Agreement Log #: KIF-10-045

Time-Critical Concurrence

Area:
Emory River, Segment Above 5, Grids C-116 to C-118 and D-116 to D-118

Agreement:

Ash removal activities have been completed in Segment Above 5, Grids C-116 to C-118 and D-116 to D-118.

Documentation for completion of the grids includes a combination of a) results of post dredging bathymetric survey and b) dredge shift records indicating that dredging operations had reached refusal prior to the targeted depth which indicates that material too massive or durable to be hydraulically dredged, such as bedrock or native sediments, were encountered higher than projected from the U.S. Army Corp of Engineers pre-spill bathymetry.

a) The post dredging bathymetric survey on 5/19/10 has been used to calculate the depth between dredge surface and estimated river bottom for all the listed grids. The survey indicates that all of grids C-116, C-117 and C-118 were dredged to within 0 to 0.5 ft of targeted pre-spill surface and that the remaining area did not reach that surface. The survey also indicates that the a portion of D-116 and the eastern half of D-117 and D-118 were dredged to 0 to 0.5 ft of targeted pre-spill bathymetry.
b) The area was originally dredged by the *Addison* (aka *Ace*) dredge and then dredged again by the *Shirley* with its longer ladder. Both the *Shirley* and the *Addison* are equipped with GPS and excavation controlling software for precision dredging to the pre-spill bathymetry which shows on the operators screens as and is mentioned as the "green line" in the dredge logs. The attached *Addison* and *Shirley* dredge shift reports document times and areas where the hydraulic cutter-head dredge met refusal in the attempt to reach targeted dredge depth in all listed grids.

These results indicate that there is no remaining recoverable ash in Segment Above 5, Grids C-116 to C-118 and D-116 to D-118.

Attachments:
Figure 5, Ash Remaining to Pre-Spill Surface in Above Segment 5, dated 3/3/10
Figure 1, Ash Remaining Through Sevenson 05/19 Survey, dated 5/19/10
Figure 1, Bathymetry Removal Areas –Segment A5, dated 5/20/10
Segment Above 5, Daily Dredge Logs – *Addison* 4/23/10 to 4/28/10 & *Shirley* 5/6/10 to 5/8/10

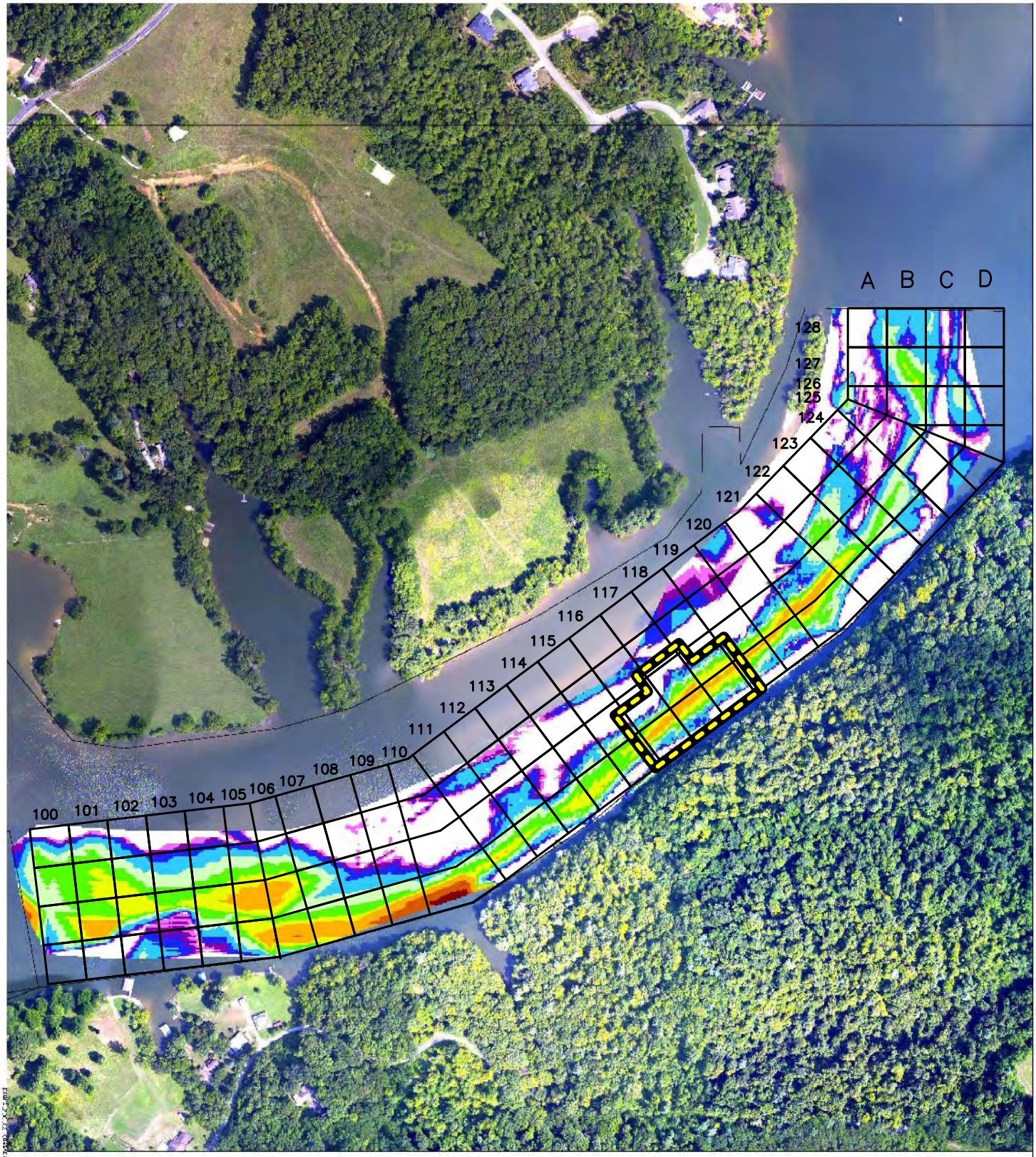
Concurrence Comments:

Julia L Pfuhl — Jacobs Project Manager — 5/21/10 Date

Kathryn Nash — Tennessee Valley Authority — 5/21/10 Date

[signature] — U. S. Environmental Protection Agency — 5/21/10 Date

consulted w/ TDEC



Legend

Ash Remaining: ~184,467 cy

- 0 - 1 inch; ~23 cy
- 1 - 6 inches; ~903 cy
- 6 inches - 1 ft; ~2,432 cy
- 1 - 2 ft; ~7,804 cy
- 2 - 4 ft; ~25,576 cy
- 4 - 6 ft; ~34,111 cy
- 6 - 8 ft; ~41,299 cy
- 8 - 10 ft; ~34,748 cy
- 10 - 15 ft; ~28,775 cy
- 15 - 20 ft; ~6,673 cy
- >20 ft; 2,123 cy

