



May 16, 2018

Mr. Byron Amick
Environmental Engineer Associate
Industrial Wastewater Permitting Section - Water Facilities Permitting Division
SCDHEC
2600 Bull Street
Columbia, S.C. 29201

RE: SCE&G Canadys Station Site – SC0002020
Closure Plans for: Ash Pond 1, Ash Pond 2, Plant Side Ponds
Dorchester and Colleton Counties

Dear Mr. Amick,

Please find attached three paper copies and an electronic copy for each of the below reports for you review and approval:

- *Close Out Plan for the Canadys Station Ash Pond 1*
- *Close Out Plan for the Canadys Station Ash Pond 2*
- *Close Out Plan for the Canadys Station Plant Side Ponds*

The Plans were prepared to satisfy or otherwise demonstrate compliance with Regulation 61-82 *Proper Closeout of Wastewater Treatment Facilities*, as well as consistency with other DHEC program areas which are involved in regulatory issues at the site and may be involved in the approval of the Plan.

Also, as proposed in the Closure Plans, the deadlines for closure of the Plant Side Ponds and the Ash Ponds are 2025 and 2035, respectively. It is our understanding that, based on discussions with DHEC NPDES personnel, the proposed deadlines are acceptable and the facility NPDES permit will be modified accordingly.

If you have any questions or need additional information, please call me at (803) 217-9617.

Sincerely,
SCANA Environmental Services

Jean-Claude Younan

Attachments

SOUTH CAROLINA ELECTRIC & GAS



CLOSE OUT PLAN FOR THE CANADYS STATION PLANT SIDE PONDS

COLLETON COUNTY, SOUTH CAROLINA

MAY 2018

Prepared by



SOUTH CAROLINA ELECTRIC & GAS



CLOSE OUT PLAN FOR THE CANADYS STATION PLANT SIDE PONDS

COLLETON COUNTY, SOUTH CAROLINA

MAY 2018



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APPENDICES

A – Report “*Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site*”

B – SCDHEC approval letter

C – EDTA Analysis Correspondance

D – SCDHEC Industrial Wastewater Facility Closure Form and Supporting Documentation (forms, figures, photographic record)

1 INTRODUCTION

1.1 Purpose

South Carolina Electric & Gas (SCE&G), a subsidiary of SCANA, owns the Canadys Station power generating facility. Canadys Station is a coal-fired station located along the Edisto River near Canadys, South Carolina. The site is located near the intersection of Highways 15 and 61, approximately 10 miles south of St. George, South Carolina and approximately 11 miles north of Waterboro, South Carolina as identified on Figure 1 below.

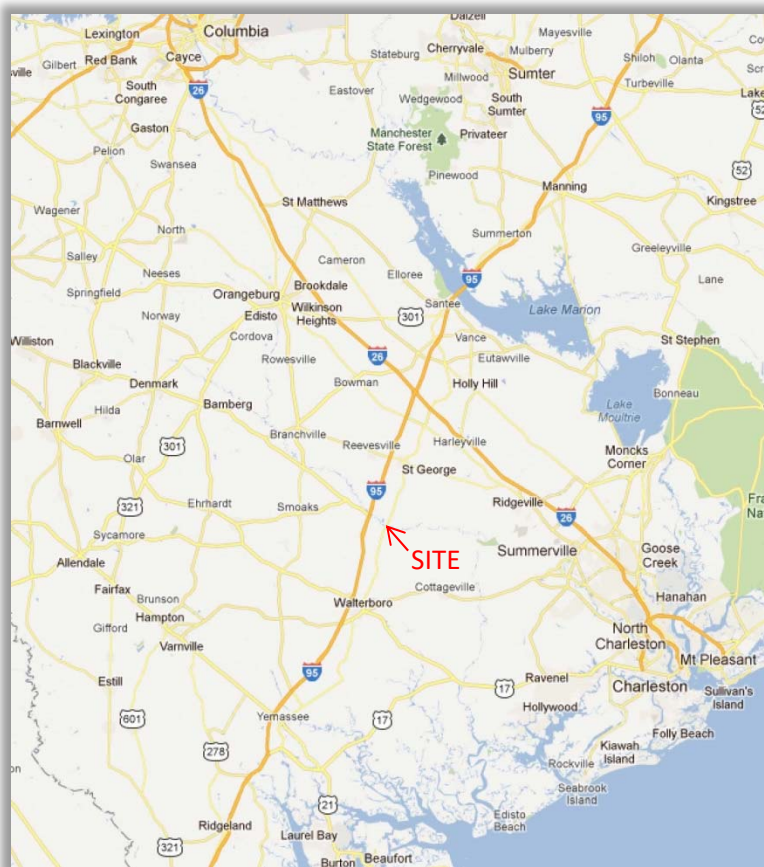


Figure 1

Canadys Station began commercial operations in 1962 and originally included one coal-fired electrical generating unit. Two additional coal-fired units were added in 1964 and 1967, respectively. At full capacity, the plant generated 470 megawatts of electricity. SCE&G ceased generating electricity at the plant in December 2013 and was subsequently decommissioned.

Canadys Station is located on approximately 1,590 contiguous acres owned by SCE&G, with approximately 325 acres located in Colleton County and the remaining approximate 1,265 acres located in Dorchester County. Wastewater facilities on the Dorchester County portion of the Canadys Station property include two ash storage ponds (Ash Pond #1 and Ash Pond #2) which were used for the management of sluiced fly and bottom ash material. Wastewater facilities on the Colleton County portion of Canadys Station property include:

- Settling Ponds #1 and #2
- Coal Pile Runoff Ponds #1 and #2
- Low Volume Waste Ponds A, B, C
- Metals Polishing Pond
- Spray Pond

A drawing showing the Canadys Station facility layout and the above discussed wastewater pond facilities is presented as Figure 2.

As part of the decommissioning process and in preparation for pond closure planning, SCE&G has performed a site investigation to delineate the presence of ash and /or wastewater sludge and to investigate potential impacts of operations on underlying native soils for the wastewater ponds located on Canadys Station property identified above.

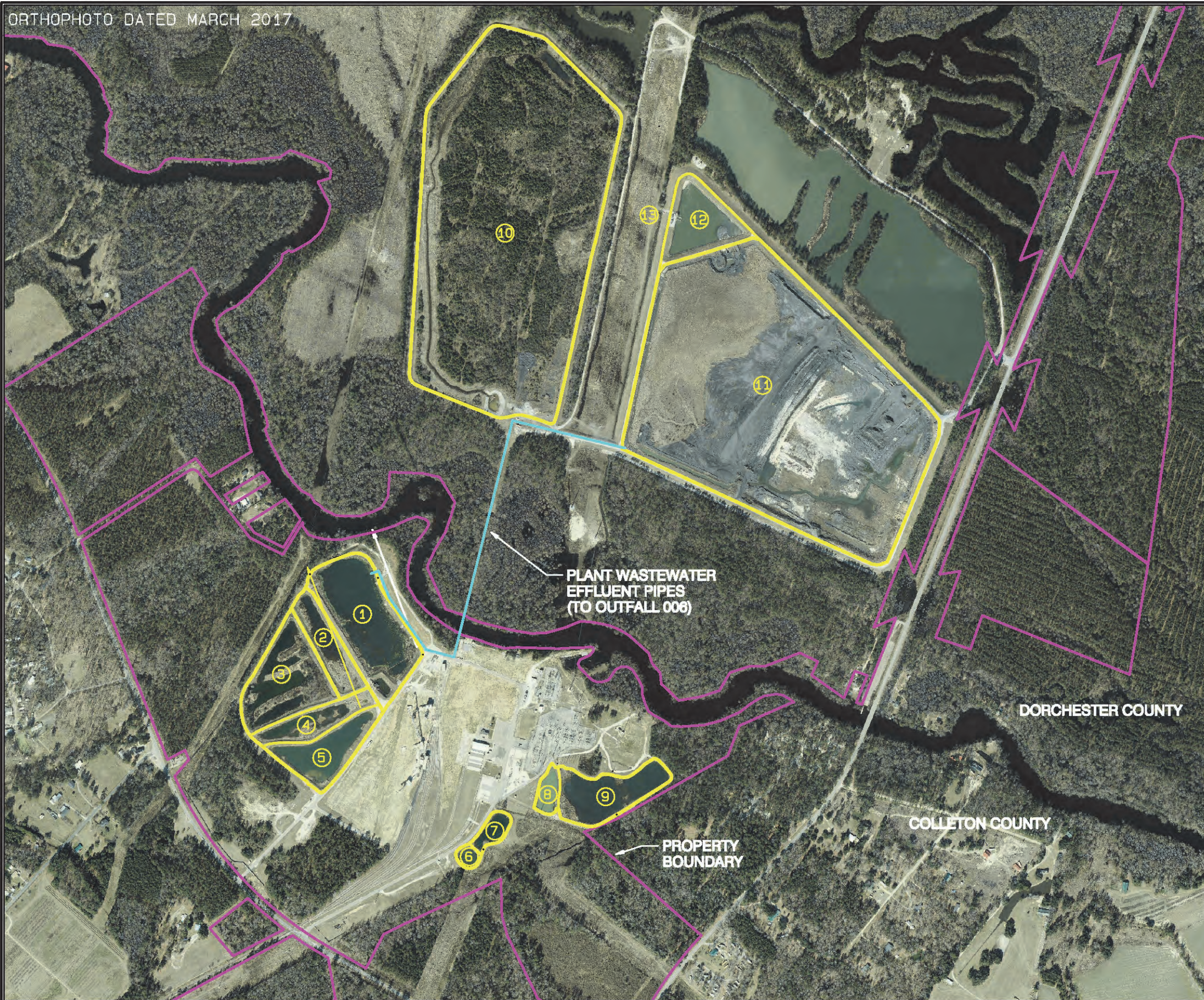
The purpose of this document is to present the findings of the site investigations as well as proposed close-out plans for the closure of the Colleton County ponds. Closure plan documents for other site ponds (Ash Ponds 1 and 2) are presented separately. The findings and plans presented herein are intended to satisfy or otherwise demonstrate compliance with:

- Regulation 61-82 *Proper Closeout of Wastewater Treatment Facilities*.

The plan presented herein is also intended to be consistent with other key site permit and regulatory requirements to include:

- NPDES Permit #SC0002020

ORTHOPHOTO DATED MARCH 2017



- ① SPRAY POND
- ② NO DISCHARGE POND
- ③ POND A
- ④ POND B
- ⑤ POND C
- ⑥ COAL PILE RUNOFF POND #1
- ⑦ COAL PILE RUNOFF POND #2
- ⑧ SETTLING POND #1
- ⑨ SETTLING POND #2
- ⑩ ASH POND #1
- ⑪ ASH POND #2
- ⑫ POLISHING POND
- ⑬ NPDES OUTFALL 006

NOTES:

1. THE SITE INCLUDES A NETWORK OF PUMP STATIONS AND BURIED PIPES WITH VALVING, WHICH ARE NOT SHOWN ON THE DRAWING FOR CLARITY.
2. THE ABOVE PUMP AND PIPING NETWORK INTERCONNECTS THE PONDS AND ALLOWS FOR TRANSFER OF WATERS. THE NETWORK ALLOWS FOR WATERS FROM THE VARIOUS PONDS TO BE TRANSFERRED TO THE SPRAY POND, FOR PUMPING TO ASH POND 2 FOR DISCHARGE VIA OUTFALL 006.

DORCHESTER COUNTY

COLLETON COUNTY

PROPERTY
BOUNDARY

PLANT WASTEWATER
EFFLUENT PIPES
(TO OUTFALL 006)



GRAPHIC SCALE

1"=300'



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**CANADYS STATION
COLLETON COUNTY
PONDS CLOSURE**

FACILITY LAYOUT & FEATURES

**FIGURE
2**

Other regulatory requirements and permits necessary for the planned work relating to air, stormwater, etc., are beyond the scope of this report and will be addressed at a later time as project plans are further developed.

1.2 Background

The following presents a discussion of the each of the wastewater treatment facilities proposed for closure:

1.2.1 Settling Ponds #1 & #2

Prior to the elimination of Outfall 003 (the outlet structure is only maintained for emergency overflows) in 2008, Settling Ponds #1 & #2 received all of the site wastewater except for the ash sluice wastewater (sluice water containing fly ash, and bottom ash) which were conveyed to Ash Pond #2 and discharged through Outfall 006. This included all cooling tower blowdown, coal pile runoff, wastewater from the Low Volume Waste Ponds, etc. After elimination of Outfall 003 in 2008, Settling Ponds #1 & #2 received water treatment wastewaters, stormwater, and boiler blowdown. Settling Pond #1 flows into Settling Pond #2. Wastewater from Settling Pond #2 is then pumped by dual 1,200 gallons per minute (GPM) submersible pumps through a 10-inch polyethylene pipe into the Spray Pond.

Settling Pond #1 and #2 are approximately 1 and 5.5 acres, respectively. The ponds use a combination of incised and earthen berms for perimeter containment. Based on site investigations, Settling Pond #1 and #2 combined currently contain approximately 44,000 cubic yards of ponded waste material.

1.2.2 Coal Pile Runoff Basins #1 & #2

Stormwater runoff from the Coal Pile flowed into two perimeter ditches along the border of the Coal Pile and was conveyed by gravity through two 24-inch polyethylene lines into Coal Pile Runoff Basin #1. A 24-inch outfall riser and discharge pipe connects Basins #1 and #2. Wastewater from Coal Pile Runoff Basin #2 is then pumped by dual 900 GPM submersible pumps through an 8-inch polyethylene pipe into the Spray Pond.

Coal Pile Runoff Ponds #1 and #2 are approximately 0.5 and 1 acre, respectively. The ponds use a combination of incised and earthen berms for perimeter containment. All

ponded waste materials have already been removed from Coal Pile Runoff Ponds #1 and #2.

1.2.3 Low Volume Waste Ponds A, B, & C

Low Volume Waste Ponds A, B, & C received wastewater primarily from Units #1, #2, & #3 Sumps and the Water Treatment Waste Sump. The ponds treated this wastewater in series (A to C) through settling and other physical/natural processes. Wastewater in Pond C was then pumped by dual 1,300 GPM submersible pumps through a 10-inch polyethylene line into the Spray Pond.

The Units #1, #2 & #3 Sumps collected a variety of wastewater sources including stormwater, boiler feedwater overflow, air heater washwater, condenser drains, and others. The Water Treatment Waste Sump collected regeneration waste from the ion exchange units, stormwater, and other wastewaters associated with the water treatment system.

Low Volume Waste Ponds A, B, & C are approximately 8.5, 3.5, and 5 acres, respectively, inclusive of the internal berms. The Ponds use a combination of incised and earthen berms for perimeter containment. Based on site investigations, Low Volume Waste Ponds A, B, & C combined currently contain approximately 262,000 cubic yards of ponded waste material.

1.2.4 Metals Cleaning Pond

The Metals Cleaning Pond is approximately 4 acres and uses a combination of incised and earthen berms for perimeter containment. Based on site investigations, the Metals Cleaning Pond currently contain approximately 38,000 cubic yards of ponded waste material.

1.2.5 Spray Pond

The Spray Pond is located on the south side of Cooling Tower #3. While this pond was once used for cooling purposes and included the Outfall 001 discharge, with the elimination of Outfall 003 in 2008, this pond was the final treatment/storage pond for all plant wastewaters prior to use as ash sluice water (supplied by dual 2,000 GPM vertical turbine pumps). The Spray Pond received Cooling Tower #1, #2, & #3 blowdown directly, with all other wastewaters entering this pond indirectly as discussed above. This Spray

Pond also received makeup water pumped from the Edisto River when additional sluice water was required. The previous Outfall 001 discharge structure located at the northwest corner of the pond was maintained for emergencies only, though the pond level was and continues to be maintained to prevent such discharges.

The Spray Pond is approximately 10.5 acres. The Pond uses a combination of incised and earthen berms for perimeter containment. Based on site investigations, the Spray Pond currently contain approximately 60,500 cubic yards of ponded waste material.

1.2.6 Ash Ponds (Outfalls 004 and 006)

Canadys Station utilized wastewater (and river water makeup) from the Spray Pond to sluice waste (fly ash) and ash pit waste (pyrites) from the plant to one of the two Ash Ponds on the north side of the Edisto River via a pipe bridge.

Ash Pond #1 (which includes Outfall 004) is inactive, receiving waste from 1974 to 1988. In 2005, dual 500 GPM dewatering pumps were added to the 80-acre Ash Pond #1 to reduce the water level, thereby eliminating the possibility of discharge through Outfall 004. The wastewater from Ash Pond #1 is discharged into Ash Pond #2 through an 8-inch polyethylene pipe.

Ash Pond #2 is active, receiving waste from 1988 to present. Ash Pond #2 includes the approximate 89-acre primary pond and an approximate 6-acre polishing pond. The 89-acre pond is used for primary treatment, with the polishing pond used to remove any remaining solids, to reduce trace contaminants by physical and natural biological means, and to adjust the pH prior to discharge via Outfall 006.

Closure Plans for of the Ash Ponds are being prepared separately. The closure plans presented herein are intended solely for the closure of the wastewater ponds on the Collection County portion of the Canadys property.

1.3 Pond Closure Regulation

The various Colleton County ponds are under regulation by SCDHEC. The discharges from the ponds are permitted under the Federal National Pollutant Discharge Elimination System Permit (Permit # SC0002020).

Close-out of the wastewater ponds on the Collection County portion of the Canadys property will be regulated by the Bureau of Water, Water Facilities Permitting Division, Industrial Wastewater Permitting Section. Regulation 61-82 *Proper Closeout of Wastewater Treatment Facilities* provides the general requirements for the closure of industrial wastewater treatment plants and facilities.

Other agencies anticipated to be involved in the approval of the close-out plan for the coal pile runoff pond area include the Groundwater Management Section, the EQC regional office, and the Bureau of Land and Waste Management.

Other approvals/permits, including stormwater, air, etc., are also anticipated to be required in order to complete close-out of the facility

2 REGIONAL AND SITE GEOLOGY & HYDROGEOLOGY

Refer to the report “*Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site*” included as Appendix A.

3 SITE INVESTIGATIONS

Refer to the report “*Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site*” included as Appendix A.

4 ANALYSIS AND INTERPRETATION OF SITE DATA

Refer to the report “*Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site*” included as Appendix A.

5 CLOSE-OUT PLAN

5.1 Previous Site Investigations and Regulatory Approvals

5.1.1 Summary of Previous Site Investigations & Analysis

As previously discussed herein, SCE&G performed a site investigation to delineate the presence of ash and /or wastewater pond sediments and to investigate potential impacts of operations on underlying native soils, with results of the investigation presented in the report “*Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site*” as presented in Appendix A in its entirety. The report includes discussions of the history of the site and operations, regional geology and hydrogeology, site investigations (borings), sampling and laboratory testing of pond sediments and underlying native soils, analysis and interpretation of the site data, and corrective actions considerations.

Figures 3 and 4 are excerpts from the Report and present a site map showing the borings performed as part of the investigation (Figure 3) and the estimated thickness of ponded waste materials (Figure 4).

Corrective actions proposed in *Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site* include the removal of about 400,000 cubic yards of coal combustion residuals and other plant waste sediments presently contained within the plant ponds. Following excavation and removal of the pond wastes, the report proposes backfilling and grading the pond to promote stormwater runoff and prevent ponding, or installing a clay liner in the pond bottoms.

5.1.2 Regulatory Approval

The report *Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site*” was submitted to SCDHEC in July 2014 and subsequently approved in a letter (LOA-004415) dated February 23, 2015. A copy of the approval letter is presented in Appendix B.

[illegible]

FIGURE
3

v:\SCE66\Canadys\Plant Side Closure Investigation\Closure-out Plan\FIG 7 MARCH 2018.pro Mon Mar 19, 2018 10:42:27AM



LEGEND

- BB - BACKGROUND BORING
- LB - LAND BORING
- PB - POND BORING

CONTOURS REPRESENT THICKNESS OF POND SLUDGE



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CANADYS STATION PLANT SIDE PONDS CLOSURE

PONDED WASTE MATERIAL THICKNESS MAP

FIGURE
4

5.1.3 Additional Investigations regarding EDTA

As mentioned earlier, the metals cleaning pond was used for the management of metal cleaning wastes. Metals cleaning was conducted within the plant using ethylenediaminetetraacetic acid (EDTA) as a chelating agent to bind metals for subsequent removal from aqueous waste streams. Water discharged to the metals cleaning pond contained only very small amounts of EDTA. EDTA is used for medical treatment for heavy metal exposure due to its chelation properties, as a food additive to bind metals, and in numerous personal care and hygiene products, such as shampoos, liquid soaps, creams, and lotions. Inasmuch as EDTA is not considered a toxicological hazard to human health, EDTA is not considered a potential contaminant of concern (COC) at the site.

To assess potential impact resulting from the use of the EDTA, SCE&G implemented an investigation program to analyze the groundwater in the area to identify the potential presence of EDTA in groundwater. A total of three groundwater wells were sampled, to include one upgradient/background and two downgradient of the metals cleaning pond. The EDTA analysis results indicated no significant presence of EDTA in groundwater at the downgradient wells. A copy of the findings (letter correspondence from SCE&G to DHEC dated April 10, 2018) is presented in Appendix C.

5.2 Pond Closure Excavations

5.2.1 Excavation and Removal of Pondered Waste

As discussed in the report *“Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site”* included in Appendix A, the waste within the existing project wastewater ponds has been investigated and delineated. A figure showing the estimated bottom of the pondered waste materials based on the investigation borings is presented in Figure 5.

Excavation to the planned grades is anticipated to result in the excavation of about 400,000 cubic yards of waste. Protocols for the excavation of the waste materials are presented later in this section.

5.2.2 Excavation and Removal of Impacted Soil

Additional corrective actions not discussed in the *Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site* but proposed herein include the removal of underlying soils that reported arsenic concentrations above a site target level.

5.2.2.1 Arsenic Identified as the Contaminant of Concern

As discussed in detail in the report “*Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site*”, background boring locations were advanced hydraulically up-gradient and outside the boundaries of areas of activity associated with the ponds to characterize background contaminant concentrations for use in assessing underlying soil impacts associated with the pond operations. With the exception of arsenic, none of the metals were detected at concentrations that exceed EPA industrial screening standard in any of the soil samples analyzed.

Further, abundant groundwater quality data from site monitoring wells exist for total metals (including arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc), and arsenic has been the only constituent consistently detected at concentrations exceeding the corresponding EPA Maximum Contaminant Limit (MCL; 10 µg/L) in over 15 years of groundwater monitoring.

Based on the above discussion, and as concluded in the approved report, arsenic is the only contaminant of concern at the site.

5.2.2.2 Naturally Occurring Arsenic & Site Remediation Goal

The results of analyses of the surficial sediment soil samples from the background borings indicate that for arsenic, the contaminant of concern, the naturally occurring site background high concentration is 7.45 mg/kg. Additionally, the United States Geologic Survey (USGS) maintains a database (National Geochemical Database <https://mrdata.usgs.gov/ngdb/soil/>) for the results of geochemical testing nationwide to include Colleton and Dorchester Counties, the counties for which the Canadys parcel is located. For Colleton/Dorchester Counties, USGS reports a naturally occurring arsenic high concentration of 8.7 mg/kg.

Based on the site background data for naturally occurring arsenic in soil, a soil arsenic concentration of 7 mg/kg has been selected as the cleanup target level for the project.

5.2.2.3 Soil Excavation Grades

Based on the discussion above, the proposed depth of excavation for the plant side ponds includes the removal of all ponded ash as well as underlying soils reported arsenic concentrations greater than the site target level (7 mg/kg) as identified in Table 1. An grading plan to remove the waste and impacted soils is presented on Sheet 6.

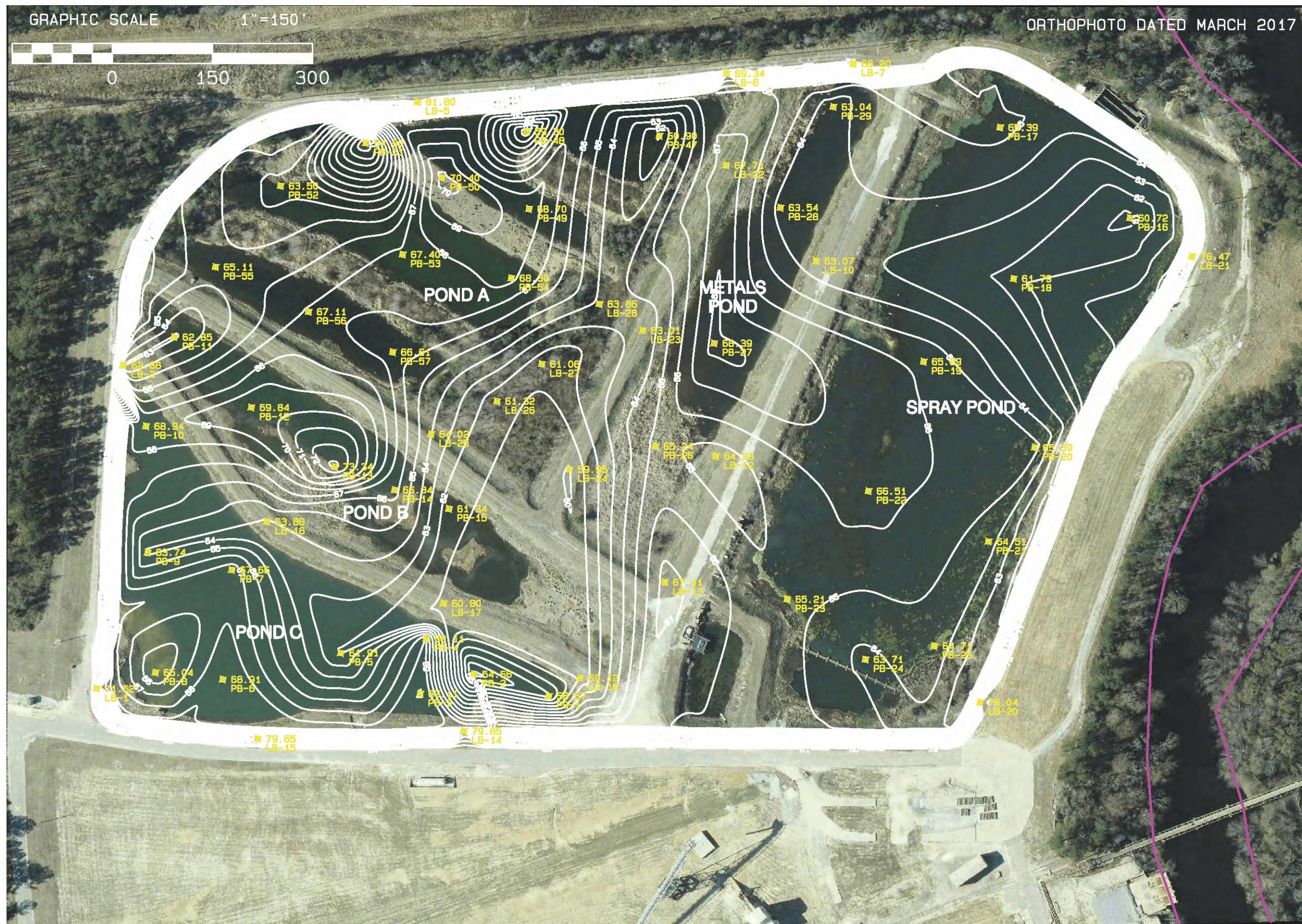
Based on the excavation grades on Sheet 6, it is anticipated that about 400,000 cubic yards of ponded waste materials and about 79,000 cubic yards of arsenic-impacted soil will be excavated and removed from the plant side ponds. In the event that waste is visually present at the planned excavation grades shown on Sheet 6, then additional excavations will be necessary to remove any remaining waste as discussed in 5.2.3.

5.2.3 Excavation Protocols

During closure construction, an Owner's CQA Representative will be present during the excavation process to assure that the appropriate depth of excavation has been reached. The following operational sequence will be utilized:

- i. The contractor or firm responsible for performing the pond closure excavations shall excavate and remove waste and soils to the bottom of waste material grades presented on Figure 6 as confirmed by survey.
 - i) A survey grid shall be established to ensure the maximum distances between survey points is 100' (i.e., 100' x 100' grid). The grid network shall be based on the grades presented in Figure 6 to include the planned bottom of excavation grades at each point location. A denser grid pattern may be implemented at the Owner's discretion.
- ii. The contractor shall notify the Owner's representative that planned excavation grades have been reached at each grid point. The Owner's representative will visually examine the excavation and confirm, if appropriate, that no visual ponded waste material is present and waste excavation for that area is complete.
- iii. If ponded waste material is not visually present at the planned excavation grade, a survey record for the bottom of excavation shall be maintained for inclusion in the as-built record.

C:\Users\abray\Desktop\Canadys\ASH EXCAVATION GRADES - WASTE AND IMPACTED SOIL (11-17-17 added phreatic and pond slope) 2-25-18.pro Mon Mar 19, 2018 11:26:02AM



- iv. In the event that waste is visually present at the planned excavation grade, then additional excavations will be necessary to remove any remaining waste, as follows:
 - a) Additional excavations shall be performed until any remaining visual ponded waste material is removed.
 - b) The contractor shall survey the elevation of the waste/residual soil interface.
 - c) The survey records for the waste/soil interface and bottom of excavation shall be maintained and included in an as-built record.
- v. During soil excavations, conditions may preclude the safe surveying of the bottom of the excavation. In this event, the contractor may elect to implement a system of GPS controlled excavations to monitor and record the bottom of excavations. In this case, the recorded GPS control locations/elevations will be sufficient for grid confirmation purposes.

Given the significant pre-characterization of underlying soils already performed for the project and the potential for construction delays and stand-by during pond excavation and dewatering practices, no post-excavation confirmation sampling and laboratory testing is proposed following completion of the excavation activities.

5.3 Management of Excavated Pond Waste Material

It is anticipated that about 400,000 cubic yards of waste and about 79,000 cubic yards of soil will be excavated and removed from the project ponds. The excavated material will either be disposed at a SCDHEC Class Three landfill or similar out of state Subtitle D landfill or, in the case of CCR wastes, beneficially reused/recycled where feasible and appropriate in accordance with regulatory requirements.

5.3.1 Ponded Waste Material

Waste characterization testing of coal combustion residuals (fly ash, bottom ash, pyrites, coal pile runoff sludge, etc.) produced by SCE&G company-wide has consistently determined the materials meet the solid waste regulatory requirements for disposal in SCDHEC Class Three Landfills or similar appropriate Subtitle D landfill.

With regard to handling and disposal options for various pond waste materials, the USEPA Toxicity Characteristic Leaching Procedure (TCLP) allows for a total constituent

analysis in lieu of the TCLP extraction for determining waste characteristics with respect to handling and disposal options. If a waste is 100% solid, as defined by the TCLP method, then EPA protocols allows that the results of the total constituent analysis may be divided by twenty (20) to convert the total results into the maximum leachable concentration. Inasmuch as the project ponds will be dewatered during excavation of ponded waste materials, the excavated waste is anticipated to meet the TCLP definition of 100% solid at the time of excavation. Therefore, the total arsenic concentrations derived from analysis of samples collected during this investigation are also considered to be eligible for evaluation by the total constituent method described above for converting the total results into the maximum leachable concentration.

As presented in the *Delineation of Legacy Coal Ash and Impacted Soil, SCE&G Canadys Station Main Plant Site*, the total arsenic (primary constituent of concern) concentrations detected in the pond waste materials ranged from 6.7 mg/kg to 51.7 mg/kg with an average concentration of 30.0 mg/kg. Applying the TCLP conversion factor of 20 to the highest reported concentration (51.7 mg/kg) results in a theoretical maximum leachable concentration of 2.6 mg/L, which is well below the TCLP limit of 5.0 mg/L for arsenic. Similarly applying the conversion factor to the average reported concentration (30.0 mg/kg) results in theoretical average leachable concentration of 1.5 mg/L. All other tested constituents also reported non-hazardous results consistent with Class Three Landfill disposal requirements. Based on this analysis, the pond waste material to be excavated as part of the pond closeout is a non-hazardous solid waste suitable for disposal in a SCDHEC Class Three Landfills or similar appropriate Subtitle D landfill or, in the case of fly ash, beneficially reused/recycled where feasible.

5.3.2 Soil Excavation

To confirm the suitability of disposing any soil that is excavated as part of the project, the soil concentrations were also reviewed using a total constituent analysis.

The total arsenic concentrations detected in soils collected in the uppermost 2' beneath the ponds (zone anticipated where some soil may be excavated along with the pond waste) ranged from non-detect (<0.5 mg/kg) to 74.6 mg/kg. Applying the TCLP conversion factor of 20 to the highest reported concentration (74.6 mg/kg) results in a theoretical maximum leachable concentration of 3.7 mg/L, which is below the TCLP limit of 5.0 mg/L for arsenic. Based on this analysis, soil that may be excavated as part of the

pond closeout is a non-hazardous solid waste suitable for disposal in a SCDHEC Class Three Landfill or similar appropriate Subtitle D landfill.

5.4 Pond Infrastructure Demolition

The ponds facilities utilized a network of pump stations, influent and effluent piping networks, outlet structures, and other ancillary features and structures for wastewater conveyance and management. The pond subject infrastructure components generally are comprised of cast in-place and pre-cast concrete structures, various material piping (concrete, polyethylene, etc.), and mechanical and electrical components. At SCE&G's discretion, the various pond infrastructure components will be removed and recycled, removed and appropriately disposed, or abandoned in place.

5.5 Wastewater Management

Wastewater discharge from Canadys Station is covered under National Pollutant Discharge Elimination System (NPDES) Permit #SC0002020. The NPDES Permit currently authorizes the facility to discharge as follows:

- Outfall 004: Ash Pond #1 discharge
- Outfall 006: Ash Pond #2 discharge

Ash Pond #1 is inactive and does not discharge. Discharge from Ash Pond #2 includes wastewaters from Ash Pond #2, as well as the wastewaters from the plant-side ponds. The wastewaters from the plant-side project ponds are conveyed from each of the ponds (Ponds A-C, Metals Pond, Settling Ponds #1 & #2, Coal Pile Runoff Ponds #1 & #2) to the Spray Pond through a network of pumps stations and below ground piping. From the Spray Pond, the plant-side pond wastewaters are pumped to Ash Pond #2 for final treatment prior to discharge via Outfall 006.

Wastewater in the project ponds shall continue to be managed in accordance with the provisions of the NPDES permit during pond closure activities. During excavation of waste from the project ponds, waters from within the various ponds will be pumped (either using the existing pump/pipe network or temporary pumping systems) to the Spray Pond for temporary storage prior to be pumping to Ash Pond #2 for treatment and discharge via Outfall 006.

This Plan is not intended to present or propose specific wastewater management plans or system/permit modifications, but rather is intended to provide a general overview of project planning and timetables. All plant wastewater discharges during the project will be managed through NPDES permitted wastewater facilities and discharged via NPDES permitted outfall and permit requirements.

5.6 Dewatering

Dewatering activities associated with the pond close-out project include the drawdown of water in the waste ponds and dewatering of stormwater and groundwater inflow during the waste excavation within the ponds. As previously discussed above, dewatering flows from each of the ponds will be pumped to the Spray Pond, for pumping to Ash Pond #2 and discharge via Outfall 006 to the requirements of the NPDES permit.

5.7 End Use of Facility & Ponds Final Dispositions

There are no current end use plans for the plant-side pond areas. The facility property is an industrial site and may or may not be developed for industrial uses in the future.

Upon excavation of the planned ash and impacted soils, at the Owner's discretion the resultant excavated Plant Side Ponds will either be 1) backfilled to prevent ponding and enable stormwater gravity drainage 2) partially backfilled/graded using the pond's earthen berms soils, or 3) remain as a depression (pond). For the backfilling option, a conceptual grading plan for the ponds is presented in Figure 7. It is understood that the grading plan is preliminary and for discussion purposes only and is subject to change or deletion.

5.7.1 Deed Restriction

Upon closure of the ponds, a notice will be placed on the property deed and recorded that identifies that a portion of the property had been used for the management and temporary

v:\SCE&G\Canadys\Plant Side Closure Investigation\Closure-out Plan\FIG 7 MARCH 2018.pro Mon Mar 19, 2018 10:49:29AM



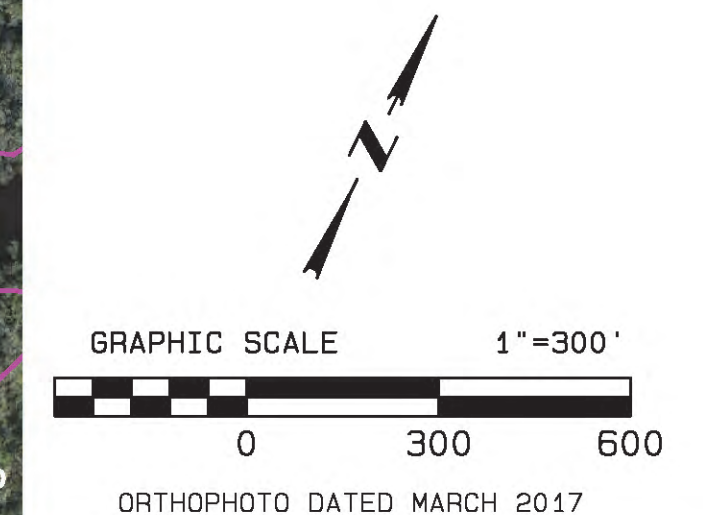
1. CONSISTENT WITH THE CORRECTION ACTIONS PROPOSED IN THE REPORT "DELINEATION OF LEGACY COAL ASH AND IMPACTED SOIL, SCE&G CANADYS STATION MAIN PLANT SITE", FOLLOWING EXCAVATION AND REMOVAL OF THE POND WASTES THE PONDS SHALL BE CLOSED BY "BACKFILLING AND GRADING OR INSTALLING CLAY LINERS IN THE POND BOTTOMS".

2. IT IS UNDERSTOOD THE GRADING PLANS ARE PRELIMINARY AND ARE SUBJECT TO CHANGE OR DELETION. IT IS UNDERSTOOD THAT AT SCE&G'S DISCRETION, CLAY LINERS MAY BE INSTALLED IN POND BOTTOMS IN LIEU OF PLANNED BACKFILL GRADING SHOWN HERE IN ACCORDANCE WITH THE CLOSURE PLAN.

3. SUITABLE SOIL BACKFILL WILL BE USED IN THE BACKFILL GRADING OF THE POND.

4. A STORMWATER MANAGEMENT PLAN WILL BE DEVELOPED FOR THE GRADING OF THE PONDS. IT IS ANTICIPATED THAT THE EXISTING SPRAY POND EFFLUENT PUMP SYSTEM MAY BE USED TO CONVEY STORMWATER RUNOFF FROM THE PROJECT PONDS TO OUTFALL 006, AND/OR A SYSTEM OF NEW MANAGEMENT PRACTICES AND DEVICES WILL BE DEVELOPED TO MANAGE THE STORMWATER AT THE PONDS FOR DISCHARGE TO THE ENVIRONMENT.

5. SCE&G WILL OBTAIN ALL NECESSARY PERMITS FOR LAND DISTURBANCES AND ASSOCIATED EROSION AND SEDIMENT CONTROLS FOR THE BACKFILL GRADING OF THE PONDS.



GARRETT & MOORE
Engineering for the Power and Waste Industries

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CANADYS STATION PLANT SIDE PONDS CLOSURE

CONCEPTUAL BACKFILL & GRADING FOLLOWING CLOSURE EXCAVATION

FIGURE
7

storage of coal ash residuals and wastewaters and a narrative describing the approach used to close the pond.

5.8 Schedule

The project is part of the larger overall decommissioning of the Canadys Station power generating facility. A master schedule for the plant decommissioning is currently being prepared. As such, the project schedule is contingent upon other facility projects not specifically addressed in the Closure Plans presented herein. That being said, the project schedule currently anticipates closure of the plant-side ponds to be complete no later than end of 2025 given regulatory approval of this Closure Plan within 6 months.

5.9 Construction Inspections & Certification Reporting

Construction quality assurance (CQA) observations and verifications will be performed by the Engineer during construction to document the closure of the wastewater ponds on the Colleton County portion of the Canadys Station property are completed in accordance with the DHEC-approved closure plan. A report describing the closure project, details relative to the construction and site observations to include, but not limited to, those operational sequence procedures discussed in Section 5.2, will be prepared and certified by the Engineer and submitted to the Department for review. In addition to narratives and other pertinent discussions regarding closure construction, the Engineer certification report will also include certification surveys (as-builts) demonstrating the excavation grades were achieved in accordance with the plan.

Upon completion of the closeout and submittal of the Engineer Certification Report, SCE&G will notify the Department and request an inspection in accordance with the regulation. Closeout will be considered accomplished only after approval in writing from the Department. Areas around the facility shall remain secure until closeout is accomplished.

5.10 DHEC Industrial Wastewater Facility Closure Form

A completed DHEC Industrial Wastewater Facility Closure Form (D-1795) and supporting documentation is presented in Appendix C. Supporting documentation includes aerial and USGS quad maps identifying various off-site and on-site features and a photographic records presenting pictures of various pond facilities.

6 POST-CLOSEOUT GROUNDWATER COMPLIANCE

Groundwater monitoring at the site will continue in accordance with the NDPES permit and/or other current or future applicable regulatory requirements or agreements.

APPENDIX A

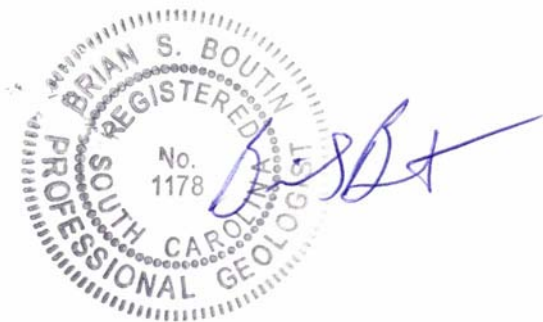
**Report “*Delineation of Legacy Coal Ash and Impacted Soil, SCE&G
Canadys Station Main Plant Site*”**



**Delineation of Legacy Coal Ash and Impacted Soil
SCE&G Canadys Station Main Plant
Site #00374, NPDES Permit #SC0002020
Colleton County, South Carolina**

July 2014

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A.	SCDHEC Assessment Approval Letter
B.	Drilling Logs
C.	Laboratory Reports

1.0 INTRODUCTION

This document presents the results of a site investigation to assess the volume and extent of subsurface legacy coal ash and underlying impacted soil at the South Carolina Electric & Gas Company (SCE&G) Canadys Generating Station Main Plant located in Colleton County, South Carolina (**Figure 1**). The purpose of the investigation was to provide the information necessary for SCE&G's use in preparing plans to decommission the plant, which ceased generating electricity in December 2013.

