

Time-Critical Concurrence

Area:

Emory River, Segment Above 5, C-100 through C-103, Segment 5, C-1

Agreement:

Ash removal activities have been completed in Segment Above 5 grids C-100 through C-103 and Segment 5 grid C-1.

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 5/23/10 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 C-1 and the majority of the remaining area was dredged to within 0 to 0.5 ft of targeted pre-spill surface and that a narrow band area was dredged to within 2' of the targeted surface.
- b) The area was dredged by the *Shirley 16"* from May 18th to the May 21st. The *Shirley* is 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 *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-100 to C-103 and Segment 5, C-1.

Attachments:

- Figure 5, Ash Remaining to Pre-Spill Surface Segments 1,2,3 and 5, dated 2/25/10
- Figure 4, Ash Remaining to Pre-Spill Surface in Segment Above 5, dated 3/07/10
- Figure 1, Ash Remaining Through Severson 05-23 Survey, dated 5/23/10
- Figure 3, Ash Remaining Through Severson 05-23 Survey, dated 5/23/10
- Figure 1, Bathymetry Removal Areas - Segment Above 5, C-100 through C-103, Segment 5, C-1 dated 5/22/10
- Daily Dredge Logs – *Shirley* 5/19/10 to 5/21/10

Concurrence Comments:



 Jacobs Project Manager

5/24/10

 Date



 Tennessee Valley Authority

5/24/10

 Date



 U. S. Environmental Protection Agency

5/24/10

 Date



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



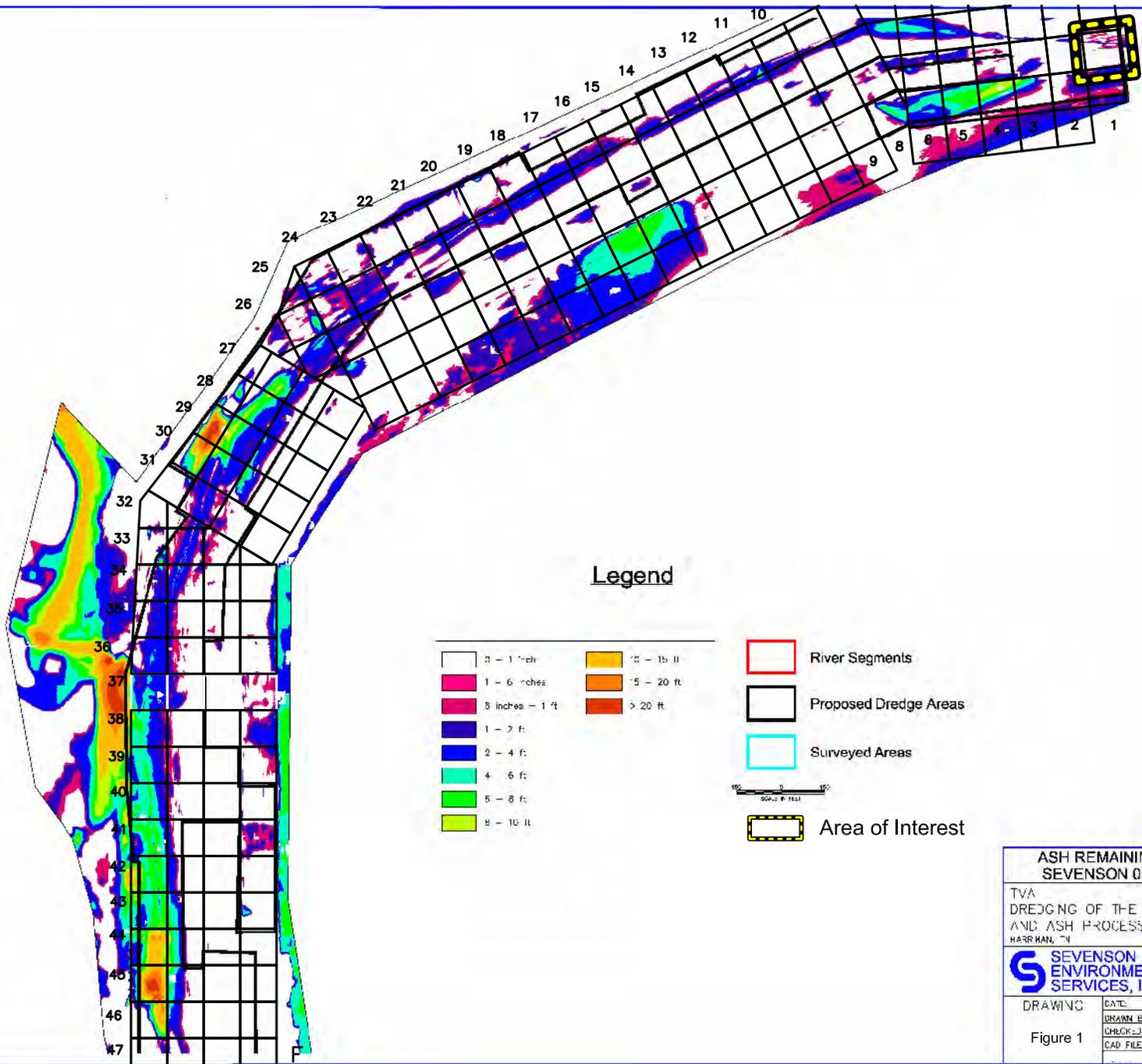
JACOBS

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

NAME: croberis DATE: 6/25/2010

Figure 5

X:\SVA\Bentley\030_450\030\000262\6-08\shmm\mshmm_1011206_1011206.dwg

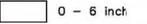
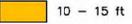
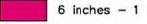
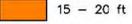
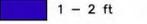
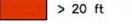
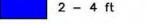
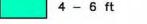
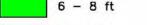
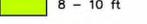


ASH REMAINING THROUGH SEVENSON 05-23 SURVEY	
TVA DREDGING OF THE EVORY RIVER AND ASH PROCESSING HARRMAN, TN	
SEVENSON ENVIRONMENTAL SERVICES, INC.	
DRAWING	DATE: MAY 23, 2010
Figure 1	DRAWN BY: DJB
	CHECKED BY: JJB
	CAD FILE: source remaining 0523 N