Area of Interest

DRAFT

0 200 400 Feet

1:1,200

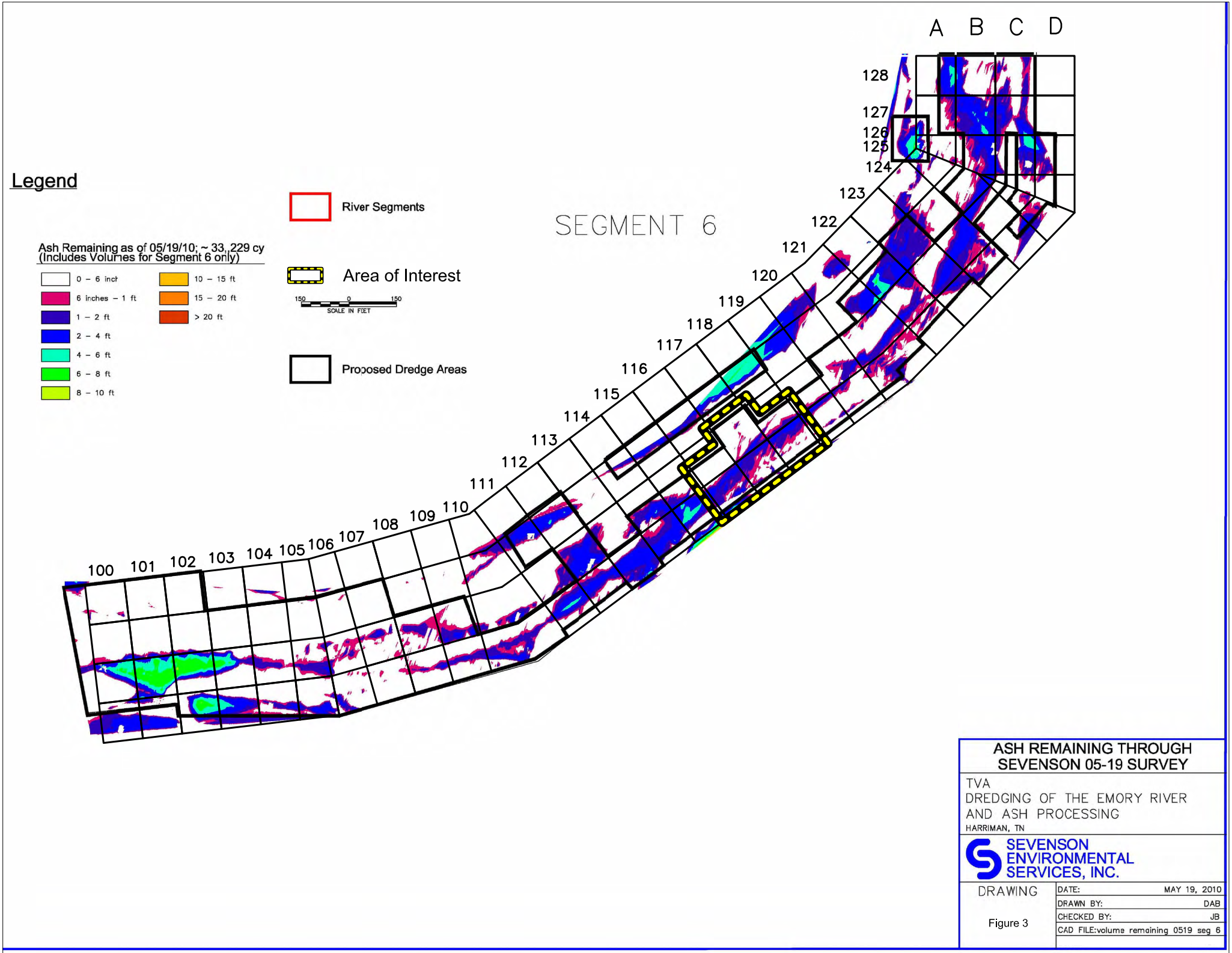
N

JACOBS

Ash Remaining to Pre-Spill Surface Above Segment 5

NAVE streets | DATE 03/02/2010

Figure 4



ASH REMAINING THROUGH SEVENSON 05-19 SURVEY

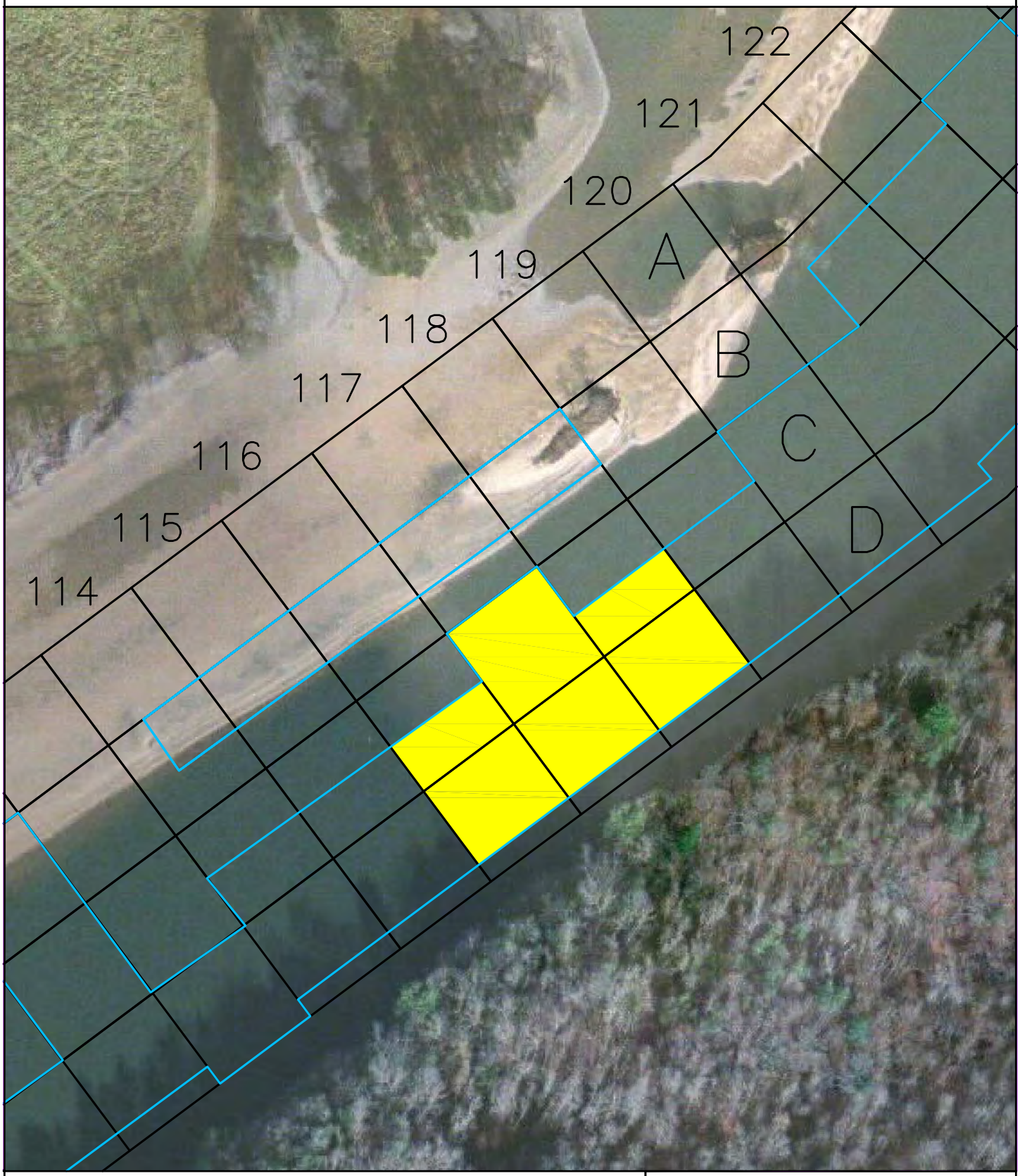
TVA
DREDGING OF THE EMORY RIVER AND ASH PROCESSING
HARRIMAN, TN

SEVENSON ENVIRONMENTAL SERVICES, INC.

