Agreement Log #: KIF-10-050

Time-Critical Concurrence

Area:
Emory River, Segment Above Above 5, Area 4, Emory River mile 4.6 to 4.2

Agreement:

Ash removal activities have been completed in Segment Above Above 5, Area 4, Emory River mile 4.6 to 4.2.

The area was initially identified for removal in the dredge plan addendum by VibeCore drilling as shown in Figure 2, dated 3/15/10. Subsequent to the dredge plan addendum development, the targeted area has been refined using pre-spill and post-spill bathymetric surfaces in addition to the VibeCore data, Figure 2 dated 4/20/10. A three dimensional model of the pre-spill surface was developed using the US Army Corp of Engineers bathymetry and the VibeCore data. The modeled area was mechanically excavated using a barge mounted Komatsu PC-800 excavator equipped with a clamshell bucket. The PC-800 was equipped with a GPS positioning system and software capable of excavating to the modeled pre-spill surface.

Jacobs' field technicians were assigned to each shift and worked with the Sevenson crew on verifying that native sediments were reached. A coordinate was taken and a note was made at all locations where native sediments were reached. Report notes indicate type of material encountered above the native sediment contact. The operators of the mechanical excavation equipment were instructed to minimize dredging of native sediments and authorized to stop short of the targeted surface in areas where full buckets of native sediments had been recovered.

Documentation for completion of the grids includes results of post dredging bathymetric survey, VibeCore sediment sampling data, and Dredging Daily Reports by Jacobs Field Technicians. Review of the dredging daily reports indicates that removal of ash to native sediments has been accomplished in all areas, including those where final bathymetry indicates remaining ash. The completion data have been plotted on the attached Figure 6 to document that all recoverable ash has been removed from the area.

These results indicate that there is no remaining recoverable ash in Segment Above Above 5, Area 4, Emory River mile 4.6 to 4.2.

Attachments: 15 gup
Figure 2, Ash Remaining to Pre-Spill Surface in Segment Above Above 5, dated 3/~~20~~/10
Figure 2, Ash Remaining to Pre-Spill Surface in Segment Above Above 5, dated 4/20/10
Figure 2, Bathymetry Removal Areas –Segment AA5, dated 5/21/10
Figure 3, Ash Remaining Area 4, dated 5/21/10
Segment AA5, Dredging Daily Reports – 5/01/10 to 5/08/10
Figure 5, Ash Remaining 5/20 Area 4 (Field Technician Noted Locations), dated 5/25/10
Figure 6, VibeCore Concurrence Sampling Results, dated 5/25/10
VibeCore Sampling: Data Summary Sheet, Sampling Logs, and Photos

Agreement Log #: KIF-10-050

Time-Critical Concurrence

Concurrence Comments:

Julie L Pfeffer
Jacobs Project Manager

5/26/10
Date

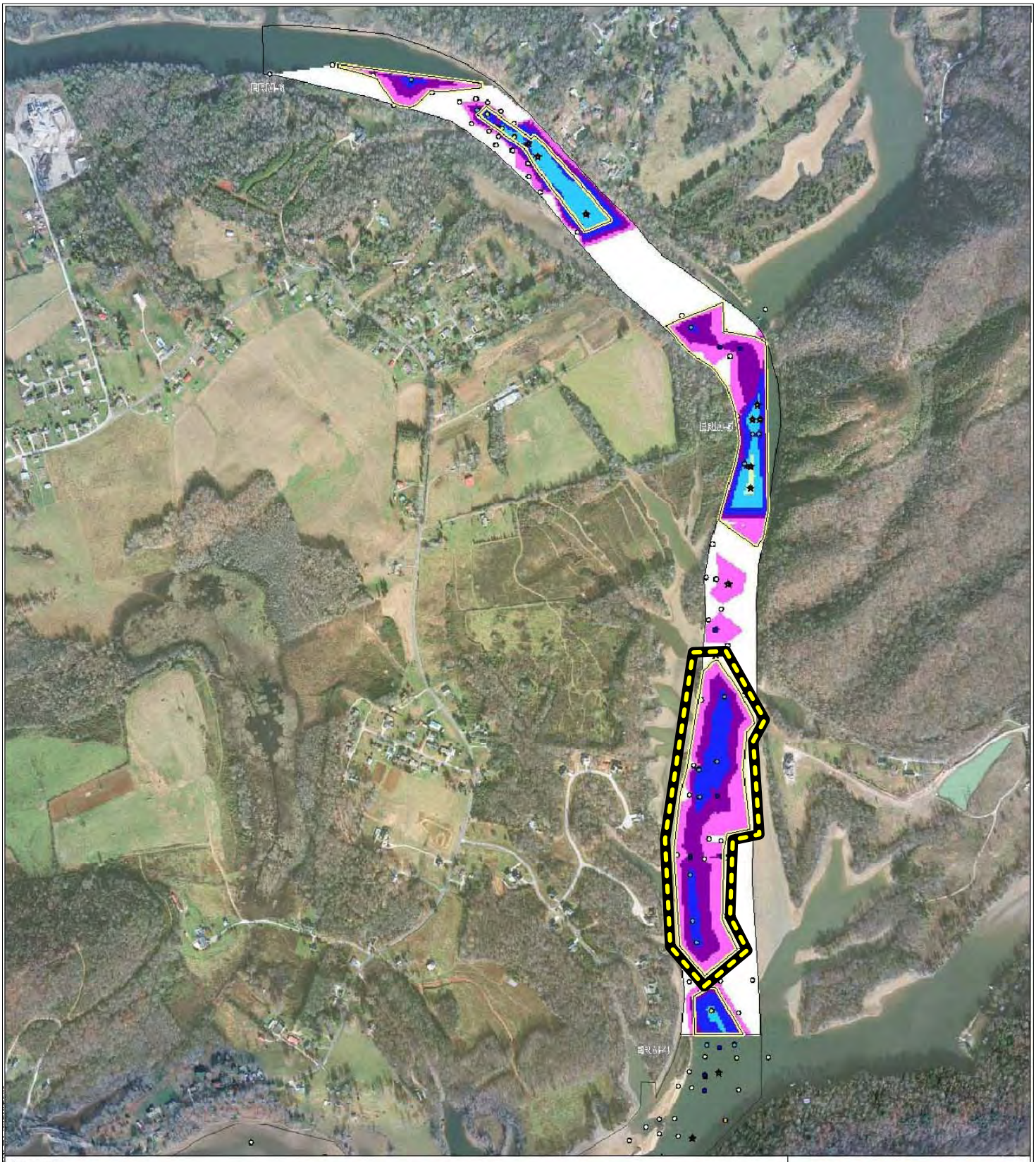
Kathryn Nash
Tennessee Valley Authority

5/26/10
Date

[signature]
U. S. Environmental Protection Agency

5/27/10
Date

Consulted w/ TDEC



Legend

Ash Remaining: ~67,803 cy

- 0 - 1 inch; ~335 cy
- 1 - 6 inches; ~9,370 cy
- 6 inches - 1 ft; ~19,692 cy
- 1 - 2 ft; ~ 26,766 cy
- 2 - 4 ft; ~8,838 cy
- 4 - 6 ft; ~2,902 cy

Proposed Dredge Area

Vibecores Collected as of 02/25/2010; Thickness of Ash (ft)

- 0.00 - 0.50
- 0.51 - 1.00
- 1.01 - 2.00
- 2.01 - 3.00
- 3.01 - 4.00
- 4.01 - 5.00
- 5.01 - 6.00

Vibecores Collected as of 02/25/2010; Minimum Thickness of Ash (ft). (Bottom of Ash is unknown.)

- 0.40 - 0.50
- 0.51 - 1.00
- 1.01 - 2.00
- 2.01 - 3.00
- 3.01 - 4.00
- 4.01 - 5.00
- 5.01 - 6.00