Activities conducted for the investigation included drilling 98 soil borings, including four background borings, within and on the perimeter berms of the low volume waste ponds, metals polishing pond, spray pond, settling ponds and coal pile runoff ponds, as well as four background borings at locations hydraulically up gradient and outside the boundaries of areas of activity associated with the ponds or handling of coal ash. In addition, selected samples of soil and coal ash collected from the borings were analyzed at SCE&G Central Laboratory and Shealy Environmental Services, Inc. for various metals known to be associated with coal ash.

2.0 BACKGROUND

2.1 History of Site and Operations

SCE&G owns and operates the Canadys Station generating facility in Canadys, Colleton County, South Carolina (**Figure 1**). The facility began commercial operations in 1962 and originally included one coal-fired electrical generating unit. Two additional coal-fired units were added in 1964 and 1967, respectively. At full capacity, the plant generated 470 megawatts of electricity and burned approximately 130 tons of coal per hour. The facility used closed-cycle cooling systems for all three generating units in which cooling towers were used to provide condenser water and plant service water in a closed loop. Operation of the closed-cycle systems eliminated thermal impact to the Edisto River. SCE&G ceased generating electricity at the plant in December 2013 and will decommission the plant over the next several years. A site map that depicts relevant site features is presented as **Figure 2**.

The coal-fired units generated fly ash and bottom ash from burning bituminous coal. Fly ash was collected for temporary storage in silos adjacent to the main generating station. SCE&G maintained one active coal-ash storage impoundment at the Canadys Station facility for the storage of coal ash generated at the power plant. The impoundment is located north of the Edisto River in Dorchester County. Coal ash generated at the power plant was sluiced to the storage pond through a piping system that extends over the Edisto River (**Figure 2**).

SCE&G maintains nine surface impoundments (ponds) at the main plant facility for handling wastewater generated from site operations (**Figure 2**). During operation of the plant, the wastewater from the ponds was either reused as cooling tower makeup water or discharged to the Spray Pond. Water from the Spray Pond (which also received makeup water from the river) was used for coal ash sluicing operations. Consequently, all wastewater generated at the facility was either reused or discharged to the coal-ash storage pond in the form of sluice water.

Groundwater quality data for samples collected from monitoring wells located at the main plant indicate elevated concentrations of dissolved arsenic exist adjacent to several of the surface impoundments. SCE&G met with representatives of the South Carolina Department of Health and Environmental Control (DHEC), Bureau of Land & Waste Management (BLWM) in Columbia, SC on March 18, 2009 to discuss actions to address elevated dissolved arsenic in groundwater at the site. It was agreed that additional site assessment was necessary to more thoroughly characterize the source,

nature and extent of dissolved arsenic before developing a corrective action or stabilization strategy for the site.

An environmental site assessment was conducted at the main plant in December 2009 which included installation of eleven additional Type II and six Type III groundwater monitoring wells (**Figure 2**), groundwater sampling and laboratory analysis (including arsenic speciation), rising-head permeability tests in the newly installed wells, sampling and laboratory analysis of surface water samples collected from the Edisto River and Red Bank Drain, a well survey conducted by a South Carolina licensed surveyor to measure the horizontal positions and vertical elevations of the PVC casings of the newly installed wells relative to the existing site datum, and a survey of private water supply wells located within 1,500 feet of the plant and south of the Edisto River. The results of the assessment indicated two dissolved total arsenic plumes are present in the surficial aquifer at the site, one plume located in the vicinity of monitoring well GW-10N in the east-central part of the plant, and the other in the vicinity of monitoring well GW-17N in the western part of the plant.

3.0 REGIONAL GEOLOGY AND HYDROGEOLOGY

The Canadys Station generating facility is located in the Outer Coastal Plain of the Atlantic Coastal Plain physiographic province in South Carolina. **Figure 3** is a generalized geologic map of South Carolina on which the site location is indicated. The main plant is located within the southern floodplain of the Edisto River, which is a regional surface water drainage and groundwater discharge feature. Northern Colleton County is underlain by sediments of Late Cretaceous, Tertiary and Quaternary age, ranging in total thickness from approximately 2,000 to approximately 2,500 feet.¹ The Coastal Plain sediments are predominantly fluvial-deltaic and marine sands and clays in the Cretaceous and Paleocene sections, and marine limestones and marls in the Eocene and Oligocene sections.¹ Thin Neogene and Quaternary age sediments overlie the Paleogene deposits and constitute the surficial sediments in the county.

Floodplain deposits of the Edisto River, principally consisting of fine to coarse sand with varying amounts of silt and clay, constitute the upper surficial sediments at the Canadys Station site. The Holocene age floodplain deposits overly Pleistocene age sediments of the Waccamaw Formation, which represents a coastal complex of estuarine, lagoonal, barrier island, and shallow marine shelf deposits. The Waccamaw sediments are variable in lithology and are composed of gravel and gravelly, poorly sorted, coarse-grained sands, clayey to silty sands, sandy to clayey silts, and fine- to medium-grained calcareous shelly sands. The Holocene and Pleistocene deposits unconformably overlie sediments of the Oligocene age Ashley Formation (informally referred to as the “Cooper Marl”), which consist of a relatively homogeneous section of dense, calcareous, phosphatic, microfossiliferous, silty and sandy clays.¹ At the Canadys Station site, the Holocene and Pleistocene deposits range from approximately 15 to 30 feet thick, and the Ashley Formation is approximately 40 to 50 feet thick.

Groundwater within the surficial aquifer at the site occurs under unconfined conditions within the Holocene and Pleistocene age sediments. The Ashley Formation sediments form a confining layer separating the surficial aquifer from deeper occurrences of groundwater. Based on numerous groundwater gauging events conducted at the site, shallow groundwater flow is generally to the north-northeast toward the Edisto River over most of the site, and to the east-southeast toward Red Bank Drain, a tributary to the Edisto River that borders the site along the eastern property boundary in the eastern portion of the site.

¹ G.S. Gohn, L.E. Edwards, L.M. Bybell, P.G. Chirico, R.A. Christopher, N.O. Frederiksen, D.C. Prowell, J.M. Self-Trail, and R.E. Weems, 2000; Preliminary stratigraphic database for the subsurface Tertiary and Upper Cretaceous sediments in Dorchester County, South Carolina, USGS Open File Report 00-049C.

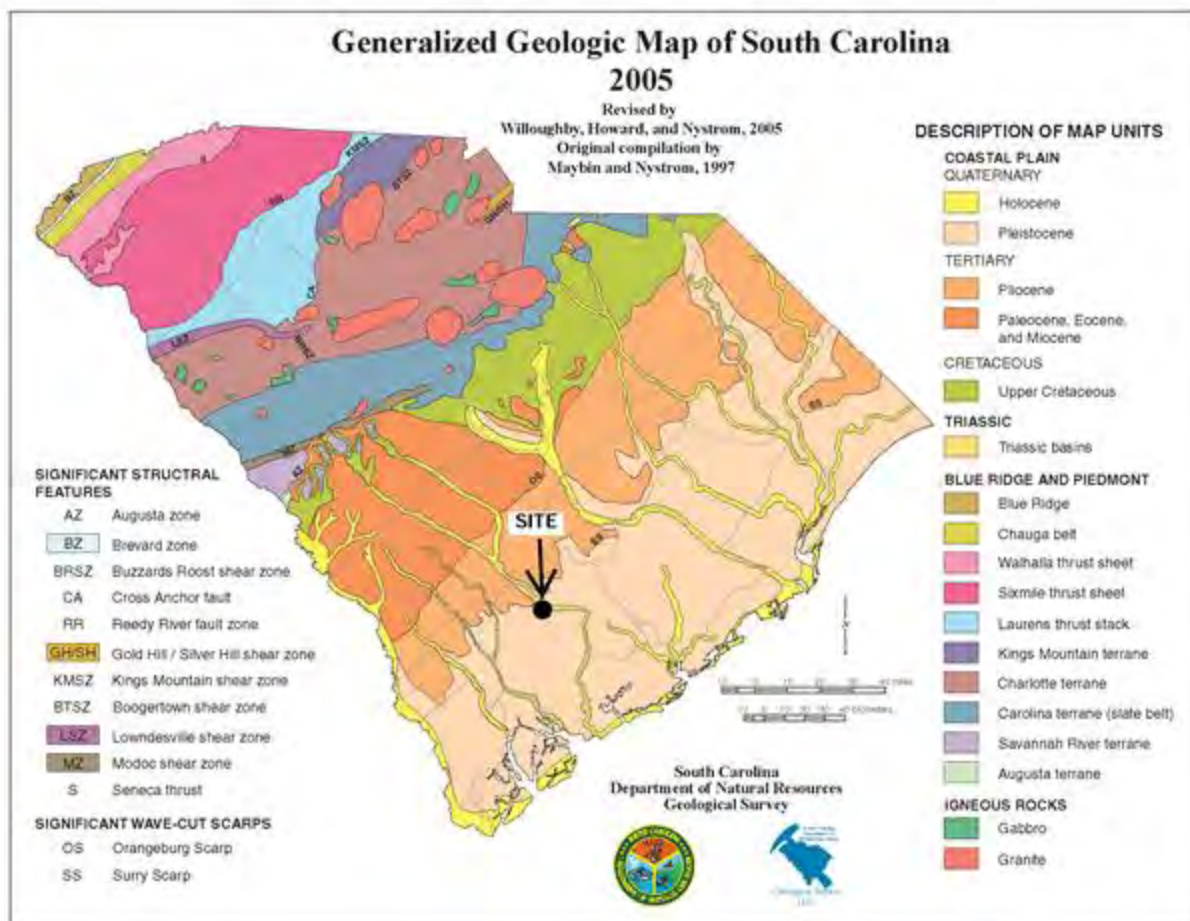


Figure 3

4.0 SITE INVESTIGATION

Activities conducted for the investigation included drilling 98 soil borings, including four background borings, within and on the perimeter berms of the low volume waste ponds, metals polishing pond, spray pond, settling ponds and coal pile runoff ponds, as well as four background borings at locations hydraulically up gradient and outside the boundaries of areas of activity associated with the ponds or handling of coal ash. In addition, selected samples of soil and coal ash collected from the borings were analyzed at SCE&G Central Laboratory and Shealy Environmental Services, Inc. for various metals known to be associated with coal ash. These activities are described in the following sections. The field components of the assessment were conducted during March through May 2014.

4.1 Soil Borings

Ninety-eight (98) soil borings were drilled as part of the site investigation. The locations and designations of the soil borings are shown in **Figure 2**. All soil borings were drilled in accordance with the SCDHEC letter of approval for the scope of work for the assessment dated January 10, 2014, a copy of which is included in **Appendix A**. Borings BB-1 through BB-4 were drilled at background locations hydraulically up gradient and outside the boundaries of areas of activity associated with the ponds or handling of coal ash to provide background soil quality data. The remaining borings were drilled within and on the perimeter berms of the low volume waste ponds, metals polishing pond, spray pond, settling ponds and coal pile runoff ponds.

With regard to the boring nomenclature presented in **Figure 2**: BB- = background boring; LB- = land boring; and PB- = pond boring. The BB- and LB- borings were drilled on land. The PB- borings were drilled within the ponds. As shown in **Figure 2**, background borings BB-1 through BB-4 were drilled near the southeast corner of the property in the general vicinity of background monitoring well GW-19N; borings LB-1 through LB-24 were drilled along the perimeter and interior berms associated with low volume waste ponds A, B, and C, the metals polishing pond, and the spray pond; borings LB-25 through LB-28 were drilled in the area immediately adjacent to the northeast corner of low volume waste pond A; borings LB-29 through LB-34 were drilled along the perimeter berms of settling ponds 1 and 2; borings PB-1 through PB-10 were drilled in low volume waste pond C; borings PB-11 through PB-15 were drilled in low volume waste pond B; borings PB-16 through PB-25 were drilled in the spray pond; borings PB-26 through PB-29 were drilled in the metals polishing pond; borings PB-30 through PB-32 were drilled in coal pile runoff pond 1; borings PB-33 through PB-46 were drilled in settling ponds 1 and 2; borings PB-47 through PB-57 were drilled in low

volume waste pond A; and borings PB-58 through PB-60 were drilled in coal pile runoff pond 2.

It is noted that no borings were drilled along the berm separating low volume waste ponds A and B because of the presence of multiple underground utilities within the berm (including electrical and water lines). It is anticipated, however, that the thickness of coal ash and concentrations of metals in native soils beneath the coal ash are similar to those in the berm separating low volume waste ponds B and C.

With the exception of borings PB-58 through PB-60, the soil borings were drilled using direct-push techniques. Borings PB-59 through PB-60 were drilled by hand auger. All borings located on land were drilled with a Geoprobe® 8040DT. All borings within the ponds were drilled using a Geoprobe® 6610DT. At all borings within the low volume waste ponds, the metals polishing pond, the spray pond, and the settling ponds, the Geoprobe® 6610DT was mounted on a Shugart barge with a moon hole to allow drilling through the barge platform. Borings PB-30 through PB-32 within coal pile runoff pond 1 were drilled with the Geoprobe® 6610DT directly on the land surface because the pond was drained at the time of drilling. Upon completion of drilling, the boreholes were abandoned in accordance with the standards specified in the South Carolina Well Standards R.61-71.

Soil samples were collected at all boring locations in continuous 5-foot sections using the Geoprobe® sampling tools equipped with clear PVC liners. Soil and coal ash samples were collected from the borings to document the lithology of the subsurface materials penetrated during drilling and to provide samples for laboratory analysis. At most borehole locations, drilling proceeded through the coal ash (where present) and surficial sediments to the top of the Ashley Formation or immediately above the top of the Ashley Formation. The depths from which soil samples were collected from the borings, as well as lithologic descriptions of the soils penetrated during drilling are indicated on the drilling logs included in **Appendix B**.

All boring locations (latitude and longitude) were recorded with a hand-held GPS unit. The elevations of all land-based borings (i.e., BB- and LB- borings) were determined based on LIDAR data available for the site. Stream gauges were installed within the low volume waste ponds, metals polishing pond, spray pond, and settling ponds. The stream gauges are made of fiberglass and graduated in feet, tenths and hundredths of a foot. Each stream gauge was surveyed relative to the existing site datum for horizontal position and elevation by a South Carolina licensed surveyor. The elevation of the top of each stream gauge was measured and recorded to allow for estimation of the

elevation of the top of the pond sediment at each boring location within the ponds based on measurements of the depth to the pond sediment below the water surface. It is noted that coal residuals were excavated from the coal pile runoff ponds prior to drilling. Consequently, elevation data for the borings drilled within the coal pile runoff ponds is not available.

4.2 Soil Sampling and Laboratory Analysis

Soil samples were collected at all boring locations in continuous 5-foot sections using the Geoprobe® sampling tools equipped with clear PVC liners. Soil and coal ash samples were collected from the borings to document the lithology of the subsurface materials penetrated during drilling and to provide samples for laboratory analysis. Multiple soil samples were retained for laboratory analysis from each boring location. The samples were analyzed at the laboratory for total metals concentrations as part of efforts to assess the potential impact of coal ash on the geochemical composition of the underlying natural soils. All soil samples were analyzed at the SCE&G Central Laboratory for the following parameters using accepted EPA and/or SW-846 methodologies: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, V, and Zn. In addition, nine soil samples (including four background samples) were analyzed by Shealy Environmental Services, Inc. for hexavalent chromium (Cr^{+6}) to assess the fraction of total chromium present in the +6 valence state.

5.0 ANALYSIS AND INTERPRETATION OF SITE DATA

5.1 Estimated Volume of Residual Coal Ash

The volume of legacy coal ash remaining in the subsurface at the Canadys main plant was calculated based on the drilling logs for the boreholes and the elevation data provided by the site LIDAR survey and stream gauge survey data to estimate the thickness and top and bottom elevations of coal ash at the site. The volume of coal ash was calculated using the Terramodel™ Civil/Site software program to estimate the volume between the top and bottom surfaces of the coal ash within the study area at the site.

An isopach map showing the distribution and thickness of coal ash in the subsurface at the site is presented in **Figure 4**. In general, the greatest accumulations of coal ash are associated with low volume waste ponds A, B, and C, with most ash being confined to the berms separating the ponds and in the land area immediately northeast of low volume waste pond A. Lesser accumulations are seen at the metals polishing pond, spray pond, and the settling ponds. Based on the results of the isopach analysis it is estimated that approximately 400,000 cubic yards of coal ash are present in the subsurface at the site.

5.2 Analysis and Interpretation of Soil and Coal Ash Sampling Results

The results of analyses of the soil and coal ash samples collected from the borings drilled for the investigation are presented in **Table 1**. Copies of the laboratory analytical reports for the samples are presented in **Appendix C**.

5.2.1 Basis for Analysis

Abundant groundwater quality data from site monitoring wells exist for total metals (including arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, and zinc), and arsenic has been the only constituent consistently detected at concentrations exceeding the corresponding EPA Maximum Contaminant Limit (MCL; 10 µg/L) in over 15 years of groundwater monitoring. While arsenic appears to be the constituent of most concern at the site based on existing groundwater monitoring data, the investigation included testing for all metals typically found in coal combustion residuals to investigate all potential impacts as well as confirm the appropriateness of focusing on arsenic as being the principal constituent of concern.

SCE&G plans to decommission the Canadys Station main plant over the next several years. Future plans are to maintain the property as an industrially zoned site.

Consequently, the May 2014 EPA Industrial Soil Screening Levels are considered appropriate as preliminary reference levels in evaluating potential impacts to natural sediments by metals from the legacy coal ash at the site and for assessing potential site remedies for residual groundwater impact.

One of the principal goals of this investigation is to assess the extent and magnitude of potential impacts to the natural surficial sediments from selected metals potentially leaching from legacy coal ash at the site. The approach selected to accomplish this goal is to compare the concentration of each analytical constituent in discrete samples of the surficial sediments (all samples excluding Ashley Formation samples) collected from each borehole, as well as, the average concentration of each analytical constituent detected in the surficial sediments at each borehole, to the corresponding May 2014 EPA Industrial Soil Screening Level or the high concentration of the same constituents detected in the surficial sediment samples collected from the background boreholes, whichever is higher.

Selecting the background high concentration of a constituent as a reference level when it exceeds the May 2014 EPA Industrial Soil Screening Level is considered conservative because only four background boreholes were drilled at the site as compared to 94 boreholes drilled within areas of potential impact. This leaves the possibility that the range of natural background concentrations of the analytical constituents may be larger than determined from the limited number of background samples collected for this investigation. Comparison of average borehole concentrations in the surficial sediments to the appropriate reference levels was selected as one of the assessment criteria to evaluate the potential impacts from the overlying coal ash because the average concentrations are more representative of the overall distribution of constituent mass over the full depth of the surficial sediments, which has implications for potential impacts to groundwater quality in the surficial aquifer.

The average concentration of each analytical constituent in the surficial sediments (excluding coal ash and Ashley Formation samples) at each borehole is presented in **Table 1** following the data for all discrete samples collected from each location. Averages were calculated by adding the concentrations of constituents detected in all surficial sediment samples collected from each boring location and dividing by the number of samples. Where sample results were below the detection limits, the constituent concentrations were conservatively assumed to be equal to the detection limit. Only data for the surficial sediments were used to derive the averages.

In **Table 1**, analytical constituent concentrations for discrete samples that exceed the applicable reference levels (highest of May 2014 EPA Industrial Soil Screening Level or background high) are highlighted in green and average borehole concentrations of analytical constituents that exceed the applicable reference levels are highlighted in red. It is noted that no samples were retained for laboratory analysis from boreholes where coal ash and/or soil/coal ash mixtures were not encountered during drilling (LB-11, LB-19, LB-20, LB-21, LB-29 through LB-34, and PB-36) except at borings PB-30 through 32 and PB-58 through 60 which were collected as post-excavation confirmatory samples within the coal pile runoff ponds.

5.2.2 Background Samples

The results of analyses of the surficial sediment samples from the background borings (BB-1 through BB-4) indicate that, in general, the metals for which the samples were analyzed were either not detected or were detected within a relatively narrow range of concentrations. Antimony, mercury, selenium and silver were not detected at any of the background locations, and beryllium was detected at two of the background locations (BB-3 and BB-4). The remaining metals were detected at all background locations. With the exception of arsenic, none of the discrete sample concentrations or borehole average concentrations of the other metals analyzed exceed the corresponding May 2014 EPA Industrial Soil Screening Levels. Consequently, the May 2014 EPA Industrial Soil Screening Levels were selected as reference levels for all metals except arsenic. For arsenic, the background high concentration was 7.45 mg/kg (BB-4 17-19'), which exceeds the May 2014 EPA Industrial Soil Screening Level of 3.0 mg/kg. Therefore, the background high concentration was selected as the reference level for arsenic. Borehole average and background high concentrations of metals detected in the background surficial soil samples are presented in **Table 1**.

The concentrations of hexavalent chromium detected in the background samples selected for analysis ranged from 1.0 to 2.4 mg/kg, which is well below the May 2014 EPA Industrial Soil Screening Level of 6.3 mg/kg. In addition, on average, Cr+6 represented approximately 18.5% of the total chromium detected in the background samples.

The Ashley Formation sediments are phosphatic and commonly contain phosphate nodules. Historically, these sediments were mined for phosphate in the Charleston area. Phosphate in the Ashley Formation sediments predominantly occurs in the mineral fluorapatite. Arsenic occurs naturally in fluorapatite in the form of the arsenate anion (AsO_4^{3-}) which readily substitutes for the phosphate anion (PO_4^{3-}) in the apatite

crystalline matrix due to similarities in ionic size and chemical characteristics. Based on previous work conducted at the site, the results of analyses of Ashley Formation (Cooper Marl) samples collected from background borings indicate that concentrations of arsenic, cadmium, chromium, nickel, silver, vanadium, and zinc are significantly higher than those in the overlying surficial soils. Therefore, samples of Ashley Formation sediments were not included in the calculations of borehole averages of analytical constituents in the surficial sediments presented in **Table 1**.

5.2.3 Coal Ash Samples

Coal ash samples were collected for laboratory analysis from borings LB-3, LB-6, LB-13, LB-23, PB-18, PB-21, and PB-51 to allow comparison of detected constituent concentrations with those detected in the underlying surficial sediments. The results of analysis of the coal ash samples indicate that the detected concentrations of the analytical constituents are generally one order-of-magnitude higher than those detected in non-impacted surficial sediment samples. Of particular note, arsenic was detected at concentrations of ranging from 6.71 mg/kg to 51.70 mg/kg in the coal ash samples.

5.2.4 Soil Samples

The results of analyses of the surficial sediment samples collected from the site indicate that all of the metals for which the samples were analyzed except for antimony were detected in one or more of the discrete sediment samples. Several general patterns emerge from the data presented in **Table 1** with regard to the surficial sediment samples collected from the site. Arsenic is the only metal that was detected at concentrations in excess of the corresponding reference level (background high concentration) in discrete surficial sediment samples collected from the borings and is the only metal with average borehole concentrations that exceed the corresponding reference level. The average borehole concentrations of arsenic in the surficial sediments exceed the background high concentration at 12 of the 94 borings drilled in the areas of potential impact. The borings where the average borehole concentrations of arsenic in the surficial sediments exceeded the background high concentration are almost entirely confined to the area adjacent to the northwest perimeter berm within low volume waste pond A, the northwest end of the metals polishing pond, and the area encompassing the northeast end of low volume waste pond C. These results indicate that arsenic is the principal constituent of concern at the property, which is consistent with the groundwater quality data for the site.

Five soil samples collected from borings drilled within the areas of potential impact were randomly selected for analysis of hexavalent chromium (Cr^{+6}), in addition to four

samples selected from the background borings, to assess the fraction of total chromium present in the +6 valence state (see **Table 1**). Hexavalent chromium was detected in all five of the samples analyzed from the areas of potential impact at concentrations below the background high concentration. The fraction of total chromium present in the +6 valence state was approximately 1.8%, 3.4%, 1.4%, 4.6% and 3.0% in the samples collected from the areas of potential impact, and approximately 17.6%, 10.3%, 35.8% and 10.3% in the background samples. These results indicate that most of the total chromium detected in soils at the site is in the +3 valence state and that impact to the natural surficial sediments is predominantly from chromium in the +3 valence state.

A filled contour map of average borehole concentrations of arsenic in the surficial sediments normalized to the background high concentration (average borehole concentration divided by the background high concentration) at each borehole is presented in **Figure 5**. Values exceeding 1.0 indicate average borehole concentrations for arsenic that exceed the background high concentration. Contours for values below 1.0 are not displayed in **Figure 5** for clarity. The contours in **Figure 5** indicate that the highest relative average borehole concentrations of arsenic are almost entirely confined to the area adjacent to the northwest perimeter berm within low volume waste pond A, the northwest end of the metals polishing pond, a limited area along the northeast perimeter berm of the spray pond, and the area encompassing the northeast end of low volume waste pond C. It is noted that the contours indicate that the arsenic concentrations in the surficial sediments are at or below the background high concentration over most of the area of investigation. Moreover, the bulk of the areas with highest relative average borehole concentrations of arsenic in soil is within two times the background high soil arsenic concentration.

5.2.5 Implications of Coal Ash Removal

As part of the plant decommissioning process, SCE&G plans to excavate and remove all coal ash from the Canadys Station main plant and either recycle the material, dispose of the material in a Class 3 landfill, or a combination of both. Following removal of the coal ash, SCE&G plans to close the site ponds in accordance with DHEC requirements by backfilling and grading to control surface runoff or by installing clay liners in the pond bottoms to cover the natural soils and leaving the ponds in place. Excavating the coal ash will have the effect of removing the bulk of arsenic mass from the subsurface thereby significantly reducing the residual source mass of groundwater impact. **Table 2** presents an analysis of arsenic mass reduction that would result from excavation and removal of coal ash from the site. The analysis is based on calculations of arsenic mass in 1 cm² columns of coal ash and soil through the thickness of each unit

at the site borings where coal ash was encountered. It is assumed for the analysis that the bulk density of coal ash and soil is 1.4 g/cm^3 . Data from the Electric Power Research Institute (EPRI) indicates that the bulk density of coal ash typically ranges from 1.04 to 1.76 g/cm^3 .² Further, the bulk density of most soils varies within a range of 1.1 to 1.6 g/cm^3 .³ Therefore, it is reasonable to assume that the bulk density of coal ash and soil at the Canadys Station site is essentially equal.

The analysis presented in **Table 2** indicates that excavating and removing coal ash from the Canadys Station main plant site will result in an average arsenic mass reduction of approximately 66.5% across the site. Consequently, the bulk of arsenic mass in the subsurface at the site will be removed through excavation of the coal ash.

It is acknowledged that some areas remaining after removal of the coal ash will have average borehole concentrations of arsenic in soils that exceed the background high soil arsenic concentration. However, these areas are largely localized within low volume waste ponds A and C and the metals polishing pond as discussed above (see **Section 5.2.4**). Moreover, the soils in these ponds are below the water table and will be covered with clean backfill or a clay liner as part of pond closure, thereby isolating them from the surface. From a mass perspective, the residual mass of arsenic remaining in soil following removal of the coal ash is relatively small and the source material for groundwater impact (coal ash) will be removed through excavation. Consequently, groundwater quality with respect to arsenic impact is anticipated to significantly improve following removal of the coal ash and to decline below the MCL of $10 \text{ } \mu\text{g/L}$ over time.

² Coal Ash: Characteristics, Management and Environmental Issues; Electric Power Research Institute; September 2009; 12 pp.

³ Hillel, Daniel, 1980. *Fundamentals of Soil Physics*; Academic Press; 413 pp.

6.0 CORRECTIVE ACTION CONSIDERATIONS

Several general conclusions can be drawn from the results of the site assessment presented herein which are enumerated below.

1. Approximately 400,000 cubic yards of residual coal ash remain at the site.
2. In general, the greatest accumulations of coal ash are associated with low volume waste ponds A, B, and C, with most ash being confined to the berms separating the ponds and in the land area immediately northeast of low volume waste pond A.
3. The metals for which the background samples were analyzed were either not detected in most surficial soil samples or were detected within a relatively narrow range of concentrations.
4. The results of analysis of the coal ash samples indicate that the detected concentrations of the analytical constituents are generally one order-of-magnitude higher than those detected in non-impacted surficial sediment samples. Arsenic was detected at concentrations of ranging from 6.71 mg/kg to 51.70 mg/kg in the coal ash samples.
5. Arsenic is the only metal that was detected at concentrations in excess of the corresponding reference level (background high concentration) in discrete surficial sediment samples collected from the borings and is the only metal with average borehole concentrations that exceed the corresponding reference level.
6. The average borehole concentrations of arsenic in the surficial sediments exceed the background high concentration at 12 of the 94 borings drilled in the areas of potential impact.
7. The borings where the average borehole concentrations of arsenic in the surficial sediments exceeded the background high concentration are almost entirely confined to the area adjacent to the northwest perimeter berm within low volume waste pond A, the northwest end of the metals polishing pond, and the area encompassing the northeast end of low volume waste pond C. These results indicate that arsenic is the principal constituent of concern at the property, which is consistent with the groundwater quality data for the site.
8. The highest relative average borehole concentrations of arsenic are almost entirely confined to the area adjacent to the northwest perimeter berm within low volume waste pond A, the northwest end of the metals polishing pond, a limited area along the northeast perimeter berm of the spray pond, and the area encompassing the northeast end of low volume waste pond C. The arsenic concentrations in the surficial sediments are at or below the background high concentration over most of the area of investigation. The bulk of the areas with

highest relative average borehole concentrations of arsenic in soil is within two times the background high soil arsenic concentration.

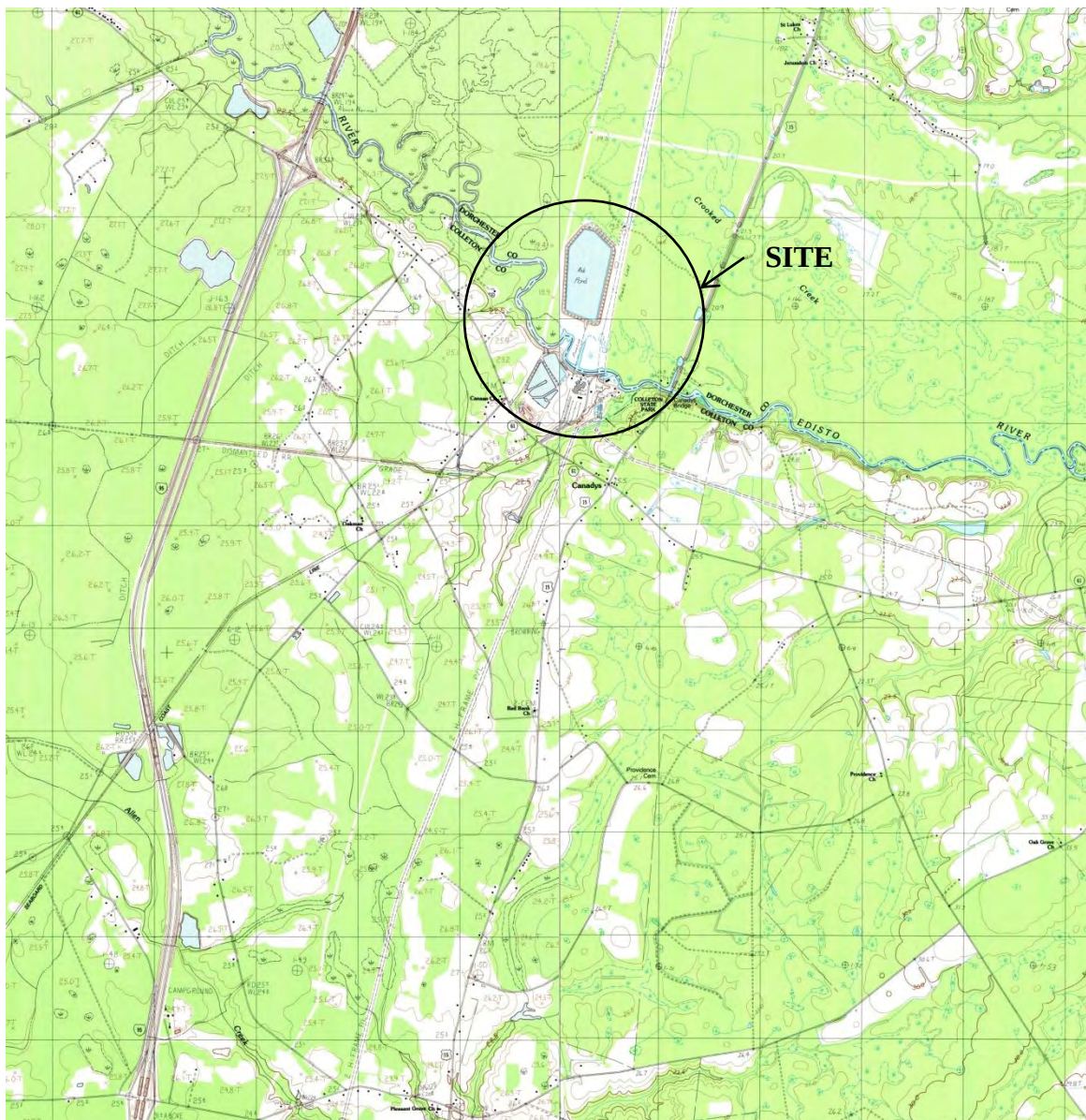
Following excavation and removal of coal ash from the facility and subsequent closure of the site ponds by backfilling and grading or installing clay liners in the pond bottoms, residual groundwater impact by arsenic will be the remaining environmental concern at the Canadys Station main plant. As discussed in **Section 5.2.5**, removal of the coal ash from the Canadys Station main plant will result in an average arsenic mass reduction of approximately 66.5% across the site. Consequently, the bulk of arsenic mass in the subsurface at the site will be removed through excavation of the coal ash and groundwater quality with respect to arsenic impact is anticipated to significantly improve and decline below the MCL of 10 µg/L over time following coal ash removal via natural attenuation.

The combination of source control measures (i.e., excavation of coal ash) with natural attenuation as a corrective action strategy meets the primary objectives of a Groundwater Mixing Zone (GMZ) as defined in regulation R.61-68, *South Carolina Water Classifications and Standards*. The following criteria are required to be met to allow a GMZ to be issued by DHEC as an approved corrective action:

- **reasonable measures have been taken or binding commitments are made to minimize the addition of contaminants to groundwater and/or control the migration of contaminants in groundwater;**
- **the groundwater in question is confined to a shallow geologic unit that has little or no potential of being an Underground Source of Drinking Water, and discharges or will discharge to surface waters without contravening the surface water standards set forth in R.61-68;**
- **the contaminant(s) in question occurs on the property of the applicant, and there is minimum possibility for groundwater withdrawals (present or future) to create drawdown such that contaminants would flow off-site;**
- **the contaminants or combination of contaminants in question are not dangerously toxic, mobile, or persistent.**

Based on our understanding of site conditions, the site meets the GMZ criteria listed above. Therefore, establishment of GMZs to address arsenic-impacted groundwater appears to be an applicable and appropriate corrective action strategy for the Canadys Station main plant site. Consequently, SCE&G proposes to prepare an application for establishing GMZs for the two remnant dissolved arsenic plumes at the site in which details of the source control measures (including engineering drawings, permits, etc.),

the limits of the compliance boundaries, proposed mixing zone concentration limits, and proposed groundwater and surface water monitoring networks are presented. Source control measures via excavation and removal of the coal ash will be an integral part of the GMZ strategy and natural attenuation will be relied upon for plume control and reduction of contaminant concentrations in the remnant groundwater plumes.



Source: USGS 7.5' Topographic Quadrangle Series
St. George SW, SC 1982 and Grover, SC 1982



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SITE LOCATION MAP
SCE&G Canadys Generating Station
Colleton and Dorchester Counties, South Carolina

Drawn by:	Reviewed by:	Project #:	Drawing #:	Figure No.
USGS		Scale: 1:24,000	Drawing Date: 01/25/10	

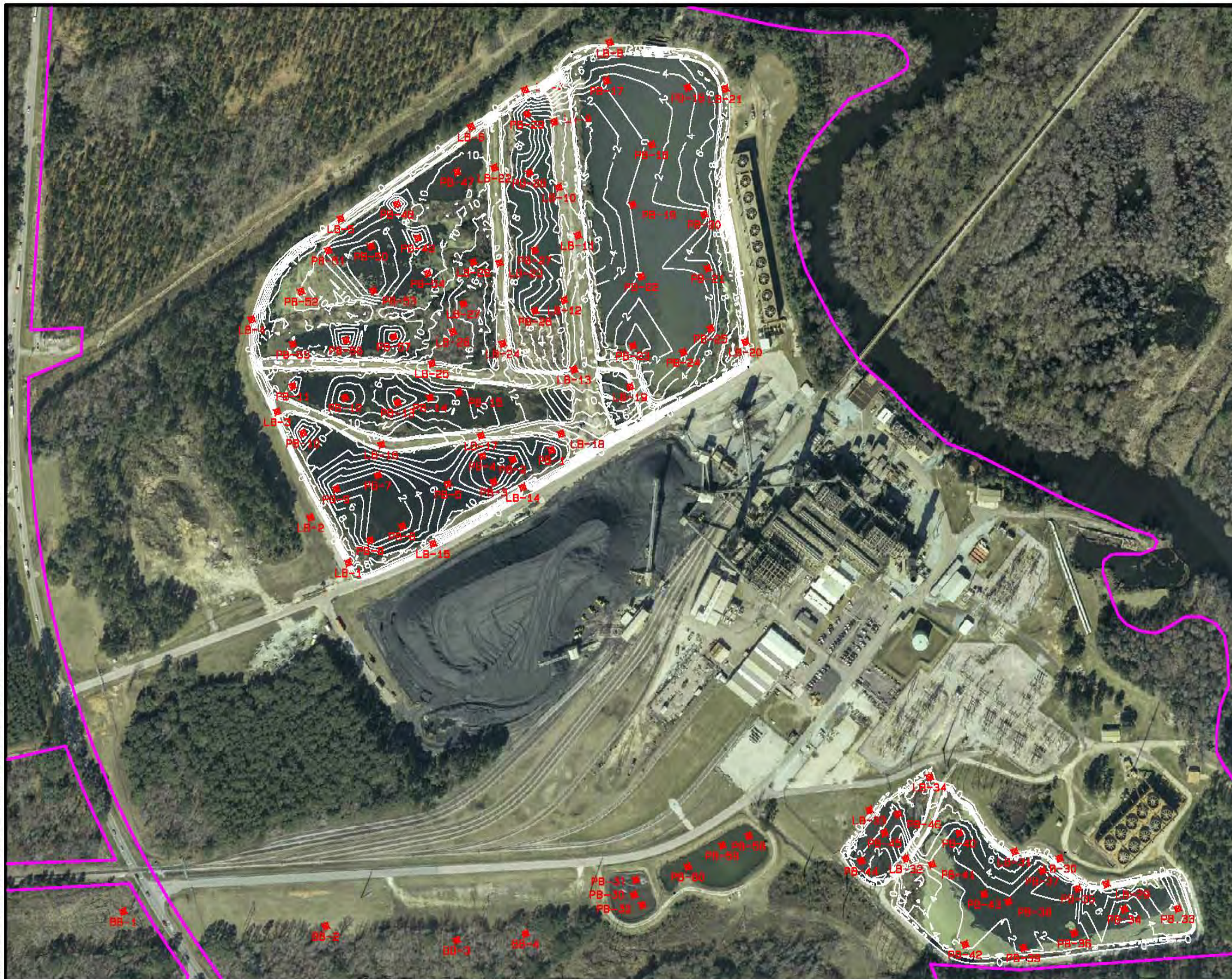
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LEGEND

- BB — BACKGROUND BORING
- LB — LAND BORING
- PB — POND BORING

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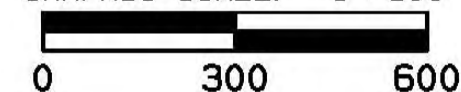


LEGEND

— 2 Legacy Coal Ash Thickness Contour (ft.)