DRAWING
Figure 3

DATE:	MAY 19, 2010
DRAWN BY:	DAB
CHECKED BY:	JB
CAD FILE:	volume remaining 0519 seg 6

Bathymetry Removal Areas - Above Segment 5



Removed From Plan

Phase 2 Dredging Path

0 75 150 300

SCALE IN FEET

N

JACOBS™

05/20/10

Figure 1

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge ADDISON

Day Fri.

Date 4-23-10

Dredge Shift: Days

Hours: 672

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	7:00	-	:45		1720	75	ED	Meetings Inspection Service
8:45	10:50	2:35	:30		"	"	"	Clean Cutter Head
11:20	12:15	:55			"	"	"	Working on Computer
~~12:50~~		~~:20~~			"	"	"	
12:35		~~:20~~	:20		"	"	"	
	13:50	~~1:25~~	1:00		"	"	"	Moving ANCHORS
14:50	15:10	:20	~~:10~~		"	"	"	Working On Comp.
15:20	16:10	:50	:35		"	"	"	GPS Break & Clean Cutter H.
16:45	18:45	1:00	:45		"	"	"	WASH OUT - Clean Cutter H.
	19:30		:45					Shift END
		7:00	~~3:40~~ 4:00		Total Hours			~~10:40~~ 11:00 12:00

Conditions:

Initial Flyash Thickness See Back Ft 500

Vegetation Light ☒ Medium ☐ Heavy ☐

Debris Light ☐ Medium ☒ Heavy ☐

# of Blockage Clears 3

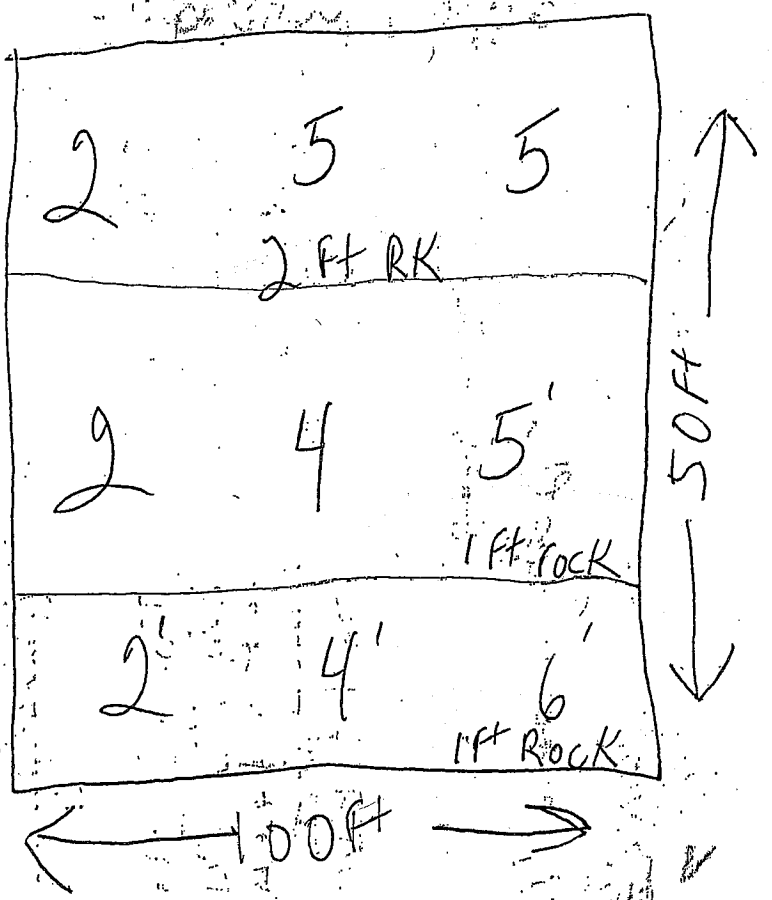
Area Dredged: 118 C & D 08

Shift Start X 2448508 Y 560017

Shift End X 2448471 Y 559986

Tons Start N/A Tons End N/A

Comments:


2
5
5
2 Ft RK
2
4
5'
1 Ft rock
2'
4'
6'
1Ft Rock
50Ft
100Ft

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Adison

Nights ~~Day~~ 4-23-10

Date

Dredge Shift: Nights

Hours: 683

H.J.H.

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
7:00	2:00	0	1½					MANTINES / checkout Dredge / grease
8:30	2:00	5½	1					Check cutter Head / clean Rock Box / move Anchors
3:00	5:20	2 20	20					
5:40					1725	70	Brian & Harry	
					Total Hours			

Conditions:

Initial Flyash Thickness 9 Ft

Vegetation Light ☐ Medium ☐ Heavy ☑

Debris Light ☐ Medium ☐ Heavy ☑

# of Blockage Clears 1

Area Dredged: 118C 118D

Shift Start X 2448471 Y 559986

Shift End X 2448399 Y 559958

Tons Start

Tons End

Comments:

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Day Sat
Date 4-24-10

Dredge ADDISON

Dredge Shift: Days

Hours: 693

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	7:00		115		1720	75	ED	Meetings Inspection Service
8:15	8:55	:40	20					Get Slack & ~~Move Anchor~~
9:15	11:55	2:40	15					Booster 1 (Packing)
1210	12:30	:20	6:30					Shut Down Lightning
2 30	~~7:00~~ 700		5					Crew Left @ 3 PM
		3:40	8:20			Total Hours	12	

Conditions:

Initial Flyash Thickness See Back Ft

Vegetation Light ☑ Medium ☐ Heavy ☐

Debris Light ☑ Medium ☐ Heavy ☐

# of Blockage Clears 0

Area Dredged: 117 C&D

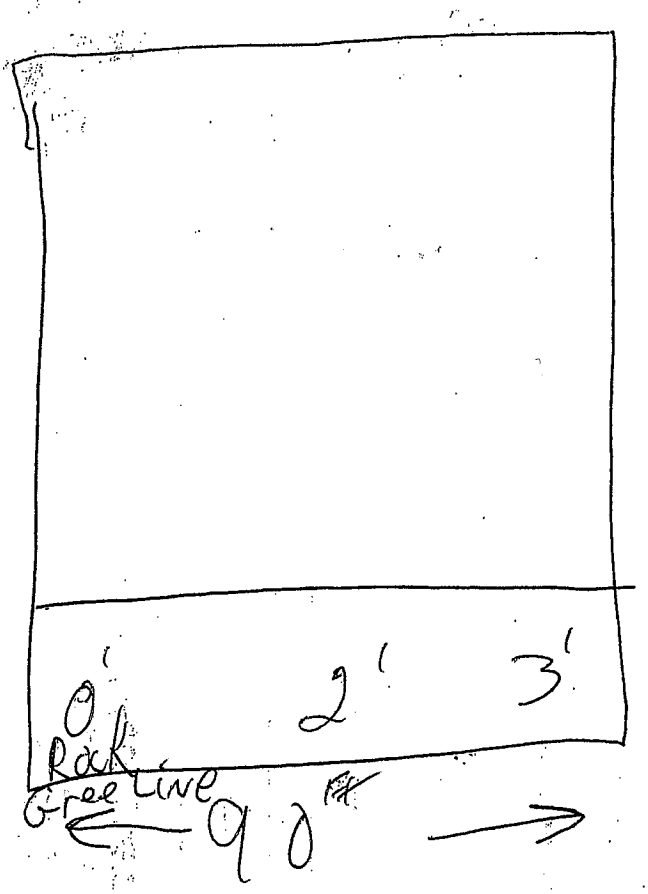
Shift Start X 2448399 Y 559958

Shift End X 2448388 Y 559939

Tons Start N/A

Tons End N/A

Comments: I think we need a Different Dredge in this area because we are having to go to deep on the inclineometer to reach Green Line (73°) I think we push the dredge backwards when we are so Deep.


