ENVIRONMENTAL ASSESSMENT

Alton to Gale Organized Levee Districts, Illinois and Missouri (Continuing, Deficiency Corrections) Letter Report

APPENDIX D

Sampling Data

PROJECT MAP

SCALE 1 : 24 000

MILES 0 .5 1

FEET 1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

METERS 1000 0 1000 2000

CONTOUR INTERVAL 10 FEET

VICINITY MAP

Scale In Miles

0 6 12 18 24

INDEX TO DRAWINGS

DWG. NO.	TITLE	FILE NO.
1	MAPS AND INDEX	101 /411
2	PLAN AND SECTIONS	101 /412
3	BORINGS AND LEGEND	101 /413

This project was designed by the Memphis District of the U. S. Army Corps of Engineers. The initials or signatures and professional designations of individuals appear on these project documents within the scope of their employment as required by ER1110-1-8152.

SYM	ZONE	REVISIONS	DATE	APPROVED

DRAWING — DRAWN BY S.R.O. — CHECKED BY H.H.L.

DATE JUL 95

SUBMITTED: Ronald U. Dana P.E. — CHIEF, DESIGN BRANCH

APPROVED: CHIEF, ENGINEERING DIVISION

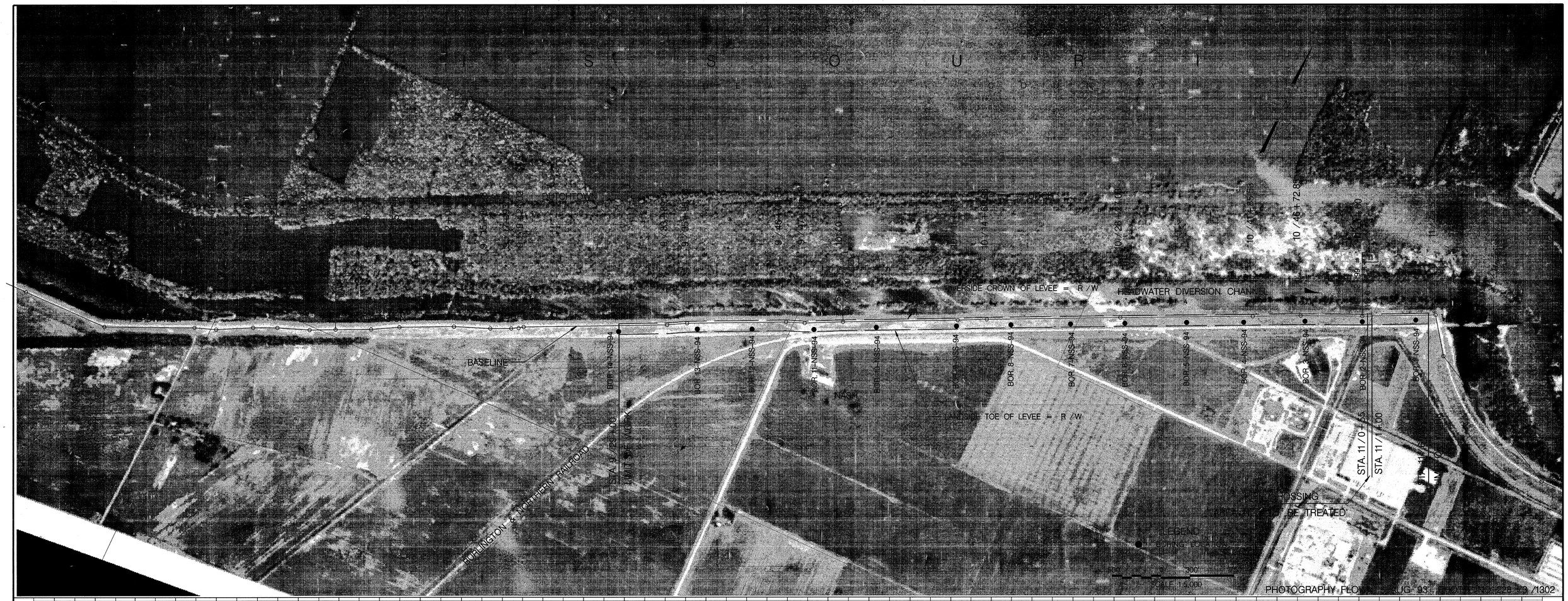
APPROVED: for COL. C.E. DISTRICT ENGINEER

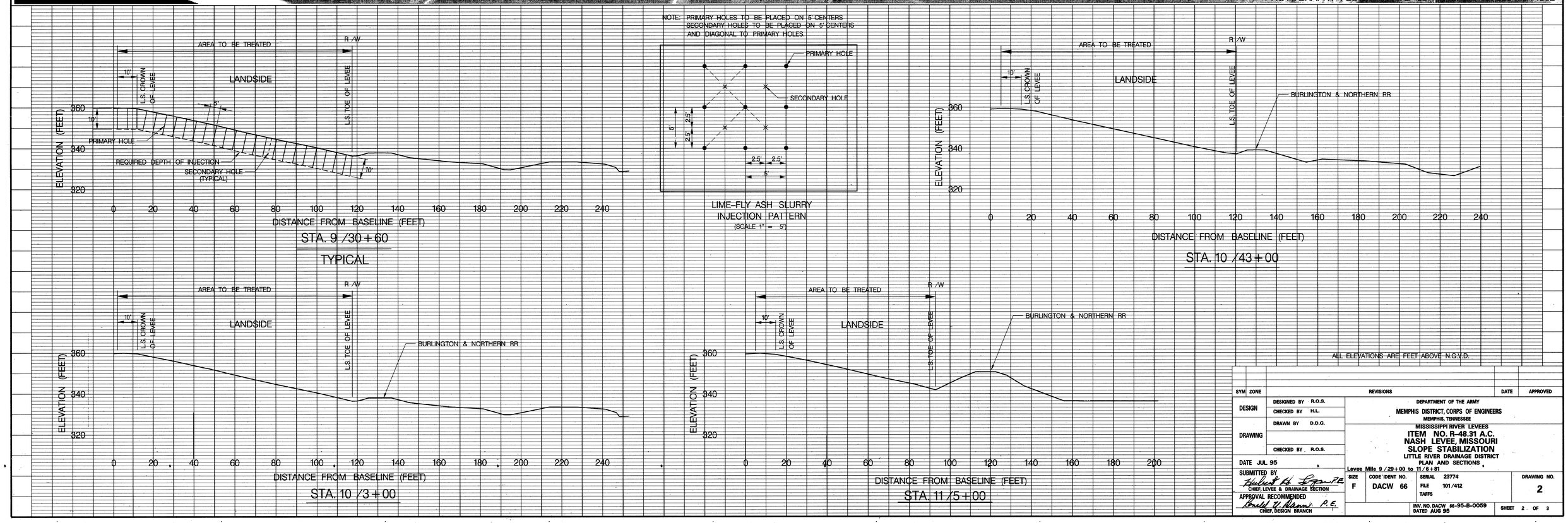
DEPARTMENT OF THE ARMY
MEMPHIS DISTRICT, CORPS OF ENGINEERS
MEMPHIS, TENNESSEE

MISSISSIPPI RIVER LEVEES
ITEM NO. R-48.31 A.C.
NASH LEVEE, MISSOURI
SLOPE STABILIZATION
LITTLE RIVER DRAINAGE DISTRICT
MAPS AND INDEX

Levee Mile 9 /29+00 to 11 /6+81

SIZE	CODE IDENT NO.	SERIAL 23774 / FILE 101 /411 / TAFFS	DRAWING NO.
F	DACW 66		1
SCALE: AS SHOWN		INV. NO. DACW 66-95-B-0059 DATED AUG 95	SHEET 1 OF 3





SYM	ZONE	REVISIONS	DATE	APPROVED

DESIGN	DESIGNED BY R.O.S.	DEPARTMENT OF THE ARMY MEMPHIS DISTRICT, CORPS OF ENGINEERS MEMPHIS, TENNESSEE
	CHECKED BY H.L.	
DRAWING	DRAWN BY D.D.G.	MISSISSIPPI RIVER LEVEES ITEM NO. R-48.31 A.C. NASH LEVEE, MISSOURI SLOPE STABILIZATION LITTLE RIVER DRAINAGE DISTRICT PLAN AND SECTIONS
	CHECKED BY R.O.S.	
DATE JUL 95		Levee Mile 9 /29+00 to 11/6+81
SUBMITTED BY Hubert H. Lopez PE CHIEF, LEVEE & DRAINAGE SECTION		SIZE F · CODE IDENT NO. DACW 66 · SERIAL 23774 · FILE 101/412 · TAFFS · DRAWING NO. 2
APPROVAL RECOMMENDED Donald E. Mann P.E. CHIEF, DESIGN BRANCH		INV. NO. DACW 66-95-B-0059 DATED AUG 95 · SHEET 2 OF 3

UNIFIED SOIL CLASSIFICATION

MAJOR DIVISION		TYPE	LETTER SYMBOL	SYMBOL	TYPICAL NAMES
COARSE GRAINED SOILS More than half of material is larger than No. 200 sieve size	GRAVEL More than half of coarse fraction is larger than No. 4 sieve size	CLEAN GRAVEL (Little or No Fines)	GW		GRAVEL, Well Graded, gravel-sand mixtures, little or no fines
			GP		GRAVEL, Poorly Graded, gravel-sand mixtures, little or no fines
		GRAVEL WITH FINES (Appreciable Amount of Fines)	GM		SILTY GRAVEL, gravel-sand-silt mixtures
			GC		CLAYEY GRAVEL, gravel-sand-clay mixtures
	SAND More than half of coarse fraction is smaller than No. 4 sieve size	CLEAN SAND (Little or No Fines)	SW		SAND, Well Graded, gravelly sands
			SP		SAND, Poorly Graded, gravelly sands
		SAND WITH FINES (Appreciable Amount of Fines)	SM		SILTY SAND, sand-silt mixtures
			SC		CLAYEY SAND, sand-clay mixtures
FINE GRAINED SOILS More than half the material is smaller than No. 200 sieve size		SILTS AND CLAYS (Liquid Limit <50)	ML		SILT & very fine sand, silty or clayey fine sand or clayey silt with slight plasticity
			CL		LEAN CLAY; Sandy Clay; Silty Clay; of low to medium plasticity
			OL		ORGANIC SILTS, and organic silty clays of low plasticity
		SILTS AND CLAYS (Liquid Limit >50)	MH		SILT, fine sandy or silty soil with high plasticity
			CH		FAT CLAY, inorganic clay of high plasticity
			OH		ORGANIC CLAYS of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS			Pt		PEAT, and other highly organic soil
WOOD			Wd		WOOD
MIXED SAMPLE			VM		Variable mixed silts, clays and sands
NO SAMPLE					

NOTE: Soils possessing characteristics of two groups are designated by combinations of group symbols.

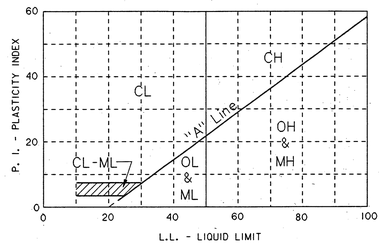
DESCRIPTIVE SYMBOLS

COLOR

COLOR	SYMBOL
TAN	T
YELLOW	Y
RED	R
BLACK	Bk
GRAY	Gr
LIGHT GRAY	lGr
DARK GRAY	dGr
BROWN	Br
LIGHT BROWN	lBr
DARK BROWN	dBr
BROWNISH - GRAY	brGr
GRAYISH - BROWN	grBr
GREENISH - GRAY	gnGr
GRAYISH - GREEN	grGn
GREEN	Gn
BLUE	Bl
BLUE - GREEN	BlGn
WHITE	Wh
MOTTLED	Mot

CONSISTENCY FOR COHESIVE SOILS

CONSISTENCY	COHESION IN LBS./SQ. FT. FROM UNCONFINED COMPRESSION TEST	SYMBOL
VERY SOFT	< 250	vSo
SOFT	250 - 500	So
MEDIUM	500 - 1000	M
STIFF	1000 - 2000	St
VERY STIFF	2000 - 4000	vSt
HARD	> 4000	H



PLASTICITY CHART

For classification of fine - grained soils

MODIFICATIONS

MODIFICATION	SYMBOL
Traces	Tr -
Fine	F
Medium	M
Coarse	C
Concretions	cc
Rootlets	rt
Lignite fragments	lg
Shale fragments	sh
Sandstone fragments	sds
Shell fragments	slf
Organic matter	O
Clay strata or lenses	CS
Silt strata or lenses	SIS
Sand strata or lenses	SS
Sandy	S
Gravelly	G
Boulders	B
Slickensides	SL
Wood	Wd
Oxidized	Ox
Saturated	Sat
Lumps of Clay	Clp

NOTES:

FIGURES TO THE LEFT OF BORING UNDER COLUMN "W OR D_{10}"

Are natural water contents in percent dry weight

When underlined denotes D_{10} size in mm *

FIGURES TO THE LEFT OF BORING UNDER COLUMNS "LL" AND "PL"

Are liquid and plastic limits, respectively

SYMBOLS TO THE LEFT OF BORING

- ▽ Ground water surface and date observed
- (C) Denotes location of consolidation test * *
- (S) Denotes location of consolidation - drained direct shear test * *
- (R) Denotes location of consolidation - undrained triaxial compression test * *
- (Q) Denotes location of unconsolidated - undrained triaxial compression test * *
- (T) Denotes location of sample subjected to consolidation test and each of the above three types of shear tests * *
- FW Denotes free water encountered in boring or sample
- o— Denotes channel grade

FIGURES TO THE RIGHT OF BORING

Are values of cohesion in lbs/sq. ft. from unconfined compression tests

in parentheses are driving resistances in blows per foot determined with a standard split spoon sampler (1 3/8" I.D. 2" O.D.) and a 140 lb. driving hammer with a 30" drop

Where underlined with a solid line denotes laboratory permeability in centimeters per second of undisturbed sample

Where underlined with a dashed line denotes laboratory permeability in centimeters per second of sample remoulded to the estimated natural void ratio

BORING TYPE

SS - Split Spoon Sampler
AUG - Auger
TUBE - 3" or 5" Thin Wall Tube

* The D_{10} size of a soil is the grain diameter in millimeters of which 10% of the soil is finer, and 90% coarser than size D_{10}.

* * Results of these tests are available for inspection in the U.S. Army Engineer District Office if these symbols appear beside the boring logs on the drawings.

GENERAL NOTES:

While the borings are representative of subsurface conditions at their respective locations and for their respective vertical reaches, local variations characteristic of subsurface materials of the region are anticipated and, if encountered, such variations will not be considered as differing materially within the purview of the contract clause entitled, "Differing Site Conditions".

Ground water elevations shown on the borings logs represent ground water surfaces encountered in such borings on the dates shown. Absence of water surface data on certain borings indicates that no ground water data are available from the boring but does not necessarily mean that ground water will not be encountered at the locations or within the vertical reaches of such borings.

Consistency of cohesive soils shown on the boring logs is based on driller's log and visual examination and is approximate, except within those vertical reaches of the borings where shear strengths from unconfined compression tests are shown.

