar-2013	0	0	0	0	0	0	0	293,506
4-Mar-2013	0	0	0	0	0	0	0	293,506
5-Mar-2013	0	0	0	0	0	0	0	293,506
6-Mar-2013	0	0	0	0	0	0	0	293,506
7-Mar-2013	0	0	0	0	0	0	0	293,506
8-Mar-2013	0	0	0	0	0	0	0	293,506
9-Mar-2013	0	0	0	0	0	0	0	293,506
10-Mar-2013	0	0	0	0	0	0	0	293,506
11-Mar-2013	0	0	0	0	0	0	0	293,506
12-Mar-2013	0	0	0	0	0	0	0	293,506
13-Mar-2013	0	0	0	0	0	0	0	293,506
14-Mar-2013	0	0	0	0	0	0	0	293,506
15-Mar-2013	0	0	90	1,980	0	0	1,200	294,706
16-Mar-2013	0	0	125	2,750	0	0	1,667	296,372
17-Mar-2013	0	0	57	1,254	0	0	760	297,132
18-Mar-2013	0	0	41	902	0	0	547	297,679
19-Mar-2013	0	0	10	220	0	0	133	297,812
20-Mar-2013	0	0	92	2,024	0	0	1,227	299,039
21-Mar-2013	0	0	56	1,232	0	0	747	299,786
22-Mar-2013	0	0	219	4,818	0	0	2,920	302,706
23-Mar-2013	0	0	150	3,300	0	0	2,000	304,706
24-Mar-2013	0	0	0	0	0	0	0	304,706
25-Mar-2013	0	0	0	0	0	0	0	304,706
26-Mar-2013	0	0	104	2,288	0	0	1,387	306,092
27-Mar-2013	0	0	101	2,222	0	0	1,347	307,439
28-Mar-2013	0	0	90	1,980	0	0	1,200	308,639
29-Mar-2013	0	0	93	2,046	0	0	1,240	309,879
30-Mar-2013	0	0	0	0	0	0	0	309,879
31-Mar-2013	0	0	0	0	0	0	0	309,879
1-Apr-2013	0	0	0	0	0	0	0	309,879
2-Apr-2013	0	0	134	2,948	0	0	1,787	311,666
3-Apr-2013	0	0	0	0	0	0	0	311,666
4-Apr-2013	0	0	0	0	0	0	0	311,666
5-Apr-2013	0	0	0	0	0	0	0	311,666
6-Apr-2013	0	0	0	0	0	0	0	311,666

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
7-Apr-2013	0	0	0	0	0	0	0	311,666
8-Apr-2013	0	0	0	0	0	0	0	311,666
9-Apr-2013	0	0	-23	-506	0	0	-307	311,359
10-Apr-2013	0	0	-11	-242	0	0	-147	311,212
11-Apr-2013	0	0	30	660	0	0	400	311,612
12-Apr-2013	0	0	0	0	0	0	0	311,612
13-Apr-2013	0	0	79	1,738	0	0	1,053	312,666
14-Apr-2013	0	0	0	0	0	0	0	312,666
15-Apr-2013	0	0	0	0	0	0	0	312,666
16-Apr-2013	0	0	0	0	0	0	0	312,666
17-Apr-2013	0	0	0	0	0	0	0	312,666
18-Apr-2013	0	0	0	0	0	0	0	312,666
19-Apr-2013	0	0	0	0	0	0	0	312,666
20-Apr-2013	0	0	91	2,002	0	0	1,213	313,879
21-Apr-2013	0	0	0	0	0	0	0	313,879
22-Apr-2013	0	0	0	0	0	0	0	313,879
23-Apr-2013	0	0	0	0	0	0	0	313,879
24-Apr-2013	0	0	0	0	0	0	0	313,879
25-Apr-2013	0	0	0	0	0	0	0	313,879
26-Apr-2013	0	0	64	1,408	0	0	853	314,732
27-Apr-2013	0	0	0	0	0	0	0	314,732
28-Apr-2013	0	0	0	0	0	0	0	314,732
29-Apr-2013	0	0	0	0	0	0	0	314,732
30-Apr-2013	0	0	74	1,628	0	0	987	315,719
1-May-2013	0	0	75	1,650	0	0	1,000	316,719
2-May-2013	0	0	0	0	0	0	0	316,719
3-May-2013	0	0	54	1,188	0	0	720	317,439
4-May-2013	0	0	0	0	0	0	0	317,439
5-May-2013	0	0	0	0	0	0	0	317,439
6-May-2013	0	0	0	0	0	0	0	317,439
7-May-2013	0	0	0	0	0	0	0	317,439
8-May-2013	0	0	0	0	0	0	0	317,439
9-May-2013	0	0	24	528	0	0	320	317,759
10-May-2013	0	0	0	0	0	0	0	317,759
11-May-2013	0	0	0	0	0	0	0	317,759
12-May-2013	0	0	0	0	0	0	0	317,759
13-May-2013	0	0	0	0	0	0	0	317,759
14-May-2013	0	0	0	0	0	0	0	317,759
15-May-2013	0	0	0	0	0	0	0	317,759
16-May-2013	0	0	68	1,496	0	0	907	318,666
17-May-2013	0	0	0	0	0	0	0	318,666
18-May-2013	0	0	0	0	0	0	0	318,666
19-May-2013	0	0	0	0	0	0	0	318,666
20-May-2013	0	0	0	0	0	0	0	318,666

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
21-May-2013	0	0	0	0	0	0	0	318,666
22-May-2013	0	0	42	924	16	480	851	319,517
23-May-2013	0	0	28	616	0	0	373	319,890
24-May-2013	0	0	115	2,530	0	0	1,533	321,423
25-May-2013	0	0	0	0	0	0	0	321,423
26-May-2013	0	0	0	0	0	0	0	321,423
27-May-2013	0	0	0	0	0	0	0	321,423
28-May-2013	0	0	0	0	0	0	0	321,423
29-May-2013	0	0	109	2,398	0	0	1,453	322,877
30-May-2013	0	0	53	1,166	0	0	707	323,583
31-May-2013	0	0	0	0	0	0	0	323,583
1-Jun-2013	0	0	-9	-198	0	0	-120	323,463
2-Jun-2013	0	0	0	0	0	0	0	323,463
3-Jun-2013	0	0	-23	-506	0	0	-307	323,157
4-Jun-2013	0	0	0	0	0	0	0	323,157
5-Jun-2013	0	0	0	0	0	0	0	323,157
6-Jun-2013	0	0	0	0	0	0	0	323,157
7-Jun-2013	0	0	199	4,378	0	0	2,653	325,810
8-Jun-2013	0	0	93	2,046	0	0	1,240	327,050
9-Jun-2013	0	0	0	0	0	0	0	327,050
10-Jun-2013	0	0	0	0	0	0	0	327,050
11-Jun-2013	0	0	0	0	0	0	0	327,050
12-Jun-2013	0	0	0	0	0	0	0	327,050
13-Jun-2013	0	0	0	0	0	0	0	327,050
14-Jun-2013	0	0	35	770	0	0	467	327,517
15-Jun-2013	0	0	0	0	0	0	0	327,517
16-Jun-2013	0	0	0	0	0	0	0	327,517
17-Jun-2013	0	0	0	0	0	0	0	327,517
18-Jun-2013	0	0	0	0	0	0	0	327,517
19-Jun-2013	0	0	0	0	0	0	0	327,517
20-Jun-2013	0	0	0	0	0	0	0	327,517
21-Jun-2013	0	0	0	0	0	0	0	327,517
22-Jun-2013	0	0	37	814	0	0	493	328,010
23-Jun-2013	0	0	77	1,694	0	0	1,027	329,037
24-Jun-2013	0	0	122	2,684	0	0	1,627	330,663
25-Jun-2013	0	0	77	1,694	0	0	1,027	331,690
26-Jun-2013	0	0	83	1,826	0	0	1,107	332,797
27-Jun-2013	0	0	0	0	0	0	0	332,797
28-Jun-2013	0	0	0	0	0	0	0	332,797
29-Jun-2013	0	0	0	0	0	0	0	332,797
30-Jun-2013	0	0	0	0	0	0	0	332,797
1-Jul-2013	0	0	12	264	0	0	160	332,957
2-Jul-2013	0	0	0	0	0	0	0	332,957
3-Jul-2013	0	0	0	0	0	0	0	332,957

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
4-Jul-2013	0	0	0	0	0	0	0	332,957
5-Jul-2013	0	0	0	0	0	0	0	332,957
6-Jul-2013	0	0	0	0	0	0	0	332,957
7-Jul-2013	0	0	0	0	0	0	0	332,957
8-Jul-2013	0	0	0	0	0	0	0	332,957
9-Jul-2013	0	0	-20	-440	0	0	-267	332,690
10-Jul-2013	0	0	-10	-220	0	0	-133	332,557
11-Jul-2013	0	0	0	0	0	0	0	332,557
12-Jul-2013	0	0	0	0	0	0	0	332,557
13-Jul-2013	0	0	0	0	0	0	0	332,557
14-Jul-2013	0	0	0	0	0	0	0	332,557
15-Jul-2013	0	0	10	220	0	0	133	332,690
16-Jul-2013	0	0	0	0	0	0	0	332,690
17-Jul-2013	0	0	0	0	0	0	0	332,690
18-Jul-2013	0	0	0	0	0	0	0	332,690
19-Jul-2013	0	0	0	0	0	0	0	332,690
20-Jul-2013	0	0	0	0	0	0	0	332,690
21-Jul-2013	0	0	0	0	0	0	0	332,690
22-Jul-2013	0	0	-21	-462	0	0	-280	332,410
23-Jul-2013	0	0	0	0	0	0	0	332,410
24-Jul-2013	0	0	0	0	0	0	0	332,410
25-Jul-2013	0	0	0	0	0	0	0	332,410
26-Jul-2013	0	0	0	0	0	0	0	332,410
27-Jul-2013	0	0	0	0	0	0	0	332,410
28-Jul-2013	0	0	0	0	0	0	0	332,410
29-Jul-2013	0	0	0	0	0	0	0	332,410
30-Jul-2013	0	0	0	0	0	0	0	332,410
31-Jul-2013	0	0	0	0	0	0	0	332,410
1-Aug-2013	0	0	0	0	0	0	0	332,410
2-Aug-2013	0	0	0	0	0	0	0	332,410
3-Aug-2013	0	0	99	2,178	0	0	1,320	333,730
4-Aug-2013	0	0	0	0	0	0	0	333,730
5-Aug-2013	0	0	185	4,070	0	0	2,467	336,197
6-Aug-2013	0	0	166	3,652	0	0	2,213	338,410
7-Aug-2013	0	0	169	3,718	0	0	2,253	340,663
8-Aug-2013	0	0	63	1,386	24	720	1,276	341,940
9-Aug-2013	0	0	0	0	0	0	0	341,940
10-Aug-2013	0	0	0	0	0	0	0	341,940
11-Aug-2013	0	0	0	0	0	0	0	341,940
12-Aug-2013	0	0	0	0	0	0	0	341,940
13-Aug-2013	0	0	101	2,222	0	0	1,347	343,286
14-Aug-2013	0	0	95	2,090	0	0	1,267	344,553
15-Aug-2013	0	0	57	1,254	0	0	760	345,313
16-Aug-2013	0	0	119	2,618	0	0	1,587	346,900

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
17-Aug-2013	0	0	118	2,596	0	0	1,573	348,473
18-Aug-2013	0	0	0	0	0	0	0	348,473
19-Aug-2013	0	0	73	1,606	0	0	973	349,446
20-Aug-2013	0	0	146	3,212	0	0	1,947	351,393
21-Aug-2013	0	0	38	836	0	0	507	351,900
22-Aug-2013	0	0	3	66	0	0	40	351,940
23-Aug-2013	0	0	108	2,376	0	0	1,440	353,380
24-Aug-2013	0	0	0	0	0	0	0	353,380
25-Aug-2013	0	0	0	0	0	0	0	353,380
26-Aug-2013	0	0	63	1,386	206	6,180	4,585	357,965
27-Aug-2013	0	0	51	1,122	204	6,120	4,389	362,354
28-Aug-2013	0	0	67	1,474	179	5,370	4,148	366,502
29-Aug-2013	0	0	81	1,782	184	5,520	4,425	370,927
30-Aug-2013	0	0	84	1,848	0	0	1,120	372,047
31-Aug-2013	0	0	0	0	0	0	0	372,047
1-Sep-2013	0	0	0	0	0	0	0	372,047
2-Sep-2013	0	0	0	0	0	0	0	372,047
3-Sep-2013	0	0	70	1,540	101	3,030	2,770	374,817
4-Sep-2013	0	0	96	2,112	0	0	1,280	376,097
5-Sep-2013	0	0	90	1,980	11	330	1,400	377,497
6-Sep-2013	0	0	0	0	0	0	0	377,497
7-Sep-2013	0	0	0	0	0	0	0	377,497
8-Sep-2013	0	0	0	0	0	0	0	377,497
9-Sep-2013	0	0	0	0	0	0	0	377,497
10-Sep-2013	0	0	0	0	0	0	0	377,497
11-Sep-2013	0	0	18	396	0	0	240	377,737
12-Sep-2013	0	0	0	0	0	0	0	377,737
13-Sep-2013	0	0	0	0	0	0	0	377,737
14-Sep-2013	0	0	0	0	0	0	0	377,737
15-Sep-2013	0	0	0	0	0	0	0	377,737
16-Sep-2013	0	0	94	2,068	0	0	1,253	378,991
17-Sep-2013	0	0	0	0	0	0	0	378,991
18-Sep-2013	0	0	67	1,474	0	0	893	379,884
19-Sep-2013	0	0	0	0	0	0	0	379,884
20-Sep-2013	0	0	0	0	0	0	0	379,884
21-Sep-2013	0	0	0	0	0	0	0	379,884
22-Sep-2013	0	0	0	0	0	0	0	379,884
23-Sep-2013	0	0	0	0	0	0	0	379,884
24-Sep-2013	0	0	0	0	0	0	0	379,884
25-Sep-2013	0	0	0	0	0	0	0	379,884
26-Sep-2013	0	0	0	0	0	0	0	379,884
27-Sep-2013	0	0	0	0	0	0	0	379,884
28-Sep-2013	0	0	0	0	0	0	0	379,884
29-Sep-2013	0	0	0	0	0	0	0	379,884

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
30-Sep-2013	0	0	0	0	0	0	0	379,884
1-Oct-2013	0	0	0	0	0	0	0	379,884
2-Oct-2013	0	0	44	968	0	0	587	380,471
3-Oct-2013	0	0	0	0	61	1,830	1,109	381,580
4-Oct-2013	0	0	0	0	0	0	0	381,580
5-Oct-2013	0	0	0	0	0	0	0	381,580
6-Oct-2013	0	0	0	0	0	0	0	381,580
7-Oct-2013	0	0	0	0	0	0	0	381,580
8-Oct-2013	0	0	0	0	0	0	0	381,580
9-Oct-2013	0	0	0	0	0	0	0	381,580
10-Oct-2013	0	0	0	0	0	0	0	381,580
11-Oct-2013	0	0	0	0	0	0	0	381,580
12-Oct-2013	0	0	0	0	0	0	0	381,580
13-Oct-2013	0	0	0	0	0	0	0	381,580
14-Oct-2013	0	0	0	0	0	0	0	381,580
15-Oct-2013	0	0	0	0	0	0	0	381,580
16-Oct-2013	0	0	0	0	0	0	0	381,580
17-Oct-2013	0	0	0	0	0	0	0	381,580
18-Oct-2013	0	0	0	0	0	0	0	381,580
19-Oct-2013	0	0	0	0	0	0	0	381,580
20-Oct-2013	0	0	0	0	0	0	0	381,580
21-Oct-2013	0	0	0	0	0	0	0	381,580
22-Oct-2013	0	0	0	0	0	0	0	381,580
23-Oct-2013	0	0	0	0	0	0	0	381,580
24-Oct-2013	0	0	0	0	0	0	0	381,580
25-Oct-2013	0	0	0	0	0	0	0	381,580
26-Oct-2013	0	0	0	0	0	0	0	381,580
27-Oct-2013	0	0	0	0	0	0	0	381,580
28-Oct-2013	0	0	55	1,210	0	0	733	382,313
29-Oct-2013	0	0	54	1,188	0	0	720	383,033
30-Oct-2013	0	0	53	1,166	0	0	707	383,740
31-Oct-2013	0	0	43	946	0	0	573	384,313
1-Nov-2013	0	0	0	0	0	0	0	384,313
2-Nov-2013	0	0	0	0	0	0	0	384,313
3-Nov-2013	0	0	0	0	0	0	0	384,313
4-Nov-2013	0	0	0	0	0	0	0	384,313
5-Nov-2013	0	0	0	0	0	0	0	384,313
6-Nov-2013	0	0	95	2,090	70	2,100	2,539	386,852
7-Nov-2013	0	0	0	0	0	0	0	386,852
8-Nov-2013	0	0	96	2,112	144	4,320	3,898	390,751
9-Nov-2013	0	0	118	2,596	0	0	1,573	392,324
10-Nov-2013	0	0	0	0	0	0	0	392,324
11-Nov-2013	0	0	86	1,892	138	4,140	3,656	395,980
12-Nov-2013	0	0	34	748	131	3,930	2,835	398,815

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
13-Nov-2013	0	0	14	308	173	5,190	3,332	402,147
14-Nov-2013	0	0	13	286	163	4,890	3,137	405,284
15-Nov-2013	0	0	54	1,188	157	4,710	3,575	408,858
16-Nov-2013	0	0	0	0	0	0	0	408,858
17-Nov-2013	0	0	0	0	0	0	0	408,858
18-Nov-2013	0	0	0	0	0	0	0	408,858
19-Nov-2013	0	0	0	0	153	4,590	2,782	411,640
20-Nov-2013	0	0	5	110	206	6,180	3,812	415,452
21-Nov-2013	0	0	0	0	148	4,440	2,691	418,143
22-Nov-2013	0	0	0	0	132	3,960	2,400	420,543
23-Nov-2013	0	0	0	0	0	0	0	420,543
24-Nov-2013	0	0	0	0	0	0	0	420,543
25-Nov-2013	0	0	0	0	97	2,910	1,764	422,307
26-Nov-2013	0	0	0	0	0	0	0	422,307
27-Nov-2013	0	0	0	0	0	0	0	422,307
28-Nov-2013	0	0	0	0	0	0	0	422,307
29-Nov-2013	0	0	0	0	0	0	0	422,307
30-Nov-2013	0	0	0	0	0	0	0	422,307
1-Dec-2013	0	0	0	0	0	0	0	422,307
2-Dec-2013	0	0	0	0	0	0	0	422,307
3-Dec-2013	0	0	0	0	0	0	0	422,307
4-Dec-2013	0	0	0	0	0	0	0	422,307
5-Dec-2013	0	0	0	0	76	2,280	1,382	423,689
6-Dec-2013	0	0	0	0	0	0	0	423,689
7-Dec-2013	0	0	0	0	0	0	0	423,689
8-Dec-2013	0	0	0	0	0	0	0	423,689
9-Dec-2013	0	0	0	0	0	0	0	423,689
10-Dec-2013	0	0	0	0	0	0	0	423,689
11-Dec-2013	0	0	0	0	0	0	0	423,689
12-Dec-2013	0	0	0	0	141	4,230	2,564	426,252
13-Dec-2013	0	0	0	0	112	3,360	2,036	428,289
14-Dec-2013	0	0	0	0	0	0	0	428,289
15-Dec-2013	0	0	0	0	0	0	0	428,289
16-Dec-2013	0	0	0	0	17	510	309	428,598
17-Dec-2013	0	0	0	0	-12	-360	-218	428,380
18-Dec-2013	0	0	0	0	-1	-30	-18	428,361
19-Dec-2013	0	0	5	110	-3	-90	12	428,374
20-Dec-2013	0	0	0	0	149	4,470	2,709	431,083
21-Dec-2013	0	0	0	0	0	0	0	431,083
22-Dec-2013	0	0	0	0	0	0	0	431,083
23-Dec-2013	0	0	0	0	0	0	0	431,083
24-Dec-2013	0	0	0	0	0	0	0	431,083
25-Dec-2013	0	0	0	0	0	0	0	431,083
26-Dec-2013	0	0	0	0	12	360	218	431,301

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
27-Dec-2013	0	0	0	0	86	2,580	1,564	432,864
28-Dec-2013	0	0	0	0	0	0	0	432,864
29-Dec-2013	0	0	0	0	0	0	0	432,864
30-Dec-2013	0	0	0	0	0	0	0	432,864
31-Dec-2013	0	0	0	0	19	570	345	433,210
1-Jan-2014	0	0	0	0	0	0	0	433,210
2-Jan-2014	0	0	0	0	0	0	0	433,210
3-Jan-2014	0	0	0	0	0	0	0	433,210
4-Jan-2014	0	0	0	0	0	0	0	433,210
5-Jan-2014	0	0	0	0	0	0	0	433,210
6-Jan-2014	0	0	0	0	0	0	0	433,210
7-Jan-2014	0	0	0	0	0	0	0	433,210
8-Jan-2014	0	0	0	0	-74	-2,220	-1,345	431,864
9-Jan-2014	0	0	0	0	54	1,620	982	432,846
10-Jan-2014	0	0	0	0	0	0	0	432,846
11-Jan-2014	0	0	0	0	0	0	0	432,846
12-Jan-2014	0	0	0	0	0	0	0	432,846
13-Jan-2014	0	0	0	0	31	930	564	433,410
14-Jan-2014	0	0	0	0	0	0	0	433,410
15-Jan-2014	0	0	0	0	0	0	0	433,410
16-Jan-2014	0	0	0	0	-53	-1,590	-964	432,446
17-Jan-2014	0	0	0	0	0	0	0	432,446
18-Jan-2014	0	0	0	0	0	0	0	432,446
19-Jan-2014	0	0	0	0	0	0	0	432,446
20-Jan-2014	0	0	0	0	181	5,430	3,291	435,737
21-Jan-2014	0	0	0	0	172	5,160	3,127	438,864
22-Jan-2014	0	0	0	0	45	1,350	818	439,683
23-Jan-2014	0	0	0	0	97	2,910	1,764	441,446
24-Jan-2014	0	0	0	0	163	4,890	2,964	444,410
25-Jan-2014	0	0	0	0	158	4,740	2,873	447,283
26-Jan-2014	0	0	0	0	0	0	0	447,283
27-Jan-2014	0	0	40	880	215	6,450	4,442	451,725
28-Jan-2014	0	0	34	748	156	4,680	3,290	455,015
29-Jan-2014	0	0	0	0	0	0	0	455,015
30-Jan-2014	0	0	37	814	155	4,650	3,312	458,326
31-Jan-2014	0	0	86	1,892	239	7,170	5,492	463,818
1-Feb-2014	0	0	40	880	139	4,170	3,061	466,879
2-Feb-2014	0	0	0	0	0	0	0	466,879
3-Feb-2014	0	0	0	0	0	0	0	466,879
4-Feb-2014	0	0	0	0	0	0	0	466,879
5-Feb-2014	0	0	0	0	0	0	0	466,879
6-Feb-2014	0	0	0	0	0	0	0	466,879
7-Feb-2014	0	0	0	0	0	0	0	466,879
8-Feb-2014	0	0	0	0	0	0	0	466,879

	Ash Stacked In Ash Pond							
Date	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
9-Feb-2014	0	0	0	0	0	0	0	466,879
10-Feb-2014	0	0	0	0	189	5,670	3,436	470,315
11-Feb-2014	0	0	0	0	161	4,830	2,927	473,243
12-Feb-2014	0	0	0	0	180	5,400	3,273	476,515
13-Feb-2014	0	0	0	0	0	0	0	476,515
14-Feb-2014	0	0	0	0	0	0	0	476,515
15-Feb-2014	0	0	0	0	0	0	0	476,515
16-Feb-2014	0	0	0	0	0	0	0	476,515
17-Feb-2014	0	0	58	1,276	146	4,380	3,428	479,943
18-Feb-2014	0	0	40	880	-20	-600	170	480,113
19-Feb-2014	0	0	0	0	0	0	0	480,113
20-Feb-2014	0	0	0	0	0	0	0	480,113
21-Feb-2014	0	0	0	0	0	0	0	480,113
22-Feb-2014	0	0	0	0	0	0	0	480,113
23-Feb-2014	0	0	0	0	0	0	0	480,113
24-Feb-2014	0	0	116	2,552	25	750	2,001	482,114
25-Feb-2014	0	0	63	1,386	77	2,310	2,240	484,354
26-Feb-2014	0	0	30	660	147	4,410	3,073	487,427
27-Feb-2014	0	0	55	1,210	31	930	1,297	488,724
28-Feb-2014	0	0	121	2,662	99	2,970	3,413	492,137
1-Mar-2014	0	0	-26	-572	159	4,770	2,544	494,681
2-Mar-2014	0	0	0	0	0	0	0	494,681
3-Mar-2014	0	0	0	0	0	0	0	494,681
4-Mar-2014	0	0	0	0	0	0	0	494,681
5-Mar-2014	0	0	0	0	0	0	0	494,681
6-Mar-2014	0	0	0	0	194	5,820	3,527	498,209
7-Mar-2014	0	0	0	0	86	2,580	1,564	499,772
8-Mar-2014	0	0	0	0	109	3,270	1,982	501,754
9-Mar-2014	0	0	0	0	29	870	527	502,281
10-Mar-2014	0	0	4	88	184	5,520	3,399	505,680
11-Mar-2014	0	0	40	880	197	5,910	4,115	509,795
12-Mar-2014	0	0	25	550	0	0	333	510,129
13-Mar-2014	0	0	53	1,166	195	5,850	4,252	514,381
14-Mar-2014	0	0	59	1,298	163	4,890	3,750	518,131
15-Mar-2014	0	0	43	946	107	3,210	2,519	520,650
16-Mar-2014	0	0	0	0	0	0	0	520,650
17-Mar-2014	0	0	0	0	0	0	0	520,650
18-Mar-2014	0	0	0	0	0	0	0	520,650
19-Mar-2014	0	0	13	286	0	0	173	520,823
20-Mar-2014	0	0	33	726	0	0	440	521,263
21-Mar-2014	0	0	76	1,672	0	0	1,013	522,277
22-Mar-2014	0	0	89	1,958	66	1,980	2,387	524,663
23-Mar-2014	0	0	0	0	0	0	0	524,663
24-Mar-2014	0	0	91	2,002	147	4,410	3,886	528,549

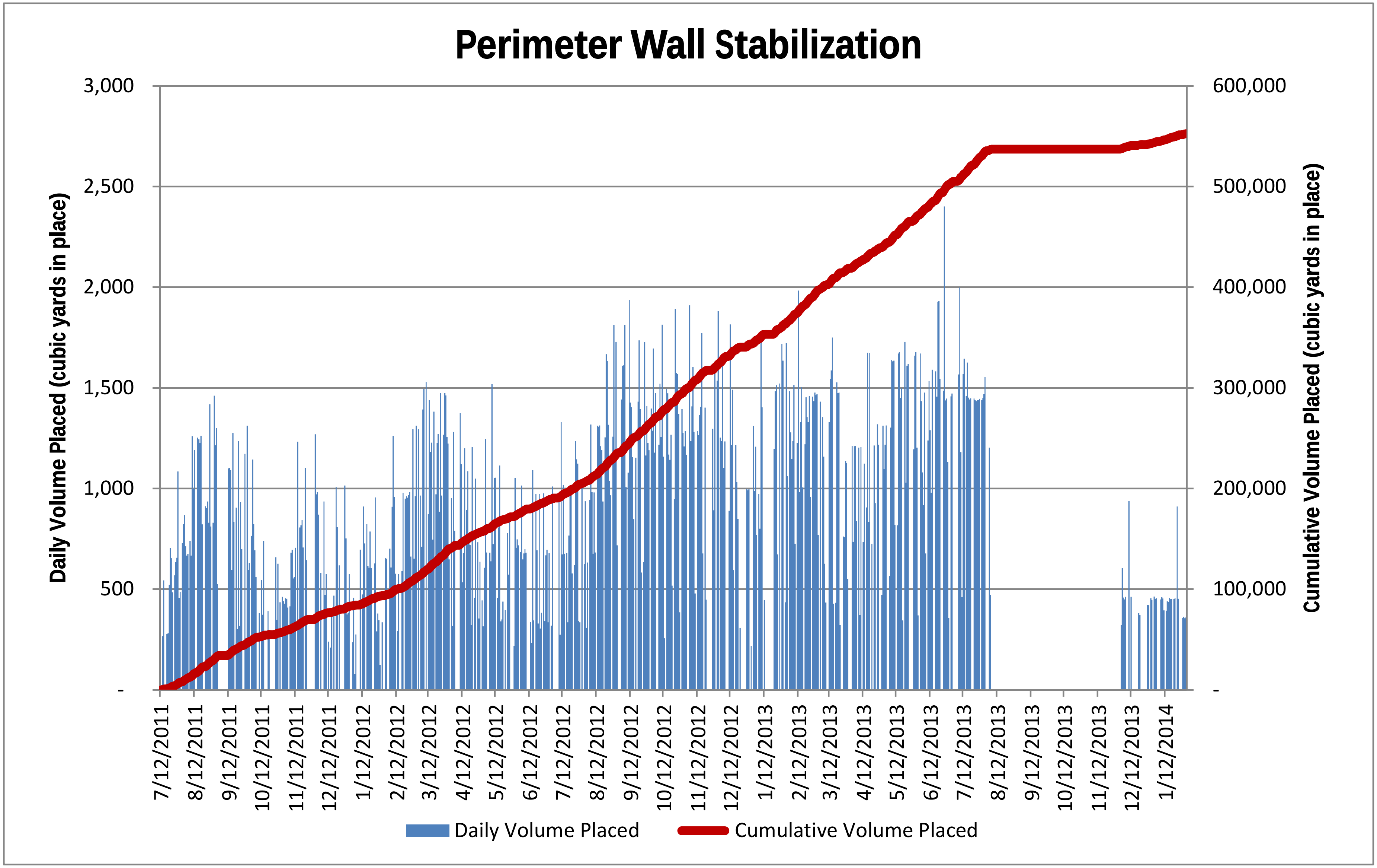
Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
25-Mar-2014	0	0	0	0	158	4,740	2,873	531,422
26-Mar-2014	0	0	9	198	192	5,760	3,611	535,033
27-Mar-2014	0	0	84	1,848	79	2,370	2,556	537,589
28-Mar-2014	0	0	44	968	13	390	823	538,412
29-Mar-2014	0	0	53	1,166	0	0	707	539,119
30-Mar-2014	0	0	0	0	0	0	0	539,119
31-Mar-2014	0	0	0	0	161	4,830	2,927	542,046
1-Apr-2014	0	0	50	1,100	133	3,990	3,085	545,131
2-Apr-2014	0	0	75	1,650	145	4,350	3,636	548,767
3-Apr-2014	0	0	2	44	0	0	27	548,794
4-Apr-2014	0	0	0	0	0	0	0	548,794
5-Apr-2014	0	0	0	0	0	0	0	548,794
6-Apr-2014	0	0	0	0	0	0	0	548,794
7-Apr-2014	0	0	0	0	0	0	0	548,794
8-Apr-2014	0	0	0	0	0	0	0	548,794
9-Apr-2014	0	0	3	66	106	3,180	1,967	550,761
10-Apr-2014	0	0	57	1,254	114	3,420	2,833	553,594
11-Apr-2014	0	0	98	2,156	75	2,250	2,670	556,264
12-Apr-2014	0	0	120	2,640	142	4,260	4,182	560,446
13-Apr-2014	0	0	0	0	0	0	0	560,446
14-Apr-2014	0	0	15	330	3	90	255	560,701
15-Apr-2014	0	0	0	0	0	0	0	560,701
16-Apr-2014	0	0	216	4,752	162	4,860	5,825	566,526
17-Apr-2014	0	0	155	3,410	169	5,070	5,139	571,666
18-Apr-2014	0	0	255	5,610	100	3,000	5,218	576,884
19-Apr-2014	0	0	210	4,620	110	3,300	4,800	581,684
20-Apr-2014	0	0	0	0	0	0	0	581,684
21-Apr-2014	0	0	151	3,322	86	2,580	3,577	585,261
22-Apr-2014	0	0	70	1,540	36	1,080	1,588	586,849
23-Apr-2014	0	0	171	3,762	57	1,710	3,316	590,165
24-Apr-2014	0	0	90	1,980	1	30	1,218	591,383
25-Apr-2014	0	0	185	4,070	22	660	2,867	594,250
26-Apr-2014	0	0	192	4,224	58	1,740	3,615	597,864
27-Apr-2014	0	0	0	0	0	0	0	597,864
28-Apr-2014	0	0	73	1,606	166	4,980	3,992	601,856
29-Apr-2014	0	0	0	0	0	0	0	601,856
30-Apr-2014	0	0	0	0	0	0	0	601,856
1-May-2014	0	0	0	0	0	0	0	601,856
2-May-2014	0	0	146	3,212	130	3,900	4,310	606,166
3-May-2014	0	0	232	5,104	125	3,750	5,366	611,532
4-May-2014	0	0	0	0	0	0	0	611,532
5-May-2014	0	0	199	4,378	125	3,750	4,926	616,458
6-May-2014	0	0	260	5,720	135	4,050	5,921	622,380
7-May-2014	0	0	129	2,838	132	3,960	4,120	626,500

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
8-May-2014	0	0	110	2,420	158	4,740	4,339	630,839
9-May-2014	0	0	119	2,618	146	4,380	4,241	635,080
10-May-2014	0	0	105	2,310	28	840	1,909	636,989
11-May-2014	0	0	0	0	0	0	0	636,989
12-May-2014	0	0	77	1,694	130	3,900	3,390	640,380
13-May-2014	0	0	124	2,728	191	5,730	5,126	645,506
14-May-2014	0	0	117	2,574	188	5,640	4,978	650,484
15-May-2014	0	0	0	0	0	0	0	650,484
16-May-2014	0	0	0	0	0	0	0	650,484
17-May-2014	0	0	8	176	0	0	107	650,591
18-May-2014	0	0	0	0	0	0	0	650,591
19-May-2014	0	0	117	2,574	86	2,580	3,124	653,714
20-May-2014	0	0	105	2,310	102	3,060	3,255	656,969
21-May-2014	0	0	84	1,848	230	6,900	5,302	662,271
22-May-2014	0	0	129	2,838	256	7,680	6,375	668,645
23-May-2014	0	0	125	2,750	221	6,630	5,685	674,330
24-May-2014	0	0	97	2,134	225	6,750	5,384	679,714
25-May-2014	0	0	0	0	0	0	0	679,714
26-May-2014	0	0	0	0	0	0	0	679,714
27-May-2014	0	0	157	3,454	184	5,520	5,439	685,153
28-May-2014	0	0	100	2,200	178	5,340	4,570	689,723
29-May-2014	0	0	116	2,552	211	6,330	5,383	695,106
30-May-2014	0	0	139	3,058	109	3,270	3,835	698,941
31-May-2014	0	0	146	3,212	9	270	2,110	701,051
1-Jun-2014	0	0	0	0	0	0	0	701,051
2-Jun-2014	0	0	160	3,520	45	1,350	2,952	704,003
3-Jun-2014	0	0	117	2,574	152	4,560	4,324	708,326
4-Jun-2014	0	0	132	2,904	0	0	1,760	710,086
5-Jun-2014	0	0	140	3,080	68	2,040	3,103	713,189
6-Jun-2014	0	0	134	2,948	197	5,910	5,368	718,558
7-Jun-2014	0	0	115	2,530	100	3,000	3,352	721,909
8-Jun-2014	0	0	0	0	0	0	0	721,909
9-Jun-2014	0	0	115	2,530	29	870	2,061	723,970
10-Jun-2014	0	0	65	1,430	7	210	994	724,964
11-Jun-2014	0	0	0	0	0	0	0	724,964
12-Jun-2014	0	0	0	0	0	0	0	724,964
13-Jun-2014	0	0	0	0	0	0	0	724,964
14-Jun-2014	0	0	0	0	0	0	0	724,964
15-Jun-2014	0	0	0	0	0	0	0	724,964
16-Jun-2014	0	0	82	1,804	182	5,460	4,402	729,366
17-Jun-2014	0	0	143	3,146	128	3,840	4,234	733,600
18-Jun-2014	0	0	28	616	60	1,800	1,464	735,064
19-Jun-2014	0	0	30	660	57	1,710	1,436	736,501
20-Jun-2014	0	0	-7	-154	48	1,440	779	737,280

