

Time-Critical Concurrence

Area:

Emory River, Segment 1, B-28 through B-30, C-28 through C-30 and D-28 through D-30

Agreement:

Ash removal activities have been completed in Segment 1 for dredge grids B-28 through B-30, C-28 through C-30 and D-28 through D-30.

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. The dredging of this area was delayed until May because of its use as a docking area throughout the ash removal from the Emory river. The area was then targeted with both hydraulic dredging and mechanical dredging from the shore and the barge mounted excavator equipped with a clam-shell bucket.

- a) The post dredging bathymetric survey on 6/28/10 has been used to calculate the depth between current surface and the modeled pre-spill river bottom for all the listed grids. The survey indicates that all of the area has been dredged, approximately 60% of the area was dredged to within 0 to 0.5 ft of targeted pre-spill surface and that the remaining area shows a linear trend with 1 to 2' of material indicated as remaining.
- b) The Addison dredged the area from May 24th through May 26th. The final pass of hydraulic dredging was performed by the Addison 14" dredge in June. The attached 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 1 for dredge grids B-28 through B-30, C-28 through C-30, and D-28 through D-30.

Attachments:

- Figure 5, Ash Remaining to Pre-Spill Surface Segments 1, 2, 3 and 5, dated 2/25/10.
- Figure 2, Ash Remaining Through Severson 06-28 Survey, dated 6/28/10.
- Figure 2, Bathymetry Removal Areas - Segment 1, B-28 through B-30, C-28 through C-30 and D-28 through D-30, dated 6/28/10.
- Segment 1, Daily Dredge Logs – Addison Shifts: 5/24 day, 5/26 night, and 6/21/10 day shift to 6/25/10 night shift

Concurrence Comments:

Julia L Puff
Jacobs Project Manager

6/29/10
Date

Kathryn Dash
Tennessee Valley Authority

6/29/10
Date

Leo Franch
U. S. Environmental Protection Agency

6/30/10
Date

Consulted w/ TDEC



Legend

Ash Remaining: ~438,592 cy

- | | |
|----------------------------|------------------------|
| 0 - 1 inch: ~39 cy | 15 - 15 ft: ~61,785 cy |
| 1 - 6 inches: ~1,315 cy | 16 - 20 ft: ~62,820 cy |
| 6 inches - 1 ft: ~3,302 cy | > 20 ft: ~56,629 cy |
| 1 - 2 ft: ~14,177 cy | |
| 2 - 4 ft: ~45,426 cy | |
| 4 - 6 ft: ~57,924 cy | |
| 6 - 8 ft: ~57,980 cy | |
| 8 - 10 ft: ~46,704 cy | |