Area of Interest

DRAFT

0 500 1,000 Feet

1:3,000

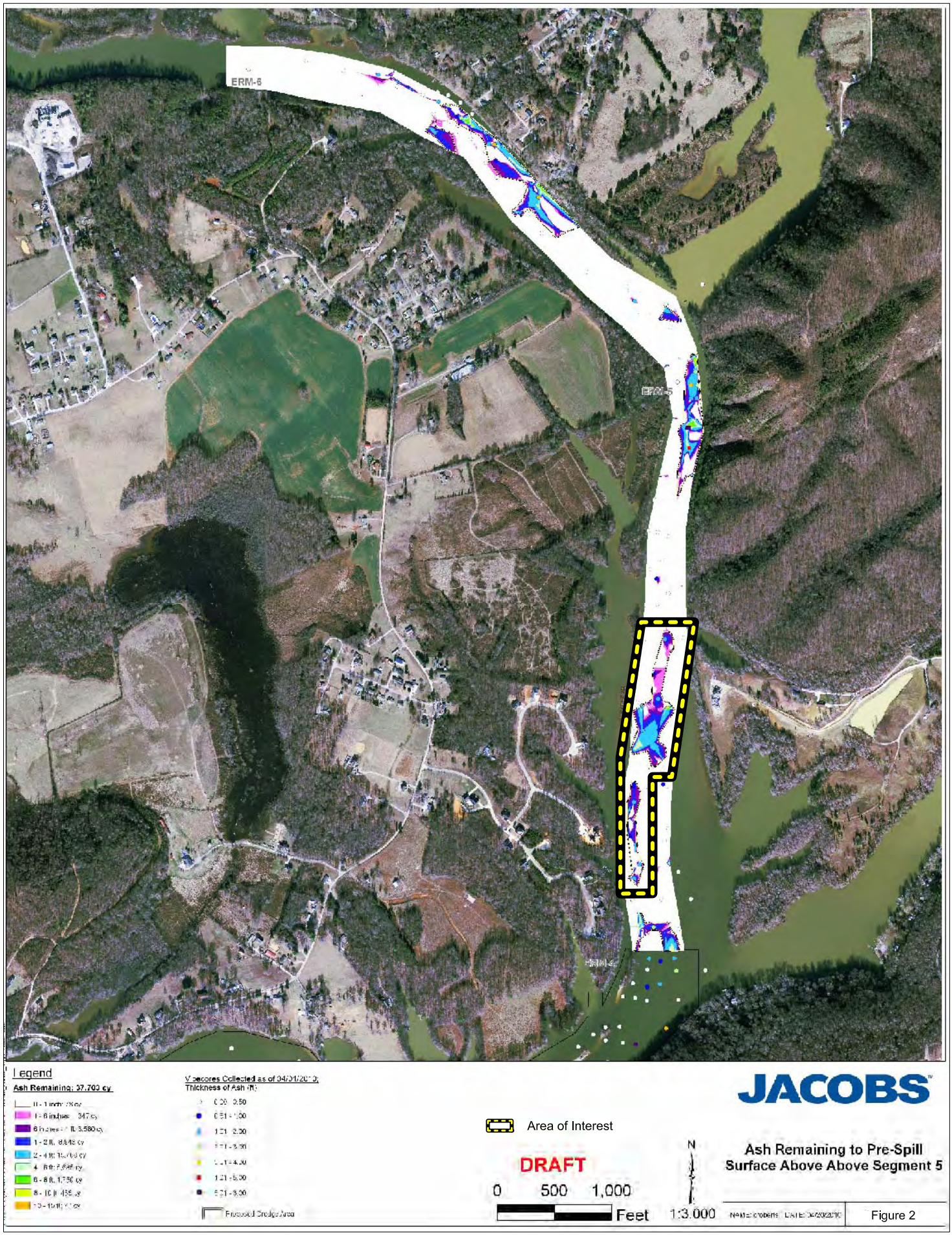
N

JACOBS

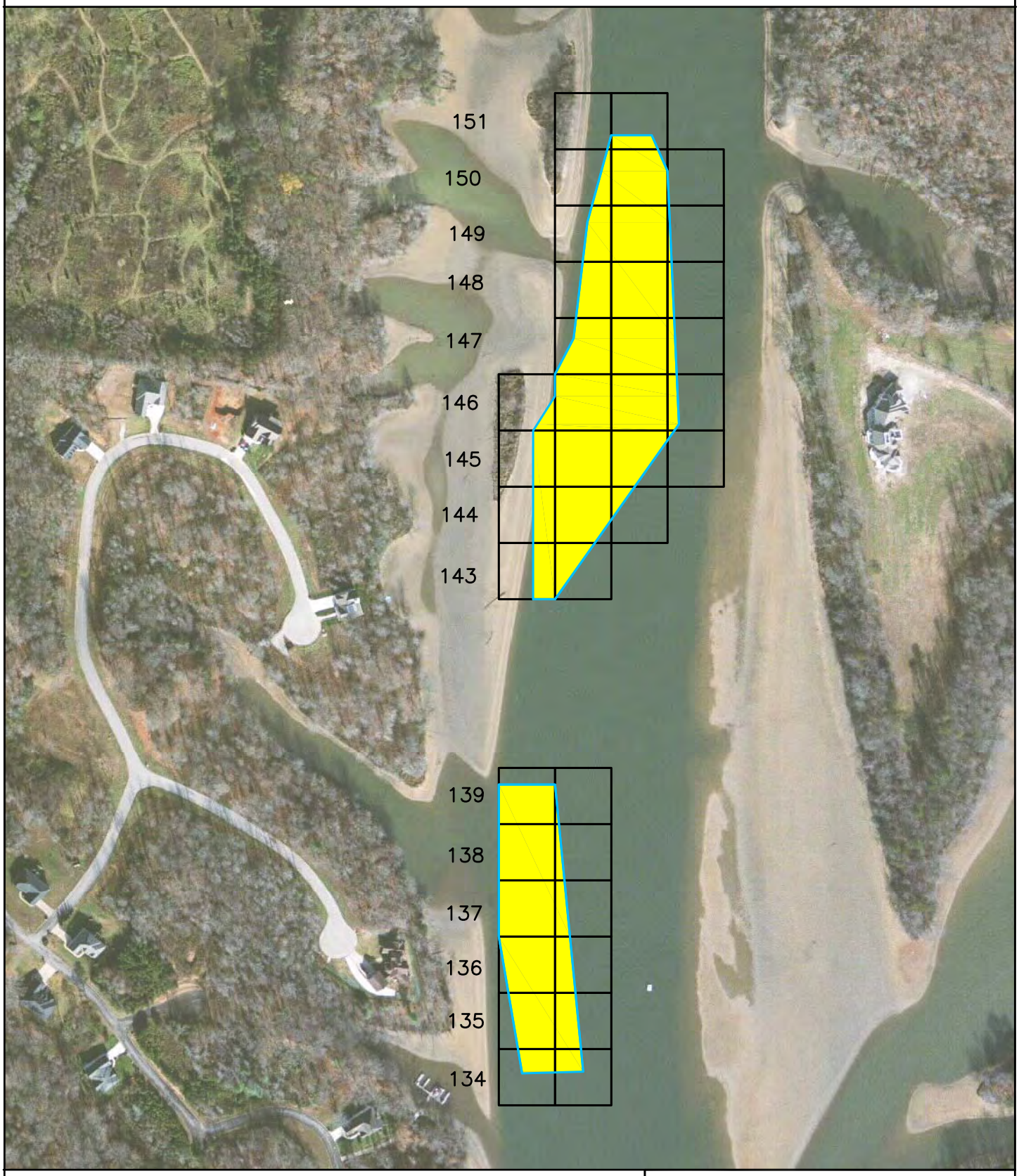
Ash Remaining to Pre-Spill Surface Above Above Segment 5

NAME: croberts DATE: 03/15/2010

Figure 2


ERM-6
ERM-5
ERM-4
Legend
Ash Remaining: 37,700 cy
0 - 1 inch: 78 cy
1 - 6 inches: 347 cy
6 inches - 1 ft: 3,580 cy
1 - 2 ft: 8,848 cy
2 - 4 ft: 15,766 cy
4 - 6 ft: 5,645 cy
6 - 8 ft: 1,750 cy
8 - 10 ft: 455 cy
10 - 15 ft: 77 cy
Vibecores Collected as of 04/01/2010;
Thickness of Ash (ft)
0.00 - 0.50
0.51 - 1.00
1.01 - 2.00
2.01 - 3.00
3.01 - 4.00
4.01 - 5.00
5.01 - 8.00
Processed Dredge Area
Area of Interest
DRAFT
0 500 1,000
Feet
N
1:3,000
JACOBS
Ash Remaining to Pre-Spill
Surface Above Above Segment 5
Figure 2

Bathymetry Removal Areas - Above Above Segment 5



Removed From Plan

Phase 2 Dredging Path

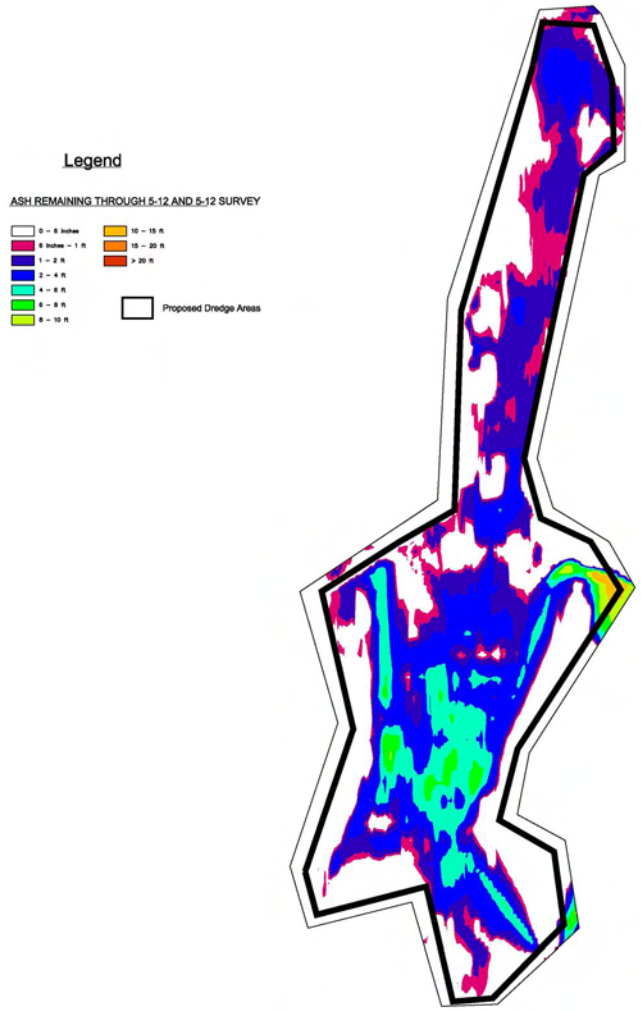
0 80 160 320
SCALE IN FEET

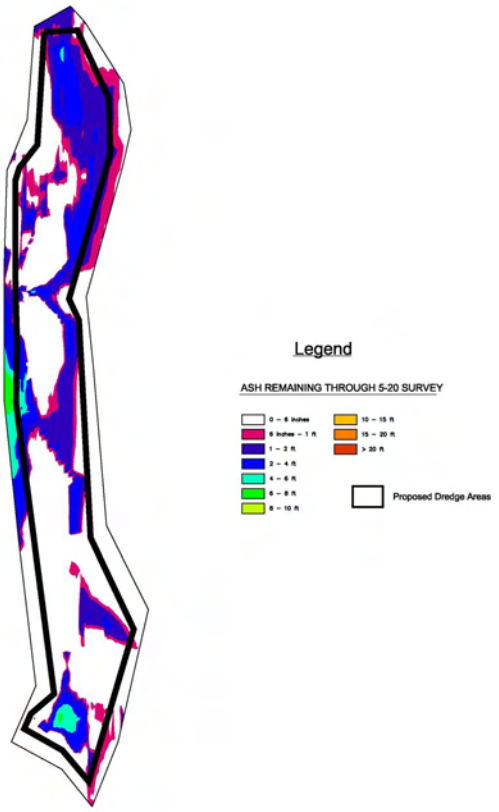
N

JACOBS™

05/21/10

Figure 2





Ash remaining Area 4

TVA
DREDGING OF THE EMORY RIVER
AND ASH PROCESSING
HARRIMAN, TN

SEVENSON ENVIRONMENTAL SERVICES, INC.

DRAWING		
3	DATE:	MAY 21, 2010
	DRAWN BY:	DAB
	CHECKED BY:	KD
	CAD FILE:	AS REMAINING SEG 7
	SCALE:	1"=75'

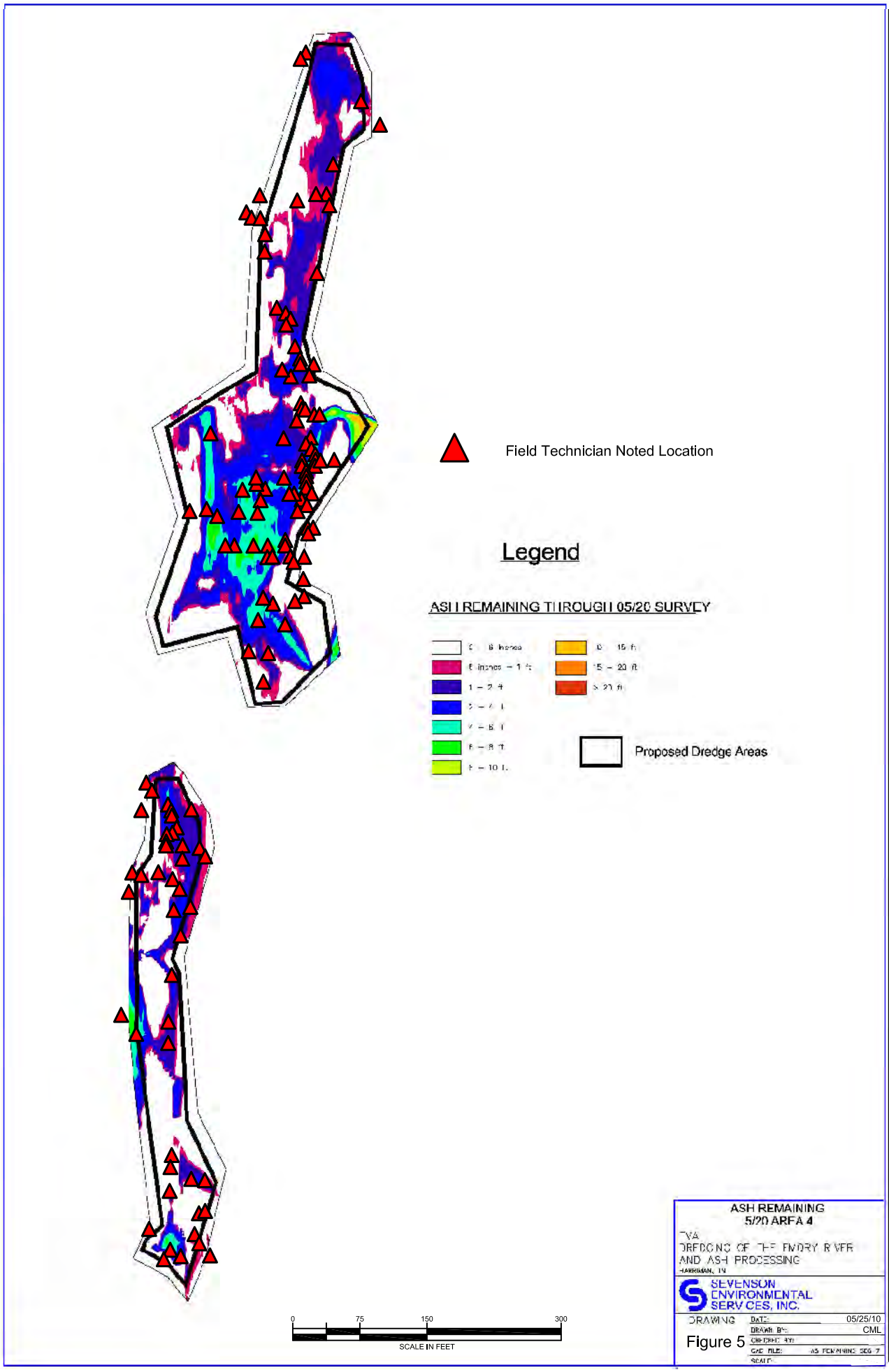

Field Technician Noted Location
Legend
ASH REMAINING THROUGH 05/20 SURVEY
Proposed Dredge Areas
0
75
150
300
SCALE IN FEET
ASH REMAINING
5/20 AREA 4
TVA
DREDGING OF THE EMORY RIVER
AND ASH PROCESSING
HARRIMAN, TN
SEVENSON
ENVIRONMENTAL
SERVICES, INC.
DRAWING
DATE:
05/25/10
DRAWN BY:
CML
CHECKED BY:
CAD FILE:
SCALE:

Figure 5

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing

Daily Report

REPORT DATE & DAY OF WEEK: **05/01/10 Saturday 6AM-4PM** **WEATHER: 70 rain**

SAFETY/JSAS REVIEWED: I attended the dredge crew safety meeting. Signed spa

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Mechanical dredging: 07:55 arrive at excavator barge. Crew reattaching floats to boom arms left unattached by night crew.
Loc. #1 **08:37 N35.55.46.1 W84.28.59.9** small amounts of ash mostly sand
Loc. #2 **08:55 N35.55.45.8 W84.28.59.6** Silt / organics
Loc. #3 **09:06 N35.55.45.7 W84.28.59.7** silt/sand minimal ash
Loc. #4 **09:19 N35.55.45.3 W84.28.59.8** minimal ash/sand
Loc.#5 **09:42 N35.55.45.2 W84.29.00.0** 3-6" ash/sand
Loc. #6 **10:08 N35.55.45.3 W84.29.00.1** 3-6" ash/sand
Loc. #7 **10:34 N35.55.45.3 W84.29.00.5** 3-6" ash/sand
Loc. #8 **10:58 N35.55.45.3 W84.29.00.6** 3-6" ash/sand
11:18 first scow heading to dock for unload.
11:30 heading to dock thunder storms.

13:52, 14:35 all five dredges pumping in ash.

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

. On our way to the dock we noticed first scow and tug were run aground on the sand bar and assisted them. Safely pulled them off of the bar and they made it back to the dock.

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY: ☺ **DATE:05/01/10**

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing

Daily Report

REPORT DATE & DAY OF WEEK: **05/04/10 Tuesday 6AM-4PM** **WEATHER: 80 clear**

SAFETY/JSAS REVIEWED: attended dredge crew safety meeting. Signed spa excavator barge crew

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Mechanical dredging:
Loc #1 09:15 N35.55.51.7 W84.29.00.4 60% sand 40% ash
Loc #2 09:40 N35.55.51.7 W84.29.00.6 mostly sand some ash
Loc #3 10:13 N35.55.51.3 W84.29.00.6 mostly sand minimal ash
Scow full. Left scow at barge cannot return to dock for unload. CP has haul road shut down from north dock. No empty barges, crew returns to dock.

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

On our way to the dock we were asked by Jesse SES to pull Shirley's dredge pipe anchor to him so he could push the dredge pipe towards the bank of the rookery island. While we were pulling the anchor we noticed the small boat that Jesse and Cody were on was bow down and the stern was all the way in the air. We unhooked the anchor and headed their way to assist. As we got close the boat righted itself but had already taken on too much water the boat quickly capsized and Jesse and Cody both escaped unharmed. We pulled up and deployed a throw ring to Cody. Sevenson's fuel boat did the same for Jesse. We then retrieved the fuel tank.
I reported the incident to Steve Arington at 11:00.

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY: ☺ **DATE:05/04/10**

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing
Daily Report

REPORT DATE & DAY OF WEEK: 5/4/10 Tuesday **WEATHER: Fair 62F**

SAFETY/JSAS REVIEWED:

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Dredging – Etrac is working on PC800; Mechanical dredging with the Etrac system is good, but we are only as good as the map provided; Continue to have periods of over dredging even with the Etrac; Started dredging @21:02; 1ST Barge full @23:25; Still dredging while barge is in route to the North Dock; Barge arrived @ North dock @00:12; Mechanical Dredging crew should fill 3 barges if no problems arise; Shirley dredging @1:29; Dipping in RD; Unloading 2nd Barge @2:48

Waypoints and Coordinates
260th Waypoint 35°55' 51.3"N 84°29' 00.8"W (21:08) Ash/sand
261st Waypoint 35°55'51.0"N 84°29' 00.5" W (22:08) Ash/ Sand

NONCONFORMING WORK: (Identify by Contractor and area)

none

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY:
DATE:

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing

Daily Report

REPORT DATE & DAY OF WEEK: **05/05/10 Wednesday 6AM-4PM** **WEATHER: 80 clear**

SAFETY/JSAS REVIEWED: attended dredge crew safety meeting. Discussed yesterday's incident and reminded everyone to have float plans filled out.

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Mechanical dredging: No mechanical dredging today crew is helping Aquarius move up river.

Dredging: 08:21 Kylee, Addison pumping in ash.
09:46 Kylee, Addison still in ash Adelyn, McKenzie, Shirley off. TVA 10" pumping from ash pond.
11:14 Kylee, Addison still in ash.
11:29 Shirley started and in ash.
11:36 McKenzie started up and in ash.
12:47 4 dredges in ash no Adelyn, TVA 10" still pumping
13:08 Adelyn back pumping in ash.
13:41 4 dredges pumping no McKenzie. All 4 in ash.
15:06 4 dredges in ash no McKenzie.

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY: ☺ **DATE:05/05/10**

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing
Daily Report

REPORT DATE & DAY OF WEEK: 5/5/10 Wednesday **WEATHER: Fair 67F**

SAFETY/JSAS REVIEWED: Attend dredge team safety meeting @19:00

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Dredging – Arrived @dredging location @20:02; Crew had to pump water out of barge for first 2 ½ hours; Barge had multiple problems; dredging @22;29 1"-3"Ash/Sand; Clam Shell bucket broke @23:24, minor hydraulic leak ; Bucket broke into barge so the hydraulic leak was contained with booms and diapers, no hydraulic fluid in water; PC800 in route to North Dock @2:33; 5 dredges running @17:05 and 1:54; 4 dredges running (w/o Kylee) @17:52

Rim Trenches . Dipping in Rd @17:05, 17;52(2 excavators), and 1:54

NONCONFORMING WORK: (Identify by Contractor and area)

none

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

The larger barge in my opinion should be taken out of service due to a large hole in holding tank and side rails are almost completely knocked off; The result is a large amount of water must be pumped to use this barge; Also you lose material back into river due to damaged side rails; Barge nearly had water up on the deck when we arrived to the dredging location;

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY:
DATE:

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing
Daily Report

REPORT DATE & DAY OF WEEK: **05/06/10 Thursday 6AM-4PM** **WEATHER: 80 clear**

SAFETY/JSAS REVIEWED: attended dredge crew safety meeting

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Mechanical dredging: No mechanical dredging today

Aquarius Crane: Crew started dredging around 13:30. Positioned at the northern most cell on 25' grid map and are finding nothing but sand. I arrived at 13:50 and advised them to move south to the next two cells and position themselves in the N. midpoint between the cells as they move down and swing side to side as to reach the edge of two cells.
14:08 we positioned ourselves at the edge of the next two cells. Crew took scoops from all across the two cells and is still in sand. Advised to continue moving south to the next pair of cells.
14:24 positioned at next spot repeated same steps and still in sand. I informed crane operator to continue moving south following the same procedure and they may not hit any ash until they reach the fifth row of cells from the north as this is where we stared to find ash with the PC 800 barge.
14:50 I left for the dock.

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

On my way into the dock the pontoon boat started running erratically and eventually stalled. I attempted to restart with no luck. I flagged down SWS and they towed me to the south dock. I will inform Mike Goretski as this is the boat which he normally captains.

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY: ☺ **DATE:05/06/10**

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing

Daily Report

REPORT DATE & DAY OF WEEK: 5/6/10 Thursday **WEATHER: Fair 68F**

SAFETY/JSAS REVIEWED: Attended dredge team safety meeting

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Mechanical Dredging – Inspected PC800 for leaks before work began, no leaks detected; Dredging consisted of large amounts of sand/1"-3" ash; It was a slow night I instructed them to move on several occasions and they agreed; We used the map on the PC800 as guidance; 1st barge arrived @ North Dock @00:14; 5 dredges running @16:52, 1:31, and 2:40; 4 dredges running (w/o Shirley) @17:32;

Rim and Sluice Trenches . No activity on the RD @ 16:52 and 17:32; Dipping in RD @1:31 and 2:40

NONCONFORMING WORK: (Identify by Contractor and area)

none

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

The PC800 Etrac system either needs a longer boom, longer stick or draft attribute changed to account for the extension; Computer displays the bucket not touch the bottom even though the operator has his bucket on the river floor; So when you dip a bucket of ash it does not register this on the map

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY:
DATE:

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing

Daily Report

REPORT DATE & DAY OF WEEK: **05/07/10 Friday 6AM-4PM** **WEATHER: 80 clear**

SAFETY/JSAS REVIEWED: attended dredge crew safety meeting

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Mechanical dredging: Loc. #1 09:26 N35.55.47.3 W84.28.59.7 Mostly sand 1-3" ash. Switched to grid coordinates received from excavator gps position is center of clam bucket positioned front and center of excavator.
Loc.#2 11:00 N563212.79 E2449039.85 mostly sand minimal ash
Loc.#3 11:44 N563166.20 E2449005.30 sand 6" ash
12:47 1st scow heading to dock for unload.

Aquarius Crane: Did not visit Aquarius this shift crew was still in sand as per Mike Goretski.

