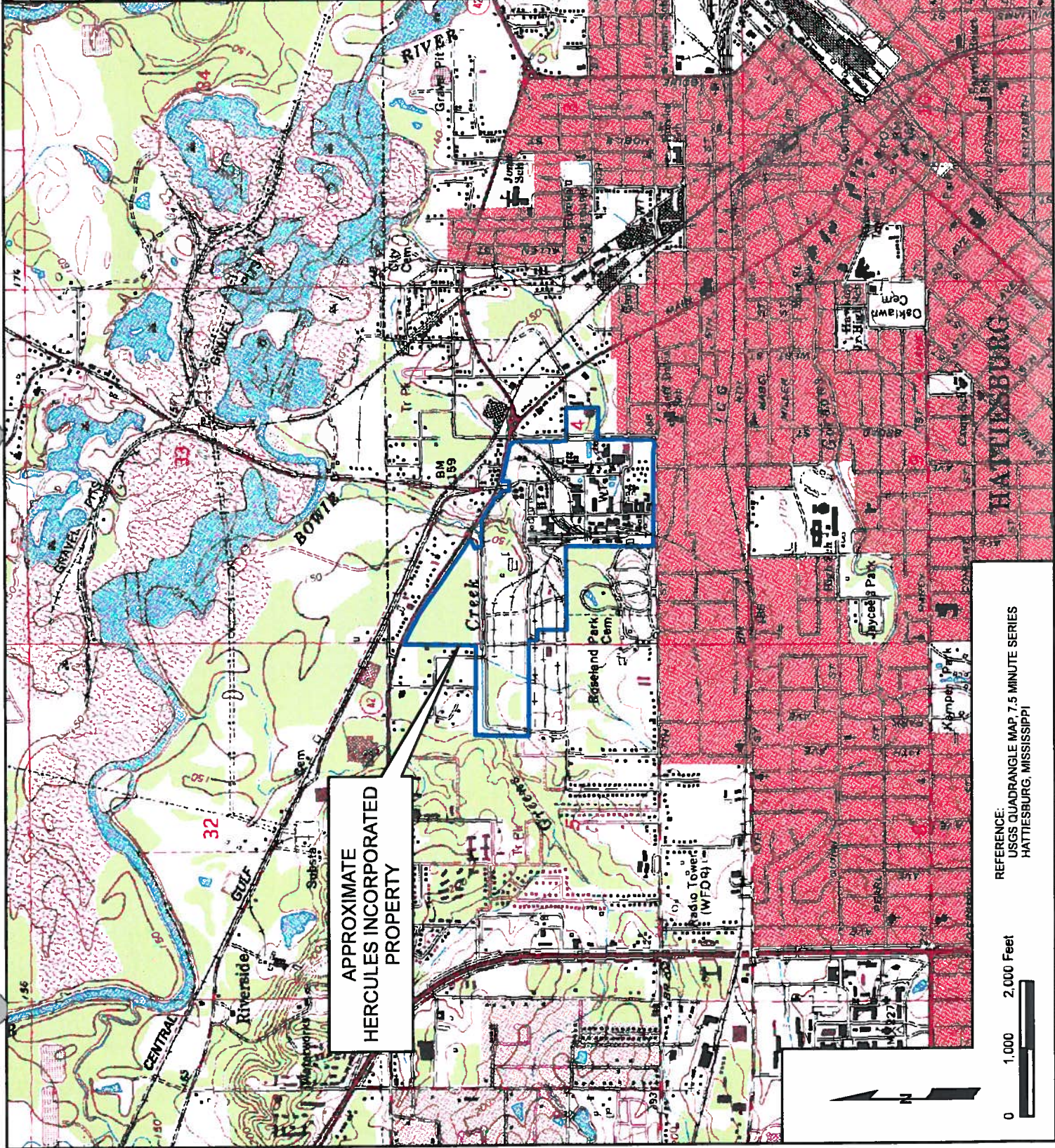


**SITE LOCATION MAP**

INVESTIGATION AREA  
HERCULES INCORPORATED  
Hattiesburg, Mississippi

**ARCADIS**  
10552 PLAZA AMERICANA DRIVE  
BATON ROUGE, LA 70816  
TEL: 225-292-1004  
FAX: 225-218-9677  
WWW.ARCADIS-US.COM

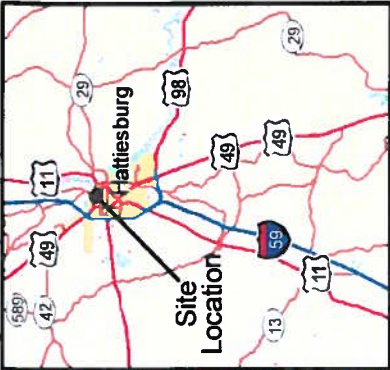
PROJECT MANAGER: GHC	CHECKED BY: CD
DRAWING FILE:	GIS FILE:
DRAWING BY: LEC	DATE: 06/05/2010
PROJECT NUMBER: OH003000.MS24	FIGURE NUMBER: 1