Proposed Dredge Area

Area of Interest

DRAFT

0 300 600

Feet 1:1,800



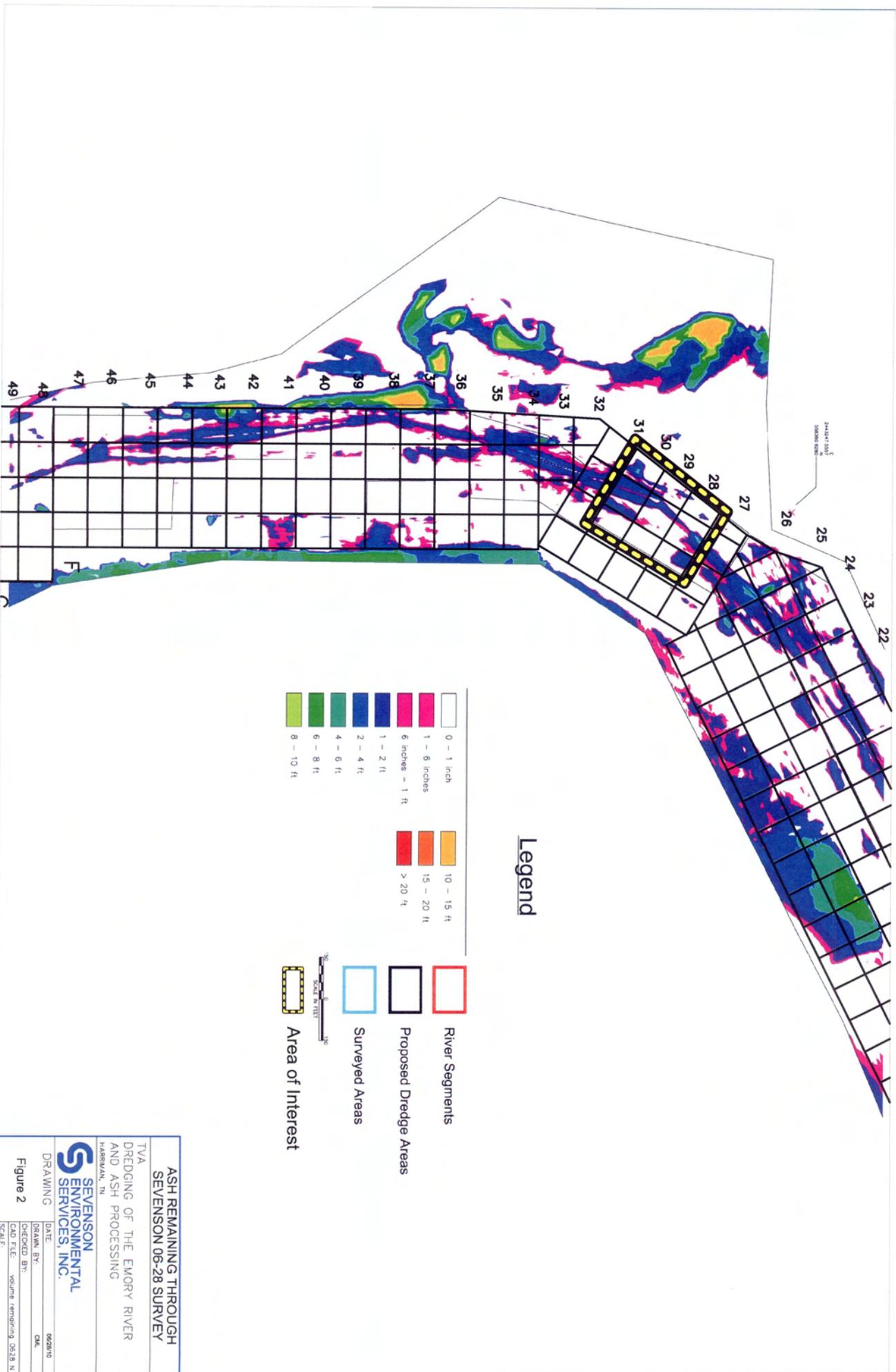
JACOBS

**Ash Remaining to Pre-Spill
Surface Segments 1, 2, 3, and 5**

NAME: croberis DATE: 6/25/2010

Figure 5

X:\SVA\Bentley\030_4500\301002626\0301002626.dwg: 11/15/10 11:52:45 AM



Legend

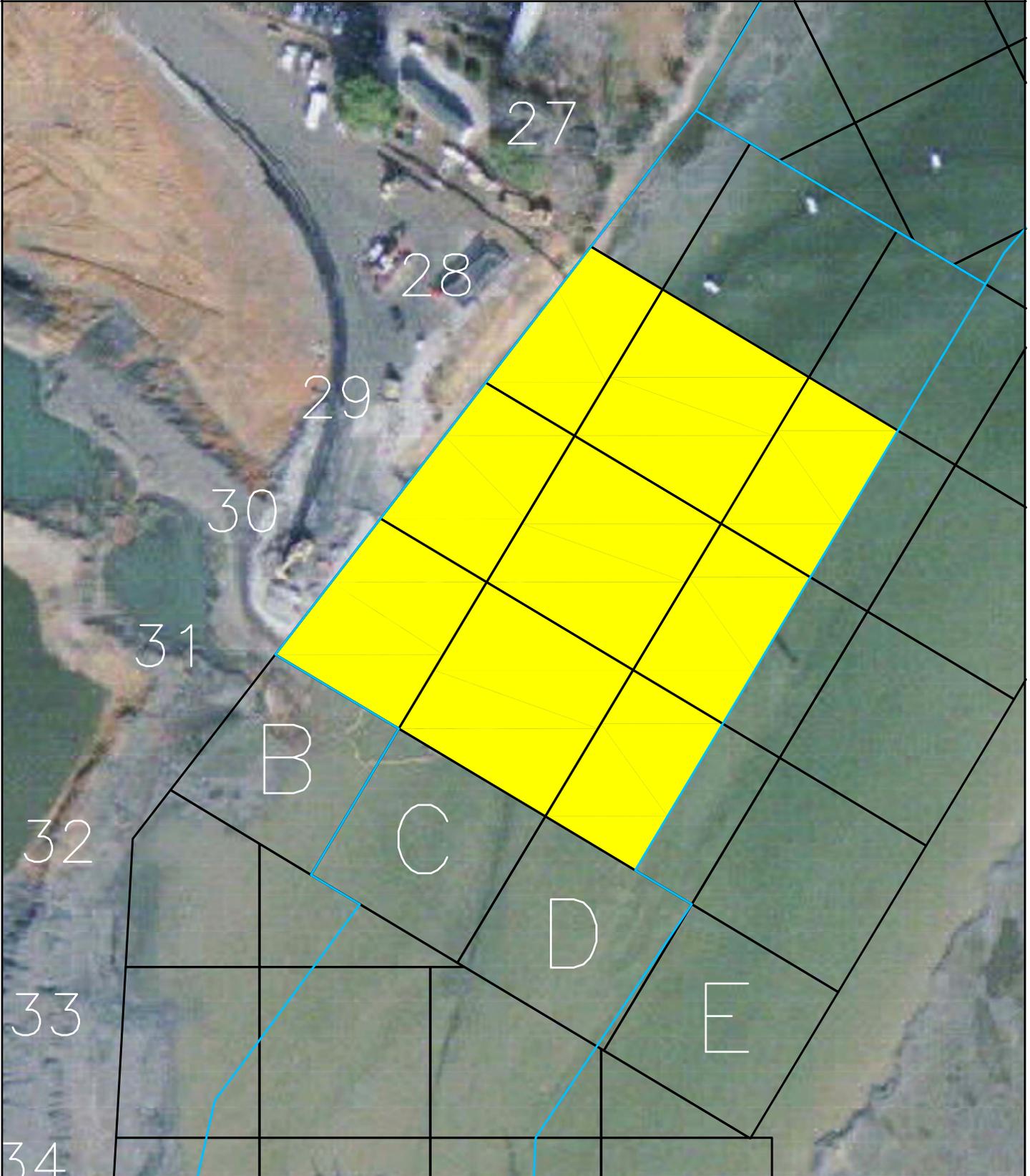
- 0 - 1 inch
- 1 - 6 inches
- 6 inches - 1 ft
- 10 - 15 ft
- 15 - 20 ft
- > 20 ft
- River Segments
- Proposed Dredge Areas
- Surveyed Areas
- Area of Interest



ASH REMAINING THROUGH SEVENSON 06-28 SURVEY	
TVA DREDGING OF THE EMORY RIVER AND ASH PROCESSING LABORERS, TN	
SEVENSON ENVIRONMENTAL SERVICES, INC.	
DRAWING	9/20/10
DATE:	06/28/10
DRAWN BY:	CML
CHECKED BY:	
CAD FILE:	volume_remaining_0628_N
SCALE:	