Date	Ash Stacked In Ash Pond							
	Number Loads	Trucked Volume @ 16 yds	Number Loads	Trucked Volume @ 22 yds	Number Loads	Trucked Volume @ 30 yds	Compacted Volume	Cumulative
21-Jun-2014	0	0	0	0	56	1,680	1,018	738,298
22-Jun-2014	0	0	0	0	0	0	0	738,298
23-Jun-2014	0	0	0	0	105	3,150	1,909	740,207
24-Jun-2014	0	0	0	0	53	1,590	964	741,171
25-Jun-2014	0	0	0	0	0	0	0	741,171
26-Jun-2014	0	0	0	0	0	0	0	741,171
27-Jun-2014	0	0	0	0	18	540	327	741,498
28-Jun-2014	0	0	0	0	0	0	0	741,498
29-Jun-2014	0	0	0	0	0	0	0	741,498
30-Jun-2014	0	0	0	0	16	480	291	741,789
1-Jul-2014	0	0	0	0	64	1,920	1,164	742,953
2-Jul-2014	0	0	0	0	0	0	0	742,953
3-Jul-2014	0	0	0	0	0	0	0	742,953
4-Jul-2014	0	0	0	0	0	0	0	742,953
5-Jul-2014	0	0	0	0	0	0	0	742,953
6-Jul-2014	0	0	0	0	0	0	0	742,953
7-Jul-2014	0	0	0	0	0	0	0	742,953
8-Jul-2014	0	0	0	0	0	0	0	742,953
9-Jul-2014	0	0	0	0	0	0	0	742,953
10-Jul-2014	0	0	0	0	0	0	0	742,953
11-Jul-2014	0	0	0	0	0	0	0	742,953
12-Jul-2014	0	0	0	0	0	0	0	742,953
13-Jul-2014	0	0	0	0	0	0	0	742,953
14-Jul-2014	0	0	0	0	0	0	0	742,953
15-Jul-2014	0	0	0	0	0	0	0	742,953
16-Jul-2014	0	0	0	0	0	0	0	742,953
17-Jul-2014	0	0	0	0	0	0	0	742,953
18-Jul-2014	0	0	0	0	0	0	0	742,953
19-Jul-2014	0	0	0	0	0	0	0	742,953
20-Jul-2014	0	0	0	0	0	0	0	742,953
21-Jul-2014	0	0	0	0	0	0	0	742,953
22-Jul-2014	0	0	0	0	0	0	0	742,953
23-Jul-2014	0	0	0	0	0	0	0	742,953
24-Jul-2014	0	0	0	0	0	0	0	742,953
25-Jul-2014	0	0	0	0	0	0	0	742,953
26-Jul-2014	0	0	0	0	0	0	0	742,953
27-Jul-2014	0	0	0	0	0	0	0	742,953
28-Jul-2014	0	0	0	0	0	0	0	742,953
29-Jul-2014	0	0	0	0	0	0	0	742,953
30-Jul-2014	0	0	0	0	0	0	0	742,953
31-Jul-2014	0	0	0	0	0	0	0	742,953

APPENDIX E

Daily Production Statistics - Perimeter Wall Stabilization


Perimeter Wall Stabilization
Daily Volume Placed (cubic yards in place)
Cumulative Volume Placed (cubic yards in place)
3,000
2,500
2,000
1,500
1,000
500
-
600,000
500,000
400,000
300,000
200,000
100,000
-
7/12/2011
8/12/2011
9/12/2011
10/12/2011
11/12/2011
12/12/2011
1/12/2012
2/12/2012
3/12/2012
4/12/2012
5/12/2012
6/12/2012
7/12/2012
8/12/2012
9/12/2012
10/12/2012
11/12/2012
12/12/2012
1/12/2013
2/12/2013
3/12/2013
4/12/2013
5/12/2013
6/12/2013
7/12/2013
8/12/2013
9/12/2013
10/12/2013
11/12/2013
12/12/2013
1/12/2014
Daily Volume Placed
Cumulative Volume Placed

Segment 1						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
4/20/2011	2,475	222	2,697	-	-	-
7/14/2011	-	-	-	242	24	266
7/15/2011	-	-	-	495	49	544
7/18/2011	-	-	-	258	19	278
7/19/2011	248	19	267	14	-	14
7/20/2011	484	37	521	-	-	-
7/21/2011	536	41	577	118	9	127
7/22/2011	607	47	654	-	-	-
7/23/2011	450	34	485	-	-	-
7/25/2011	528	40	568	-	-	-
7/26/2011	589	44	633	-	-	-
7/27/2011	610	46	656	-	-	-
7/28/2011	991	74	1,065	19	1	20
7/29/2011	424	32	456	-	-	-
7/30/2011	452	35	487	-	-	-
8/1/2011	577	44	621	99	8	106
8/2/2011	764	58	822	-	-	-
8/3/2011	807	61	868	-	-	-
8/4/2011	663	51	713	-	-	-
8/5/2011	618	49	667	-	-	-
8/6/2011	627	49	675	-	-	-
8/8/2011	687	53	740	-	-	-
8/9/2011	618	49	667	-	-	-
8/10/2011	1,168	92	1,260	-	-	-
8/11/2011	924	73	997	-	-	-
8/12/2011	1,104	87	1,191	-	-	-
8/15/2011	1,164	88	1,253	-	-	-
8/16/2011	1,156	88	1,244	-	-	-
8/17/2011	1,137	88	1,226	-	-	-
8/18/2011	1,173	90	1,262	-	-	-
8/19/2011	762	60	822	-	-	-
8/22/2011	845	66	912	-	-	-
8/23/2011	836	66	902	-	-	-
8/24/2011	866	69	935	-	-	-
8/25/2011	770	60	830	-	-	-
8/26/2011	1,314	104	1,418	-	-	-
8/27/2011	752	60	811	-	-	-
8/29/2011	770	60	830	-	-	-
8/30/2011	1,354	107	1,462	-	-	-
8/31/2011	1,127	88	1,215	-	-	-
9/1/2011	1,207	94	1,301	-	-	-
9/2/2011	488	38	526	-	-	-

Segment 1						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
9/12/2011	1,038	62	1,100	-	-	-
9/13/2011	1,044	58	1,102	-	-	-
9/14/2011	1,031	61	1,092	-	-	-
9/15/2011	552	44	596	-	-	-
9/16/2011	1,182	94	1,276	-	-	-
9/17/2011	774	61	835	-	-	-
9/19/2011	838	66	905	-	-	-
9/20/2011	280	22	302	-	-	-
9/21/2011	1,147	88	1,235	-	-	-
9/22/2011	295	22	317	-	-	-
9/23/2011	874	59	933	-	-	-
9/24/2011	660	40	700	-	-	-
9/27/2011	1,106	66	1,172	-	-	-
9/28/2011	237	19	256	-	-	-
9/29/2011	1,229	83	1,313	-	-	-
9/30/2011	552	44	596	-	-	-
10/1/2011	586	44	631	-	-	-
10/3/2011	709	56	765	-	-	-
10/4/2011	1,066	78	1,144	-	-	-
10/5/2011	779	44	823	-	-	-
10/6/2011	657	36	693	-	-	-
10/7/2011	531	30	561	-	-	-
10/10/2011	362	18	380	-	-	-
10/12/2011	520	26	546	-	-	-
10/13/2011	351	22	373	-	-	-
10/14/2011	706	34	740	-	-	-
10/18/2011	368	22	390	-	-	-
10/19/2011	259	8	266	-	-	-
10/25/2011	614	44	658	-	-	-
10/26/2011	326	21	347	-	-	-
10/27/2011	595	31	626	-	-	-
10/29/2011	413	22	435	-	-	-
10/31/2011	450	12	462	-	-	-
11/1/2011	429	12	441	-	-	-
11/2/2011	405	22	427	-	-	-
11/3/2011	443	12	455	-	-	-
11/4/2011	440	12	452	-	-	-
11/5/2011	397	12	409	-	-	-
11/7/2011	403	12	415	-	-	-
11/8/2011	637	44	681	-	-	-
11/9/2011	651	44	695	-	-	-
11/10/2011	516	38	553	-	-	-

Segment 1						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
11/11/2011	523	38	560	-	-	-
11/12/2011	661	44	705	-	-	-
11/14/2011	1,158	75	1,233	-	-	-
11/15/2011	295	23	318	-	-	-
11/16/2011	752	55	807	-	-	-
11/17/2011	759	57	817	-	-	-
11/18/2011	785	58	843	-	-	-
11/19/2011	659	48	707	-	-	-
11/21/2011	1,044	58	1,102	-	-	-
11/22/2011	600	44	644	-	-	-
11/30/2011	1,181	88	1,270	-	-	-
12/1/2011	905	66	971	-	-	-
12/2/2011	917	66	983	-	-	-
12/3/2011	811	60	871	-	-	-
12/5/2011	539	41	581	-	-	-
12/8/2011	870	65	936	-	-	-
12/9/2011	438	33	472	-	-	-
12/10/2011	-	-	-	533	42	575
12/12/2011	-	-	-	221	18	239
12/14/2011	-	-	-	210	-	210
12/15/2011	378	10	388	-	-	-
12/17/2011	-	-	-	433	35	468
12/19/2011	516	47	563	411	33	444
12/20/2011	340	42	382	401	24	425
12/22/2011	-	-	-	576	42	618
12/27/2011	428	12	440	532	42	575
12/28/2011	420	23	443	287	23	310
12/29/2011	356	18	374	-	-	-
12/30/2011	373	10	383	-	-	-
12/31/2011	285	8	292	274	8	282
1/3/2012	228	8	236	-	-	-
1/4/2012	176	7	183	275	-	275
1/5/2012	-	-	-	78	-	78
1/6/2012	261	14	275	-	-	-
1/10/2012	158	8	166	511	19	530
1/12/2012	392	14	406	67	-	67
1/13/2012	280	8	288	603	21	623
1/14/2012	-	-	-	714	13	727
1/16/2012	522	25	547	268	8	276
1/17/2012	591	24	615	-	-	-
1/18/2012	318	9	327	279	-	279
1/19/2012	420	12	432	344	10	355

Segment 1						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
1/20/2012	409	12	421	183	-	183
1/23/2012	611	16	628	-	-	-
1/24/2012	650	18	668	281	8	288
1/25/2012	283	8	291	-	-	-
1/26/2012	369	10	379	-	-	-
1/27/2012	337	9	346	-	-	-
1/28/2012	118	6	124	-	-	-
1/30/2012	-	-	-	326	9	335
2/6/2012	333	9	342	-	-	-
2/8/2012	278	8	286	-	-	-
3/6/2012	-	-	-	60	-	60
4/18/2012	-	-	-	408	32	440
4/19/2012	-	-	-	345	24	369
4/20/2012	-	-	-	313	10	323
4/21/2012	-	-	-	495	16	510
4/23/2012	-	-	-	444	13	457
4/24/2012	-	-	-	371	10	381
4/26/2012	-	-	-	378	10	388
4/28/2012	-	-	-	277	8	285
4/30/2012	-	-	-	153	4	157
5/2/2012	-	-	-	283	8	290
7/21/2012	-	-	-	228	10	238
7/25/2012	-	-	-	495	38	532
7/26/2012	-	-	-	608	23	631
7/30/2012	-	-	-	655	21	676
Total	**81,853**	**5,520**	**87,373**	**14,561**	**691**	**15,252**
Since 3/1/11	-	-	-	5,510	225	5,736

Segment 2						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
8/1/2012	605	19	624	-	-	-
8/2/2012	606	19	625	-	-	-
8/3/2012	299	9	308	-	-	-
8/4/2012	300	9	310	-	-	-
8/6/2012	916	28	944	-	-	-
8/7/2012	904	28	932	-	-	-
8/8/2012	601	19	620	-	-	-
8/9/2012	297	9	306	-	-	-
8/10/2012	604	19	623	-	-	-
8/11/2012	309	9	319	-	-	-
8/13/2012	921	28	950	-	-	-
8/14/2012	917	28	945	-	-	-
8/15/2012	900	28	928	-	-	-
8/16/2012	1,173	38	1,211	-	-	-
8/17/2012	1,153	38	1,191	-	-	-
8/18/2012	907	28	936	-	-	-
8/20/2012	1,212	41	1,254	-	-	-
8/21/2012	1,614	53	1,668	-	-	-
8/22/2012	1,582	52	1,633	-	-	-
8/23/2012	1,275	42	1,317	-	-	-
8/24/2012	1,005	33	1,038	-	-	-
8/25/2012	937	30	967	-	-	-
8/27/2012	1,218	40	1,258	-	-	-
8/28/2012	1,756	57	1,813	-	-	-
8/29/2012	1,148	38	1,186	-	-	-
8/30/2012	1,671	57	1,728	-	-	-
8/31/2012	696	22	717	-	-	-
9/4/2012	1,395	47	1,442	-	-	-
9/5/2012	1,558	53	1,611	-	-	-
9/6/2012	1,562	51	1,613	-	-	-
9/7/2012	1,755	58	1,813	-	-	-
9/8/2012	973	34	1,007	-	-	-
9/10/2012	1,043	36	1,079	-	-	-
9/11/2012	1,872	63	1,935	-	-	-
9/12/2012	1,378	49	1,427	-	-	-
9/13/2012	1,358	46	1,404	-	-	-
9/14/2012	1,119	38	1,157	-	-	-
9/15/2012	820	28	848	-	-	-
9/17/2012	1,116	38	1,154	-	-	-
9/19/2012	1,384	47	1,432	-	-	-
9/20/2012	1,679	57	1,735	-	-	-
9/21/2012	1,347	47	1,395	-	-	-

Segment 2						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
9/22/2012	563	19	582	-	-	-
9/24/2012	614	19	633	-	-	-
9/25/2012	1,671	57	1,728	-	-	-
9/26/2012	1,126	38	1,164	-	-	-
9/27/2012	1,362	47	1,410	-	-	-
9/28/2012	1,186	40	1,226	-	-	-
9/29/2012	1,150	39	1,190	-	-	-
10/1/2012	1,349	48	1,397	-	-	-
10/2/2012	1,245	42	1,287	-	-	-
10/3/2012	1,640	56	1,696	-	-	-
10/4/2012	1,141	38	1,179	-	-	-
10/5/2012	1,425	49	1,474	-	-	-
10/8/2012	1,177	40	1,217	-	-	-
10/9/2012	1,470	50	1,520	-	-	-
10/10/2012	1,216	41	1,257	-	-	-
10/11/2012	1,755	59	1,814	-	-	-
10/12/2012	1,121	38	1,159	-	-	-
10/13/2012	247	9	256	-	-	-
10/15/2012	1,447	47	1,495	-	-	-
10/16/2012	1,425	47	1,473	-	-	-
10/17/2012	1,130	38	1,168	-	-	-
10/18/2012	1,105	38	1,143	-	-	-
10/19/2012	1,225	42	1,267	-	-	-
10/20/2012	499	19	518	-	-	-
10/22/2012	915	33	948	-	-	-
10/23/2012	1,830	63	1,893	-	-	-
10/24/2012	1,522	53	1,575	-	-	-
10/25/2012	1,519	49	1,568	-	-	-
10/26/2012	1,327	45	1,371	-	-	-
10/27/2012	374	11	385	-	-	-
10/29/2012	1,328	66	1,395	-	-	-
10/30/2012	1,235	42	1,276	-	-	-
10/31/2012	1,171	39	1,209	-	-	-
11/1/2012	1,243	43	1,286	-	-	-
11/2/2012	1,129	38	1,167	-	-	-
11/5/2012	1,848	62	1,910	-	-	-
11/6/2012	1,195	41	1,236	-	-	-
11/7/2012	1,360	47	1,408	-	-	-
11/8/2012	1,553	51	1,604	-	-	-
11/9/2012	1,218	63	1,281	-	-	-
11/10/2012	461	17	479	-	-	-
11/12/2012	1,235	51	1,286	-	-	-

Segment 2						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
11/13/2012	1,223	42	1,265	-	-	-
11/14/2012	1,318	46	1,365	-	-	-
11/15/2012	1,338	67	1,405	-	-	-
11/16/2012	1,685	87	1,773	-	-	-
11/17/2012	658	20	678	-	-	-
11/19/2012	1,335	67	1,402	-	-	-
11/20/2012	432	16	448	-	-	-
11/26/2012	1,233	63	1,296	-	-	-
11/27/2012	847	44	891	-	-	-
11/28/2012	1,528	72	1,600	-	-	-
11/30/2012	1,488	47	1,536	-	-	-
12/1/2012	1,237	38	1,274	-	-	-
12/3/2012	905	28	933	-	-	-
12/4/2012	625	19	644	-	-	-
12/5/2012	1,572	90	1,662	-	-	-
12/6/2012	1,050	52	1,102	-	-	-
12/7/2012	1,196	38	1,234	-	-	-
12/11/2012	608	19	627	-	-	-
12/12/2012	1,220	38	1,257	-	-	-
12/13/2012	906	28	934	-	-	-
12/14/2012	632	19	651	-	-	-
12/15/2012	577	18	595	-	-	-
12/17/2012	1,180	37	1,216	-	-	-
12/18/2012	1,002	31	1,032	-	-	-
3/12/2013	-	-	-	493	16	510
3/13/2013	-	-	-	704	24	728
3/14/2013	-	-	-	692	24	716
3/15/2013	-	-	-	884	33	917
3/16/2013	-	-	-	214	8	222
3/18/2013	-	-	-	217	8	225
3/19/2013	-	-	-	675	25	700
3/20/2013	-	-	-	806	26	833
3/21/2013	-	-	-	808	27	835
3/22/2013	-	-	-	310	12	322
Total	**122,427**	**4,322**	**126,748**	**5,803**	**204**	**6,006**
Since 3/1/11	122,427	4,322	126,748	5,803	204	6,006

Segment 3						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
12/1/2012	591	16	607	-	-	-
12/3/2012	299	21	319	-	-	-
12/4/2012	552	39	591	-	-	-
12/11/2012	244	18	262	-	-	-
12/12/2012	522	36	558	-	-	-
12/13/2012	264	18	282	-	-	-
12/14/2012	787	53	840	-	-	-
12/19/2012	794	55	849	-	-	-
12/21/2012	290	18	308	-	-	-
12/27/2012	527	36	563	-	-	-
12/28/2012	517	36	552	-	-	-
12/29/2012	524	36	559	-	-	-
1/2/2013	626	44	670	-	-	-
1/3/2013	519	36	555	-	-	-
1/4/2013	522	36	558	-	-	-
1/5/2013	516	36	551	-	-	-
1/7/2013	280	20	300	-	-	-
1/8/2013	534	37	571	-	-	-
1/9/2013	772	53	825	-	-	-
1/10/2013	512	36	547	-	-	-
1/21/2013	517	36	552	-	-	-
1/22/2013	785	53	838	-	-	-
1/23/2013	792	53	845	-	-	-
1/26/2013	789	53	843	-	-	-
1/28/2013	967	71	1,039	-	-	-
1/29/2013	716	53	770	-	-	-
2/1/2013	796	53	849	-	-	-
2/2/2013	792	53	845	-	-	-
2/4/2013	781	53	834	-	-	-
2/5/2013	558	53	612	-	-	-
2/6/2013	441	36	476	-	-	-
2/7/2013	522	36	558	-	-	-
2/8/2013	784	53	837	-	-	-
2/9/2013	256	18	274	-	-	-
2/11/2013	536	36	571	-	-	-
2/12/2013	1,048	71	1,119	-	-	-
2/13/2013	517	36	553	-	-	-
2/14/2013	619	53	673	-	-	-
2/15/2013	786	53	839	-	-	-
2/16/2013	525	36	560	-	-	-
2/18/2013	521	36	556	-	-	-
2/19/2013	1,346	107	1,453	-	-	-
2/20/2013	1,248	107	1,355	-	-	-

Segment 3						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
2/21/2013	1,225	107	1,331	-	-	-
2/22/2013	777	53	830	-	-	-
2/23/2013	523	36	558	-	-	-
2/25/2013	779	53	832	-	-	-
2/26/2013	1,153	77	1,230	-	-	-
2/27/2013	1,370	107	1,477	-	-	-
2/28/2013	1,357	107	1,464	-	-	-
3/1/2013	1,362	107	1,469	-	-	-
3/2/2013	715	53	768	-	-	-
3/4/2013	772	53	825	-	-	-
3/6/2013	674	53	728	-	-	-
3/7/2013	1,052	107	1,158	-	-	-
3/8/2013	573	53	627	-	-	-
3/9/2013	397	36	433	-	-	-
3/12/2013	748	71	820	-	-	-
3/13/2013	746	71	817	-	-	-
3/14/2013	799	71	870	-	-	-
3/15/2013	763	71	834	-	-	-
Total	**42,618**	**3,173**	**45,791**	**-**	**-**	**-**
since 3/1/11	42,618	3,173	45,791	-	-	-

Segment 4						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
12/27/2012	411	24	435	-	-	-
12/28/2012	414	24	438	-	-	-
12/29/2012	413	24	437	-	-	-
12/31/2012	206	12	218	-	-	-
1/2/2013	605	36	641	-	-	-
1/3/2013	408	24	432	-	-	-
1/4/2013	613	36	649	-	-	-
1/5/2013	207	12	219	-	-	-
1/7/2013	636	36	672	-	-	-
1/8/2013	217	12	229	-	-	-
1/9/2013	859	48	907	-	-	-
1/10/2013	808	48	856	-	-	-
1/12/2013	422	24	446	-	-	-
1/21/2013	609	36	645	-	-	-
1/22/2013	610	36	646	-	-	-
1/23/2013	632	36	668	-	-	-
1/24/2013	636	36	672	-	-	-
1/26/2013	643	36	679	-	-	-
1/28/2013	644	36	680	-	-	-
1/29/2013	817	48	865	-	-	-
1/31/2013	410	24	434	-	-	-
2/1/2013	826	48	874	-	-	-
2/2/2013	205	12	217	-	-	-
2/4/2013	614	36	650	-	-	-
2/5/2013	632	36	668	-	-	-
2/6/2013	634	36	670	-	-	-
2/7/2013	642	36	678	-	-	-
2/8/2013	642	36	678	-	-	-
2/9/2013	428	24	452	-	-	-
2/11/2013	619	36	655	-	-	-
2/12/2013	817	48	865	-	-	-
2/13/2013	406	24	430	-	-	-
2/14/2013	622	36	658	-	-	-
2/15/2013	629	36	665	-	-	-
2/16/2013	420	24	444	-	-	-
2/18/2013	627	36	663	-	-	-
2/22/2013	575	53	628	-	-	-
2/23/2013	376	24	400	-	-	-
2/25/2013	589	36	625	-	-	-
2/26/2013	192	12	204	-	-	-
3/4/2013	571	36	607	-	-	-
3/6/2013	591	36	627	-	-	-
3/16/2013	188	18	206	-	-	-

Segment 4						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
3/18/2013	195	12	207	-	-	-
3/19/2013	779	48	827	-	-	-
3/20/2013	605	36	641	-	-	-
3/21/2013	606	36	642	-	-	-
Total	**25,249**	**1,499**	**26,748**	**-**	**-**	**-**
Since 3/1/11	25,249	1,499	26,748	-	-	-

Segment 5						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
3/25/2013	342	36	377	-	-	-
3/26/2013	338	36	373	-	-	-
3/27/2013	677	72	749	-	-	-
3/28/2013	672	72	744	-	-	-
3/29/2013	340	36	375	-	-	-
4/2/2013	668	72	739	-	-	-
4/3/2013	664	72	736	-	-	-
4/4/2013	671	72	743	-	-	-
4/5/2013	668	72	739	-	-	-
4/6/2013	335	36	371	-	-	-
4/8/2013	663	72	735	-	-	-
4/9/2013	336	36	372	-	-	-
4/10/2013	660	72	732	-	-	-
4/12/2013	663	72	734	-	-	-
4/13/2013	665	72	736	-	-	-
4/15/2013	663	72	734	-	-	-
4/16/2013	667	72	739	-	-	-
4/17/2013	325	36	360	-	-	-
4/18/2013	664	72	735	-	-	-
4/20/2013	653	72	724	-	-	-
4/22/2013	666	72	737	-	-	-
4/23/2013	334	36	370	-	-	-
4/25/2013	343	36	379	-	-	-
4/26/2013	669	72	741	-	-	-
4/30/2013	344	36	380	-	-	-
5/1/2013	669	72	741	-	-	-
5/2/2013	339	36	375	-	-	-
5/3/2013	438	62	500	-	-	-
5/6/2013	497	68	564	-	-	-
5/7/2013	525	72	597	-	-	-
5/8/2013	630	72	702	-	-	-
5/9/2013	634	72	706	-	-	-
5/10/2013	640	72	711	-	-	-
5/11/2013	313	36	348	-	-	-
5/13/2013	316	36	352	-	-	-
5/14/2013	687	72	758	-	-	-
5/15/2013	682	72	753	-	-	-
5/16/2013	471	65	536	-	-	-
5/17/2013	506	71	577	-	-	-
5/20/2013	922	107	1,030	-	-	-
5/21/2013	610	72	682	-	-	-
5/22/2013	618	72	690	-	-	-
5/23/2013	627	72	699	-	-	-

Segment 5						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
5/28/2013	665	72	736	-	-	-
5/29/2013	660	72	731	-	-	-
5/30/2013	683	72	755	-	-	-
5/31/2013	670	72	742	-	-	-
6/1/2013	334	36	370	-	-	-
6/3/2013	676	72	748	-	-	-
6/4/2013	675	72	747	-	-	-
6/5/2013	667	72	739	-	-	-
6/7/2013	1,333	143	1,476	-	-	-
6/8/2013	605	73	677	-	-	-
6/10/2013	1,102	136	1,239	-	-	-
6/11/2013	1,360	174	1,534	-	-	-
6/12/2013	1,146	143	1,289	-	-	-
6/13/2013	870	109	979	-	-	-
6/14/2013	613	72	684	-	-	-
6/17/2013	600	72	672	-	-	-
6/18/2013	610	72	682	-	-	-
6/19/2013	918	107	1,025	-	-	-
6/20/2013	909	107	1,017	-	-	-
6/21/2013	611	72	682	-	-	-
6/24/2013	637	72	708	-	-	-
6/25/2013	939	107	1,046	-	-	-
6/26/2013	1,295	143	1,438	-	-	-
6/27/2013	1,304	143	1,447	-	-	-
6/28/2013	1,019	112	1,131	-	-	-
6/29/2013	322	36	358	-	-	-
7/1/2013	1,314	143	1,457	-	-	-
7/2/2013	1,328	144	1,472	-	-	-
7/8/2013	1,415	152	1,567	-	-	-
7/9/2013	959	107	1,066	-	-	-
7/10/2013	641	72	712	-	-	-
7/12/2013	676	72	748	-	-	-
7/13/2013	664	72	736	-	-	-
7/15/2013	664	72	736	-	-	-
7/16/2013	648	72	719	-	-	-
7/17/2013	1,308	143	1,451	-	-	-
7/18/2013	1,299	143	1,442	-	-	-
7/19/2013	1,304	143	1,448	-	-	-
7/22/2013	1,304	143	1,447	-	-	-
7/23/2013	1,297	143	1,440	-	-	-
7/24/2013	1,290	143	1,433	-	-	-
7/25/2013	1,296	143	1,439	-	-	-
7/26/2013	1,295	143	1,438	-	-	-

Segment 5						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
7/27/2013	1,302	143	1,446	-	-	-
7/29/2013	1,297	143	1,440	-	-	-
7/30/2013	1,306	143	1,450	-	-	-
7/31/2013	1,324	146	1,470	-	-	-
8/1/2013	1,402	153	1,555	-	-	-
8/5/2013	1,085	118	1,203	-	-	-
8/6/2013	427	44	471	-	-	-
1/28/2014	-	-	-	321	36	357
1/29/2014	-	-	-	326	36	362
1/30/2014	-	-	-	320	36	356
1/31/2014	-	-	-	324	36	360
Total	**71,884**	**8,031**	**79,915**	**1,291**	**143**	**1,434**
Since 3/1/11	71,884	8,031	79,915	1,291	143	1,434

Segment 6						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
3/26/2013	360	24	384	-	-	-
3/27/2013	364	24	388	-	-	-
3/28/2013	358	24	382	-	-	-
3/29/2013	164	11	175	-	-	-
4/2/2013	443	29	473	-	-	-
4/4/2013	438	29	467	-	-	-
4/5/2013	444	29	473	-	-	-
4/6/2013	436	29	466	-	-	-
4/8/2013	440	29	469	-	-	-
4/10/2013	446	29	475	-	-	-
4/13/2013	363	24	387	-	-	-
4/15/2013	161	11	172	-	-	-
4/16/2013	877	59	936	-	-	-
4/17/2013	443	29	473	-	-	-
4/18/2013	879	59	938	-	-	-
4/22/2013	447	29	476	-	-	-
4/23/2013	523	35	557	-	-	-
4/25/2013	882	59	941	-	-	-
4/26/2013	447	29	477	-	-	-
4/29/2013	442	29	471	-	-	-
4/30/2013	874	59	933	-	-	-
5/1/2013	335	22	357	-	-	-
5/2/2013	789	53	842	-	-	-
5/3/2013	762	51	813	-	-	-
5/7/2013	661	44	705	-	-	-
5/8/2013	878	59	937	-	-	-
5/9/2013	868	59	926	-	-	-
5/10/2013	866	59	924	-	-	-
5/11/2013	442	29	471	-	-	-
5/13/2013	436	29	465	-	-	-
5/14/2013	854	59	913	-	-	-
5/15/2013	866	59	925	-	-	-
5/16/2013	856	59	915	-	-	-
5/17/2013	863	59	921	-	-	-
5/18/2013	323	22	345	-	-	-
5/20/2013	655	44	699	-	-	-
5/21/2013	325	22	347	-	-	-
5/22/2013	863	59	921	-	-	-
5/23/2013	861	59	920	-	-	-
5/28/2013	429	29	458	-	-	-
5/29/2013	871	59	929	-	-	-
5/30/2013	864	59	923	-	-	-
5/31/2013	431	29	461	-	-	-

Segment 6						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
6/3/2013	864	59	923	-	-	-
6/4/2013	643	44	687	-	-	-
6/5/2013	319	22	341	-	-	-
6/6/2013	858	59	917	-	-	-
6/14/2013	847	59	906	-	-	-
6/17/2013	852	59	910	-	-	-
6/18/2013	725	50	775	-	-	-
6/19/2013	843	59	902	-	-	-
6/20/2013	856	59	915	-	-	-
6/21/2013	807	55	862	-	-	-
6/24/2013	728	50	778	-	-	-
6/25/2013	1,267	88	1,355	-	-	-
7/9/2013	874	59	933	-	-	-
7/10/2013	439	29	468	-	-	-
7/11/2013	431	29	461	-	-	-
7/12/2013	768	53	821	-	-	-
7/13/2013	850	59	909	-	-	-
7/15/2013	677	47	724	-	-	-
7/16/2013	849	58	907	-	-	-
12/3/2013	-	-	-	302	20	322
12/4/2013	-	-	-	566	38	604
12/5/2013	-	-	-	429	29	459
12/6/2013	-	-	-	419	29	448
12/7/2013	-	-	-	433	29	462
12/10/2013	-	-	-	879	59	938
12/12/2013	-	-	-	433	29	462
12/19/2013	-	-	-	356	25	381
12/20/2013	-	-	-	347	24	371
12/27/2013	-	-	-	395	27	422
12/28/2013	-	-	-	394	27	421
12/30/2013	-	-	-	425	29	454
12/31/2013	-	-	-	416	29	445
1/2/2014	-	-	-	433	29	462
1/3/2014	-	-	-	422	29	452
1/4/2014	-	-	-	426	29	455
1/8/2014	-	-	-	420	29	449
1/9/2014	-	-	-	430	29	459
1/10/2014	-	-	-	424	29	454
1/11/2014	-	-	-	369	26	395
1/13/2014	-	-	-	368	26	393
1/14/2014	-	-	-	411	28	439
1/15/2014	-	-	-	408	28	436
1/16/2014	-	-	-	427	29	456

Segment 6						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
1/17/2014	-	-	-	420	29	450
1/18/2014	-	-	-	422	29	451
1/20/2014	-	-	-	422	29	451
1/21/2014	-	-	-	426	29	455
1/23/2014	-	-	-	852	59	910
1/24/2014	-	-	-	424	29	453
Totals	**40,188**	**2,719**	**42,906**	**13,295**	**914**	**14,209**
Since 3/1/11	40,188	2,719	42,906	13,295	914	14,209

Segment 7						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
2/2/2012	633	21	654	-	-	-
2/3/2012	631	21	651	-	-	-
2/6/2012	347	12	358	-	-	-
2/7/2012	590	17	607	-	-	-
2/8/2012	603	21	623	-	-	-
2/9/2012	1,220	41	1,261	-	-	-
2/10/2012	927	31	958	-	-	-
2/11/2012	557	19	576	-	-	-
2/13/2012	283	9	292	-	-	-
2/14/2012	556	19	575	-	-	-
2/17/2012	572	19	590	-	-	-
2/18/2012	948	31	978	-	-	-
2/20/2012	919	31	949	-	-	-
2/21/2012	931	31	961	-	-	-
2/22/2012	924	31	955	-	-	-
2/23/2012	937	31	968	-	-	-
2/24/2012	951	31	982	-	-	-
2/25/2012	642	21	662	-	-	-
2/27/2012	1,254	41	1,295	-	-	-
2/28/2012	631	21	651	-	-	-
2/29/2012	930	31	961	-	-	-
3/1/2012	1,271	41	1,312	-	-	-
3/3/2012	1,253	41	1,294	-	-	-
3/5/2012	930	35	965	-	-	-
3/6/2012	630	21	651	-	-	-
3/7/2012	605	20	624	-	-	-
3/8/2012	690	22	712	-	-	-
3/10/2012	683	22	705	-	-	-
3/12/2012	314	10	324	-	-	-
3/13/2012	635	21	656	-	-	-
3/14/2012	637	21	657	-	-	-
3/15/2012	632	21	653	-	-	-
3/16/2012	195	6	201	-	-	-
3/17/2012	765	25	790	-	-	-
3/19/2012	644	21	664	-	-	-
3/20/2012	631	21	652	-	-	-
3/21/2012	320	10	330	-	-	-
3/22/2012	637	21	657	-	-	-
3/23/2012	634	21	655	-	-	-
3/24/2012	621	21	642	-	-	-
3/26/2012	675	22	696	-	-	-
3/27/2012	628	21	648	-	-	-

