SITE ASSESSMENT REPORT
State of Louisiana and the Iberville Parish School Board
v. BP America Production Company, et al.
Legacy Project Nos. 18-024-001, 18-024-002, 18-024-003, and 18-024-004
18th Judicial District Court, Division "A", Docket No. 72605
Grand River and Sullivan Lake Oil and Gas Fields
Section 16, Township 10 South, Range 11 East
Plaquemine, Iberville Parish, Louisiana
October 13, 2017

Prepared for

Mr. Gary W. Snellgrove
Director
Louisiana Department of Natural Resources
Environmental Division
Post Office Box 94275
Baton Rouge, Louisiana 70804-9275
(337) 593-7600

and

Mr. Benn Vincent, Jr.
Kean Miller, LLP
II City Plaza
201 St. Charles Avenue, 45th Floor
Baton Rouge, Louisiana 70802
(225) 382-3489

Mr. Eric E. Jarrell
King, Krebs & Jurgens, P.L.L.C.
400 Convention Street, Suite 700
New Orleans, Louisiana 70170
(504) 582-3800

Mr. F. Barry Marionneaux
F. Barry Marionneaux, APLC
23615 Railroad Avenue
Plaquemine, Louisiana 70764
(225) 687-6884

Prepared by

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
91 Apollo Road, Scott, Louisiana 70583
Post Office Box 60295, Lafayette, Louisiana 70596-0295
(337) 261-1963

SITE ASSESSMENT REPORT

October 13, 2017

Hydro-Environmental Technology, Inc. (HET) is submitting this report to Mr. Gary W. Snellgrove with the Department of Natural Resources Office of Conservation, in Baton Rouge, Louisiana, at the request of the law firms of Kean Miller, LLP, on behalf of BP Corporation North America; King, Krebs & Jurgens, P.L.L.C., on behalf of W & T Offshore, Inc.; and F. Barry Marionneaux, APLC, on behalf of Houston Oil & Gas Company, Inc., for work performed during the site investigation of the Iberville Parish School Board property located in Section 16, Township 10 South, Range 11 East in Iberville Parish, Louisiana. This report was prepared in adherence to Hydro-Environmental Technology, Inc.'s strict quality assurance/quality control procedures to ensure that the report meets the highest standards in terms of the methods used to obtain the information presented.

This report is based on field data collected and information received from the client, other parties associated with the client and other responsible third parties during the period of December 20, 2013 to October 13, 2017. All conclusions and recommendations are based on available information cited herein, and should be reviewed within this context. Should conditions at the sites in question change, or additional information become available, especially with regard to prior site conditions, it may be necessary to modify these conclusions and recommendations accordingly in the future. The contents of this report are proprietary, and text, illustrations, and/or any other parts of this report may not be reproduced without the express written permission of Hydro-Environmental Technology, Inc.

Should you have any questions or need further information, please feel free to call.

Sincerely,

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
Project No. 4651.39

Darryrl Carroll
Hydrogeologist

Brent T. Pooler, P.G. (LA#274)
Senior Hydrogeologist

DCC/BTP/eop

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1.0: INTRODUCTION

Hydro-Environmental Technology, Inc. (HET) conducted a hydrogeologic and regulatory assessment of the irregularly shaped Section 16, Township 10 South, Range 11 East property located in the Grand River and Sullivan Lake Oil and Gas Fields, near Plaquemine, Iberville Parish, Louisiana. The State of Louisiana and the Iberville Parish School Board (IPSB) brought litigation against BP America Production Company, and others (18th Judicial District Court for the Parish of Iberville, Docket No. 72,605, Division "A"), alleging environmental damage with respect to historic oilfield exploration and production activities and sought restoration costs based on data contained in a report dated December 01, 2015, issued by their consultant, ICON Environmental Services, Inc. (ICON). HET, as part of the overall response by defense experts to the plaintiffs' allegations, performed an assessment to determine the environmental conditions of the property and to provide an alternative and more feasible plan than that proposed by the plaintiffs' consultant.

A court recorded settlement agreement between the litigants was approved on August 15, 2017. As part of the settlement agreement, BP, Houston Oil & Gas Company, Inc., and W & T Offshore, Inc. have agreed to evaluate and remediate, as appropriate and necessary, areas of potential environmental concern identified in the lawsuit, including historical oilfield locations and pits in an effort to achieve compliance with current applicable regulations. Appendix M contains a copy of the Louisiana Department of Natural Resources (LDNR) letter of no objection of the settlement agreement in which the landowner consents to regulatory closure, including the use of all applicable regulations, along with risk based closure, as well as copies of the respective Conservation Orders.

The investigation conducted by HET was done in accordance with applicable and appropriate regulations to determine the most feasible plan for the site, including Statewide Order 29-B per the LDNR regulations (LAC 43:XIX Chapter 3) and the Risk Evaluation/Corrective Action Program (RECAP), as promulgated by the Louisiana Department of Environmental Quality (LDEQ) under the most recent guidance document dated October 20, 2003 (LAC 33:1 Chapter 13). The application of RECAP standards is pursuant to LAC 43:XIX.319 and the memorandum of understanding between the LDNR and the LDEQ dated February 2011. Data presented in this report has also been presented to the Louisiana Department of Natural

Resources, Office of Conservation (LDNR) under Office of Conservation Legacy Project No. 018-024 per the requirements outlined in Act 312 for the evaluation of oilfield sites in the State of Louisiana.

1.1: Site Description

The IPSB property investigated is located in a remote section of Iberville Parish that is accessible by boat only, typically docking at the Jack Miller's Landing located at the terminus of Belleview Drive, west of Plaquemine, Louisiana. The entrance to the property is located approximately 1.9 miles south of the landing along Grand River/Intracoastal Waterway and thence approximately 1.2 miles west of the Intracoastal along oilfield access canals. The property itself encompasses an irregular section that is geographically located in Section 16, Township 10 South, Range 11 East in Iberville Parish, Louisiana. Figure 1 contains a topographic map illustrating the location of the property.

The property investigated consists of a series of submerged bottomland hardwood, as determined by Mr. Arville Touchet with Bayou Cajun Environmental, Soil, and Wetland Services, Inc. (Appendix K) with the natural state waterways of Willow Lake located along the eastern portion of the section and Sullivan Lake located along the western portion of the section. A series of barge canals have been dug to grant access to those historical exploration and production sites, with the spoil generated during the construction of the canals serving as limited and isolated elevated areas, some of which were formerly utilized for oilfield facilities. In addition to the wetland delineation, a separate root zone study was performed by Dr. Luther Holloway with Holloway Environmental Services, Inc. and Blue Frog Environmental, Soils and Wetland Services, L.L.C. (Appendix J). Given the remote nature of the site coupled with the fact that property is densely vegetated, the site is currently utilized for recreational camping, fishing, and hunting purposes only for which the canals serve as access. A houseboat is located along the northern corner of the property in a canal; however, no other structures or camps were observed on the property at the time of the assessments. Finally, the site, other than isolated sections of spoil banks, was observed as flooded with several feet of water on multiple occasions during the first quarter of 2016, from late winter to early spring. Figure 2 contains a 2015 aerial photograph of the property, while Figure 3 depicts the preliminary results of the wetland delineation performed by Mr. Touchet.

Natural ground elevations for the site property, as determined from a registered land surveyor in the portion of the site investigated, ranged from just over two (2) feet at the natural grade to nearly seven (7) feet along the spoil banks located adjacent to the barge canals. In addition, a series of bottom elevation measurements were taken to determine the depths of the canals that are presented in the cross sections discussed further below in Section 2.0. Appendix E contains a copy of the survey conducted by M.P. Mayeux Surveying and Boundary Consulting, LLC. Appendix I contains site photographs of the area of investigation taken on March 16, 2016, by HET.

1.2: Exploration History

According to the LDNR online database, nine (9) oil and gas wells were drilled on the Section 16 property as part of the Grand River and Sullivan Lake Oil and Gas Fields between 1962 and 1987. The petition in the litigation lists seven (7) of these wells. Amoco Production Company, a predecessor to BP, operated select wells between 1967 and 1984. Figure 4 contains a 1987 aerial photograph illustrating the approximate locations of wells drilled on the property separated by those listed on the petition and those not included on the petition. Text Table 1 on the following page contains a list of wells drilled on the property, as well as the current status, spud date, date of plugging and abandonment, if applicable, and last operator of record, as obtained from the LDNR SONRIS online database for reference purposes.

Text Table 1
Exploration and Production History
IPSB Property
Grand River and Sullivan Lake Oil and Gas Fields

LDNR Serial Number	Well Name	Well #	Current Status	Spud Date	P&A Date	Last Operator of Record
Grand River Oil and Gas Field						
89806[1]	Hawkins SWD	001	30	05/05/62	09/22/97	Sun Resources, Inc. [2]
121499[1]	IPSB	001	$30^{(20)}$	09/20/67	06/07/90	Windham Oil Co-Ekberg-Sinclair [2]
122268[1]	IPSB	002	$30^{(20)}$	11/23/67	06/25/90	Ekberg-Sinclair & Associates
122790[1]	IPSB	001-D	$30^{(10)}$	09/20/67	06/07/90	Windham Oil Company [2]
123767[1]	IPSB	003	$30^{(10)}$	04/02/68	7/11/90	Ekberg-Sinclair & Associates
124426[1]	IPSB	003-D	$30^{(10)}$	04/02/68	7/11/90	Ekberg-Sinclair & Associates
129747[1]	IPSB	004	23	08/28/69	09/11/69	Midwest Oil Corp.[2]
199089	IPSB	001	29	05/11/85	08/10/87	North American Royalties, Inc.
Sullivan Lake Oil and Gas Field						
204903	IPSB	001	29	04/08/87	05/19/87	Sabine Corporation [2]

1 - Wells Listed in the Petition
2 - Organization Red Flag - No Responsible Party
Spud - date that the well was drilled
23 - Act 404 Orphan Well
29 - dry and plugged
30 - plugged and abandoned
$30^{(10)}$ - plugged and abandoned (oil producer)
$30^{(20)}$ - plugged and abandoned (gas producer)

Based on site reconnaissance during the course of the investigations, there is a limited visual oilfield footprint remaining on-site, other than the barge canals. There are existing former pit areas associated with the IPSB Nos. 001/001-D, 002, and 003/003-D well sites (Serial Nos. 121499/122790, 122268, and 123767/124426, respectively) and a closed pit formerly located at the Hawkins SWD tank battery area along the northeastern corner of the site that will be subject to remediation based on a review of the laboratory data discussed in Section 4.0 below. In addition, there are limited remaining pipe racks at each of these three (3) sites and some remaining pilings and equipment at the IPSB No. 003/003-D sites (Serial Nos. 123767/124426). HET has obtained bids to remove the equipment and conduct regulatory closure of the former pits as discussed further below, with other defense representatives working with the LDNR to remove the elevated well casing at the now plugged IPSB No. 004 (Serial No. 129747). Refer to Appendix I for site photographs of the property and areas of investigation.

From information received, the LDEQ issued Compliance Order No. WE-C-94-0199 to Sun Resources, Inc. on January 13, 1995, in response to a spill discovered at the Hawkins SWD tank battery area. The documents indicate that the United States Coast Guard (USCG) discovered a spill of produced water and crude oil from a submerged source to Bayou Sorrel and Willow Lake from the Hawkins SWD tank battery area on September 28, 1994. Investigations by the LDEQ that day also noted approximately four (4) barrels of oil on ground surfaces under the production tanks and outside of the containment areas associated with the tanks and a separator unit. Therefore, the USCG proceeded with cleanup under Federal Water Pollution Control Act using funds in Oil Spill Liability Trust Fund that totaled $111,543.42 and later sought reimbursement from potential responsible parties of Sun Resources, Inc. and Sunchase Exploration Inc. Research is currently ongoing with regard to the methods of restoration and other documentation on the emergency response of the spill by the USCG.

1.3: Previous Investigations

ICON Environmental Services, Inc. (ICON) conducted an assessment of the property, on behalf of the State of Louisiana and the IPSB, as part of the litigation brought against BP, et al. and presented their findings and proposed remediation plan in a report dated December 01, 2015. Prior to issuance of the 2015 report, ICON performed initial sampling of the former pit area associated with the IPSB No. 001/001-D (Serial Nos. 121499,122790) on June 06, 2013, as summarized in a letter report that is incorrectly dated March 07, 2013. The ICON investigation included the installation of a series of soil borings (SB1-SB30) for the collection of soil samples, of which seven (7) borings (SB1, SB5, SB9, SB16, SB24, SB26, and SB27) were converted into temporary monitor wells for the collection of groundwater samples. The main areas of investigation conducted by ICON included the Hawkins SWD (Serial No. 89806) tank battery area and the IPSB Nos. 001/001-D, 002, 003/003-D (Serial Nos. 121499/122790, 122268, and 123767/124426, respectively). ICON also collected bottom canal soil samples in the vicinity of the IPSB No. 004 (Serial No.129747) and installed soil borings and monitor wells (SB26 and SB27) for the collection of soil and groundwater samples along the eastern banks of Sullivan Lake.

HET conducted oversight and collected split samples during those sampling events conducted in 2015, however, was not present for the initial sampling event conducted in 2013. Figure 5 contains a 2015 aerial photograph of the property depicting the locations of borings and monitor wells installed on the site by ICON. Tables 1 and 2 in Appendix B contain analytical summaries of soil samples collected from all sampling parties to date for Statewide Order 29-B and RECAP parameters, respectively. Tables 3 and 3A in Appendix B contain a groundwater analytical summary from groundwater samples collected from all sampling parties to date.

2.0: GEOLOGICAL SETTING

The IPSB property investigated is located approximately nine (9) miles southwest of Plaquemine, Louisiana, in a low lying portion of the Atchafalaya Basin within the Deltaic Plain. Major surface water features are located in the vicinity of the property, including Willow Lake to the north and east, Sullivan Lake to the west, and the Upper Grand River to the east of the property. The site is heavily wooded and surrounded by surface water bodies, borrow canals, and levees utilized for water drainage control and river channels, including the Upper Grand River, that comprise a portion of the major drainage basin in this area (Figure 1).

2.1: Topography and Drainage

The Geologic Map of Louisiana, Baton Rouge Quadrangle Map (2000), indicates that surface topography is controlled by distributary complexes of the Atchafalaya River (Figure 6). These Holocene cyclic deltaic deposits range from natural levees to lacustrine to backswamp deposits that collectively formed the varying topography across the site. Based on the USGS topographic map of the Sullivan Lake Oil and Gas Field, surface elevations range from sea level to just above sea level along the areas outside of the drainage basin. Additionally, the USGS depicts this property as a swamp.

According to the United States Department of Agriculture (USDA) Soil Survey of Iberville Parish (June 1977), soil types for the IPSB property consist of the Fausse Association, now referred to as the Dowling Association on the USDA online database, and surface water bodies. These soils are flooded much of the time and consist of level clay soils that originate from Mississippi River alluvium. These poorly drained to very slow permeable soils are frequently flooded from December to July and are only utilized for wildlife habitat and hardwood production. The occurrences of these soil types reflect the depositional and topographic nature of this area. The site property formation is the result of soil bank deposits, and overall surface drainage is controlled by water levels in the canals and within the overall Atchafalaya Basin. Figure 7 illustrates the soil types on the property as defined by the USDA.

From information obtained from the Environmental Regulatory Code (LAC 33.IX.1123), the site is located within the Upper Grand River and Lower Flat River from the headwaters to the Intracoastal Waterway

basin that is assigned the subsegment number 120107. Surface water bodies, including the tributaries and drainage canals, within this subsegment are not utilized as sources of drinking water. Salinity values for these surface water bodies for this subsegment are listed as 250 milligrams per liter (mg/L) for chlorides and 500 mg/L for total dissolved solids (TDS).

2.2: Depositional Environment

Varying energy levels within the Deltaic Lobes of the Mississippi River have controlled the topography and depositional environment of Iberville Parish for thousands of years. These Holocene deposits were formed as part of a lacustrine deltaic complex and have depositional environments that range from natural levees to crevasse splay to backswamp deposits within each meander belt. At the IPSB property, backswamp and lacustrine deposits, which consist of clay, are the predominant depositional environment. These backswamp deposits formed the confining unit overlying the sands of the Mississippi River alluvial aquifer (MRVA).

2.3: Site Hydrogeology

The near surface hydrogeologic and depositional environments at the site were determined by geologic cross sections that utilized various data generated during the course of this investigation. Figures 8 and 9 contain the lithologic cross sections A-A' and B-B', respectively, depicting the near surface lithology at the site along different transects of the property, the locations of which are illustrated in Figure 10. Appendix C contains a copy of geologic boring logs prepared by HET. Appendix D contains a copy of the laboratory results from geotechnical core samples collected during HET's investigation.

The site hydrogeology is dominated by low energy backswamp and lacustrine deposits that are predominately clay to a depth of sixty (60) feet below land surface (BLS), with a minor amount of silts with low moisture content in selected areas. Cross section A-A' illustrates massive clay unit across the site in a north-south direction. In this section, the silt zones typically occur at depths greater than ten (10) feet BLS and are discontinuous to nonexistent, while ranging in thicknesses from zero (0) to approximately two (2) feet. Geotechnical data collected from HET deep boring DB1 indicates that clay soils have permeability values that

range from 1.4 x 10^{-7}cm/sec to 5.40 x 10^{-8} cm/sec. Canals located on the property range in depth from 2.4 feet to 3.7 feet on the north side and from 1.1 feet to 4.2 feet on the south side of the site and are not in direct hydraulic communication with the discontinuous silts that serve as limited water bearing zones (Figure 8). Table 4 in Appendix B contains a summary of the geotechnical results from core samples collected during the installation of HET deep boring DB1.

Cross section B-B' is a west to east section that illustrates the massive clay deposits and limited silt deposits to a depth of sixty (60) feet BLS. As shown in Figure 9, the majority of the site is composed of clay with intermittent silt zones that occur below ten (10) feet BLS. The silt zones are discontinuous and contain very little water. The canal on the west side of the site ranges in depth from 1.1 feet to 2.8 feet in depth and is also not in direct hydraulic communication with the discontinuous silts that serve as limited water bearing zones. These clay deposits recorded at this site form the confining unit that overlies the MRVA in this portion of Iberville Parish.

2.4: Regional Hydrogeology

According to the LDEQ Aquifer Recharge Potential Map (Baton Rouge Quadrangle), the site is part of a larger area that does not recharge major freshwater aquifers. United States Geologic Survey (USGS) data indicates that no recharge occurs to the underlying aquifer system from sediment in and around the site. The Geologic Map of Louisiana designates the site as part of the Deltaic plain, consisting of alluvium sediments derived from Red or Mississippi River deposits.

In Iberville Parish, the MRVA, locally known as the Plaquemine aquifer, can be utilized as a source of groundwater. Groundwater public supplies are limited in this area, and surface water is utilized for the majority of water needs, such as industrial and power generation. The MRVA in this area contains groundwater water quality that is poor and contains large concentrations of iron, magnesium, and calcium. Recharge to this aquifer is accomplished directly by infiltration of rainfall over the river valleys and upward vertical movement from underlying aquifers. In and around the vicinity of the site, no wells are screened in the MRVA.

Review of electric log data indicates that the MRVA occurs at a depth greater than 100 feet BLS in and around the IPSB property. Review of electric log data from 1953 to 1954 in the area also indicates that the base of the fresh water occurs at depths ranging from 275 to 305 feet BLS. Regional studies by Whitman (1972) confirm these findings and indicate that the base of freshwater could be as shallow as 210 feet BLS.

Review of available databases indicates that no water wells are registered with the state of Louisiana or have been drilled within a one (1) mile radius of the property. Figure 11 illustrates the locations (or lack thereof) of registered water wells within a one (1) mile radius of the site.

3.0: INVESTIGATION DESCRIPTION

Between September 21, 2015 and March 31, 2016, HET conducted an independent assessment of the IPSB property. The investigation performed by HET included the installation of a series of borings, monitor wells, and a survey of topographic features of the property. ICON, as representatives of the plaintiffs in this litigation, observed all field work and collected split samples during the course of HET's investigation of the property. All wells were installed by HET in accordance with the Louisiana Department of Transportation and Development (LADOTD)/LDEQ regulations regarding soil boring and monitor well installations. HET (WWC-416) and its contractors (Walker-Hill, WWC-574) are licensed water well contractors in the State of Louisiana.

For assessment purposes, the site has been divided into separate areas. These areas are based on the following operational areas:

a. Area 1 and Area 2 - Hawkins SWD tank battery area

b. Area 3 - IPSB Nos. 001/001-D (Serial Nos. 121499/122790)

c. Area 4 - IPSB Nos. 003/003-D (Serial Nos. 123767/124426)

d. Area 5 and Area 6 - IPSB No. 002 (Serial No. 122268)

3.1: Boring and Monitor Well Installations

HET installed twenty-one (21) soil borings (B1-B15, VC01-VC05, DB1) and six (6) monitor wells (MW1-MW6). Figure 12 illustrates the locations of the monitor wells and soil borings installed by HET.

The borings and monitor wells were installed to evaluate site conditions with respect to historical oilfield exploration and production related activities based on a review of previous assessments and historical data to evaluate areas of potential concern and/or to further evaluate the information presented by ICON during its investigation of the site. During each boring installation, appropriate field screening, lithologic descriptions of the geological setting, and the collection of soil and groundwater samples for subcontracted laboratory analyses were conducted. The complete geologic logs with photoionization detector (PID) and electrical conductivity (EC) meter readings for borings and monitor wells installed are contained in Appendix C.

The borings and monitor wells were installed by direct push technology utilizing either a 2.25 or 3.25 inch outer diameter dual core with interior sample core barrel with dedicated acetate liner for each sample interval. The wells were constructed of a one (1) inch outer diameter schedule 40 PVC pipe consisting of a ten (10) foot section of 0.010 inch slotted screen pre-packed with a 20/40 grade silica sand attached to an appropriate section of solid PVC riser. The borehole annulus outside of the pre-pack screen was filled with a 20/40 grade silica sand to above the screened interval, and a two (2) foot bentonite seal was placed on top of the sand pack and allowed to hydrate. The remaining annulus of the monitor wells was grouted to land surface utilizing a cement/bentonite slurry. The monitor wells were completed with aboveground protective casings with well seals and a concrete pad to allow for future sampling, as necessary. In addition, soil borings VC01-VC05 were installed utilizing dedicated three (3) inch outer diameter aluminum tubes for each sampling location that was advanced until the point of refusal by vibracore technology.

All core barrels, bits, and sampling equipment utilized in the boring installations were properly decontaminated and cleaned prior to each drilling activity. In addition, new, disposable nitrile gloves were utilized during sample collection.

Figure 13 contains a generalized monitor well schematic. Table 5 in Appendix B contains the monitor well construction and groundwater sampling data. The monitor well registration forms for monitor wells MW1-MW4 are contained in Appendix E.

3.2: Soil Sample Collection

Continuous soil samples were obtained from a direct push core during the installation of borings via direct push core barrel with dedicated, interior liners for each interval sampled. A representative sample was obtained from the soil core on two (2) foot intervals for lithologic description and placed in field bags for field screening by head space analysis using an Ion Science® PID. In addition, each interval was screened in the field for chloride concentrations by a field EC meter. The complete geologic boring logs with PID and EC readings for all borings and monitor wells are contained in Appendix C.

Soil samples were retained for laboratory analyses at the total depth (TD) of the boring, at a depth in which the soil/water interface was encountered, and/or at a depth in which field observations indicated the potential presence of constituents of concern between land surface and fifteen (15) feet BLS and from fifteen (15) feet BLS to the TD of the borehole. Soil samples were also retained at land surface on one (1) foot intervals to assist in the evaluation of the surface chlorides as it relates to vegetation growth by other experts. All soil samples were properly containerized, labeled, chilled, and transported under chain-of-custody records to either Waypoint Analytical, Inc. (ETC) in Memphis, Tennessee or SGS Accutest Laboratories in Lafayette, Louisiana, for selected analyses of the composite or discrete parameters listed below. Appropriate detection limits were obtained by laboratory personnel on all parameters for application to LDNR Statewide Order 29-B or RECAP, as appropriate.

1. LDNR Statewide Order 29-B parameters (EC/SAR/ESP, oil and grease, and True Total Barium)
2. cation exchange capacity (CEC) by EPA SW-846 Method 9081
3. total chlorides and sulfates by EPA SW-846 Method 9056A
4. synthetic precipitation leachate procedure (SPLP) by Extraction Method 1312

5. metals by EPA SW-846 Method 6010B/7471B
6. benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA SW-846 Method 5035/8260B
7. volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH) by either the Massachusetts (SGS Accutest Laboratories) and/or the TX1006 Method (Waypoint)
8. poly cyclic aromatic hydrocarbons (PAH) by EPA SW-846 Method 8270C
9. bicarbonate (as CaCO3) by Method 2320B
10. percent moisture by Method D2216
11. pH by EPA SW-846 Method 9045D
12. fractional organic carbon (foc)

Tables 1 and 2 in Appendix B contain analytical summaries of soil samples collected from all sampling parties to date for Statewide Order 29-B and RECAP parameters, respectively. Appendix C contains a copy of geologic boring logs for boreholes installed by HET during this investigation. Appendix D contains a copy of laboratory analytical results from geotechical samples collected.

3.3: Groundwater Sample Collection

Groundwater samples were collected from all HET monitor wells upon completion of the monitor well installations. Tables 3 and 3A in Appendix B contain a groundwater analytical summary from groundwater samples collected from all sampling parties to date. Table 5 in Appendix B contains the monitor well construction and groundwater sampling data.

Prior to all sampling events, the monitor wells were developed of three (3) to five (5) standing well volumes or dryness utilizing a low flow pump with dedicated tubing for each location from the center portion of each screened interval unless volume requirements necessitated a different withdrawal depth. During purging activities, the field parameters of pH, temperature, conductivity, and turbidity were collected periodically, as possible, prior to and during purging to ensure that the groundwater samples collected were representative of groundwater conditions and not conditions within the well itself.

Once conditions had stabilized, samples were collected from each well. All samples were properly containerized, labeled, chilled, and transported under chain-of-custody records to SGS Accutest Laboratories, in Lafayette, Louisiana for the following analyses:

1. chlorides, sulfates, and bromides by SW-846 Method 9056A
2. TDS by Method 2540C
3. specific conductance by Method 2510B
4. BTEX by EPA SW-846 Method 8260B
5. total petroleum hydrocarbons (gasoline range (C_6-C_{10}), diesel range (C_{10}-C_{28}), and oil range (C_{28}-C_{35}) organics) by EPA SW-846 Method 8015C
6. EPH and VPH by the Ma Method
7. total and dissolved metals by EPA SW-846 Method 6010B/6020/7470A
8. PAH by EPA SW-846 Method 8270D
9. bicarbonate and carbonate alkalinity by Method 2320B

Quality control/quality assurance was conducted in the following manner during groundwater sampling events: one (1) field duplicate per twenty (20) samples and one (1) equipment blank were collected for laboratory analyses, as well as a trip blank and field blank for volatile parameters. Appropriate detection limits were obtained by laboratory personnel on all parameters for application to the RECAP document, as appropriate. Sample collection was conducted utilizing dedicated tubing for each well, and new, disposable latex gloves were used for each sample collection. Appendix D contains a copy of the laboratory analytical results.

3.4: Water Level Measurements

The elevations of the tops of casings of each monitor well were determined by a registered land surveyor upon completion and monitor well constructions utilizing a global positioning device and adjusted to MSL based on the National Geodetic Vertical Datum (NGVD). Latitude and longitude of the borings and wells were determined to the 100th of a second during the survey.

Water level measurements of all monitor wells installed at the site by HET were taken on October 13, 2015. Based on water level measurements, the overall flow direction appears to be moving away from the canals in a classic losing stream scenario that demonstrates that the canals and waterways in this area are not receiving discharge from the shallow water bearing silts encountered beneath the areas of investigation.

Figure 14 contains a potentiometric surface map for water level measurements taken on October 13, 2015. Table 5 in Appendix B presents the monitor well construction and groundwater sampling data. Appendix E contains a copy of the survey conducted by M.P. Mayeux Surveying and Boundary Consulting, LLC.

3.5: Aquifer Characteristics

HET conducted aquifer tests (slug tests) of four (4) of the monitor wells installed by HET (MW1, MW4, MW5, and MW6) on October 13, 2015. The slug tests were conducted by introducing a solid stainless steel slug into the well and then recording the changes in water level through time using a submersible data level logger, with the data retrieved from the logger upon the completion of each test.

Data gathered in the field was then evaluated following the methods recommended in Table F-2 in the LDEQ RECAP document. For slug tests conducted of unconfined or leaky aquifers, the LDEQ recommends utilizing the Bouwer and Rice (1976) method to estimate the hydraulic conductivity of the aquifer penetrated by the monitor well. Based on the site lithology identified during the installation of soil borings by HET, the shallow water bearing zone was determined to consist of a leaky aquifer. Excel spreadsheets developed by the United States Geological Survey (USGS) for these aquifer test methods were utilized in the data evaluation. Appendix F contains the above referenced aquifer test data.

The average hydraulic conductivity (K) determined from slug tests from the four (4) HET monitor wells tested reported a value of 0.245 feet/day, with K values ranging from 0.013 feet/day (MW4) to 0.890 feet/day (MW6). The estimated well yield for the shallow water bearing zone was calculated following the equation presented in Appendix G, Figure 3 of the LDEQ October 20, 2003, RECAP Document. The estimated well yields for the shallow water bearing zone averaged thirty-one (31) gallons per day (gpd), assuming an average thickness of the saturated zone of around two (2) feet.

Based on a review of the data obtained from aquifer testing of the shallow water bearing zone, the first shallow water bearing zone beneath the property would be classified as GW_{3NDW} in accordance with RECAP, Section 2.10. The conclusions are based on the following reasons: 1) well yield information from both the slug tests and sampling activities demonstrates that the shallow silts zone is incapable of yielding more than 800 gallons per day; 2) the shallow water bearing zones are currently not being utilized as a source of drinking water and are not hydraulically connected to the deeper drinking water zones of the regional Plaquemine aquifer; and 3) surface water bodies in this region of Iberville Parish are not utilized as a source of drinking water.

4.0: RESULTS OF INVESTIGATION

Based on a review of soil and groundwater samples collected to date, as well as the geological setting of the site, the following results of the investigation are presented. All information obtained to date was considered in the evaluation of the data, including the data obtained during the course of both the ICON and HET investigations, as discussed further below.

4.1: Soil

Laboratory analytical results from soil samples collected during the course of the investigation were initially compared to LDNR Statewide Order 29-B criteria for upland criteria for reference/screening purposes only. In addition, results were compared to RECAP screening standards under a non-industrial scenario for possible further evaluation under a higher tier of RECAP. The incorporation of the LDEQ's RECAP regulations for those parameters that exceed the Statewide Order 29-B standards was done per LDNR policy and the Memorandum of Understanding between LDNR and LDEQ to more accurately determine the appropriate standards in response to those proposed by plaintiffs' consultant.

HET assessed the former pit areas by installing a series of soil borings for the collection of composite (Statewide Order 29-B) and discrete (RECAP) soil samples to allow for the evaluation of the environmental conditions of the site per both sets of state regulations. The evaluation of the constituent concentrations via composite sampling is consistent with previous assessments and approvals by the LDNR under Statewide Order 29-B, as well as considerations made under RECAP to allow for composite sampling in certain circumstances. All soil samples were collected as individual samples and composited in the laboratory by weighted measures along horizontal two (2) foot intervals for those borings collected within the respective pit boundaries, being the five (5) borings installed within each of the former pit at the Hawkins SWD tank battery area (B3-B7) and the IPSB No. 001/001-D (Serial Nos. 121499/122790) well site (VC01-VC05) as depicted in Figure 12.

A review of the laboratory analytical results from the composite soil samples collected from HET soil borings B3-B7 at a depth between four (4) and six (6) feet BLS and six (6) and eight (8) feet BLS report elevated concentrations of EC above the elevated wetland standard of eight (8) mmhos/cm for comparison purposes only, while an elevated oil and grease composite result was only reported at a depth between six (6) and eight (8) feet BLS. All other composite results for the Hawkins SWD tank battery pit reported concentrations below the respective Statewide Order 29-B standards for metals. The individual results are evaluated below in this section.

A review of the laboratory analytical results from the composite soil samples collected from HET soil borings VC01-VC05 at a depth between zero (0) and two (2) feet and two (2) and four (4) feet BLS reported elevated concentrations of SAR and oil and grease at both intervals, while an elevated concentration of True Total Barium was reported at the two (2) to four (4) foot interval only. All other composite results for the IPSB No. 001/001-D (Serial Nos. 121499/122790) former pit location reported concentrations below the respective Statewide Order 29-B standards for metals. The individual results are evaluated below in this section.

With regard to salinity, RECAP evaluates salt impact under Appendix D as a non-traditional parameter with the following considerations: 1) applicable or relevant and appropriate requirements, 2) protection of resource aesthetics, 3) environmental fate and transport pathways, 4) protection of vegetation, and 5) background conditions. Additional guidance published by LDEQ and approved on other sites by both agencies established methods to consider chloride concentrations in a typical risk assessment methodology as sodium chloride concentrations do not pose a threat to human health. Both sets of regulatory standards, as promulgated by the LDNR and LDEQ, are taken into consideration by HET to evaluate site conditions. The agriculturally derived standards of EC, SAR, and ESP are typically evaluated within the root zone for the ability to support vegetation growth, and observations made by HET of the property indicate overgrown grasses, trees, and shrubs as part of the wetland mitigation banks. Subsurface concentrations of chloride are evaluated for protection of the Point of Exposure (POE) as defined by RECAP, either being the protection of groundwater or the nearest surface water body capable of receiving discharge after consideration of the additional risk assessment methodology promulgated under RECAP.

Laboratory analytical results reported limited surface exceedances of chloride related parameters, even considering the conservative and not applicable Statewide Order 29-B standard for elevated wetland, especially once the data is evaluated on one (1) foot intervals that can be coordinated with the limited root zone of vegetation at the site as determined by Dr. Holloway. In addition, the site is located within submerged bottomland hardwood and comparison to the published standards under Statewide Order 29-B is not appropriate. Regardless, the site was observed as densely vegetated and required clearing to access many of the sampling locations. Appendix K contains a copy of the Wetland Delineation Report and Appendix L contains a copy of the Root Zone Study Report.

Subsurface samples (>3 feet) collected during the course of the investigations were analyzed for total chlorides and electrical conductivity, as well as SPLP analyses, to evaluate the potential for cross media transfer (soil to groundwater). The subsurface concentrations of chloride related parameters in the soil demonstrate that the subsurface concentrations of chloride and sodium are considered below the threshold to result in cross media transfer (soil to groundwater), especially since the oilfield operations have ceased, the former pit areas have either been closed or are no longer in use, and the site is in declining conditions. Therefore, the chloride, EC, and sodium concentrations are considered to be protective of the shallow water bearing zones by conservatively multiplying the Environmental Protection Agency (EPA) secondary drinking water standard of 250 milligrams per liter (mg/L) for chlorides and sixty (60) mg/L for sodium by a default dilution and attenuation factor (DAF) of twenty (20) in accordance with RECAP (Tables 1 and 5). Note that the Leachate Chloride parameter per the Statewide Order 29-B analysis is not considered by the agencies as an acceptable method for evaluating cross media transfer.

With regard to hydrocarbons, only select samples report elevated concentrations of oil and grease above the Statewide Order 29-B standard of one (1) percent, particularly in the Hawkins SWD tank battery area and the IPSB No. 001/001-D (Serial Nos. 121499/122790) former pit area. In addition, select soil samples were collected by HET and analyzed individually for RECAP parameters of total petroleum hydrocarbons (TPH) and the hydrocarbon fractions (EPH), which supercede the TPH results, based on field observations and preliminary analytical results to aid in a risk assessment of the site per the requirements of

Appendix D of RECAP. This is due to the fact that the Statewide Order 29-B analyses for oil and grease may include non-target analytes, including a broad range of oils and minerals, vegetable, and animal oils. Furthermore, RECAP, Appendix D, currently set the aesthetic standard for the sum of the hydrocarbon fraction concentrations as below 10,000 ppm.

A review of the laboratory analytical results from the hydrocarbon fraction analyses for both volatile and extractable range hydrocarbons indicated select aliphatic or aromatic carbon range concentrations above the respective conservative RECAP screening standards, including Aliphatics C_8-C_{35} and Aromatics C_8-C_{35}. In addition, laboratory analytical results indicated the presence of volatile range hydrocarbons and HET requested the analyses of the indicator compounds of BTEX and PAH in accordance with RECAP, Appendix D, Table D-1, with reported elevated concentrations of benzene, 2-methylnaphthalane, and naphthalane above the respective RECAP screening standards. Therefore, these concentrations of the individual carbon ranges, benzene, and PAH indicator compounds will be further evaluated below to establish site specific RECAP standards.

The concentrations of metals are required to be reported on a wet weight basis, with the exception of True Total Barium, in accordance with both Statewide Order 29-B and RECAP. Therefore, any of the ICON metal results that are reported on a dry weight basis should be converted to a wet weight basis (Table 1 and 5) for comparison to the regulatory standards. Once the conversion for the metal concentrations reported by ICON is made to wet weight, only one (1) concentration of arsenic at a depth below fifteen (15) feet BLS and limited concentrations of barium were reported above either the 29-B and/or RECAP screening standards. However, these concentrations of arsenic and barium were determined to be below the threshold considered to result in cross media transfer by comparing the SPLP results to that of the groundwater screening standard of 0.010 mg/L for arsenic and 2.0 mg/L for barium by a default dilution and attenuation factor of twenty (20) per RECAP.

Furthermore, laboratory analytical results reported elevated concentrations of true total barium above the Statewide Order 29-B standard of 20,000 parts per million (ppm), considering an elevated wetland and submerged criteria for comparison purposes. Additional analyses of x-ray diffraction (bulk mineralogy) were

conducted to further evaluate the barium concentrations on-site in addition to the total and SPLP concentrations discussed above. A review of the results of total and SPLP barium reported that the concentrations are below either the RECAP soil protective of groundwater screening standard of 2,000 ppm or the RECAP, Management Option 1 (MO-1), standard of 5,500 ppm. In addition, the bulk mineralogy results demonstrate that the barium concentrations at the site are, in fact, in the form of barite, which is not considered a constituent of concern under RECAP due to its chemical and physical properties that result in a less mobile form of barium. Therefore, barium is further evaluated below in a risk assessment of the site as a conservative measure despite the fact that barite is not a constituent of concern at the site from a human health perspective. However, HET proposes to conduct pit closures with confirmatory and delineation sampling, as necessary and appropriate, in Areas 4, 5 and 6 to address concentrations of True Total Barium and/or pit closure requirements.

Therefore, the select hydrocarbon fractions and related indicator compounds of benzene, 2-methylnaphthalene, and naphthalene, as well as the metal barium, are evaluated further below in a human health risk assessment of the site. This is a conservative approach to determine the appropriate and applicable standards for the site under a regulatory assessment despite the fact that the proposed remediation as discussed below would result in compliance with Statewide Order 29-B without exceptions.

4.2: Groundwater

Laboratory analytical results from groundwater samples collected from within the first encountered water bearing zone across the site were initially compared for evaluation purposes to either RECAP screening standards or the EPA secondary drinking water standards. A review of the results indicated that a majority of the constituents analyzed meet the respective screening standards, with some water quality issues associated with the depositional environment.

Concentrations of chloride related parameters were reported above the EPA secondary drinking water standards; however, these screening standards assume protection of a drinking water aquifer and, thus, are not applicable to the site given the fact that the shallow water bearing zone is considered as unuseable for

any purpose. Similarly, although commented by Dr. John Frazier (Appendix L), it should be noted that the radiological concentrations are within natural ranges and further direction from the LDEQ will be sought. In addition, select concentrations of hydrocarbon related constituents, including benzene, Aromatic C_{10}-C_{12}, Aromatic C_{16}-C_{21}, Aromatic C_{21}-C_{35}, and 2-methylnaphthalene, were reported in the vicinity of the former pit area in the Hawkins SWD tank battery. Note that the hydrocarbon fraction results supercede that of the total petroleum hydrocarbon results as per RECAP, Appendix D, and represent a more accurate depiction of the hydrocarbon concentrations on-site. Finally, varying concentrations of arsenic, barium, and selenium were reported above the conservative RECAP screening standards in addition to those water quality issues of iron and manganese. The concentrations of arsenic, iron, and manganese are more likely than not associated with the depositional environment. Note that the analysis of total and dissolved metals is important to determine whether the reported concentrations are representative of site conditions and not conditions with the well itself (construction or otherwise).

As a result, the select hydrocarbon fractions and associated indicator compounds of benzene, 2-methylnaphthalene constituents are further evaluated in a risk assessment below to determine a more appropriate standard under RECAP given the groundwater classification of GW_{3NDW} and the fact that these zones are not in direct hydraulic communication with the surrounding water bodies. Furthermore, the risk assessment includes the evaluation of chloride and radium related parameters as a conservative measure for protection of surface water criteria in accordance with regulatory guidelines. The purpose of the evaluation is to determine a more feasible plan for the IPSB property given the site setting and depositional environment.

5.0: RISK ASSESSMENT DOCUMENTATION

5.1: Site Usage and Ranking

The IPSB property is located in a rural portion of Iberville Parish, near Plaquemine, Louisiana. The remotely accessed site by boat only is utilized for recreational purposes (hunting, fishing, and camping) and has been historically utilized for oilfield related exploration and production purposes. As a result, this risk evaluation considers the use of the property as non-industrial for all areas investigated as a highly conservative approach given the facts that 1) the non-industrial assessment scenario assumes exposure to site conditions at a much more prolonged rate than is actual given the remote location of the site, and 2) HET does not propose any limitations or encumbrances on the use of the property that a change in the exposure scenario would require (i.e. conveyance notice).

5.2: Appendix H Criteria

The detection of potential constituents of concern above the conservative RECAP screening standards demonstrates that those concentrations to be further evaluated under MO-1 and/or MO-2, as appropriate, are limited in extent and would be below half an acre in size. Moreover, the concentrations detected in the soil have been demonstrated to be below the threshold considered to result in cross media transfer (soil to groundwater) and would not be considered an ongoing source under RECAP. Therefore, this evaluation was conducted in accordance with RECAP, Management Option 1 (MO-1) per the criteria listed in RECAP, Section 4.1.1.

5.3: Soil and Groundwater Classification

As evaluated above, this risk assessment conservatively considers a non-industrial scenario for the site. Therefore, the soil designation for the protection of human health for non-industrial land use ($soil_{ni}$) has been applied to the site.

As determined above, there are no water wells within a one (1) mile radius of the site. Furthermore, aquifer testing and field observations demonstrate that the shallow water bearing unit is incapable of yielding a sufficient amount of water to be considered a potential source of drinking water. Therefore, a groundwater classification of GW_{3NDW} and, thus, a soil protective of groundwater that prevents the leaching of unacceptable concentrations from soil to groundwater of $Soil_{GW3NDW}$ have been applied to the site.

5.4: Additive Health Effects

The MO-1 and MO-2 RECAP standards (RS) for carcinogenic constituents were calculated using a target risk level of 10^{-6}, and the MO-1 RS for non-carcinogenic constituents were calculated using a hazard index of 1.0. In accordance with the guidelines set forth in RECAP, Section G5.0, it is not necessary to modify the MO-1 RS for carcinogens to account for additivity. However, non-carcinogenic COCs must be modified for multiple exposures to the same critical health effect or apportioned to ensure that the hazard index of 1.0 is not exceeded for each target organ/system. Of the RECAP standards that must be adjusted for additive health effects, $Soil_{ni}$ applies to the IPSB property under a conservative assessment.

The target organ/system for each non-carcinogenic potential constituent of concern at the site was determined from RECAP Table G-1, and each non-carcinogenic compound was grouped for the effect elicited on each target organ/system. HET elected to apportion the Hazard Index by comparing the sum of the maximum constituent concentrations divided by the MO-1 $Soil_{ni}$ standards per Table 2 of RECAP for those constituent concentrations that have the potential to affect the target organs listed above to the non-carcinogen standard of 1.0 per Appendix G of RECAP. Of the two (2) methods to account for additivity, this hazard index approach employed by HET is much more site specific and realistic instead of the simple division method employed by ICON in its risk assessment of the site. All remaining constituent concentrations are evaluated here within to determine the most feasible plan.

As a result of the calculations, modification of the $Soil_{ni}$ RECAP standard to account for additive health effects under a non-industrial exposure route is unnecessary. Note that the data from HET soil boring B3 and ICON soil borings SB5 and SB6 is not included in the risk assessment as the aesthetic standard for

hydrocarbon is exceeded and thus, will be removed. In addition, arsenic has been eliminated from the additive health effects as the only wet weight concentration detected above the screening standard is at a depth greater than fifteen (15) feet. In accordance with RECAP, the potential surface soil for non-industrial exposure is limited to less than fifteen (15) feet BLS. Text Table 2 below lists the target organ and associated compounds identified during the course of either the HET or ICON assessment of the Iberville Parish School Board property, as well as the hazard index calculations.

Text Table 2
Target Organs/System Associated with Non-Carcinogenic Components
Data Assumes Soil Removal at HET B3 and ICON SB5 and SB6

Target Organ/System	Constituents of Concern	Hazard Index Calculation (Sum Divided by MO-1 Standard)
Liver	Aliphatics C_8-C_{16}	Aliphatics C_8-C_{10} (184/1,200) + Aliphatics C_{12}-C_{16} (694/3,700) = 0.34 < 1.0, No Adjustment Necessary
Kidney	Aromatics C_{16}-C_{35}, Barium	Aromatics C_{16}-C_{21} (419/1,500) + Aromatics C_{21}-C_{35} (582/1,800) + Barium (1,420/5,500) =0.9 < 1.0, No Adjustment Necessary
Nasal Cavity Effects	Naphthalene	No Adjustment Necessary
Decreased Body Weight	Aromatics C_8-C_{16}, Naphthalene	Aromatics C_8-C_{10} (224/650) + Aromatics C_{10}-C_{12} (110/1,200) + Aromatics C_{12}-C_{16} (316/1,800) + Naphthalene (2.67/62) = 0.65 < 1.0, No Adjustment Necessary
Hematological System	Aliphatics C_8-C_{16}	Aliphatics C_8-C_{10} (184/1,200) + Aliphatics C_{12}-C_{16} (694/3,700) = 0.34 < 1.0, No Adjustment Necessary
Lung Effects	2-methylnaphthalane	No Adjustment Necessary

N/A - Not Applicable

5.5: Soil and Groundwater RECAP Standards Calculations

The soil and groundwater RECAP standards established as part of this risk assessment evaluate the potential for non-industrial exposure and protection of groundwater considering the classification of the shallow water bearing zones in accordance with the guidelines set forth in RECAP. The Management Option 1 (MO-1) standards were selected from Tables 2 and 3 of the October 20, 2003, RECAP document. The RECAP standards and Ecological Checklist per RECAP are included in Appendix H.

Text Tables 3 and 4 on the following pages contain the soil and groundwater RECAP standards applied to the site for those constituents outside of the HET proposed small scale excavation areas at HET soil boring B3 and ICON soil borings SB5 and SB6 at a minimum.

Text Table 3
Soil MO-1 RECAP Standards
Data Assumes Soil Removal at HET B3 and ICON SB5 and SB6 [5]

Compound	$Soil_{ni}$ [1]	$Soil_{gw}$ [1]	DAF	Applied LRS	Max Concentration[4]
benzene	1.5	N/A [2]	N/A	1.5	**2.03**
barium	5,500	2,000	N/A	5,500	1,420
aliphatics C_{8}-C_{10}	1,200	10,000	N/A	1,200	184
aliphatics C_{12}-C_{16}	3,700	10,000	N/A	3,700	694
aromatics C_{8}-C_{10}	650	6,100 [3]	N/A	650	224
aromatics C_{10}-C_{12}	1,200	9,600 [3]	N/A	960	110
aromatics C_{12}-C_{16}	1,800	10,000	N/A	1,800	316
aromatics C_{16}-C_{21}	1,500	10,000	N/A	1,500	419
aromatics C_{21}-C_{35}	1,800	10,000	N/A	1,800	582
2-methyl - naphthalene	220	N/A[2]	N/A	220	10.6
naphthalene	62	32[3]	N/A	32[3]	5.6

1 - RECAP, Table 2 MO-1 Standard

2 - SPLP data demonstrates that soil protective of groundwater standard eliminated considering the default DAF of 20 multiplied by the MO-1 DAF of 440.

3 - Does not consider the DAF for GW3 aquifers as a conservative measure

4 - Maximum Soil Concentration (ICON/HET Results)

5 - Laboratory analytical results from ICON soil borings SB5 and SB6 and HET soil boring B3 exceed Statewide Order 29B and RECAP standards, as well as the RECAP aesthetic standard of 10,000 ppm. Therefore, the data results from these borings are not listed above and are subject to remediation.

LRS - Limiting RECAP Standard (lowest value)

Note: Concentrations listed in ppm

Text Table 4
Groundwater RECAP Standards

Compound	GW_{3NDW} [1]	DAF	Solubility	LRS	Max Concentration [2]
Salinity Parameters					
chlorides	250 [3]	440	N/A	110,000	30,700
TDS	500 [3]	440	N/A	550,000	52,600
sulfate	75 [3]	440	N/A	33,000	439
Hydrocarbon Parameters					
Aliphatic C_8-C_{10}	79	440	N/A	10,000	0.5
Aromatic C_8-C_{10}	31	440	N/A	10,000	0.516
Aromatic C_{10}-C_{12}	31	440	N/A	10,000	0.298
Aromatic C_{16}-C_{21}	24	440	N/A	10,000	0.191
Aromatic C_{21}-C_{35}	24	440	N/A	10,000	0.338
benzene	0.013	440	1,800	5.72	0.482
2-methyl-naphthalene	0.027	440	25	11.88	0.0172
naphthalene	0.22	440	31	96.8	0.0497
Metal Parameters					
arsenic	0.05	440	N/A	22	0.2
barium	45	440	N/A	19,800	21.5
selenium	0.05	440	N/A	22	0.272
radium 226/228	5	440	N/A	2,200	44.2

1 - RECAP, Table 2 MO-1 Standard

2 - Maximum groundwater concentration (ICON/HET Results)

3 - Surface Water Criteria

N/A - Not Applicable

LRS - Limiting RECAP Standard (lowest value)

Concentrations listed in ppm

6.0: CONCLUSIONS

HET conducted a hydrogeologic and regulatory assessment of the IPSB property that included the oversight and collection of split samples during the course of the investigation conducted by ICON and an independent assessment conducted afterward per the court ordered deadlines in the litigation between the State of Louisiana and the Iberville Parish School Board v. BP America Production Company, BP Corporation North America, Inc., et al. (18th Judicial District Court for the Parish of Iberville, Docket No. 72,605, Division "A"). In the evaluation of the environmental conditions of the property in relation to historical oilfield exploration and production activities upon completion of the assessment activities, HET studied the depositional environment and geologic settings to determine the natural conditions and appropriate regulatory standards to be applied to the site under the guidelines of Statewide Order 29-B and RECAP. Therefore, the following conclusions and opinions are offered.

The property consists of submerged bottomland hardwood, with some elevated areas resulting from the dredged material from the adjacent barge canals in a remote area of Iberville Parish that is only accessible by boat. The current use of the property includes recreational purposes, such as hunting, fishing, and camping. Observations of the site conditions during the course of the investigation revealed densely vegetated areas that were submerged for much of the time of the investigations. Separate investigations by Luther Holloway (Appendix J) and Arville Touchet (Appendix K) establish these site specific criteria.

Exploration and production on the property within the Grand River and Sullivan Lake Oil and Gas Fields occurred between the early 1960s and 1990s. A total of nine (9) oil wells were drilled on the property, of which seven (7) are the subject of the referenced litigation. Remnants of historical oilfield exploration and production activities with some of those features are still present, including former pit areas and limited equipment, including pipe racks and piling.

The site lithology is comprised of lacustrine deltaic and natural backswamp deposits formed as part of the Paleo-Mississippi River and resulting Atchafalaya Basin. Clay is the dominant lithology found at the site, with sporadic and random sands and silts occurring at varying intervals. The MRVA is protected by a thick sequence of clay confining unit that has permeability that range from 1.4×10^{-7} cm/sec to 5.4×10^{-8} cm/sec.

The confining unit retards the vertical movement of substances. No utilization of the MRVA has occurred in the vicinity of the property due to a general lack of freshwater in the area (Smoot, 1988).

Surface water bodies in this region of Iberville Parish are not utilized as sources of drinking water. Surface water criteria, as documented in the Environmental Regulatory Code, report natural chloride and TDS values of 250 milligrams per liter (mg/L) for chlorides and 500 mg/L for TDS. Additionally, surface water bodies in and around the site have a maximum depth of four (4) feet BLS and discharge surface water into the water bearing zones that occur below ten (10) feet BLS. This is evident by the direction of groundwater flow and stratigraphic positions of the lithology.

A review of the LDNR registered water well database reveals that there are no water wells located within a one (1) mile radius of the site, other than the monitor wells installed as part of this investigation. Groundwater supplies for this area are obtained from the regional Plaquemine aquifer at depths greater than 100 feet BLS. The shallow water bearing zone consists of silt and clay silt and is found on this property as discontinuous and intermittent, while making very little to no water. This groundwater zone is classified as GW_{3NDW} in accordance with RECAP, Section 2.10.

Groundwater flow directions calculated for the shallow water bearing zone in October of 2015 indicate multiple directions toward the man-made built up areas. The effects of surface water influencing groundwater are seen on the groundwater flow map in a classic losing stream scenario demonstrating that the water bearing zones are not in direct hydraulic communication with the surface water body.

Data collected during HET's investigation, as well as sample data collected during ICON's assessment, was evaluated in accordance with both Statewide Order 29-B and RECAP standards as established through the Memorandum of Understanding between the LDNR and LDEQ. The investigation conducted by HET included the collection of a series of soil samples for composite analyses per Statewide Order 29-B and discrete sampling of source areas in accordance with RECAP to aid in a human health risk assessment of the site. The purpose of the investigation was to evaluate the overall regulatory status of the property and to determine an appropriate and feasible plan in the event that remediation would be needed.

The identification of concentrations above the RECAP screening standards does not demonstrate that a regulatory exceedance or threat to human health and the environment exists.

Laboratory analytical results from soil samples obtained during the course of both ICON's and HET's investigations indicate that select areas (ICON soil borings SB5 and SB6 and HET soil boring B3) within the former pit area on the Hawkins SWD tank battery area (Area 1 and Area 2), along the northeastern corner of the property, require remediation for hydrocarbon (benzene, oil and grease, and TPH fractions) related constituents. In addition, HET recommends that pit closure be conducted in the vicinity of the former pits present at the IPSB Nos. 001/001-D (Area 3), 002 (Area 5 and Area 6), and 003/003-D (Area 4) well sites (Serial Nos. 121499/122790, 122268, and 123767/124426, respectively). Excavation and/or soil mixing, as necessary and appropriate, will continue until which time the constituent concentrations meet the applicable regulatory standards established in this report as determined by the collection of confirmation samples upon completion of closure operations. Figure 15 illustrates the areas subject to soil mixing and/or blending.

Laboratory analytical results report that a majority of the constituents analyzed meet either the respective RECAP screening or EPA secondary drinking water standards. However, laboratory analytical results reported select concentrations of chloride (chloride, TDS, and sulfates), hydrocarbon (certain fractions and indicator compounds of benzene, 2-methylnaphthalene, and naphthalene), and metal (barium) related constituents above background but below the established RECAP standards under Management Option 1. The data also demonstrates concentrations associated with water quality (iron and manganese) and depositional environment (arsenic) that are associated with the site setting. However, HET proposes that groundwater monitoring be conducted. The proposed monitoring program will be conducted for a period of one (1) year after completion of soil remediation.

7.0: ADDITIONAL ASSESSMENT AND REMEDIATION PLAN

Based on results of investigations by ICON and HET to date, HET proposes to conduct additional soil and groundwater sampling at the irregularly shaped Section 16, Township 10 South, Range 11 East property located in the Grand River and Sullivan Lake Oil and Gas Fields, near Plaquemine, Iberville Parish, Louisiana. The purpose of the additional investigation is to delineate constituents of concern in accordance with Statewide Order 29-B, and RECAP criteria, as agreed upon in the settlement agreement. The additional assessment activities will include the installation of soil borings and monitor wells in portions of the property deemed necessary to complete the risk assessment of the site by confirmation sampling and/or further delineation. Appendix N illustrates the locations of proposed soil borings to be installed by HET. Listed below is a scope of work outlining the proposed additional assessment plan.

Scope of Work

1. HET will perform pit closure activities and confirmatory sampling, along with delineation, as necessary for locations which exceed Statewide Order 29-B and/or RECAP standards. HET proposes to install a total of twenty-four (24) soil borings, six (6) of which will be converted into monitor wells, across the site by vibracore or direct push sampling methods, as appropriate, to a maximum depth of twenty-five (25) feet BLS or to the depth of impact. The purpose of the additional assessment is to evaluate near surface soil conditions and shallow groundwater conditions.

   Areas 1 and 2:

   a. Four (4) soil borings will be installed for additional sampling of Statewide Order 29-B and/or RECAP parameters to a depth of approximately twenty-five (25) feet or to below the depth of impact. All four (4) soil borings will be converted into groundwater monitoring wells within the shallow groundwater zone (PB-1 to PB-4).

   b. Additionally, pending access to the area, one (1) soil boring will be installed to the east of Areas 1 and 2 for additional sampling of Statewide Order 29-B and/or RECAP parameters to a depth of approximately twenty-five (25) feet or to below the depth of impact. This boring will be converted into a groundwater monitor well within the shallow groundwater zone (PB-5).

Area 3:

a. One (1) reproduction boring (SB21-R) and, if necessary, two (2) additional soil borings (PB-6 and PB-7) will be installed for additional sampling of True Total Barium (TTB) to a depth of approximately four (4) feet or to below the depth of impact.

b. Four (4) soil borings will be installed for additional sampling of Statewide Order 29-B and/or RECAP parameters to a depth of approximately four (4) feet or to below the depth of impact. One (1) soil boring will be converted into groundwater monitoring wells within the shallow groundwater zone. (PB-8 to PB-11)

Area 4:

a. One (1) reproduction boring (SB12-R) and if necessary, four (4) additional soil borings (PB-12 through PB-15) will be installed for additional sampling of True Total Barium (TTB) to a depth of approximately four (4) feet or to below the depth of impact.

Area 5 and Area 6:

a. Seven (7) soil borings will be installed for additional sampling Statewide Order 29-B and/or RECAP parameters to a depth of approximately four (4) feet or to below the depth of impact. (PB-16 to PB-22)

Note that all samples analyzed for hydrocarbon parameters will be installed to delineate and/or confirm the previously detected concentrations of oil and grease, as well as to potentially analyze hydrocarbon fractions and the indicator compounds of PAH. The locations of the proposed soil borings are based on past oilfield operations on or near the property, historical aerial photography, and previous investigations conducted at the site by HET and ICON. Additional delineation borings may be installed with regard to elevated constituent numbers, if any, as appropriate based on review of laboratory data. Appendix N contains figures illustrating the locations of the proposed soil borings and monitor wells.

2. All underground utility lines will be properly located and marked prior to the commencement of work. Also, proper authority will be obtained from appropriate property owners, governmental authorities, and any other pertinent entity.

3. The soil borings will be installed to a depth corresponding with previous sample depths up to thirty (30) feet BLS or the depth of impact, depending on field observations to achieve vertical delineation of the potential constituents of concern. All soil borings and monitor wells will be installed by direct push technology, as appropriate, to the desired depth and to allow for the collection of soil samples. The boring locations will be accessed utilizing track mounted rigs, as appropriate.

   All environmental drilling activities will be conducted under supervision of the LADOTD Water Well Contractor number WWC-416. The LADOTD and LDEQ regulations for the installation of monitor wells and soil borings will be followed.

4. Soil samples will be collected during the installation of the borings from the direct push core sampler for visual inspection and lithologic description. Each soil sample will be collected via a dedicated acetate liner collected via core barrel during boring installation procedures or by stainless steel sediment samplers. All samples collected will be screened in the field for volatile and petroleum related compounds utilizing a calibrated photoionization detector (PID) and chloride concentrations by a field electrical conductivity (EC) meter.

5. An estimated three (3) soil samples will be collected during the installation of the soil borings for laboratory analyses, as follows: from land surface (0-2 feet), from the interval exhibiting the highest PID reading and/or the most visually impacted between land surface and the depth of impact, and from the total depth of the boring. Additional soil samples may be collected during boring installations, as determined based upon field screening and visual observations. Soil samples will be collected on two (2) foot intervals during the installation of the soil borings.