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY: ☺ **DATE:05/07/10**

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing
Daily Report

REPORT DATE & DAY OF WEEK: 5//7/10 Friday **WEATHER: Overcast 77F**

SAFETY/JSAS REVIEWED: Attended Dredge team safety meeting

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Dredging – Barge arriving @ North Dock @18:15(Dayshift); Barge appears contains 90% sand/ 10% ash; Aquarius barge arriving @North Dock @19:22; Barge contains 70% sand/ 30%ash; In total 3 barges @ North Dock @19:25 (2 full) ; Dredging @21:03 (nightshift); 1st barge full @00:14; barge arrived @00:46; North Dock is congested and could slow the unloading of barges; 4 dredges running (w/o McKenzie) @16:59;

Dredging observations- Hypack is working on the PC800 and we used this as guidance throughout the night; Consistently staying in ash but continue to dredge large amounts of sand

Waypoints and Coordinates
279th Waypoint 35°55'47.9" 84°28'59.8" (21:08) 1"-3"ash/ sand
280th Waypoint 35°55'46.6" 84°29' 00.8" (22:11) 3"-5"ash/ sand
281st Waypoint 35°55'46.7" 84°29'00.8" (22:47) 3-5" ash/ sand
282nd Waypoint 35°55' 46.5" 84°29' 00.6" (23:17) 1"-3" ash/sand
283rd Waypoint 35°55'46.3" 84°29' 00.7" (23:47) 1" ash/ sand

Stand down @3:03 and

NONCONFORMING WORK: (Identify by Contractor and area)

none

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY:
DATE:

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing
Daily Report

REPORT DATE & DAY OF WEEK: 5/8/10 Saturday **WEATHER: Fair 53F**

SAFETY/JSAS REVIEWED: Attended dredge team safety meeting

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Dredging – Mechanical dredging started @21:21; SES is using the hypack system for guidance to locate ash; Not finding as much ash as the Bathymetry map shows(maybe the map need to be updated?); SES is doing their best they can to prevent large amounts of over dredging; 4 dredges running(w/o Shirley) @16:36 and 17:43

Waypoints and Coordinates

285th Waypoint 35°55'46.1" 84°29'1.2" (21:14) 1"-3"ash/ sand
286th Waypoint 35°55'46.1" 84°29'.8" (21:38) 1"ash/ sand
287th Waypoint 35°55'45.6" 84°29'.2" (22:31) 1"ash/ sand
288th Waypoint 35°55'45.5" 84°29'.6" (23:08) 1"ash/ sand

Rim and Sluice Trenches . No Activity @16:36 and 17:43

NONCONFORMING WORK: (Identify by Contractor and area)

none

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

ISSUES: (Specify if assistance is needed to resolve issue)

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY:
DATE:

TVA JACOBS

Kingston Ash Recovery Project
Dredging and Ash Processing
Daily Report

REPORT DATE & DAY OF WEEK: **05/08/10 Friday 6AM-4PM** **WEATHER: 80 clear**

SAFETY/JSAS REVIEWED: attended dredge crew safety meeting

VISITORS: (Identify by name, affiliation and purpose of visit)

ACTIVITIES OBSERVED IN CONFORMANCE WITH WORK PLAN: (Identify activities by Contractor and area)

Mechanical dredging: 10:40 arrive at excavator barge.
Loc. #1 10:45 N563051.72 E2448891.25 sand minimal ash. Discovered several holes in bottom of scow. Placed sand bags over holes and continued to load as per Ricky Moss SES.
Loc.#2 12;15 N563085.98 E2448858.60 Silt/sand minimal ash
13:25 1st scow left for unload.
Loc.#3 13:26 N563045.70 E2448924.70 sand minimal ash
Advised Sevenson operator to follow guidance system for direction and to use surface model as a guide for depth of cut but if after one bucket he is in sand or native soil and his system is still telling him he needs to dig deeper to disregard surface model and to move to next area due to the fact that there may be variances in the surface model and or elevation errors from the gps system.

Aquarius Crane: 14:00 crew is in the 18th cell from the north and is starting to dig ash.

VERBAL INSTRUCTIONS GIVEN OR RECEIVED: (Identify person instructions were given to or received from)

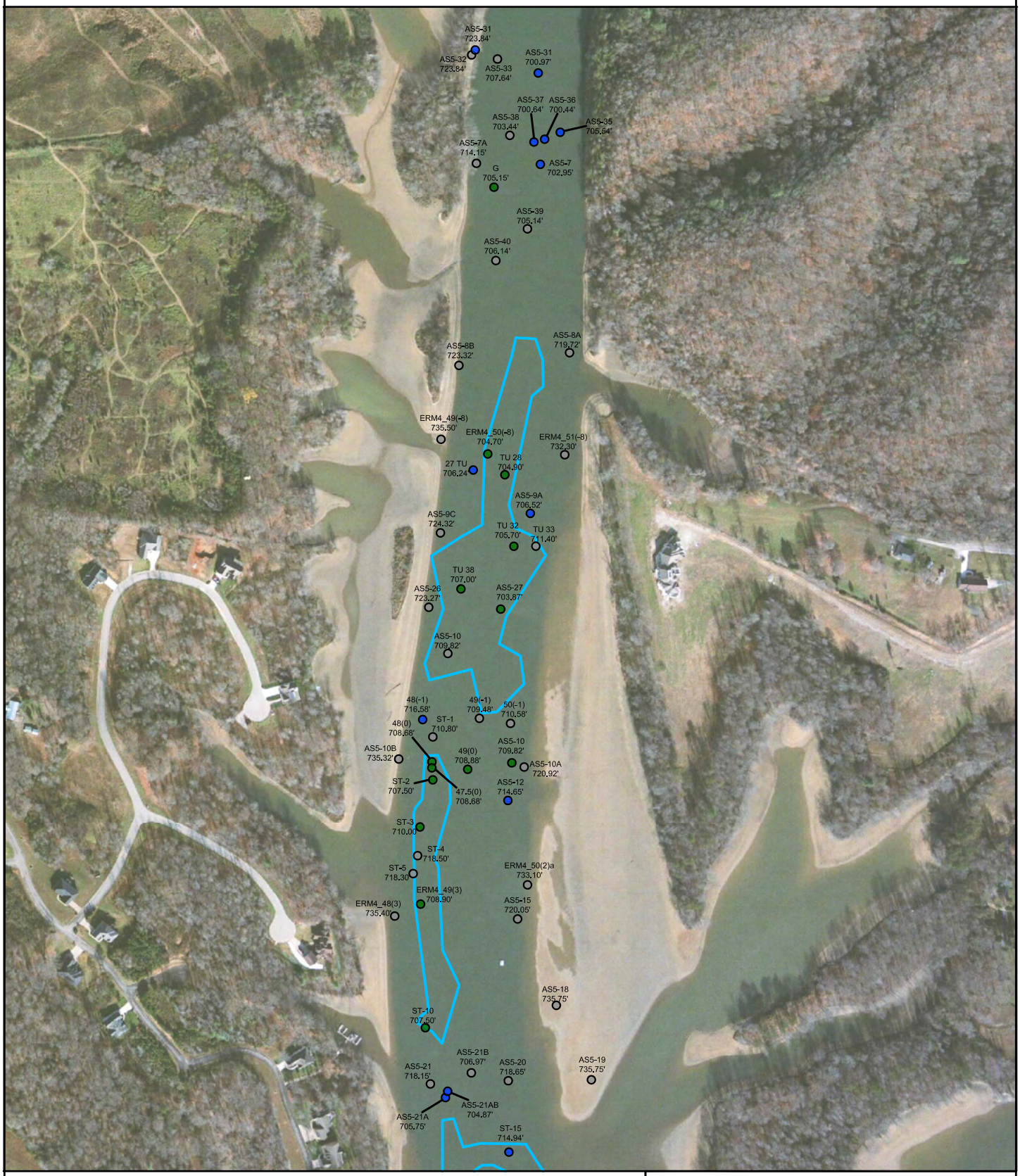
ISSUES: (Specify if assistance is needed to resolve issue)

Several holes in both scows used today need to be addressed ash water, ash and sand are seeping into the interior compartments.

PLANNED ACTIVITIES (Identify activities by Contractor and area)

SUBMITTED BY: ☺ **DATE:05/08/10**

VibeCore Concurrence Sampling Results - Above Above Segment 5 - Area 4



Ash Recovered

No Ash Present

No Core Recovered

Phase 2 Dredging Path

VibeCore Label Format:
Core Number
Ash Thickness (ft)

0 110 220 440
SCALE IN FEET

N

JACOBS™

05/25/10

Figure 6

TVA KIP Ash Recovery

Vibecore Data - Above Above Segment 5, Area 4

			GPS		Calculated				Measured					
Date	Core #	Photo #	N:	E:	Bed Elev.	Elev. Tested	Top of Ash	Bottom of Ash	River Elevation	River Depth	Core Depth	Depth to Top Ash	Depth bottom of ash	Thickness of Ash
01/07/2010	G	R0010077	564438.349	2448996.541	705.75	704.35	705.75	705.15	736.45	30.70	1.40	-	0.60	0.60
01/20/2010	AS5-21	R0010213	561620.280	2448787.800	718.15	716.25	-	-	737.05	18.90	1.90	-	-	0
01/20/2010	AS5-20	R0010212	561626.200	2449037.600	718.65	715.45	-	-	737.05	18.40	3.20	-	-	0
01/20/2010	AS5-19	R0010210	561632.980	2449295.000	735.75	730.35	-	-	737.05	1.30	5.40	-	-	0
01/20/2010	AS5-18	R0010209	561868.430	2449185.590	735.75	730.05	-	-	737.05	1.30	5.70	-	-	0
01/20/2010	AS5-15	R0010204	562143.650	2449062.960	720.05	716.45	-	-	737.05	17.00	3.60	-	-	0
01/27/2010	AS5-10A	R0010245	562618.600	2449086.800	720.92	719.62	-	-	741.32	20.40	1.30	-	0	0
01/27/2010	AS5-10B	R0010246	562641.200	2448691.500	735.32	732.62	-	-	741.32	6.00	2.70	-	0	0
01/27/2010	AS5-9C	R0010249	563352.800	2448825.900	724.32	720.32	-	-	741.32	17.00	4.00	-	0	0
01/27/2010	AS5-8B	R0010252	563880.100	2448883.700	723.32	718.92	-	-	741.32	18.00	4.40	-	-	0
01/27/2010	As5-8A	R0010251	563917.800	2449230.100	719.72	715.72	-	-	741.32	21.60	4.00	-	-	0
01/27/2010	AS5-10	R0010244	562630.500	2449051.500	710.42	708.92	710.42	709.82	741.32	30.90	1.50	-	0.6	0.60
01/28/2010	AS5-7A	R0010199	564519.000	2448943.180	714.15	711.45	-	-	740.85	26.7	2.7	0	0	0
02/02/2010	AS5-21B	R0010211	561652.320	2448920.320	706.97	703.57	-	-	738.67	31.70	3.40	-	-	0
02/02/2010	AS5-26	R0010213	563117.240	2448789.420	723.27	718.47	-	-	738.67	15.40	4.80	-	-	0
02/02/2010	AS5-27	R0010214	563109.590	2449012.840	705.47	702.97	705.27	703.87	738.67	33.20	2.50	0.20	1.00	0.8
02/03/2010	AS5-40	None	564210.300	2449000.390	706.14	705.54	-	-	738.54	32.40	0.60	-	-	0
02/03/2010	AS5-39	R0010224	564311.010	2449096.620	705.14	704.04	-	-	738.54	33.40	1.10	-	-	0
02/03/2010	AS5-38	R0010223	564602.140	2449045.580	703.44	702.04	-	-	738.54	35.10	1.40	-	-	0
02/03/2010	AS5-33	R0010218	564843.350	2449004.280	707.64	705.74	-	-	738.54	30.90	1.90	-	-	0
02/03/2010	AS5-32	R0010217	564857.060	2448924.750	723.84	722.34	-	-	738.54	14.70	1.50	-	-	0
02/03/2010	AS5-34	R0010220	564807.690	2449101.280	701.24	700.54	700.94	Unknown	738.54	37.30	0.70	0.30	0.70	0.4
02/04/2010	50(-1)	R0010227	562755.000	2449043.030	710.58	709.58	-	-	739.08	28.50	1.00	-	-	0
02/04/2010	49(-1)	R0010226	562768.730	2448948.280	709.48	706.98	-	-	739.08	29.60	2.50	-	-	0
02/04/2010	49(0)	R0010229	562610.300	2448909.100	709.88	706.38	709.38	708.88	739.08	29.20	3.50	0.50	1.00	0.5
02/04/2010	48(0)	R0010230	562629.630	2448796.990	709.58	708.48	709.28	708.68	739.08	29.50	1.10	0.30	0.90	0.6
02/04/2010	47.5(0)	R0010232	562617.050	2448796.510	709.78	705.08	709.48	708.68	739.08	29.30	4.70	0.30	1.10	0.8
03/17/2010	ERM4_48(3)	R0010376	562150.750	2448676.480	735.40	731.80	-	-	737.00	1.60	3.60	-	-	-
03/17/2010	ERM4_50(2)a	R0010374	562247.790	2449095.830	733.10	728.70	-	-	737.00	3.90	4.40	-	-	-
03/17/2010	ERM4_51(-8)	R0010379	563593.470	2449217.940	732.30	729.10	-	-	737.00	4.70	3.20	-	-	-
03/17/2010	ERM4_49(-8)	R0010377	563648.910	2448826.550	735.50	730.30	-	-	737.00	1.50	5.20	-	-	-
03/17/2010	ERM4_50(-8)	R0010378	563600.490	2448972.650	705.70	704.20	705.50	704.70	737.00	31.30	1.50	0.20	1.00	0.80
03/17/2010	ERM4_49(3)	R0010375	562182.520	2448762.650	710.30	707.10	709.90	708.90	737.00	26.70	3.20	0.40	1.40	1.00
04/13/2010	AA 5-10	R0010140	562973.700	2448849.780	707.20	703.50	-	-	738.80	31.60	3.70	-	-	-
04/30/2010	ST-5	R0010538	562281.52	2448738.73	718.30	714.30	-	-	739.60	21.30	4.00	-	-	-
04/30/2010	ST-4	R0010539	562338.53	2448753.97	718.50	716.70	-	-	739.60	21.10	1.80	-	-	-
04/30/2010	ST-1	R0010542	562711.57	2448798.71	710.80	707.90	-	-	739.60	28.80	2.90	-	-	-
04/30/2010	TU 33	R0010544	563311.01	2449123.63	711.40	710.70	-	-	739.60	28.20	0.70	-	-	-
04/30/2010	TU 38	R0010548	563176.36	2448886.70	707.50	705.80	707.50	707.00	739.60	32.10	1.70	-	0.50	0.50
04/30/2010	ST-2	R0010541	562573.33	2448800.47	708.20	705.80	708.10	707.50	739.60	31.40	2.40	0.10	0.70	0.60
04/30/2010	ST-10	R0010534	561796.07	2448777.76	708.30	706.50	708.30	707.50	739.60	31.30	1.80	-	0.80	0.80
04/30/2010	TU 32	R0010543	563311.80	2449055.63	706.50	705.40	706.50	705.70	739.60	33.10	1.10	-	0.80	0.80
04/30/2010	ST-3	R0010540	562427.45	2448758.59	711.30	708.10	711.00	710.00	739.60	28.30	3.20	0.30	1.30	1.00
04/30/2010	TU 28	R0010539	563535.83	2449025.05	705.90	704.10	705.90	704.90	739.60	33.70	1.80	-	1.00	1.00