Segment 7						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
3/28/2012	641	21	662	-	-	-
3/29/2012	625	21	645	-	-	-
3/30/2012	649	21	669	-	-	-
3/31/2012	315	18	333	-	-	-
4/2/2012	641	21	662	-	-	-
4/4/2012	651	21	672	-	-	-
4/5/2012	330	10	340	-	-	-
4/10/2012	613	20	633	-	-	-
4/11/2012	366	11	377	-	-	-
4/13/2012	312	9	321	-	-	-
4/14/2012	332	10	343	-	-	-
4/16/2012	331	10	341	-	-	-
4/17/2012	332	10	342	-	-	-
4/18/2012	314	10	325	-	-	-
4/19/2012	339	10	350	-	-	-
4/21/2012	676	21	697	-	-	-
4/24/2012	647	21	668	-	-	-
4/26/2012	335	10	345	-	-	-
4/27/2012	344	10	354	-	-	-
4/28/2012	341	10	352	-	-	-
4/30/2012	278	9	288	-	-	-
5/1/2012	306	9	315	-	-	-
5/2/2012	307	9	316	-	-	-
5/3/2012	1,207	39	1,246	-	-	-
5/4/2012	662	20	682	-	-	-
5/7/2012	661	20	681	-	-	-
5/8/2012	619	19	638	-	-	-
5/9/2012	1,473	45	1,518	-	-	-
5/10/2012	702	22	724	-	-	-
5/11/2012	1,021	32	1,052	-	-	-
5/12/2012	1,023	31	1,054	-	-	-
5/14/2012	442	14	456	-	-	-
5/15/2012	782	24	806	-	-	-
5/16/2012	1,081	33	1,114	-	-	-
5/17/2012	330	10	340	-	-	-
5/18/2012	339	10	350	-	-	-
5/19/2012	425	13	438	-	-	-
5/21/2012	384	12	396	-	-	-
5/23/2012	757	23	780	-	-	-
5/24/2012	555	16	572	-	-	-
5/25/2012	819	24	843	-	-	-
5/29/2012	211	6	218	-	-	-

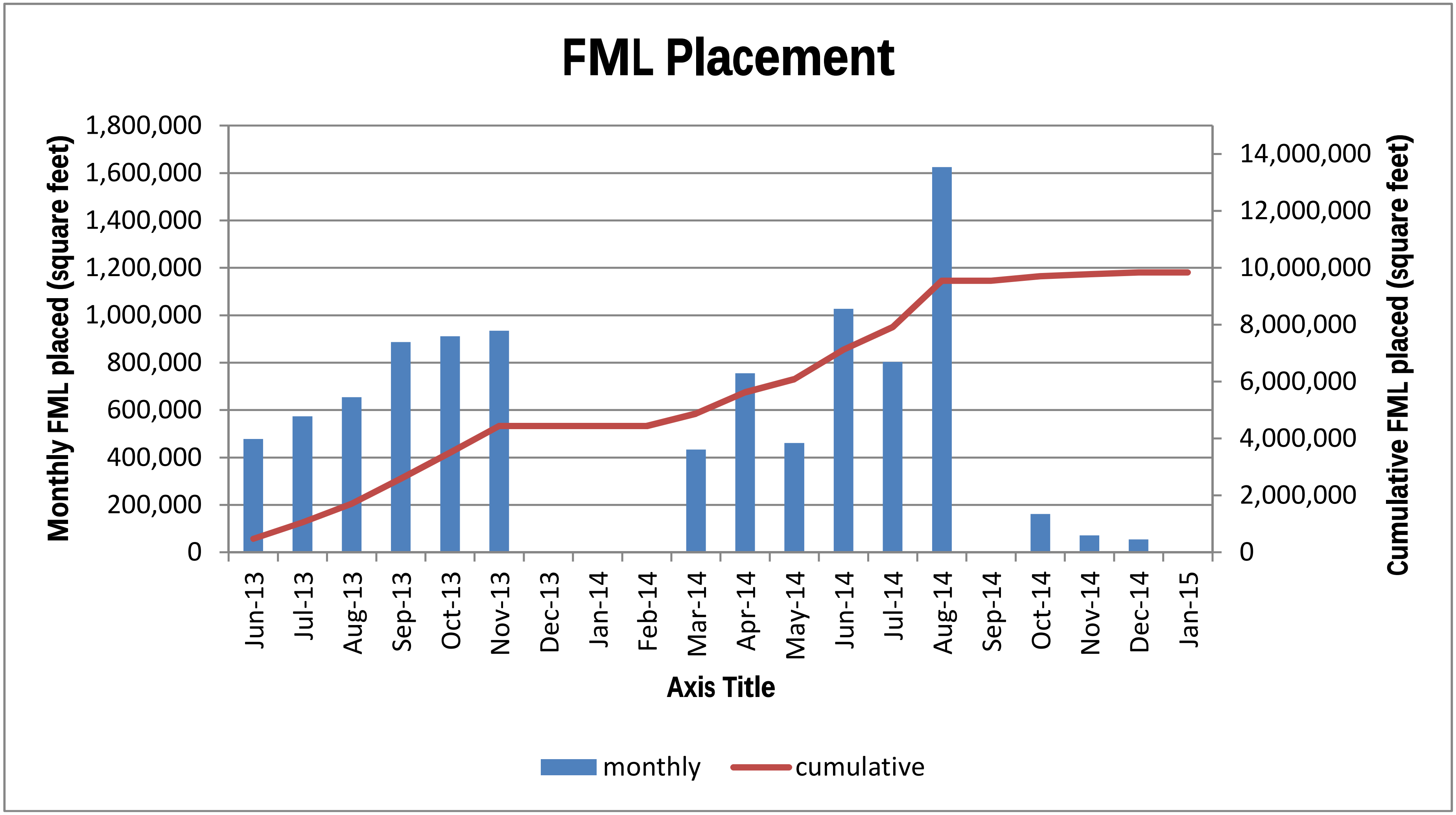
Segment 7						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
5/30/2012	1,021	31	1,052	-	-	-
5/31/2012	685	21	706	-	-	-
6/1/2012	726	22	748	-	-	-
6/2/2012	696	21	717	-	-	-
6/4/2012	663	21	684	-	-	-
6/5/2012	984	31	1,015	-	-	-
6/6/2012	628	21	648			-
6/7/2012	657	21	678	-	-	-
6/8/2012	677	21	698	-	-	-
6/9/2012	660	21	681	-	-	-
6/13/2012	326	10	336			-
6/14/2012	226	7	233	-	-	-
6/15/2012	1,056	34	1,090	-	-	-
6/16/2012	335	10	345	-	-	-
6/18/2012	638	20	658	303	10	313
6/19/2012	673	21	693	-	-	-
6/20/2012	320	10	329			-
6/21/2012	943	31	973	-	-	-
6/22/2012	-	-	-	294	10	305
6/23/2012	335	10	346	36	1	37
6/25/2012	945	31	975	-	-	-
6/26/2012	330	10	341	-	-	-
6/27/2012	648	21	668			-
6/28/2012	675	21	696	-	-	-
6/29/2012	325	10	335	-	-	-
6/30/2012	659	21	679	-	-	-
7/2/2012	308	10	319	-	-	-
7/3/2012	979	31	1,010	-	-	-
7/9/2012	935	31	966	-	-	-
7/10/2012	265	9	274	-	-	-
7/11/2012	1,289	41	1,330	-	-	-
7/12/2012	652	21	672	-	-	-
7/13/2012	987	31	1,018	-	-	-
7/14/2012	656	21	677	-	-	-
7/16/2012	659	21	680	-	-	-
7/17/2012	325	10	335	-	-	-
7/18/2012	743	23	766	-	-	-
7/19/2012	954	31	985	-	-	-
7/20/2012	973	31	1,004	-	-	-
7/21/2012	330	10	340	-	-	-
7/23/2012	321	10	331	-	-	-
7/24/2012	665	21	686	-	-	-

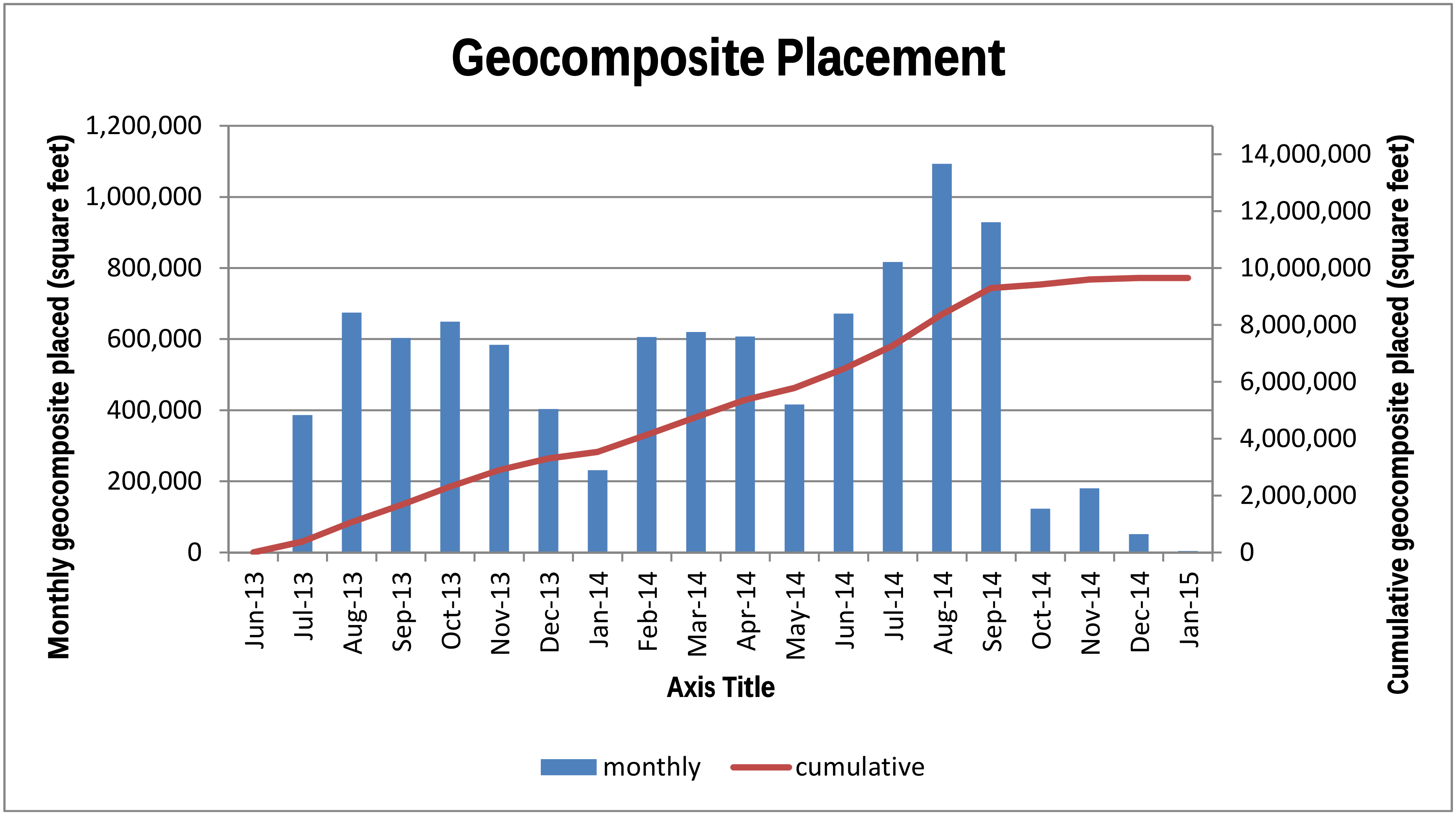
Segment 7						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
7/25/2012	325	10	335	-	-	-
7/26/2012	325	10	335	-	-	-
7/27/2012	332	10	342	-	-	-
7/28/2012	325	10	335	-	-	-
7/30/2012	336	10	347	-	-	-
8/2/2012	302	9	312	-	-	-
8/4/2012	313	9	322	-	-	-
8/7/2012	374	11	386	-	-	-
8/8/2012	352	11	363	-	-	-
8/9/2012	359	11	370	-	-	-
8/10/2012	348	11	358	-	-	-
8/11/2012	353	11	363	-	-	-
8/13/2012	352	11	363	-	-	-
8/14/2012	351	11	362	-	-	-
8/15/2012	373	11	385	-	-	-
Totals	**85,524**	**2,721**	**88,246**	**633**	**22**	**655**
Since 3/1/11	69,540	2,196	71,736	633	22	655

Segment 8						
	PRODUCTION			MITIGATION / REWORK		
	Soil Volume	Rock Volume	Soil & Rock	Soil Volume	Rock Volume	Soil & Rock
Date	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place	CY in Place
3/7/2012	733	36	768	-	-	-
3/8/2012	745	38	783	-	-	-
3/10/2012	780	43	823	-	-	-
3/12/2012	520	29	549	-	-	-
3/13/2012	746	38	784	-	-	-
3/14/2012	503	24	526	-	-	-
3/15/2012	546	29	574	-	-	-
3/16/2012	517	29	545	-	-	-
3/17/2012	564	29	592	-	-	-
3/19/2012	292	14	306	-	-	-
3/20/2012	547	27	574	-	-	-
3/21/2012	894	47	941	-	-	-
3/22/2012	216	12	228	-	-	-
3/23/2012	780	39	819	-	-	-
3/24/2012	310	14	324	-	-	-
3/26/2012	546	25	571	-	-	-
3/27/2012	790	36	825	-	-	-
3/28/2012	766	35	800	-	-	-
3/29/2012	584	27	611	-	-	-
3/30/2012	527	27	554	-	-	-
3/31/2012	301	14	315	-	-	-
4/2/2012	277	14	291	-	-	-
4/3/2012	303	14	317	-	-	-
4/4/2012	582	27	609	-	-	-
4/5/2012	428	21	449	-	-	-
4/10/2012	704	37	741	-	-	-
4/11/2012	710	34	744	-	-	-
4/12/2012	509	25	534	-	-	-
4/13/2012	341	18	359	-	-	-
4/14/2012	816	41	857	-	-	-
4/16/2012	526	26	552	-	-	-
4/17/2012	710	34	744	-	-	-
7/23/2012	-	-	-	289	-	289
7/24/2012	-	-	-	538	12	550
7/25/2012	-	-	-	277	-	277
7/26/2012	-	-	-	150	8	158
Totals	**18,111**	**899**	**19,011**	**1,253**	**20**	**1,274**
Since 3/1/11	18,111	899	19,011	1,253	20	1,274

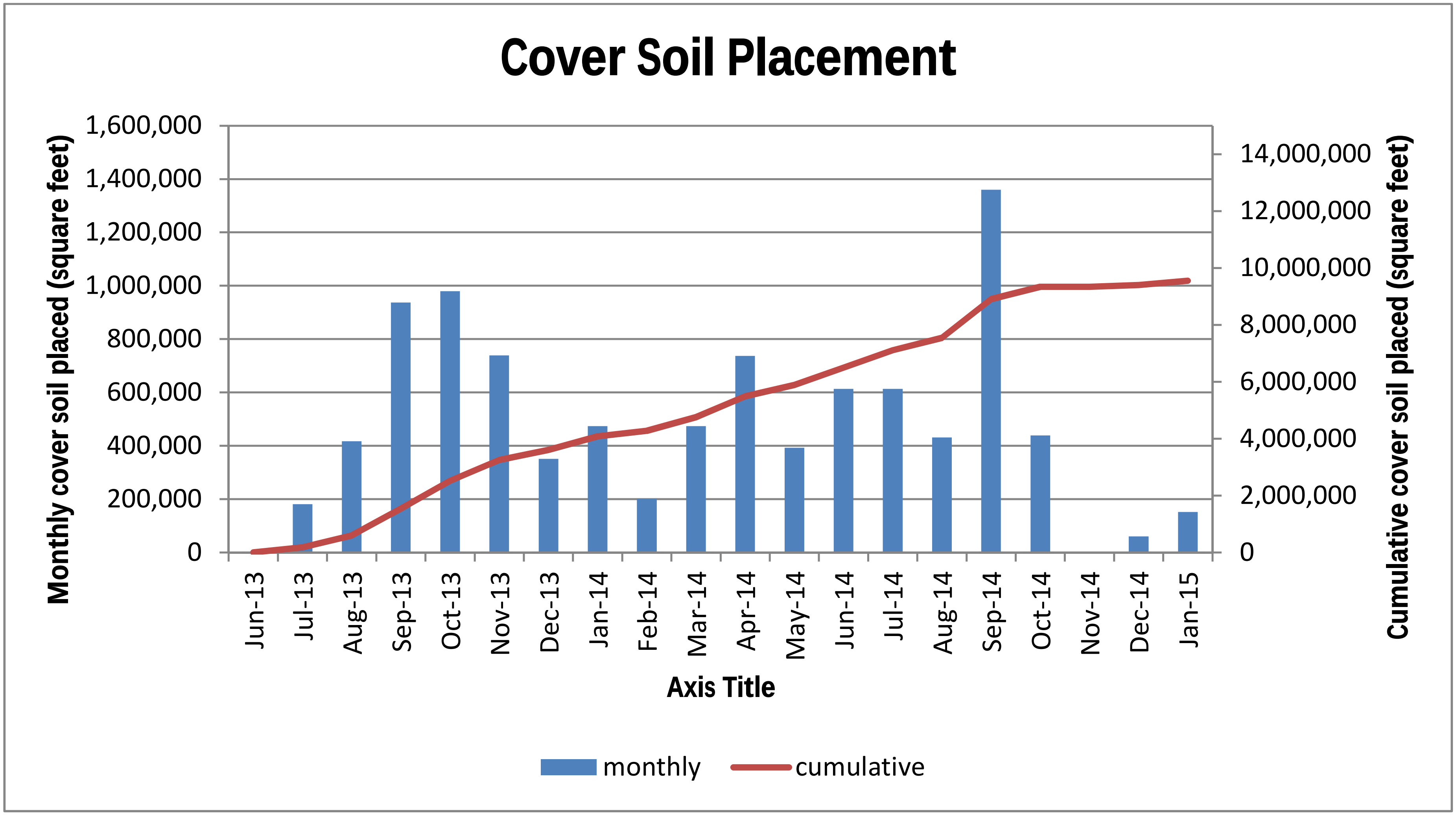
APPENDIX F

Daily Production Statistics - Cap and Closure


FML Placement
Monthly FML placed (square feet)
Cumulative FML placed (square feet)
1,800,000
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Jun-13
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14
Apr-14
May-14
Jun-14
Jul-14
Aug-14
Sep-14
Oct-14
Nov-14
Dec-14
Jan-15
Axis Title
monthly
cumulative



Geocomposite Placement
Monthly geocomposite placed (square feet)
Cumulative geocomposite placed (square feet)
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Jun-13
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14
Apr-14
May-14
Jun-14
Jul-14
Aug-14
Sep-14
Oct-14
Nov-14
Dec-14
Jan-15
Axis Title
monthly
cumulative



Cover Soil Placement
Monthly cover soil placed (square feet)
1,600,000
1,400,000
1,200,000
1,000,000
800,000
600,000
400,000
200,000
0
Cumulative cover soil placed (square feet)
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
0
Jun-13
Jul-13
Aug-13
Sep-13
Oct-13
Nov-13
Dec-13
Jan-14
Feb-14
Mar-14
Apr-14
May-14
Jun-14
Jul-14
Aug-14
Sep-14
Oct-14
Nov-14
Dec-14
Jan-15
Axis Title
monthly
cumulative

Based on P&J invoiced quantities

	Dredge Cell			Lateral			Relic/Ditch 1		
Date	FML	GeoC	Capsoil/ topsoil	FML	GeoC	Capsoil/ topsoil	FML	GeoC	Capsoil/ topsoil
Jun-13	478,391	0	0						
Jul-13	1,052,439	386,589	180,792						
Aug-13	1,707,338	1,061,526	597,510						
Sep-13	2,594,612	1,664,955	1,534,982						
Oct-13	2,831,836	2,313,969	2,514,709	673,968	0	0			
Nov-13	2,831,836	2,831,836	2,568,489	1,608,715	66,359	685,264			
Dec-13	2,831,836	2,831,836	2,649,095	1,608,715	469,886	956,026			
Jan-14	2,831,836	2,831,836	2,746,881	1,608,715	701,179	1,331,562			
Feb-14	2,831,836	2,831,836	2,766,881	1,608,715	1,306,908	1,512,655			
Mar-14	2,831,836	2,831,836	2,834,715	2,042,938	1,926,688	1,918,906			
Apr-14	2,831,836	2,831,836	2,834,715	2,798,871	2,534,373	2,656,294			
May-14	2,896,157	2,896,157	2,896,157	2,798,871	2,798,871	2,798,871	396,528	87,388	188,552
Jun-14	2,896,157	2,896,157	2,896,157	2,798,871	2,798,871	2,798,871	926,156	430,347	758,036
Jul-14	2,896,157	2,896,157	2,896,157	2,798,871	2,798,871	2,798,871	1,361,019	1,087,767	1,159,278
Aug-14	2,896,157	2,896,157	2,896,157	2,798,871	2,798,871	2,798,871	2,406,618	1,860,877	1,287,839
Sep-14	2,896,157	2,896,157	2,896,157	2,798,871	2,798,871	2,798,871	2,406,618	2,259,666	2,282,763
Oct-14	2,896,157	2,896,157	2,896,157	2,849,393	2,808,795	2,827,658	2,518,014	2,372,909	2,352,353
Nov-14	2,896,157	2,896,157	2,896,157	2,888,774	2,888,774	2,827,658	2,541,622	2,372,909	2,352,353
Dec-14	2,896,157	2,896,157	2,896,157	2,890,510	2,893,959	2,827,658	2,594,338	2,418,935	2,412,249
Jan-15	2,896,157	2,896,157	2,806,930	2,890,510	2,893,959	2,833,922	2,594,338	2,423,271	2,533,842

	Ash Pond			Total			Monthly total productivity		
Date	FML	GeoC	Capsoil/ topsoil	FML	GeoC	Capsoil/ topsoil	FML	GeoC	Capsoil/ topsoil
Jun-13				478,391	0	0	478,391	0	0
Jul-13				1,052,439	386,589	180,792	574,048	386,589	180,792
Aug-13				1,707,338	1,061,526	597,510	654,899	674,937	416,718
Sep-13				2,594,612	1,664,955	1,534,982	887,274	603,429	937,472
Oct-13				3,505,804	2,313,969	2,514,709	911,192	649,014	979,727
Nov-13				4,440,551	2,898,195	3,253,753	934,747	584,226	739,044
Dec-13				4,440,551	3,301,722	3,605,121	0	403,527	351,368
Jan-14				4,440,551	3,533,015	4,078,443	0	231,293	473,322
Feb-14				4,440,551	4,138,744	4,279,536	0	605,729	201,093
Mar-14				4,874,774	4,758,524	4,753,621	434,223	619,780	474,085
Apr-14				5,630,707	5,366,209	5,491,009	755,933	607,685	737,388
May-14				6,091,556	5,782,416	5,883,580	460,849	416,207	392,571
Jun-14	497,577	328,661	44,280	7,118,761	6,454,036	6,497,344	1,027,205	671,620	613,764
Jul-14	866,467	488,503	256,554	7,922,514	7,271,298	7,110,860	803,753	817,262	613,516
Aug-14	1,445,543	808,759	559,076	9,547,189	8,364,664	7,541,943	1,624,675	1,093,366	431,083
Sep-14	1,445,543	1,338,538	924,186	9,547,189	9,293,232	8,901,977	0	928,568	1,360,034
Oct-14	1,445,543	1,338,538	1,264,380	9,709,107	9,416,399	9,340,548	161,918	123,167	438,571
Nov-14	1,454,322	1,438,803	1,264,380	9,780,875	9,596,643	9,340,548	71,768	180,244	0
Dec-14	1,454,512	1,438,886	1,264,380	9,835,517	9,647,937	9,400,444	54,642	51,294	59,896
Jan-15	1,454,512	1,438,886	1,377,151	9,835,517	9,652,273	9,551,845	0	4,336	151,401
							Averages		
							656,000	508,000	531,000

APPENDIX G

Groundwater Monitoring Well Installation

From: Todd Justice
Sent: Wednesday, September 03, 2014 10:33 AM
To: Matt Williams (mdwilliams@tva.gov); wfnichols@tva.gov
Cc: Jason Feuge
Subject: TVA KIF-22B, KIF-27A, and KIF-27B

Matt/Bill,

Please find attached the final versions of the TVA KIF Well Schematics, Boring Logs, Well Development Forms, and Additional Notes.

Thanks,

C. Todd Justice, P.E.
Project Manager / Geotechnical Engineer

S&ME
ENGINEERING INTEGRITY.

S&ME, Inc.
1413 Topside Road
Louisville TN 37777 Map
Ph: 865-970-0003 Ext. 43151
Fax: 865-970-2312
Mobile: 865-804-4339
tjustice@smeinc.com
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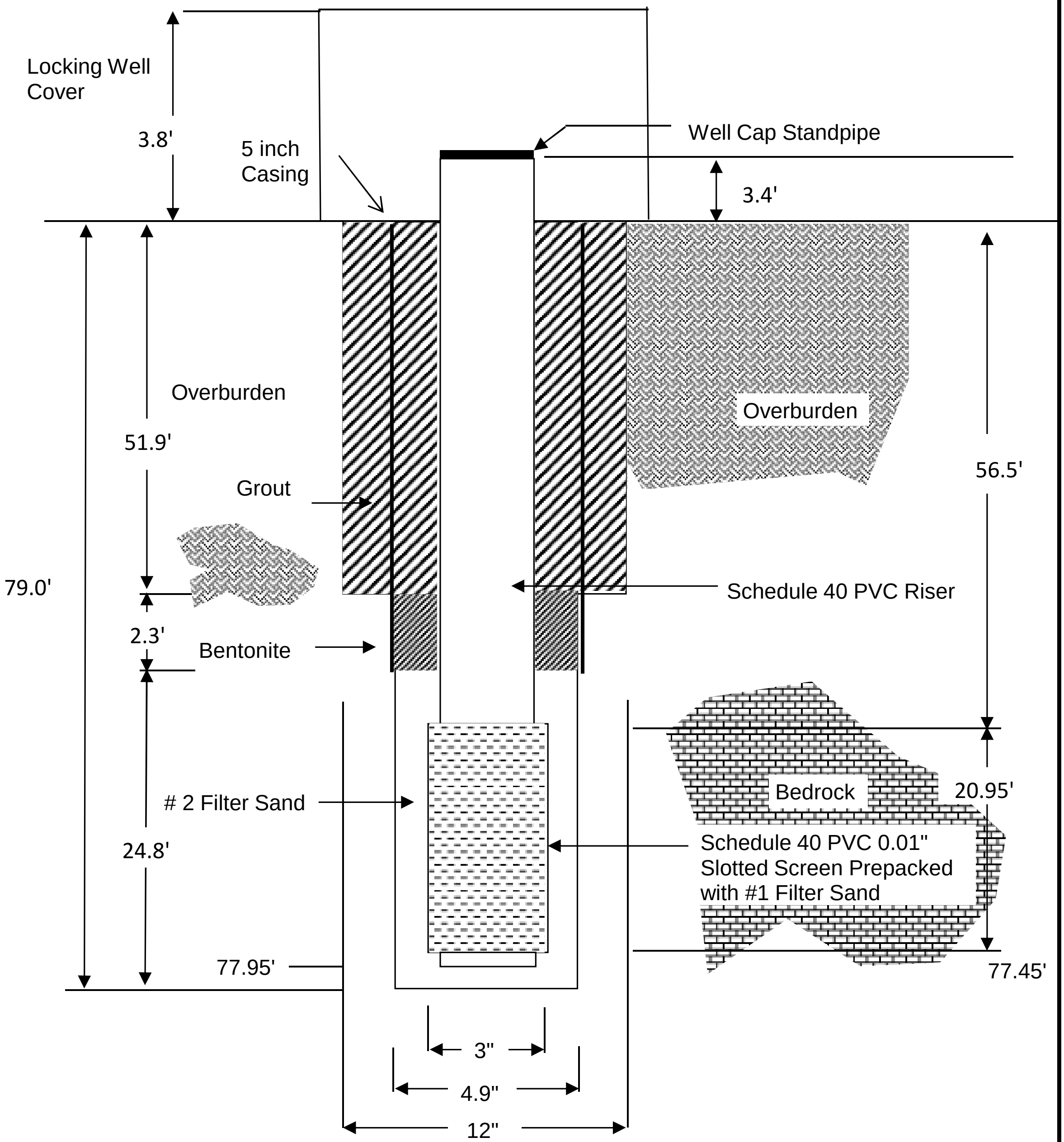


Date Constructed	8/1/2014		
Boring Depth	79.0 ft	Top of Sand	54.2 ft
Casing	5-inch	Top of Bentonite	51.9 ft
Total Well Depth	77.95 ft	Top of Grout	Ground Surface (approx.)
Length of Riser	59.9 ft	Vol./Wt. of Sand	2 ft^3
Length of Screen	20.95 ft	Vol./Wt. of Bentonite	0.16 ft^3

S&ME	**Well Construction Figure**			
	Boring Number KIF-22B			
	Project Name: TVA Kingston Monitoring Wells		Project Number:1431-11-121	
	Scale : NTS	Drawn By: JDF	Checked By: CTJ	Date: 8/1/2014

Table 2. Monitoring Well Development Form

General Information

Date: 8/27/2014
Project Name: TVA Kingston
Developed By: S&ME
Oversight By: JDF

Monitoring Well Number: KIF-22B
Development Method: Surge Block & Pump
Discharge Rate: 0.5 gpm
Discharge Volume: 140 gal.

Before Development

Start Time: 0840
Depth to Water: 13.9' ft bgs

During Development

Time: 1235
Turbidity: 21.5 NTU
pH: 6.94
Temp (°C): 23.14 °C
Specific Conductance: 0.340 mS/cm

During Development

Time: 1245
Turbidity: 42.8 NTU
pH: 6.96
Temp (°C): 22.35 °C
Specific Conductance: 0.321 mS/cm

During Development

Time: 1255
Turbidity: 8.6 NTU
pH: 6.71
Temp (°C): 21.91 °C
Specific Conductance: 0.293 mS/cm

After Development

End Time: ____
Time: ____
Turbidity: ____
pH: ____
Depth to Water: ____ ft bgs
Temp (°C): ____
Specific Conductance: ____

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/27/2014	Monitoring Well Number:	KIF-22B
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	140 gal.