BOR. 1-NSS-94
48.93' LS OF B/L
STA. 11/5+47.16
BOR. TYPE-HAND AUGER
12 DEC 94

BOR. 2-NSS-94
54.43' LS OF B/L
STA. 11/0+00
BOR. TYPE-HAND AUGER
12 DEC 94

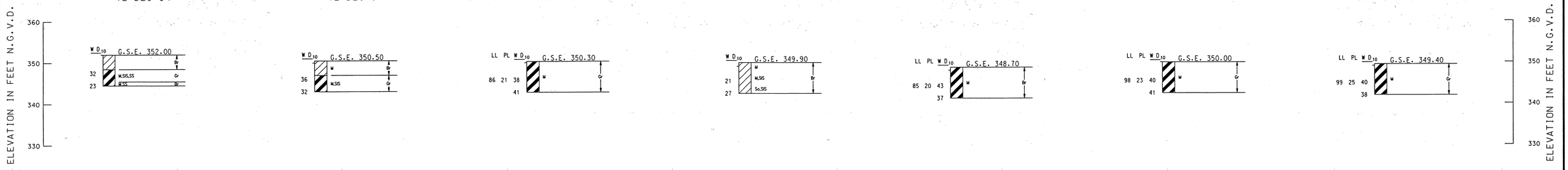
BOR. 3-NSS-94
58.73' LS OF B/L
STA. 10/47+17.02
BOR. TYPE-HAND AUGER
12 DEC 94

BOR. 4-NSS-94
57.49' LS OF B/L
STA. 10/40+89.86
BOR. TYPE-HAND AUGER
12 DEC 94

BOR. 5-NSS-94
59.82' LS OF B/L
STA. 10/35+08.38
BOR. TYPE-HAND AUGER
12 DEC 94

BOR. 6-NSS-94
58.44' LS OF B/L
STA. 10/28+74.38
BOR. TYPE-HAND AUGER
12 DEC 94

BOR. 7-NSS-94
61.33' LS OF B/L
STA. 10/23+22.09
BOR. TYPE-HAND AUGER
13 DEC 94



BOR. 8-NSS-94
60.10' LS OF B/L
STA. 10/17+16.74
BOR. TYPE-HAND AUGER
13 DEC 94

BOR. 9-NSS-94
60.75' LS OF B/L
STA. 10/11+52.77
BOR. TYPE-HAND AUGER
13 DEC 94

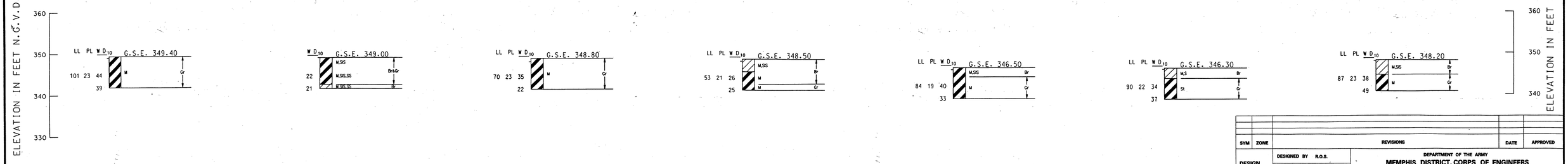
BOR. 10-NSS-94
60.87' LS OF B/L
STA. 10/3+36.97
BOR. TYPE-HAND AUGER
13 DEC 94

BOR. 11-NSS-94
61.68' LS OF B/L
STA. 9/48+91.51
BOR. TYPE-HAND AUGER
13 DEC 94

BOR. 12-NSS-94
69.31' LS OF B/L
STA. 9/42+57.18
BOR. TYPE-HAND AUGER
13 DEC 94

BOR. 13-NSS-94
69.93' LS OF B/L
STA. 9/37+00.23
BOR. TYPE-HAND AUGER
13 DEC 94

BOR. 14-NSS-94
61.48' LS OF B/L
STA. 9/28+93.56
BOR. TYPE-HAND AUGER
13 DEC 94



SYM	ZONE	REVISIONS	DATE	APPROVED

DESIGN: DESIGNED BY R.O.S.; CHECKED BY J.E.M.

DRAWING: DRAWN BY D.D.G.; CHECKED BY R.O.S.

DATE JUL 95

SUBMITTED BY Ronald O. Smith, P.E. CHIEF, GEOTECHNICAL DESIGN SEC.

APPROVAL RECOMMENDED John E. Monroe, P.E. CHIEF, GEOTECH. ENG. & SURVEY BR.

DEPARTMENT OF THE ARMY
MEMPHIS DISTRICT, CORPS OF ENGINEERS
MEMPHIS, TENNESSEE

MISSISSIPPI RIVER LEVEES
ITEM NO. R-48.31 A.C.
NASH LEVEE, MISSOURI
SLOPE STABILIZATION
LITTLE RIVER DRAINAGE DISTRICT
BORINGS AND LEGEND

Levee Mile 9 /29+00 to 11/6+81

SIZE F | CODE IDENT NO. DACW 66 | SERIAL 23774 | FILE 101/413 | TAFFS | DRAWING NO. 3

SCALE: AS SHOWN | INV. NO. DACW 66-95-B-0059 DATED AUG 95 | SHEET 3 OF 3

PHONE: 3381 FILE: c:\users\griffith\unix\boring\neshslop.dgn GEOTECHNICAL DESIGN SECTION 27-MAR-1995 13:30 griffith

Alton to Gale
Site Visit Report

Date of Site Visit: 8/17/2010
Location: Nash Levee (Memphis District)
Attendees: B. Dirks, D. Moore, J. Collins, R. Archeski, S. Bronskill (CEC)

Purpose: Collect samples for geotechnical and chemical analysis.

Samples were taken on both the protected and unprotected side of the levee. Approximate location of samples:

Protected Side Sample - N 37.241433, W 89.612267 (WGS84)
Unprotected Side Sample - N 37.24155, W 89.612300 (WGS84)

All samples were taken at an approximate depth of 1'. Samples were taken anywhere from 10' to 30' from the edge of the levee crown down the levee slope The protected side of the levee had been previously treated with lime-fly ash injection in 1995. There was visual evidence of the lime fly-ash in the levee embankment on the protected side once the topsoil was removed. It appeared as a white to grayish material within the soil. It was randomly located throughout the soil. There was some cracking of the levee embankment on both the protected side and landside of the levee. Levee Material was very dry.

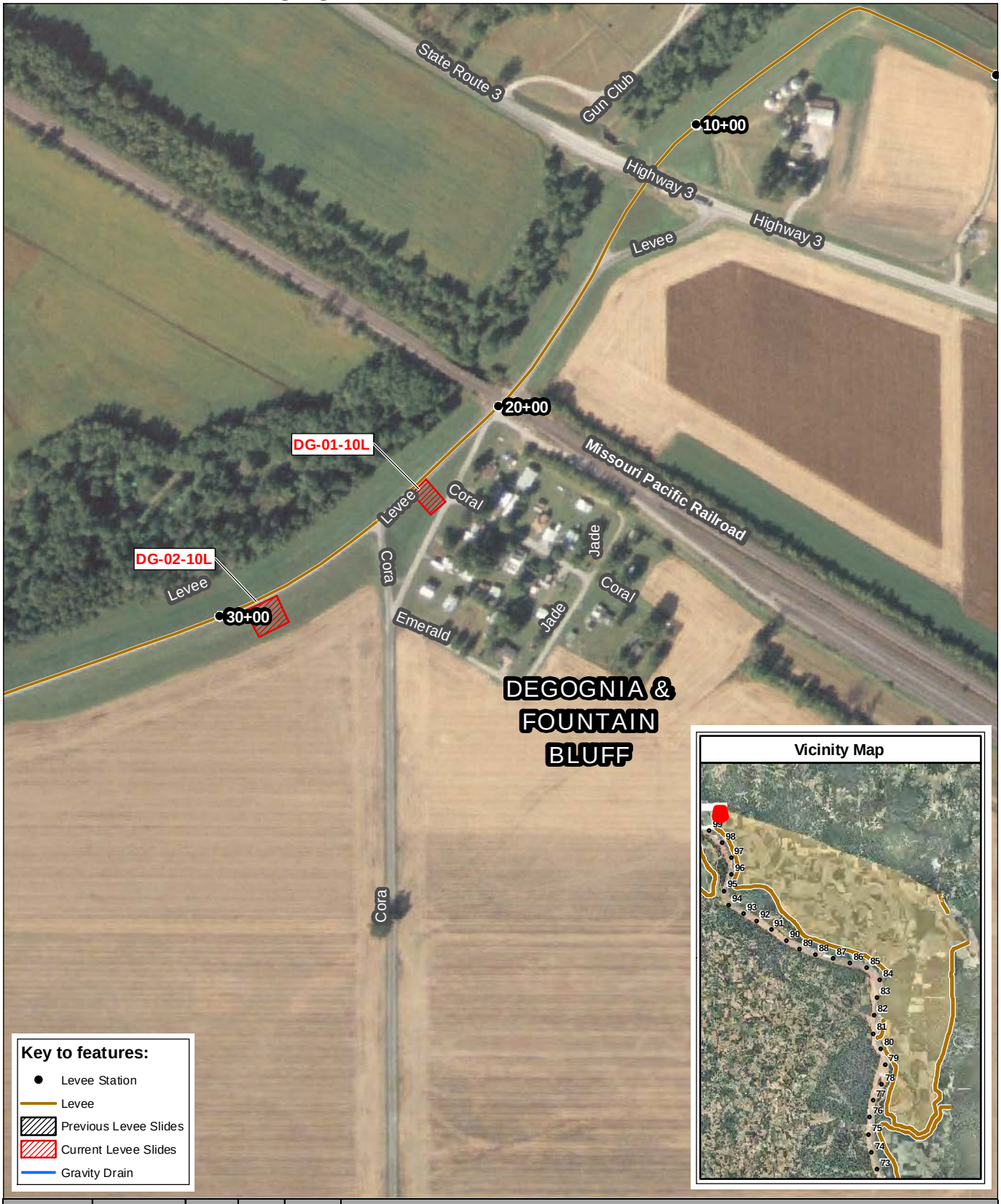
Photos/Videos:

Location - \\mvs-files\PROJECTS\Alton-Gale\2008 Ltr Rpt Update\EC-DCC\Sample Site Visit on 2010 08 17\Photos-Videos

File Name	Description
IMG_0226 – IMG_0251	Photos and Videos of Protected Side Sample Extraction
IMG_0252	Photo from Crown of Levee looking North-East
IMG_0253	Panoramic Video from Crown of Levee
IMG_0254 – IMG_0256	Photos and Videos of Crack in Levee on Protected Side
IMG_0257 – IMG_0270	Photos of Unprotected Side Sample Extraction
IMG_0271	Panoramic Video from Crown of Levee
IMG_0272	Photo of Crack in Levee on Protected Side
IMG_0272 – IMG_0277	Photos of Cracking in Levee on Protected Side

US Army Corps of Engineers
St. Louis District

2010 Alton to Gale Levee Slide Inventory
Degognia Levee - Area 1 - Main Levee



Slide Name	NLD Station	Status	Scarp	Length	Comments
DG-01-10L	23+40	New	2	60	Degognia Main Levee. 430' downstream on flank of Cora Road Ramp. Slide L/S located 3-4' within levee crown.
DG-02-10L	28+90	New	3.5	75	Degognia Main Levee. 145' upstream on flank from Cora Road Ramp. Slide L/S witin 3' of levee crown. Additional trench step but no scarp face.

**Note: Levee station points and readings refers to the National Levee Database stationing.

EA-D-6

0 200 400 800 Feet

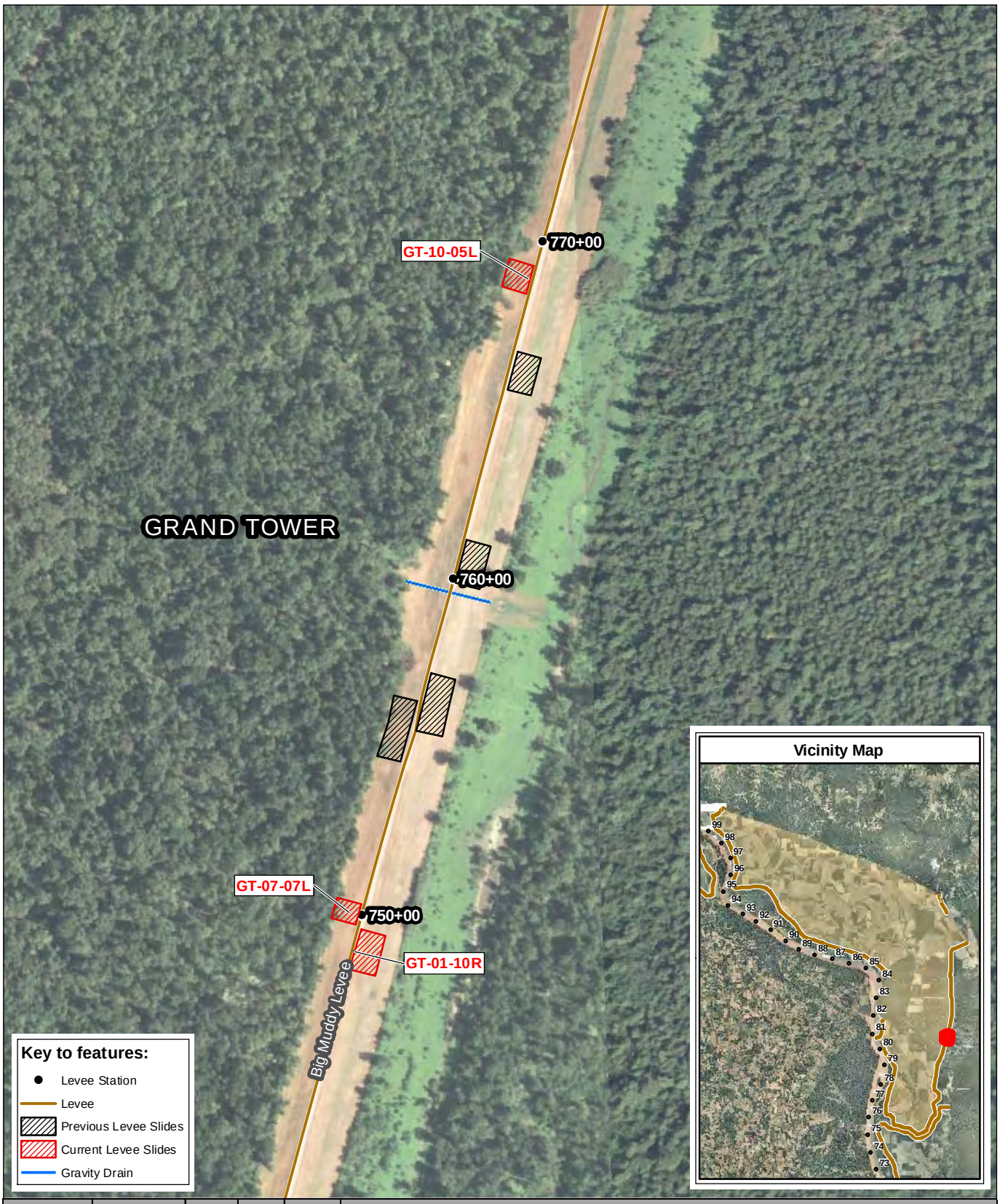
N W E S

Plate 5

P:\Alton-Gale\2010 Slide Inspection\Mxd\2010 Levee Slides Degognia Area 1.mxd

US Army Corps of Engineers
St. Louis District

2010 Alton to Gale Levee Slide Inventory
Grand Tower Levee - Area 1



Slide Name	NLD Station	Status	Scarp	Length	Comments
GT-01-10R	749+00	New	4	120	Slide R/S covers slope to crown. 6" crack near head of scarp.
GT-07-07L	749+50	Existing	8	50	Existing slide from 2007. Slide is L/S and covers slope to crown. Scarp well defined and has additional faces.
GT-10-05L	768+80	Existing	7	70	Slide L/S covers slope to crown.

**Note: Levee station points and readings refers to the National Levee Database stationing.

EA-D-7

0 200 400 800 Feet

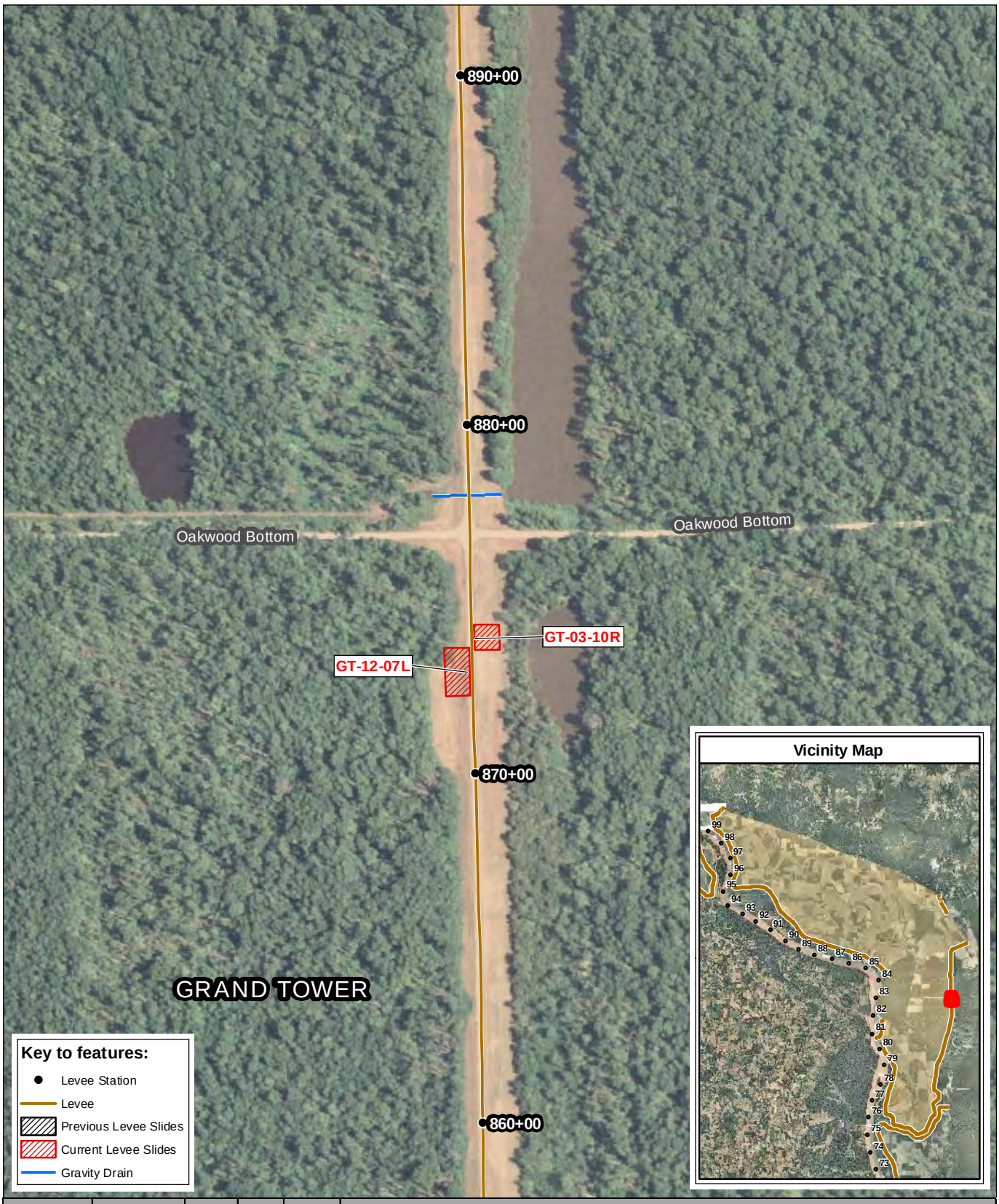
N W E S

Plate 6

P:\Alton-Gale\2010 Slide Inspection\Mxd\2010 Levee Slides Grand Tower Area 1.mxd

US Army Corps of Engineers
St. Louis District

2010 Alton to Gale Levee Slide Inventory
Grand Tower Levee - Area 2



Slide Name	NLD Station	Status	Scarp	Length	Comments
GT-12-07L	873+40	Existing	6.5	150	Start Slide L/S. Slide has multiple faces. Near levee crown.
GT-03-10R	873+80	New	5.5	65	Slide R/S within 9' of levee crown.