Legend

 River Segments

ASH REMAINING IN SEGMENT 6 THROUGH 5-22 SURVEY ~ 27,318 CY

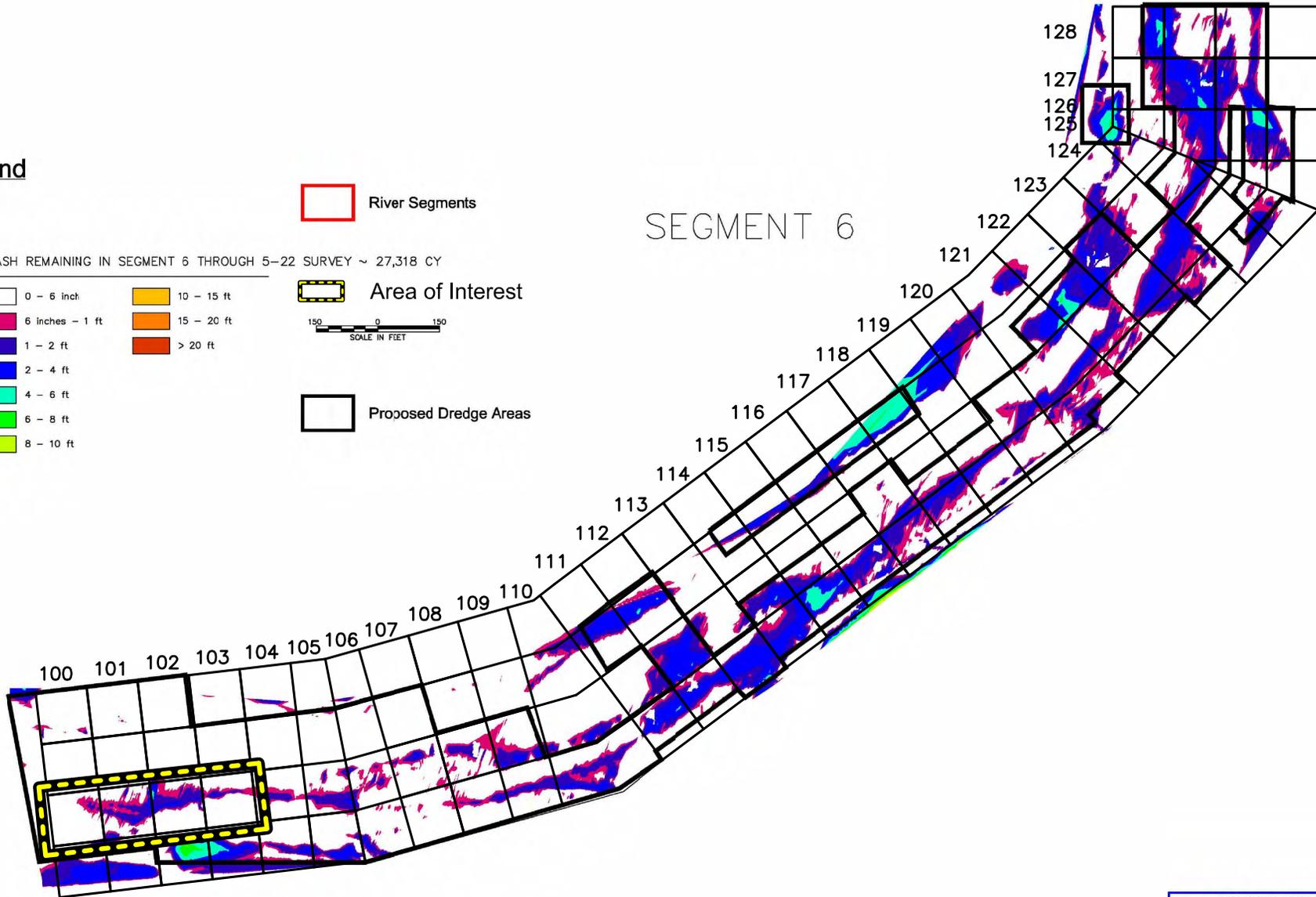
- | | |
|---|--|
|  0 - 6 inch |  10 - 15 ft |
|  6 inches - 1 ft |  15 - 20 ft |
|  1 - 2 ft |  > 20 ft |
|  2 - 4 ft | |
|  4 - 6 ft | |
|  6 - 8 ft | |
|  8 - 10 ft | |