6. All core barrels, bits, and sampling equipment utilized in the monitor well installations will be properly decontaminated and cleaned prior to each drilling activity. In addition, new, disposable nitrile gloves will be utilized during sample collection.

7. Upon completion of all sampling activities, HET proposes to collect water levels from all previously installed and proposed monitor well locations, with groundwater samples collected from all wells installed by HET and selected wells installed by ICON. At the request of the department, HET will sample all previously installed monitor well locations, as well.

8. Soil and groundwater samples retained for laboratory analyses will be placed in appropriate laboratory supplied containers and labeled with the appropriate sample identification number, depth of sample, date and time of sample collection, parameters for analyses, and the name of the Hydrogeologist who sampled. Samples will then be chilled and transported under chain-of-custody to an LDEQ accredited laboratory for analyses, as described under Items 15 and 16. Additional analyses may be performed based on a review of preliminary laboratory analytical results to determine the need, if any, for further investigation of soil or groundwater in order to determine the horizontal and vertical extent and/or compliance with RECAP and 29-B, Chapter 3, regulations.

9. Soil samples collected during the installation of the soil borings will be analyzed for one (1) or more of the following Statewide Order 29-B parameters:

   a. EC, SAR, and ESP by Statewide Order 29-B Method
   b. cation exchange capacity (CEC) by Environmental Protection Agency (EPA) SW-846 Method 9081
   c. oil and grease by Statewide Order 29-B Method
   d. pH by Statewide Order 29-B Method

   Based on field observations, additional samples may be collected and submitted to the laboratory on hold awaiting the 29-B results to further evaluate the regulatory status of the property under 29-B as an exception to Chapter 3 standards to apply the LDEQ RECAP regulations, as defined in the October 20, 2003, document and established in a memorandum between the agencies. The additional analyses possibly to be performed include, but are not limited to, the following:

   g. total chlorides and sulfates by EPA SW-846 Method 9056A
   e. synthetic precipitation leachate procedure (SPLP) by Extraction Method 1312
   f. volatile and extractable range hydrocarbon fractions by Texas 1006 Method
   g. PAH by EPA SW-846 Method 8270C on samples exhibiting concentrations of TX1006 above RECAP screening standards only
   h. percent moisture by Method 2540G

10. Groundwater samples obtained from the existing HET monitor wells will be collected utilizing United States Environmental Protection Agency (USEPA) and LDEQ approved protocol and procedures upon completion of installation procedures. The analytical procedures to be performed on groundwater samples include, but are not limited to, the following parameters:

    a. chlorides, sulfates, and bromides by SW-846 Method 9056A
    b. TDS by Method 2540C (SGS Accutest and Eberline)
    c. specific conductance by Method 2510B
    d. EPH and VPH by the Massachusetts Method
    e. total and dissolved metals by EPA SW-846 Method 6010B/6020/7470A
    f. PAH by EPA SW-846 Method 8270D on samples exhibiting concentrations of TX1006 above RECAP screening standards only
    g. bicarbonate and carbonate alkalinity by Method 2320B
    h. radium 226/228 by EPA Modified Methods 903.0 and 904.0

11. Quality Assurance/Quality Control (QA/QC) methods will be conducted in the following manner: One (1) field duplicate and equipment blank will be collected for every twenty (20) samples submitted for laboratory analysis for all parameters analyzed, for an estimated one (1) sample each, in addition to a trip blank and field blank per day of sampling for volatile parameters only. Sampling procedures will utilize sterile, disposable polypropylene bailers and sterile, disposable nitrile gloves.

12. All borings will be properly plugged and abandoned upon completion of soil sampling. The borings will be plugged by filling the boreholes with a four (4) percent bentonite slurry by the pump down method in accordance with the joint LDEQ and LADOTD regulations upon completion of the soil sampling (borings) or the assessment (monitor wells).

13. Upon approval of the scope of work, HET can begin field activities within three (3) to four (4) weeks. An estimated two (2) to four (4) weeks will be required for the collection of field data.

    Should additional information become available or results of a visual inspection of the property reveal additional concerns, the scope of work may need to be adjusted. The estimated project completion schedule will be thirty (30) to sixty (60) days, and the LDNR will be notified at least five (5) days prior to initiation of field activities.

Soil Remediation and Pit Closure

14. In addition to the delineation work above, HET will supervise pit closure activities of the former pit at the Hawkins SWD tank battery, particularly in the vicinity of ICON soil borings SB5 and SB6 and HET soil boring B3. Pit closure activities will also be performed in HET designated areas 3 to 6. The remediation activities, which will include a combination of excavation and/or soil mixing, will continue until which time regulatory standards are met. Confirmatory sampling will be conducted to determine the effectiveness of soil remediation efforts and document that the applicable Statewide Order 29B and RECAP standards have been met. The locations of the proposed areas of remediation/pit closure activities are shown on Figure N-1.

APPENDICES

APPENDIX A

FIGURES

N

SITE

SULLIVAN LAKE OIL AND GAS FIELD

The Parks

Explanation

Approximate Site Boundary

0 2,000 4,000

Feet

RJB	SLS	4651.39	10/13/17
Drawn By	Approved By	Project No.	Date

Figure 1. Site Location Map of the Iberville Parish School Board property located in Section 16, Township 10 South, Range 11 East in Iberville Parish, Louisiana. Sources: USGS (Base Map) & Iberville Parish Assessor's Office (Boundary)

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ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963

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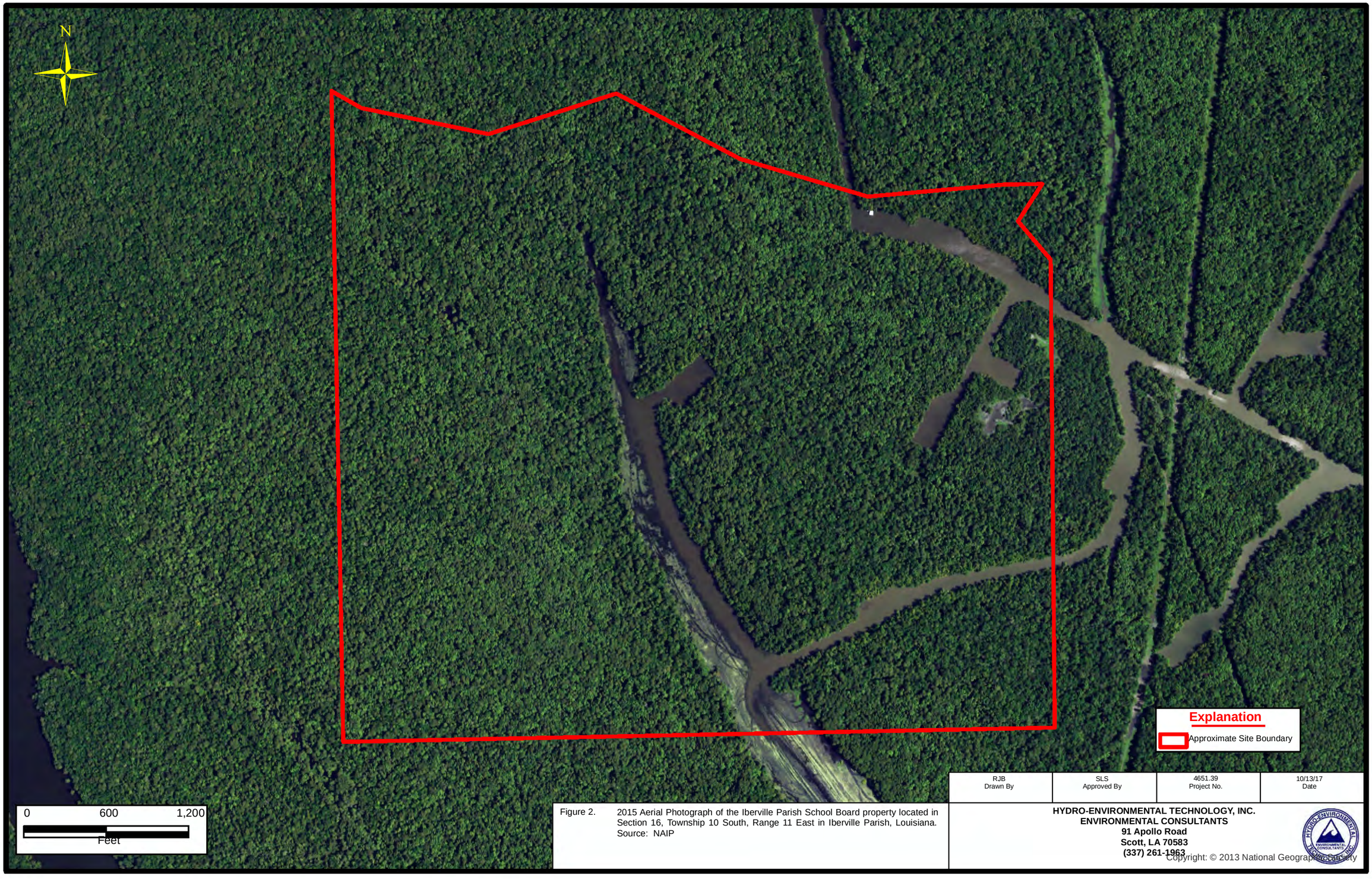

RJB	SLS	4651.39	10/13/17
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Figure 2. 2015 Aerial Photograph of the Iberville Parish School Board property located in Section 16, Township 10 South, Range 11 East in Iberville Parish, Louisiana. Source: NAIP

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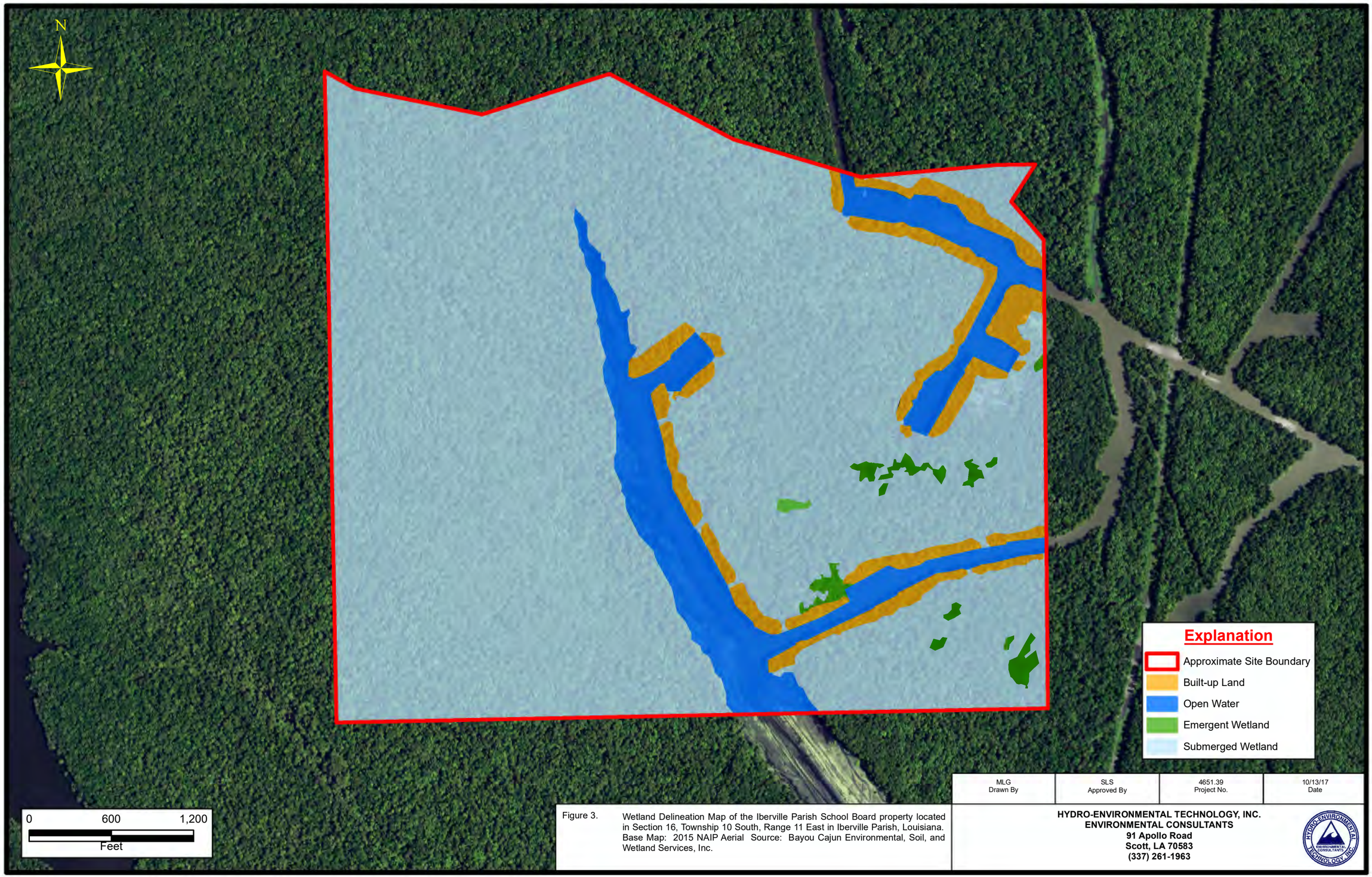

MLG	SLS	4651.39	10/13/17
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Figure 3. Wetland Delineation Map of the Iberville Parish School Board property located in Section 16, Township 10 South, Range 11 East in Iberville Parish, Louisiana. Base Map: 2015 NAIP Aerial Source: Bayou Cajun Environmental, Soil, and Wetland Services, Inc.

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91 Apollo Road
Scott, LA 70583
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Figure 4. 1987 Aerial Photograph illustrating the oil and gas wells on the Iberville Parish School Board property located in Section 16, Township 10 South, Range 11 East in Iberville Parish, Louisiana. Sources: LDNR & USGS (Base Map)

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(337) 261-1963

N

SB18
SB17
SB19
SB30
SB03
SB03
SB02
SB02
SB04
SB04
SB01
SB01
SB06
SB06
SB05
SB32
SB29
SB29
SB31
SB33
SB23
SB15
SB09
SB09
SB34
SB14
SB05
SB05
SB28
SB35
SB10
SB08
SB08
SB36
SB13
SB07
SB16
SB16
SB12
SB11
SB07
SB27
SB27
SB26
SB26
SB24
SB24
SB25
SB21
SB22
Pit Comp sn121499 (Area 3)
SB20

0 400 800
Feet

Explanation

- ICON Monitor Well Locations
- ICON Hand Auger Locations
- ICON Boring Locations
- ICON Pit Composite Location
- Approximate Site Boundary

RJB	SLS	4651.39	10/13/17
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Figure 5. Soil boring and monitor well locations installed by ICON Environmental Services, Inc. (ICON). Base Map: 2015 Aerial Photograph

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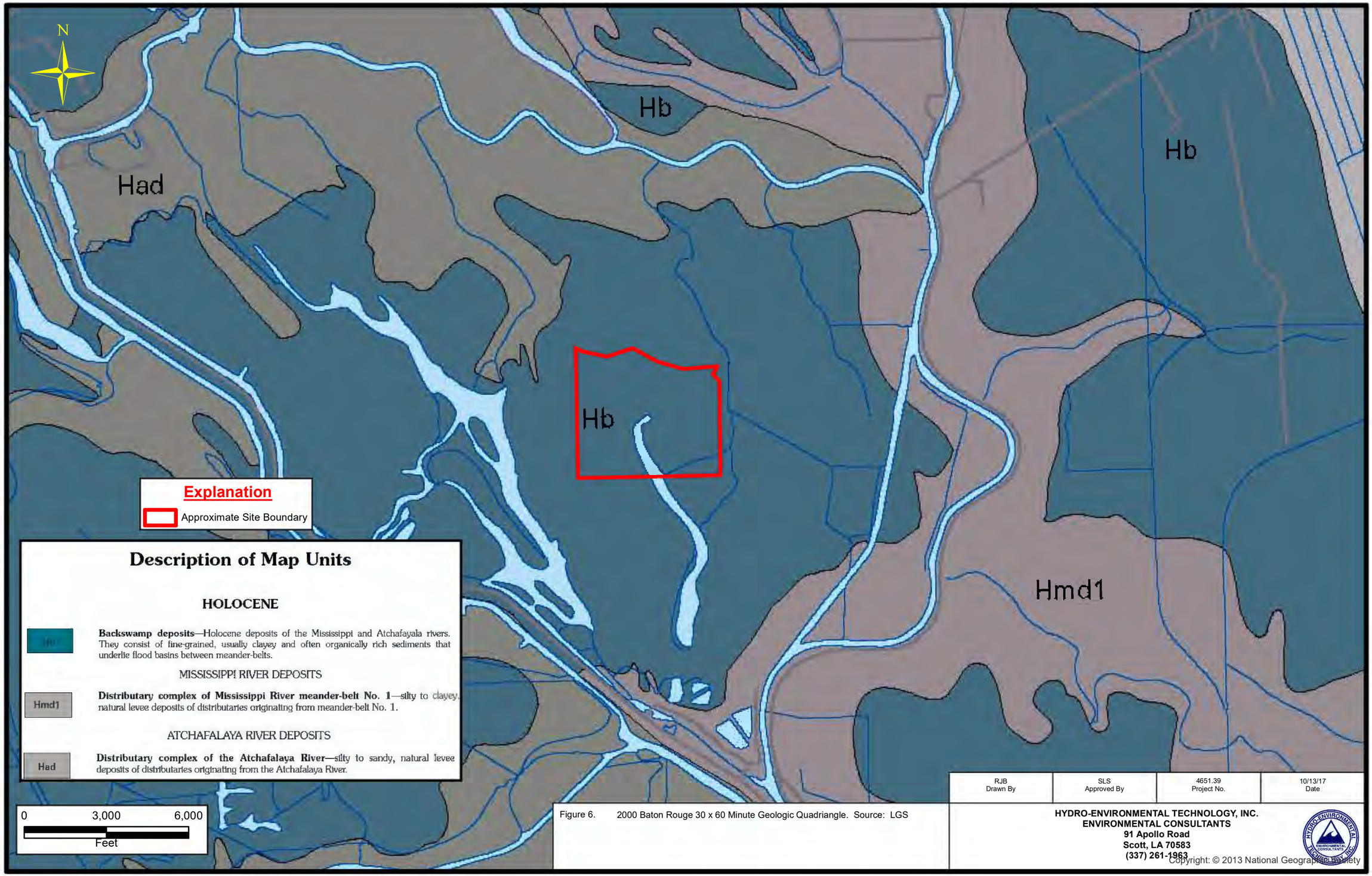

Figure 6. 2000 Baton Rouge 30 x 60 Minute Geologic Quadriangle. Source: LGS

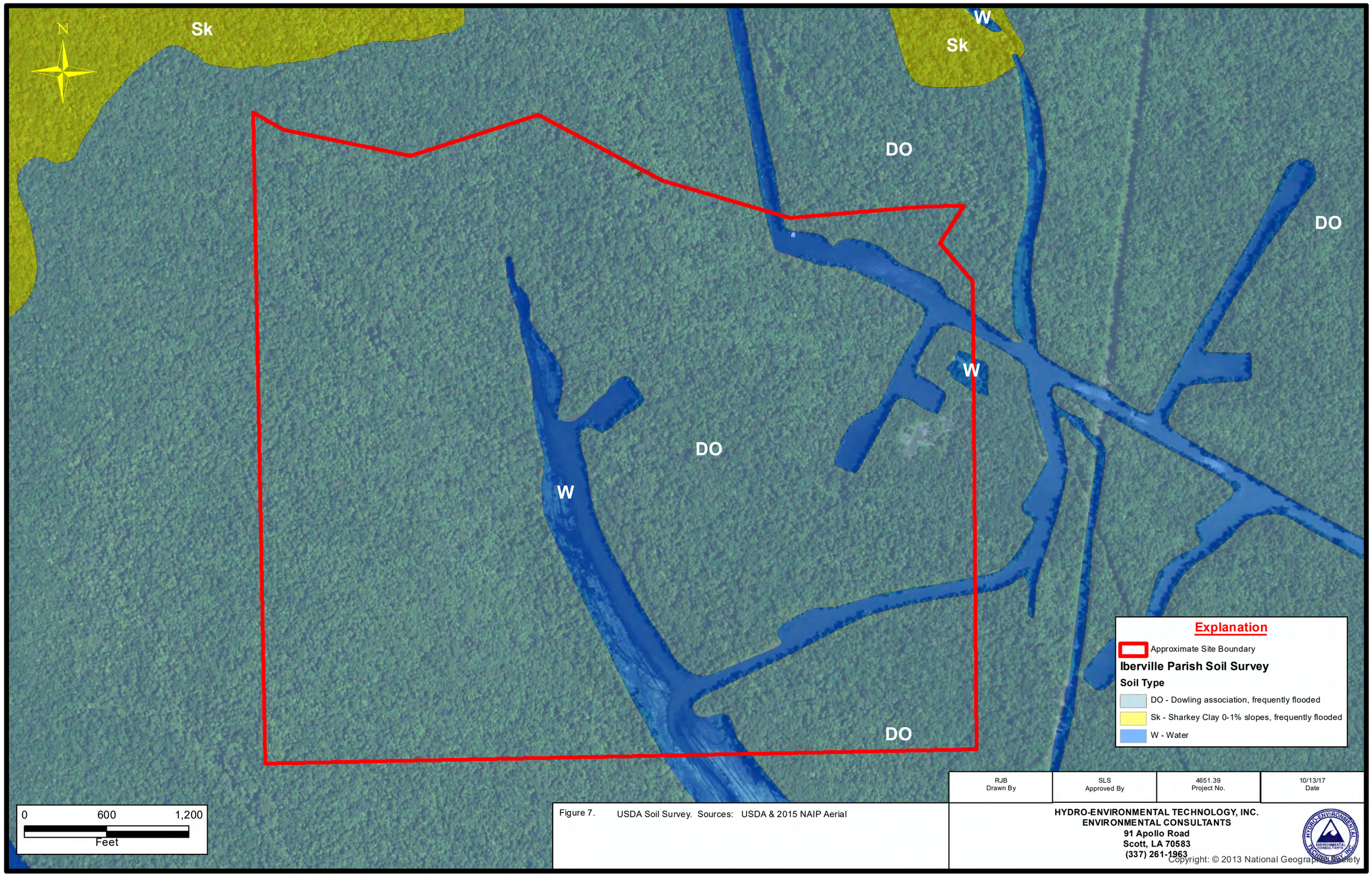

Figure 7. USDA Soil Survey. Sources: USDA & 2015 NAIP Aerial

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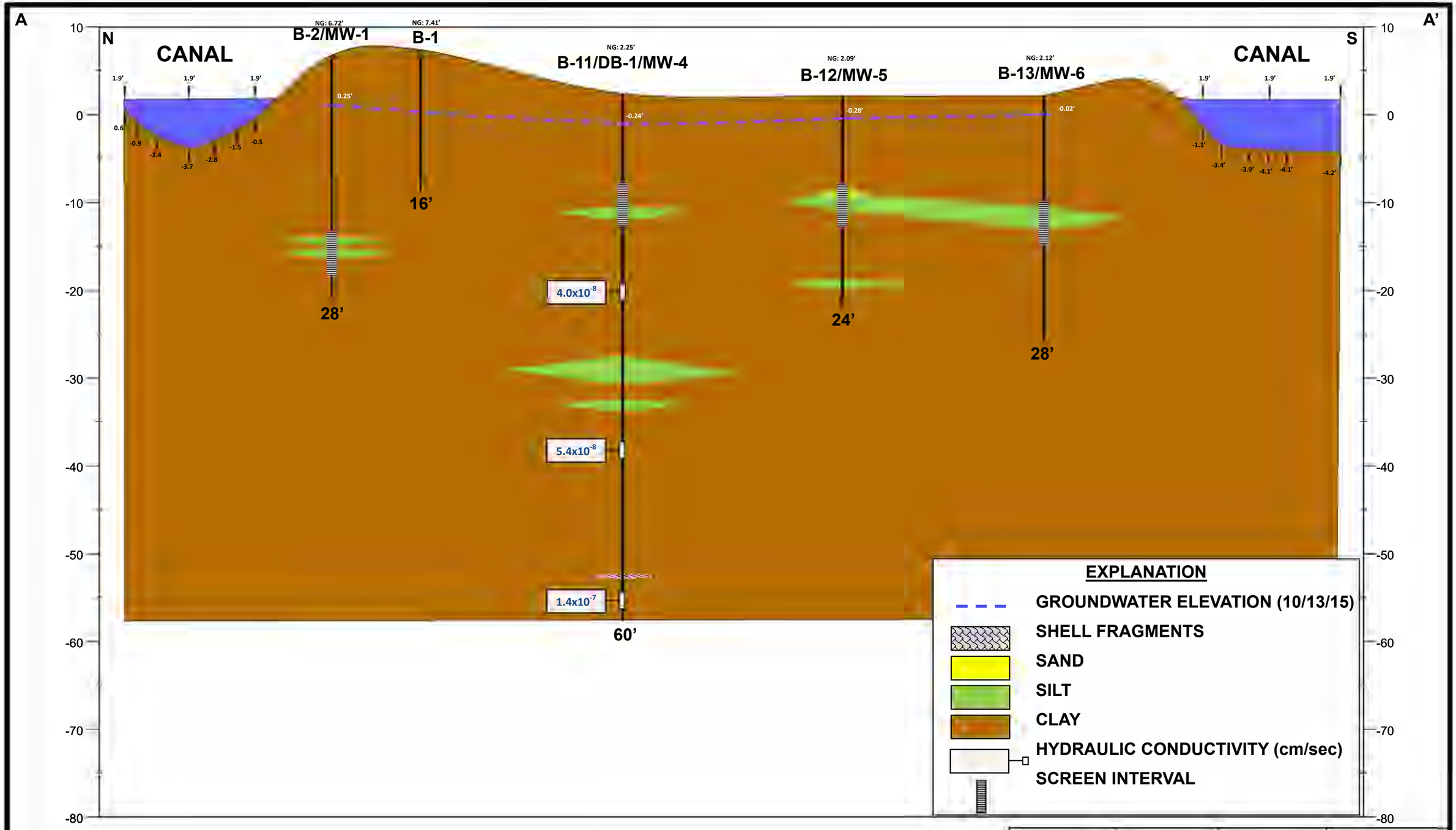

DCC	SLS	4651.39	10/13/17
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Figure 8. North South Cross Section A-A'

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B

B’

W

E

CANAL

NG: 5.49’
B3

NG: 5.50’
B5

NG: 5.35’
B7/MW-2

NG: 5.04’
B8/MW-3

NG: 2.42’
B9

NG: 2.23’
B10

NG: 2.25’
B11/DB-1/MW-4

1.9’ 1.9’ 1.9’ 1.9’ 1.9’ 1.9’ 1.9’

-0.2’ -1.1’ -1.5’ -2.2’ -2.8’ -2.6’ 0.8’

0.66’ 0.57’ -0.24’

16’ 16’ 24’ 28’ 24’

40’

4.0x10^{-8}

5.4x10^{-8}

1.4x10^{-7}

60’

20 10 0 -10 -20 -30 -40 -50 -60 -70

EXPLANATION

- GROUNDWATER ELEVATION (10/13/15)
- SHELL FRAGMENTS
- SAND
- SILT
- CLAY
- HYDRAULIC CONDUCTIVITY (cm/sec)
- SCREEN INTERVAL

0 90

Approximate Scale In Feet

DCC	SLS	4651.39	10/13/17
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Figure 9. West to East Cross Section B-B’

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91 Apollo Road
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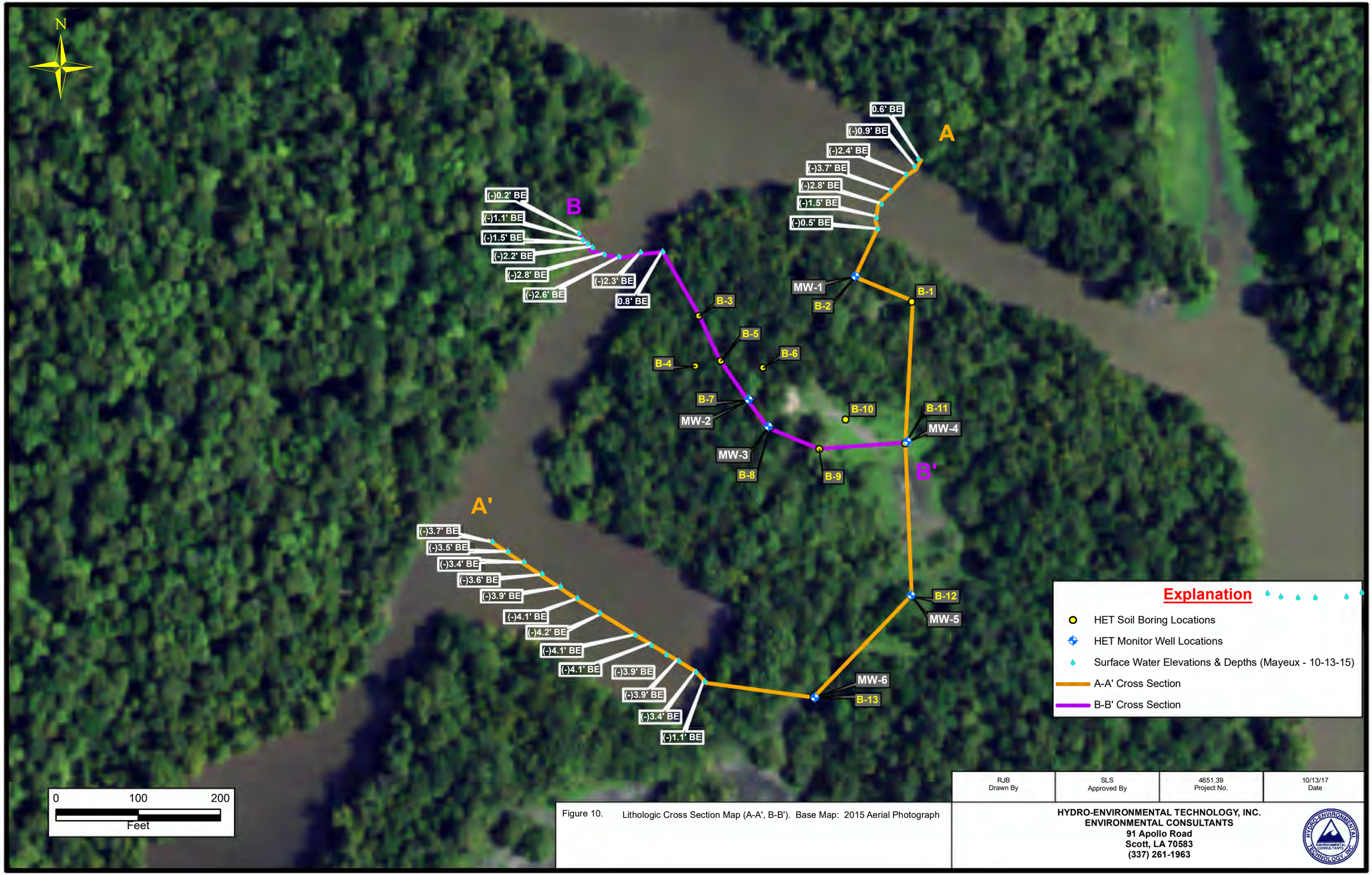

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Figure 10. Lithologic Cross Section Map (A-A', B-B'). Base Map: 2015 Aerial Photograph

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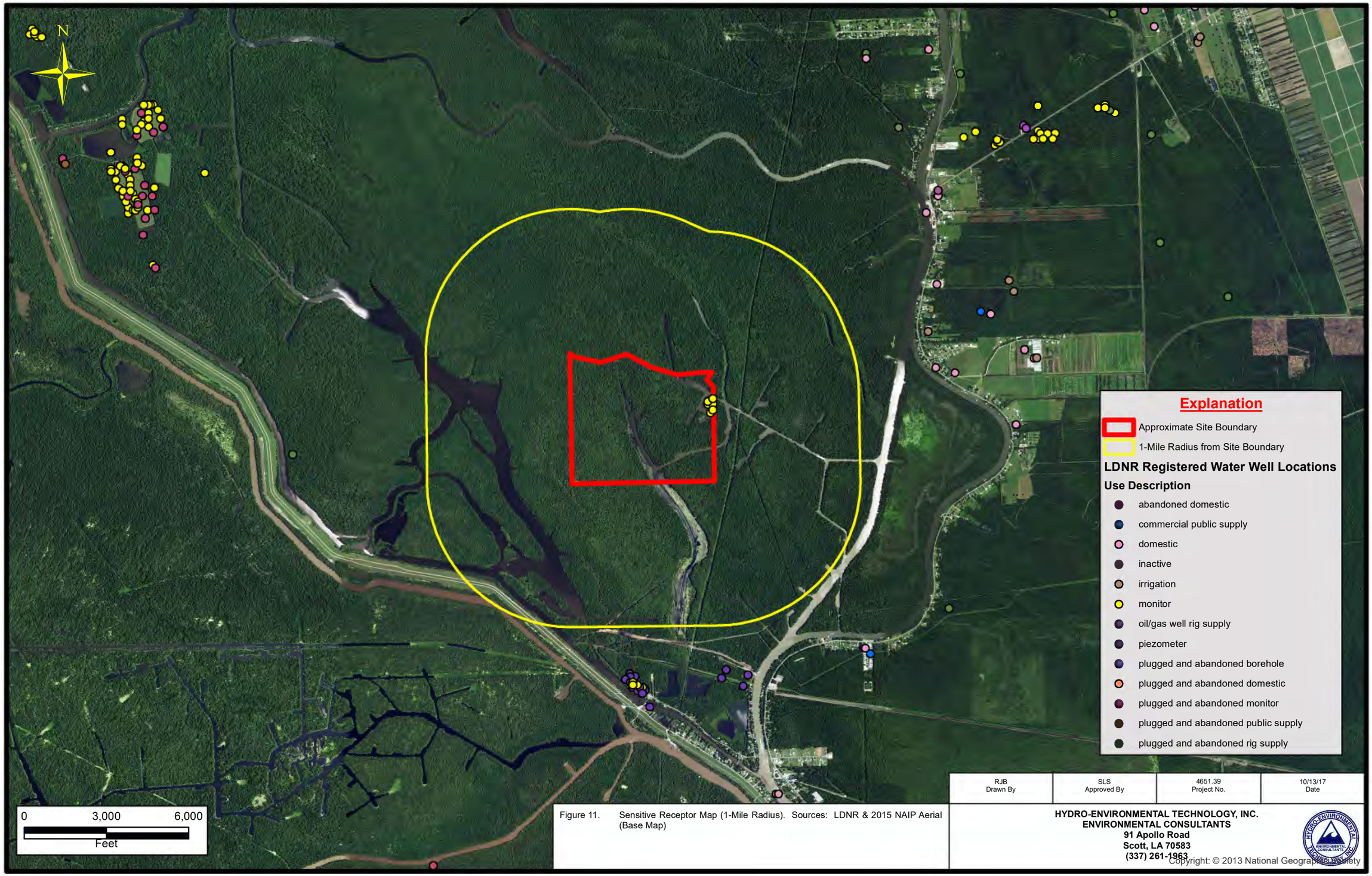

Figure 11. Sensitive Receptor Map (1-Mile Radius). Sources: LDNR & 2015 NAIP Aerial (Base Map)

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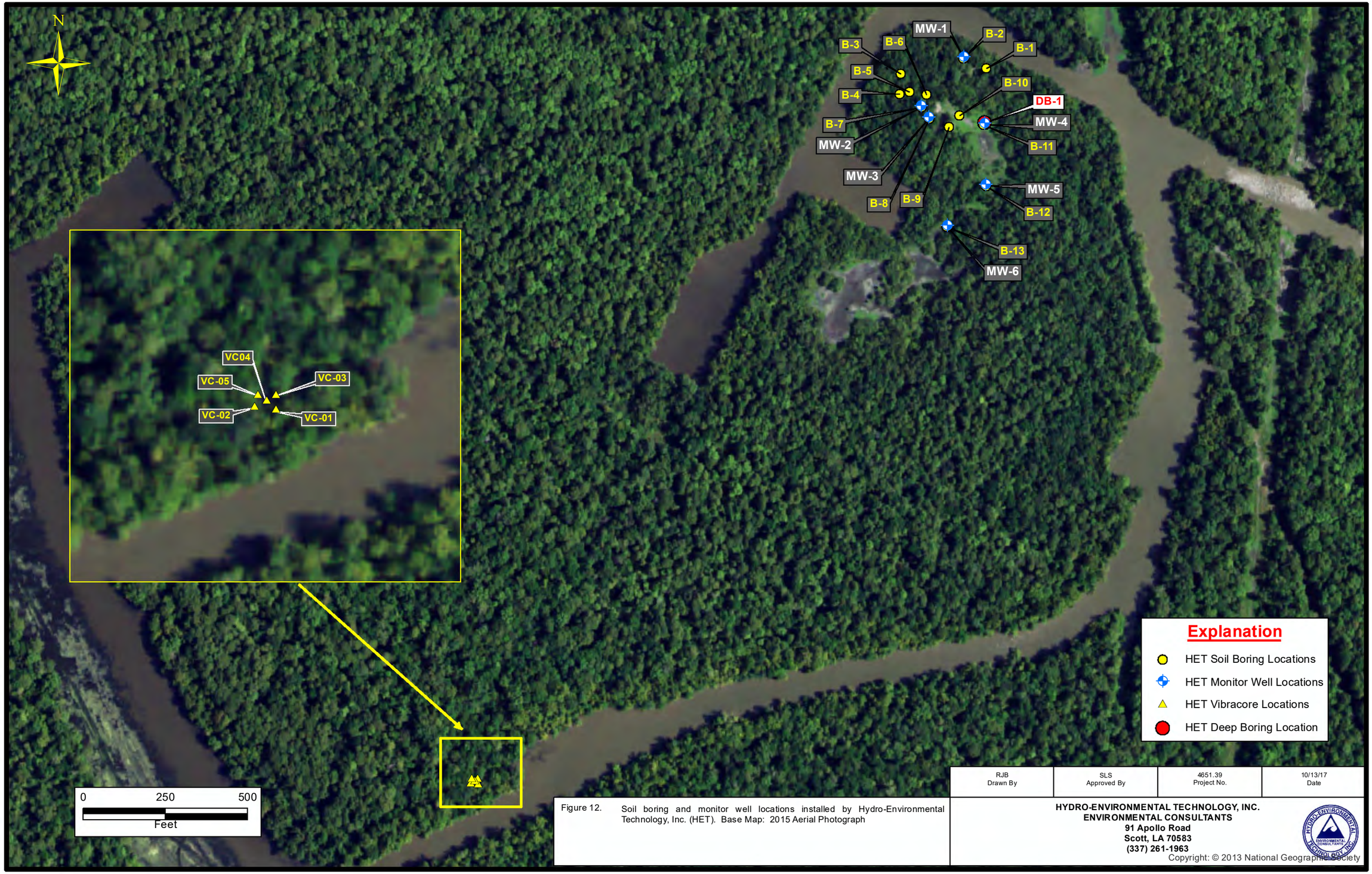
91 Apollo Road
Scott, LA 70583
(337) 261-1963



RJB	SLS	4651.39	10/13/17
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Figure 12. Soil boring and monitor well locations installed by Hydro-Environmental Technology, Inc. (HET). Base Map: 2015 Aerial Photograph

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ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963

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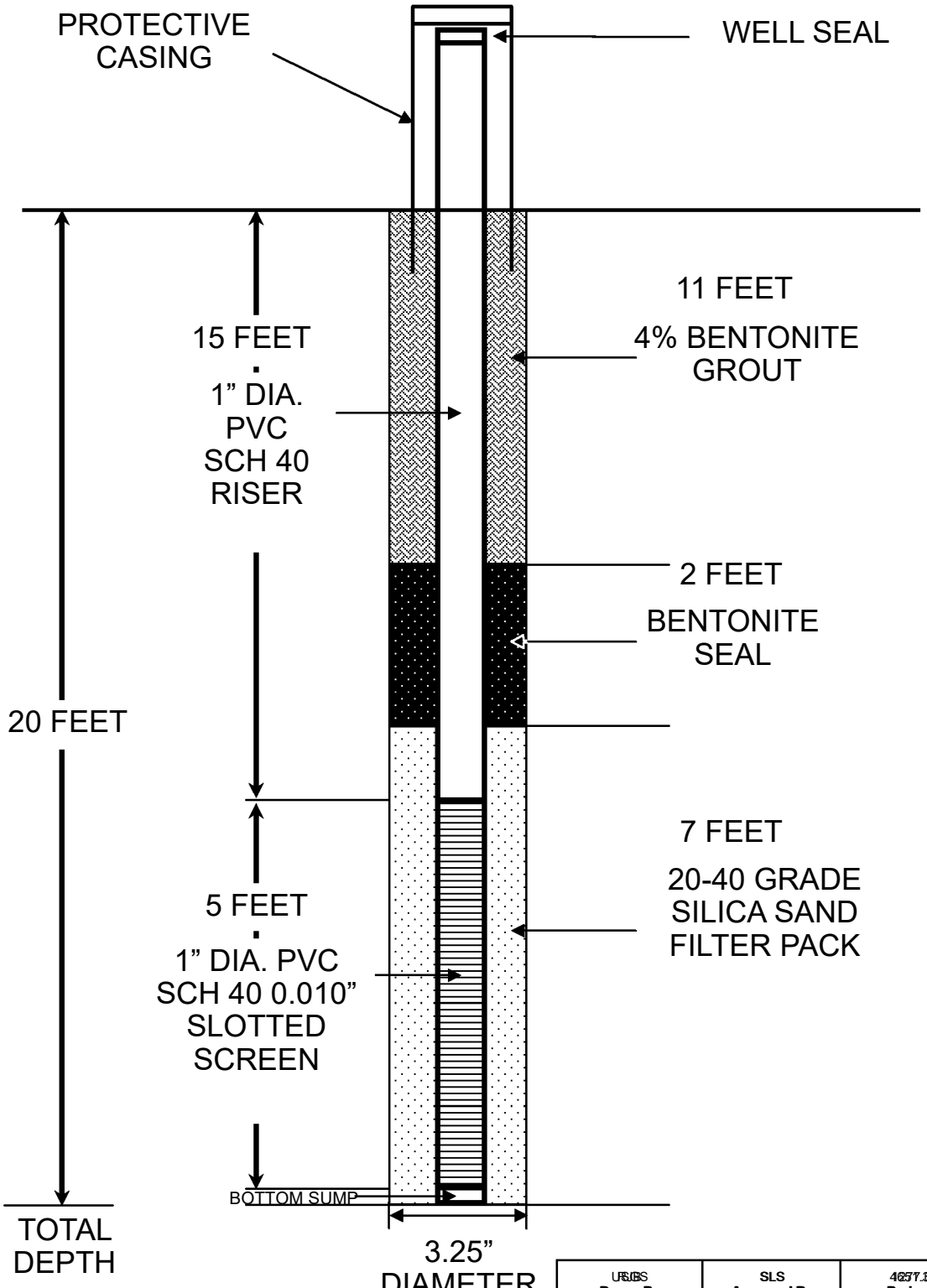

URS **Drawn By**	SLS **Approved By**	4257.39 **Project #**	10/15/10 **Date**

Figure 13. Typical 1-Inch Diameter Monitor Well Construction Diagram.

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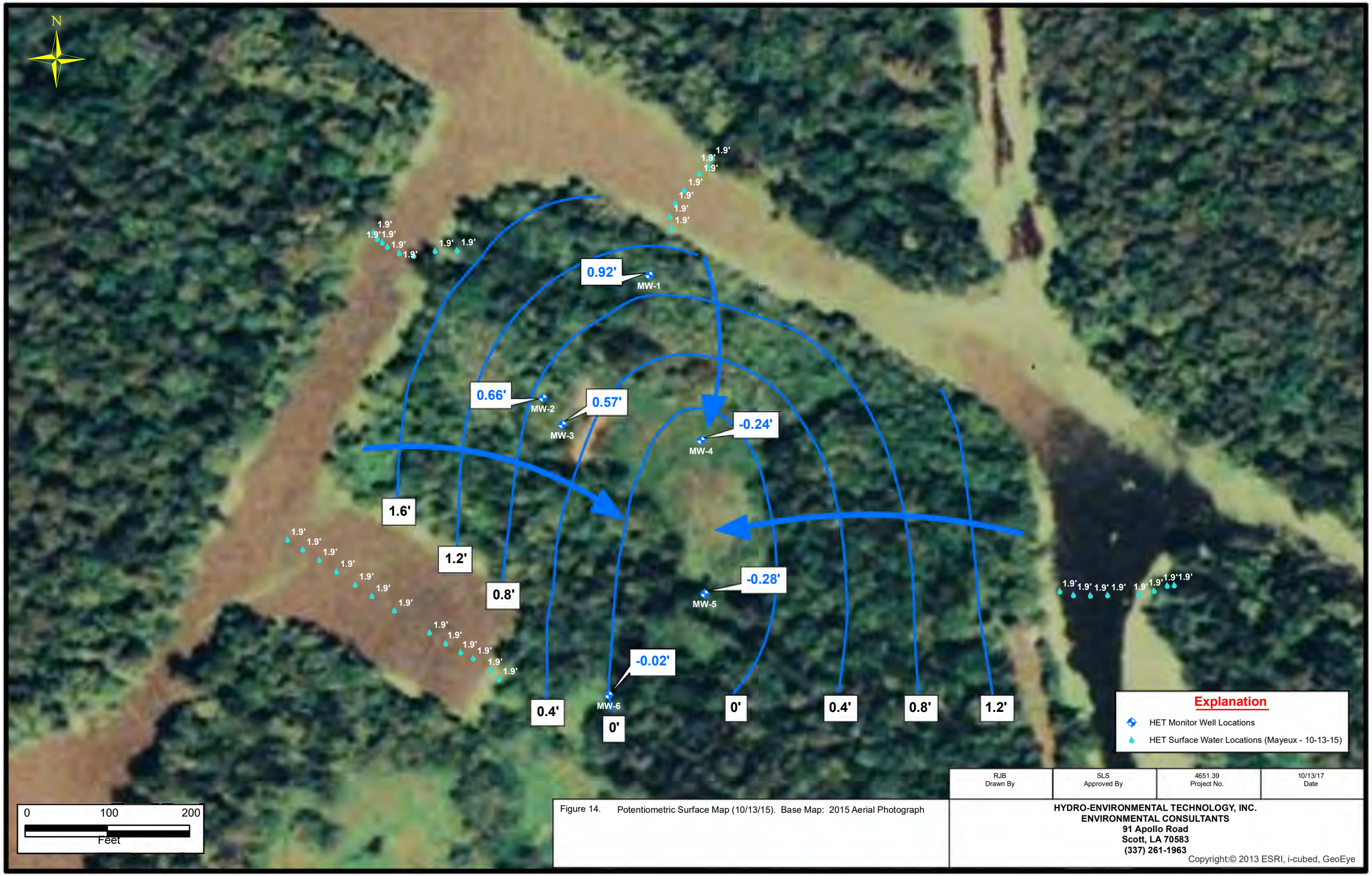
ENVIRONMENTAL CONSULTANTS
91 Apollo Road, Scott, LA 70583
P.O. Box 60295, Lafayette, LA 70596-0295
(337) 261-1963



RJB	SLS	4651.39	10/13/17
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Figure 14. Potentiometric Surface Map (10/13/15). Base Map: 2015 Aerial Photograph

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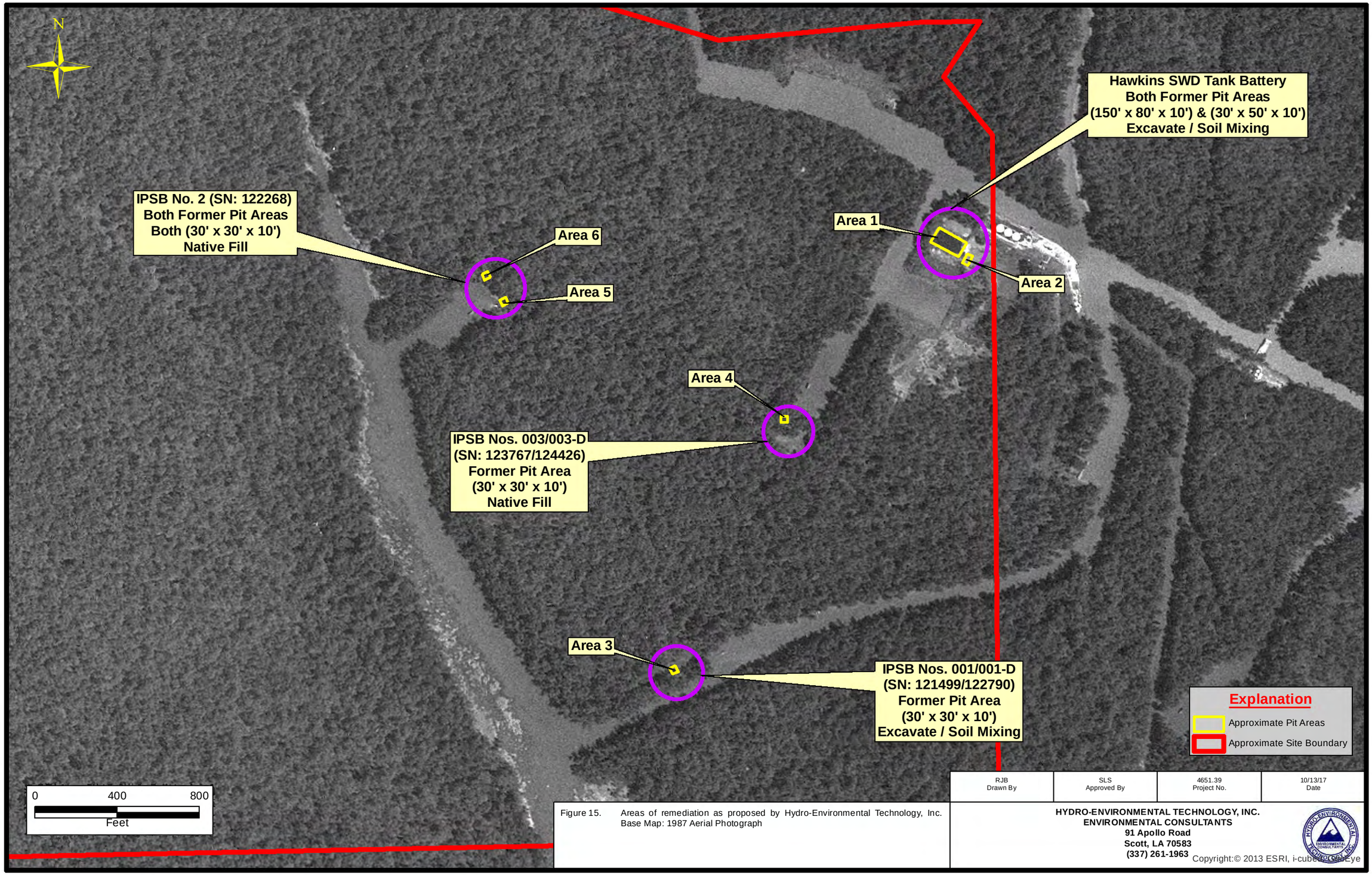

Figure 15. Areas of remediation as proposed by Hydro-Environmental Technology, Inc. Base Map: 1987 Aerial Photograph

APPENDIX B

TABLES

Soil Analytical Summary - 29-B Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
ICON Investigation																																
Pit Comp sn121499 (Area 3)	06/06/13	ICON	—	—	—	1.3	**18.1**	23.8	<1	<1	10.1	—	—	—	—	**4.39**	3.05	—	**4360**	**41100**	—	<0.5	**229**	83.6	0.16	< 1.99	< 0.50	—	94.5	—	—	—
SB-1 (6-8)	02/10/15	ICON	—	—	—	**10.2**	12.6	18.8	22.8	11.1	77.4	—	62.9	—	—	< 0.05	5.11	—	216	388	—	< 0.50	17.2	16.3	< 0.10	—	—	62.4	81.4	—	6.65	42.8
SB-1 (6-8)	02/10/15	HET	135	2410	—	**13.7**	7.47	19.9	22.5	10.7	80.9	—	50.9	1610	13.8	0.11	<5.00	—	163	513	—	<0.500	13.5	11.8	0.03655	<2.50	<1.25	43.9	53.7	96.4	6.97	36.8
SB-1 (6-8)	06/08/15	ICON	—	—	508*	**8.62**	3.8	7.21	31.6	17.9	35.9	—	64.2	—	—	—	5.88	—	207	324	—	< 0.50	16	14.8	< 0.10	—	—	44.8	63.6	—	—	34.8
SB-1 (6-8)	06/08/15	HET	Insufficient volume for split analysis																													
SB-1 (12-14)	06/08/15	ICON	—	—	—	5.99	—	—	—	—	—	—	—	—	—	—	8.69	—	269	371	—	0.82	15.8	13.5	< 0.1	—	—	53	61.4	—	—	46.8
SB-1 (12-14)	06/08/15	HET	Insufficient volume for split analysis																													
SB-1 (18-20)	06/08/15	ICON	—	—	—	3.67	—	—	—	—	—	—	—	—	—	—	**13.3**	—	136	274	—	0.66	8.73	7.98	< 0.1	—	—	32.2	38.2	—	—	35.2
SB-1 (18-20)	06/08/15	HET	Insufficient volume for split analysis																													
SB-1 (22-24)	06/08/15	ICON	—	—	—	3.88	—	—	—	—	—	—	—	—	—	—	3.49	—	158	210	—	< 0.5	7.58	6.47	< 0.1	—	—	35.2	32	—	—	27.8
SB-1 (22-24)	06/08/15	HET	—	221	—	2.6	—	—	9.08	3.91	10.3	—	—	3140	32.8	—	1.76	—	118	309	—	0.222	6.13	5.37	0.01664	<0.500	<0.250	24.4	24.6	35.6	7.48	24.3
SB-2 (4-6)	02/10/15	ICON	—	—	—	**10.5**	**24.5**	**39.3**	8.65	3.12	95.4	—	54.4	—	—	0.07	5.83	—	276	368	—	0.6	14.8	15.8	< 0.1	—	—	90.8	75.3	—	7.51	36
SB-2 (4-6)	02/10/15	HET	130	2120	—	**13.8**	9.5	**48.5**	7.08	2.82	108	—	60.9	3790	49.4	0.31	<5.00	—	190	447	—	<0.500	12.1	11.5	0.03171	<2.50	<1.25	67.6	49.8	114	7.88	39.6
SB-2 (6-8)	06/08/15	ICON	—	—	1340*	**13.3**	11.2	19.7	28.1	14.7	91	—	64.6	—	—	—	5.7	—	198	343	—	< 0.5	14.8	14.1	< 0.1	—	—	52.6	60.3	—	—	34.9
SB-2 (6-8)	06/08/15	HET	Insufficient volume for split analysis																													
SB-2 (12-14)	06/08/15	ICON	—	—	—	**20.8**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	47.8
SB-2 (12-14)	06/08/15	HET	Insufficient volume for split analysis																													
SB-2 (20-22)	06/08/15	ICON	—	—	—	7.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.7
SB-2 (20-22)	06/08/15	HET	Insufficient volume for split analysis																													
SB-2 (28-30)	06/08/15	ICON	—	—	—	1.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.1
SB-2 (28-30)	06/08/15	HET	Insufficient volume for split analysis																													
SB-3 (4-6)	02/10/15	ICON	—	—	—	4.36	**19.3**	24.4	3.89	1.58	40.3	—	76.6	—	—	—	4.73	—	243	397	—	< 0.5	17	16.8	< 0.1	—	—	206	79.9	—	7.07	38.4
SB-3 (4-6)	02/10/15	HET	49.4	981	—	5.34	**14.9**	**28.4**	4.19	2.05	50.2	—	60.9	1190	805	—	<5.00	—	200	458	—	<0.500	14.2	11.7	0.03835	<2.50	<1.25	142	55.6	130	7.16	37.5
SB-3 (12-14)	06/03/15	ICON	—	—	—	**9.22**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.6
SB-3 (12-14)	06/03/15	HET	Insufficient volume for split analysis																													
SB-3 (18-20)	06/03/15	ICON	—	—	—	**22.1**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.9
SB-3 (18-20)	06/03/15	HET	Insufficient volume for split analysis																													
SB-3 (24-26)	06/03/15	ICON	—	—	—	6.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.3
SB-3 (24-26)	06/03/15	HET	42.8	1250	—	4.89	—	—	23.1	10.5	18.7	—	—	6540	84.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	74.6	7.37	39.7
SB-3 (30-32)	06/03/15	ICON	—	—	—	2.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.8
SB-3 (30-32)	06/03/15	HET	14.1	195	—	1.53	—	—	4.68	2.05	6.93	—	—	3470	78.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63.5	7.52	26.3

Soil Analytical Summary - 29-B Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
SB-4 (2-4)	02/10/15	ICON	—	—	—	7.05	**19**	23.8	9.52	3.78	61.5	—	67.3	—	—	—	5.41	—	234	428	—	0.5	15.1	15.9	< 0.1	—	—	196	69.6	—	6.71	39
SB-4 (2-4)	02/10/15	HET	67.2	1080	—	**8.9**	8.74	**27.2**	11.8	4.74	78.3	—	60.9	2020	800	—	<5.00	—	136	343	—	<0.500	12.8	11.6	0.03953	<2.50	<1.25	116	46.4	107	6.72	38.5
SB-4 (4-6)	06/02/15	ICON	—	—	395*	5.82	**23.7**	**25.3**	3.96	1.93	43.4	—	64.3	—	—	—	5.01	—	255	569	—	< 0.5	16.7	14.8	< 0.1	< 1.99	< 0.5	—	66.6	—	—	35.8
SB-4 (4-6)	06/02/15	HET	55	1250	—	5.29	—	—	4.05	1.98	51	—	—	3200	401	—	<5.00	—	173	521	—	<0.500	19.6	12.3	0.03368	<2.50	<1.25	68.7	63.8	105	7.18	35.4
SB-4 (8-10)	06/02/15	ICON	—	—	905*	**13.8**	12.3	**37.5**	10.9	4.74	105	—	70.2	—	—	—	5.14	—	232	379	—	< 0.5	15.7	13.4	< 0.1	< 1.98	< 0.5	—	54	—	—	41.1
SB-4 (8-10)	06/02/15	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-4 (20-22)	06/02/15	ICON	—	—	—	**53.9**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.6
SB-4 (20-22)	06/02/15	HET	259	4070	201	**19.8**	—	—	31.5	14	194	—	—	727	53.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.6	7.49	22.1
SB-4 (24-26)	06/02/15	ICON	—	—	—	**21.9**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38.7
SB-4 (24-26)	06/02/15	HET	Insufficient volume for split analysis																													
SB-4 (34-36)	06/02/15	ICON	—	—	—	4.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.9
SB-4 (34-36)	06/02/15	HET	30.6	641	—	3.68	—	—	20.3	9.08	11.6	—	—	2150	106	—	—	—	—	—	—	—	—	—	—	—	—	—	—	79.8	7.25	62.5
SB-5 (2-4)	02/11/15	ICON	—	—	—	7.62	**17.7**	**32.7**	6.11	1.52	63.8	—	55.7	—	—	**2.29**	5.12	—	334	420	—	< 0.5	14.3	17.2	< 0.1	—	—	296	104	—	7.73	43.2
SB-5 (2-4)	02/11/15	HET	66.7	1680	—	6.65	11.6	**30.7**	5.6	1.63	58.4	—	59.1	3900	61.6	**2.84**	3.64	—	180	486	—	0.43	10.7	10	0.03174	<0.500	<0.250	190	50.5	109	7.66	32.9
SB-5 (4-6)	02/11/15	ICON	—	—	—	**13.4**	**42.3**	**82.5**	4.17	1.03	133	—	66.9	—	—	0.35	5.06	—	187	282	—	< 0.5	16.2	16.2	< 0.1	—	—	234	74.5	—	8.27	35.2
SB-5 (4-6)	02/11/15	HET	152	3720	—	**15.7**	**17.5**	**74.4**	4.14	1.6	126	—	62.6	3990	17	**1.5**	<5.00	—	136	379	—	<0.500	13.9	11	0.0347	<2.50	<1.25	160	51.1	170	8.21	36.6
SB-5 (6-8)	06/03/15	ICON	—	—	1500*	**9.2**	**56.8**	**64**	2.2	< 1.00	74.9	—	67.3	—	—	—	5.39	—	154	281	—	< 0.5	16.2	14.3	< 0.1	< 1.99	< 0.5	—	66.2	—	—	34.3
SB-5 (6-8)	06/03/15	HET	Insufficient volume for split analysis																													
SB-5 (8-10)	06/03/15	ICON	—	—	3470*	**25.2**	**51.2**	**88.3**	9.93	1.98	215	—	76.1	—	—	—	6.55	—	354	957	—	< 0.5	15	13.8	< 0.1	< 1.99	< 0.5	—	53.6	—	—	43.6
SB-5 (8-10)	06/03/15	HET	Insufficient volume for split analysis																													
SB-5 (16-18)	06/03/15	ICON	—	—	—	**42.9**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.5
SB-5 (16-18)	06/03/15	HET	Insufficient volume for split analysis																													
SB-5 (20-22)	06/03/15	ICON	—	—	—	**40.5**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.2
SB-5 (20-22)	06/03/15	HET	—	8970	425	**43.6**	—	—	28.6	4.98	373	362	—	7100	92	—	—	—	—	—	—	—	—	—	—	—	—	—	—	80.5	7.7	28.4
SB-5 (32-34)	06/04/15	ICON	—	—	—	**18.8**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.7
SB-5 (32-34)	06/04/15	HET	—	3420	177	**17.4**	—	—	54.8	19.2	77.7	105	—	1950	45.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	88.2	7.32	34