APPROXIMATE  
HERCULES INCORPORATED  
PROPERTY

REFERENCE:  
USGS QUADRANGLE MAP, 7.5 MINUTE SERIES  
HATTIESBURG, MISSISSIPPI

0 1,000 2,000 Feet

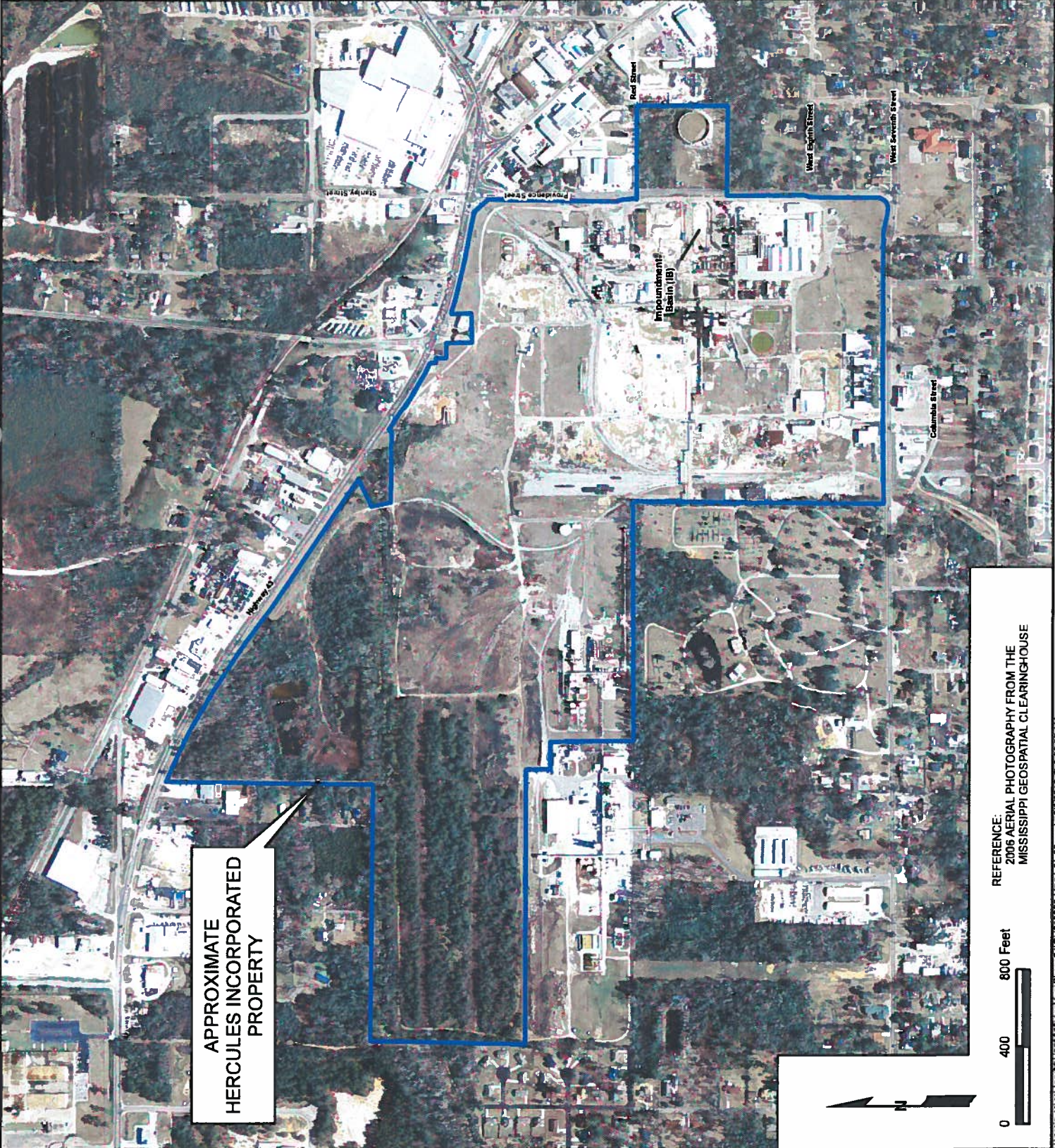


## 2006 AERIAL PHOTOGRAPHY

INVESTIGATION AREA  
HERCULES INCORPORATED  
Hattiesburg, Mississippi

**ARCADIS**  
10552 PLAZA AMERICANA DRIVE  
BATON ROUGE, LA 70816  
TEL: 225-292-1004  
FAX: 225-218-9677  
WWW.ARCADIS-US.COM

PROJECT MANAGER: GHC	CHECKED BY: CJD
DRAWING FILE	GIS FILE
DRAWING BY: JEC	DATE: 08/05/2010
PROJECT NUMBER OH-003000 .MS24	FIGURE NUMBER 2



APPROXIMATE  
HERCULES INCORPORATED  
PROPERTY

REFERENCE:  
2006 AERIAL PHOTOGRAPHY FROM THE  
MISSISSIPPI GEOSPATIAL CLEARINGHOUSE

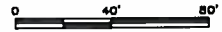
0 400 800 Feet


DB\J.S. MEN) LD\Opt) PIC\Opt) PM\Reed) TM\Opt) LVR\Opt\ON="OFF"="REF"  
\\A1\F\Data\PROJECT\A\shind\CH03\000 NS2\4\F\gumal\OH-02-08.dwg PLOTTED 7/23/2010 3:31 PM BY MEN\_SOTHON



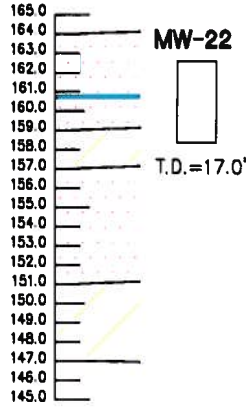
EXPLANATION

EXTENT OF PROPOSED DEWATERING



<b>Hercules Incorporated</b> Sludge Characterization and Bench Scale Treatability Report Hattiesburg, Mississippi	
<b>POTENTIAL DEWATERING LOCATIONS</b>	
	<b>FIGURE</b> <b>8</b>