 Area of Interest



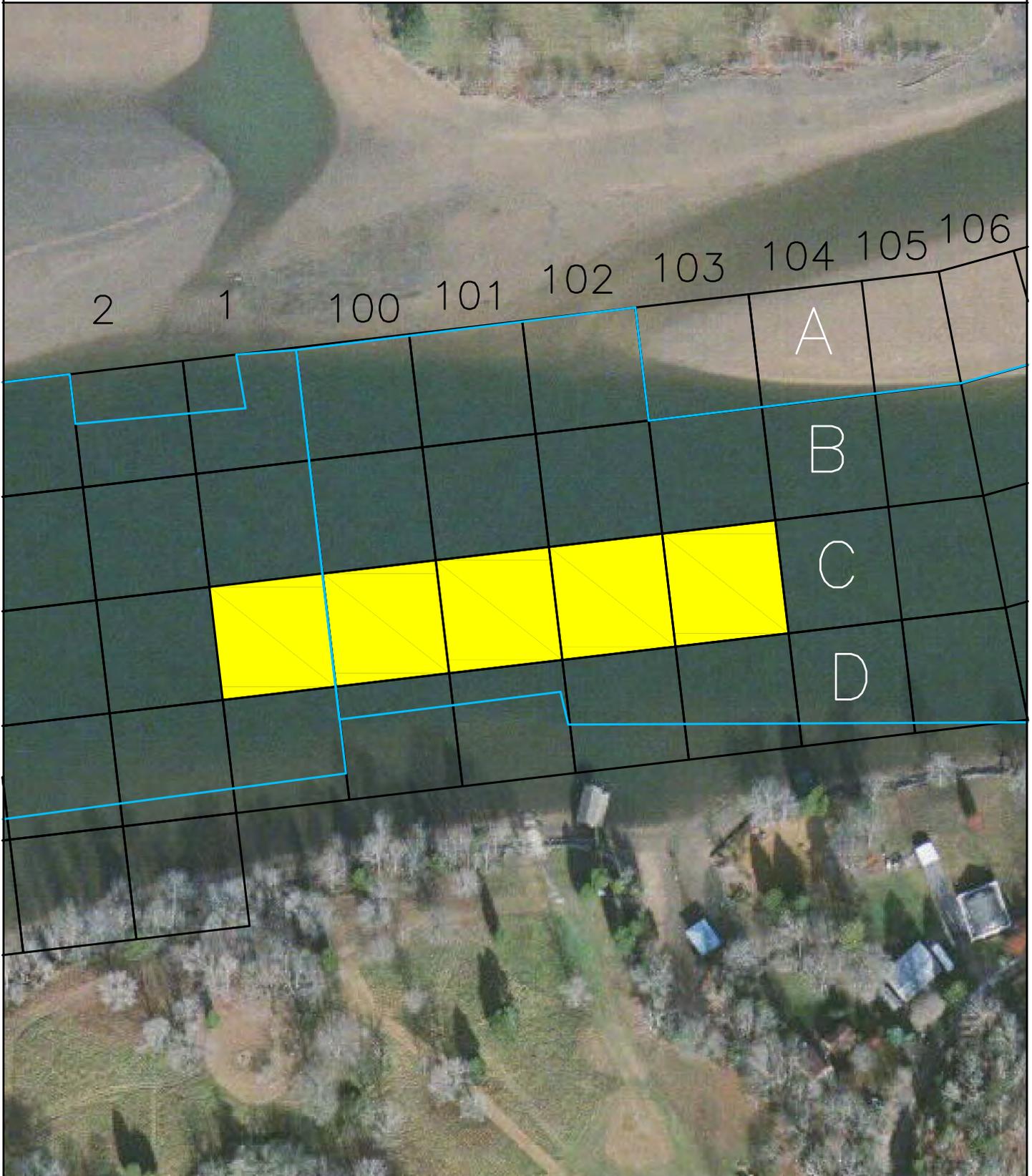
 Proposed Dredge Areas

SEGMENT 6

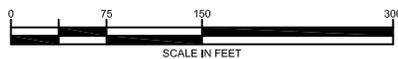


ASH REMAINING THROUGH SEVENSON 05-23 SURVEY	
TVA DREDGING OF THE EMORY RIVER AND ASH PROCESSING HARRIMAN, TN	
 SEVENSON ENVIRONMENTAL SERVICES, INC.	
DRAWING	DATE: MAY 23, 2010
	DRAWN BY: DAB
	CHECKED BY: JB
Figure 3	CAD FILE: volume_remcining_0523_seg_6

Bathymetry Removal Areas - Segment 5 & Above Segment 5



- Removed From Plan
- Phase 2 Dredging Path



JACOBSTM

05/22/10

Figure 1



Sevenson
Environmental
Services, Inc.