Soil Analytical Summary - 29-B Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
SB-6 (4-6)	02/11/15	ICON	—	—	—	**18.1**	**33.5**	**55.4**	13.5	4	164	—	60.9	—	—	**—**	4.39	—	183	298	—	< 0.5	15.9	16.2	< 0.1	—	—	212	76.5	—	7.65	36.2
SB-6 (4-6)	02/11/15	HET	168	4220	222	**17.9**	**15.2**	**48.4**	11.9	4.35	138	258	53	3210	<10.0	**1.43**	3.79	—	129	368	—	0.414	10.6	8.56	0.03625	<0.500	<0.250	101	41.2	119	7.62	36.9
SB-6 (8-10)	06/03/15	ICON	—	—	4040*	**29.5**	**54.3**	**92.7**	11.9	3.47	257	—	73.7	—	—	**—**	5.38	—	244	430	—	< 0.5	14.5	13.3	< 0.1	< 1.98	< 0.5	—	53.4	—	—	39.6
SB-6 (8-10)	06/03/15	HET	388	9240	460	**37.3**	**—**	**—**	17.7	5.01	320	436	—	3190	47.7	**—**	<5.00	—	172	449	—	<0.500	15.8	9.42	0.02705	<2.50	<1.25	162	46.5	104	6.85	40.3
SB-6 (16-18)	06/03/15	ICON	—	—	—	**65**	**—**	**—**	—	—	—	—	—	—	—	**—**	**—**	—	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	23.6
SB-6 (16-18)	06/03/15	HET	212	6230	360	**42.1**	**—**	**—**	24.4	6.39	383	250	—	787	19.7	**—**	**—**	—	—	**—**	—	—	—	**—**	—	—	—	—	—	30.8	6.74	25.6
SB-6 (24-26)	06/03/15	ICON	—	—	—	**45.4**	**—**	**—**	—	—	—	—	—	—	—	**—**	**—**	—	**—**	**—**	—	—	—	**—**	—	—	—	—	—	—	—	34.4
SB-6 (24-26)	06/03/15	HET	439	10500	439	**41.9**	**—**	**—**	90.6	40	282	271	—	6220	38.5	**—**	**—**	—	—	**—**	—	—	—	**—**	—	—	—	—	—	70.9	7.1	31.9
SB-6 (32-34)	06/03/15	ICON	—	—	—	**17.1**	**—**	**—**	—	—	—	—	—	—	—	**—**	**—**	—	**—**	**—**	—	—	—	**—**	—	—	—	—	—	—	—	34.7
SB-6 (32-34)	06/03/15	HET	—	3160	181	**18.1**	**—**	**—**	61.7	24.1	71.4	87.3	—	1210	76.3	**—**	**—**	—	—	**—**	—	—	—	**—**	—	—	—	—	—	75.4	7.31	38.6
SB-7 (2-4.5)	02/11/15	ICON	—	—	—	**34.8**	**26.7**	**45.8**	69.1	21	307	—	64.6	—	—	**1.38**	6.56	—	267	356	—	0.62	15.1	17.3	< 0.1	—	—	336	81.1	—	7.39	55.4
SB-7 (2-4.5)	02/11/15	HET	376	5490	279	**39.9**	4.61	**46**	49.6	20.4	272	229	65.7	4740	14.9	**1.12**	2.88	—	102	403	—	0.445	7.16	6.42	0.03371	<0.500	<0.250	119	31	94	7.39	55.1
SB-7 (8-10)	06/10/15	ICON	—	—	1310*	**20.7**	13	**34.9**	43.7	15.7	190	—	56.1	—	—	**—**	4.84	—	252	346	—	< 0.5	10.1	11.3	< 0.1	—	—	145	41.7	—	—	40.1
SB-7 (8-10)	06/10/15	HET	Insufficient volume for split analysis																													
SB-7 (12-14)	06/10/15	ICON	—	—	—	**30.4**	**14.7**	**38.1**	64.1	24	253	—	—	—	—	**—**	**—**	—	**—**	**—**	—	—	—	**—**	—	—	—	—	—	—	—	25.8
SB-7 (12-14)	06/10/15	HET	—	5080	307	**25.9**	**—**	**—**	42	14.5	193	211	—	7130	211	**—**	**—**	—	—	**—**	—	—	—	**—**	—	—	—	—	—	40.4	7.4	25.2
SB-7 (18-20)	06/10/15	ICON	—	—	—	**20.1**	**—**	**—**	—	—	—	—	—	—	—	**—**	**—**	—	**—**	**—**	—	—	—	**—**	—	—	—	—	—	—	—	41.7
SB-7 (18-20)	06/10/15	HET	—	4560	232	**23.1**	**—**	**—**	63.8	27.3	129	138	—	5250	122	**—**	**—**	—	—	**—**	—	—	—	**—**	—	—	—	—	—	92.1	7.03	39.6
SB-7 (24-26)	06/10/15	ICON	—	—	—	2.68	**—**	**—**	—	—	—	—	—	—	—	**—**	**—**	—	**—**	**—**	—	—	—	**—**	—	—	—	—	—	—	—	27.9
SB-7 (24-26)	06/10/15	HET	—	318	—	2.51	**—**	**—**	8.41	3.46	6.56	—	—	1770	33.1	**—**	**—**	—	—	**—**	—	—	—	**—**	—	—	—	—	—	56.6	7.49	37.6
SB-7 (38-40)	06/10/15	ICON	—	—	—	1.23	**—**	**—**	—	—	—	—	—	—	—	**—**	**—**	—	**—**	**—**	—	—	—	**—**	—	—	—	—	—	—	—	36.1
SB-7 (38-40)	06/10/15	HET	—	115	—	1.3	**—**	**—**	4.95	2.06	4.8	—	—	8690	72.2	**—**	**—**	—	—	**—**	—	—	—	**—**	—	—	—	—	—	82.4	7.66	40.7
SB-8 (6-8)	02/11/15	ICON	—	—	—	**14.2**	3.2	7.55	71.8	33.4	54.7	—	66.3	—	—	**—**	4.21	—	327	470	—	< 0.5	17.9	15.5	< 0.1	—	—	71.1	71.7	—	7.32	41.4
SB-8 (6-8)	02/11/15	HET	162	2990	172	**17.1**	1.8	7.76	56.3	28.7	50.6	81.8	74.3	1420	179	**—**	<5.00	—	175	411	—	<0.500	13.5	9.88	0.02576	<2.50	<1.25	46.2	40.9	101	7.42	43.8
SB-8 (8-10)	06/10/15	ICON	—	—	—	**12.1**	3.9	7.58	73.5	15.4	50.5	—	48	—	—	**—**	9.27	—	174	246	—	< 0.5	12.8	11.1	< 0.1	—	—	55.1	46.3	—	—	41.1
SB-8 (8-10)	06/10/15	HET	Insufficient volume for split analysis																													
SB-8 (16-18)	06/10/15	ICON	—	—	—	4.54	**—**	**—**	—	—	—	—	—	—	—	**—**	**—**	—	**—**	**—**	—	—	—	**—**	—	—	—	—	—	—	—	32.1
SB-8 (16-18)	06/10/15	HET	—	858	—	3.41	**—**	**—**	16.5	7.21	11.3	—	—	5580	84.5	**—**	**—**	—	—	**—**	—	—	—	**—**	—	—	—	—	—	80.6	7.38	31
SB-8 (20-22)	06/10/15	ICON	—	—	—	1.84	**—**	**—**	—	—	—	—	—	—	—	**—**	**—**	—	**—**	**—**	—	—	—	**—**	—	—	—	—	—	—	—	34.9
SB-8 (20-22)	06/10/15	HET	Insufficient volume for split analysis																													

Soil Analytical Summary - 29-B Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
SB-9 (6-8)	02/12/15	ICON	—	—	—	**14.2**	8	15.8	49.5	22.2	94.5	—	68.7	—	—	—	6.14	—	211	336	—	< 0.5	17	14.6	< 0.1	—	—	74.4	68.9	—	6.91	43.9
SB-9 (6-8)	02/12/15	HET	151	2760	—	**16.5**	3.36	15.9	38.4	17.3	84	—	92.2	1670	398	—	<5.00	—	160	419	—	<0.500	13.6	9.61	0.02691	<2.50	<1.25	50	39.5	106	7.32	42
SB-9 (8-10)	06/11/15	ICON	—	—	—	**15.9**	5.7	11.2	64.8	28	76.6	—	45.1	—	—	—	2.57	—	145	200	—	< 0.5	9.04	10.3	< 0.1	—	—	48	38.8	—	—	35.2
SB-9 (8-10)	06/11/15	HET	—	2880	150	**16.3**	—	—	51.6	19.7	70.9	93.2	—	1570	236	—	1.13	—	75.8	242	—	0.276	8.22	6.49	0.02486	<0.500	<0.250	27.6	25.6	74.9	7.06	34.2
SB-9 (12-14)	06/11/15	ICON	—	—	—	**23.6**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.2
SB-9 (12-14)	06/11/15	HET	Insufficient volume for split analysis																													
SB-9 (16-18)	06/11/15	ICON	—	—	—	**12.8**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.9
SB-9 (16-18)	06/11/15	HET	Insufficient volume for split analysis																													
SB-9 (20-22)	06/11/15	ICON	—	—	—	4.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42.4
SB-9 (20-22)	06/11/15	HET	Insufficient volume for split analysis																													
SB-10 (6-8)	02/12/15	ICON	—	—	—	**14.6**	8	16.7	50.9	22.5	101	—	71.1	—	—	—	3.93	—	308	430	—	< 0.5	15.8	14.1	< 0.1	—	—	81	53.1	—	7.02	43.4
SB-10 (6-8)	02/12/15	HET	186	3670	213	**20.7**	3.31	19.1	45.5	20.5	110	157	66.5	1830	524	—	<5.00	—	175	454	—	<0.500	11.4	8.31	0.02868	<2.50	<1.25	50	30.8	110	7.44	46.7
SB-10 (8-10)	06/12/15	ICON	—	—	994*	**14.4**	8.4	14.7	48.3	21.1	86.6	—	43.6	—	—	—	3.22	—	151	272	—	< 0.5	9.09	10.3	< 0.1	—	—	50.6	39.1	—	—	32.9
SB-10 (8-10)	06/12/15	HET	—	2460	110	**16.8**	—	—	45	17.4	97.8	100	—	2420	316	—	—	—	—	—	—	—	—	—	—	—	—	—	—	79.2	7.13	29.8
SB-10 (12-14)	06/12/15	ICON	—	—	—	**15.5**	4.8	11.7	58.2	28.3	76.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.5
SB-10 (12-14)	06/12/15	HET	—	2080	—	**12.5**	—	—	35.1	14.4	68.3	—	—	4910	112	—	—	—	—	—	—	—	—	—	—	—	—	—	—	49.8	7.57	34.5
SB-10 (20-22)	06/12/15	ICON	—	—	—	4.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.4
SB-10 (20-22)	06/12/15	HET	—	346	—	3.85	—	—	19.7	8.17	12.2	—	—	4690	62.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	77.8	7.48	24.9
SB-11 (0-1)	06/02/15	ICON	—	—	4.24*	0.76	0.7	1.4	2.65	1.37	1.98	—	81.1	—	—	—	4.81	—	245	394	—	< 0.5	15.6	14.7	< 0.1	< 1.99	< 0.5	—	62.2	—	—	51.7
SB-11 (0-1)	06/02/15	HET	<1.00	6.6	—	0.467	0.52	2.76	1.25	0.733	2.75	—	54.3	1500	84.3	—	<5.00	—	139	403	—	<0.500	13.8	8.42	0.02512	<2.50	<1.25	26.8	45.1	35.1	7.68	50.1
SB-12 (0-2)	06/02/15	ICON	—	—	16*	1.29	1.6	2.15	4.62	2.13	3.95	—	64.8	—	—	—	6.26	—	**2040**	9530	—	< 0.5	20.4	22.1	< 0.1	< 1.98	< 0.5	—	71.4	—	—	63.3
SB-12 (0-2)	06/02/15	HET	<1.00	20.7	—	0.817	0.917	1.73	3.21	1.54	2.66	—	43.9	1210	189	—	<5.00	—	**736**	9540	—	<0.500	11.4	10.1	0.02469	<2.50	<1.25	47.5	35	87.6	6.49	61.3
SB-12 (2-4)	06/02/15	ICON	—	—	14.1*	0.91	1.4	2.08	3.08	1.41	3.11	—	50.5	—	—	—	6.73	—	**2820**	**34900**	—	< 0.5	22.4	37.7	0.11	< 1.98	< 0.5	—	62.1	—	—	52.7
SB-12 (2-4)	06/02/15	HET	2.35	24.2	—	0.774	1.01	2.11	2.82	1.37	3.06	—	43.9	2230	101	—	<5.00	—	**932**	7930	—	<0.500	12.4	13.3	0.05092	<2.50	<1.25	54.5	41.2	82.5	7.06	50.7
SB-13 (0-2)	06/02/15	ICON	—	—	58.8*	2.17	1.2	2.14	8.59	4.23	5.42	—	67.7	—	—	—	6.93	—	**1540**	4420	—	0.57	22.2	22.9	< 0.1	< 1.98	< 0.5	—	82.4	—	—	63.4
SB-13 (0-2)	06/02/15	HET	3.29	75.9	—	1.37	1.02	2.37	4.99	2.46	4.57	—	49.6	1460	710	—	<5.00	—	**652**	5880	—	<0.500	12.5	11.5	0.02932	<2.50	<1.25	60.2	41.5	91.4	6.95	61.4
SB-13 (2-4)	06/02/15	ICON	—	—	65.9 *	2.37	1.2	2.37	9.35	4.55	6.25	—	69.6	—	—	—	5.88	—	**1840**	11300	—	0.5	24.5	24.8	< 0.1	< 1.99	< 0.5	—	75.4	—	—	60.4
SB-13 (2-4)	06/02/15	HET	10.8	106	—	1.8	1.32	2.66	7.05	3.55	6.13	—	47.8	1430	648	—	<5.00	—	543	11300	—	<0.500	17.9	14	0.03789	<2.50	<1.25	55.1	41.8	87.6	7.11	58.5
SB-14 (0-2)	06/02/15	ICON	—	—	743*	**12.6**	6.7	10.5	35.6	17.8	54.4	—	62.6	—	—	—	5.65	—	**2440**	**24900**	—	< 0.5	21.9	21.1	< 0.1	< 1.99	< 0.5	—	83.4	—	—	61.9
SB-14 (0-2)	06/02/15	HET	102	1190	—	**8.42**	7.17	11.8	25.7	13.2	52	—	47.4	2260	712	—	<5.00	—	**765**	19300	—	<0.500	14.6	11.1	0.02596	<2.50	<1.25	52.2	46.5	84.6	6.95	60.1
SB-14 (2-4)	06/02/15	ICON	—	—	932*	**15.6**	8.2	13.7	42.1	20.6	77	—	59.5	—	—	—	6.87	—	**2460**	**36700**	—	< 0.5	22.1	21.4	< 0.1	< 1.99	< 0.5	—	82	—	—	56.7
SB-14 (2-4)	06/02/15	HET	106	1540	—	**9.03**	8.19	14	25.6	13	61.6	—	50.9	1370	600	—	<5.00	—	**745**	12500	—	<0.500	12.5	9.21	0.02526	<2.50	<1.25	47.7	41	82.2	6.59	58.3

Soil Analytical Summary - 29-B Analyses

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LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals														Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
SB-15 (0-2)	06/15/15	ICON	—	—	35*	1.04	2.2	3.74	2.82	1.44	5.46	—	73.1	—	—	—	4.15	—	504	772	—	< 0.5	19	16	< 0.1	< 1.99	—	88.3	67.8	—	—	29.7
SB-15 (0-2)	06/15/15	HET	Insufficient volume for split analysis																													
SB-15 (4-6)	06/15/15	ICON	—	—	128*	3.45	7.5	11	6.29	3.42	24.2	—	70.1	—	—	—	4.86	—	215	372	—	< 0.5	18.4	17.8	< 0.1	< 1.99	—	73.7	79.2	—	—	34.5
SB-15 (4-6)	06/15/15	HET	14.6	372	—	3.49	—	—	9.95	5	26.4	—	—	1200	686	—	3.38	—	131	405	—	0.337	11.4	10.6	0.03725	<0.500	<0.250	42.4	42	87	6.32	38.4
SB-15 (14-16)	06/15/15	ICON	—	—	—	7.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.2
SB-15 (14-16)	06/15/15	HET	Insufficient volume for split analysis																													
SB-15 (24-26)	06/15/15	ICON	—	—	—	2.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.4
SB-15 (24-26)	06/15/15	HET	15.5	205	—	2.2	—	—	10.7	4.49	5.07	—	—	15200	122	—	—	—	—	—	—	—	—	—	—	—	—	—	—	72.2	7.36	42
SB-15 (32-34)	06/15/15	ICON	—	—	—	1.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.1
SB-15 (32-34)	06/15/15	HET	9.87	239	—	1.66	—	—	7.52	3.12	3.87	—	—	7370	142	—	—	—	—	—	—	—	—	—	—	—	—	—	—	76.5	7.24	43.8
SB-16 (0-2)	06/15/15	ICON	—	—	45.5*	1.5	1.7	3.74	5.72	2.67	7.66	—	71.3	—	—	—	3.57	—	248	450	—	0.5	20.7	20	< 0.1	< 1.98	—	87.2	96.2	—	—	46
SB-16 (0-2)	06/15/15	HET	8.93	159	—	1.88	2.79	3.88	7.49	3.05	8.91	—	47.8	2390	111	—	2.49	—	94.3	379	—	0.346	11.4	11.5	0.04019	<2.50	<0.250	47	47.1	84.7	6.57	45.8
SB-16 (4-6)	06/15/15	ICON	—	—	506*	**12**	7	**29.8**	15.4	7.15	99.9	—	78.8	—	—	—	4.5	—	254	362	—	< 0.5	18.4	16.2	< 0.1	< 1.99	—	99.3	64.8	—	—	44.9
SB-16 (4-6)	06/15/15	HET	62	1450	—	6.28	—	—	9.18	3.81	55.4	—	—	2690	145	—	2.46	—	113	430	—	0.258	9.68	9.01	0.02898	<0.500	<0.250	46.4	33.5	103	7.23	47.3
SB-16 (8-10)	06/15/15	ICON	—	—	—	**10.2**	**14.1**	**20.1**	18.7	8.34	73.8	—	66.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42.1
SB-16 (8-10)	06/15/15	HET	Insufficient volume for split analysis																													
SB-16 (14-16)	06/15/15	ICON	—	—	—	**15.9**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.4
SB-16 (14-16)	06/15/15	HET																														
SB-16 (28-30)	06/15/15	ICON	—	—	—	1.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.6
SB-16 (28-30)	06/15/15	HET	4.23	66.5	—	1.33	—	—	4.87	2.32	4.35	—	—	2180	96.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.2	7.21	25.3
SB-17 (0-2)	06/16/15	ICON	—	—	498*	3.77	4.8	7.23	9.04	4.26	18.6	—	70.9	—	—	—	5.35	—	463	673	—	< 0.5	19.2	18.9	< 0.1	< 1.99	—	87.6	97.6	—	—	63.2
SB-17 (0-2)	06/16/15	HET	26.3	224	—	4	3.9	7.26	13.8	5.93	22.8	—	46.1	882	383	—	2.05	—	244	1150	—	0.268	7.63	7.25	0.02574	<0.500	<0.250	35.7	31.9	68.6	6.57	64.2
SB-17 (2-4)	06/16/15	ICON	—	—	205*	4.16	6.8	10.2	8.76	3.79	25.5	—	68	—	—	—	4.99	—	**1700**	4460	—	< 0.5	27.1	21.2	< 0.1	< 1.98	—	185	87.5	—	—	58.3
SB-17 (2-4)	06/16/15	HET	42.3	383	—	5.33	5.18	10.7	16.1	6.48	35.9	—	46.5	2060	477	—	2.24	—	285	3000	—	0.295	11.8	8.7	0.02791	<0.500	<0.250	63.7	35.3	67.4	6.48	61.2
SB-18 (0-2)	06/16/15	ICON	—	—	17*	1.62	1.1	1.73	8.75	3.91	4.36	—	57.4	—	—	—	5.55	—	**1570**	6910	—	0.62	19	26.9	< 0.1	< 1.98	—	125	110	—	—	59.7
SB-18 (0-2)	06/16/15	HET	5.17	40.3	—	1.96	1.19	2.26	10.4	4.5	6.17	—	39.7	1280	244	—	2.26	—	289	6810	—	0.349	9.01	12.2	0.03402	<0.500	<0.250	46	45.4	64.3	6.6	59.6
SB-18 (2-4)	06/16/15	ICON	—	—	20.2*	1.22	1.5	2.49	4.54	2.23	4.57	—	50.4	—	—	—	5.89	—	**1840**	11000	—	0.7	17.9	36	< 0.1	< 1.99	—	146	123	—	—	50.9
SB-18 (2-4)	06/16/15	HET	2.82	44.2	—	1.28	1.75	2.37	5.1	2.45	4.6	—	39.3	1430	213	—	2.56	—	354	5810	—	0.328	9.39	12.4	0.03294	<0.500	<0.250	47.1	40.1	78.7	6.94	49.9
SB-19 (0-2)	06/16/15	ICON	—	—	67.2*	3.11	2.6	5.01	11.3	5.34	14.5	—	67.9	—	—	—	6.26	—	**913**	1410	—	< 0.5	22.2	20.9	< 0.1	< 1.99	—	116	103	—	—	63.9
SB-19 (0-2)	06/16/15	HET	16	159	—	3.41	2.73	5.6	13.8	5.95	17.6	—	46.5	1130	437	—	2.19	—	240	1620	—	0.271	7.87	7.58	0.02626	<2.50	<0.250	35.1	32.9	78	6.07	63.2
SB-19 (2-4)	06/16/15	ICON	—	—	78.6*	2.26	4.4	7.67	4.39	2.07	13.8	—	65.1	—	—	—	5.27	—	**1920**	3400	—	< 0.5	22.5	19.1	< 0.1	< 1.98	—	153	82.8	—	—	53.5
SB-19 (2-4)	06/16/15	HET	15.5	242	—	2.77	4.89	7.65	7.23	3.23	17.5	—	49.1	1450	259	—	3	—	**582**	3310	—	0.393	13.6	11.5	0.0277	<2.50	<0.250	71.9	45	74.9	6.53	60.6
SB-20 (0-2)	06/17/15	ICON	—	—	9.11*	1.15	0.6	1.37	5.1	2.51	2.68	—	60.5	—	—	—	6.39	—	**2670**	14900	—	0.53	24.5	30.5	< 0.1	< 1.99	—	88.2	103	—	—	61.3
SB-20 (0-2)	06/17/15	HET	<1.00	18.3	—	1.31	0.802	1.21	6.56	2.97	2.64	—	42.3	1250	142	—	2.44	—	398	18100	—	0.31	9.95	12.2	0.05013	<0.500	<0.250	26.1	36.3	68.8	6.26	61.7
SB-20 (2-4)	06/17/15	ICON	—	—	13.3*	0.9	1.1	1.97	2.97	1.48	2.93	—	60	—	—	—	6.26	—	**1850**	5630	—	< 0.5	22.6	26.9	< 0.1	< 1.99	—	107	95.4	—	—	55.3
SB-20 (2-4)	06/17/15	HET	2.35	30.7	—	1.49	1.21	1.73	7.14	3.2	3.94	—	44.3	<243	245	—	2.89	—	453	6940	—	0.325	11.6	12	0.03699	<0.500	<0.250	40.5	37.5	65.9	6.36	57

Soil Analytical Summary - 29-B Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
SB-21 (0-2)	06/17/15	ICON	—	—	4.97*	1.12	1	1.63	5.58	2.31	3.24	—	45	—	—	—	8.72	—	**4180**	**151000**	—	0.66	29.9	**203**	0.16	< 1.98	—	139	213	—	—	50.5
SB-21 (0-2)	06/17/15	HET	<1.00	11.5	—	1.31	1.53	1.61	6.6	2.63	3.46	—	26.3	2340	206	—	4.04	—	541	**182000**	—	0.424	16.8	58.9	0.08525	<0.500	<0.250	40.3	76.1	54.8	6.98	52.4
SB-21 (2-4)	06/17/15	ICON	—	—	8.2*	1.05	1.1	2.27	4.25	1.73	3.93	—	48.6	—	—	—	9.24	—	**4830**	**88900**	—	0.54	28.4	97.4	0.14	< 1.99	—	141	131	—	—	49.5
SB-21 (2-4)	06/17/15	HET	<1.00	16.3	—	1.32	1.47	2.28	5.91	2.21	4.6	—	28.7	2370	211	—	4.33	—	473	**122000**	—	0.406	17.3	60.8	0.08117	<0.500	<0.250	48.3	64.2	62	6.68	48.5
SB-22 (0-2)	06/17/15	ICON	—	—	8.63*	0.96	0.7	1.45	4.21	2.07	2.56	—	58.1	—	—	—	6.43	—	**2710**	10600	—	0.51	22.2	26.1	< 0.1	< 1.99	—	85.7	105	—	—	57.1
SB-22 (0-2)	06/17/15	HET	<1.00	16.9	—	1.24	0.925	1.01	6.33	2.97	2.18	—	39.7	1540	167	—	2.47	—	448	17300	—	0.324	9.89	12.3	0.03813	<0.500	<0.250	26.2	38.4	67.3	6.22	59.6
SB-22 (2-4)	06/17/15	ICON	—	—	12.2*	0.89	0.9	1.77	3.94	1.86	3.01	—	54.9	—	—	—	5.82	—	**2620**	13000	—	< 0.5	20.5	28.4	< 0.1	< 1.99	—	85.4	74.3	—	—	53.7
SB-22 (2-4)	06/17/15	HET	2.82	26.4	—	1.39	1.83	1.46	7.42	3.33	3.39	—	30.5	1650	199	—	2.81	—	**554**	10600	—	0.298	11	14.6	0.03659	<0.500	<0.250	35.6	37	61.2	6.41	54.8
SB-23 (0-2)	06/19/15	ICON	—	—	6.43*	0.72	1	1.66	2.56	1.37	2.32	—	66.6	—	—	—	5.65	—	256	420	—	< 0.5	18.6	15.8	< 0.1	< 1.98	—	41.4	79.7	—	—	30.5
SB-23 (0-2)	06/19/15	HET	<1.00	17.8	—	0.545	0.925	0.943	2.46	1.16	1.27	—	50.9	242	157	—	4.6	—	127	743	—	0.395	11.7	11	0.04207	<0.500	<0.250	25.1	45.7	74.1	**4.29**	34.4
SB-23 (4-6)	06/19/15	ICON	—	—	37*	2.28	3.1	4.98	7.83	4.22	12.2	—	72.4	—	—	—	5.47	—	246	500	—	< 0.5	16.9	15.5	< 0.1	< 1.99	—	52.9	69.1	—	—	31.8
SB-23 (4-6)	06/19/15	HET	5.17	161	—	2.59	—	—	10.5	5.15	14.3	—	—	1210	793	—	3.82	—	124	845	—	0.313	11.5	10.3	0.03931	<0.500	<0.250	32.5	37.6	87.8	**5.86**	35.8
SB-23 (10-12)	06/19/15	ICON	—	—	—	1.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.1
SB-23 (10-12)	06/19/15	HET	Insufficient volume for split analysis																													
SB-23 (22-24)	06/19/15	ICON	—	—	—	1.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.5
SB-23 (22-24)	06/19/15	HET	5.17	104	—	1.16	—	—	5.18	2.48	3.33	—	—	2700	193	—	—	—	—	—	—	—	—	—	—	—	—	—	—	67.6	7.16	36.5
SB-23 (32-34)	06/19/15	ICON	—	—	—	1.41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.9
SB-23 (32-34)	06/19/15	HET	9.87	212	—	1.68	—	—	7.78	4	4.72	—	—	2430	136	—	—	—	—	—	—	—	—	—	—	—	—	—	—	74.5	6.8	43.9
SB-24 (0-2)	06/22/15	ICON	—	—	137*	2.58	10.7	17.2	2.03	1.06	21.4	—	73.1	—	—	—	5.46	—	457	2620	—	0.5	21.3	18.9	< 0.1	< 1.99	—	73.3	79.9	—	—	31.7
SB-24 (0-2)	06/22/15	HET	13.6	318	—	1.95	10.6	12.7	2.3	1.45	17.4	—	50.9	1240	145	—	<5.00	—	167	409	—	<0.500	16.5	13.8	0.03233	<2.50	<1.25	46	56.1	96.4	6.59	36.6
SB-24 (4-6)	06/22/15	ICON	—	—	235*	2.51	7.6	8.18	5.03	2.61	16	—	55.8	—	—	—	4.63	—	196	339	—	< 0.5	19.3	15.3	< 0.1	< 1.99	—	40.9	62.5	—	—	22.4
SB-24 (4-6)	06/22/15	HET	26.8	585	—	3.09	—	—	6.21	3.2	22.9	—	—	1250	169	—	2.85	—	92.4	318	—	0.19	14.1	9.21	0.02429	<0.500	<0.250	25.5	36.4	81.1	7.3	35.2
SB-24 (8-10)	06/22/15	ICON	—	—	128*	3.44	3.3	5.38	12.2	6.31	16.4	—	28.8	—	—	—	4.16	—	190	311	—	< 0.5	12.2	10.9	< 0.1	< 1.99	—	35.8	48.4	—	—	22.3
SB-24 (8-10)	06/22/15	HET	17.9	417	—	2.43	—	—	8.17	4.17	12.6	—	—	939	231	—	2.89	—	154	371	—	0.155	9.88	7.27	0.0197	<0.500	<0.250	25.6	32.2	52.2	7.37	26.1
SB-24 (14-16)	06/22/15	ICON	—	—	—	2.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.3
SB-24 (14-16)	06/22/15	HET	7.99	152	—	1.38	—	—	5.71	2.78	4.75	—	—	<100	115	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40.8	7.81	24.1
SB-24 (20-22)	06/22/15	ICON	—	—	—	1.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.4
SB-24 (20-22)	06/22/15	HET	4.7	80.4	—	0.924	—	—	3.51	1.85	2.69	—	—	4060	37.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43.5	7.42	36.1
SB-25 (0-2)	06/25/15	ICON	—	—	6.24*	0.66	9	10.6	< 1.00	< 1.00	6.06	—	61.7	—	—	—	5.05	—	**5190**	**34500**	—	< 0.5	68.4	50.2	< 0.1	< 1.99	—	341	78.8	—	—	46.9
SB-25 (0-2)	06/25/15	HET	<1.00	14.9	—	0.853	**14.2**	12.7	0.417	0.272	7.43	—	40.1	1020	96.8	—	<5.00	—	513	**48800**	—	<0.500	31.3	33.9	0.04925	<2.50	<1.25	105	48.4	106	6.72	55.6
SB-26 (0-2)	06/25/15	ICON	—	—	16.8*	1.05	0.8	1.21	5.43	2.89	2.46	—	58.7	—	—	—	7.23	—	270	824	—	< 0.5	15.8	14.7	< 0.1	< 1.99	—	42.4	66	—	—	25.9
SB-26 (0-2)	06/25/15	HET	2.82	65.9	—	0.997	1.05	1.12	4.92	2.53	2.17	—	41.1	939	317	—	<5.00	—	197	1050	—	<0.500	15.6	11.9	0.03211	<2.50	<1.25	29.2	58.8	76.5	**5.89**	24.7
SB-26 (4-6)	06/25/15	ICON	—	—	—	0.81	1	1.57	3.39	1.82	2.54	—	53.3	—	—	—	6.07	—	287	401	—	< 0.5	12.1	14.6	< 0.1	< 1.99	—	41.4	54.5	—	—	25.3
SB-26 (4-6)	06/25/15	HET	Insufficient volume for split analysis																													
SB-26 (12-14)	06/25/15	ICON	—	—	—	0.56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.7
SB-26 (12-14)	06/25/15	HET	1.88	29.5	—	0.521	—	—	2.21	1.17	1.41	—	—	1450	14.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38.5	7.54	23.8
SB-26 (20-22)	06/25/15	ICON	—	—	—	0.95	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.5
SB-26 (20-22)	06/25/15	HET	1.41	28.9	—	0.849	—	—	4.56	2.19	1.77	—	—	1610	112	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.7	7.51	17.8

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Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
SB-27 (0-2)	06/26/15	ICON	—	—	8.09*	0.49	1.4	2.42	1.5	< 1.00	2.64	—	62.3	—	—	—	4.52	—	229	523	—	0.61	14.2	14.1	< 0.1	< 1.99	—	44.4	68.6	—	—	24.6
SB-27 (0-2)	06/26/15	HET	Insufficient volume for split analysis																													
SB-27 (4-6)	06/26/15	ICON	—	—	34.1*	1.23	1.1	2.13	5.31	2.86	4.3	—	65.6	—	—	—	7.9	—	**757**	2180	—	0.64	17	18.7	< 0.1	< 2.00	—	61.4	89.7	—	—	44.8
SB-27 (4-6)	06/26/15	HET	Insufficient volume for split analysis																													
SB-27 (8-10)	06/26/15	ICON	—	—	42.7*	0.71	0.9	1.31	2.96	1.58	1.97	—	60.5	—	—	—	6.89	—	242	359	—	0.53	13.8	15.7	< 0.1	< 1.99	—	41.6	55.2	—	—	38.1
SB-27 (8-10)	06/26/15	HET	Insufficient volume for split analysis																													
SB-27 (14-16)	06/26/15	ICON	—	—	9.57*	0.59	1.4	1.47	2.25	1.28	1.95	—	8.2	—	—	—	2.26	—	96.6	128	—	< 0.5	8.78	6.05	< 0.1	< 1.98	—	20.2	30.3	—	—	20.4
SB-27 (14-16)	06/26/15	HET	1.88	31.5	—	0.444	—	—	1.58	0.857	1.42	—	—	351	14.7	—	2.01	—	56.5	306	—	<0.100	7.14	4.5	<0.01330	<0.500	<0.250	13.3	22.8	36	7.79	19.8
SB-28	09/17/15	ICON	—	—	—	1.01	0.5	1.32	5.78	2.39	2.67	—	65.8	—	—	—	7.86	—	**2910**	14400	—	< 0.5	24.2	43.5	< 0.1	< 1.98	< 0.50	—	91.6	—	—	65
SB-28 (0-4)	09/17/15	HET	<1.00	13.1	—	1.17	3.85	4.7	3.69	1.85	7.82	—	51.3	3.6	7.43	0.51	1.85	—	70	864	—	0.229	6.85	6.02	0.01867	<0.500	<0.250	22.5	26	88.7	6.99	62.7
SB-29 (0-2)	09/17/15	ICON	—	—	—	0.84	1.3	2.95	2.62	1.42	4.2	—	61.1	—	—	—	7.34	—	270	437	—	<0.50	19	24	< 0.1	< 1.99	< 0.50	—	82.1	—	—	50.8
SB-29 (0-2)	09/17/15	HET	<1.00	6.92	—	1.23	2.78	2.14	5.31	2.97	4.35	—	37.6	4.2	7.4	0.88	3.05	—	105	578	—	0.391	9.49	11.6	0.03373	0.525	<0.250	38	39.5	70.1	**4.73**	48.4
SB-29 (0-2)	10/14/15	ICON	—	—	6.53 *	0.79	1.5	3.46	2.31	1.26	4.62	—	69.4	—	—	—	4.47	—	271	701	—	<0.50	12.6	14.5	< 0.1	< 1.99	—	58.3	56.1	—	—	52.1
SB-29 (0-2)	10/14/15	HET	1.97	10.2	—	1.11	3.68	4.57	2.41	1.74	6.58	—	43.1	2.6	3.6	<0.10	<5.00	—	165	485	—	<0.500	13	10.3	0.03111	<2.50	<1.25	39.6	45.9	82.7	**5.82**	47.8
SB-29 (2-4)	10/14/15	ICON	—	—	9.36 *	1.31	2.3	6.22	3.15	1.68	9.67	—	69.6	—	—	—	5.34	—	206	777	—	<0.50	11.3	12.2	< 0.1	< 1.99	—	51.6	50	—	—	49.4
SB-29 (2-4)	10/14/15	HET	2.26	10.2	—	1.21	3.73	4.41	2.96	1.89	6.86	—	38.9	3.6	5.31	0.19	<5.00	—	201	537	—	<0.500	11.9	9.98	0.02994	<2.50	<1.25	40.9	44.6	84.2	**5.62**	49.7
SB-29 (4-6)	10/14/15	ICON	—	—	<5.00 *	0.69	4.9	6.63	<1.00	<1.00	5.78	—	67.2	—	—	—	4.53	—	176	276	—	<0.50	13.2	11.4	< 0.1	< 1.99	—	35.9	49.8	—	—	44.6
SB-29 (4-6)	10/14/15	HET	<1.00	9.58	—	0.759	—	—	1.29	1.08	6.23	—	—	3.2	2.58	<0.10	<5.00	—	137	370	—	<0.500	14.8	10.4	0.01802	<2.50	<1.25	28	48.4	90.2	7.27	44.3
SB-30 (0-1.5)	09/17/15	ICON	—	—	—	0.6	4	4.9	1.11	<1.00	4.61	—	52.6	—	—	—	5.94	—	196	268	—	<0.50	16.5	15.5	< 0.1	< 1.99	< 0.50	—	73.9	—	—	42.8
SB-30 (0-1.5)	09/17/15	HET	<1.00	10.7	—	1.74	2.93	1.05	12.4	4.45	3.06	—	29.2	7	9.02	<0.10	4.01	—	454	11800	—	0.399	19.7	35.6	0.05768	0.56	<0.250	44.9	51.3	80.2	6.69	41.9
SB-31 (0-2)	10/14/15	ICON	—	—	21.3 *	0.95	0.4	1.2	4.8	2.56	2.3	—	81.5	—	—	—	6.41	—	181	289	—	<0.50	11.6	46.8	< 0.11	< 1.99	—	40.7	55.2	—	—	66.3
SB-31 (0-2)	10/14/15	HET	1.41	7.99	—	1.19	0.839	0.759	6.53	3.48	1.7	—	41.5	4.4	4.96	<0.10	<5.00	—	82.6	369	—	<0.500	7.4	6.78	0.02585	<2.50	<1.25	21.5	32.3	88.7	**5.95**	64
SB-32 (0-2)	10/14/15	ICON	—	—	5.23 *	0.74	0.4	1.25	3.32	1.81	2.01	—	73.2	—	—	—	3.98	—	175	265	—	<0.50	13.3	14.9	< 0.11	< 1.99	—	27.7	58	—	—	55.8
SB-32 (0-2)	10/14/15	HET	1.83	6.43	—	1.07	0.466	1.14	4.81	3.23	2.29	—	49.1	4.4	3.64	0.14	<5.00	—	86.8	372	—	<0.500	8.96	10.1	0.03891	<2.50	<1.25	14.6	39.8	75.6	**5.04**	65.3
SB-32 (2-4)	10/14/15	ICON	—	—	8.56 *	1.23	2	3.1	3.92	2.2	5.42	—	76.3	—	—	—	4.25	—	212	346	—	<0.50	12.6	12.4	0.11	< 1.99	—	33.2	57.7	—	—	52.4
SB-32 (2-4)	10/14/15	HET	1.55	8.4	—	0.84	1.03	1.34	3.05	2.08	2.15	—	37.5	2.8	2.92	<0.10	<5.00	—	125	359	—	<0.500	14.2	10.5	0.02827	<2.50	<1.25	23.7	49.8	84.5	**5.78**	44.3
SB-33 (0-3)	10/14/15	ICON	—	—	3.78 *	0.8	0.6	1.56	3.63	1.83	2.58	—	66	—	—	—	4.23	—	**1680**	7610	—	<0.50	16	24.9	<0.1	< 1.99	—	58.3	58.1	—	—	49.1
SB-33 (0-3)	10/14/15	HET	<1.00	7.76	—	1.31	1.06	1.22	7.4	3.64	2.86	—	33.4	3.8	7.07	<0.10	<5.00	—	**752**	9630	—	<0.500	21.3	26.4	0.04684	<2.50	<1.25	39.3	53.9	77.1	6.17	47.5
SB-34 (0-2)	10/14/15	ICON	—	—	13.9 *	0.91	0.9	2.15	3.89	2.15	3.73	—	69.1	—	—	—	6.02	—	**3680**	**29300**	—	<0.50	49.4	76.1	0.11	< 1.99	—	77.2	100	—	—	35.7
SB-34 (0-2)	10/14/15	HET	2.68	27.5	—	1.06	1.57	1.74	5.08	2.87	3.47	—	39.2	4.2	2.88	<0.10	5.53	—	**1420**	13900	—	<0.500	36.3	44.2	0.061	<2.50	<1.25	52.2	78.8	83.9	6.23	33.3
SB-34 (2-4)	10/14/15	ICON	—	—	16.8 *	0.91	1.8	3.48	2.94	1.54	5.21	—	73.7	—	—	—	4.77	—	389	925	—	<0.50	13.7	13.3	<0.10	< 1.98	—	41.5	52.3	—	—	37.3
SB-34 (2-4)	10/14/15	HET	2.96	46.4	—	0.902	2.47	2.93	2.98	1.52	4.39	—	52.6	3.6	2.27	<0.10	<5.00	—	439	1340	—	<0.500	15.6	12.5	0.03249	<2.50	<1.25	36	51.6	86.4	7.65	38.5
SB-34 (4-6)	10/14/15	ICON	—	—	49.5 *	1.15	1.7	3.64	3.83	1.97	6.19	—	75.6	—	—	—	5.86	—	547	1020	—	<0.50	12.7	13.1	<0.11	< 1.99	—	39	53.7	—	—	41.3
SB-34 (4-6)	10/14/15	HET	5.78	101	—	1.19	—	—	4.03	2.16	5.12	—	—	2.6	3.51	<0.10	<5.00	—	**567**	918	—	<0.500	16.1	13.9	0.03045	<2.50	<1.25	38.5	59.4	91.8	7.69	39.9

Soil Analytical Summary - 29-B Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
SB-35 (0-2)	10/14/15	ICON	—	—	8.28 *	0.43	0.6	1.38	1.88	1.15	1.69	—	67.8	—	—	—	3.28	—	256	403	—	<0.50	13.5	13	<0.10	< 1.99	—	41	54.7	—	—	42.8
SB-35 (0-2)	10/14/15	HET	1.69	13.2	—	0.976	0.867	0.94	6.09	3.78	2.09	—	38.3	5.2	2.34	<0.10	<5.00	—	307	739	—	<0.500	14.1	13.4	0.04195	<2.50	<1.25	29.4	47.9	77.8	6.03	49.8
SB-35 (2-4)	10/14/15	ICON	—	—	7.02 *	0.47	0.8	1.65	1.81	1.05	1.98	—	69.9	—	—	—	4.29	—	227	427	—	<0.50	12.3	11.8	<0.10	< 1.99	—	41.7	55.5	—	—	46.6
SB-35 (2-4)	10/14/15	HET	1.83	14	—	0.872	0.952	1.26	4.31	2.4	2.3	—	47.8	4.8	2.79	<0.10	<5.00	—	150	438	—	<0.500	13	10.4	0.02858	<2.50	<1.25	33.9	49.9	82.5	6.2	45.5
SB-35 (4-6)	10/14/15	ICON	—	—	6.09 *	0.44	0.9	2.19	1.64	<1.00	2.49	—	75.3	—	—	—	7.39	—	422	656	—	<0.50	11.9	13	<0.10	< 1.99	—	39.4	52.2	—	—	43.6
SB-35 (4-6)	10/14/15	HET	<1.00	12.9	—	0.658	—	—	2.08	1.14	2.11	—	—	2.8	1.07	<0.10	5.59	—	150	412	—	<0.500	13.1	11.1	0.03307	<2.50	<1.25	28.1	48.1	86.8	7.31	46.7
SB-36 (0-2)	10/14/15	ICON	—	—	12.5 *	0.78	0.4	1.07	3.87	1.98	1.82	—	74.7	—	—	—	5.55	—	161	295	—	<0.50	12.1	11.6	<0.10	< 1.99	—	29.5	52.9	—	—	56.2
SB-36 (0-2)	10/14/15	HET	1.97	19.1	—	0.882	0.835	1	4.51	2.22	1.84	—	39.1	3	3.69	<0.10	<5.00	—	116	383	—	<0.500	11.5	8.64	0.02182	<2.50	<1.25	20.4	42.4	85.5	6.4	55.7
HET Investigation																																
B34567 (4-6) Composite	09/22/15	HET	155	—	—	**20.3**	—	—	18.7	6.55	166	—	—	2.4	3.51	0.92	5.05	—	295	693	—	<0.500	14.6	12.7	0.03262	<2.50	<1.25	198	67.6	97.7	7.58	37
B34567 (6-8) Composite	09/22/15	HET	200	—	—	**24.3**	—	—	19.9	6.03	201	—	—	2.4	2.81	**1.08**	<5.00	—	173	376	—	<0.500	14.6	13.2	0.03567	<2.50	<1.25	155	57.6	103	7.83	35.5
B1 (0-1)	09/21/15	HET	3.1	<4.00	—	1.22	0.495	0.347	10.9	2.44	0.898	—	35	10	1.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60.9	7.81	16
B1 (1-2)	09/21/15	HET	2.82	73.9	—	0.966	3.75	1.37	6.08	1.54	2.68	—	27.4	6.4	1.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60.8	7.41	6.78
B1 (2-3)	09/21/15	HET	19.6	221	—	3.59	3.69	7.85	14.5	5.29	24.7	—	41.7	4.6	23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	83.5	7.44	29
B1 (4-6)	09/21/15	HET	33.7	629	—	4.23	—	—	13.4	7.11	18.9	—	—	2.4	3.97	—	<5.00	—	147	348	—	<0.500	16.4	14.6	0.0441	<2.50	<1.25	34.2	61.8	88.1	6.69	30.6
B1 (4-6)	09/21/15	ICON	—	—	—	4.37	4.3	6.67	10.8	5.81	19.2	—	70.7	—	—	—	5.86	—	179	241	—	0.63	18.4	15.2	<0.10	<1.99	—	41.4	72.7	—	—	34.2
B1 (10-12)	09/21/15	HET	46.5	742	—	4.93	—	—	16.3	9.05	28.4	—	—	2.8	3.9	—	<5.00	—	136	395	—	<0.500	13.6	12.4	0.03432	<2.50	<1.25	32.4	57.1	92.3	6.62	39.9
B1 (13-15)	09/21/15	HET	44.1	658	—	4.68	—	—	23.1	12.7	11.1	—	—	3	3.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	95	6.99	44.6
B1 (13-15)	09/21/15	ICON	—	—	256*	3.11	1.4	2.48	10.3	5.77	7.03	—	73	—	—	—	2.28	—	192	231	—	<0.50	15	13.5	<0.10	<2.00	—	44.9	52.8	—	—	37.7
B2 (0-1)	09/21/15	HET	2.4	<4.00	—	0.701	0.818	1.67	2.95	1.52	2.49	—	54.8	2.6	1.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	85.8	7.2	25.8
B2 (1-2)	09/21/15	HET	5.64	27.1	—	1.53	3.01	4.4	3.99	2.05	7.64	—	54.8	2.6	5.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.5	6.21	29.1
B2 (8-10)	09/21/15	HET	36.4	364	—	3.59	—	—	15.8	8.45	18.9	—	—	2.6	20.8	—	<5.00	—	191	443	—	<0.500	16	13.2	0.03476	<2.50	<1.25	38.2	59.2	92.3	7.3	34.3
B2 (13-15)	09/21/15	HET	39.5	549	—	4.47	—	—	18.9	10.5	17.7	—	—	3.4	11.5	—	<5.00	—	129	352	—	<0.500	12.6	10.8	0.03457	<2.50	<1.25	33.1	39.5	105	7.15	45.1
B2 (13-15)	09/21/15	ICON	—	—	—	4.9	3.7	5.11	16.7	9.48	18.5	—	81.7	—	—	—	5	—	261	343	—	<0.50	15.9	13.5	<0.10	<1.98	—	54.8	59.3	—	—	44.6
B2 (16-18)	09/22/15	HET	33.8	584	—	4.32	—	—	20.5	9.69	13.5	—	—	2.8	10.2	—	3.75	—	156	481	—	0.22	10.3	7.49	0.0279	<0.500	<0.250	25.5	28	91.1	7.46	42.3
B2 (26-28)	09/22/15	HET	14.2	205	—	1.98	—	—	9.87	4.31	5.99	—	—	3.2	4.84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	88.3	7.92	34.8
B2 (26-28)	09/22/15	ICON	—	—	82.2*	2.78	2	3.41	8.25	4.36	8.57	—	48.1	—	—	—	9.52	—	152	226	—	0.54	13.1	12.1	<0.10	<1.98	—	58.7	67.7	—	—	32.1

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Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
B3 (0-1)	09/22/15	HET	4.79	64.7	—	0.976	2.21	3.33	2.97	1.45	4.95	—	48.7	2.8	2.2	**—**	**—**	—	**—**	**—**	—	—	—	—	—	—	—	—	—	77.3	**5.59**	23.7
B3 (1-2)	09/22/15	HET	20.9	454	—	2.77	4.2	7.76	7.37	3.76	18.3	—	47.4	2.8	7.75	**—**	**—**	—	**—**	**—**	—	—	—	—	—	—	—	—	—	83.6	6.05	27.5
B3 (2-3)	09/22/15	HET	45.3	2950	—	5.24	5.04	13.2	12.8	5.09	39.4	—	53.5	4.2	7.2	**—**	<5.00	—	176	425	—	<0.500	15	13.3	0.03536	<2.50	<1.25	65.4	54.1	88.2	7.44	34.6
B3 (2-3)	09/22/15	ICON	—	—	—	4.61	9.4	13.9	6.23	2.75	29.4	—	67.8	—	—	**—**	6.45	—	231	265	—	<0.5	21.1	14.5	<0.10	<2.00	—	91.8	72.6	—	—	30.2
B3 (4-6)	09/23/15	HET	115	750	—	**14.3**	**—**	**—**	30.7	10.5	124	—	—	5	7.2	**15.4**	4.69	—	361	1260	—	0.45	10.9	9.03	0.02887	<0.500	<0.250	281	72.4	98.6	7.23	46.1
B3 (4-6)	09/23/15	ICON	—	—	—	**20.9**	**18.7**	**26.2**	34.3	11.8	125	—	38.8	—	—	**18.6**	4.09	—	**761**	1690	—	<0.50	11.6	6.58	<0.10	<1.99	—	400	69.7	—	—	40.1
B3 (6-8)	09/22/15	HET	136	1590	—	**17.5**	**—**	**—**	27.8	8.88	137	—	—	3.4	3.65	**—**	<5.00	—	177	354	—	<0.500	13.6	12.8	0.03926	<2.50	<1.25	152	55.6	97.4	7.59	38.1
B3 (6-8)	09/22/15	ICON	—	—	—	**14.9**	**23.2**	**29.6**	16.1	5.73	97.7	—	64.9	—	—	**—**	5.64	—	262	360	—	<0.50	14.6	13.5	<0.10	<2.00	—	240	63.6	—	—	35.9
B3 (8-10)	09/22/15	HET	245	4880	238	**23.8**	**—**	**—**	63.4	27.6	189	177	—	2.2	4.04	**—**	<5.00	—	131	367	—	<0.500	12.2	11.2	0.03766	<2.50	<1.25	70	41.4	89.4	6.89	43.5
B3 (8-10)	09/22/15	ICON	—	—	—	**22**	**20.5**	23.9	36.3	16.5	123	—	76.4	—	—	**—**	4.24	—	119	225	—	<0.50	11	8.25	<0.10	<1.99	—	55.2	36.4	—	—	40.7
B3 (13-15)	09/22/15	HET	156	3490	—	**17.4**	**—**	**—**	44.2	19.9	105	—	—	1.4	8.73	**—**	7.44	—	114	404	—	0.208	9.24	7.36	0.02502	<0.500	<0.250	30.1	31.5	64.1	7.37	28.1
B3 (13-15)	09/22/15	ICON	—	—	—	**21.7**	**15.5**	19.3	47.9	23	115	—	37.2	—	—	**—**	**13.5**	—	207	206	—	<0.50	11.4	9.99	<0.10	<1.99	—	47.1	46.4	—	—	23.7
B4 (0-1)	09/22/15	HET	20.2	867	—	2.46	3.1	6.53	6.62	2.96	14.3	—	50.9	2.8	4.02	**—**	**—**	—	**—**	**—**	—	—	—	—	—	—	—	—	—	91.6	6.1	33.2
B4 (1-2)	09/22/15	HET	45.1	1300	—	5.34	8.09	14.7	9.2	4.06	37.9	—	50.9	2.6	6.68	**—**	**—**	—	**—**	**—**	—	—	—	—	—	—	—	—	—	97.7	7.04	35.9
B4 (2-3)	09/22/15	HET	107	2230	—	**15**	**17.5**	**37.4**	12.6	4.71	110	—	43	2.6	4.12	**—**	3.66	—	143	414	—	0.346	10.7	10.6	0.0384	<2.50	<0.250	156	63.6	98	7.53	33.6
B4 (4-6)	09/22/15	HET	163	4790	—	**19.7**	**—**	**—**	11.3	3.61	168	—	—	2.4	1.87	0.35	**—**	—	**—**	**—**	—	—	—	—	—	—	—	—	—	107	7.4	36.6
B4 (4-6)	09/22/15	ICON	—	—	—	**12.2**	**38.7**	**50.5**	4.51	1.72	89.2	—	68	—	—	**—**	5.29	—	145	221	—	<0.50	17.3	14	<0.10	<1.99	—	212	70.9	—	—	31
B4 (6-8)	09/22/15	HET	273	7880	—	**30.9**	**—**	**—**	32.4	12.6	231	—	—	1.8	8.3	**—**	**—**	—	**—**	**—**	—	—	—	—	—	—	—	—	—	112	7.17	36.5
B4 (6-8)	09/22/15	ICON	—	—	—	**18.2**	**45.3**	**44.5**	11.9	5.18	130	—	74	—	—	**—**	8.87	—	191	250	—	<0.5	15.8	13.3	<0.09	<1.99	—	159	64.2	—	—	29.1
B4 (13-15)	09/22/15	HET	417	8060	187	**46.4**	**—**	**—**	91.3	37.2	285	150	—	1.6	15.4	**—**	2.48	—	221	466	—	0.29	9.63	7.74	0.0277	<2.50	<0.250	64.4	32.1	89.3	7.19	32
B4 (13-15)	09/22/15	ICON	—	—	3030*	**39.5**	**30.9**	**34.5**	77.2	24.3	258	—	47.9	—	—	**—**	4.07	—	200	206	—	<0.5	10.2	10.5	< 0.10	<1.98	—	84	45.6	—	—	29
B5 (0-1)	09/23/15	HET	8.6	133	—	1.98	0.971	3.24	6.27	3.1	7.02	—	48.7	2.2	2.9	**—**	**—**	—	**—**	**—**	—	—	—	—	—	—	—	—	—	83.6	**4.92**	27.3
B5 (1-2)	09/23/15	HET	40.5	873	—	4.58	2.28	7.57	14.7	8.36	25.7	—	47.4	1.4	7.92	**—**	**—**	—	**—**	**—**	—	—	—	—	—	—	—	—	—	94.9	**4.77**	32.3
B5 (2-3)	09/23/15	HET	91.4	2130	—	**9.56**	5.98	15.5	23.7	12.2	65.6	—	44.8	3	6.92	**—**	3.9	—	122	406	—	0.159	9.32	9.08	0.0356	<0.500	<0.250	35.7	33.8	94.1	6.24	40.6
B5 (4-6)	09/23/15	HET	186	3960	—	**22.5**	**—**	**—**	18.5	6.21	180	—	—	2.8	3.2	**1.47**	<5.00	—	135	350	—	<0.500	14.2	13	0.03112	<2.50	<1.25	172	55.8	107	7.36	37.9
B5 (4-6)	09/23/15	ICON	—	—	—	**13.6**	**42.7**	**45**	7.02	2.43	97.7	—	67.4	—	—	**—**	5.12	—	185	258	—	<0.5	15.2	14.9	<0.10	<1.99	—	265	72	—	—	35.6
B5 (6-8)	09/23/15	HET	239	7100	—	**26.6**	**—**	**—**	12.2	2.81	217	—	—	1.8	1.4	**—**	<5.00	—	133	398	—	<0.500	15.9	13.9	0.03447	<2.50	<1.25	189	59.7	126	7.88	36.2
B5 (6-8)	09/23/15	ICON	—	—	—	**12.3**	**58.6**	**67.1**	2.79	<1.00	90.6	—	73.1	—	—	**—**	6.02	—	162	213	—	<0.5	15.5	14.2	<0.10	<1.99	—	254	67.3	—	—	33.6
B5 (13-15)	09/23/15	HET	371	9810	358	**38.4**	**—**	**—**	33.9	7.6	337	293	—	1.8	3	**—**	2.42	—	121	315	—	0.121	8.14	5.94	0.01462	<0.500	<0.250	65.5	27.5	69.4	8.01	31.1
B5 (13-15)	09/23/15	ICON	—	—	—	**48.8**	**62.7**	**79.6**	39.3	11.4	401	—	29.6	—	—	**—**	3.79	—	163	153	—	<0.5	8.97	8.18	<0.10	<1.99	—	88.3	38.3	—	—	25.1