Before Development

Start Time: 0840 Depth to Water: 13.9 ft bgs

During Development

Time: 1300 Temp (°C): 21.93 °C
Turbidity: 6.0 NTU Specific Conductance: 0.296 mS/cm
pH: 6.84

During Development

Time: 1305 Temp (°C): 21.90 °C
Turbidity: 4.6 NTU Specific Conductance: 0.296 mS/cm
pH: 6.90

During Development

Time: 1310 Temp (°C): 21.91 °C
Turbidity: 3.9 NTU Specific Conductance: 0.297 mS/cm
pH: 6.92

After Development

End Time: 1315 Depth to Water: 39.8 ft bgs
Time: 1315 Temp (°C): 21.94 °C
Turbidity: 3.5 NTU Specific Conductance: 0.297 mS/cm
pH: 6.93

End of Procedure

PROJECT:	TVA KIF - Monitoring Well Installation Kingston, TN S&ME Project No. 1431-11-121	BORING LOG:	KIF-22B

DATE DRILLED: **7/31/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **79 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **15 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	1st	2nd	3rd	4th	N VALUE
		Crushed Stone Aggregate (2-inch diameter minus)									
		No. 10 Screenings Aggregate									
5		**FAT CLAY (CH)** - With black nodules; dark red; slightly moist - FILL									
		LEAN CLAY (CL) - With tan weathered shale fragments, red fat clay, and trace bottom ash; orange and tan; slightly moist; firm to hard - FILL					2	22	11	9	33
							5	9	10	11	19
10							0	1	4	13	5
		BOTTOM ASH - With some fine sand and sandy lean clay intervals; slightly moist to wet; very loose to loose - FILL									

NOTES:

1. ***THIS LOG IS ONLY A PORTION OF A REPORT PREPARED FOR THE NAMED PROJECT AND MUST ONLY BE USED TOGETHER WITH THAT REPORT.***
2. ***BORING, SAMPLING AND PENETRATION TEST DATA IN GENERAL ACCORDANCE WITH ASTM D-1586.***
3. ***STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.***
4. ***WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.***

PROJECT: TVA KIF - Monitoring Well Installation Kingston, TN S&ME Project No. 1431-11-121	BORING LOG: **KIF-22B**

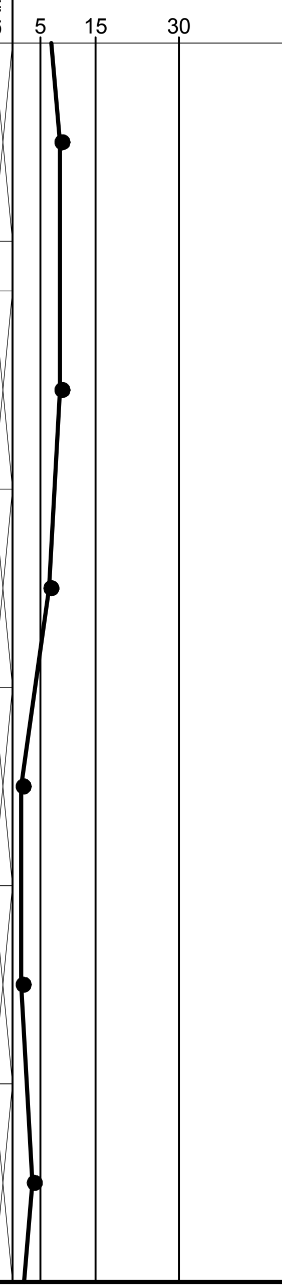
DATE DRILLED: **7/31/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **79 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **15 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet): 15, 20

MATERIAL DESCRIPTION

BOTTOM ASH - With some fine sand and sandy lean clay intervals; slightly moist to wet; very loose to loose - FILL *(continued)*

STANDARD PENETRATION TEST (SPT) DATA (blows/ft)



SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
1	5	4	5	9
4	4	5	5	9
3	3	4	3	7
3	1	1	0	2
0	0	2	2	2
3	4	0	1	4

BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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3. ***STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.***
4. ***WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.***

S&ME

PROJECT: TVA KIF - Monitoring Well Installation Kingston, TN S&ME Project No. 1431-11-121	BORING LOG: **KIF-22B**

DATE DRILLED: **7/31/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **79 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **15 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

STANDARD PENETRATION TEST (SPT) DATA (blows/ft): 5, 15, 30

DEPTH (feet)	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. SAMPLE TYPE	SPT 1st	SPT 2nd	SPT 3rd	SPT 4th	N VALUE
	BOTTOM ASH - With some fine sand and sandy lean clay intervals; slightly moist to wet; very loose to loose - FILL *(continued)*				0	0	1	3	1
	LEAN CLAY WITH SAND (CL) - Tan and brown; very moist to wet; very soft to firm - ALLUVIUM				1	3	3	3	6
30					0	0	1	2	1
					0	1	0	0	1
	SILTY SAND (SM) - Orange brown; wet; very loose - ALLUVIUM				0	1	1	1	2
35					0	1	1	2	2

BORING LOG - TVA 11-121 MW.GPJ 8/13/14

NOTES:

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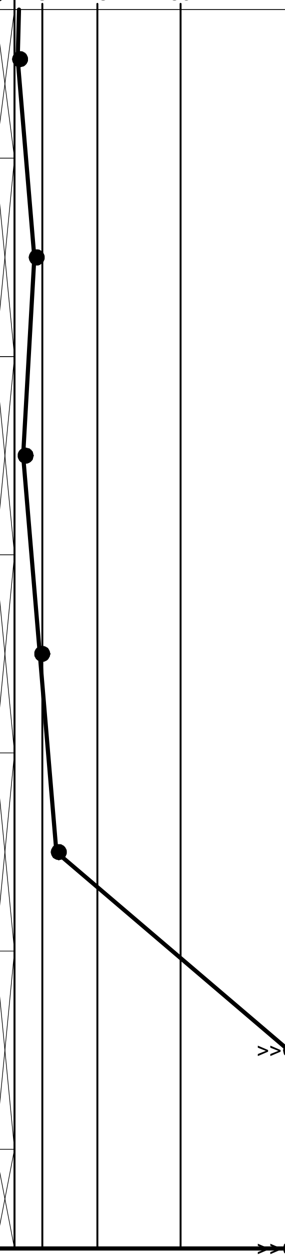
3. *STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.*
4. *WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.*

S&ME

PROJECT: **TVA KIF - Monitoring Well Installation** **Kingston, TN** **S&ME Project No. 1431-11-121**	BORING LOG: **KIF-22B**

DATE DRILLED: **7/31/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **79 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **15 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
		POORLY GRADED SAND (SP) - With occasional gravel; orange brown and tan; wet; very loose to very dense - ALLUVIUM					1	1	0	0	1
40							1	1	3	4	4
							0	1	1	1	2
							1	2	3	3	5
45							1	3	5	7	8
						>>	14	34	50/4"		50/ 4"
						>>					



BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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3. ***STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.***
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S&ME

PROJECT:	TVA KIF - Monitoring Well Installation Kingston, TN S&ME Project No. 1431-11-121	BORING LOG:	KIF-22B

DATE DRILLED: **7/31/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **79 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **15 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. / SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
		WEATHERED SILTSTONE / SHALE - Tan, brown, to gray; slightly moist; very hard - RESIDUUM *(continued)*				>>	8	27	39	16	66
						>>	10	50/3"			50/3"
55		Began PQ3 coring at a depth of 54.2 feet. **Run No. 1** (54.2' to 56.4') Siltstone - Dark gray; fine grained; friable; near vertical bedding; soft; highly fractured.			1 REC 73% RQD 0%						
		Run No. 2 (56.4' to 58.4') Siltstone - With interbedded limestone from 58.0 to 58.4 feet; dark gray; fine grained; friable; slightly weathered; bedding is at an apparent dip of 45 degrees; siltstone is soft to medium hard; limestone is hard.			2 REC 90% RQD 0%						
60		**Run No. 3** (58.4' to 61.1') Siltstone with interbedded Limestone - Greenish gray and gray; fine grained; medium hard; slightly weathered; moderately weathered seams at 58.7, 58.9, and 59.3 feet; calcite-healed features throughout; bedding is at an apparent dip of 45 degrees.			3 REC 100% RQD 0%						
					4 REC						

BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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3. ***STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.***
4. ***WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.***

S&ME

PROJECT: TVA KIF - Monitoring Well Installation Kingston, TN S&ME Project No. 1431-11-121	BORING LOG: **KIF-22B**

DATE DRILLED: **7/31/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **79 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **15 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO.	SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
		Run No. 4 (61.1' to 63.8') Siltstone with interbedded Limestone - Greenish gray and gray; fine grained; medium hard; slightly weathered; calcite-healed features throughout; moderately to highly fractured; bedding is at an apparent dip of 35 degrees.			100% RQD 0%							
65		**Run No. 5** (63.8' to 66.4') From 63.8 to 64.7 feet - Siltstone with interbedded Limestone - Greenish gray and gray; fine grained; medium hard; slightly weathered; calcite-healed features throughout; moderately to highly fractured; bedding is at an apparent dip of 35 degrees. From 64.7 to 66.4 feet - Siltstone with interbedded Shale and Limestone- Dark gray; very fine grained; medium hard; slightly weathered; with calcite healed veins throughout; highly fractured; limestone interval observed from 65.9 to 66.2 feet.			5 REC 92% RQD 0%							
		Run No. 6 (66.4' to 68.2') From 66.4 to 66.9 feet - Limestone. From 66.9 to 68.2 feet Siltstone with interbedded Shale - Greenish gray and gray; fine grained; medium hard; slightly weathered; calcite-healed features throughout; moderately to highly fractured; bedding is at an apparent dip of 35 degrees.			6 REC 94% RQD 0%							
70		**Run No. 7** (68.2' to 70.4') Siltstone with interbedded Shale - Greenish gray and gray; fine grained; medium hard; slightly weathered; calcite-healed features throughout; moderately to highly fractured; bedding is at an apparent dip of 35 degrees.			7 REC 100% RQD 0%							
		Run No. 8 (70.4' to 70.9') Siltstone with interbedded Shale - Same lithology as previous run.			8 REC 100% RQD 0%							
		Run No. 9 (70.9' to 74.2') Siltstone with interbedded Shale - Same lithology as previous run.			9 REC 85% RQD 0%							
		Run No. 10 (74.2' to 76.4') Siltstone with interbedded Shale - Same lithology as previous run.										

BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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3. *STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.*
4. *WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.*

S&ME

PROJECT: TVA KIF - Monitoring Well Installation Kingston, TN S&ME Project No. 1431-11-121	BORING LOG: **KIF-22B**

DATE DRILLED: **7/31/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **79 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **15 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
		Run No. 10 (74.2' to 76.4') Siltstone with interbedded Shale - Same lithology as previous run. *(continued)*			10 REC 114% RQD 18%						
		Run No. 11 (76.4' to 77.3') Siltstone with interbedded Shale - Same lithology as previous run.			11 REC 100% RQD 0%						
		Run No. 12 (77.3' to 79.0') Siltstone with interbedded Shale - Same lithology as previous run.			12 REC 82% RQD 0%						
		PQ3 Coring Terminated at 79.0 feet.									

BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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3. *STRATIFICATION AND GROUNDWATER DEPTHS ARE NOT EXACT.*
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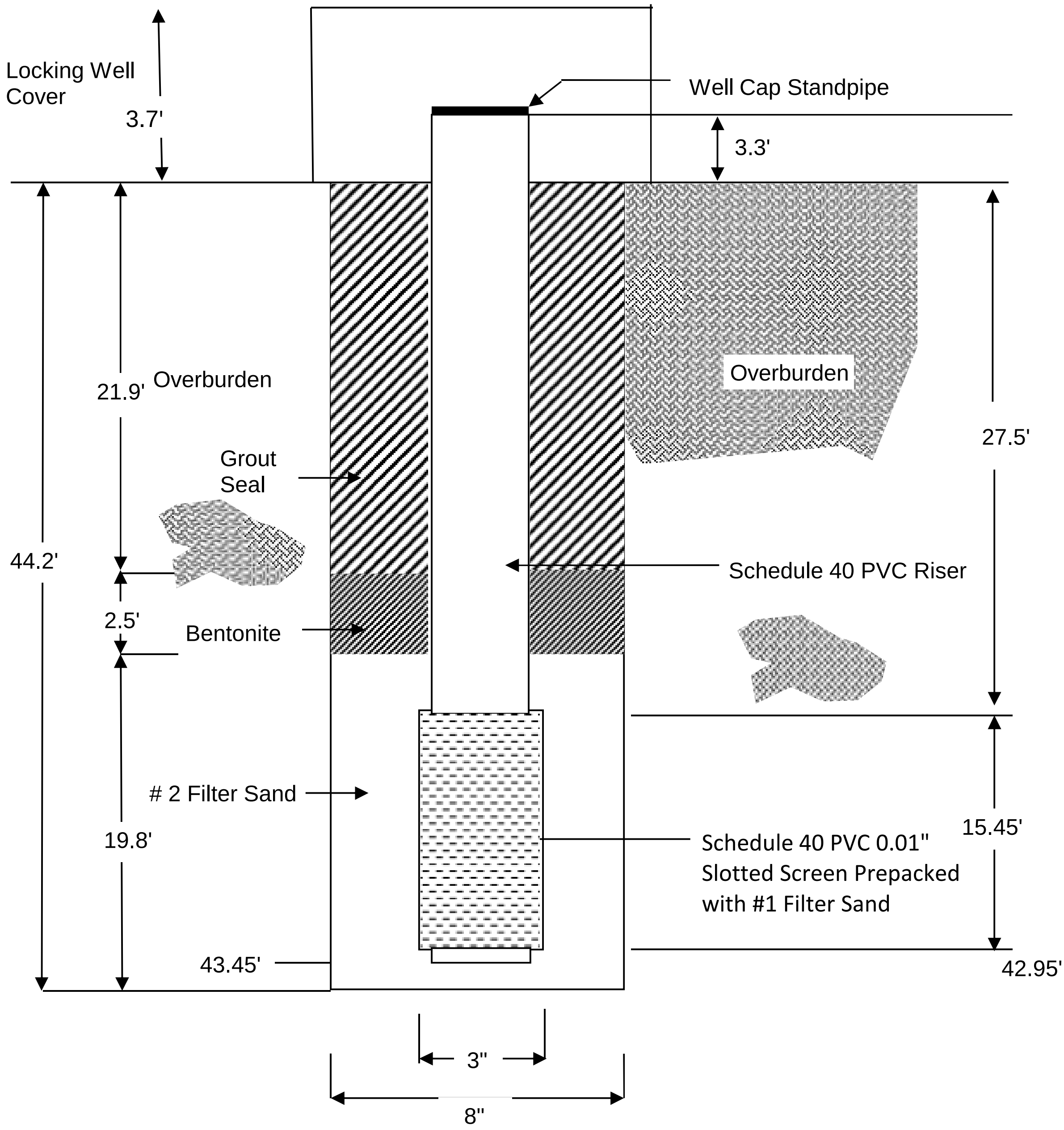
S&ME



Date Constructed	7/22/2014		
Boring Depth	44.2 ft	Top of Sand	24.4 ft
Casing	N/A	Top of Bentonite	21.9 ft
Total Well Depth	43.45 ft	Top of Grout	Ground Surface (Approx.)
Length of Riser	30.8 ft	Vol./Wt. of Sand	0.4 ft^3
Length of Screen	15.45 ft	Vol./Wt. of Bentonite	30 lbs

Well Construction Figure

S&ME		
	Boring Number KIF-27A	
	Project Name: TVA Kingston Monitoring Wells	Project Number:1431-11-121
	Scale : NTS Drawn By: JDF Checked By: CTJ	Date: 8/29/2014

Table 2. Monitoring Well Development Form

General Information

Date:	8/26/14	Monitoring Well Number:	KIF-27A
Project Name:	TVA Kingston	Development Method:	Surge block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	261 gal.

Before Development

Start Time:	0945 8/25/14	Depth to Water:	12.9	ft bgs
	0725 8/26/14		12.9	

During Development

Time:	1328	Temp (°C):	23.32 °C
Turbidity:	68.5 NTU	Specific Conductance:	0.374 mS/cm
pH:	4.76		

During Development

Time:	1400	Temp (°C):	25.30 °C
Turbidity:	84.8 NTU	Specific Conductance:	0.374 mS/cm
pH:	4.58		

During Development

Time:	1430	Temp (°C):	22.31 °C
Turbidity:	31.4 NTU	Specific Conductance:	0.372 mS/cm
pH:	3.96		

After Development

End Time:		Depth to Water:		ft bgs
Time:		Temp (°C):		
Turbidity:		Specific Conductance:		
pH:				

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/26/14	Monitoring Well Number:	KIF-27A
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	261 gal.

Before Development

Start Time: ____ Depth to Water: ____ ft bgs

During Development

Time:	1445	Temp (°C):	22.12 °C
Turbidity:	72.7 NTU	Specific Conductance:	0.371 mS/cm
pH:	3.83		

During Development

Time:	1500	Temp (°C):	23.16 °C
Turbidity:	63.1 NTU	Specific Conductance:	0.372 mS/cm
pH:	3.90		

During Development

Time:	1515	Temp (°C):	22.31 °C
Turbidity:	30.4 NTU	Specific Conductance:	0.372 mS/cm
pH:	3.95		

After Development

End Time:		Depth to Water:	ft bgs
Time:		Temp (°C):	
Turbidity:		Specific Conductance:	
pH:			

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/26/14	Monitoring Well Number:	KIF-27A
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	261 gal

Before Development

Start Time: ____ Depth to Water: ____ ft bgs

During Development

Time: 1530 Temp (°C): 22.19 °C
Turbidity: 28.2 NTU Specific Conductance: 0.373 mS/cm
pH: 4.10

During Development

Time: 1545 Temp (°C): 21.42 °C
Turbidity: 25.7 NTU Specific Conductance: 0.371 mS/cm
pH: 3.93

During Development

Time: 1600 Temp (°C): 21.58°C
Turbidity: 27.5 NTU Specific Conductance: 0.371 mS/cm
pH: 3.87

After Development

End Time: ____ Depth to Water: ____ ft bgs
Time: ____ Temp (°C): ____
Turbidity: ____ Specific Conductance: ____
pH: ____

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/26/14	Monitoring Well Number:	KIF-27A
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDE	Discharge Volume:	261 gal

Before Development

Start Time: ____ Depth to Water: ____ ft bgs

During Development

Time:	1530	Temp (°C):	22.19 °C
Turbidity:	28.2 NTU	Specific Conductance:	0.373 mS/cm
pH:	4.10		

During Development

Time:	1545	Temp (°C):	21.42 °C
Turbidity:	25.7 NTU	Specific Conductance:	0.371 mS/cm
pH:	3.93		

During Development

Time:	1600	Temp (°C):	21.58 °C
Turbidity:	27.5 NTU	Specific Conductance:	0.371 mS/cm
pH:	3.87		

After Development

End Time:		Depth to Water:	ft bgs
Time:		Temp (°C):	
Turbidity:		Specific Conductance:	
pH:			

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/26/14	Monitoring Well Number:	KIF-27A
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	261 gal.

Before Development

Start Time: Depth to Water: ft bgs

During Development

Time: 1615 Temp (°C): 21.85 °C
Turbidity: 32.2 NTU Specific Conductance: 0.370 mS/cm
pH: 3.77

During Development

Time: 1630 Temp (°C): 21.66 °C
Turbidity: 27.2 NTU Specific Conductance: 0.369 mS/cm
pH: 3.71

During Development

Time: 1640 Temp (°C): 21.42 °C
Turbidity: 24.2 NTU Specific Conductance: 0.369 mS/cm
pH: 3.72

After Development

End Time: 1645 Depth to Water: 17.6 ft bgs
Time: 1650 Temp (°C): 21.97 °C
Turbidity: 18.8 NTU Specific Conductance: 0.368 mS/cm
pH: 3.69

End of Procedure

PROJECT: TVA KIF - Monitoring Well Installation, Kingston, TN, S&ME Project No. 1431-11-121	BORING LOG: **KIF-27A**

DATE DRILLED: **7/22/14**	ELEVATION: **Not Recorded**	NOTES: **Soil descriptions based upon visual observation of obtained samples. A blowcount of (0) indicates that the split spoon advanced under the weight of the hammer.**
DRILLING METHOD: **CME 750, 4¼" H.S.A.**	BORING DEPTH: **44.2 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **17 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	MATERIAL DESCRIPTION	WATER LEVEL	SPT 1st	2nd	3rd	4th	N VALUE
0–7	Crushed Stone Aggregate (4-inch diameter minus)		10	6	5	4	11
7–12.5	**FAT CLAY (CH)** - Brown and reddish brown; slightly moist; firm to stiff - FILL		8	4	2	1	6
			4	5	5	5	10
12.5–28	**LEAN CLAY WITH SAND (CL)** - Orange brown with tan and brown mottling; moist to wet; very soft to firm - ALLUVIUM	▽ 17	3	3	2	3	5
			1	2	2	3	4
			1	1	2	2	3
			0	1	2	3	3
			0	0	2	2	2
			0	0	0	0	0
28–30.5	**SILTY SAND (SM)** - With some clay lenses; orange brown; wet; very loose - ALLUVIUM		0	1	1	2	2
			0	1	1	2	2
30.5–	**POORLY GRADED SAND (SP)** - Fined grained; orange brown, brown, and tan; wet; very loose to medium dense - ALLUVIUM		0	1	1	1	2
			0	2	1	3	3

STANDARD PENETRATION TEST (SPT) DATA (blows/ft): 5 15 30

BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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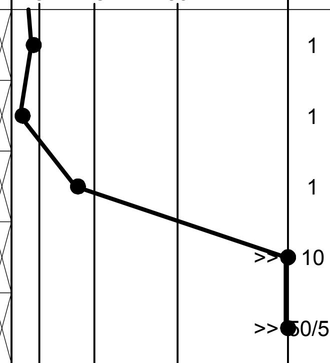
4. ***WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.***

S&ME

PROJECT: TVA KIF - Monitoring Well Installation Kingston, TN **S&ME Project No. 1431-11-121**	BORING LOG: **KIF-27A**

DATE DRILLED: **7/22/14**	ELEVATION: **Not Recorded**	NOTES: **Soil descriptions based upon visual observation of obtained samples. A blowcount of (0) indicates that the split spoon advanced under the weight of the hammer.**
DRILLING METHOD: **CME 750, 4¼" H.S.A.**	BORING DEPTH: **44.2 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **17 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
		POORLY GRADED SAND (SP) - Fined grained; orange brown, brown, and tan; wet; very loose to medium dense - ALLUVIUM *(continued)*					1	2	2	2	4
							1	1	1	2	2
40							1	2	10	20	12
		POORLY GRADED SAND WITH GRAVEL (SP) - Tan, brown, and orange brown, wet; medium dense - ALLUVIUM				>>	10	29	30	31	59
		WEATHERED SHALE / SILTSTONE - Brown, orange and gray; slightly moist; very hard - RESIDUUM				>>50/5"					50/ 5"
		Auger Refusal at 44.2 feet									



BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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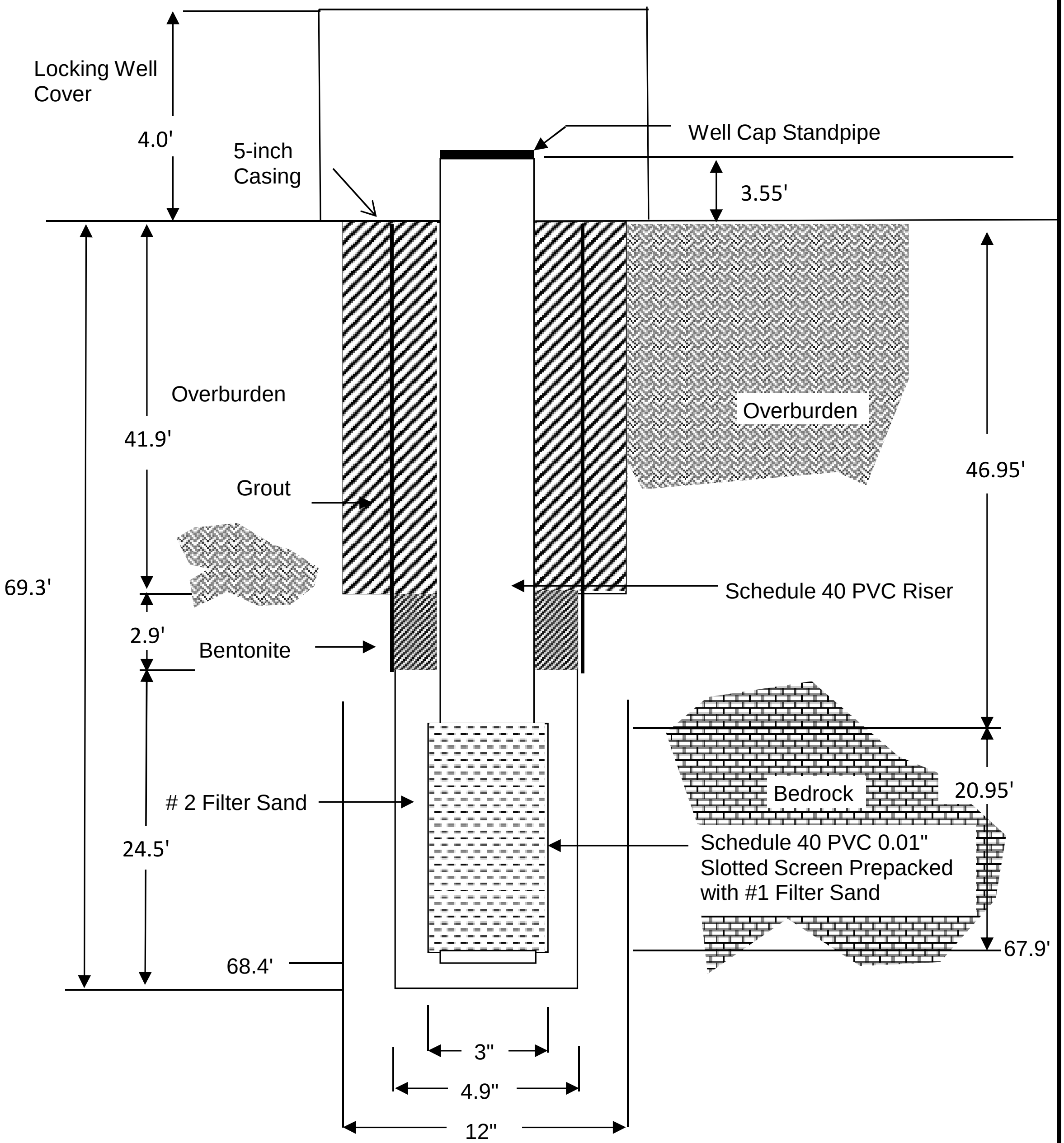
S&ME



Date Constructed	7/18/2014		
Boring Depth	69.3 ft	Top of Sand	44.8 ft
Casing	5 inch	Top of Bentonite	41.9 ft
Total Well Depth	68.4 ft	Top of Grout	Ground Surface (Approx.)
Length of Riser	48.5 ft	Vol./Wt. of Sand	1.46 ft^3
Length of Screen	20.95 ft	Vol./Wt. of Bentonite	50 lbs

S&ME

Well Construction Figure

Boring Number KIF-27B

Project Name: TVA Kingston Monitoring Wells | Project Number:1431-11-121

Scale : NTS | Drawn By: JDF | Checked By: CTJ | Date: 8/1/2014

Table 2. Monitoring Well Development Form

General Information

Date:	8/22/2014	Monitoring Well Number:	KIF-27 B
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	264 gal.

Before Development

Start Time:	0822 8/22/14 0709 8/25/14	Depth to Water:	12.3 11.8 ft bgs	ft bgs

During Development

Time:	1031 8/25/14	Temp (°C):	19.75 °C
Turbidity:	97.5 NTU	Specific Conductance:	0.299 mS/cm
pH:	6.79		

During Development

Time:	1041	Temp (°C):	20.57 °C
Turbidity:	64.8 NTU	Specific Conductance:	0.280 mS/cm
pH:	7.19		

During Development

Time:	1101	Temp (°C):	19.55 °C
Turbidity:	42.6 NTU	Specific Conductance:	0.277 mS/cm
pH:	7.17		

After Development

End Time:		Depth to Water:	ft bgs
Time:		Temp (°C):	
Turbidity:		Specific Conductance:	
pH:			

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/25/2014	Monitoring Well Number:	KIF-27B
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	264 gal.

Before Development

Start Time: ____ Depth to Water: ____ ft bgs

During Development

Time: 1111 Temp (°C): 2058 °C
Turbidity: 54.7 NTU Specific Conductance: 0.283 mS/cm
pH: 7.47

During Development

Time: 1121 Temp (°C): 19.91 °C
Turbidity: 34.3 NTU Specific Conductance: 0.278 mS/cm
pH: 7.44

During Development

Time: 1131 Temp (°C): 20.45 °C
Turbidity: 36.3 NTU Specific Conductance: 0.288 mS/cm
pH: 7.58

After Development

End Time: ____ Depth to Water: ____ ft bgs
Time: ____ Temp (°C): ____
Turbidity: ____ Specific Conductance: ____
pH: ____

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/25/2014	Monitoring Well Number:	KIF-27 B
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	264 gal.

Before Development

Start Time: ____ Depth to Water: ____ ft bgs

During Development

Time: 1141 Temp (°C): 20.41 °C
Turbidity: 47.3 NTU Specific Conductance: 0.291 mS/cm
pH: 7.63

During Development

Time: 1151 Temp (°C): 21.92 °C
Turbidity: 37.5 NTU Specific Conductance: 0.277 mS/cm
pH: 7.47

During Development

Time: 1211 Temp (°C): 22.44 °C
Turbidity: 86.6 NTU Specific Conductance: 0.274 mS/cm
pH: 7.38

After Development

End Time: ____ Depth to Water: ____ ft bgs
Time: ____ Temp (°C): ____
Turbidity: ____ Specific Conductance: ____
pH: ____

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date: 8/25/2014
Project Name: TVA Kingston
Developed By: S&ME
Oversight By: JDF

Monitoring Well Number: KIF-27B
Development Method: Surge Block & Pump
Discharge Rate: 0.5 gpm
Discharge Volume: 264 gal

Before Development

Start Time: ____ Depth to Water: ____ ft bgs

During Development

Time: 1241
Temp (°C): 21.92°C
Turbidity: 151 NTU
Specific Conductance: 0.278 mS/cm
pH: 7.17

Stop pumping at 1311 to allow well to recharge WL-64 ft bgs

During Development

Time: 1345
Temp (°C): 20.62°C
Turbidity: 97.4 NTU
Specific Conductance: 0.295 mS/cm
pH: 6.85

WL 40.6' at 1335. Resume pumping at 0.5 gpm

During Development

Time: 1355
Temp (°C): 21.55 °C
Turbidity: 18.4 NTU
Specific Conductance: 0.269 mS/cm
pH: 6.22

After Development

End Time: ____ Depth to Water: ____ ft bgs
Time: ____ Temp (°C): ____
Turbidity: ____ Specific Conductance: ____
pH: ____

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/25/2014	Monitoring Well Number:	KIF-27B
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	264 gal.

Before Development

Start Time: ______ Depth to Water: ______ ft bgs

During Development

Time:	1405	Temp (°C):	23.57 °C
Turbidity:	24.5 NTU	Specific Conductance:	0.276 mS/cm
pH:	6.27		

During Development

Time:	1410	Temp (°C):	21.60 °C
Turbidity:	17.1 NTU	Specific Conductance:	0.271 mS/cm
pH:	6.17		

During Development

Time:	1415	Temp (°C):	21.43 °C
Turbidity:	42.4 NTU	Specific Conductance:	0.274 mS/cm
pH:	6.22		

After Development

End Time:		Depth to Water:	ft bgs
Time:		Temp (°C):	
Turbidity:		Specific Conductance:	
pH:			

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/25/2014	Monitoring Well Number:	KIF-27B
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	264 gal.

Before Development

Start Time: ____ Depth to Water: ____ ft bgs

During Development

Time:	1420	Temp (°C):	21.63 °C
Turbidity:	20.4 NTU	Specific Conductance:	0.270 mS/cm
pH:	6.15		

During Development

Time:	1425	Temp (°C):	21.90 °C
Turbidity:	13.7 NTU	Specific Conductance:	0.270 mS/cm
pH:	6.15		

During Development

Time:	1430	Temp (°C):	22.20 °C
Turbidity:	13.3 NTU	Specific Conductance:	0.273 mS/cm
pH:	6.19		

After Development

End Time:		Depth to Water:	ft bgs
Time:		Temp (°C):	
Turbidity:		Specific Conductance:	
pH:			

End of Procedure

Table 2. Monitoring Well Development Form

General Information

Date:	8/25/2014	Monitoring Well Number:	KIF-27B
Project Name:	TVA Kingston	Development Method:	Surge Block & Pump
Developed By:	S&ME	Discharge Rate:	0.5 gpm
Oversight By:	JDF	Discharge Volume:	264 gal.

Before Development

Start Time: ______ Depth to Water: ______ ft bgs

During Development

Time:	1435	Temp (°C):	22.22 °C
Turbidity:	8.3 NTU	Specific Conductance:	0.274 mS/cm
pH:	6.23		

During Development

Time:	1440	Temp (°C):	22.22 °C
Turbidity:	7.1 NTU	Specific Conductance:	0.274 mS/cm
pH:	6.27		

During Development

Time:	1445	Temp (°C):	22.41 °C
Turbidity:	6.6 NTU	Specific Conductance:	0.274 mS/cm
pH:	6.27		

After Development

End Time:	1450	Depth to Water:	53.4 ft bgs
Time:	1450	Temp (°C):	22.15 °C
Turbidity:	6.0 NTU	Specific Conductance:	0.273 mS/cm
pH:	6.28		

End of Procedure

PROJECT: TVA KIF - Monitoring Well Installation, Kingston, TN, S&ME Project No. 1431-11-121		BORING LOG: **KIF-27B**
DATE DRILLED: **7/17/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **69 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **21 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
0–5		Began HSA drilling. Soil descriptions based on soil cuttings return. Crushed Stone Aggregate - FILL									
5–15		Lean clay to fat clay - FILL									
15–20		Lean clay - ALLUVIUM									

BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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S&ME

PROJECT:	TVA KIF - Monitoring Well Installation Kingston, TN S&ME Project No. 1431-11-121	BORING LOG:	**KIF-27B**

DATE DRILLED: **7/17/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **69 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **21 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
		Lean clay - ALLUVIUM *(continued)*	▽								
25											
30		Sandy lean clay to clayey sand - ALLUVIUM									
35											
		Sand with gravel and cobbles - ALLUVIUM Auger refusal at 39.5 feet									

BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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S&ME

DATE DRILLED: **7/17/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **69 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **21 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
		Cobbles with sand from 39.5 to 40.9 feet- ALLUVIUM *(continued)*									
45		Began PQ3 coring at a depth of 40.9 feet. **Run No. 1** (40.9' to 45.9') Shale with interbedded Siltstone and Limestone - Dark greenish gray; hard; near vertical bedding; with some interbedded calcite healed veins. Recovered core is highly fractured.			1 REC 24% RQD 0%						
50		**Run No. 2** (45.9' to 50.9') Shale with interbedded Siltstone and Limestone - Greenish gray and light gray; very fine to fine grained; thinly bedded; closely jointed with an apparent dip of 70 degrees; medium hard; with many calcite healed veins.			2 REC 46% RQD 0%						
55		**Run No. 3** (50.9' to 55.9') Shale with interbedded Siltstone and Limestone - Same lithology as above.			3 REC 30% RQD 0%						
		Run No. 4 (55.9' to 58.4') Shale with interbedded Siltstone and Limestone - Same lithology as above.			4 REC 108% RQD 0%						
					5 REC 100%						

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PROJECT:	**TVA KIF - Monitoring Well Installation** **Kingston, TN** **S&ME Project No. 1431-11-121**	BORING LOG:	**KIF-27B**

DATE DRILLED: **7/17/14**	ELEVATION: **Not Recorded**	NOTES: **Soil and bedrock descriptions based upon visual observation of obtained samples. Boring was advanced with 6-5/8-inch hollow stem augers to auger refusal. Bedrock was cored utilizing PQ3 coring techniques.**
DRILLING METHOD: **6-5/8" H.S.A / PQ3**	BORING DEPTH: **69 feet**	
LOGGED BY: **J. Feuge**	WATER LEVEL @ TOB: **21 feet**	
DRILLER: **H. Herd**	WATER LEVEL @ 24 hrs: **Not Recorded**	

DEPTH (feet)	GRAPHIC LOG	MATERIAL DESCRIPTION	WATER LEVEL	ELEVATION (feet)	SAMPLE NO. SAMPLE TYPE	STANDARD PENETRATION TEST (SPT) DATA (blows/ft) 5 15 30	SPT INTERVALS (blows/6 inches) 1st	2nd	3rd	4th	N VALUE
		Run No. 5 (58.4' to 60.9') Shale with interbedded Siltstone and Limestone - Greenish gray and light gray; very fine to fine grained; thinly bedded; closely jointed with near vertical bedding; medium hard; with many calcite healed veins. Recovered core is fractured along bedding planes. *(continued)*			RQD 0%						
		Run No. 6 (60.9' to 63.4') Limestone and Siltstone with interbedded Shale - Greenish gray and gray; very fine to fine grained; thinly bedded; closely jointed; slightly weathered; with many calcite healed veins. Recovered core is highly fractured. Apparent dip of bedding varies from near vertical to horizontal (in the middle of the run; appoximately at 62.5 feet).			6 REC 72% RQD 0%						
65		**Run No. 7** (63.4' to 65.9') Limestone and Siltstone with interbedded Shale - Greenish gray and gray; very fine to fine grained; thinly bedded; closely jointed; slightly weathered; with many calcite healed veins. Recovered core is highly fractured. Apparent dip of bedding is near vertical.			7 REC 64% RQD 0%						
		Run No. 8 (65.9' to 69.0') Shale with interbedded Siltstone - Dark gray; slightly weathered; medium hard; thinly bedded; closely jointed; Recovered core is highly fractured. Bedding is at an apparent dip of about 60 degrees.			8 REC 42% RQD 0%						
		PQ3 Coring Terminated at 69.0 feet.									

BORING LOG - TVA 11-121 MW.GPJ 8/13/14

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4. ***WATER LEVEL IS AT TIME OF EXPLORATION AND WILL VARY.***

S&ME

Additional Well Development Notes

KIF-27B

8/22/2014

0822 Water level 12.3 feet bgs.

0822 to 0926 Surge entire screen length. Water level 23.2 feet below ground surface (bgs).

> Purge 8 gallons at 2 gallons per minute (gpm) and pump well dry. Allow well to recharge and purge 15 gallons at 2 gpm. Water is brownish tan and opaque.

1030 Water level 58.0 feet bgs.

1030 to 1108 Surge entire screen length.