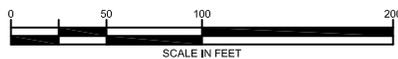
Figure 2

Bathymetry Removal Areas - Segment 1



Removed From Plan

E-trac Dredging Path



JACOBSTM

06/28/10

Figure 2

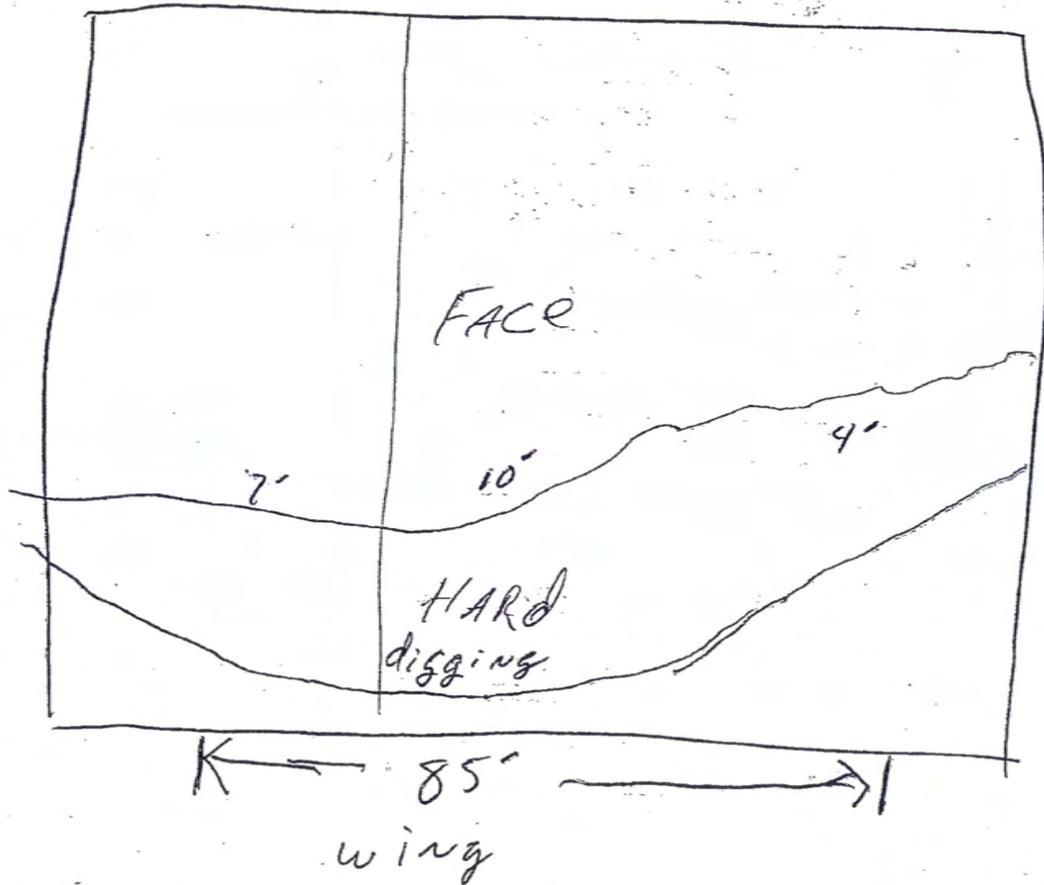
Steps

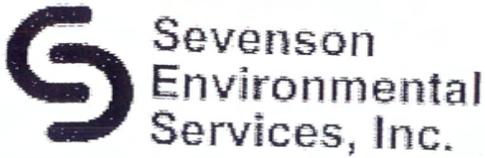
- 0810 - 20° 356 - 355
999 - 997 - 1/2 - 1 ft cuts
- 0859 - 20° 355 - 355
998 - 995 - 1/2 - 1 ft cuts
- (15 min shift anchor)
- 1018 - 15° 354 - 353
995 - 994 - 1 ft cut except for the last 4 ft of Channel Bottom
- 1102 - 15° 354 - 352
995 - 993 - Same as above
- 1200 - 12° 352 - 351
993 - 992 - 1 ft cuts
- 1240 - 10° 352 - 351
992 - 992 - too small of step, only dug bottom half of set
- 1307 - 20° 352 - 350
992 - 989 - too big of step, only could dig 1/4 - 1/2 ft at a time
- (30 min Pump Check)
- 1450 - 15° 349 - 348
990 - 989
- 1533 - 15° 348 ~~348~~ 348
989 ~~989~~ 988
- 1611 15° 348 347
988 987
- 1643 15° 347 346
987 986
- 1713 15° 346 345
986 985
- 1749 15° 345 345
986 984
- 1815 18° 345 343
985 985

5/28/10 - Day 5

29C

29B





DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Addison

Day Monday
Date 6-21-10

Dredge Shift: Day

Hours: 0700 - 1900

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	0700				1750	72	Jimmy B	Meetings Service - Add Pipes Move Dredge
1220	1340	1:20	5:20	5:20	{	{	EDH.	Clean Pump
1350	1850	5:00	:10		{	{		WASH OUT Check Cutter
			:10		{	{		END Shift
		6:20	5:40				Total Hours	2.

Conditions:

Initial Flyash Thickness

See Back Ft

Area Dredged:

300

Vegetation

Light

Medium

Heavy

Debris

Light

Medium

Heavy

of Blockage Clears

Shift Start X 2443258

Shift End X 2443281

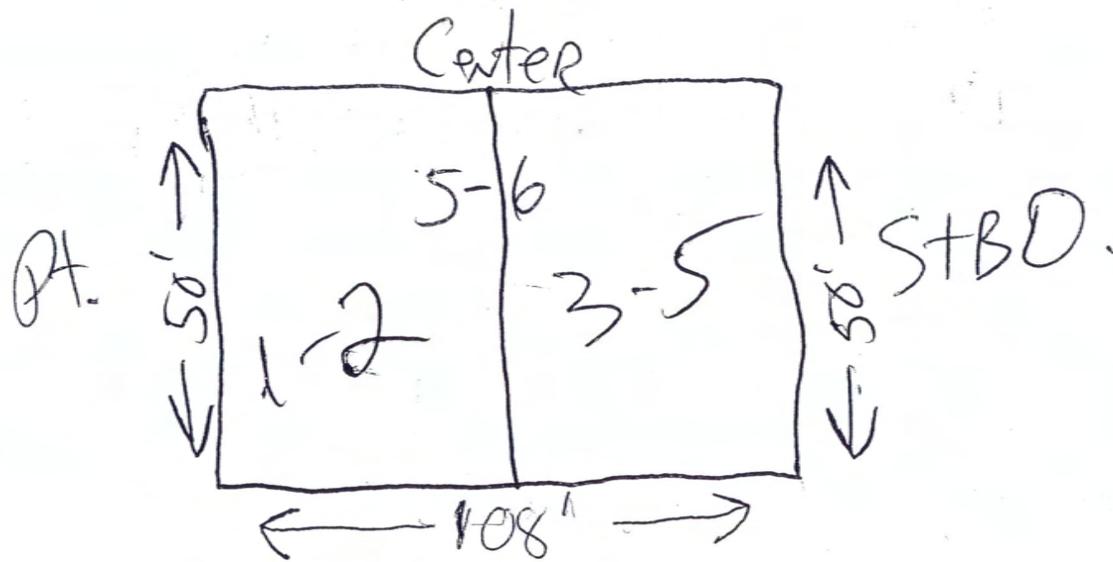
Y 557699

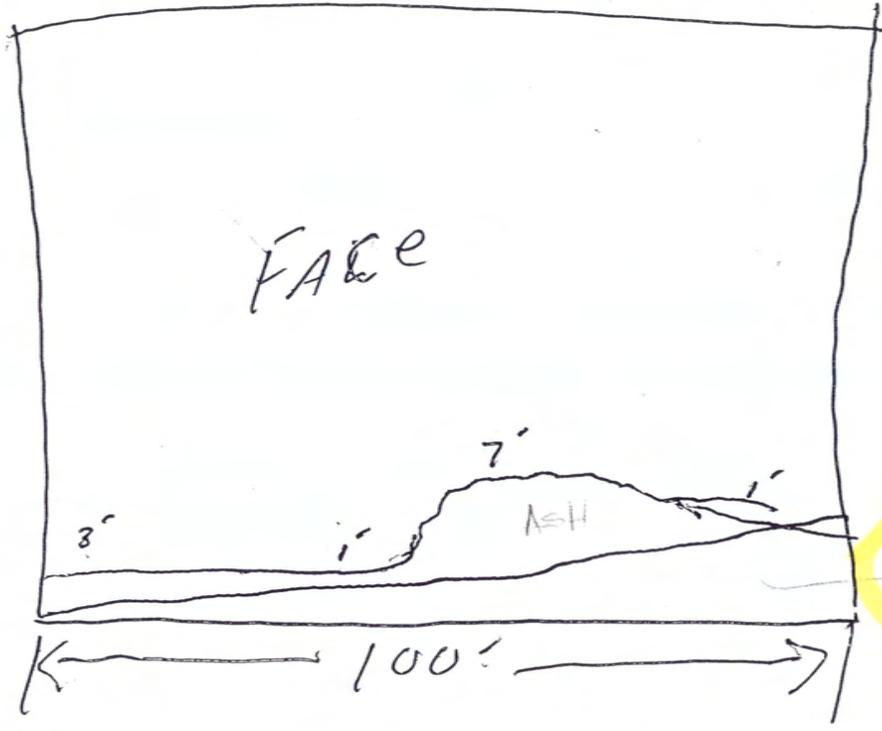
Y 557732

Tons Start

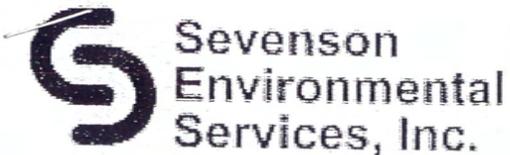
Tons End

Comments:





WELLYN, MICHIGAN



DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Addison

Day Tuesday
Date 6-22-10

Dredge Shift: Day

Hours:

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	7:00		1:30		1750	72	JB+EH	Meetings - Service - Line Clogged Up
8:30	8:40	:10	:45					SHIFT ANCHORS
9:05	9:25	:20	:35					Comp. Problems
10:00	14:25	4:25	:15					SHIFT ANCHORS
14:40	14:45	:05	:10					Comp Problems
14:55	15:30	:35	:20					STRD ANCHOR DRUG IV.
15:50	18:50	3:00	:10					Wash out Clean Pump Clean Cutter END SHIFT
		8:35	3:25		Total Hours		12	

Conditions:

Initial Flyash Thickness see BACK Ft

Vegetation Light Medium Heavy

Debris Light Medium Heavy

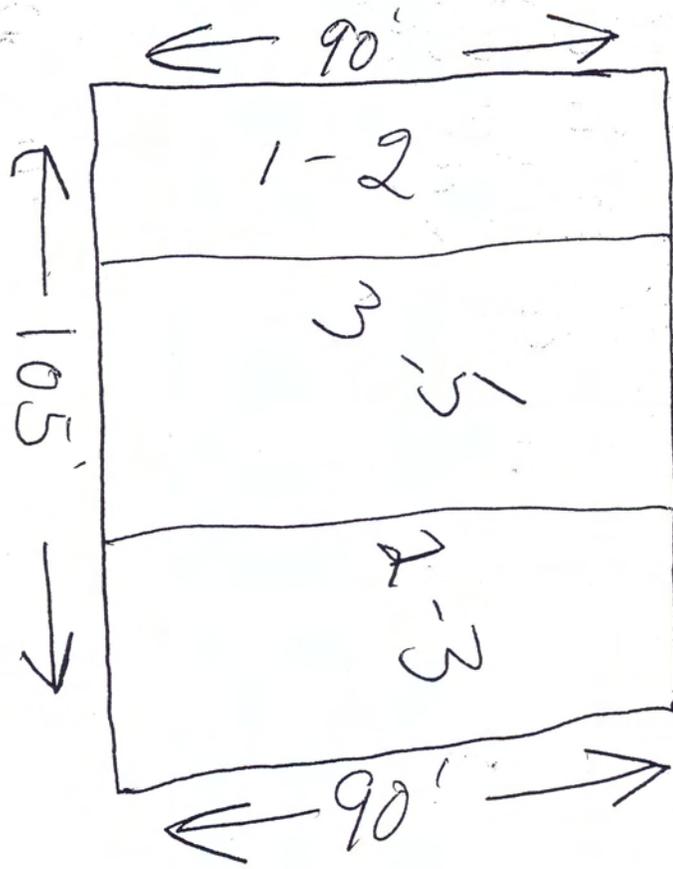
of Blockage Clears _____

Area Dredged: 290

Shift Start X 2443305 Shift End X 2443349
Y 557783 Y 557852

Tons Start _____ Tons End _____

Comments:





Sevenson
Environmental
Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge ADDISON

Day Tuesday
Date 6-22-10

Dredge Shift: NIGHTS

Hours: 16 75

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
1900	1900	-0	110				TOM	Service Dredge
2016	2245	235	15					SHIFT ANCHORS
2300	2300	-0 ⁷⁵		15			RACAEI	COMPUTER DOWN
2315	355	440	1350	15				SHIFT STD ANCHOR
405	700	255						WASH LINE OUT FOR DAY SHIFT
		1010	135	15			Total Hours	1200

Conditions:

Initial Flyash Thickness 2' Ft

Vegetation Light Medium Heavy

Debris Light Medium Heavy

of Blockage Clears _____

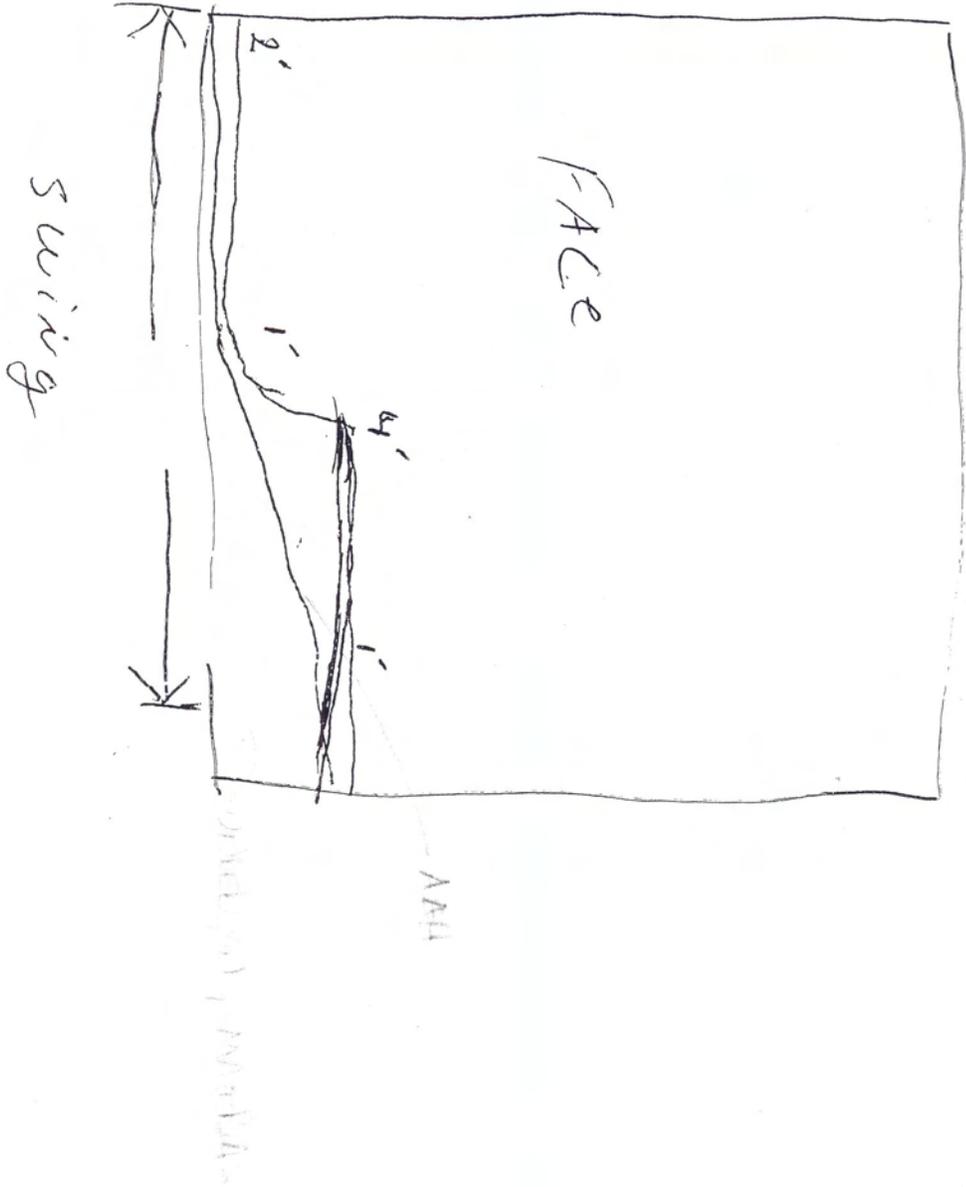
Area Dredged: _____

Shift Start X 2443349 Shift End X 2443388

Y 557852 Y 557951

Tons Start _____ Tons End _____

Comments:





Sevenson
Environmental
Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge ADDISON