**Note: Levee station points and readings refers to the National Levee Database stationing.

EA-D-8

0 200 400 800 Feet

N W E S

Plate 7

P:\Alton-Gale\2010 Slide Inspection\Mxd\2010 Levee Slides Grand Tower Area 2.mxd

US Army Corps of Engineers
St. Louis District

2010 Alton to Gale Levee Slide Inventory
Degognia Levee - Area 2 - Back Levee

Slide Name	NLD Station	Status	Scarp	Length	Comments
DG-04-10L	969+40	New*	9	60	Degognia Back Levee. Slide L/S within 12' of road.
DG-03-10R	970+70	New	1	70	Degognia Back Levee. Slide R/S near levee crown.

**Note: Levee station points and readings refers to the National Levee Database stationing.

EA-D-9

0 200 400 800 Feet

N W E S

Plate 8

P:\Alton-Gale\2010 Slide Inspection\Mxd\2010 Levee Slides Degognia Area 2.mxd

Photo 1 - Top soil being removed in order to collect soil sample from the protected side of Nash Levee. White substance is the Lime-fly ash injectant.

Photo 2 – Samples being collected on protected side of Nash Levee.

Photo 3 – Picture from the crown of Nash Levee looking North-East.

Photo 4 – Cracking of the embankment on the Nash Levee.

Photo 5 – Soil samples extracted from the unprotected side of Nash Levee.

Photo 6 – Samples being collected on the unprotected side of the Nash Levee.

Photo 7 – Cracking of the embankment on the Nash Levee.

Photo 8 – Cracking of the embankment on the Nash Levee.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Alton-Gale

Lot #: F0H170582

Rick Archeski

U.S. Army Corps of Engineers
Foot of Arsenal Street
Saint Louis, MO 63118

TESTAMERICA LABORATORIES, INC.

T Romanko
Terry Romanko
Project Manager

August 28, 2010

EA-D-12

Case Narrative
LOT NUMBER: **F0H170582**

This report contains the analytical results for the four samples received under chain of custody by TestAmerica St. Louis on August 17, 2010. These samples are associated with your Alton-Gale project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. **TestAmerica St. Louis' Florida certification number is E87689.** The case narrative is an integral part of this report.

This report shall not be reproduced, except in full, without the written approval of the laboratory.

This report is incomplete without the case narrative. All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Alkalinity

For Alkalinity batches 0232309 and 0237285, sample F0H170582-003 had an alkalinity below 20 mg/L. The SOP requires that samples below 20mg/L to be analyzed at 200ml and taken to a pH of 4.2. However, due to a limited sample volume the sample was not analyzed at 200ml, but was taken to a pH of 4.2. Any effect on results should be minimal.
Affected Samples:
F0H170582 (3): BACKGROUND DI LEACHATE
F0H170582 (4): FLY ASH MIX DI LEACHATE

Ammonia

The MS recovery for Ammonia Batch #0233036, Lot #F0H170582-004 is outside the established QC limits. A matrix interference is physically evident in the sample, as there were small particulates that remained in the sample after multiple filtrations through a 0.7um syringe filter. Method performance is demonstrated by acceptable LCS/CCV recoveries.
Affected Samples:
F0H170582 (3): BACKGROUND DI LEACHATE
F0H170582 (4): FLY ASH MIX DI LEACHATE

Anions by IC

Sample F0H170582-004 was analyzed at dilution for Chloride in batch 0231314 due to high concentrations of Chloride. The reporting limits have been adjusted only for those targets reported from dilution.
Affected Samples:
F0H170582 (3): BACKGROUND DI LEACHATE
F0H170582 (4): FLY ASH MIX DI LEACHATE

Phosphorus

- For phosphorus batch 0231339, sample F0H170582-003 had sufficiently high concentration of the target analyte that the MS are above the instrument's calibration range. Matrix spike results are reported as estimated values.
- Sample F0H170582-004 required a dilution due to high target analyte concentration. The undiluted run is available with the original data.

Affected Samples:
F0H170582 (3): BACKGROUND DI LEACHATE
F0H170582 (4): FLY ASH MIX DI LEACHATE

Trace ICP Metals

Batch 0230089:

- The sample was analyzed at a dilution due to high concentrations of target analytes. The reporting limit has been adjusted for the dilution since no analysis at a lesser dilution was performed.
- The concentration of arsenic in the ICB/CCB is greater than 2 times the MDL. The samples associated with this ICB/CCB yield concentrations lower than the established reporting limit and therefore are unaffected by the seemingly high bias.
- The LLC recovery for arsenic and zinc are outside the upper QC criteria indicating a positive bias in the associated samples. The concentrations in the samples for these elements are at a high enough level to make a low level standard unecessary.
- The LLC recovery for potassium is outside the upper QC limit, indicating a potential positive bias for that analyte. This analyte was non-detect, indicating that the samples were not affected by this excursion. There were fourteen samples in-between the CCV/CCB. It is not expected this deviation has a negative impact on the data.
- The LCS recovery for potassium is outside the upper QC limit, indicating a potential positive bias for that analyte(s). This analyte(s) was not observed above the reporting limit in the associated samples; therefore the sample data was not adversely affected by this excursion.
- The MS (MSD) recovery for Aluminum, calcium, Iron, and Manganese are outside the established QC limits. The said analyte concentration in the original sample is greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.
- The MS (MSD) recovery for boron and magnesium are outside the established QC limits. The RPD is within method acceptance criteria indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recovery.
- The MS (MSD) recovery for antimony is outside the established QC limits. A matrix interference is physically evident in the sample. Sample is a nonhomogonous mix of soil and rock. Method performance is demonstrated by acceptable LCS recovery.
- The MS (MSD) recovery for potassium is outside the established QC limits. A matrix interference is physically evident in the sample. The sample is a non-homogenous mixture of soil and rock. Method performance is demonstrated by acceptable LCS recovery.
- Boron was reported from the lesser dilution; however iron was above the LDR in the lesser dilution and interferes with boron. Boron failed low in the CCV bracketing the greater dilution. Boron was found to be ND for both sets of lesser and greater dilutions.
- The serial dilution was outside the established QC criteria for barium, calcium, and manganese indicating a potential matrix interference.

Affected Samples:
F0H170582 (1): BACKGROUND
F0H170582 (2): FLY ASH MIX

Boron results are not included in the summary report for the DI leach. Boron is not in the normal list that was utilized for this analysis, and was not run initially. The analyst injected the samples, bracketed by good QC. Results are 540 ug/L for the Background DI Leachate and 720 ug/L for the Fly Ash Mix DI Leachate.

METHODS SUMMARY

F0H170582

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
pH (Electrometric)	MCAWW 150.1	MCAWW 150.1
Alkalinity	MCAWW 310.1	MCAWW 310.1
Bicarbonate Alkalinity	MCAWW 310.1	MCAWW 310.1
Chloride	MCAWW 300.0A	MCAWW 300.0A
Filterable Residue (TDS)	MCAWW 160.1	MCAWW 160.1
Fluoride	MCAWW 300.0A	MCAWW 300.0A
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	
Inductively Coupled Plasma (ICP) Metals	SW846 6010B	SW846 1311/3010
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A	
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A	SW846 1311/7470
Mercury in Solid Waste (Manual Cold-Vapor)	SW846 7471A	SW846 7471A
Nitrate as N	MCAWW 300.0A	MCAWW 300.0A
Nitrogen, Ammonia	MCAWW 350.1	MCAWW 350.1
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD
Sulfate	MCAWW 300.0A	MCAWW 300.0A
Total phosphorus	MCAWW 365.2	MCAWW 365.2
Total Organic Carbon	MCAWW 415.1	MCAWW 415.1

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F0H170582

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L5PR4	001	BACKGROUND	08/17/10	10:16
L5PR6	002	FLY ASH MIX	08/17/10	10:00
L5PR7	003	BACKGROUND DI LEACHATE	08/17/10	10:16
L5PTK	004	FLY ASH MIX DI LEACHATE	08/17/10	10:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND

TOTAL Metals

Lot-Sample #...: F0H170582-001 Matrix.....: SOLID
Date Sampled...: 08/17/10 10:16 Date Received..: 08/17/10
% Moisture.....: 18

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0230089						
Silver	0.77 B	2.4	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AC
		Dilution Factor: 2		Analysis Time..: 17:43		
Aluminum	16000 N	102	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AD
		Dilution Factor: 2		Analysis Time..: 17:43		
Arsenic	25.4	12.1	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AE
		Dilution Factor: 10		Analysis Time..: 18:27		
Barium	302 E	12.1	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AF
		Dilution Factor: 2		Analysis Time..: 17:43		
Beryllium	1.5	1.2	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AG
		Dilution Factor: 2		Analysis Time..: 17:43		
Boron	ND N	24.3	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AH
		Dilution Factor: 2		Analysis Time..: 16:54		
Calcium	7110 NE	607	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AJ
		Dilution Factor: 2		Analysis Time..: 17:43		
Cadmium	0.89 B	6.1	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AK
		Dilution Factor: 10		Analysis Time..: 18:27		
Cobalt	11.1 B	12.1	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AL
		Dilution Factor: 2		Analysis Time..: 17:43		
Chromium	19.0	3.6	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AM
		Dilution Factor: 2		Analysis Time..: 17:43		
Copper	21.1	6.1	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AN
		Dilution Factor: 2		Analysis Time..: 17:43		
Iron	23900 N	24.3	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AP
		Dilution Factor: 2		Analysis Time..: 17:43		
Potassium	2510 BN	2670	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AQ
		Dilution Factor: 2		Analysis Time..: 16:54		

(Continued on next page)

U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND

TOTAL Metals

Lot-Sample #...: F0H170582-001 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Magnesium	**4310 N**	**243**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5PR41AR**
		Dilution Factor: 2		Analysis Time..: 17:43		
Manganese	**783 NE**	**2.4**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5PR41AT**
		Dilution Factor: 2		Analysis Time..: 17:43		
Sodium	ND	364	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41AU
		Dilution Factor: 2		Analysis Time..: 16:54		
Nickel	**25.4**	**9.7**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5PR41AV**
		Dilution Factor: 2		Analysis Time..: 17:43		
Lead	**19.8**	**2.4**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5PR41AW**
		Dilution Factor: 2		Analysis Time..: 17:43		
Antimony	**7.1 N***	**4.9**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5PR41AX**
		Dilution Factor: 2		Analysis Time..: 17:43		
Selenium	ND	3.6	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41A0
		Dilution Factor: 2		Analysis Time..: 17:43		
Tin	ND	24.3	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41A1
		Dilution Factor: 2		Analysis Time..: 17:43		
Thallium	ND	60.7	mg/kg	SW846 6010B	08/18-08/24/10	L5PR41A2
		Dilution Factor: 10		Analysis Time..: 18:27		
Vanadium	**30.7**	**12.1**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5PR41A4**
		Dilution Factor: 2		Analysis Time..: 17:43		
Zinc	**99.3**	**24.3**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5PR41A3**
		Dilution Factor: 2		Analysis Time..: 17:43		
Prep Batch #...: 0231263						
Mercury	**0.046 B**	**0.048**	**mg/kg**	**SW846 7471A**	**08/22-08/23/10**	**L5PR41A5**
		Dilution Factor: 1		Analysis Time..: 02:35		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

N Spiked analyte recovery is outside stated control limits.

E Matrix interference.

U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND

TCLP Metals

Lot-Sample #...: F0H170582-001 Matrix.....: SOLID
Date Sampled...: 08/17/10 10:16 Date Received..: 08/17/10
Leach Date.....: 08/17/10 Leach Batch #..: P022914

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0230261						
Silver	ND	40	ug/L	SW846 6010B	08/18-08/22/10	L5PR41A8
		Dilution Factor: 1		Analysis Time..: 19:22		
Arsenic	**15.4 B**	**500**	**ug/L**	**SW846 6010B**	**08/18-08/23/10**	**L5PR41A9**
		Dilution Factor: 1		Analysis Time..: 21:42		
Barium	**789**	**125**	**ug/L**	**SW846 6010B**	**08/18-08/23/10**	**L5PR41CA**
		Dilution Factor: 1		Analysis Time..: 21:42		
Beryllium	ND	12.5	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CC
		Dilution Factor: 1		Analysis Time..: 21:42		
Boron	**1620**	**250**	**ug/L**	**SW846 6010B**	**08/18-08/19/10**	**L5PR41CD**
		Dilution Factor: 1		Analysis Time..: 19:24		
Cadmium	ND	30	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CE
		Dilution Factor: 1		Analysis Time..: 21:42		
Cobalt	ND	125	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CF
		Dilution Factor: 1		Analysis Time..: 21:42		
Chromium	**7.8 B**	**25**	**ug/L**	**SW846 6010B**	**08/18-08/23/10**	**L5PR41CG**
		Dilution Factor: 1		Analysis Time..: 21:42		
Copper	ND	62.5	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CH
		Dilution Factor: 1		Analysis Time..: 21:42		
Manganese	**19.6 B**	**37.5**	**ug/L**	**SW846 6010B**	**08/18-08/23/10**	**L5PR41CJ**
		Dilution Factor: 1		Analysis Time..: 21:42		
Nickel	ND	100	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CK
		Dilution Factor: 1		Analysis Time..: 21:42		
Lead	ND	250	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CL
		Dilution Factor: 1		Analysis Time..: 21:42		
Antimony	ND	350	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CM
		Dilution Factor: 1		Analysis Time..: 21:42		

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U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND

TCLP Metals

Lot-Sample #...: F0H170582-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	ND	800	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CN
		Dilution Factor: 1		Analysis Time..: 21:42		
Tin	ND	250	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CP
		Dilution Factor: 1		Analysis Time..: 21:42		
Thallium	ND	500	ug/L	SW846 6010B	08/18-08/23/10	L5PR41CQ
		Dilution Factor: 1		Analysis Time..: 21:42		
Vanadium	ND	125	ug/L	SW846 6010B	08/18-08/23/10	L5PR41A7
		Dilution Factor: 1		Analysis Time..: 21:42		
Zinc	**97.1**	**50**	**ug/L**	**SW846 6010B**	**08/18-08/23/10**	**L5PR41CR**
		Dilution Factor: 1		Analysis Time..: 21:42		
Prep Batch #...: 0232425						
Mercury	ND	1.5	ug/L	SW846 7470A	08/22/10	L5PR41CT
		Dilution Factor: 1		Analysis Time..: 19:16		

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

B Estimated result. Result is less than RL.