1112 Water level 30 feet bgs. Purge 15 gallons at 2 gpm of brownish-tan opaque water.

1124 to 1126 Surge entire screen length.

> Purge 10 gallons at 2 gpm of brownish-tan opaque water and allow well to recharge. Purge 10 gallons at 2 gpm of tan opaque water and allow well to recharge.

1256 Water level 60.6 feet bgs.

> Purge 8 gallons at 2 gpm of tan opaque water.

1330 to 1400 Surge entire screen length.

> Purge 20 gallons at 1 gpm of tan opaque water.

1430 to 1445 Surge sediment trap.

> Purge 10 gallons at 2 gpm of brown to light tan opaque water.

1525 to 1545 Surge sediment trap.

> Purge 10 gallons at 1 gpm of tan translucent water. Allow well to recharge.

1600 Purge 10 gallons at 0.5 gpm. The purge water is clearing up but still has a tan tint.

1650 Water level 32.3 feet bgs.

<u>KIF-27B (cont.)</u>

8/25/2014

0709 Water level 11.8 feet bgs.

0709 to 0810 Surge entire screen length.

Purge 40 gallons at 0.5 gpm. Purge water is tan-brown opaque at the start and clear with a slight tan tint at the end of purging.

1031 Water level 23.5 feet bgs. Begin collecting development parameters.

<u>KIF-27A</u>

8/25/2015

0945 Water level 12.9 feet bgs

0945 to 1030 Surge entire screen length.

1450 to 1550 Surge entire screen length.

Purge 10 gallons at 2 gpm of tan-brown opaque water.

1555 to 1625 Surge entire screen length.

Purge 30 gallons at 0.5 gpm of tan-brown opaque water.

8/26/2014

0725 Water level 12.9 feet bgs.

0725 to 0810 Surge entire screen length.

Purge 27 gallons at 1 gpm stopping to let well recharge. Purge water was tan-brown and opaque and cleared to tan and translucent.

0900 to 0930 Surge entire screen length.

Purge 40 gallons at 1 gpm stopping to let well recharge. Purge water was tan-brown and opaque and cleared to tan and translucent.

1100 to 1130 Surge entire screen length.

Purge 50 gallons at 1 gpm stopping to let well recharge. Purge water was tan-brown and opaque and became clear with a slight tan tint.

1323 Begin collecting development parameters.

KIF-22B

8/27/2014

0840 Water level 13.9 feet bgs.

0840 to 0920 Surge entire screen length.

Purge 40 gallons at 1.5 gpm. Purge water was opaque and gray and began to rapidly clear up.

0950 Water level 63.2 feet bgs.

0950 to 1050 Surge entire screen length.

1055 Water level 24.6 feet bgs.

Purge 45 gallons at 1.5 gpm of translucent gray water.

1145 to 1215 Surge entire screen length.

1215 Water level 28.1 feet bgs.

Purge 35 gallons at 1.5 gpm. Purge water is translucent gray to clear.

1235 Begin collecting development parameters.

APPENDIX H

Environmental Monitoring Data Summary

TABLE H-1 SUMMARY STATISTICS FOR SURFACE WATER - CWDITCH & CWDITCHE NON-STORM EVENT SAMPLING

Analyte	Unit	Regulatory Values			Non-Storm Event Samples Collected Between 27-Aug-2010 and 16-Jul-2014							
		F&AL	TDWS	TWQC	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Aluminum, Dissolved	mg/L	--	--	--	0.05 / 0.0658	0.0509	0.09426	0.231	CWDITCH	28-Feb-11	33 / 98	--
Aluminum, Total	mg/L	--	--	--	0.135 / 0.293	0.059	0.5608	4.53	CWDITCH	11-Sep-10	199 / 204	--
Antimony, Dissolved	mg/L	--	0.006	0.0056	0.00033 / 0.00109	0.00035	0.001056	0.00357	CWDITCH	10-Aug-11	71 / 98	--
Antimony, Total	mg/L	--	0.006	0.0056	0.00033 / 0.0008	0.000335	0.000961	0.00387	CWDITCH	10-Aug-11	138 / 204	--
Arsenic, Dissolved	mg/L	0.15	0.01	0.01	--	0.00055	0.01281	0.0656	CWDITCH	10-Aug-11	97 / 97	42>TDWS; 42>TWQC
Arsenic, Total	mg/L	0.15	0.01	0.01	--	0.00065	0.01255	0.0743	CWDITCH	10-Aug-11	203 / 203	83>TDWS; 83>TWQC
Barium, Dissolved	mg/L	--	2	--	--	0.0297	0.06809	0.122	CWDITCH	10-Aug-11	98 / 98	--
Barium, Total	mg/L	--	2	--	--	0.0396	0.07382	0.172	CWDITCH	11-Sep-10	204 / 204	--
Beryllium, Dissolved	mg/L	--	0.004	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 98	--
Beryllium, Total	mg/L	--	0.004	--	0.00033 / 0.00033	0.00033	0.000547	0.00081	CWDITCH	11-Sep-10	6 / 204	--
Boron, Dissolved	mg/L	--	--	--	0.055 / 0.055	0.0153	0.1473	0.448	CWDITCH	3-Nov-10	97 / 98	--
Boron, Total	mg/L	--	--	--	0.0125 / 0.0612	0.0142	0.1272	0.563	CWDITCHE	19-Jun-12	195 / 204	--
Cadmium, Dissolved	mg/L	0.00025	0.005	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 98	--
Cadmium, Total	mg/L	--	0.005	--	0.00033 / 0.00033	0.0004	0.0004	0.0004	CWDITCH	3-Mar-11	1 / 204	--
Calcium, Dissolved	mg/L	--	--	--	--	13	31.6	51.3	CWDITCH	10-Aug-11	98 / 98	--
Calcium, Total	mg/L	--	--	--	--	15.3	30.89	54.9	CWDITCH	10-Aug-11	204 / 204	--
Chromium, Dissolved	mg/L	0.011	0.1	--	0.00033 / 0.000526	0.00034	0.0006678	0.0041	CWDITCHE	12-Feb-14	18 / 98	--
Chromium, Total	mg/L	--	0.1	--	0.00033 / 0.00416	0.00034	0.0009057	0.00609	CWDITCHE	8-Jan-14	179 / 204	--
Cobalt, Dissolved	mg/L	--	--	--	0.00033 / 0.00033	0.00035	0.00035	0.00035	CWDITCH	21-Dec-10	1 / 98	--
Cobalt, Total	mg/L	--	--	--	0.00033 / 0.00033	0.00033	0.0006213	0.00379	CWDITCH	28-Feb-11	119 / 204	--
Copper, Dissolved	mg/L	0.009	1.3	--	0.00033 / 0.000869	0.00033	0.0005066	0.00124	CWDITCH	29-Mar-11	65 / 98	--
Copper, Total	mg/L	--	1.3	--	0.00033 / 0.00218	0.000333	0.001555	0.00965	CWDITCH	11-Sep-10	186 / 204	--
Iron, Dissolved	mg/L	--	--	--	0.025 / 0.05	0.0257	0.05844	0.215	CWDITCH	28-Feb-11	40 / 98	--
Iron, Total	mg/L	--	--	--	0.189 / 0.19	0.0984	0.3823	2.54	CWDITCH	28-Feb-11	202 / 204	--
Lead, Dissolved	mg/L	0.0025	0.015	0.005	0.00033 / 0.00033	0.00036	0.00045	0.00054	CWDITCH	3-Mar-11	2 / 98	--
Lead, Total	mg/L	--	0.015	0.005	0.00033 / 0.000799	0.00033	0.0009713	0.0116	CWDITCH	28-Feb-11	174 / 204	3>TWQC
Magnesium, Dissolved	mg/L	--	--	--	--	3.84	10.5	14.9	CWDITCH	8-Jun-11	98 / 98	--
Magnesium, Total	mg/L	--	--	--	--	3.76	10.61	17	CWDITCHE	27-Jun-12	204 / 204	--
Manganese, Dissolved	mg/L	--	--	--	0.00142 / 0.00142	0.00107	0.06047	0.192	CWDITCHE	28-Mar-12	97 / 98	--
Manganese, Total	mg/L	--	--	--	--	0.0418	0.112	0.464	CWDITCH	28-Feb-11	204 / 204	--
Mercury, Dissolved	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	ND	--	ND	--	--	0 / 98	--
Mercury, Total	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	ND	--	ND	--	--	0 / 204	--
Molybdenum, Dissolved	mg/L	--	--	--	0.00264 / 0.00264	0.00042	0.01238	0.0409	CWDITCH	10-Aug-11	95 / 96	--
Molybdenum, Total	mg/L	--	--	--	0.00033 / 0.0026	0.00033	0.01062	0.0611	CWDITCHE	16-Jul-12	198 / 202	--
Nickel, Dissolved	mg/L	0.052	0.1	0.61	0.00033 / 0.00041	0.00033	0.0003993	0.00059	CWDITCH	19-Jan-11	19 / 98	--
Nickel, Total	mg/L	--	0.1	0.61	0.00033 / 0.00129	0.00033	0.0009093	0.00525	CWDITCH	11-Sep-10	173 / 204	--
Potassium, Dissolved	mg/L	--	--	--	--	1.08	1.902	4.16	CWDITCHE	19-Jun-13	98 / 98	--
Potassium, Total	mg/L	--	--	--	--	1.04	2.115	5.98	CWDITCHE	12-Dec-12	204 / 204	--
Selenium, Dissolved	mg/L	0.005	0.05	--	0.00033 / 0.00033	0.00034	0.003135	0.0239	CWDITCH	11-Sep-10	93 / 97	15>F&AL
Selenium, Total	mg/L	0.005	0.05	--	0.00033 / 0.000395	0.000333	0.002451	0.023	CWDITCH	11-Sep-10	178 / 203	21>F&AL
Silver, Dissolved	mg/L	--	--	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 98	--
Silver, Total	mg/L	--	--	--	0.00033 / 0.00033	0.00038	0.00038	0.00038	CWDITCH	3-Mar-11	1 / 204	--

TABLE H-1 SUMMARY STATISTICS FOR SURFACE WATER - CWDITCH & CWDITCHE NON-STORM EVENT SAMPLING

Analyte	Unit	Regulatory Values			Non-Storm Event Samples Collected Between 27-Aug-2010 and 16-Jul-2014							
		F&AL	TDWS	TWQC	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Sodium, Dissolved	mg/L	--	--	--	2.06 / 2.06	1.33	2.973	8	CWDITCHE	7-Mar-13	97 / 98	--
Sodium, Total	mg/L	--	--	--	1.87 / 3.64	1.41	3.257	11.2	CWDITCHE	12-Dec-12	200 / 204	--
Strontium, Dissolved	mg/L	--	--	--	--	0.0384	0.1898	0.544	CWDITCH	11-Sep-10	96 / 96	--
Strontium, Total	mg/L	--	--	--	--	0.0351	0.1635	0.609	CWDITCH	11-Sep-10	203 / 203	--
Thallium, Dissolved	mg/L	--	0.002	0.00024	0.0005 / 0.0005	0.00051	0.00051	0.00051	CWDITCH	3-Mar-11	1 / 98	1>TWQC
Thallium, Total	mg/L	--	0.002	0.00024	0.0005 / 0.0005	0.00053	0.000595	0.00066	CWDITCH	11-Sep-10	2 / 204	2>TWQC
Total Suspended Solids	mg/L	--	--	--	17.1 / 17.1	3.3	22.53	296	CWDITCH	28-Feb-11	202 / 203	--
Vanadium, Dissolved	mg/L	--	--	--	0.001 / 0.001	0.00112	0.008685	0.042	CWDITCH	3-Nov-10	91 / 97	--
Vanadium, Total	mg/L	--	--	--	0.001 / 0.001	0.00103	0.008092	0.0462	CWDITCH	3-Nov-10	192 / 203	--
Zinc, Dissolved	mg/L	0.12	--	--	0.0083 / 0.0083	0.00865	0.0101	0.012	CWDITCH	19-Jan-11	3 / 98	--
Zinc, Total	mg/L	--	--	--	0.0083 / 0.00858	0.00833	0.01157	0.0299	CWDITCH	28-Feb-11	54 / 204	--

Notes:
F&AL = Tennessee Water Quality Criterion for Fish and Aquatic Life
ND = not detected
TDWS = Tennessee Domestic Water Supply Standard
TWQC = Tennessee Water Quality Criterion for Human Consumption of Water and Organisms

TABLE H-2 SUMMARY STATISTICS FOR SURFACE WATER - CWDITCH, CWDITCHE, CWDISCO, AND CWDISCOE STORM EVENT SAMPLING

		Regulatory Values			Storm Event Samples Collected Between 27-Aug-2010 and 20-Jul-2014							
Analyte	Unit	F&AL	TDWS	TWQC	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Aluminum, Dissolved	mg/L	--	--	--	0.05 / 0.0678	0.0501	0.1479	1.34	CWDITCH	27-Oct-10	37 / 99	--
Aluminum, Total	mg/L	--	--	--	0.279 / 0.363	0.156	1.691	13	CWDISCO	5-Aug-11	162 / 164	--
Antimony, Dissolved	mg/L	--	0.006	0.0056	0.00033 / 0.00086	0.00033	0.001071	0.00439	CWDITCH	4-Nov-10	85 / 100	--
Antimony, Total	mg/L	--	0.006	0.0056	0.00033 / 0.00091	0.00033	0.001044	0.00429	CWDITCH	4-Nov-10	133 / 165	--
Arsenic, Dissolved	mg/L	0.15	0.01	0.01	--	0.00103	0.01432	0.0633	CWDITCH	4-Nov-10	99 / 99	53>TDWS; 53>TWQC
Arsenic, Total	mg/L	0.15	0.01	0.01	--	0.00151	0.01752	0.0981	CWDISCO	5-Aug-11	164 / 164	90>TDWS; 90>TWQC
Barium, Dissolved	mg/L	--	2	--	--	0.0331	0.06789	0.12	CWDITCH	27-Oct-10	100 / 100	--
Barium, Total	mg/L	--	2	--	--	0.0466	0.09547	0.389	CWDISCO	5-Aug-11	165 / 165	--
Beryllium, Dissolved	mg/L	--	0.004	--	0.00033 / 0.00033	0.00033	0.00033	0.00033	CWDISCO	5-Apr-11	1 / 100	--
Beryllium, Total	mg/L	--	0.004	--	0.00033 / 0.00033	0.00033	0.0007112	0.00257	CWDISCO	5-Aug-11	33 / 165	--
Boron, Dissolved	mg/L	--	--	--	0.0698 / 0.0698	0.028	0.1657	0.481	CWDISCO	26-Oct-10	99 / 100	--
Boron, Total	mg/L	--	--	--	0.02 / 0.077	0.0247	0.1592	0.929	CWDISCOE	3-Jul-12	162 / 165	--
Cadmium, Dissolved	mg/L	0.00025	0.005	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 100	--
Cadmium, Total	mg/L	--	0.005	--	0.00033 / 0.00033	0.00039	0.000405	0.00042	CWDISCO	5-Aug-11	2 / 165	--
Calcium, Dissolved	mg/L	--	--	--	--	12.9	31.59	48.7	CWDISCO	29-Oct-11	100 / 100	--
Calcium, Total	mg/L	--	--	--	--	12.8	32.8	61.7	CWDISCOE	3-Jul-12	165 / 165	--
Chromium, Dissolved	mg/L	0.011	0.1	--	0.00033 / 0.00033	0.00033	0.0005875	0.00187	CWDISCO	5-Apr-11	30 / 99	--
Chromium, Total	mg/L	--	0.1	--	0.00033 / 0.00409	0.000446	0.001983	0.0128	CWDISCO	5-Aug-11	153 / 165	--
Cobalt, Dissolved	mg/L	--	--	--	0.00033 / 0.00033	0.00041	0.0008125	0.00142	CWDISCO	5-Apr-11	4 / 100	--
Cobalt, Total	mg/L	--	--	--	0.00033 / 0.00133	0.00033	0.001285	0.00921	CWDISCO	5-Aug-11	143 / 165	--
Copper, Dissolved	mg/L	0.009	1.3	--	0.00033 / 0.00082	0.00034	0.0006639	0.00425	CWDISCO	5-Apr-11	90 / 100	--
Copper, Total	mg/L	--	1.3	--	0.000889 / 0.00466	0.00053	0.004067	0.0358	CWDISCO	16-Apr-11	155 / 165	--
Iron, Dissolved	mg/L	--	--	--	0.025 / 0.05	0.026	0.07912	0.623	CWDITCH	27-Oct-10	46 / 99	--
Iron, Total	mg/L	--	--	--	0.0669 / 0.204	0.152	1.011	7.02	CWDISCO	5-Aug-11	163 / 165	--
Lead, Dissolved	mg/L	0.0025	0.015	0.005	0.00033 / 0.00033	0.00059	0.001193	0.00197	CWDITCH	27-Oct-10	3 / 99	--
Lead, Total	mg/L	--	0.015	0.005	0.00033 / 0.00185	0.000378	0.002467	0.0237	CWDISCO	5-Aug-11	161 / 164	1>TDWS; 16>TWQC
Magnesium, Dissolved	mg/L	--	--	--	--	4.25	9.818	13.6	CWDISCO	5-Aug-11	100 / 100	--
Magnesium, Total	mg/L	--	--	--	--	3.72	10.29	17.6	CWDISCOE	3-Jul-12	165 / 165	--
Manganese, Dissolved	mg/L	--	--	--	0.000937 / 0.000937	0.000451	0.06288	0.203	CWDISCO	27-Sep-11	98 / 99	--
Manganese, Total	mg/L	--	--	--	--	0.0471	0.2319	2.68	CWDISCO	5-Aug-11	164 / 164	--
Mercury, Dissolved	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	ND	--	ND	--	--	0 / 100	--
Mercury, Total	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	ND	--	ND	--	--	0 / 164	--
Molybdenum, Dissolved	mg/L	--	--	--	--	0.00129	0.0147	0.0382	CWDISCO	23-Dec-11	100 / 100	--
Molybdenum, Total	mg/L	--	--	--	--	0.00068	0.01286	0.0998	CWDISCOE	3-Jul-12	165 / 165	--
Nickel, Dissolved	mg/L	0.052	0.1	0.61	0.00033 / 0.00033	0.00033	0.0005625	0.00147	CWDITCH	27-Oct-10	18 / 99	--
Nickel, Total	mg/L	--	0.1	0.61	0.00033 / 0.00208	0.000361	0.001907	0.0147	CWDISCO	5-Aug-11	159 / 164	--
Potassium, Dissolved	mg/L	--	--	--	2.06 / 2.06	1.2	2.114	4.88	CWDISCOE	7-Jul-13	99 / 100	--
Potassium, Total	mg/L	--	--	--	--	1.29	2.573	6.24	CWDISCOE	3-Jun-13	165 / 165	--
Selenium, Dissolved	mg/L	0.005	0.05	--	0.00033 / 0.00102	0.00039	0.004126	0.0228	CWDISCO	26-Oct-10	96 / 100	28>F&AL
Selenium, Total	mg/L	0.005	0.05	--	0.00033 / 0.00033	0.00036	0.003166	0.0208	CWDISCO	26-Oct-10	161 / 165	28>F&AL
Silver, Dissolved	mg/L	--	--	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 100	--
Silver, Total	mg/L	--	--	--	0.00033 / 0.00033	0.00048	0.00048	0.00048	CWDITCH	6-Mar-11	1 / 165	--

TABLE H-2 SUMMARY STATISTICS FOR SURFACE WATER - CWDITCH, CWDITCHE, CWDISCO, AND CWDISCOE STORM EVENT SAMPLING

		Regulatory Values			Storm Event Samples Collected Between 27-Aug-2010 and 20-Jul-2014							
Analyte	Unit	F&AL	TDWS	TWQC	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Sodium, Dissolved	mg/L	--	--	--	--	1.2	3.583	11.2	CWDISCO	20-Oct-11	100 / 100	--
Sodium, Total	mg/L	--	--	--	--	1.28	4.506	24.9	CWDISCOE	6-Sep-12	165 / 165	--
Strontium, Dissolved	mg/L	--	--	--	--	0.0445	0.2105	0.561	CWDISCO	26-Oct-10	100 / 100	--
Strontium, Total	mg/L	--	--	--	--	0.0408	0.2122	0.744	CWDISCOE	3-Jul-12	165 / 165	--
Thallium, Dissolved	mg/L	--	0.002	0.00024	0.0005 / 0.0005	ND	--	ND	--	--	0 / 100	--
Thallium, Total	mg/L	--	0.002	0.00024	0.0005 / 0.0005	0.0005	0.00063	0.00108	CWDISCO	5-Aug-11	12 / 165	12>TWQC
Total Suspended Solids	mg/L	--	--	--	--	8.7	68.65	924	CWDISCO	5-Aug-11	165 / 165	--
Vanadium, Dissolved	mg/L	--	--	--	0.001 / 0.001	0.00102	0.0101	0.0717	CWDITCH	4-Nov-10	95 / 99	--
Vanadium, Total	mg/L	--	--	--	--	0.0011	0.01306	0.0811	CWDISCO	5-Nov-10	164 / 164	--
Zinc, Dissolved	mg/L	0.12	--	--	0.0083 / 0.0083	0.00914	0.01183	0.02	CWDISCO	5-Apr-11	5 / 100	--
Zinc, Total	mg/L	--	--	--	0.0083 / 0.0201	0.00849	0.02585	0.15	CWDISCO	5-Aug-11	96 / 165	--

Notes:
F&AL = Tennessee Water Quality Criterion for Fish and Aquatic Life
ND = not detected
TDWS = Tennessee Domestic Water Supply Standard
TWQC = Tennessee Water Quality Criterion for Human Consumption of Water and Organisms

TABLE H-3 SUMMARY STATISTICS FOR SURFACE WATER - SETTB NON-STORM EVENT SAMPLING

Analyte	Unit	Regulatory Values			Non-Storm Event Samples Collected Between 27-Aug-2010 and 02-Feb-2013							
		F&AL	TDWS	TWQC	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Aluminum (Dissolved)	mg/L	--	--	--	0.05 / 0.229	0.051	0.1571	0.507	SETTB	7-Apr-11	81 / 93	--
Aluminum (Total)	mg/L	--	--	--	--	0.199	1.002	3.65	SETTB	11-Sep-10	101 / 101	--
Antimony (Dissolved)	mg/L	--	0.006	0.0056	0.00033 / 0.00094	0.00074	0.003224	0.00851	SETTB	11-Apr-12	90 / 93	12>TDWS; 15>TWQC
Antimony (Total)	mg/L	--	0.006	0.0056	0.00033 / 0.00113	0.00077	0.003245	0.00832	SETTB	11-Apr-12	99 / 101	11>TDWS; 17>TWQC
Arsenic (Dissolved)	mg/L	0.15	0.01	0.01	--	0.0038	0.0526	0.173	SETTB	11-Apr-12	93 / 93	2>F&AL; 90>TDWS; 90>TWQC
Arsenic (Total)	mg/L	0.15	0.01	0.01	--	0.00399	0.06037	0.22	SETTB	2-May-12	101 / 101	6>F&AL: 100>TDWS; 100>TWQC
Barium (Dissolved)	mg/L	--	2	--	--	0.04	0.09928	0.164	SETTB	10-Aug-11	93 / 93	--
Barium (Total)	mg/L	--	2	--	--	0.0412	0.1167	0.188	SETTB	10-Aug-11	101 / 101	--
Beryllium (Dissolved)	mg/L	--	0.004	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 93	--
Beryllium (Total)	mg/L	--	0.004	--	0.00033 / 0.00033	0.00033	0.0004775	0.00071	SETTB	11-Sep-10	12 / 101	--
Boron (Dissolved)	mg/L	--	--	--	--	0.044	0.4966	1.64	SETTB	25-Apr-12	93 / 93	--
Boron (Total)	mg/L	--	--	--	--	0.043	0.542	2.03	SETTB	9-Jul-12	101 / 101	--
Cadmium (Dissolved)	mg/L	0.00025	0.005	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 93	--
Cadmium (Total)	mg/L	--	0.005	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 101	--
Calcium (Dissolved)	mg/L	--	--	--	--	19.6	52.81	124	SETTB	25-Apr-12	93 / 93	--
Calcium (Total)	mg/L	--	--	--	--	19.7	55.67	125	SETTB	25-Apr-12	101 / 101	--
Chromium (Dissolved)	mg/L	0.011	0.1	--	0.00033 / 0.00047	0.00033	0.0007717	0.00293	SETTB	19-Jan-12	70 / 93	--
Chromium (Total)	mg/L	--	0.1	--	0.00033 / 0.00033	0.000546	0.001723	0.00456	SETTB	9-Jan-13	100 / 101	--
Cobalt (Dissolved)	mg/L	--	--	--	0.00033 / 0.00033	0.00033	0.0003825	0.00046	SETTB	10-Jan-12	4 / 93	--
Cobalt (Total)	mg/L	--	--	--	0.00033 / 0.00033	0.00035	0.0007504	0.00204	SETTB	1-Sep-10	89 / 101	--
Copper (Dissolved)	mg/L	0.009	1.3	--	0.00033 / 0.00086	0.00033	0.0006719	0.00251	SETTB	1-Sep-10	71 / 93	--
Copper (Total)	mg/L	--	1.3	--	0.00138 / 0.00138	0.00056	0.002734	0.00854	SETTB	11-Sep-10	100 / 101	--
Iron (Dissolved)	mg/L	--	--	--	0.025 / 0.025	0.0291	0.03338	0.0429	SETTB	25-Jan-12	4 / 93	--
Iron (Total)	mg/L	--	--	--	0.126 / 0.126	0.0599	0.3582	1.33	SETTB	11-Sep-10	100 / 101	--
Lead (Dissolved)	mg/L	0.0025	0.015	0.005	0.00033 / 0.00033	0.0004	0.0004	0.0004	SETTB	16-Mar-11	1 / 93	--
Lead (Total)	mg/L	--	0.015	0.005	0.00033 / 0.00103	0.00035	0.001323	0.00426	SETTB	28-Feb-11	96 / 101	--
Magnesium (Dissolved)	mg/L	--	--	--	--	4.7	11.17	16.8	SETTB	25-Apr-12	93 / 93	--
Magnesium (Total)	mg/L	--	--	--	--	4.78	11.63	22.7	SETTB	9-Jul-12	101 / 101	--
Manganese (Dissolved)	mg/L	--	--	--	0.00104 / 0.00235	0.00063	0.03526	0.131	SETTB	21-Dec-10	89 / 93	--
Manganese (Total)	mg/L	--	--	--	--	0.00945	0.04945	0.133	SETTB	21-Dec-10	101 / 101	--
Mercury (Dissolved)	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	ND	--	ND	--	--	0 / 93	--
Mercury (Total)	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	ND	--	ND	--	--	0 / 101	--
Molybdenum (Dissolved)	mg/L	--	--	--	--	0.00227	0.06264	0.244	SETTB	28-Mar-12	93 / 93	--
Molybdenum (Total)	mg/L	--	--	--	--	0.00401	0.06705	0.266	SETTB	2-May-12	101 / 101	--
Nickel (Dissolved)	mg/L	0.052	0.1	0.61	0.00033 / 0.00034	0.00035	0.0004847	0.00085	SETTB	16-Feb-11	32 / 93	--
Nickel (Total)	mg/L	--	0.1	0.61	0.00033 / 0.00156	0.00047	0.001375	0.0042	SETTB	11-Sep-10	99 / 101	--
Potassium (Dissolved)	mg/L	--	--	--	--	1.26	3.527	10.9	SETTB	25-Apr-12	93 / 93	--
Potassium (Total)	mg/L	--	--	--	--	1.29	4.068	14.6	SETTB	2-May-12	101 / 101	--
Selenium (Dissolved)	mg/L	0.005	0.05	--	--	0.00061	0.01191	0.0409	SETTB	15-Sep-10	93 / 93	62>F&AL
Selenium (Total)	mg/L	0.005	0.05	--	--	0.00105	0.01186	0.0392	SETTB	15-Sep-10	101 / 101	70>F&AL
Silver (Dissolved)	mg/L	--	--	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 93	--
Silver (Total)	mg/L	--	--	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 101	--

TABLE H-3 SUMMARY STATISTICS FOR SURFACE WATER - SETTB NON-STORM EVENT SAMPLING

Analyte	Unit	Regulatory Values			Non-Storm Event Samples Collected Between 27-Aug-2010 and 02-Feb-2013							
		F&AL	TDWS	TWQC	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Sodium (Dissolved)	mg/L	--	--	--	--	1.14	5.266	22.1	SETTB	25-Apr-12	93 / 93	--
Sodium (Total)	mg/L	--	--	--	1.71 / 1.71	1.15	6.054	34.4	SETTB	2-May-12	100 / 101	--
Strontium (Dissolved)	mg/L	--	--	--	--	0.0637	0.5651	1.46	SETTB	25-Apr-12	92 / 92	--
Strontium (Total)	mg/L	--	--	--	--	0.0655	0.608	1.52	SETTB	9-Jul-12	101 / 101	--
Thallium (Dissolved)	mg/L	--	0.002	0.00024	0.0005 / 0.0005	0.00052	0.0006107	0.0007	SETTB	25-Apr-12	12 / 93	12>TWQC
Thallium (Total)	mg/L	--	0.002	0.00024	0.0005 / 0.0005	0.0005	0.0006164	0.00096	SETTB	15-Sep-10	27 / 101	27>TWQC
Total Suspended Solids (TSS)	mg/L	--	--	--	0.6 / 1	2.8	26.5	144	SETTB	18-May-11	100 / 101	--
Vanadium (Dissolved)	mg/L	--	--	--	--	0.003	0.03542	0.108	SETTB	11-Apr-12	93 / 93	--
Vanadium (Total)	mg/L	--	--	--	--	0.00344	0.03916	0.111	SETTB	11-Apr-12	101 / 101	--
Zinc (Dissolved)	mg/L	0.12	--	--	0.0083 / 0.0083	0.00879	0.0181	0.0274	SETTB	16-Feb-11	2 / 93	--
Zinc (Total)	mg/L	--	--	--	0.0083 / 0.0083	0.00948	0.01292	0.0189	SETTB	20-Dec-11	18 / 101	--

Notes:

F&AL = Tennessee Water Quality Criterion for Fish and Aquatic Life

ND = not detected

TDWS = Tennessee Domestic Water Supply Standard

TWQC = Tennessee Water Quality Criterion for Human Consumption of Water and Organisms

TABLE H-4 SUMMARY STATISTICS FOR SURFACE WATER - SETTB STORM EVENT SAMPLING

Analyte	Unit	Regulatory Values			Storm Event Samples Collected Between 27-Aug-2010 and 26-Feb-2013							
		F&AL	TDWS	TWQC	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Aluminum, Dissolved	mg/L	--	--	--	0.05 / 0.05	0.053	0.1523	0.729	SETTB	23-Jan-12	62 / 71	--
Aluminum, Total	mg/L	--	--	--	--	0.184	1.39	6.35	SETTB	12-Apr-11	80 / 80	--
Antimony, Dissolved	mg/L	--	0.006	0.0056	0.00033 / 0.00142	0.000462	0.003715	0.0094	SETTB	2-Oct-12	67 / 71	6>TDWS; 10>TWQC
Antimony, Total	mg/L	--	0.006	0.0056	0.00033 / 0.00144	0.00048	0.003429	0.00899	SETTB	2-Oct-12	78 / 80	5>TDWS; 7>TWQC
Arsenic, Dissolved	mg/L	0.15	0.01	0.01	--	0.00149	0.06478	0.219	SETTB	14-May-12	71 / 71	6>F&AL; 69>TDWS; 69>TWQC
Arsenic, Total	mg/L	0.15	0.01	0.01	--	0.00216	0.06989	0.231	SETTB	14-May-12	80 / 80	10>F&AL; 78>TDWS; 78>TWQC
Barium, Dissolved	mg/L	--	2	--	--	0.0336	0.09695	0.161	SETTB	14-May-12	71 / 71	--
Barium, Total	mg/L	--	2	--	--	0.0477	0.1196	0.202	SETTB	12-Apr-11	80 / 80	--
Beryllium, Dissolved	mg/L	--	0.004	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 71	--
Beryllium, Total	mg/L	--	0.004	--	0.00033 / 0.00033	0.00033	0.0004411	0.001	SETTB	12-Apr-11	20 / 80	--
Boron, Dissolved	mg/L	--	--	--	--	0.0423	0.631	2.46	SETTB	3-Jul-12	71 / 71	--
Boron, Total	mg/L	--	--	--	--	0.0408	0.6155	2.47	SETTB	3-Jul-12	80 / 80	--
Cadmium, Dissolved	mg/L	0.00025	0.005	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 71	--
Cadmium, Total	mg/L	--	0.005	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 80	--
Calcium, Dissolved	mg/L	--	--	--	--	13.1	58.52	118	SETTB	3-Jul-12	71 / 71	--
Calcium, Total	mg/L	--	--	--	--	14.4	60	119	SETTB	3-Jul-12	80 / 80	--
Chromium, Dissolved	mg/L	0.011	0.1	--	0.00033 / 0.00033	0.00033	0.0008604	0.00325	SETTB	21-Jan-12	54 / 71	--
Chromium, Total	mg/L	--	0.1	--	--	0.000773	0.002295	0.00685	SETTB	26-Dec-12	80 / 80	--
Cobalt, Dissolved	mg/L	--	--	--	0.00033 / 0.00033	0.00034	0.000464	0.00088	SETTB	27-Dec-11	10 / 71	--
Cobalt, Total	mg/L	--	--	--	--	0.000343	0.0009943	0.00337	SETTB	12-Apr-11	80 / 80	--
Copper, Dissolved	mg/L	0.009	1.3	--	0.00033 / 0.00081	0.00036	0.0006377	0.00148	SETTB	23-Jan-12	57 / 71	--
Copper, Total	mg/L	--	1.3	--	0.00148 / 0.00597	0.00129	0.003745	0.0136	SETTB	12-Apr-11	75 / 80	--
Iron, Dissolved	mg/L	--	--	--	0.025 / 0.025	0.0324	0.07648	0.13	SETTB	16-Apr-11	6 / 71	--
Iron, Total	mg/L	--	--	--	0.181 / 0.181	0.0685	0.5668	2.57	SETTB	12-Apr-11	79 / 80	--
Lead, Dissolved	mg/L	0.0025	0.015	0.005	0.00033 / 0.00033	ND	--	ND	--	--	0 / 71	--
Lead, Total	mg/L	--	0.015	0.005	0.00208 / 0.00208	0.000534	0.001912	0.008	SETTB	12-Apr-11	79 / 80	1>TWQC
Magnesium, Dissolved	mg/L	--	--	--	--	4.16	11.27	27.1	SETTB	3-Jul-12	71 / 71	--
Magnesium, Total	mg/L	--	--	--	--	4.22	11.58	27.3	SETTB	3-Jul-12	80 / 80	--
Manganese, Dissolved	mg/L	--	--	--	0.00171 / 0.00255	0.00041	0.05075	0.233	SETTB	27-Dec-11	69 / 71	--
Manganese, Total	mg/L	--	--	--	--	0.0116	0.07289	0.246	SETTB	27-Dec-11	80 / 80	--
Mercury, Dissolved	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	0.000205	0.000205	0.000205	SETTB	26-Sep-11	1 / 71	1>TWQC
Mercury, Total	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	ND	--	ND	--	--	0 / 80	--
Molybdenum, Dissolved	mg/L	--	--	--	--	0.00128	0.08005	0.254	SETTB	14-May-12	71 / 71	--
Molybdenum, Total	mg/L	--	--	--	--	0.00098	0.07477	0.248	SETTB	3-Jul-12	80 / 80	--
Nickel, Dissolved	mg/L	0.052	0.1	0.61	0.00033 / 0.00033	0.00033	0.0005088	0.00081	SETTB	21-Jan-12	38 / 71	--
Nickel, Total	mg/L	--	0.1	0.61	--	0.0007	0.001905	0.00709	SETTB	12-Apr-11	80 / 80	--
Potassium, Dissolved	mg/L	--	--	--	1.82 / 1.82	1.2	4.681	12.7	SETTB	14-May-12	70 / 71	--
Potassium, Total	mg/L	--	--	--	--	1.34	4.989	13.2	SETTB	14-May-12	80 / 80	--
Selenium, Dissolved	mg/L	0.005	0.05	--	--	0.00046	0.01298	0.0383	SETTB	27-Oct-10	71 / 71	58>F&AL
Selenium, Total	mg/L	0.005	0.05	--	--	0.00036	0.0125	0.0375	SETTB	27-Oct-10	80 / 80	65>F&AL
Silver, Dissolved	mg/L	--	--	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 71	--
Silver, Total	mg/L	--	--	--	0.00033 / 0.00033	0.00042	0.00042	0.00042	SETTB	16-Jun-11	1 / 80	--