NORTH  
A



SCREEN INTERVAL

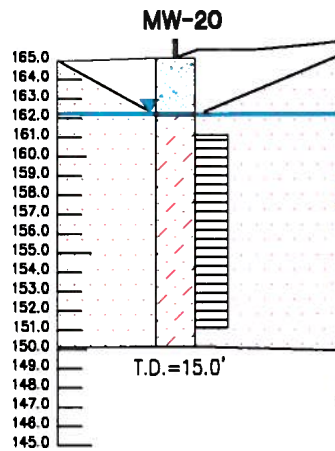
MONITOR WELL/BORING LOCATION & DESIGNATION

TOTAL DEPTH

NOTE:

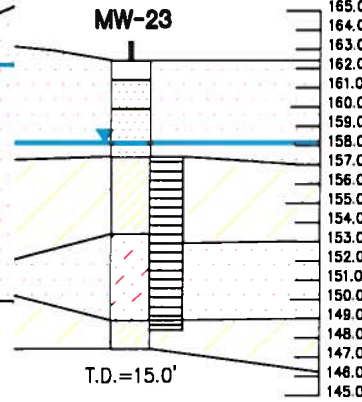
THE ELEVATIONS AT THE IBS LOCATIONS WERE DETERMINED IN APRIL 2010 DUE TO IB BASIN DEWATERING THAT OCCURED DURING THE IMPLEMENTATION OF THE TREATABILITY WORK PLAN, THE WATER ELEVATIONS AT EACH IBS LOCATION VARIES. THE GROUNDWATER ELEVATIONS IN THE WELLS WERE DETERMINED IN MAY 2010.

WEST  
B

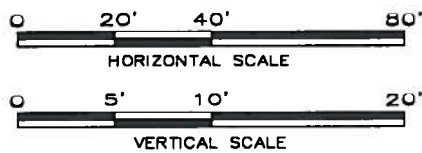


(FT. M.S.L)

EAST  
B'



WEST  
C



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Sludge Characterization and Bench Scale Treatability Report  
Hattiesburg, Mississippi

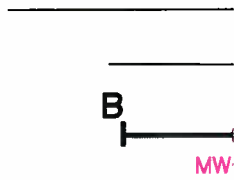
CROSS-SECTIONS A-A', B-B', AND C-C'



FIGURE

7

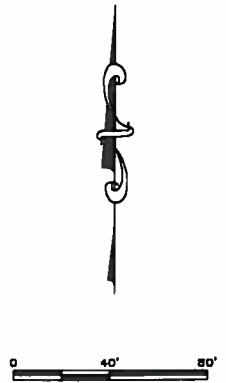
DB(S: MEN) LD(Obj) PIC(Obj) PM(Reqd) TM(Obj) LVR(Obj)ON="OFF"="REF"  
\\L1ATFData\PROJECT\Ahhline\OH003000\MS23\Figures\OH-02-08.dwg PLOTTED: 7/21/2010 8:33 AM BY: MEN, SOTHON



-  MW-22
-  IBS-1

EXPLANATION

MONITOR WELL LOCATION AND DE  
PROPOSED CHARACTERIZATION/TF



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Sludge Characterization and Bench Scale Treatability Report  
Hattiesburg, Mississippi

**CROSS-SECTION LOCATION MAP**




FIGURE  
**6**

DB(S: MEN) LD (Opt) PIC (Opt) PM (Reqd) TM (Opt) L YR (Opt) ON = \* OFF = \* REF \*  
\\A:\FPData\PROJECT\Ashland\OH003000\523\Figure\OH-02-05.dwg PLOTTED: 7/21/2010 9:11 AM BY: MEN, SOTHON

# CHARACTB\*\*

- TOTAL ANALY
- VOLATILI
- SEMIVOL
- RCRA8 M

- \* SAMPI
- \*\* SAMPI
- X SAMPI

<b>Hercules Incorporated</b> Sludge Characterization and Bench Scale Treatability Report Hattiesburg, Mississippi	
<b>SAMPLING PROTOCOL</b>	
	FIGURE <b>5</b>

IBS-1-US	
1,1'-Biphenyl	230
2-Methylnaphthalene	15 J
Arsenic	3 J
Barium	28
Benzene	55
Cadmium	0.33 J
Chromium	22
Diphenyl ether	780
Lead	24
Mercury	0.72
Silver	0.24 J
Toluene	820
IBS-1-LS	
1,1'-Biphenyl	1100
2-Methylnaphthalene	21 J
3 & 4 Methylphenol	12 J
Arsenic	1.5 J
Barium	37
Benzo[g,h,i]perylene	32 J
Cadmium	0.24 J
Chromium	13
Dibenz(a,h)anthracene	34 J
Dimethoate	27 J
Diphenyl ether	2500
Indeno[1,2,3-cd]pyrene	32 J
Lead	120
Mercury	3.8
Naphthalene	8 J
o,o',o"-Triethylphosphorothioate	20 J
Phenanthrene	6.8 J
Silver	0.3 J
Toluene	16000

1,1'-Biph
Arsenic
Barium
Cadmium
Chromium
Diphenyl
Lead
Mercury
Pyrene
Toluene
1,1'-Biph
2-Butano
2-Methyl
Acenaph
Arsenic
Barium
Benzene
Cadmium
Chromium
Dibenzof
Diphenyl
Lead
Mercury
Methylen
Naphthal
Phenanthr
Silver
Toluene
1,1'-Biph
2-Methyl
3 & 4 Me
Acenaph
Barium
Benzene
Benzo[g,
Chromium
Dibenz(a
Dibenzof
Diethyl p
Diphenyl
Fluorene
Indeno[1
Lead
Mercury
Naphthal
o,o',o"-Tri
Phenanthr
Toluene

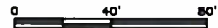
40 J
3.4 J
18
61 J
15
00
43
33
52 J B
00
00
1.3 J
16
31 J
17
00
51
43
20
53 J B
00
90
2 J
50
13
30
7.8
33