TVA KIP Ash Recovery

Vibecore Data - No Core Recovered - Area 4

		GPS		Measured	
01/20/2010	AS5-21A	561583.64	2448839.02	737.05	31.30
01/20/2010	AS5-12	562509.37	2449040.25	737.05	22.40
01/27/2010	AS5-9A	563413.50	2449106.40	741.32	34.80
01/28/2010	AS5-7	564511.05	2449140.13	740.85	37.90
02/02/2010	AS5-21AB	561592.14	2448846.20	738.67	33.80
02/02/2010	AS5-31	564799.72	2449132.82	738.67	37.70
02/03/2010	AS5-37	564583.30	2449119.26	738.54	37.90
02/03/2010	AS5-36	564590.25	2449150.61	738.54	38.10
02/03/2010	AS5-35	564614.40	2449202.75	738.54	33.00
02/03/2010	AS5-31	564857.06	2448924.75	738.54	14.70
02/04/2010	48(-1)	562763.06	2448772.35	739.08	22.50
04/29/2010	ST-15	561401.94	2449040.86	739.64	24.70
04/29/2010	27 TU	563549.11	2448927.88	739.64	33.40

Note: These are included when the log provides useful information, eg. hard bottom, encountered rock, color of water column.

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Vibecore Documentation

Date: 01/07/2010 Weather: Overcast, snow flurries, ~ 34 degrees F, wind NW ~10-12 mph, ice Location: Above-Above Segment 5
River Flow: < 2,000 cfs Elevation: 736.45
Crew: Curtis Long, Joel Ross, Kevin Shaw

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
G	R0010077	Lexan	N: 564438.35	E: 2448996.54	30.7'	14:20	Ash	0.0-0.6
							Silty clay	0.6-1.4
							Total Depth	1.4

Deviations encountered: Some material likely to have fallen out during retrieval. Photos R0010074, R0010075, R0010076, and R0010078 taken as well

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-15	R0010204	Lexane	N: 562143.65	E: 2449062.96	17.0	11:00	Sand	0.0-0.5
							Silt	0.5-1.4
							Clay	1.4-3.6
							Total Depth	3.6

Deviations encountered: No ash recovered

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-18	R0010209	Lexane	N: 561868.43	E: 2449185.59	1.3	11:20	sand	0.0-0.8
							silty sand	0.8-1.6
							silt	1.6-3.4
							clay	3.4-5.7
							Total Depth	5.7

Deviations encountered:

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-19	R0010210	Lexane	N: 561632.98	E: 2449295.00	1.3	14:20	silty sand with detritus	0.0-0.7
							sand	0.7-1.6
							silt	1.6-3.6
							clay	3.6-5.4
							Total Depth	5.4

Deviations encountered: Photo R0010211 also taken. No ash recovered

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-20	R0010212	Lexane	N: 561626.20	E: 2449037.60	18.4	14:30	Detritus with mixed sand	0.0-0.7
							silt with sand	0.7-1.7
							sand	1.7-2.8
							clay	2.8-3.2
							Total Depth	3.2

Deviations encountered: No refusal and no ash recovered

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-21	R0010213	Lexane	N: 561620.28	E: 2448787.80	18.9	14:50	Red clay	0.0-1.9
							Total Depth	1.9

Deviations encountered: Reached refusal, no ash present. Photo R0010214 also taken

Date: 01/27/2010 Weather: Cloudy,40 Deg F Location: Above Above Segment 5
River Flow: >2,000cfs Surface Water Elevation: 741.32
Crew: Joel Ross,Curtis Long,Walter Burns

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-10	R0010244	5' Lexan	N: 562630.50	E: 2449051.50	30.9'	11:01	Sand	0'-.2'
							Ash	2'-.6'
							Silt	.6'-1.0'
							Sand	1.0'-1.5'
							Total Depth	1.5'

Deviations encountered:HDOP=1.49

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-10A	R0010245	5' Lexan	N: 562618.60	E: 2449086.80	20.4'	11:24	Clay	0-1.3'
							Total Depth	1.3'

Deviations encountered:HDOP=1.03;

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-10B	R0010246	5' Lexan	N: 562641.20	E: 2448691.50	6.0'	11:35	Sand/Silt	0-2.7'
							Total Depth	2.7'

Deviations encountered:HDOP=1.61

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-12	none	Lexane	N: 562509.37	E: 2449040.25	22.4	10:10	No core taken	
							Total Depth	-

Deviations encountered: 3 core attempts made, none retained in tube. Material visible was not ash, relocated to N:562458.64 E:2449023.38, no core retained after two attempts

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-5-9	R0010247	5' Lexan	N: 563383.90	E: 2449007.90	34.4'	11:46	Ash/Sand	0-.8'
							Ash	8-2.0'
							Silt	2.0'-2.2'
							Total Depth	2.2'

Deviations encountered: HDOP=2.76

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-9A	No Photo	5' Lexan	N: 563413.50	E: 2449106.40	34.8'	12:35	NO CORE COLLECTED	
							Total Depth	

Deviations encountered: HDOP=1.14, Threee Cores lost, what was collected off tube and Vibecore head no presence of ash

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-9C	R0010249	5' Lexan	N: 563352.80	E: 2448825.90	17.0'	15:12	Sand/Silt	0-4.0'
							Total Depth	4.0'

Deviations encountered: HDOP=1.15, 3 cores lost at this location, no presence of ash

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-8A	R0010251	5' Lexan	N: 563917.80	E: 2449230.10	21.6'	16:21	Sand/Silt	0-1.5'
							Silt	1.5'-3.5'
							Clay	3.5'-4.0'
							Total Depth	4.0'

Deviations encountered: HDOP=0.95

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Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval
AS5-8B	R0010252	5' Lexan	N: 563880.10	E: 2448883.70	18.0'	16:52	Sand	0- 4'
							Silty/Sand	4'-4.4'
							Total Depth	4.4'

Deviations encountered: HDOP=0.95

Date: 01/28/2010 Weather: Clear ~ 45 F, wind calm Location: Above Segment 5
River Flow: 3500 cfs River Elevation: 740.85'
Crew: Walter Burns, Joel Ross, Kevin Shaw

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-7	R0010198	Acrylic	N: 564511.05'	E: 2449140.13'	37.9'	10:18	No core taken	
							Total Depth	-

Deviations encountered: 2 cores collected, 2nd core with ~ 0.5' sand/pebbles and silt; no indication of ash.

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-7A	R0010199	Acrylic	N: 564519.00'	E: 2448943.18'	26.7'	10:55	Sand (fine)	0.0-0.7
							Sandy silt	0.7-1.9
							Clay (orange)	1.9-2.7
							Total Depth	2.7'

Deviations encountered: Refusal at clay

Date: 02/02/2010 Weather: Overcast, light rain;~38-40 F; wind calm Location: Above Above Segment 5
River Flow: <2,000 cfs River Elevation: 738.67'
Crew: Joel Ross, Walter Burns, Kevin Shaw

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-21B	R0010211	5' Acrylic	N: 561652.32'	E: 2448920.32'	31.7'	12:10	Sand	0.0-3.4
							Total Depth	3.4'

Deviations encountered: HDOP = 1.04; Photos R0010211-0212. NO ASH

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-21AB	None	5' Acrylic	N: 561592.14'	E: 2448846.2'	33.8'	12:25	None	
							Total Depth	

Deviations encountered HDOP = 1.50; Attempted 2 cores; no sediment, but presence of ~2' of grey "ashen" water in tube

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-26	R0010213	5' Acrylic	N: 563117.24'	E: 2448789.42'	15.4'	12:50	Sandy silt	0-0.7
							Silt	0.7-4.8
							Total Depth	4.8'

Deviations encountered: HDOP = 1.28; No refusal, NO ASH

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-27	R0010214	6' Acrylic	N: 563109.59'	E: 2449012.84'	33.2'	13:05	Sand	0.0-0.2
							ASH	0.2-1.0
							Silt	1.0-1.6
							Sandy Silt	1.6-2.5
							Total Depth	2.5'

Deviations encountered: HDOP = 1.55, Refusal met. Sample taken at 1.0-1.6' interval to confirmed to be silt (no ash) amount of ash present.

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-31	None	6' Acrylic	N: 564799.72'	E: 2449132.82'	37.7'	15:30	None	
							Total Depth	

Deviations encountered: HDOP = 1.22 2 cores taken, no sample - bedrock, cannot penetrate. Brownish "silty" water in tube.