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Shirley #1

Day Wednesday
Date 5-9-10

Dredge Shift: Night

Hours: 1710 MAIN / 1507 Hrs

Buddy / Damon

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	1935		35					Service dredge
2010	2035	25	25					Booster / clean pump
2100	2100	0	15					install spud mirror
2115	0045	3.30	10					Clean Cutter
0055	0145	50	35					Clean booster pump 1 + 2
0220	0520	3.0	25					Clean Cutter
0545	0600	15	10					More Strud sp
0610	0610	0	15					More Port sp
0615	0645	30						
		8.30	2.50					Total Hours

245 cypH

125x90x5 = 2,083 cy

245 cypH

Area Dredged: 102B-102C

Conditions:

Initial Flyash Thickness 5' Ft

Vegetation Light Medium Heavy

Debris Light Medium Heavy

of Blockage Clears 3

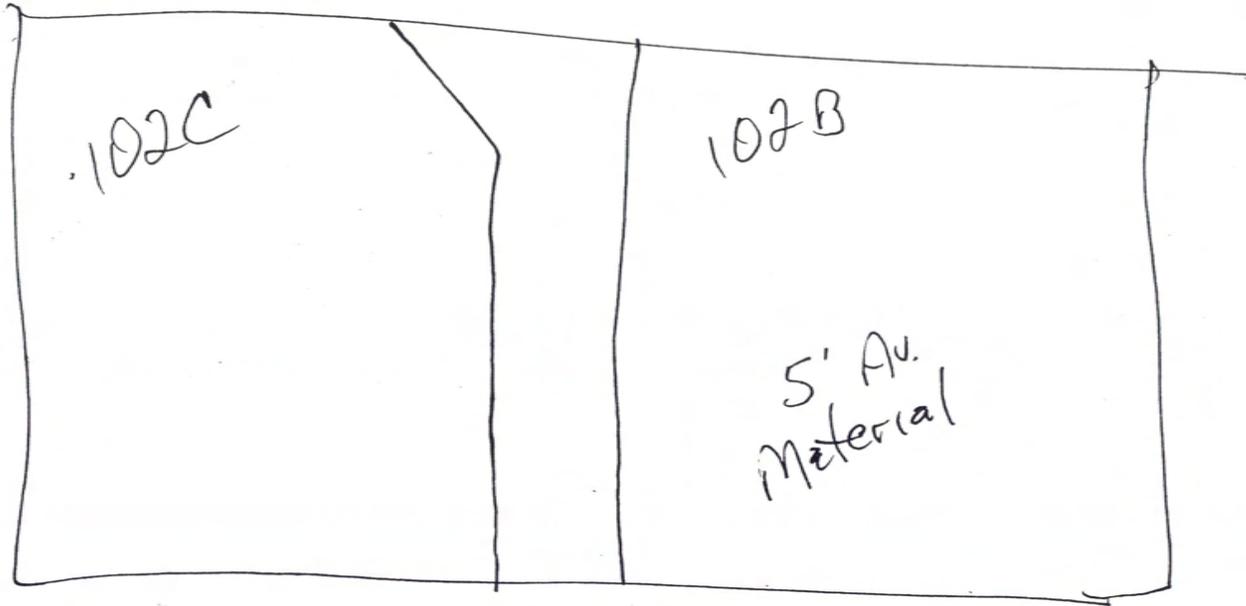
Shift Start X 2446609 Shift End X 2446529

Y559279 Y559274

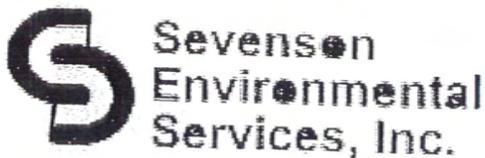
Tons Start 183108 Tons End 184541

Comments: X2446547 Y559303 2' shy of Grade Large Object 2
X2446543 Y559300 3' shy of Grade Large Object

1433 tons



$125' \times 90' \times 5' = 2,083 \text{ cy}$



DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Shirley

Day Thursday
Date 5-20-10

Dredge Shift: Day

Hours:

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
700	820		120		1650	80	CC	safety meeting inspect dredge + service
820	855	35	400					port anchor pulled in wait on anchor
1255	1345	50	250					clean booster one
1410	1520	110	350					port anchor pulled in wait on anchor bare
	1910							shift change
		235	400		1210	Total Hours		

935

Conditions:

Initial Flyash Thickness _____ Ft

Vegetation Light Medium Heavy
Debris Light Medium Heavy

of Blockage Clears 1

Area Dredged: 102C + 101C

Shift Start X 2446529 Shift End X 2446502
Y 559274 Y 559266
Tons Start 184541 Tons End 184999

Comments: X 2446522 17ft by 39ft rocky 120ft swing 5ft material average
Y 559276 cant get to grade

These are the X + Y numbers on the rocks



DAILY DREDGE LOG - TVA ASH REMOVAL

Day Thursday

Date 5-20-2010

Dredge Shirley #1

Dredge Shift: Night 7pm-7am

Hours: MAIN 1727 / Hyd. 1523

Buddy / Damon

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	1930		30				RT	Service dredge
2000	2000	0	1.10				RT	Waiting on hoe to re-set port S/A
2110	2240	1.30	20				RT	Clean Cutter
2300	2300	0	-	50			RT	Clean Venture Valve
2350	0600	6.10	.10					Pass 800 barge South bound
0610	0610	0	20					Clean booster #1 pump
0630	0650	0	.15					Wash out
0635								
								BARGE 800 pulled port S/A running aground
		7.40	2.45	.50				Total Hours

130' X 75' X 5' = 1806 cy @ 244 c

Area Dredged: 102B-102 101B-101C

Conditions:

Initial Flyash Thickness _____ Ft

Vegetation Light Medium Heavy

Debris Light Medium Heavy

of Blockage Clears _____

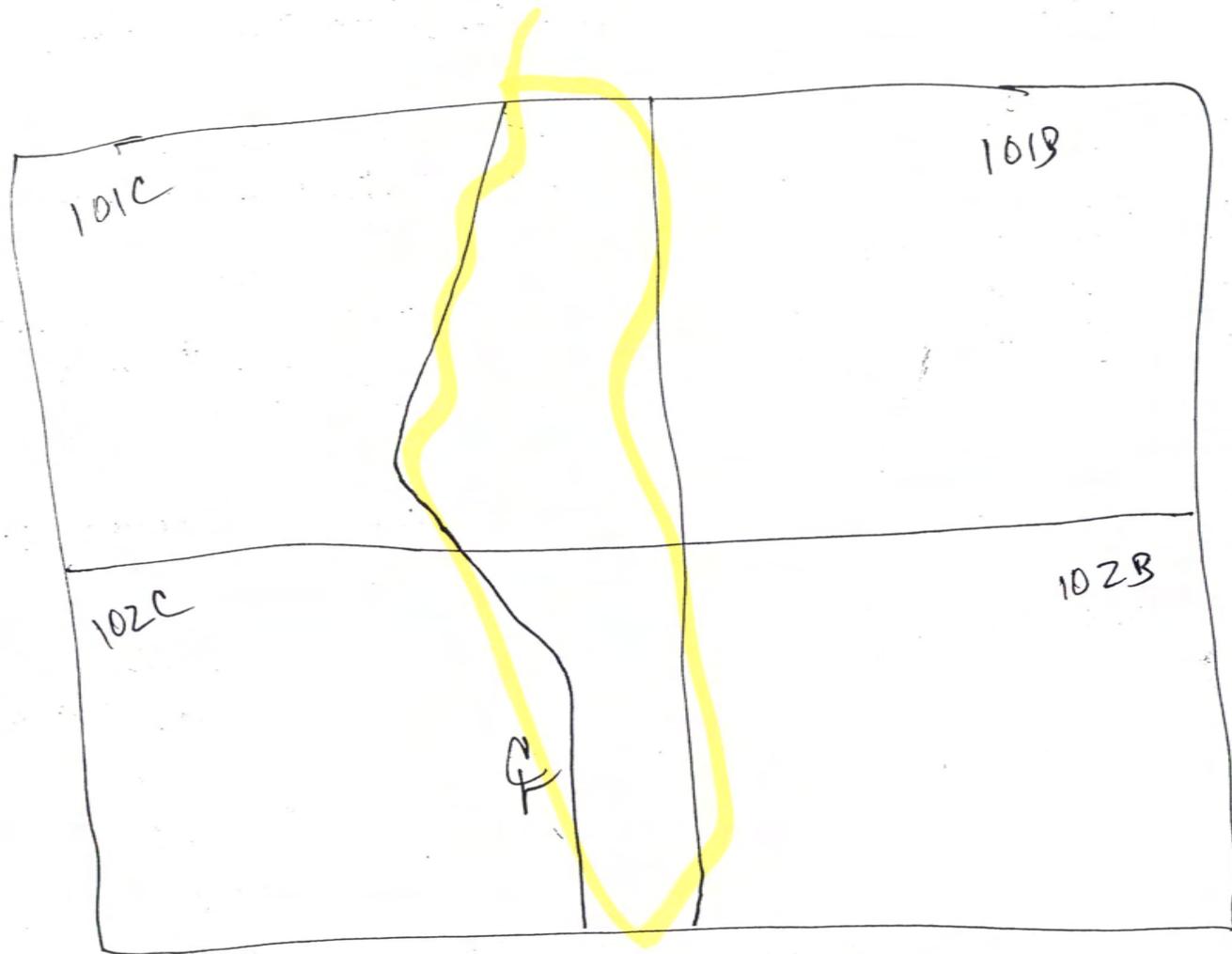
Shift Start X 2446501 Shift End X 2446457