0'
2'
3'
Rock
Gree Line
90'

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge #5 Addison

Day Monday Night

Date 04/26/10

Dredge Shift: Night

Hours: 708

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	1900	N/A	1:25	N/A	1720	75	JL	Shift Change/Equip. Inspect/Prime
2025	2100	:35	:10	N/A	"	"	"	Gasket blew out of Rock Box
2110	2248	1:38	:17	N/A	"	"	"	Booster #2 tightening Packing gland/fixing leak
2305	0010	1:05	1:24	Booster #2	"	"	"	Booster #1-Adjusting Clutch (slipping)
"	"	"	"	Booster #2	"	"	"	Booster #2-Replacing Packing
01:34	0700	5:26	N/A	N/A	"	"	"	End Shift
		8:45			Total Hours			

Conditions:

Initial Flyash Thickness _____ Ft

Area Dredged: 177 C-D

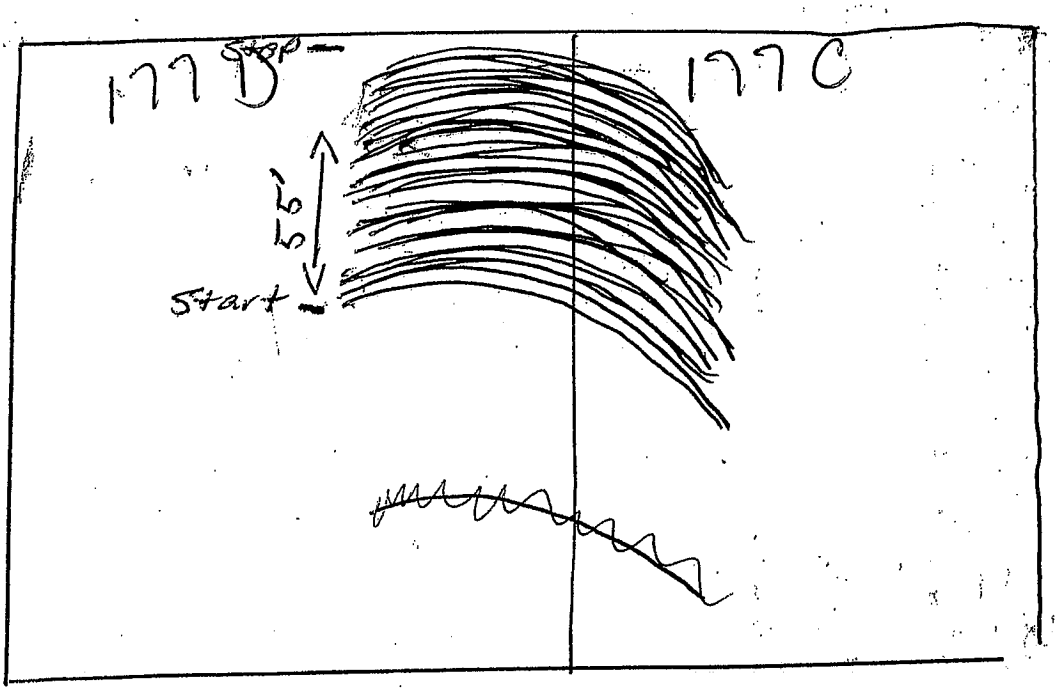
Vegetation	Light	☐	Medium	☑	Heavy	☑	Shift Start X 2448345
Debris	Light	☐	Medium	☑	Heavy	☑	Y 559919

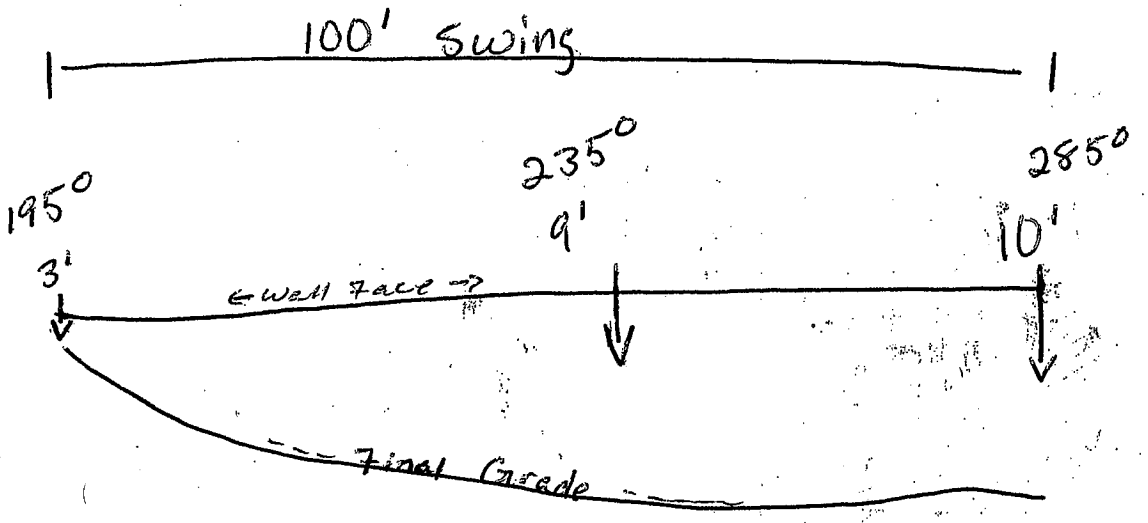
Shift End X 2448306 Y 559868

# of Blockage Clears _____

Tons Start _____ Tons End _____

Comments: 250°-285° Not enough ladder to make grade.
195°-248° Heavy Rocks just below or at grade.