U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND

DI Leach Metals

Lot-Sample #...: F0H170582-001 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10
Leach Date.....: 08/17/10 **Leach Batch #..:** P022915

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0231207						
Silver	ND	50	ug/L	SW846 6010B	08/19-08/22/10	L5PR41CV
		Dilution Factor: 1		Analysis Time..: 22:14		
Arsenic	**65.2 B**	**1000**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR41CW**
		Dilution Factor: 1		Analysis Time..: 22:14		
Barium	**296**	**250**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR41CX**
		Dilution Factor: 1		Analysis Time..: 22:14		
Beryllium	ND	25	ug/L	SW846 6010B	08/19-08/22/10	L5PR41C0
		Dilution Factor: 1		Analysis Time..: 22:14		
Cadmium	ND	25	ug/L	SW846 6010B	08/19-08/22/10	L5PR41C1
		Dilution Factor: 1		Analysis Time..: 22:14		
Cobalt	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PR41C2
		Dilution Factor: 1		Analysis Time..: 22:14		
Chromium	ND	125	ug/L	SW846 6010B	08/19-08/23/10	L5PR41C3
		Dilution Factor: 1		Analysis Time..: 20:43		
Copper	**32.3 B**	**125**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR41C4**
		Dilution Factor: 1		Analysis Time..: 22:14		
Molybdenum	**33.4 B**	**250**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR41C5**
		Dilution Factor: 1		Analysis Time..: 22:14		
Nickel	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PR41C6
		Dilution Factor: 1		Analysis Time..: 22:14		
Lead	**7.9 B**	**500**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR41C7**
		Dilution Factor: 1		Analysis Time..: 22:14		
Antimony	ND	300	ug/L	SW846 6010B	08/19-08/23/10	L5PR41C8
		Dilution Factor: 1		Analysis Time..: 20:43		
Selenium	**15.2 B**	**1000**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR41C9**
		Dilution Factor: 1		Analysis Time..: 22:14		

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U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND

DI Leach Metals

Lot-Sample #...: F0H170582-001 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Thallium	**20.0 B**	**1000**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR41DA**
		Dilution Factor: 1		Analysis Time..: 22:14		
Vanadium	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PR41DC
		Dilution Factor: 1		Analysis Time..: 22:14		
Zinc	**55.2 B**	**100**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR41DD**
		Dilution Factor: 1		Analysis Time..: 22:14		
Prep Batch #...: 0232426						
Mercury	ND	6	ug/L	SW846 7470A	08/22/10	L5PR41DE
		Dilution Factor: 1		Analysis Time..: 19:36		

NOTE(S):

Soluable Threshold Limit Concentration (STLC) done in accordance with App II: Waste Extraction procedures. CCR Title 22.

B Estimated result. Result is less than RL.

U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND

General Chemistry

Lot-Sample #...: F0H170582-001 Work Order #...: L5PR4 Matrix.....: SOLID
Date Sampled...: 08/17/10 10:16 Date Received..: 08/17/10
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	17.7	0.10	%	MCAWW 160.3 MOD	08/19-08/20/10	0231287

Dilution Factor: 1 Analysis Time..: 00:00

U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX

TOTAL Metals

Lot-Sample #...: F0H170582-002 Matrix.....: SOLID
Date Sampled...: 08/17/10 10:00 Date Received..: 08/17/10
% Moisture.....: 18

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0230089						
Silver	1.2 B	2.4	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AN
		Dilution Factor: 2		Analysis Time..: 18:20		
Aluminum	18600 N	103	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AP
		Dilution Factor: 2		Analysis Time..: 18:20		
Arsenic	25.5	12.2	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AQ
		Dilution Factor: 10		Analysis Time..: 19:20		
Barium	554 E	12.2	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AR
		Dilution Factor: 2		Analysis Time..: 18:20		
Beryllium	1.4	1.2	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AT
		Dilution Factor: 2		Analysis Time..: 18:20		
Boron	ND N	24.4	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AU
		Dilution Factor: 2		Analysis Time..: 17:25		
Calcium	20400 NE	611	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AV
		Dilution Factor: 2		Analysis Time..: 18:20		
Cadmium	1.4 B	6.1	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AW
		Dilution Factor: 10		Analysis Time..: 19:20		
Cobalt	11.3 B	12.2	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AX
		Dilution Factor: 2		Analysis Time..: 18:20		
Chromium	21.0	3.7	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A0
		Dilution Factor: 2		Analysis Time..: 18:20		
Copper	27.6	6.1	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A1
		Dilution Factor: 2		Analysis Time..: 18:20		
Iron	25000 N	24.4	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A2
		Dilution Factor: 2		Analysis Time..: 18:20		
Potassium	1710 BN	2690	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A3
		Dilution Factor: 2		Analysis Time..: 17:25		

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U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX

TOTAL Metals

Lot-Sample #...: F0H170582-002 Matrix.....: SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Magnesium	5860 N	244	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A4
		Dilution Factor: 2		Analysis Time..: 18:20		
Manganese	994 NE	2.4	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A5
		Dilution Factor: 2		Analysis Time..: 18:20		
Sodium	252 B	367	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A6
		Dilution Factor: 2		Analysis Time..: 17:25		
Nickel	28.0	9.8	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A7
		Dilution Factor: 2		Analysis Time..: 18:20		
Lead	17.3	2.4	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A8
		Dilution Factor: 2		Analysis Time..: 18:20		
Antimony	9.4 N*	4.9	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61A9
		Dilution Factor: 2		Analysis Time..: 18:20		
Selenium	ND	3.7	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AA
		Dilution Factor: 2		Analysis Time..: 18:20		
Tin	ND	24.4	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AC
		Dilution Factor: 2		Analysis Time..: 18:20		
Thallium	ND	61.1	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AD
		Dilution Factor: 10		Analysis Time..: 19:20		
Vanadium	39.5	12.2	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AF
		Dilution Factor: 2		Analysis Time..: 18:20		
Zinc	96.6	24.4	mg/kg	SW846 6010B	08/18-08/24/10	L5PR61AE
		Dilution Factor: 2		Analysis Time..: 18:20		

Prep Batch #...: 0231263

Mercury	0.051	0.049	mg/kg	SW846 7471A	08/22-08/23/10	L5PR61AG
		Dilution Factor: 1		Analysis Time..: 02:45		

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

B Estimated result. Result is less than RL.

N Spiked analyte recovery is outside stated control limits.

E Matrix interference.

U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX

TCLP Metals

Lot-Sample #...: F0H170582-002 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:00 **Date Received..:** 08/17/10
Leach Date.....: 08/17/10 **Leach Batch #..:** P022914

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0230261						
Silver	ND	40	ug/L	SW846 6010B	08/18-08/22/10	L5PR61AK
		Dilution Factor: 1		Analysis Time..: 19:52		
Arsenic	**4.9 B**	**500**	**ug/L**	**SW846 6010B**	**08/18-08/23/10**	**L5PR61AL**
		Dilution Factor: 1		Analysis Time..: 22:35		
Barium	**801**	**125**	**ug/L**	**SW846 6010B**	**08/18-08/23/10**	**L5PR61CM**
		Dilution Factor: 1		Analysis Time..: 22:35		
Beryllium	ND	12.5	ug/L	SW846 6010B	08/18-08/23/10	L5PR61CN
		Dilution Factor: 1		Analysis Time..: 22:35		
Boron	**674**	**250**	**ug/L**	**SW846 6010B**	**08/18-08/19/10**	**L5PR61CP**
		Dilution Factor: 1		Analysis Time..: 19:48		
Cadmium	ND	30	ug/L	SW846 6010B	08/18-08/23/10	L5PR61CQ
		Dilution Factor: 1		Analysis Time..: 22:35		
Cobalt	ND	125	ug/L	SW846 6010B	08/18-08/23/10	L5PR61CR
		Dilution Factor: 1		Analysis Time..: 22:35		
Chromium	ND	25	ug/L	SW846 6010B	08/18-08/23/10	L5PR61CT
		Dilution Factor: 1		Analysis Time..: 22:35		
Copper	ND	62.5	ug/L	SW846 6010B	08/18-08/23/10	L5PR61CU
		Dilution Factor: 1		Analysis Time..: 22:35		
Manganese	**37.9**	**37.5**	**ug/L**	**SW846 6010B**	**08/18-08/23/10**	**L5PR61CV**
		Dilution Factor: 1		Analysis Time..: 22:35		
Nickel	ND	100	ug/L	SW846 6010B	08/18-08/23/10	L5PR61CW
		Dilution Factor: 1		Analysis Time..: 22:35		
Lead	ND	250	ug/L	SW846 6010B	08/18-08/23/10	L5PR61CX
		Dilution Factor: 1		Analysis Time..: 22:35		
Antimony	ND	350	ug/L	SW846 6010B	08/18-08/23/10	L5PR61C0
		Dilution Factor: 1		Analysis Time..: 22:35		

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U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX

TCLP Metals

Lot-Sample #...: F0H170582-002 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	ND	800	ug/L	SW846 6010B	08/18-08/23/10	L5PR61C1
		Dilution Factor: 1		Analysis Time..: 22:35		
Tin	ND	250	ug/L	SW846 6010B	08/18-08/23/10	L5PR61C2
		Dilution Factor: 1		Analysis Time..: 22:35		
Thallium	ND	500	ug/L	SW846 6010B	08/18-08/23/10	L5PR61C3
		Dilution Factor: 1		Analysis Time..: 22:35		
Vanadium	ND	125	ug/L	SW846 6010B	08/18-08/23/10	L5PR61AJ
		Dilution Factor: 1		Analysis Time..: 22:35		
Zinc	**72.8**	**50**	**ug/L**	**SW846 6010B**	**08/18-08/23/10**	**L5PR61C4**
		Dilution Factor: 1		Analysis Time..: 22:35		

Prep Batch #...: 0232425

Mercury	ND	1.5	ug/L	SW846 7470A	08/22/10	L5PR61C5
		Dilution Factor: 1		Analysis Time..: 19:25		

NOTE(S):

Analysis performed in accordance with USEPA Toxicity Characteristic Leaching Procedure Method 1311

B Estimated result. Result is less than RL.

U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX

DI Leach Metals

Lot-Sample #...: F0H170582-002 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:00 **Date Received..:** 08/17/10
Leach Date.....: 08/17/10 **Leach Batch #..:** P022915

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0231207						
Silver	ND	50	ug/L	SW846 6010B	08/19-08/22/10	L5PR61C7
		Dilution Factor: 1		Analysis Time..: 22:51		
Arsenic	ND	1000	ug/L	SW846 6010B	08/19-08/22/10	L5PR61C8
		Dilution Factor: 1		Analysis Time..: 22:51		
Barium	**262**	**250**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR61C9**
		Dilution Factor: 1		Analysis Time..: 22:51		
Beryllium	ND	25	ug/L	SW846 6010B	08/19-08/22/10	L5PR61CA
		Dilution Factor: 1		Analysis Time..: 22:51		
Cadmium	ND	25	ug/L	SW846 6010B	08/19-08/22/10	L5PR61CC
		Dilution Factor: 1		Analysis Time..: 22:51		
Cobalt	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PR61CD
		Dilution Factor: 1		Analysis Time..: 22:51		
Chromium	ND	125	ug/L	SW846 6010B	08/19-08/23/10	L5PR61CE
		Dilution Factor: 1		Analysis Time..: 21:20		
Copper	**50.0 B**	**125**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR61CF**
		Dilution Factor: 1		Analysis Time..: 22:51		
Molybdenum	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PR61CG
		Dilution Factor: 1		Analysis Time..: 22:51		
Nickel	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PR61CH
		Dilution Factor: 1		Analysis Time..: 22:51		
Lead	**7.0 B**	**500**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR61CJ**
		Dilution Factor: 1		Analysis Time..: 22:51		
Antimony	**47.7 B**	**300**	**ug/L**	**SW846 6010B**	**08/19-08/23/10**	**L5PR61CK**
		Dilution Factor: 1		Analysis Time..: 21:20		
Selenium	ND	1000	ug/L	SW846 6010B	08/19-08/22/10	L5PR61CL
		Dilution Factor: 1		Analysis Time..: 22:51		

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U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX

DI Leach Metals

Lot-Sample #...: F0H170582-002 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Thallium	ND	1000	ug/L	SW846 6010B	08/19-08/22/10	L5PR61DA
		Dilution Factor: 1		Analysis Time..: 22:51		
Vanadium	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PR61DC
		Dilution Factor: 1		Analysis Time..: 22:51		
Zinc	**107**	**100**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PR61DD**
		Dilution Factor: 1		Analysis Time..: 22:51		
Prep Batch #...: 0232426						
Mercury	ND	6	ug/L	SW846 7470A	08/22/10	L5PR61DE
		Dilution Factor: 1		Analysis Time..: 19:44		

NOTE(S):

Soluable Threshold Limit Concentration (STLC) done in accordance with App II: Waste Extraction procedures. CCR Title 22.

B Estimated result. Result is less than RL.

U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX

General Chemistry

Lot-Sample #...: F0H170582-002 Work Order #...: L5PR6 Matrix.....: SOLID
Date Sampled...: 08/17/10 10:00 Date Received..: 08/17/10
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture	18.2	0.10	%	MCAWW 160.3 MOD	08/19-08/20/10	0231287

Dilution Factor: 1 Analysis Time..: 00:00

U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND DI LEACHATE

General Chemistry

Lot-Sample #...: F0H170582-003 Work Order #...: L5PR7 Matrix.....: WATER
Date Sampled...: 08/17/10 10:16 Date Received..: 08/17/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.0	0.10	No Units	MCAWW 150.1	08/25/10	0237190
		Dilution Factor: 1		Analysis Time..: 12:44		
Bicarbonate Alkalinity	8.8	5.0	mg/L	MCAWW 310.1	08/25/10	0232309
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	3.6	0.20	mg/L	MCAWW 300.0A	08/19/10	0231314
		Dilution Factor: 1		Analysis Time..: 02:07		
Fluoride	0.46	0.10	mg/L	MCAWW 300.0A	08/19/10	0231315
		Dilution Factor: 1		Analysis Time..: 02:07		
Nitrate	90.0	4.0	mg/L	MCAWW 300.0A	08/19/10	0231316
		Dilution Factor: 200		Analysis Time..: 02:37		
Nitrate	2.0	0.20	mg/L	MCAWW 300.0A	08/25/10	0237303
		Dilution Factor: 10		Analysis Time..: 01:13		
Nitrogen, as Ammonia	375	50.0	ug/L	MCAWW 350.1	08/25/10	0233036
		Dilution Factor: 1		Analysis Time..: 17:34		
Sulfate	2.4	0.50	mg/L	MCAWW 300.0A	08/19/10	0231317
		Dilution Factor: 1		Analysis Time..: 02:07		
Total phosphorus	294 J	50.0	ug/L	MCAWW 365.2	08/19-08/20/10	0231339
		Dilution Factor: 1		Analysis Time..: 00:00		
Total Alkalinity	8.8	5.0	mg/L	MCAWW 310.1	08/25/10	0237285
		Dilution Factor: 1		Analysis Time..: 00:00		
Total Dissolved Solids	541	5.0	mg/L	MCAWW 160.1	08/19-08/20/10	0231347
		Dilution Factor: 1		Analysis Time..: 00:00		
Total Organic Carbon	5.7	1.0	mg/L	MCAWW 415.1	08/19/10	0231247
		Dilution Factor: 1		Analysis Time..: 13:38		

NOTE(S):

RL Reporting Limit

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX DI LEACHATE

General Chemistry

Lot-Sample #...: F0H170582-004 Work Order #...: L5PTK Matrix.....: WATER
Date Sampled...: 08/17/10 10:00 Date Received..: 08/17/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (liquid)	8.6	0.10	No Units	MCAWW 150.1	08/25/10	0237190
		Dilution Factor: 1		Analysis Time..: 12:50		
Bicarbonate Alkalinity	36.8	5.0	mg/L	MCAWW 310.1	08/25/10	0232309
		Dilution Factor: 1		Analysis Time..: 00:00		
Chloride	4.3	1.0	mg/L	MCAWW 300.0A	08/19/10	0231314
		Dilution Factor: 5		Analysis Time..: 05:36		
Fluoride	1.7	0.10	mg/L	MCAWW 300.0A	08/19/10	0231315
		Dilution Factor: 1		Analysis Time..: 04:51		
Nitrate	0.46	0.020	mg/L	MCAWW 300.0A	08/25/10	0237303
		Dilution Factor: 1		Analysis Time..: 12:58		
Nitrogen, as Ammonia	37.4 B	50.0	ug/L	MCAWW 350.1	08/25/10	0233036
		Dilution Factor: 1		Analysis Time..: 17:35		
Sulfate	7.1	0.50	mg/L	MCAWW 300.0A	08/19/10	0231317
		Dilution Factor: 1		Analysis Time..: 04:51		
Total phosphorus	550 J	100	ug/L	MCAWW 365.2	08/19-08/20/10	0231339
		Dilution Factor: 2		Analysis Time..: 00:00		
Total Alkalinity	40.0	5.0	mg/L	MCAWW 310.1	08/25/10	0237285
		Dilution Factor: 1		Analysis Time..: 00:00		
Total Dissolved Solids	862	5.0	mg/L	MCAWW 160.1	08/19-08/20/10	0231347
		Dilution Factor: 1		Analysis Time..: 00:00		
Total Organic Carbon	3.6	1.0	mg/L	MCAWW 415.1	08/19/10	0231247
		Dilution Factor: 1		Analysis Time..: 13:55		

NOTE(S):