Soil Analytical Summary - 29-B Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals												Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
B6 (0-1)	09/22/15	HET	23.8	180	—	3.43	2.46	6.46	8.96	3.94	16.4	—	35.2	1.4	2.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	74.6	**5.65**	25.5
B6 (1-2)	09/22/15	HET	54.7	779	—	5.56	7.82	17.5	7.59	3.55	41.2	—	40.6	1.2	5.91	—	—	—	—	—	—	—	—	—	—	—	—	—	—	78.3	**4.61**	28.5
B6 (1-3)	09/22/15	ICON	—	—	—	6.53	**16.6**	23.8	5.42	2.13	46.2	—	58.2	—	—	—	6.52	—	310	307	—	<0.5	15.9	15.4	<0.10	<2.0	—	147	65.3	—	—	29.5
B6 (2-4)	09/22/15	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B6 (2-4)	09/22/15	ICON	—	—	—	**8.71**	**28.4**	**34**	5.18	2.13	64.9	—	54.3	—	—	—	4.74	—	296	348	—	<0.5	15.6	15.5	<0.10	<1.98	—	206	70.2	—	—	30.4
B6 (4-6)	09/23/15	HET	203	4830	—	**22.3**	—	—	17.4	6.44	187	—	—	1.8	1	0.19	—	—	—	—	—	—	—	—	—	—	—	—	—	129	7.53	36.4
B6 (4-6)	09/23/15	ICON	—	—	—	**15.9**	**31.4**	**47.9**	7.67	3.57	113	—	78.4	—	—	—	4.43	—	261	394	—	<0.5	15.7	13.6	<0.10	<1.99	—	108	66.5	—	—	29.8
B6 (6-8)	09/22/15	HET	208	5060	—	**23.2**	—	—	18.7	6.85	191	—	—	1.4	0.66	—	<5.00	—	152	374	—	<0.500	16.6	14.3	0.03808	<2.50	<1.25	113	78.4	106	7.46	34.7
B6 (6-8)	09/22/15	ICON	—	—	—	**16.8**	**44.9**	**47.6**	90.6	3.95	121	—	67.5	—	—	—	4.47	—	185	244	—	0.5	16.3	15.4	<0.10	<1.99	—	152	84	—	—	31.3
B6 (13-15)	09/22/15	HET	519	13300	555	**55.6**	—	—	86.7	31	396	365	—	1.4	6.4	—	8.81	—	96.9	356	—	0.488	8.37	6.8	0.03027	<0.500	<0.250	67.1	34	98.9	7.43	43.1
B6 (13-15)	09/22/15	ICON	—	—	3570*	**38.4**	**36.8**	**42.1**	55.1	19.5	257	—	57.4	—	—	—	9.78	—	254	315	—	0.62	12.2	12.1	<0.10	<2	—	118	66.2	—	—	37.1
B7 (0-1)	09/22/15	HET	13.7	130	—	2.48	0.589	4.18	6.05	2.64	8.71	—	39.7	2.4	1.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75.9	**5.2**	25.9
B7 (1-2)	09/22/15	HET	19.5	494	—	3.8	1.82	5.62	8.46	4.13	14.1	—	42	1.2	3.11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	81.1	**4.84**	28.8
B7 (2-3)	09/22/15	HET	86	1270	—	**8.38**	8.21	17.6	16.8	6.98	60.7	—	29.3	1.8	5.75	—	4.48	—	234	523	—	0.299	11.1	9.18	0.0352	<0.500	<0.250	39.5	45.3	77	6.33	26.5
B7 (4-6)	09/23/15	HET	117	2280	—	**15**	—	—	16.4	6.24	113	—	—	2.8	3.35	0.19	4.78	—	264	612	—	0.304	10.3	9.16	0.03387	<2.50	<0.250	75.5	41.3	49.7	7.14	29.4
B7 (4-6)	09/23/15	ICON	—	—	—	**11.9**	**25.1**	**31.3**	9.87	4.07	82.6	—	45.9	—	—	—	6.61	—	305	284	—	<0.5	10.8	11.7	<0.10	<1.98	—	97.8	55.4	—	—	27
B7 (6-8)	09/23/15	HET	173	5140	—	**20.3**	—	—	9.73	2.2	175	—	—	3	1.52	—	<5.00	—	108	618	—	<0.500	14.6	14.2	0.03884	<2.50	<1.25	206	56.9	120	7.93	35.3
B7 (6-8)	09/23/15	ICON	—	—	—	**11.3**	**48.8**	**57.7**	3.33	<1	84.6	—	68.1	—	—	—	4.67	—	153	289	—	<0.5	14.3	14.4	<0.10	<1.99	—	270	62.7	—	—	30.9
B7 (13-15)	09/23/15	HET	234	7200	—	**29**	—	—	12.1	1.53	237	—	—	3.6	2.65	—	2.98	—	230	702	—	0.337	10.4	9.54	0.03544	<2.50	<0.250	176	40.4	120	8.46	33.4
B7 (13-15)	09/23/15	ICON	—	—	—	**16.6**	**56.9**	**80.9**	4.28	<1	127	—	58.6	—	—	—	2.71	—	216	236	—	<0.5	10.8	11.7	<0.10	<2.00	—	278	53.7	—	—	28.5
B7 (20-22)	09/23/15	HET	396	12900	390	**46.3**	—	—	31.1	5.07	384	341	—	3.4	3.47	—	5.24	—	71.1	277	—	0.276	9.21	7.48	0.02802	<0.500	<0.250	114	37.1	89.4	7.97	35.5
B7 (20-22)	09/23/15	ICON	—	—	—	**31.3**	**67.9**	**78.8**	16.1	3.46	247	—	44	—	—	—	5.81	—	119	189	—	<0.5	11.7	11.1	<0.10	<1.99	—	218	53.8	—	—	29.6
B7 (24-26)	09/23/15	HET	255	7610	—	**27.6**	—	—	43.6	15.1	196	—	—	1.8	1.88	—	3.62	—	99.7	298	—	0.256	8.92	6.46	0.02786	<2.50	<0.250	50.5	33.9	78	7.99	26.2
B7 (38-40)	09/23/15	HET	29.5	350	—	4.01	—	—	14.9	6.32	16.7	—	—	2.8	2.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.9	7.85	33.7
B7 (38-40)	09/23/15	ICON	—	—	—	2.88	1.4	2.56	9.29	4.53	6.73	—	53	—	—	—	5.01	—	154	155	—	<0.5	12.4	12	<0.10	<1.99	—	60.2	24.1	—	—	33.6
B8 (0-1)	09/23/15	HET	20.6	476	—	3.42	4.83	14.3	5.47	2.19	27.9	—	46.5	4.2	2.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	93.3	6.3	27.2
B8 (1-2)	09/23/15	HET	80.1	1430	—	**8.1**	12.1	**29.7**	8.43	3.65	72.9	—	49.1	2.6	4.84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.3	7.32	34.5
B8 (2-3)	09/23/15	HET	173	2910	—	**21.2**	9.04	**46.4**	19.2	7.62	170	—	44.8	3	3.06	0.3	<5.00	—	132	331	—	<0.500	14.7	13.7	0.03731	<2.50	<1.25	92.2	56.6	89.7	7.32	35.5
B8 (2-4)	09/23/15	ICON	—	—	—	**10.7**	**24.3**	**34.8**	6.17	2.72	73.3	—	64	—	—	—	4.21	—	234	301	—	<0.50	22.8	17.7	<0.10	<2.00	—	173	83.2	—	—	33.4
B8 (4-6)	09/23/15	HET	190	5220	—	**22.2**	—	—	23.7	9.11	176	—	—	1.8	1	<0.10	<5.00	—	213	433	—	<0.500	15.9	13.4	0.03312	<2.50	<1.25	92.8	61.2	108	7.37	36.5
B8 (4-6)	09/23/15	ICON	—	—	1990*	**14.7**	**33.5**	**39.8**	10	4.5	107	—	79.4	—	—	—	4.01	—	212	248	—	<0.5	23.8	15.6	<0.10	<2.00	—	146	82.1	—	—	31.3
B8 (8-10)	09/23/15	HET	550	11500	304	**53.4**	—	—	73.8	28.9	368	421	—	2.2	0.997	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.4	6.88	46.1
B8 (8-10)	09/23/15	ICON	—	—	—	**39.5**	**29.5**	**51**	55.2	22.7	318	—	82.8	—	—	—	8.22	—	240	204	—	0.52	20.8	14.5	<0.10	<1.99	—	181	70.8	—	—	44.1
B8 (13-15)	09/23/15	HET	265	6360	—	**31.1**	—	—	21.5	5.13	237	—	—	2.2	1.33	—	2.56	—	142	329	—	0.13	8.78	7.18	0.02437	<2.50	<0.250	79.4	30.7	76.5	8.19	24.8
B8 (13-15)	09/23/15	ICON	—	—	—	**42.3**	**39.9**	**79.6**	30.7	9.06	255	—	38.9	—	—	—	2.69	—	211	188	—	<0.5	13.5	11.1	<0.10	<1.99	—	141	48.8	—	—	23.4
B8 (16-18)	09/30/15	HET	351	6440	300	**35.8**	—	—	21.6	4.76	311	252	—	1.4	0.659	—	1.85	—	134	376	—	0.151	8.43	7.47	0.01633	<0.500	<0.250	80.1	32.8	47.1	8.32	23.6
B8 (22-24)	09/30/15	HET	359	9970	447	**35.9**	—	—	92.8	38.3	239	261	—	1.4	5.01	—	4.97	—	90.2	367	—	0.391	8.76	8.09	0.02118	<0.500	<0.250	50.8	36.8	91.8	7.42	41.8

Soil Analytical Summary - 29-B Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
B9 (0-1)	09/24/15	HET	27.3	586	—	3.46	3.44	10.1	7.54	3.93	24.2	—	54.3	4	3.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	107	**5.88**	38.7
B9 (1-2)	09/24/15	HET	32.9	820	—	3.7	6.95	16.1	4.9	2.49	30.9	—	52.2	5.6	2.46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	115	6.57	37.6
B9 (2-3)	09/24/15	HET	54.5	1440	—	5.85	4.58	19.4	8.95	4.27	50	—	53.9	2	4.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	116	6.78	36.8
B9 (2-4)	09/25/15	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	<0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.6
B9 (2-4)	09/25/15	ICON	—	—	310*	3.64	13.8	15.6	3.18	1.6	24.1	—	73.8	—	—	—	5.73	—	188	210	—	<0.5	25	15.5	<0.10	<2.00	—	76.4	85.7	—	—	33.8
B9 (8-10)	09/24/15	HET	255	4820	—	**27.8**	—	—	65.8	25.1	138	—	—	3.6	5.75	—	3.54	—	106	295	—	0.335	9.49	7.51	0.02827	0.622	<0.250	40.9	30.5	90.1	6.82	40
B9 (8-10)	09/24/15	ICON	—	—	2000*	**20.2**	**18.8**	21.9	38.1	16.6	114	—	62.2	—	—	—	8.7	—	198	269	—	0.55	17	12.7	<0.10	<1.99	—	76	62.3	—	—	35.9
B9 (12-14)	09/24/15	HET	295	5580	361	**31.3**	—	—	64.9	25.5	167	221	—	1.6	1.9	—	3.43	—	163	440	—	0.264	9.33	7.09	0.02192	<0.500	<0.250	45.1	34.1	71	7.6	31.8
B9 (12-14)	09/24/15	ICON	—	—	2300*	**33.8**	**25.1**	**29.6**	71.3	31.2	212	—	38.9	—	—	—	4.87	—	239	222	—	<0.5	15	11.3	<0.10	<2	—	73.1	60.4	—	—	27.3
B9 (16-18)	09/24/15	HET	234	4820	—	**23.9**	—	—	82.4	33.9	91.9	—	—	1.6	1.36	—	4.47	—	86.2	350	—	0.25	7.35	7.26	0.02224	5.83	<0.250	34	26.5	118	7.31	48.3
B9 (26-28)	09/24/15	HET	14.6	160	—	1.97	—	—	8.41	3.14	6.97	—	—	4.8	2.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	82.7	7.8	32.7
B9 (26-28)	09/24/15	ICON	—	—	—	1.63	1.6	2.98	4.87	2.25	5.63	—	50.3	—	—	—	4.78	—	237	280	—	<0.5	16.3	12.4	<0.10	<1.99	—	49.8	69.1	—	—	30.4
B10 (0-1)	09/24/15	HET	53.6	922	—	5.86	3.87	7.88	20.4	9.17	30.3	—	47	2	4.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	91.2	6.4	32
B10 (1-2)	09/24/15	HET	104	2580	—	**11.4**	4.35	10	34.6	16.5	50.6	—	50	1.2	5.79	—	4.25	—	91.6	325	—	0.396	11.6	9.66	0.03476	0.64	<0.250	37.4	46.8	106	6.49	35.7
B10 (2-3)	09/24/15	HET	117	3220	—	**12.7**	1.71	10.3	39.8	18.6	55.8	—	52.2	1.6	3.66	—	<5.00	—	220	445	—	<0.500	14.9	13.3	0.03233	<2.50	<1.25	43.5	58.3	117	6.69	36.1
B10 (8-10)	09/24/15	HET	197	5380	240	**23.3**	—	—	77.6	33.1	97.1	127	—	1.2	7.08	—	7.73	—	86.5	348	—	0.291	10.1	7.6	0.02819	0.684	<0.250	35.1	31.9	96.1	6.89	36.4
B10 (12-14)	09/24/15	HET	190	4080	236	**20.2**	—	—	64	27.6	77.9	115	—	1.6	1.55	—	2.46	—	132	324	—	0.153	8.44	6.58	0.02167	<0.500	<0.250	34.2	30.7	60.5	7.79	31
B10 (12-14)	09/24/15	ICON	—	—	1190*	**29.3**	13.8	15.1	91.7	44.8	125	—	39.5	—	—	—	3.12	—	180	155	—	<0.5	12.3	7.64	<0.10	<2	—	49.6	40	—	—	23.4
B10 (15-17)	09/24/15	HET	155	3370	—	**16.4**	—	—	59.1	23.5	66.2	—	—	2	2.25	—	**15.6**	<0.125	147	353	—	0.291	9.18	8.35	0.02886	0.623	<0.250	38.6	40.6	92.3	7.32	33.1
B10 (22-24)	09/24/15	HET	9.4	185	—	1.37	—	—	5.93	2.55	4.69	—	—	2	2.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40.9	7.9	24.9
B10 (22-24)	09/24/15	ICON	—	—	—	2.22	1.3	2.23	7.97	3.87	5.44	—	31.6	—	—	—	3.78	—	135	222	—	<0.5	12.9	8.95	<0.10	<1.99	—	37.2	51.7	—	—	24.6
B11 (0-1)	09/24/15	HET	37.1	671	—	4.27	4.2	8.06	11.6	5.99	23.9	—	47	1.2	3.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.8	6.76	33.4
B11 (1-2)	09/24/15	HET	60.6	1280	—	6.02	8.69	10.3	16.3	8.27	36.2	—	51.3	1.2	2.92	—	3.49	—	91.6	333	—	0.269	11.4	8.95	0.033	0.736	<0.250	36.5	39.5	65	7.18	37.5
B11 (2-3)	09/24/15	HET	69.1	1400	—	6.55	4.22	11	17.8	8.85	40.2	—	53.9	1.6	2.31	—	<5.00	—	201	463	—	0.507	14.4	13.6	0.033	<2.50	<1.25	44.2	61	118	7.27	38.4
B11 (6-8)	09/24/15	HET	110	2040	92	**11.6**	—	—	32.5	15.7	52.3	109	—	2	3.21	—	2.79	—	126	433	—	0.318	9.83	8.37	0.03115	0.621	<0.250	35.1	31	104	7.12	46.3
B11 (6-8)	09/24/15	ICON	—	—	778*	**8.45**	7.4	10.6	19.1	9.74	40.1	—	81.3	—	—	—	4.57	—	249	308	—	<0.5	19.3	13.4	<0.10	<1.99	—	68.98	68.6	—	—	43.1
B11 (13-15)	09/24/15	HET	23.5	644	—	2.53	—	—	8.38	3.85	11.4	—	—	1.6	0.67	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32	7.83	23.2
B11 (13-15)	09/24/15	ICON	—	—	—	7.36	2.5	6.19	23.3	12.1	26	—	15.5	—	—	—	<1.99	—	143	140	—	<0.5	9.23	6.9	<0.10	<1.99	—	34.8	33.4	—	—	22.3
B11 (18-20)	09/24/15	HET	29.6	474	—	3.45	—	—	16.4	7.61	9.11	—	—	3.2	3.16	—	6.78	—	98.7	364	—	0.264	8.36	8.27	0.02408	0.719	<0.250	33.5	38.2	91.1	7.64	37.8
B11 (22-24)	09/24/15	HET	7.05	90.2	—	1.42	—	—	6.66	2.85	4.35	—	—	3.6	3.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	57.7	7.86	30.4
B11 (22-24)	09/24/15	ICON	—	—	—	1.5	1.2	1.99	5.36	2.67	4	—	50.3	—	—	—	7.5	—	164	180	—	<0.5	15.7	12.1	<0.10	<1.99	—	46.7	65.8	—	—	31.7

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Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Oil & Grease	Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate		Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
B12 (0-1)	09/24/15	HET	15	225	—	2.28	4.2	7.86	4.94	2.45	15.1	—	51.3	3.2	3.66	—	—	—	—	—	—	—	—	—	—	—	—	—	—	85.8	6.27	35.3
B12 (1-2)	09/24/15	HET	25.4	365	—	3.11	9.35	13.6	3.97	1.88	23.2	—	47.4	2	3.61	—	—	—	—	—	—	—	—	—	—	—	—	—	—	97.4	6.73	36.8
B12 (2-3)	09/24/15	HET	36.7	763	—	4.24	10.3	18.5	4.88	2.22	34.8	—	49.6	2.4	3.43	—	4.37	—	171	489	—	0.425	12.5	10.1	0.03577	0.66	<0.250	57.8	46.5	104	7.05	35.1
B12 (2-4)	09/24/15	ICON	—	—	162*	2.91	12.4	14.6	2.27	1.1	19	—	68	—	—	—	5.68	—	349	423	—	<0.5	22.8	15.4	<0.10	<1.99	—	159	84.4	—	—	32.6
B12 (7-9)	09/24/15	HET	149	2280	164	**16.4**	—	—	37	15.3	97.4	133	—	1.2	14.7	—	5.64	—	79.3	326	—	0.286	9.15	6.89	0.02628	0.759	<0.250	40	31.1	77.7	7.13	41.5
B12 (7-9)	09/24/15	ICON	—	—	972*	**13.7**	12.4	20.5	24.3	11.2	86.4	—	63.4	—	—	—	8.5	—	258	254	—	<0.5	16.4	12.8	<0.10	<2	—	88.7	56	—	—	35.7
B12 (13-15)	09/24/15	HET	100	2060	—	**9.09**	—	—	29.2	13.8	50.2	—	—	0.8	2.68	—	2.41	—	97.3	288	—	<0.100	7.01	5.97	0.01569	<0.500	<0.250	25	26.7	28.7	7.93	22.9
B12 (13-15)	09/24/15	ICON	—	—	—	**18.6**	11.6	12.3	60.2	33	83.8	—	17.7	—	—	—	2.73	—	145	149	—	<0.5	11.6	6.91	—	<2	—	39.6	37.3	—	—	21.2
B12 (15-17)	09/24/15	HET	90.2	1610	—	**8.24**	—	—	35	16.8	32.3	—	—	0.8	1.76	—	3.1	—	140	368	—	0.287	9.76	8.62	0.02994	2.11	<0.250	35	40.7	70.4	7.62	27.6
B12 (22-24)	09/24/15	HET	11.8	208	—	1.67	—	—	8.04	3.57	5.17	—	—	1.6	3.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55.5	7.83	26.1
B12 (22-24)	09/24/15	ICON	—	—	—	2.72	1.4	2.3	9.52	5.02	6.19	—	24.6	—	—	—	5.4	—	183	190	—	<0.5	13.1	8.48	<0.10	<1.99	—	35.3	49.8	—	—	23.9
B13 (0-1)	09/25/15	HET	16	200	—	2.04	4.8	8.2	3.94	1.97	14.1	—	47	1.6	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	91.8	6.57	38.2
B13 (1-2)	09/25/15	HET	22.1	406	—	2.63	9.19	14.7	2.93	1.41	21.6	—	53	2	2.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	107	7.2	39.6
B13 (2-3)	09/25/15	HET	29.6	648	—	3.36	11.6	20.4	2.84	1.28	29.3	—	53.5	2.8	2.2	—	<5.00	—	168	397	—	<0.500	15.3	13.3	0.03232	<2.50	<1.25	84.2	54.6	125	7.51	37.6
B13 (2-4)	09/25/15	ICON	—	—	219*	2.81	12.1	16	1.76	<1	18.4	—	79.3	—	—	—	6.33	—	209	253	—	0.51	24.7	15.6	<0.10	<2	—	151	83.1	—	—	34.9
B13 (6-8)	09/25/15	HET	110	2470	82.8	**12.2**	—	—	16.3	6.83	86.8	102	—	1.2	1.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	91.8	6.95	41.3
B13 (12-14)	09/25/15	HET	102	2750	—	**8.89**	—	—	26	10.7	56.5	—	—	1.2	0.962	—	1.96	—	139	386	—	0.279	8.02	6.85	0.02093	<0.500	<0.250	29.5	30.2	30.6	7.88	20.8
B13 (12-14)	09/25/15	ICON	—	—	660*	**19.9**	**16.7**	17.6	47.5	22.7	104	—	25.3	—	—	—	2.42	—	249	205	—	<0.5	13.4	10	<0.10	<2	—	49.7	46.7	—	—	24.7
B13 (15-17)	09/25/15	HET	106	1870	112	**12**	—	—	34.5	15	51	64.1	—	1.2	0.855	—	1.67	—	107	349	—	0.161	7.84	6.4	0.01582	<0.500	<0.250	29.6	31	56.1	7.79	30
B13 (26-28)	09/25/15	HET	11.1	144	—	1.78	—	—	6.61	2.76	9.07	—	—	2.8	1.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.7
B13 (26-28)	09/25/15	ICON	—	—	—	1.45	0.7	1.47	5.94	3.01	3.11	—	47.5	—	—	—	3.42	—	173	220	—	<0.5	16.6	13.7	<0.10	<1.99	—	53.6	70.7	—	—	27.6
Vibrocore Samples																																
VC-01 (0-2)	01/27/16	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**705**	—	1.25	—	—	—	—	—	—	—	—	—	—	40
VC-01 (0-2)	01/27/16	ICON	—	—	—	0.86	**14.4**	13.3	<1.00	<1.00	6.48	—	39.7	—	—	**1.97**	5.63	—	**3720**	17500	—	<0.498	27.6	27.4	<0.09	<1.99	—	298	67.6	—	—	42.8
VC-01 (2-4)	01/27/16	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**586**	—	—	—	—	—	—	—	—	—	—	—	—	39.4
VC-01 (2-4)	01/27/16	ICON	—	—	17.9*	2.8	**15.3**	**30.8**	1.08	<1.00	27.6	—	53.8	—	—	0.25	**15.2**	—	**3620**	8950	—	<0.497	61.2	28.1	<0.10	<1.99	—	225	79	—	—	36.8

Soil Analytical Summary - 29-B Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 1

Sample ID / Depth (feet)	Sample Date	Sampler	Salinity													Metals													Additional Parameters		
			Chloride	Chloride	SPLP Chloride	EC	ESP	SAR	Calcium	Magnesium	Sodium	SPLP Sodium	CEC	Alkalinity (Sat. Paste)	Sulfate	Oil & Grease	Total Arsenic	SPLP Arsenic	Total Barium	True Total Barium	SPLP Barium	Total Cadmium	Total Chromium	Total Lead	Total Mercury	Total Selenium	Total Silver	Total Strontium	Total Zinc	Saturation %	pH (Saturated Paste)	% Moisture
			29B	9056A	1312	29B	29B	29B	29B	29B	29B	1312	29B	29B	9056	29B	6010B	1312	6010B	29B	1312	6010B	6010B	6010B	7471A	6010B	6010B	6010B	6010B	29B	29B	2540G
			meq/L	mg/L	mg/L	mmhos/cm	%	N/A	meq/L	meq/L	meq/L	mg/L	meq/100g	meq/L	meq/L	%	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	s.u.	%
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A
VC-02 (0-2)	01/27/16	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	146	—	—	—	—	—	—	—	—	—	—	—	—	62.1
VC-02 (0-2)	01/27/16	ICON	—	—	—	1.73	6.44	13.6	1.71	<1.00	14.4	—	35	—	—	**5.79**	**12**	—	**4710**	**192000**	—	0.925	**344**	**254**	0.3	<1.99	—	294	206	—	—	62.2
VC-02 (2-4)	01/27/16	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**777**	—	0.636	—	—	—	—	—	—	—	—	—	—	39.3
VC-02 (2-4)	01/27/16	ICON	—	—	9.53*	0.7	**21.2**	12.1	<1.00	<1.00	5.18	—	58.3	—	—	**3.03**	7.31	—	**3030**	19000	—	<0.499	27.9	28.1	0.13	<1.99	—	155	76.5	—	—	39.9
VC-03 (0-2)	01/27/16	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**857**	—	—	—	—	—	—	—	—	—	—	—	—	45.4
VC-03 (0-2)	01/27/16	ICON	—	—	—	0.8	9.41	8.95	<1.00	<1.00	5.56	—	57.9	—	—	—	4.27	—	**2790**	7900	—	<0.497	27.4	21.5	<0.09	<1.99	—	362	58	—	—	51.6
VC-03 (2-4)	01/27/16	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	236	—	—	—	—	—	—	—	—	—	—	—	—	40.9
VC-03 (2-4)	01/27/16	ICON	—	—	17.7*	0.46	**19.4**	5.63	<1.00	<1.00	3.32	—	73.9	—	—	—	6.22	—	**591**	1180	—	<0.498	21.9	17.5	<0.10	<1.99	—	111	77.8	—	—	39.8
VC-04 (0-2)	01/27/16	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	170	—	—	—	—	—	—	—	—	—	—	—	—	74.5
VC-04 (0-2)	01/27/16	ICON	—	—	—	1.92	5.22	7.29	2.26	1.04	9.37	—	67.2	—	—	—	8.71	—	**4270**	**55200**	—	<0.499	72.4	65.8	<0.10	<1.99	—	233	101	—	—	75.4
VC-04 (2-4)	01/27/16	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.3	—	—	—	—	—	—	—	—	—	—	—	—	63.9
VC-04 (2-4)	01/27/16	ICON	—	—	202*	4.4	**14.3**	23.3	2.48	1.41	32.5	—	37.5	—	—	**13.2**	—	—	**5580**	**165000**	—	0.979	**1360**	**354**	0.56	<2.00	—	463	224	—	—	66.9
VC-05 (0-2)	01/27/16	HET	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	**654**	—	—	—	—	—	—	—	—	—	—	—	—	40.7
VC-05 (0-2)	01/27/16	ICON	—	—	—	0.6	9.66	8.95	<1.00	<1.00	4.25	—	60.5	—	—	**1.16**	6.56	—	**4260**	**23500**	—	<0.497	37.5	33	<0.10	<1.99	—	379	83.7	—	—	41.6
VC-01-05 (0-2) Composite	01/27/16	HET	1.48	—	—	1.32	10.7	16.1	1.13	0.623	15.1	—	27.2	6.1	3.8	**1.49**	2.75	—	—	17800	—	0.366	18.1	21.2	0.02603	<0.500	<0.250	87.5	36.1	73.6	6.49	48.5
VC-01-05 (2-4) Composite	01/27/16	HET	3.47	—	—	1.54	**17.7**	15.7	1.29	1.21	17.5	—	35.8	8.5	2.7	**1.63**	3.47	—	—	**24600**	—	0.479	85.4	31.7	0.07521	<0.500	<0.250	83.4	45.7	103	8.12	46.3
Maximum	N/A	N/A	550	13300	555	**65**	**67.9**	**92.7**	92.8	44.8	401	436	92.2	15200	805	**18.6**	**15.6**	—	**5580**	**192000**	1.25	0.979	**1360**	**354**	0.56	5.83	<1.25	463	224	170	8.46	75.4
LDNR Standards [1]	N/A	N/A	N/A	N/A	N/A	< 8	< 14	< 25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	10	N/A	N/A	20000	N/A	10	500	500	10	10	200	N/A	500	N/A	`6-9	N/A
LDEQ RECAP SS [2]	N/A	N/A	N/A	N/A	5000 [4]	N/A	N/A	N/A	N/A	N/A	N/A	1200 [4]	N/A	N/A	N/A	N/A	12	0.2 [4]	550	N/A	40 [4]	3.9	100	100	2.3	20	39	N/A	2300	N/A	N/A	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12	N/A	5500	N/A	N/A	39	120000	400	23	390	390	N/A	23000	N/A	N/A	N/A

1 - LDNR Statewide Order 29-B standards for Elevated Freshwater Wetland Criteria listed for reference purposes only
2 - RECAP Non-Industrial Screening Standards per Table 1 of RECAP for comparison purposes only
3 - LDEQ RECAP Management Option 1 Non-Industrial Standards per Table 2 of RECAP listed for comparison purposes only
4 - SPLP standard determined by EPA Water Advisory Limit or RECAP Groundwater Screening Standard multiplied by a default attenuation factor of 20 in accordance with RECAP guidelines
mg/Kg - milligrams per kilogram equivalent to parts per million (ppm)
mmhos/cm - milli mohs per centimeter
— Not Analyzed
N/A - Not Applicable
EC - Electrical Conductivity
ESP - Exchangeable Sodium Percentage
SAR - Sodium Adsorption Ratio
* Leachate Chlorides

Soil Analytical Summary - RECAP Analyses

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 2

Sample ID / Depth (feet)	Sample Date	Sampler	BTEX				TPH			VPH			EPH							PAH																		
			Benzene (Total/ SPLP)	Toluene	Ethyl benzene	Total Xylenes	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	C6-C8 Aliphatics	C8-C10 Aliphatics	C8-C10 Aromatics	C10-C12 Aliphatics	C10-C12 Aromatics	C12-C16 Aliphatics	C12-C16 Aromatics	C16-C21 Aromatics	C16-C35 Aliphatics	C21-C35 Aromatics	2-Methyl-naphthalene (Total/SPLP)	Ace-naphthene	Ace-naphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)-pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluor-anthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene (Total/SPLP)	Phen-anthrene	Pyrene
			8260B	8260B	8260B	8260B	8015B	8015B	8015B	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B
			mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LDEQ RECAP SS [1]	10/20/03	N/A	0.051 / 0.1 [3]	20	19	18	65	65	180	1200	120	65	230	100	370	180	150	7100	180	1.7 / 0.0124 [3]	220	88	120	0.62	0.33	0.62	6.2	62	0.33	220	230	0.62	6.2 [4] / 0.2 [3]	660	230
LDEQ RECAP MO-1 Soilni [2]	N/A	N/A	1.5	680	1600	180	650	650	1800	10000	1200	650	2300	1200	3700	1800	1500	10000	1800	220	3700	3500	22000	0.62	0.33	0.62	6.2	62	0.33	2200	2800	0.62	62	21000	2300
ICON Investigation																																				
Pit Comp sn121499 (Area 3)	06/06/13	ICON	—	—	—	—	—	**5180**	**3460**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-1 (6-8)	02/10/15	ICON	—	—	—	—	—	30.6	16.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-1 (6-8)	02/10/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-1 (12-14)	06/08/15	ICON	—	—	—	—	—	< 50.0	< 50.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-1 (18-20)	06/08/15	ICON	—	—	—	—	—	< 50.0	< 50.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-1 (22-24)	06/08/15	ICON	—	—	—	—	—	< 50.0	< 50.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-1 (22-24)	06/08/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-2 (4-6)	02/10/15	ICON	—	—	—	—	—	10.5	12.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-2 (4-6)	02/10/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-5 (2-4)	02/11/15	ICON	—	—	—	—	—	**1430**	**2440**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-5 (2-4) [5]	02/11/15	HET	—	—	—	—	—	**3520**	**2590**	—	—	—	56.3	40.9	**601**	**439**	**2830**	**8520**	**2310**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-5 (4-6)	02/11/15	ICON	—	—	—	—	—	**410**	**504**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-5 (4-6) [5]	02/11/15	HET	—	—	—	—	—	**980**	**570**	—	—	—	30.2	< 25	<250	84.7	**342**	901	**380**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-5 (6-8)	06/03/15	ICON	—	—	—	—	—	**3180**	**2390**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-5 (8-10)	06/03/15	ICON	—	—	—	—	—	62.4	< 50.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-6 (4-6)	02/11/15	ICON	—	—	—	—	—	**1250**	**809**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-6 (4-6) [5]	02/11/15	HET	—	—	—	—	—	**2300**	**967**	—	—	—	96.4	28.5	**397**	129	**1170**	2160	**369**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-7 (2-4.5)	02/11/15	ICON	—	—	—	—	—	**356**	**394**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-7 (2-4.5)	02/11/15	HET	—	—	—	—	—	**100**	54.8	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	125	29.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-25 (0-2)	06/25/15	ICON	—	—	—	—	—	**6080**	**4310**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-25 (0-2)	06/25/15	HET	—	—	—	—	—	**239**	60.3	—	—	—	40.5	< 25.0	32.4	40.5	59.9	145	122	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-28 (0-4)	09/17/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-29 (0-2)	09/17/15	HET	—	—	—	—	—	**156**	42.3	—	—	—	<25.0	<25.0	53.4	<25.0	<25.0	157	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-29 (0-2)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-29 (2-4)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-29 (4-6)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-30 (0-1.5)	09/17/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-31 (0-2)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-32 (0-2)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-32 (2-4)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-33 (0-3)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-34 (0-2)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-34 (2-4)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-34 (4-6)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-35 (0-2)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-35 (2-4)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-35 (4-6)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-36 (0-2)	10/14/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 2

Sample ID / Depth (feet)	Sample Date	Sampler	BTEX				TPH			VPH			EPH							PAH																		
			Benzene (Total/ SPLP)	Toluene	Ethyl benzene	Total Xylenes	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	C6-C8 Aliphatics	C8-C10 Aliphatics	C8-C10 Aromatics	C10-C12 Aliphatics	C10-C12 Aromatics	C12-C16 Aliphatics	C12-C16 Aromatics	C16-C21 Aromatics	C16-C35 Aliphatics	C21-C35 Aromatics	2-Methyl-naphthalene (Total/SPLP)	Ace-naphthene	Ace-naphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)-pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluor-anthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene (Total/SPLP)	Phen-anthrene	Pyrene
			8260B	8260B	8260B	8260B	8015B	8015B	8015B	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B
			mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LDEQ RECAP SS [1]	10/20/03	N/A	0.051 / 0.1 [3]	20	19	18	65	65	180	1200	120	65	230	100	370	180	150	7100	180	1.7 / 0.0124 [3]	220	88	120	0.62	0.33	0.62	6.2	62	0.33	220	230	0.62	6.2 [4] / 0.2 [3]	660	230
LDEQ RECAP MO-1 Soilni [2]	N/A	N/A	1.5	680	1600	180	650	650	1800	10000	1200	650	2300	1200	3700	1800	1500	10000	1800	220	3700	3500	22000	0.62	0.33	0.62	6.2	62	0.33	2200	2800	0.62	62	21000	2300
HET Investigation																																				
B3 (2-3)	09/22/15	ICON	—	—	—	—	—	<49.8	<49.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B3 (4-6')	09/23/15	HET	0.127	0.417	1.36	5.39	—	**9310**	**5660**	39	35.6	38.1	**541**	**168**	**2440**	**593**	**3760**	**12300**	**4210**	**53.4 / 0.0317**	<4.55	<4.55	<4.55	<4.55	<4.55	<4.55	< 4.55	< 4.55	<4.55	<4.55	< 4.55	26.9 / 0.0360	11.1	< 4.55		
B3 (4-6')	09/29/15	ICON	**2.94**	<0.403	12	14.4	**592**	**78000**	**52200**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B3 (6-8')	09/22/15	HET	0.186 / 0.0019	0.222	1.48	4.83	—	—	—	14.1	11.2	15.1	—	—	—	—	—	—	—	10.6 / 0.0095	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	< 0.935	5.6 / 0.0135	< 0.935	< 0.935		
B3 (6-8')	09/22/15	ICON	**0.317**	<0.268	3.65	8.84	**266**	**10200**	**8470**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B3 (8-10)	09/22/15	ICON	—	—	—	—	—	**186**	155	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B3 (13-15)	09/22/15	ICON	—	—	—	—	—	<29.9	<29.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B4 (4-6)	09/22/15	HET	—	—	—	—	—	**519**	**262**	—	—	—	38.3	<25.0	121	53.8	80.8	519	110	4.33	< 0.944	< 0.944	< 0.944	< 0.944	< 0.944	< 0.944	< 0.944	< 0.944	< 0.944	< 0.944	< 0.944	< 0.944	**1.48**	< 0.944	< 0.944	
B4 (4-6)	09/22/15	ICON	—	—	—	—	—	**3690**	**2930**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B4 (6-8)	09/22/15	ICON	—	—	—	—	—	42.3	<29.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B5 (4-6)	09/23/15	HET	< 0.027	0.184	< 0.054	0.112	—	61.8	133	2.14	<2.7	< 2.7	<25.0	<25.0	<25.0	48.3	46.7	66.5	33.5	1.02 / 0.00571	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200	0.691 / 0.00731	< 0.200	< 0.200	
B5 (4-6)	09/23/15	ICON	0.164	<0.328	<0.328	<0.984	—	**4240**	**3610**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B5 (6-8)	09/23/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194	<0.194
B5 (6-8)	09/23/15	ICON	—	—	—	—	—	**94.6**	78.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B5 (13-15)	09/23/15	ICON	—	—	—	—	—	<49.3	<49.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B6 (1-3)	09/22/15	ICON	—	—	—	—	—	**322**	**302**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B6 (2-4)	09/22/15	HET	—	—	—	—	—	**3320**	**1530**	—	—	—	110	<25.0	**694**	<25.0	<25.0	3740	66.1	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71	< 3.71
B6 (2-4)	09/22/15	ICON	—	—	—	—	—	**2490**	**3150**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B6 (4-6)	09/23/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	< 0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187	<0.187
B6 (4-6)	09/23/15	ICON	—	—	—	—	—	<49.4	<49.4	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B6 (6-8)	09/22/15	ICON	—	—	—	—	—	<29.1	<29.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B7 (4-6')	09/29/15	HET	**2.03 / 0.124**	0.494	14.4	**45.4**	—	**496**	121	184	**190**	**224**	69	<25.0	185	<25.0	<25.0	408	<25.0	4.92 / 0.00475	< 0.189	< 0.189	< 0.189	< 0.189	< 0.189	< 0.189	< 0.189	< 0.189	< 0.189	< 0.189	< 0.189	< 0.189	2.67 / 0.00585	< 0.189	< 0.189		
B7 (4-6')	09/29/15	ICON	**0.884**	<0.254	4.25	9.65	**571**	**5520**	**2900**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B7 (6-8')	09/23/15	HET	0.0649	< 0.025	0.106	0.135	—	**120**	44.3	1.52	<2.5	< 2.5	<25.0	<25.0	58.5	<25.0	<25.0	155	<25.0	1.33 / 0.00269	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	0.725 / 0.00451	<0.198	<0.198		
B7 (6-8')	09/29/15	ICON	**0.661**	<0.341	6.27	**18.1**	**357**	**8360**	**4890**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B7 (13-15)	09/23/15	ICON	—	—	—	—	—	<48.4	<48.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B7 (24-26)	09/23/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198
B8 (2-3)	09/23/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196
B8 (2-4)	09/23/15	ICON	—	—	—	—	—	**1400**	**1230**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
B8 (4-6)	09/23/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196	<0.196
B9 (2-4)	09/22/15	HET	—	—	—	—	—	<25.0	<25.0	—	—	—	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184	<0.184

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Sample ID / Depth (feet)	Sample Date	Sampler	BTEX				TPH			VPH			EPH								PAH																		
			Benzene (Total/ SPLP)	Toluene	Ethyl benzene	Total Xylenes	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	C6-C8 Aliphatics	C8-C10 Aliphatics	C8-C10 Aromatics	C10-C12 Aliphatics	C10-C12 Aromatics	C12-C16 Aliphatics	C12-C16 Aromatics	C16-C21 Aromatics	C16-C35 Aliphatics	C21-C35 Aromatics	2-Methyl-naphthalene (Total/SPLP)	Ace-naphthene	Ace-naphthylene	Anthracene	Benzo(a)-anthracene	Benzo(a)-pyrene	Benzo(b) fluoranthene	Benzo(k) fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluor-anthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene (Total/SPLP)	Phen-anthrene	Pyrene
			8260B	8260B	8260B	8260B	8015B	8015B	8015B	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	TX1006	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B	8270B
			mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
LDEQ RECAP SS [1]	10/20/03	N/A	0.051 / 0.1 [3]	20	19	18	65	65	180	1200	120	65	230	100	370	180	150	7100	180	1.7 / 0.0124 [3]	220	88	120	0.62	0.33	0.62	6.2	62	0.33	220	230	0.62	6.2 [4] / 0.2 [3]	660	230
LDEQ RECAP MO-1 Soilni [2]	N/A	N/A	1.5	680	1600	180	650	650	1800	10000	1200	650	2300	1200	3700	1800	1500	10000	1800	220	3700	3500	22000	0.62	0.33	0.62	6.2	62	0.33	2200	2800	0.62	62	21000	2300
Vibrocore Samples																																						
VC-01 (0-2)	01/27/16	HET	—	—	—	—	—	**—**	**—**	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	26.1	35.9	102	43.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-01 (0-2)	01/27/16	ICON	—	—	—	—	—	**4790**	**4540**	—	—	—	**—**	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-01 (2-4)	01/27/16	HET	—	—	—	—	—	**—**	**—**	<25.0	<25.0	<25.0	<25.0	<25.0	38.1	34.5	45.8	94.1	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-01 (2-4)	01/27/16	ICON	—	—	—	—	—	**1050**	**678**	—	—	—	**—**	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-02 (0-2)	01/27/16	HET	—	—	—	—	—	**—**	**—**	33.3	107	<25.0	216	53.7	**568**	**264**	**419**	1830	**582**	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	0.892	< 0.667
VC-02 (0-2)	01/27/16	ICON	—	—	—	—	—	**10600**	**6650**	—	—	—	**—**	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-02 (2-4)	01/27/16	HET	—	—	—	—	—	**—**	**—**	<25.0	<25.0	<25.0	<25.0	<25.0	102	111	**266**	466	**361**	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667
VC-02 (2-4)	01/27/16	ICON	—	—	—	—	—	**9880**	**8520**	—	—	—	**—**	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-03 (0-2)	01/27/16	HET	—	—	—	—	—	**—**	**—**	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-03 (0-2)	01/27/16	ICON	—	—	—	—	—	**2000**	**2150**	—	—	—	**—**	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-03 (2-4)	01/27/16	HET	—	—	—	—	—	**—**	**—**	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-03 (2-4)	01/27/16	ICON	—	—	—	—	—	11.7	12	—	—	—	**—**	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-04 (0-2)	01/27/16	HET	—	—	—	—	—	**—**	**—**	<25.0	<25.0	<25.0	<25.0	<25.0	37.4	26.5	34.4	134	<25.0	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334	< 0.334
VC-04 (0-2)	01/27/16	ICON	—	—	—	—	—	**1820**	**1120**	—	—	—	**—**	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-04 (2-4)	01/27/16	HET	—	—	—	—	—	**—**	**—**	44.8	75.1	55.7	99.3	**110**	204	**316**	**303**	318	**258**	**16.8**	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	< 0.667	1.12	< 0.667	**0.794**	1.55	< 0.667
VC-04 (2-4)	01/27/16	ICON	—	—	—	—	—	**32200**	**10500**	—	—	—	**—**	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-05 (0-2)	01/27/16	HET	—	—	—	—	—	**—**	**—**	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	33.5	<25.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VC-05 (0-2)	01/27/16	ICON	—	—	—	—	—	**929**	**766**	—	—	—	**—**	**—**	**—**	**—**	**—**	**—**	**—**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum	N/A	N/A	**2.94**	0.494	14.4	**45.4**	**592**	**78000**	**52200**	184	**190**	**224**	**541**	**168**	**2440**	**593**	**3760**	**12300**	**4210**	**53.4 / 0.0317**	< 4.55	< 4.55	< 4.55	< 4.55	< 4.55	< 4.55	< 4.55	< 4.55	< 4.55	< 4.55	1.12	< 4.55	26.9 / 0.0135	11.1	< 4.55
LDEQ RECAP SS [1]	10/20/03	N/A	0.051 / 0.1 [3]	20	19	18	65	65	180	1200	120	65	230	100	370	180	150	7100	180	1.7 / 0.0124 [3]	220	88	120	0.62	0.33	0.62	6.2	62	0.33	220	230	0.62	6.2 [4] / 0.2 [3]	660	230
LDEQ RECAP MO-1 Soilni [2]	N/A	N/A	1.5	680	1600	180	650	650	1800	10000	1200	650	2300	1200	3700	1800	1500	10000	1800	220	3700	3500	22000	0.62	0.33	0.62	6.2	62	0.33	2200	2800	0.62	62	21000	2300

1 - LDEQ RECAP Non-Industrial Screening Standards per Table 1 of LDEQ RECAP for comparison purposes only
2 - RECAP Management Option 1 Non-Industrial Standards per Table 2 of RECAP listed for comparison purposes only
3 - SPLP standard determined by EPA Water Advisory Limit or RECAP Groundwater Screening Standard multiplied by a default attenuation factor of 20 in accordance with RECAP guidelines
4 - LDEQ RECAP screening standard per Table 1, Non-Industrial standard only based on SPLP results that eliminate soil to groundwater pathway
5 - Beyond holding time for C10-12 Aliphatic, C10-12 Aromatic, and C12-16 Aromatic
mg/Kg - milligrams per kilogram equivalent to parts per million (ppm)
EPH - Extractable Petroleum Hydrocarbons
PAH - Poly Aromatic Hydrocarbons
VPH - Volatile Petroleum Hydrocarbons
— Not Analyzed
N/A - Not Applicable

Groundwater Analytical Summary

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 3

Well Number (Screen Interval)	Date	Sampler	Salinity						BTEX				Hydrocarbons			Metals																Alkalinity		Radium	
			Chloride	Bromide	Cl/Br Ratio	EC	TDS	Sulfate	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	Arsenic	Barium	Cadmium	Calcium	Chromium	Iron	Lead	Magnesium	Manganese	Mercury	Potassium	Selenium	Silver	Sodium	Strontium	Zinc	Alkalinity, Bicarbonate	Alkalinity, Carbonate	Radium 226	Radium 228
			9056A	9056A	N/A	2510B	2540C	9056A	8260B	8260B	8260B	8260B	8015C	8015C	8015C	6020	6020	6020	6010B	6020	6010B	6020	6010B	6010B	7470A	6010B	6020	6020	6010B	6020	6020	2320B	2320B	EPA 903	EPA 904
			mg/L	mg/L	N/A	umhos/ cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L
LDEQ RECAP SS [1]	10/20/03	N/A	250 [2]	N/A	N/A	N/A	500 [2]	250 [2]	0.005	1	0.7	10	0.15	0.15	0.15	0.01	2	0.005	N/A	0.1	0.3 [2]	0.015	N/A	0.05 [2]	0.002	N/A	0.05	0.018	N/A	N/A	1.1	N/A	N/A	5 Combined [2]	
ICON Investigation																																		
SB-1 (18-28')	06/08/15	ICON	**1020**	—	—	—	**3480**	< 1.25	**0.0498**	< 0.01	< 0.005	< 0.05	**0.17**	**2.27**	**0.23**	**0.017**	1.22	< 0.005	523	< 0.01	**67.8**	< 0.01	195	**3.81**	< 0.0002	< 5.00	—	—	273	3.43	0.012	1340	< 20	1.090	1.05
SB-1 (18-28') (Filtered)	06/08/15	HET	**976**	1.7	574	4.64	**3270**	< 0.25	**0.0557**	< 0.0050	< 0.0050	0.0208	**0.194**	**1.98**	< 0.14	**0.0315**	1.34	< 0.0050	534	< 0.040	**68.5**	< 0.010	191	**3.9**	< 0.00020	2.88	< 0.050	< 0.010	271	3.46	< 0.060	1070	< 5.0	2.920	1.29
SB-1 (Filtered)	06/08/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.0344**	1.34	< 0.0050	524	< 0.040	**65**	< 0.010	189	**3.58**	< 0.00020	2.75	< 0.050	< 0.010	267	3.49	< 0.060	—	—	—	—
SB-5 (15- 20')	06/04/15	ICON	**26300**	—	—	—	**40000**	< 25.0	**0.376**	< 0.01	0.0737	< 0.05	**1.92**	**5.36**	**0.47**	< 0.01	**4.86**	< 0.005	1400	< 0.01	**57.4**	< 0.01	268	**4.08**	< 0.0002	61	—	—	15400	159	0.039	880	< 10	**27.1**	**8.49**
SB-5 (15- 20') (Filtered)	06/04/15	HET	**25900**	53.1	488	1.22	**46100**	< 0.25	**0.384**	0.0034	0.0771	0.031	**1.63**	**16.9**	**2.47**	**0.0914**	**5.65**	< 0.0050	1150	< 0.040	**47.2**	< 0.050	214	**4.3**	< 0.00020	42.3	**0.253**	< 0.010	13100	146	0.356	852	< 5.0	**24.7**	**10.7**
SB-5 (Filtered)	06/04/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.0999**	**5.74**	< 0.0050	1130	< 0.040	**45.5**	< 0.050	210	**4.11**	< 0.00020	38.8	**0.272**	< 0.010	12800	151	< 0.30	—	—	**—**	**—**
SB-9 (11-16')	06/11/15	ICON	**13200**	—	—	—	**24000**	**439**	< 0.005	< 0.01	< 0.005	< 0.05	< 0.15	**0.17**	< 0.12	< 0.01	**2.99**	< 0.005	2620	< 0.01	**327**	< 0.01	863	**20.4**	< 0.0002	11.4	—	—	2980	18.6	0.052	615	< 20	1.27	1.29
SB-9 (11-16') (Filtered)	06/11/15	HET	**11600**	35.1	330	30.4	**24400**	**392**	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.566**	< 0.14	**0.0514**	**3.31**	< 0.0050	2650	< 0.040	**342**	< 0.010	872	**21.7**	< 0.00020	9.05	**0.135**	< 0.010	2980	23.5	< 0.060	150	< 5.0	3.87	0.664
SB-9 (Filtered)	06/11/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.046**	**3.27**	< 0.0050	2610	< 0.040	**330**	< 0.010	856	**21.2**	< 0.00020	8.41	**0.129**	< 0.010	2960	23.8	< 0.060	—	—	—	—
SB-16 (28-38')	06/17/15	ICON	**309**	—	—	—	**1540**	0.78	< 0.005	< 0.01	< 0.005	< 0.05	< 0.15	**1.06**	**0.72**	**0.09**	**2.04**	< 0.005	353	**0.12**	**122**	**0.062**	135	**3.49**	< 0.0002	23.4	—	—	135	2.01	0.449	745	< 10	**1.81**	**3.08**
SB-16 (Filtered)	06/17/15	ICON	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.06**	0.848	< 0.005	—	< 0.01	**13**	< 0.01	—	**0.424**	< 0.0002	—	—	—	—	1.64	< 0.01	—	—	—	—
SB-16 (28-38')	06/17/15	HET	**322**	< 0.25	2.09	**1530**	0.66	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.787**	0.145	—	**—**	—	—	—	—	**—**	—	—	**—**	—	—	—	—	—	—	714	< 5.0	—	—
SB-16 (Filtered)	06/17/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.0673**	0.862	< 0.0050	208	< 0.040	**14.4**	< 0.010	73.9	**0.432**	< 0.00020	9.69	< 0.050	< 0.010	111	1.67	< 0.060	—	—	**—**	**—**
SB-24 (12-22')	06/23/15	ICON	**449**	—	—	—	**1880**	90	< 0.005	< 0.01	< 0.005	< 0.05	< 0.15	**0.24**	**0.22**	< 0.01	0.724	< 0.005	313	< 0.01	**14.3**	< 0.01	105	**3.52**	< 0.0002	7.23	—	—	186	1.8	0.077	848	< 10	0.522	1.06
SB-24 (12-22') (Filtered)	06/23/15	HET	**519**	< 0.25	—	3.05	**2050**	95.7	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.238**	< 0.14	< 0.010	0.689	< 0.0050	296	< 0.040	**12.7**	< 0.010	107	**3.3**	< 0.00020	7.33	< 0.050	< 0.010	182	1.47	< 0.060	790	< 5.0	0.453	0.836
SB-24 (Filtered)	06/23/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	< 0.010	0.916	< 0.0050	302	< 0.040	**12.8**	< 0.010	108	**3.29**	< 0.00020	7.42	< 0.050	< 0.010	180	1.97	0.0713	—	—	—	—
SB-26 (12-22')	06/26/15	ICON	160	—	—	—	**950**	1.8	< 0.005	< 0.01	< 0.005	< 0.05	< 0.15	**0.26**	**0.21**	**0.02**	0.894	< 0.005	196	0.01	**20.8**	< 0.01	69.6	**2.92**	< 0.0002	5.45	—	—	71.7	1.23	0.027	783	< 10	0.898	1.22
SB-26 (12-22') (Filtered)	06/26/15	HET	137	< 0.25	—	1.73	**1180**	0.74	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.306**	< 0.14	**0.0185**	0.836	< 0.0050	202	< 0.040	**17.5**	< 0.010	69.9	**2.74**	< 0.00020	4.51	< 0.050	< 0.010	70.9	1.14	< 0.060	776	< 5.0	1.020	1.47
SB-26 (Filtered)	06/26/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.0207**	0.924	< 0.0050	217	< 0.040	**15.4**	< 0.010	75.7	**2.97**	< 0.00020	5.51	< 0.050	< 0.010	77.8	1.33	< 0.060	—	—	—	—
SB-27 (14-24')	06/29/15	ICON	142	—	—	—	**950**	< 0.25	< 0.005	< 0.01	< 0.005	< 0.05	< 0.15	**0.2**	**0.16**	**0.199**	0.675	**0.007**	188	< 0.01	**21.6**	< 0.01	71.4	**2.03**	< 0.0002	< 5.00	—	—	80.7	1.26	< 0.01	772	< 10	1.360	0.442
SB-27 (14-24') (Filtered)	06/29/15	HET	143	< 0.25	—	1.72	**1120**	< 0.25	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.331**	< 0.14	**0.2**	0.809	< 0.0050	198	< 0.040	**21.4**	< 0.010	75.3	**2.1**	< 0.00020	2.56	< 0.050	< 0.010	84.5	1.42	< 0.060	750	< 5.0	1.220	0.894
SB-27 (Filtered)	06/29/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.194**	0.772	< 0.0050	206	< 0.040	**21.8**	< 0.010	78.4	**2.23**	< 0.00020	2.85	< 0.050	< 0.010	85.1	1.37	< 0.060	—	—	—	—
HET Investigation																																		
MW-1 (20-25')	10/08/15	HET	**1430**	56.8	25	6.17	**5440**	6.2	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.471**	< 0.14	—	**—**	—	—	—	**—**	**—**	—	**—**	—	—	—	—	—	—	—	530	< 5.0	1.480	1.74
MW-1 (Filtered)	10/08/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	< 0.010	1.97	< 0.0050	757	< 0.040	**24.2**	< 0.010	275	**5.28**	< 0.00020	3.3	< 0.050	< 0.010	342	5.85	< 0.060	—	—	—	—
MW-1 (20-25') (Filtered)	10/08/15	ICON	**2170**	—	—	—	**4820**	17.7	<0.005	<0.005	<0.01	<0.05	<0.15	**0.26**	0.13	<0.01	1.84	<0.005	760	<0.01	**40.9**	<0.01	283	**5.11**	<0.0002	<5	—	—	383	5.16	0.066	1110	<10.0	2.040	1.99
MW-2 (15-20')	10/08/15	HET	**24100**	416	58	61.7	**48100**	< 2.5	**0.482**	0.135	0.005	0.357	**2.27**	**15.1**	**2.29**	**0.132**	**8.6**	< 0.0050	1370	< 0.040	**52.5**	< 0.010	259	**3.4**	< 0.00020	45.2	**0.159**	< 0.010	13700	160	< 0.060	362	< 5.0	**33.100**	**11.1**
MW-2 (Filtered)	10/08/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.11**	**8.74**	< 0.0050	1490	< 0.040	**50.9**	< 0.010	281	**3.59**	< 0.00020	51.3	**0.164**	< 0.010	14600	153	< 0.060	—	—	—	—
MW-2 (15-20')	10/08/15	ICON	**29100**	—	—	—	**50800**	<25	**0.422**	0.118	<0.01	0.297	**2.92**	**7.92**	**2.73**	**0.048**	**5.24**	<0.005	1500	<0.01	**51.8**	<0.01	281	**3.59**	<0.0002	64.8	—	—	15500	136	<0.01	858	<10.0	**31.700**	**15.7**
MW-3 (15-20')	10/07/15	HET	**25000**	420	60	63.8	**50000**	< 130	**0.0704**	< 0.0050	< 0.0050	< 0.0050	**0.213**	**2.37**	**0.284**	—	**—**	—	—	—	**—**	—	—	**—**	—	—	—	—	—	—	310	< 5.0	**14.700**	**13.3**
MW-3 (Filtered)	10/07/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.113**	**21.5**	< 0.0050	2170	< 0.040	**107**	< 0.010	626	**13.9**	< 0.00020	< 10	**0.196**	< 0.010	14500	97.3	< 0.060	—	—	—	—
MW-3 (15-20')	10/07/15	ICON	**30700**	—	—	—	**52600**	<50	**0.0814**	<0.005	<0.01	<0.05	<0.15	**1.5**	**0.26**	**0.015**	**19.2**	<0.005	2230	0.017	**116**	<0.01	622	**15.8**	<0.0002	19.7	—	—	15400	93	0.052	735	<10.0	**16.900**	**14.6**
MW-4 (10-15')	10/07/15	HET	**3870**	376	10	12.6	**10200**	20.8	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.494**	< 0.14	—	**—**	—	—	—	**—**	—	—	**—**	—	—	—	—	—	—	342	< 5.0	**1.860**	**3.54**
MW-4 (Filtered)	10/07/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	**0.0282**	**3.37**	< 0.0050	978	< 0.040	**34**	< 0.010	334	**8.75**	< 0.00020	4.22	< 0.050	< 0.010	1290	9.28	< 0.060	—	—	—	—
MW-4 (10-15')	10/07/15	ICON	**4670**	—	—	—	**9100**	25	<0.005	<0.005	<0.01	<0.05	<0.15	**0.28**	**0.21**	<0.01	**2.71**	<0.005	990	<0.01	**39.4**	<0.01	342	**8.96**	<0.0002	<5	—	—	1360	7.44	0.023	768	<10.0	0.627	2.82
MW-5 (10-15')	10/06/15	HET	**9590**	29.6	324	26.2	**18400**	168	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.405**	< 0.14	< 0.010	**3.95**	< 0.0050	1960	< 0.040	**102**	< 0.010	665	**13.4**	< 0.00020	5.49	< 0.050	< 0.010	3500	20.2	< 0.060	468	< 5.0	**4.260**	**4.88**
MW-5 (Filtered)	10/06/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	< 0.010	**5.04**	< 0.0050	2010	< 0.040	**101**	< 0.010	695	**11.5**	< 0.00020	5.83	< 0.050	< 0.010	3350	21.7	< 0.060	—	—	—	—
MW-5 (10-15')	10/06/15	ICON	**10800**	—	—	—	**21600**	138	<0.005	<0.005	<0.01	<0.05	<0.15	**0.23**	0.13	<0.01	**2.8**	<0.005	1840	<0.01	**97.8**	<0.01	612	**13.8**	<0.0002	5.49	—	—	3540	17.2	0.011	983	<10.0	**2.430**	**3.89**
MW-6 (12-17')	10/06/15	HET	**10000**	31.7	315	27.7	**20100**	13.4	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.215**	< 0.14	**0.011**	**10.6**	< 0.0050	2050	< 0.040	**152**	< 0.010	696	**12.5**	< 0.00020	5.92	< 0.050	< 0.010	3320	21.6	< 0.060	480	< 5.0	**4.420**	**6.61**
MW-6 (Filtered)	10/06/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	< 0.010	1.22	< 0.0050	1920	< 0.040	**144**	< 0.010	728	**11.3**	< 0.00020	5.89	< 0.050	< 0.010	3280	2.32	< 0.060	—	—	—	—
MW-6 (12-17')	10/06/15	ICON	**11500**	—	—	—	**23900**	11	<0.005	<0.005	<0.0100	<0.0500	<0.15	<0.13	<0.12	<0.010	**8.28**	<0.005	2050	<0.01	**154**	<0.01	704	**13**	<0.0002	6.81	—	—	3460	17.8	0.013	835	<10.0	**6.520**	**8.54**
MW-6 FD	10/06/15	HET	**10300**	31.4	328	28	**19700**	15.3	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.10	**0.233**	< 0.14	< 0.010	**10.6**	< 0.0050	2040	< 0.040	**149**	< 0.010	680	**12.4**	< 0.00020	5.77	< 0.050	< 0.010	3270	21.6	< 0.060	404	< 5.0	**3.750**	**6.17**
MW-6 FD (Filtered)	10/06/15	HET	**—**	—	—	—	**—**	—	—	—	—	—	—	—	—	< 0.010	**11.2**	< 0.0050	2080	< 0.040	**151**	< 0.010	690	**12.7**	< 0.00020	6.76	< 0.050	< 0.010	3420	22.7	< 0.060	—	—	—	—
Maximum	N/A	N/A	**30700**	420	574	63.8	**52600**	**439**	**0.482**	0.135	0.0771	0.357	**2.92**	**16.9**	**2.73**	**0.2**	**21.5**	**0.007**	2650	0.12	**342**	**0.062**	872	**21.7**	<0.00020	64.8	**0.272**	<0.010	15500	160	0.449	1340	<10.0	**47.4**	
LDEQ RECAP SS [1]	10/20/03	N/A	250 [2]	N/A	N/A	N/A	500 [2]	250 [2]	0.005	1	0.7	10	0.15	0.15	0.15	0.01	2	0.005	N/A	0.1	0.3 [2]	0.015	N/A	0.05 [2]	0.002	N/A	0.05	0.018	N/A	N/A	1.1	N/A	N/A	5 Combined [2]	

1 - LDEQ RECAP Groundwater Screening Standards per Table 1 of LDEQ RECAP document dated October 20, 2003 listed for reference purposes only
2 - EPA Secondary Drinking Water Standard
BTEX - Benzene, Toluene, Ethylbenzene, and Xylene
EC - Electrical Conductivity
TDS - Total Dissolved Solids
pCi/L - picocuries per liter
Filtered - Dissolved metal containers filtered and preserved at time of sample collection
mg/L - milligrams per liter equivalent to parts per million (ppm)
umhos/cm - micro mohs per centimeter
— Not Analyzed
N/A - Not Applicable

Groundwater Analytical Summary (Additional Parameters)

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39

Table 3A
Page 1 of 1

Well Number (Screen Interval)	Date	Sampler	VPH			EPH							PAH															
			C6-C8 Aliphatics	C8-C10 Aliphatics	C8-C10 Aromatics	C10-C12 Aliphatics	C10-C12 Aromatics	C12-C16 Aliphatics	C12-C16 Aromatics	C16-C21 Aromatics	C16-C35 Aliphatics	C21-C35 Aromatics	2-Methylnaphthalene	Acenaphthene	Ace-naphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluor-anthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phen-anthrene	Pyrene
			MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	8270D	8270D	8270D	8270D	8270D	8270D	8270D	8270D	8270D	8270D	8270D	8270D	8270D	8270D	8270D	8270D
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ICON Investigation																												
SB-1 (18-28')	06/08/15	HET	0.0684	< 0.050	< 0.050	< 0.14	**0.298**	< 0.14	< 0.14	**0.191**	< 0.14	**0.338**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-5 (15- 20')	06/04/15	HET	0.655	0.15	0.141	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-9 (11-16')	06/11/15	HET	< 0.030	< 0.050	< 0.050	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-16 (28-38')	06/17/15	HET	< 0.15	< 0.15	< 0.15	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	0.144	0.143	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-24 (12-22')	06/23/15	HET	< 0.15	< 0.15	< 0.15	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-26 (12-22')	06/26/15	HET	< 0.15	< 0.15	< 0.15	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SB-27 (14-24')	06/29/15	HET	< 0.15	< 0.15	< 0.15	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
HET Investigation																												
MW-1 (20-25')	10/08/15	HET	< 0.15	< 0.15	< 0.15	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	**0.155**	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-2 (15-20')	10/08/15	HET	0.663	**0.5**	**0.516**	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	**0.0172**	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	0.00032	< 0.00019	**0.0497**	0.0002	< 0.00019
MW-3 (15-20')	10/07/15	HET	< 0.15	< 0.15	< 0.15	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
MW-4 (10-15')	10/07/15	HET	< 0.15	< 0.15	< 0.15	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	< 0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-5 (10-15')	10/06/15	HET	< 0.15	< 0.15	< 0.15	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-6 (12-17')	10/06/15	HET	< 0.15	< 0.15	< 0.15	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MW-6 FD	10/06/15	HET	< 0.15	< 0.15	< 0.15	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	< 0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum	N/A	N/A	0.663	**0.5**	**0.516**	<0.14	**0.298**	<0.14	<0.14	**0.191**	0.144	**0.338**	**0.0172**	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00032	<0.00020	**0.0497**	0.0002	<0.00020
LDEQ RECAP SS [1]	10/20/03	N/A	3.2	0.15	0.15	0.15	0.15	0.15	0.15	0.15	7.3	0.15	0.00062	0.037	0.1	0.043	0.0078	0.0002	0.0048	0.0025	0.0016	0.0025	0.15	0.024	0.0037	0.01	0.18	0.018

1 - LDEQ RECAP Groundwater Screening Standards per Table 1 of LDEQ RECAP document dated October 20, 2003 listed for reference purposes only
2 - EPA Secondary Drinking Water Standard
BTEX - Benzene, Toluene, Ethylbenzene, and Xylene
EC - Electrical Conductivity
TDS - Total Dissolved Solids
pCi/L - picocuries per liter
Filtered - Dissolved metal containers filtered and preserved at time of sample collection
VPH - Volatile Petroleum Hydrocarbons
EPH - Extractable Petroleum Hydrocarbons
mg/L - milligrams per liter equivalent to parts per million (ppm)
— Not Analyzed
N/A - Not Applicable

Geotechnical Analytical Summary Table

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.
18th Judicial District Court No. 72605 Division "A"
Section 16, Township 10 South, Range 11 East
Iberville Parish, Louisiana
LDNR Legacy Project No. 018-024-001
HET Project No. 4651.39
Table 4
Page 1 of 1

Sample I.D.	Sample Depth (ft)	Description	Atterberg Limits			Water Content (%)	Dry Density (pcf)	Organic Matter (%)	Coefficient of Permeability (cm/sec)
			LL	PL	PI				
DB1	26 - 28	Gray clay (CH) with trace of organics	84	23	61	49.4	74.1	10.6	4.0×10^{-8}
DB1	46 - 48	Gray clay (CH) with trace of organics	104	31	73	46.4	55.8	11.3	5.4×10^{-8}
DB1	56 - 58	Gray clay (CH) with trace of organics	84	32	52	41.0	75.5	10.2	1.4×10^{-7}

LL - Liquid Limit
PL - Plastic Limit
PI - Plasticity Index
pcf - Pound per Cubic Foot

Monitor Well Construction and Sampling Data

State of Louisiana and the Iberville Parish School Board vs. BP America Production Company, et al.