TABLE H-4 SUMMARY STATISTICS FOR SURFACE WATER - SETTB STORM EVENT SAMPLING

Analyte	Unit	Regulatory Values			Storm Event Samples Collected Between 27-Aug-2010 and 26-Feb-2013							
		F&AL	TDWS	TWQC	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Sodium, Dissolved	mg/L	--	--	--	--	1.3	7.141	27.6	SETTB	14-May-12	71 / 71	--
Sodium, Total	mg/L	--	--	--	--	1.34	7.275	28.1	SETTB	14-May-12	80 / 80	--
Strontium, Dissolved	mg/L	--	--	--	--	0.0435	0.6604	1.91	SETTB	3-Jul-12	71 / 71	--
Strontium, Total	mg/L	--	--	--	--	0.0459	0.6649	1.91	SETTB	3-Jul-12	80 / 80	--
Thallium, Dissolved	mg/L	--	0.002	0.00024	0.0005 / 0.0005	0.0005	0.000538	0.000606	SETTB	14-Jan-13	5 / 71	5>TWQC
Thallium, Total	mg/L	--	0.002	0.00024	0.0005 / 0.0005	0.0005	0.0005997	0.00074	SETTB	14-May-12	22 / 80	22>TWQC
Total Suspended Solids	mg/L	--	--	--	--	5.4	43	173	SETTB	12-Apr-11	80 / 80	--
Vanadium, Dissolved	mg/L	--	--	--	--	0.00113	0.03831	0.0963	SETTB	6-Apr-12	71 / 71	--
Vanadium, Total	mg/L	--	--	--	--	0.00267	0.04162	0.105	SETTB	6-Apr-12	80 / 80	--
Zinc, Dissolved	mg/L	0.12	--	--	0.0083 / 0.0083	0.0201	0.0269	0.0337	SETTB	26-Feb-13	2 / 71	--
Zinc, Total	mg/L	--	--	--	0.0083 / 0.0083	0.00831	0.01576	0.0624	SETTB	22-Feb-13	29 / 80	--

Notes:
F&AL = Tennessee Water Quality Criterion for Fish and Aquatic Life
ND = not detected
TDWS = Tennessee Domestic Water Supply Standard
TWQC = Tennessee Water Quality Criterion for Human Consumption of Water and Organisms

TABLE H-5 SUMMARY STATISTICS FOR SURFACE WATER IN THE STILLING POND

Analyte	Unit	Regulatory Values			Samples Collected Between 28-Aug-2010 and 07-Aug-2014							
		F&AL	TDWS	TWQC	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Aluminum, Dissolved	mg/L	--	--	--	0.02 / 0.02	0.0243	0.163	0.557	AP_IMP001_SIPHON	15-Jun-11	73 / 87	--
Aluminum, Total	mg/L	--	--	--	--	0.0319	0.6642	1.98	AP_IMP001	3-Mar-11	115 / 115	--
Antimony, Total	mg/L	--	0.006	0.0056	0.00033 / 0.00033	ND	--	ND	--	--	0 / 1	--
Arsenic, Dissolved	mg/L	0.15	0.01	0.01	--	0.00125	0.01241	0.0545	AP_IMP001	15-Sep-10	87 / 87	41>TDWS; 41>TWQC
Arsenic, Total	mg/L	0.15	0.01	0.01	--	0.00107	0.01209	0.0604	AP_IMP001	15-Sep-10	115 / 115	48>TDWS; 48>TWQC
Barium, Total	mg/L	--	2	--	--	0.0901	0.0901	0.0901	AP_IMP001	9-Jul-12	1 / 1	--
Beryllium, Total	mg/L	--	0.004	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 1	--
Boron, Total	mg/L	--	--	--	--	0.0648	0.0648	0.0648	AP_IMP001	9-Jul-12	1 / 1	--
Cadmium, Dissolved	mg/L	0.00025	0.005	--	0.00033 / 0.00033	0.00034	0.000355	0.00037	AP_IMP001	15-Dec-10	2 / 87	2>F&AL
Cadmium, Total	mg/L	--	0.005	--	0.00033 / 0.00033	0.00034	0.000385	0.00047	AP_IMP001	15-Dec-10	3 / 115	--
Calcium, Total	mg/L	--	--	--	--	34.8	34.8	34.8	AP_IMP001	9-Jul-12	1 / 1	--
Chromium, Total	mg/L	--	0.1	--	--	0.0007	0.0007	0.0007	AP_IMP001	9-Jul-12	1 / 1	--
Cobalt, Total	mg/L	--	--	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 1	--
Copper, Total	mg/L	--	1.3	--	--	0.0021	0.0021	0.0021	AP_IMP001	9-Jul-12	1 / 1	--
Iron, Total	mg/L	--	--	--	--	0.0827	0.0827	0.0827	AP_IMP001	9-Jul-12	1 / 1	--
Lead, Total	mg/L	--	0.015	0.005	0.00033 / 0.00033	ND	--	ND	--	--	0 / 1	--
Magnesium, Total	mg/L	--	--	--	--	12.4	12.4	12.4	AP_IMP001	9-Jul-12	1 / 1	--
Manganese, Total	mg/L	--	--	--	--	0.0174	0.0174	0.0174	AP_IMP001	9-Jul-12	1 / 1	--
Mercury, Dissolved	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	ND	--	ND	--	--	0 / 87	--
Mercury, Total	mg/L	0.00077	0.002	0.00005	0.00015 / 0.0002	0.00000153	0.000002963	0.00000482	AP_IMP001	20-Mar-13	3 / 115	--
Molybdenum, Total	mg/L	--	--	--	--	0.00606	0.00606	0.00606	AP_IMP001	9-Jul-12	1 / 1	--
Nickel, Total	mg/L	--	0.1	0.61	--	0.000691	0.000691	0.000691	AP_IMP001	9-Jul-12	1 / 1	--
Potassium, Total	mg/L	--	--	--	--	1.92	1.92	1.92	AP_IMP001	9-Jul-12	1 / 1	--
Selenium, Dissolved	mg/L	0.005	0.05	--	--	0.00055	0.004491	0.00998	AP_IMP001	18-May-11	87 / 87	40>F&AL
Selenium, Total	mg/L	0.005	0.05	--	0.00033 / 0.00033	0.000334	0.003635	0.00992	AP_IMP001	18-May-11	112 / 115	40>F&AL
Silver, Total	mg/L	--	--	--	0.00033 / 0.00033	ND	--	ND	--	--	0 / 1	--
Sodium, Total	mg/L	--	--	--	--	6.53	6.53	6.53	AP_IMP001	9-Jul-12	1 / 1	--
Strontium, Dissolved	mg/L	--	--	--	--	0.0685	0.3052	0.695	AP_IMP001_SIPHON	21-Jun-11	87 / 87	--
Strontium, Total	mg/L	--	--	--	--	0.0536	0.2681	0.723	AP_IMP001_SIPHON	21-Jun-11	115 / 115	--
Thallium, Dissolved	mg/L	--	0.002	0.00024	0.0005 / 0.0005	0.0005	0.0006055	0.0009	AP_IMP001_SIPHON	3-Aug-11	20 / 87	20>TWQC
Thallium, Total	mg/L	--	0.002	0.00024	0.0005 / 0.0005	0.0005	0.0006087	0.00091	AP_IMP001_SIPHON	3-Aug-11	23 / 115	23>TWQC
Total Suspended Solids	mg/L	--	--	--	--	2	10.6	30.6	AP_IMP001	5-Jun-12	147 / 147	--
Vanadium, Total	mg/L	--	--	--	--	0.00788	0.00788	0.00788	AP_IMP001	9-Jul-12	1 / 1	--
Zinc, Total	mg/L	--	--	--	0.0083 / 0.0083	ND	--	ND	--	--	0 / 1	--

Notes:
F&AL = Tennessee Water Quality Criterion for Fish and Aquatic Life
ND = not detected
TDWS = Tennessee Domestic Water Supply Standard
TWQC = Tennessee Water Quality Criterion for Human Consumption of Water and Organisms

TABLE H-6 SUMMARY STATISTICS FOR AIR

Location Code	Method	Equipment Type	Analytical Parameter	Date Last Sampled	No. of Detections / No. of Samples	24 Hour Action		Analytical Results[d] in ug/m3			Date of Max
						Level	Source	Min	Avg	Max	
PS05_BAM_PM2.5	FEM	BAM 1020	PM2.5	27-Aug-14	NA	26	NAAQS	0.05	11.6	32.7	29-Jan-13
PS07_BAM_PM2.5	FEM	BAM 1020	PM2.5	27-Aug-14	NA	26	NAAQS	0.09	11.7	32.6	10-Aug-10
PS08_BAM_PM2.5	FEM	BAM 1020	PM2.5	27-Aug-14	NA	26	NAAQS	0.11	12.0	30.4	31-May-11
PS09_BAM_PM2.5	FEM	BAM 1020	PM2.5	27-Aug-14	NA	26	NAAQS	0.71	12.0	43.5	30-Mar-13
PS13_BAM_PM2.5	FEM	BAM 1020	PM2.5	27-Aug-14	NA	26	NAAQS	0.14	11.2	30.4	31-May-11
PS09_PM10	FEM	TEOM	PM10	31-Aug-11	NA	112	NAAQS	4.9	16.2	37.8	31-Aug-11
PS09_PM10	FRM	PM10 LoVol (BGI PQ200)	PM10	12-Aug-10	5/5	112	NAAQS	22.4	27.78	33.7	03-Aug-10
PS07_PM2.5	FRM	PM2.5 LoVol (BGI PQ200)	PM2.5	26-Jul-11	118/118	26	NAAQS	4.20	11.9	27.0	03-Aug-10
PS07_PM10 HIVOL	FRM	PM10 HiVol (Tisch)	Arsenic	26-Jul-11	20/238	0.020	ATSDR[a]	0.00075	0.00191	0.00394	13-Mar-11
PS07_TSP	FRM	TSP HiVol (Tisch)	Aluminum	23-Jul-11	84/146	NA[c]	NA[c]	0.02290	0.09510	0.43700	24-May-11
PS07_TSP	FRM	TSP HiVol (Tisch)	Arsenic	26-Jul-11	26/238	0.020	ATSDR[a]	0.00062	0.00169	0.00361	13-Mar-11
PS07_TSP	FRM	TSP HiVol (Tisch)	Barium	23-Jul-11	70/146	NA[c]	NA[c]	0.00220	0.00706	0.05340	05-Jul-11
PS07_TSP	FRM	TSP HiVol (Tisch)	Beryllium	23-Jul-11	3/146	NA[c]	NA[c]	0.00002	0.00004	0.00005	23-Sep-10
PS07_TSP	FRM	TSP HiVol (Tisch)	Cadmium	23-Jul-11	78/146	NA[c]	NA[c]	0.00003	0.00013	0.00107	23-Jul-11
PS07_TSP	FRM	TSP HiVol (Tisch)	Chromium	23-Jul-11	8/146	NA[c]	NA[c]	0.00249	0.00313	0.00395	05-Jul-11
PS07_TSP	FRM	TSP HiVol (Tisch)	Lead	23-Jul-11	138/146	NA[c]	NA[c]	0.00085	0.00296	0.00635	08-Oct-10
PS07_TSP	FRM	TSP HiVol (Tisch)	Manganese	23-Jul-11	140/146	NA[c]	NA[c]	0.00170	0.00575	0.01540	18-Apr-11
PS07_TSP	FRM	TSP HiVol (Tisch)	Selenium	23-Jul-11	22/146	NA[c]	NA[c]	0.00051	0.00248	0.00504	17-Jul-11
PS07_TSP	FRM	TSP HiVol (Tisch)	Thallium	23-Jul-11	0/146	NA[c]	NA[c]	NA[e]	NA[e]	NA[e]	NA[e]
PS07_TSP	FRM	TSP HiVol (Tisch)	Vanadium	23-Jul-11	12/146	NA[c]	NA[c]	0.00146	0.00332	0.00653	24-May-11
PS07_SILICA	NA	SKC 224-PCXR8	Crystalline Silica, Quartz	26-Jul-11	2/225	10	ACGIH[b]	2	2	2	15-Jan-11

Notes:

ACGIH = American Conference of Governmental Industrial Hygienists

ATSDR = Agency for Toxic Substances and Disease Registry

BAM = Beta Attenuation Monitor

FEM = Federal Equivalent Method (continuous reading instrumentation)

FRM = Federal Reference Method (gravimetric analysis of filters collected once every three days)

NAAQS = Natinal Ambient Air Quality Standards

PM = Particulate Matter

TEOM = Tapered Element Oscillating Membrane

TSP = Total suspended Particulates

a. 2007 ATSDR

b. ACGIH threshold limit value divided by 420

c. No action level; unusually high concentrations or trends were investigated

d. All action levels and results shown are for 24 hour (daily) averages measured in ug/m3

e. There were never any results detected for this parameter

TABLE H-7 SUMMARY STATISTICS FOR GROUNDWATER

Analyte	Unit	Regulatory Values		Groundwater Samples Collected for Shallow Bedrock Wells Between 12-Jul-2010 and 11-Jun-2014							
		MCL	Secondary MCL	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Actinium-228, Dissolved	pCi/L	--	--	13.9 / 17.3	ND	--	ND	--	--	0 / 5	--
Actinium-228, Total	pCi/L	--	--	13.9 / 16.5	ND	--	ND	--	--	0 / 3	--
Aluminum, Dissolved	mg/L	--	0.05	0.05 / 0.0678	0.0501	0.09229	0.193	6AR	10-Dec-12	16 / 69	16>sMCL
Aluminum, Total	mg/L	--	0.05	0.05 / 0.5	0.051	0.1316	0.362	22	29-Jun-11	40 / 69	40>sMCL
Americium-241, Dissolved	pCi/L	--	--	22.5 / 31.9	ND	--	ND	--	--	0 / 5	--
Americium-241, Total	pCi/L	--	--	16.5 / 33.4	ND	--	ND	--	--	0 / 3	--
Ammonia, as N	mg/L	--	--	0.1 / 0.523	0.112	0.5035	1.6	22	24-Jun-13	50 / 69	--
Antimony, Dissolved	mg/L	0.006	--	0.00033 / 0.00033	0.000348	0.0004793	0.000598	AD1	4-Sep-13	3 / 69	--
Antimony, Total	mg/L	0.006	--	0.00033 / 0.00033	0.000345	0.000459	0.000695	AD1	4-Sep-13	4 / 69	--
Arsenic, Dissolved	mg/L	0.01	--	0.00033 / 0.00247	0.000342	0.0009531	0.00705	22	24-Jun-13	48 / 70	--
Arsenic, Total	mg/L	0.01	--	0.00033 / 0.002	0.000347	0.001489	0.00734	22	24-Jun-13	47 / 70	--
Barium, Dissolved	mg/L	2	--		0.02	0.03815	0.0943	AD1	2-Dec-13	69 / 69	--
Barium, Total	mg/L	2	--	0.05 / 0.05	0.021	0.03923	0.0913	AD1	2-Dec-13	68 / 69	--
Beryllium, Dissolved	mg/L	0.004	--	0.00033 / 0.00033	0.0005	0.0006553	0.00076	6AR	25-Jan-12	12 / 72	--
Beryllium, Total	mg/L	0.004	--	0.00033 / 0.00033	0.00034	0.0006033	0.00087	6AR	25-Aug-10	15 / 74	--
Bismuth-214, Dissolved	pCi/L	--	--		34.2	56.18	86.1	AD2	20-Jan-11	5 / 5	--
Bismuth-214, Total	pCi/L	--	--		23.7	30.47	38.2	AD3	23-Sep-10	3 / 3	--
Boron, Dissolved	mg/L	--	--	0.134 / 0.134	0.113	0.8249	2.04	AD3	18-Sep-12	68 / 69	--
Boron, Total	mg/L	--	--		0.106	0.8108	1.87	AD3	18-Sep-12	69 / 69	--
Cadmium, Dissolved	mg/L	0.005	--	0.00033 / 0.00033	0.00208	0.002398	0.00272	6AR	25-Aug-10	12 / 73	--
Cadmium, Total	mg/L	0.005	--	0.00033 / 0.00033	0.00043	0.002257	0.00289	6AR	25-Aug-10	15 / 75	--
Calcium, Dissolved	mg/L	--	--	2.95 / 2.95	2.82	79.55	400	AD3	4-Sep-13	68 / 69	--
Calcium, Total	mg/L	--	--		2.79	79.54	397	AD3	4-Sep-13	69 / 69	--
Cesium-137, Dissolved	pCi/L	--	250	3.51 / 4.17	ND	--	ND	--	--	0 / 5	--
Cesium-137, Total	pCi/L	--	250	2.9 / 3.75	ND	--	ND	--	--	0 / 3	--
Chloride	mg/L	250	--	1 / 6.04	1.19	5.933	12.7	22	4-Dec-13	60 / 69	--
Chromium, Dissolved	mg/L	0.1	--	0.00033 / 0.000567	0.000333	0.0004542	0.000822	AD1	2-Dec-13	5 / 67	--
Chromium, Total	mg/L	0.1	--	0.00033 / 0.00065	0.00033	0.001169	0.00564	AD3	4-Mar-14	14 / 67	--
Cobalt, Dissolved	mg/L	--	--	0.00033 / 0.002	0.000376	0.02495	0.121	6AR	11-Jun-14	59 / 77	--
Cobalt, Total	mg/L	--	--	0.00033 / 0.002	0.00075	0.02686	0.117	6AR	11-Jun-14	63 / 81	--
Cobalt-60, Dissolved	pCi/L	--	--	3.57 / 4.27	ND	--	ND	--	--	0 / 5	--
Cobalt-60, Total	pCi/L	--	--	3.45 / 4.19	ND	--	ND	--	--	0 / 3	--
Copper, Dissolved	mg/L	1.3	1	0.00033 / 0.000701	0.000331	0.0004979	0.000906	AD1	2-Dec-13	8 / 68	--
Copper, Total	mg/L	1.3	1	0.00033 / 0.000757	0.00033	0.0005325	0.00119	AD1	18-Mar-13	21 / 68	--
Fluoride	mg/L	--	2	0.08 / 0.257	0.107	0.2248	0.429	AD1	27-Sep-10	40 / 69	--
Iron, Dissolved	mg/L	--	0.3	0.025 / 0.111	0.0365	0.9071	2.47	AD2	20-Jun-12	50 / 69	30>sMCL
Iron, Total	mg/L	--	0.3	0.115 / 0.148	0.0575	0.9813	4.41	AD2	20-Jun-12	67 / 69	33>sMCL
Lead, Dissolved	mg/L	0.005	--	0.00033 / 0.00033	0.00033	0.00033	0.00033	6AR	18-Jun-12	1 / 69	--
Lead, Total	mg/L	0.005	--	0.00033 / 0.00033	0.00033	0.0006525	0.00127	AD2	16-Dec-10	4 / 69	--
Lead-212, Dissolved	pCi/L	--	--	7.12 / 7.95	ND	--	ND	--	--	0 / 5	--
Lead-212, Total	pCi/L	--	--	7.37 / 7.82	ND	--	ND	--	--	0 / 3	--
Lead-214, Dissolved	pCi/L	--	--		33	64.88	91.8	AD2	20-Jan-11	5 / 5	--

TABLE H-7 SUMMARY STATISTICS FOR GROUNDWATER

		Regulatory Values		Groundwater Samples Collected for Shallow Bedrock Wells Between 12-Jul-2010 and 11-Jun-2014							
Analyte	Unit	MCL	Secondary MCL	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Lead-214, Total	pCi/L	--	--	29.6 / 29.6	33.8	39.85	45.9	AD2	22-Sep-10	2 / 3	--
Magnesium, Dissolved	mg/L	--	--		0.721	12.9	53.8	AD3	4-Sep-13	69 / 69	--
Magnesium, Total	mg/L	--	--		0.743	13.08	56.5	AD3	20-Jun-12	69 / 69	--
Manganese, Dissolved	mg/L	--	0.05	0.0354 / 0.0354	0.0169	7.404	43.9	6AR	11-Jun-14	68 / 69	63>sMCL
Manganese, Total	mg/L	--	0.05		0.0225	7.418	42.8	6AR	11-Jun-14	69 / 69	63>sMCL
Mercury, Dissolved	mg/L	0.002	--	0.00015 / 0.0002	ND	--	ND	--	--	0 / 69	--
Mercury, Total	mg/L	0.002	--	0.00015 / 0.0002	ND	--	ND	--	--	0 / 69	--
Molybdenum, Dissolved	mg/L	--	--	0.00033 / 0.0022	0.00033	0.001085	0.00652	AD2	3-Dec-13	40 / 68	--
Molybdenum, Total	mg/L	--	--	0.00033 / 0.00033	0.00034	0.00188	0.00976	AD2	5-Mar-14	38 / 68	--
Nickel, Dissolved	mg/L	0.1	--	0.00033 / 0.00033	0.000348	0.01006	0.0445	6AR	11-Jun-14	59 / 72	--
Nickel, Total	mg/L	0.1	--	0.00033 / 0.00033	0.000338	0.01119	0.0443	6AR	29-Nov-10	61 / 74	--
Nitrate-Nitrite Nitrogen	mg/L	1	--	0.03 / 0.1	ND	--	ND	--	--	0 / 69	--
Potassium, Dissolved	mg/L	--	--		0.66	3.154	5.99	AD2	12-Dec-12	69 / 69	--
Potassium, Total	mg/L	--	--	1.64 / 5	0.687	3.222	6.04	AD2	20-Jun-12	67 / 69	--
Potassium-40, Dissolved	pCi/L	--	--	26.4 / 57.7	ND	--	ND	--	--	0 / 5	--
Potassium-40, Total	pCi/L	--	--	22.9 / 58.1	ND	--	ND	--	--	0 / 3	--
Radium-226, Dissolved	pCi/L	--	--	0.468 / 0.584	0.629	0.823	1.06	AD3	20-Jan-11	3 / 5	--
Radium-226, Total	pCi/L	--	--	0.491 / 0.788	0.941	0.941	0.941	AD3	23-Sep-10	1 / 3	--
Radium-228, Dissolved	pCi/L	--	--	0.579 / 1.41	0.843	0.843	0.843	22	29-Sep-10	1 / 5	--
Radium-228, Total	pCi/L	--	--		0.75	1.021	1.56	AD1	27-Sep-10	3 / 3	--
Selenium, Dissolved	mg/L	0.05	--	0.00033 / 0.00033	0.000337	0.0006638	0.0017	22	10-Dec-12	9 / 69	--
Selenium, Total	mg/L	0.05	--	0.00033 / 0.00033	0.00033	0.0007721	0.00146	22	10-Dec-12	8 / 69	--
Silver, Dissolved	mg/L	--	0.1	0.00033 / 0.00033	ND	--	ND	--	--	0 / 69	--
Silver, Total	mg/L	--	0.1	0.00033 / 0.00033	ND	--	ND	--	--	0 / 69	--
Sodium, Dissolved	mg/L	--	--		4.71	29.33	97.2	AD1	17-Sep-12	69 / 69	--
Sodium, Total	mg/L	--	--		4.57	29.06	95.6	AD1	18-Mar-13	69 / 69	--
Strontium, Dissolved	mg/L	--	--		0.0889	0.4825	1.07	AD3	10-Jun-14	69 / 69	--
Strontium, Total	mg/L	--	--	0.3 / 0.3	0.0881	0.4868	1.03	AD3	10-Jun-14	68 / 69	--
Sulfate	mg/L	--	250	0.6 / 1	19	192.7	739	AD3	4-Sep-13	67 / 69	18>sMCL
Thallium, Dissolved	mg/L	0.002	--	0.00033 / 0.00065	0.000516	0.0006268	0.000753	AD1	10-Jun-14	9 / 69	--
Thallium, Total	mg/L	0.002	--	0.00033 / 0.0005	0.000516	0.0006405	0.000724	6AR	10-Dec-12	8 / 69	--
Thallium-208, Dissolved	pCi/L	--	--	3.61 / 4.35	ND	--	ND	--	--	0 / 5	--
Thallium-208, Total	pCi/L	--	--	3.95 / 4.55	ND	--	ND	--	--	0 / 3	--
Thorium-228, Dissolved	pCi/L	--	--	0.0463 / 0.0836	ND	--	ND	--	--	0 / 5	--
Thorium-228, Total	pCi/L	--	--	0.0626 / 0.114	ND	--	ND	--	--	0 / 3	--
Thorium-230, Dissolved	pCi/L	--	--	0.0236 / 0.0804	ND	--	ND	--	--	0 / 5	--
Thorium-230, Total	pCi/L	--	--	0.0404 / 0.0667	0.107	0.107	0.107	AD2	22-Sep-10	1 / 3	--
Thorium-232, Dissolved	pCi/L	--	--	0.0408 / 0.0554	ND	--	ND	--	--	0 / 5	--
Thorium-232, Total	pCi/L	--	--	0.0402 / 0.0768	ND	--	ND	--	--	0 / 3	--
Thorium-234, Dissolved	pCi/L	--	--	207 / 270	ND	--	ND	--	--	0 / 5	--
Thorium-234, Total	pCi/L	--	--	175 / 257	ND	--	ND	--	--	0 / 3	--
Total Dissolved Solids	mg/L	--	500		161	425.4	1600	AD3	4-Sep-13	69 / 69	16>sMCL

TABLE H-7 SUMMARY STATISTICS FOR GROUNDWATER

Analyte	Unit	Regulatory Values		Groundwater Samples Collected for Shallow Bedrock Wells Between 12-Jul-2010 and 11-Jun-2014							
		MCL	Secondary MCL	Detection Limit Range	Minimum Detected Result	Mean of Detections	Maximum Detected Result	Location of Maximum Detected Result	Date of Maximum Detected Result	Number of Detections / Samples	Number of Exceedances
Total Inorganic Carbon	mg/L	--	--		9.92	40.04	102	AD3	4-Sep-13	68 / 68	--
Total Kjeldahl Nitrogen	mg/L	--	--	0.1 / 1.31	0.1	0.8661	2.53	22	24-Jun-13	51 / 69	--
Total Suspended Solids	mg/L	--	--	0.6 / 1	0.8	2.832	14	22	29-Sep-10	47 / 69	--
Uranium-234, Dissolved	pCi/L	--	--	0.0565 / 0.171	0.0923	0.2577	0.423	AD3	20-Jan-11	2 / 5	--
Uranium-234, Total	pCi/L	--	--	0.098 / 0.17	0.92	0.92	0.92	AD3	23-Sep-10	1 / 3	--
Uranium-235, Dissolved	pCi/L	--	--	0.0531 / 0.145	ND	--	ND	--	--	0 / 5	--
Uranium-235, Total	pCi/L	--	--	0.0794 / 0.121	ND	--	ND	--	--	0 / 3	--
Uranium-238, Dissolved	pCi/L	--	--	0.0637 / 0.104	0.0709	0.154	0.237	AD3	20-Jan-11	2 / 5	--
Uranium-238, Total	pCi/L	--	--	0.0531 / 0.124	0.397	0.397	0.397	AD3	23-Sep-10	1 / 3	--
Vanadium, Dissolved	mg/L	--	--	0.001 / 0.1	ND	--	ND	--	--	0 / 69	--
Vanadium, Total	mg/L	--	--	0.001 / 0.00191	0.00255	0.002845	0.00364	AD2	9-Jun-14	4 / 69	--
Zinc, Dissolved	mg/L	--	5	0.0083 / 0.0125	0.00976	0.03132	0.0394	6AR	11-Jun-14	11 / 69	--
Zinc, Total	mg/L	--	5	0.0083 / 0.0083	0.00841	0.02755	0.0396	6AR	29-Jun-11	13 / 69	--

Notes:
MCL = maximum contaminant level
ND = not detected
sMCL = secondary MCL

APPENDIX I

Safety and Health Summary

TABLE I-1 HEALTH SAFETY INCIDENTS FY2010
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY10	2009-10-01	First Aid	Laceration / Puncture	Leg / knee		T-2 Settlement Pond	W.O. Marsh	EE stated he stepped onto the pontoon of an amphibious track hoe, his foot slipped and his leg went between the tracks.	Cleaned, antibiotic ointment, bandage
FY10	2009-10-14	First Aid	Laceration / Puncture	Fingers / Thumb		Trailer City	Subcontractor	EE stated he was pulling a piece of tin and scratched his finger.	Cleaned, bandaged
FY10	2009-10-16	First Aid	Laceration / Puncture	Arm / Elbow		Trailer City	Subcontractor	EE stated he a drill became stuck and he was pulling it loose when his forearm hit a 2x4 and knocked an existing scab off.	Cleaned, antibiotic ointment, bandage
FY10	2009-10-20	First Aid	Sprain / Strain	Foot/Ankle		Offsite Fuel Station	Civil Projects	EE stated he was getting out of the truck at a gas station. As he stepped down from the truck onto the ground his foot twisted on the uneven pavement.	Bandage, cold pack, elevate
FY10	2009-10-22	Near Miss				Ash Pond Dredge	Civil Projects	EE stated he was pulling cable with his gloves on and a small sliver came through his gloves. He removed a small piece from just beneath the skin of his right middle finger and left palm, between first and middle finger.	EE self-removed splinter
FY10	2009-10-28	First Aid	Laceration / Puncture	Fingers / Thumb		Trailer City	Subcontractor	EE stated he was putting plastic on the trailer to be moved when the staple gun he was using slipped and a staple went into his finger.	Cleaned, antibiotic ointment, bandage
FY10	2009-10-30	Near Miss				Lakeshore	Civil Projects	EE stated he was backing up an articulating truck and backed into a water truck.	None required
FY10	2009-11-09	OSHA Recordable; 0 Days Away	Sprain / Strain	Shoulder		Ball Field	MACTEC	EE stated she was moving 40lb bags of polymer from lift. She slung the bag to her left side and then felt a sharp pain in her right shoulder. She continued to work until she was in too much pain.	Cold pack. EE self-administered Tylenol prior to coming to clinic. EE taken offsite for X-rays.
FY10	2009-11-17	Near Miss				A-5	Civil Projects	EE stated while driving an articulating dump he ran into a sink hole. EE stated he had no injuries.	None required
FY10	2009-11-19	First Aid	Laceration / Puncture	Fingers / Thumb		Dredging	Sevenson	EE had on gloves and was holding a wire anchor rope, when a wave came by, pulled the slack out of the rope and a sliver of the wire punctured his finger.	Cleaned, bandaged
FY10	2009-12-04	First Aid	Laceration / Puncture	Fingers / Thumb		Lakeshore	TVA	EE stated she was putting her personal trash in the dumpster and caught her finger on the Dumpster.	Cleaned, antibiotic ointment, bandage
FY10	2009-12-05	First Aid	Foreign Body	Eye		Dike D	Civil Projects	EE stated he rubbed his cheek with his gloved hand and some dirt got into his eye.	Flushed, Refresh drops
FY10	2009-12-08	First Aid	Contusion	Shoulder		T-2 Dike	Civil Projects	EE stated he climbed onto the C-frame of the dozer to check the oil, while raising the hood he lost balance and fell backward onto the dirt/gravel ground.	Ibuprofen
FY10	2009-12-09	First Aid	Sprain / Strain	Shoulder		Dredging	Sevenson	Sevenson dredge boat operator pulled a muscle while pulling cables on dredge boat.	
FY10	2009-12-14	First Aid	Sprain / Strain	Leg / Knee		Sluice Trench	Civil Projects	EE stated while walking to his crane his right leg sank into the wet ash, while trying to free his right leg he twisted his left knee stating he heard a "pop".	Cold pack, ibuprofen
FY10	2009-12-18	First Aid	Foreign Body	Eye		Trailer City	Jacobs	EE stated she thought she might have an eyelash in her eye and couldn't get it out.	Flushed, Refresh drops
FY10	2009-12-23	OSHA Recordable	Laceration / Puncture	Fingers / Hand		Dredging	TVA	EE severed four fingers after getting caught in a pulley on a debris barge.	