177 B
Stop
177 C
55'
Start


100' swing
195°
3'
235°
9'
285°
10'
← wall face →
Final Grade

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Day Monday

Date 4/26/10

Dredge "ACE"

Dredge Shift: Day

Hours:

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
—	0700	—	2:15	—	1720	75	JM	Meeting, inspection, service, bilge work boats
0915	1230	3:15	1:10	—	"	"	"	(1230-1320) Shift anchors, (1320-1340) clean cutter
1340	1510	1:30	:30	—	"	"	"	Pump water to add anchor to line
1540	1600	:50	:30	—	"	"	"	GPS lost signal
1630	1720	:50	:25	—	"	"	"	Pump Choke
1745	1830	:45		—	"	"	"	Re-place spud cable, clean cutter
	1900		:30	—				Shift End
		7:10	4:50		Total Hours			

Conditions: 7 ft x 50 ft wide } x 46 ft distance

Initial Flyash Thickness 4 Ft x 44 ft wide

Area Dredged: 117 C & D

Vegetation Light ☑ Medium ☐ Heavy ☐

Debris Light ☐ Medium ☑ Heavy ☐

# of Blockage Clears

Shift Start X 2448388 Y 559939

Shift End X 2448345 Y 559919

Tons Start

Tons End

Comments: Channel was 692-695 but the dredge only would dig to 695.80 or 43.99 ft deep.

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge "ACE"

Day Tuesday

Date 4/27/10

Dredge Shift: DMJ

Hours:

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
—	0700	-	1:00	-	1720	75	EH	Meeting, inspection, service
0800	09:25	1:25	:15	—	"	"	"	Replace Spud Cable
0940	11:25	1:45	:50	—	"	"	"	Shift ANCHORS + Get Slack
1215	15:55	3:40	:30	-	"	"	"	GPS Lost Signal
1625	1840	2:15	:20	—	"	"	"	Clean cutter, check pump
	1900							End of shift
		9:05	2:55		Total Hours			

Conditions:

Initial Flyash Thickness 2 Ft × 45 ft / 100 ft swing } 47 ft distance (6 ft × 55 ft)

Area Dredged: 116 C + D

Vegetation Light ☐ Medium ☐ Heavy ☐

Debris Light ☐ Medium ☑ Heavy ☐

# of Blockage Clears 1

Shift Start X 2448306 Y 559868

Shift End X 2448260 Y 559853

Tons Start

Tons End

Comments: Rocks all along green line for about 30ft on Port side we still couldn't dig to the green line at bottom of channel because it was deeper than 44 ft.

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge: Addison

Day: Tuesday Night

Date: 4-27-10

Dredge Shift: Nights

Hours: 729

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	1900	N/A	N/A hr	N/A	1720	75	JC/JP	Shift Change / Inspection
2000	2010	:10	:24	N/A	"	"	JC/JP	Cable wrapped around cutterhead
2034	2230	1:56	1:10	"	"	"	"	Shifting Anchors / Anchor Post Pulled in
2340	0035	:55	:20	"	"	"	"	Clean Cutter Head / Removed large Rocks & Fish Nets
0055	0121	:26	1:19	"	"	"	"	Reset Portside Anchor
0240	0700	0420	N/A	"	"	"	"	End Shift
		7:47	3:13		Total Hours	7:47		

Conditions:

Area Dredged: 116 C-D

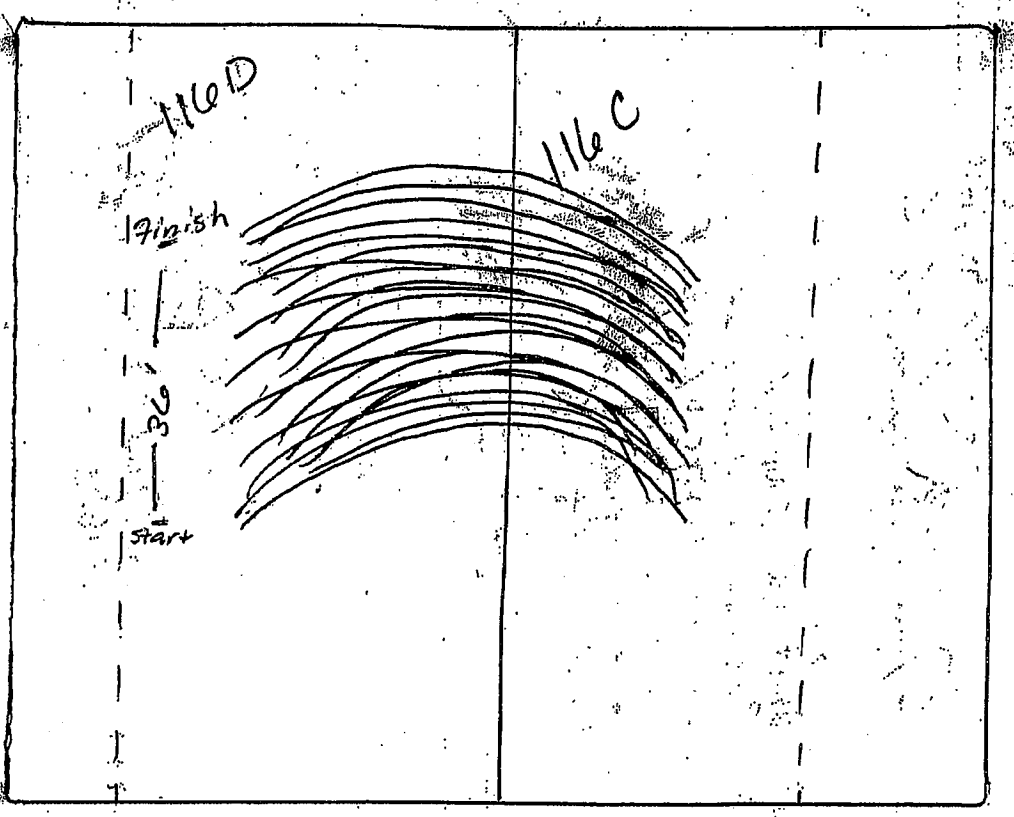
Initial Flyash Thickness _____ Ft

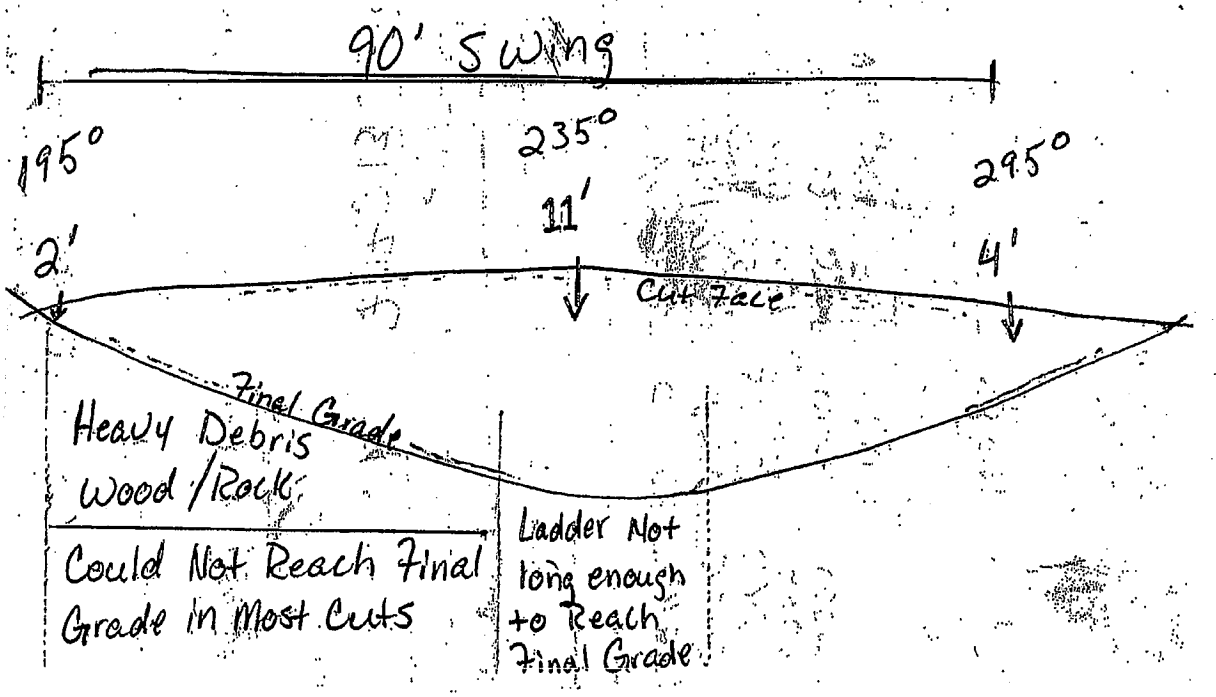
Vegetation	Light	☐	Medium	☑	Heavy	☑	Shift Start X 2448260 Y 559853
Debris	Light	☐	Medium	☑	Heavy	☑	Shift End X 2448233 Y 559831