IBS-2-US	
1,1'-Biphenyl	55
Arsenic	2.5 J
Barium	23
Benzene	12 J
Cadmium	0.51 J
Chromium	19
Diphenyl ether	160
Lead	36
Mercury	1.1
Pyrene	5 J
Toluene	640
IBS-2-LS	
1,1'-Biphenyl	470
Arsenic	3.4 J
Barium	38
Cadmium	0.48 J
Chromium	23
Diphenyl ether	1400
Lead	41
Mercury	1.1
Silver	0.88 J
Toluene	8400
IBS-2-NS	
1,1'-Biphenyl	33
Barium	4.2
Benzene	17
Benzyl alcohol	5.9 J
Carbon tetrachloride	14
Chloroform	2.1 J
Diphenyl ether	120
Lead	1.7
Mercury	0.012 J
o,o',o"-Triethylphosphorothioate	8.6 J
Toluene	290

## EXPLANATION

CHARACTERIZATION/TREATABILITY SAMPLE LOCATION  
 APPROXIMATE VALUE  
 COMPOUND WAS FOUND IN THE BLANK AND SAMPLE  
 ALL CONCENTRATIONS REPORTED IN  
 MILLIGRAMS PER KILOGRAM (MG/KG)

IBS-3-US	
Barium	15
Chromium	23
Diphenyl ether	110 J
Lead	38
Mercury	0.48
Toluene	810
IBS-3-LS	
1,1'-Biphenyl	760
Arsenic	3.3 J
Barium	37
Cadmium	0.67 J
Chromium	54
Diphenyl ether	2500
Lead	100
Mercury	0.88
Methylene Chloride	610 J
Pyrene	15 J
Silver	0.51 J
Toluene	14000
IBS-3-NS	
2-Butanone (MEK)	0.84 J
Arsenic	1.1 J
Barium	120
Benzene	0.39 J
Chromium	15
Diphenyl ether	0.7 J
Lead	13
Methylene Chloride	1.6
Toluene	17
1,1'-Biphenyl	33 J



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 Hattiesburg, Mississippi

## DETECTED TOTAL ANALYTE CONCENTRATIONS



FIGURE

4

DB (S, MEN) LD (Opt) PIC (Opt) PM (Recd) TM (Opt) LYR (Opt) ON=" OFF=" REF="  
 \\LA1FPData\PROJECT\ASHLAND\OH0003000.MS23\F-figures\OH-02-03.dwg PLOTTED: 7/23/2010 8:39 AM BY: MEN, SOTHON

IBS-2-US	
Benzene	0.058
Methyl Phenols, Total	0.15
IBS-2-LS	
Benzene	0.13
Methyl Phenols, Total	0.88

Benzene
Methyl Phenols, Total
Benzene
Methyl Phenols, Total

APPROXIMATE LOCATION OF SOIL PILE



**EXPLANATION**

- IBS-1 CHARACTERIZATION/TREATABILITY SAMPLING
- ALL CONCENTRATIONS REPORTED IN MILLIGRAMS PER LITER (MG/L)

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 Sludge Characterization and Bench Scale Treatability Report  
 Hattiesburg, Mississippi

**DETECTED TCLP CONCENTRATIONS**



FIGURE  
**3**







# SAMPLE / CORE LOG

Boring/Well: IBS-4 Project No.: Hercules/OH003000.MS24.00001

Site Location: Hattiesburg, Mississippi Drilling Started: 4/14/10 1700 Drilling Completed: 4/14/10

Land-Surface Elev.: 160.64 Surveyed: X Estimated: \_\_\_\_\_ Datum: NAD83-State Plane Mississippi East 2301

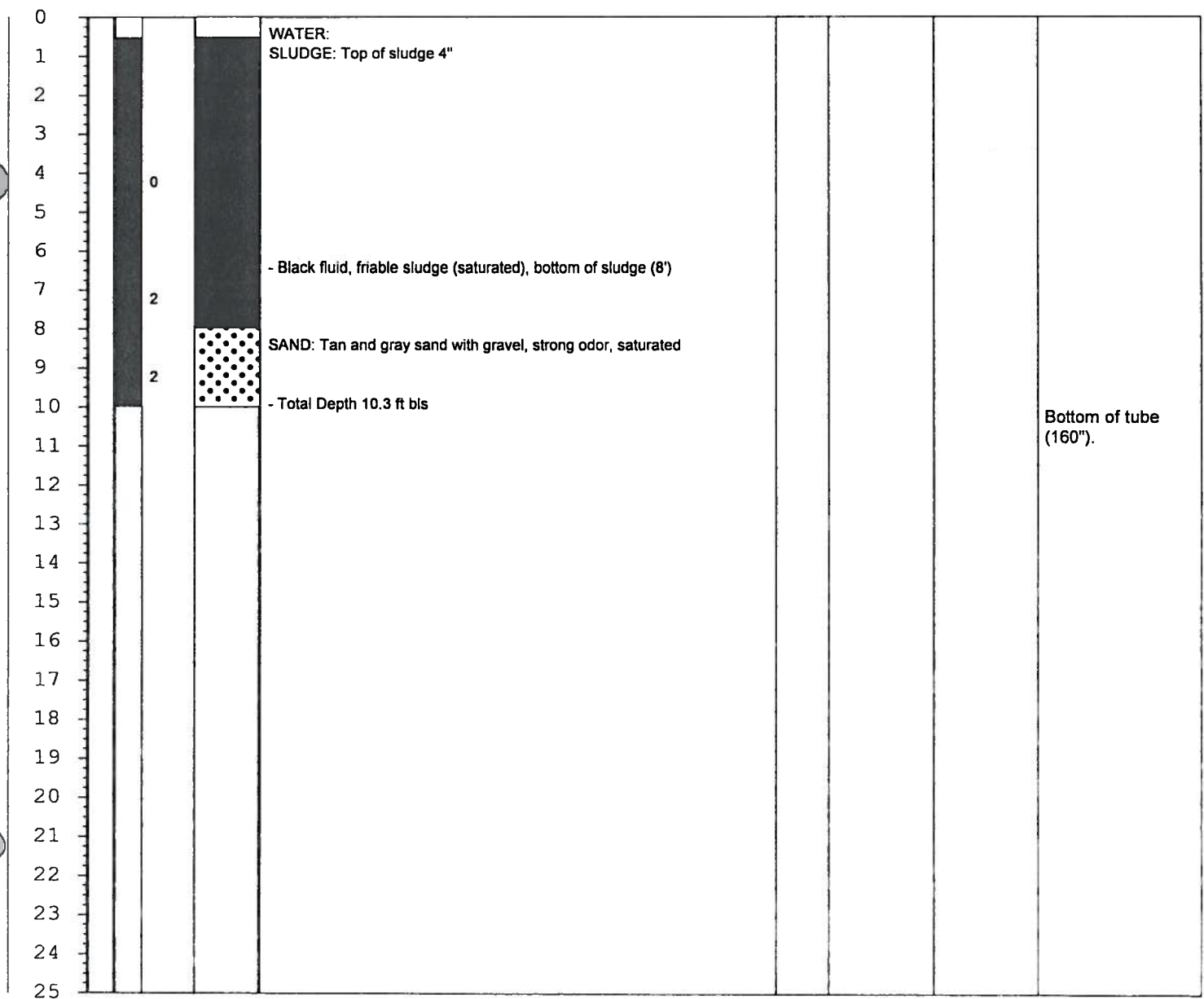
Drilling Fluid: None Drilling Method Used: Vibracore