Date: 02/03/2010 Weather: Overcast,45 F, calm Location: Above Above Segment 5
River Flow: ~3000 cfs River Elevation: 738.54'
Crew: Joel Ross, Walter Burns, Kevin Shaw

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-31	None	Box Core	N: 564857.06'	E: 2448924.75'	14.7'	10:50		
							Total Depth	

Deviations encountered: Attempted to use box core. Box Core would not collect sample, hard substrate.

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-32	R0010217	5' Acrylic	N: 564857.06'	E: 2448924.75'	14.7'	11:30	Sand	0- 3
							Clay/Sand	0.3-1.5
							Total Depth	1.5'

Deviations encountered: HDOP 1.25. Refusal in Clay

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-33	R0010218	5' Acrylic	N: 564843.35'	E: 2449004.28'	30.9'	11:58	Sand	0.0-1.9
							Total Depth	1.9'

Deviations encountered: HDOP 1.43; Refusal in Sand

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-34	R0010220	5' Acrylic	N: 564807.69'	E: 2449101.28'	37.3'	12:10	Sand	0-0.3
							Ash >50%	0.3-0.7
							Total Depth	.7'

Deviations encountered: HDOP 1.68, 1st core with sand/ash/sand but core core began to wash out; Refusal in sand. Photo R0010219 also taken.

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AS5-35	R0010221	5' Acrylic	N: 564614.4'	E: 2449202.75'	33.0'	12:35		
							Total Depth	

Deviations encountered: HDOP 1.07; 1st Core Did not collect sediment sample; Turbid layer in tube; Grey in color; 2nd Core No sample.

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Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
AS5-36	None	5' Acrylic	N: 564590.25' E: 2449150.61'	38.1'	13:01		
Deviations encountered: HDOP 1.51; Silty Turbid; No sample collected						Total Depth	

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
AS5-37	None	6' Acrylic	N: 564583.3' E: 2449119.26'	37.9'	15:15		
Deviations encountered: HDOP 1.48; No sample Turbid Brown Water						Total Depth	

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
AS5-38	R0010223	6' Acrylic	N: 564602.14' E: 2449045.58'	35.1'	15:35	Sand with some organic matter	0.0-1.4
Deviations encountered: HDOP 1.15; Photo R0010222 also taken						Total Depth	1.4'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
AS5-39	R0010224	6' Acrylic	N: 564311.01' E: 2449096.62'	33.4'	16:30	Sand	0.0-0.5
Deviations encountered: HDOP 1.27						Silty Sand	0.5-1.1
						Total Depth	1.1'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
AS5-40	None	6' Acrylic	N: 564210.3' E: 2449000.39'	32.4'	16:45	Silty/Sand	0.0-0.6
Deviations encountered: HDOP 1.12; Sample taken for analysis						Total Depth	.6'

Date: 02/04/2010 Weather: Overcast, light rain; ~ 45 F; wind calm Location: Above Above Segment 5
River Flow: ~3,000 cfs River Elevation: 739.08'
Crew: Walter Burns, Joel Ross, Kevin Shaw

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
48(-1)	None	5'Acrylic	N: 562763.06' E: 2448772.35'	22.5'	14:00		
Deviations encountered: HDOP = 1.55; 4 cores attempted but could only collect turbid silty water (dark brown); refusal in rock						Total Depth	

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
49(-1)	R0010226	5' Acrylic	N: 562768.73' E: 2448948.28'	29.6'	14:40	Sand w organic matter	0-0.5
Deviations encountered: HDOP = 1.95 Refusal in sand						Mixed Ash<50%/silt	0.5-0.8
						Silt	0.8-1.8
						Sand w organic matter	1.8-2.5
						Total Depth	2.5'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
50(-1)	R0010227	5' Acrylic	N: 562755.' E: 2449043.03'	28.5'	15:02	Silty sand	0-0.5
Deviations encountered: HDOP = 1.39. Sample taken for analysis (0.5-1.0). Refusal met						Mixed silt & organic matter	0.5-1.0
						Total Depth	1'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
49(0)	R0010229	5' Acrylic	N: 562610.3' E: 2448909.1'	29.2'	15:25	Sand	0-0.5
Deviations encountered: HDOP = 1.24 Photo R0010228 also taken. Sample of interval 0.5-1.0 taken for analysis. Refusal in clay						Mixed Ash >50%/Silt	0.5-1.0
						Silty sand	1.0-1.7
						Sand	1.7-2.3
						Silty sand	2.3-3.0
						Grey clay	3.0-3.5
						Total Depth	3.5'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
48(0)	R0010230	5' Acrylic	N: 562629.63' E: 2448796.99'	29.5'	15:45	Silty sand	0-0.3
Deviations encountered: HDOP = 0.99 Photo R0010231 also taken. Refusal met						Ash	0.3-0.9
						Silt/organic matter	0.9-1.1
						Total Depth	1.1'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
47.5(0)	R0010232	5' Acrylic	N: 562617.05' E: 2448796.51'	29.3'	16:04	Fine sand-silt	0-0.3
Deviations encountered: HDOP = 1.18 No refusal						Mixed ash	0.3-1.1
						Silty sand	1.1-2.2
						Sandy silt	2.2-3.6
						Silty sand	3.6-4.7
						Total Depth	4.7'

Date: 03/17/2010 Weather: loudy with a 20% chance of rain showers. Highs in the upper 50's. Ligh Location: Above Segment 5
River Flow: 1600 cfs River Elevation: 737.'
Crew: David, Mathis, James Mullins, Chad Fairless, Bailey Bunch

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
ERM4_50(2)a	R0010374	6' Acrylic	N: 562247.79' E: 2449095.83'	3.9'	10:45	Red orange sandy clay. No ash.	0-4.4
Deviations encountered:						Total Depth	4.4'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
ERM4_49(3)	R0010375	6' Acrylic	N: 562182.52' E: 2448762.65'	26.7'	11:05	Medium and coarse grained brown sand with <10% organics. No ash.	0-0.4
Deviations encountered:						Ash >50%	0.4-1.4
						Brown native fines mixed with fine brown sand. <10% organics. No ash.	1.4-3.2
						Total Depth	3.2'

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Vibecore Documentation

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
ERM4_48(3)	R0010376	6' Acrylic	N: 562150.75'	E: 2448676.48'	1.6'	11:20	Brown medium grained sand mixed with native fines and <10% organics. No ash.	0-1.0
Deviations encountered:							Brown sand mixed with native fines. No ash.	1.0-2.7
							Brown native fines mixed with fine sand. No ash.	2.7-3.6
							Total Depth	3.6'

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
ERM4_49(-8)	R0010377	6' Acrylic	N: 563648.91'	E: 2448826.55'	1.5'	11:41	Brown and light brown sand mixed with brown native fines. No ash.	0-1.8
Deviations encountered: After the photo was taken and core extruded it became evident the top two layers were of the same material and lumped to							Brown sand. No ash.	1.8-4.0
							Native fines mixed with brown fine sand. No ash.	4.0-5.2
							Total Depth	5.2'

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
ERM4_50(-8)	R0010378	6' Acrylic	N: 563600.49'	E: 2448972.65'	31.3'	12:02	Light brown medium and coarse grained sand with >10% organics. No ash.	0-0.2
Deviations encountered:							Ash. >50%	0.2-1.0
							Brown sand with >50% organics. No ash.	1.0-1.5
							Total Depth	1.5'

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
ERM4_51(-8)	R0010379	6' Acrylic	N: 563593.47'	E: 2449217.94'	4.7'	12:17	Orange sandy clay. No ash.	0-2.6
Deviations encountered:							Orange sandy clay. No ash.	2.6-3.2
							Total Depth	3.2'

Date: 04/13/2010 Weather: Sunny, 79 F Location: Above Above Segment 5 Emory River
River Flow: 687 cfs River Elevation: 738.8' at 189 Lakeshore Dr.
Crew: Greg Schwartz (RSI), Stacy Goss (RSI), Chad Fairless (RSI)

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
AA 5-10	R0010140	Acrylic	N: 562973.7'	E: 2448849.78'	31.6'	13:00	Sand w/ native fines	0.0 - 1.0
Deviations encountered: Core met refusal							Dark brown fines w/ sand	1.0 - 1.7
							Sandy loam	1.7 - 2.9
							Dark brown fines	2.9 - 3.7
							Total Depth	3.7'

Date: 04/29/2010 Weather: Mostly sunny. Highs mid 70's. South west winds 10 mph or less. Location: Lower AA5 Targets
River Flow: 1290 cfs River Elevation: 739.64'
Crew: David, Mathis, Tom Touzeau, Stacy Goss

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
ST-15	NA	6' Acrylic	N: 561401.94'	E: 2449040.86'	24.7'	13:20	NA	NA
Deviations encountered: Multiple attempts to recover a core at ST-15 were unsuccessful. One attempt recovered about 0.4' of an organic mat mixed with sand. Core is likely hitting this mat layer and falling over. No ash was visible in the mixture.								
							Total Depth	NA

Date: 04/29/2010 Weather: Sunny, 72 deg F Location: TU points on Emory River Above Above Segment 5
River Flow: 1290 cfs River Elevation: 739.64'
Crew: Greg Schwartz, Baily Bunch, Katie Gassaway

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
27 TU	N/A	6' Acrylic	N: 563549.11'	E: 2448927.88'	33.4'	14:06	N/A	
Deviations encountered: Recovery not achieved. Organic material was found in slurry.								
							Total Depth	N/A

Date: 04/30/2010 Weather: Sunny, 81 deg. F Location: Emory Above Above Segment 5
River Flow: 1100 cfs River Elevation: 739.6'
Crew: Greg Schwartz, Katie Gassaway, Tommy Davis

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
TU 28	R0010539	6' Acrylic	N: 563535.83'	E: 2449025.05'	33.7'	8:58	Ash > 50%	0.0 - 1.0
Deviations encountered: Core met refusal							Brown Native Fines w/ Sand	1.0 - 1.8
							Total Depth	1.8'

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
TU 32	R0010543	6' Acrylic	N: 563311.8'	E: 2449055.63'	33.1'	10:14	Ash > 50%	0.0 - 0.8
Deviations encountered: Core did not meet refusal							Sandy Loam w/ Organics	0.8 - 1.1
							Total Depth	1.1'

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
TU 33	R0010544	6' Acrylic	N: 563311.01'	E: 2449123.63'	28.2'	10:32	Orange Fines w/ gravel	0.0 - 0.2
Deviations encountered: Core met refusal							Grey silt w/ sand	0.2 - 0.7
							Total Depth	7'

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
TU 38	R0010548	6' Acrylic	N: 563176.36'	E: 2448886.7'	32.1'	13:53	Ash > 50%	0.0 - 0.5
Deviations encountered: Core met refusal							Dark Brown Native Fines	0.5 - 1.7
							Total Depth	1.7'

Date: 04/30/2010 Weather: Sunny. Highs in the lower 80's. Southwest winds 5 to 15 mph. Location: Lower AA5 Targets
River Flow: 1100 cfs River Elevation: 739.6'
Crew: David, Mathis, Steve Bunkley, Stacy Goss

Core #	Photo #	Tube Type	Core Coordinates		River Depth	Time	Core Description	Interval (ft)
ST-10	R0010534	6' Acrylic	N: 561796.07'	E: 2448777.76'	31.3'	9:59	Ash >50%	0-0.8
Deviations encountered: Description of core layers will not coincide with layer breaks in photo.							Dark brown and gray medium grained grained sand.	0.8-1.2
							Light brown medium grained sand mixed with native fines.	1.2-1.8
							Total Depth	1.8'