GRAPHIC SCALE: 1"=300'



ORTHOPHOTO DATED MARCH 2014

**GARRETT
& MOORE**
Engineering for the Power and Waste Industries

**Nautilus Geologic
Consulting, PLLC**

**SCE&G CANADYS STATION
LEGACY ASH INVESTIGATIONS**

**Isopach Map of
Legacy Coal Ash**

**FIGURE
4**

TABLE 1
Laboratory Analytical Results for Soil and Coal Ash Samples
SCE&G Canadys Station Main Plant Legacy Coal Ash Assessment
SCE&G Canadys Station, Canadys, Colleton County, South Carolina

Analytical Results (mg/kg)																		
					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)		USCS Classification														
BB-1	69.42	3	5	CL	3.100	21.900	<0.1	0.100	15.800		<1.0	6.310	<0.02	3.150	<1.0	<1.0	19.100	4.540
BB-1		8	10	CL	0.601	15.700	<0.1	<0.1	6.830		<1.0	1.180	<0.02	1.000	<1.0	<1.0	16.300	3.000
BB-1		13	15	SP-SC	0.626	60.100	<0.1	0.124	13.600	2.400	2.960	1.590	<0.02	4.620	<1.0	<1.0	14.300	4.150
BB-1		18	20	SP-SC	<0.5	33.900	<0.1	<0.1	9.930		1.320	1.180	<0.02	2.400	<1.0	<1.0	5.180	6.150
Arithmetic Average					1.207	32.900	0.100	0.106	11.540		1.570	2.565	0.020	2.793	1.000	1.000	13.720	4.460
BB-2	71.34	3	5	ML/CL	4.800	19.000	<0.1	0.115	21.400	2.200	<1.0	5.810	<0.02	4.220	<1.0	<1.0	32.200	5.550
BB-2		8	10	CL	<0.5	43.100	<0.1	<0.1	4.150		<1.0	1.570	<0.02	<1.0	<1.0	<1.0	5.770	3.270
BB-2		13	15	SP-SC	<0.5	27.300	<0.1	<0.1	6.790		1.270	1.260	<0.02	1.870	<1.0	<1.0	4.470	3.550
BB-2		18	20	SP-SC	<0.5	27.500	<0.1	<0.1	5.900		1.000	1.130	<0.02	1.700	<1.0	<1.0	4.140	4.480
Arithmetic Average					1.575	29.225	0.100	0.104	9.560		1.068	2.443	0.020	2.198	1.000	1.000	11.645	4.213
BB-3	62.62	3	5	SP/CL	<0.5	2.270	<0.1	<0.1	1.110		<1.0	1.050	<0.02	<1.0	<1.0	<1.0	<1.0	2.070
BB-3		8	10	SP-SC	<0.5	19.700	<0.1	<0.1	5.030		<1.0	2.240	<0.02	<1.0	<1.0	<1.0	4.370	1.530
BB-3		13	15	SP-SC	<0.5	32.600	<0.1	<0.1	5.860	2.100	<1.0	2.130	<0.02	1.600	<1.0	<1.0	7.430	3.790
BB-3		15	17	CL	1.650	66.500	0.759	0.620	13.700		1.650	1.190	<0.02	8.900	<1.0	<1.0	9.310	15.200
Arithmetic Average					0.788	30.268	0.230	0.230	6.425		1.163	1.653	0.020	3.125	1.000	1.000	5.528	5.648
BB-4	62.67	3	5	SP	<0.5	3.650	<0.1	<0.1	0.944		<1.0	1.300	<0.02	<1.0	<1.0	<1.0	1.320	1.430
BB-4		8	10	SP-SC	<0.5	36.300	<0.1	<0.1	10.500		<1.0	2.000	<0.02	1.210	<1.0	<1.0	5.270	2.680
BB-4		13	15	SP-SC	<0.5	46.600	0.183	<0.1	9.730	1.000	<1.0	1.300	<0.02	1.340	<1.0	<1.0	4.820	3.000
BB-4		17	19	SP-SC	7.450	9.420	<0.1	0.712	21.600		2.080	0.557	<0.02	8.760	<1.0	<1.0	20.000	15.300
Arithmetic Average					2.238	23.993	0.121	0.253	10.694		1.270	1.289	0.020	3.078	1.000	1.000	7.853	5.603

LB-1	84.62	1	3	ML	11.900	117.000	<0.1	0.195	18.900		16.700	8.560	0.170	8.410	1.010	<1.0	26.400	18.600
LB-1		3	5	ML	15.800	143.000	<0.1	0.212	20.400		18.800	7.020	0.049	9.600	<1.0	<1.0	31.800	38.100
LB-1		5	7	ML	11.700	113.000	<0.1	0.140	15.100		12.600	5.900	0.038	8.210	<1.0	<1.0	24.000	12.800
LB-1		10	12	ML/CL	7.290	52.500	<0.1	0.140	21.300		3.020	6.340	0.022	5.400	<1.0	<1.0	35.400	8.050
LB-1		13	15	CL	0.801	11.800	<0.1	<0.1	6.220		1.250	4.450	<0.02	2.970	<1.0	<1.0	14.000	2.570
LB-1		18	20	CL	0.551	11.300	<0.1	<0.1	6.230		<1.0	4.310	<0.02	3.540	<1.0	<1.0	14.500	2.200
Arithmetic Average					8.007	74.767	0.100	0.037	14.692		8.895	6.097	0.053	6.355	1.002	1.000	24.350	13.720
LB-2	83.26	7	9	CL	0.510	7.850	<0.1	<0.1	6.150		<1.0	4.630	<0.02	1.870	<1.0	<1.0	12.200	2.350
LB-2		10	12	CL	<0.5	9.180	<0.1	<0.1	4.040		<1.0	5.420	<0.02	1.310	<1.0	<1.0	9.520	1.830
LB-2		13	15	CL	0.596	9.030	<0.1	<0.1	5.760		<1.0	4.920	<0.02	1.000	<1.0	<1.0	14.200	1.450
LB-2		15	17	CL	4.090	71.600	<0.1	<0.1	12.000		2.770	37.200	<0.02	2.200	<1.0	<1.0	130.000	2.900
LB-2		18	20	CL	1.850	11.600	<0.1	<0.1	12.600		5.050	<0.5	<0.02	4.160	<1.0	<1.0	38.800	4.790
Arithmetic Average					1.509	21.852	0.100	0.100	8.110		2.164	10.534	0.020	2.108	1.000	1.000	40.944	2.664
LB-3	82.88	3	5	Coal Ash	39.800	279.000	<0.1	0.151	15.700		34.260	5.730	0.064	16.900	4.000	<1.0	30.500	13.000
LB-3		15	17	SP-SC	17.300	41.700	<0.1	<0.1	4.680		2.820	3.200	<0.02	1.820	<1.0	<1.0	10.200	2.610
LB-3		18	20	SP-SC	11.000	5.130	<0.1	<0.1	3.820		1.080	2.810	<0.02	1.870	<1.0	<1.0	7.280	1.870
LB-3		20	22	SP-SC	0.579	11.700	<0.1	<0.1	3.990		1.100	5.120	<0.02	2.040	<1.0	<1.0	9.290	1.490
Arithmetic Average					9.626	84.383	0.100	0.113	4.163		1.667	3.710	0.166	1.910	1.750	1.000	8.923	1.990

					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)		USCS Classification														
LB-4	81.88	6	8	CL	2.330	10.600	<0.1	0.132	14.300		<1.0	4.750	<0.02	2.830	<1.0	<1.0	79.600	33.700
LB-4		10	12	CL	5.550	204.000	<0.1	<0.1	12.800		<1.0	117.000	<0.02	2.100	<1.0	<1.0	10.900	3.320
LB-4		13	15	CL	0.932	25.700	<0.1	<0.1	10.800		<1.0	10.200	<0.02	1.500	<1.0	<1.0	4.940	3.650
LB-4		18	20	CL	<0.5	3.080	<0.1	<0.1	1.660		<1.0	1.690	<0.02	<1.0	<1.0	<1.0	2.960	1.000
Arithmetic Average					2.328	60.845	0.100	0.108	9.890		1.000	33.410	0.020	1.858	1.000	1.000	24.600	10.418
LB-5	81.8	3	5	CL	2.970	25.000	<0.1	<0.1	14.100		2.520	3.550	<0.02	4.300	<1.0	<1.0	21.400	5.260
LB-5		8	10	CL	5.710	13.300	<0.1	<0.1	14.900		<1.0	2.260	<0.02	3.660	<1.0	<1.0	28.900	3.800
LB-5		12	14	CL	2.650	11.800	<0.1	<0.1	8.200		<1.0	6.610	<0.02	1.560	<1.0	<1.0	30.400	1.890
LB-5		16	18	CL	4.890	9.530	<0.1	0.387	34.900		<1.0	0.569	<0.02	6.690	<1.0	<1.0	49.100	9.220
Arithmetic Average					4.055	14.908	0.100	0.172	18.025		1.380	3.247	0.020	4.053	1.000	1.000	32.450	5.043
LB-6	81.34	0	2	Coal Ash	32.800	320.000	<0.1	0.189	30.400		36.200	8.170	0.188	15.900	<1.0	<1.0	32.300	36.600
LB-6		3	5	CL	3.400	33.600	<0.1	0.227	30.200		<1.0	1.800	<0.02	7.880	<1.0	<1.0	34.100	7.400
LB-6		6	8	CL	3.770	29.100	<0.1	<0.1	9.610		<1.0	<0.5	<0.02	3.780	<1.0	<1.0	12.500	4.780
LB-6		10	12	CL	12.300	25.000	<0.1	0.104	23.400	0.420	<1.0	<0.5	<0.02	9.430	<1.0	<1.0	36.800	8.100
Arithmetic Average					6.490	29.233	0.100	0.144	21.070		1.000	0.933	0.020	7.030	1.000	1.000	27.800	6.760
LB-7	81.2	8	10	CL	5.880	36.100	<0.1	0.166	19.600		1.090	<0.5	<0.02	15.300	<1.0	<1.0	27.300	9.970
LB-7		10	12	CL	9.930	19.200	<0.1	0.177	19.500	0.660	<1.0	6.430	<0.02	9.920	<1.0	<1.0	39.200	8.090
LB-7		13	15	CL	0.617	11.500	<0.1	<0.1	10.300		<1.0	1.830	<0.02	8.490	<1.0	<1.0	18.100	5.340
LB-7		15	17	CL	1.240	11.100	<0.1	<0.1	11.800		1.090	1.310	<0.02	10.600	<1.0	<1.0	20.800	5.680
Arithmetic Average					4.417	19.475	0.100	0.136	15.300		1.045	2.518	0.020	11.078	1.000	1.000	26.350	7.270
LB-8	79.43	2	4	CL	4.260	52.200	<0.1	0.305	20.800		3.490	8.840	<0.02	10.100	<1.0	<1.0	29.100	6.260
LB-8		5	7	CL	4.590	54.100	<0.1	<0.1	11.700		3.300	5.190	<0.02	7.850	<1.0	<1.0	23.200	4.420
LB-8		8	10	CL	1.440	16.400	<0.1	<0.1	7.320		<1.0	3.880	<0.02	3.810	<1.0	<1.0	12.500	3.160
LB-8		12	14	SP-SC	<0.5	7.020	<0.1	<0.1	1.900		<1.0	1.400	<0.02	4.920	<1.0	<1.0	2.570	1.430
Arithmetic Average					2.698	32.430	0.100	0.151	10.430		2.198	4.828	0.020	6.670	1.000	1.000	16.843	3.818
LB-9	80.91	8	10	CL	4.720	8.660	<0.1	0.261	20.000		<1.0	7.650	<0.02	7.750	<1.0	<1.0	19.800	4.840
LB-9		12	14	CL	0.515	7.030	<0.1	<0.1	5.610		<1.0	4.620	<0.02	1.910	<1.0	<1.0	7.270	2.080
LB-9		15	17	CL	6.480	5.580	<0.1	<0.1	8.420		<1.0	2.620	<0.02	2.940	<1.0	<1.0	13.400	2.430
LB-9		18	20	CL	2.200	26.000	<0.1	<0.1	7.180		1.330	8.170	<0.02	9.050	<1.0	<1.0	12.000	4.950
Arithmetic Average					3.479	11.818	0.100	0.140	10.303		1.083	5.765	0.020	5.413	1.000	1.000	13.118	3.575
LB-10	81.07	10	12	CL	4.100	33.400	<0.1	<0.1	13.700		<1.0	5.260	<0.02	6.930	<1.0	<1.0	21.100	3.970
LB-10		13	15	CL	46.300	76.900	<0.1	0.199	47.200	0.670	<1.0	7.460	<0.02	6.810	<1.0	<1.0	69.300	3.960
LB-10		15	17	CL	12.000	28.600	<0.1	<0.1	7.100		<1.0	4.570	<0.02	3.910	<1.0	<1.0	15.000	2.510
LB-10		18	20	CL/SC	1.150	15.700	<0.1	<0.1	2.090		<1.0	2.370	<0.02	<1.0	<1.0	<1.0	2.270	1.330
Arithmetic Average					15.888	38.650	0.100	0.125	17.523		1.000	4.915	0.020	4.663	1.000	1.000	26.918	2.943
LB-12	79.33	6	8	CL	3.640	31.400	<0.1	0.114	20.200		<1.0	6.890	<0.02	3.810	<1.0	<1.0	29.600	3.380
LB-12		8	10	CL	0.753	20.200	<0.1	<0.1	6.920		<1.0	4.860	<0.02	1.090	<1.0	<1.0	13.600	2.170
LB-12		10	12	CL	1.190	15.800	<0.1	<0.1	9.700		<1.0	4.700	<0.02	1.870	<1.0	<1.0	17.100	2.230
LB-12		13	15	CL	10.700	13.000	<0.1	<0.1	7.080		<1.0	3.580	<0.02	1.490	<1.0	<1.0	14.600	2.070
Arithmetic Average					4.071	20.100	0.100	0.104	10.975		1.000	5.008	0.020	2.065	1.000	1.000	18.725	2.155
LB-13	82.41	1	3	Coal Ash	51.700	261.000	0.859	0.121	16.000		28.600	8.610	0.074	9.240	5.930	<1.0	39.800	9.120
LB-13		10	12	SP-SC	7.500	30.300	<0.1	<0.1	7.160		<1.0	3.190	<0.02	5.280	<1.0	<1.0	14.400	3.050
LB-13		13	15	SP-SC/CL	23.300	15.500	<0.1	<0.1	4.640		<1.0	8.220	<0.02	4.640	<1.0	<1.0	10.200	2.510
LB-13		15	17	CL	5.410	7.230	<0.1	<0.1	3.860		<1.0	3.110	<0.02	1.210	<1.0	<1.0	8.420	2.090
LB-13		18	20	SP-SC	5.140	9.780	<0.1	<0.1	4.220		<1.0	2.590	<0.02	2.400	<1.0	<1.0	8.000	1.930
Arithmetic Average					10.338	15.703	0.100	0.100	4.970		1.000	4.278	0.020	3.383	1.000	1.000	10.255	2.395

					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)	USCS Classification															
LB-14	81.85	10	12	CL	1.150	28.700	<0.1	<0.1	9.670		<1.0	4.420	<0.02	3.320	<1.0	<1.0	22.300	5.970
LB-14		13	15	CL	1.840	14.700	<0.1	0.178	18.400		<1.0	4.230	<0.02	4.310	<1.0	<1.0	28.200	3.950
LB-14		15	17	CL	0.773	19.500	<0.1	<0.1	22.200		1.330	4.260	<0.02	3.860	<1.0	<1.0	14.900	4.850
LB-14		18	20	CL	1.040	20.700	<0.1	<0.1	24.000	1.100	4.990	3.270	<0.02	2.890	<1.0	<1.0	13.300	5.790
Arithmetic Average					1.201	20.900	0.100	0.120	18.568		2.080	4.045	0.020	3.595	1.000	1.000	19.675	5.140
LB-15	83.65	5	7	SM/CL	1.260	16.300	<0.1	<0.1	9.100		<1.0	0.608	<0.02	4.680	<1.0	<1.0	11.500	5.510
LB-15		8	10	CL	1.590	17.300	<0.1	<0.1	13.800		<1.0	0.875	<0.02	4.290	<1.0	<1.0	18.100	5.260
LB-15		10	12	CL	2.500	24.300	<0.1	<0.1	10.400		<1.0	4.550	<0.02	1.930	<1.0	<1.0	8.380	5.970
LB-15		15	17	CL	3.760	29.400	<0.1	<0.1	9.140		<1.0	1.880	<0.02	1.400	<1.0	<1.0	8.900	2.300
Arithmetic Average					2.278	21.825	0.100	0.100	10.610		1.000	1.978	0.020	3.075	1.000	1.000	11.720	4.760
LB-16	83.38	21	22	SP-SC	1.290	36.400	<0.1	<0.1	7.840		<1.0	1.290	<0.02	4.060	<1.0	<1.0	8.040	4.690
Arithmetic Average					1.290	36.400	0.100	0.100	7.840		1.000	1.290	0.020	4.060	1.000	1.000	8.040	4.690
LB-17	82.8	14	15	CL	21.200	36.500	<0.1	<0.1	8.860		3.670	4.470	<0.02	2.580	<1.0	<1.0	14.300	2.800
LB-17		16	18	CL	6.170	5.940	<0.1	<0.1	1.410		<1.0	1.580	<0.02	<1.0	<1.0	<1.0	4.110	<1.0
LB-17		20	22	SP-SC	17.800	2.710	<0.1	<0.1	1.250		<1.0	1.870	<0.02	1.770	<1.0	<1.0	3.230	6.250
Arithmetic Average					15.057	15.050	0.100	0.100	3.840		1.890	2.640	0.020	1.783	1.000	1.000	7.213	4.525
LB-18	82.12	19	20	CL	9.280	9.890	<0.1	<0.1	3.860		1.150	3.470	<0.02	<1.0	<1.0	<1.0	12.500	1.380
LB-18		20	22	CL	13.900	8.830	<0.1	<0.1	4.000		1.620	3.020	<0.02	<1.0	<1.0	<1.0	17.700	1.410
Arithmetic Average					11.590	9.360	0.100	0.100	3.930		1.385	3.245	0.020	1.000	1.000	1.000	15.100	1.395
LB-22	82.71	15	17	CL	2.720	11.900	<0.1	<0.1	23.600	0.700	5.560	3.630	<0.02	3.370	<1.0	<1.0	46.200	4.640
LB-22		18	20	CL	<0.5	10.400	<0.1	<0.1	3.930		<1.0	2.180	<0.02	<1.0	<1.0	<1.0	6.270	1.290
LB-22		21	23	SP-SC	<0.5	10.200	<0.1	<0.1	10.800		<1.0	<0.5	<0.02	2.750	<1.0	<1.0	10.900	6.480
LB-22		23	25	SP-SC	0.814	102.000	<0.1	<0.1	5.680		<1.0	2.260	<0.02	1.670	<1.0	<1.0	9.480	4.070
Arithmetic Average					1.134	33.625	0.100	0.100	11.003		2.140	2.143	0.020	2.198	1.000	1.000	18.213	4.120
LB-23	83.01	3	5	Coal Ash	14.310	266.000	<0.1	0.174	12.400		19.300	5.840	0.0415	10.120	<1.0	<1.0	25.600	7.803
LB-23		18	20	SP-SC	11.700	4.120	<0.1	<0.1	1.740		<1.0	2.150	<0.02	<1.0	<1.0	<1.0	2.010	1.010
LB-23		20	22	SP-SC	<0.5	6.120	<0.1	<0.1	1.902		<1.0	2.090	<0.02	<1.0	<1.0	<1.0	3.980	1.660
LB-23		23	25	SP-SC	<0.5	20.400	<0.1	<0.1	2.890		<1.0	2.340	<0.02	<1.0	<1.0	<1.0	3.270	2.690
Arithmetic Average					4.233	10.213	0.100	0.100	2.177		1.000	2.193	0.0200	1.000	1.000	1.000	3.087	1.787
LB-24	82.95	18	20	SP-SC	6.340	5.270	<0.1	<0.1	2.503		1.270	4.330	<0.02	<1.0	<1.0	<1.0	2.930	1.040
LB-24		20	22	SP-SC	14.800	13.700	<0.1	<0.1	2.880		1.170	1.960	<0.02	1.330	<1.0	<1.0	11.100	1.690
LB-24		23	25	SP-SC	5.960	10.200	<0.1	<0.1	7.730		1.460	1.450	<0.02	1.240	<1.0	<1.0	10.600	2.803
LB-24		27	29	SP-SC	<0.5	24.300	<0.1	<0.1	11.130		1.170	1.890	<0.02	<1.0	<1.0	<1.0	4.810	3.270
Arithmetic Average					6.900	13.368	0.100	0.100	6.061		1.268	2.408	0.020	1.285	1.000	1.000	7.360	2.201
LB-25	82.52	18.5	20	SP-SC	<0.5	9.190	<0.1	<0.1	6.840		<1.0	6.201	<0.02	1.150	<1.0	<1.0	12.000	2.210
LB-25		20	22	SP	0.771	8.290	<0.1	<0.1	3.230		<1.0	1.820	<0.02	<1.0	<1.0	<1.0	1.870	1.180
LB-25		23	25	SP	<0.5	17.800	<0.1	<0.1	1.600		<1.0	1.660	<0.02	<1.0	<1.0	<1.0	2.230	<1.0
Arithmetic Average					0.590	11.760	0.100	0.100	3.890		1.000	3.227	0.020	1.050	1.000	1.000	5.367	1.695
LB-26	79.32	15	17	SP-SC	19.600	25.100	<0.1	<0.1	3.120		<1.0	3.920	<0.02	<1.0	<1.0	<1.0	19.600	1.430
LB-26		18	20	CL/SP-SC	1.110	9.510	<0.1	<0.1	3.330		<1.0	2.120	<0.02	<1.0	<1.0	<1.0	7.390	1.330
LB-26		20	22	SP-SC	<0.5	10.400	<0.1	<0.1	5.110		<1.0	1.980	<0.02	<1.0	<1.0	<1.0	6.990	2.020
LB-26		23	25	SP-SC	<0.5	23.200	<0.1	<0.1	12.600		<1.0	1.702	<0.02	<1.0	<1.0	<1.0	5.360	2.240
Arithmetic Average					5.428	17.053	0.100	0.100	6.040		1.000	2.431	0.020	1.000	1.000	1.000	9.835	1.755
LB-27	78.56	18	20	SP-SC	0.766	9.260	<0.1	<0.1	3.480		1.000	2.910	<0.02	1.430	<1.0	<1.0	9.590	1.970
LB-27		20	22	SP-SC	<0.5	4.590	<0.1	<0.1	3.680		<1.0	1.610	<0.02	<1.0	<1.0	<1.0	8.650	1.680
LB-27		23	25	SP-SC	0.648	17.300	<0.1	<0.1	4.370		<1.0	4.030	<0.02	<1.0	<1.0	<1.0	6.850	2.410
Arithmetic Average					0.638	10.383	0.100	0.100	3.843		1.000	2.850	0.020	1.143	1.000	1.000	8.363	2.020

					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)	USCS Classification															
LB-28	78.86	13.5	15	SP-SC	21.400	5.910	<0.1	<0.1	4.270		<1.0	2.860	<0.02	<1.0	<1.0	<1.0	15.400	1.500
LB-28		15	17	SP-SC	<0.5	11.800	<0.1	0.100	4.050		1.140	3.960	<0.02	1.730	<1.0	<1.0	15.600	2.510
LB-28		18	20	SP-SC/SP	0.503	13.400	<0.1	0.100	6.290		<1.0	2.650	<0.02	1.510	<1.0	<1.0	9.210	4.120
LB-28		22	24	SP-SC	1.120	18.600	<0.1	0.134	6.930		1.010	4.220	<0.02	3.360	<1.0	<1.0	5.630	10.000
Arithmetic Average					5.881	12.428	0.100	0.109	5.385		1.038	3.423	0.020	1.900	1.000	1.000	11.460	4.533
PB-1	71.67	7	9	SP-SC	1.040	4.690	<0.1	<0.1	5.160		<1.0	1.800	<0.02	<1.0	<1.0	<1.0	8.870	1.670
PB-1		10	12	CL	8.040	9.830	<0.1	0.691	24.100		2.220	5.290	<0.02	2.430	<1.0	<1.0	22.800	8.980
PB-1		12	14	CL	27.000	23.200	<0.1	0.597	61.200		4.690	1.760	<0.02	4.380	<1.0	<1.0	33.000	11.800
PB-1		15	17	CL/SP-SC	4.590	130.000	1.080	0.199	13.700		1.010	1.460	<0.02	3.910	<1.0	<1.0	9.670	17.000
Arithmetic Average					10.168	41.930	0.345	0.397	26.040		2.230	2.578	0.200	2.930	1.000	1.000	18.585	9.863
PB-2	70.66	3	5	CL	7.150	14.900	<0.1	0.715	4.350		5.780	10.100	<0.02	1.690	<1.0	<1.0	43.900	31.500
PB-2		6	8	CL	3.070	5.790	<0.1	0.375	20.900		1.470	2.410	<0.02	<1.0	<1.0	<1.0	22.800	3.150
PB-2		8	10	CL	4.630	9.650	<0.1	0.418	32.100		4.010	2.510	<0.02	1.300	<1.0	<1.0	41.600	7.870
PB-2		11	13	SW-SC	1.650	6.830	<0.1	0.341	41.700		3.880	1.370	<0.02	1.390	<1.0	<1.0	35.400	5.980
PB-2		14	16	SM	10.100	63.400	<0.1	0.164	19.800		1.430	1.740	<0.02	<1.0	<1.0	<1.0	14.300	3.430
Arithmetic Average					5.320	20.114	0.100	0.403	23.770		3.314	3.626	0.200	1.276	1.000	1.000	31.600	10.386
PB-3	69.36	2	4	SC	1.520	10.300	<0.1	0.178	8.130		<1.0	6.180	<0.02	<1.0	<1.0	<1.0	24.100	1.340
PB-3		5	7	SC/CH	<0.5	13.500	<0.1	<0.1	10.100		1.670	5.810	0.044	<1.0	<1.0	<1.0	6.280	2.830
PB-3		7	9	CH	1.150	22.200	<0.1	<0.1	21.100		2.300	9.220	<0.02	1.570	<1.0	<1.0	17.000	7.140
PB-3		10	12	CH	4.920	23.400	<0.1	0.883	22.300		4.310	11.500	<0.02	31.000	<1.0	<1.0	20.000	23.400
Arithmetic Average					2.023	17.350	0.100	0.315	15.408		2.320	8.178	0.026	8.643	1.000	1.000	16.845	8.678
PB-4	69.86	2	4	ML/CH	3.140	11.300	<0.1	0.393	20.200		4.490	5.940	<0.02	<1.0	<1.0	<1.0	40.100	4.370
PB-4		4	6	SC	<0.5	17.700	<0.1	<0.1	3.570		1.160	2.030	<0.02	<1.0	<1.0	<1.0	4.100	<1.0
PB-4		7	9	SC	<0.5	5.760	<0.1	<0.1	8.860		2.450	1.270	<0.02	<1.0	<1.0	<1.0	4.020	2.600
PB-4		11	13	SC	5.100	20.500	<0.1	<0.1	12.600		2.600	11.200	<0.02	4.610	42.700	15.000	10.600	2.520
PB-4		14	16	Cooper Marl	14.600	5.540	<0.1	0.811	16.200		1.750	1.440	<0.02	18.100	<1.0	<1.0	9.820	20.000
Arithmetic Average					2.310	13.815	0.100	0.173	11.308		2.675	5.110	0.020	1.903	11.425	4.500	14.705	2.623
PB-5	69.66	8	10	CH	2.280	8.280	<0.1	1.410	89.300		3.760	7.900	<0.02	1.330	<1.0	<1.0	129.000	8.720
PB-5	69.66	10	12	CH/SC	1.380	3.910	<0.1	<0.1	3.440		<1.0	2.330	<0.02	<1.0	<1.0	<1.0	12.500	<1.0
PB-5	69.66	13	15	SC	0.711	48.100	<0.1	<0.1	14.400		<1.0	2.430	<0.02	<1.0	<1.0	<1.0	5.310	1.930
PB-5	69.66	17	19	Cooper Marl	4.610	153.000	1.400	0.224	20.800		2.230	1.840	<0.02	2.460	<1.0	<1.0	12.700	16.800
Arithmetic Average					1.457	20.097	0.100	0.537	35.713		1.920	4.220	0.020	1.110	1.000	1.000	48.937	3.883
PB-6	69.16	2	4	SC	6.230	14.000	<0.1	0.337	13.500		1.620	3.950	<0.02	<1.0	<1.0	<1.0	15.700	2.860
PB-6		4	6	SC	1.460	6.790	<0.1	<0.1	2.480		<1.0	2.310	<0.02	<1.0	<1.0	<1.0	5.970	1.690
PB-6		7	9	SC	<0.5	20.200	<0.1	<0.1	5.150		1.190	1.860	<0.02	<1.0	<1.0	<1.0	5.510	1.440
PB-6		11.5	13.5	SC	2.390	59.600	<0.1	0.450	16.200		1.350	2.270	<0.02	5.900	<1.0	<1.0	11.300	16.300
Arithmetic Average					2.645	25.148	0.100	0.247			1.290	2.598	0.020	2.225	1.000	1.000	9.620	5.573
PB-7	68.16	1	3	SC	4.820	7.210	<0.1	<0.1	2.290		<1.0	2.600	<0.02	<1.0	<1.0	<1.0	5.760	<1.0
PB-7		4	6	SC	<0.5	6.760	<0.1	<0.1	1.680		<1.0	1.920	<0.02	<1.0	<1.0	<1.0	5.070	<1.0
PB-7		6	8	SC	<0.5	6.780	<0.1	<0.1	4.360		1.240	1.500	<0.02	<1.0	<1.0	<1.0	6.220	1.290
PB-7		9	11	SC	<0.5	11.000	<0.1	0.104	13.100		2.900	1.880	<0.02	1.290	<1.0	<1.0	7.090	2.360
Arithmetic Average					1.580	7.938	0.100	0.101	5.358		1.535	1.975	0.020	1.073	1.000	1.000	6.035	1.413
PB-8	70.04	3	5	SC	7.430	46.000	<0.1	<0.1	4.040		<1.0	2.860	<0.02	<1.0	<1.0	<1.0	9.300	<1.0
PB-8		5	7	SC	0.935	12.500	<0.1	<0.1	4.070		1.250	2.410	<0.02	1.070	<1.0	<1.0	10.000	1.420
PB-8		8	10	SC	1.190	52.100	<0.1	<0.1	9.800		1.460	2.220	<0.02	<1.0	<1.0	<1.0	6.780	1.770
PB-8		10	12	SC	0.827	75.800	1.320	<0.1	18.400		2.720	2.100	<0.02	<1.0	<1.0	<1.0	10.900	2.870
Arithmetic Average					2.596	46.600	0.405	0.100	9.078		1.608	2.398	0.020	1.018	1.000	1.000	9.245	2.020

					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)	USCS Classification															
PB-9	68.74	2	4	SC	9.220	4.760	<0.1	<0.1	2.020		<1.0	2.420	<0.02	<1.0	<1.0	<1.0	6.580	<1.0
PB-9		5	7	SC	<0.5	5.680	<0.1	<0.1	2.200		<1.0	2.180	<0.02	<1.0	<1.0	<1.0	8.040	<1.0
PB-9		8	10	SC	<0.5	4.360	<0.1	<0.1	4.320		<1.0	1.700	<0.02	<1.0	<1.0	<1.0	4.800	<1.0
PB-9		10	12	SC	<0.5	7.220	<0.1	<0.1	7.690		1.480	1.670	<0.02	<1.0	<1.0	<1.0	4.580	<1.0
Arithmetic Average					2.680	5.505	0.100	0.100	4.058		1.120	1.993	0.020	1.000	1.000	1.000	6.000	1.000
PB-10	70.44	3	5	SC	3.010	5.860	<0.1	<0.1	3.540		<1.0	3.470	<0.02	<1.0	<1.0	<1.0	5.450	<1.0
PB-10		5	7	SC	<0.5	17.500	<0.1	<0.1	3.170		<1.0	3.300	<0.02	<1.0	<1.0	<1.0	4.900	<1.0
PB-10		7	9	SC	<0.5	24.300	<0.1	<0.1	6.370		<1.0	3.460	<0.02	<1.0	<1.0	<1.0	9.510	<1.0
PB-10		10	12	SC	<0.5	77.600	0.247	<0.1	13.100		1.580	2.350	<0.02	<1.0	<1.0	<1.0	6.560	1.670
PB-10		12	14	SC	1.250	110.000	0.562	<0.1	15.000		1.170	2.080	<0.02	<1.0	<1.0	<1.0	7.000	2.490
Arithmetic Average					1.152	47.052	0.222	0.100	8.236		1.150	2.932	0.020	1.000	1.000	1.000	6.684	1.432
PB-11	71.85	4	6	SC	6.540	22.300	<0.1	<0.1	2.660		<1.0	4.100	<0.02	<1.0	<1.0	<1.0	10.600	1.100
PB-11		6	8	SC	8.670	16.700	<0.1	<0.1	2.360		<1.0	2.710	<0.02	<1.0	<1.0	<1.0	5.820	<1.0
PB-11		9	11	SC	<0.5	14.500	<0.1	<0.1	3.080		<1.0	2.820	<0.02	<1.0	<1.0	<1.0	6.130	1.130
PB-11		12	14	CH	0.512	113.000	<0.1	<0.1	4.760		<1.0	2.620	<0.02	<1.0	<1.0	<1.0	4.480	3.270
Arithmetic Average					4.056	41.625	0.100	0.100	3.215		1.000	3.063	0.020	1.000	1.000	1.000	6.758	1.625
PB-12	71.84	3	5	SC	6.680	8.650	<0.1	<0.1	2.810		<1.0	3.480	<0.02	<1.0	<1.0	<1.0	7.300	<1.0
PB-12		5	7	SC	2.870	6.140	<0.1	<0.1	2.620		<1.0	2.480	<0.02	<1.0	<1.0	<1.0	6.290	<1.0
PB-12		7	9	SC	<0.5	14.400	<0.1	<0.1	2.570		<1.0	3.460	<0.02	<1.0	<1.0	<1.0	7.760	1.170
PB-12		10	12	SC	<0.5	21.500	<0.1	<0.1	7.490		<1.0	1.720	<0.02	<1.0	<1.0	<1.0	6.430	2.050
PB-12		13	15	SC	<0.5	73.300	0.222	<0.1	8.900		<1.0	1.800	<0.02	1.320	<1.0	<1.0	5.290	6.710
Arithmetic Average					2.210	24.798	0.124	0.100	4.878		1.000	2.588	0.020	1.064	1.000	1.000	6.614	2.386
PB-13	73.84	1	3	CH	1.050	24.400	<0.1	0.254	9.360		2.060	13.700	<0.02	1.140	<1.0	<1.0	21.900	4.510
PB-13		3	5	CH	<0.5	7.380	<0.1	0.226	8.020		<1.0	7.480	<0.02	<1.0	<1.0	<1.0	29.900	2.760
PB-13		5	7	SC	<0.5	3.920	<0.1	<0.1	2.420		<1.0	5.450	<0.02	<1.0	<1.0	<1.0	3.110	<1.0
PB-13		8	10	SC	5.930	3.910	<0.1	<0.1	2.490		<1.0	4.090	<0.02	<1.0	<1.0	<1.0	7.050	<1.0
PB-13		10	12	SC	<0.5	8.220	<0.1	<0.1	3.620		<1.0	2.380	<0.02	<1.0	<1.0	<1.0	5.350	1.340
Arithmetic Average					1.696	9.566	0.100	0.156	5.182		1.212	6.620	0.020	1.028	1.000	1.000	13.462	2.122
PB-14	71.34	7	9	SC	1.210	11.700	<0.1	<0.1	6.580		<1.0	2.270	<0.02	1.090	<1.0	<1.0	6.770	1.760
PB-14		9	11	SC	<0.5	27.300	<0.1	<0.1	10.100		<1.0	2.950	<0.02	<1.0	<1.0	<1.0	10.300	1.970
PB-14		12	14	SC	<0.5	83.100	<0.1	0.171	19.400		1.700	1.810	<0.02	2.220	<1.0	<1.0	13.500	7.600
PB-14		14	16	SC	<0.5	10.800	<0.1	0.882	18.500		1.480	1.280	<0.02	1.900	<1.0	<1.0	11.000	16.600
Arithmetic Average					0.678	33.225	0.100	0.313	13.645		1.295	2.078	0.020	1.553	1.000	1.000	10.393	6.983
PB-15	72.34	9	11	SC	10.800	10.100	<0.1	<0.1	5.780		<1.0	3.310	<0.02	<1.0	<1.0	<1.0	5.630	1.360
PB-15		11	13	SC	1.760	18.500	<0.1	<0.1	13.000		<1.0	2.470	<0.02	<1.0	<1.0	<1.0	8.040	1.850
PB-15		14	16	SC	<0.5	62.100	<0.1	<0.1	11.100		1.140	1.270	<0.02	<1.0	<1.0	<1.0	6.540	3.340
PB-15		16	18	SC	0.611	69.000	0.888	0.113	17.900		1.490	1.350	<0.02	1.060	<1.0	<1.0	10.900	6.160
Arithmetic Average					3.418	39.925	0.297	0.103	11.945		1.158	2.100	0.020	1.015	1.000	1.000	7.778	3.178
PB-16	63.72	3	5	SM/CL	1.740	37.300	<0.1	<0.1	12.500		1.700	9.210	<0.02	1.370	<1.0	<1.0	16.500	3.650
PB-16		6	8	SP	1.020	3.220	<0.1	<0.1	0.957		<1.0	0.755	<0.02	<1.0	<1.0	<1.0	<1.0	1.700
PB-16		8	10	SP	<0.5	2.680	<0.1	<0.1	2.260		<1.0	1.160	<0.02	<1.0	<1.0	<1.0	1.250	<1.0
PB-16		11	13	SP	<0.5	5.350	<0.1	<0.1	2.860		<1.0	0.803	<0.02	1.400	<1.0	<1.0	<1.0	<1.0
Arithmetic Average					0.940	12.138	0.100	0.100	4.644		1.175	2.982	0.020	1.193	1.000	1.000	4.938	1.838

					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)	USCS Classification															
PB-17	65.89	1	3	CL	1.550	53.100	<0.1	0.242	22.800		1.740	10.700	<0.02	6.620	<1.0	<1.0	15.600	10.700
PB-17		3	5	CL/SC	0.880	53.400	<0.1	0.198	17.000		<1.0	2.140	<0.02	2.690	<1.0	<1.0	18.300	5.280
PB-17		6	8	SC	0.517	105.000	<0.1	0.365	18.400		1.870	2.240	<0.2	4.620	<1.0	<1.0	15.000	7.680
PB-17		8	10	SC	1.720	58.800	<0.1	0.240	32.200		1.450	1.810	<0.02	3.180	<1.0	<1.0	15.900	5.490
PB-17		11	13	SC	1.500	18.400	<0.1	0.381	24.000		1.760	1.740	<0.02	5.670	<1.0	<1.0	15.900	8.180
Arithmetic Average					1.233	57.740	0.100	0.285	22.880		1.564	3.726	0.020	4.556	1.000	1.000	16.140	7.466
PB-18	62.29	0	0.5	Coal Ash	6.710	66.400	<0.1	0.541	22.030		25.100	8.380	0.032	8.140	<1.0	<1.0	19.800	43.600
PB-18		1	3	CL	1.090	23.800	<0.1	0.362	19.300		<1.0	7.470	<0.02	4.090	<1.0	<1.0	26.100	4.750
PB-18		4	6	SP	<0.5	10.900	<0.1	<0.1	2.250		2.130	1.160	<0.02	8.180	<1.0	<1.0	1.540	1.670
PB-18		7	9	SP	<0.5	8.600	<0.1	<0.1	3.170		<1.0	0.919	<0.02	<1.0	<1.0	<1.0	1.010	<1.0
Arithmetic Average					0.697	14.433	0.100	0.187	8.240		1.377	3.183	0.020	4.423	1.000	1.000	9.550	2.473
PB-19	66.39	1	3	CL	1.720	35.800	<0.1	0.555	17.200		<1.0	5.110	<0.02	3.010	<1.0	<1.0	29.700	5.670
PB-19		4	6	SC	<0.5	21.100	<0.1	<0.1	3.140		3.340	3.180	<0.02	5.610	<1.0	<1.0	3.080	1.430
PB-19		7	9	SC	0.734	9.880	<0.1	<0.1	4.190		<1.0	3.190	<0.02	<1.0	<1.0	<1.0	3.480	3.810
PB-19		10	12	SC	0.500	65.500	<0.1	<0.1	7.750		1.190	2.870	<0.02	<1.0	<1.0	<1.0	8.350	2.920
Arithmetic Average					0.864	33.070	0.100	0.214	8.070		1.633	3.588	0.020	2.655	1.000	1.000	11.153	3.458
PB-20	65.79	1	3	ML	<0.5	23.800	<0.1	<0.1	3.400		<1.0	3.730	<0.02	1.020	<1.0	<1.0	4.850	2.230
PB-20		3	5	CL	0.648	8.820	<0.1	<0.1	4.910		<1.0	4.800	<0.02	<1.0	<1.0	<1.0	9.560	<1.0
PB-20		6	8	CL	0.655	16.100	<0.1	<0.1	5.840		<1.0	7.150	<0.02	<1.0	<1.0	<1.0	6.830	1.050
PB-20		8	10	CL/CH	<0.5	8.330	<0.1	0.154	8.980		<1.0	3.410	<0.02	<1.0	<1.0	<1.0	12.600	1.300
PB-20		11	13	CH/SW	<0.5	6.880	<0.1	<0.1	1.860		<1.0	1.460	<0.02	<1.0	<1.0	<1.0	2.020	<1.0
Arithmetic Average					0.561	12.786	0.100	0.111	4.998		1.000	4.110	0.020	1.004	1.000	1.000	7.172	1.316
PB-21	66.51	0	2	Coal Ash	22.400	586.000	<0.1	0.596	21.000		29.300	9.220	0.050	15.700	7.730	<1.0	39.900	15.300
PB-21		2	4	CH	5.800	21.600	<0.1	<0.1	8.320		1.040	7.000	<0.02	1.360	<1.0	<1.0	13.200	2.830
PB-21		4	6	CH	1.680	13.200	<0.1	0.195	7.670		<1.0	7.760	<0.02	<1.0	<1.0	<1.0	8.320	1.740
PB-21		7	9	CH	2.450	18.900	<0.1	0.124	9.570		<1.0	7.990	<0.02	<1.0	<1.0	<1.0	17.500	1.300
PB-21		10	12	SP	<0.5	1.490	<0.1	<0.1	1.460		<1.0	0.851	<0.02	<1.0	<1.0	<1.0	1.330	<1.0
Arithmetic Average					2.608	13.798	0.100	0.130	6.755		1.010	5.900	0.020	1.090	1.000	1.000	10.088	1.718
PB-22	66.81	2	4	CL	<0.5	4.540	<0.1	<0.1	4.640		<1.0	2.870	<0.02	<1.0	<1.0	<1.0	12.200	<1.0
PB-22		4	6	SC	<0.5	7.270	<0.1	<0.1	1.710		<1.0	1.350	<0.02	<1.0	<1.0	<1.0	2.150	<1.0
PB-22		7	9	SC	<0.5	21.700	<0.1	<0.1	3.130		<1.0	1.430	<0.02	<1.0	<1.0	<1.0	2.420	<1.0
PB-22		9	11	SC	<0.5	24.600	<0.1	<0.1	3.710		<1.0	2.160	<0.02	<1.0	<1.0	<1.0	2.480	<1.0
PB-22		12	14	SC	<0.5	23.400	<0.1	0.210	8.870		1.350	1.380	<0.02	<1.0	<1.0	<1.0	6.790	5.850
Arithmetic Average					0.500	16.302	0.100	0.122	4.412		1.070	1.838	0.020	1.000	1.000	1.000	5.208	1.970
PB-23	65.71	1	3	SC	<0.5	4.890	<0.1	<0.1	4.480		<1.0	3.020	<0.02	<1.0	<1.0	<1.0	1.790	<1.0
PB-23		3	5	SC	<0.5	5.550	<0.1	0.148	3.540		1.190	2.320	<0.02	<1.0	<1.0	<1.0	8.730	1.420
PB-23		6	8	SC	<0.5	7.070	<0.1	<0.1	2.960		8.440	1.970	<0.02	7.650	<1.0	<1.0	1.830	1.820
PB-23		8	10	SC	0.546	42.800	<0.1	<0.1	6.560		1.080	2.320	<0.02	<1.0	<1.0	<1.0	3.760	<1.0
PB-23		11	13	SC	2.540	18.700	<0.1	0.186	14.900		2.510	2.030	<0.02	<1.0	<1.0	<1.0	11.800	2.560
Arithmetic Average					0.917	15.802	0.100	0.127	6.488		2.844	2.332	0.020	2.330	1.000	1.000	5.582	1.560
PB-24	66.71	1	3	CL	12.800	194.000	<0.1	0.233	10.500		10.900	5.930	0.025	5.240	<1.0	<1.0	20.000	6.010
PB-24		3	5	SC	<0.5	7.910	<0.1	<0.1	2.220		<1.0	1.530	<0.02	<1.0	<1.0	<1.0	3.420	2.100
PB-24		6	8	SC	<0.5	14.100	<0.1	<0.1	1.710		<1.0	1.730	<0.02	<1.0	<1.0	<1.0	2.320	1.110
PB-24		8	10	SC	1.180	80.900	<0.1	<0.1	6.730		<1.0	1.810	<0.02	33.000	<1.0	<1.0	4.070	1.160
PB-24		11	13	SC	4.410	42.700	<0.1	0.234	14.400		1.100	1.790	<0.02	7.540	<1.0	<1.0	11.000	6.650
Arithmetic Average					3.878	67.922	0.100	0.153	7.112		3.000	2.558	0.021	9.556	1.000	1.000	8.162	3.406