RL Reporting Limit

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F0H180000-089 **Prep Batch #...:** 0230089						
Aluminum	ND	42	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AC
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Antimony	ND	20	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AW
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Arsenic	**0.60 B**	**30**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5P7Q1AD**
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Barium	ND	5	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AE
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Beryllium	ND	0.5	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AF
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Boron	**1.8 B**	**10**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5P7Q1AG**
		Dilution Factor: 1				
		Analysis Time..: 16:42				
Cadmium	ND	1.5	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AJ
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Calcium	ND	250	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AH
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Chromium	ND	1.5	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AL
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Cobalt	ND	5	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AK
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Copper	ND	2.5	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AM
		Dilution Factor: 1				
		Analysis Time..: 17:28				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	ND	20	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AN
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Lead	ND	15	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AV
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Magnesium	ND	100	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AQ
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Manganese	ND	1.2	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AR
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Nickel	ND	4	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AU
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Potassium	ND	1100	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AP
		Dilution Factor: 1				
		Analysis Time..: 16:42				
Selenium	**0.69 B**	**30**	**mg/kg**	**SW846 6010B**	**08/18-08/24/10**	**L5P7Q1AX**
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Silver	ND	2	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AA
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Sodium	ND	150	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1AT
		Dilution Factor: 1				
		Analysis Time..: 16:42				
Thallium	ND	20	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1A1
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Tin	ND	10	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1A0
		Dilution Factor: 1				
		Analysis Time..: 17:28				
Vanadium	ND	5	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1A3
		Dilution Factor: 1				
		Analysis Time..: 17:28				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc	ND	10	mg/kg	SW846 6010B	08/18-08/24/10	L5P7Q1A2
		Dilution Factor: 1				
		Analysis Time..: 17:28				

MB Lot-Sample #: F0H190000-263 **Prep Batch #...:** 0231263

Mercury	ND	0.040	mg/kg	SW846 7471A	08/22-08/23/10	L5T941AA
		Dilution Factor: 1				
		Analysis Time..: 02:30				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TCLP Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F0H170000-411 **Prep Batch #...:** 0230261						
Leach Date.....: 08/17/10 **Leach Batch #..:** P022914						
Antimony	ND	350	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AQ
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Arsenic	ND	500	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AD
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Barium	ND	125	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AE
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Beryllium	ND	12.50	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AF
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Boron	ND	250	ug/L	SW846 6010B	08/18-08/19/10	L5PV31AG
		Dilution Factor: 1				
		Analysis Time..: 18:59				
Cadmium	ND	30	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AH
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Chromium	ND	25	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AK
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Cobalt	ND	125	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AJ
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Copper	ND	62.5	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AL
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Lead	ND	250	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AP
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Manganese	ND	37.5	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AM
		Dilution Factor: 1				
		Analysis Time..: 21:28				

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METHOD BLANK REPORT

TCLP Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Nickel	ND	100	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AN
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Selenium	ND	800	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AR
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Silver	ND	40	ug/L	SW846 6010B	08/18-08/22/10	L5PV31AC
		Dilution Factor: 1				
		Analysis Time..: 19:07				
Thallium	ND	500	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AU
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Tin	ND	250	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AT
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Vanadium	ND	125	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AA
		Dilution Factor: 1				
		Analysis Time..: 21:28				
Zinc	ND	50	ug/L	SW846 6010B	08/18-08/23/10	L5PV31AV
		Dilution Factor: 1				
		Analysis Time..: 21:28				

MB Lot-Sample #: F0H170000-411 **Prep Batch #...:** 0232425
Leach Date.....: 08/17/10 **Leach Batch #..:** P022914

Mercury	ND	1.5	ug/L	SW846 7470A	08/22/10	L5PV31AW
		Dilution Factor: 1				
		Analysis Time..: 19:12				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

STLC Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

MB Lot-Sample #: F0H170000-412 **Prep Batch #...:** 0231207
Leach Date.....: 08/17/10 **Leach Batch #..:** P022915

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Antimony	ND	300	ug/L	SW846 6010B	08/19-08/23/10	L5PV51AN
		Dilution Factor: 1				
		Analysis Time..: 20:13				
Arsenic	ND	1000	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AC
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Barium	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AD
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Beryllium	ND	25	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AE
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Cadmium	ND	25	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AF
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Chromium	ND	125	ug/L	SW846 6010B	08/19-08/23/10	L5PV51AH
		Dilution Factor: 1				
		Analysis Time..: 20:13				
Cobalt	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AG
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Copper	ND	125	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AJ
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Lead	ND	500	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AM
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Molybdenum	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AK
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Nickel	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AL
		Dilution Factor: 1				
		Analysis Time..: 21:44				

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METHOD BLANK REPORT

STLC Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	**13.4 B**	**1000**	**ug/L**	**SW846 6010B**	**08/19-08/22/10**	**L5PV51AP**
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Silver	ND	50	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AA
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Thallium	ND	1000	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AQ
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Vanadium	ND	250	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AR
		Dilution Factor: 1				
		Analysis Time..: 21:44				
Zinc	ND	100	ug/L	SW846 6010B	08/19-08/22/10	L5PV51AT
		Dilution Factor: 1				
		Analysis Time..: 21:44				

MB Lot-Sample #: F0H170000-412 **Prep Batch #...:** 0232426
Leach Date.....: 08/17/10 **Leach Batch #..:** P022915

Mercury	ND	6.0	ug/L	SW846 7470A	08/22/10	L5PV51AU
		Dilution Factor: 1				
		Analysis Time..: 19:27				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F0H170582 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity		Work Order #: L54TF1AA		MB Lot-Sample #:	F0H200000-309	
	ND	5.0	mg/L	MCAWW 310.1	08/25/10	0232309
		Dilution Factor: 1				
		Analysis Time..: 00:00				
Chloride		Work Order #: L51TQ1AA		MB Lot-Sample #:	F0H190000-314	
	ND	0.20	mg/L	MCAWW 300.0A	08/19/10	0231314
		Dilution Factor: 1				
		Analysis Time..: 11:08				
Fluoride		Work Order #: L51TR1AA		MB Lot-Sample #:	F0H190000-315	
	ND	0.10	mg/L	MCAWW 300.0A	08/19/10	0231315
		Dilution Factor: 1				
		Analysis Time..: 11:08				
Nitrate		Work Order #: L51TT1AA		MB Lot-Sample #:	F0H190000-316	
	ND	0.020	mg/L	MCAWW 300.0A	08/19/10	0231316
		Dilution Factor: 1				
		Analysis Time..: 11:08				
Nitrate		Work Order #: L548C1AA		MB Lot-Sample #:	F0H250000-303	
	ND	0.020	mg/L	MCAWW 300.0A	08/25/10	0237303
		Dilution Factor: 1				
		Analysis Time..: 12:26				
Nitrogen, as Ammonia		Work Order #: L50GN1AA		MB Lot-Sample #:	F0H210000-036	
	ND	50.0	ug/L	MCAWW 350.1	08/25/10	0233036
		Dilution Factor: 1				
		Analysis Time..: 17:31				
Sulfate		Work Order #: L51TV1AA		MB Lot-Sample #:	F0H190000-317	
	ND	0.50	mg/L	MCAWW 300.0A	08/19/10	0231317
		Dilution Factor: 1				
		Analysis Time..: 11:08				
Total phosphorus		Work Order #: L51LJ1AA		MB Lot-Sample #:	F0H190000-339	
	6.5 B	**50.0**	**ug/L**	**MCAWW 365.2**	**08/19-08/20/10**	**0231339**
		Dilution Factor: 1				
		Analysis Time..: 00:00				
Total Alkalinity		Work Order #: L54TK1AA		MB Lot-Sample #:	F0H250000-285	
	ND	5.0	mg/L	MCAWW 310.1	08/25/10	0237285
		Dilution Factor: 1				
		Analysis Time..: 00:00				

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METHOD BLANK REPORT

General Chemistry

Client Lot #...: F0H170582 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Dissolved Solids		Work Order #: L5VVA1AA		MB Lot-Sample #:	F0H190000-347	
	ND	5.0	mg/L	MCAWW 160.1	08/19-08/20/10	0231347
		Dilution Factor: 1				
		Analysis Time..: 00:00				
Total Organic Carbon		Work Order #: L5T9A1AA		MB Lot-Sample #:	F0H190000-247	
	ND	1.0	mg/L	MCAWW 415.1	08/19/10	0231247
		Dilution Factor: 1				
		Analysis Time..: 13:29				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

LCS Lot-Sample#: F0H180000-089 **Prep Batch #...:** 0230089

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	95	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1A4
		Dilution Factor: 1	Analysis Time..: 17:35		
Aluminum	106	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1A5
		Dilution Factor: 1	Analysis Time..: 17:35		
Arsenic	104	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1A6
		Dilution Factor: 1	Analysis Time..: 17:35		
Barium	104	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1A7
		Dilution Factor: 1	Analysis Time..: 17:35		
Beryllium	111	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1A8
		Dilution Factor: 1	Analysis Time..: 17:35		
Boron	100	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1A9
		Dilution Factor: 1	Analysis Time..: 16:48		
Calcium	108	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CA
		Dilution Factor: 1	Analysis Time..: 17:35		
Cadmium	105	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CC
		Dilution Factor: 1	Analysis Time..: 17:35		
Cobalt	101	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CD
		Dilution Factor: 1	Analysis Time..: 17:35		
Chromium	102	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CE
		Dilution Factor: 1	Analysis Time..: 17:35		
Copper	100	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CF
		Dilution Factor: 1	Analysis Time..: 17:35		
Iron	107	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CG
		Dilution Factor: 1	Analysis Time..: 17:35		
Potassium	125 N	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CH
		Dilution Factor: 1	Analysis Time..: 16:48		
Magnesium	110	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CJ
		Dilution Factor: 1	Analysis Time..: 17:35		

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Manganese	104	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CK
		Dilution Factor: 1	Analysis Time..: 17:35		
Sodium	109	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CL
		Dilution Factor: 1	Analysis Time..: 16:48		
Nickel	102	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CM
		Dilution Factor: 1	Analysis Time..: 17:35		
Lead	102	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CN
		Dilution Factor: 1	Analysis Time..: 17:35		
Antimony	96	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CP
		Dilution Factor: 1	Analysis Time..: 17:35		
Selenium	103	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CQ
		Dilution Factor: 1	Analysis Time..: 17:35		
Tin	107	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CR
		Dilution Factor: 1	Analysis Time..: 17:35		
Thallium	100	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CT
		Dilution Factor: 1	Analysis Time..: 17:35		
Zinc	110	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CU
		Dilution Factor: 1	Analysis Time..: 17:35		
Vanadium	103	(80 - 120)	SW846 6010B	08/18-08/24/10	L5P7Q1CV
		Dilution Factor: 1	Analysis Time..: 17:35		

LCS Lot-Sample#: F0H190000-263 **Prep Batch #...:** 0231263

Mercury	80	(80 - 120)	SW846 7471A	08/22-08/23/10	L5T941AC
		Dilution Factor: 1	Analysis Time..: 02:32		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: F0H180000-261 **Prep Batch #...:** 0230261					
Vanadium	95	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AA
		Dilution Factor: 1	Analysis Time..: 21:35		
Silver	96	(80 - 120)	SW846 6010B	08/18-08/22/10	L5QV01AC
		Dilution Factor: 1	Analysis Time..: 19:15		
Arsenic	99	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AD
		Dilution Factor: 1	Analysis Time..: 21:35		
Barium	98	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AE
		Dilution Factor: 1	Analysis Time..: 21:35		
Beryllium	104	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AF
		Dilution Factor: 1	Analysis Time..: 21:35		
Boron	92	(80 - 120)	SW846 6010B	08/18-08/19/10	L5QV01AG
		Dilution Factor: 1	Analysis Time..: 19:05		
Cadmium	99	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AH
		Dilution Factor: 1	Analysis Time..: 21:35		
Cobalt	93	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AJ
		Dilution Factor: 1	Analysis Time..: 21:35		
Chromium	94	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AK
		Dilution Factor: 1	Analysis Time..: 21:35		
Copper	95	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AL
		Dilution Factor: 1	Analysis Time..: 21:35		
Manganese	95	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AM
		Dilution Factor: 1	Analysis Time..: 21:35		
Nickel	94	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AN
		Dilution Factor: 1	Analysis Time..: 21:35		
Lead	92	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AP
		Dilution Factor: 1	Analysis Time..: 21:35		
Antimony	92	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AQ
		Dilution Factor: 1	Analysis Time..: 21:35		

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	102	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AR
		Dilution Factor: 1	Analysis Time..: 21:35		
Tin	98	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AT
		Dilution Factor: 1	Analysis Time..: 21:35		
Thallium	90	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AU
		Dilution Factor: 1	Analysis Time..: 21:35		
Zinc	110	(80 - 120)	SW846 6010B	08/18-08/23/10	L5QV01AV
		Dilution Factor: 1	Analysis Time..: 21:35		

LCS Lot-Sample#: F0H200000-425 **Prep Batch #...:** 0232425

Mercury	107	(80 - 120)	SW846 7470A	08/22/10	L51AT1AA
		Dilution Factor: 1	Analysis Time..: 19:14		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

STLC Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

LCS Lot-Sample#: F0H190000-207 **Prep Batch #...:** 0231207

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	99	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AA
		Dilution Factor: 1	Analysis Time..: 22:07		
Arsenic	106	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AC
		Dilution Factor: 1	Analysis Time..: 22:07		
Barium	108	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AD
		Dilution Factor: 1	Analysis Time..: 22:07		
Beryllium	112	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AE
		Dilution Factor: 1	Analysis Time..: 22:07		
Cadmium	108	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AF
		Dilution Factor: 1	Analysis Time..: 22:07		
Cobalt	105	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AG
		Dilution Factor: 1	Analysis Time..: 22:07		
Chromium	100	(80 - 120)	SW846 6010B	08/19-08/23/10	L5TT01AH
		Dilution Factor: 1	Analysis Time..: 20:20		
Copper	103	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AJ
		Dilution Factor: 1	Analysis Time..: 22:07		
Molybdenum	108	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AK
		Dilution Factor: 1	Analysis Time..: 22:07		
Nickel	106	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AL
		Dilution Factor: 1	Analysis Time..: 22:07		
Lead	106	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AM
		Dilution Factor: 1	Analysis Time..: 22:07		
Antimony	96	(80 - 120)	SW846 6010B	08/19-08/23/10	L5TT01AN
		Dilution Factor: 1	Analysis Time..: 20:20		
Selenium	108	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AP
		Dilution Factor: 1	Analysis Time..: 22:07		
Thallium	105	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AQ
		Dilution Factor: 1	Analysis Time..: 22:07		

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

STLC Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Vanadium	106	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AR
		Dilution Factor: 1	Analysis Time..: 22:07		
Zinc	113	(80 - 120)	SW846 6010B	08/19-08/22/10	L5TT01AT
		Dilution Factor: 1	Analysis Time..: 22:07		

LCS Lot-Sample#: F0H200000-426 **Prep Batch #...:** 0232426

Mercury	106	(80 - 120)	SW846 7470A	08/22/10	L51AV1AA
		Dilution Factor: 1	Analysis Time..: 19:33		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F0H170582 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (liquid)		Work Order #: L54VK1AA	LCS Lot-Sample#: F0H250000-190		
	100	(99 - 101)	MCAWW 150.1	08/25/10	0237190
		Dilution Factor: 1	Analysis Time..: 12:34		
Bicarbonate Alkalinity		Work Order #: L54TF1AC	LCS Lot-Sample#: F0H200000-309		
	96	(90 - 110)	MCAWW 310.1	08/25/10	0232309
		Dilution Factor: 1	Analysis Time..: 00:00		
Bicarbonate Alkalinity		Work Order #: L54TF1AD	LCS Lot-Sample#: F0H200000-309		
	95	(90 - 110)	MCAWW 310.1	08/25/10	0232309
		Dilution Factor: 1	Analysis Time..: 00:00		
Chloride		Work Order #: L51TQ1AC	LCS Lot-Sample#: F0H190000-314		
	92	(90 - 110)	MCAWW 300.0A	08/19/10	0231314
		Dilution Factor: 1	Analysis Time..: 10:53		
Fluoride		Work Order #: L51TR1AC	LCS Lot-Sample#: F0H190000-315		
	94	(90 - 110)	MCAWW 300.0A	08/19/10	0231315
		Dilution Factor: 1	Analysis Time..: 10:53		
Nitrate		Work Order #: L51TT1AC	LCS Lot-Sample#: F0H190000-316		
	97	(90 - 110)	MCAWW 300.0A	08/19/10	0231316
		Dilution Factor: 1	Analysis Time..: 10:53		
Nitrate		Work Order #: L548C1AC	LCS Lot-Sample#: F0H250000-303		
	100	(90 - 110)	MCAWW 300.0A	08/25/10	0237303
		Dilution Factor: 1	Analysis Time..: 12:10		
Nitrogen, as Ammonia		Work Order #: L50GN1AC	LCS Lot-Sample#: F0H210000-036		
	103	(90 - 110)	MCAWW 350.1	08/25/10	0233036
		Dilution Factor: 1	Analysis Time..: 17:32		
Sulfate		Work Order #: L51TV1AC	LCS Lot-Sample#: F0H190000-317		
	92	(90 - 110)	MCAWW 300.0A	08/19/10	0231317
		Dilution Factor: 1	Analysis Time..: 10:53		
Total phosphorus		Work Order #: L51LJ1AC	LCS Lot-Sample#: F0H190000-339		
	113	(79 - 126)	MCAWW 365.2	08/19-08/20/10	0231339
		Dilution Factor: 1	Analysis Time..: 00:00		