TABLE I-1 HEALTH SAFETY INCIDENTS FY2010
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY10	2010-01-04	OSHA Recordable; 0 Days Away	Sprain / Strain	Leg / Knee		Ball Field; Track 1	MACTEC	EE stated she was cleaning the knuckles on the train cars when the train started moving. She jumped out of the way, landed on the gravel embankment, lost her balance and fell. She heard a "pop" as she fell.	Tylenol, cold pack
FY10	2010-01-08	First Aid	Sprain / Strain	Internal		Ball Field	Sevenson	EE stated he was stepping up into a track hoe when he felt a sharp pain in his groin area.	Cold pack
FY10	2010-01-13	First Aid	Sprain / Strain	Shoulder		Trailer City	GUBMK	EE stated around 08:00am this morning he was loading 4x4s into the back of a truck when he heard and felt a pop.	Ibuprofen, cold pack, Biofreeze
FY10	2010-01-22	First Aid	Sprain / Strain	Leg / Knee		NE Embankment	Civil Projects	EE stated that he started to step out of Dike around 12" pump, his left foot slipped over to the other side of the dike and his right foot slipped back inside the dike into a semi-split, then he fell.	Ibuprofen, cold pack, Biofreeze
FY10	2010-01-23	Near Miss				Dike D	Civil Projects	EE stated while traveling west on Dike D in an articulating dump he veered off the road to the right-hand side into a steep ditch. While trying to get back on the road the bed of the dump turned. EE he had no complaints of injuries.	None required
FY10	2010-01-27	First Aid	Laceration / Puncture	Fingers / Thumb		Ball Field	Sevenson	EE was involved in a track hoe accident.	Cleaned, antibiotic ointment, bandage, ibuprofen
FY10	2010-01-29	First Aid	Sprain / Strain	Shoulder		Press Pad	Sevenson	EE stated his shoulder became sore three days ago and was getting worse. EE could not recall any trauma to his shoulder.	Ibuprofen, Biofreeze, hot pack
FY10	2010-01-30	First Aid	Contusion / Bruise	Leg			Matteson	L.W. Matteson had an employee slip and bruise their calf.	Received pain medicine from medical personnel
FY10	2010-02-04	OSHA Recordable	Sprain / Strain	Ankle		Dredging	Sevenson	Sevenson teamster sprained right ankle resulting in a first aid case.	After follow-up visit to clinic employee was prescribed pain medication reclassifying the case as a recordable
FY10	2010-02-04	First Aid	Sprain / Strain	Foot / Ankle		South Decon Area	Sevenson	EE stated he was getting out of the van, stepped on a rock and twisted his ankle.	Ibuprofen, cold pack, bandage
FY10	2010-02-05	First Aid	Sprain / Strain	Foot / Ankle		William Ladd Dock	TVA	EE stated she was stepping out of the boat. She put her right foot onto the wooden dock, as she started to step onto the dock her right foot slipped causing her left ankle to twist outward.	Ibuprofen, cold pack, bandage. Referred to TVA Nurse.
FY10	2010-02-05	First Aid	Sprain / Strain	Ankle		Dredging	TVA	The individual was returning from performing dredge plume monitoring within the river system. As she stepped off of the Carolina Skiff with her right foot onto the wood dock, her foot slipped out from under her causing her feet to split out. As she slipped, her left foot twisted outward (laterally) causing a sharp pain in her ankle and lower leg.	The crew removed the boat and returned to the sampling house. They reported the incident to their supervisor and then drove to the site paramedic for evaluation. The paramedic recommended further evaluation at Park Med in Oak Ridge, TN. A crew member and supervisor transported the individual to the medical center.
FY10	2010-02-14	OSHA Recordable; Days Away	Contusion / Bruise	Head / Face / Neck		Berkshire House	Civil Projects	EE stated she was stepping down from the cab of a tanker truck, missed the bottom step and fell backward, landing on her back on the pavement.	Full immobilization, sent to emergency department for evaluation
FY10	2010-02-14	OSHA Recordable; 0 Days Away	Fracture	Arm / Elbow		Sevenson's Tug Boat in the Emory River	Sevenson	EE stated he was on a tug boat, opened a hatch and started to descend down a ladder when he lost his footing and fell 6 feet, face first to the engine room floor. EE also stated he lost consciousness.	Immobilized extremity, sent to emergency department

TABLE I-1 HEALTH SAFETY INCIDENTS FY2010
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY10	2010-02-15	First Aid	Sprain / Strain	Shoulder		Dike D	Civil Projects	EE stated while mucking tracks he hit a piece of metal with the shovel.	Ibuprofen, cold pack, Biofreeze
FY10	2010-02-17	First Aid	Sprain / Strain	Foot/Ankle		Trailer City	Subcontractor	EE stated he was lifting a 5 gallon jug of water and felt a sharp pain in his ankle.	Ibuprofen, cold pack, bandage
FY10	2010-02-18	First Aid	Sprain / Strain	Back		Dredging	Sevenson	Sevenson operator twisted back reaching for a bottle of water to clean windshield.	
FY10	2010-02-19	Near Miss				U Building	Civil Projects	EE stated he was using a pry bar, lost his grip, fell backward. EE denied any pain/injury.	None required
FY10	2010-02-19	First Aid	Sprain / Strain	Back		Ball Field	MACTEC	At approximately 1:10pm MACTEC laborers were lining cars along Tracks 6 and 7 in the lining yard. The lift was running north straddling the rail with its tires on Track 7. The basket of the lift was trailing the body of the lift and was slightly elevated (approximately horizontal) to provide line of sight for driving when the axle of the right wheel closest to the basket broke in half and the wheel fell off. The frame of the lift came to rest on the west rail of Track 7. The operator and passenger were both jarred due to the impact.	The passenger had some general discomfort and was taken to the site medical clinic for evaluation and was released to return to work. The lift operator also visited the clinic prior to leaving site for an evaluation. Follow up was made with both the operator and the passenger prior to leaving the site at the end of shift to ensure they understand the protocols if increasing pain sets in while offsite for the night.
FY10	2010-02-19	OSHA Recordable; 0 Days Away	Sprain / Strain	Back		Rail Yard	MACTEC	EE stated he was in a lift basket with required PPE in place, the lift was approximately 6-7 feet off the ground and was being moved to a rail car when the axle shaft broke causing the lift to fall. The basket landed on the rails of the track and did not turn over.	Ibuprofen, cold pack, Biofreeze
FY10	2010-02-19	First Aid	Sprain / Strain	Shoulder		Rail Yard	MACTEC	EE stated he was driving a JLG lift when the shaft axel broke, the wheel came off causing the lift to fall. The lift was approximately 6-7 feet off the ground and landed on the rails of the track and did not turn over.	Ibuprofen, cold pack, Biofreeze
FY10	2010-02-20	First Aid	Laceration / Puncture	Hand / Wrist		Dredging	Sevenson	Pulling cable.	Cleaned, antibiotic ointment, bandage
FY10	2010-02-25	First Aid	Sprain / Strain	Hand / Wrist		Press Pad	Sevenson	Mucking.	Ibuprofen, Biofreeze
FY10	2010-02-25	First Aid	Sprain / Strain	Back		Press Pad	Sevenson	Lifting a pipe.	Cold pack, ibuprofen
FY10	2010-02-26	First Aid	Sprain / Strain	Trunk		Press Pad	Sevenson	EE stated she had been pulling presses.	Self administered, cold pack, ibuprofen
FY10	2010-03-01	First Aid	Sprain / Strain	Back		Ball Field	MACTEC	Lifting bags.	EE refused treatment
FY10	2010-03-01	First Aid	Sprain / Strain	Shoulder		Filter Press	Sevenson	The worker is a member of a crew that works in the filter press area. His primary task is to manually separate filtering plates that de-water the ash dredged from the Ash Pond. This manual activity occurs throughout the shift. The worker experienced tightness in his right shoulder and numbness / tingling in his hand after his shift on 2/27. He was not scheduled for work on 2/28.	He reported the injury to the contractor on the morning of 3-1-2010. He was taken to the contractor's occupational clinic on 3-1-2010, where the diagnosis was a possible shoulder strain. He was placed on restricted duty until next week when he will revisit the clinic.
FY10	2010-03-01	First Aid	Sprain / Strain	Shoulder		Press Pad	Sevenson		Cold pack, Back-Off tabs
FY10	2010-03-02	OSHA Recordable; Days Away	Fracture	Pelvis / Liver		Filter Press	Sevenson	Sevenson operator fell off the filter press resulting in a fractured hip and liver.	Days Away / Lost Time

TABLE I-1 HEALTH SAFETY INCIDENTS FY2010
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY10	2010-03-02	OSHA Days Away	Fracture	Trunk		Press Pad	Sevenson	EE stated he was on the catwalk of the press when he tripped in a "hole" causing him to fall. The fall was approximately 8 feet, he hit a pump approximately 3-4 feet down, then landed on some hoses on the ground.	Sent to MMC emergency department for evaluation
FY10	2010-03-05	Near Miss				Lakeshore	Civil Projects	Assisting laborers to line up a porta john to be picked up by fork lift when he hit his hand against the fork lift.	None required
FY10	2010-03-17	First Aid	Contusion	Hand/wrist		Booster Pump	Sevenson	EE stated she was assisting to place an elbow on a pipe, when she started to push upward another employee pushed at a different angle causing the pipe elbow to slip and her left hand got "smashed" between two pipes.	Taken to MMC emergency department for evaluation
FY10	2010-03-25	OSHA Recordable; Days Away	Fracture	Head / Face / Neck		Sluice Trench	Subcontractor	EE was operating a crane when the clam shell bucket struck the cab of the crane knocking him from the cab onto the railing of the catwalk. The drug screen was performed at the emergency department.	Full immobilization, air-lifted to trauma center
FY10	2010-03-27	Near Miss				Map Area	Civil Projects	EE stated pulled out and hit a dozer. Supervisor stated he had picked up his articulating truck from being serviced at the MAP area. As he pulled out, he turned right and caught the left front corner of dozer blade.	None required
FY10	2010-04-01	First Aid	Sprain / Strain	Back		Ball Field	MACTEC	EE stated on Tuesday he was driving a JLG lift that hit a hole with the front tire. He said he informed his foreman. When he woke up on Wednesday his back was stiff so he stayed home. This morning he was still hurting, so Safety was informed and he was brought into the clinic.	Ibuprofen, Biofreeze
FY10	2010-04-01	First Aid	Exposure	Internal		Intake Channel at Plant	SWS	EE stated she had walked up, smelled a strong odor, became short of breath, light-headed, dizzy and nauseated. She left and informed Safety.	Evaluate
FY10	2010-04-01	Near Miss	Exposure	Internal		Intake Channel at Plant	SWS	EE stated he was only there a short time, smelled the odor but had no complaints of illness.	None required
FY10	2010-04-02	First Aid	Contusion / Bruise	Trunk		T-2 Dike	Civil Projects	EE stated he was putting pipe together when the center of the clamp broke causing him to fall on the ground on his side and back.	Ibuprofen, cold pack
FY10	2010-04-03	First Aid	Sprain / Strain	Leg / Knee		Ball Field	Sevenson	EE stated she walking on the platform to a dump truck, she bent down and when she stood up the ligament in the back of her knee tightened up.	Ibuprofen
FY10	2010-04-04	First Aid	Sprain / Strain	Leg / Knee		Boat Dock	Sevenson	EE stated he was stepping off a john boat onto the tank and fell through a fuel hold.	Ibuprofen, cold pack, cleaned and dressed
FY10	2010-04-05	First Aid	Laceration / Puncture	Hand / Wrist		U Building	Subcontractor	EE stated that while trying to free up a sticking pin on a transmission, the transmission fell off of the jack and pinned his hand to the floor.	Cleaned, Steri-Strip, bandage
FY10	2010-04-08	First Aid	Laceration / Puncture	Fingers / Thumb		Press Pad	Sevenson	EE stated that he was removing filters from the press pad, the box cutter slipped and went thru his glove.	Cleaned, antibiotic ointment, bandage
FY10	2010-04-08	Near Miss				General Site		A Sevenson worker was parking a haul truck to go on break. When the worker stood up to exit the truck, their left side immediately went numb.	The worker was evaluated by the site paramedic and was taken to the hospital via ambulance
FY10	2010-04-15	First Aid	Sprain / Strain	Back		Press Pad	Sevenson	EE stated he was pulling plates on the press pad when he started having lower back pain.	Ibuprofen, Biofreeze, cold pack, taken to emergency department for drug test and evaluation

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NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY10	2010-04-15	First Aid	Exposure	Internal		Ball Field	Subcontractor	EE delivered a trailer to the site. While using a sledge hammer to secure stakes for the tie-downs he became overheated.	Cooled and hydrated
FY10	2010-04-15	First Aid	Sprain / Strain	Back		Filter Press		A Sevenson laborer felt a sharp pain in their lower back while pulling press plates at the process pad.	After being evaluated by the onsite medic, it was determined that further medical attention was needed.
FY10	2010-04-22	First Aid	Sprain / Strain	Back		Ball Field	MACTEC	EE stated he was closing the train cars when his leg slipped causing him to turn wrong and he felt a pain in his back.	Biofreeze, Back-Off tabs
FY10	2010-04-26	First Aid	Laceration / Puncture	Arm / Elbow		Rail Yard	MACTEC	EE stated he was lining the rail cars when his upper arm rubbed against the top of the car and caught on a metal shard.	Cleaned, antiseptic, Steri-Strip, bandage
FY10	2010-04-26	First Aid	Sprain / Strain	Foot / Ankle		Sluice Trench	Sevenson	EE stated he was getting out of his articulating truck, missed the bottom step and his ankle twisted when his foot landed on the ground.	Ibuprofen, cold pack, bandage, elevate
FY10	2010-04-26	First Aid	Sprain / Strain	Foot / Ankle		General Site		A teamster for Sevenson twisted their ankle.	Treated by the paramedic onsite with ice packs
FY10	2010-04-28	Near Miss				Rail		A MACTEC JLG ran into a rail car.	There were no injuries but there was damage to the JLG
FY10	2010-05-01	Near Miss				General Site		A subcontractor (Hiwassee Construction) working for Mayse Construction Company damaged a passenger vehicle while pushing a steel drill rod through a previously drilled directional bore.	There was damage to the passenger vehicle, but no injuries
FY10	2010-05-04	Near Miss				Dredging		Sevenson while moving dredge piping sunk a boat in the river.	There were no injuries
FY10	2010-05-06	First Aid	Exposure	Internal		Rail Yard	MACTEC	EE stated he was going up in the JLG when he started "feeling funny" the next thing he knew he was on the ground. Witness stated EE "passed out".	Cooled and hydrated
FY10	2010-05-11	First Aid	Exposure	Internal		Drag Line Rd	Sevenson	EE stated he was standing on Drag Line Road flagging. The water truck came by and sprayed him in the face. EE also stated he swallowed some of the water and started to feel stomach cramps.	Bismuth tabs
FY10	2010-05-14	First Aid	Insect Bite	Internal		Stilling Pond	Subcontractor	EE stated yesterday while working he felt something bite his leg, swatted it away and woke up this morning with his leg hurting and noticed it had swollen.	Sent to doctor for evaluation
FY10	2010-05-17	First Aid	Sprain / Strain	Foot / Ankle		Kyle Dredge	Sevenson	EE stated he was walking down the steps on the dredge when he slipped and fell down several steps landing on his behind.	Cold pack, ibuprofen, bandage, elevate
FY10	2010-05-17	First Aid	Insect Bite	Head / Face / Neck		CONEX at North Dock	Sevenson	EE stated yesterday afternoon he was in the CONEX at the North Dock when he felt something bite him on the back of the head, he swatted it off and went on with his work. EE stated that he woke up around 2:00am with a headache, rubbed the back of his head and noticed it was swollen so he came to the clinic first thing this morning.	Sent to doctor for evaluation
FY10	2010-05-21	First Aid	Insect Bite	Head / Face / Neck		Dike C	Stantec	EE stated prior to the end of shift yesterday several mosquitoes had bitten her in the head area and she assumed it was a mosquito bite. She stated she cleaned it with alcohol last night and noticed it was swollen.	Cleaned, antibiotic ointment, tetanus

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NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY10	2010-05-24	First Aid	Insect Bite	Leg / Knee		Berkshire House	Civil Projects	EE stated he was outside the basement area during the morning meeting, as the meeting was over and he was starting to walk away he felt a painful sting on his leg, he pulled his pant leg up and found a yellow jacket stuck in his sock.	Sting swab, ibuprofen, bandage
FY10	2010-05-24	First Aid	Exposure	Arm / Elbow		South Dock (Sevenson)	Sevenson	EE stated he noticed a rash on both his arms last night after he got home. He also stated that there is lots of poison ivy at the South Dock where he has been working taking apart and removing pipes.	Cleaned, Benadryl cream, hydrocortisone cream
FY10	2010-05-24	Near Miss				Stilling Pond	Subcontractor	EE stated he was on the corner of the Stilling Pond holding a vacuum hose when a surge of water came thru the hose causing it to whip around and knock him down.	None required
FY10	2010-06-01	Near Miss				T-2 Dike	Civil Projects	EE stated he was driving a Chevy Blazer on the gravel road. When he looked toward the right at a dozer he veered to the left and drove into a ditch.	None required
FY10	2010-06-03	First Aid	Sprain / Strain	Back	Struck Against	Ball Field; Track 3	MACTEC	EE stated he was in a lift basket with required PPE. While moving the lift they hit a bump causing him to move backward hitting his back against the railing.	Biofreeze, Back-Off tabs
FY10	2010-06-05	First Aid	Insect Bite	Arm / Elbow	Insect Bite	South Dock (Sevenson)	Sevenson	EE was on his break. He was sitting at the picnic table when he felt something bite him.	Hydrocortisone
FY10	2010-06-08	First Aid	Laceration / Puncture	Arm / Elbow		Rail Yard	MACTEC	EE stated he was lining the rail cars when his upper arm rubbed against the car and a metal shard went thru his protective sleeve and punctured his arm.	Cleaned, antibiotic ointment, bandage
FY10	2010-06-08	First Aid	Exposure	Arm / Elbow	Contact with (Debris)	North Dock	Sevenson	EE stated yesterday morning as he started to untie his boat from a tree he noticed a poison ivy vine growing on the back of the tree trunk. So he put on his gloves to untie it, then he washed the rope and his gloves. When he woke up this morning he noticed a few small "bumps" on his hands and forearms.	Cleaned, Benadryl cream, hydrocortisone cream
FY10	2010-06-08	First Aid	Insect Bite	Head / Face / Neck		Drag Line Rd	Sevenson	EE stated he was washing a boom with a pressure washer when he felt a sting on the back of his neck, he slapped the area and was stung again just above the first area.	Cleaned, hydrocortisone, benzocaine
FY10	2010-06-09	First Aid	Contusion / Bruise	Trunk	Slip/Trip/Fall Elevation	Muddy Water Ditch; T-2 Dike	W.O. Marsh	EE stated he was getting out of his amphibious track hoe when the ladder broke causing him to fall backward landing on his buttocks on soft ash.	Emergency department for X-ray - negative, Ibuprofen, Back-Off tabs
FY10	2010-06-10	First Aid	Sprain / Strain	Shoulder	Body Position	MAP Area	Subcontractor	EE stated he was changing the oil in a water truck (Truck 68). While putting the new filter on, he had to twist his body to get to the area and felt a sharp pain in his right shoulder.	Biofreeze, Back-Off tabs
FY10	2010-06-16	First Aid	Foreign Body	Eye	Other	unknown	Civil Projects	EE informed foreman he was having discomfort in his left eye. EE attempted to wash out eye with bottled drinking water. Foreman advised EE to go to the clinic.	Sent to doctor for evaluation
FY10	2010-06-16	First Aid	Contusion / Bruise	Hand / Wrist	Rubbed/Abraded	Press Pad	Sevenson	EE stated while working on the press pad railing, was tossing up a cover and left hand missed padding and hit the steel part. EE stated it began hurting when he woke up around 3:30am and he noticed it was swelling.	Cold pack, ibuprofen

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NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY10	2010-06-16	First Aid	Insect Bite	Hand / Wrist	Contact with (Chemical)	Ball field	Subcontractor	EE stated she was in the Ball Field boot wash decon building, she had finished washing her boots with the brush and as she laid the brush down a bee stung her right thumb.	Medicane
FY10	2010-06-21	First Aid	Exposure	Arm / Elbow	Other	Clean Water Ditch	Civil Projects	EE stated he was in the Clean Water Ditch installing pipes all day on Friday. When he woke up on Saturday he noticed a rash on both of his forearms and lower left leg.	Cleaned, hydrocortisone
FY10	2010-06-21	Near Miss	Exposure	Trunk	Other	Clean Water Ditch	Civil Projects	EE stated he was in the Clean Water Ditch installing pipes all day on Friday, when he woke up on Saturday he noticed a rash on his chest, he cleaned it with alcohol and it has mostly dried up.	None required
FY10	2010-06-21	First Aid	Exposure	Arm / Elbow		Clean Water Ditch	Civil Projects	EE stated he was in the Clean Water Ditch installing pipes all day on Friday, when he woke up on Saturday he noticed a rash on both of his forearms and lower left leg.	Cleaned, hydrocortisone
FY10	2010-06-26	First Aid	Contusion / Bruise	Hand/wrist	Struck Against	Ball Field	MACTEC	EE was climbing into a JLG when she hit her hand on the railing.	Cold Pack, ibuprofen
FY10	2010-06-26	First Aid	Insect Bite	Head / Face / Neck		Press Pad	Sevenson	EE was walking around the back side of Filter Press and felt something sting in the back of his neck.	Cleaned, sting swab
FY10	2010-06-27	First Aid	Insect Bite	Head / Face / Neck		Pontoon Boat	Jacobs	EE stated he was on TVA's pontoon boat when he felt something crawling under his shirt then felt it bite him.	Antibiotic ointment
FY10	2010-06-28	First Aid	Sprain / Strain	Hand / Wrist	Material Handling	Ball Field	MACTEC	EE stated he was closing the train cars, while pulling on a bungee he "felt it (his wrist) go" and noticed a "tingle-like" feeling in his left wrist and hand, he shook it off and went to the next car when he noticed his hand "wasn't working right."	Cold pack, ibuprofen, Biofreeze, bandage
FY10	2010-06-28	First Aid	Contusion / Bruise	Foot / Ankle	Struck BY	Press Pad	Sevenson	EE stated he was lifting a pressure washer over the manifold, when it cleared it fell landing on his left foot.	Cold pack, ibuprofen, Biofreeze, bandage
FY10	2010-06-29	First Aid	Exposure	Foot / Ankle	Slip/Trip No Fall	Drag Line Rd	Sevenson	EE stated he was "on top of track hoe using steam genie to blast off grease and ash from machine face. Shield and safety glasses got fogged up, the boot liners got greasy and oil on bottom. Tried to get in more stable comfortable spot, slipped while turning their foot. Reaction was to grab something; had hand rail with right hand and wand in left hand - squeezed wand with left hand and sprayed top of left foot through liner and boot. Had helper turn off machine set everything down; took off PPE; assessed damage - minor burn.	Burn spray, antibiotic ointment, wrapped with gauze
FY10	2010-06-30	First Aid	Foreign Body	Eye		Drag Line Rd	Civil Projects	EE reported irritation to right eye; unable to relate to a specific event or incident. No evidence of a foreign body.	Flushed, Refresh drops
FY10	2010-06-30	Near Miss				South Decon Area	Civil Projects	EE stated he driving a water truck, as he was coming out of decon, a plastic flap caught left mirror and pulled mirror down causing structural damage to water truck.	None required
FY10	2010-07-01	First Aid	Insect Bite	Head / Face / Neck		South Dredge Dock	Sevenson	EE stated he was under the break tent when he felt a "sting or bite" but didn't see anything.	Cold pack, Benadryl

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NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY10	2010-07-06	First Aid	Sprain / Strain	Leg / Knee		Underpass Excavation Site	Civil Projects	While installing Tensar in the underpass excavation site, EE stated he become stuck in the mud. While attempting to free himself he strained his right knee. EE did not report the injury until Tuesday morning.	Cold pack, ibuprofen, Biofreeze, bandage
FY10	2010-07-07	First Aid	Insect Bite	Arm / Elbow		West Storage	Civil Projects	EE stated while flagging she felt something sting her right forearm.	Cold pack, hydrocortisone cream, Benadryl
FY10	2010-07-08	First Aid	Insect Bite	Hand / Wrist		Relic Area, Weir Boxes	Stantec	EE stated they were going through the weir boxes, he placed his hand on a box and felt a sting.	Benadryl cream, hydrocortisone cream
FY10	2010-07-09	First Aid	Insect Bite	Head / Face / Neck		Ball Field	MACTEC	EE stated he was sitting in the MACTEC break trailer when he felt something sting the back of his neck.	Benadryl cream, hydrocortisone cream
FY10	2010-07-10	First Aid	Sprain / Strain	Foot / Ankle		South Dredge Dock	Civil Projects	EE stated he was climbing out of his truck when he rolled his right ankle causing him to fall landing on his right side.	Cold pack, ibuprofen, Biofreeze, bandage
FY10	2010-07-13	Near Miss				Swan Pond Circle	Civil Projects	EE stated he was driving a sweeper. EE also stated he was approximately 1/2 mile south of the Quarry Road when he met with a Rodger's Group dump truck, they both slowed to pass and thought we were clear but the mirrors hit.	None required
FY10	2010-07-13	First Aid	Laceration / Puncture	Arm / Elbow		Rail Yard	MACTEC	EE stated he was throwing the liner over the edge of the car, a piece of metal shard poked through the protective sleeve and punctured his arm.	Cleaned, antiseptic, bandage
FY10	2010-07-13	First Aid	Sprain / Strain	Foot / Ankle		Ball Field	MACTEC	EE stated as he was exiting the lift onto the rail car his ankle rolled on the uneven ash.	Cold pack, ibuprofen, Biofreeze, bandage
FY10	2010-07-19	First Aid	Insect Bite	Hand / Wrist		Intermediate Dike	TVA	EE stated she was just standing, she moved her arm and was stung by a red wasp.	Medicane
FY10	2010-07-20	Near Miss	Insect Bite	Head / Face / Neck		Trailer City	Subcontractor	EE stated he was on the porch of the public restroom trailer when something stung him on his head just behind his left ear.	None required
FY10	2010-07-23	First Aid	Insect Bite	Arm / Elbow		Rail Yard	MACTEC	EE stated he was up in a JLG at the side of a rail car when something flew over and stung him on the right forearm.	Medicane, cold pack
FY10	2010-07-27	First Aid	Insect Bite	Arm / Elbow		South Dredge Dock	Sevenson	EE stated he was on the dredge when a small bee stung him on the arm.	Sting swab, Benadryl cream
FY10	2010-08-03	First Aid	Sprain / Strain	Shoulder	Body Position	Dike C Water Tank	Civil Projects	EE stated he was climbing out of the truck, facing forward with his left hand holding the hand rail and his right hand holding the door when he stepped down he felt a pull in his left shoulder.	Cold pack, ibuprofen, Biofreeze
FY10	2010-08-03	OSHA Recordable; 0 Days Away	Insect Bite	Hand / Wrist		Lower Dragline Rd	Civil Projects	EE stated as he put his right hand into a glove he felt something sting the palm of his hand, he immediately pulled the glove off and felt it sting again on the back of his middle finger.	Ibuprofen, Epsom Salt
FY10	2010-08-05	First Aid	Laceration / Puncture	Hand / Wrist	Rubbed / Abraded	Ash Pond Dredge	Civil Projects	EE stated he caught his right hand on a metal shard on the john boat as he was untying it from the dredge.	Cleaned, antiseptic, Steri-Strip, bandage
FY10	2010-08-05	First Aid	Insect Bite	Head / Face / Neck	Contact with (Chemical)	South Dredge Dock	Sevenson	EE stated he was moving a ladder when he felt something sting the back of his neck.	Removed stinger, cleaned, antiseptic, Benadryl cream
FY10	2010-08-10	Near Miss				Ball Field; Track 2	Civil Projects	EE stated he was driving a water truck when a road grader backed into him. EE denied any pain or injury.	None required
FY10	2010-08-10	First Aid	Insect Bite	Foot / Ankle	Contact with (Chemical)	Trailer City	Jacobs	EE stated she was sitting at her desk when she noticed her ankle started to itch and she noticed a red bump.	Benadryl cream, hydrocortisone cream

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NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY10	2010-08-11	First Aid	Insect Bite	Hand / Wrist	Contact with (Chemical)	Berkshire House	Civil Projects	EE stated he was standing on the basement porch during the pre-job meeting when a yellow jacket stung him.	Medicaine, Benadryl cream, bandage
FY10	2010-08-14	Near Miss	Sprain / Strain	Back	Body Position	Lakeshore	Civil Projects	EE stated he was trimming a bush with a hedge trimmer when he reached over and felt a sharp pain in his back.	Refused treatment
FY10	2010-08-16	First Aid	Exposure	Arm / Elbow	Material Handling	Lakeshore	Civil Projects	EE stated he was doing yard work and noticed poison ivy and attempted to avoid it, but he noticed itching on Saturday night and woke up with a rash on Sunday.	Benadryl cream, hydrocortisone cream
FY10	2010-08-16	Near Miss				Stilling Pond	Civil Projects	EE stated while tying electrical cord to a float, he felt something bite the back of his right hand under his glove.	
FY10	2010-08-17	First Aid	Insect Bite	Hand / Wrist	Contact with (Chemical)	Electronic Gate at Berkshire	Civil Projects	EE stated while weed eating, yellow jackets started swarming around him and stung him multiple times. Noted three areas on his right wrist/thumb, one area on the back of his right upper arm, and one area on his buttocks.	Medicaine, Benadryl cream, hydrocortisone cream, cold pack
FY10	2010-08-19	First Aid	Insect Bite	Head / Face / Neck	Contact with (Chemical)	Ball Field	Sevenson	EE stated he was wearing a baseball cap when he felt a sting in the temple area.	Benadryl cream
FY10	2010-08-24	Near Miss	Insect Bite	Trunk	Contact with (Chemical)	Barge	Sevenson	EE stated he was on the barge when he felt something bite him.	None required

Note:
EE = Employee

TABLE I-2 HEALTH SAFETY INCIDENTS FY2011
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY11	2010-10-21	Near Miss	Insect Bite	Back	Contact with (Chemical)	MAP Area	Civil Projects	EE stated he was walking out of the door of the break trailer when he felt a "bite" on his back.	None required
FY11	2010-11-24	Near Miss		Leg / Knee	Slip/Trip/Fall Elevation	SAP Area	Civil Projects	EE stated he was walking up the steps to the break trailer when his Tyvek sleeve got caught on a hand sanitizer bottle that was taped to the hand rail, causing him to loose his balance and fall, landing on the step on his left knee.	None required
FY11	2010-11-24	First Aid	Foreign Body	Eye	Contact with (Debris)	Trailer City	Headway	EE stated he was walking across the parking lot and dust blew into his eye.	Flushed
FY11	2010-12-01	First Aid	Foreign Body	Eye	Struck By	Ball Field	Civil Projects	EE stated he opened the radiator cap, steam and fluid sprayed in his face and eyes.	Flushed
FY11	2010-12-02	First Aid	Sprain / Strain	Shoulder	Material Handling	Berkshire	Civil Projects	EE Stated he was throwing a bag of trash into the Dumpster when the bag slipped out of his right hand. When the bag fell it caused his left arm to jerk.	Cold pack, Biofreeze, ibuprofen
FY11	2010-12-03	First Aid	Contusion / Bruise	Fingers / Thumb	Material Handling	Middle Embayment	Civil Projects	EE Stated he was placing rocks on the tensar to prevent it from moving. He picked up a rock from the pile causing another rock to move pinching his finger.	Drained blister, cleaned, antibiotic ointment, bandage
FY11	2010-12-06	Near Miss				North Embayment	Civil Projects	EE stated he was working in the fill with a DGW pushing up material. He climbed an embankment while pushing the material, he turned around to go back down the slope and didn't see the other EE until he fell.	None required
FY11	2010-12-06	OSHA Recordable; 0 Days Away	Sprain / Strain	Leg / Knee	Struck By	North Embayment	Civil Projects	EE stated he was flagging an articulating truck when he heard someone yell, he started to turn around when he was struck in the back by the blade of a dozer.	Cold pack, bandage, sent to the doctor for evaluation
FY11	2010-12-22	OSHA Recordable; 0 Days Away	Sprain / Strain	Back	Caught In/Between/ Under	North Embayment	Civil Projects	EE stated he was walking to his assigned area and became stuck in the ash.	Cold pack, Back-Off tabs, Biofreeze
FY11	2011-01-12	First Aid	Sprain / Strain	Shoulder	Struck Against	North Embayment	Civil Projects	EE stated he was using a using a pinch bar to remove ash from the tracks of a dozer when he struck the steel track.	Cold pack, Biofreeze, ibuprofen
FY11	2011-01-24	Near Miss	Contusion / Bruise	Foot / Ankle	Struck Against	West Side Storage	Civil Projects	EE stated he was flagging an articulating truck, he stepped backward, lost his balance and fell.	None required
FY11	2011-02-04	First Aid	Contusion / Bruise	Foot / Ankle	Struck By	Ball Field; Track 2	S&S	EE stated the backhoe was holding up one end of the track, he was attempting to remove a part from the other end when the track rolled onto his foot.	Cold pack, ibuprofen
FY11	2011-02-23	First Aid	Exposure	Trunk	Struck Against	Trailer City	Jacobs	EE stated he was standing in an office of Trailer 1 with a cup of coffee in his left hand. While talking to another employee he accidently hit the cup with his right hand causing it to spill.	Burn spray, burn jell
FY11	2011-03-08	First Aid	Laceration / Puncture	Hand/Wrist	Struck Against	North Embayment	Civil Projects	EE stated he was oiling an amphibious track hoe, as he pulled the hose he hit his knuckle on the bucket.	Cleaned, antibiotic ointment, bandage
FY11	2011-03-14	Near Miss				Dike D	Civil Projects	EE was operating an excavator that got stuck in the ash, and was sent for a drug screen, he stated that he had no injuries	None required
FY11	2011-04-05	First Aid	Sprain / Strain	Arm / Elbow	Material Handling	Ball Field	Civil Projects	EE stated the forks on a fork-lift became stuck under the cross-ties being loaded onto a flatbed. He was attempting to unstick the forks by pushing with his right arm and using his left arm for leverage.	Cold pack, Biofreeze, ibuprofen, bandage

TABLE I-2 HEALTH SAFETY INCIDENTS FY2011
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY11	2011-04-25	Near Miss	Sprain / Strain	Hand / Wrist	Struck Against	Intake Bridge	Civil Projects	EE was under supervision of Demco for the day. EE stated he was using a pry bar to remove concrete from the bridge surface. He struck the concrete with the pry bar and jarred his hand.	None required
FY11	2011-05-12	Near Miss	Insect Bite	Trunk	Biological Flora/Insect	Berkshire	Civil Projects	EE stated she was walking into the Berkshire House when she felt a sudden itch, she checked it a few minutes later and noticed a bump.	None required
FY11	2011-05-17	Near Miss	Insect Bite	Head / Face / Neck	Biological Flora/Insect	Tool Trailer	Civil Projects	EE stated she was in the tool trailer picking up her radio and keys, as she walked out of the trailer she felt a sudden itch, it continued to get worse and started swelling.	None required
FY11	2011-06-13	Near Miss	Sprain / Strain	Back	Material Handling	North Embayment	Civil Projects	EE stated he had been unloading, moving, and rolling out fabric when his lower back started hurting. He stated it felt like "muscle spasms and thought he would be ok," but wanted to report it per procedures.	None required
FY11	2011-06-16	Near Miss	Insect Bite	Leg / Knee	Material Handling	Trailer City	Subcontractor	EE was removing empty 5 gallon water bottles from racks when several wasps appeared and he was stung on the lower right leg. A wasp nest was found on the inside of the racks and removed.	None required
FY11	2011-07-01	Near Miss				SAP Area	Civil Projects	EE stated he was sitting at the table in the break area when he noticed something on his head, he pulled it off and noticed it was a tick.	None required
FY11	2011-07-01	First Aid	Sprain / Strain	Shoulder	Body Position	River	Subcontractor	EE stated he had been pulling himself from the water onto the boat multiple times on Friday (7/1), when he woke up on Saturday (7/2) his shoulder was hurting.	EE self treated with cold packs and ibuprofen. EE was sent to the doctor by the employer.
FY11	2011-07-03	Near Miss		Head / Face / Neck	Material Handling	Trailer City	Subcontractor	EE was replacing a board on the ramp beside trailer 4 in trailer city when he was stung by a wasp. A wasp nest was found under the railing and removed.	None required
FY11	2011-07-05	First Aid	Sprain / Strain	Shoulder	Body Position	Dike C	Civil Projects	EE stated he was mucking tracks when his shovel became stuck. He was pulling and twisting the shovel to unwedge it when he felt a pop in his shoulder.	Cold pack, Biofreeze, Ibuprofen
FY11	2011-07-09	Near Miss				SAP Area	Civil Projects	EE stated he walked into the boot wash building when a wasp hit him in the face just above his safety glasses and stung him 3 times in the area of his right eyebrow.	None required
FY11	2011-07-13	Near Miss				Water Tank (Dike C)	Civil Projects	EE stated he was manually operating the water flow from the water tank. The headboard from an articulation dump struck the king pin on the tank causing the tank structure to shift striking employee.	None required
FY11	2011-07-20	Near Miss	Insect Bite	Hand / Wrist	Biological Flora/Insect	North Bridge	Civil Projects	EE stated he was flagging when he felt something "pinch" his hand, looked down, and saw a spider.	None required
FY11	2011-07-25	Near Miss	Contusion / Bruise	Hand / Wrist	Slip/Trip/Fall Same Level	Settling Pond	Civil Projects	EE stated he was getting ready to move an aluminum walkway. As he grabbed a post on the walkway, he lost his footing in the gravel, causing him to fall.	None required
FY11	2011-07-25	Near Miss				North Haul Road	Civil Projects	EE stated he was operating a John Deere tractor. He stopped at the stop sign on New Haul Road, as he pulled out, turning left, onto North Haul Road he struck the back of an articulating truck.	None required
FY11	2011-08-03	First Aid	Laceration / Puncture	Head / Face / Neck	Struck By	GeoCon Silo	Subcontractor	EE stated she was unhooking a pipe. She pulled on it and the pipe lunged forward hitting her in the mouth.	Cleaned, flushed, antibiotic ointment, bandage