Drilling Contractor: Devonian Group, LLC Driller: Lonny Helper: Mark

Prepared By: S. Henderson Hammer Weight: NA Hammer Drop (inches): NA

Fill	Silty Clay	Silt	Sandy Silt	Silty Sand	Shelby Tube	Water First Encountered
Clay	Sandy Clay	Clayey Silt	Sand	Clayey Sand	Split Spoon	Water Level After 10 Minutes

SAMPLE DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft)	SYMBOL	VISUAL DESCRIPTION	USCS (LUP/PI)	PP		OVM (wo/F) (ppm)	REMARKS
						H	V		





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Baton Rouge, LA 70816

# SAMPLE / CORE LOG

Spring/Well: IBS-5 Project No.: Hercules/OH003000.MS24.00001  
 Site Location: Hattiesburg, Mississippi Drilling Started: 4/15/10 0930 Drilling Completed: 4/15/10

Land-Surface Elev.: 160.61 Surveyed: X Estimated: \_\_\_\_\_ Datum: NAD83-State Plane Mississippi East 2301

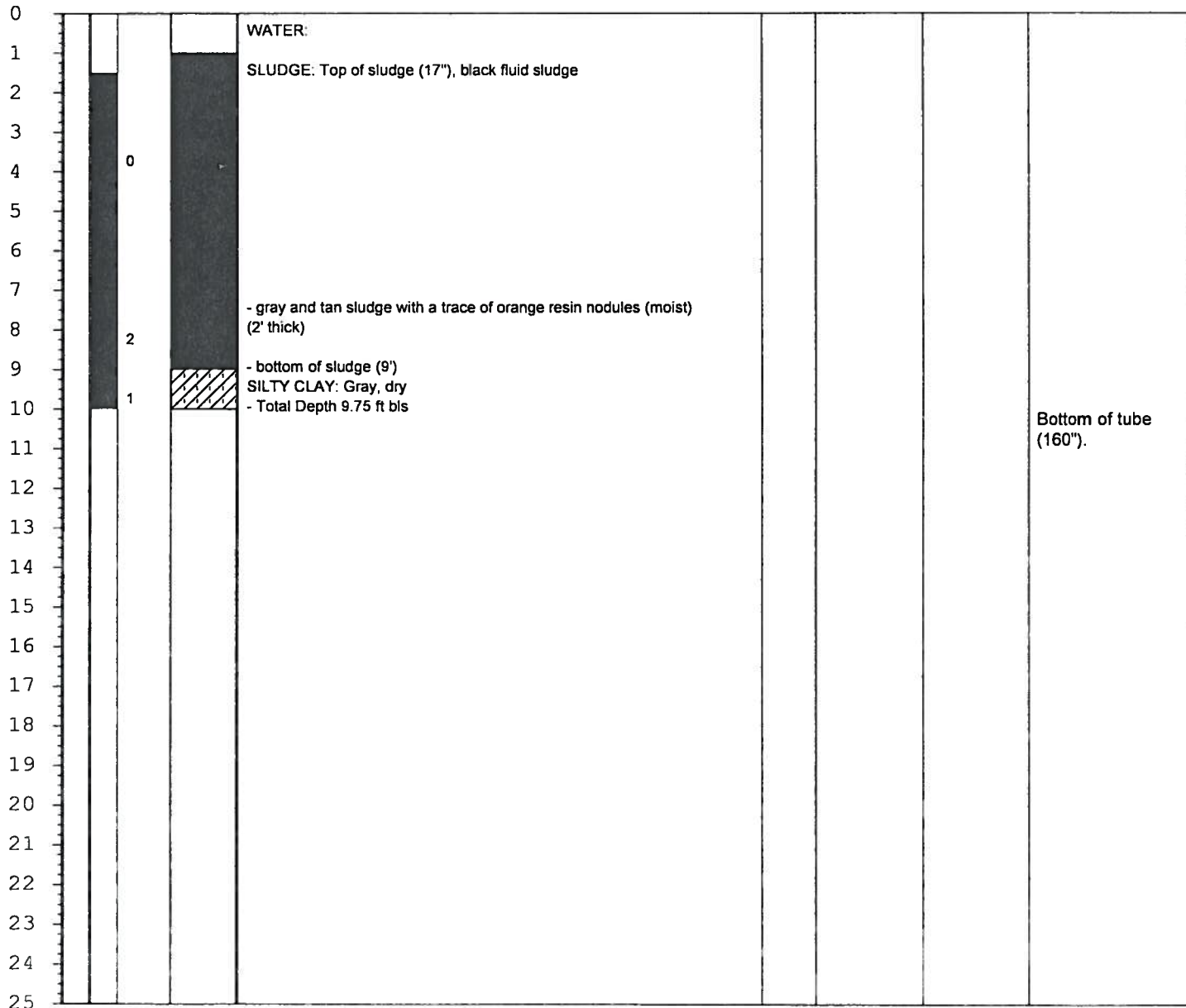
Drilling Fluid: None Drilling Method Used: Vibracore