# of Blockage Clears _____

Tons Start _____ Tons End _____

Comments: 195°-230° Heavy Debris. Could not make Final Grade in most cuts.
230°-245° Ladder Not long enough to reach Final Grade.
Full Cut has good, heavy Material. lots of wood & Rocks.


116D
116C
Finish
30'
Start


90' Swing
195°
235°
295°
2'
11'
4'
Cut Face
Final Grade
Heavy Debris
Wood / Rock
Could Not Reach Final
Grade in Most Cuts
Ladder Not
long enough
to Reach
Final Grade

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge #5 Addison

Day Wed. Night

Date 04/28/10

Dredge Shift: Night

Hours: 751

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	1900	N/A	1:20	N/A	1720	75	RL/JL	Shift Change / Equip. Inspect / Prime Pump.
2020	2040	1:20	:25	"	"	"	"	Pulled in Port Anchor
2105	100	0355	10					COMPUTER NO ~~single~~ signle RTK NSAT 4
110	320	210	25					SHIFT PORT ANCHOR
345	420	:35	10					SHIFT STB ANCHOR
430	0700	2:30	N/A	"	"	"	"	End Shift
		930	230		Total Hours			

Conditions:

Initial Flyash Thickness _____ Ft

Vegetation Light ☐ Medium ☑ Heavy ☑

Debris Light ☐ Medium ☑ Heavy ☑

# of Blockage Clears _____

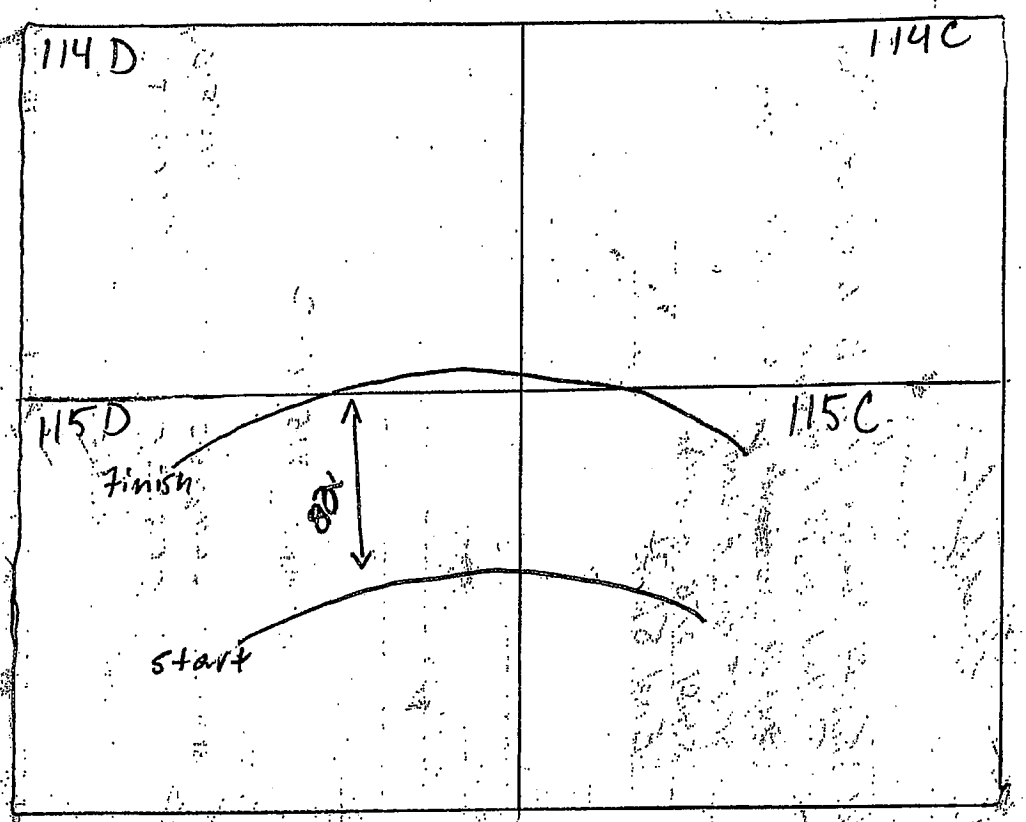
Area Dredged: 115 C-D

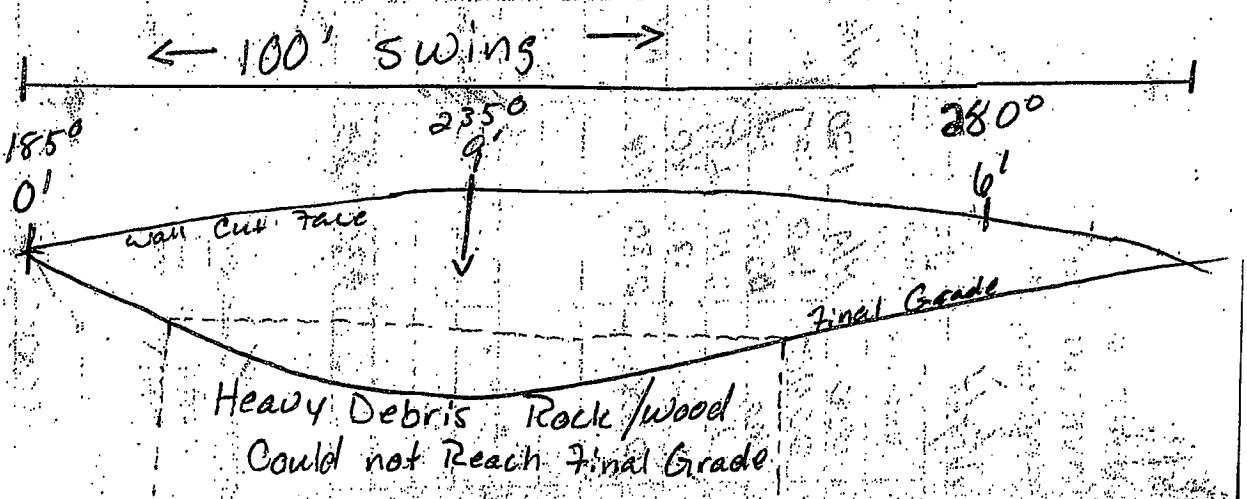
Shift Start X 2448182 Y 559795

Shift End X 2448100 Y 559731

Tons Start _____ Tons End _____

Comments: Rocky Bottom


114 D
114 C
115 D
115 C
finish
start
8'


← 100' swing →
185°
0'
235°
9'
280°
6'
wall cut face
Final Grade
Heavy Debris Rock/wood
Could not Reach Final Grade

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge ADDISON

Day Wed.