TABLE I-2 HEALTH SAFETY INCIDENTS FY2011
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY11	2011-08-05	Near Miss	Insect Bite	Shoulder	Material Handling	GeoCon MAP	Subcontractor	EE was loading the mixer when something stung him.	None required
FY11	2011-08-19	Near Miss	Exposure		Material Handling	Batch Plant	Subcontractor	EE stated he was attempting to unclog a hose when dry slag cement spilled out of the hose covering employee.	None required
FY11	2011-08-22	First Aid	Laceration / Puncture	Arm/Elbow	Struck By	North Embayment	Civil Projects	EE stated he was operating a dozer. He noticed some cable on the ground, got out of the dozer to remove it. As he picked up the cable, it recoiled, striking his forearm.	Cleaned, antibiotic ointment, bandage
FY11	2011-08-25	Near Miss	Exposure		Weather Heat/Cold	Lateral Extension	Civil Projects	EE stated he was flagging when he became too hot.	None required
FY11	2011-08-26	First Aid	Contusion / Bruise	Arm / Elbow	Slip/Trip/Fall Same Level	GeoCon MAP	Subcontractor	EE stated he was walking, stepped on some pipes which rolled, causing him to fall.	Cold pack, Ibuprofen
FY11	2011-08-29	Near Miss	Exposure		Struck By	North Embayment	Civil Projects	EE stated he was flagging in the buttress area when someone, approximately 10 feet behind him, was spraying vegetation and the over spray misted him.	None required
FY11	2011-09-09	Near Miss	Insect Bite	Arm / Elbow	Struck By	Batch Plant	Subcontractor	EE stated he was walking up the stairs and was stung by a yellow jacket.	Evaluation only
FY11	2011-09-21	Near Miss	Contusion / Bruise	Arm / Elbow	Slip/Trip/Fall Elevation	GeoCon MAP	Subcontractor	EE stated she was walking down the steps of the trailer when she slipped and fell.	Evaluation only
FY11	2011-09-23	First Aid	Laceration / Puncture	Arm / Elbow	Slip/Trip/Fall Elevation	Berkshire	Civil Projects	EE stated he was standing on a platform holding a flashlight for another employee. He started to step down, slipped on the wet wooden steps, fell down approximately 4 steps, and landed in the gravel.	Cleaned, bandaged

Notes:
EE = Employee
MAP = Material Access Point
SAP = South Access Point

TABLE I-3 HEALTH SAFETY INCIDENTS FY2012
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY12	2011-10-01	First Aid	Foreign Body	Eye	Slip/Trip/Fall Elevation	Trench	GeoCon	EE stated he was standing on the catwalk sounding the trench when the catwalk fell, causing him to fall into the slurry.	Flushed, Refresh drops
FY12	2011-10-13	First Aid	Sprain / Strain	Hand / Wrist	Body Position	Old MAP Area	Civil Projects	EE stated she was getting into a pickup truck, grabbed the assist handle, and twisted her wrist.	Cold pack, ibuprofen, bandage
FY12	2011-10-14	Near Miss				Old MAP Area	Civil Projects	EE stated he preformed a "walk around" prior to getting into the dozer. He started the dozer, turned on the lights, put it in reverse to turn it, put it in forward to move it to the pavement and struck the generator.	None required
FY12	2011-10-15	First Aid	Laceration / Puncture	Fingers / Thumb	Caught In/Between/Under	Old MAP Area	Civil Projects	EE stated he was mucking tracks with a spade shovel. He pried down on the shovel to loosen the ash and caught his finger between the shovel handle and the track of the track hoe.	Cleaned, antibiotic ointment, bandage
FY12	2011-10-27	Near Miss				North Embayment	Civil Projects	EE stated he was flagging an articulating dump. As the truck backed into position it struck the bucket of a track hoe.	None required
FY12	2011-10-27	Near Miss				North Embayment	Civil Projects	EE was driving an articulating dump, backing into position to receive a load, when the bed of the truck struck the raised bucket of a track hoe.	None required
FY12	2011-10-27	Near Miss				North Embayment	Civil Projects	EE stated he was operating a track hoe. He was in a stopped position with the bucket raised waiting for the articulating dump to back into position. As the truck backed up it struck the raised bucket on the track hoe.	None required
FY12	2011-11-01	Near Miss				Central	Civil Projects	EE stated he was operating a tractor pulling a pan. He stopped the tractor and was struck from behind.	None required
FY12	2011-11-01	Near Miss				Central	Civil Projects	EE was operating a tractor pulling a pan. He had dumped part of his load and was having to shake the pan to loosen the second part of his load. He turned around to make sure the load was emptying. When he looked back up the tractor pan in front of him had stopped, he couldn't stop in time and struck the pan.	None required
FY12	2011-11-10	First Aid	Exposure	Arm / Elbow	Material Handling	1015 Swan Pond	P&J	EE stated on 11/8 she had been spreading hay and installing silk fence when she noticed what she thought was a splinter. Then later she noticed a rash.	Cleaned, antibiotic ointment, bandage
FY12	2011-12-01	Near Miss				C Dike	Civil Projects	EE stated as he was backing up an articulating water truck. Was getting to close to the fence on the left, turned toward the right, and struck a guard post.	None required
FY12	2011-12-06	Near Miss				New MAP	M Justice Farms	EE stated he was driving a tri-axle dump truck; when he turned into the MAP area, the left rear tire struck the front bumper of a F-350 pick up.	None required
FY12	2011-12-08	Near Miss				Haul Road	Civil Projects	EE stated he was driving a fuel truck. He was backing up to turn around and his left rear bumper struck against the right rear track of a track hoe.	None required
FY12	2012-01-06	First Aid	Laceration / Puncture	Fingers / Thumb	Slip/Trip/Fall Elevation	Ash Pond Road	Civil Projects	EE stated he was exiting his track hoe (284) when he slipped on the ladder, swung around hitting the track hoe, and fell.	Cleaned, antibiotic ointment, bandage
FY12	2012-01-12	First Aid	Contusion / Bruise	Leg / Knee	Struck By	Batch Plant	GeoCon	EE stated he was standing close to the hose, another worker removed the coupling from the air hose. The hose whipped around and hit employee.	Cold pack, Ibuprofen, Tylenol

TABLE I-3 HEALTH SAFETY INCIDENTS FY2012
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY12	2012-01-25	First Aid	Sprain / Strain	Leg / Knee	Material Handling	Batch Plant	GeoCon	EE stated he was shoveling slurry by picking it up in front of him and dumping it to his right by pivoting. He had his right foot planted as he turned to dump a shovel full and did not pivot causing pain to his leg.	Cold pack, Ibuprofen, Tylenol
FY12	2012-02-03	Near Miss		Fingers / Thumb	Caught In/Between/Under	SAP	Civil Projects	EE stated she was vacuuming a vehicle, and had her hand on the door frame when the vehicle door closed catching two of her fingers.	None required
FY12	2012-02-13	OSHA Recordable; 0 Days Away	Fracture	Foot / Ankle	Slip/Trip/Fall Elevation	Ash Pond Road	Civil Projects	EE stated he was beginning to descend the ladder of an amphibious track hoe when the ladder broke, causing him to fall approximately 4 feet.	Cold pack, ibuprofen, Tylenol, ACE wrap
FY12	2012-02-13	First Aid	Sprain / Strain	Leg / Knee	Struck Against	173 Lakeshore Boat Dock	P&J	EE stated he was working on the boat dock, he sat down on the dock and jumped approximately 2 feet onto the mud and rock, ground causing him to jam his knee.	Ibuprofen, Tylenol, ACE wrap
FY12	2012-03-12	First Aid	Sprain / Strain	Back	Material Handling	Segment 8	GeoCon	EE stated he and another co-worker were carrying a battery. He slipped on some slurry causing him to lose his footing and twist his back.	Cold pack, Ibuprofen, Tylenol
FY12	2012-04-10	First Aid	Foreign Body	Eye	Material Handling	MAP	Civil Projects	EE stated he was exiting his grader when the ash/dirt from the handrail blew into his eye.	Flush, cotton-tipped applicator, Refresh drops
FY12	2012-04-19	First Aid	Sprain / Strain	Back	Slip/Trip/Fall Same Level	Segment 7	Civil Projects	EE stated he crossed the ditch line to hand off a pipe to a co-worker when the ash gave out under his left foot causing him to fall.	Cold pack, ibuprofen, Tylenol, Biofreeze
FY12	2012-05-05	Near Miss				Segment 7	Civil Projects	EE stated he was placing a hose on the casing of a John Deer 350 long-boom track hoe. He signaled the operator to lower the boom. As the operator released the hydraulics, the boom moved toward the left bumping him.	None required
FY12	2012-05-05	Near Miss				Segment 7	Griffin Construction	EE stated he was supervising the placement of a hose onto the casing of a John Deer 350 long-arm track hoe. After laborers signaled the operator to lower the boom, the boom moved toward the left bumping himself and a laborer.	None required
FY12	2012-05-12	First Aid	Laceration / Puncture	Arm / Elbow	Struck Against	GeoCon boot wash	Civil Projects	EE stated he was assisting a laborer to loosen the hose on a water truck when he bumped against the spray bar.	Cleaned, Antibiotic ointment, bandage
FY12	2012-05-23	First Aid	Sprain / Strain	Leg / Knee	Slip/Trip No Fall	Trailer City	Jacobs	EE stated he just arrived at the job site, exited his vehicle, and was walking across the gravel parking lot when he stepped on a large rock causing his foot to roll and twist his knee.	Cold pack, Tylenol, ACE wrap
FY12	2012-06-05	Near Miss				MAP	Civil Projects	EE stated he was driving an articulating water truck. He was attempting to turn around in the exclusion part of the MAP, he couldn't complete the turn and had to back up. As he was backing up he struck an empty bus that was parked.	None required
FY12	2012-06-18	Near Miss				Central	Civil Projects	EE stated he was operating a John Deer tractor pulling two pans. As he dumped the load from the second pan, the pan slid on the unstable ground hitting a PZ pipe breaking it.	None required
FY12	2012-06-28	Near Miss				Lower Access Road to Red Water Pond	Civil Projects	EE stated he was driving a tandem water truck. He was passing a sweeper truck that was parked at the water horse pump when his right side tires slid off the shoulder of the gravel road. No vehicle damage.	None required

TABLE I-3 HEALTH SAFETY INCIDENTS FY2012
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY12	2012-06-20	Near Miss	Insect Bite	Leg / Knee		Trailer City	Jacobs	EE stated on 6/20 at 14:00 she had just returned from the GeoCon area when she felt something "bite" her leg.	EE self treated
FY12	2012-07-11	Near Miss	Insect Bite	Head / Face / Neck		Swan Pond Road	Virginia Tech	EE stated while cleaning out the bird houses she felt something sting her.	None required
FY12	2012-08-01	Near Miss	Contusion / Bruise	Head / Face / Neck	Struck By	Trailer City	Jacobs	EE stated she was placing a box of papers on a dolly. As she put the box on the end of the dolly the handle swung forward hitting her in the head.	Evaluation
FY12	2012-08-14	Near Miss		Arm / Elbow	Struck By	Barn 2 at Berkshire	Civil Projects	EE stated he was operating a Massey Ferguson Tractor with a bush hog. EE opened the door to adjust the side mirror. When EE attempted to close the door it would not latch. On the third attempt, the side window shattered.	None required
FY12	2012-08-18	Near Miss		Arm / Elbow	Biological Flora/Insect	Berkshire	Civil Projects	EE stated he was operating a weed eater along the side of the road when it struck a yellow jacket nest.	None required
FY12	2012-09-08	Near Miss	Insect Bite	Head / Face / Neck	Struck By	Segment 8	GeoCon	EE stated he was moving a grout line when he felt something sting/bite him on the side of his neck.	None required
FY12	2012-09-13	Near Miss	Exposure	Internal	Weather Heat/Cold	Lakeshore	Blanks Tree Service	EE stated he was working on the tree removal when he noticed his hands were shaking and he became nauseated.	None required
FY12	2012-09-14	First Aid	Sprain / Strain	Back	Slip/Trip/Fall Same Level	Segment 2	Civil Projects	EE stated he was walking down a slope to retrieve a pump line when the ash ground gave out causing EE to lose footing and fall.	Cold pack, ibuprofen, Biofreeze
FY12	2012-09-19	Near Miss				Relic	Civil Projects	EE stated he was operating a D6N dozer cleaning, drying, and fixing the roads. As he backed up, the left track of the dozer struck a port-a-john on the right side. No injuries.	None required

Notes:
EE = Employee
MAP = Material Access Point
P&J = Phillips and Jordan
SAP = South Access Point

TABLE I-4 SAFETY HEALTH INCIDENTS FY2013
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY13	2012-10-08	First Aid	Sprain / Strain	Back	Body Position	Segment 7	Armstrong Drilling	EE stated he was moving pipes when his right foot slipped on the wet ground causing him to twist awkwardly.	Cold Pack, ibuprofen, Biofreeze
FY13	2012-10-11	Near Miss	Insect Bite	Hand / Wrist	Struck Against	Berkshire	SCS	EE stated he was beginning a break and had removed his gloves. He felt something on his neck, swatted at it, and was stung.	None required
FY13	2012-10-30	First Aid	Laceration / Puncture	Fingers / Thumb	Caught In/Between/Under	Segment 7	GeoCon	EE was changing the swivel on a drill rig. While attempting to place a sleeve on the swivel, his finger became caught between the sleeve and track.	Clean, antiseptic, Steri-Strip, bandage
FY13	2012-11-05	First Aid	Exposure	Arm / Elbow	Contact with (Chemical)	Trailer City	Johnson Services	EE stated he was cleaning the TVA sign with a bleach and water solution. He was cleaning up high and the solution ran down his arm causing a rash on his arm above the glove line.	Topical benadryl
FY13	2012-11-09	First Aid	Laceration / Puncture	Fingers / Thumb	Struck Against	Relic	ESS	EE was loosening a nut on a plow bolt when the bolt unlocked causing it to shift striking employee's hand.	Steri-Strips, antibiotic ointment, bandage
FY13	2012-11-12	Near Miss	Sprain / Strain	Leg / Knee	Body Position	North End (farm)	SCS	EE stated he was stepping over the silt fence when he felt a "pop" in his upper leg.	None required
FY13	2012-11-13	Near Miss			Struck By	Ball Field	SCS	EE stated he was operating a 420 CAT backhoe dragging dredge pipe to the Ball Field. There was a piece of pipe curled with the back bucket. While moving, the pipe twisted and hit the back glass on the cab causing it to shatter.	None required
FY13	2012-11-15	Near Miss			Slip/Trip/Fall Elevation	Ball Field	SCS	EE stated he was descending the steps on an articulating water truck when the left side hanger broke, causing the steps to swing toward the right, which caused him to lose his footing and fall.	None required
FY13	2012-11-15	Near Miss			Caught In/Between/under	Settling Pond	SCS	EE stated he was operating a D8T dozer when the gravel ground gave way causing the dozer to slide into the edge of the Settling Pond.	None required
FY13	2012-11-19	First Aid	Sprain / Strain	Foot / Ankle	Slip/Trip No Fall	Segment 3	SCS	EE stated he was walking forward while flagging an articulating dump when he rolled his ankle on a large rock.	Cold pack, Biofreeze, bandage
FY13	2012-11-20	Near Miss			Struck Against	Relic	SCS	EE stated he was operating a pan. As he turned around at the end of the cut, the front left of the bowl caught the right rear of a chisel plow.	None required
FY13	2013-01-21	First Aid	Sprain / Strain	Fingers / Thumb	Body Position	Segment 7	GeoCon	EE was dragging a high pressure hose when he felt a "pop" and his left thumb started to hurt.	Cold Pack, Ibuprofen, ACE wrap
FY13	2013-01-28	OSHA Recordable	Sprain / Strain	Head / Face / Neck	Struck Against	Gupton Farm Rd	SCS	EE was driving a tri-axle dump truck spreading gravel. The truck started sliding on the mud road while the bed was lifted causing the truck to tip over.	Sent to RMC ED via EMS for advanced evaluation
FY13	2013-02-18	Near Miss	Sprain / Strain	Back	Slip/Trip/Fall Same Level	J Road Access	SCS	EE stated he was checking pumps. EE walked behind pump #ash006 to close the drain valves when he slipped on the plastic liner in the containment pit and fell. Outside temp was 21 degrees with frost.	Evaluation only
FY13	2013-03-09	Near Miss			Struck Against	Boot Wash - Trailer City	SCS	EE stated he was driving a water truck. He pulled up to the boot wash, let laborer out, and began to back up closer to the building. He couldn't see through the mirror due to the sun and struck the boot wash building.	None required

TABLE I-4 SAFETY HEALTH INCIDENTS FY2013
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY13	2013-03-16	Near Miss			Caught In/Between/Under	Segment 4 Exit Road	SCS	EE stated he was driving an articulating truck. EE merged toward the right to avoid a soft spot/sink hole on the left side of the road. The right side of the ash road gave away causing the truck to slide and become stuck in the ash.	None required
FY13	2013-03-20	Near Miss			Struck By	SAP	SCS	EE stated he attached the face shield to his hard hat. As he pulled it down, the frame came loose from the rim of the hard hat causing the shield to jerk backwards and hit him in the face.	None required
FY13	2013-03-20	Near Miss	Exposure	Internal	Contact with (Chemical)	SAP	Stantec	EE was driving into the SAP area. As he past the ammonia tanks, where they were being filled, the vapors entered the cab of the truck most likely through the vent because the truck windows were up but the heater was on.	Evaluation only
FY13	2013-03-25	Near Miss			Struck Against	SAP	SCS	EE stated she was backing up a Ford pickup. While looking toward the left watching the truck as it moved in reverse, the front right bumper caught on the door of the tent.	None required
FY13	2013-04-04	Near Miss				Segment 1	SCS	EE stated he was loading scrap felt into the back of a pickup truck. EE was shaking the rock, dirt, and ash from the felt prior to throwing it into the truck. EE got into the passenger seat of the truck and headed toward the Dumpster when a co-worker noticed, through the rear-view mirror, the back window had spider-webbed.	None required
FY13	2013-04-10	Near Miss	Rash	Arm / Elbow	Material Handling	Segment 6	SCS	EE stated he had been flagging all morning in Segment 6 and during his lunch break noticed a rash on forearms.	None required
FY13	2013-04-22	Near Miss	Insect Bite	Head / Face / Neck	Struck By	Trailer City		Effected Employee stated he was walking down the steps on the back porch of Trailer 4 when a wasp stung him on the neck. He swatted the wasp causing it to fall into his shirt and stung him again on the side.	Evaluation only
FY13	2013-05-31	Near Miss			Struck Against	Central Capping	SCS	EE stated he was operating a 299 CAT Skid Steer Loader. A Chevy Tahoe pulled up and parked in the work area. Employee stated he didn't see the Tahoe pull up. Employee stated he was backing up and struck the Tahoe.	None required
FY13	2013-06-18	Near Miss			Struck Against	Intermediate Dike	SCS	EE stated he got into the passenger seat of a Chevy pickup (37580), put on seat belt, looked into the left side mirror, began to back up, and struck a Jeep Liberty that was parked behind and to the right of the pickup. Minor damage to the front left bumper of the Jeep.	None required
FY13	2013-06-19	OSHA Recordable	Sprain / Strain	Shoulder	Material Handling	Segment 1, Top of the Wall	SCS	EE stated he was picking up and tossing 40 lb bags of polymer up a slope to a co-worker. As he tossed a bag he felt a sharp pain and heard a pop in his right shoulder.	Cold pack, Biofreeze, ibuprofen, Tylenol. Sent offsite to OHS for advanced evaluation.
FY13	2013-06-20	Near Miss			Slip/Trip/Fall Same Level	SAP	SCS	EE stated he was pulling a hose out to spray off a Kubota when he tripped over an 8-inch discharge hose causing the EE to fall.	None required
FY13	2013-07-23	First Aid	Laceration / Puncture	Hand / Wrist	Struck Against	Underpass; Middle Embayment	SCS	EE stated he was using a post hole driver placing T-post. The ground was soft and the post went further into the ground than realized. The driver came off the post causing the employee to strike his gloved hand on the post.	Cleaned, antiseptic, Steri-Strips, bandage

TABLE I-4 SAFETY HEALTH INCIDENTS FY2013
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY13	2013-07-26	OSHA Recordable	Sprain / Strain	Shoulder	Struck Against	SAP	SCS	EE stated he was exiting the site through the boot wash and tripped over an 8-10 inch pipe (used as a curb), fell against the transport van causing his arm to twist backward. **(Changed from first aid to lost (time recordable on 11/13/13.)**	Cold pack, ibuprofen, Tylenol, Biofreeze
FY13	2013-07-29	Near Miss	Insect Bite	Head / Face / Neck	Struck By	CONEX North	SCS	EE stated he was entering the CONEX when a wasp stung him on the back of the neck.	Evaluation only
FY13	2013-08-05	Near Miss	Laceration / Puncture	Arm / Elbow	Material Handling	Cap Area 1	P&J	EE stated he was busting large rocks with a sledge hammer. As he hit a large rock, a fragment hit his arm.	Evaluation only
FY13	2013-08-06	First Aid	Sprain / Strain	Foot / Ankle	Body Position	Borrow Pit North	SCS	EE was exiting an articulating dump truck. He placed his left foot on the step and as he began to step down with his right foot, his left foot bent awkwardly causing pain.	Cold pack, ibuprofen, Biofreeze, ACE wrap
FY13	2013-08-06	Near Miss	Sprain / Strain	Back	Body Position	Emory River Segment 2	SCS	EE was sitting on a boat pulling up the anchor when he felt a pain in the lumbar region.	Evaluation only
FY13	2013-08-08	First Aid	Laceration / Puncture	Arm / Elbow	Material Handling	Lakeshore	P&J	EE stated he was removing parts from a box with a new sink in it and cut his arm on the unseen broken edge of the porcelain sink.	Clean, antiseptic, bandage
FY13	2013-08-14	Near Miss	Insect Bite	Head / Face / Neck	Struck By	Berkshire	Johnson Services	EE stated he was mowing around the trees when he was stung by a hornet. He then spotted the nest in one of the trees.	Evaluation only
FY13	2013-08-26	Near Miss			Caught In/Between/Under	Slope on Segment 2	SCS	EE stated while operating a 350 John Deer Long-Reach Excavator traming on the road, he crossed a small wash out and the left side of the excavator began to sink as the road gave out. The excavator landed against a ash hill and the employee had to break the windshield to safely exit.	None required
FY13	2013-09-18	First Aid	Sprain / Strain	Back	Body Position	Fort Loudon Dam Lay-Down Yard	SCS	EE stated he was using a 2x4 placed at an angle under a jersey barrier clamp for leverage to move it onto the hydraulic lift on the flat bed truck when he felt a pain in the lumbar region of his back.	Cold pack, Biofreeze, ibuprofen, Tylenol

Notes:
EE = Employee
ESS = TVA Equipment Support Services
SAP = South Access Point
SCS = TVA Site Construction Services

TABLE I-5 HEALTH SAFETY INCIDENTS FY2014
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY14	2013-10-01	Near Miss	Arm / Elbow	Insect Bite	Biological Flora/Insect	Central	SCS	EE stated was driving a Kubota when he felt something bite/sting. Insect was not seen.	None required
FY14	2013-10-03	Near Miss	Head / Face / Neck	Insect Bite	Biological Flora/Insect	Intermediate Dike	SCS	EE was driving T-post when something was felt sting/bite the base of employee's neck. EE swatted at the insect, looked down and saw a black ant.	None required
FY14	2013-10-30	First Aid	Sprain / Strain	Calf	Body Mechanics	Segment 2	P&J	Tripped while walking over installed geocomposite material.	
FY14	2013-10-31	OSHA Recordable	Fracture	Leg	Pre-Task Planning	North Gupton Farm	Lakeway Sanitation	Slipped and fell off of the back of the sanitation truck while climbing to access a hose connection.	
FY14	2014-01-02	Near Miss			Path of Travel	Segment 6	SCS	Lost control of an artic and drove through barrier and privacy fence.	
FY14	2014-01-27	Near Miss			Path of Travel	Cap	P&J	Backed Kubota in to P&J van.	
FY14	2014-02-04	Near Miss			Path of Travel	Cap	SCS	Truck slid while backing and struck Kubota.	
FY14	2014-02-11	Near Miss			Pre-Task Planning	Lakeshore	Merit	Loaded artic broke sceptic tank lid by driving over it.	
FY14	2014-02-27	Near Miss			Struck Against	Dragline Road	SCS	EE was loading a 3 inch hose into the back of a Ford Super Duty pickup. The hose had been left full of water and was now frozen due to the cold weather. EE was pulling the hose into the bed of the truck while a co-worker was pushing the hose from the back of the truck when the coupling on the hose struck the back window of the truck causing it to shatter.	None required
FY14	2014-03-03	First Aid	Laceration / Bruise	Foot	Pre-Task Planning	Exclusion Zone Parking Area	GeoCon	Stepped on nail when removing wood wall from CONEX.	
FY14	2014-03-11	First Aid	Laceration / Bruise	Shin	Body Mechanics	Cap Area 4, Flume 9	Chesapeake	Cut with razor knife while cutting geocomposite roll.	
FY14	2014-03-17	Near Miss			Pre-Task Planning	Swan Pond Road at railroad tracks	SCS	All-terrain forklift transporting a set of forks. Forks being carried swung down and struck roadway.	
FY14	2014-03-19	Near Miss			Path of Travel	Borrow Area	P&J	Loaded artic backed right side tires off built up clay road. Neither spotter or driver stopped.	
FY14	2014-03-25	Near Miss			Path of Travel	Segment 6	SCS	Excavator counterweight struck ladder of artic truck access stairs while repositioning.	
FY14	2014-04-02	First Aid	Insect Bite	Arm	Biological	Segment 6 Berm	P&J	Stung/bit on right forearm when the arm brushed against the reflective vest the laborer was wearing.	
FY14	2014-04-10	Near Miss	Arm / Elbow	Insect Bite	Biological Flora/Insect	Coal Yard	SCS	EE was operating a fork lift, waiting on instruction for loading clam shell buckets onto a trailer. Something stung employee on the arm.	Evaluation
FY14	2014-04-18	Near Miss			Struck By	Dragline Road	SCS	EE while driving a Kubota 900, stopped to speak with a co-worker in a Kubota 1100. EE opened the door on the Kubota 900 and co-worker slid window open on Kubota 1100. After conversation was completed, Kubota 1100 pulled out and the door of the Kubota 900 became hung up on the door handle of the Kubota 1100 causing the left side window on the Kubota 1100 to shatter.	None required
FY14	2014-04-24	Near Miss	Exposure	Internal	Contact with	Ditch 11	SCS	Various employees working near Ditch 11. During excavation, two drums were exposed and unknown substances were spilling from both drums with a strong odor detected. Employees assisted with the clean up by placing the contaminated material in a containment box. Employees noticed symptoms (sore/irritated throat, shortness of breath, mild nausea, tightness in chest) during the clean up but had no complaints of symptoms the following day.	Evaluation
FY14	2014-04-28	Near Miss			Path of Travel	Cap	P&J	Artic truck ran over small trailer that was being pulled by a UTV.	
FY14	2014-05-04	Near Miss	Eye	Insect Bite	Biological Flora/Insect	Segment 7	P & J	EE while standing beside a roller with all safety equipment on, an insect (sweat bee size) flew behind safety glasses and stung left eye lid.	Evaluation

TABLE I-5 HEALTH SAFETY INCIDENTS FY2014
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY14	2014-05-12	Near Miss	Head / Face / Neck	Insect Bite	Biological Flora/Insect	Middle Embayment	SCS	EE while flagging noticed a swollen area on the top of his head.	Evaluation
FY14	2014-05-30	Near Miss			Pre-Task Planning	Middle Embayment	SCS	Forklift was being used as a means of transportation. Operator inadvertently tapped the control causing forks to tilt striking the ground.	
FY14	2014-06-04	OSHA Recordable	Fracture	Mouth	Pre-Task Planning	Segment 6	P&J	Mechanic was struck by a falling tool dropped by teamster adjusting mirror of artic truck.	
FY14	2014-06-09	Near Miss	Head / Face / Neck	Insect Bite	Biological Flora/Insect	Ditch 1 Pump	P & J	EE stated as he started the pump a wasp flew out of the pump and stung him.	Evaluation
FY14	2014-06-17	First Aid	Laceration / Bruise	Arm	Body Mechanics	Cap Area 6B	P&J	As EE pulled a retractable knife through a welded seam of geo-fabric, the blade came out of the fabric and struck him in the forearm.	
FY14	2014-06-17	Near Miss	Shoulder	Insect Bite	Biological Flora/Insect	Cap Area 7, Ditch 1	SCS	EE stated he entered the track hoe and began to walk it to the work location when a bite/sting was felt.	Evaluation
FY14	2014-06-23	First Aid	Sprain / Strain	Back	Body Mechanics	SAP, Asphalt Pad	SCS	When pulling 2 inch hose at heavy equipment decon, twisted and strained back.	
FY14	2014-07-01	Near Miss	Sprain / Strain		Body Mechanics	Relic, Flume 16	SCS	Employee was working T-post side to side with both hands. As he pulled on it, the T-post broke and he fell backwards.	
FY14	2014-07-07	First Aid	Sprain / Strain	Hand/Wrist	Pre-Task Planning	Cap Area 6	Chesapeake	EE strained wrist/fingers on right hand while pushing generator cart.	
FY14	2014-07-12	OSHA Recordable	Sprain / Strain	Neck / Shoulder	Body Position	Old MAP	SCS	While deconning heavy equipment, EE was using a 1-1/4 inch high pressure water hose. EE was switching the hose from right to left hand when the hose slipped and lunged toward him EE quickly moved head and body toward the left and grabbed the hose with his right hand. **(On 10/1/14 injury classified as a recordable due to prescription; 10/15/14 injury classified as a lost time recordable due to surgery.)**	
FY14	2014-07-26	Near Miss			Hazard Identification	Cap Area 5, Flume 12	SCS	Skid steer rolled onto its side while backing cross slope of a ditch with bucket raised.	
FY15	2014-07-30	Near Miss	Arm / Elbow	Insect Bite	Biological Flora/Insect	North Lay Down Area	SCS	EE, while standing and speaking with a foreman, had right arm raised. As EE lowered his arm it rubbed against safety vest and EE felt a sting. EE and foreman saw a red wasp fly off.	Evaluation
FY16	2014-08-05	Near Miss	Sprain / Strain	Head / Face / Neck	Struck Against	Phase 1 Sports Complex	SCS	EE was operating a Caterpillar Dozer (612), spreading fill dirt in the Ball Field. Employee backed up the dozer and hit a large river rock that was embedded in the ground.	Evaluation
FY14	2014-08-13	First Aid	Insect Bite	Abdomen	Biological	Cap Area 5	Chesapeake	Chesapeake EE stung by insect while driving a Kubota.	Benadryl cream, hydrocortisone cream
FY14	2014-08-15	First Aid	Laceration / Bruise	Finger	Caught In/Between/Under	Trailer City South Parking Lot	SCS	While accessing the bus in the morning, individual grabbed the door closure rod as a hand hold and pinched fingers under the handle.	Anti-bacterial soap, antibiotic ointment, bandage, tetanus vaccine
FY14	2014-08-19	Near Miss			Path of Travel	Haul Road	P&J	GPS pole on grader blade struck mirror of truck while operator graded haul road adjacent to parked equipment.	
FY14	2014-08-22	Near Miss	Sprain / Strain	Back	Slip/Trip No Fall	Flume 16	P&J	EE carrying a 6-inch corrugated pipe (20 foot long, weight approximately 15 lbs). EE's feet slipped in the mud causing employee to twist lower back.	Evaluation
FY14	2014-09-06	First Aid	Laceration / Bruise	Finger	Material Handling	Cap Area 6	Chesapeake	While cutting fabric with a hook blade knife back toward himself, the blade came out and struck the left index finger.	Cleaned, Steri-Strip, antibiotic ointment, bandage

Notes:

EE = Employee
MAP = Material Access Point
P&J = Phillips & Jordan
SAP = South Access Point
SCS = TVA Site Construction Services

TABLE I-6 HEALTH SAFETY INCIDENTS FY2015
NON-TIME-CRITICAL REMOVAL ACTION

Fiscal Year	Date	Event Type	Type Injury	Body Area	Direct Cause	Location	Prime Contractor	Incident Narrative	Actions
FY15	2014-10-16	Near Miss	Insect Bite	Fingers / Thumb	Biological	MAP Entrance	SCS	EE was picking up a metal sign, with Kevlar gloves in place, when he felt a "pinch" on left index finger. EE loaded sign into Kubota, drove to MAP laydown area, and unloaded sign. EE noted finger was still hurting, removed glove, and noted bite/sting mark.	Evaluation
FY15	2014-10-20	Near Miss	Insect Bite	Arm / Elbow	Biological	Flume 8 by Emory River	P&J	EE stated while setting up a pump something stung his right forearm.	None required
FY15	2014-12-04	First Aid	Sprain / Strain	Hand / Wrist	Material Handling	Sports Complex	SCS	EE was loading scrap straw matting that was muddy and wet. EE placed hands underneath the roll to push upward into the bed of the pickup when employee felt a "pop" in right wrist.	Cold pack, ACE wrap, ibuprofen, Tylenol, X-ray

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