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F0H170582 **Matrix.....:** WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Alkalinity		Work Order #: L54TK1AC	LCS Lot-Sample#: F0H250000-285		
	96	(90 - 110)	MCAWW 310.1	08/25/10	0237285
		Dilution Factor: 1	Analysis Time..: 00:00		
Total Alkalinity		Work Order #: L54TK1AD	LCS Lot-Sample#: F0H250000-285		
	95	(90 - 110)	MCAWW 310.1	08/25/10	0237285
		Dilution Factor: 1	Analysis Time..: 00:00		
Total Dissolved Solids		Work Order #: L5VVA1AC	LCS Lot-Sample#: F0H190000-347		
	97	(90 - 113)	MCAWW 160.1	08/19-08/20/10	0231347
		Dilution Factor: 1	Analysis Time..: 00:00		
Total Organic Carbon		Work Order #: L5T9A1AC	LCS Lot-Sample#: F0H190000-247		
	102	(90 - 110)	MCAWW 415.1	08/19/10	0231247
		Dilution Factor: 1	Analysis Time..: 13:21		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F0H170582-001 **Prep Batch #...:** 0230089							
						% Moisture.....: 18	
Aluminum	726 N	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41DH
	1020 N	(80 - 120)	13	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41DJ
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Antimony	56 N	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41EM
	43 N,*,N*	(80 - 120)	21	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41EN
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Arsenic	94	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41DK
	92	(80 - 120)	2.3	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41DL
		Dilution Factor: 10					
		Analysis Time..: 18:57					
Barium	117	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41DM
	88	(80 - 120)	8.3	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41DN
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Beryllium	110	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41DP
	107	(80 - 120)	2.7	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41DQ
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Boron	76 N	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41DR
	80 N	(80 - 120)	4.4	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41DT
		Dilution Factor: 2					
		Analysis Time..: 17:07					
Cadmium	96	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41DW
	100	(80 - 120)	3.6	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41DX
		Dilution Factor: 10					
		Analysis Time..: 18:57					
Calcium	105	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41DU
	16 N	(80 - 120)	14	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41DV
		Dilution Factor: 2					
		Analysis Time..: 17:58					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	102	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41D2
	102	(80 - 120)	0.16	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41D3
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Cobalt	96	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41D0
	95	(80 - 120)	0.70	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41D1
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Copper	99	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41D4
	96	(80 - 120)	2.6	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41D5
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Iron	348 N	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41D6
	368 N	(80 - 120)	0.86	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41D7
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Lead	90	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41EK
	86	(80 - 120)	3.5	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41EL
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Magnesium	177 N	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41EA
	179 N	(80 - 120)	0.48	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41EC
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Manganese	0 N	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41ED
	83	(80 - 120)	0.0	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41EE
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Nickel	98	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41EH
	96	(80 - 120)	1.9	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41EJ
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Potassium	10 N,BN	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41D8
	97 *	(80 - 120)	34	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41D9
		Dilution Factor: 2					
		Analysis Time..: 17:07					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	90	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41EP
	88	(80 - 120)	2.3	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41EQ
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Silver	105	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41DF
	100	(80 - 120)	5.2	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41DG
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Sodium	115	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41EF
	116	(80 - 120)	0.97	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41EG
		Dilution Factor: 2					
		Analysis Time..: 17:07					
Thallium	90	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41EU
	94	(80 - 120)	4.4	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41EV
		Dilution Factor: 10					
		Analysis Time..: 18:57					
Tin	101	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41ER
	95	(80 - 120)	6.0	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41ET
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Vanadium	108	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41E0
	114	(80 - 120)	3.9	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41E1
		Dilution Factor: 2					
		Analysis Time..: 17:58					
Zinc	113	(80 - 120)			SW846 6010B	08/18-08/24/10	L5PR41EW
	104	(80 - 120)	5.0	(0-20)	SW846 6010B	08/18-08/24/10	L5PR41EX
		Dilution Factor: 2					
		Analysis Time..: 17:58					

MS Lot-Sample #: F0H170582-001 **Prep Batch #...:** 0231263

% Moisture.....: 18

Mercury	91	(80 - 120)			SW846 7471A	08/22-08/23/10	L5PR41HA
	92	(80 - 120)	0.87	(0-20)	SW846 7471A	08/22-08/23/10	L5PR41HC
		Dilution Factor: 1					
		Analysis Time..: 02:40					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Results and reporting limits have been adjusted for dry weight.

N Spiked analyte recovery is outside stated control limits.

* Relative percent difference (RPD) is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F0H170582-001 **Prep Batch #...:** 0230261							
Leach Date.....: 08/17/10 **Leach Batch #..:** P022914							
Antimony	94	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41FW
	93	(80 - 120)	1.2	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41FX
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Arsenic	100	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41E6
	100	(80 - 120)	0.55	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41E7
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Barium	98	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41E8
	98	(80 - 120)	0.01	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41E9
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Beryllium	106	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41FA
	106	(80 - 120)	0.24	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41FC
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Boron	94	(80 - 120)			SW846 6010B	08/18-08/19/10	L5PR41FD
	92	(80 - 120)	1.3	(0-20)	SW846 6010B	08/18-08/19/10	L5PR41FE
		Dilution Factor: 1					
		Analysis Time..: 19:36					
Cadmium	100	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41FF
	99	(80 - 120)	0.69	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41FG
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Chromium	96	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41FK
	95	(80 - 120)	0.37	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41FL
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Cobalt	94	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41FH
	94	(80 - 120)	0.49	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41FJ
		Dilution Factor: 1					
		Analysis Time..: 22:12					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Copper	97	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41FM
	97	(80 - 120)	0.06	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41FN
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Lead	94	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41FU
	94	(80 - 120)	0.58	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41FV
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Manganese	97	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41FP
	97	(80 - 120)	0.26	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41FQ
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Nickel	96	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41FR
	95	(80 - 120)	0.67	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41FT
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Selenium	102	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41F0
	102	(80 - 120)	0.56	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41F1
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Silver	99	(80 - 120)			SW846 6010B	08/18-08/22/10	L5PR41E4
	94	(80 - 120)	4.6	(0-20)	SW846 6010B	08/18-08/22/10	L5PR41E5
		Dilution Factor: 1					
		Analysis Time..: 19:37					
Thallium	92	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41F4
	91	(80 - 120)	1.3	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41F5
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Tin	100	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41F2
	99	(80 - 120)	1.5	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41F3
		Dilution Factor: 1					
		Analysis Time..: 22:12					
Vanadium	98	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41E2
	98	(80 - 120)	0.24	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41E3
		Dilution Factor: 1					
		Analysis Time..: 22:12					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

TCLP Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc	111	(80 - 120)			SW846 6010B	08/18-08/23/10	L5PR41F6
	110	(80 - 120)	0.86	(0-20)	SW846 6010B	08/18-08/23/10	L5PR41F7

Dilution Factor: 1
Analysis Time..: 22:12

MS Lot-Sample #: F0H170582-001 **Prep Batch #...:** 0232425
Leach Date.....: 08/17/10 **Leach Batch #..:** P022914

Mercury	85	(80 - 120)			SW846 7470A	08/22/10	L5PR41HD
	87	(80 - 120)	2.3	(0-20)	SW846 7470A	08/22/10	L5PR41HE

Dilution Factor: 1
Analysis Time..: 19:21

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

STLC Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F0H170582-001 **Prep Batch #...:** 0231207							
Leach Date.....: 08/17/10 **Leach Batch #..:** P022915						**% Moisture.....:** 18	
Antimony	98	(80 - 120)			SW846 6010B	08/19-08/23/10	L5PR41G0
	96	(80 - 120)	1.9	(0-20)	SW846 6010B	08/19-08/23/10	L5PR41G1
		Dilution Factor: 1					
		Analysis Time..: 20:58					
Arsenic	105	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41GA
	104	(80 - 120)	0.92	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41GC
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Barium	113	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41GD
	116	(80 - 120)	2.3	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41GE
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Beryllium	110	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41GF
	114	(80 - 120)	2.8	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41GG
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Cadmium	110	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41GH
	110	(80 - 120)	0.45	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41GJ
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Chromium	102	(80 - 120)			SW846 6010B	08/19-08/23/10	L5PR41GM
	104	(80 - 120)	2.6	(0-20)	SW846 6010B	08/19-08/23/10	L5PR41GN
		Dilution Factor: 1					
		Analysis Time..: 20:58					
Cobalt	105	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41GK
	106	(80 - 120)	1.3	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41GL
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Copper	105	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41GP
	107	(80 - 120)	1.8	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41GQ
		Dilution Factor: 1					
		Analysis Time..: 22:29					

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MATRIX SPIKE SAMPLE EVALUATION REPORT

STLC Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Lead	107	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41GW
	106	(80 - 120)	0.87	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41GX
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Molybdenum	108	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41GR
	108	(80 - 120)	0.48	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41GT
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Nickel	108	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41GU
	108	(80 - 120)	0.49	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41GV
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Selenium	111	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41G2
	109	(80 - 120)	2.0	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41G3
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Silver	96	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41F8
	97	(80 - 120)	0.31	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41F9
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Thallium	104	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41G4
	105	(80 - 120)	0.82	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41G5
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Vanadium	107	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41G6
	109	(80 - 120)	1.8	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41G7
		Dilution Factor: 1					
		Analysis Time..: 22:29					
Zinc	119	(80 - 120)			SW846 6010B	08/19-08/22/10	L5PR41G8
	116	(80 - 120)	1.8	(0-20)	SW846 6010B	08/19-08/22/10	L5PR41G9
		Dilution Factor: 1					
		Analysis Time..: 22:29					

MS Lot-Sample #: F0H170582-001 **Prep Batch #...:** 0232426
Leach Date.....: 08/17/10 **Leach Batch #..:** P022915 **% Moisture.....:** 18

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

STLC Metals

Client Lot #...: F0H170582 **Matrix.....:** SOLID
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Mercury	87	(46 - 110)			SW846 7470A	08/22/10	L5PR41HF
	91	(46 - 110)	3.6	(0-30)	SW846 7470A	08/22/10	L5PR41HG

Dilution Factor: 1
Analysis Time..: 19:40

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: F0H170582 **Matrix.....:** WATER
Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chloride		Work Order #...: L5PR71AW		MS Lot-Sample #: F0H170582-003	
	109	(90 - 110)	MCAWW 300.0A	08/19/10	0231314
		Dilution Factor: 1	Analysis Time..: 02:07		
Fluoride		Work Order #...: L5PR71A0		MS Lot-Sample #: F0H170582-003	
	100	(90 - 110)	MCAWW 300.0A	08/19/10	0231315
		Dilution Factor: 1	Analysis Time..: 02:07		
Nitrate		Work Order #...: L5PR71A9		MS Lot-Sample #: F0H170582-003	
	104	(90 - 110)	MCAWW 300.0A	08/25/10	0237303
		Dilution Factor: 10	Analysis Time..: 01:13		
Nitrogen, as Ammonia		Work Order #...: L5PTK1AV		MS Lot-Sample #: F0H170582-004	
	86 N	(90 - 110)	MCAWW 350.1	08/25/10	0233036
		Dilution Factor: 1	Analysis Time..: 17:35		
Sulfate		Work Order #...: L5PR71A4		MS Lot-Sample #: F0H170582-003	
	94	(90 - 110)	MCAWW 300.0A	08/19/10	0231317
		Dilution Factor: 1	Analysis Time..: 02:07		
Total phosphorus		Work Order #...: L5PR71AU		MS Lot-Sample #: F0H170582-003	
	99	(41 - 150)	MCAWW 365.2	08/19-08/20/10	0231339
		Dilution Factor: 1	Analysis Time..: 00:00		
Total Alkalinity		Work Order #...: L5PTK1AR		MS Lot-Sample #: F0H170582-004	
	92	(80 - 120)	MCAWW 310.1	08/25/10	0237285
		Dilution Factor: 1	Analysis Time..: 00:00		
Total Organic Carbon		Work Order #...: L5PR71AM		MS Lot-Sample #: F0H170582-003	
	108	(82 - 132)	MCAWW 415.1	08/19/10	0231247
		Dilution Factor: 1	Analysis Time..: 13:38		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F0H170582 **Work Order #...:** L4VHJ-SMP L4VHJ-DUP **Matrix.....:** SOLID

Date Sampled...: 07/22/10 10:35 **Date Received..:** 07/29/10

% Moisture.....: 12

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Moisture						SD Lot-Sample #:	F0G290501-001	
	11.9	11.3	%	5.2	(0-30)	MCAWW 160.3 MOD	08/19-08/20/10	0231287

Dilution Factor: 1 Analysis Time..: 00:00

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F0H170582 **Work Order #...:** L5PR7-SMP L5PR7-DUP **Matrix.....:** WATER

Date Sampled...: 08/17/10 10:16 **Date Received..:** 08/17/10

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Dissolved Solids						SD Lot-Sample #:	F0H170582-003	
	541	604	mg/L	11	(0-0.0)	MCAWW 160.1	08/19-08/20/10	0231347
		Dilution Factor: 1				Analysis Time..: 00:00		
Chloride						SD Lot-Sample #:	F0H170582-003	
	3.6	3.6	mg/L	0.32	(0-20)	MCAWW 300.0A	08/19/10	0231314
		Dilution Factor: 1				Analysis Time..: 02:07		
Fluoride						SD Lot-Sample #:	F0H170582-003	
	0.46	0.46	mg/L	0.59	(0-20)	MCAWW 300.0A	08/19/10	0231315
		Dilution Factor: 1				Analysis Time..: 02:07		
Nitrate						SD Lot-Sample #:	F0H170582-003	
	2.0	1.9	mg/L	2.7	(0-20)	MCAWW 300.0A	08/25/10	0237303
		Dilution Factor: 10				Analysis Time..: 01:13		
Sulfate						SD Lot-Sample #:	F0H170582-003	
	2.4	2.3	mg/L	3.8	(0-20)	MCAWW 300.0A	08/19/10	0231317
		Dilution Factor: 1				Analysis Time..: 02:07		
Total phosphorus						SD Lot-Sample #:	F0H170582-003	
	294 J	286	ug/L	2.8	(0-20)	MCAWW 365.2	08/19-08/20/10	0231339
		Dilution Factor: 1				Analysis Time..: 00:00		
Total Organic Carbon						SD Lot-Sample #:	F0H170582-003	
	5.7	6.9	mg/L	20	(0-20)	MCAWW 415.1	08/19/10	0231247
		Dilution Factor: 1				Analysis Time..: 13:38		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F0H170582 **Work Order #...:** L5PTK-SMP L5PTK-DUP **Matrix.....:** WATER

Date Sampled...: 08/17/10 10:00 **Date Received..:** 08/17/10

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
pH (liquid)						SD Lot-Sample #:	F0H170582-004	
	8.6	8.6	No Units	0.12	(0-0.0)	MCAWW 150.1	08/25/10	0237190
		Dilution Factor: 1				Analysis Time..: 12:50		
Bicarbonate Alkalinity						SD Lot-Sample #:	F0H170582-004	
	36.8	37.6	mg/L	2.2	(0-15)	MCAWW 310.1	08/25/10	0232309
		Dilution Factor: 1				Analysis Time..: 00:00		
Nitrogen, as Ammonia						SD Lot-Sample #:	F0H170582-004	
	37.4 B	41.2 B	ug/L	9.8	(0-20)	MCAWW 350.1	08/25/10	0233036
		Dilution Factor: 1				Analysis Time..: 17:35		
Total Alkalinity						SD Lot-Sample #:	F0H170582-004	
	40.0	40.0	mg/L	0.0	(0-20)	MCAWW 310.1	08/25/10	0237285
		Dilution Factor: 1				Analysis Time..: 00:00		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

TestAmerica St. Louis Chain-of-Custody Record

13715 Rider Trial North
Earth City, MO 63045
Phone: 314-298-8566 Fax: 314-298-8757

Customer Information		Project Information		Analyses / Method Requested
Project Name	Alton to Gale	Purchase Order		A. SEE ATTACHED SHEET
PM/ Quote#		Work Order		B.
Company	USACE	Bill To		C.
Send Report To:	RON FRERKER	Invoice Attn		D.
Address:	Foot of Arsenal Street	Address:		E.
City/State/Zip	St. Louis, MO	City/State/Zip		F.
Phone/Fax	314-865-6307/314-865-6362	Phone		G.