18th Judicial District Court No. 72605 Division "A"

Section 16, Township 10 South, Range 11 East

Iberville Parish, Louisiana

LDNR Legacy Project No. 018-024-001

HET Project No. 4651.39

Table 5

Monitoring Well I. D. Number	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
Well Type	Monitor	Monitor	Monitor	Monitor	Monitor	Monitor
Casing Material	PVC	PVC	PVC	PVC	PVC	PVC
Casing Diameter (Inches)	1	1	1	1	1	1
Development Method	Geo Pump	Geo Pump	Geo Pump	Geo Pump	Geo Pump	Geo Pump
Elevation of Natural Ground (Feet)	6.72	5.35	5.04	2.25	2.09	2.12
Top of Casing Elevation (feet)	9.93	8.64	8.02	4.90	5.13	5.32
Stickup (feet)	3.21	3.29	2.98	2.65	3.04	3.20
Depth to Water (October 13, 2015)	9.01	7.98	7.45	5.14	5.41	5.34
Water Elevation (NGVD) (October 13, 2015)	0.92	0.66	0.57	-0.24	-0.28	-0.02
Latitude	30.19891273	30.19850537	30.19841434	30.19835578	30.19784176	30.19750482
Longitude	-91.34288445	-91.34330173	-91.34322762	-91.34269324	-91.34268760	-91.34306390
Lat / Long Method	Survey	Survey	Survey	Survey	Survey	Survey
Date Completed	9/30/15	9/30/15	9/30/15	10/1/15	10/1/15	10/1/15
Well Depth (feet below TOC)	27.20	23.41	24.00	18.58	17.83	20.17
Well Depth (Feet below land surface)	23.99	20.12	21.02	15.93	14.79	16.97
Sampling Data:						
Sample Date	10/8/15	10/8/15	10/7/15	10/6/15	10/6/15	10/6/15
Gallons Purged / Dry	0.75 / 3X	3.0 / 2X	0.75 / 7X	0.5 / 7X	5.0 / 1X	5.5 / 0X
Sampling Frequency	Once	Once	Once	Once	Once	Once
Free Product Elevations	N/A	N/A	N/A	N/A	N/A	N/A
Comments	N/A	N/A	N/A	N/A	N/A	N/A
Field Parameter Data:						
pH (Initial) - Standard Units	6.40	5.68	5.37	5.61	5.78	6.00
pH (Final) - Standard Units	6.40	6.10	5.61	5.85	5.79	5.74
Turbidity (Initial) - NTU	65.5	NA	206	N/A	9.17	NA
Turbidity (Final) - NTU	N/A	393	N/A	35.2	0.73	NA
ORP (Initial)	129.2	108.6	7.9	32.1	22.2	13.60
ORP (Final)	89.0	37.2	-32.8	22.8	-44.5	-54.30
Temperature (Initial) - °C	24.3	23.0	23.4	23.6	22.8	21.70
Temperature (Final) - °C	25.9	23.0	24.3	24.7	22.1	21.00
Specific Conductance (Initial) - ms/cm	7.61	68.5	70.9	12.58	29.55	30.16
Specific Conductance (Final) - ms/cm	7.57	69.2	71.4	13.59	29.22	30.39

APPENDIX C

GEOLOGICAL BORING LOGS

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.

Environmental Consultants
91 Apollo Road
Scott, Louisiana 70583
(337) 261-1963 Fax (337) 261-1953

BORING No. B1

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	09-21-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-21-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master MM3	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	7.43'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	16 Feet BLS
REMARKS	Survey Coordinates: 30.19882430, -91.34266817		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0		1450	0-1		0			Shell and minor clay	0.87
0		1450	1-2		2	CL		Clay, gray and brown, low moisture, moderate density, Root at 1.67'	1.91
0		1450	2-3		4				4.17
0		1500	4-6		6			Clay, gray, low moisture, low to moderate density, Silt lens (1/4") at 6.08', Organics at 4.75-5.75', 8-9', and 12-16', Iron nodules from 9.75-10.16', Iron staining from 12-12.83'	4.52
0					8				2.90
0.2					10	CL			4.12
0		1505	10-12		12				4.42
0					14				3.48
0		1510	13-15		16				3.05
					18				
					20				
					22				
					24				

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.

Environmental Consultants
91 Apollo Road
Scott, Louisiana 70583
(337) 261-1963 Fax (337) 261-1953

BORING No. B2/MW1

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	09-21-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-30-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC/1"
DRILLING METHOD	Marsh Master MM3	SCREEN TYPE/SLOT	Prepack PVC 0.010"
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	20/40 Silica
GROUND ELEVATION	6.72'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	9.93'	DRILLED DEPTH TO WATER	22 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	28 Feet BLS
REMARKS	Survey Coordinates: 30.19891273, -91.34288445		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0	1550	0-1	0–2	CL	Clay, brown and gray, low moisture, low to moderate density, Wood at 1.5', Roots from 0-4', Iron nodules and organics from 4-8'	1.04
0	1550	1-2	2–4	CL		0.62
0			4–6	CL		2.70
0			6–8	CL		2.58
0	1600	8-10	8–10	CL	Clay, gray, low moisture, low to moderate density, Iron staining from 8-12', Wood at 8.16-8.33' and 9.83-10.25', Organics at 12.58-13'	3.52
0			10–12	CL		4.18
0.1			12–14	CL		3.50
0	1605	13-15	14–16	CL		3.71
0	0935	16-18	16–18	CL	Clay, gray, low moisture, low density, Organics at 16-16.5'	4.14
0			18–20	CL		4.11
0			20	CL	Clay, moderate silt content, gray, low moisture, low density, Wood at 20-20.25'	3.33
0				ML	Silt, moderate clay content, gray, moderate to high moisture, low density, Wood at 21.08'	
0			22	CL		
0				ML	Clay, moderate silt content, gray, low moisture, low density	2.99
0			24	CL	Silt, moderate very fine grained sand content, gray, saturated, low density	
0				CL	Clay, moderate silt content, gray, low moisture, low density	2.88

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.

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91 Apollo Road
Scott, Louisiana 70583
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BORING No. B2/MW1

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	09-21-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-30-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC/1"
DRILLING METHOD	Marsh Master MM3	SCREEN TYPE/SLOT	Prepack PVC 0.010"
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	20/40 Silica
GROUND ELEVATION	6.72'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	9.93'	DRILLED DEPTH TO WATER	22 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	28 Feet BLS
REMARKS	Survey Coordinates: 30.19891273, -91.34288445		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0		1000	26-28		26–28	CL		Clay, high to moderate silt content decreasing with depth, gray, low moisture, low density	3.41
								Clay, gray, low moisture, low to moderate density, 1/8" Silt lens at 26.42'	3.16
					30				
					32				
					34				
					36				
					38				
					40				
					42				
					44				
					46				
					48				

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BORING No. B3

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-22-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-23-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	5.49'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Don Watts	TOTAL DEPTH	16 Feet BLS
REMARKS	Survey Coordinates: 30.19878735, -91.34348950		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0		1240	0-1		0				
		1240	1-2		2	CL		Clay, brown, low moisture, low to moderate density, Organics (roots)	1.91
0.3		1240	2-3						3.81
233.5		1255	4-6		4	CL		Clay, gray, low moisture, low density, Wood at 5.67-5.75'	4.84
334.2		1255	6-8		6				7.95
9.9		1300	8-10		8	CL		Clay, gray, low moisture, low to moderate density, Wood from 8-12' and at 13.67-14.58'	9.87
0.7					10				10.65
0.7					12				10.61
0.4		1310	13-15		14				9.36
					16				10.35
					18				
					20				
					22				
					24				

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BORING No. B4

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-22-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-22-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	5.46'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Don Watts	TOTAL DEPTH	16 Feet BLS
REMARKS	Survey Coordinates: 30.19862010, -91.34350635		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0.1	1345	0-1	0–2	CL	Clay, brown, low moisture, low to moderate density, Organics at 0-0.83'	2.81
13.4	1345	1-2				7.71
50.6	1345	2-3	2–4	CL	Clay, gray, low moisture, low density, Iron nodules and staining	9.29
0.3	1400	4-6	4–6	CL		10.95
0.7	1400	6-8	6–8	CL	Clay, gray, low moisture, low to moderate density, Wood throughout	10.63
0			8–10	CL		10.56
0			10–12	CL	Clay, gray, low moisture, low density	10.51
0	1410	13-15	12–14	CL		10.60
			14–16	CL		10.61
			16–18			
			18–20			
			20–22			
			22–24			

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BORING No. B5

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-23-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-23-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	5.50'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	14 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	16 Feet BLS
REMARKS	Survey Coordinates: 30.19863662, -91.34340785		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0.3	1030	0-1	0–2	CL	Clay, brown, low moisture, low to moderate density, Iron nodules, Organics	1.55
	1030	1-2				
0	1030	2-3	2–4			3.79
166.3	1045	4-6	4–6	CL	Clay, gray, low moisture, low to moderate density, Organics , Iron staining, Wood from 8-12' and 12-12.25'	6.93
12.2	1045	6-8	6–8			10.82
1.1			8–10			10.81
1.0			10–12			10.81
0.5			12–14			10.75
0.1	1055	13-15	14–16	ML	Silt, gray, saturated, low density, 4" Clay lens at 14'	10.96
			16–18			10.77
			18–20			
			20–22			
			22–24			

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BORING No. B6

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	09-22-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-23-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	5.99'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Don Watts	TOTAL DEPTH	16 Feet BLS
REMARKS	Survey Coordinates: 30.19861194, -91.34324531		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0	1455	0-1	0–2	CL	Clay, brown, low moisture, low to moderate density, Organics	1.42
	1455	1-2				4.27
38.8	1455	2-3				
	1205 (09-23-15)	2-4				
0.5	1510	4-6	4–10	CL	Clay, gray, low moisture, low to moderate density, Iron nodules from 4-8', Wood fragments from 4-8', 8-10.67', and 13.25-13.58'	9.40
0	1510	6-8				10.59
1.0						10.55
0						10.57
0			10–16			10.47
	1520	13-15				10.53
0						10.54

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BORING No. B7/MW2

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	09-22-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-30-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC/1"
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	Prepack PVC 0.010"
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	20/40 Silica
GROUND ELEVATION	5.35'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	8.64'	DRILLED DEPTH TO WATER	15 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	40 Feet BLS
REMARKS	Survey Coordinates: 30.19850537, -91.34330173		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0	1610	0-1	0	CL	Clay, brown, low moisture, low to moderate density, Iron nodules	1.21
	1610	1-2	2			3.24
0	1610	2-3	4			5.66
661	0945	4-6	6	CL	Clay, gray, low moisture, low density, Wood from 4-8', 9.83', 10.25-10.33', 10.67', and 11.08-11.42', Iron nodules	7.88
629	0945	6-8	8			11.12
10.2			10			11.29
6			12	CL	Clay, gray, low moisture, low to moderate density, Wood at 12-12.92'	11.30
4.2	0955	13-15	14			11.13
3.2			16	ML	Silt, gray, saturated, low density	11.05
3.8				ML	Silt, gray, saturated, low density, 2" Clay lens at 16', wood at 16-16.16'	10.56
3.9			18	CL	Clay, moderate silt content decreasing with depth, gray, low moisture, low to moderate density, Calcium and Iron nodules	10.87
9.8	1400	20-22	20			11.14
4.1			22	CL	Clay, minor silt content, gray, low moisture, moderate density, 2" Silt lens at 20.42' and 1" Silt lenses at 21' and 21.67'	11.06
44.2			24			

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BORING No. B7/MW2

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	09-22-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-30-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC/1"
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	Prepack PVC 0.010"
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	20/40 Silica
GROUND ELEVATION	5.35'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	8.64'	DRILLED DEPTH TO WATER	15 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	40 Feet BLS
REMARKS	Survey Coordinates: 30.19850537, -91.34330173		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1415	24-26		26	CL		Clay, moderate silt content increasing with depth, gray, low moisture, low to moderate density	10.89
6.6					28	ML		Silt, moderate clay content, gray, saturated, low density	10.90
0.4					30	CL		Clay, moderate silt content, gray, low moisture, low density	10.96
0					32	CL		Clay, gray, low moisture, low to moderate density	10.13
1.6					34				8.08
2.1					36	CL		Clay, moderate silt content, gray, low moisture, low density	5.69
0.2					38	CL		Clay, gray, low moisture, low to moderate density, 1" Silt lenses at 39' and 39.16', Organics at 38.33-38.5'	3.75
0		1515	38-40		40				3.17
					42				
					44				
					46				
					48				
					50				

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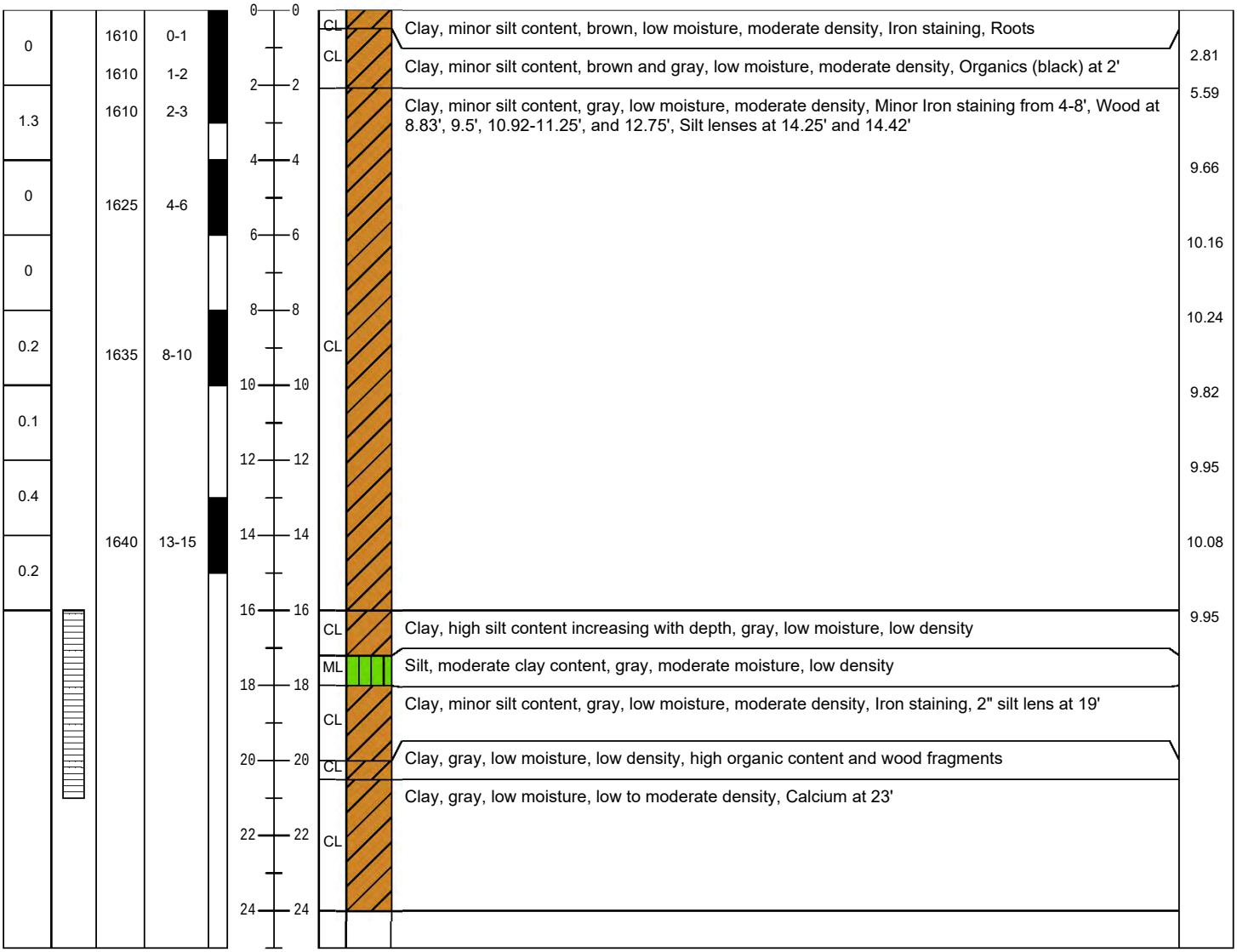
BORING No. B8/MW3

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-23-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-30-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC/1"
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	Prepack PVC 0.010"
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	20/40 Silica
GROUND ELEVATION	5.04'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	8.02'	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	24 Feet BLS
REMARKS	Survey Coordinates: 30.19841434 -91.34322762		



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BORING No. B9

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-24-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-24-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	2.42'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	28 Feet BLS
REMARKS	Survey Coordinates: 30.19833662, -91.34303378		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0		0915	0-1		0			Clay, brown and gray, low moisture, low to moderate density, Iron and Manganese nodules, Organics 0-0.25'	2.95
		0915	1-2		2	CL			4.24
0		0915	2-3						
		1055	2-4		4			Clay, gray, low moisture, low to moderate density, Organics at 5-5.25', 6.42-7.33' and 8.5', Iron nodules from 4-8', 3" Silt lens at 9.5'	5.58
0.1									
0.1					6				8.19
					8	CL			10.38
0		0925	8-10						
0					10				10.67
					12			Clay, minor silt content, gray, low moisture, low to moderate density, Wood, 5" Silt lens at 13.5'	9.99
0		0930	12-14						
0					14	CL			10.71
					16			Clay, gray, low moisture, low to moderate density	8.93
0		0935	16-18						
0					18	CL			10.47
					20			Clay, moderate silt content increasing with depth, gray, low moisture, low density	7.87
0									
0					22	CL			3.94
						ML		Silt, moderate very fine grained sand content, gray, low to moderate moisture, low density	
0					24	ML CL		Silt, moderate clay content, gray, moderate moisture, low density	2.54

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BORING No. B9

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-24-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-24-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	2.42'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	28 Feet BLS
REMARKS	Survey Coordinates: 30.19833662, -91.34303378		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0		1005	26-28		26	CL		Clay, gray, low moisture, low density	2.70
								Clay, gray, low moisture, low to moderate density, Organics at 27.08-27.33', 4" Silt lens at 25.25'	
					28				2.75
					30				
					32				
					34				
					36				
					38				
					40				
					42				
					44				
					46				
					48				
					50				

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BORING No. B10

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-24-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-24-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	2.23'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	12.5 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	24 Feet BLS
REMARKS	Survey Coordinates: 30.19843389, -91.34293048		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0		1055	0-1		0				
		1055	1-2		2	CL		Clay, brown and gray, low moisture, low to moderate density, Iron nodules, Wood at 2.33-2.5'	4.37
0		1055	2-3		4				8.02
0.1					6	CL		Clay, gray, low moisture, low to moderate density, Iron staining from 4.67-5.42', Organics at 5.42-5.83' and 6.92-7.25', Wood from 8-12'	8.74
0					8				9.96
0		1110	8-10		10				10.33
0					12				10.62
0		1120	12-14		14	ML		Silt, gray, saturated, low density, 5" Clay lens at 14'	9.98
0					16				10.72
0		1125	15-17		18	CL		Clay, gray, low moisture, low to moderate density	9.50
0					20				7.76
0					22	CL		Clay, moderate silt content increasing with depth, gray, low moisture, low to moderate density, Wood at 21.08-21.5'	5.38
0		1135	22-24		24				2.63
									2.31

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BORING No. B11/MW4

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-24-15
PROJECT NUMBER	4651.39	DATE COMPLETED	10-01-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC/1"
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	Prepack PVC 0.010"
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	20/40 Silica
GROUND ELEVATION	2.25'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	4.90'	DRILLED DEPTH TO WATER	13 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	24 Feet BLS
REMARKS	Survey Coordinates: 30.19835578 -91.34269324		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0	1215	0-1	0	CL	Clay, gray, low moisture, low to moderate density, Iron staining from 0-4', Organics from 4-11.75', Wood at 11.75-12'	3.26
	1215	1-2	2			5.28
0	1215	2-3	4			6.11
0			6			5.95
0	1225	6-8	8			6.54
0			10			6.05
0			12	ML	Silt, gray, low to moderate moisture, low density, wood	4.17
0				CL	Clay, gray, low moisture, low to moderate density, 3" silt lens at 12.3'	
0	1235	13-15	14	ML	Silt, gray, saturated, low density	3.95
0				CL	Clay, gray, low moisture, low density, few silt lenses	
0			16	CL	Clay, gray, low moisture, low to moderate density, Organics at 18.33-19', 22.08-22.25', and 22.67'	3.68
0	1350	18-20	18			3.27
0			20			3.88
0	1405	22-24	22			3.02
			24			2.36

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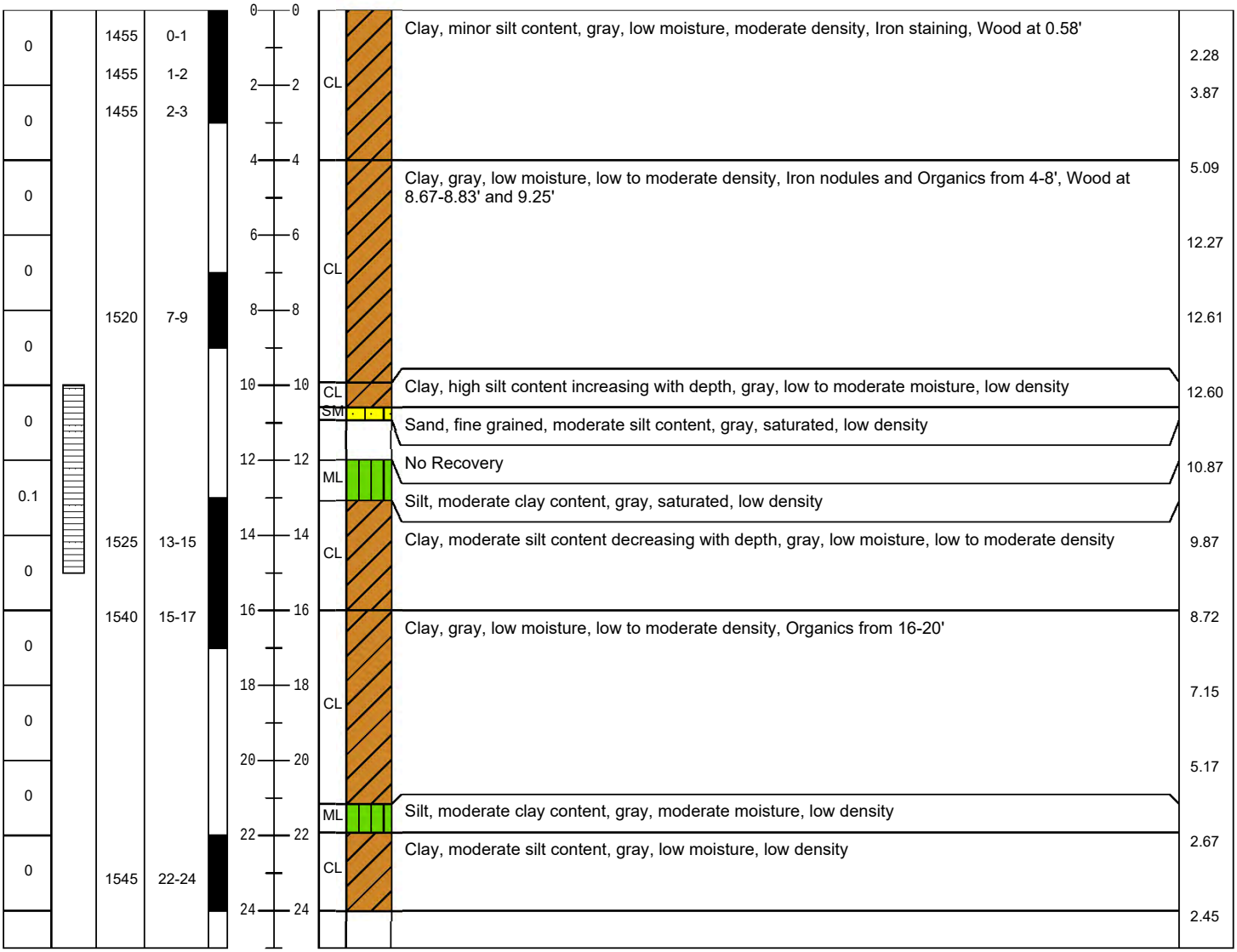
BORING No. B12/MW5

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-24-15
PROJECT NUMBER	4651.39	DATE COMPLETED	10-01-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC/1"
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	Prepack PVC 0.010"
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	20/40 Silica
GROUND ELEVATION	2.09'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	5.13'	DRILLED DEPTH TO WATER	11 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	24 Feet BLS
REMARKS	Survey Coordinates: 30.19784176 -91.34268760		



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BORING No. B13/MW6

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-25-15
PROJECT NUMBER	4651.39	DATE COMPLETED	10-01-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC/1"
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	Prepack PVC 0.010"
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	20/40 Silica
GROUND ELEVATION	2.12'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	5.32'	DRILLED DEPTH TO WATER	13 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	28 Feet BLS
REMARKS	Survey Coordinates: 30.19750482 -91.34306390		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0	0905	0-1	0	CL	Clay, gray, low moisture, low to moderate density, Iron staining from 0-4', Organics (black) at 0-4', 4.92', 5.5', and 8-9'	2.61
0	0905	1-2	2			4.49
0	0905	2-3	4			5.08
0			6			5.98
0	0925	6-8	8			7.24
0			10			7.50
0			12	CL	Clay, minor silt content, gray, low moisture, moderate density	8.14
0	0935	12-14	14	ML	Silt, moderate very fine grained sand content, gray, saturated, low density	8.23
0			16	CL	Clay, moderate silt content, gray, low moisture, low density	2.59
0	0945	15-17	18	CL	Clay, gray, low moisture, moderate density, Organics (black) at 19.25', Wood at 18.92'	6.46
0.1			20			5.86
0			22	CL	Clay, gray, low moisture, low density, Wood at 20.75', Organics (black) from 22-22.58', 2" Silt lens at 20'	4.54
0.1			24			3.12
0						

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BORING No. B13/MW6

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-25-15
PROJECT NUMBER	4651.39	DATE COMPLETED	10-01-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC/1"
DRILLING METHOD	MM3	SCREEN TYPE/SLOT	Prepack PVC 0.010"
SAMPLING METHOD	4' X 3.25" Dual Tube	SAND PACK/TYPE	20/40 Silica
GROUND ELEVATION	2.12'	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	5.32'	DRILLED DEPTH TO WATER	13 Feet BLS
LOGGED BY	Don Watts and Darryrl Carroll	TOTAL DEPTH	28 Feet BLS
REMARKS	Survey Coordinates: 30.19750482 -91.34306390		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0		1015	26-28		26–28				2.99
					28				2.91
					30				
					32				
					34				
					36				
					38				
					40				
					42				
					44				
					46				
					48				
					50				

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BORING No. DB-1

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-28-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-28-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	4' X 2.25" Direct Push	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 1.25"	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	32 Feet BLS
LOGGED BY	Darryrl Carrol	TOTAL DEPTH	60 Feet BLS
REMARKS	Field Coordinates: 30.19837, -91.34769 +/- 10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1130	0-2		0-2	CL		Clay, minor silt content, gray, low moisture, moderate density	3.90
		1130	2-4		2-4				5.22
		1140	4-6		4-6				5.61
		1140	6-8		6-8	CL		Clay, minor silt content, gray, low moisture, moderate to low density, Organics (black) at 6.92-7.08', Wood at 9.58'	3.19
		1145	8-10		8-10				6.72
		1145	10-12		10-12	CL		Clay, moderate silt content, gray, low moisture, moderate density	5.43
		1150	12-14		12-14				4.39
		1150	14-16		14-16				3.92
		1200	16-18		16-16	CL		Clay, minor silt content, gray, low moisture, moderate density	4.17
		1200	18-20		18-18	CL		Clay, moderate silt content, gray, low moisture, low density	3.47
		1205	20-22		20-20	CL		Clay, gray, low moisture, low density, Organics (black)	3.17
		1205	22-24		22-22	CL		Clay, minor silt content, gray, low moisture, moderate density, Organics (black) at 21.92-22.33', Wood fragment at 24.25'	2.72
					24-24	CL			2.48

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BORING No. DB-1

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-28-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-28-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	4' X 2.25" Direct Push	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 1.25"	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	32 Feet BLS
LOGGED BY	Darryrl Carrol	TOTAL DEPTH	60 Feet BLS
REMARKS	Field Coordinates: 30.19837, -91.34769 +/- 10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1335	24-26		26				2.46
		1335	26-28		28	CL		Clay, minor silt content, gray, low moisture, low to moderate density	2.27
		1350	28-30		30	ML		Silt, moderate clay content, gray, low moisture, low density	2.24
		1350	30-32		32	ML		Silt, minor clay content, gray, saturated, low density	1.58
		1355	32-34		34	CL		Clay, minor silt content, gray, low moisture, moderate density	2.23
		1355	34-36		36	ML		Silt, moderate clay content, gray, low moisture, low density	0.55
		1420	36-38		38	CL		Clay, gray, low moisture, moderate density	2.11
		1420	38-40		40				2.21
		1430	40-42		42	CL		Clay, minor silt content, gray, low moisture, moderate density	2.14
		1430	42-44		44				2.08
		1435	44-46		46				2.34
		1435	46-48		48				2.18
		1445	48-50		50			Clay, gray, low moisture, moderate density, Shell fragments at 54.92'	

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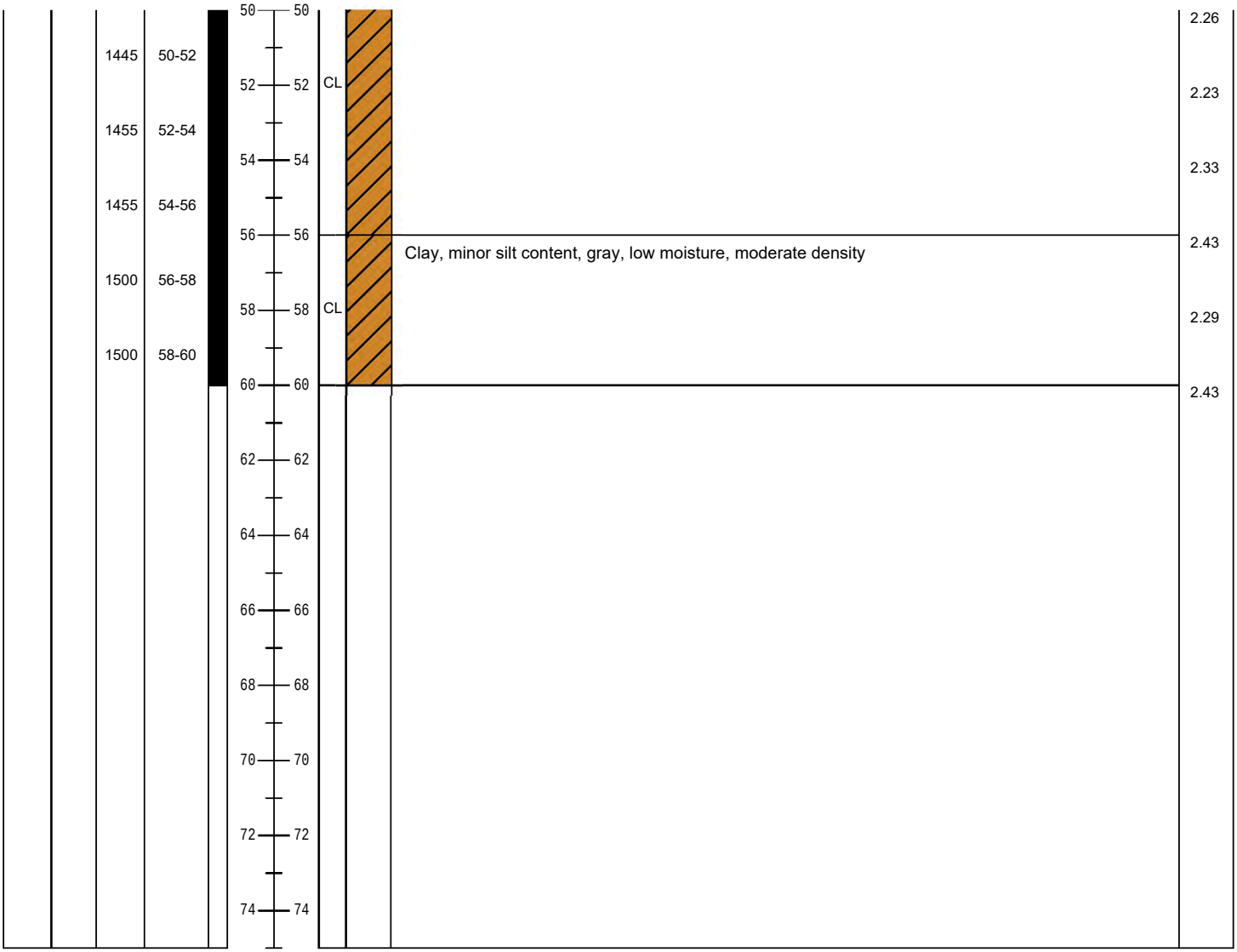
BORING No. DB-1

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	09-28-15
PROJECT NUMBER	4651.39	DATE COMPLETED	09-28-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	4' X 2.25" Direct Push	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	4' X 1.25"	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	32 Feet BLS
LOGGED BY	Darryrl Carrol	TOTAL DEPTH	60 Feet BLS
REMARKS	Field Coordinates: 30.19837, -91.34769 +/- 10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1445	50-52		50–52				2.26
		1455	52-54		52–54	CL			2.23
		1455	54-56		54–56				2.33
		1500	56-58		56–58			Clay, minor silt content, gray, low moisture, moderate density	2.43
		1500	58-60		58–60	CL			2.29
					60–74				2.43



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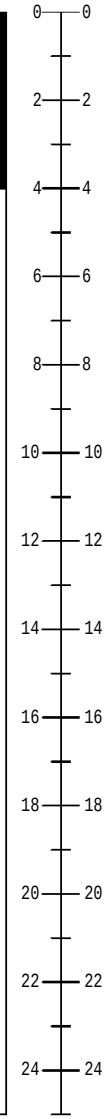
BORING No. VC-01

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	1-27-16
PROJECT NUMBER	4651.39	DATE COMPLETED	1-27-16
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Vibracore	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	3" Aluminium tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl Carroll	TOTAL DEPTH	4 Feet BLS
REMARKS	Field Coordinates: 30.19287 -91.34767 +/- 9'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1230	0-2		0–2	CL		Clay, high silt content, gray, saturated, low density, high organic content	
		1230	2-4		2–4	CL		Clay, high silt content, gray, low moisture, moderate density	
					4–24				



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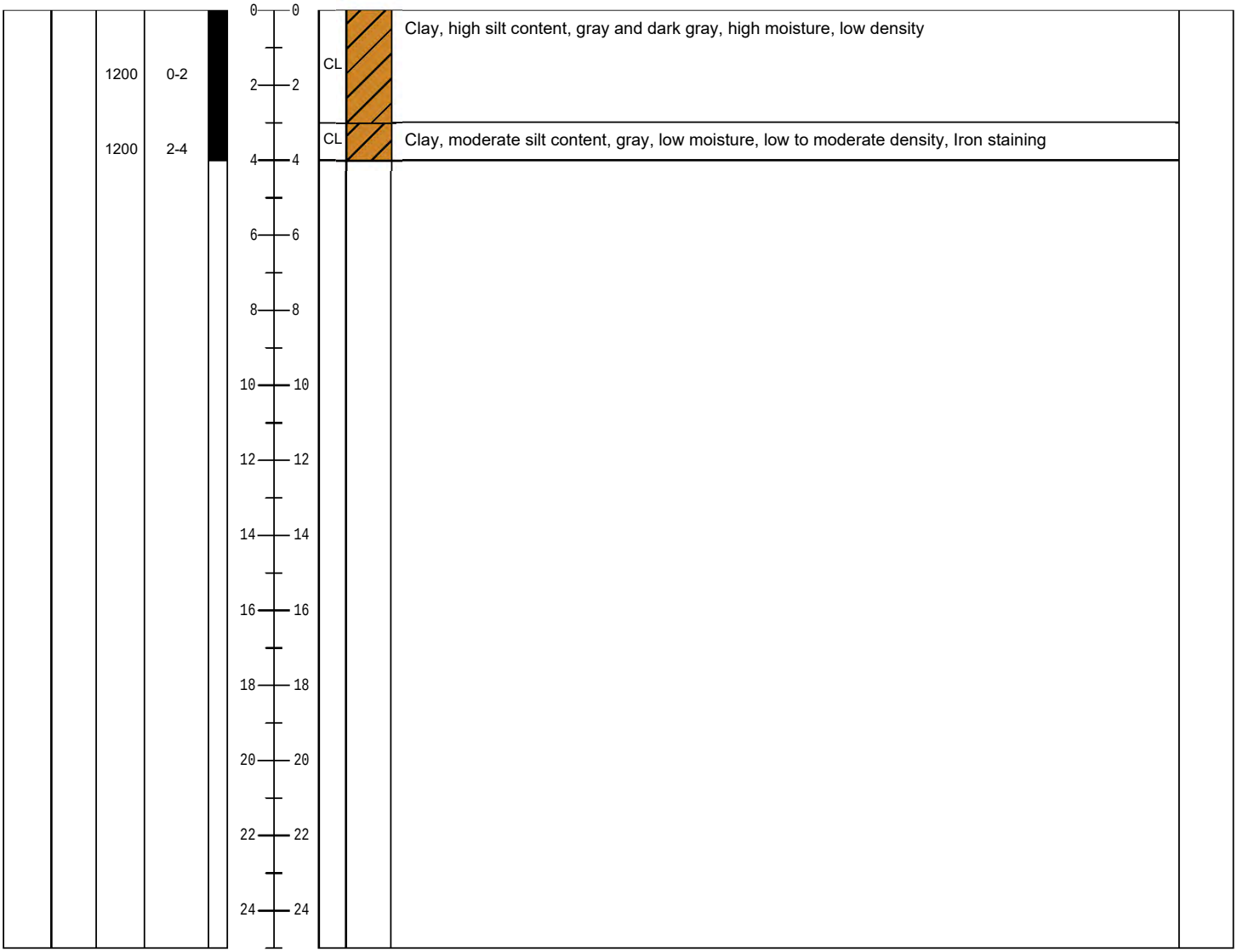
BORING No. VC-02

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	1-27-16
PROJECT NUMBER	4651.39	DATE COMPLETED	1-27-16
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Vibracore	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	3" Aluminium tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl Carroll	TOTAL DEPTH	4 Feet BLS
REMARKS	Field Coordinates: 30.19290 -91.34773 +/- 9'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1200	0-2		0–2	CL		Clay, high silt content, gray and dark gray, high moisture, low density	
		1200	2-4		2–4	CL		Clay, moderate silt content, gray, low moisture, low to moderate density, Iron staining	



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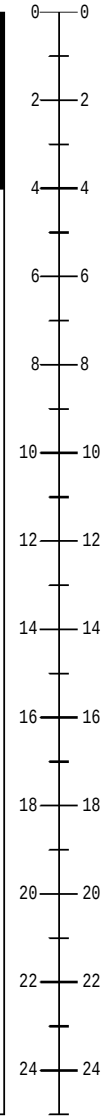
BORING No. VC-03

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	1-27-16
PROJECT NUMBER	4651.39	DATE COMPLETED	1-27-16
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Vibracore	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	3" Aluminium tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl Carroll	TOTAL DEPTH	4 Feet BLS
REMARKS	Field Coordinates: 30.19294 -91.34766 +/- 9'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1145	0-2		0–2	CL		Clay, high silt content, gray, saturated, low density, organics throughout	
		1145	2-4		2–4	CL		Clay, moderate silt content, gray, low moisture, moderate density, Iron staining, rootlets	



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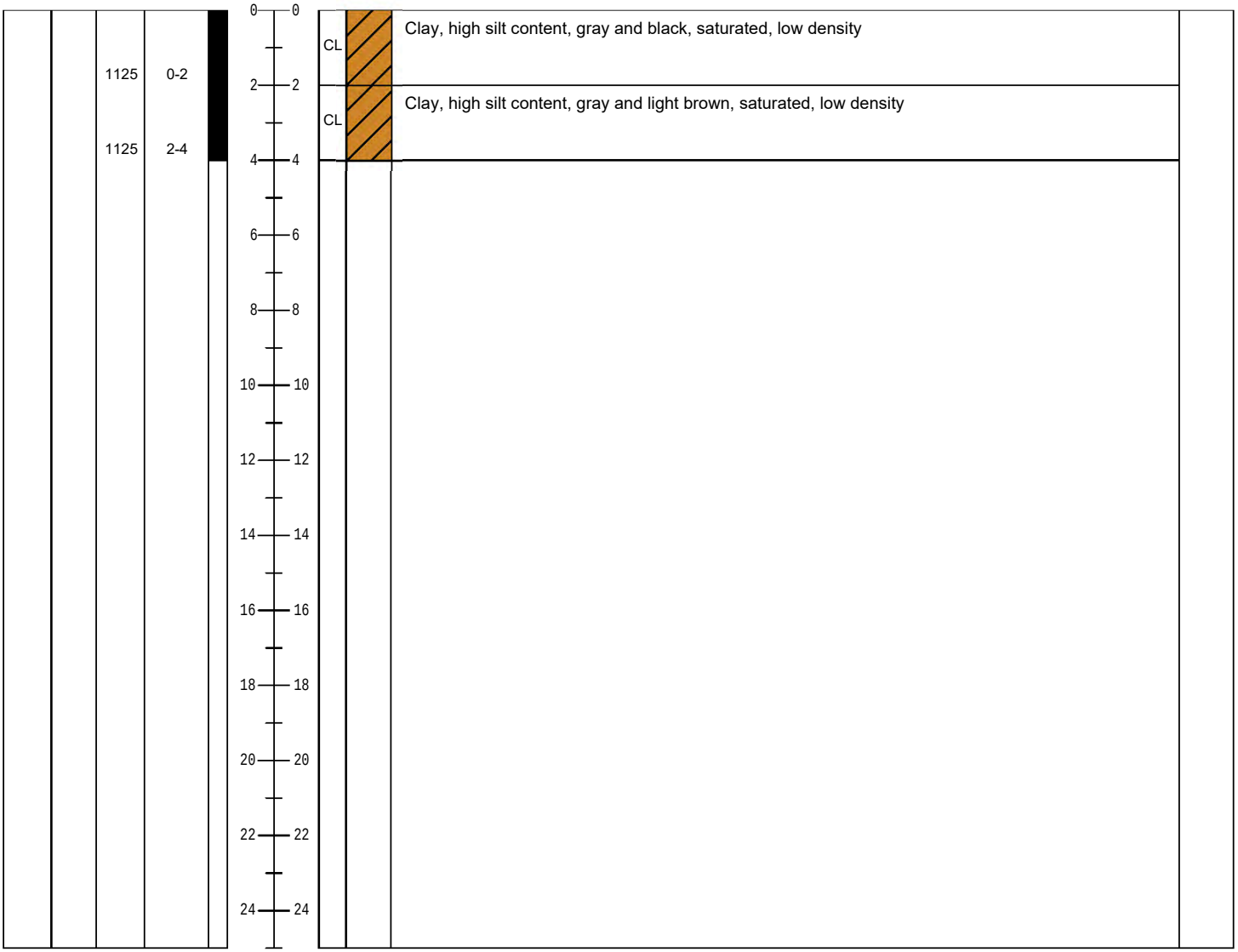
BORING No. VC-04

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et	DATE STARTED	1-27-16
PROJECT NUMBER	4651.39	DATE COMPLETED	1-27-16
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Vibracore	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	3" Aluminium tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl Carroll	TOTAL DEPTH	4 Feet BLS
REMARKS	Field Coordinates: 30.19293 -91.34768 +/- 9'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1125	0-2		0–2	CL		Clay, high silt content, gray and black, saturated, low density	
		1125	2-4		2–4	CL		Clay, high silt content, gray and light brown, saturated, low density	



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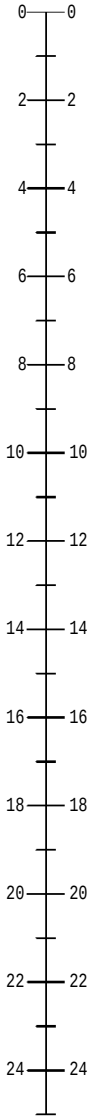
BORING No. VC-05

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co,	DATE STARTED	1-27-16
PROJECT NUMBER	4651.39	DATE COMPLETED	1-27-16
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Vibracore	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	3" Aluminium tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	Bentonite Slurry
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl Carroll	TOTAL DEPTH	2 Feet BLS
REMARKS	Field Coordinates: 30.19294 -91.34772 +/- 9'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1115	0-2		0-2	CL		Clay, high silt content, gray and black, saturated, low density, rootlets	



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BORING No. SB-1

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-8-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-8-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC, 0.75"
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	PVC, 0.010"
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	No Sand
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	18 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	28 Feet BLS
REMARKS	Field Coordinates: 30.19882, -91.34278 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
					0			Previously logged with hand auger	
7.5		No Split	6-8		6	CL		Clay, minor silt content, grey, low moisture, low density, organics at 6.25'	4.95
5.0		1105	8-10		8	CL		Clay, minor silt content, grey, low moisture, low density, Fe staining throughout	5.2
					10	CL		Clay, moderate silt content, grey and black, low moisture, low density, high organic content	5.24 4.75
13		No Split	12-14		12	CL		Clay, moderate silt content, grey and black, low moisture, low density, organics at 12.2', 12.4'-12.7', 13.0'	4.43 3.95 3.67
					14				
					16			No Recovery	3.81
23.4		No Split	18-20		18	ML		Silt, high clay content, grey, saturated, low density	3.04
14.5		No Split	20-22		20	CL		Clay, high silt content, grey, low moisture, low density	1.88
					22	ML		Silt, high clay content, grey, saturated, low density	3.1
12.0		1125	22-24			ML		Silt, grey, saturated, low density	2.4
					24	ML		Silt, high clay content, grey, moderate moisture, low density	2.03
6.7								Clay, minor silt content, grey, low moisture, low density, wood at 24.9', 26.7'	2.45

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BORING No. SB-1

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-8-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-8-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC, 0.75"
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	PVC, 0.010"
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	No Sand
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	18 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	28 Feet BLS
REMARKS	Field Coordinates: 30.19882, -91.34278 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
8.3		No Split	24-26		26	CL			2.78
		No Split	26-28		28				2.83
					30				2.79
					32				2.83
					34				
					36				
					38				
					40				
					42				
					44				
					46				
					48				
					50				

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BORING No. SB-2

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-8-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-8-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	32 Feet BLS
REMARKS	Field Coordinates: 30.19884, -91.34297 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
					0			Previously sampled with hand auger	
		No Split	6-8		6	CL		Clay, minor silt content, grey, low moisture, low density	7.49
		No Split	8-10		8	CL		Clay, minor silt content, grey, low moisture, low density, minor Fe staining	8.50 7.87
11.4		No Split	12-14		12	CL		Clay, moderate silt content, grey, low moisture, low density	7.45 8.47
13.6		No Split	16-18		16	ML		Silt, moderate clay content, grey, low moisture, low density No recovery	8.45 7.67
9.5		No Split	20-22		20	CL		Clay, grey, low moisture, low density	5.22 5.26
7.1					24			Clay, minor silt content, grey, low moisture, low density	3.6

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BORING No. SB-2

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-8-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-8-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	32 Feet BLS
REMARKS	Field Coordinates: 30.19884, -91.34297 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		No Split	24-26		26	CL			
					28			Clay, moderate silt content, grey, low moisture, low density, organics at 29.2'-29.3'	3.07
9.8		No Split	28-30		30	CL			3.01
					32				2.84
					34				
					36				
					38				
					40				
					42				
					44				
					46				
					48				
					50				

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BORING No. SB-3

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-3-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-3-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	16 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	32 Feet BLS
REMARKS	Field Coordinates: 30.198106, -91.34318		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
					0			Previously sampled with hand auger	
0		1000	4-6		4	CL		Clay, minor silt content, grey, low moisture, low density, Fe staining	3.5
					6	CL		Clay, minor silt content, grey, low moisture, low density	5.37
0		1005	8-10		8				6.37
					10	CL		Clay, minor silt content, grey, low moisture, low density, organics from 8.8'-9.0'	6.45 6.72
0		No Split	12-14		12	ML		Silt, minor clay content, grey, moderate moisture, low density	7.45 7.87
					14			No Recovery	6.73
0		1015	16-18		16	CL		Clay, high silt content, grey, moderate moisture to saturated, low density	6.07 8.15
					18	ML		Silt, minor clay content, grey, saturated, low density	10.02
0		No Split	18-20		20	CL		Clay, high silt content, grey, saturated, silt lenses throughout	9.48
0		1025	20-22		22	CL		Clay, minor silt content, grey, low moisture, low density, silt lenses (0.5") at 21.7', and 22.2'	9.45 7.62
0					24			Clay, minor silt content, grey, low moisture, low density	5.42 4.48

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BORING No. SB-3

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-3-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-3-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	16 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	32 Feet BLS
REMARKS	Field Coordinates: 30.198106, -91.34318		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1030	24-26		26	CL			4.91
					28			Clay, high silt content, grey, low moisture, low density	2.76
0		1035	28-30		30	CL			2.37
0		1040	30-32		32				2.1
					34				2.45
					36				
					38				
					40				
					42				
					44				
					46				
					48				
					50				

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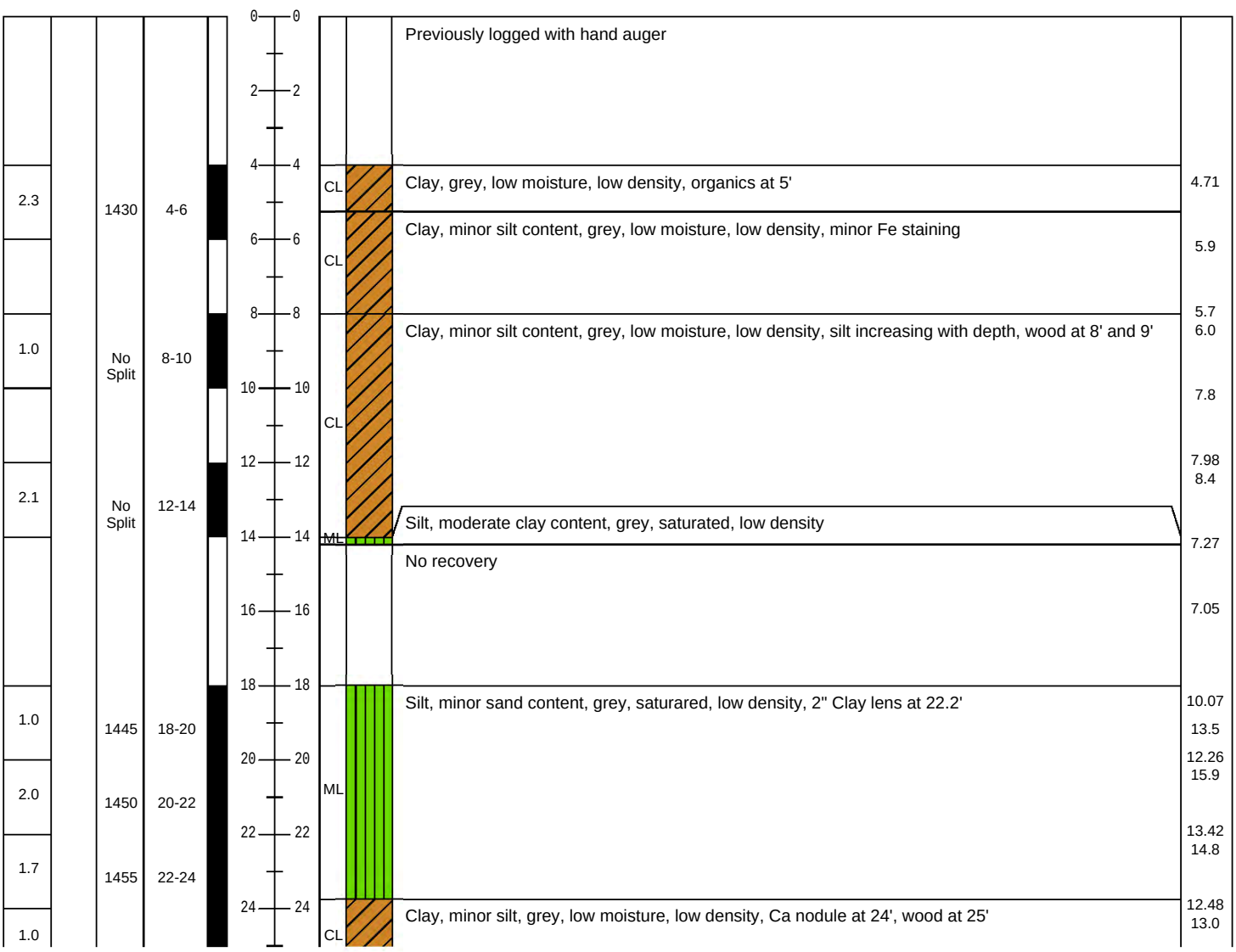
BORING No. SB-4

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-2-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-2-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	14 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19873, -91.34330		



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BORING No. SB-4

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-2-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-2-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	14 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19873, -91.34330		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
	No Split	24-26	26			
			26		No Recovery	10.7
			28			6.8
1.4	No Split	28-30	28	CL	Clay, high silt content, grey, moderate moisture, low density	6.35
			30			3.5
0.6	No Split	30-32	30			4.15
			32			2.26
0.7	1515	32-34	32	CL	Clay, high silt content, grey, low moisture, low density	2.28
			34	CL	Clay, minor silt content, grey, low moisture, low density	2.9
0.5	1520	34-36	34			3.25
			36			2.52
			38			
			40			
			42			
			44			
			46			
			48			
			50			

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BORING No. SB-5

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-3-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-4-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC, 0.75"
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	PVC, 0.010"
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	No Sand
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	16 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19844, -91.34325 +/-11'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
					0			Previously sampled with hand auger	
185		No Split	6-8		6	CL		Clay, minor silt content, grey, low moisture, low density, organics at 8.3'-8.5'	10.17
10.8		No Split	8-10		8				13.2
					10				14.59
5.5		No Split	12-14		12				Over Range
4.5		No Split	14-16		14	CL		Clay, moderate silt content, grey, low moisture, low density	17.68
1.5		No Split	16-18		16	ML		Silt, moderate clay content, grey, moderate moisture to saturated, low density, 1" clay lenses throughout between 16.5-18'	12.63
2.7		No Split	18-20		18	ML		Silt, high clay content, grey, saturated, low density	15.82
2.3		1630	20-22		20	CL		Clay, moderate silt content, grey, low moisture, low to moderate density, wood at 21.75'	14.15
					22				15.15
1.4					24	CL		Clay, minor silt content, grey, low moisture, low density, wood at 24.6'	16.32
									19.95
									16.65
									17.75
									16.7
									Over Range
									16.05

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BORING No. SB-5

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-3-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-4-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC, 0.75"
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	PVC, 0.010"
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	No Sand
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	16 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19844, -91.34325 +/-11'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1200	24-26		26	CL		Clay, high silt content, grey, low to moderate moisture, low density	19.3
					28				16.5
0.7		1205	28-30		30	CL		Clay, grey, low moisture, low density, Ca nodule at 30', Silt lenses throughout	14.7
		1210	32-34		32				15.75
1.3					34	CL		Clay, grey, low moisture, low density	11.9
					36				11.05
					38				8.88
					40				5.99
					42				
					44				
					46				
					48				
					50				