Drilling Contractor: Devonian Group, LLC Driller: Lonny Helper: Mark

Prepared By: S. Henderson Hammer Weight: NA Hammer Drop (inches): NA

Fill	Silty Clay	Silt	Sandy Silt	Silty Sand	Shelby Tube	Water First Encountered
Clay	Sandy Clay	Clayey Silt	Sand	Clayey Sand	Split Spoon	Water Level After 10 Minutes

SAMPLE DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft)	SYMBOL	VISUAL DESCRIPTION	USCS (LL/PL/PI)	PP		OVM (wo/F) (ppm)	REMARKS
						H	V		





**ARCADIS**  
10352 Plaza Americana Drive  
Baton Rouge, LA 70816

# SAMPLE / CORE LOG

Boring/Well: IBS-6 Project No.: Hercules/OH003000.MS24.00001 Page 1 of 1

Site Location: Hattiesburg, Mississippi Drilling Started: 4/15/10 1020 Drilling Completed: 4/15/10

Land-Surface Elev.: 160.66 Surveyed: X Estimated:        Datum: NAD83-State Plane Mississippi East 2301

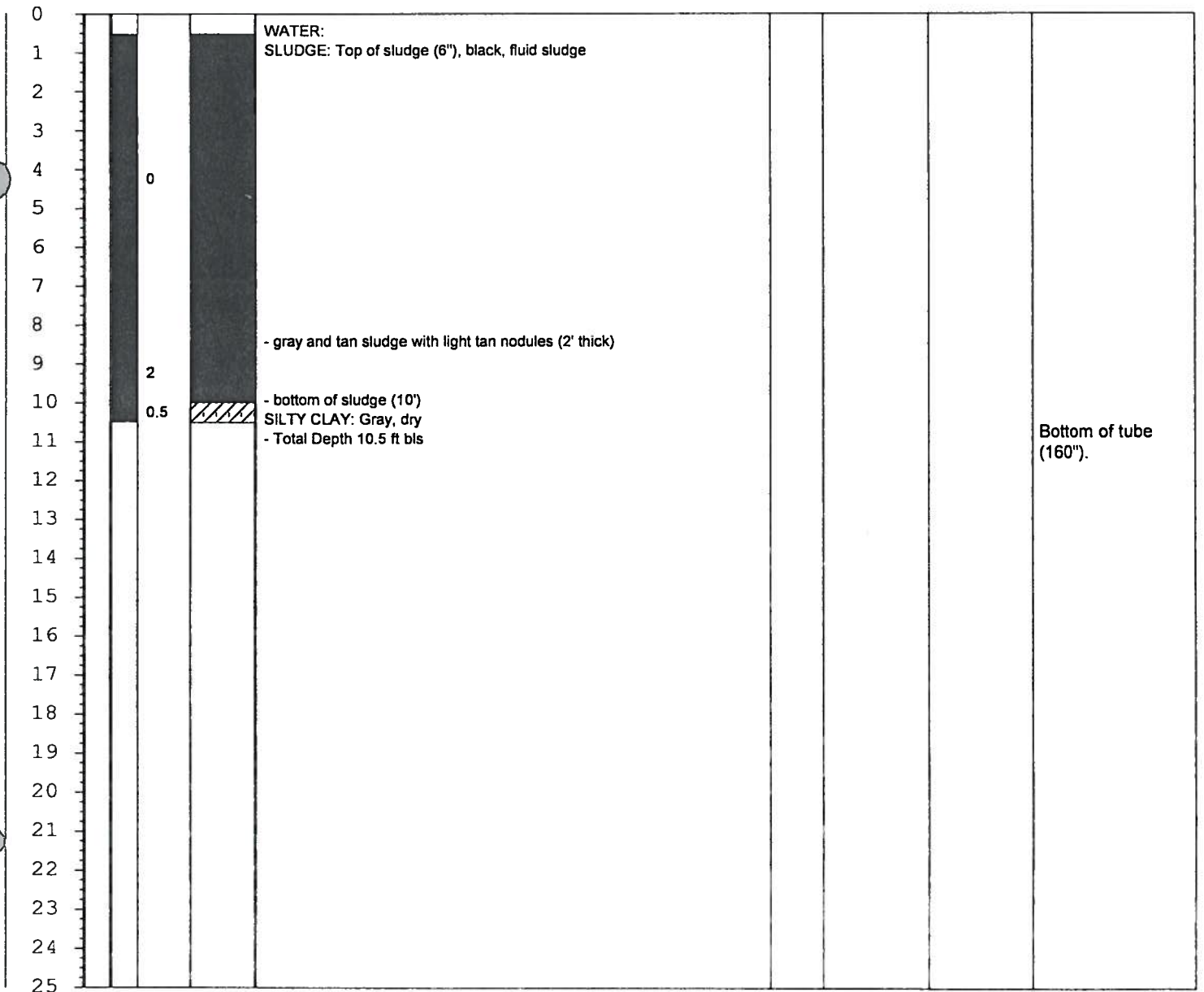
Drilling Fluid: None Drilling Method Used: Vibracore