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Vibecore Documentation

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
ST-5	R0010538	6' Acrylic	N: 562281.52' E: 2448738.73'	21.3'	12:45	Light brown fine grained sand mixed with some dark brwon medium grained sand.	0-1.1
Deviations encountered:						Light brown fine grained sand mixed with light brown native fines.	1.1-4.0
						Total Depth	4.'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
ST-4	R0010539	6' Acrylic	N: 562338.53' E: 2448753.97'	21.1'	13:10	Light brown native fines mixed with fine sand. Refusal not met.	0-1.8
Deviations encountered:						Total Depth	1.8'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
ST-3	R0010540	6' Acrylic	N: 562427.45' E: 2448758.59'	28.3'	13:25	Brown and light brown medium and coarse grained sand.	0-0.3
Deviations encountered:						Ash >50%	0.3-1.3
						Brown fine grained sand mixed with brown native fines.	1.3-3.2
						Total Depth	3.2'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
ST-2	R0010541	6' Acrylic	N: 562573.33' E: 2448800.47'	31.4'	13:50	Light brown fines.	0-0.1
Deviations encountered:						Ash >50%	0.1-0.7
						Light brown medium grained sand.	0.7-1.5
						Mixed light brown fines with brown native fines.	1.5-2.4
						Total Depth	2.4'

Core #	Photo #	Tube Type	Core Coordinates	River Depth	Time	Core Description	Interval (ft)
ST-1	R0010542	6' Acrylic	N: 562711.57' E: 2448798.71'	28.8'	14:14	Coarse and medium grained brown sands.	0-1.3
Deviations encountered. Description of core layers will not coincide with layer breaks in photo.						Native brown fines mixed with fine grained brown sand.	1.3-2.9
						Total Depth	2.9'

Vibecore Sampling Photos

Above Above Segment 5 Dredge Area 4

Core G
Total core depth = 1.4’
Ash thickness = 0.6’
Water depth = 30.7’

Core AS5-15
Total core depth = 3.6’
Ash thickness = 0.0’
Water depth = 17.0’

Core AS5-18
Total core depth = 5.7’
Ash thickness = 0.0’
Water depth = 1.3’

Core AS5-19
Total core depth = 5.4’
Ash thickness = 0.0’
Water depth = 1.3’

Vibecore Sampling Photos

Above Above Segment 5 Dredge Area 4

Core AS5-20
Total core depth = 3.2’
Ash thickness = 0.0’
Water depth = 18.4’

Core AS5-21
Total core depth = 1.9’
Ash thickness = 0.0’
Water depth = 18.9’

Core AS5-10
Total core depth = 1.5’
Ash thickness = 0.4’
Water depth = 30.9’

Core AS5-10A
Total core depth = 1.3’
Ash thickness = 0.0’
Water depth = 20.4’

Vibecore Sampling Photos

Above Above Segment 5 Dredge Area 4

Core AS5-10B
Total core depth = 2.7’
Ash thickness = 0.0’
Water depth = 6.0’

Core AS5-9C
Total core depth = 4.0’
Ash thickness = 0.0’
Water depth = 17.0’

Core AS5-8A
Total core depth = 4.0’
Ash thickness = 0.0’
Water depth = 21.6’

Core AS5-8B
Total core depth = 4.4’
Ash thickness = 0.0’
Water depth = 18.0’

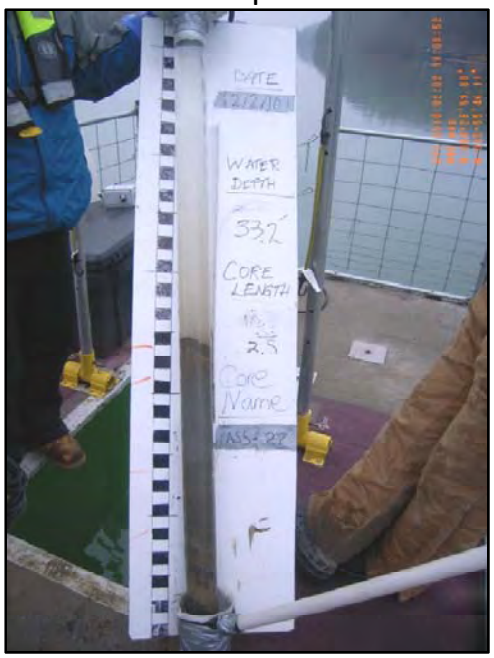
Vibecore Sampling Photos

Above Above Segment 5 Dredge Area 4

Core AS5-7A
Total core depth = 2.7’
Ash thickness = 0.0’
Water depth = 26.7’

Core AS5-21B
Total core depth = 3.4’
Ash thickness = 0.0’
Water depth = 31.7’

Core AS5-26
Total core depth = 4.8’
Ash thickness = 0.0’
Water depth = 15.4’

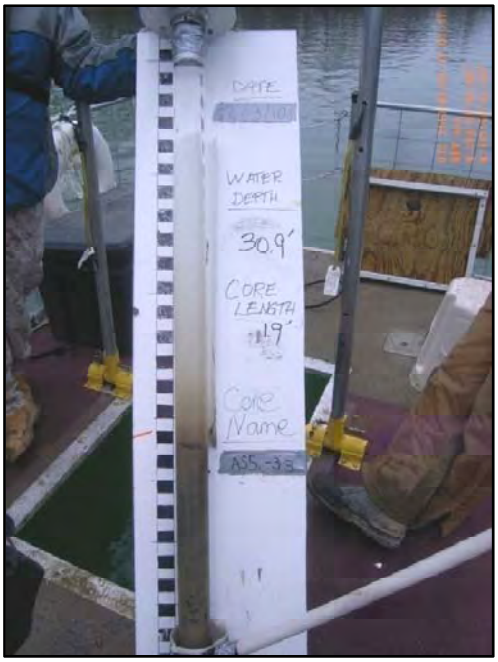


Core AS5-27
Total core depth = 2.5’
Ash thickness = 0.8’
Water depth = 33.2’

Vibecore Sampling Photos

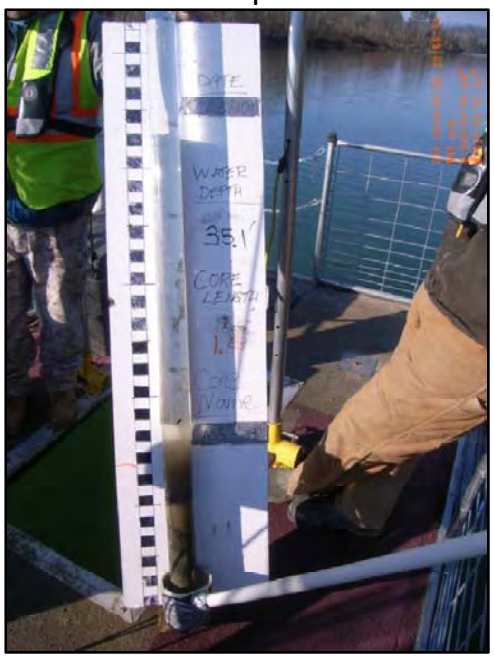
Above Above Segment 5 Dredge Area 4

Core AS5-32
Total core depth = 1.5’
Ash thickness = 0.0’
Water depth = 14.7’



Core AS5-33
Total core depth = 1.9’
Ash thickness = 0.0’
Water depth = 30.9’

Core AS5-34
Total core depth = 0.7’
Ash thickness = 0.4’
Water depth = 37.3’



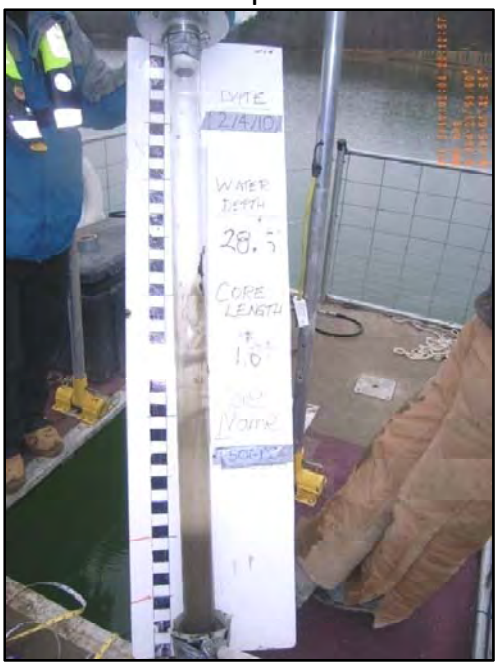
Core AS5-38
Total core depth = 1.4’
Ash thickness = 0.0’
Water depth = 35.1’

Vibecore Sampling Photos

Above Above Segment 5 Dredge Area 4

Core AS5-39
Total core depth = 1.1'
Ash thickness = 0.0'
Water depth = 33.4'

Core 49(-1)
Total core depth = 2.5'
Ash thickness = 0.0'
Water depth = 29.6'

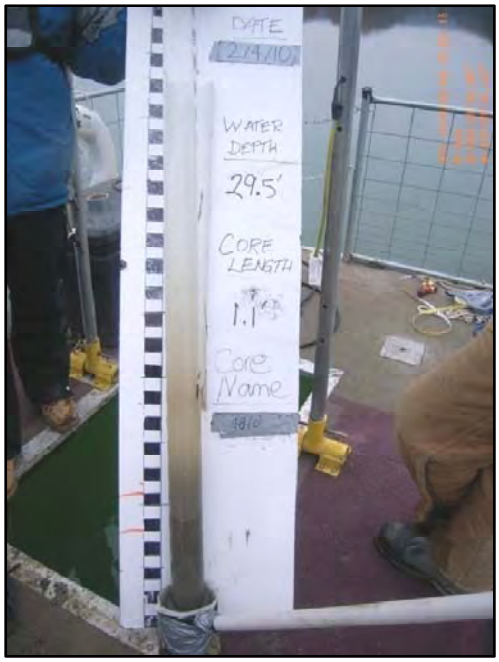


Core 50(-1)
Total core depth = 1.0'
Ash thickness = 0.0'
Water depth = 28.5'

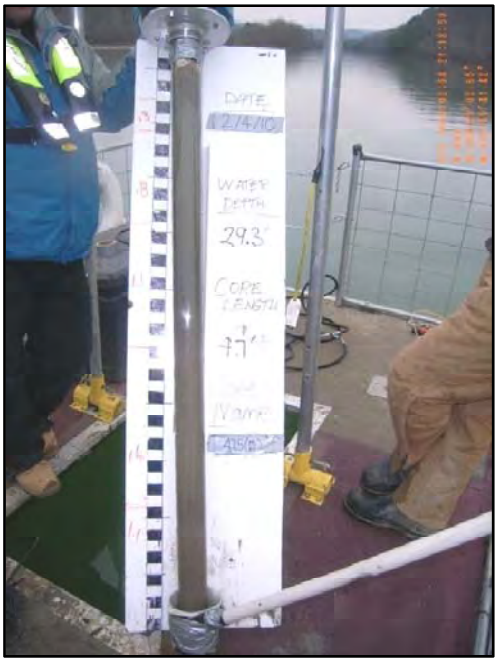
Core 49(0)
Total core depth = 3.5'
Ash thickness = 0.5'
Water depth = 29.2'