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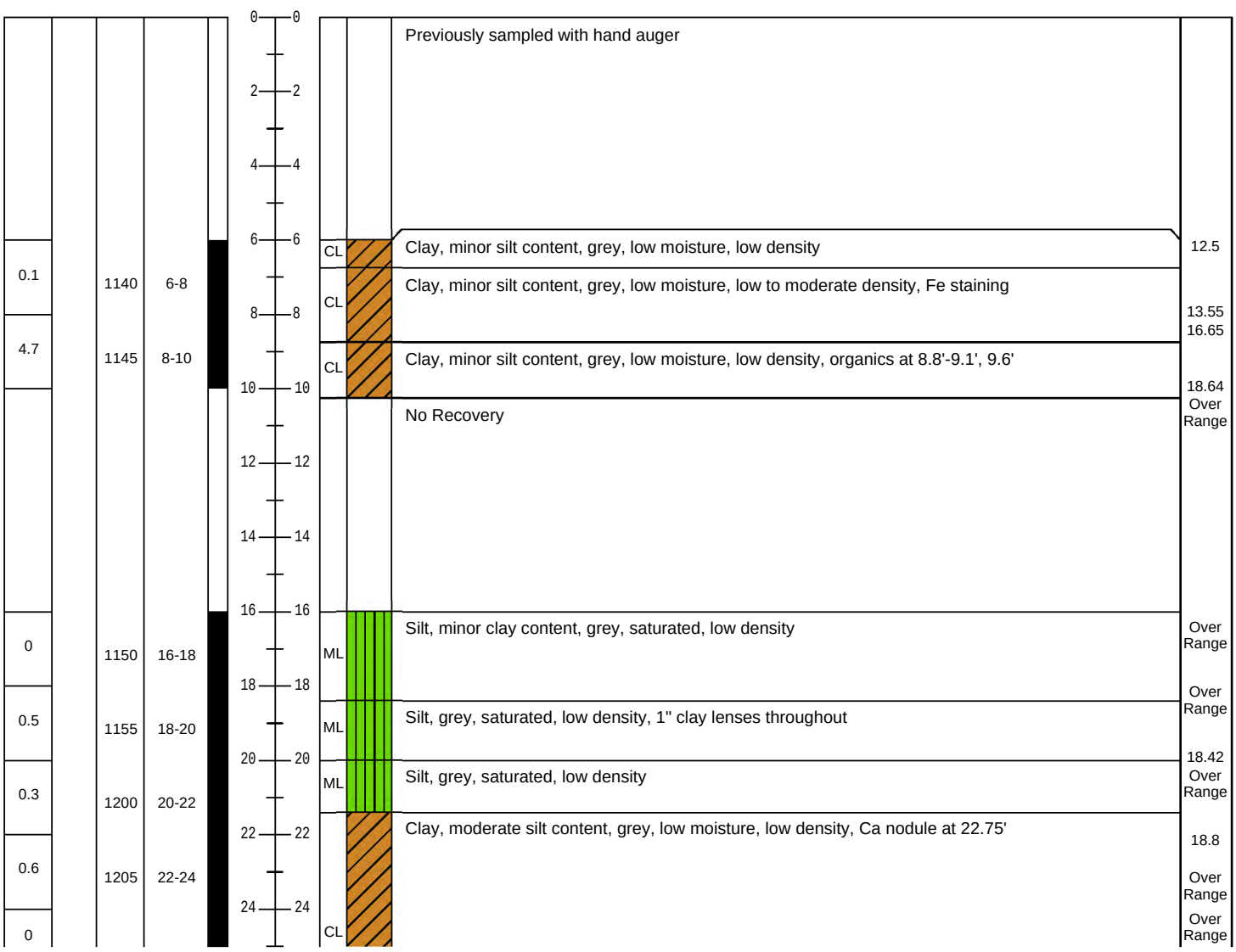
(337) 261-1963 Fax (337) 261-1953

BORING No. SB-6

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-3-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-3-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	16 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19857, -91.34338		



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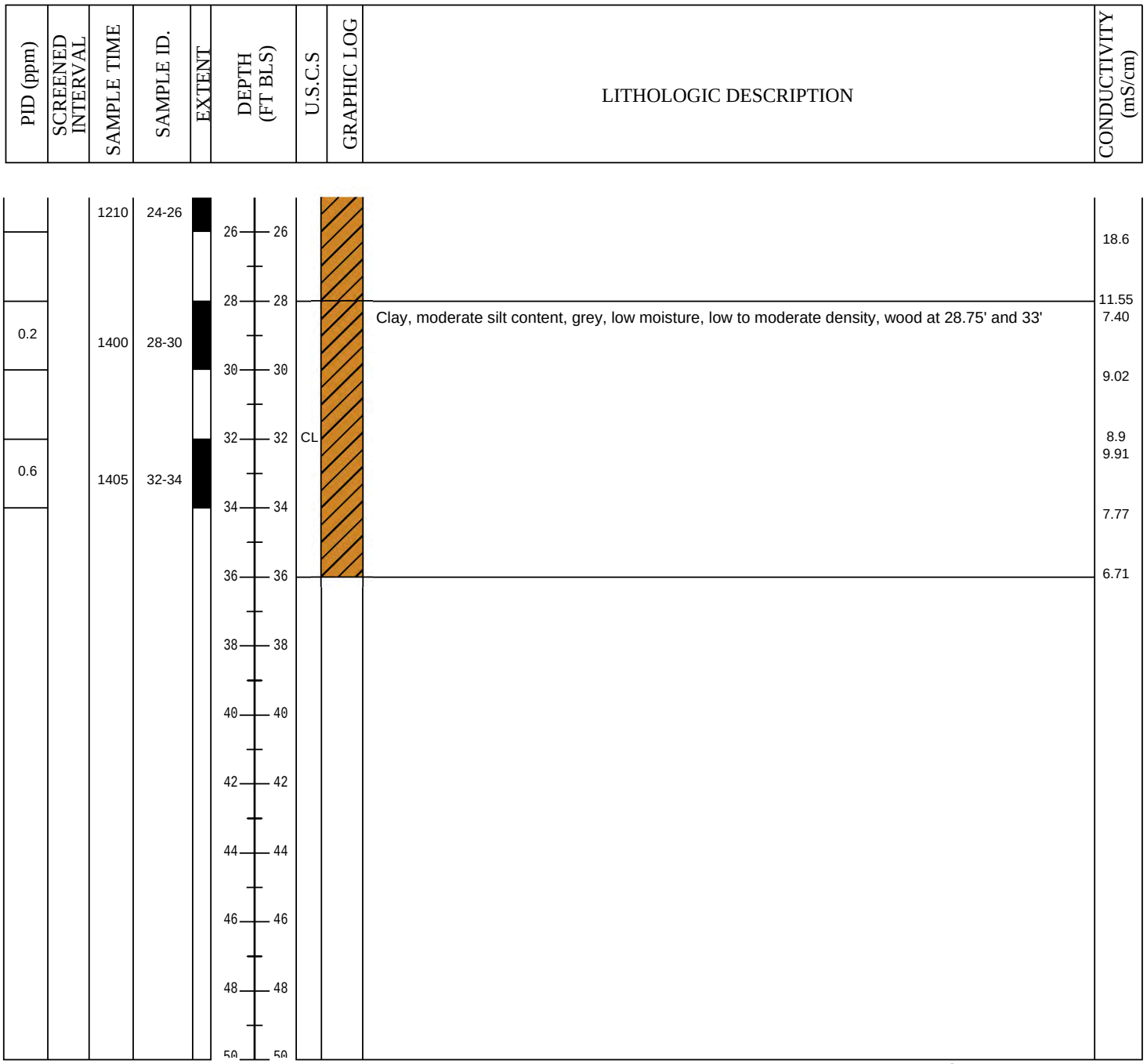
BORING No. SB-6

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-3-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-3-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	16 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19857, -91.34338		



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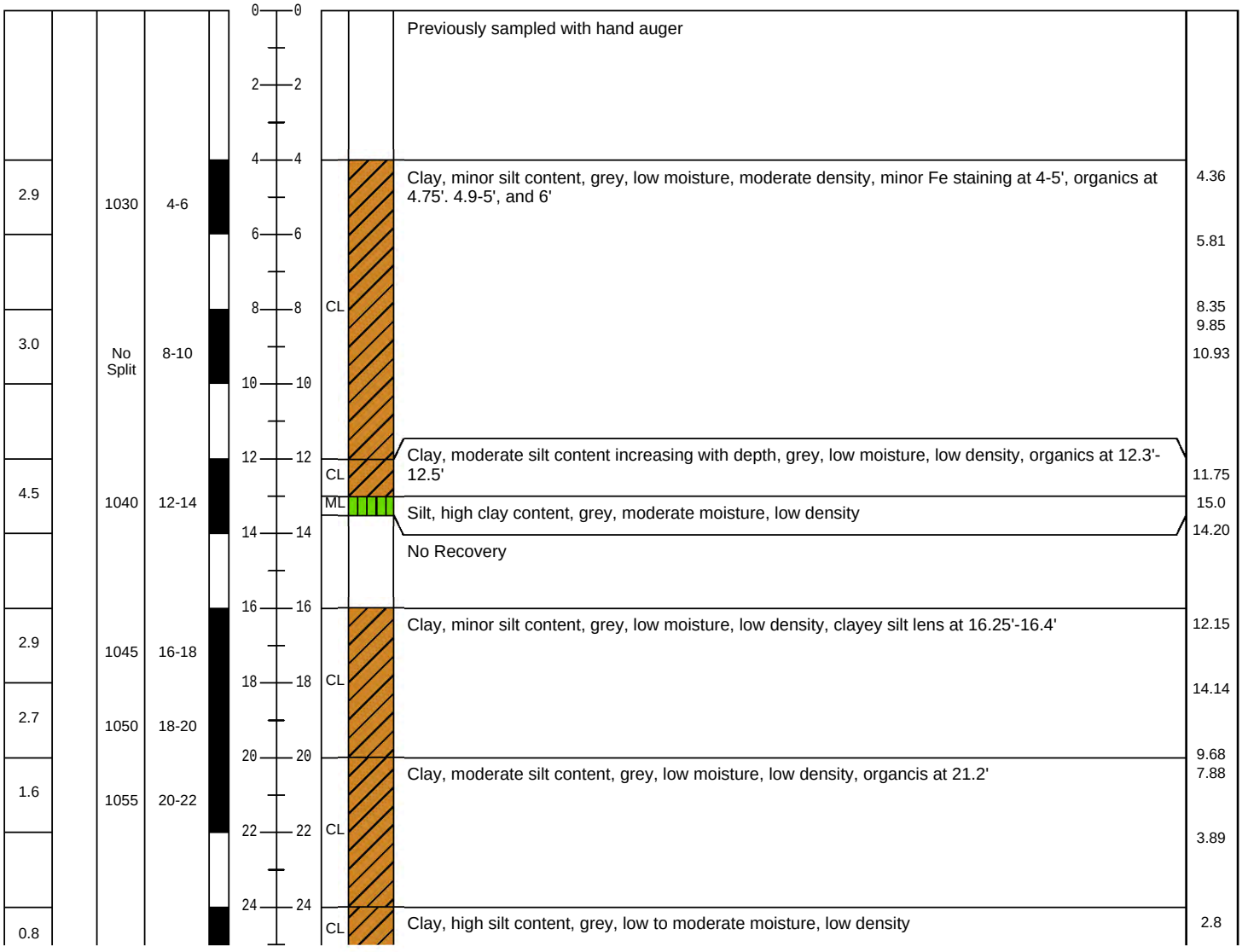
BORING No. SB-7

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-10-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-10-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	36 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	40 Feet BLS
REMARKS	Field Coordinates: ~50' South of 30.19835, -91.34318 +/-12'		



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BORING No. SB-7

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-10-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-10-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	36 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	40 Feet BLS
REMARKS	Field Coordinates: ~50' South of 30.19835, -91.34318 +/-12'		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
	1100	24-26	26	CL	Clay, moderate silt content, grey, low moisture, low density, Ca nodule at 26.2'- 26.4'	2.18
1.1	No Split	26-28	28			2.8
3.3	1110	28-30	30			
2.4	No Split	30-32	32			
3.3	1120	32-34	34	CL	Clay, minor silt content, grey, low moisture, low density, 2" sand lens with shell fragments at 33', 1.5" sand lenses at 35.25', and 35.4'	1.78
2.3	1125	34-36	36	ML	Silt, moderate clay content, grey, saturated, low density	2.26 2.05 1.28
2.5	1130	36-38	38	CL	Clay, moderate silt content, grey, low moisture, low density, 2" silt lenses at 38.9', 39.3', and 39.6'	2.3
2.0	1135	38-40	40			2.3
			42			
			44			
			46			
			48			
			50			

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BORING No. SB-8

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-10-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-10-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	24 Feet BLS
REMARKS	Field Coordinates: 30.198427, -91.34312 +/-10' (200 Feet South in Water)		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
2.1		1430	4-6		4	CL		Clay, minor silt content, grey, low moisture, low density, organics at 5.4'-5.7', wood at 8.75'	6.29
1.5		No Split	6-8		6				7.8
1.4		No Split	8-10		8				7.51 7.2
					10				4.95
0.7		No Split	12-14		12	CL		Clay, high silt content, grey, moderate moisture, low density	5.04 4.78
0.5		1450	16-18		16	CL		Clay, minor silt content, grey, low moisture, low density, organics at 17.2'	5.1 3.09
0.4		No Split	20-22		20	CL			3.3 2.08
					24				

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BORING No. SB-9

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-11-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-11-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC, 0.75"
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	PVC/ 0.010"
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	No Filter Sand
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	12 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	22 Feet BLS
REMARKS	Field Coordinates: 30.19826, -91.3427 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
					0			Previously sampled with hand auger	
3.2		1215	8-10		8	CL		Clay, minor silt content, grey, low moisture, low density, wood at 9.4', 2" silt lens at 12.2'	9.75
					10				6.64
3.3		No Split	12-14		12	ML		Silt, minor clay content, grey, saturated, low density	10.25
					14				10.06
3.7		1225	14-16			CL		Clay, high silt content, grey, moderate moisture, low density	9.0
					16				8.53
2.9		No Split	16-18			CL		Clay, moderate silt content, grey, low moisture, low density	8.8
					18				4.67
3.0		No Split	18-20						6.15
					20				4.23
8.1		No Split	20-22			CL		Clay, minor silt content, grey, low mositure, low density	3.8
					22				2.93
					24				

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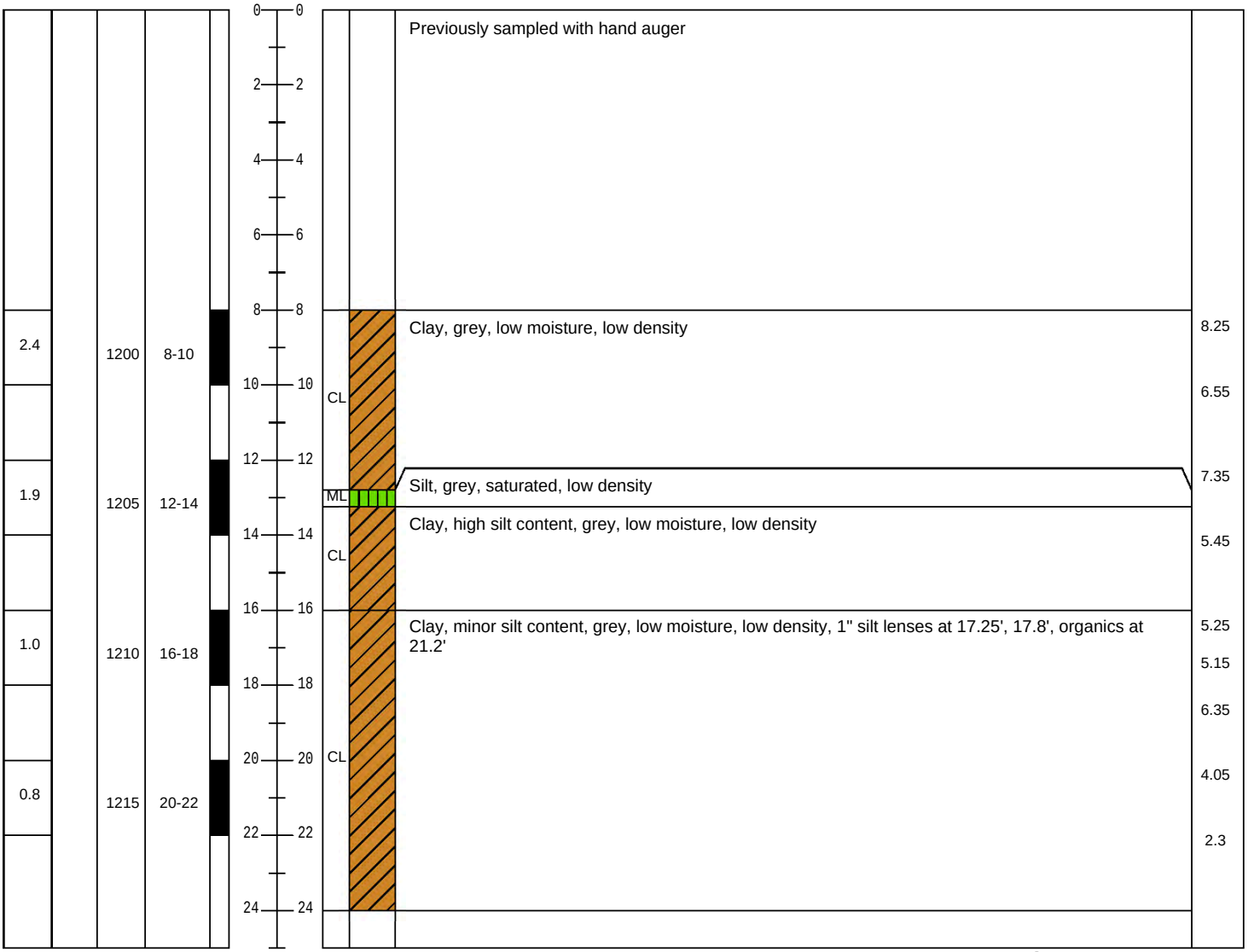
BORING No. SB-10

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-12-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-12-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	24 Feet BLS
REMARKS	Field Coordinates: 200 Feet Southwest of 30.19818, -91.34779		



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BORING No. SB-15

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-15-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-15-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19823, -91.34387 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0.6		No Split	0-2		0-2	CL		Clay, minor silt content, grey, low moisture, moderate density, organics at 0.2', 0.75'	1.86
									2.04
1.0		1005	4-6		4-6				3.55
						CL		Clay, moderate clay content, grey, low moisture, low density, organics at 5.7', 6.25', 8.25', 9.1'	3.75
1.5		1010	8-10		8-10				4.07
									3.09
					10-12			No Recovery	5.20
1.3		No Split	14-16		14-16	CL		Clay, moderate silt content, grey, low moisture, low density, wood at 17.3'	6.36
									5.68
1.2		1020	16-18		16-18				5.74
									3.61
1.3		1025	20-22		20-22	CL		Clay, high silt content, grey, low moisture, low density	4.06
						CL		Clay, moderate silt content, grey, low moisture, low density	3.57
1.5					24	CL		Clay, high silt content, grey, low moisture, low density	3.35
									2.72

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BORING No. SB-15

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-15-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-15-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19823, -91.34387 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1030	24-26		26	CL		Clay, moderate silt content, grey, low moisture, low density	3.09
					28				2.21
2.0		1035	28-30			CL		Clay, high silt content, grey, low moisture, low density	1.95
					30				2.35
					32				2.36
2.2		1040	32-34			CL		Clay, moderate silt content, grey, low moisture, low density	2.15
					34				2.12
					36				
					38				
					40				
					42				
					44				
					46				
					48				
					50				

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.

Environmental Consultants
91 Apollo Road
Scott, Louisiana 70583
(337) 261-1963 Fax (337) 261-1953

BORING No. SB-16

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-15-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-15-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC, 0.75"
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	PVC, 0.010"
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	No Sand
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	30 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	38 Feet BLS
REMARKS	Field Coordinates: 30.19698, -91.34428 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
4.0		1600	0-2		0-2	CL		Clay, moderate silt content, light grey, low moisture, low density, wood at 1.25', 2.3'	1.33
									1.37
2.1		1605	4-6		4-6				1.6 4.1
					6-8				5.21
2.4		No Split	8-10		8-10	CL		Clay, moderate silt content, grey, low moisture, low density	7.4 8.79
					10-12				7.0
4.4		No Split	12-14		12-14	CL		Clay, high silt content, grey, low to moderate moisture, low density	6.56
2.6		No Split	14-16		14-16	ML		Silt, moderate clay content, grey, moderate moisture, low density	6.64 7.78
2.0		1625	16-18		16-18	CL		Clay, moderate silt content, grey, low moisture, low density	6.76 4.78
2.3		1630	18-20		18-20	CL		Clay, minor silt content, grey, low moisture, low to moderate density, Ca nodule at 19.5'	4.06 4.24 3.55
2.1		1635	20-22		20-22				2.77 2.86
1.0		No Split	22-24		22-24	CL		Clay, moderate silt content, grey, low moisture, low to moderate density	2.05 1.80
0.8					24				1.60

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Environmental Consultants
91 Apollo Road
Scott, Louisiana 70583
(337) 261-1963 Fax (337) 261-1953

BORING No. SB-16

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-15-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-15-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC, 0.75"
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	PVC, 0.010"
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	No Sand
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	30 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	38 Feet BLS
REMARKS	Field Coordinates: 30.19698, -91.34428 +/-10'		

PID (ppm)	SAMPLE TIME	SAMPLE ID.	DEPTH (FT BLS)	U.S.C.S	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
	1645	24-26	26			1.29
2.0	1650	26-28		CL	Clay, moderate silt content, grey, low moisture, low density	1.23
			28			1.59
1.1	1655	28-30		ML	Silt, moderate clay content, grey, moderate moisture, low density	1.4
			30			1.41
1.5	1700	30-32		ML	Silt, grey, saturated, low density	1.16
						1.11
				CL	Clay, high silt content, grey, low moisture, low density	1.22
1.3	1705	32-34	32	ML	Silt, minor clay content, grey, saturated, low density	1.35
						1.17
			34	CL	Clay, moderate silt content, grey, low moisture, moderate density	1.03
1.3	No Split	34-36				1.38
			36			1.85
1.2	1715	36-38		ML	Silt, moderate clay content, grey, moderate moisture, low density	1.4
						1.68
			38	CL	Clay, minor silt content, grey, moderate moisture, low density	2.26
			40			
			42			
			44			
			46			
			48			
			50			

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HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.

Environmental Consultants
91 Apollo Road
Scott, Louisiana 70583
(337) 261-1963 Fax (337) 261-1953

BORING No. SB-23

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-19-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-19-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19821, -91.34470 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
0		0900	0-2		0	CL		Clay, moderate silt content, dark grey, low moisture, low density	1.39
					2			Clay, minor silt content, grey, low moisture, moderate density, Fe staining	1.25
0		0905	4-6		4	CL			3.02 3.4
0		No Split	6-8		6				2.22
0		No Split	8-10		8			No Recovery	4.02 2.8
2.2		No Split	10-12		10			Clay, minor silt content, grey, low moisture, low density	
2.5		No Split	12-14		12	CL			2.87 2.88
1.8		No Split	14-16		14			Clay, minor silt content, grey, low moisture, moderate density, wood at 14.6'-14.8', 16.6'	3.03 2.92
3.4		No Split	16-18		16	CL			2.55 3.34
4.4		No Split	18-20		18			Clay, moderate silt content, grey, low moisture, low to moderate density	2.44 2.49
4.2		1055	20-22		20	CL			2.65 6.6
5.8		1100	22-24		22			Clay, moderate silt content, grey, low moisture, low density	2.39 2.35
4.8					24	CL			2.0 2.17

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HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.

Environmental Consultants
91 Apollo Road
Scott, Louisiana 70583
(337) 261-1963 Fax (337) 261-1953

BORING No. SB-23

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-19-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-19-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	Not Observed
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	36 Feet BLS
REMARKS	Field Coordinates: 30.19821, -91.34470 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
		1105	24-26		26				1.75
1.6		1110	26-28		28			Clay, minor silt content, grey, low moisture, moderate density, 1" silt lenses at 26.5', 27.6', wood at 33.3'	2.31
1.4		1430	28-30		30				2.22 1.66
2.0		1435	30-32		32	CL			2.59 2.6 2.42
0.6		1440	32-34		34				2.30 2.1
					36				2.38
					38				
					40				
					42				
					44				
					46				
					48				
					50				

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Environmental Consultants
91 Apollo Road
Scott, Louisiana 70583
(337) 261-1963 Fax (337) 261-1953

BORING No. SB-24

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-22-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-22-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC, 0.75"
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	PVC, 0.010"
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	No Sand
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	14 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	22 Feet BLS
REMARKS	Field Coordinates: 30.19292, -91.34761 +/- 10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
1.2		1530	0-2		0	CL		Clay, high silt content, dark grey, low moisture, low density	0.95
1.1		No Split	2-4		2			Clay, minor sitl content, grey, low moisture, moderate density, minor Fe staining, organics at 6.3'	3.83
1.3		1540	4-6		4	CL			4.48
0.8		No Split	6-8		6				4.48
1.1		1550	8-10		8	CL		Clay, moderate silt content inceasing with depth, grey, low moisture, moderate density	3.78
					10				3.90
0.9		No Split	12-14		12	ML		Silt, moderate clay content, grey, moderate moisture, low density, wood at 12.3'	3.31
1.1		No Split	14-16		14	ML		Silt, moderate clay content, grey, saturated, low density	2.39
					16	ML		Silt, high clay content, grey, moderate moisture, low density, 1" clay lenses throughout	2.04
					18			No Recovery	1.86
1.0		1600	20-22		20	ML		Silt, minor clay content, grey, saturated, low density	2.01
					22	CL		Clay, moderate silt content, grey, low moisture, low density	1.27
					24				1.26
									2.37

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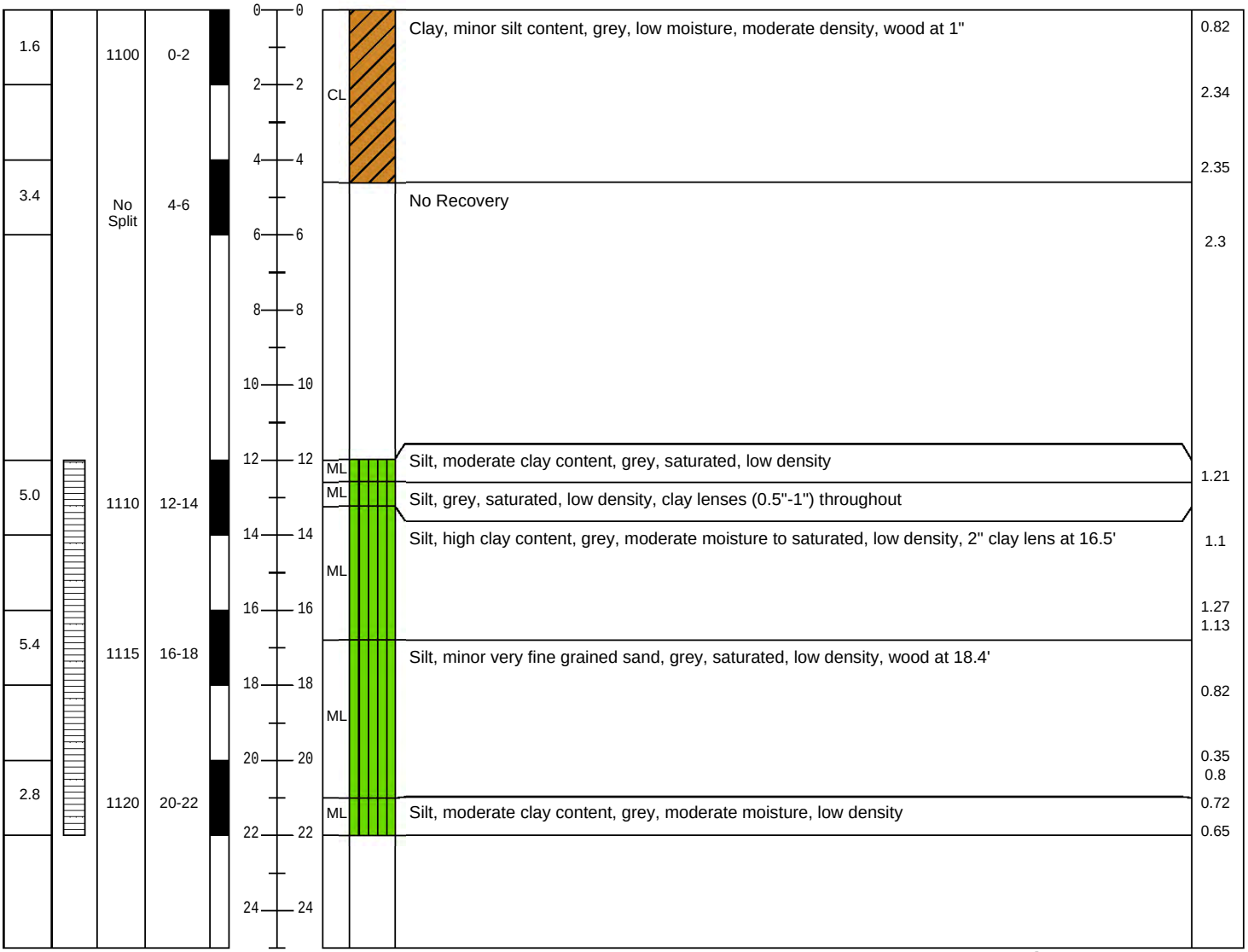
Environmental Consultants
91 Apollo Road
Scott, Louisiana 70583
(337) 261-1963 Fax (337) 261-1953

BORING No. SB-26

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-25-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-25-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	PVC, 0.75"
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	PVC, 0.010"
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	No Sand
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	12 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	22 Feet BLS
REMARKS	Field Coordinates: 30.19409, -91.35053 +/-10'		

PID (ppm)	SCREENED INTERVAL	SAMPLE TIME	SAMPLE ID.	EXTENT	DEPTH (FT BLS)	U.S.C.S	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONDUCTIVITY (mS/cm)
1.6		1100	0-2		0-2	CL		Clay, minor silt content, grey, low moisture, moderate density, wood at 1"	0.82 2.34
3.4		No Split	4-6		4-6			No Recovery	2.35 2.3
5.0		1110	12-14		12-14	ML ML		Silt, moderate clay content, grey, saturated, low density Silt, grey, saturated, low density, clay lenses (0.5"-1") throughout	1.21
					14-16	ML		Silt, high clay content, grey, moderate moisture to saturated, low density, 2" clay lens at 16.5'	1.1 1.27
5.4		1115	16-18		16-18	ML		Silt, minor very fine grained sand, grey, saturated, low density, wood at 18.4'	1.13 0.82
2.8		1120	20-22		18-20 20-22	ML		Silt, moderate clay content, grey, moderate moisture, low density	0.35 0.8 0.72 0.65



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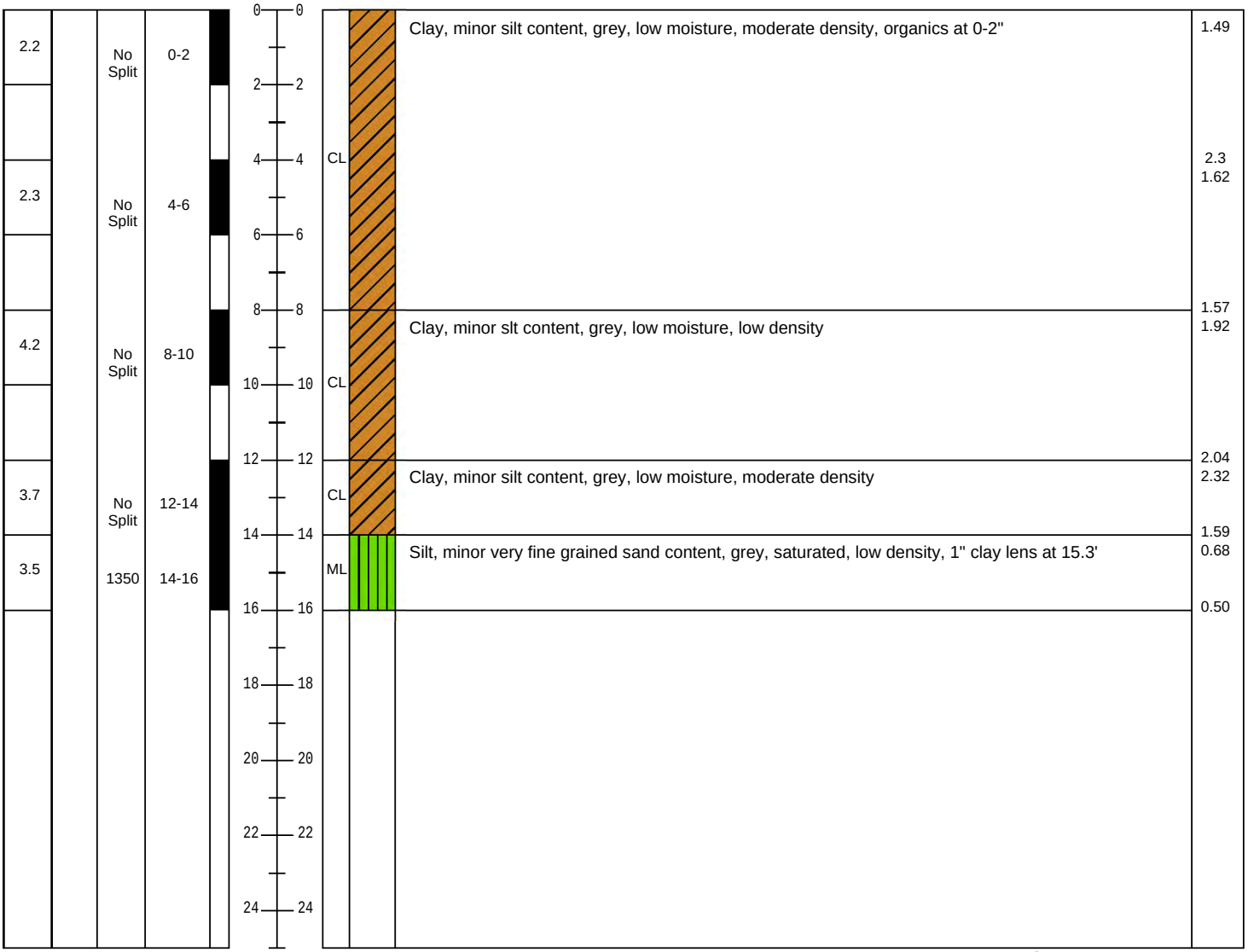
HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.

Environmental Consultants
91 Apollo Road
Scott, Louisiana 70583
(337) 261-1963 Fax (337) 261-1953

BORING No. SB-27

PROJECT NAME	State of LA and Iberville Parish School Board vs. BP America Production Co, et al.	DATE STARTED	6-26-15
PROJECT NUMBER	4651.39	DATE COMPLETED	6-26-15
LOCATION	Plaquemine, LA	CASING TYPE/DIAMETER	N/A
DRILLING METHOD	Marsh Master DP	SCREEN TYPE/SLOT	N/A
SAMPLING METHOD	2.25" X 4' Dual Tube	SAND PACK/TYPE	N/A
GROUND ELEVATION	N/A	GROUT TYPE/QUANTITY	N/A
TOP OF CASING	N/A	DRILLED DEPTH TO WATER	14 Feet BLS
LOGGED BY	Darryrl C. Carroll	TOTAL DEPTH	16 Feet BLS
REMARKS	Field Coordinates: 30.19559, -91.35146 +/- 9'		



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APPENDIX D

LABORATORY ANALYTICAL RESULTS

Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
Main 901.213.2400 ° Fax 901.213.2440
www.waypointanalytical.com

10/10/2017

Hydro Environmental Technology, Inc.
Mr. Stewart Stover, Jr.
91 Apollo Rd
Scott, LA, 70583

Ref: Analytical Testing
Lab Report Number: 17-283-0278
Client Project Description: Iberville Parish School Board
Project Number: 4651.39
Plaquemine, LA

Dear Mr. Stewart Stover, Jr.:
Waypoint Analytical, Inc. received a request on October 4, 2017 to review a number of historical reports for the above reference project/site and report of the VPH ranges for method TX1006. The analytical data was reviewed and the additional results are provided on the attaché table.

The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters (NELAP and non-NELAP) were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2012) and NELAC unless otherwise indicated. Any parameter for which the laboratory is not officially NELAP accredited is indicated by a '~' symbol. These are not included in the scope because NELAP accreditation is either not available or has not been applied for. Additional certifications may be held/are available for parameters, where NELAP accreditation is not required or applicable. A full list of certifications is available upon request.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

Nathan Pera
Project Manager

Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

Alabama	#40750	Louisiana	#04015	VA NELAP	#460181	Texas	#T104704180-11-6	Arkansas	#88-0650
Mississippi		California	#2904	NC	#415	Oklahoma	#9311	Virginia	#00106
Kentucky	#90047	Tennessee	#TN02027	EPA	#TN00012	Kentucky UST	#41		

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Waypoint ANALYTICAL

2790 Whitten Road, Memphis, TN 38133
Main 901.213.2400 ° Fax 901.213.2440
www.waypointanalytical.com

Project Iberville Parish School Board
Project Number 4651.39 Plaquemine, LA

Lab Report Number	Lab Sample Number	Sample ID/Depth	Sample Date	Aliphatic >C6-C8	Aliphatic >C8-C10	Aromatic >C8-C10
15-054-9250	96054	SB-1 (6-8)	2/10/2015	<25.0	<25.0	<25.0
15-054-9250	96055	SB-2 (4-6)	2/10/2015	<25.0	<25.0	<25.0
15-054-9250	96058	SB-5 (2-4)	2/11/2015	<250	<250	<250
15-054-9250	96059	SB-5 (4-6)	2/11/2015	<250	<250	<250
15-054-9250	96060	SB-6 (4-6)	2/11/2015	<250	<250	<250
15-054-9250	96061	SB-7 (2-4.5)	2/11/2015	<25.0	<25.0	<25.0
15-167-0316	90649	SB-1 (22-24)	6/8/2015	<25.0	<25.0	<25.0
15-188-0223	95346	SB-25 (0-2)	6/25/2015	<25.0	<25.0	<25.0
15-265-0257	92417	SB-28 (0-4)	9/17/2015	<25.0	<25.0	<25.0
15-265-0257	92418	SB-29 (0-2)	9/17/2015	<25.0	<25.0	<25.0
15-265-0257	92419	SB-30 (0-1.5)	9/17/2015	<25.0	<25.0	<25.0
15-272-0212	99432	B9 (2-4)	9/25/2015	<25.0	<25.0	<25.0
15-272-0291	93618	B3 (4-6)	9/23/2015	172	523	91.6
15-272-0291	93625	B4 (4-6)	9/22/2015	<25.0	<25.0	<25.0
15-272-0291	93630	B6 (4-6)	9/23/2015	<25.0	<25.0	<25.0
15-272-0291	93636	B7 (4-6)	9/23/2015	<25.0	29.3	<25.0
15-272-0291	93637	B7 (6-8)	9/23/2015	<25.0	<25.0	<25.0
15-272-0291	93640	B7 (24-26)	9/23/2015	<25.0	<25.0	<25.0
15-272-0291	93645	B5 (4-6)	9/23/2015	<25.0	<25.0	<25.0
15-272-0291	93646	B5 (6-8)	9/23/2015	<25.0	<25.0	<25.0
15-272-0291	93650	B8 (2-3)	9/23/2015	<25.0	<25.0	<25.0
15-272-0291	93651	B8 (4-6)	9/23/2015	<25.0	<25.0	<25.0
15-272-0291	93654	B6 (2-4)	9/22/2015	<25.0	25.5	<25.0
15-293-0243	98384	SB-31 (0-2)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98385	SB-29 (0-2)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98386	SB-29 (2-4)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98387	SB-29 (4-6)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98388	SB-32 (0-2)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98389	SB-32 (2-4)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98390	SB-33 (0-3)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98391	SB-34 (0-2)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98392	SB-34 (2-4)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98393	SB-34 (4-6)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98394	SB-35 (0-2)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98395	SB-35 (2-4)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98396	SB-35 (4-6)	10/14/2015	<25.0	<25.0	<25.0
15-293-0243	98397	SB-36 (0-2)	10/14/2015	<25.0	<25.0	<25.0

APPENDIX E

MONITOR WELL REGISTRATIONS, LDNR 1-MILE RADIUS WATER WELL SURVEY, AND MAYEUX SURVEYS

Hydro Environmental Technology, Inc. - Iberville Parish School Board Property (T10SR11ES16)

Northing	Easting	Description	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	LEGEND:
615647.07	3276645.70	(3.9' TOW) - (4.7' Depth) = (-)0.8' BE	30.19290824	-91.34658870	TOW = Top of Water
615667.77	3276641.36	(3.9' TOW) - (6.1' Depth) = (-)2.2' BE	30.19296515	-91.34660247	BE = Bottom Elevation
615701.14	3276635.68	(3.9' TOW) - (7.0' Depth) = (-)3.1' BE	30.19305691	-91.34662045	
615715.51	3276632.32	(3.9' TOW) - (7.2' Depth) = (-)3.3' BE	30.19309644	-91.34663109	
615735.98	3276629.04	(3.9' TOW) - (7.0' Depth) = (-)3.1' BE	30.19315272	-91.34664147	
615751.64	3276626.13	(3.9' TOW) - (6.4' Depth) = (-)2.5' BE	30.19319576	-91.34665070	
615768.66	3276614.94	(3.9' TOW) - (6.0' Depth) = (-)2.1' BE	30.19324258	-91.34668611	
615802.61	3276579.95	(3.9' TOW) - (5.6' Depth) = (-)1.7' BE	30.19333592	-91.34679688	
615811.54	3276575.98	(3.9' TOW) - (4.5' Depth) = (-)0.6' BE	30.19336048	-91.34680945	

Notes:

1. Surface water elevations and depths were surveyed on 1/26/2016.

Date: January 28, 2016

I, Terry J. Ortego, certify this represents an Elevation Survey performed by myself or under my direct supervision and control.
Coordinates are based on NAD 83 (2011), South Zone. Elevations are based on NAVD 88 (Geoid 12B) datum.

Terry J. Ortego
Registered Land Surveyor No. 5144
M.P. Mayeux Surveying and Boundary Consulting, L.L.C.
P.O. Box 61501, Lafayette, LA 70596
337-266-9500

STATE OF LOUISIANA
TERRY J. ORTEGO
License No. 5144
LICENSED
PROFESSIONAL
1/28/16
LAND SURVEYOR

Hydro Environmental Technology, Inc. - Iberville Parish School Board Property (T10SR11ES15 and 16)

Northing	Easting	Description	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	LEGEND:
617865.01	3277582.51	(1.9 TOW)- (1.1 Depth) = 0.8' BE	30.19900720	-91.34362398	TOW = Top of Water
617864.53	3277555.55	(1.9' TOW) - (4.2' Depth) = (-)2.3' BE	30.19900587	-91.34370935	BE = Bottom Elevation
617859.35	3277529.17	(1.9' TOW) - (4.5' Depth) = (-)2.6' BE	30.19899164	-91.34379285	
617862.41	3277511.55	(1.9' TOW) - (4.7' Depth) = (-)2.8' BE	30.19900003	-91.34384861	
617871.15	3277497.34	(1.9' TOW) - (4.1' Depth) = (-)2.2' BE	30.19902406	-91.34389360	
617875.82	3277491.16	(1.9' TOW) - (3.4' Depth) = (-)1.5' BE	30.19903692	-91.34391316	
617880.59	3277485.22	(1.9' TOW) - (3.0' Depth) = (-)1.1' BE	30.19905001	-91.34393196	
617888.66	3277480.76	(1.9' TOW) - (2.1' Depth) = (-)0.2' BE	30.19907221	-91.34394611	
617514.84	3277370.04	(1.9' TOW) - (5.6' Depth) = (-)3.7' BE	30.19804429	-91.34429648	
617502.42	3277388.68	(1.9' TOW) - (5.4' Depth) = (-)3.5' BE	30.19801015	-91.34423745	
617489.68	3277408.41	(1.9' TOW) - (5.3' Depth) = (-)3.4' BE	30.19797510	-91.34417500	
617475.03	3277429.58	(1.9' TOW) - (5.5' Depth) = (-)3.6' BE	30.19793484	-91.34410798	
617458.92	3277452.08	(1.9' TOW) - (5.8' Depth) = (-)3.9' BE	30.19789054	-91.34403675	
617444.56	3277472.28	(1.9' TOW) - (6.0' Depth) = (-)4.1' BE	30.19785107	-91.34397280	
617426.53	3277499.41	(1.9' TOW) - (6.1' Depth) = (-)4.2' BE	30.19780150	-91.34388694	
617398.97	3277541.98	(1.9' TOW) - (6.0' Depth) = (-)4.1' BE	30.19772571	-91.34375216	
617385.62	3277561.38	(1.9' TOW) - (6.0' Depth) = (-)4.1' BE	30.19768901	-91.34369075	
617374.36	3277579.59	(1.9' TOW) - (5.8' Depth) = (-)3.9' BE	30.19765805	-91.34363310	
617366.61	3277594.86	(1.9' TOW) - (5.8' Depth) = (-)3.9' BE	30.19763676	-91.34358477	
617352.13	3277615.45	(1.9' TOW) - (5.3' Depth) = (-)3.4' BE	30.19759693	-91.34351958	
617340.99	3277625.71	(1.9' TOW) - (3.0' Depth) = (-)1.1' BE	30.19756631	-91.34348709	
617888.59	3277843.98	(1.9' TOW) - (2.4' Depth) = (-)0.5' BE	30.19907211	-91.34279631	
617902.47	3277842.74	(1.9' TOW) - (3.4' Depth) = (-)1.5' BE	30.19911027	-91.34280023	
617918.92	3277849.06	(1.9' TOW) - (4.7' Depth) = (-)2.8' BE	30.19915551	-91.34278024	
617934.86	3277860.54	(1.9' TOW) - (5.6' Depth) = (-)3.7' BE	30.19919934	-91.34274389	
617954.50	3277879.50	(1.9' TOW) - (4.3' Depth) = (-)2.4' BE	30.19925335	-91.34268388	
617963.74	3277890.08	(1.9' TOW) - (2.8' Depth) = (-)0.9' BE	30.19927877	-91.34265039	
617973.32	3277894.97	(1.9' TOW) - (1.3' Depth) = 0.6' BE	30.19930510	-91.34263491	
617437.93	3278311.73	(1.9' TOW) - (4.8' Depth) = (-)2.9' BE	30.19783302	-91.34131550	
617433.48	3278328.05	(1.9' TOW) - (6.2' Depth) = (-)4.3' BE	30.19782078	-91.34126384	
617432.58	3278348.73	(1.9' TOW) - (7.0' Depth) = (-)5.1' BE	30.19781832	-91.34119840	
617432.40	3278369.77	(1.9' TOW) - (5.9' Depth) = (-)4.0'BE	30.19781781	-91.34113180	
617432.73	3278407.95	(1.9' TOW) - (5.2' Depth) = (-)3.3' BE	30.19781874	-91.34101094	
617437.28	3278426.59	(1.9' TOW) - (3.3' Depth) = (-)1.4' BE	30.19783124	-91.34095193	
617443.32	3278442.82	(1.9' TOW) - (2.7' Depth) = (-)0.8' BE	30.19784786	-91.34090056	
617443.68	3278451.24	(1.9' TOW) - (1.6' Depth) = 0.3' BE	30.19784886	-91.34087388	
616031.92	3277626.08	(1.9' TOW) - (2.2' Depth) = (-)0.3' BE	30.19396676	-91.34348556	
616018.89	3277632.69	(1.9' TOW) - (3.2' Depth) = (-)1.3' BE	30.19393093	-91.34346464	
616001.65	3277640.64	(1.9' TOW) - (5.2' Depth) = (-)3.3' BE	30.19388352	-91.34343946	
615984.43	3277646.78	(1.9' TOW) - (5.9' Depth) = (-)4.0' BE	30.19383616	-91.34342001	
615964.44	3277650.32	(1.9' TOW) - (5.2' Depth) = (-)3.3' BE	30.19378121	-91.34340882	
615951.69	3277650.79	(1.9' TOW) - (3.3' Depth) = (-)1.4' BE	30.19374613	-91.34340733	
615938.04	3277648.32	(1.9' TOW) - (1.8' Depth) = 0.1' BE	30.19370860	-91.34341512	
617419.73	3275141.38	(1.9' TOW) - (5.0' Depth) = (-)3.1' BE	30.19778200	-91.35135131	
617394.50	3275158.98	(1.9' TOW) - (6.3' Depth) = (-)4.4' BE	30.19771263	-91.35129557	
617377.29	3275173.34	(1.9' TOW) - (6.8' Depth) = (-)4.9' BE	30.19766529	-91.35125011	
617365.33	3275183.60	(1.9' TOW) - (7.0' Depth) = (-)5.1' BE	30.19763242	-91.35121763	
617347.66	3275198.12	(1.9' TOW) - (7.0' Depth) = (-)5.1' BE	30.19758383	-91.35117165	
617325.19	3275213.99	(1.9' TOW) - (6.9' Depth) = (-)5.0'BE	30.19752205	-91.35112141	
617307.20	3275225.02	(1.9' TOW) - (6.3' Depth) = (-)4.4' BE	30.19747259	-91.35108649	
617291.16	3275233.38	(1.9' TOW) - (6.0' Depth) = (-)4.1' BE	30.19742849	-91.35106001	
617276.91	3275239.07	(1.9' TOW) - (5.0' Depth) = (-)3.1' BE	30.19738932	-91.35104198	

Notes:
1. Surface water elevations and depths were surveyed on 10/13/2015.

Date: October 19, 2015
I, Michael P. Mayeux, certify this represents an Elevation Survey performed by myself or under my direct supervision and control.
Coordinates are based on NAD 83 (2011), South Zone. Elevations are based on NAVD 88 (Geoid 12B) datum.

Michael P. Mayeux
Registered Land Surveyor No. 4522
M.P. Mayeux Surveying and Boundary Consulting, L.L.C.
P.O. Box 61501, Lafayette, LA 70596
337-266-9500

STATE OF LOUISIANA
MICHAEL P. MAYEUX
License No. 4522
PROFESSIONAL
LAND SURVEYOR
10/19/15

Hydro Environmental Technology, Inc. - Iberville Parish School Board Property (T10SR11ES16)

Northing	Easting	Elevation	Description	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)
617656.49	3277801.57	2.23'	NG @ Boring 10	30.19843389	-91.34293048
617621.12	3277768.94	2.42'	NG @ Boring 9	30.19833662	-91.34303378
617721.25	3277702.13	5.99'	NG @ Boring 6	30.19861194	-91.34324531
617730.23	3277650.78	5.50'	NG @ Boring 5	30.19863662	-91.34340785
617724.23	3277619.66	5.46'	NG @ Boring 4	30.19862010	-91.34350635
617785.05	3277624.99	5.49'	NG @ Boring 3	30.19878735	-91.34348950
617798.47	3277884.45	7.43'	NG @ Boring 1	30.19882430	-91.34266817
617829.36	3277815.10	6.72'	NG @ Boring 2	30.19890922	-91.34288770
617830.63	3277816.13	9.93'	TOC on MW1 (1" PVC)/NG Elev. = 6.72'	30.19891273	-91.34288445
617682.22	3277685.71	5.35'	NG @ Boring 7	30.19850460	-91.34329727
617682.50	3277684.30	8.64'	TOC on MW2 (1" PVC)/NG Elev. = 5.35'	30.19850537	-91.34330173
617649.39	3277707.71	8.02'	TOC on MW3 (1" PVC)/NG Elev. = 5.04'	30.19841434	-91.34322762
617648.02	3277709.50	5.04'	NG @ Boring 8	30.19841057	-91.34322194
617626.70	3277873.74	2.25'	NG @ Boring 11	30.19835199	-91.34270204
617628.08	3277876.52	4.90'	TOC on MW4 (1" PVC)/NG Elev. = 2.25'	30.19835578	-91.34269324
617439.59	3277879.68	2.09'	NG @ Boring 12	30.19783749	-91.34268317
617441.14	3277878.28	5.13'	TOC on MW5 (1" PVC)/NG Elev. = 2.09'	30.19784176	-91.34268760
617318.76	3277757.75	2.12'	NG @ Boring 13	30.19750523	-91.34306912
617318.62	3277759.40	5.32'	TOC on MW6 (1" PVC)/NG Elev. = 2.12'	30.19750482	-91.34306390

LEGEND:
NG = Natural Grade
MW = Monitor Well
TOC = Top of Casing

Notes:
1. Monitor wells and borings were surveyed on 10/13-14/2015.

Date: October 19, 2015
I, Michael P. Mayeux, certify this represents an As-Drilled Survey performed by myself or under my direct supervision and control.
Coordinates are based on NAD 83 (2011), South Zone. Elevations are based on NAVD 88 (Geoid 12B) datum.

Michael P. Mayeux
Registered Land Surveyor No. 4522
M.P. Mayeux Surveying and Boundary Consulting, L.L.C.
P.O. Box 61501, Lafayette, LA 70596
337-266-9500

MAIL ORIGINAL TO:
Louisiana Dept. of Natural Resources
Attn: Ground Water Resources
P.O. Box 94275
Baton Rouge, LA 70804-9275
(225) 342-8244 Ph.
(225) 242-3505 Fax

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION
WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

ONLINE ACCESS:
1) Go to **http://sonris.com/**
2) Click on **Data Access** in the left hand panel.
3) Under the section labeled **Conservation**, click on **Ground Water Information**.

1. **USE OF WELL** (Check appropriate box):
☐Domestic ☐Rig Supply ☒Monitoring
☐Piezometer ☐Heat Pump Hole ☐Heat Pump Supply
☐Recovery ☐Relief ☐Abandoned Pilot Hole
☐Other *(please specify)*_____

2. **WELL OWNER**: BP America
Phone: (281) 366-2000

3. **WELL OWNER'S ADDRESS**: 501 Westlake Park Blvd.
Houston, TX 77079

4. **OWNER'S WELL NUMBER OR NAME**: MW-1

Serial Number (Rig Supply Only):_____

5. **WELL INFORMATION**:
Date completed: 9-22-15
Depth of Hole: 28 ft. below ground surface
Depth of Well: 25 ft.
Static water level: NR ft. below ground surface
Date Measured: 9-22-15
Casing: 1 in. ☐Metal ☒Plastic ☐Other Length: 23 ft.
Screen: 1 in. ☐Metal ☒Plastic ☐Other Slot size: 0.010 in.
Length: 5 ft. Cemented from: 16 ft. to ground surface
Using: ☒ Pump down Method ☐Gravity Method

6. **LOCATION OF WELL**:
Latitude: 30 ° 11 ' 56 " Longitude: 91 ° 20 ' 34 "
Parish: Iberville
Physical Address: Bayou Sorrel
Well is Near, Plaquemine Approximately 1.75 miles from
(Crossroads, Railroad, any Landmark, etc.) southwest of the intersection of Hwy 75 and Hwy 3066
(Attach a map or sketch or registered plat if Rig Supply to registration)

FOR MONITOR/PIEZO/RECOVERY WELLS ONLY															
SECTION			TOWNSHIP			RANGE			ELEVATION				QUAD NO.			
0	1	7	1	0	S	1	1	E	0	0	0	7	1	8	5	B

7. **REMARKS**: Casing extends approximately 3 feet above ground surface

8. **DRILLER'S LOG:**
(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	TO	DESCRIPTION
0	22	Brown, Gray Clay
22	23	Gray Silt
23	28	Gray Clay

9. **FOR HEAT PUMP ONLY**: Avg. Depth: _____ft. # of Holes: _____

10. **DOES THE NEW WELL REPLACE AN EXISTING WELL?** ☐Yes ☒No
If **yes**, has owner been informed of state regulations requiring plugging of abandoned wells? ☐Yes ☐No

11. **NAME OF PERSON WHO DRILLED THE WELL**: Dennis L. Herrera

I certify that this work was done and completed in accordance with Rules and Regulations of the State of Louisiana, including Chapter XII of Title 51, Public Health – Sanitary Code, if applicable, on: 9-22-15 (Date) by: Walker-Hill Environmental, Inc. (Name of Water Well Contractor), License No. WWC- 574
Authorized Signature: _____ **Date: 2-23-16**

FOR OFFICE USE ONLY
PARISH WELL NO. GEOLOGIC UNIT
LATITUDE LONGITUDE SECTION
TOWNSHIP RANGE ELEVATION QUAD NO.
REGISTERED BY: _____ DATE: _____
INSPECTED BY: _____ DATE: _____
REMARKS: _____

DNR-GW-1S (Rev. 10/12)

MAIL ORIGINAL TO:
Louisiana Dept. of Natural Resources
Attn: Ground Water Resources
P.O. Box 94275
Baton Rouge, LA 70804-9275
(225) 342-8244 Ph.
(225) 242-3505 Fax

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION
WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

ONLINE ACCESS:
1) Go to **http://sonris.com/**
2) Click on **Data Access** in the left hand panel.
3) Under the section labeled **Conservation**, click on **Ground Water Information**.

1. **USE OF WELL** (Check appropriate box):
☐Domestic ☐Rig Supply ☒Monitoring
☐Piezometer ☐Heat Pump Hole ☐Heat Pump Supply
☐Recovery ☐Relief ☐Abandoned Pilot Hole
☐Other *(please specify)*_____

2. **WELL OWNER:** BP America
Phone: (281) 366-2000

3. **WELL OWNER'S ADDRESS:** 501 Westlake Park Blvd.
Houston, TX 77079

4. **OWNER'S WELL NUMBER OR NAME:** MW-2

Serial Number (Rig Supply Only):_____

5. **WELL INFORMATION:**
Date completed: 9-23-15
Depth of Hole: 40 ft. below ground surface
Depth of Well: 20 ft.
Static water level: NR ft. below ground surface
Date Measured: 9-23-15
Casing: 1 in. ☐Metal ☒Plastic ☐Other Length: 18 ft.
Screen: 1 in. ☐Metal ☒Plastic ☐Other Slot size: 0.010 in.
Length: 5 ft. Cemented from: 11 ft. to ground surface
Using: ☒ Pump down Method ☐Gravity Method

6. **LOCATION OF WELL:**
Latitude: 30 ° 11 ' 55 " Longitude: 91 ° 20 ' 36 "
Parish: Iberville
Physical Address: Bayou Sorrel
Well is Near, Plaquemine Approximately 1.75 miles from
(Crossroads, Railroad, any Landmark, etc.) southwest of the intersection of Hwy 75 and Hwy 3066
(Attach a map or sketch or registered plat if Rig Supply to registration)

FOR MONITOR/PIEZO/RECOVERY WELLS ONLY															
SECTION			TOWNSHIP			RANGE			ELEVATION				QUAD NO.			
0	1	7	1	0	S	1	1	E	0	0	0	5	1	8	5	B

7. **REMARKS:** Casing extends approximately 3 feet above ground surface

8. **DRILLER'S LOG:**
(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	TO	DESCRIPTION
0	15	Brown, Gray Clay
15	18	Gray Silt
18	27	Gray Clay
27	28	Gray Silt
28	40	Gray Clay

9. **FOR HEAT PUMP ONLY:** Avg. Depth: _____ft. # of Holes: _____

10. **DOES THE NEW WELL REPLACE AN EXISTING WELL?** ☐Yes ☒No
If **yes**, has owner been informed of state regulations requiring plugging of abandoned wells? ☐Yes ☐No

11. **NAME OF PERSON WHO DRILLED THE WELL:** Dennis L. Herrera

I certify that this work was done and completed in accordance with Rules and Regulations of the State of Louisiana, including Chapter XII of Title 51, Public Health – Sanitary Code, if applicable, on: ***9-23-15*** ***(Date) by:*** ***Walker-Hill Environmental, Inc.*** ***(Name of Water Well Contractor), License No. WWC-*** ***574***
Authorized Signature: _____ **Date:** **2-23-16**

FOR OFFICE USE ONLY
PARISH | WELL NO. | GEOLOGIC UNIT
LATITUDE | LONGITUDE | SECTION
TOWNSHIP | RANGE | ELEVATION | QUAD NO.
REGISTERED BY: _____ DATE: _____
INSPECTED BY: _____ DATE: _____
REMARKS: _____

DNR-GW-1S (Rev. 10/12)

MAIL ORIGINAL TO:
Louisiana Dept. of Natural Resources
Attn: Ground Water Resources
P.O. Box 94275
Baton Rouge, LA 70804-9275
(225) 342-8244 Ph.
(225) 242-3505 Fax

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION
WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

ONLINE ACCESS:
1) Go to **http://sonris.com/**
2) Click on **Data Access** in the left hand panel.
3) Under the section labeled **Conservation**, click on **Ground Water Information.**

1. **USE OF WELL** (Check appropriate box):
☐Domestic ☐Rig Supply ☒Monitoring
☐Piezometer ☐Heat Pump Hole ☐Heat Pump Supply
☐Recovery ☐Relief ☐Abandoned Pilot Hole
☐Other *(please specify)*_____

2. **WELL OWNER:** BP America
Phone: (281) 366-2000

3. **WELL OWNER'S ADDRESS:** 501 Westlake Park Blvd.
Houston, TX 77079

4. **OWNER'S WELL NUMBER OR NAME:** MW-3

Serial Number (Rig Supply Only):_____

5. **WELL INFORMATION:**
Date completed: 9-23-15
Depth of Hole: 24 ft. below ground surface
Depth of Well: 20 ft.
Static water level: NR ft. below ground surface
Date Measured: 9-23-15
Casing: 1 in. ☐Metal ☒Plastic ☐Other Length: 18 ft.
Screen: 1 in. ☐Metal ☒Plastic ☐Other Slot size: 0.010 in.
Length: 5 ft. Cemented from: 11 ft. to ground surface
Using: ☒ Pump down Method ☐Gravity Method

6. **LOCATION OF WELL:**
Latitude: 30 ° 11 ' 54 " Longitude: 91 ° 20 ' 36 "
Parish: Iberville
Physical Address: Bayou Sorrel
Well is Near, Plaquemine Approximately 1.75 miles from
(Crossroads, Railroad, any Landmark, etc.) southwest of the intersection of Hwy 75 and Hwy 3066
(Attach a map or sketch or registered plat if Rig Supply to registration)

FOR MONITOR/PIEZO/RECOVERY WELLS ONLY															
SECTION			TOWNSHIP			RANGE			ELEVATION				QUAD NO.			
0	1	7	1	0	S	1	1	E	0	0	0	5	1	8	5	B

7. **REMARKS:** Casing extends approximately 3 feet above ground surface

8. **DRILLER'S LOG:**
(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	TO	DESCRIPTION
0	17	Brown, Gray Clay
17	18	Gray Silt
18	24	Gray Clay

9. **FOR HEAT PUMP ONLY:** Avg. Depth: _____ft. # of Holes: _____

10. **DOES THE NEW WELL REPLACE AN EXISTING WELL?** ☐Yes ☒No
If **yes**, has owner been informed of state regulations requiring plugging of abandoned wells? ☐Yes ☐No

11. **NAME OF PERSON WHO DRILLED THE WELL:** Dennis L. Herrera

I certify that this work was done and completed in accordance with Rules and Regulations of the State of Louisiana, including Chapter XII of Title 51, Public Health – Sanitary Code, if applicable, on: 9-23-15 ***(Date) by:*** Walker-Hill Environmental, Inc. ***(Name of Water Well Contractor), License No. WWC-*** 574
Authorized Signature: _____ **Date:** 2-23-16

FOR OFFICE USE ONLY
PARISH | WELL NO. | GEOLOGIC UNIT
LATITUDE | LONGITUDE | SECTION
TOWNSHIP | RANGE | ELEVATION | QUAD NO.
REGISTERED BY: _____ DATE: _____
INSPECTED BY: _____ DATE: _____
REMARKS: _____

DNR-GW-1S (Rev. 10/12)

August Levert_BP Plan_008187

MAIL ORIGINAL TO:
Louisiana Dept. of Natural Resources
Attn: Ground Water Resources
P.O. Box 94275
Baton Rouge, LA 70804-9275
(225) 342-8244 Ph.
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LOUISIANA DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION
WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

ONLINE ACCESS:
1) Go to **http://sonris.com/**
2) Click on **Data Access** in the left hand panel.
3) Under the section labeled **Conservation**, click on **Ground Water Information**.