Date 4-28-10

Dredge Shift: DAYS

Hours: 741

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	7:00		1:05		1720	75	JM	Meetings-Inspection-Service
8:05	0955	1:50	:40		"	"	JM	Booster Pump Service
10:35	1435	4:00	:15		"	"	JM, EH	E-Trac
1450	1515	:25	1:00				EH	Shift Anchors & GPS Break
1615	1840	2:25					EH	Clean cutter, washout
	1900		:20				EH	End of Shift
		8:40	3:20		Total Hours			

Conditions: See Back

Initial Flyash Thickness _____ Ft

Vegetation Light ☑ Medium ☐ Heavy ☐

Debris Light ☒ Medium ☐ Heavy ☑

# of Blockage Clears Ø

Area Dredged: 116 C+D

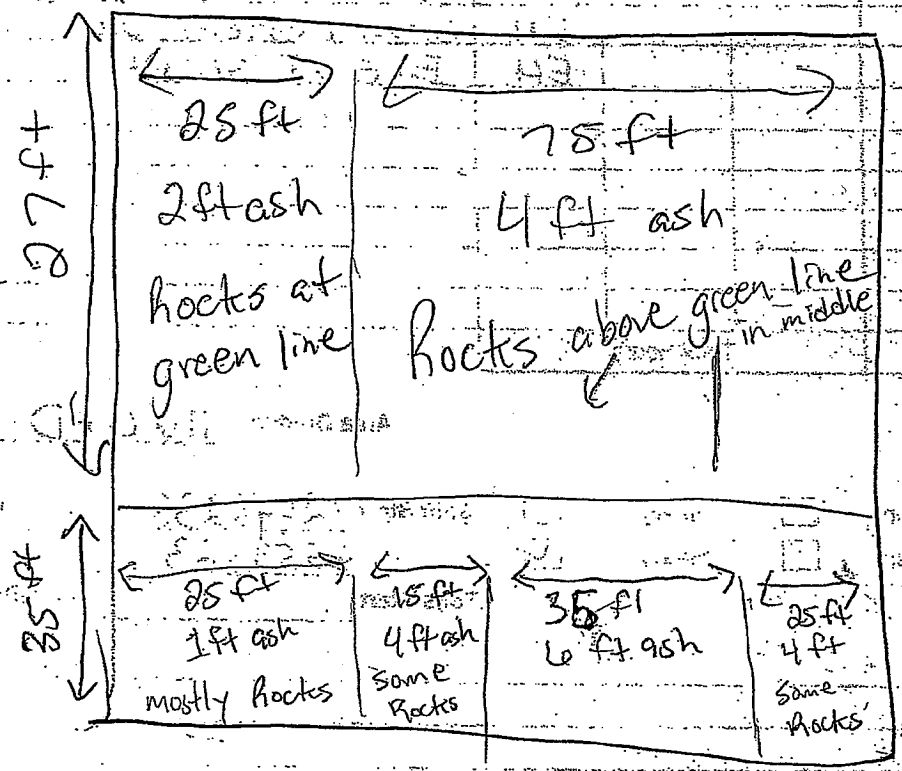
Shift Start X 2448238 Y 559823

Shift End X 2448182 Y 559795

Tons Start _____

Tons End _____

Comments:



Down 42.5 to Rock Bottom

698.

692 – Green Line

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Shirley

Day Thursday

Date 5-6-10

Dredge Shift: Day

Hours:

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
700	810		110		1650	80		
810	820	10	100					PULLED ANCHOR LINE AND TREE OFF BANK
9:20	9:45	25	20					STARTED DREDGING
1005	10:15	10	05					TORE OF A TREE WITH ANCHOR LINE
10:20	10:30	10	10					[redacted] STOPPED TO RAISE DREDGE TO PUMP SIDE
10:40	[redacted]	1100 20	15					[redacted] move port anchor
11:15	1425	310	05					[redacted] computer
1430	1435	05	05					COMPUTER ADJUSTMENT
1440	1520	140	25					[redacted] Computer Spinning
1545	1710	125	25					clean booster one, move stb wire forward
1745	1850	105	20					flush line
	1910							shift change
		840	420		Total Hours			

Conditions: 4 1ft

Initial Flyash Thickness 2ft Ft

Area Dredged: 115D

Vegetation	Light	☐	Medium	☐	Heavy	☐	Shift Start X 2448136 Y 559733
Debris	Light	☐	Medium	☐	Heavy	☐	Shift End X 2448268 Y 559833

# of Blockage Clears 0

Tons Start 167650 Tons End 167996

Comments: rocky bottom in alot of spots 2 to 3 ft shy of grade morning
1 to 1.5 ft shy of grade in evening

731-307-7693

Joe you can call me in the morning Clay

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Shirley

Day THURSDAY

Date 5-6-2010

Dredge Shift: Night

Hours: 1483

Buddy J. Damon

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	1930		30					Service dredge
2000	2055	55	235					Put Anchor to Bar behind Wit on hoe
2330	0005	35	10					Clean Cutter AND BOOSTER J
0025	0025	0	20					LOST SATTELITES
0045	0230	1.45	35					MOVE STARBOARD ANCHOR
0305	0405	1.0	155					Wit on Hoe barge to move port S/A
0600	0630	30						Cannot Get ahead due to S/A See Comments
		4.45			Total Hours			

Conditions:

Initial Flyash Thickness 3' Ft

Area Dredged: 116C-116D

Vegetation Light ☐ Medium ☐ Heavy ☐

Debris Light ☐ Medium ☐ Heavy ☐

# of Blockage Clears

Shift Start X 2448268 Y 559833

Shift End X 2448380 Y 559923

Tons Start 167996

Tons End 168895

Comments: NOTE!! Called Hoe barge @0320 TO Move port S/A. Said it would be 2 b.t. Called again @0400! At 0550 Hoe barge Said he was tied @ North Dock & going home. Based dragging dredge till 0615. Port S/A behind Stern of dredge - Further Swinging will Cause Damage to spud coming out of Starboard TOE!