Vibecore Sampling Photos

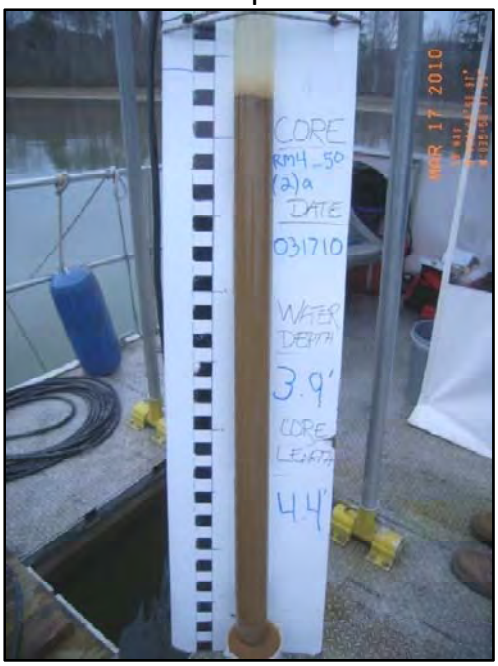
Above Above Segment 5 Dredge Area 4



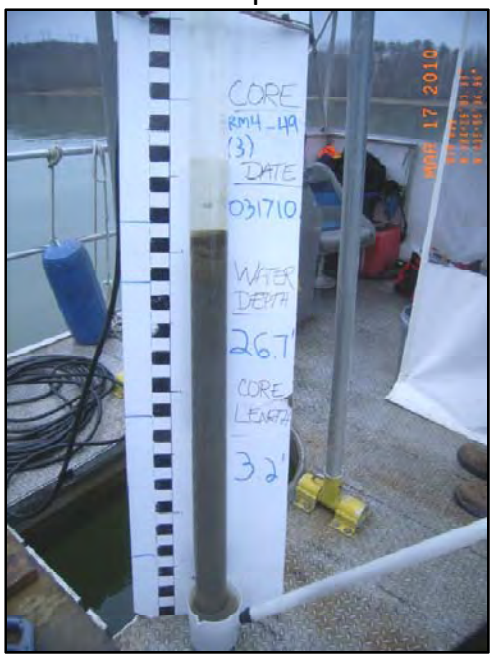
Core 48(0)
Total core depth = 1.1'
Ash thickness = 0.6'
Water depth = 29.5'



Core 47.5(0)
Total core depth = 4.7'
Ash thickness = 0.8'
Water depth = 29.3'



Core 50(2)a)
Total core depth = 4.4'
Ash thickness = 0.0'
Water depth = 3.9'

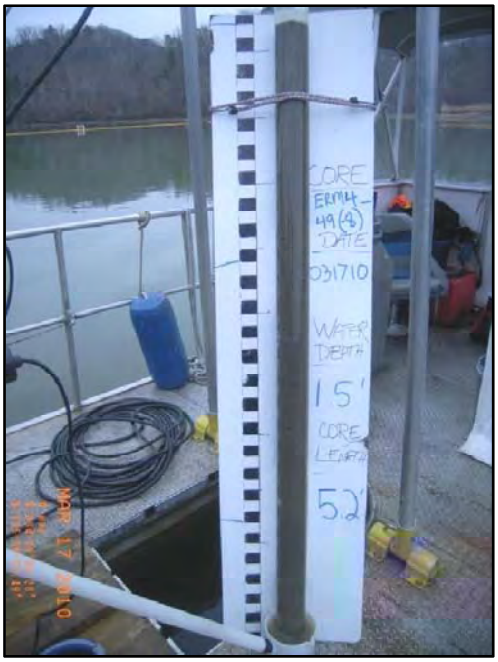


Core 49(3)
Total core depth = 3.2'
Ash thickness = 1.0'
Water depth = 26.7'

Vibecore Sampling Photos

Above Above Segment 5 Dredge Area 4

Core 48(3)
Total core depth = 3.6’
Ash thickness = 0.0’
Water depth = 1.6’



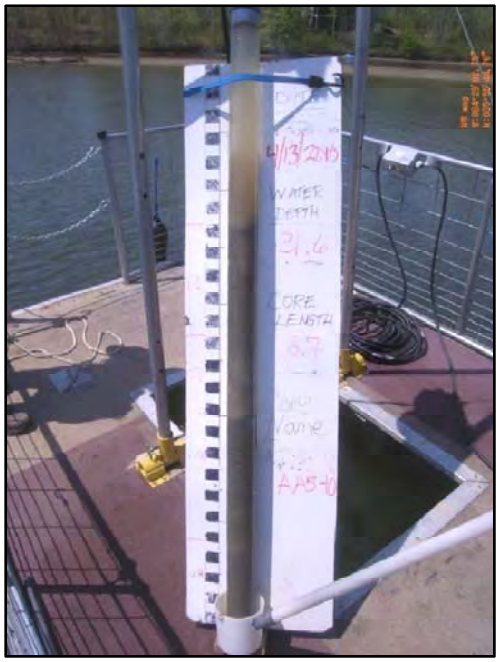
Core 49(-8)
Total core depth = 5.2’
Ash thickness = 0.0’
Water depth = 1.5’

Core 50(-8)
Total core depth = 1.5’
Ash thickness = 0.8’
Water depth = 31.3’

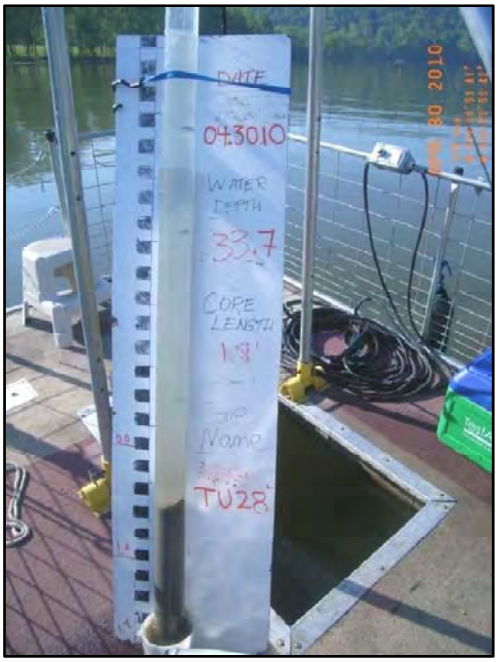
Core 51(-8)
Total core depth = 3.2’
Ash thickness = 0.0’
Water depth = 4.7’

Vibecore Sampling Photos

Above Above Segment 5 Dredge Area 4



Core AA5-10
Total core depth = 3.7’
Ash thickness = 0.0’
Water depth = 31.6’



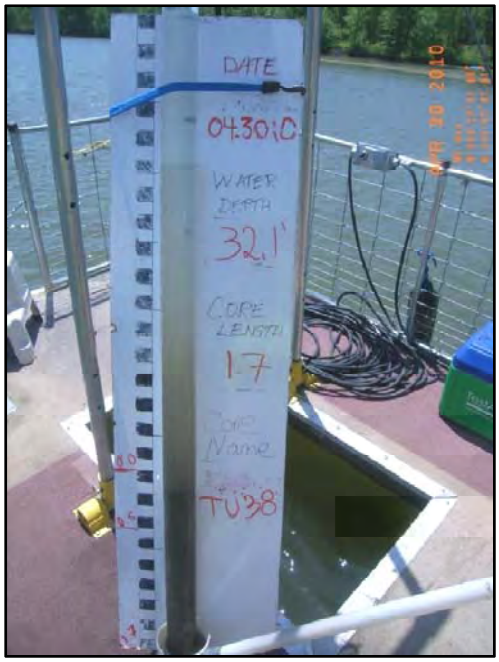
Core TU-28
Total core depth = 1.8’
Ash thickness = 1.0’
Water depth = 33.7’

Core TU-32
Total core depth = 1.1’
Ash thickness = 0.8’
Water depth = 33.1’

Core Tu-33
Total core depth = 0.7’
Ash thickness = 0.0’
Water depth = 28.2’

Vibecore Sampling Photos

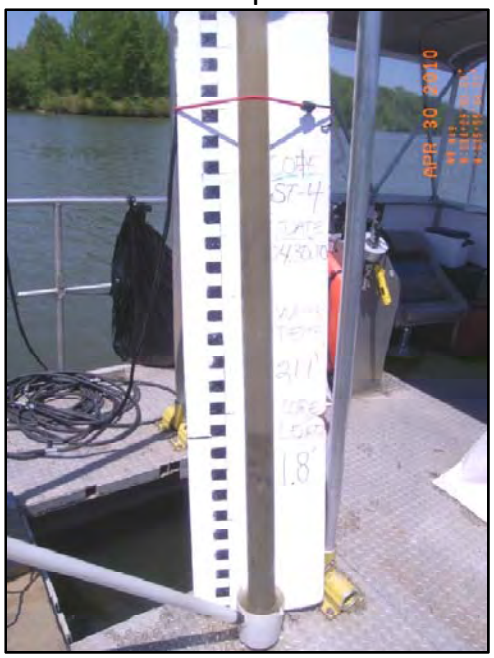
Above Above Segment 5 Dredge Area 4



Core TU-38
Total core depth = 1.7’
Ash thickness = 0.5’
Water depth = 32.1’

Core ST-10
Total core depth = 1.8’
Ash thickness = 0.8’
Water depth = 31.3’

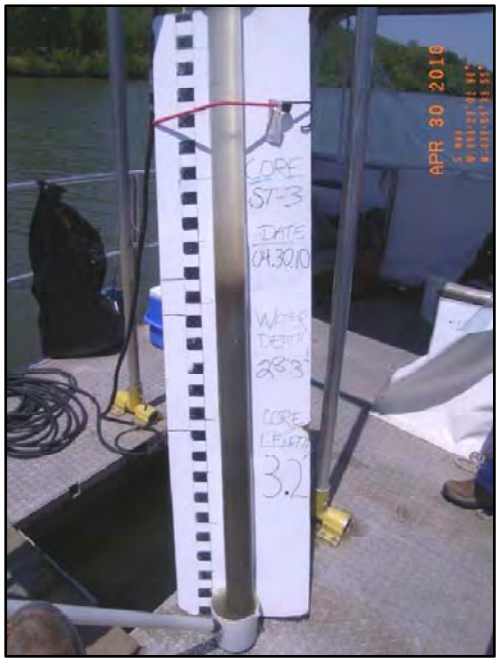
Core ST-5
Total core depth = 4.0’
Ash thickness = 0.0’
Water depth = 21.3’



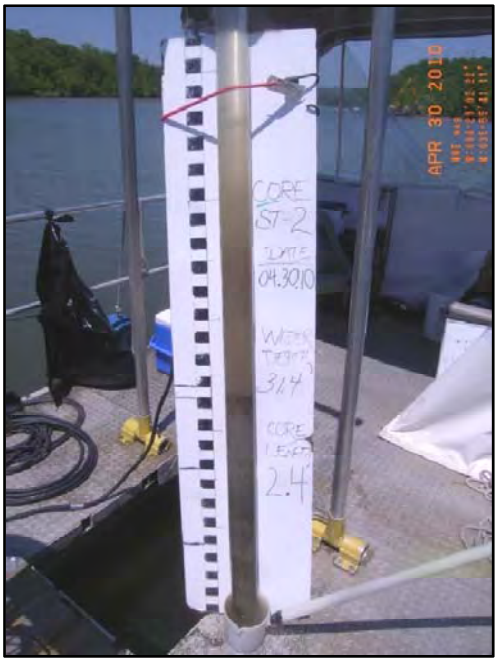
Core ST-4
Total core depth = 1.8’
Ash thickness = 0.0’
Water depth = 21.1’

Vibecore Sampling Photos

Above Above Segment 5 Dredge Area 4



Core ST-3
Total core depth = 3.2’
Ash thickness = 1.0’
Water depth = 28.3’



Core ST-2
Total core depth = 2.4’
Ash thickness = 0.6’
Water depth = 31.4’

Core ST-1
Total core depth = 2.9’
Ash thickness = 0.0’
Water depth = 28.8’