1. **USE OF WELL** (Check appropriate box):
☐Domestic ☐Rig Supply ☒Monitoring
☐Piezometer ☐Heat Pump Hole ☐Heat Pump Supply
☐Recovery ☐Relief ☐Abandoned Pilot Hole
☐Other *(please specify)*_____

2. **WELL OWNER**: BP America
Phone: (281) 366-2000

3. **WELL OWNER'S ADDRESS**: 501 Westlake Park Blvd.
Houston, TX 77079

4. **OWNER'S WELL NUMBER OR NAME**: MW-4

Serial Number (Rig Supply Only):_____

5. **WELL INFORMATION**:
Date completed: 9-24-15
Depth of Hole: 24 ft. below ground surface
Depth of Well: 15 ft.
Static water level: NR ft. below ground surface
Date Measured: 9-24-15
Casing: 1 in. ☐Metal ☒Plastic ☐Other Length: 13 ft.
Screen: 1 in. ☐Metal ☒Plastic ☐Other Slot size: 0.010 in.
Length: 5 ft. Cemented from: 6 ft. to ground surface
Using: ☒ Pump down Method ☐Gravity Method

6. **LOCATION OF WELL**:
Latitude: 30 ° 11 ' 54 " Longitude: 91 ° 20 ' 34 "
Parish: Iberville
Physical Address: Bayou Sorrel
Well is Near, Plaquemine Approximately 1.75 miles from
(Crossroads, Railroad, any Landmark, etc.) southwest of the intersection of Hwy 75 and Hwy 3066
(Attach a map or sketch or registered plat if Rig Supply to registration)

FOR MONITOR/PIEZO/RECOVERY WELLS ONLY															
SECTION			TOWNSHIP			RANGE			ELEVATION				QUAD NO.			
0	1	7	1	0	S	1	1	E	0	0	0	2	1	8	5	B

7. **REMARKS**: Casing extends approximately 3 feet above ground surface

8. **DRILLER'S LOG:**
(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	TO	DESCRIPTION
0	13	Gray Clay
13	14	Gray Silt
14	24	Gray Clay

9. **FOR HEAT PUMP ONLY**: Avg. Depth: _____ft. # of Holes: _____

10. **DOES THE NEW WELL REPLACE AN EXISTING WELL?** ☐Yes ☒No
If **yes**, has owner been informed of state regulations requiring plugging of abandoned wells? ☐Yes ☐No

11. **NAME OF PERSON WHO DRILLED THE WELL**: Dennis L. Herrera

I certify that this work was done and completed in accordance with Rules and Regulations of the State of Louisiana, including Chapter XII of Title 51, Public Health – Sanitary Code, if applicable, on: 9-24-15 ***(Date) by:*** Walker-Hill Environmental, Inc. ***(Name of Water Well Contractor), License No. WWC-*** 574
Authorized Signature: _____ **Date:** 2-23-16

FOR OFFICE USE ONLY
PARISH WELL NO. GEOLOGIC UNIT
LATITUDE LONGITUDE SECTION
TOWNSHIP RANGE ELEVATION QUAD NO.
REGISTERED BY: _____ DATE: _____
INSPECTED BY: _____ DATE: _____
REMARKS: _____

DNR-GW-1S (Rev. 10/12)

MAIL ORIGINAL TO:
Louisiana Dept. of Natural Resources
Attn: Ground Water Resources
P.O. Box 94275
Baton Rouge, LA 70804-9275
(225) 342-8244 Ph.
(225) 242-3505 Fax

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION
WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

ONLINE ACCESS:
1) Go to **http://sonris.com/**
2) Click on **Data Access** in the left hand panel.
3) Under the section labeled **Conservation**, click on **Ground Water Information**.

1. **USE OF WELL** (Check appropriate box):
☐Domestic ☐Rig Supply ☒Monitoring
☐Piezometer ☐Heat Pump Hole ☐Heat Pump Supply
☐Recovery ☐Relief ☐Abandoned Pilot Hole
☐Other *(please specify)*_____

2. **WELL OWNER:** BP America
Phone: (281) 366-2000

3. **WELL OWNER'S ADDRESS:** 501 Westlake Park Blvd.
Houston, TX 77079

4. **OWNER'S WELL NUMBER OR NAME:** MW-5

Serial Number (Rig Supply Only):_____

5. **WELL INFORMATION:**
Date completed: 9-24-15
Depth of Hole: 24 ft. below ground surface
Depth of Well: 15 ft.
Static water level: NR ft. below ground surface
Date Measured: 9-24-15
Casing: 1 in. ☐Metal ☒Plastic ☐Other Length: 13 ft.
Screen: 1 in. ☐Metal ☒Plastic ☐Other Slot size: 0.010 in.
Length: 5 ft. Cemented from: 6 ft. to ground surface
Using: ☒ Pump down Method ☐Gravity Method

6. **LOCATION OF WELL:**
Latitude: 30 ° 11 ' 52 " Longitude: 91 ° 20 ' 34 "
Parish: Iberville
Physical Address: Bayou Sorrel
Well is Near, Plaquemine Approximately 1.75 miles from
(Crossroads, Railroad, any Landmark, etc.) southwest of the intersection of Hwy 75 and Hwy 3066
(Attach a map or sketch or registered plat if Rig Supply to registration)

FOR MONITOR/PIEZO/RECOVERY WELLS ONLY

SECTION	TOWNSHIP	RANGE	ELEVATION	QUAD NO.
0 1 7	1 0 S	1 1 E	0 0 0 2	1 8 5 B

7. **REMARKS:** Casing extends approximately 3 feet above ground surface

8. **DRILLER'S LOG:**
(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	TO	DESCRIPTION
0	12	Gray Clay
12	13	Gray Silt
13	21	Gray Clay
21	22	Gray Silt
22	24	Gray Clay

9. **FOR HEAT PUMP ONLY:** Avg. Depth: _____ft. # of Holes: _____

10. **DOES THE NEW WELL REPLACE AN EXISTING WELL?** ☐Yes ☒No
If **yes**, has owner been informed of state regulations requiring plugging of abandoned wells? ☐Yes ☐No

11. **NAME OF PERSON WHO DRILLED THE WELL:** Dennis L. Herrera

I certify that this work was done and completed in accordance with Rules and Regulations of the State of Louisiana, including Chapter XII of Title 51, Public Health – Sanitary Code, if applicable, on: 9-24-15 (Date) by: Walker-Hill Environmental, Inc. (Name of Water Well Contractor), License No. WWC- 574
Authorized Signature: _____ **Date: 2-23-16**

FOR OFFICE USE ONLY
PARISH WELL NO. GEOLOGIC UNIT
LATITUDE LONGITUDE SECTION
TOWNSHIP RANGE ELEVATION QUAD NO.
REGISTERED BY: _____ DATE: _____
INSPECTED BY: _____ DATE: _____
REMARKS: _____

DNR-GW-1S (Rev. 10/12)

MAIL ORIGINAL TO:
Louisiana Dept. of Natural Resources
Attn: Ground Water Resources
P.O. Box 94275
Baton Rouge, LA 70804-9275
(225) 342-8244 Ph.
(225) 242-3505 Fax

LOUISIANA DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION, ENVIRONMENTAL DIVISION
WATER WELL REGISTRATION SHORT FORM (DNR-GW-1S)

ONLINE ACCESS:
1) Go to **http://sonris.com/**
2) Click on **Data Access** in the left hand panel.
3) Under the section labeled **Conservation**, click on **Ground Water Information**.

1. **USE OF WELL** (Check appropriate box):
☐Domestic ☐Rig Supply ☒Monitoring
☐Piezometer ☐Heat Pump Hole ☐Heat Pump Supply
☐Recovery ☐Relief ☐Abandoned Pilot Hole
☐Other *(please specify)*_____

2. **WELL OWNER:** BP America
Phone: (281) 366-2000

3. **WELL OWNER'S ADDRESS:** 501 Westlake Park Blvd.
Houston, TX 77079

4. **OWNER'S WELL NUMBER OR NAME:** MW-6

Serial Number (Rig Supply Only):_____

5. **WELL INFORMATION:**
Date completed: 9-25-15
Depth of Hole: 28 ft. below ground surface
Depth of Well: 17 ft.
Static water level: NR ft. below ground surface
Date Measured: 9-25-15
Casing: 1 in. ☐Metal ☒Plastic ☐Other Length: 15 ft.
Screen: 1 in. ☐Metal ☒Plastic ☐Other Slot size: 0.010 in.
Length: 5 ft. Cemented from: 7 ft. to ground surface
Using: ☒ Pump down Method ☐Gravity Method

6. **LOCATION OF WELL:**
Latitude: 30 ° 11 ' 51 " Longitude: 91 ° 20 ' 35 "
Parish: Iberville
Physical Address: Bayou Sorrel
Well is Near, Plaquemine Approximately 1.75 miles from
(Crossroads, Railroad, any Landmark, etc.) southwest of the intersection of Hwy 75 and Hwy 3066
(Attach a map or sketch or registered plat if Rig Supply to registration)

FOR MONITOR/PIEZO/RECOVERY WELLS ONLY															
SECTION			TOWNSHIP			RANGE			ELEVATION				QUAD NO.			
0	1	7	1	0	S	1	1	E	0	0	0	2	1	8	5	B

7. **REMARKS:** Casing extends approximately 3 feet above ground surface

8. **DRILLER'S LOG:**
(Description and color of cuttings, such as shale, sand, etc. in feet below ground surface)

FROM	TO	DESCRIPTION
0	13	Gray Clay
13	15	Gray Silt
15	28	Gray Clay

9. **FOR HEAT PUMP ONLY:** Avg. Depth: _____ft. # of Holes: _____

10. **DOES THE NEW WELL REPLACE AN EXISTING WELL?** ☐Yes ☒No
If **yes**, has owner been informed of state regulations requiring plugging of abandoned wells? ☐Yes ☐No

11. **NAME OF PERSON WHO DRILLED THE WELL:** Dennis L. Herrera

I certify that this work was done and completed in accordance with Rules and Regulations of the State of Louisiana, including Chapter XII of Title 51, Public Health – Sanitary Code, if applicable, on: 9-25-15 ***(Date) by:*** Walker-Hill Environmental, Inc. ***(Name of Water Well Contractor), License No. WWC-*** 574

Authorized Signature: _____ **Date:** 2-23-16

FOR OFFICE USE ONLY

PARISH | WELL NO. | GEOLOGIC UNIT

LATITUDE | LONGITUDE | SECTION

TOWNSHIP | RANGE | ELEVATION | QUAD NO.

REGISTERED BY: _____ DATE: _____
INSPECTED BY: _____ DATE: _____
REMARKS: _____

DNR-GW-1S (Rev. 10/12)

August Levert_BP Plan_008190

Water Wells By LATITUDE / LONGITUDE Report

Latitude	Longitude	Radius Ft	MSG
30.198333333	-91.343055556	5280	Found 6 records

Well Distance Ft	SECTION	TOWNSHIP	RANGE	PARISH_NAME	PARISH_NUM	LOCAL_WELL_NUM	WELL_USE	DESCRIPTION	WELL_STATUS	OWNERS_NUM	OWNERS_NAME	DRILLERS_NAME	WELL_DEPTH	CASING_DIAMETER	DATE_COMPLETED
87.75	017	10S	11E	IBERVILLE	047	6994Z	M	Monitor	Active	MW-3	BP AMERICA	WALKER-HILL ENVIRONMENTAL, INC.	20	1	9/23/15
87.75	017	10S	11E	IBERVILLE	047	6995Z	M	Monitor	Active	MW-4	BP AMERICA	WALKER-HILL ENVIRONMENTAL, INC.	15	1	9/24/15
133.81	017	10S	11E	IBERVILLE	047	6993Z	M	Monitor	Active	MW-2	BP AMERICA	WALKER-HILL ENVIRONMENTAL, INC.	20	1	9/23/15
220.27	017	10S	11E	IBERVILLE	047	6996Z	M	Monitor	Active	MW-5	BP AMERICA	WALKER-HILL ENVIRONMENTAL, INC.	15	1	9/24/15
220.27	017	10S	11E	IBERVILLE	047	6992Z	M	Monitor	Active	MW-1	BP AMERICA	WALKER-HILL ENVIRONMENTAL, INC.	25	1	9/22/15
303.06	017	10S	11E	IBERVILLE	047	6997Z	M	Monitor	Active	MW-6	BP AMERICA	WALKER-HILL ENVIRONMENTAL, INC.	17	1	9/25/15

APPENDIX F

AQUIFER TEST DATA

ESTIMATED WELL YIELD
HET INSTALLED WELLS
IPSB
PLAQUEMINE, IBERVILLE PARISH, LA

SHALLOW WATER BEARING UNIT

$$Q = \frac{60\ h_c\ K\ b}{9.3 + \log (K\ b)}$$

Value	
Q	well yield (gpm)
h_c	confining head above the upper stratigraphic boundary of water bearing unit (feet)
K	hydraulic conductivity of water bearing unit (cm/sec)
b	saturated thickness of water bearing unit (feet)

K Values:	K (ft/day)	K (cm/sec)	h_c (ft) [1]	b (ft) [2]	Estimated Yield (gpm)	Estimated Yield (gpd)	Test Date	Screen Interval (ft)
B2/MW1	0.140	0.0000494	14.70	2.00	0.016	24	10/13/2015	20-25'
B2/MW1 (Recovery)	0.014	0.0000049	14.70	2.00	0.002	3		
B11/MW4	0.029	0.0000102	10.51	1.20	0.002	3	10/13/2015	10-15'
B11/MW4 (Recovery	0.013	0.0000046	10.51	1.20	0.001	1		
B12/MW5	0.420	0.0001483	8.13	2.50	0.031	44	10/13/2015	10-15'
B12/MW5 (Recovery)	0.180	0.0000635	8.13	2.50	0.014	20		
B13/MW6	0.890	0.0003142	10.66	2.50	0.081	117	10/13/2015	10-15'
B13/MW6 (Recovery)	0.270	0.0000953	10.66	2.50	0.027	39		
AVG:	0.245	0.0000863	11.00	2.05	0.022	31		

1ft/day = 3.53e-4 cm/sec
gpd (gallons per day) = 60 minutes multiplied by 24 hours

From: LDEQ RECAP 2003, Appendix F, Figure 3, Confined Aquifer
(K from Bouwer and Rice method)

[1] Based on water levels recorded by HET on 10/13/2015
[2] Thickness determined from HET boring logs with base at total depth of well

WELL ID: B2/MW1 (Recovery)

Local ID: IPSB
Date: 10/13/2015
Time: 16:33

INPUT

Construction:	
Casing dia. (d_c)	1 Inch
Annulus dia. (d_w)	3.25 Inch
Screen Length (L)	3 Feet
Depths to:	
water level (DTW)	5.8 Feet
top of screen (TOS)	20 Feet
Base of Aquifer (DTB)	23 Feet
Annular Fill:	
across screen --	Coarse Sand
above screen --	Bentonite
Aquifer Material --	Silt

COMPUTED

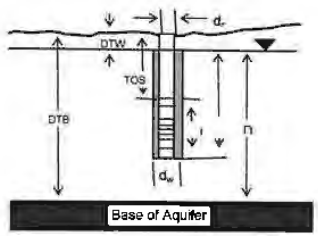
L_{wetted}	3 Feet
D =	17.2 Feet
H =	17.2 Feet
L/r_w =	22.15
$y_{0\text{-DISPLACEMENT}}$ =	0.80 Feet
$y_{0\text{-SLUG}}$ =	1.27 Feet

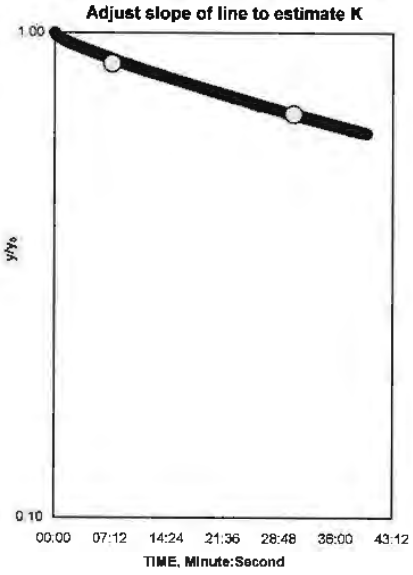
From look-up table using L/r_w

Fully penetrate C =	1.810
ln(Re/rw) =	3.238
Re =	3.45 Feet
Slope =	7.55E-05 $\log_{10}$/sec
$t_{90\%}$ recovery =	13248 sec

Input is consistent.

K = 0.014 Feet/Day





REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Slug test was conducted in surficial sediments near Plaquemine, Iberville Parish, Louisiana, consisting of grey sands, silts, and clays.

Entry	Reduced Data Time, Hr:Min:Sec	Water Level
1	16:33:58.5	6.83
2	16:34:50.5	6.80
3	16:35:42.5	6.79
4	16:36:34.5	6.78
5	16:37:26.5	6.77
6	16:38:18.5	6.76
7	16:39:10.5	6.75
8	16:40:02.5	6.75
9	16:40:54.5	6.74
10	16:41:46.5	6.73
11	16:42:38.5	6.72
12	16:43:30.5	6.71
13	16:44:22.5	6.71
14	16:45:14.5	6.70
15	16:46:06.5	6.69
16	16:46:58.5	6.69
17	16:47:50.5	6.68
18	16:48:42.5	6.67
19	16:49:34.5	6.67
20	16:50:26.5	6.66
21	16:51:18.5	6.65
22	16:52:10.5	6.65
23	16:53:02.5	6.64
24	16:53:54.5	6.64
25	16:54:46.5	6.63
26	16:55:38.5	6.62
27	16:56:30.5	6.62
28	16:57:22.5	6.61
29	16:58:14.5	6.61
30	16:59:06.5	6.60
31	16:59:58.5	6.60
32	17:00:50.5	6.59
33	17:01:42.5	6.59
34	17:02:34.5	6.58
35	17:03:26.5	6.57
36	17:04:18.5	6.57
37	17:05:10.5	6.57
38	17:06:02.5	6.56
39	17:06:54.5	6.56
40	17:07:46.5	6.55
41	17:08:38.5	6.55
42	17:09:30.5	6.54
43	17:10:22.5	6.54
44	17:11:14.5	6.54
45	17:12:06.5	6.53

WELL ID: B11/MW4

Local ID: IPSB
Date: 10/13/2015
Time: 14:23

INPUT

Construction:	
Casing dia. (d_c)	1 Inch
Annulus dia. (d_w)	3.25 Inch
Screen Length (L)	4.2 Feet
Depths to:	
water level (DTW)	2.49 Feet
top of screen (TOS)	10 Feet
Base of Aquifer (DTB)	14.2 Feet
Annular Fill:	
across screen -- Coarse Sand	
above screen -- Bentonite	
Aquifer Material -- Silt	

COMPUTED

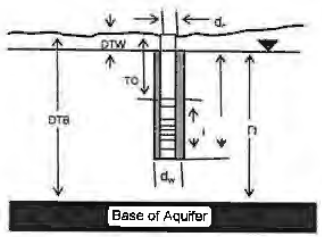
L_{wetted}	4.2 Feet
D =	11.71 Feet
H =	11.71 Feet
L/r_w =	31.02
$y_{0\text{-DISPLACEMENT}}$ =	1.22 Feet
$y_{0\text{-SLUG}}$ =	1.27 Feet

From look-up table using L/r_w

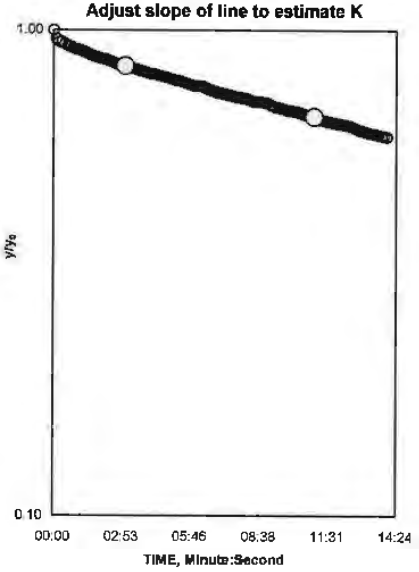
Fully penetrate C =	2.123
ln(Re/rw) =	3.174
Re =	3.24 Feet
Slope =	0.000221 log_{10}/sec
$t_{90\%}$ recovery =	4534 sec

Input is consistent.

K = 0.029 Feet/Day



Adjust slope of line to estimate K



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Slug test was conducted in surficial sediments near Plaquemine, Iberville Parish, Louisiana, consisting of grey sands, silts, and clays.

Entry	Reduced Data Time, Hr:Min:Sec	Water Level
1	14:23:22.0	1.27
2	14:23:36.0	1.34
3	14:23:50.0	1.35
4	14:24:04.0	1.36
5	14:24:18.0	1.37
6	14:24:32.0	1.38
7	14:24:46.0	1.39
8	14:25:00.0	1.41
9	14:25:14.0	1.42
10	14:25:28.0	1.42
11	14:25:42.0	1.43
12	14:25:56.0	1.45
13	14:26:10.0	1.45
14	14:26:24.0	1.46
15	14:26:38.0	1.47
16	14:26:52.0	1.48
17	14:27:06.0	1.48
18	14:27:20.0	1.49
19	14:27:34.0	1.50
20	14:27:48.0	1.51
21	14:28:02.0	1.51
22	14:28:16.0	1.52
23	14:28:30.0	1.53
24	14:28:44.0	1.53
25	14:28:58.0	1.54
26	14:29:12.0	1.55
27	14:29:26.0	1.55
28	14:29:40.0	1.56
29	14:29:54.0	1.57
30	14:30:08.0	1.58
31	14:30:22.0	1.58
32	14:30:36.0	1.59
33	14:30:50.0	1.60
34	14:31:04.0	1.60
35	14:31:18.0	1.60
36	14:31:32.0	1.61
37	14:31:46.0	1.62
38	14:32:00.0	1.62
39	14:32:14.0	1.62
40	14:32:28.0	1.63
41	14:32:42.0	1.64
42	14:32:56.0	1.65
43	14:33:10.0	1.65
44	14:33:24.0	1.66
45	14:33:38.0	1.66

WELL ID: B11/MW4 (Recovery)

Local ID: IPSB
Date: 10/13/2015
Time: 15:29

INPUT

Construction:	
Casing dia. (d_c)	1 Inch
Annulus dia. (d_w)	3.25 Inch
Screen Length (L)	4.2 Feet
Depths to:	
water level (DTW)	2.49 Feet
top of screen (TOS)	10 Feet
Base of Aquifer (DTB)	14.2 Feet
Annular Fill:	
across screen --	Coarse Sand
above screen --	Bentonite
Aquifer Material --	Silt

COMPUTED

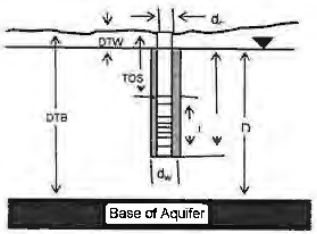
L_{wetted}	4.2 Feet
D =	11.71 Feet
H =	11.71 Feet
L/r_w =	31.02
$y_{0\text{-DISPLACEMENT}}$ =	1.26 Feet
$y_{0\text{-SLUG}}$ =	1.27 Feet

From look-up table using L/r_w

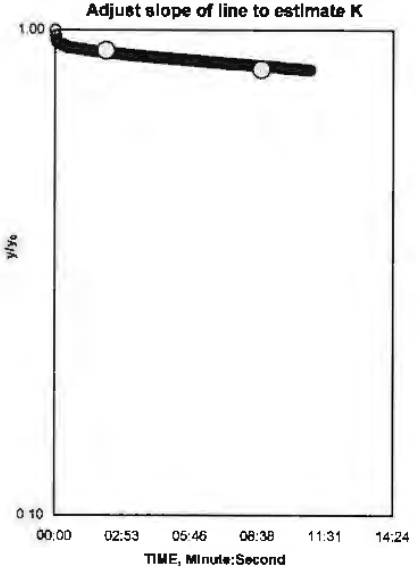
Fully penetrate C =	2.123
ln(Re/rw) =	3.174
Re =	3.24 Feet
Slope =	9.81E-05 $\log_{10}$/sec
$t_{90\%}$ recovery =	10191 sec

Input is consistent.

K = 0.013 Feet/Day



Adjust slope of line to estimate K



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Slug test was conducted in surficial sediments near Plaquemine, Iberville Parish, Louisiana, consisting of grey sands, silts, and clays.

Entry	Reduced Data Time, Hr:Min:Sec	Water Level
1	15:29:23.0	3.68
2	15:29:36.5	3.60
3	15:29:50.0	3.59
4	15:30:03.5	3.58
5	15:30:17.0	3.57
6	15:30:30.5	3.57
7	15:30:44.0	3.56
8	15:30:57.5	3.56
9	15:31:11.0	3.56
10	15:31:24.5	3.55
11	15:31:38.0	3.55
12	15:31:51.5	3.55
13	15:32:05.0	3.54
14	15:32:18.5	3.54
15	15:32:32.0	3.54
16	15:32:45.5	3.53
17	15:32:59.0	3.53
18	15:33:12.5	3.53
19	15:33:26.0	3.53
20	15:33:39.5	3.52
21	15:33:53.0	3.52
22	15:34:06.5	3.52
23	15:34:20.0	3.52
24	15:34:33.5	3.52
25	15:34:47.0	3.51
26	15:35:00.5	3.51
27	15:35:14.0	3.51
28	15:35:27.5	3.51
29	15:35:41.0	3.50
30	15:35:54.5	3.50
31	15:36:08.0	3.50
32	15:36:21.5	3.50
33	15:36:35.0	3.49
34	15:36:48.5	3.49
35	15:37:02.0	3.49
36	15:37:15.5	3.49
37	15:37:29.0	3.49
38	15:37:42.5	3.49
39	15:37:56.0	3.48
40	15:38:09.5	3.48
41	15:38:23.0	3.48
42	15:38:36.5	3.48
43	15:38:50.0	3.48
44	15:39:03.5	3.47
45	15:39:17.0	3.47

WELL ID: B12/MW5

Local ID: IPSB
Date: 10/13/2015
Time: 13:12

INPUT

Construction:	
Casing dia. (d_c)	1 Inch
Annulus dia. (d_w)	3.25 Inch
Screen Length (L)	3 Feet
Depths to:	
water level (DTW)	2.37 Feet
top of screen (TOS)	10 Feet
Base of Aquifer (DTB)	13 Feet
Annular Fill:	
across screen --	Coarse Sand
above screen --	Bentonite
Aquifer Material --	Silt

COMPUTED

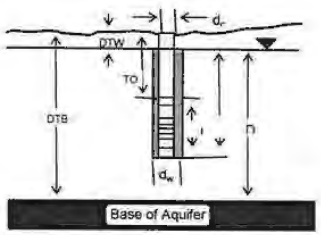
L_{welted}	3 Feet
D =	10.63 Feet
H =	10.63 Feet
L/r_w =	22.15
$y_{0\text{-DISPLACEMENT}}$ =	1.26 Feet
$y_{0\text{-SLUG}}$ =	1.27 Feet

From look-up table using L/r_w

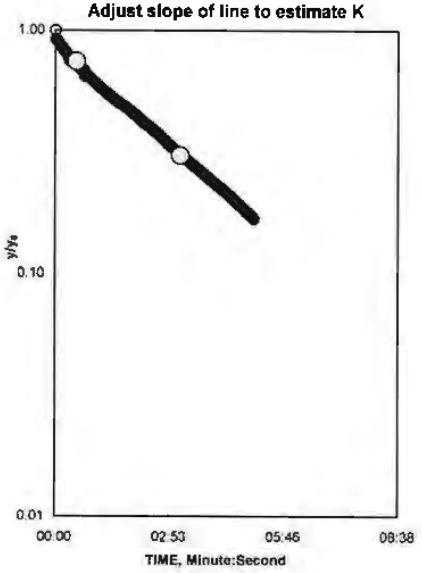
Fully penetrate C =	1.810
ln(Re/rw) =	2.995
Re =	2.71 Feet
Slope =	0.002461 $\log_{10}$/sec
$t_{60\%}$ recovery =	406 sec

Input is consistent.

K = 0.42 Feet/Day



Adjust slope of line to estimate K



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Slug test was conducted in surficial sediments near Plaquemine, Iberville Parish, Louisiana, consisting of grey sands, silts, and clays.

Entry	Reduced Data Time, Hr:Min:Sec	Water Level
1	13:12:26.5	1.11
2	13:12:32.5	1.26
3	13:12:38.5	1.32
4	13:12:44.5	1.37
5	13:12:50.5	1.41
6	13:12:56.5	1.45
7	13:13:02.5	1.46
8	13:13:08.5	1.52
9	13:13:14.5	1.55
10	13:13:20.5	1.58
11	13:13:26.5	1.60
12	13:13:32.5	1.63
13	13:13:38.5	1.66
14	13:13:44.5	1.68
15	13:13:50.5	1.70
16	13:13:56.5	1.72
17	13:14:02.5	1.74
18	13:14:08.5	1.75
19	13:14:14.5	1.77
20	13:14:20.5	1.78
21	13:14:26.5	1.80
22	13:14:32.5	1.82
23	13:14:38.5	1.84
24	13:14:44.5	1.85
25	13:14:50.5	1.87
26	13:14:56.5	1.88
27	13:15:02.5	1.90
28	13:15:08.5	1.92
29	13:15:14.5	1.93
30	13:15:20.5	1.95
31	13:15:26.5	1.96
32	13:15:32.5	1.97
33	13:15:38.5	1.99
34	13:15:44.5	2.00
35	13:15:50.5	2.01
36	13:15:56.5	2.02
37	13:16:02.5	2.03
38	13:16:08.5	2.04
39	13:16:14.5	2.05
40	13:16:20.5	2.06
41	13:16:26.5	2.07
42	13:16:32.5	2.08
43	13:16:38.5	2.09
44	13:16:44.5	2.10
45	13:16:50.5	2.11

WELL ID: B12/MW5 (Recovery)

Local ID: IPSB
Date: 10/13/2015
Time: 13:30

INPUT

Construction:	
Casing dia. (d_c)	1 Inch
Annulus dia. (d_w)	3.25 Inch
Screen Length (L)	3 Feet
Depths to:	
water level (DTW)	2.37 Feet
top of screen (TOS)	10 Feet
Base of Aquifer (DTB)	13 Feet
Annular Fill:	
across screen -- Coarse Sand	
above screen -- Bentonite	
Aquifer Material -- Silt	

COMPUTED

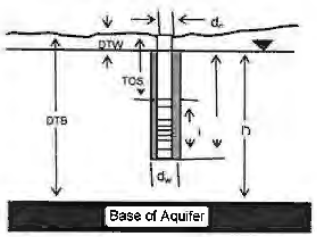
L_{wetted}	3 Feet
D =	10.83 Feet
H =	10.83 Feet
L/r_w =	22.15
$y_{0\text{-DISPLACEMENT}}$ =	1.21 Feet
$y_{0\text{-SLUG}}$ =	1.27 Feet

From look-up table using L/r_w

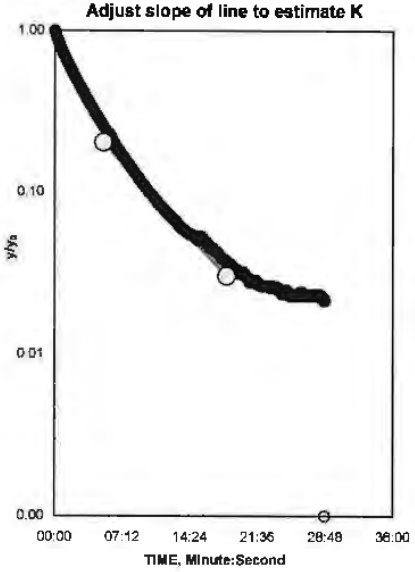
Fully penetrate C =	1.810
ln(Re/rw) =	2.995
Re =	2.71 Feet
Slope =	0.001049 $\log_{10}$/sec
$t_{90\%}$ recovery =	953 sec

Input is consistent.

K = 0.18 Feet/Day



Adjust slope of line to estimate K



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Slug test was conducted in surficial sediments near Plaquemine, Iberville Parish, Louisiana, consisting of grey sands, silts, and clays.

Reduced Data

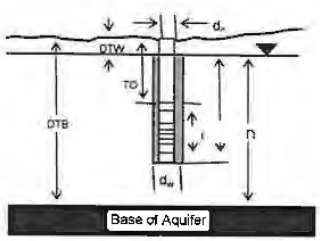
Entry	Time, Hr:Min:Sec	Water Level
1	13:30:08.0	3.68
2	13:30:44.0	3.44
3	13:31:20.0	3.28
4	13:31:56.0	3.16
5	13:32:32.0	3.06
6	13:33:08.0	2.98
7	13:33:44.0	2.91
8	13:34:20.0	2.85
9	13:34:56.0	2.81
10	13:35:32.0	2.77
11	13:36:08.0	2.74
12	13:36:44.0	2.70
13	13:37:20.0	2.67
14	13:37:56.0	2.65
15	13:38:32.0	2.63
16	13:39:08.0	2.62
17	13:39:44.0	2.60
18	13:40:20.0	2.59
19	13:40:56.0	2.58
20	13:41:32.0	2.57
21	13:42:08.0	2.56
22	13:42:44.0	2.55
23	13:43:20.0	2.55
24	13:43:56.0	2.54
25	13:44:32.0	2.54
26	13:45:08.0	2.53
27	13:45:44.0	2.53
28	13:46:20.0	2.53
29	13:46:56.0	2.52
30	13:47:32.0	2.52
31	13:48:08.0	2.52
32	13:48:44.0	2.51
33	13:49:20.0	2.51
34	13:49:56.0	2.51
35	13:50:32.0	2.51
36	13:51:08.0	2.50
37	13:51:44.0	2.50
38	13:52:20.0	2.50
39	13:52:56.0	2.50
40	13:53:32.0	2.50
41	13:54:08.0	2.50
42	13:54:44.0	2.50
43	13:55:20.0	2.50
44	13:55:56.0	2.50
45	13:56:32.0	2.50

WELL ID: B13/MW6

Local ID: IPSB
Date: 10/13/2015
Time: 11:35

INPUT

Construction:	
Casing dia. (d_c)	1 Inch
Annulus dia. (d_w)	3.25 Inch
Screen Length (L)	3.2 Feet
Depths to:	
water level (DTW)	2.14 Feet
top of screen (TOS)	12 Feet
Base of Aquifer (DTB)	15.2 Feet
Annular Fill:	
across screen --	Coarse Sand
above screen --	Bentonite
Aquifer Material --	Silt



COMPUTED

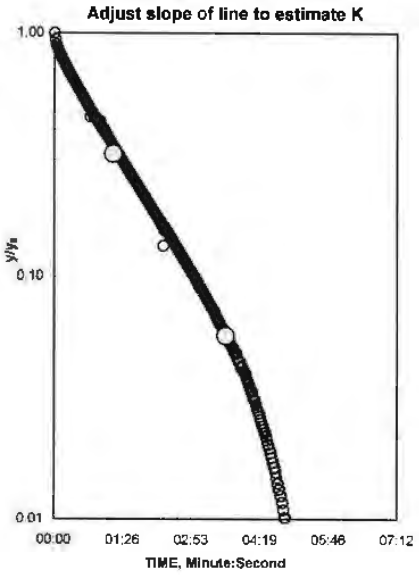
L_{wetted}	3.2 Feet
D =	13.06 Feet
H =	13.06 Feet
L/r_w =	23.63
$y_{0\text{-DISPLACEMENT}}$ =	1.11 Feet
$y_{0\text{-SLUG}}$ =	1.27 Feet

From look-up table using L/r_w

Fully penetrate C =	1.863
ln(Re/rw) =	3.129
Re =	3.09 Feet
Slope =	0.005286 $\log_{10}$/sec
$t_{90\%}$ recovery =	189 sec

Input is consistent.

K = 0.89 Feet/Day



REMARKS:

Bouwer and Rico analysis of slug test, WRR 1976

Slug test was conducted in surficial sediments near Plaquemine, Iberville Parish, Louisiana, consisting of grey sands, silts, and clays.

Entry	Reduced Data Time, Hr:Min:Sec	Water Level
1	11:35:09.0	1.03
2	11:35:16.0	1.24
3	11:35:23.0	1.33
4	11:35:30.0	1.40
5	11:35:37.0	1.47
6	11:35:44.0	1.53
7	11:35:51.0	1.58
8	11:35:58.0	1.64
9	11:36:05.0	1.67
10	11:36:12.0	1.70
11	11:36:19.0	1.74
12	11:36:26.0	1.78
13	11:36:33.0	1.80
14	11:36:40.0	1.83
15	11:36:47.0	1.86
16	11:36:54.0	1.88
17	11:37:01.0	1.90
18	11:37:08.0	1.92
19	11:37:15.0	1.94
20	11:37:22.0	1.95
21	11:37:29.0	1.97
22	11:37:36.0	1.98
23	11:37:43.0	2.00
24	11:37:50.0	2.01
25	11:37:57.0	2.02
26	11:38:04.0	2.03
27	11:38:11.0	2.04
28	11:38:18.0	2.05
29	11:38:25.0	2.06
30	11:38:32.0	2.06
31	11:38:39.0	2.07
32	11:38:46.0	2.08
33	11:38:53.0	2.08
34	11:39:00.0	2.09
35	11:39:07.0	2.10
36	11:39:14.0	2.10
37	11:39:21.0	2.11
38	11:39:28.0	2.11
39	11:39:35.0	2.11
40	11:39:42.0	2.12
41	11:39:49.0	2.12
42	11:39:56.0	2.13
43	11:40:03.0	2.13
44	11:40:10.0	2.13
45	11:40:17.0	2.14

WELL ID: B13/MW6 (Recovery)

Local ID: IPSB
Date: 10/13/2015
Time: 13:26

INPUT

Construction:		
Casing dia. (d_c)	1	Inch
Annulus dia. (d_w)	3.25	Inch
Screen Length (L)	3	Feet
Depths to:		
water level (DTW)	2.14	Feet
top of screen (TOS)	10	Feet
Base of Aquifer (DTB)	13	Feet
Annular Fill:		
across screen --	Coarse Sand	
above screen --	Bentonite	
Aquifer Material --	Silt	

COMPUTED

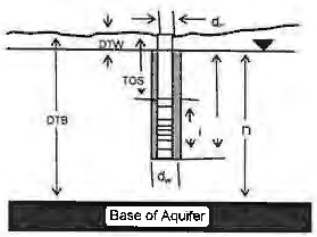
L_{wetted}	3	Feet
D =	10.86	Feet
H =	10.86	Feet
L/r_w =	22.15	
$y_{0\text{-DISPLACEMENT}}$ =	1.18	Feet
$y_{0\text{-SLUG}}$ =	1.27	Feet

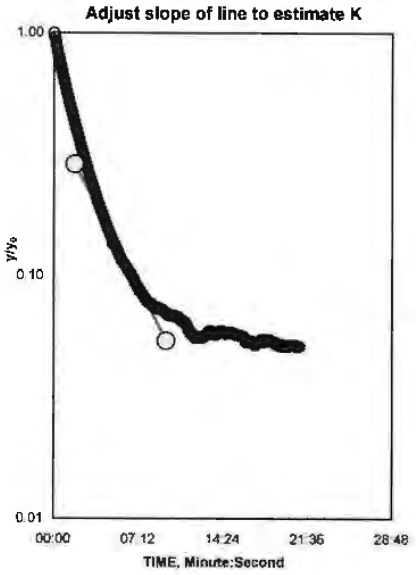
From look-up table using L/r_w

Fully penetrate C =	1.810	
ln(Re/rw) =	3.007	
Re =	2.74	Feet
Slope =	0.001557	$\log_{10}$/sec
$t_{90\%}$ recovery =	642	sec

Input is consistent.

K = 0.27 Feet/Day





REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Slug test was conducted in surficial sediments near Plaquemine, Iberville Parish, Louisiana, consisting of grey sands, silts, and clays.

Entry	Reduced Data Time, Hr:Min:Sec	Water Level
1	13:26:42.5	3.40
2	13:27:10.0	3.14
3	13:27:37.5	2.95
4	13:28:05.0	2.81
5	13:28:32.5	2.71
6	13:29:00.0	2.63
7	13:29:27.5	2.56
8	13:29:55.0	2.51
9	13:30:22.5	2.47
10	13:30:50.0	2.43
11	13:31:17.5	2.41
12	13:31:45.0	2.38
13	13:32:12.5	2.37
14	13:32:40.0	2.35
15	13:33:07.5	2.34
16	13:33:35.0	2.33
17	13:34:02.5	2.32
18	13:34:30.0	2.32
19	13:34:57.5	2.31
20	13:35:25.0	2.31
21	13:35:52.5	2.31
22	13:36:20.0	2.30
23	13:36:47.5	2.30
24	13:37:15.0	2.30
25	13:37:42.5	2.30
26	13:38:10.0	2.29
27	13:38:37.5	2.29
28	13:39:05.0	2.29
29	13:39:32.5	2.29
30	13:40:00.0	2.29
31	13:40:27.5	2.29
32	13:40:55.0	2.29
33	13:41:22.5	2.29
34	13:41:50.0	2.29
35	13:42:17.5	2.29
36	13:42:45.0	2.29
37	13:43:12.5	2.28
38	13:43:40.0	2.28
39	13:44:07.5	2.28
40	13:44:35.0	2.28
41	13:45:02.5	2.28
42	13:45:30.0	2.28
43	13:45:57.5	2.28
44	13:46:25.0	2.28
45	13:46:52.5	2.28

WELL ID: B2/MW1

Local ID: IPSB
Date: 10/13/2015
Time: 15:58

INPUT

Construction:	
Casing dia. (d_c)	1 Inch
Annulus dia. (d_w)	3.25 Inch
Screen Length (L)	3 Feet
Depths to:	
water level (DTW)	5.8 Feet
top of screen (TOS)	20 Feet
Base of Aquifer (DTB)	23 Feet
Annular Fill:	
across screen --	Coarse Sand
above screen --	Bentonite
Aquifer Material --	Silt

COMPUTED

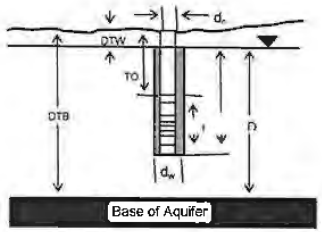
L_{wetted}	3 Feet
D =	17.2 Feet
H =	17.2 Feet
L/r_w =	22.15
$y_{0\text{-DISPLACEMENT}}$ =	1.17 Feet
$y_{0\text{-SLUG}}$ =	1.27 Feet

From look-up table using L/r_w

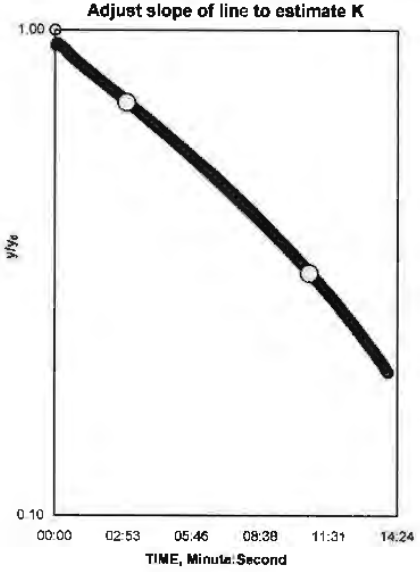
Fully penetrate C =	1.810
ln(Re/rw) =	3.238
Re =	3.45 Feet
Slope =	0.000762 $\log_{10}$/sec
$t_{90\%}$ recovery =	1312 sec

Input is consistent.

K = 0.14 Feet/Day



Adjust slope of line to estimate K



REMARKS:

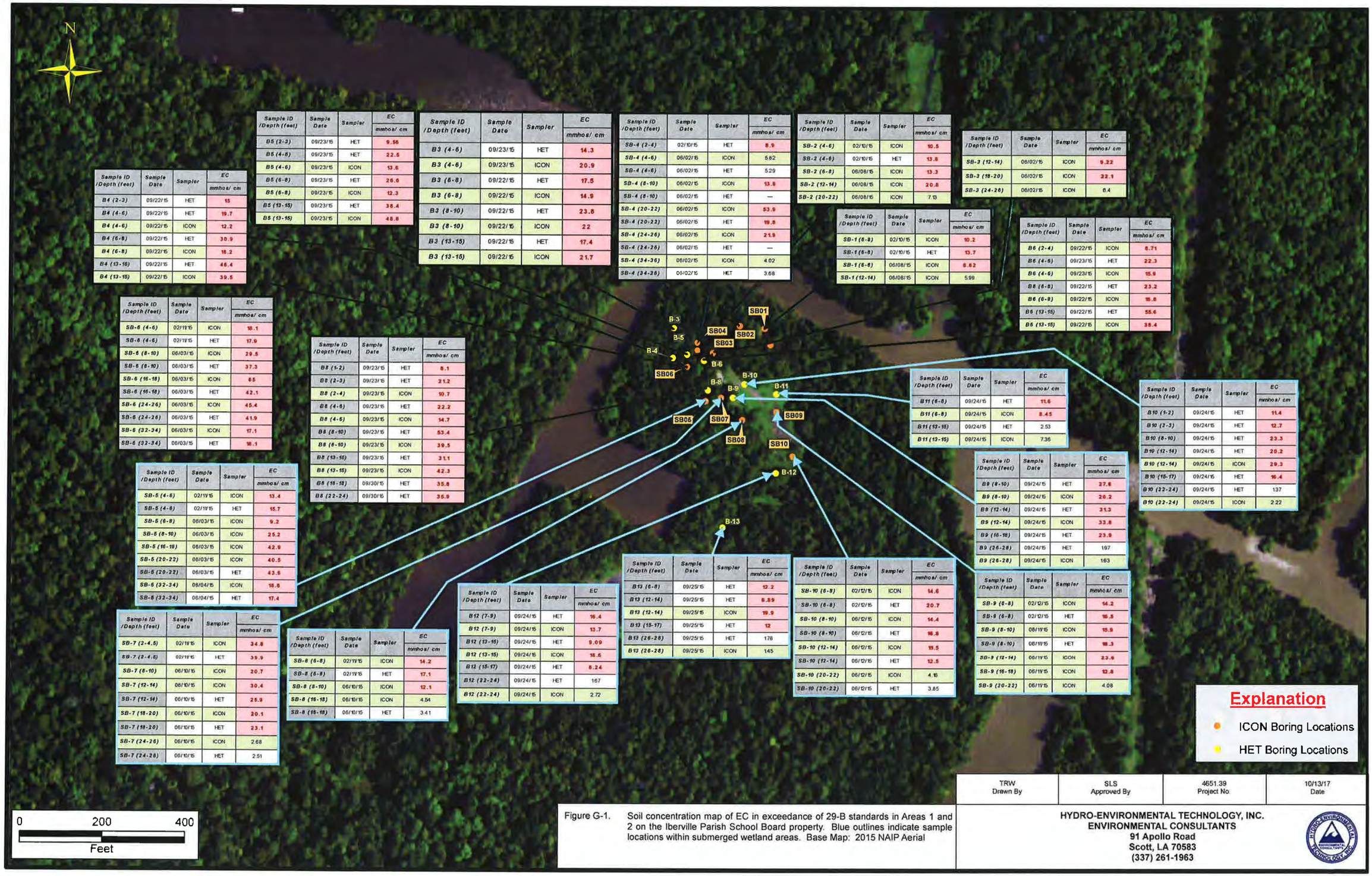
Bouwer and Rice analysis of slug test, WRR 1976

Slug test was conducted in surficial sediments near Plaquemine, Iberville Parish, Louisiana, consisting of grey sands, silts, and clays.

Entry	Reduced Data Time, Hr:Min:Sec	Water Level
1	15:58:05.5	4.63
2	15:58:23.0	4.73
3	15:58:40.5	4.76
4	15:58:58.0	4.79
5	15:59:15.5	4.82
6	15:59:33.0	4.84
7	15:59:50.5	4.87
8	16:00:08.0	4.89
9	16:00:25.5	4.92
10	16:00:43.0	4.94
11	16:01:00.5	4.96
12	16:01:18.0	4.99
13	16:01:35.5	5.01
14	16:01:53.0	5.03
15	16:02:10.5	5.05
16	16:02:28.0	5.07
17	16:02:45.5	5.09
18	16:03:03.0	5.11
19	16:03:20.5	5.13
20	16:03:38.0	5.15
21	16:03:55.5	5.17
22	16:04:13.0	5.18
23	16:04:30.5	5.20
24	16:04:48.0	5.22
25	16:05:05.5	5.23
26	16:05:23.0	5.25
27	16:05:40.5	5.27
28	16:05:58.0	5.29
29	16:06:15.5	5.30
30	16:06:33.0	5.32
31	16:06:50.5	5.33
32	16:07:08.0	5.35
33	16:07:25.5	5.36
34	16:07:43.0	5.38
35	16:08:00.5	5.39
36	16:08:18.0	5.41
37	16:08:35.5	5.42
38	16:08:53.0	5.43
39	16:09:10.5	5.45
40	16:09:28.0	5.46
41	16:09:45.5	5.47
42	16:10:03.0	5.49
43	16:10:20.5	5.50
44	16:10:38.0	5.51
45	16:10:55.5	5.52

APPENDIX G

CONCENTRATION MAPS



Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B4 (2-3)	09/22/15	HET	15
B4 (4-6)	09/22/15	HET	19.7
B4 (4-6)	09/22/15	ICON	12.2
B4 (6-8)	09/22/15	HET	30.9
B4 (6-8)	09/22/15	ICON	16.2
B4 (13-15)	09/22/15	HET	46.4
B4 (13-15)	09/22/15	ICON	39.6

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B5 (2-3)	09/23/15	HET	9.56
B5 (4-6)	09/23/15	HET	22.6
B5 (4-6)	09/23/15	ICON	13.6
B5 (6-8)	09/23/15	HET	26.6
B5 (6-8)	09/23/15	ICON	12.3
B5 (13-15)	09/23/15	HET	36.4
B5 (13-15)	09/23/15	ICON	48.8

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B3 (4-6)	09/23/15	HET	14.3
B3 (4-6)	09/23/15	ICON	20.9
B3 (6-8)	09/22/15	HET	17.5
B3 (6-8)	09/22/15	ICON	14.9
B3 (8-10)	09/22/15	HET	23.8
B3 (8-10)	09/22/15	ICON	22
B3 (13-15)	09/22/15	HET	17.4
B3 (13-15)	09/22/15	ICON	21.7

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-4 (2-4)	02/10/15	HET	8.9
SB-4 (4-6)	06/02/15	ICON	5.82
SB-4 (4-6)	06/02/15	HET	5.29
SB-4 (8-10)	06/02/15	ICON	13.8
SB-4 (8-10)	06/02/15	HET	—
SB-4 (20-22)	06/02/15	ICON	53.9
SB-4 (20-22)	06/02/15	HET	19.8
SB-4 (24-26)	06/02/15	ICON	21.9
SB-4 (24-26)	06/02/15	HET	—
SB-4 (34-36)	06/02/15	ICON	4.02
SB-4 (34-36)	06/02/15	HET	3.68

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-2 (4-6)	02/10/15	ICON	10.5
SB-2 (4-6)	02/10/15	HET	13.8
SB-2 (6-8)	06/08/15	ICON	13.3
SB-2 (12-14)	06/08/15	ICON	20.8
SB-2 (20-22)	06/08/15	ICON	7.13

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-3 (12-14)	06/02/15	ICON	9.22
SB-3 (18-20)	06/02/15	ICON	22.1
SB-3 (24-26)	06/02/15	ICON	6.4

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-1 (6-8)	02/10/15	ICON	10.2
SB-1 (6-8)	02/10/15	HET	13.7
SB-1 (6-8)	06/08/15	ICON	8.62
SB-1 (12-14)	06/08/15	ICON	5.99

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B6 (2-4)	09/22/15	ICON	8.71
B6 (4-6)	09/23/15	HET	22.3
B6 (4-6)	09/23/15	ICON	15.9
B6 (6-8)	09/22/15	HET	23.2
B6 (6-8)	09/22/15	ICON	16.8
B6 (13-15)	09/22/15	HET	55.6
B6 (13-15)	09/22/15	ICON	38.4

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-6 (4-6)	02/11/15	ICON	16.1
SB-6 (4-6)	02/11/15	HET	17.9
SB-6 (8-10)	06/03/15	ICON	29.5
SB-6 (8-10)	06/03/15	HET	37.3
SB-6 (16-18)	06/03/15	ICON	65
SB-6 (16-18)	06/03/15	HET	42.1
SB-6 (24-26)	06/03/15	ICON	45.4
SB-6 (24-26)	06/03/15	HET	41.9
SB-6 (32-34)	06/03/15	ICON	17.1
SB-6 (32-34)	06/03/15	HET	16.1

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B8 (1-2)	09/23/15	HET	8.1
B8 (2-3)	09/23/15	HET	21.2
B8 (2-4)	09/23/15	ICON	10.7
B8 (4-6)	09/23/15	HET	22.2
B8 (4-6)	09/23/15	ICON	14.7
B8 (8-10)	09/23/15	HET	53.4
B8 (8-10)	09/23/15	ICON	39.5
B8 (13-15)	09/23/15	HET	31.1
B8 (13-15)	09/23/15	ICON	42.3
B8 (15-18)	09/30/15	HET	35.8
B8 (22-24)	09/30/15	HET	36.9

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B11 (6-8)	09/24/15	HET	11.6
B11 (6-8)	09/24/15	ICON	8.45
B11 (13-15)	09/24/15	HET	2.53
B11 (13-15)	09/24/15	ICON	7.36

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B10 (1-2)	09/24/15	HET	11.4
B10 (2-3)	09/24/15	HET	12.7
B10 (8-10)	09/24/15	HET	23.3
B10 (12-14)	09/24/15	HET	20.2
B10 (12-14)	09/24/15	ICON	29.3
B10 (15-17)	09/24/15	HET	16.4
B10 (22-24)	09/24/15	HET	137
B10 (22-24)	09/24/15	ICON	2.22

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-5 (4-6)	02/11/15	ICON	13.4
SB-5 (4-6)	02/11/15	HET	15.7
SB-5 (6-8)	06/03/15	ICON	9.2
SB-5 (8-10)	06/03/15	ICON	25.2
SB-5 (16-18)	06/03/15	ICON	42.9
SB-5 (20-22)	06/03/15	ICON	40.5
SB-5 (20-22)	06/03/15	HET	43.6
SB-5 (32-34)	06/04/15	ICON	18.6
SB-5 (32-34)	06/04/15	HET	17.4

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B9 (8-10)	09/24/15	HET	27.6
B9 (8-10)	09/24/15	ICON	26.2
B9 (12-14)	09/24/15	HET	31.3
B9 (12-14)	09/24/15	ICON	33.8
B9 (16-18)	09/24/15	HET	23.9
B9 (26-28)	09/24/15	HET	197
B9 (26-28)	09/24/15	ICON	163

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-7 (2-4.5)	02/11/15	ICON	34.8
SB-7 (2-4.5)	02/11/15	HET	39.9
SB-7 (8-10)	06/10/15	ICON	20.7
SB-7 (12-14)	06/10/15	ICON	30.4
SB-7 (12-14)	06/10/15	HET	25.9
SB-7 (18-20)	06/10/15	ICON	20.1
SB-7 (18-20)	06/10/15	HET	23.1
SB-7 (24-26)	06/10/15	ICON	2.68
SB-7 (24-26)	06/10/15	HET	2.51

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-8 (6-8)	02/11/15	ICON	14.2
SB-8 (6-8)	02/11/15	HET	17.1
SB-8 (8-10)	06/10/15	ICON	12.1
SB-8 (16-18)	06/10/15	ICON	4.54
SB-8 (16-18)	06/10/15	HET	3.41

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B12 (7-9)	09/24/15	HET	16.4
B12 (7-9)	09/24/15	ICON	13.7
B12 (13-15)	09/24/15	HET	9.09
B12 (13-15)	09/24/15	ICON	18.6
B12 (15-17)	09/24/15	HET	8.24
B12 (22-24)	09/24/15	HET	167
B12 (22-24)	09/24/15	ICON	2.72

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
B13 (6-8)	09/25/15	HET	12.2
B13 (12-14)	09/25/15	HET	6.89
B13 (12-14)	09/25/15	ICON	19.9
B13 (15-17)	09/25/15	HET	12
B13 (26-28)	09/25/15	HET	178
B13 (26-28)	09/25/15	ICON	145

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-10 (6-8)	02/12/15	ICON	14.6
SB-10 (6-8)	02/12/15	HET	20.7
SB-10 (8-10)	06/12/15	ICON	14.4
SB-10 (8-10)	06/12/15	HET	16.8
SB-10 (12-14)	06/12/15	ICON	15.5
SB-10 (12-14)	06/12/15	HET	12.5
SB-10 (20-22)	06/12/15	ICON	4.16
SB-10 (20-22)	06/12/15	HET	3.85