					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)	USCS Classification															
PB-25	65.71	2	4	CH	<0.5	15.800	<0.1	<0.1	6.390		<1.0	5.680	<0.02	<1.0	<1.0	<1.0	8.990	1.440
PB-25		4	6	CH	0.531	18.900	<0.1	<0.1	8.750		<1.0	7.830	<0.02	<1.0	<1.0	<1.0	6.060	1.210
PB-25		7	9	CL/SW-SC	<0.5	24.900	<0.1	2.190	26.800		2.370	6.070	<0.02	3.230	<1.0	<1.0	36.000	14.000
PB-25		9	11	SP	<0.5	17.800	<0.1	<0.1	12.400		<1.0	2.380	<0.02	<1.0	<1.0	<1.0	8.220	1.350
PB-25		12	14	SP	0.535	16.200	0.181	<0.1	21.600		1.580	1.570	<0.02	2.750	<1.0	<1.0	15.100	4.450
Arithmetic Average					0.513	18.720	0.116	0.518	15.188		1.390	4.706	0.020	1.796	1.000	1.000	14.874	4.490
PB-26	72.24	2	4	SC	2.010	14.700	<0.1	<0.1	4.770		<1.0	4.350	<0.02	<1.0	<1.0	<1.0	3.290	1.740
PB-26		4	6	SC	8.720	5.370	<0.1	0.104	2.890		<1.0	2.260	<0.02	<1.0	<1.0	<1.0	6.120	1.030
PB-26		7	9	SC	2.960	3.860	<0.1	<0.1	2.020		<1.0	2.090	<0.02	<1.0	<1.0	<1.0	6.400	1.030
PB-26		9	11	SC	4.890	5.220	<0.1	<0.1	1.990		<1.0	1.700	<0.02	<1.0	<1.0	<1.0	6.500	1.150
PB-26		12	14	SC	1.460	77.300	0.743	0.160	11.000		1.670	1.920	<0.02	3.890	<1.0	<1.0	8.190	6.840
Arithmetic Average					4.008	21.290	0.229	0.113	4.534		1.134	2.464	0.020	1.578	1.000	1.000	6.100	2.358
PB-27	69.14	1	3	SC	1.650	11.500	<0.1	<0.1	2.360		<1.0	2.770	<0.02	<1.0	<1.0	<1.0	2.690	<1.0
PB-27		3	5	SC	0.686	5.740	<0.1	<0.1	2.690		<1.0	2.400	<0.02	<1.0	<1.0	<1.0	5.270	1.110
PB-27		5	7	SC	<0.5	9.230	<0.1	<0.1	2.570		<1.0	2.400	<0.02	<1.0	<1.0	<1.0	5.320	1.430
PB-27		8	10	SC	<0.5	7.580	<0.1	<0.1	2.600		<1.0	1.950	<0.02	<1.0	<1.0	<1.0	3.690	2.020
PB-27		11	13	SC	1.280	43.300	<0.1	0.109	6.180		1.040	1.630	<0.02	2.400	<1.0	<1.0	4.300	5.220
Arithmetic Average					0.923	15.470	0.100	0.102	3.280		1.008	2.230	0.020	1.280	1.000	1.000	4.254	2.445
PB-28	70.34	0.5	2.5	CL	4.930	119.000	<0.1	1.210	23.000		<1.0	5.140	<0.02	5.840	<1.0	<1.0	35.400	13.700
PB-28		3	5	CL/SC	0.975	34.900	<0.1	0.225	16.300		1.550	2.480	<0.02	3.300	<1.0	<1.0	18.700	6.360
PB-28		5	7	SC	1.090	36.400	<0.1	<0.1	14.200		1.430	2.020	<0.02	1.420	<1.0	<1.0	10.400	2.300
PB-28		8	10	SC	<0.5	26.300	<0.1	<0.1	15.700		1.010	1.730	<0.02	1.210	<1.0	<1.0	9.720	3.160
PB-28		10	12	SC	1.380	16.900	<0.1	0.219	25.900		2.200	2.110	<0.02	1.810	<1.0	<1.0	21.100	5.620
Arithmetic Average					1.775	46.700	0.100	0.371	19.020		1.438	2.696	0.020	2.716	1.000	1.000	19.064	6.228
PB-29	68.54	1	3	CH	74.600	200.000	<0.1	1.400	39.300		6.650	57.800	<0.02	8.200	<1.0	<1.0	55.900	13.300
PB-29		3	5	CH	14.900	91.900	<0.1	0.632	19.700		2.370	7.830	<0.02	5.270	<1.0	<1.0	25.700	11.200
PB-29		5	7	CL	5.040	20.500	<0.1	0.869	30.400		1.020	3.490	<0.02	14.000	<1.0	<1.0	21.600	11.500
PB-29		8	10	CL	1.430	29.100	<0.1	0.424	15.000		<1.0	2.740	<0.02	5.870	<1.0	<1.0	15.400	6.410
PB-29		11	13	CL/SC	1.140	25.200	<0.1	0.352	21.000		1.830	1.870	<0.02	1.670	<1.0	<1.0	13.800	5.550
Arithmetic Average					19.422	73.340	0.100	0.735	25.080		2.574	14.746	0.020	7.002	1.000	1.000	26.480	9.592
PB-30		0	2	SC	<0.5	19.500	<0.1	<0.1	7.060		1.490	2.550	<0.02	1.980	<1.0	<1.0	3.600	2.450
PB-30		2	4	SC	<0.5	5.920	<0.1	<0.1	18.600		1.340	1.820	<0.02	1.660	<1.0	<1.0	9.690	2.530
PB-30		5	7	SC	<0.5	12.400	<0.1	<0.1	9.700		1.610	1.520	<0.02	3.250	<1.0	<1.0	3.860	3.800
PB-30		7	9	SC	<0.5	25.200	<0.1	<0.1	9.970		1.380	1.420	<0.02	1.830	<1.0	<1.0	3.370	2.860
Arithmetic Average					0.500	15.755	0.100	0.100	11.333		1.455	1.828	0.020	2.180	1.000	1.000	5.130	2.910
PB-31		0	2	CL	<0.5	23.100	<0.1	<0.1	3.220		<1.0	1.530	<0.02	1.160	<1.0	<1.0	3.410	2.950
PB-31		2	4	CL	<0.5	11.900	<0.1	<0.1	5.310		2.610	1.300	<0.02	3.700	<1.0	<1.0	2.760	3.020
PB-31		5	7	CL	<0.5	10.400	<0.1	<0.1	12.000		<1.0	1.590	<0.02	1.260	<1.0	<1.0	4.940	2.800
PB-31		7	9	CL	<0.5	16.500	<0.1	<0.1	11.200		1.300	1.630	<0.02	2.090	<1.0	<1.0	4.520	3.780
Arithmetic Average					0.500	15.475	0.100	0.100	7.933		1.478	1.513	0.020	2.053	1.000	1.000	3.908	3.138
PB-32		0	2	SP	<0.5	20.900	<0.1	<0.1	11.600		1.080	3.830	<0.02	2.080	<1.0	<1.0	5.470	3.190
PB-32		2	4	SP	<0.5	6.720	<0.1	<0.1	10.900		<1.0	1.730	<0.02	1.060	<1.0	<1.0	4.590	2.000
PB-32		5	7	SP	<0.5	26.400	<0.1	<0.1	9.000		<1.0	1.470	<0.02	1.560	<1.0	<1.0	3.270	3.960
PB-32		7	9	SP	0.675	8.220	<0.1	0.639	20.600		1.870	1.150	<0.02	4.730	<1.0	<1.0	11.000	11.400
Arithmetic Average					0.544	15.560	0.100	0.235	13.025		1.238	2.045	0.020	2.358	1.000	1.000	6.083	5.138

					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)	USCS Classification															
PB-33	55.54	1	3	SP	<0.5	2.560	<0.1	<0.1	1.620		<1.0	1.730	<0.02	<1.0	<1.0	<1.0	<1.0	<1.0
PB-33		3	5	SP	<0.5	1.870	<0.1	<0.1	1.330		<1.0	1.410	<0.02	<1.0	<1.0	<1.0	<1.0	<1.0
PB-33		5	7	SP	<0.5	7.650	<0.1	0.206	5.500		1.600	2.620	<0.02	2.020	<1.0	<1.0	3.100	1.900
Arithmetic Average					0.500	4.027	0.100	0.135	2.817		1.200	1.920	0.020	1.340	1.000	1.000	1.700	1.300
PB-34	55.54	1	3	SP	<0.5	2.030	<0.1	<0.1	1.030		<1.0	1.840	<0.02	<1.0	<1.0	<1.0	<1.0	<1.0
PB-34		3	5	SP/CL	<0.5	12.900	<0.1	<0.1	3.840		<1.0	3.760	<0.02	1.000	<1.0	<1.0	2.530	<1.0
Arithmetic Average					0.500	7.465	0.100	0.100	2.435		1.000	2.800	0.020	1.000	1.000	1.000	1.765	1.000
PB-35	59.94	2	4	SW-SC	<0.5	13.700	<0.1	<0.1	5.640		<1.0	5.500	<0.02	1.310	<1.0	<1.0	5.440	<1.0
PB-35		4	5.5	SW-SC	<0.5	4.160	<0.1	<0.1	1.470		<1.0	1.520	<0.02	<1.0	<1.0	<1.0	1.270	<1.0
PB-35		5.5	7	Cooper Marl	4.950	7.450	<0.1	0.295	23.700		1.440	1.550	<0.02	10.300	<1.0	<1.0	22.300	4.400
Arithmetic Average					0.500	8.930	0.100	0.100	3.555		1.000	3.510	0.020	1.155	1.000	1.000	3.355	1.000
PB-37	58.24	1	3	SC	<0.5	4.130	<0.1	<0.1	2.730		<1.0	2.170	<0.02	<1.0	<1.0	<1.0	1.590	<1.0
PB-37		3	5	SC	<0.5	2.570	<0.1	<0.1	1.610		1.830	0.819	<0.02	3.000	<1.0	<1.0	1.420	<1.0
PB-37		5	7	Cooper Marl	5.080	8.430	<0.1	0.306	16.300		1.410	1.120	<0.02	5.320	<1.0	<1.0	11.600	5.550
PB-37		7	9	Cooper Marl	7.450	7.690	<0.1	0.648	24.600		2.070	1.490	<0.02	6.690	<1.0	<1.0	14.400	9.580
Arithmetic Average					0.500	3.350	0.100	0.100	2.170		1.415	1.495	0.020	2.000	1.000	1.000	1.505	1.000
PB-38	56.54	1	2.5	CL	3.490	37.900	<0.1	0.215	13.700		5.280	5.650	<0.02	4.260	<1.0	<1.0	13.300	5.700
PB-38		2.5	3.5	CL	1.260	18.100	<0.1	0.102	9.080		1.480	4.740	<0.02	1.480	<1.0	<1.0	9.190	2.050
Arithmetic Average					2.375	28.000	0.100	0.159	11.390		3.380	5.195	0.020	2.870	1.000	1.000	11.245	3.875
PB-39	56.14	1	3	CL/SW	0.700	11.100	<0.1	<0.1	8.000		<1.0	4.920	<0.02	1.180	<1.0	<1.0	7.470	1.240
PB-39		3	5	SW	0.967	17.800	<0.1	0.132	22.800		1.240	1.510	<0.02	3.630	<1.0	<1.0	7.300	6.490
Arithmetic Average					0.834	14.450	0.100	0.116	15.400		1.120	3.215	0.020	2.405	1.000	1.000	7.385	3.865
PB-40	58.94	1	3	SP	<0.5	31.400	0.141	<0.1	28.200		<1.0	2.410	<0.02	2.490	<1.0	<1.0	8.730	3.790
PB-40		3	5	SP	<0.5	65.100	0.766	<0.1	11.700		1.310	1.810	<0.02	1.540	<1.0	<1.0	3.020	2.800
PB-40		5	7	SP	<0.5	7.230	1.330	0.301	14.200		1.050	0.977	<0.02	2.840	<1.0	<1.0	3.590	5.140
Arithmetic Average					0.500	34.577	0.746	0.167	18.033		1.120	1.732	0.020	2.290	1.000	1.000	5.113	3.910
PB-41	57.82	1	3	SW	<0.5	7.870	<0.1	<0.1	3.610		<1.0	1.350	<0.02	<1.0	<1.0	<1.0	<1.0	<1.0
PB-41		3	5	SW/SM	<0.5	6.210	<0.1	<0.1	4.840		1.760	1.590	<0.02	<1.0	<1.0	<1.0	<1.0	1.270
Arithmetic Average					0.500	7.040	0.100	0.100	4.225		1.380	1.470	0.020	1.000	1.000	1.000	1.000	1.135
PB-42	60.32	1	3	SP	<0.5	1.240	<0.1	<0.1	0.648		<1.0	0.840	<0.02	<1.0	<1.0	<1.0	<1.0	<1.0
PB-42		3	5	SP	<0.5	3.480	<0.1	0.191	1.730		<1.0	1.420	<0.02	<1.0	<1.0	<1.0	7.300	1.020
PB-42		6	8	SP	<0.5	10.400	0.264	0.252	24.400		2.890	1.420	<0.02	3.130	1.630	<1.0	7.300	7.660
Arithmetic Average					0.500	5.040	0.155	0.181	8.926		1.630	1.227	0.020	1.710	1.210	1.000	5.200	3.227
PB-43	56.72	1	3	SP	<0.5	3.130	<0.1	<0.1	1.450		<1.0	1.070	<0.02	<1.0	<1.0	<1.0	1.110	1.830
PB-43		3	5	SM	0.949	15.400	3.620	0.866	24.100		3.810	1.860	<0.02	3.210	<1.0	<1.0	7.570	8.170
Arithmetic Average					0.725	9.265	1.860	0.483	12.775		2.405	1.465	0.020	2.105	1.000	1.000	4.340	5.000
PB-44	56.52	1	3	SP	<0.5	27.300	<0.1	<0.1	13.700		<1.0	1.580	<0.02	1.950	<1.0	<1.0	3.960	2.290
PB-44		3	5	SP/SM	<0.5	66.500	0.401	<0.1	13.200		1.000	1.580	<0.02	<1.0	<1.0	<1.0	3.070	4.720
PB-44		5	7	SM	2.810	8.330	<0.1	0.625	18.600		2.190	1.070	<0.02	7.510	<1.0	<1.0	13.600	12.700
Arithmetic Average					1.270	34.043	0.200	0.275	15.167		1.397	1.410	0.020	3.487	1.000	1.000	6.877	6.570
PB-45	56.52	1	3	SP	0.508	17.500	<0.1	<0.1	9.740		1.000	1.540	<0.02	<1.0	<1.0	<1.0	3.390	2.230
PB-45		3	5	SP/SM	<0.5	81.300	0.291	0.121	18.900		2.320	1.550	<0.02	2.560	<1.0	<1.0	7.040	8.740
PB-45		5	7	SM	<0.5	8.660	<0.1	0.480	19.700		1.170	1.360	<0.02	2.130	<1.0	<1.0	5.970	10.700
Arithmetic Average					0.503	35.820	0.164	0.234	16.113		1.497	1.483	0.020	1.897	1.000	1.000	5.467	7.223

					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)	USCS Classification															
PB-46	58.82	1	3	SM	<0.5	9.750	<0.1	<0.1	16.200		1.880	1.620	<0.02	2.890	<1.0	<1.0	8.020	2.360
PB-46		3	5	SM	<0.5	57.9	<0.1	<0.1	11.000		<1.0	1.440	<0.02	1.110	<1.0	<1.0	4.380	2.330
PB-46		5	7	SM	0.589	8.660	0.314	0.337	17.300		1.100	1.250	<0.02	1.760	<1.0	<1.0	6.500	10.000
Arithmetic Average					0.530	9.205	0.171	0.179	14.833		1.327	1.437	0.020	1.920	1.000	1.000	6.300	4.897
PB-47	69.9	1	3	CL	33.600	194.000	<0.1	0.330	16.500		25.000	7.620	0.110	9.920	7.120	<1.0	31.900	12.600
PB-47		3	5	CL	14.500	30.200	<0.1	0.240	9.710		<1.0	7.620	<0.02	2.670	<1.0	<1.0	9.900	7.300
PB-47		5	7	CL/SW-SC	38.900	31.100	<0.1	0.494	12.800		2.130	4.350	<0.02	5.720	<1.0	<1.0	20.000	11.900
PB-47		7	9	SW-SC	16.100	66.100	<0.1	0.319	12.500		<1.0	2.420	<0.02	3.140	<1.0	<1.0	11.800	6.030
PB-47		9	11	SW-SC/CL	0.696	66.100	<0.1	0.228	20.400		1.870	1.630	<0.02	2.200	<1.0	<1.0	11.000	5.200
Arithmetic Average					20.759	77.500	0.100	0.322	14.382		6.200	4.728	0.038	4.730	2.224	1.000	16.920	8.606
PB-48	70.3	1	3	CL	30.200	264.000	<0.1	0.583	32.600		34.200	11.600	0.082	17.900	5.110	<1.0	46.700	24.300
PB-48		3	4	CL	13.900	20.600	<0.1	0.383	13.500		1.490	2.700	<0.02	2.530	<1.0	<1.0	21.400	7.480
PB-48		4	6	CL	3.950	47.900	<0.1	0.310	15.500		2.070	2.580	<0.02	4.620	<1.0	<1.0	18.000	6.740
PB-48		7	9	CL/SW-SC	5.720	10.300	<0.1	1.270	15.500		1.860	1.360	<0.02	6.160	<1.0	<1.0	18.400	12.300
PB-48		9	11	SW-SC	22.500	15.200	<0.1	0.365	9.400		1.280	4.310	<0.02	2.290	<1.0	<1.0	15.800	5.360
Arithmetic Average					15.254	71.600	0.100	0.582	17.300		8.180	4.510	0.032	6.700	1.822	1.000	24.060	11.236
PB-49	70.2	2	3	SC	6.220	10.000	<0.1	0.159	5.280		<1.0	2.500	<0.02	1.760	<1.0	<1.0	8.550	3.820
PB-49		3	5	SC	2.830	4.490	<0.1	<0.1	2.350		<1.0	1.100	<0.02	<1.0	<1.0	<1.0	3.720	1.500
PB-49		6	8	SC/CL	1.550	7.570	<0.1	0.396	8.660		1.100	2.290	<0.02	2.760	<1.0	<1.0	16.000	5.640
PB-49		8	10	CL	0.756	3.690	<0.1	0.110	6.010		<1.0	0.985	<0.02	1.030	<1.0	<1.0	5.870	2.340
PB-49		11	13	SC	0.966	4.310	<0.1	<0.1	7.910		1.130	1.130	<0.02	<1.0	<1.0	<1.0	6.580	1.360
Arithmetic Average					2.464	6.012	0.100	0.173	6.042		1.046	1.601	0.020	1.510	1.000	1.000	8.144	2.932
PB-50	73.4	5	7	CL	65.700	218.000	<0.1	0.368	18.900		19.600	8.190	0.044	10.000	3.000	<1.0	30.000	15.700
PB-50		8	10	CL	100.000	12.300	<0.1	0.341	9.080		1.000	3.090	<0.02	1.680	<1.0	<1.0	16.000	4.820
PB-50		10	12	CL	2.730	10.500	<0.1	0.161	5.260		<1.0	2.580	<0.02	<1.0	<1.0	<1.0	7.570	3.380
PB-50		13	15	CL	<0.5	7.480	<0.1	0.323	5.350		<1.0	1.900	<0.02	1.460	<1.0	<1.0	8.780	3.840
PB-50		15	17	CL	0.894	8.250	<0.1	0.144	12.300		<1.0	1.610	<0.02	1.110	<1.0	<1.0	7.190	3.810
Arithmetic Average					33.965	51.306	<0.1	0.267	10.178		4.720	3.474	0.025	3.050	1.400	1.000	13.908	6.310
PB-51	72.9	1	3	Coal Ash	42.600	183.000	<0.1	0.393	20.800		19.900	7.940	0.048	8.630	2.970	<1.0	31.100	17.300
PB-51		5	7	CL	39.500	279.000	<0.1	0.536	21.800		33.300	11.500	0.061	14.400	4.740	<1.0	40.800	19.800
PB-51		7	9	CL	8.600	12.700	<0.1	0.118	3.630		<1.0	2.900	<0.02	<1.0	<1.0	<1.0	3.320	1.010
PB-51		9	11	CL	34.800	17.800	<0.1	0.185	4.500		<1.0	3.760	<0.02	<1.0	<1.0	<1.0	9.490	2.330
PB-51		12	14	SC	11.600	11.300	<0.1	<0.1	2.070		<1.0	1.650	<0.02	<1.0	<1.0	<1.0	3.110	<1.0
PB-51		14	16	SC	16.400	62.400	<0.1	<0.1	11.900		<1.0	5.050	<0.02	1.340	<1.0	<1.0	5.610	2.100
PB-51		16	18	SC	19.900	11.000	<0.1	<0.1	8.120		<1.0	1.590	<0.02	<1.0	<1.0	<1.0	5.540	1.570
Arithmetic Average					21.800	65.700	0.100	0.190	8.670		6.383	4.408	0.027	3.290	1.623	1.000	11.312	4.635
PB-52	72.5	6	8	CL	28.300	9.790	<0.1	0.190	4.410		<1.0	2.620	<0.02	<1.0	<1.0	<1.0	11.300	<1.0
PB-52		9	11	SC	1.600	4.830	<0.1	<0.1	1.950		<1.0	1.990	<0.02	<1.0	<1.0	<1.0	3.890	<1.0
PB-52		11	13	SC	<0.5	5.300	<0.1	<0.1	2.420		<1.0	2.320	<0.02	1.200	<1.0	<1.0	6.930	<1.0
PB-52		14	16	CL	<0.5	7.090	<0.1	0.129	4.010		1.100	1.680	<0.02	<1.0	<1.0	<1.0	11.000	2.990
PB-52		16	18	CL	<0.5	6.460	<0.1	0.344	21.900		1.050	2.980	<0.02	1.760	<1.0	<1.0	10.900	6.830
Arithmetic Average					6.280	6.694	0.100	0.173	6.938		1.030	2.318	0.020	1.320	1.000	1.000	8.804	2.564
PB-53	69.4	3	5	SC	2.740	11.600	<0.1	0.170	6.510		<1.0	2.670	<0.02	1.210	<1.0	<1.0	10.900	2.470
PB-53		5	7	SC	<0.5	6.390	<0.1	0.115	3.580		<1.0	1.830	<0.02	<1.0	<1.0	<1.0	6.610	1.380
PB-53		8	10	SC	<0.5	8.420	<0.1	<0.1	4.640		<1.0	1.950	<0.02	<1.0	<1.0	<1.0	7.110	2.020
PB-53		10	12	SC/CL	<0.5	13.100	<0.1	0.140	7.760		1.730	2.960	<0.02	3.250	<1.0	<1.0	8.110	5.520
PB-53		13	15	CL	<0.5	11.500	<0.1	0.213	7.890		<1.0	2.500	<0.02	3.740	<1.0	<1.0	7.120	8.750
Arithmetic Average					0.948	10.202	0.100	0.148	6.076		1.146	2.382	0.020	2.040	1.000	1.000	7.970	4.028

					arsenic	barium	beryllium	cadmium	chromium (total)	chromium VI	copper	lead	mercury	nickel	selenium	silver	vanadium	zinc
Average Background (mg/kg)					1.45	29.10	0.14	0.17	9.55	1.93	1.27	1.99	0.02	2.80	1.00	1.00	9.69	4.98
Background High (mg/kg)					7.45	66.50	0.76	0.71	21.40	2.40	2.96	6.31	0.02	8.90	1.00	1.00	32.20	15.30
May 2014 EPA Industrial Soil SL (mg/kg)					3.00	22,000	230	98	108,000	6.30	4,700	800	4	2,200	580	580	580	35,000
Boring ID	Surface Elev (ft)	Sample Depth (ft)	USCS Classification															
PB-54	70.3	2	4	SC	3.140	15.400	<0.1	<0.1	5.160		<1.0	2.650	<0.02	1.130	<1.0	<1.0	7.120	2.060
PB-54		4	6	SC	<0.5	12.200	<0.1	0.139	5.070		<1.0	2.680	<0.02	<1.0	<1.0	<1.0	9.730	2.500
PB-54		7	9	CL	<0.5	33.800	<0.1	0.140	6.610		1.180	3.400	<0.02	2.180	<1.0	<1.0	9.060	5.690
PB-54		9	11	CL	<0.5	10.900	<0.1	0.144	7.160		<1.0	2.760	<0.02	2.520	<1.0	<1.0	6.710	6.970
PB-54		12	14	CL	0.818	9.450	<0.1	0.388	8.780		1.080	2.310	<0.02	6.440	<1.0	<1.0	10.300	12.200
Arithmetic Average					1.092	16.350	0.100	0.182	6.556		1.052	2.760	0.020	2.654	1.000	1.000	8.584	5.884
PB-55	70.11	3	5	SC	7.860	14.400	<0.1	0.140	2.520		<1.0	3.730	<0.02	<1.0	<1.0	<1.0	7.870	1.220
PB-55		5	7	SC	<0.5	14.4	<0.1	0.124	2.580		<1.0	2.110	<0.02	<1.0	<1.0	<1.0	5.940	1.470
PB-55		8	10	CL	2.820	6.890	<0.1	0.325	6.970		1.090	2.260	<0.02	2.310	<1.0	<1.0	6.880	6.750
PB-55		10	12	CL	0.517	12.800	<0.1	0.113	6.020		<1.0	2.620	<0.02	1.500	<1.0	<1.0	2.400	5.130
PB-55		13	15	CL	0.968	290.000	<0.1	0.283	8.950		1.220	3.950	<0.02	3.590	<1.0	<1.0	5.650	12.800
Arithmetic Average					2.533	81.023	0.100	0.197	5.408		1.062	2.934	0.020	1.880	1.000	1.000	5.748	5.474
PB-56	68.61	2	3	SC	6.200	5.930	<0.1	<0.1	2.390		<1.0	2.610	<0.02	<1.0	<1.0	<1.0	9.610	<1.0
PB-56		3	5	SC	2.520	119.000	<0.1	<0.1	3.820		<1.0	7.610	<0.02	1.540	<1.0	<1.0	6.900	1.330
PB-56		6	8	SC	<0.5	13.300	<0.1	<0.1	4.370		<1.0	1.790	<0.02	<1.0	<1.0	<1.0	5.550	2.610
PB-56		8	10	CL	1.330	53.500	<0.1	0.333	7.420		2.170	3.150	<0.02	5.120	<1.0	<1.0	8.730	13.300
PB-56		11	13	CL	0.516	56.900	<0.1	0.107	7.460		1.260	1.980	<0.02	2.180	<1.0	<1.0	5.010	6.720
Arithmetic Average					2.213	49.726	0.100	0.148	5.092		1.286	3.428	0.020	2.168	1.000	1.000	7.160	5.990
PB-57	70.61	2	4	SC	9.300	41.000	<0.1	<0.1	3.790		<1.0	10.400	<0.02	1.390	<1.0	<1.0	6.890	3.540
PB-57		4	6	SC	<0.5	4.110	<0.1	<0.1	2.720		<1.0	2.190	<0.02	<1.0	<1.0	<1.0	6.840	1.380
PB-57		7	9	SC	<0.5	12.900	<0.1	<0.1	3.290		<1.0	2.380	<0.02	<1.0	<1.0	<1.0	5.140	1.570
PB-57		9	11	CL	<0.5	76.800	<0.1	0.100	9.540		1.110	2.100	<0.02	1.360	<1.0	<1.0	5.070	4.070
PB-57		12	14	CL	0.100	47.800	<0.1	<0.1	7.210		<1.0	1.430	<0.02	1.240	<1.0	<1.0	3.610	4.500
Arithmetic Average					2.260	36.522	0.100	0.100	5.310		1.022	3.700	0.020	1.198	1.000	1.000	5.510	3.012
PB-58		0	2	SC	3.190	39.700	<0.1	0.400	12.500		6.660	5.540	<0.02	3.940	<1.0	<1.0	16.610	10.500
PB-58		2	4	SC	1.100	48.800	<0.1	0.316	14.600		1.410	6.380	<0.02	3.260	<1.0	<1.0	21.000	9.170
PB-58		4	6	SC	<0.5	12.700	<0.1	0.125	14.000		<1.0	3.140	<0.02	2.120	<1.0	<1.0	14.900	4.810
Arithmetic Average					1.597	33.733	0.100	0.280	13.700		3.023	5.020	0.020	3.107	1.000	1.000	17.503	8.160
PB-59		0	2	SP	2.760	56.900	<0.1	0.513	12.300		<1.0	7.100	<0.02	1.740	<1.0	<1.0	18.500	5.850
PB-59		2	4	SC	<0.5	29.000	<0.1	0.412	11.800		1.410	4.710	<0.02	3.170	<1.0	<1.0	19.200	8.290
PB-59		4	6	SP	<0.5	11.300	<0.1	0.139	13.200		<1.0	3.030	<0.02	1.420	<1.0	<1.0	11.900	3.850
Arithmetic Average					1.253	32.400	0.100	0.355	12.433		1.137	4.947	0.020	2.110	1.000	1.000	16.533	5.997
PB-60		0	2	SC	2.650	82.200	<0.1	0.216	10.600		1.270	7.320	<0.02	1.970	<1.0	<1.0	14.000	5.560
PB-60		2	4	SC	<0.5	34.700	<0.1	0.226	10.400		<1.0	3.830	<0.02	2.300	<1.0	<1.0	13.300	6.260
PB-60		4	6	SW-SC	<0.5	23.700	<0.1	0.120	7.290		<1.0	3.580	<0.02	<1.0	1.500	<1.0	8.020	5.010
Arithmetic Average					1.217	46.867	0.100	0.187	9.430		1.090	4.910	0.020	1.757	1.167	1.000	11.773	5.610

Notes: 1) Averages were calculated by adding the concentrations of constituents detected in all surficial sediment samples collected from each boring location and dividing by the number of samples. Where the results were below the reporting limits, the constituent concentrations were conservatively assumed to be equal to the reporting limit. **Coal ash and Cooper Marl (Ashley Formation) samples are not included in calculations of borehole averages.**

2) Analytical constituent concentrations for discrete samples that exceed the applicable reference level (May 2014 EPA Industrial Soil Screening Level or background high concentration) are highlighted in green and average borehole concentrations of analytical constituents detected in the surficial sediments that exceed the applicable reference level (May 2014 EPA Industrial Soil Screening Level or background high concentration) are highlighted in red.

3) Only analytes with detections in one or more samples are included in data table. Antimony was not detected in any of the samples analyzed.

TABLE 2
Arsenic Mass Reduction With Coal Ash Removal
SCE&G Canadys Station Main Plant Legacy Coal Ash Assessment
SCE&G Canadys Station, Canadys, Colleton County, South Carolina

Boring ID	Unit	A Unit Thickness (ft.)	B Average As Concentration (mg/Kg)	Weighted Avg Borehole As Concentration (mg/Kg) Coal Ash + Soil {Σ[AxB]/Total Thickness}	Mass of As in a 1 cm ² column of Coal Ash + Soil (mg)	Borehole Avg Soil As Concentration (mg/kg)	Mass of As in a 1 cm ² column of Soil After Coal Ash Removal (mg)	% Borehole As Mass Reduction with Coal Ash Removal
LB-2	Coal Ash Soil	6	34.650	---	---	---	---	---
		14	1.509	---	---	---	---	---
				11.451	0.098	1.509	0.009	90.77
LB-3	Coal Ash Soil	15	39.800	---	---	---	---	---
		7	9.626	---	---	---	---	---
				30.199	0.284	9.626	0.029	89.86
LB-6	Coal Ash Soil	3	32.800	---	---	---	---	---
		9	6.490	---	---	---	---	---
				13.068	0.067	6.490	0.025	62.75
LB-7	Coal Ash Soil	1.75	34.650	---	---	---	---	---
		15.25	4.417	---	---	---	---	---
				7.529	0.055	4.417	0.029	47.38
LB-10	Coal Ash Soil	1	34.650	---	---	---	---	---
		19	15.888	---	---	---	---	---
				16.826	0.144	15.888	0.129	10.30
LB-12	Coal Ash Soil	1	34.650	---	---	---	---	---
		14	4.071	---	---	---	---	---
				6.109	0.039	4.071	0.024	37.81
LB-13	Coal Ash Soil	4	51.700	---	---	---	---	---
		16	10.338	---	---	---	---	---
				18.610	0.159	10.338	0.071	55.56
LB-14	Coal Ash Soil	2	34.650	---	---	---	---	---
		18	1.201	---	---	---	---	---
				4.546	0.039	1.201	0.009	76.23
LB-15	Coal Ash Soil	4	34.650	---	---	---	---	---
		13	2.278	---	---	---	---	---
				9.895	0.072	2.278	0.013	82.40
LB-16	Coal Ash Soil	19.5	34.650	---	---	---	---	---
		2.5	1.290	---	---	---	---	---
				30.859	0.290	1.290	0.001	99.52
LB-17	Coal Ash Soil	13.75	34.650	---	---	---	---	---
		8.25	15.057	---	---	---	---	---
				27.303	0.256	15.057	0.053	79.32

Boring ID	Unit	A Unit Thickness (ft.)	B Average As Concentration (mg/Kg)	Weighted Avg Borehole As Concentration (mg/Kg) Coal Ash + Soil {Σ[AxB]/Total Thickness}	Mass of As in a 1 cm ² column of Coal Ash + Soil (mg)	Borehole Avg Soil As Concentration (mg/kg)	Mass of As in a 1 cm ² column of Soil After Coal Ash Removal (mg)	% Borehole As Mass Reduction with Coal Ash Removal
LB-18	Coal Ash Soil	19	34.650	---	---	---	---	---
		3	11.590	---	---	---	---	---
				31.505	0.296	11.590	0.015	94.98
LB-22	Coal Ash Soil	15	34.650	---	---	---	---	---
		10	1.134	---	---	---	---	---
				21.243	0.227	1.134	0.005	97.87
LB-23	Coal Ash Soil	18	14.310	---	---	---	---	---
		7	4.233	---	---	---	---	---
				11.489	0.123	4.233	0.013	89.68
LB-24	Coal Ash Soil	18	34.650	---	---	---	---	---
		11	6.900	---	---	---	---	---
				24.124	0.299	6.900	0.032	89.15
LB-25	Coal Ash Soil	18.5	34.650	---	---	---	---	---
		6.5	0.590	---	---	---	---	---
				25.794	0.275	0.590	0.002	99.40
LB-26	Coal Ash Soil	14	34.650	---	---	---	---	---
		11	5.428	---	---	---	---	---
				21.792	0.232	5.428	0.025	89.04
LB-27	Coal Ash Soil	17.5	34.650	---	---	---	---	---
		7.5	0.638	---	---	---	---	---
				24.446	0.261	0.638	0.002	99.22
LB-28	Coal Ash Soil	13.5	34.650	---	---	---	---	---
		10.5	5.881	---	---	---	---	---
				22.063	0.226	5.881	0.026	88.34
PB-1	Coal Ash Soil	5.5	42.600	---	---	---	---	---
		11.5	10.168	---	---	---	---	---
				20.660	0.150	10.168	0.050	66.71
PB-2	Coal Ash Soil	2.5	42.600	---	---	---	---	---
		13.5	5.320	---	---	---	---	---
				11.145	0.076	5.320	0.031	59.72
PB-3	Coal Ash Soil	0.25	42.600	---	---	---	---	---
		11.75	2.023	---	---	---	---	---
				2.868	0.015	2.023	0.010	30.95
PB-4	Coal Ash Soil	1.75	42.600	---	---	---	---	---
		11.5	2.310	---	---	---	---	---
				7.631	0.043	2.310	0.011	73.73
PB-5	Coal Ash Soil	7.75	42.600	---	---	---	---	---
		7.25	1.457	---	---	---	---	---
				22.714	0.145	1.457	0.005	96.90

Boring ID	Unit	A Unit Thickness (ft.)	B Average As Concentration (mg/Kg)	Weighted Avg Borehole As Concentration (mg/Kg) Coal Ash + Soil {Σ[AxB]/Total Thickness}	Mass of As in a 1 cm ² column of Coal Ash + Soil (mg)	Borehole Avg Soil As Concentration (mg/kg)	Mass of As in a 1 cm ² column of Soil After Coal Ash Removal (mg)	% Borehole As Mass Reduction with Coal Ash Removal
PB-6	Coal Ash Soil	0.25 13.25	42.600 2.645	--- --- 3.385	--- --- 0.019	--- --- 2.645	--- --- 0.015	--- --- 23.31
PB-7	Coal Ash Soil	0.5 10.5	42.600 1.580	--- --- 3.445	--- --- 0.016	--- --- 1.580	--- --- 0.007	--- --- 56.22
PB-8	Coal Ash Soil	0.5 11.5	42.600 2.596	--- --- 4.262	--- --- 0.022	--- --- 2.596	--- --- 0.013	--- --- 41.64
PB-9	Coal Ash Soil	0.5 11.5	42.600 2.680	--- --- 4.343	--- --- 0.022	--- --- 2.680	--- --- 0.013	--- --- 40.87
PB-10	Coal Ash Soil	1.5 12.5	42.600 1.152	--- --- 5.593	--- --- 0.033	--- --- 1.152	--- --- 0.006	--- --- 81.61
PB-11	Coal Ash Soil	4 10	42.600 4.056	--- --- 15.068	--- --- 0.090	--- --- 4.056	--- --- 0.017	--- --- 80.78
PB-12	Coal Ash Soil	2 13	42.600 2.210	--- --- 7.595	--- --- 0.049	--- --- 2.210	--- --- 0.012	--- --- 74.78
PB-13	Coal Ash Soil	0.5 11.5	42.600 1.696	--- --- 3.400	--- --- 0.017	--- --- 1.696	--- --- 0.008	--- --- 52.20
PB-14	Coal Ash Soil	5 11	42.600 0.678	--- --- 13.778	--- --- 0.094	--- --- 0.678	--- --- 0.003	--- --- 96.62
PB-15	Coal Ash Soil	8 10	42.600 3.418	--- --- 20.832	--- --- 0.160	--- --- 3.418	--- --- 0.015	--- --- 90.89
PB-16	Coal Ash Soil	3 10	14.560 0.940	--- --- 4.083	--- --- 0.023	--- --- 0.940	--- --- 0.004	--- --- 82.29
PB-17	Coal Ash Soil	0.5 12.5	14.560 1.233	--- --- 1.746	--- --- 0.010	--- --- 1.233	--- --- 0.007	--- --- 32.07
PB-18	Coal Ash Soil	0.5 8.5	6.710 0.697	--- --- 1.031	--- --- 0.004	--- --- 0.697	--- --- 0.003	--- --- 36.17