Drilling Contractor: Devonian Group, LLC Driller: Lonny Helper: Mark

Prepared By: S. Henderson Hammer Weight: NA Hammer Drop (inches): NA

Fill	Silty Clay	Silt	Sandy Silt	Silty Sand	Shelby Tube	Water First Encountered
Clay	Sandy Clay	Clayey Silt	Sand	Clayey Sand	Split Spoon	Water Level After 10 Minutes

SAMPLE DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft)	SYMBOL	VISUAL DESCRIPTION	USCS (LL/PL/PI)	PP		OVM (wo/F) (ppm)	REMARKS
						H	V		





**ARCADIS**  
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Baton Rouge, LA 70816

# SAMPLE / CORE LOG

Boring/Well: IBS-7 Project No.: Hercules/OH003000.MS24.00001 Page 1 of 1

Site Location: Hattiesburg, Mississippi Drilling Started: 4/15/10 1420 Drilling Completed: 4/15/10

Land-Surface Elev.: 160.57 Surveyed: X Estimated:          Datum: NAD83-State Plane Mississippi East 2301

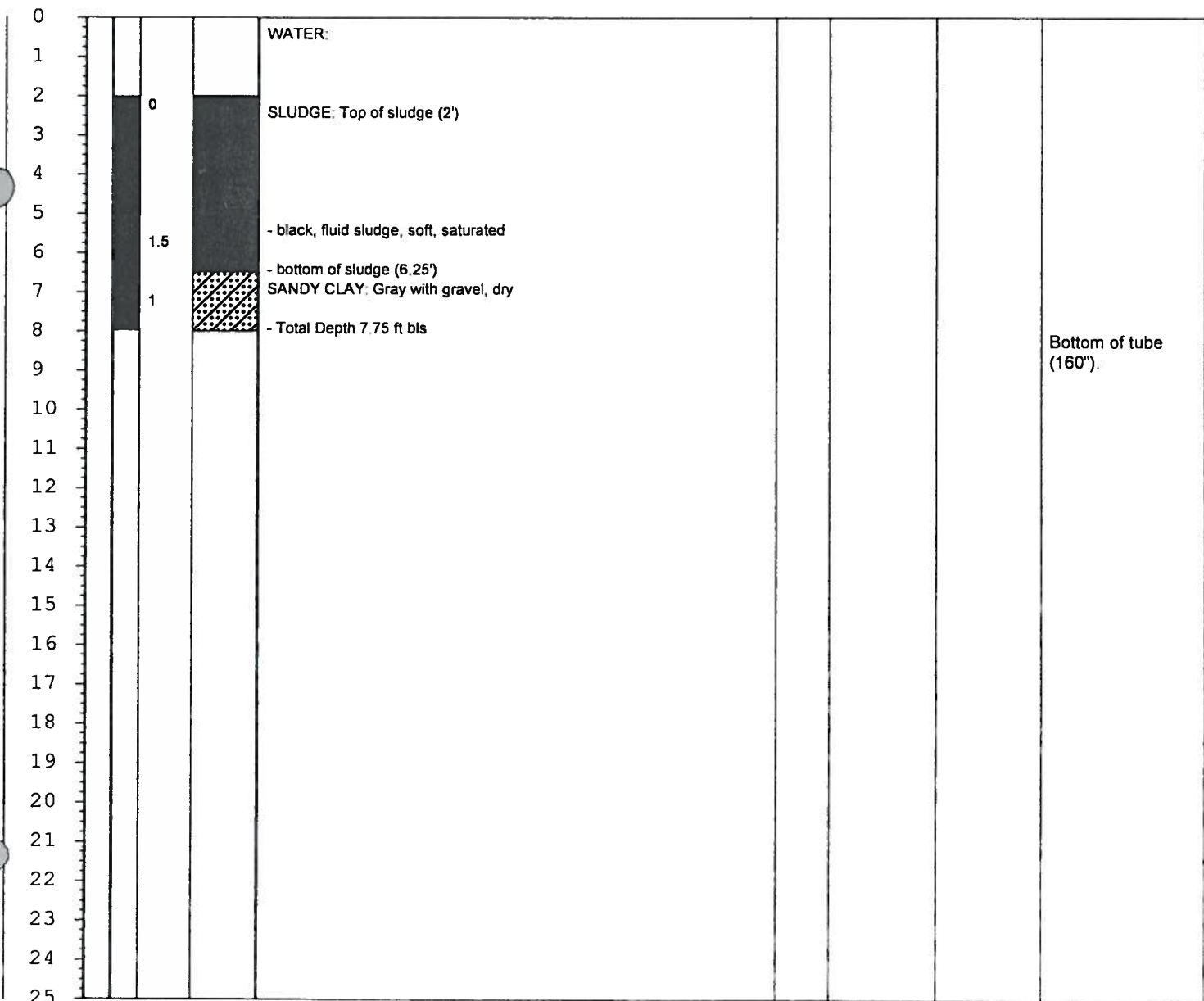
Drilling Fluid: None Drilling Method Used: Vibracore