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge SHIRLEY

Day FRI

Date 5/7/10

Dredge Shift:

Hours:

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
7:00	7:30				1640	80	JRG	MAINT. OF DREDGE OIL, GREASE ETC
7:30	8:35					" "	JRG	DREDGING
8:35	9:07						JRG	SETTING THE ANCHOR
9:07	9:45						JRG	PULLED OUT ANCHOR WAITING FOR [redacted]
9:45	11:24						JRG	WORKING AND PLACING AND
11:40	14:40						JRG	START DREDGING
14:46	16:11						JRG	MOVE ANCHOR FOR TVA BARGE; SHIFT DOWN
15:20	15:45						JRG	COMPUTER DREDGE SHUNNG
16:11	~~16:20~~ 18:35						JRG	[redacted] ~~COMPUTER WENT DOWN~~ DREDGING
18:40	19:00							SHUTTING DOWN FOR THE EVENING
				Total Hours	12			

Conditions:

Initial Flyash Thickness 1-3 Ft

Vegetation Light ☑ Medium ☐ Heavy ☐

Debris Light ☐ Medium ☑ Heavy ☐

# of Blockage Clears

Area Dredged: 1170

Shift Start X 2448380 Shift End X 2448438

Y 559923 Y 559997

Tons Start 168895 Tons End 169143

Comments:

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Shirley

Day FRIDAY

Date 5-7-10

Dredge Shift: Night

Hours: 1505

Buddy / Damon

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	1945		20					Service Dredge
2005	2050	:45	2:40					Pipeline tight can't get ahead Move pipeline
2300	2340	:40						Secure Dredge
		1:25			Total Hours			

Conditions:

Initial Flyash Thickness 3 Ft

Area Dredged: 118C-118D

Vegetation	Light	☐	Medium	☑	Heavy	☐	
Debris	Light	☐	Medium	☑	Heavy	☐	

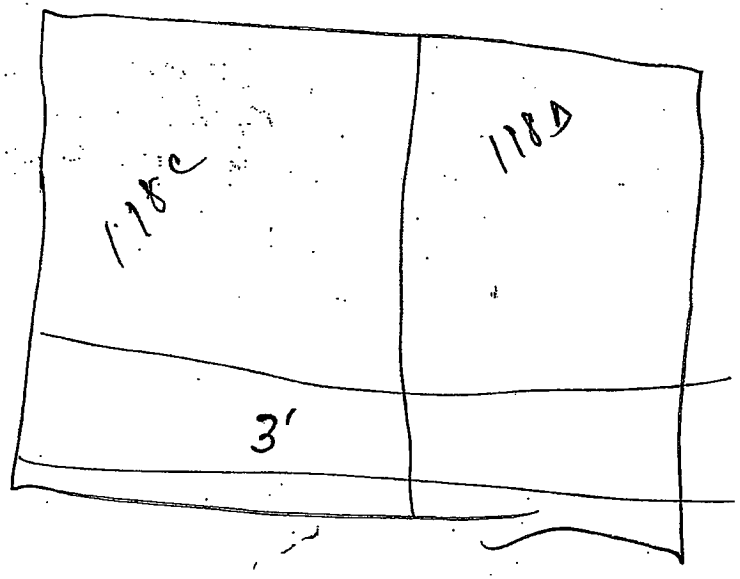
# of Blockage Clears ____

Shift Start X 2448438 Shift End X 2448472

Y 559997 Y 560008

Tons Start 169143 Tons End 169343

Comments: NOTE: Pipeline tight between dredge & booster 1 No slack between booster 1 & 2 To enable moving booster 1 upriver. Hor barge has hole & sinking. Taken to Northdock For Assesment & Repairs



120 x 3 x 25 333 cy

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge SHIRLEY

Day SAT

Date 5-8-16

Dredge Shift:

Hours:

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
14:20	16:05	0						WORKING THE LADDER FOR JEFF WIEGAND
					Total Hours			

Conditions:

Initial Flyash Thickness _____ Ft

Vegetation Light ☐ Medium ☐ Heavy ☐

Debris Light ☐ Medium ☐ Heavy ☐

# of Blockage Clears _____

Area Dredged: NONE

Shift Start X 2499472 Shift End X 2498472

Y 560008 Y 560005

Tons Start ~~560008~~ 169343 Tons End ~~560005~~ 169343

Comments: JUST RUNNIG HYDRAULIC MOTOR TO CALIBRATE LADDER

Sevenson Environmental Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Shirley

Day SATURDAY

Date 5-8-10

Dredge Shift: Night

Hours: 1509

Buddy / Damon

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	1945		25					Service dredge
2010	2110	1.0	15					Clean Cutter
2125	~~2140~~	0		15				Repack booster 1 pump
2140	2200	20	10					Move port C/A
2210	2230	20	25					Move Stob S/W
2255	0005	1.10	30					Lost Satellites
~~0035~~	~~0450~~	~~1.40~~		3.0				Work on Port Sleave/Replace port Swing Sleeve
0405	0630	2.25		30				WASHOUT
	0730		10					
		6.35	~~4.45~~	1.15	Total Hours			

Conditions:

Initial Flyash Thickness 2' Ft

Vegetation Light ☐ Medium ☐ Heavy ☐

Debris Light ☐ Medium ☐ Heavy ☐

# of Blockage Clears ____

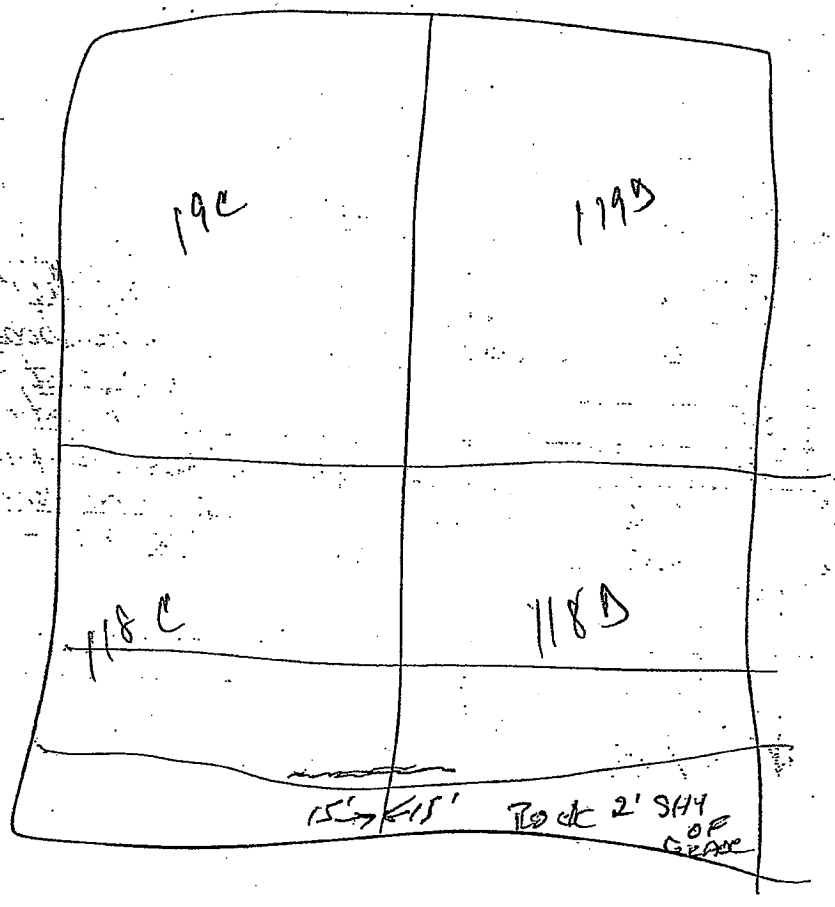
Area Dredged: 118C-118D 119C-119D

Shift Start X 2448472 Shift End X 2448614

Y 562008 Y 560111

Tons Start 162343 Tons End 170200

Comments: X2448461 Y560001 from 4 of 118C-118D 15' to Equ. Cannot reach Grade. Rock 3' from bottom



195 X 2 X 115

761 CY