Boring ID	Unit	A Unit Thickness (ft.)	B Average As Concentration (mg/Kg)	Weighted Avg Borehole As Concentration (mg/Kg) Coal Ash + Soil {Σ[AxB]/Total Thickness}	Mass of As in a 1 cm ² column of Coal Ash + Soil (mg)	Borehole Avg Soil As Concentration (mg/kg)	Mass of As in a 1 cm ² column of Soil After Coal Ash Removal (mg)	% Borehole As Mass Reduction with Coal Ash Removal
PB-19	Coal Ash Soil	0.5 11.5	14.560 0.864	--- --- 1.434	--- --- 0.007	--- --- 0.864	--- --- 0.004	--- --- 42.30
PB-20	Coal Ash Soil	0.4 12.6	14.560 0.561	--- --- 0.991	--- --- 0.005	--- --- 0.561	--- --- 0.003	--- --- 45.19
PB-21	Coal Ash Soil	2 10	22.400 2.608	--- --- 5.906	--- --- 0.030	--- --- 2.608	--- --- 0.011	--- --- 63.21
PB-22	Coal Ash Soil	0.3 13.7	14.560 0.500	--- --- 0.801	--- --- 0.005	--- --- 0.500	--- --- 0.003	--- --- 38.94
PB-23	Coal Ash Soil	0.5 12.5	14.560 0.917	--- --- 1.442	--- --- 0.008	--- --- 0.917	--- --- 0.005	--- --- 38.84
PB-24	Coal Ash Soil	1 12	14.560 3.878	--- --- 4.700	--- --- 0.026	--- --- 3.878	--- --- 0.020	--- --- 23.83
PB-25	Coal Ash Soil	1 13	14.560 0.513	--- --- 1.517	--- --- 0.009	--- --- 0.513	--- --- 0.003	--- --- 68.58
PB-26	Coal Ash Soil	0.25 13.75	42.600 4.008	--- --- 4.697	--- --- 0.028	--- --- 4.008	--- --- 0.024	--- --- 16.20
PB-27	Coal Ash Soil	0.75 12.25	42.600 0.923	--- --- 3.328	--- --- 0.018	--- --- 0.923	--- --- 0.005	--- --- 73.86
PB-28	Coal Ash Soil	0.5 11.5	42.600 1.775	--- --- 3.476	--- --- 0.018	--- --- 1.775	--- --- 0.009	--- --- 51.06
PB-29	Coal Ash Soil	0.5 12.5	42.600 19.422	--- --- 20.313	--- --- 0.113	--- --- 19.422	--- --- 0.104	--- --- 8.07
PB-33	Coal Ash Soil	0.8 6.2	23.900 0.500	--- --- 3.174	--- --- 0.009	--- --- 0.500	--- --- 0.001	--- --- 86.05
PB-34	Coal Ash Soil	1 4	23.900 0.500	--- --- 5.180	--- --- 0.011	--- --- 0.500	--- --- 0.001	--- --- 92.28

Boring ID	Unit	A Unit Thickness (ft.)	B Average As Concentration (mg/Kg)	Weighted Avg Borehole As Concentration (mg/Kg) Coal Ash + Soil {Σ[AxB]/Total Thickness}	Mass of As in a 1 cm ² column of Coal Ash + Soil (mg)	Borehole Avg Soil As Concentration (mg/kg)	Mass of As in a 1 cm ² column of Soil After Coal Ash Removal (mg)	% Borehole As Mass Reduction with Coal Ash Removal
PB-37	Coal Ash Soil	0.5 4.5	23.900 0.500	--- --- 2.840	--- --- 0.006	--- --- 0.500	--- --- 0.001	--- --- 84.15
PB-38	Coal Ash Soil	1 2.5	23.900 2.375	--- --- 8.525	--- --- 0.013	--- --- 2.375	--- --- 0.003	--- --- 80.10
PB-39	Coal Ash Soil	0.75 4.25	23.900 0.834	--- --- 4.293	--- --- 0.009	--- --- 0.834	--- --- 0.002	--- --- 83.50
PB-40	Coal Ash Soil	0.5 6.5	23.900 0.500	--- --- 2.171	--- --- 0.006	--- --- 0.500	--- --- 0.001	--- --- 78.62
PB-41	Coal Ash Soil	1 4	23.900 0.500	--- --- 5.180	--- --- 0.011	--- --- 0.500	--- --- 0.001	--- --- 92.28
PB-42	Coal Ash Soil	1 7	23.900 0.500	--- --- 3.425	--- --- 0.012	--- --- 0.500	--- --- 0.001	--- --- 87.23
PB-43	Coal Ash Soil	0.5 4.5	23.900 0.725	--- --- 3.042	--- --- 0.006	--- --- 0.725	--- --- 0.001	--- --- 78.57
PB-44	Coal Ash Soil	1.25 5.75	23.900 1.270	--- --- 5.311	--- --- 0.016	--- --- 1.270	--- --- 0.003	--- --- 80.36
PB-45	Coal Ash Soil	1.25 5.75	23.900 0.503	--- --- 4.681	--- --- 0.014	--- --- 0.503	--- --- 0.001	--- --- 91.18
PB-46	Coal Ash Soil	1 6	23.900 0.530	--- --- 3.868	--- --- 0.012	--- --- 0.530	--- --- 0.001	--- --- 88.26
PB-47	Coal Ash Soil	0.5 10.5	42.600 20.759	--- --- 21.752	--- --- 0.102	--- --- 20.759	--- --- 0.093	--- --- 8.90
PB-48	Coal Ash Soil	0.75 10.25	42.600 15.254	--- --- 17.119	--- --- 0.080	--- --- 15.254	--- --- 0.067	--- --- 16.97
PB-49	Coal Ash Soil	1.5 11.5	42.600 2.464	--- --- 7.095	--- --- 0.039	--- --- 2.464	--- --- 0.012	--- --- 69.28

Boring ID	Unit	A Unit Thickness (ft.)	B Average As Concentration (mg/Kg)	Weighted Avg Borehole As Concentration (mg/Kg) Coal Ash + Soil {Σ[AxB]/Total Thickness}	Mass of As in a 1 cm ² column of Coal Ash + Soil (mg)	Borehole Avg Soil As Concentration (mg/kg)	Mass of As in a 1 cm ² column of Soil After Coal Ash Removal (mg)	% Borehole As Mass Reduction with Coal Ash Removal
PB-50	Coal Ash Soil	3	42.600	---	---	---	---	---
		14	33.965	---	---	---	---	---
				35.489	0.257	33.965	0.203	21.18
PB-51	Coal Ash Soil	5	42.600	---	---	---	---	---
		13	21.800	---	---	---	---	---
				27.578	0.212	21.800	0.121	42.91
PB-52	Coal Ash Soil	5	42.600	---	---	---	---	---
		13	6.280	---	---	---	---	---
				16.369	0.126	6.280	0.035	72.29
PB-53	Coal Ash Soil	2	42.600	---	---	---	---	---
		13	0.948	---	---	---	---	---
				6.502	0.042	0.948	0.005	87.36
PB-54	Coal Ash Soil	2	42.600	---	---	---	---	---
		12	1.092	---	---	---	---	---
				7.021	0.042	1.092	0.006	86.67
PB-55	Coal Ash Soil	3	42.600	---	---	---	---	---
		12	2.533	---	---	---	---	---
				10.546	0.068	2.533	0.013	80.79
PB-56	Coal Ash Soil	1.5	42.600	---	---	---	---	---
		11.5	2.213	---	---	---	---	---
				6.873	0.038	2.213	0.011	71.52
PB-57	Coal Ash Soil	2	42.600	---	---	---	---	---
		12	2.260	---	---	---	---	---
				8.023	0.048	2.260	0.012	75.85
SITE AVERAGE:								66.53

- Notes:
- 1) Bulk density of coal ash and soil assumed to be 1.4 gm/cm³ (see text).
 - 2) Arsenic concentrations in coal ash are based on laboratory analyses of coal ash samples.
 - Land Borings = 34.65 mg/kg (average of all land boring coal ash samples)
 - Low Volume Waste Ponds and Metals Polishing Pond = 42.60 mg/kg (result from PB-51 in Low Volume Waste Pond A).
 - Spray Pond = 14.56 mg/kg (average of samples from PB-18 and PB-21 in the Spray Pond)
 - Settling Ponds = 23.90 mg/kg (average of all pond boring coal ash samples)
 - 3) Arsenic mass calculations based on a 1 cm² column of soil through the total thickness of coal ash and/or soil.
 - 4) Values highlighted in red exceed the background high arsenic concentration in soil.
 - 5) Only borings where coal ash was encountered are included in the analysis.

APPENDIX A

SCDHEC Assessment Approval Letter



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

January 10, 2014

SCANA Corporation
Attn: Mr. Michael Moore
100 Scana Parkway
Cayce, SC 29033

Re: SCE&G Canady's Station
Site ID #400374; NPDES Permit #SC0002020; Main Plant
Work Plan for Assessment of Legacy Coal Ash and Impacted Soil
received January 6, 2014
Colleton County

Dear Mr. Moore:

The South Carolina Department of Health and Environmental Control (the Department) has reviewed and approved the scope of work referenced above. As the request is for 118 soil borings and soil sampling, the boring logs and the sampling results should be submitted with the report. Please submit the report with cross-sections to my attention on or before July 30, 2014.

The Site Assessment, Remediation and Revitalization Division began implementing an electronic docketing and filing system in 2013. In support of this initiative, we are asking the regulated community for their assistance by revising the traditional reporting requirements of multiple hard copies, and simply providing one hard and one electronic version of each. Electronic versions should be reserved for all bound documents, i.e. *groundwater monitoring reports, hydrogeologic characterizations, etc.* The preferred format for all submittals is in the Portable Document Format (PDF), on either a compact disc (CD) or digital video disc (DVD).

On all correspondence, please include Site ID #400374. Please note all reports/correspondence should include contact names, addresses and phone numbers for all concerned parties. If you have any questions, please email me at trentjc@dhec.sc.gov or call 803-898-0723.

Sincerely,

Jan Trent, Hydrogeologist
State Remediation Section
Site Assessment, Remediation & Revitalization Division
Bureau of Land and Waste Management

cc: Low Country-Beaufort EQC
Mr. Brian Boutin; Nautilus Geologic Consulting; 11112 Branding Iron Place Wendell, NC 27591
Technical File #400374 (via pdf)
Gary Stewart; Manager; State Remediation Section

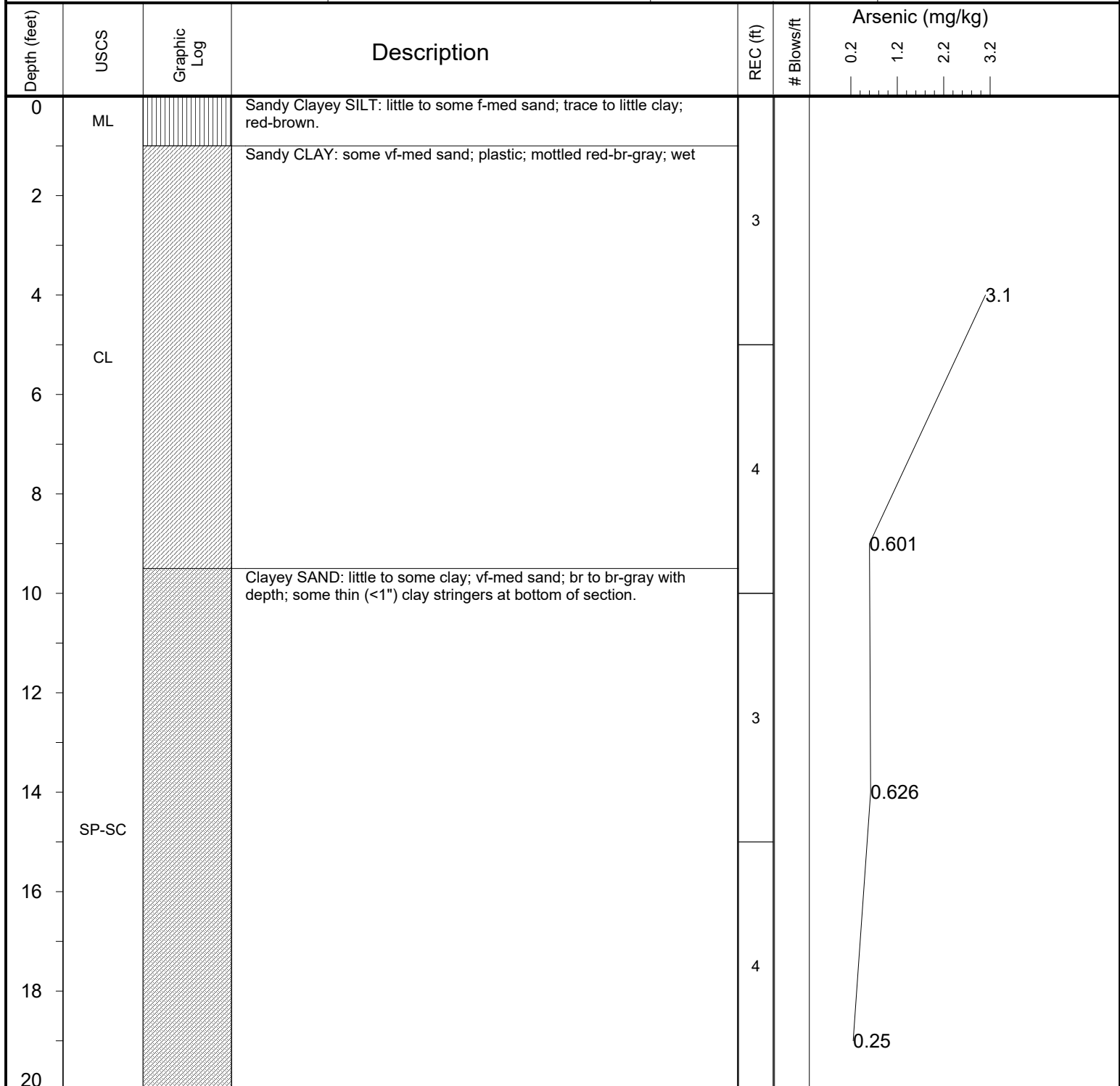
APPENDIX B

Drilling Logs



11112 Branding Iron Place
Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: BB-1	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 446451.49	EASTING: 2114212.11
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 69.42	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/25/14
		DATE COMPLETED: 3/25/14

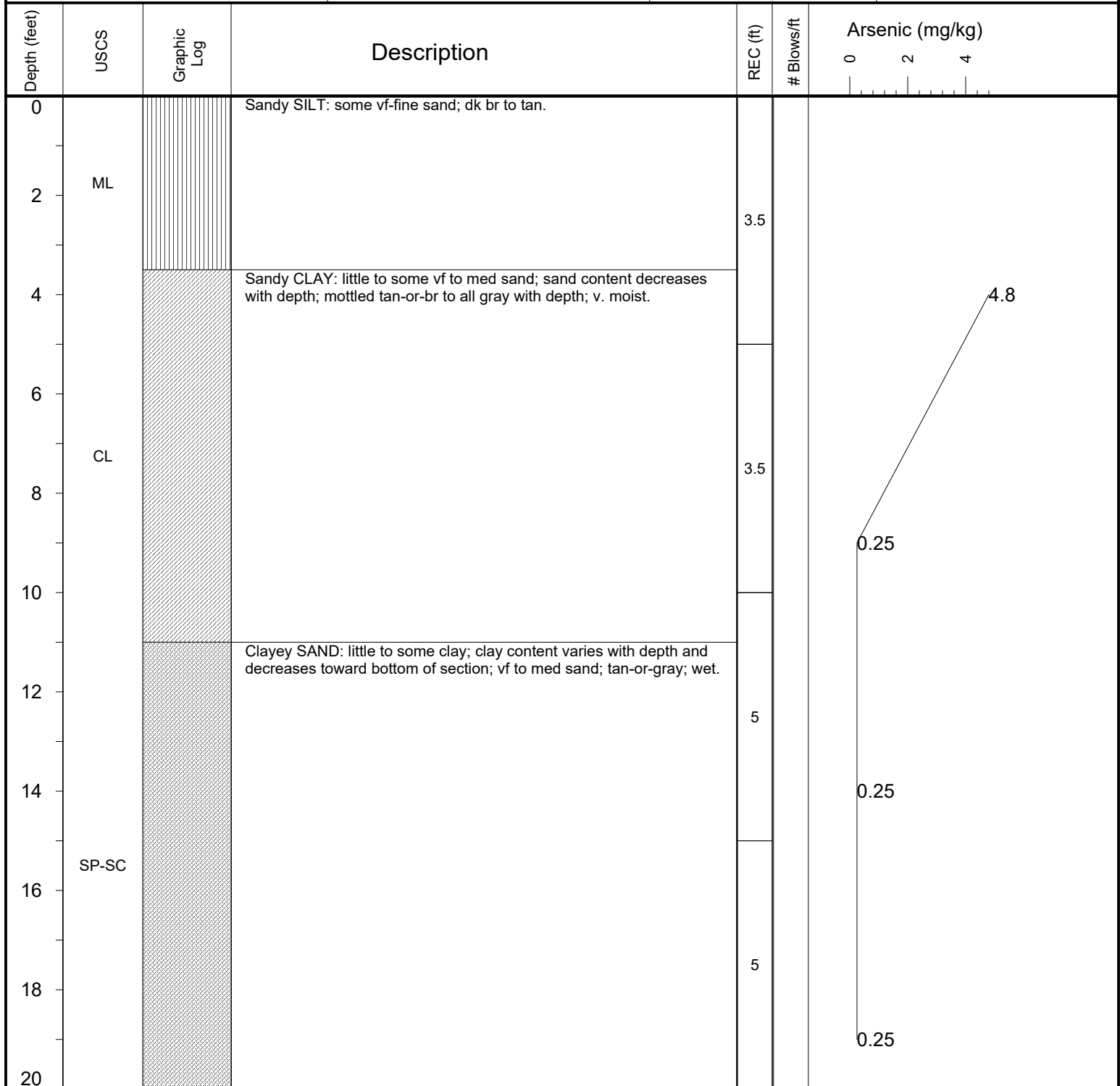


NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: BB-2	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 446664.86	EASTING: 2114763.69
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 71.34	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/25/14
		DATE COMPLETED: 3/25/14

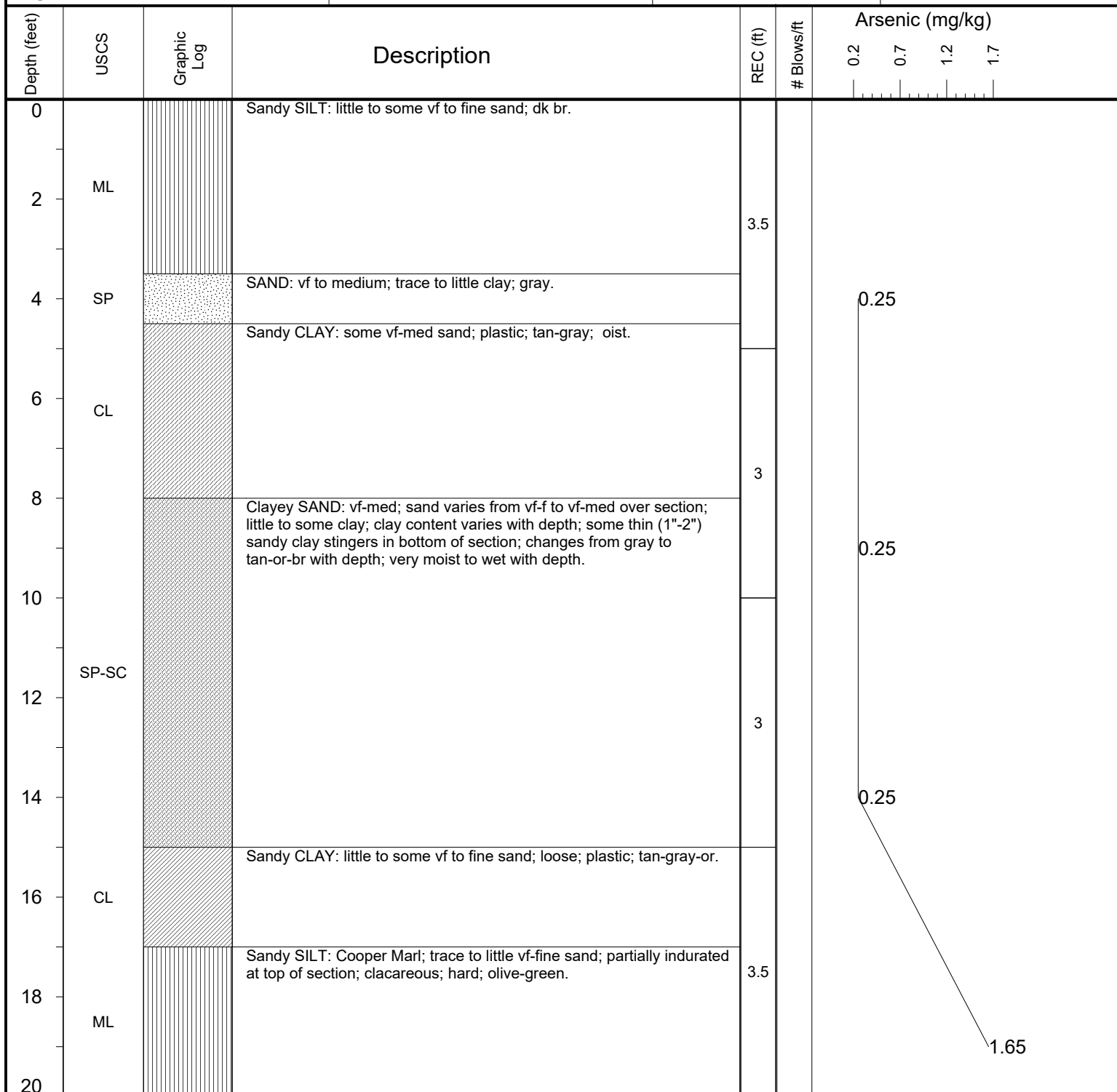


NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: BB-3	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 446791.33	EASTING: 2115126.57
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 62.62	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/25/14
		DATE COMPLETED: 3/25/14

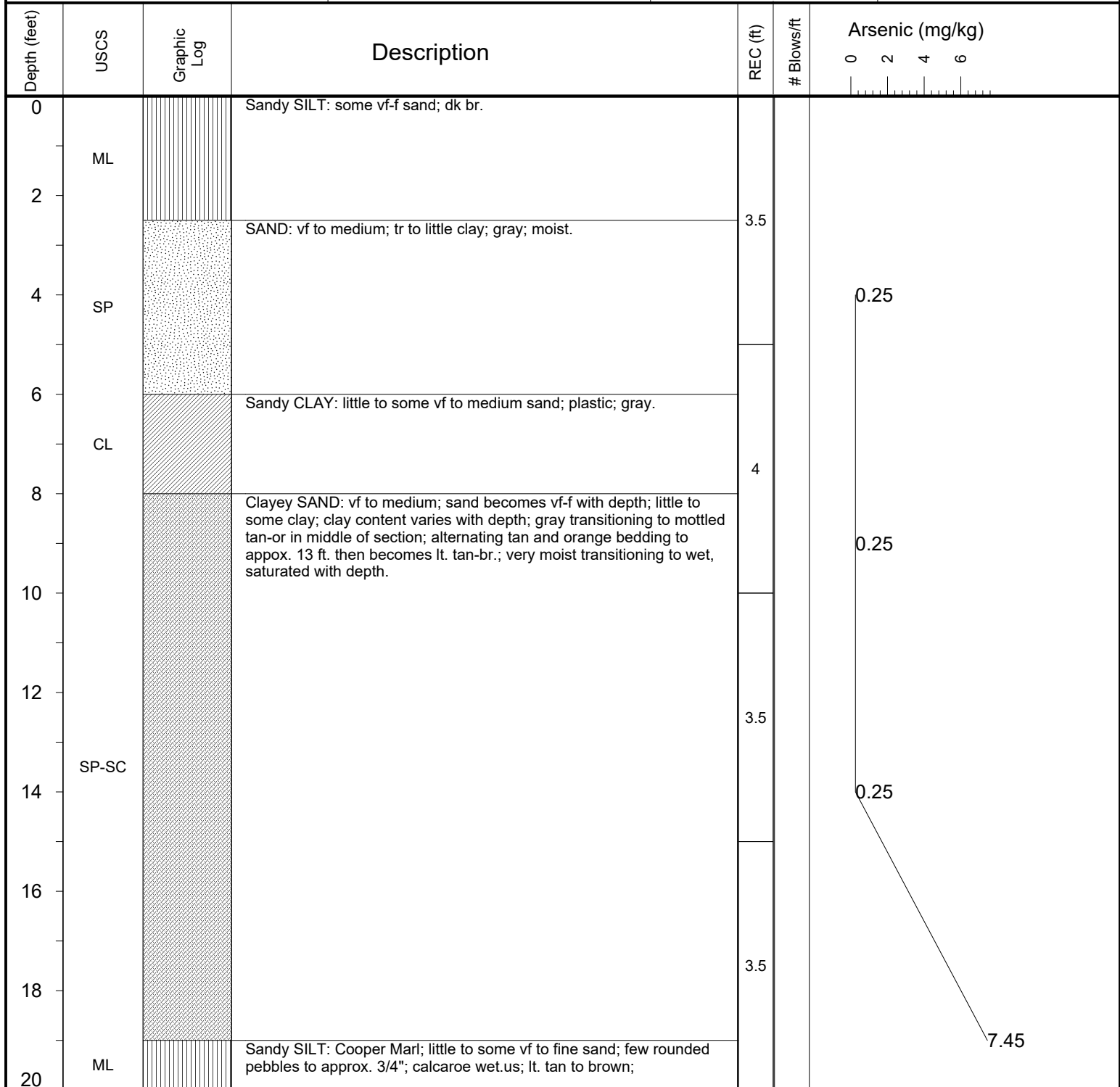


NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: BB-4	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 446894.19	EASTING: 2115299.59
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 62.67	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/25/14
		DATE COMPLETED: 3/25/14

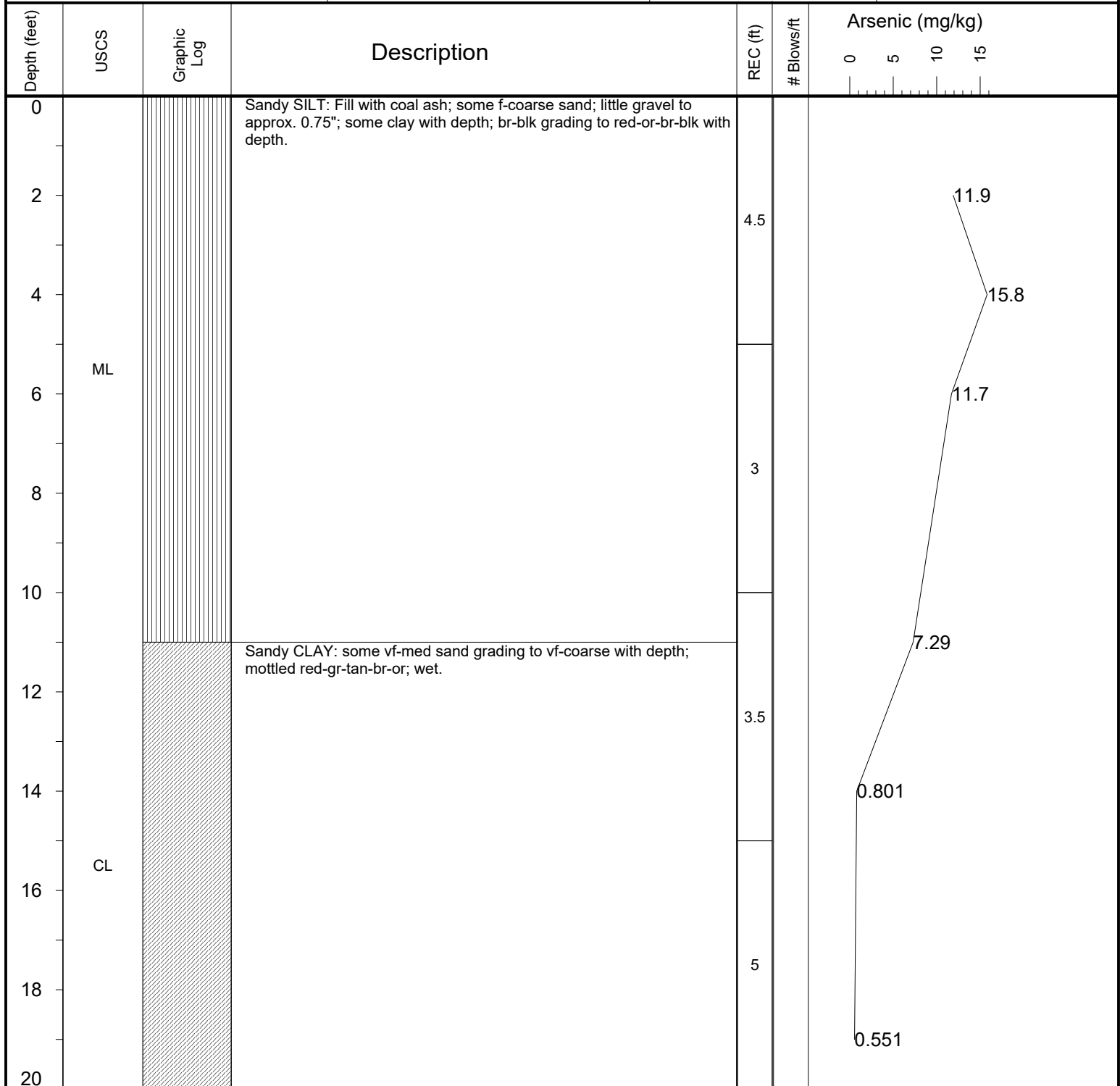


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PROJECT: SCE&G - Canadys Station	Boring ID: LB-1	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447650.82	EASTING: 2114371.07
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 84.62	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/25/14
		DATE COMPLETED: 3/25/14



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-10	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448902.29	EASTING: 2114459.36
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 81.07	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0	Coal Ash		Coal Ash			
2	CL		Sandy CLAY: Fill + coal ash; some vf-coarse sand; dk br-red-blk.	4		
4						
6	Coal Ash		Coal Ash			
8	CL		Sandy CLAY: Fill + coal ash; some vf-coarse sand; dk br-red-blk.	4.5		
10	Coal Ash		Coal Ash; wet.			
12	CL		Sandy Clay: little to some vf-med sand; loose; gray; wet.			4.1
14	CL		CLAY: tr to little vf-med sand; plastic; mottled -br-gray; wet.	4.5		46.3
16	CL		Sandy CLAY: little to some vf-med sand; sand content increases with depth in section; plastic; mottled red-gray-or-br; wet.			12
18				4		
20	SC		Clayey SAND: fine-med; well sorted; little clay; gray; wet.			1.15

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-11	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448799.36	EASTING: 2114568.48
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 81	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 10	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14

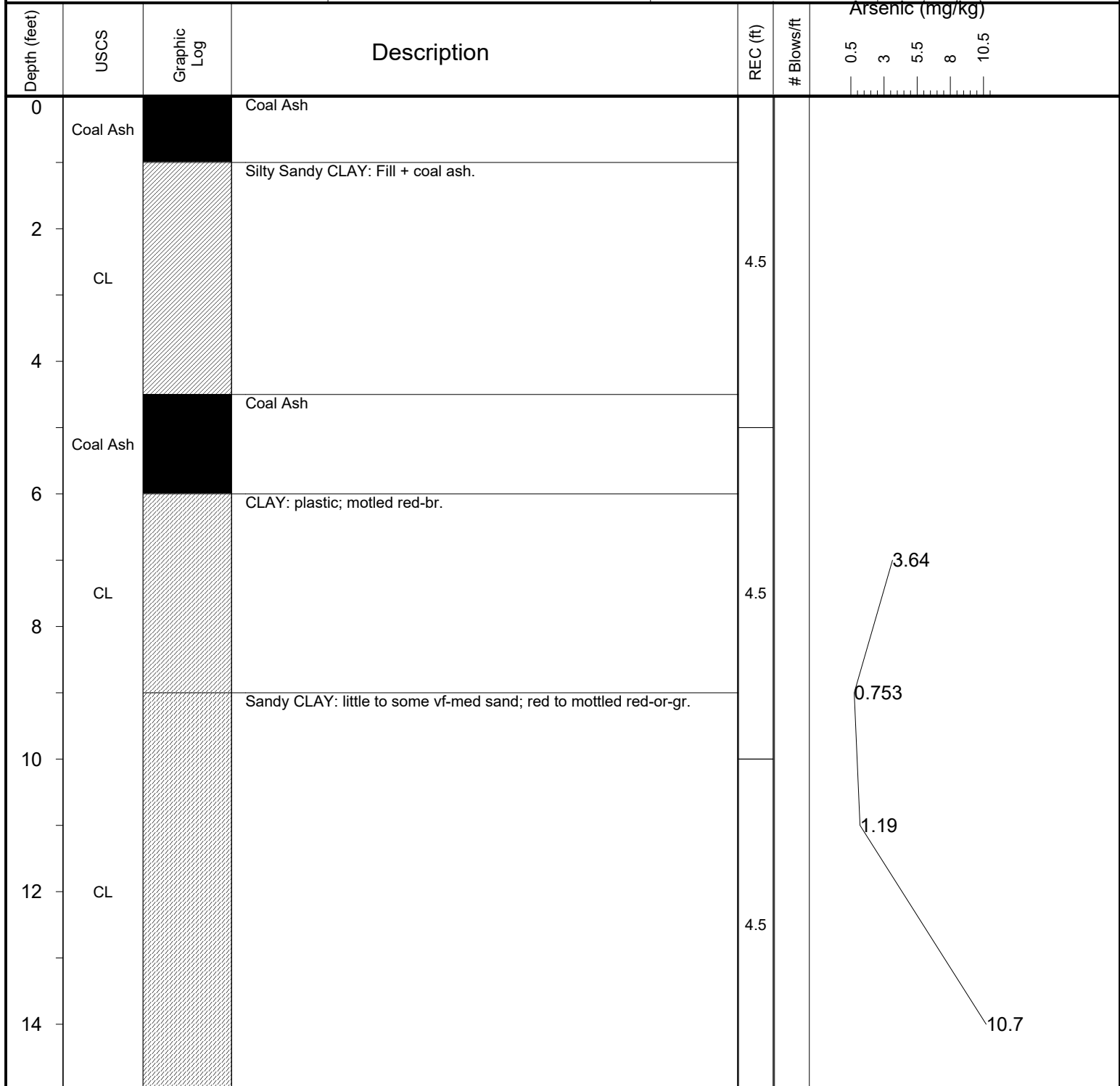
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)	
						0	0.25 0.5 0.75 1
0	ML		SILT: topsoil; some gravel from approx. 0.5'-1.0.; br to blk.	2.5			
2			Sandy CLAY: little vf-med sand; semi-plastic; mottled red-or-br.				
4	CL			2.75			
6							
8	SP-SC						
10			Clayey SAND: vf-fine sand; some clay; plastic; lt br; wet.				

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-12	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448611.8	EASTING: 2114613.58
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 79.33	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14

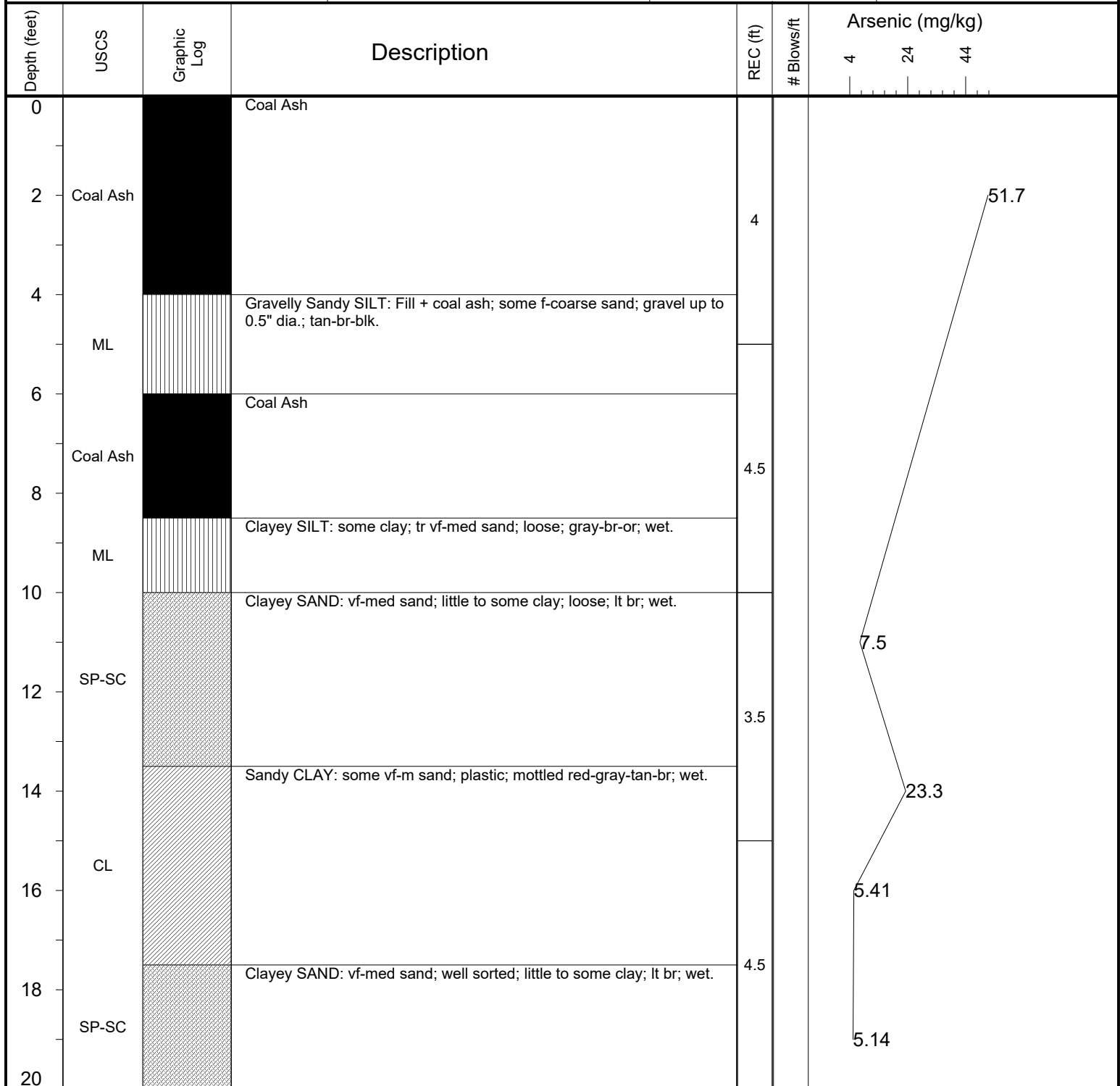


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nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: LB-13	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448441.21	EASTING: 2114725.7
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 82.41	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/27/14
		DATE COMPLETED: 3/27/14



NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-14	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448066.53	EASTING: 2114737.17
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 81.85	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/27/14
		DATE COMPLETED: 3/27/14

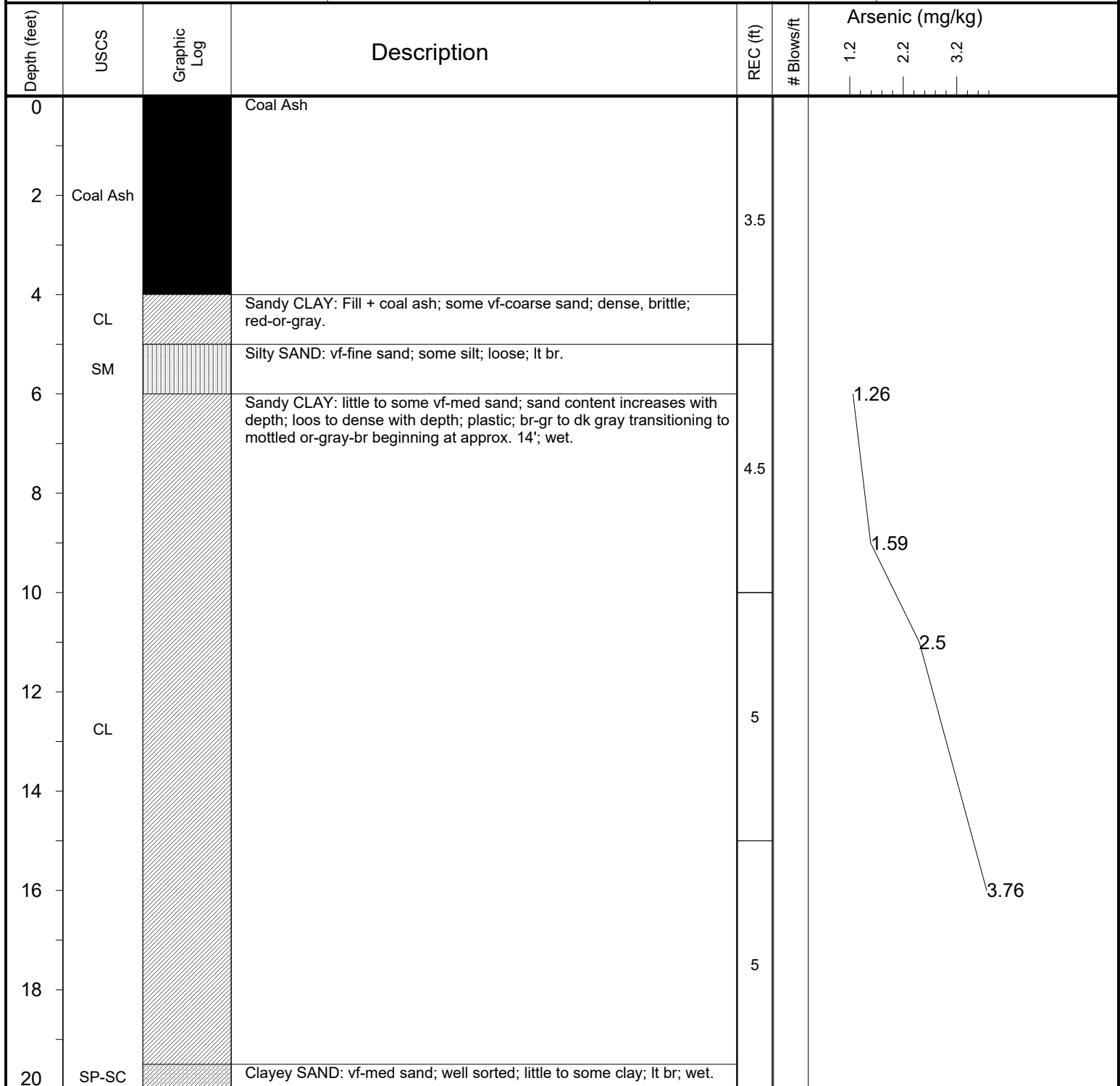
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)	
						1.2	1.7
0			Coal Ash				
2	Coal Ash						
2			Gravelly Sandy CLAY: Fill; some f-coarse sand; tr to little gravel to approx. 0.5" dia.; plastic; br-red-gray.	3.75			
4							
6	CL			4.5			
8							
10			CLAY: tr vf-fine sand; dense; plastic; mottled red-gr-br to approx. 16' then lt gr; no sand in gray section; wet.				
12				5		1.15	
14							1.84
16	CL					0.773	
18				5			
20						1.04	

NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-15	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447806.16	EASTING: 2114570.54
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 83.65	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/27/14
		DATE COMPLETED: 3/27/14



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-16	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448003.14	EASTING: 2114310.98
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 83.38	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 22.5	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/27/14
		DATE COMPLETED: 3/27/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
						1.5 1.75 2 2.25
0			Coal Ash; wet at aprox. 7'.			
2				5		
4						
6						
8				4.5		
10	Coal Ash					
12				5		
14						
16						
18				2.5		
20			Clayey SAND: vf-med sand; little clay; red-tan; wet.			
22	SP-SC			2		1.29
24						

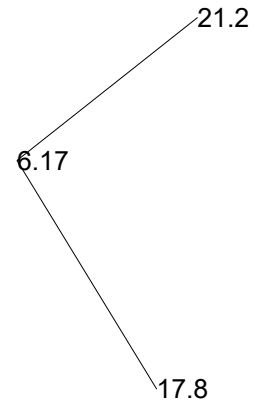
NOTES:



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nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: LB-17	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448150.66	EASTING: 2114562.56
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 82.8	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 22.5	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/27/14
		DATE COMPLETED: 3/27/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Coal Ash			
2				4		
4						
6						
8	Coal Ash			4.25		
10						
12				5		
14			Sandy CLAY: some vf-med sand; plastic; mottled br-tan-gr to red-br-or-tan with depth; wet.			
16	CL			5		
18						
20			Clayey SAND: vf-med sand; little to some clay; red-br grading to tan-br with depth; wet.			
22	SP-SC			2		
24						



NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-18	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448255.47	EASTING: 2114771.41
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 82.12	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 22.5	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/27/14
		DATE COMPLETED: 3/27/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)		
						9.2	11.2	13.2
0			Coal Ash; wet at approx 7'.					
2				4				
4								
6								
8				5				
10	Coal Ash							
12				4				
14								
16								
18				5				
20	CL		Sandy CLAY: some vf-med sand; sand content increases with depth; plastic; mottled red-or-gr-tan; wet.			9.28		
	CL		CLAY: dense; plastic; mottled red-gray-or.	4				13.9
22	SW		SAND; fine to coarse; poorly sorted; tr to little silt; br; wet.					
24								

NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-19	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448465.11	EASTING: 2114895.02
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 74.73	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/27/14
		DATE COMPLETED: 3/27/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Sandy CLAY: Fill; little to some vf-coarse sand; plastic; red-br-gray-or; wet at approx. 7.5'.			
2				3		
4	CL					
6						
8				4		
10			CLAY: loose; plastic; mottled red-gray; wet.			
12	CL			2.5		
14	SW		SAND: fine to coarse; subrounded; poorly sorted; tr silt; dk br; wet.			
16	CL		Sandy CLAY: some f-coarse sand; loose; plastic; br; wet.			
18	SP		SAND: vf-med; tr to little silt; br to gray; wet.	4.5		
20	CL		Sandy CLAY: some f-c sand; loose; plastic; br; wet.			