Sx No.	Sample Description	Sample Date	Sample Time	Sample Matrix	Container Type	Preservative	No. of Bottles	A	B	C	D	E	F	G	H	I	Comments
1	BACKGROUND	8/17/10	1016	SOIL	GLASS ~~See Comments~~		2	X			5000						
2	FLY ASH MIX	8/17/10	1000	SOIL	GLASS ~~See Comments~~		2	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	

	Shipment Method:	Airbill No.:	Required Turnaround: 5-DAY

Relinquished by: Rick Fuhrer	Date 8/17/10	Relinquished by:	Date	Relinquished by:	Date
Company Name: USACE	Time 1440	Company Name:	Time	Company Name:	Time
Received by:	Date 8-17-10	Received by:	Date	Received by:	Date
Company Name: TASL	Time 1440	Company Name:	Time	Company Name:	Time

Report full list, metals & Organics

EA-D-63

TestAmerica St. Louis

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F0H170582

CONDITION UPON RECEIPT FORM

Client: USACE

Quote No: 84070

COC/RFA No: N/A

111

Initiated By: BV

Date: 8.17.10 Time: 1440

Shipping Information

Shipper: FedEx UPS DHL Courier Client Other: BD

Multiple Packages: Y N

Shipping # (s):*

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Sample Temperature (s):**

1. 2
2.
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y N	Are there custody seals present on the cooler?	8.	Y N	Are there custody seals present on bottles?
2.	Y N N/A	Do custody seals on cooler appear to be tampered with?	9.	Y N N/A	Do custody seals on bottles appear to be tampered with?
3.	Y N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N N/A	Was sample received with proper pH[1]? (If not, make note below)
4.	Y N	Sample received with Chain of Custody?	11.	Y N	Sample received in proper containers?
5.	Y N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	Y N N/A	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
6.	Y N	Was sample received broken?	13.	Y N N/A	Was Internal COC/Workshare received?
7.	Y N	Is sample volume sufficient for analysis?	14.	Y N N/A	Was pH taken by original TestAmerica lab?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:

- ☐ Client Contact Name:
- ☐ Sample(s) processed "as is"
- ☐ Sample(s) on hold until:

Informed by:

If released, notify:

Date: 8/19/10

Project Management Review:

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 10/21/08 \\Slsvr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

ANALYTICAL REPORT

Alton-Gale

Lot #: F0I170549

Rick Archeski

U.S. Army Corps of Engineers
Foot of Arsenal Street
Saint Louis, MO 63118

TESTAMERICA LABORATORIES, INC.

Terry Romanko
Project Manager

September 28, 2010

EA-D-65

13715 Rider Trail North Earth City, MO 63045 **tel** 314.298.8566 **fax** 314.298.8757 **www.testamericainc.com**

Case Narrative
LOT NUMBER: **F0I170549**

This report contains the analytical results for the two samples received under chain of custody by TestAmerica St. Louis on September 17, 2010. These samples are associated with your Alton-Gale project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

The test results in this report meet all NELAP requirements for parameters in which accreditations are held by TestAmerica St. Louis. Any exceptions to NELAP requirements are noted in the case narrative. **TestAmerica St. Louis' Florida certification number is E87689.** The case narrative is an integral part of this report.

This report shall not be reproduced, except in full, without the written approval of the laboratory.

This report is incomplete without the case narrative. All chemical analysis results are based upon sample as received, wet weight, unless noted otherwise. All radiochemistry results are based upon sample as dried and ground with the exception of tritium, unless requested wet weight by the client.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

ICP-MS Metals

The following results are for DI water leachate of the submitted solid samples. The samples were leached with DI water at a 20:1 water to sample ratio as per the TCLP leach process.

Batch 0263296:

- The samples were analyzed at a dilution due to high concentrations of target and interfering analytes. The reporting limit has been adjusted only for those targets reported from the dilution run.
- Calcium was observed in the method blank above the reporting limit. Associated samples which are either non-detect for the contaminant or exhibit concentrations greater than ten (10) times the concentrations observed in the method blank, do not require re-analysis.
- Due to LDR failures, the LDR has been lowered for beryllium (1000ppb) and antimony (100ppb). The LCS and the MS/MSD were above the LDR. The LCS and MS/MSD were within acceptable QC limits. The MS/MSD are reported as estimated values.
- The MS (MSD) recovery is outside the established QC limits for calcium and sodium. The said analyte concentration in the original sample is greater than four times the amount spiked, making percent recovery information ineffective. Method performance is demonstrated by acceptable LCS recovery.
- The MS (MSD) recovery is outside the established QC limits for aluminum, arsenic, beryllium, boron, cobalt, chromium, copper, iron, potassium, magnesium, manganese, nickel, selenium, vanadium, and zinc. The RPD is within method acceptance criteria indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recovery.
- The serial dilution for magnesium and sodium is outside of method acceptance criteria indicating a potential matrix interference. All associated samples are flagged accordingly.

Affected Samples:
F0I170549 (1): BACKGROUND DI LEACHATE
F0I170549 (2): FLY ASH MIX DI LEACHATE

METHODS SUMMARY

F0I170549

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
ICP-MS (6020)	SW846 6020	
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A	SW846 7470A

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F0I170549

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L65XX	001	BACKGROUND DI LEACHATE	08/17/10	10:16
L65X5	002	FLY ASH MIX DI LEACHATE	08/17/10	10:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND DI LEACHATE

TOTAL Metals

Lot-Sample #...: F0I170549-001 Matrix.....: WATER
Date Sampled...: 08/17/10 10:16 Date Received..: 09/17/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0263296						
Silver	ND	2	ug/L	SW846 6020	09/20-09/22/10	L65XX1AA
		Dilution Factor: 1		Analysis Time..: 14:33		
Aluminum	396 N	300	ug/L	SW846 6020	09/20-09/22/10	L65XX1AC
		Dilution Factor: 10		Analysis Time..: 13:34		
Arsenic	ND N	100	ug/L	SW846 6020	09/20-09/22/10	L65XX1AD
		Dilution Factor: 10		Analysis Time..: 13:34		
Barium	836	2	ug/L	SW846 6020	09/20-09/22/10	L65XX1AE
		Dilution Factor: 1		Analysis Time..: 14:33		
Beryllium	ND N	5	ug/L	SW846 6020	09/20-09/22/10	L65XX1AF
		Dilution Factor: 10		Analysis Time..: 13:34		
Boron	1920 N	540	ug/L	SW846 6020	09/20-09/22/10	L65XX1AG
		Dilution Factor: 10		Analysis Time..: 13:34		
Calcium	92000 N	1000	ug/L	SW846 6020	09/20-09/22/10	L65XX1AH
		Dilution Factor: 10		Analysis Time..: 13:34		
Cadmium	0.39 B	0.5	ug/L	SW846 6020	09/20-09/22/10	L65XX1AJ
		Dilution Factor: 1		Analysis Time..: 14:33		
Cobalt	ND N	20	ug/L	SW846 6020	09/20-09/22/10	L65XX1AK
		Dilution Factor: 10		Analysis Time..: 13:34		
Chromium	ND N	100	ug/L	SW846 6020	09/20-09/22/10	L65XX1AL
		Dilution Factor: 10		Analysis Time..: 13:34		
Copper	5.8 BN	30	ug/L	SW846 6020	09/20-09/22/10	L65XX1AM
		Dilution Factor: 10		Analysis Time..: 13:34		
Iron	257 BN	500	ug/L	SW846 6020	09/20-09/22/10	L65XX1AN
		Dilution Factor: 10		Analysis Time..: 13:34		
Potassium	3770 N	1000	ug/L	SW846 6020	09/20-09/22/10	L65XX1AP
		Dilution Factor: 10		Analysis Time..: 13:34		

(Continued on next page)

U.S. Army Corps of Engineers

Client Sample ID: BACKGROUND DI LEACHATE

TOTAL Metals

Lot-Sample #...: F0I170549-001 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Magnesium	24600 NE	500	ug/L	SW846 6020	09/20-09/22/10	L65XX1AQ
		Dilution Factor: 10		Analysis Time..: 13:34		
Manganese	29.1 N	20	ug/L	SW846 6020	09/20-09/22/10	L65XX1AR
		Dilution Factor: 10		Analysis Time..: 13:34		
Sodium	1210000 NE	500	ug/L	SW846 6020	09/20-09/22/10	L65XX1AT
		Dilution Factor: 10		Analysis Time..: 13:34		
Nickel	9.6 BN	50	ug/L	SW846 6020	09/20-09/22/10	L65XX1AU
		Dilution Factor: 10		Analysis Time..: 13:34		
Lead	2.0 B	3	ug/L	SW846 6020	09/20-09/22/10	L65XX1AV
		Dilution Factor: 1		Analysis Time..: 14:33		
Antimony	1.2 B	5	ug/L	SW846 6020	09/20-09/22/10	L65XX1AW
		Dilution Factor: 1		Analysis Time..: 14:33		
Selenium	ND N	50	ug/L	SW846 6020	09/20-09/22/10	L65XX1AX
		Dilution Factor: 10		Analysis Time..: 13:34		
Tin	ND	3	ug/L	SW846 6020	09/20-09/22/10	L65XX1A0
		Dilution Factor: 1		Analysis Time..: 14:33		
Thallium	ND	2	ug/L	SW846 6020	09/20-09/22/10	L65XX1A1
		Dilution Factor: 1		Analysis Time..: 14:33		
Vanadium	ND N	100	ug/L	SW846 6020	09/20-09/22/10	L65XX1A2
		Dilution Factor: 10		Analysis Time..: 13:34		
Zinc	107 BN	120	ug/L	SW846 6020	09/20-09/22/10	L65XX1A3
		Dilution Factor: 10		Analysis Time..: 13:34		
Prep Batch #...: 0264126						
Mercury	ND	0.2	ug/L	SW846 7470A	09/21/10	L65XX1A4
		Dilution Factor: 1		Analysis Time..: 16:11		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

B Estimated result. Result is less than RL.

U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX DI LEACHATE

TOTAL Metals

Lot-Sample #...: F0I170549-002 Matrix.....: WATER
Date Sampled...: 08/17/10 10:00 Date Received..: 09/17/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0263296						
Silver	ND	2	ug/L	SW846 6020	09/20-09/22/10	L65X51AG
		Dilution Factor: 1		Analysis Time..: 15:09		
Aluminum	168 BN	300	ug/L	SW846 6020	09/20-09/22/10	L65X51AH
		Dilution Factor: 10		Analysis Time..: 14:11		
Arsenic	ND N	100	ug/L	SW846 6020	09/20-09/22/10	L65X51AJ
		Dilution Factor: 10		Analysis Time..: 14:11		
Barium	951	2	ug/L	SW846 6020	09/20-09/22/10	L65X51AK
		Dilution Factor: 1		Analysis Time..: 15:09		
Beryllium	ND N	5	ug/L	SW846 6020	09/20-09/22/10	L65X51AL
		Dilution Factor: 10		Analysis Time..: 14:11		
Boron	833 N	540	ug/L	SW846 6020	09/20-09/22/10	L65X51AM
		Dilution Factor: 10		Analysis Time..: 14:11		
Calcium	156000 N	1000	ug/L	SW846 6020	09/20-09/22/10	L65X51AN
		Dilution Factor: 10		Analysis Time..: 14:11		
Cadmium	0.58	0.5	ug/L	SW846 6020	09/20-09/22/10	L65X51AP
		Dilution Factor: 1		Analysis Time..: 15:09		
Cobalt	ND N	20	ug/L	SW846 6020	09/20-09/22/10	L65X51AQ
		Dilution Factor: 10		Analysis Time..: 14:11		
Chromium	ND N	100	ug/L	SW846 6020	09/20-09/22/10	L65X51AR
		Dilution Factor: 10		Analysis Time..: 14:11		
Copper	5.7 BN	30	ug/L	SW846 6020	09/20-09/22/10	L65X51AT
		Dilution Factor: 10		Analysis Time..: 14:11		
Iron	ND N	500	ug/L	SW846 6020	09/20-09/22/10	L65X51AU
		Dilution Factor: 10		Analysis Time..: 14:11		
Potassium	1500 N	1000	ug/L	SW846 6020	09/20-09/22/10	L65X51AV
		Dilution Factor: 10		Analysis Time..: 14:11		

(Continued on next page)

U.S. Army Corps of Engineers

Client Sample ID: FLY ASH MIX DI LEACHATE

TOTAL Metals

Lot-Sample #...: F0I170549-002 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Magnesium	29600 NE	500	ug/L	SW846 6020	09/20-09/22/10	L65X51AW
		Dilution Factor: 10		Analysis Time..: 14:11		
Manganese	45.3 N	20	ug/L	SW846 6020	09/20-09/22/10	L65X51AX
		Dilution Factor: 10		Analysis Time..: 14:11		
Sodium	1060000 NE	500	ug/L	SW846 6020	09/20-09/22/10	L65X51A0
		Dilution Factor: 10		Analysis Time..: 14:11		
Nickel	7.1 BN	50	ug/L	SW846 6020	09/20-09/22/10	L65X51A1
		Dilution Factor: 10		Analysis Time..: 14:11		
Lead	1.7 B	3	ug/L	SW846 6020	09/20-09/22/10	L65X51A2
		Dilution Factor: 1		Analysis Time..: 15:09		
Antimony	ND	5	ug/L	SW846 6020	09/20-09/22/10	L65X51A3
		Dilution Factor: 1		Analysis Time..: 15:09		
Selenium	ND N	50	ug/L	SW846 6020	09/20-09/22/10	L65X51A4
		Dilution Factor: 10		Analysis Time..: 14:11		
Tin	1.1 B	3	ug/L	SW846 6020	09/20-09/22/10	L65X51AA
		Dilution Factor: 1		Analysis Time..: 15:09		
Thallium	0.85 B	2	ug/L	SW846 6020	09/20-09/22/10	L65X51AC
		Dilution Factor: 1		Analysis Time..: 15:09		
Vanadium	ND N	100	ug/L	SW846 6020	09/20-09/22/10	L65X51AD
		Dilution Factor: 10		Analysis Time..: 14:11		
Zinc	ND N	120	ug/L	SW846 6020	09/20-09/22/10	L65X51AE
		Dilution Factor: 10		Analysis Time..: 14:11		
Prep Batch #...: 0264126						
Mercury	ND	0.2	ug/L	SW846 7470A	09/21/10	L65X51AF
		Dilution Factor: 1		Analysis Time..: 16:20		

NOTE(S):

N Spiked analyte recovery is outside stated control limits.