Day Wednesday

Date 6-23-10

Dredge Shift: Nights

Hours: 1698

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
1900	1900	-0-	40				RAFAEL	SERVICE Dredge
1940	21:00	-1:20	10					• ROCK BOX
21:10	21:40	-30	10				TOM	• ROCK BOX
21:50	22:50	-1:00	5					• ROCK BOX
22:55	23:20	-25 ³⁰	20 ²⁵					• ROCK BOX
23:40	1:05	-1:25	15					SHIFT PORT ANCHOR ANCHOR
1:20	2:15	-55	10					• ROCK BOX
2:25	3:45	-1:20	10					• ROCK BOX
3:55	4:25	-30	10					• ROCK BOX
4:35	5:50	-1:15 ³⁰	15 ³⁰					SHIFT ANCHORS
6:05	7:00	-55						
		9:45	2:15				Total Hours	12
								ROCK MATR FROM INTERFACE BETWEEN ASH AND UNDERLYING MATERIALS

Conditions:

Initial Flyash Thickness _____ Ft

Vegetation Light Medium Heavy

Debris Light Medium Heavy

of Blockage Clears _____

Area Dredged: _____

Shift Start X 2443186 Shift End X 2443199

Y 557768 Y 557831

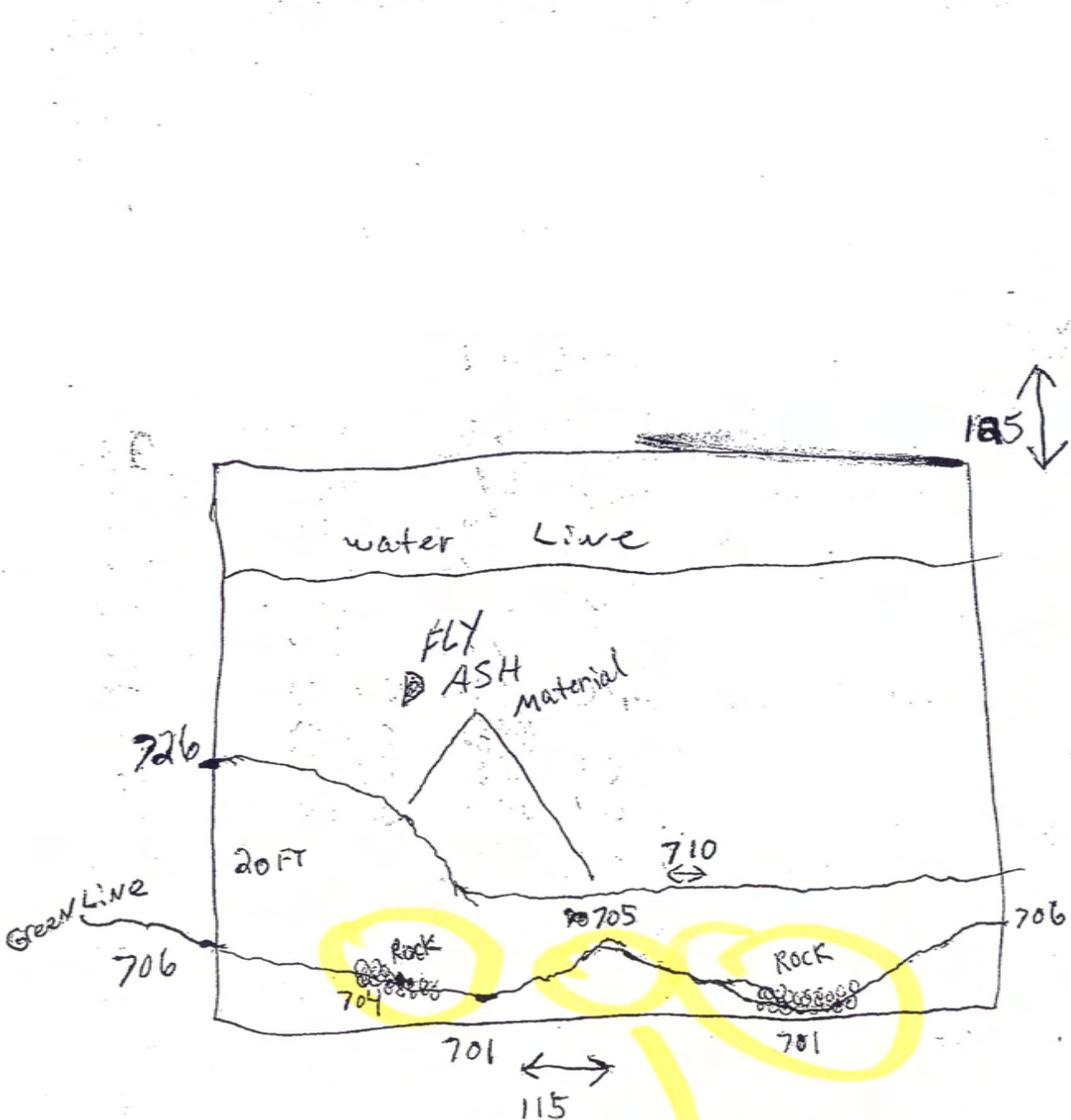
Tons Start _____ Tons End _____

Comments:

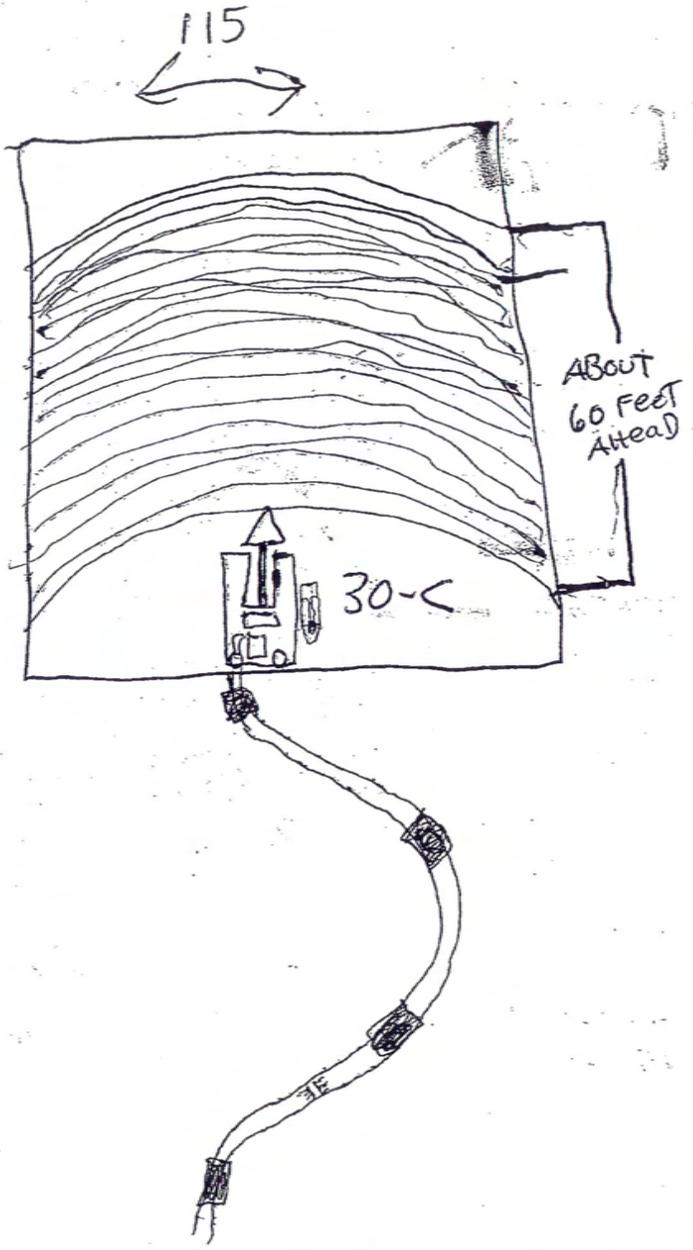
Hit ALOT of ROCK 703-701 X 2443198 Y 557797 ABOUT 10 Feet wide
 704-702 3150 7823 ABOUT 10-12 Feet wide

CUTTING TO E-TRAC
DREDGE - TO SURFACE

Addison 6/23/10
Night 10



115



Ridge



DAILY DREDGE LOG - TVA ASH REMOVAL

#5 Addison

Day Thursday
Date 6-24-10

Dredge Shift: Day

Hours: 7:00 AM - 19:00

Start Time	Stop Time	Hours Dredge	Hours Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime	
7:00	7:30		:30	1750	72	Jimmy Brown	Safety Meeting + Service Dredge	
7:30	9:45		2:15				Replaced cutter teeth + 4 joints	
9:45	11:45	2:00					u-joints	
11:45	12:15		:30				Lightning	
12:15	17:00	4:45					Pump check	
17:00	17:30		:30				Lightning	
17:30	19:00	1:30						
		8:15	3:45	12:00 Total Hours				

MOST LIKELY CAUSED BY DIGGING HARD MATERIAL (ROCKS - WOODY DEBRIS)

SEE

Conditions:

Initial Flyash Thickness _____ Ft

1/5 width

Area Dredged: 290

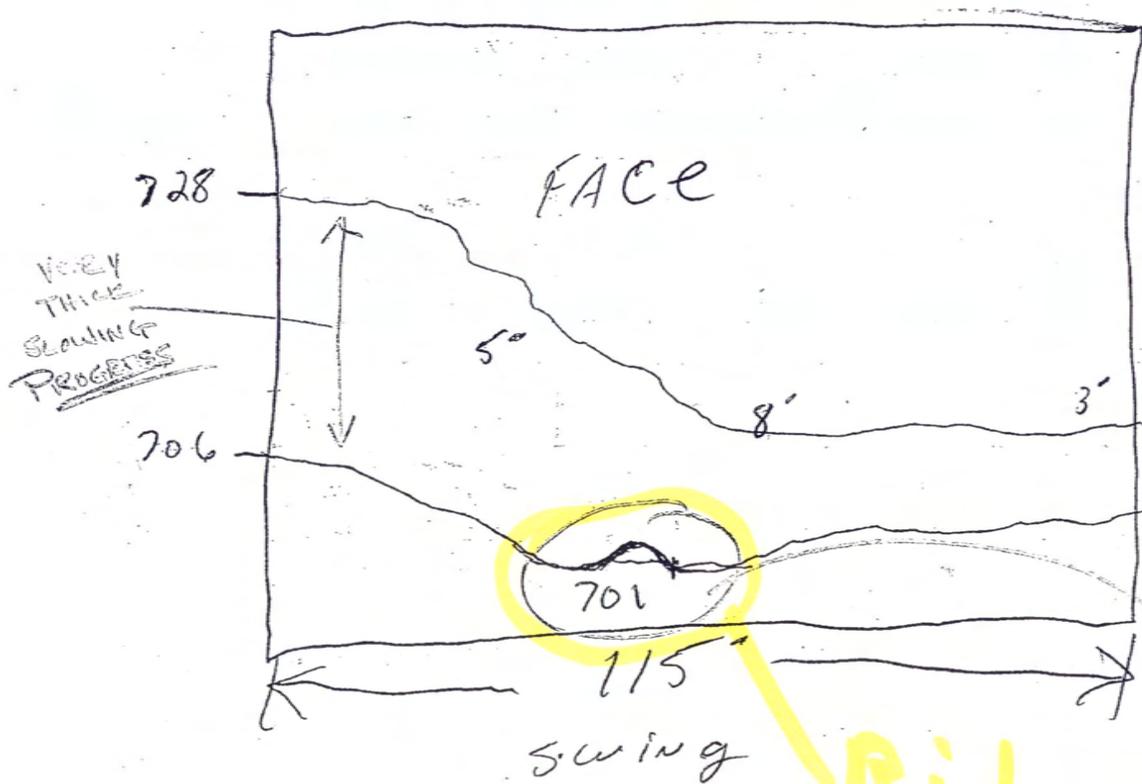
Vegetation Light Medium Heavy
Debris Light Medium Heavy