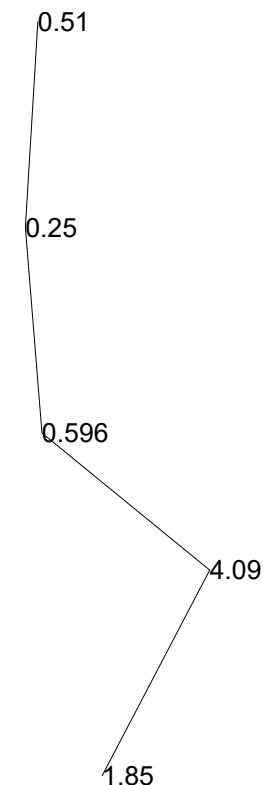
NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-2	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447723.02	EASTING: 2114215.18
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 83.26	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/25/14
		DATE COMPLETED: 3/25/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)				
						0.2	1.2	2.2	3.2	4.2
0			Coal Ash: fly aash; bottom ash; silty; black.							
2				4.5						
4	Coal Ash									
6			Sandy CLAY: vf-coarse sand; trace gravel with depth; sand content decreases with depth; br-gray transitioning to mottled red-gray-or with depth; very moist near top of section; wet with depth.	4						
8										
10										
12	CL			5						
14										
16			CLAY: stiff; mottled gray-red-tan.							
18	CL			4						
20	CL		Sandy CLAY: some vf-coarse sand; loose; plastic; mottled red-br-gray;							



NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-20	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448726.86	EASTING: 2115143.12
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 78.04	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/27/14
		DATE COMPLETED: 3/27/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)	
						0	0.25 0.5 0.75 1
0			Sandy CLAY: Fill; some f-coarse sand; plastic; red-or-br.				
2				3.5			
4	CL						
6							
8			Sandy CLAY: some vf-med sand; tr coarse and; loose; plastic; mottled red-gray-br; wet.	3			
10							
12	CL			3			
14							

NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-21	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 449369.11	EASTING: 2114775.03
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 76.47	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/27/14
		DATE COMPLETED: 3/27/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)	
						0	1
0			Sandy CLAY: Fill; some f-coarse sand; hard; semi-plastic; red-or-br.				
2				4			
4							
6	CL			4.5			
8							
10							
12				4			
14	SM		Silty SAND: vf-f sand; little to some silt; visible sedimentary bedding; tan-br-gray; v. moist.				

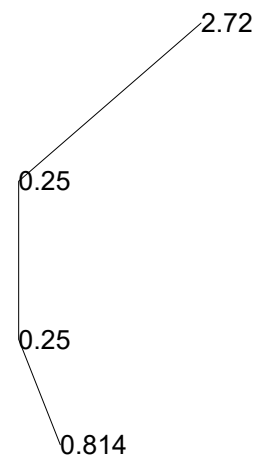
NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-22	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448873.21	EASTING: 2114264.64
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 82.71	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 25	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/31/14
		DATE COMPLETED: 3/31/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)		
						0.2	1.2	2.2
0	Coal Ash		Coal Ash					
2	CL		Sandy CLAY: Fill; little to some vf-med sand; plastic; mottled red-gray-or-br.	4.25				
			Coal Ash; wet at approx. 5.75'.					
4								
6								
8	Coal Ash			4.75				
10								
12				5				
14								
16			Sandy CLAY: little to some vf-f sand; sand content varies over section; plastic; mottled red-gray-or-br; wet.					
18	CL			3				
20								
22			Clayey SAND: vf-c sand grading downward to vf-f sand; some clay; loose; gr-br to br; wet.					
24	SP-SC			5				
26								

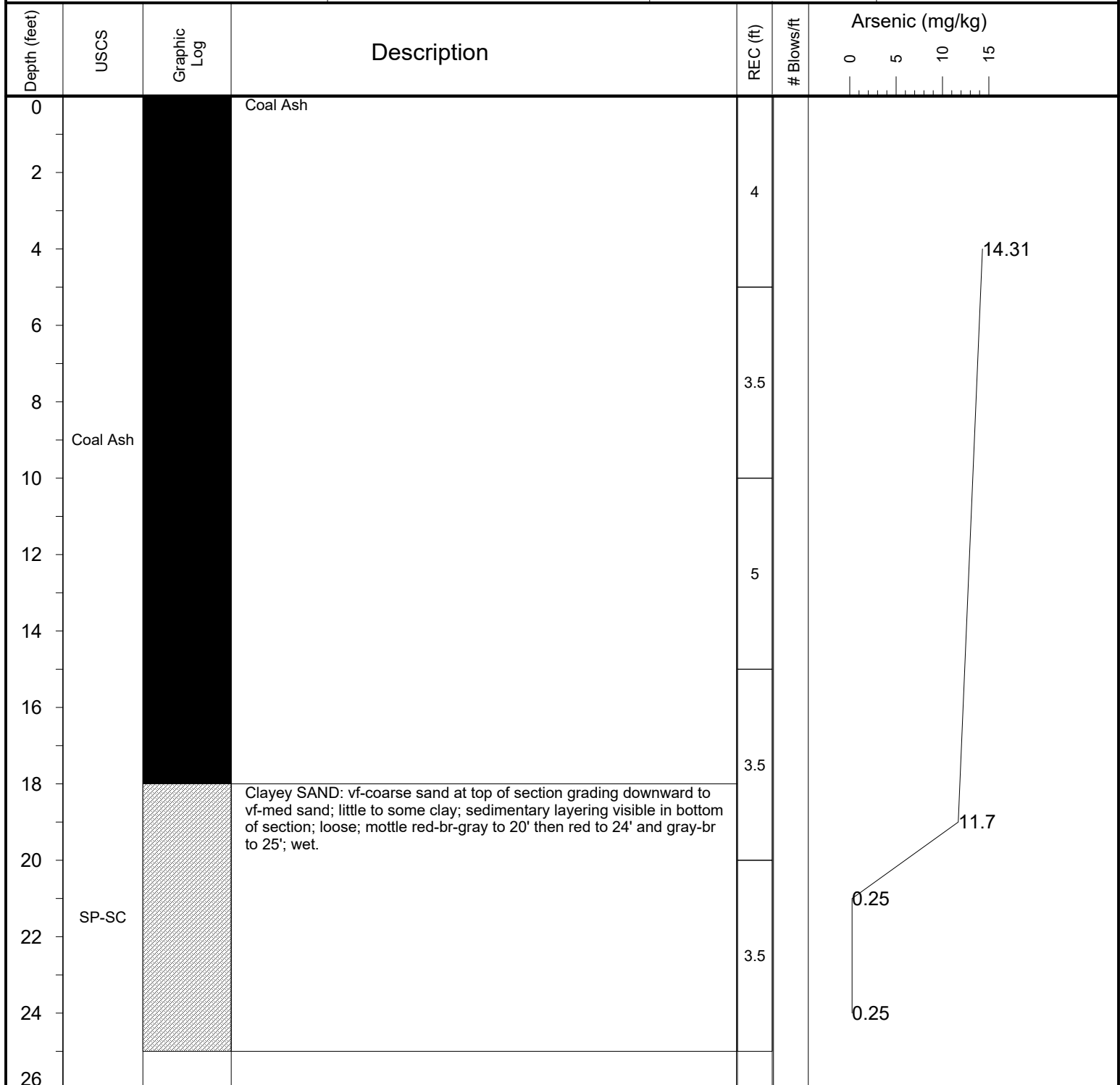


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PROJECT: SCE&G - Canadys Station	Boring ID: LB-23	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448629.2	EASTING: 2114396.63
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 83.01	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 25	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/31/14
		DATE COMPLETED: 3/31/14

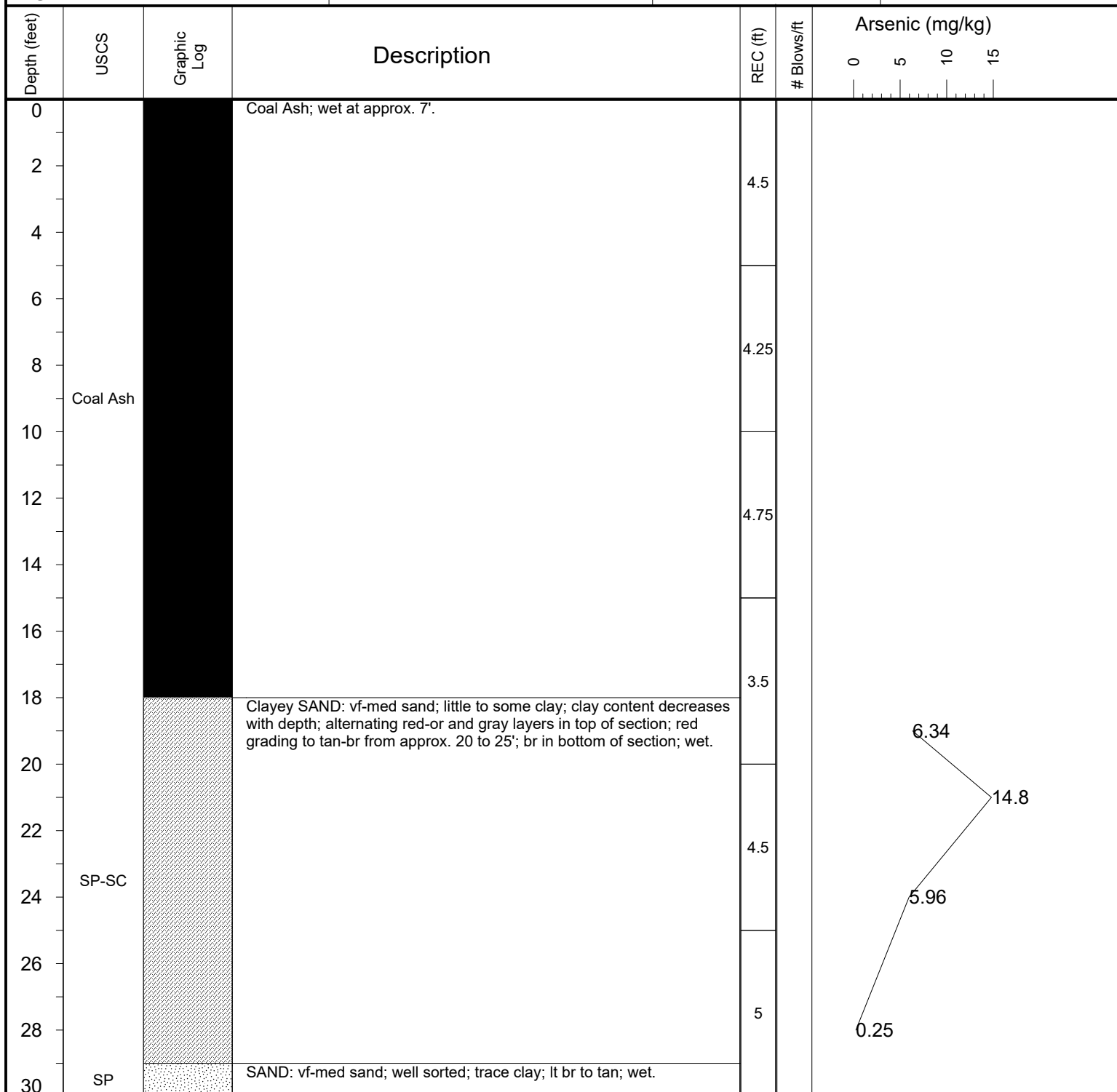


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PROJECT: SCE&G - Canadys Station	Boring ID: LB-24	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448420.4	EASTING: 2114505.22
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 82.95	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 30	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/31/14
		DATE COMPLETED: 3/31/14



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-25	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448280.12	EASTING: 2114343.37
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 82.52	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 25	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/31/14
		DATE COMPLETED: 3/31/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Coal Ash; wet at approx. 8'.			
2				3.75		
4						
6						
8				4.25		
10	Coal Ash					
12				4.75		
14						
16						
18				4.75		
20	SP-SC		Clayey SAND: vf-med sand; some clay; plastic; mottled red-gray-tan; wet.			0.25
22			SAND: vf-f sand; well sorted; tr to little clay; visible sedimentary layering; gray-tan to red; wet.			0.771
24	SP			3.5		0.25
26						

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-26	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448389.32	EASTING: 2114359.21
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 79.32	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 25	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/1/14
		DATE COMPLETED: 4/1/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Coal Ash; wet at approx. 5'.			
2				2		
4						
6						
8	Coal Ash			3.5		
10						
12				4		
14						
16	SP-SC		Clayey SAND: vf-med sand; well sorted; some clay; mottled red-gray-br; wet.			
18	CL		CLAY: plastic; mottled gray-tan-red; wet.	4		
20			Clayey SAND: vf-med sand; well sorted; sand becomes vf-f from approx. 24'-25'; br-tan grading to gray with depth; wet.			1.11
22	SP-SC			5		0.25
24						0.25
26						

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-27	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448476.24	EASTING: 2114351.85
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 78.56	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 25	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/1/14
		DATE COMPLETED: 4/1/14

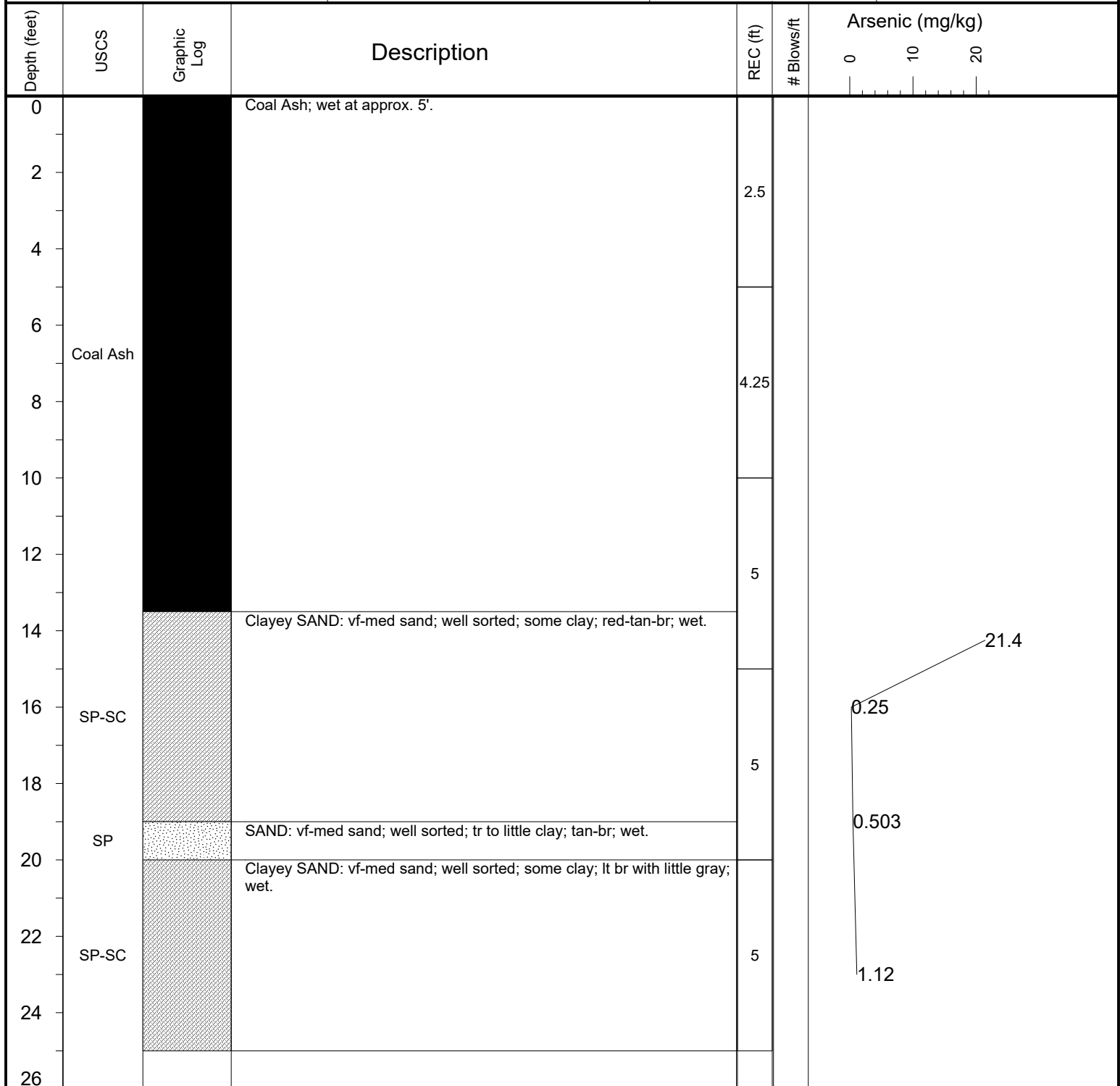
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Coal Ash; wet at approx. 5'.			
2				3.5		
4						
6						
8	Coal Ash			3.5		
10						
12				3		
14						
16						
18			Clayey SAND: vf-med sand; well sorted; some clay; mottled red-or-br-gray; wet.	5		
20	SP-SC					0.766
22				4		0.25
24	SP		SAND: vf-med sand; well sorted; tr to little clay; tan-br; wet.			0.648
26						

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-28	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448598.39	EASTING: 2114326.9
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 78.86	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 25	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/1/14
		DATE COMPLETED: 4/1/14



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-29	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447748.35	EASTING: 2116769.67
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 63.08	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/1/14
		DATE COMPLETED: 4/1/14

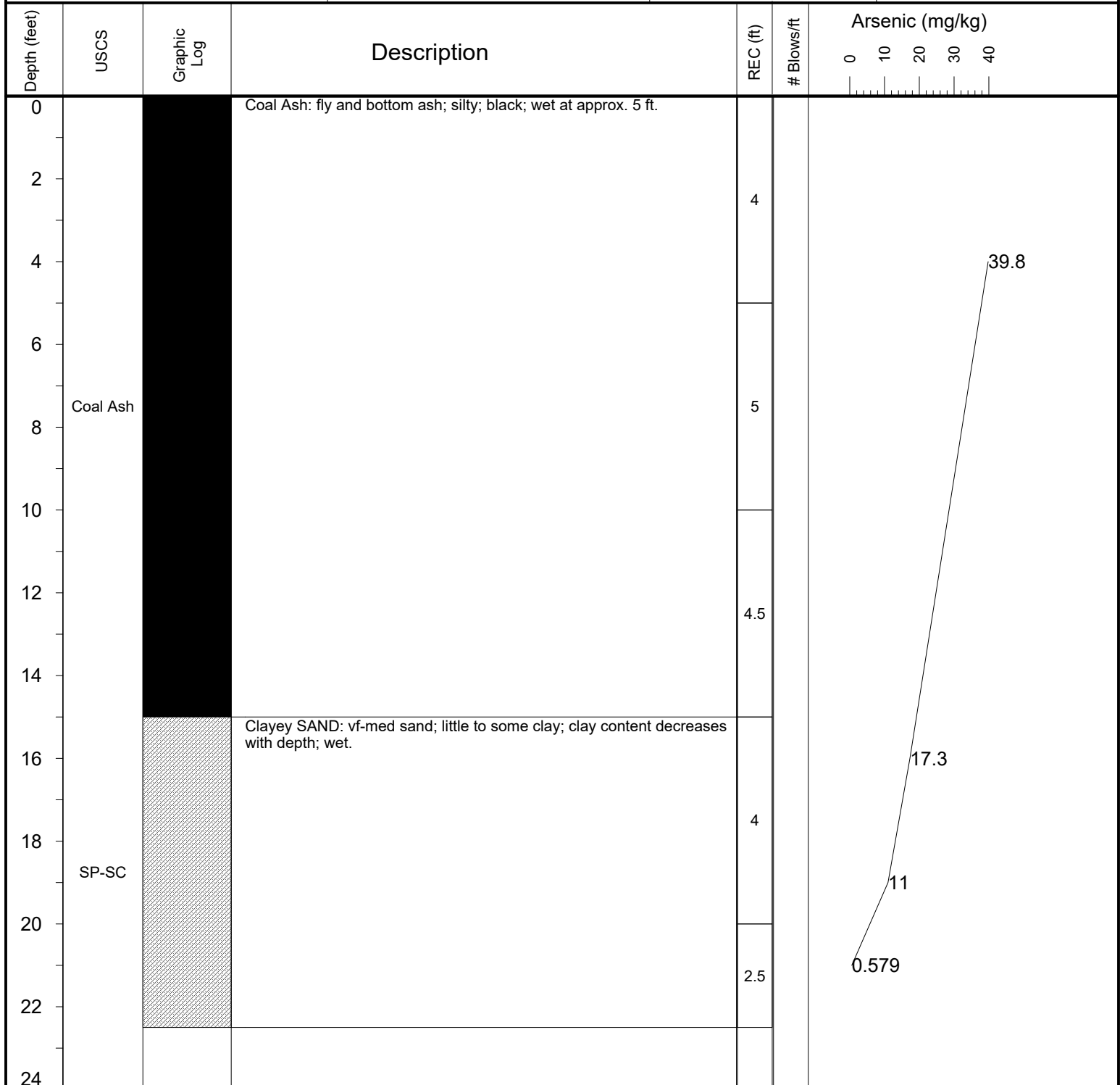
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)	
						0	0.25 0.5 0.75 1
0			Sandy CLAY: Fill; little to some f-med sand; hard; dk br to gray; wet at approx. 12.5'.				
2				4			
4							
6							
8	CL			3			
10							
12				4			
14							
	SP-SC		Clayey SAND: f-med well sorted sand; some clay; tan-gray; wet.				

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-3	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447959.8	EASTING: 2113995.6
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 82.88	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 22.5	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-30	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447757.96	EASTING: 2116614.62
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 69.21	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/1/14
		DATE COMPLETED: 4/1/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
						0 0.25 0.5 0.75 1
0			Sandy CLAY: Fill; little to some f-coarse sand; clayey sand from approx. 7.5'-8'; wet at approx. 7.5'; hard; dk br to gray.			
2				4		
4						
6	CL			3.5		
8						
10						
12						
14	CL		Sandy CLAY: little to some vf-med sand; plastic; mottled or-gray; wet.	4.25		

NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-31	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447719.29	EASTING: 2116487.02
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 65.16	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/1/14
		DATE COMPLETED: 4/1/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)	
						0	0.25 0.5 0.75 1
0			Sandy CLAY: Fill; little to some f-coarse sand; hard; semi-plastic; br-gray; wet at approx. 8.5'.				
2				4			
4							
6							
8	CL			3.5			
10							
12				4.5			
14	CL		Sandy CLAY: some vf-med sand; plastic; lt to dk gray; wet.				

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-32	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447565.47	EASTING: 2116209.43
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 68.97	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/1/14
		DATE COMPLETED: 4/1/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0	ML		SILT: Fill; tr f sand; dk br.			
2			Sandy CLAY: Fill; little to some f-coarse sand; hard; mottled red-or-br.	4.25		
4	CL					
6						
8			Silty some silt; loose; plastic; dk br; wet at approx. 8'.	5		
10	CL					
12			SAND: vf-f well sorted sand; tr clay; tan-gray; wet.	5		
14	SP					

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-33	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447647.85	EASTING: 2116052.59
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 69.7	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/1/14
		DATE COMPLETED: 4/1/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
						0 0.25 0.5 0.75 1
0			Sandy CLAY: Fill; little to some f-coarse sand; hard; brittle grading to plastic with depth; red-or-br.			
2				3.5		
4	CL					
6						
8	SM		Silty SAND: vf-f well sorted sand; some silt; tan-gray; wet.	4.25		
10	CL		Sandy CLAY: little to some vf-med sand; plastic; mottled or-br-red; wet.			
12			Clayey SAND: vf-f well sorted sand; little to some clay; visible sedimentary layering; tan-or; wet.	4.25		
14	SP-SC					

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-34	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447809.81	EASTING: 2116170.24
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 64.96	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/1/14
		DATE COMPLETED: 4/1/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Sandy CLAY: Fill; little to some f-coarse sand; brittle; hard; or-br.			
2	CL			3.5		
4	SM		Silty SAND: vf-f well sorted sand; some silt; lt to dk br.			
6			CLAY: dense; plastic; tr f sand; br; wet.			
8	CL			3		
10	CL		Sandy CLAY: some f-med sand; plastic; red-gray; wet.			
12	CL		CLAY: dense; plastic; mottled red-br-gray; wet.	4.25		
14	SP-SC		Clayey SAND: vf-med wel sorted sand; some clay; visible sediemntary layering; red-tan-br; wet.			

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-4	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448171.25	EASTING: 2113813.49
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 81.88	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14

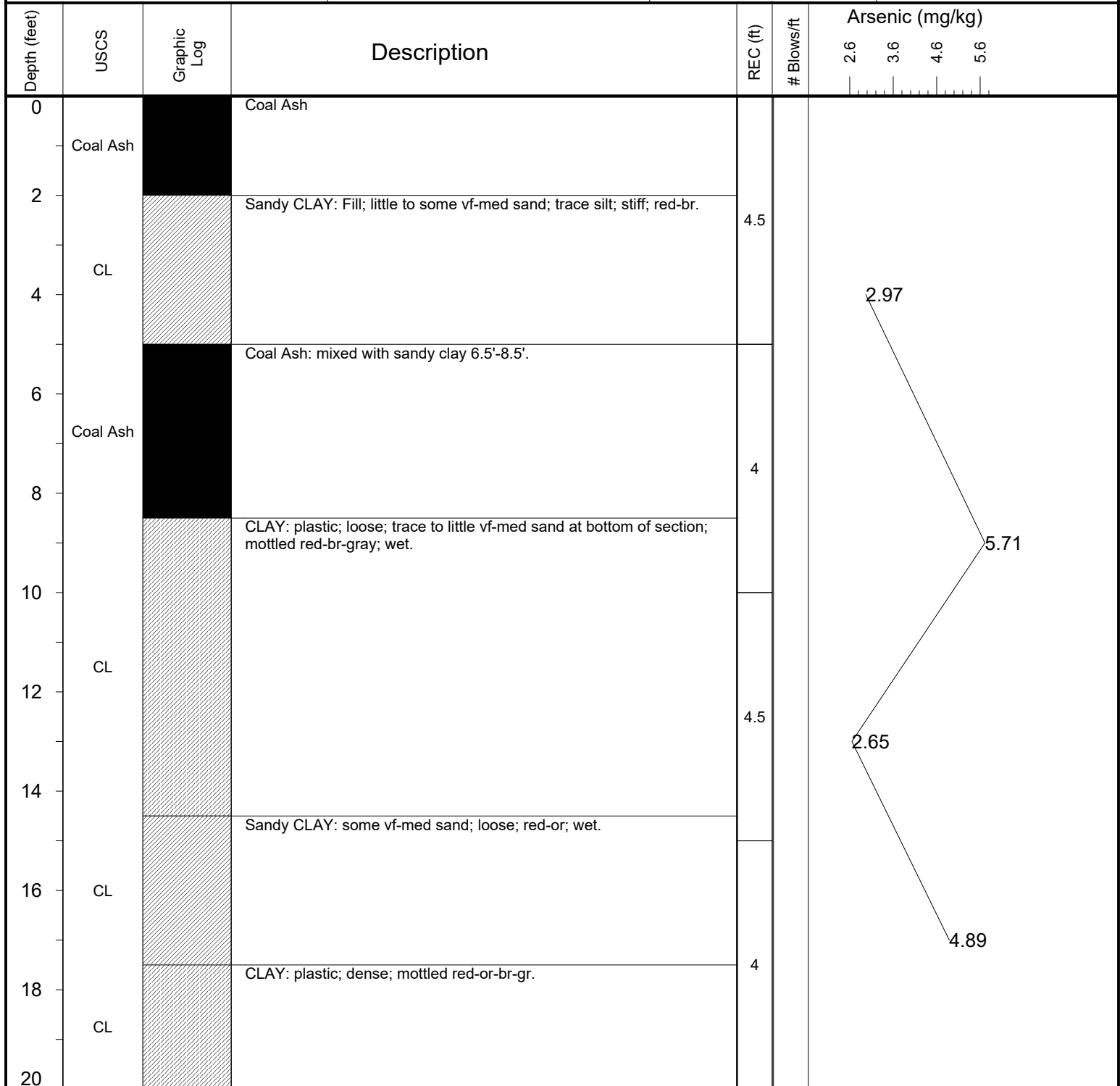
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Sandy CLAY with Coal Ash: little vf-med sand; some coal ash; stiff; red-br-blk.			
2	CL			4		
4						
6			CLAY: dense; plastic; mottled gray-br-red at top of section grading to gray with depth; v. moist.	4.5		2.33
8						
10	CL					
12				4.5		5.55
14						
16						
18	CL		Sandy CLAY: some f-med sand; loose; lt. br; wet.	5		0.932
			Clayey SAND: vf-med; little clay; loose; red.			
20	SP-SC					0.25

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PROJECT: SCE&G - Canadys Station	Boring ID: LB-5	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448547.45	EASTING: 2113922.72
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 81.8	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-6	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448952.47	EASTING: 2114151.93
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 81.34	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Coal Ash			
2	Coal Ash			3.5		32.8
4	CL		CLAY: trace vf-med sand; plastic; mottled red-or-gray.			3.4
6			Sandy CLAY: some vf-med sand; loose; plastic; br to gray.	4		3.77
8						
10	CL					
12				5		12.3
14						
16	SP-SC		Clayey SAND: vf-med sand; some clay; red-gray-br; wet.			
18	CL		Sandy CLAY: little to some vf-med sand; loose; plastic; red to mottled red-gray; wet.	5		
	SP-SC		Clayey SAND: vf-med sand; some clay; loose; red-gray-br; wet.			
20						

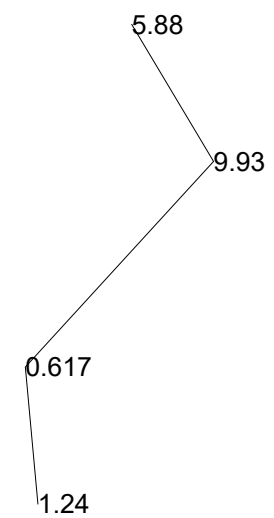
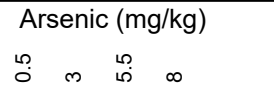
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PROJECT: SCE&G - Canadys Station	Boring ID: LB-7	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 449116.54	EASTING: 2114248.45
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 81.2	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0	Coal Ash		Coal Ash			
2			Sandy CLAY: Fill; some vf-coarse sand; stiff; mottled red-gray-or-br; contains some coal ash.	3		
4	CL					
6						
8	CL		Sandy CLAY: some vf-med sand; palstic; red-br-gray.	4.5		
10			CLAY: tr to little vf-med sand; plastic; mottled red-gray-br; wet.			
12	CL			5		
14			Silty CLAY: some silt; tr to little vf-f sand; mottled red-gray; wet.			
16	CL					
18			CLAY: dense; plastic; mottled or-gray.	4		
20	CL					



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-8	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 449346.69	EASTING: 2114412.73
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 79.43	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0	ML		Sandy SILT: some fine to med sand; plant material (roots); dark br.			
2	CL		CLAY: tr vf-med sand; plastic; mottled red-gray-or-br.	3.5		
4						4.26
6	CL		Sandy CLAY: little to some vf-med sand; sand content increases over interval from 7.5'-8.5'; distinct sedimentary bedding; stiff; mottled or-br-tan; moist.	4.5		4.59
8						
10						1.44
12	SP-SC		Clayey SAND: vf fine sand; some clay; dk br to blk to approx. 14' then gray-tan; wet beginning at approx. 14'.	4.5		0.25
14						
16	CL		CLAY: tr to little vf-fine sand; plastic; lt br grading to gray with depth; wet.	4		
18						
20	SW		SAND: fine to coarse, poorly sorted; br-gray; wet.			

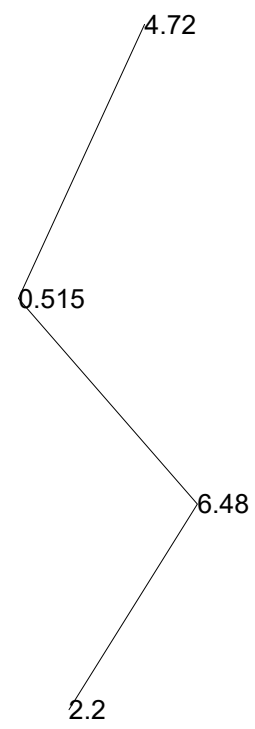
NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: LB-9	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 449068.57	EASTING: 2114365.02
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 80.91	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 3/26/14
		DATE COMPLETED: 3/26/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)			
						0.4	2.4	4.4	6.4
0			Sandy CLAY: Fill + Coal Ash; some f-coarse sand; or-br-blk.						
2				4					
4	CL								
6									
8	CL		Sandy CLAY: some vf-med sand; loose; plastic; gray-br.	4.75					
10	ML		Clayey SILT: little clay; tr vf-f sand; br-gray.						
12			Sandy CLAY: some v-med sand; plastic; mottled br-red; wet.	4					
14	CL								
16									
18	CL		CLAY: dense; plastic; mottled red-gray-br.	3.75					
20									

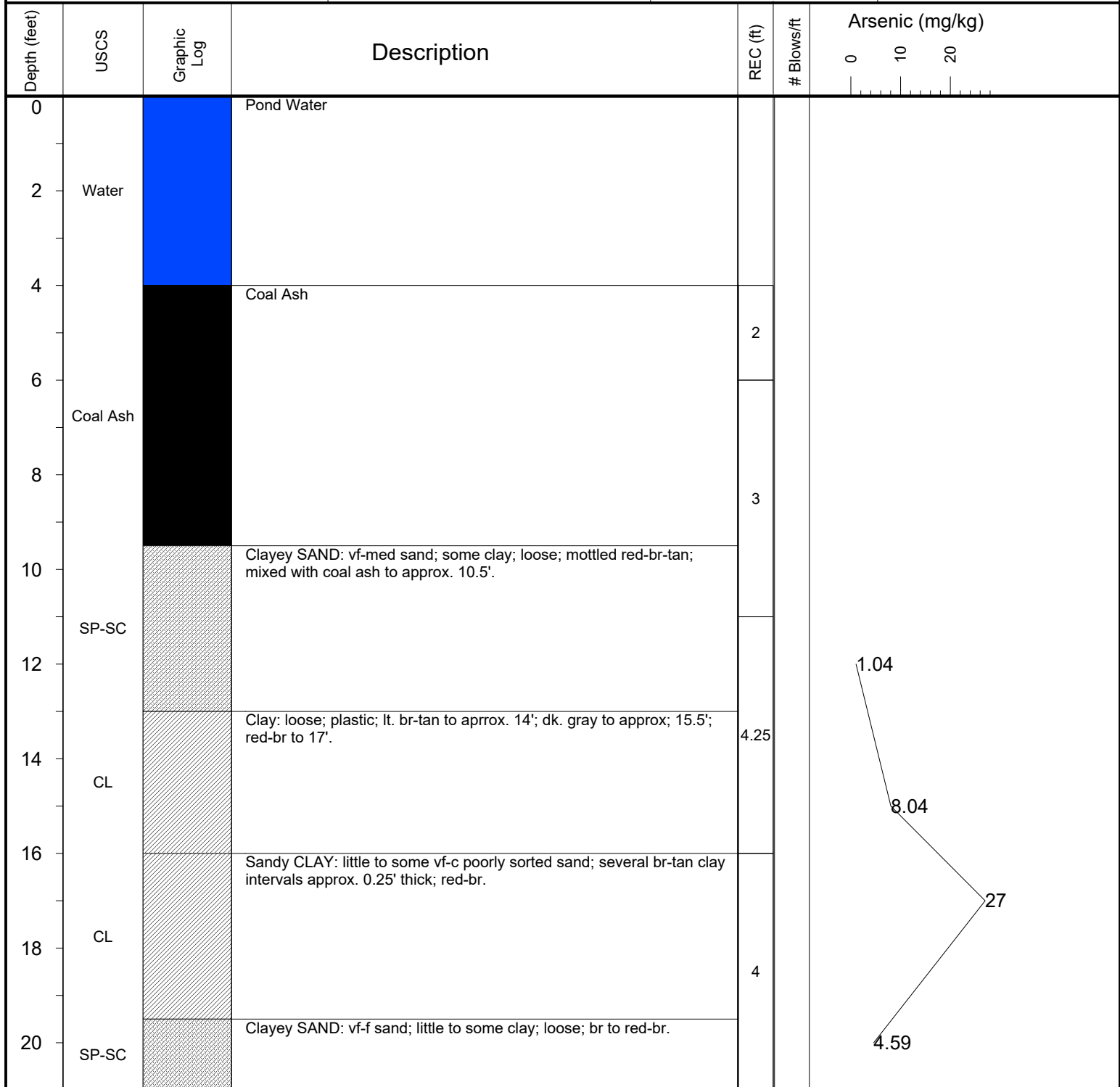


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-1	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448200.88	EASTING: 2114766.4
DRILLING EQUIPMENT: Geoprobe 8040DT	GROUND SURFACE ELEV.: 71.67	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 21' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/28/14
		DATE COMPLETED: 4/28/14