Y 559264 Y 559251

Tons Start 184999 Tons End 186266

1266 TONS

Comments: X2446498 Y559288 N.W. Corner of block 101C IS A LARGE OBJECT 3' shy of Grade Run past object @ X2446491 Y559282



$$130' \times 75' \times 5' = 1806 \text{ CY}$$

Starter switch
turn off

DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge Shirley

Day Friday
Date 5-21-10

Dredge Shift:

Hours:

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
700	815		115		1650	80	CC	safety meeting inspect dredge, reset port anchor
	815							wait on booster two
815	845	30	20					float line for anchor barge
905	1215	310	10				JAS	Booster 1 CLEANING out pump
1225	1330	105	20					clean pump
1350	1425	35	10					computers spinning
1435	1500	25	20					clean booster one
1520	1525	05	05					computer spinning
1530	1600	30	105					clean booster one, move anchors
1705	1805	100	15					clean booster one
1820	1825	05	55					port anchor pulled in reset anchor
	1920							shift change
		725	455		1220	Total Hours		

Conditions:

Initial Flyash Thickness _____ Ft

Vegetation Light Medium Heavy

Debris Light Medium Heavy

of Blockage Clears 5

Area Dredged: 101C + 100C

Shift Start X 2446457 Shift End X 2446380
 Y 559251 Y 559243
 Tons Start 186266 Tons End 187720

Comments: 12.5ft swing 5ft material alil rocky on port side
object on targets 15:43 time



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DAILY DREDGE LOG - TVA ASH REMOVAL

Dredge SHIRLEY #1

Day FRIDAY

Date 5/21/2010

Dredge Shift: NIGHTS 7pm-7am

Hours: 1749 MAIN 31542 Hyd. Buddy / DAMON

Start Time	Stop Time	Hours Dredge	Misc	Mech Down	Avg RPM	Avg Pressure	Operator	Reason for Stopping/Downtime
	1945		1.15					
2015	2340	3.25	10					Service dredge
2350	0130	1.40	10					Reboot Computer
0140	0240	1.0	55					Move Strbd S/A
0335	0420	45	30					Pump water per (Ken Shepard)
0450	0645	1.55	15					Re-Set Strbd S/A
								WASH out
		8.45	3.15					Total Hours