B Estimated result. Result is less than RL.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0I170549 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: F0I200000-296 Prep Batch #...: 0263296						
Aluminum	ND	30	ug/L	SW846 6020	09/20-09/22/10	L671Q1AC
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Antimony	2.0 B	5	ug/L	SW846 6020	09/20-09/22/10	L671Q1AW
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Arsenic	ND	10	ug/L	SW846 6020	09/20-09/22/10	L671Q1AD
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Barium	ND	2	ug/L	SW846 6020	09/20-09/22/10	L671Q1AE
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Beryllium	ND	0.5	ug/L	SW846 6020	09/20-09/22/10	L671Q1AF
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Boron	ND	54	ug/L	SW846 6020	09/20-09/22/10	L671Q1AG
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Cadmium	ND	0.5	ug/L	SW846 6020	09/20-09/22/10	L671Q1AJ
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Calcium	115	100	ug/L	SW846 6020	09/20-09/22/10	L671Q1AH
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Chromium	ND	10	ug/L	SW846 6020	09/20-09/22/10	L671Q1AL
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Cobalt	ND	2	ug/L	SW846 6020	09/20-09/22/10	L671Q1AK
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Copper	ND	3	ug/L	SW846 6020	09/20-09/22/10	L671Q1AM
		Dilution Factor: 1				
		Analysis Time..: 13:20				

(Continued on next page)

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0I170549 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Iron	ND	50	ug/L	SW846 6020	09/20-09/22/10	L671Q1AN
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Lead	ND	3	ug/L	SW846 6020	09/20-09/22/10	L671Q1AV
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Magnesium	ND	50	ug/L	SW846 6020	09/20-09/22/10	L671Q1AQ
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Manganese	ND	2	ug/L	SW846 6020	09/20-09/22/10	L671Q1AR
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Nickel	ND	5	ug/L	SW846 6020	09/20-09/22/10	L671Q1AU
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Potassium	ND	100	ug/L	SW846 6020	09/20-09/22/10	L671Q1AP
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Selenium	ND	5	ug/L	SW846 6020	09/20-09/22/10	L671Q1AX
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Silver	ND	2	ug/L	SW846 6020	09/20-09/22/10	L671Q1AA
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Sodium	ND	50	ug/L	SW846 6020	09/20-09/22/10	L671Q1AT
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Thallium	ND	2.00	ug/L	SW846 6020	09/20-09/22/10	L671Q1A1
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Tin	ND	3	ug/L	SW846 6020	09/20-09/22/10	L671Q1A0
		Dilution Factor: 1				
		Analysis Time..: 13:20				
Vanadium	ND	10	ug/L	SW846 6020	09/20-09/22/10	L671Q1A2
		Dilution Factor: 1				
		Analysis Time..: 13:20				

(Continued on next page)

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: F0I170549 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Zinc	ND	12	ug/L	SW846 6020	09/20-09/22/10	L671Q1A3
		Dilution Factor: 1				
		Analysis Time..: 13:20				

MB Lot-Sample #: F0I210000-126 Prep Batch #...: 0264126

Mercury	ND	0.2	ug/L	SW846 7470A	09/21/10	L68JJ1AA
		Dilution Factor: 1				
		Analysis Time..: 16:06				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0I170549 Matrix.....: WATER

LCS Lot-Sample#: F0I200000-296 Prep Batch #...: 0263296

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Silver	99	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1A4
		Dilution Factor: 1	Analysis Time..: 13:27		
Aluminum	99	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1A5
		Dilution Factor: 1	Analysis Time..: 13:27		
Arsenic	99	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1A6
		Dilution Factor: 1	Analysis Time..: 13:27		
Barium	99	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1A7
		Dilution Factor: 1	Analysis Time..: 13:27		
Beryllium	114	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1A8
		Dilution Factor: 1	Analysis Time..: 13:27		
Boron	118	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1A9
		Dilution Factor: 1	Analysis Time..: 13:27		
Calcium	96	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CA
		Dilution Factor: 1	Analysis Time..: 13:27		
Cadmium	97	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CC
		Dilution Factor: 1	Analysis Time..: 13:27		
Cobalt	99	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CD
		Dilution Factor: 1	Analysis Time..: 13:27		
Chromium	101	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CE
		Dilution Factor: 1	Analysis Time..: 13:27		
Copper	97	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CF
		Dilution Factor: 1	Analysis Time..: 13:27		
Iron	103	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CG
		Dilution Factor: 1	Analysis Time..: 13:27		
Potassium	97	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CH
		Dilution Factor: 1	Analysis Time..: 13:27		
Magnesium	100	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CJ
		Dilution Factor: 1	Analysis Time..: 13:27		

(Continued on next page)

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0I170549 Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Manganese	100	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CK
		Dilution Factor: 1	Analysis Time..: 13:27		
Sodium	100	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CL
		Dilution Factor: 1	Analysis Time..: 13:27		
Nickel	100	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CM
		Dilution Factor: 1	Analysis Time..: 13:27		
Lead	104	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CN
		Dilution Factor: 1	Analysis Time..: 13:27		
Antimony	94	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CP
		Dilution Factor: 1	Analysis Time..: 13:27		
Selenium	94	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CQ
		Dilution Factor: 1	Analysis Time..: 13:27		
Tin	100	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CR
		Dilution Factor: 1	Analysis Time..: 13:27		
Thallium	106	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CT
		Dilution Factor: 1	Analysis Time..: 13:27		
Vanadium	99	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CU
		Dilution Factor: 1	Analysis Time..: 13:27		
Zinc	98	(80 - 120)	SW846 6020	09/20-09/22/10	L671Q1CV
		Dilution Factor: 1	Analysis Time..: 13:27		

LCS Lot-Sample#: F0I210000-126 Prep Batch #...: 0264126

Mercury	91	(80 - 120)	SW846 7470A	09/21/10	L68JJ1AC
		Dilution Factor: 1	Analysis Time..: 16:09		

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0I170549 Matrix.....: WATER
Date Sampled...: 08/17/10 10:16 Date Received..: 09/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: F0I170549-001 Prep Batch #...: 0263296							
Aluminum	132 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1A7
	119	(80 - 120)	10	(0-20)	SW846 6020	09/20-09/22/10	L65XX1A8
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Antimony	103	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1DC
	104	(80 - 120)	1.4	(0-20)	SW846 6020	09/20-09/22/10	L65XX1DD
		Dilution Factor: 1					
		Analysis Time..: 14:47					
Arsenic	136 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1A9
	120	(80 - 120)	13	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CA
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Barium	107	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CC
	109	(80 - 120)	0.83	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CD
		Dilution Factor: 1					
		Analysis Time..: 14:47					
Beryllium	123 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CE
	110	(80 - 120)	11	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CF
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Boron	147 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CG
	114	(80 - 120)	10	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CH
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Cadmium	93	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CL
	94	(80 - 120)	0.93	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CM
		Dilution Factor: 1					
		Analysis Time..: 14:47					
Calcium	172 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CJ
	83	(80 - 120)	8.4	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CK
		Dilution Factor: 10					
		Analysis Time..: 13:49					

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0I170549 Matrix.....: WATER
Date Sampled...: 08/17/10 10:16 Date Received..: 09/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Chromium	141 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CQ
	124 N	(80 - 120)	13	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CR
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Cobalt	135 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CN
	120 N	(80 - 120)	12	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CP
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Copper	134 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CT
	118	(80 - 120)	13	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CU
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Iron	136 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CV
	120 N	(80 - 120)	12	(0-20)	SW846 6020	09/20-09/22/10	L65XX1CW
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Lead	100	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1C9
	101	(80 - 120)	0.79	(0-20)	SW846 6020	09/20-09/22/10	L65XX1DA
		Dilution Factor: 1					
		Analysis Time..: 14:47					
Magnesium	138 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1C1
	102	(80 - 120)	10	(0-20)	SW846 6020	09/20-09/22/10	L65XX1C2
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Manganese	137 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1C3
	121 N	(80 - 120)	12	(0-20)	SW846 6020	09/20-09/22/10	L65XX1C4
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Nickel	133 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1C7
	118	(80 - 120)	13	(0-20)	SW846 6020	09/20-09/22/10	L65XX1C8
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Potassium	129 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1CX
	115	(80 - 120)	9.0	(0-20)	SW846 6020	09/20-09/22/10	L65XX1C0
		Dilution Factor: 10					
		Analysis Time..: 13:49					

(Continued on next page)

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: F0I170549 **Matrix.....:** WATER
Date Sampled...: 08/17/10 10:16 **Date Received..:** 09/17/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Selenium	134 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1DE
	119	(80 - 120)	12	(0-20)	SW846 6020	09/20-09/22/10	L65XX1DF
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Silver	96	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1A5
	97	(80 - 120)	0.50	(0-20)	SW846 6020	09/20-09/22/10	L65XX1A6
		Dilution Factor: 1					
		Analysis Time..: 14:47					
Sodium	362 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1C5
	0 N	(80 - 120)	0.0	(0-20)	SW846 6020	09/20-09/22/10	L65XX1C6
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Thallium	103	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1DJ
	104	(80 - 120)	1.2	(0-20)	SW846 6020	09/20-09/22/10	L65XX1DK
		Dilution Factor: 1					
		Analysis Time..: 14:47					
Tin	97	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1DG
	98	(80 - 120)	1.2	(0-20)	SW846 6020	09/20-09/22/10	L65XX1DH
		Dilution Factor: 1					
		Analysis Time..: 14:47					
Vanadium	143 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1DL
	126 N	(80 - 120)	13	(0-20)	SW846 6020	09/20-09/22/10	L65XX1DM
		Dilution Factor: 10					
		Analysis Time..: 13:49					
Zinc	132 N	(80 - 120)			SW846 6020	09/20-09/22/10	L65XX1DN
	115	(80 - 120)	12	(0-20)	SW846 6020	09/20-09/22/10	L65XX1DP
		Dilution Factor: 10					
		Analysis Time..: 13:49					

MS Lot-Sample #: F0I170549-001 **Prep Batch #...:** 0264126

Mercury	97	(80 - 120)			SW846 7470A	09/21/10	L65XX1DQ
	90	(80 - 120)	7.3	(0-20)	SW846 7470A	09/21/10	L65XX1DR
		Dilution Factor: 1					
		Analysis Time..: 16:16					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

N Spiked analyte recovery is outside stated control limits.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

REANALYSIS / SUB-CONTRACT / CLIENT RETURN FORM

Request Initiated by: T Romanko
Request Date: 9/17/10
Quote Number: 84070
Client Number: 404603
SDG Number:

Request is for (check one):

- [ ] Return to Client – *(Client FedEx #)*
- [ ] Reanalysis
- [ ] Sub-Contract Sample
- [X] Additional Analysis

New Lot (check one):

- [X] Yes
- [ ] No

Old Lot Number: F0H170582

	Client ID	Sampled date/time*	Shelf Location	Line item from quote (include Rad Screen if required)
#1	Background DI Leachate	8/17/10 10:16	Metals	6020, Total Metals/7471 Mercury
#2	Fly Ash Mix DI Leachate	8/17/10 10:00	Metals	6020, Total Metals/7471 Mercury

* or attach original Chain of Custody

Due Date for New Login:

Analytical	Report
9/23/10	9/24/10

For Sub-Contract or Return to Client ONLY

Shipping Address:

Contact Person:
Phone Number:

Project Manager Signature: T Romanko

DO NOT HAVE LAB PULL ORIGINAL SAMPLE

Completed by Jil Clark Date: 9.17.10

New Login Lot Number: F0I170549 (place copy of this form in old file)

EA-D-81

Initial that Containers were Re-labeled: (place below lot number of old label)

TestAmerica St. Louis

SAMPLE SUMMARY

F0H170582

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L5PR4	001	BACKGROUND	08/17/10	10:16
L5PR6	002	FLY ASH MIX	08/17/10	10:00
L5PR7	003	BACKGROUND DI LEACHATE	08/17/10	10:16
L5PTK	004	FLY ASH MIX DI LEACHATE	08/17/10	10:00

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica St. Louis Chain-of-Custody Record

13715 Rider Trial North
Earth City, MO 63045
Phone: 314-298-8566 Fax: 314-298-8757

Customer Information		Project Information		Analyses / Method Requested
Project Name	Alton to Gale	Purchase Order		A. SEE ATTACHED SHEET
PM/ Quote#		Work Order		B.
Company	USACE	Bill To		C.
Send Report To:	RON FRERKER	Invoice Attn		D.
Address:	Foot of Arsenal Street	Address:		E.
City/State/Zip	St. Louis, MO	City/State/Zip		F.
Phone/Fax	314-865-6307/314-865-6362	Phone		G.

Sx No.	Sample Description	Sample Date	Sample Time	Sample Matrix	Container Type	Preservative	No. of Bottles	A	B	C	D	E	F	G	H	I	Comments
1	BACKGROUND	8/17/10	1016	SOIL	GLASS See Comments		2	X			SOIL						
2	FLY ASH MIX	8/17/10	1000	SOIL	GLASS See Comments		2	X									
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	

EA-D-83

Shipment Method: | Airbill No.: | Required Turnaround: 5-DAY

Relinquished by:	Date	Relinquished by:	Date	Relinquished by:	Date
Company Name: USACE	Time 1440	Company Name:	Time	Company Name:	Time
Received by:	Date 8/17/10	Received by:	Date	Received by:	Date
Company Name: TASL	Time 1440	Company Name:	Time	Company Name:	Time

Report full list, metals & Organics

TestAmerica St. Louis

PARAMETER	TCLP	DI Leach (ASTM 3987)
Metals -(except Sodium)		X
Sodium		X
RCRA Metals	X	X
Anions (Nitrate, Chloride, Sulfate, Fluoride)		X
Alkalinity/Bicarbonate		X
Total Suspended Solids		X
Total Dissolved Solids		X
Total Organic Carbon		X
Phosphorus		X
pH		X
Ammonia		X

RCRA Metals: Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver

Additional Metals: Boron, Beryllium, Iron, Aluminum, Antimony, Calcium, Cobalt, Copper, Iron, Magnesium, Manganese, Nickel, Potassium, Thallium, Tin, Zinc

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Lot #(s): F0I170582

CONDITION UPON RECEIPT FORM

Client: USACE

Quote No: 84070

COC/RFA No: N/A

111

Initiated By: BI

Date: 8.17.10 Time: 1440

Shipping Information

Shipper: FedEx UPS DHL Courier Client Other: BI

Multiple Packages: Y (N)

Shipping # (s):*

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.

Sample Temperature (s):**

1. 2
2.
3.
4.
5.
6.
7.
8.
9.
10.

*Numbered shipping lines correspond to Numbered Sample Temp lines

**Sample must be received at 4°C ± 2°C- If not, note contents below. Temperature variance does NOT affect the following: Metals-Liquid or Rad tests- Liquid or Solids

Condition (Circle "Y" for yes, "N" for no and "N/A" for not applicable):

1.	Y (N)	Are there custody seals present on the cooler?	8.	Y (N)	Are there custody seals present on bottles?
2.	Y N (N/A)	Do custody seals on cooler appear to be tampered with?	9.	Y N (N/A)	Do custody seals on bottles appear to be tampered with?
3.	(Y) N	Were contents of cooler frisked after opening, but before unpacking?	10.	Y N (N/A)	Was sample received with proper pH[1]? (If not, make note below)
4.	(Y) N	Sample received with Chain of Custody?	11.	(Y) N	Sample received in proper containers?
5.	(Y) N N/A	Does the Chain of Custody match sample ID's on the container(s)?	12.	Y N (N/A)	Headspace in VOA or TOX liquid samples? (If Yes, note sample ID's below)
6.	Y (N)	Was sample received broken?	13.	Y N (N/A)	Was Internal COC/Workshare received?
7.	(Y) N	Is sample volume sufficient for analysis?	14.	Y N (N/A)	Was pH taken by original TestAmerica lab?

[1] For DOE-AL (Pantex, LANL, Sandia) sites, pH of ALL containers received must be verified, EXCEPT VOA, TOX and soils.

Notes:

Corrective Action:

☐ Client Contact Name:
☐ Sample(s) processed "as is"
☐ Sample(s) on hold until:
Project Management Review:

Informed by:

If released, notify:

Date: 8/19/10

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IN. IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIAL AND THE DATE NEXT TO THAT ITEM.

ADMIN-0004, REVISED 10/21/08 \\Slavr01\QA\FORMS\ST-LOUIS\ADMIN\Admin004 rev11.doc

Memphis Soil Information

Boring #	Depth ft	Station	W %	LL %	PL %	PI LL-PL
2-HLG-02	0.5	119/55+00	27	62	20	42
	3.5		23	65	19	46
	6.5		29	-	-	-
3-HLG-02	0.5	119/58+00	24	66	21	45
	3.5		31	64	20	44
	6.5		26	61	17	44
4-HLG-02	0.5	120/0+00	29	61	20	41
	3.5		20	44	18	26
	6		29	77	22	55
	7		34	70	21	49
6-HLG-02	0.5	120/10+00	26	61	22	39
	3.5		25	59	20	39
	6.5		25	69	22	47
7-HLG-02	0.5	120/15+00	28	69	23	46
	3.5		23	65	21	44
	6.5		16	-	-	-
8-HLG-02	0.5	120/20+00	23	59	20	39
	3.5		28	65	21	44
	6.5		32	90	24	66
9-HLG-02	0.5	120/25+00	19	66	21	45
	3.5		36	62	19	43
	6.5		45	65	22	43
10-HLG-02	0.5	120/30+00	27	69	21	48
	3.5		22	64	20	44
	6.5		26	59	21	38
11-HLG-02	0.5	120/35+00	32	81	22	59
	3.5		32	70	21	49
	5		20	-	-	-
	6		18	-	-	-
	7		22	57	23	34
12-HLG-02	0.5	120/40+00	28	71	23	48
	2		21	-	-	-
	3.5		20	47	18	29
	5		33	50	19	31
	5.5		38	-	-	-
	6.5		36	-	-	-
13-HLG-02	0.5	120/45+00	29	70	19	51
	3.5		38	73	21	52
	6.5		39	86	24	62

14-HLG-02	0.5	120/50+00	23	74	18	56
	3.5		22	84	21	63
	5.5		22	49	20	29
	6.5		27	-	-	-
15-HLG-02	0.5	121/0+00	35	79	22	57
	3.5		34	73	21	52
	5.5		19	-	-	-
	6.5		14	-	-	-
16-HLG-02	0.5	121/2+50	37	81	27	54
	3.5		41	76	24	52
	6.5		35	73	23	50
17-HLG-02	0.5	121/7+00	33	73	21	52
	3.5		42	68	23	45
	6.5		35	70	22	48
18-HLG-02	0.5	121/12+00	37	85	24	61
	3.5		36	86	23	63
	6.5		43	76	21	55
19-HLG-02	0.5	121/17+00	40	87	22	65
	3.5		45	90	24	66
	6.5		37	85	25	60
20-HLG-02	0.5	121/22+00	39	88	26	62
	3.5		33	82	24	58
	6.5		23	56	18	38
21-HLG-02	0.5	121/27+00	32	64	19	45
	3.5		38	59	21	38
	6.5		25	61	21	40
22-HLG-02	0.5	121/32+00	36	82	21	61
	3.5		27	79	23	56
	4.5		27	-	-	-
	5.5		24	-	-	-
	6.5		23	-	-	-