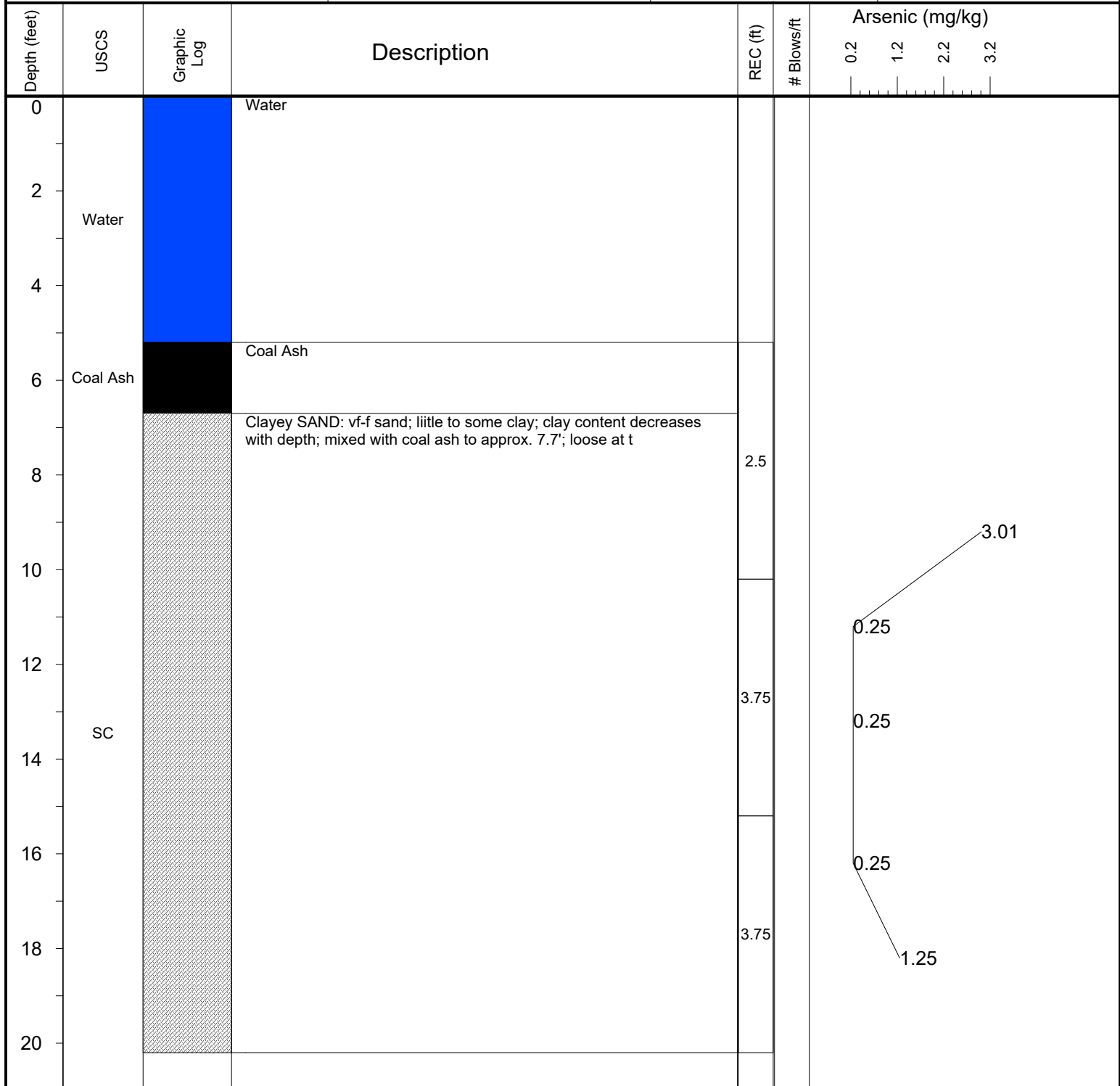


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-10	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447935.76	EASTING: 2114090.04
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 70.44	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20.2' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/30/14
		DATE COMPLETED: 4/30/14

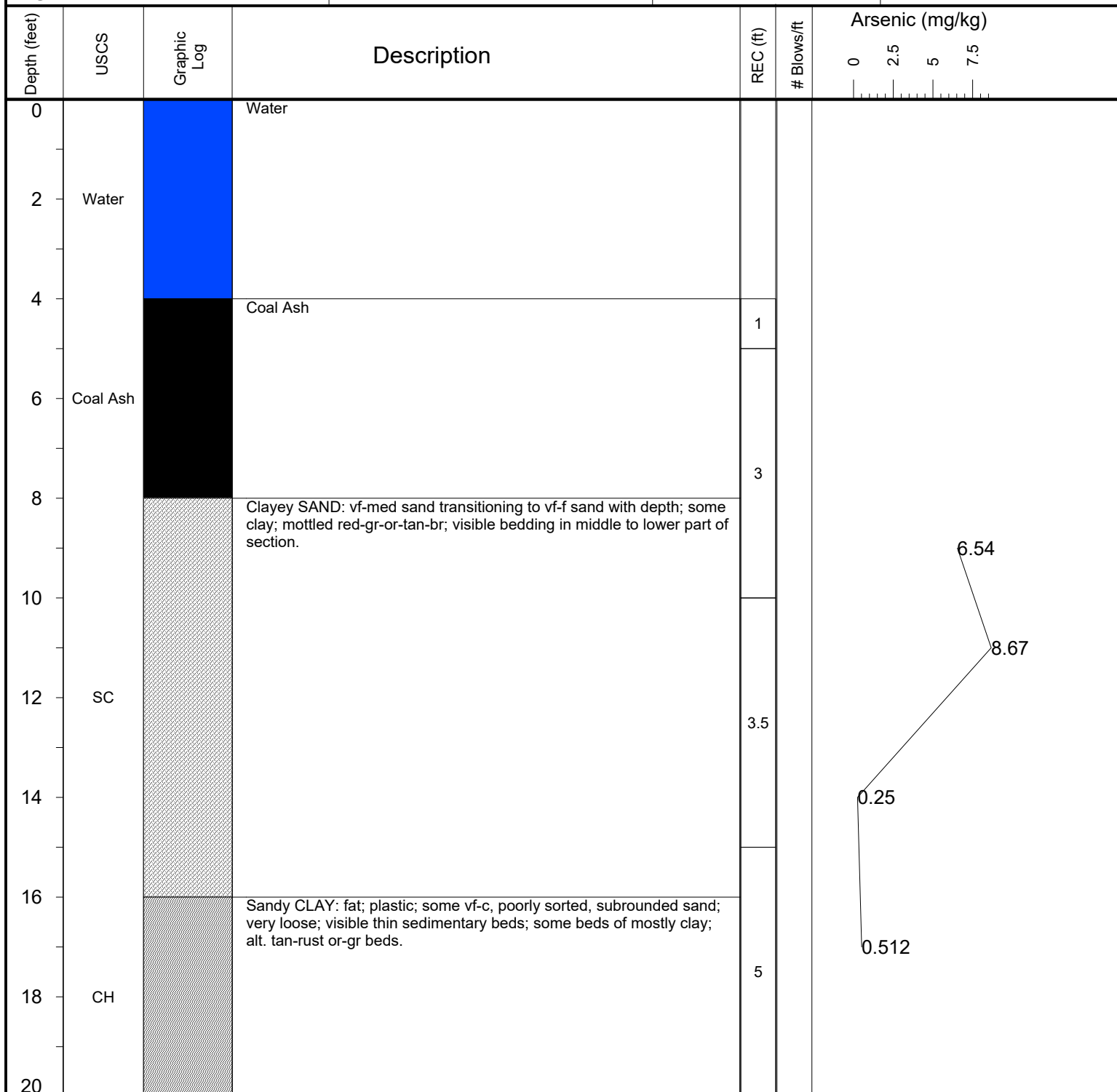


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-11	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448046.78	EASTING: 2114004.48
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 71.85	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/30/14
		DATE COMPLETED: 4/30/14

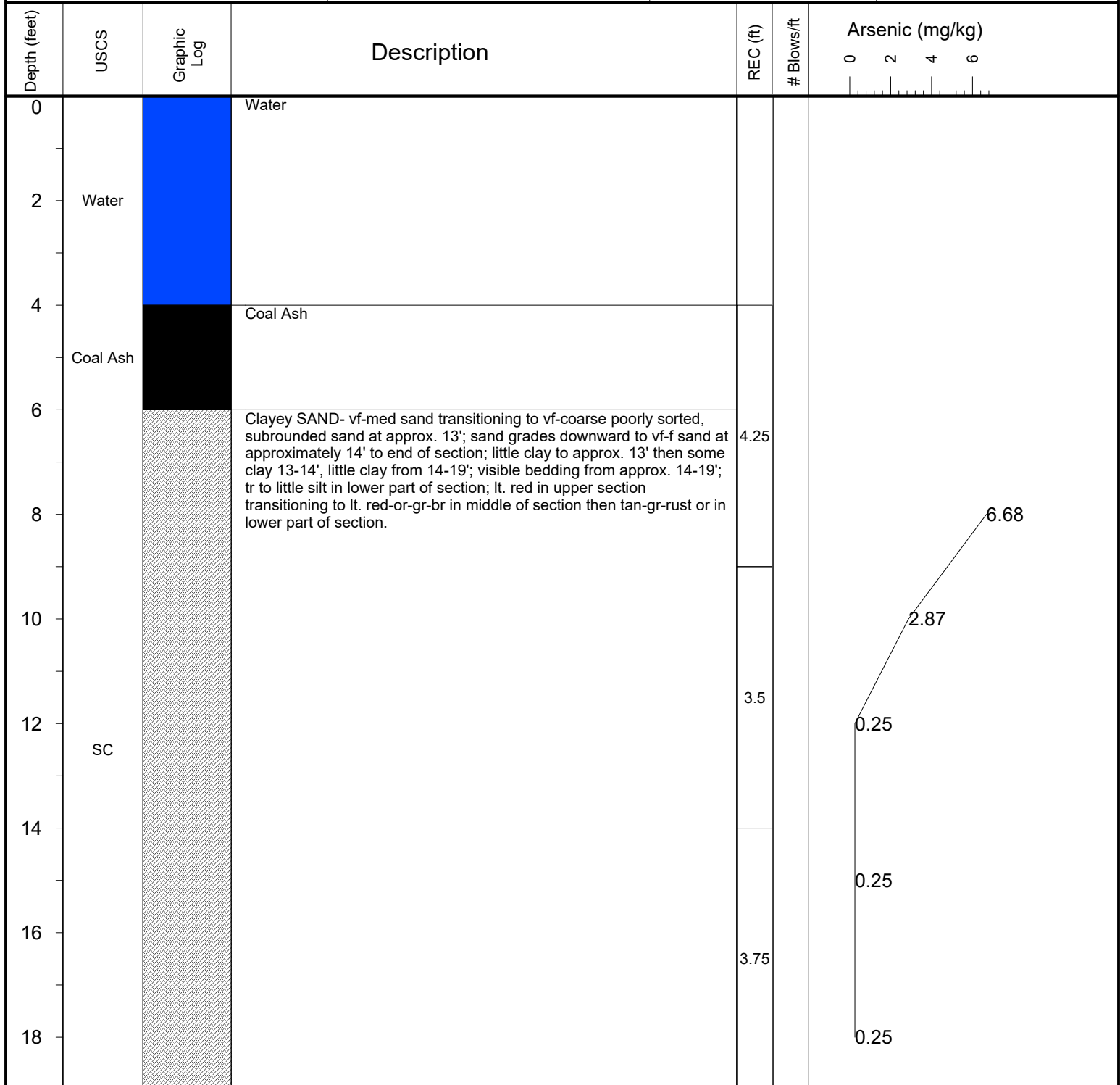


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-12	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448081.53	EASTING: 2114156.91
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 71.84	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 19' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/1/14
		DATE COMPLETED: 5/1/14

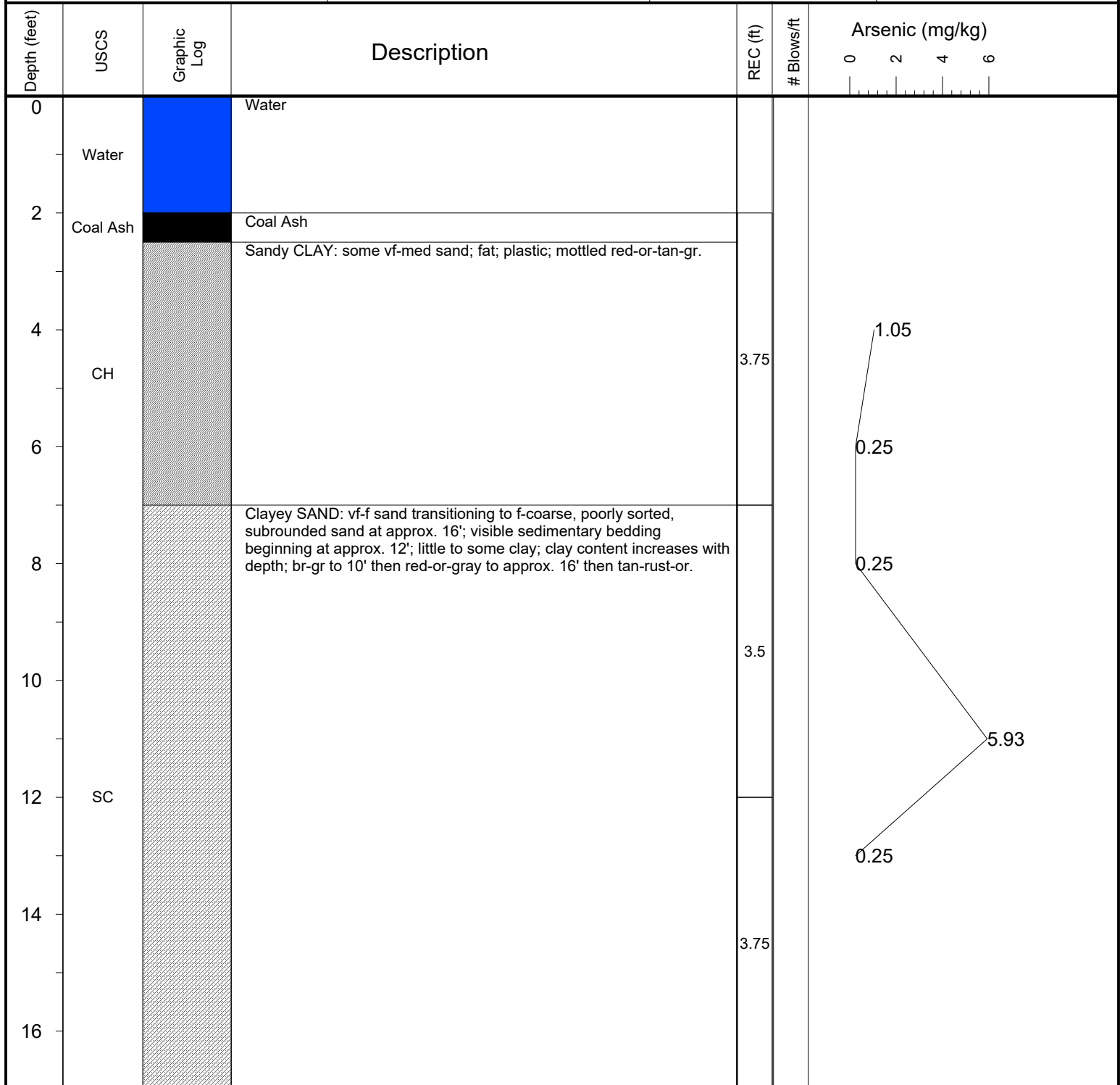


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-13	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448133.71	EASTING: 2114301.31
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 73.84	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 17' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/1/14
		DATE COMPLETED: 5/1/14

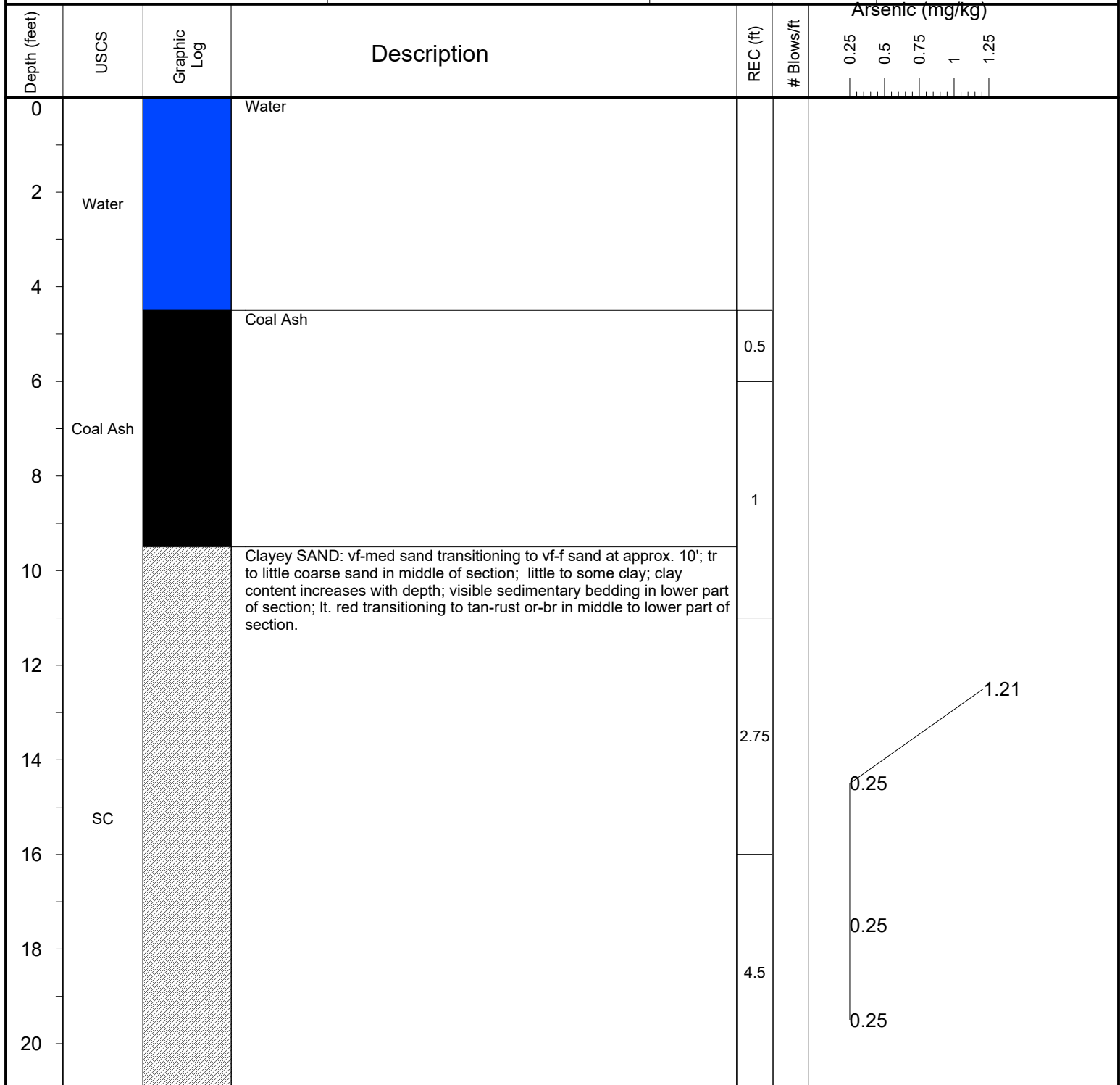


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-14	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448187.48	EASTING: 2114381.07
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 71.34	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 21' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/1/14
		DATE COMPLETED: 5/1/14

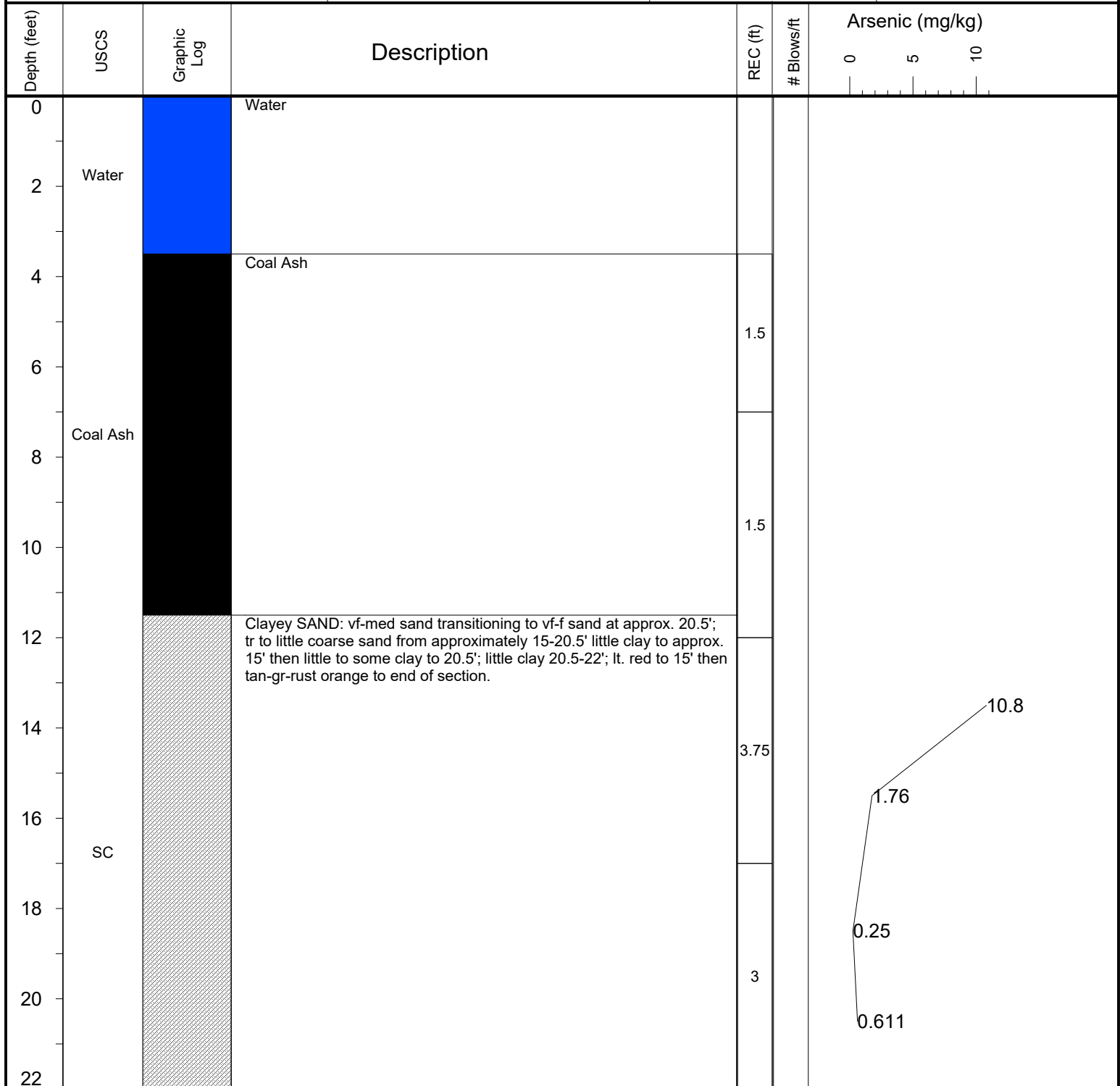


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-15	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448238.3	EASTING: 2114450.73
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 72.34	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 22' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/1/14
		DATE COMPLETED: 5/1/14

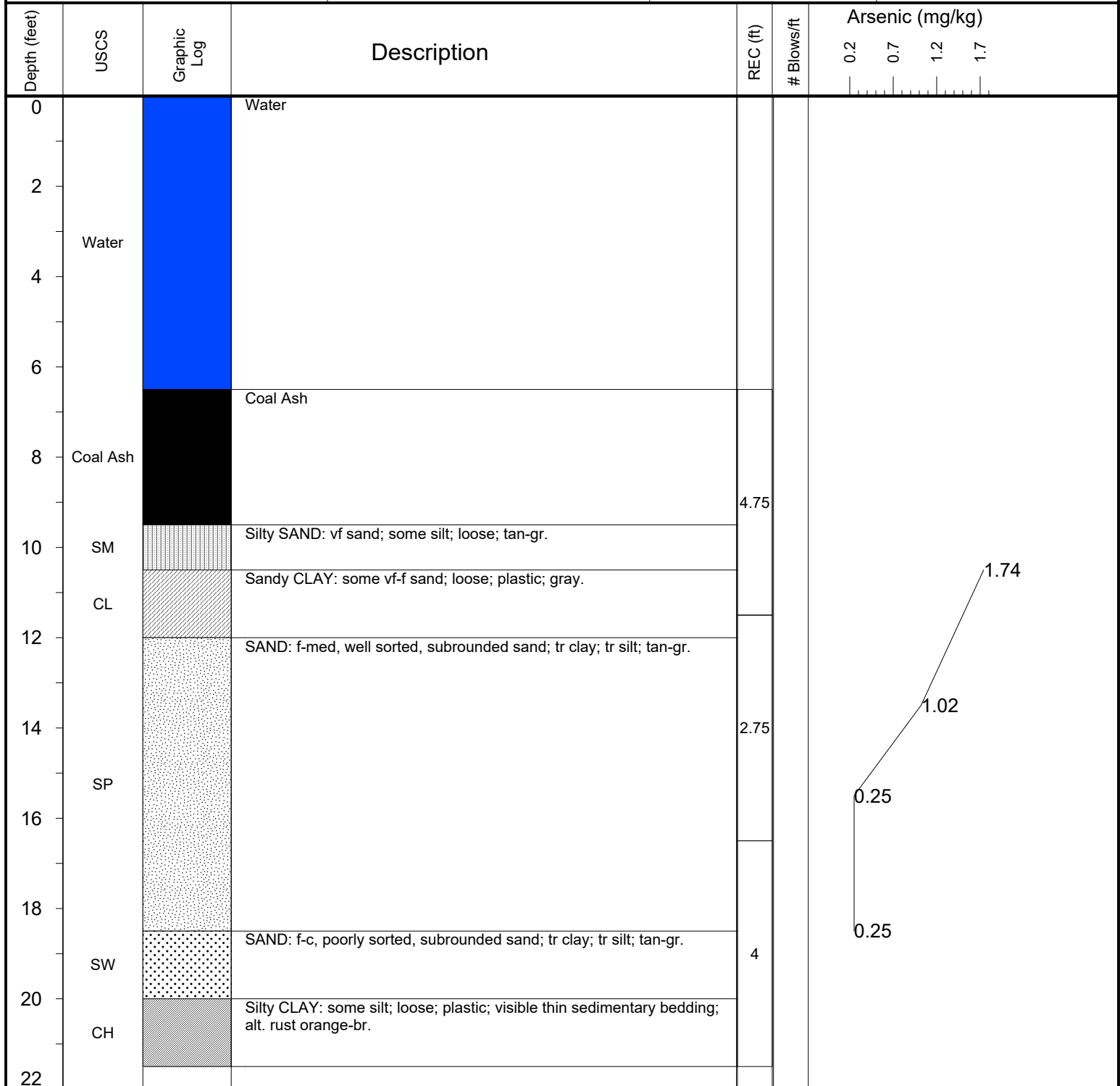


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-16	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 449325.45	EASTING: 2114674.71
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 63.72	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 21.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/2/14
		DATE COMPLETED: 5/2/14

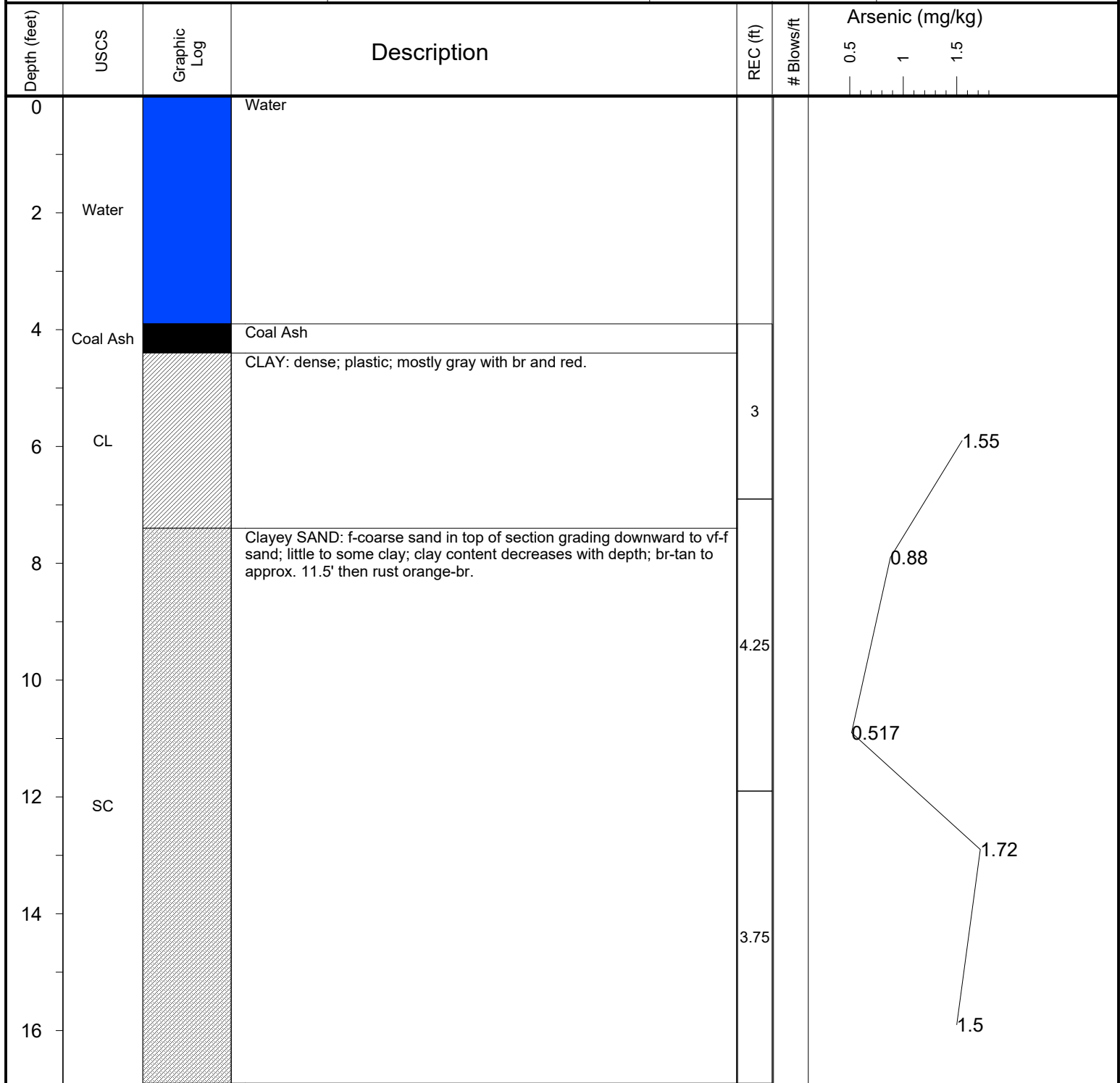


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-17	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 449242.79	EASTING: 2114452
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 65.89	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 16.9' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/5/14
		DATE COMPLETED: 5/5/14

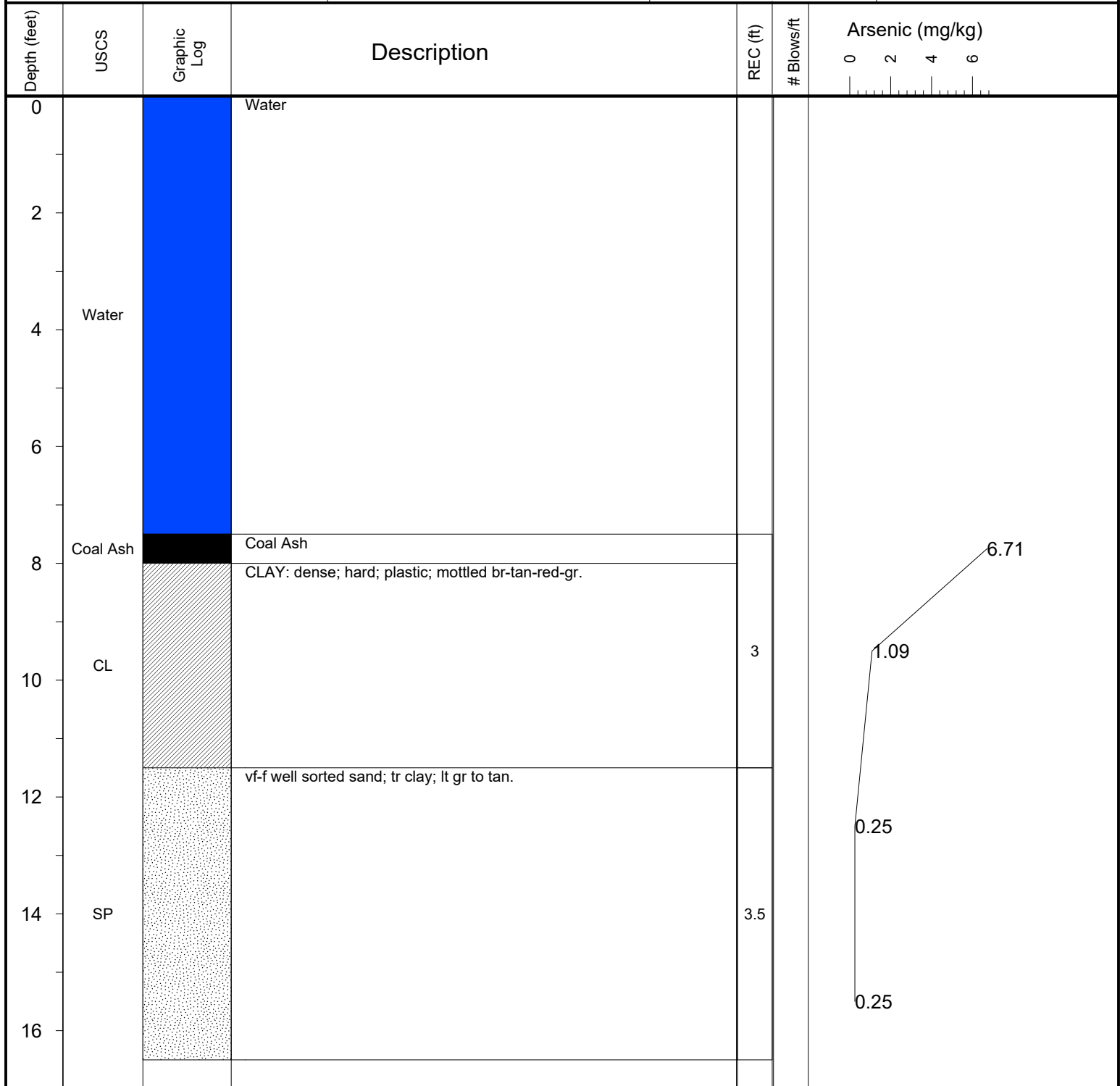


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-18	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 449130.36	EASTING: 2114649.99
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 62.29	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 16.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/5/14
		DATE COMPLETED: 5/5/14

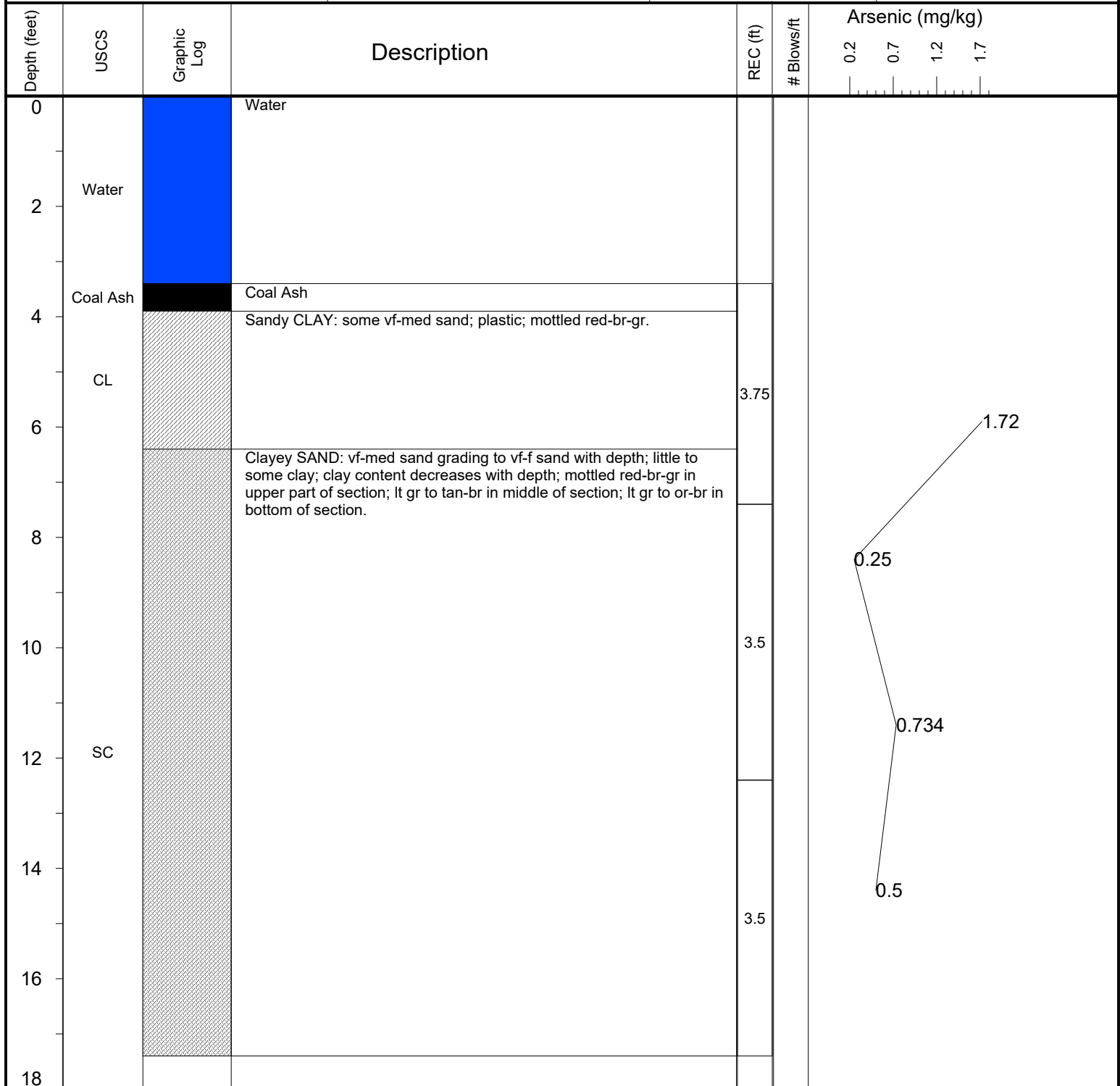


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-19	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448948.54	EASTING: 2114675.16
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 66.39	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 17.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/5/14
		DATE COMPLETED: 5/5/14



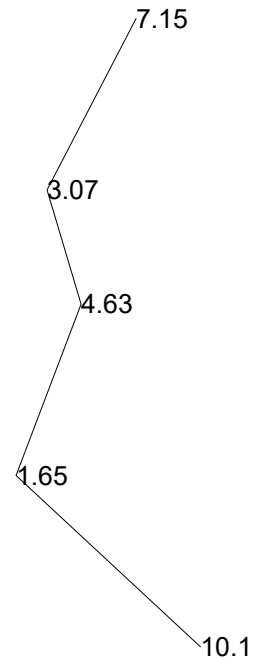
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PROJECT: SCE&G - Canadys Station	Boring ID: PB-2	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448127.79	EASTING: 2114675.68
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 70.66	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 23' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/29/14
		DATE COMPLETED: 4/29/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Water			
2	Water					
4						
6	Coal Ash		Coal Ash		3	
8	CL		Sandy CLAY: little to some vf-f sand; plastic; tan-gr-br. CLAY: plastic; loose; red-br-tan; approx. 0.25' section of clean f-coarse sand from 12.75-13'.			
10				3.5		
12	CL					
14						
16	SW-SC		Clayey SAND: f-coarse, poorly sorted; little to some clay; tan to or-br.	2.5		
18						
20	SM		Silty SAND: vf-f sand; some silt; loose; or-br.		2	
22	CL		Silty CLAY: some silt; loose; plastic; dark br.			
24						

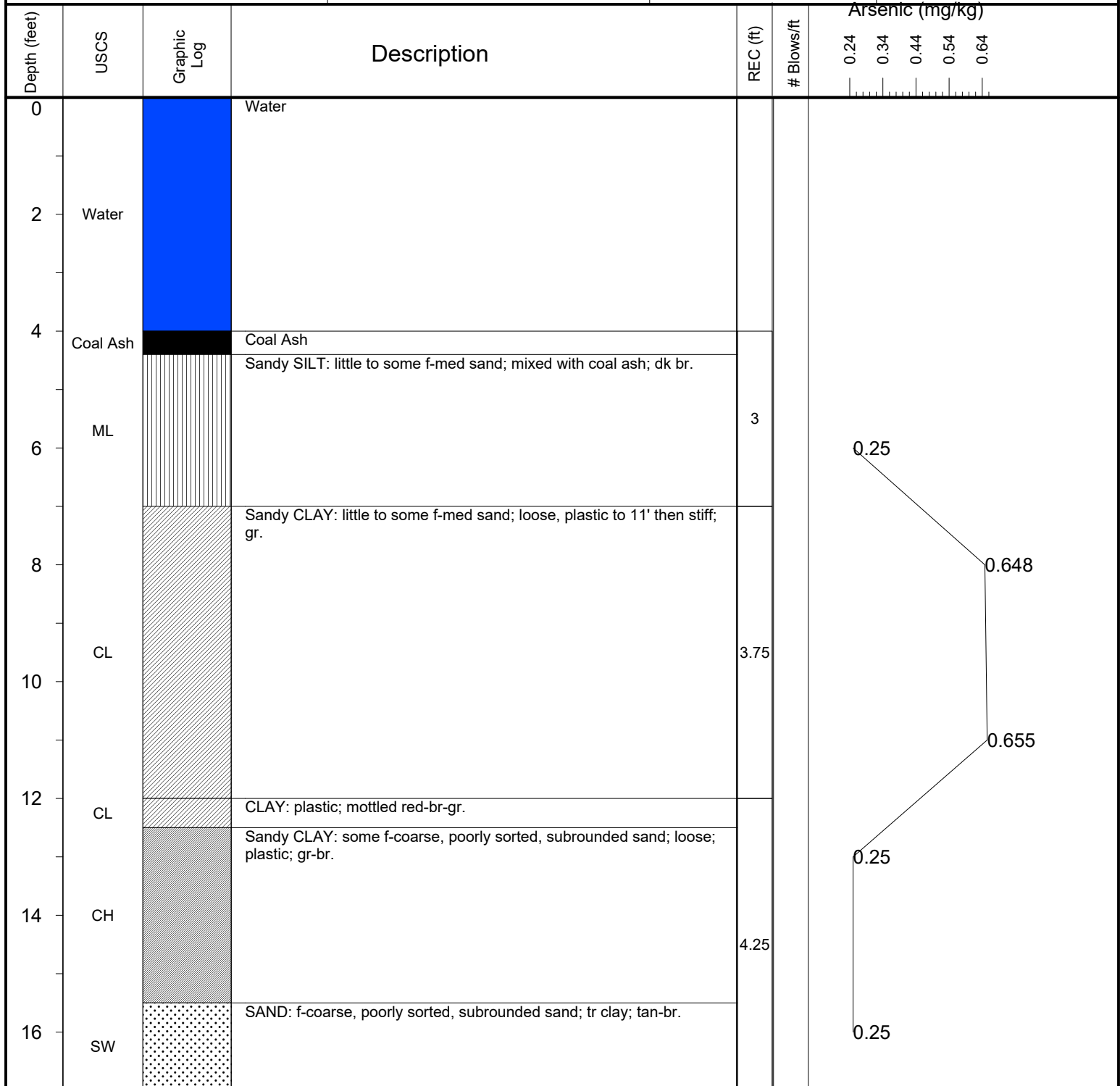


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-20	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 449011.85	EASTING: 2114875.88
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 65.79	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 17' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/5/14
		DATE COMPLETED: 5/5/14