110 X 135 X 5.5 = 3025 cu

Area Dredged: 100B-100C

Conditions:

Initial Flyash Thickness 55 Ft

Vegetation Light Medium Heavy

Debris Light Medium Heavy

of Blockage Clears 0

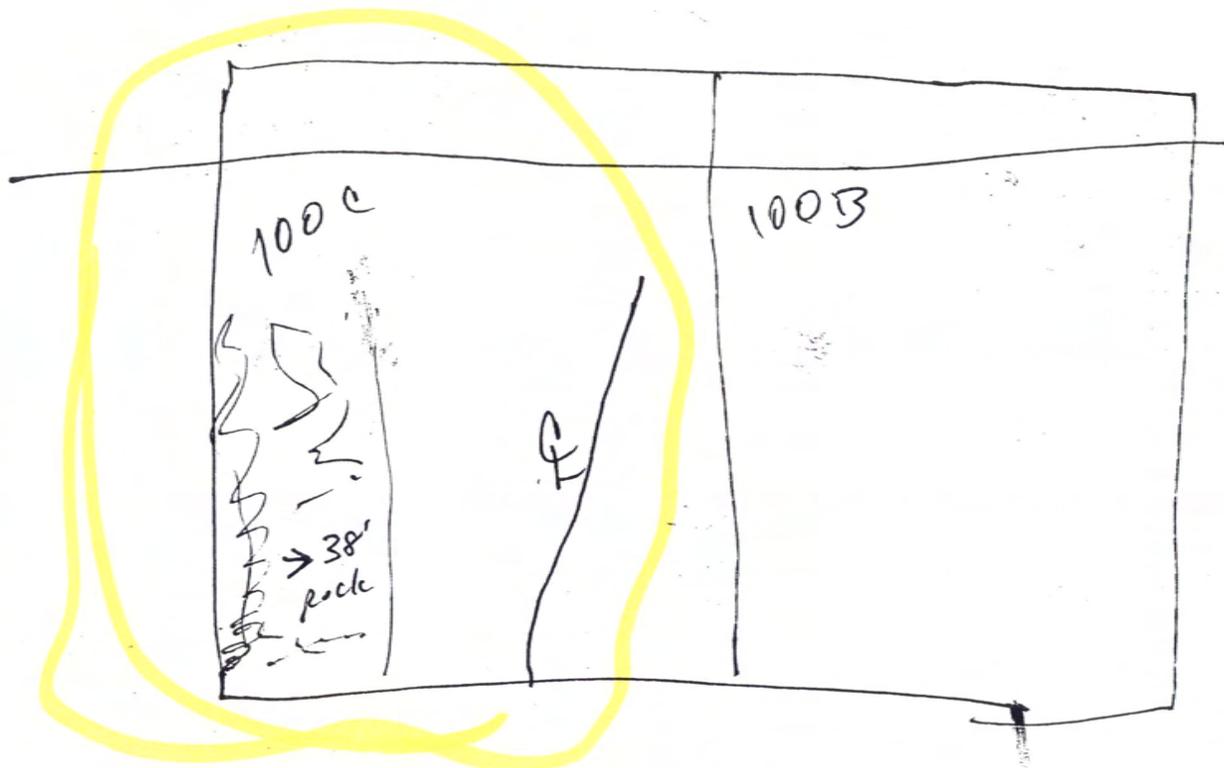
Shift Start X 2446300 Shift End X 2446282

Y559243 Y559232

Tons Start 187720 Tons End 189679

Comments: X 2446339 Z Y559313 Block 100B From part toe 38' Towards C 1' shy due to Rock shelf

1959 TONS



$$110 \times 135 \times 5.5 = 3025 \text{ cy}$$