Shift Start X 2443199 Shift End X 2443217
Y 557831 Y 557844

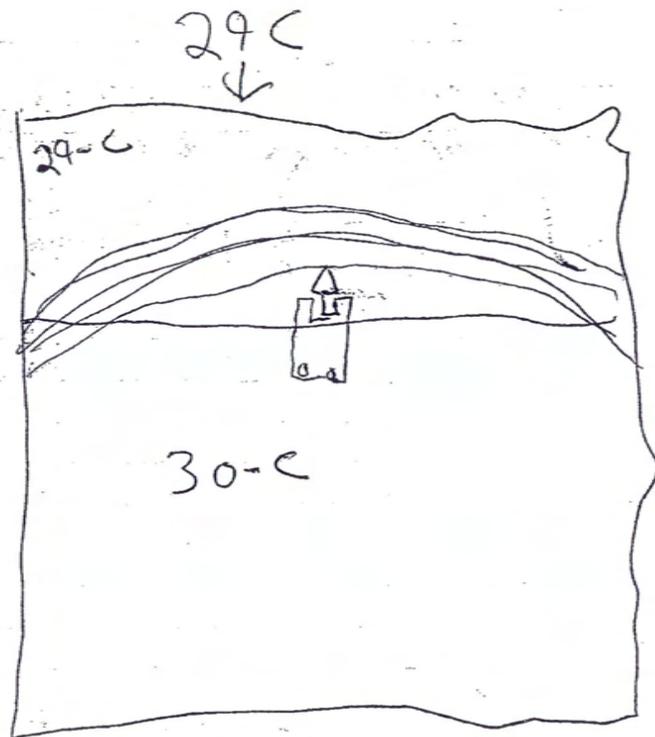
of Blockage Clears 2

Comments:

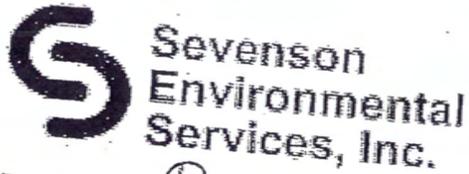
Rocks and Trees all day Rough Digging



Ridge



ROCK RIDGE CONTINUES
IN CHANNEL BOTTOM
HARD CUTTING
VRS



DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Shift: DAYS

Dredge "ACE"

Day Fri
Date 6-25-10

Hours: 0700-1900

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
7:40	7:00		:40		1750	72	JR&EH	
9:20	8:30	:50	:50					Meetings - Service & Inspection
10:10	10:00	:40	:10					Broken STBD Swing Cable
14:10	14:00	3:50	:10					Clean Pump
15:20	14:20	3:30	1:00					Shift Anchor
	18:50							Lightning
	19:00							WASH OUT Clean Cutter
								EN Shift
			3:10					
		8:50	2:50					
		Total Hours		12				

Conditions:

Initial Flyash Thickness 2+6 Ft

Vegetation Light

Debris Light

of Blockage Clears 1

Medium Heavy

Medium Heavy

Area Dredged: 29c

Shift Start X 2443232 Shift End X 2443255

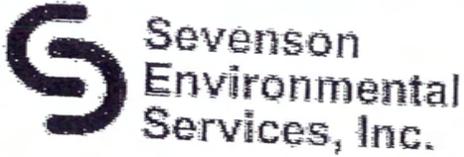
Y 557885 Y 557887

Tons Start _____ Tons End _____

Comments:

Hard and Rocky CONSISTENT THROUGH

SEA



435

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Addison #5

Day Friday
Date 6-25-10

Dredge Shift: NIGHTS 555

Hours: 1241

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
1900	1900	40	35					
1935	2050	115	10				TAY	service Dredge
2100	2210	110	15					ROCK BOX
2225	100	235	10				RAFAEL	SHIFT ANCHORS CONSISTENTLY
100	135	25	115					ROCK BOX ROCKY
250	320	30	210					cut wire off drum
530	0540	10	10					move Dredge to new cut
550	700	110						Shift Anchors
		715	445					
							Total Hours	12:00

Conditions:

Initial Flyash Thickness _____ Ft

Vegetation Light Medium Heavy

Debris Light Medium Heavy

of Blockage Clears _____

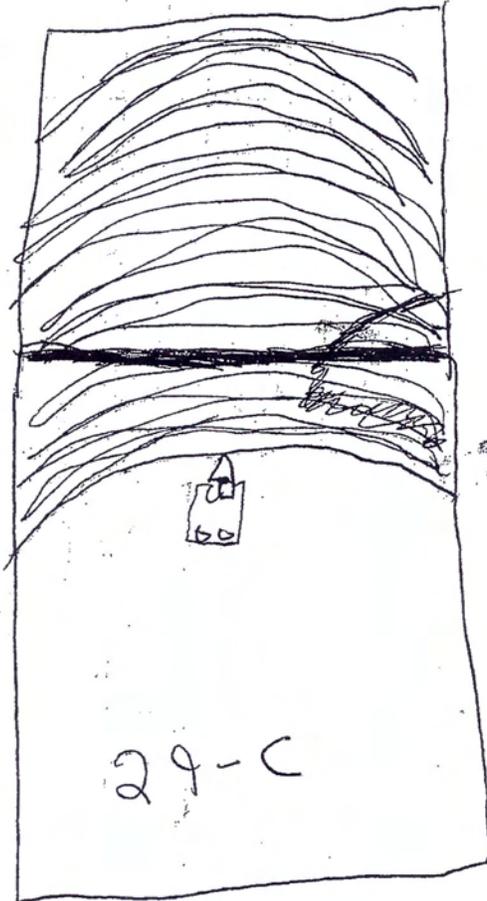
Comments:

Area Dredged: 2.8

Shift Start X 2443255 Shift End X 2442873
 Y 557887 Y 557935
 Tons Start X 2443317 Tons End X 2442902
 Y 558009 Y 557938

Addison 6/25/10 NIGH

28-C
↓



30 feet From 28-C
when we started

29-C