Sample ID /Depth (feet)	Sample Date	Sampler	EC mmhos/ cm
SB-9 (6-8)	02/12/15	ICON	14.2
SB-9 (6-8)	02/12/15	HET	16.5
SB-9 (8-10)	06/11/15	ICON	15.9
SB-9 (8-10)	06/11/15	HET	18.3
SB-9 (12-14)	06/11/15	ICON	23.6
SB-9 (16-18)	06/11/15	ICON	12.8
SB-9 (20-22)	06/11/15	ICON	4.08

Explanation

- ICON Boring Locations
- HET Boring Locations

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Figure G-1. Soil concentration map of EC in exceedance of 29-B standards in Areas 1 and 2 on the Iberville Parish School Board property. Blue outlines indicate sample locations within submerged wetland areas. Base Map: 2015 NAIP Aerial

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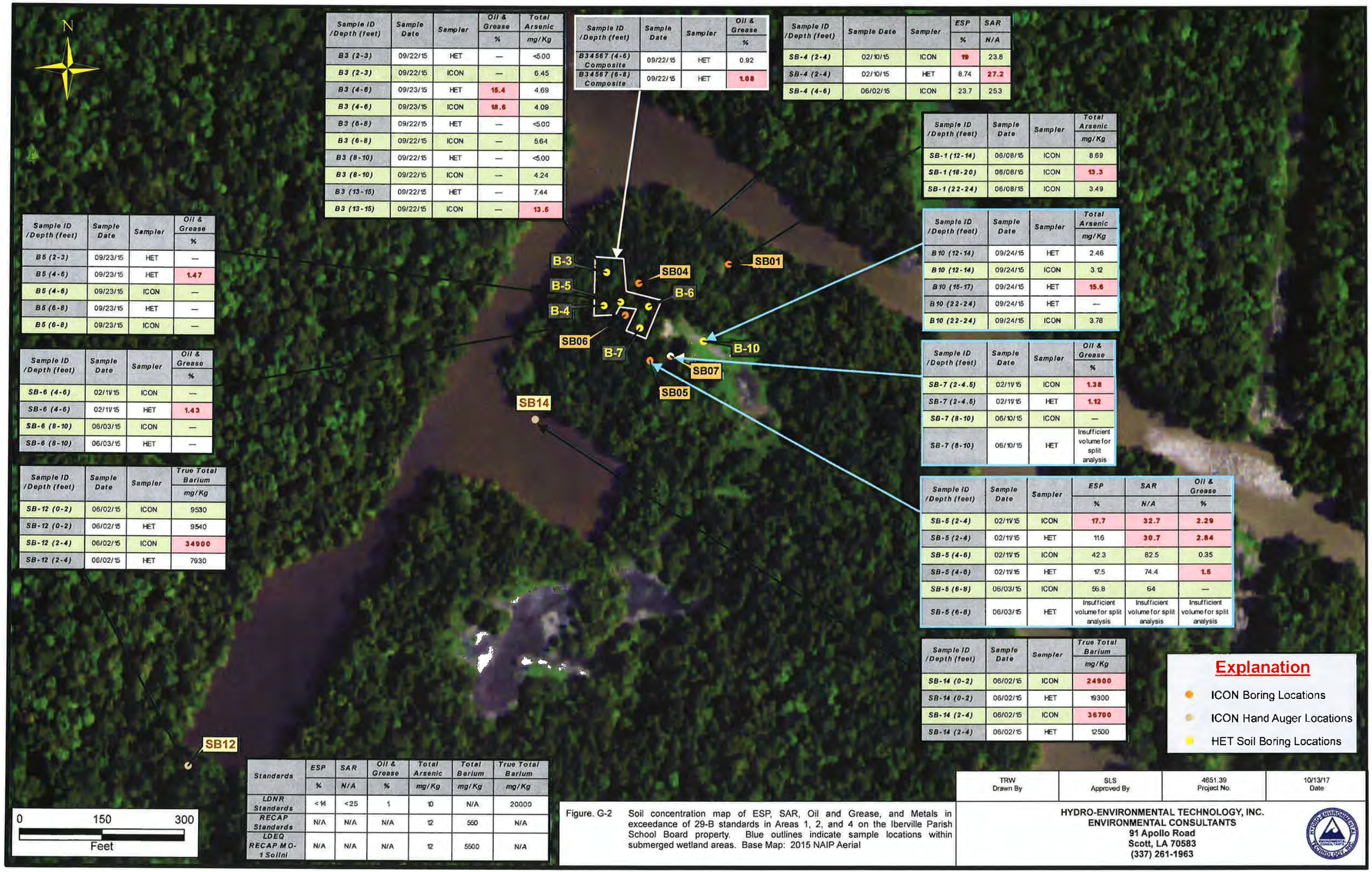
ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963



Sample ID /Depth (feet)	Sample Date	Sampler	Oil & Grease	Total Arsenic
			%	mg/Kg
B3 (2-3)	09/22/15	HET	—	<5.00
B3 (2-3)	09/22/15	ICON	—	6.45
B3 (4-6)	09/23/15	HET	15.4	4.69
B3 (4-6)	09/23/15	ICON	18.6	4.09
B3 (6-8)	09/22/15	HET	—	<5.00
B3 (6-8)	09/22/15	ICON	—	5.64
B3 (8-10)	09/22/15	HET	—	<5.00
B3 (8-10)	09/22/15	ICON	—	4.24
B3 (13-15)	09/22/15	HET	—	7.44
B3 (13-15)	09/22/15	ICON	—	13.6

Sample ID /Depth (feet)	Sample Date	Sampler	Oil & Grease
			%
B34567 (4-6) Composite	09/22/15	HET	0.92
B34567 (6-8) Composite	09/22/15	HET	1.08

Sample ID /Depth (feet)	Sample Date	Sampler	ESP	SAR
			%	N/A
SB-4 (2-4)	02/10/15	ICON	19	23.8
SB-4 (2-4)	02/10/15	HET	8.74	27.2
SB-4 (4-6)	06/02/15	ICON	23.7	25.3

Sample ID /Depth (feet)	Sample Date	Sampler	Total Arsenic
			mg/Kg
SB-1 (12-14)	06/08/15	ICON	8.69
SB-1 (18-20)	06/08/15	ICON	13.3
SB-1 (22-24)	06/08/15	ICON	3.49

Sample ID /Depth (feet)	Sample Date	Sampler	Total Arsenic
			mg/Kg
B10 (12-14)	09/24/15	HET	2.46
B10 (12-14)	09/24/15	ICON	3.12
B10 (15-17)	09/24/15	HET	15.6
B10 (22-24)	09/24/15	HET	—
B10 (22-24)	09/24/15	ICON	3.78

Sample ID /Depth (feet)	Sample Date	Sampler	Oil & Grease
			%
B5 (2-3)	09/23/15	HET	—
B5 (4-6)	09/23/15	HET	1.47
B5 (4-6)	09/23/15	ICON	—
B5 (6-8)	09/23/15	HET	—
B5 (6-8)	09/23/15	ICON	—

Sample ID /Depth (feet)	Sample Date	Sampler	Oil & Grease
			%
SB-6 (4-6)	02/11/15	ICON	—
SB-6 (4-6)	02/11/15	HET	1.43
SB-6 (8-10)	06/03/15	ICON	—
SB-6 (8-10)	06/03/15	HET	—

Sample ID /Depth (feet)	Sample Date	Sampler	Oil & Grease
			%
SB-7 (2-4.5)	02/11/15	ICON	1.38
SB-7 (2-4.5)	02/11/15	HET	1.12
SB-7 (8-10)	06/10/15	ICON	—
SB-7 (8-10)	06/10/15	HET	Insufficient volume for split analysis

Sample ID /Depth (feet)	Sample Date	Sampler	True Total Barium
			mg/Kg
SB-12 (0-2)	06/02/15	ICON	9530
SB-12 (0-2)	06/02/15	HET	9540
SB-12 (2-4)	06/02/15	ICON	34900
SB-12 (2-4)	06/02/15	HET	7930

Sample ID /Depth (feet)	Sample Date	Sampler	ESP	SAR	Oil & Grease
			%	N/A	%
SB-5 (2-4)	02/11/15	ICON	17.7	32.7	2.29
SB-5 (2-4)	02/11/15	HET	11.6	30.7	2.84
SB-5 (4-6)	02/11/15	ICON	42.3	82.5	0.35
SB-5 (4-6)	02/11/15	HET	17.5	74.4	1.5
SB-5 (6-8)	06/03/15	ICON	56.8	64	—
SB-5 (6-8)	06/03/15	HET	Insufficient volume for split analysis	Insufficient volume for split analysis	Insufficient volume for split analysis

Sample ID /Depth (feet)	Sample Date	Sampler	True Total Barium
			mg/Kg
SB-14 (0-2)	06/02/15	ICON	24900
SB-14 (0-2)	06/02/15	HET	19300
SB-14 (2-4)	06/02/15	ICON	36700
SB-14 (2-4)	06/02/15	HET	12500

Standards	ESP	SAR	Oil & Grease	Total Arsenic	Total Barium	True Total Barium
	%	N/A	%	mg/Kg	mg/Kg	mg/Kg
LDNR Standards	<14	<25	1	10	N/A	20000
RECAP Standards	N/A	N/A	N/A	12	550	N/A
LDEQ RECAP MO-1 Soilni	N/A	N/A	N/A	12	5500	N/A

Explanation

- ICON Boring Locations
- ICON Hand Auger Locations
- HET Soil Boring Locations

Figure. G-2 Soil concentration map of ESP, SAR, Oil and Grease, and Metals in exceedance of 29-B standards in Areas 1, 2, and 4 on the Iberville Parish School Board property. Blue outlines indicate sample locations within submerged wetland areas. Base Map: 2015 NAIP Aerial

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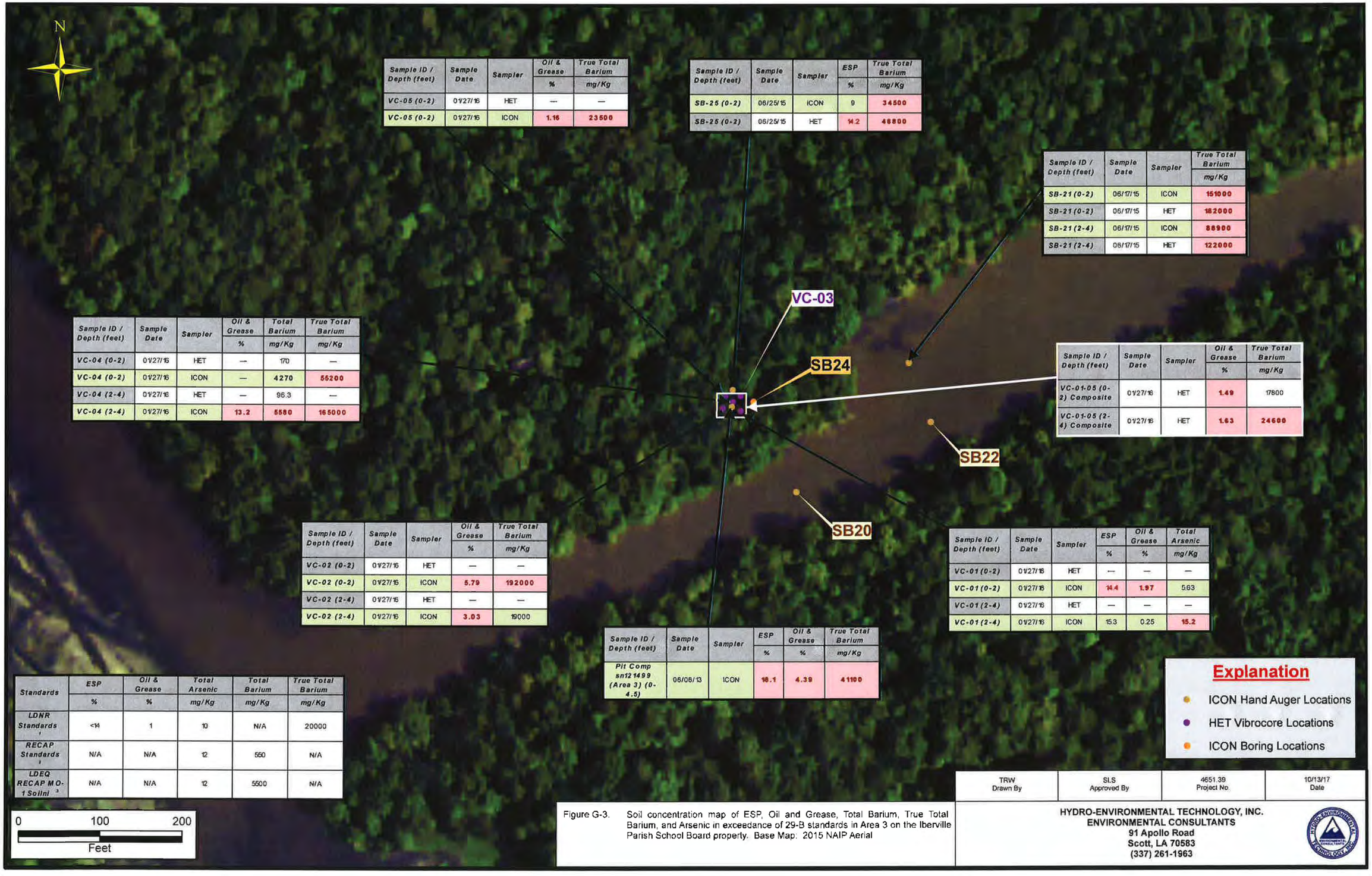
ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963



Sample ID / Depth (feet)	Sample Date	Sampler	Oil & Grease	True Total Barium
			%	mg/Kg
VC-05 (0-2)	01/27/16	HET	—	—
VC-05 (0-2)	01/27/16	ICON	1.16	23500

Sample ID / Depth (feet)	Sample Date	Sampler	ESP	True Total Barium
			%	mg/Kg
SB-25 (0-2)	06/25/15	ICON	9	34500
SB-25 (0-2)	06/25/15	HET	14.2	46800

Sample ID / Depth (feet)	Sample Date	Sampler	True Total Barium
			mg/Kg
SB-21 (0-2)	06/17/15	ICON	151000
SB-21 (0-2)	06/17/15	HET	182000
SB-21 (2-4)	06/17/15	ICON	88900
SB-21 (2-4)	06/17/15	HET	122000

Sample ID / Depth (feet)	Sample Date	Sampler	Oil & Grease	Total Barium	True Total Barium
			%	mg/Kg	mg/Kg
VC-04 (0-2)	01/27/16	HET	—	170	—
VC-04 (0-2)	01/27/16	ICON	—	4270	55200
VC-04 (2-4)	01/27/16	HET	—	96.3	—
VC-04 (2-4)	01/27/16	ICON	13.2	5580	165000

Sample ID / Depth (feet)	Sample Date	Sampler	Oil & Grease	True Total Barium
			%	mg/Kg
VC-01-05 (0-2) Composite	01/27/16	HET	1.49	17800
VC-01-05 (2-4) Composite	01/27/16	HET	1.63	24600

Sample ID / Depth (feet)	Sample Date	Sampler	Oil & Grease	Total Barium	True Total Barium
			%	mg/Kg	mg/Kg
VC-02 (0-2)	01/27/16	HET	—	—	—
VC-02 (0-2)	01/27/16	ICON	5.79	192000	
VC-02 (2-4)	01/27/16	HET	—	—	—
VC-02 (2-4)	01/27/16	ICON	3.03	19000	

Sample ID / Depth (feet)	Sample Date	Sampler	ESP	Oil & Grease	True Total Barium
			%	%	mg/Kg
Pit Comp sn121499 (Area 3) (0-4.5)	06/06/13	ICON	16.1	4.39	41100

Sample ID / Depth (feet)	Sample Date	Sampler	ESP	Oil & Grease	Total Arsenic
			%	%	mg/Kg
VC-01 (0-2)	01/27/16	HET	—	—	—
VC-01 (0-2)	01/27/16	ICON	14.4	1.97	5.63
VC-01 (2-4)	01/27/16	HET	—	—	—
VC-01 (2-4)	01/27/16	ICON	15.3	0.25	15.2

Standards	ESP	Oil & Grease	Total Arsenic	Total Barium	True Total Barium
	%	%	mg/Kg	mg/Kg	mg/Kg
LDNR Standards [1]	<14	1	10	N/A	20000
RECAP Standards [2]	N/A	N/A	12	550	N/A
LDEQ RECAP MO-1 Soilni [3]	N/A	N/A	12	5500	N/A

Explanation

- ICON Hand Auger Locations
- HET Vibrocore Locations
- ICON Boring Locations

Figure G-3. Soil concentration map of ESP, Oil and Grease, Total Barium, True Total Barium, and Arsenic in exceedance of 29-B standards in Area 3 on the Iberville Parish School Board property. Base Map: 2015 NAIP Aerial

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Scott, LA 70583
(337) 261-1963

Sample ID / Depth (feet)	Sample Date	Sampler	True Total Barium mg/Kg
SB-34 (0-2)	10/14/15	ICON	29300
SB-34 (0-2)	10/14/15	HET	13900
SB-34 (2-4)	10/14/15	ICON	925
SB-34 (2-4)	10/14/15	HET	1340
SB-34 (4-6)	10/14/15	ICON	1020
SB-34 (4-6)	10/14/15	HET	918

Standards	True Total Barium mg/Kg
LDNR Standards [1]	20000

Explanation

- ICON Hand Auger Locations
- ICON Boring Locations

TRW Drawn By	SLS Approved By	4651.39 Project No.	10/13/17 Date

Figure G-4. Soil concentration map of constituents in exceedance of 29-B standards in Areas 4 and 5 on the Iberville Parish School Board property. Base Map: 2015 NAIP Aerial

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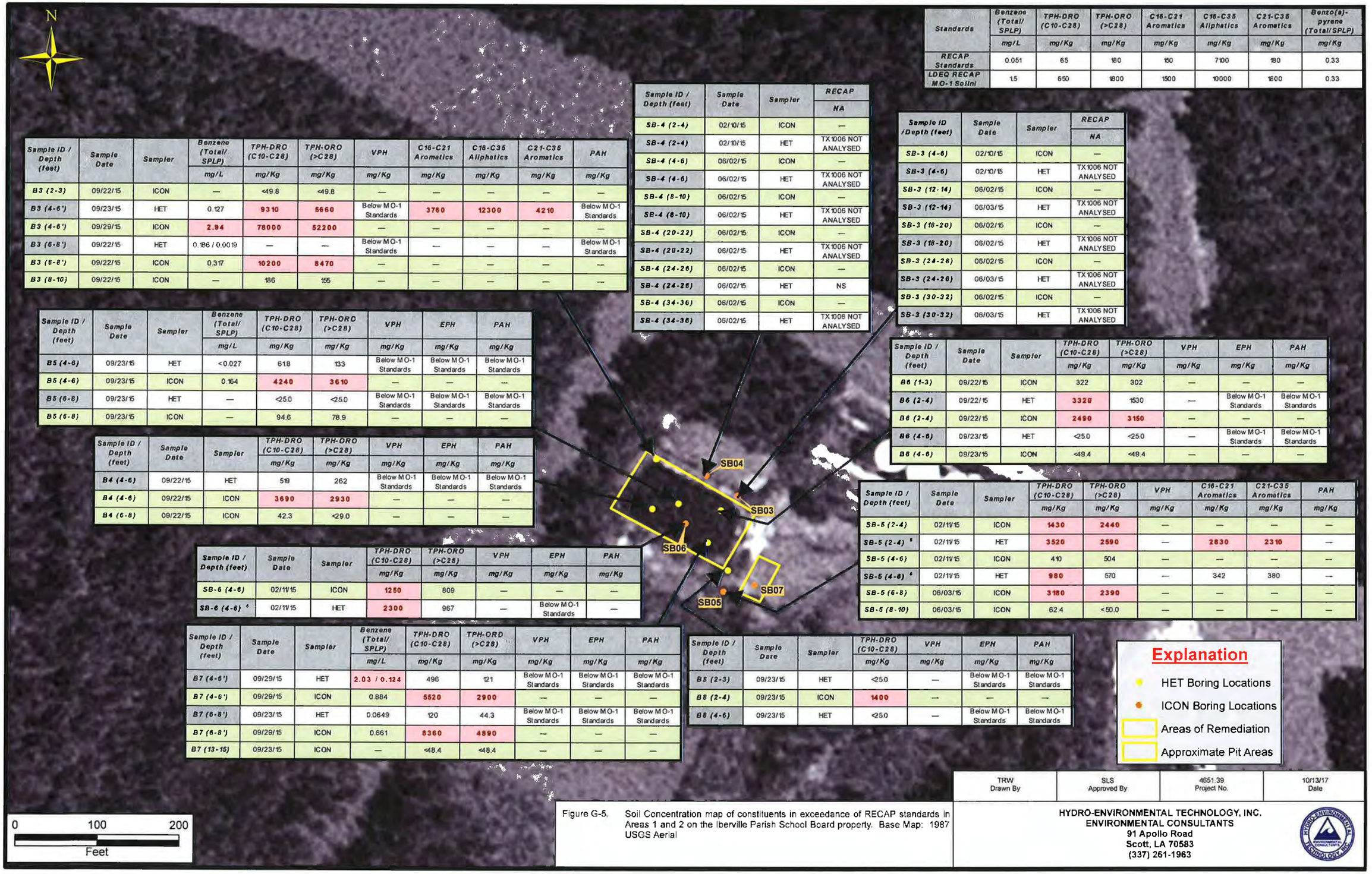
91 Apollo Road
Scott, LA 70583
(337) 261-1963



Standards	Benzene (Total/ SPLP)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	C16-C21 Aromatics	C16-C35 Aliphatics	C21-C35 Aromatics	Benzo(a)-pyrene (Total/SPLP)
	mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
RECAP Standards	0.051	65	180	150	7100	180	0.33
LDEQ RECAP MO-1 Soilni	1.5	650	1800	1500	10000	1600	0.33

Sample ID / Depth (feet)	Sample Date	Sampler	Benzene (Total/ SPLP)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	C16-C21 Aromatics	C16-C35 Aliphatics	C21-C35 Aromatics	PAH
			mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
B3 (2-3)	09/22/15	ICON	—	<49.8	<49.8	—	—	—	—	—
B3 (4-6')	09/23/15	HET	0.127	**9310**	**5660**	Below MO-1 Standards	**3760**	**12300**	**4210**	Below MO-1 Standards
B3 (4-6')	09/29/15	ICON	**2.94**	**78000**	**52200**	—	—	—	—	—
B3 (6-8')	09/22/15	HET	0.186 / 0.0019	—	—	Below MO-1 Standards	—	—	—	Below MO-1 Standards
B3 (6-8')	09/22/15	ICON	0.317	**10200**	**8470**	—	—	—	—	—
B3 (8-10)	09/22/15	ICON	—	186	155	—	—	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	RECAP
			NA
SB-4 (2-4)	02/10/15	ICON	—
SB-4 (2-4)	02/10/15	HET	TX1006 NOT ANALYSED
SB-4 (4-6)	06/02/15	ICON	—
SB-4 (4-6)	06/02/15	HET	TX1006 NOT ANALYSED
SB-4 (8-10)	06/02/15	ICON	—
SB-4 (8-10)	06/02/15	HET	TX1006 NOT ANALYSED
SB-4 (20-22)	06/02/15	ICON	—
SB-4 (20-22)	06/02/15	HET	TX1006 NOT ANALYSED
SB-4 (24-26)	06/02/15	ICON	—
SB-4 (24-26)	06/02/15	HET	NS
SB-4 (34-36)	06/02/15	ICON	—
SB-4 (34-36)	06/02/15	HET	TX1006 NOT ANALYSED

Sample ID /Depth (feet)	Sample Date	Sampler	RECAP
			NA
SB-3 (4-6)	02/10/15	ICON	—
SB-3 (4-6)	02/10/15	HET	TX1006 NOT ANALYSED
SB-3 (12-14)	06/02/15	ICON	—
SB-3 (12-14)	06/03/15	HET	TX1006 NOT ANALYSED
SB-3 (18-20)	06/02/15	ICON	—
SB-3 (18-20)	06/02/15	HET	TX1006 NOT ANALYSED
SB-3 (24-26)	06/02/15	ICON	—
SB-3 (24-26)	06/03/15	HET	TX1006 NOT ANALYSED
SB-3 (30-32)	06/02/15	ICON	—
SB-3 (30-32)	06/03/15	HET	TX1006 NOT ANALYSED

Sample ID / Depth (feet)	Sample Date	Sampler	Benzene (Total/ SPLP)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
B5 (4-6)	09/23/15	HET	<0.027	618	133	Below MO-1 Standards	Below MO-1 Standards	Below MO-1 Standards
B5 (4-6)	09/23/15	ICON	0.164	**4240**	**3610**	—	—	—
B5 (6-8)	09/23/15	HET	—	<25.0	<25.0	Below MO-1 Standards	Below MO-1 Standards	Below MO-1 Standards
B5 (6-8)	09/23/15	ICON	—	94.6	78.9	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
B4 (4-6)	09/22/15	HET	519	262	Below MO-1 Standards	Below MO-1 Standards	Below MO-1 Standards
B4 (4-6)	09/22/15	ICON	**3690**	**2930**	—	—	—
B4 (6-8)	09/22/15	ICON	42.3	<29.0	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
SB-6 (4-6)	02/11/15	ICON	**1250**	809	—	—	—
SB-6 (4-6) [5]	02/11/15	HET	**2300**	967	—	Below MO-1 Standards	—

Sample ID / Depth (feet)	Sample Date	Sampler	Benzene (Total/ SPLP)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/L	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
B7 (4-6')	09/29/15	HET	**2.03 / 0.124**	496	121	Below MO-1 Standards	Below MO-1 Standards	Below MO-1 Standards
B7 (4-6')	09/29/15	ICON	0.884	**5520**	**2900**	—	—	—
B7 (6-8')	09/23/15	HET	0.0649	120	44.3	Below MO-1 Standards	Below MO-1 Standards	Below MO-1 Standards
B7 (6-8')	09/29/15	ICON	0.661	**8360**	**4890**	—	—	—
B7 (13-15)	09/23/15	ICON	—	<48.4	<48.4	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg
B5 (2-3)	09/23/15	HET	<25.0	—	Below MO-1 Standards	Below MO-1 Standards
B8 (2-4)	09/23/15	ICON	**1400**	—	—	—
B8 (4-6)	09/23/15	HET	<25.0	—	Below MO-1 Standards	Below MO-1 Standards

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
B6 (1-3)	09/22/15	ICON	322	302	—	—	—
B6 (2-4)	09/22/15	HET	**3328**	1530	—	Below MO-1 Standards	Below MO-1 Standards
B6 (2-4)	09/22/15	ICON	**2490**	**3150**	—	—	—
B6 (4-6)	09/23/15	HET	<25.0	<25.0	—	Below MO-1 Standards	Below MO-1 Standards
B6 (4-6)	09/23/15	ICON	<49.4	<49.4	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	C16-C21 Aromatics	C21-C35 Aromatics	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
SB-5 (2-4)	02/11/15	ICON	**1430**	**2440**	—	—	—	—
SB-5 (2-4) [5]	02/11/15	HET	**3520**	**2590**	—	**2830**	**2310**	—
SB-5 (4-6)	02/11/15	ICON	410	504	—	—	—	—
SB-5 (4-6) [5]	02/11/15	HET	**980**	570	—	342	380	—
SB-5 (6-8)	06/03/15	ICON	**3180**	**2390**	—	—	—	—
SB-5 (8-10)	06/03/15	ICON	62.4	<50.0	—	—	—	—

Explanation

- HET Boring Locations
- ICON Boring Locations
- Areas of Remediation
- Approximate Pit Areas

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Figure G-5. Soil Concentration map of constituents in exceedance of RECAP standards in Areas 1 and 2 on the Iberville Parish School Board property. Base Map: 1987 USGS Aerial

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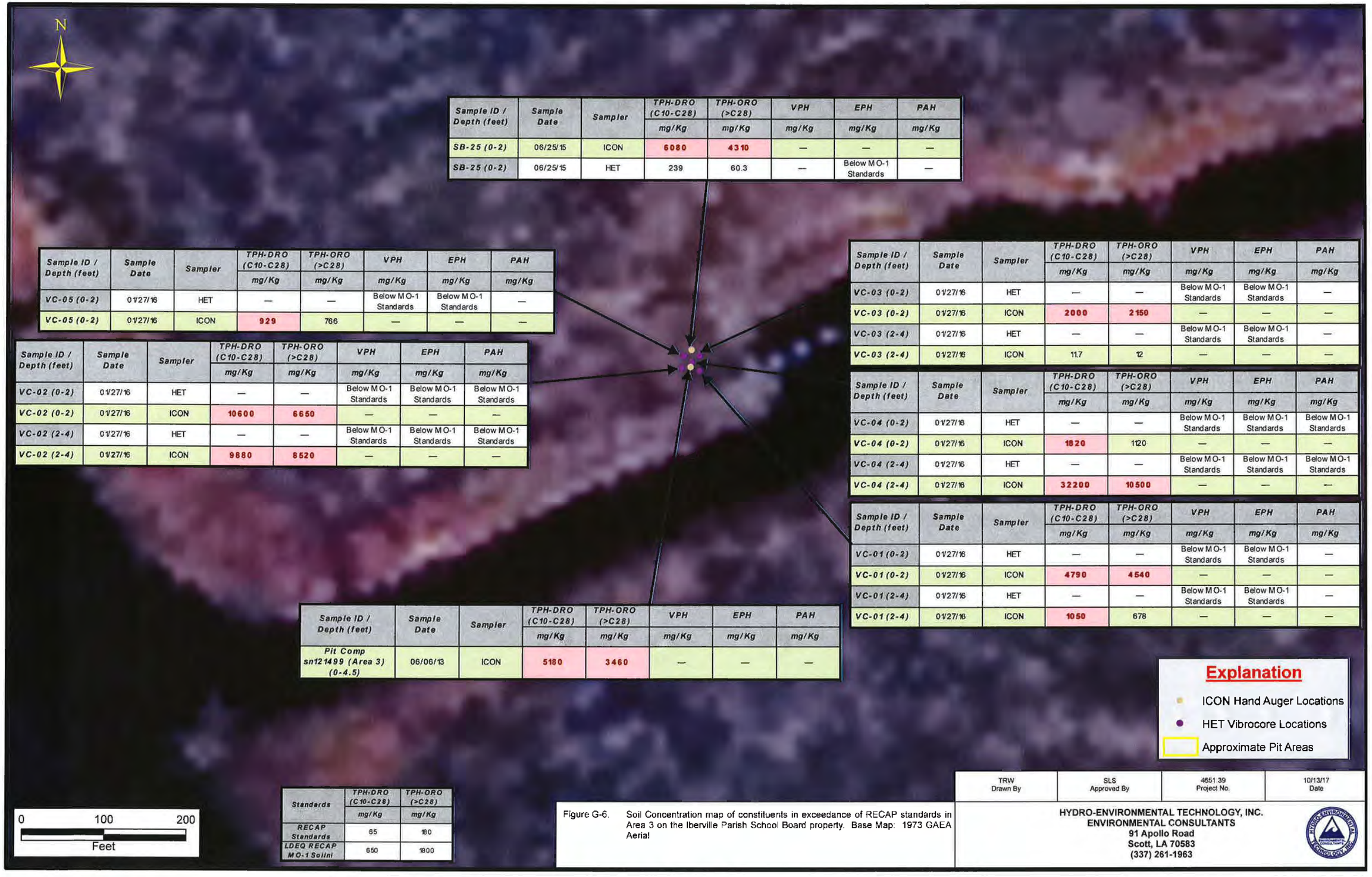
ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963



Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
SB-25 (0-2)	06/25/15	ICON	6080	4310	—	—	—
SB-25 (0-2)	06/25/15	HET	239	60.3	—	Below MO-1 Standards	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
VC-05 (0-2)	01/27/16	HET	—	—	Below MO-1 Standards	Below MO-1 Standards	—
VC-05 (0-2)	01/27/16	ICON	929	766	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
VC-02 (0-2)	01/27/16	HET	—	—	Below MO-1 Standards	Below MO-1 Standards	Below MO-1 Standards
VC-02 (0-2)	01/27/16	ICON	10600	6650	—	—	—
VC-02 (2-4)	01/27/16	HET	—	—	Below MO-1 Standards	Below MO-1 Standards	Below MO-1 Standards
VC-02 (2-4)	01/27/16	ICON	9880	8520	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Pit Comp sn121499 (Area 3) (0-4.5)	06/06/13	ICON	5180	3460	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
VC-03 (0-2)	01/27/16	HET	—	—	Below MO-1 Standards	Below MO-1 Standards	—
VC-03 (0-2)	01/27/16	ICON	2000	2150	—	—	—
VC-03 (2-4)	01/27/16	HET	—	—	Below MO-1 Standards	Below MO-1 Standards	—
VC-03 (2-4)	01/27/16	ICON	11.7	12	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
VC-04 (0-2)	01/27/16	HET	—	—	Below MO-1 Standards	Below MO-1 Standards	Below MO-1 Standards
VC-04 (0-2)	01/27/16	ICON	1820	1120	—	—	—
VC-04 (2-4)	01/27/16	HET	—	—	Below MO-1 Standards	Below MO-1 Standards	Below MO-1 Standards
VC-04 (2-4)	01/27/16	ICON	32200	10500	—	—	—

Sample ID / Depth (feet)	Sample Date	Sampler	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
VC-01 (0-2)	01/27/16	HET	—	—	Below MO-1 Standards	Below MO-1 Standards	—
VC-01 (0-2)	01/27/16	ICON	4790	4540	—	—	—
VC-01 (2-4)	01/27/16	HET	—	—	Below MO-1 Standards	Below MO-1 Standards	—
VC-01 (2-4)	01/27/16	ICON	1050	678	—	—	—

Standards	TPH-DRO (C10-C28)	TPH-ORO (>C28)
	mg/Kg	mg/Kg
RECAP Standards	85	180
LDEQ RECAP MO-1 Soilni	650	1800

Explanation

- ICON Hand Auger Locations
- HET Vibrocore Locations
- Approximate Pit Areas

Figure G-6. Soil Concentration map of constituents in exceedance of RECAP standards in Area 3 on the Iberville Parish School Board property. Base Map: 1973 GAEA Aerial

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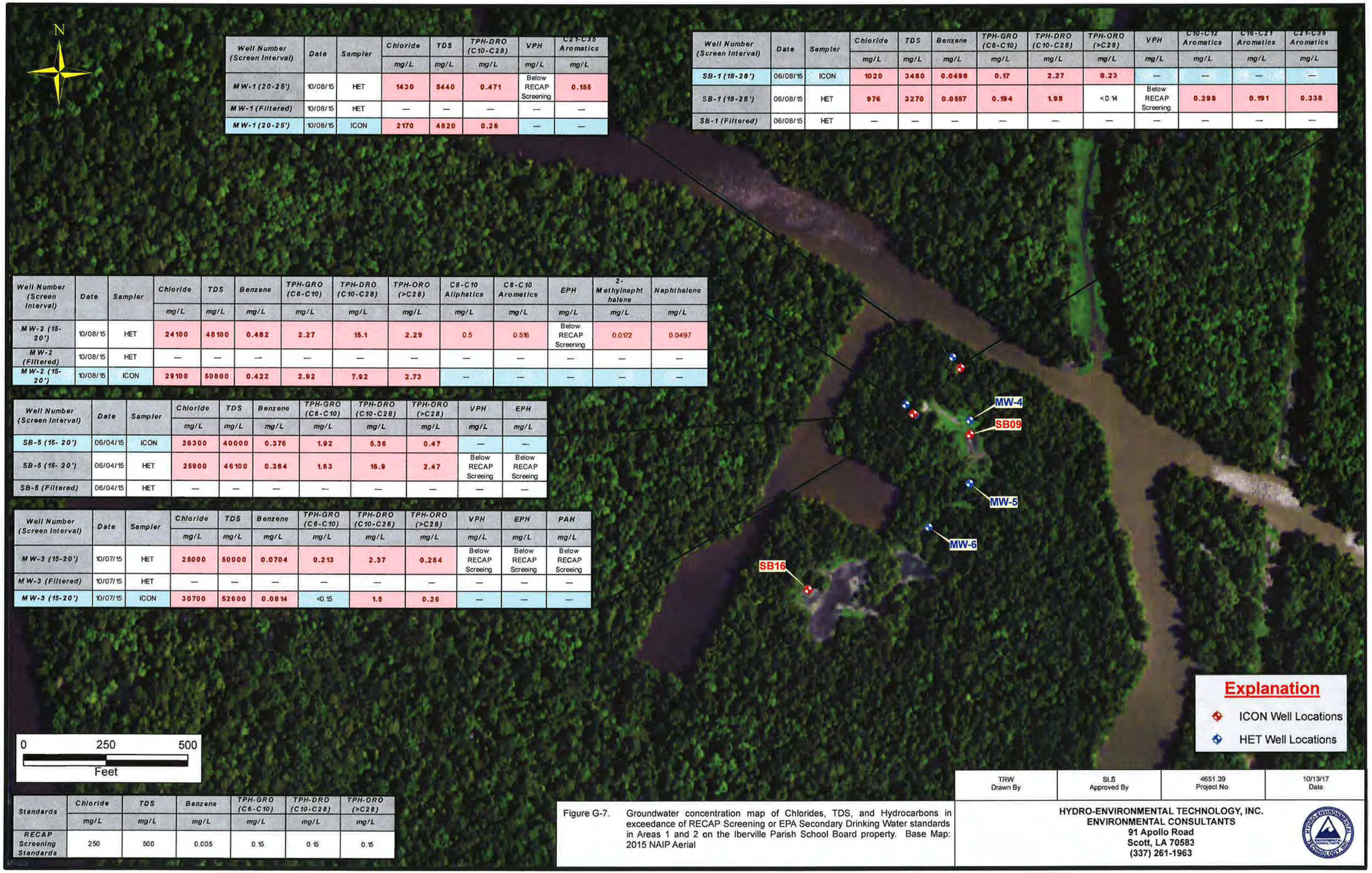
HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963



Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	TPH-DRO (C10-C28)	VPH	C21-C35 Aromatics
			mg/L	mg/L	mg/L	mg/L	mg/L
MW-1 (20-25')	10/08/15	HET	1430	5440	0.471	Below RECAP Screening	0.155
MW-1 (Filtered)	10/08/15	HET	—	—	—	—	—
MW-1 (20-25')	10/08/15	ICON	2170	4820	0.26	—	—

Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	Benzene	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	C10-C12 Aromatics	C16-C21 Aromatics	C21-C35 Aromatics
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SB-1 (18-28')	06/08/15	ICON	1020	3480	0.0498	0.17	2.27	0.23	—	—	—	—
SB-1 (18-28')	06/08/15	HET	976	3270	0.0557	0.194	1.98	<0.14	Below RECAP Screening	0.298	0.191	0.338
SB-1 (Filtered)	06/08/15	HET	—	—	—	—	—	—	—	—	—	—

Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	Benzene	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	C8-C10 Aliphatics	C8-C10 Aromatics	EPH	2-Methylnaphthalene	Naphthalene
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-2 (15-20')	10/08/15	HET	24100	48100	0.482	2.27	15.1	2.29	0.5	0.516	Below RECAP Screening	0.0172	0.0497
MW-2 (Filtered)	10/08/15	HET	—	—	—	—	—	—	—	—	—	—	—
MW-2 (15-20')	10/08/15	ICON	29100	50800	0.422	2.92	7.92	2.73	—	—	—	—	—

Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	Benzene	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SB-5 (15- 20')	06/04/15	ICON	26300	40000	0.376	1.92	5.36	0.47	—	—
SB-5 (15- 20')	06/04/15	HET	25900	46100	0.384	1.63	16.9	2.47	Below RECAP Screeing	Below RECAP Screeing
SB-5 (Filtered)	06/04/15	HET	—	—	—	—	—	—	—	—

Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	Benzene	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	PAH
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-3 (15-20')	10/07/15	HET	25000	50000	0.0704	0.213	2.37	0.284	Below RECAP Screeing	Below RECAP Screeing	Below RECAP Screeing
MW-3 (Filtered)	10/07/15	HET	—	—	—	—	—	—	—	—	—
MW-3 (15-20')	10/07/15	ICON	30700	52600	0.0814	<0.15	1.5	0.26	—	—	—

Standards	Chloride	TDS	Benzene	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RECAP Screening Standards	250	500	0.005	0.15	0.15	0.15

Figure G-7. Groundwater concentration map of Chlorides, TDS, and Hydrocarbons in exceedance of RECAP Screening or EPA Secondary Drinking Water standards in Areas 1 and 2 on the Iberville Parish School Board property. Base Map: 2015 NAIP Aerial

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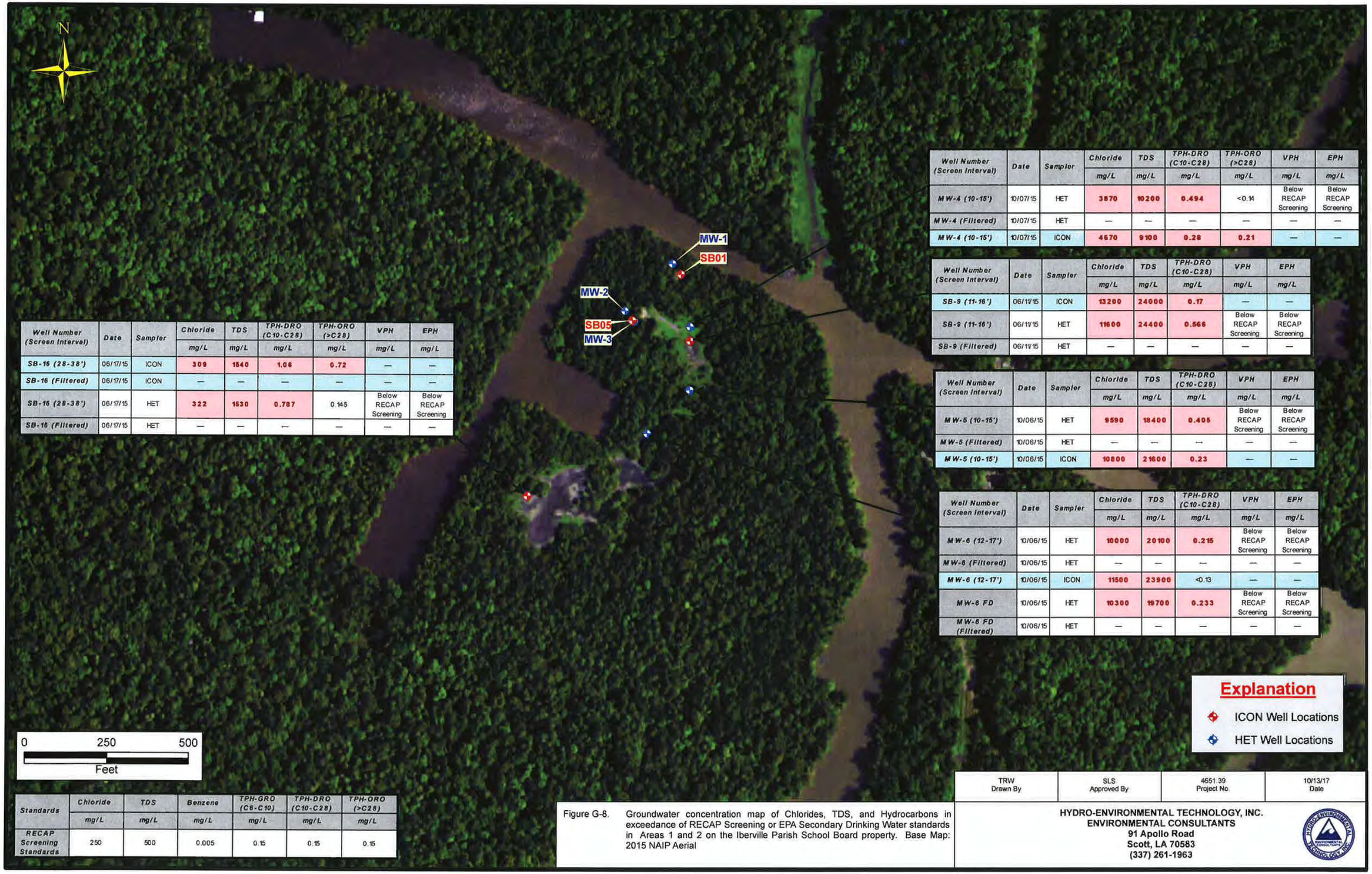
HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963



Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SB-16 (28-38')	06/17/15	ICON	309	1540	1.06	0.72	—	—
SB-16 (Filtered)	06/17/15	ICON	—	—	—	—	—	—
SB-16 (28-38')	06/17/15	HET	322	1530	0.787	0.145	Below RECAP Screening	Below RECAP Screening
SB-16 (Filtered)	06/17/15	HET	—	—	—	—	—	—

Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
MW-4 (10-15')	10/07/15	HET	3870	10200	0.494	<0.14	Below RECAP Screening	Below RECAP Screening
MW-4 (Filtered)	10/07/15	HET	—	—	—	—	—	—
MW-4 (10-15')	10/07/15	ICON	4670	9100	0.28	0.21	—	—

Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	TPH-DRO (C10-C28)	VPH	EPH
			mg/L	mg/L	mg/L	mg/L	mg/L
SB-9 (11-16')	06/11/15	ICON	13200	24000	0.17	—	—
SB-9 (11-16')	06/11/15	HET	11600	24400	0.566	Below RECAP Screening	Below RECAP Screening
SB-9 (Filtered)	06/11/15	HET	—	—	—	—	—

Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	TPH-DRO (C10-C28)	VPH	EPH
			mg/L	mg/L	mg/L	mg/L	mg/L
MW-5 (10-15')	10/06/15	HET	9590	18400	0.405	Below RECAP Screening	Below RECAP Screening
MW-5 (Filtered)	10/06/15	HET	—	—	—	—	—
MW-5 (10-15')	10/06/15	ICON	10800	21600	0.23	—	—

Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	TPH-DRO (C10-C28)	VPH	EPH
			mg/L	mg/L	mg/L	mg/L	mg/L
MW-6 (12-17')	10/06/15	HET	10000	20100	0.215	Below RECAP Screening	Below RECAP Screening
MW-6 (Filtered)	10/06/15	HET	—	—	—	—	—
MW-6 (12-17')	10/06/15	ICON	11500	23900	<0.13	—	—
MW-6 FD	10/06/15	HET	10300	19700	0.233	Below RECAP Screening	Below RECAP Screening
MW-6 FD (Filtered)	10/06/15	HET	—	—	—	—	—

Standards	Chloride	TDS	Benzene	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RECAP Screening Standards	250	500	0.005	0.15	0.15	0.15

Explanation

- ICON Well Locations
- HET Well Locations

Figure G-8. Groundwater concentration map of Chlorides, TDS, and Hydrocarbons in exceedance of RECAP Screening or EPA Secondary Drinking Water standards in Areas 1 and 2 on the Iberville Parish School Board property. Base Map: 2015 NAIP Aerial

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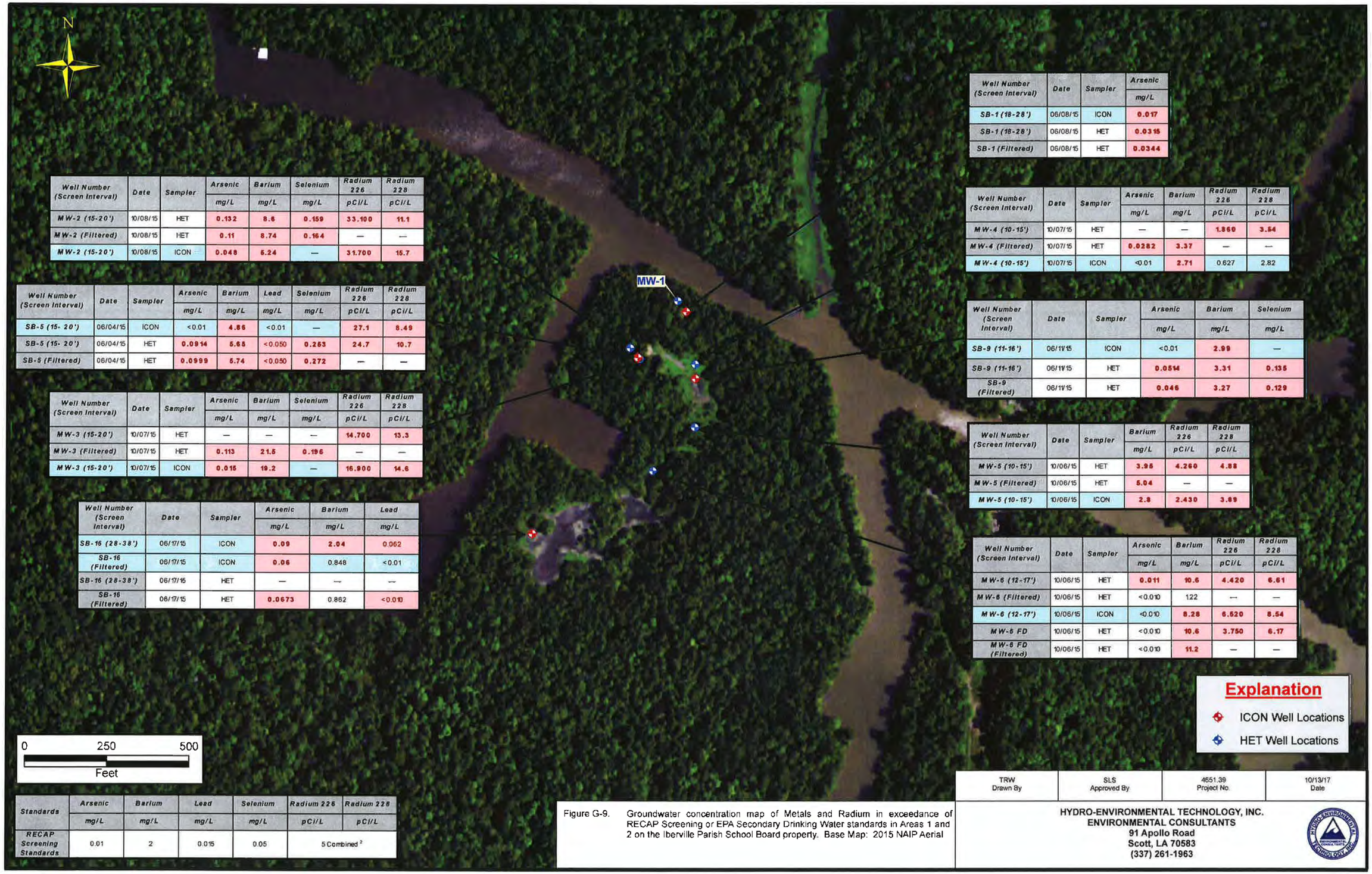
HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963



Well Number (Screen Interval)	Date	Sampler	Arsenic	Barium	Selenium	Radium 226	Radium 228
			mg/L	mg/L	mg/L	pCi/L	pCi/L
MW-2 (15-20')	10/08/15	HET	0.132	8.6	0.159	33.100	11.1
MW-2 (Filtered)	10/08/15	HET	0.11	8.74	0.164	—	—
MW-2 (15-20')	10/08/15	ICON	0.048	5.24	—	31.700	15.7

Well Number (Screen Interval)	Date	Sampler	Arsenic	Barium	Lead	Selenium	Radium 226	Radium 228
			mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L
SB-5 (15- 20')	06/04/15	ICON	<0.01	4.86	<0.01	—	27.1	8.49
SB-5 (15- 20')	06/04/15	HET	0.0914	5.65	<0.050	0.263	24.7	10.7
SB-5 (Filtered)	06/04/15	HET	0.0999	5.74	<0.050	0.272	—	—

Well Number (Screen Interval)	Date	Sampler	Arsenic	Barium	Selenium	Radium 226	Radium 228
			mg/L	mg/L	mg/L	pCi/L	pCi/L
MW-3 (15-20')	10/07/15	HET	—	—	—	14.700	13.3
MW-3 (Filtered)	10/07/15	HET	0.113	21.5	0.196	—	—
MW-3 (15-20')	10/07/15	ICON	0.015	19.2	—	16.900	14.6

Well Number (Screen Interval)	Date	Sampler	Arsenic	Barium	Lead
			mg/L	mg/L	mg/L
SB-16 (28-38')	06/17/15	ICON	0.09	2.04	0.062
SB-16 (Filtered)	06/17/15	ICON	0.06	0.848	<0.01
SB-16 (28-38')	06/17/15	HET	—	—	—
SB-16 (Filtered)	06/17/15	HET	0.0673	0.862	<0.010

Standards	Arsenic	Barium	Lead	Selenium	Radium 226	Radium 228
	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L
RECAP Screening Standards	0.01	2	0.015	0.05	5 Combined [2]	

Well Number (Screen Interval)	Date	Sampler	Arsenic
			mg/L
SB-1 (18-28')	06/08/15	ICON	0.017
SB-1 (18-28')	06/08/15	HET	0.0315
SB-1 (Filtered)	06/08/15	HET	0.0344

Well Number (Screen Interval)	Date	Sampler	Arsenic	Barium	Radium 226	Radium 228
			mg/L	mg/L	pCi/L	pCi/L
MW-4 (10-15')	10/07/15	HET	—	—	1.860	3.54
MW-4 (Filtered)	10/07/15	HET	0.0282	3.37	—	—
MW-4 (10-15')	10/07/15	ICON	<0.01	2.71	0.627	2.82

Well Number (Screen Interval)	Date	Sampler	Arsenic	Barium	Selenium
			mg/L	mg/L	mg/L
SB-9 (11-16')	06/11/15	ICON	<0.01	2.99	—
SB-9 (11-16')	06/11/15	HET	0.0514	3.31	0.135
SB-9 (Filtered)	06/11/15	HET	0.046	3.27	0.129

Well Number (Screen Interval)	Date	Sampler	Barium	Radium 226	Radium 228
			mg/L	pCi/L	pCi/L
MW-5 (10-15')	10/06/15	HET	3.95	4.260	4.88
MW-5 (Filtered)	10/06/15	HET	5.04	—	—
MW-5 (10-15')	10/06/15	ICON	2.8	2.430	3.89

Well Number (Screen Interval)	Date	Sampler	Arsenic	Barium	Radium 226	Radium 228
			mg/L	mg/L	pCi/L	pCi/L
MW-6 (12-17')	10/06/15	HET	0.011	10.6	4.420	6.61
MW-6 (Filtered)	10/06/15	HET	<0.010	1.22	—	—
MW-6 (12-17')	10/06/15	ICON	<0.010	8.28	6.520	8.54
MW-6 FD	10/06/15	HET	<0.010	10.6	3.750	6.17
MW-6 FD (Filtered)	10/06/15	HET	<0.010	11.2	—	—

Explanation

- ICON Well Locations
- HET Well Locations

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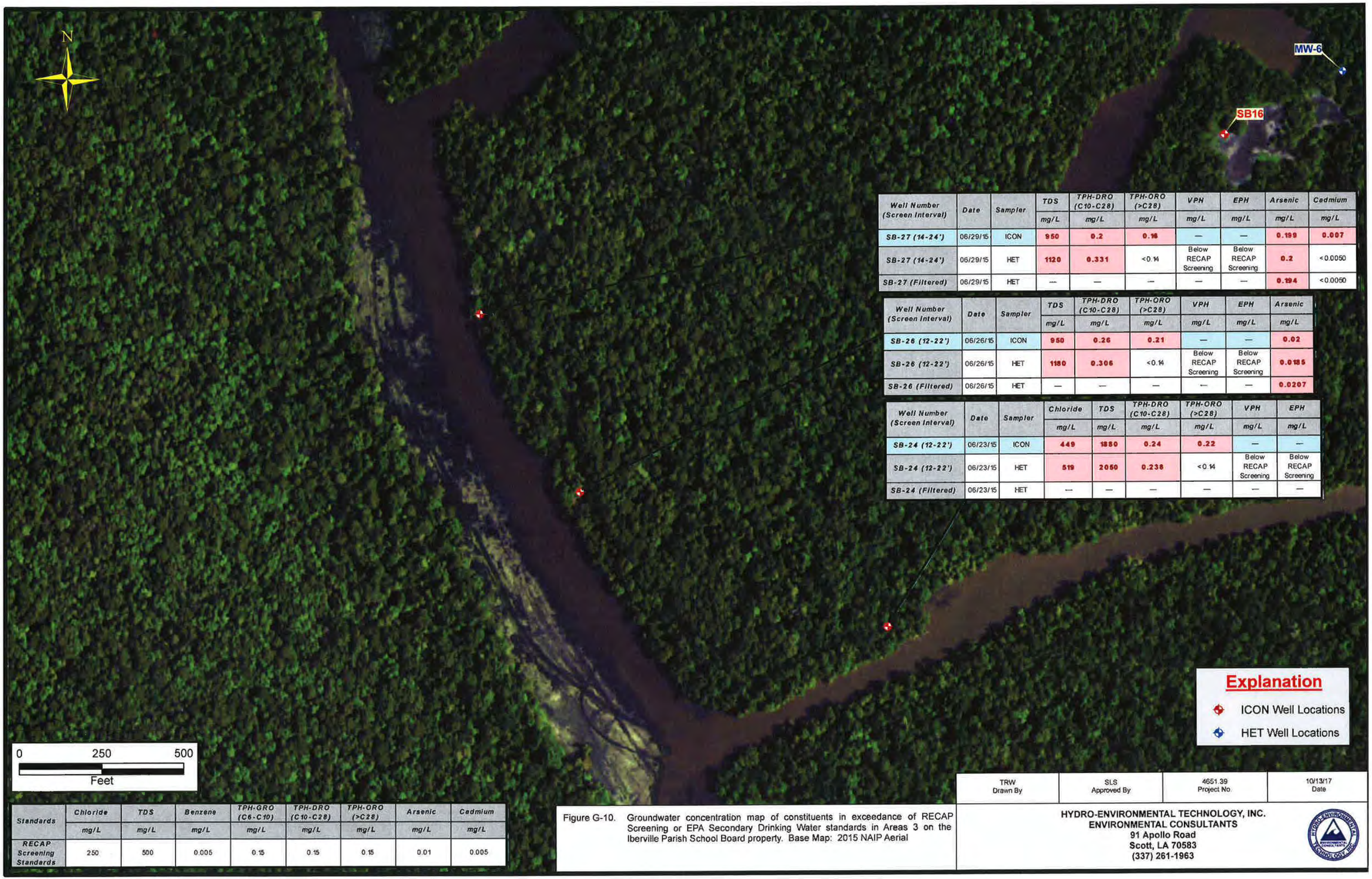
Figure G-9. Groundwater concentration map of Metals and Radium in exceedance of RECAP Screening or EPA Secondary Drinking Water standards in Areas 1 and 2 on the Iberville Parish School Board property. Base Map: 2015 NAIP Aerial

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963



Well Number (Screen Interval)	Date	Sampler	TDS	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	Arsenic	Cadmium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SB-27 (14-24')	06/29/15	ICON	950	0.2	0.16	—	—	0.199	0.007
SB-27 (14-24')	06/29/15	HET	1120	0.331	<0.14	Below RECAP Screening	Below RECAP Screening	0.2	<0.0050
SB-27 (Filtered)	06/29/15	HET	—	—	—	—	—	0.194	<0.0050

Well Number (Screen Interval)	Date	Sampler	TDS	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH	Arsenic
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SB-26 (12-22')	06/26/15	ICON	950	0.26	0.21	—	—	0.02
SB-26 (12-22')	06/26/15	HET	1180	0.306	<0.14	Below RECAP Screening	Below RECAP Screening	0.0185
SB-26 (Filtered)	06/26/15	HET	—	—	—	—	—	0.0207

Well Number (Screen Interval)	Date	Sampler	Chloride	TDS	TPH-DRO (C10-C28)	TPH-ORO (>C28)	VPH	EPH
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SB-24 (12-22')	06/23/15	ICON	449	1880	0.24	0.22	—	—
SB-24 (12-22')	06/23/15	HET	519	2050	0.238	<0.14	Below RECAP Screening	Below RECAP Screening
SB-24 (Filtered)	06/23/15	HET	—	—	—	—	—	—

Standards	Chloride	TDS	Benzene	TPH-GRO (C6-C10)	TPH-DRO (C10-C28)	TPH-ORO (>C28)	Arsenic	Cadmium
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RECAP Screening Standards	250	500	0.005	0.15	0.15	0.15	0.01	0.005

Figure G-10. Groundwater concentration map of constituents in exceedance of RECAP Screening or EPA Secondary Drinking Water standards in Areas 3 on the Iberville Parish School Board property. Base Map: 2015 NAIP Aerial

TRW	SLS	4651.39	10/13/17
Drawn By	Approved By	Project No.	Date

HYDRO-ENVIRONMENTAL TECHNOLOGY, INC.
ENVIRONMENTAL CONSULTANTS
91 Apollo Road
Scott, LA 70583
(337) 261-1963