Drilling Contractor: Devonian Group, LLC Driller: Lonny Helper: Mark

Prepared By: S. Henderson Hammer Weight: NA Hammer Drop (inches): NA

Fill	Silty Clay	Silt	Sandy Silt	Silty Sand	Shelby Tube	Water First Encountered
Clay	Sandy Clay	Clayey Silt	Sand	Clayey Sand	Split Spoon	Water Level After 10 Minutes

SAMPLE DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft)	SYMBOL	VISUAL DESCRIPTION	USCS (LL/PL/PI)	PP		OVM (wo/F) (ppm)	REMARKS
						H	V		





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 10352 Plaza Americana Drive  
 Baton Rouge, LA 70816

# SAMPLE / CORE LOG

Boring/Well: IBS-8 Project No.: Hercules/OH003000.MS24.00001 Page 1 of 1

Site Location: Hattiesburg, Mississippi Drilling Started: 4/15/10 1530 Drilling Completed: 4/15/10

Land-Surface Elev.: 160.67 Surveyed: X Estimated:          Datum: NAD83-State Plane Mississippi East 2301

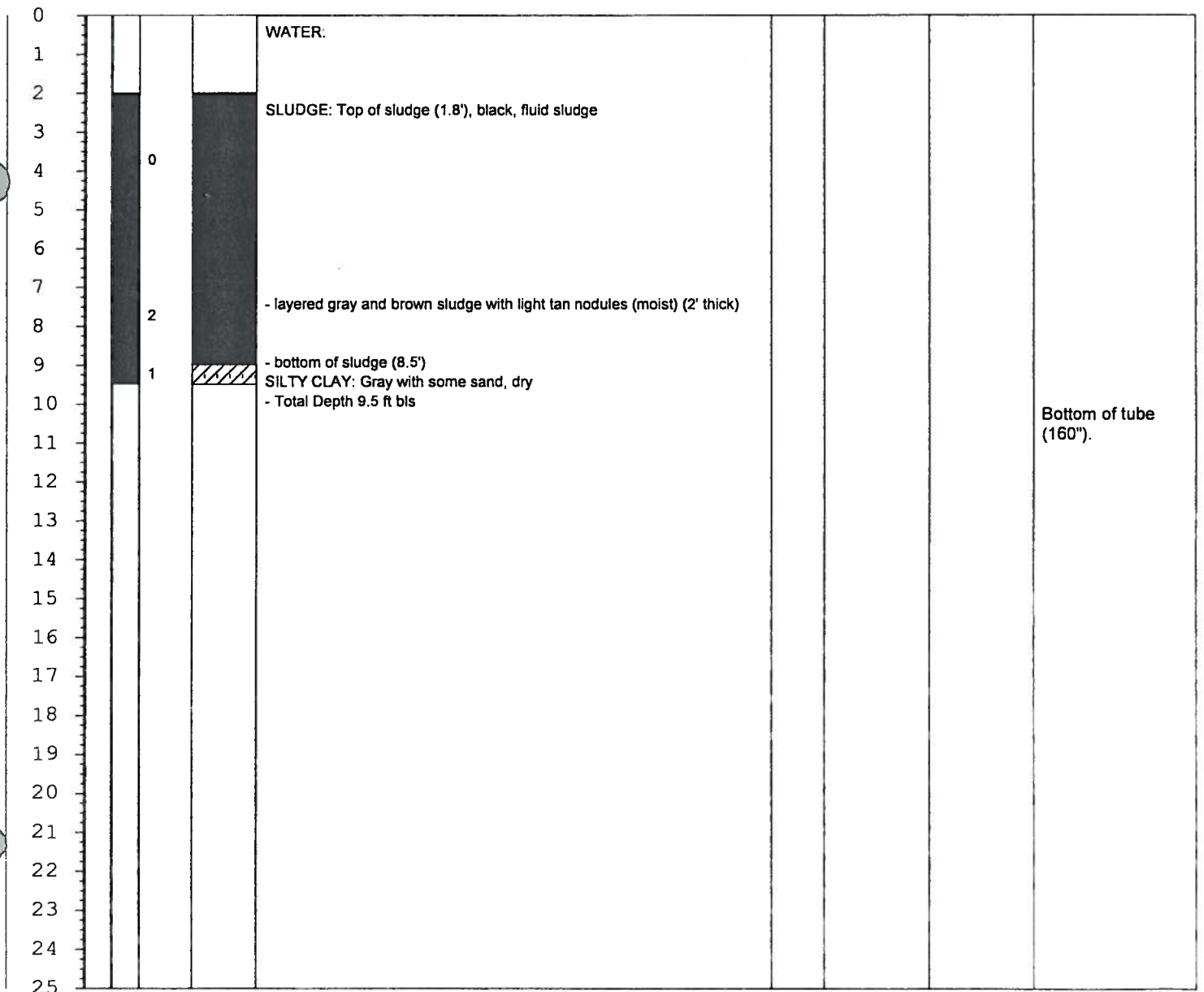
Drilling Fluid: None Drilling Method Used: Vibracore

Drilling Contractor: Devonian Group, LLC Driller: Lonny Helper: Mark

Prepared By: S. Henderson Hammer Weight: NA Hammer Drop (inches): NA

Fill	Silty Clay	Silt	Sandy Silt	Silty Sand	Shelby Tube	Water First Encountered
Clay	Sandy Clay	Clayey Silt	Sand	Clayey Sand	Split Spoon	Water Level After 10 Minutes

SAMPLE DEPTH (ft)	SAMPLE TYPE	RECOVERY (ft)	SYMBOL	VISUAL DESCRIPTION	USCS (LL/PL/PI)	PP		OVM (wo/F) (ppm)	REMARKS
						H	V		







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**Appendix C**

Analytical Reports