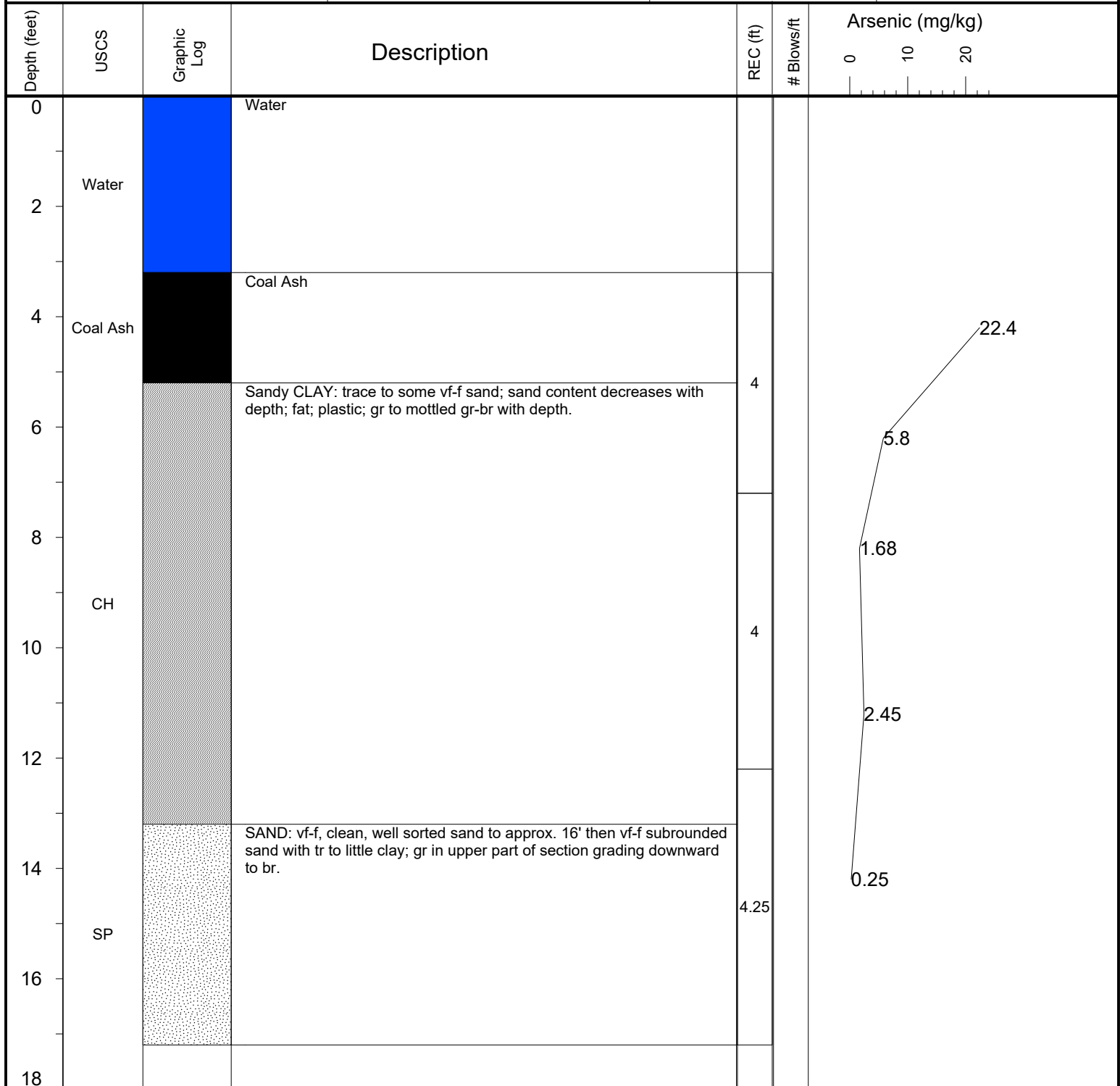


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-21	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448874.6	EASTING: 2114952.04
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 66.51	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 17.2' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/6/14
		DATE COMPLETED: 5/6/14



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-22	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448769.96	EASTING: 2114787.31
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 66.81	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 16.9' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/6/14
		DATE COMPLETED: 5/6/14

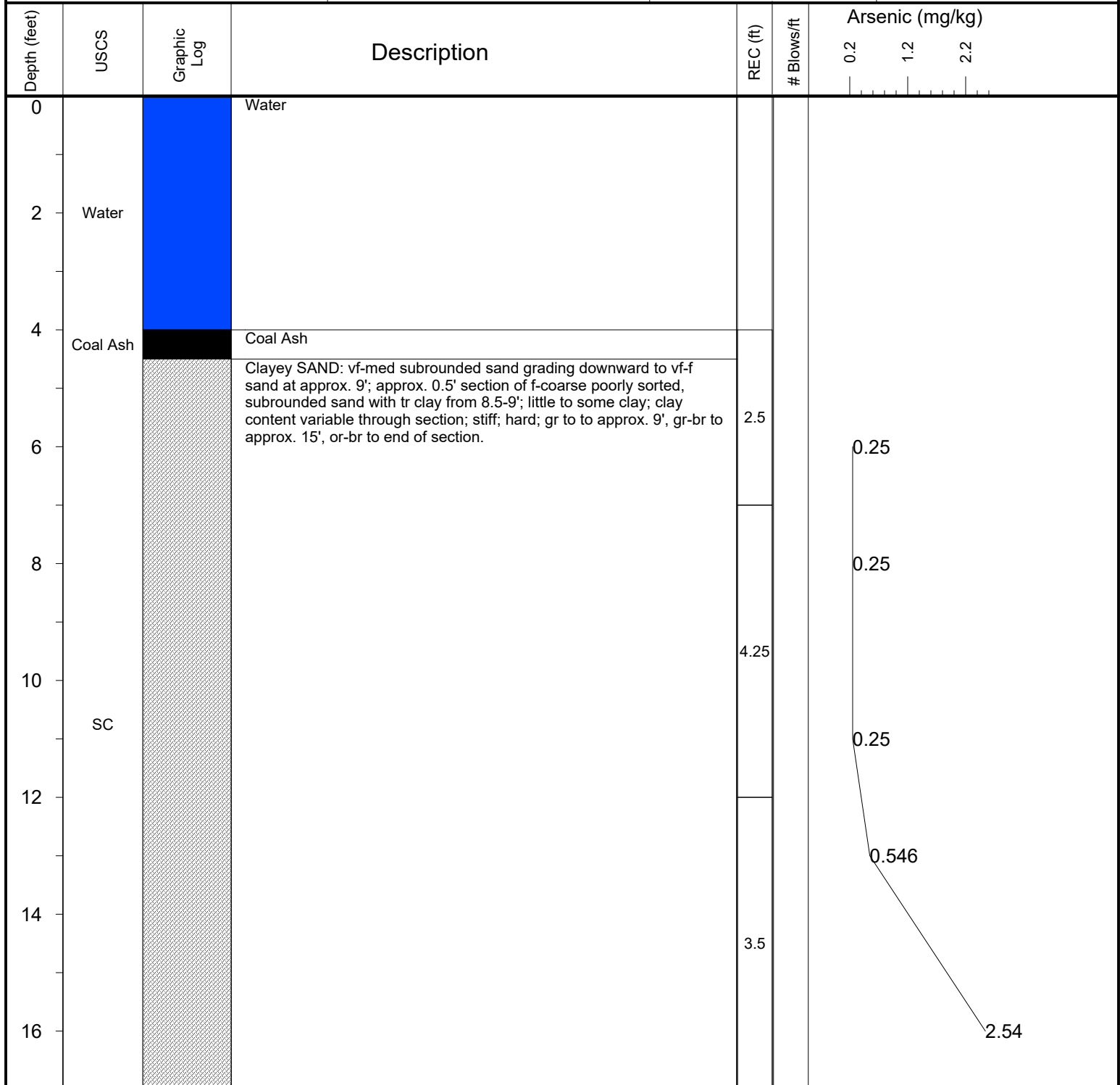
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Water			
2	Water					
4	Coal Ash		Coal Ash			
	CL		Sandy CLAY: some f-med subrounded sand; slightly plastic; dense; red-br.	2.5		
6						0.25
8			Clayey SAND: vf-med subrounded sand to approx. 10.4' then vf-f sand; tr coarse sand; tr to some clay; clay content decreases with depth; gr-br transitioning to red-br with depth.	3.75		0.25
10						0.25
12	SC					0.25
14				3.5		
16						0.25

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PROJECT: SCE&G - Canadys Station	Boring ID: PB-23	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448577.37	EASTING: 2114851.11
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 65.71	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 17' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/6/14
		DATE COMPLETED: 5/6/14

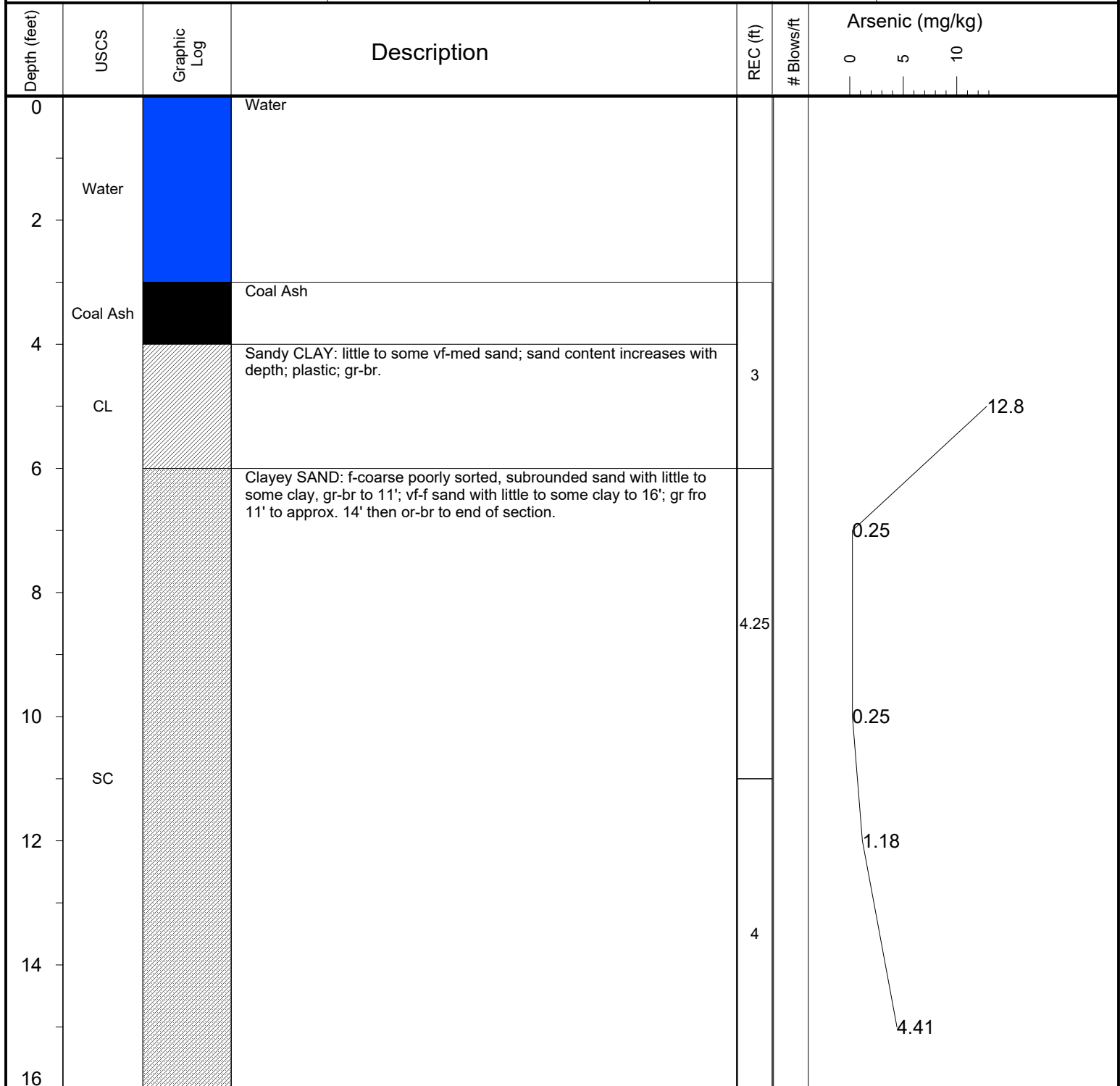


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-24	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448622.26	EASTING: 2114992.17
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 66.71	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 16' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/6/14
		DATE COMPLETED: 5/6/14

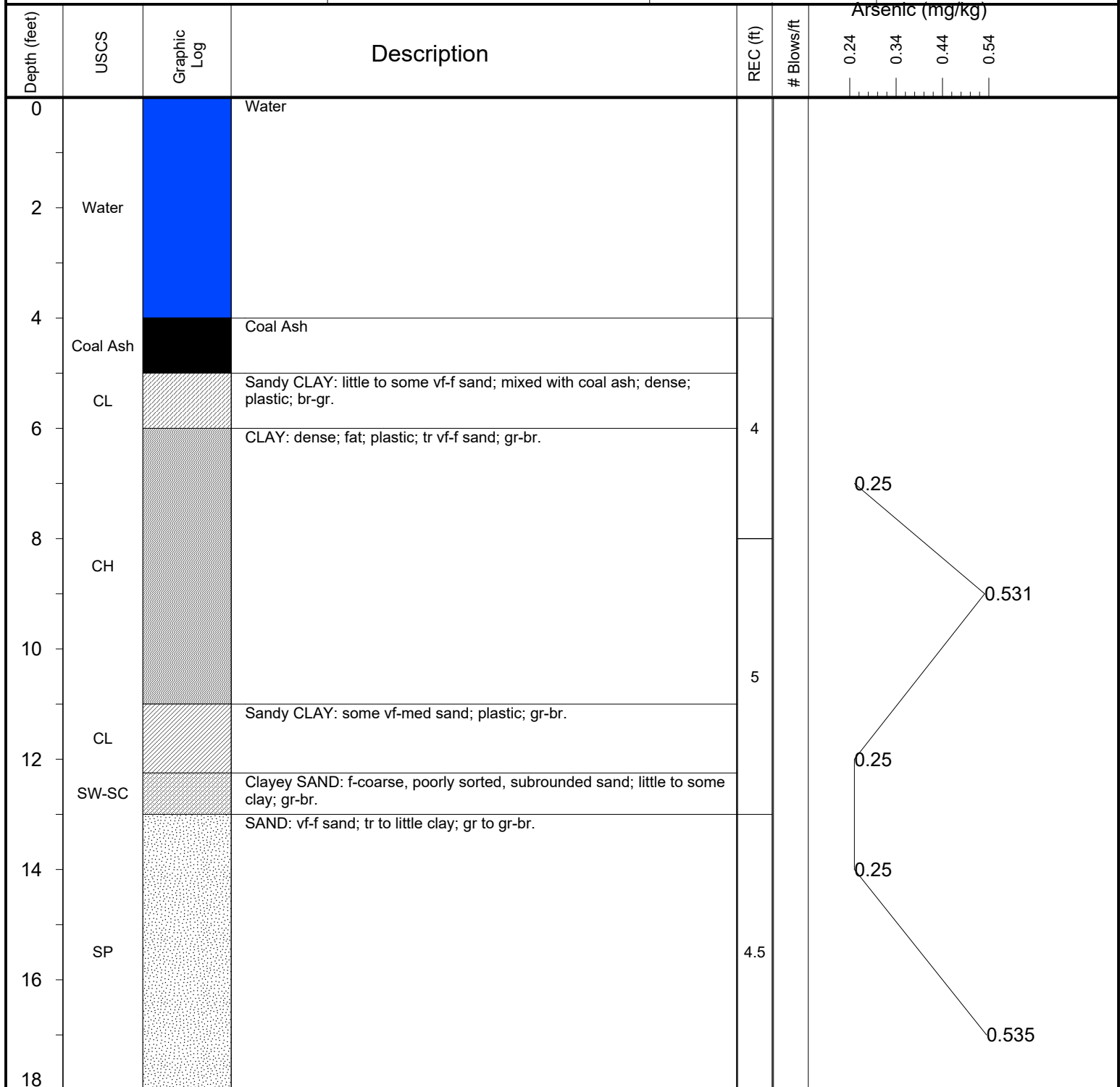


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-25	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448718.46	EASTING: 2115034.4
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 65.71	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 18' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/6/14
		DATE COMPLETED: 5/6/14

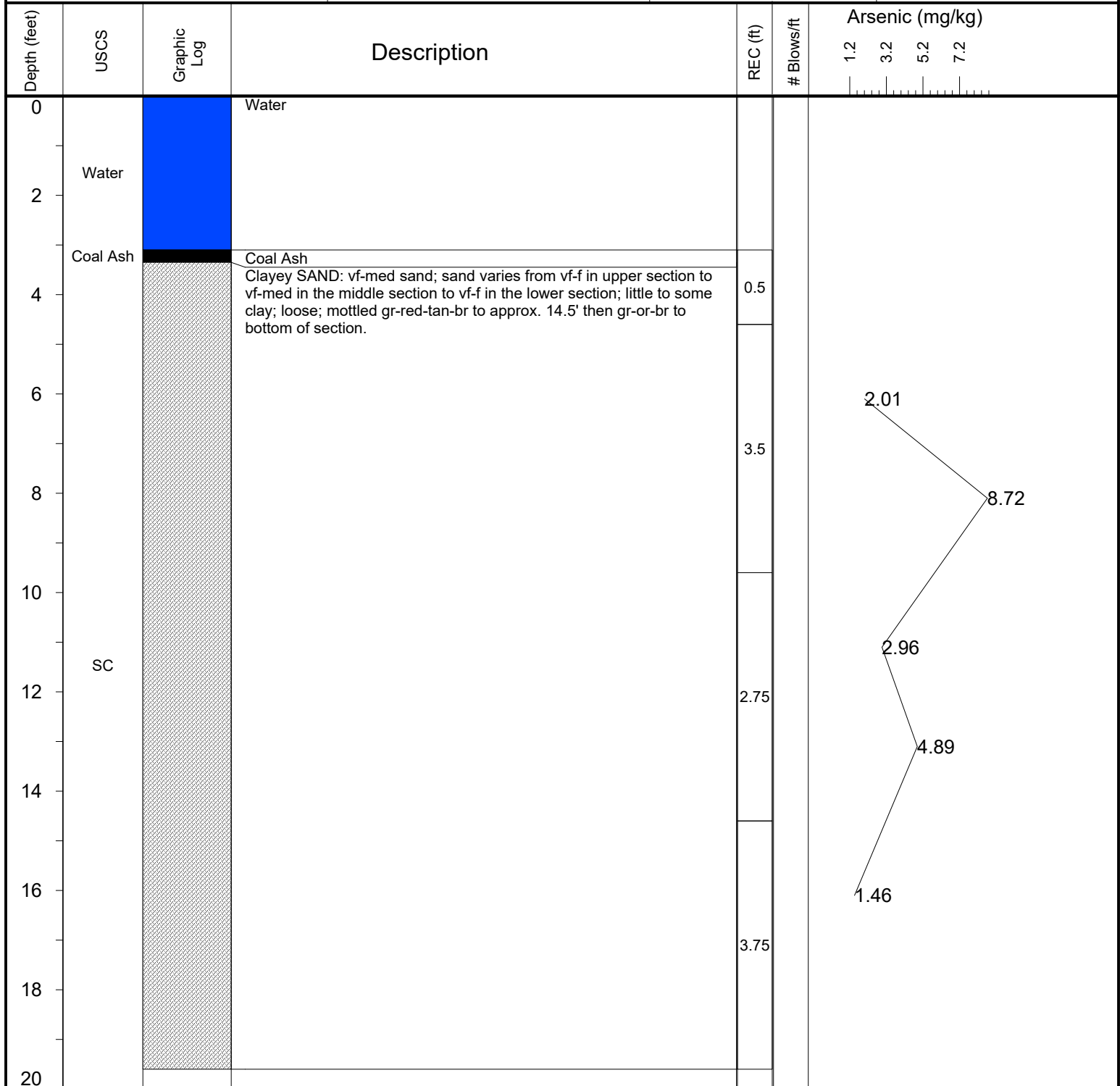


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-26	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448545.72	EASTING: 2114550.1
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 72.24	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 19.6' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/6/14
		DATE COMPLETED: 5/6/14

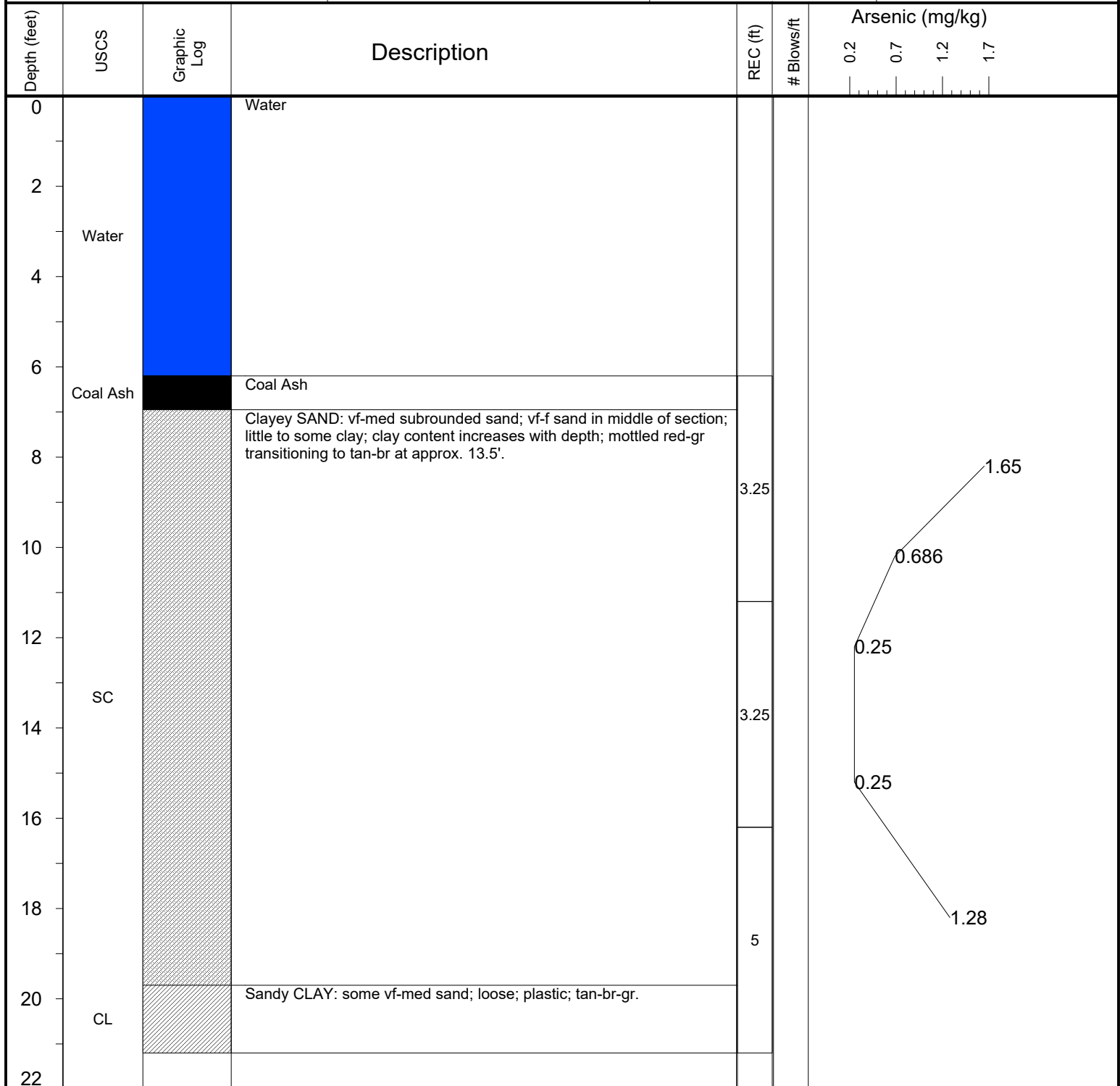


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-27	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448706.24	EASTING: 2114473.55
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 69.14	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 21.2' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/7/14
		DATE COMPLETED: 5/7/14



NOTES:

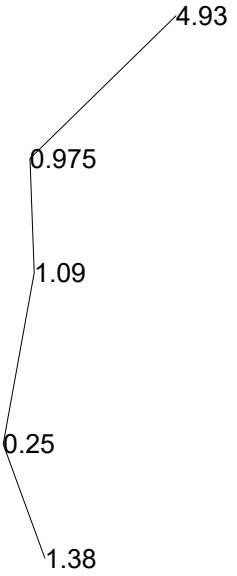
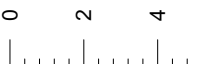


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-28	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448903.76	EASTING: 2114363.17
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 70.34	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 22.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/7/14
		DATE COMPLETED: 5/7/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Water			
2	Water					
4						
6	Coal Ash		Coal Ash			
8	CL		Sandy CLAY: little to some f-coarse poorly sorted, subrounded sand; sand content increases with depth; stiff; hard; mottled red-or-tan-gr.	2.5		
10			Clayey SAND: vf-f sand; little to some clay; clay content decreases with depth; mottled tan-or-br-gr to 10.5', tan to 15.5', or-br to 18'.	4.5		
12	SC					
14				3.5		
16						
18	ML		Clayey SILT: some clay; very loose; dk br.			
20			SILT: tr vf-f sand; calcareous; hard; olive-green; Cooper Marl.	5		
22	ML					
24						

Arsenic (mg/kg)

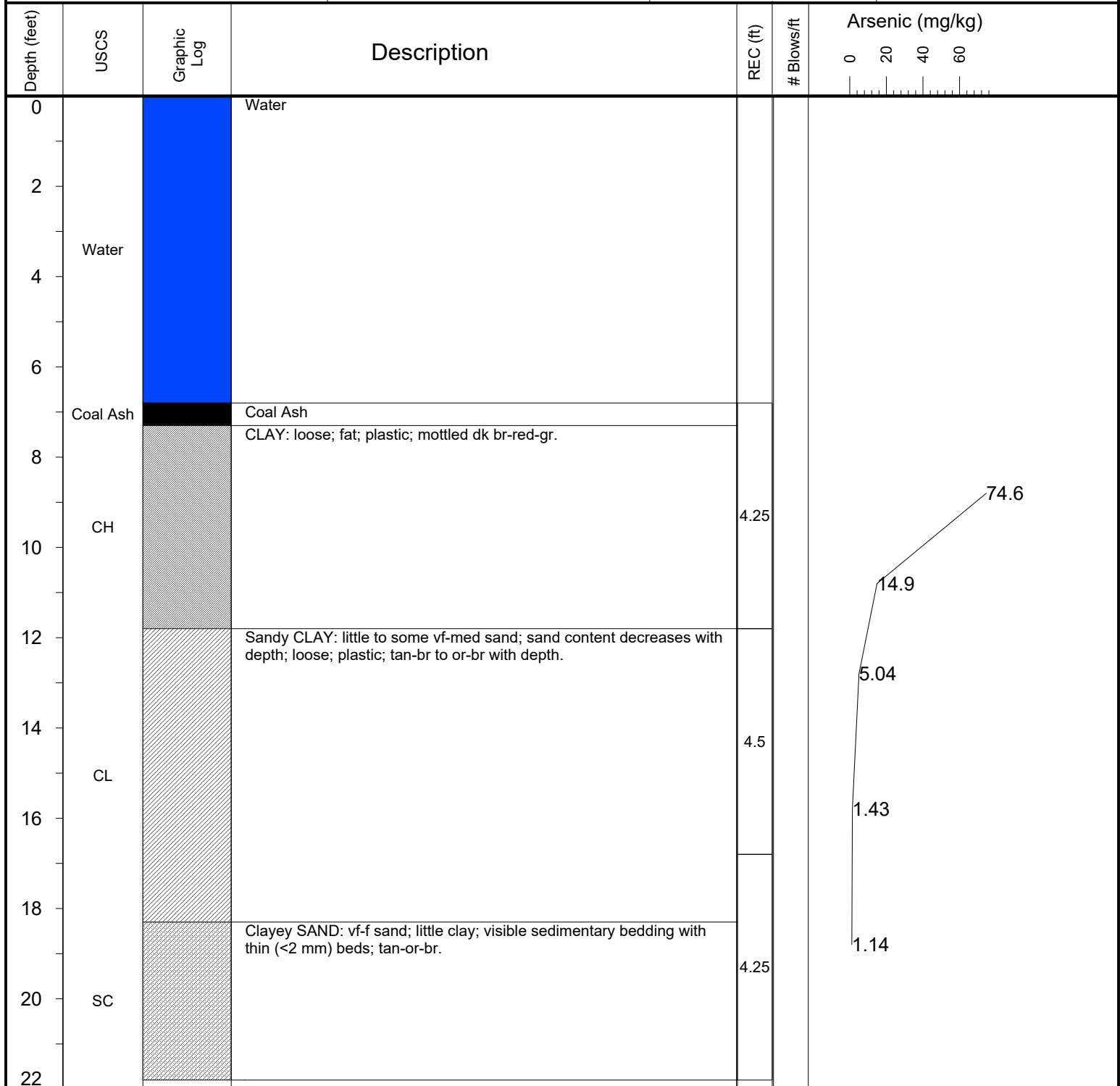


NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-29	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 449055.18	EASTING: 2114284.2
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 68.54	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 21.8' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/7/14
		DATE COMPLETED: 5/7/14

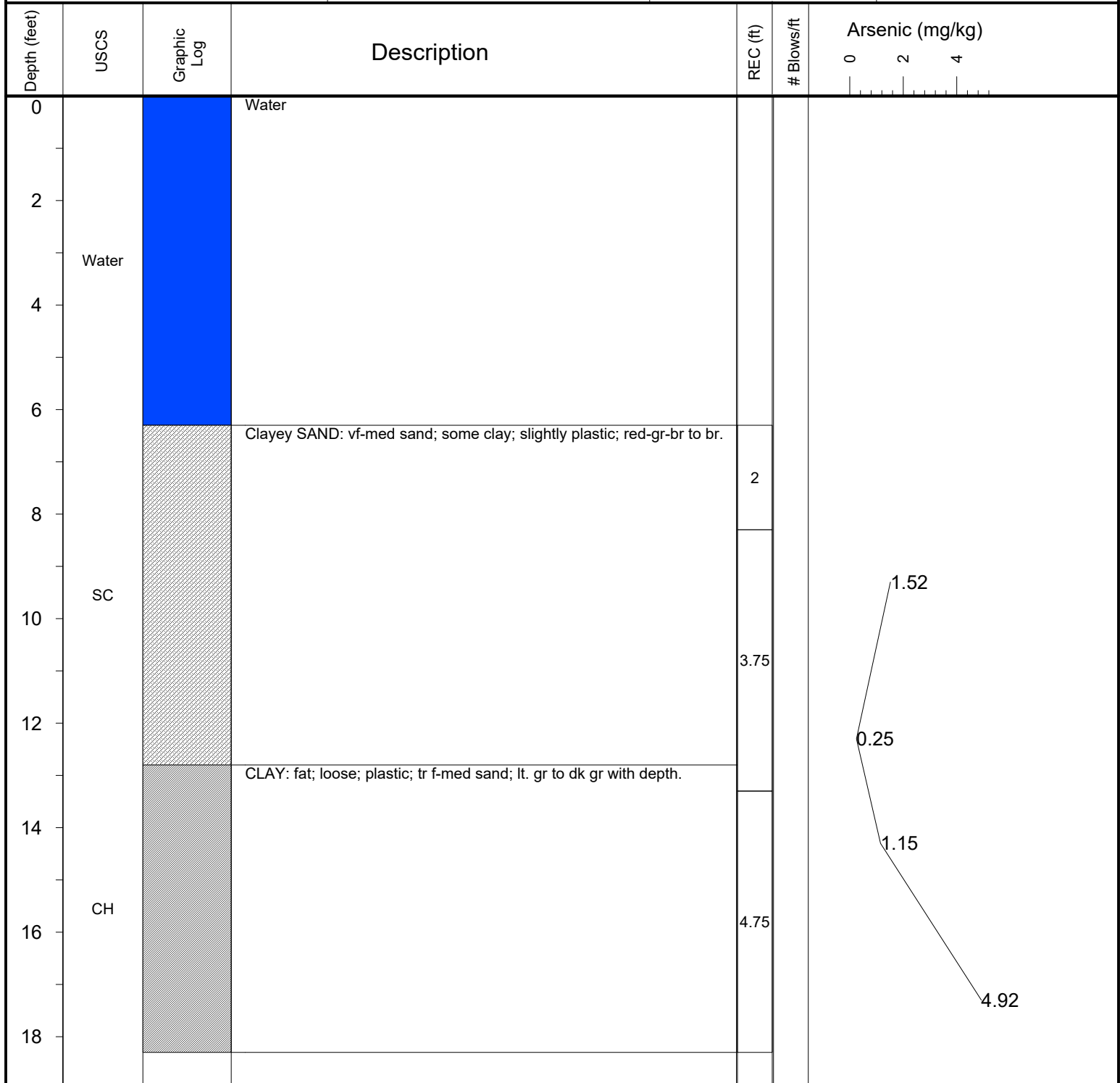


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-3	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448044.76	EASTING: 2114653.92
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 69.36	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 18.3' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/29/14
		DATE COMPLETED: 4/29/14

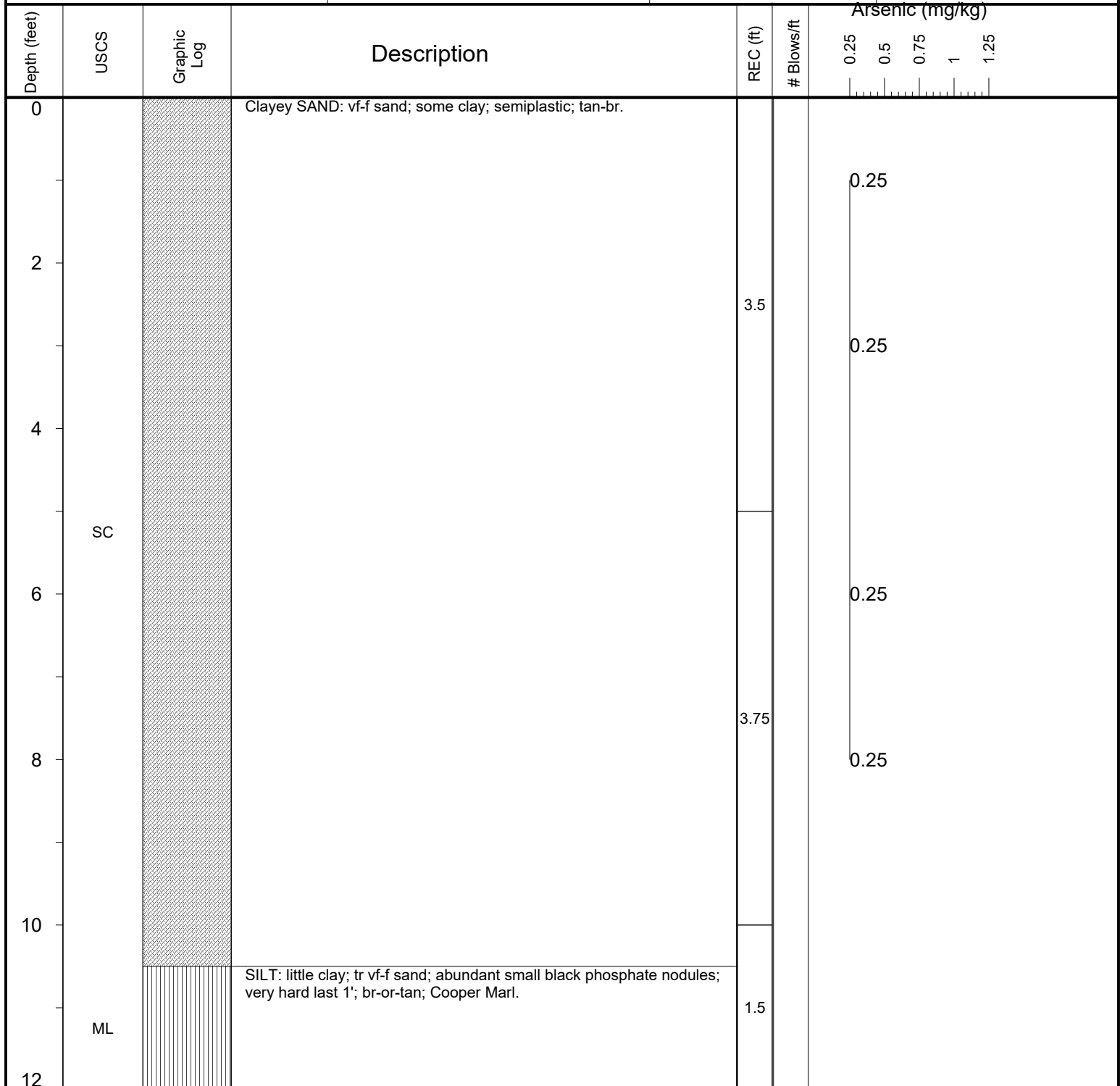


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-30	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447131.54	EASTING: 2115537.98
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: NA	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 12'	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/7/14
		DATE COMPLETED: 5/7/14



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-31	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447172.96	EASTING: 2115524.04
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: NA	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 10'	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/7/14
		DATE COMPLETED: 5/7/14

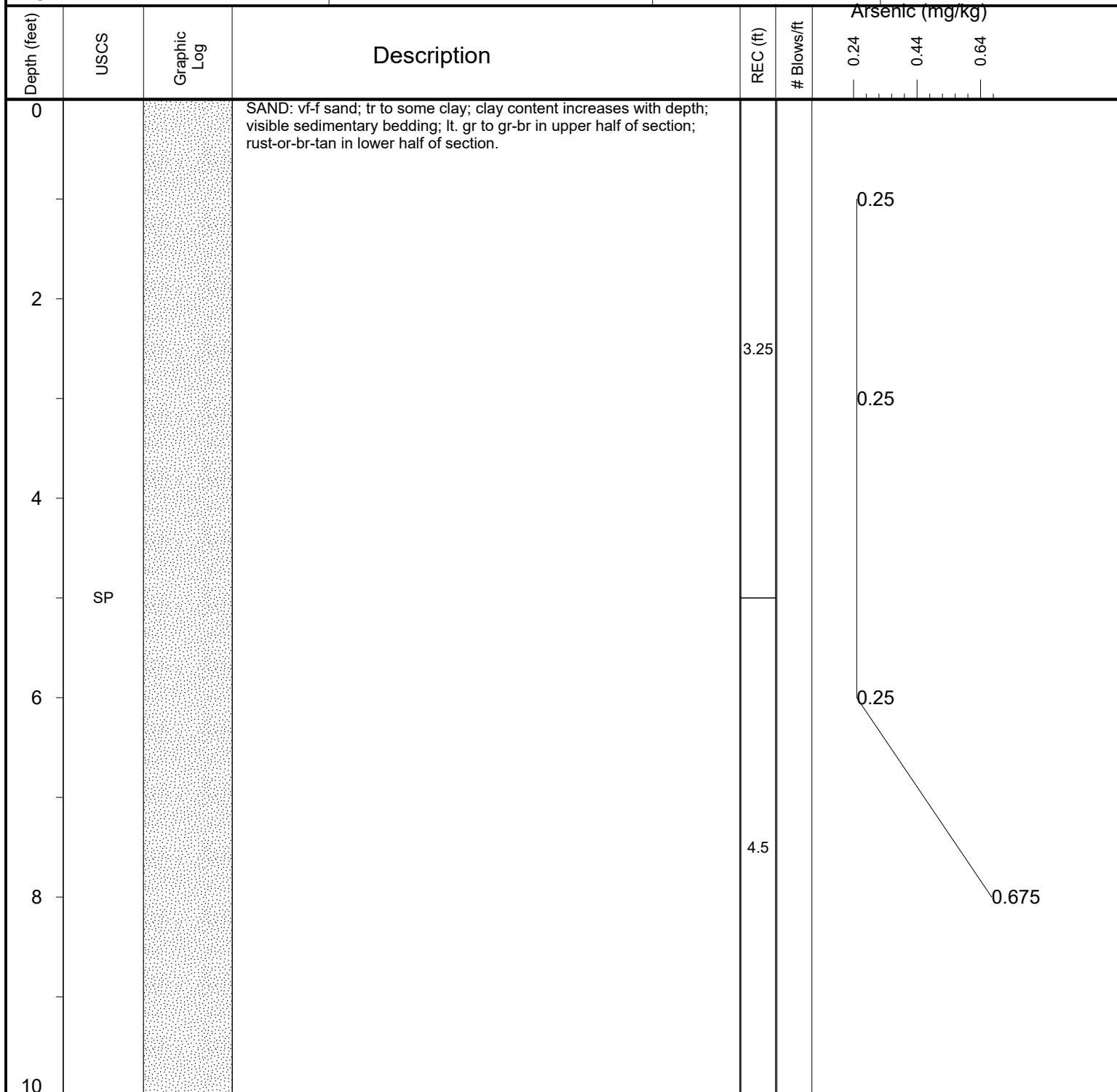
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Sandy CLAY: some vf-med sand; plastic; mottled rust or-tan-br grading downward to tan-br.			0.25 0.5 0.75 1 1.25
2				2.5		0.25
4	CL					0.25
6						0.25
8				2.5		0.25
10						

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PROJECT: SCE&G - Canadys Station	Boring ID: PB-32	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447114.56	EASTING: 2115572.05
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: NA	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 10'	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/7/14
		DATE COMPLETED: 5/7/14

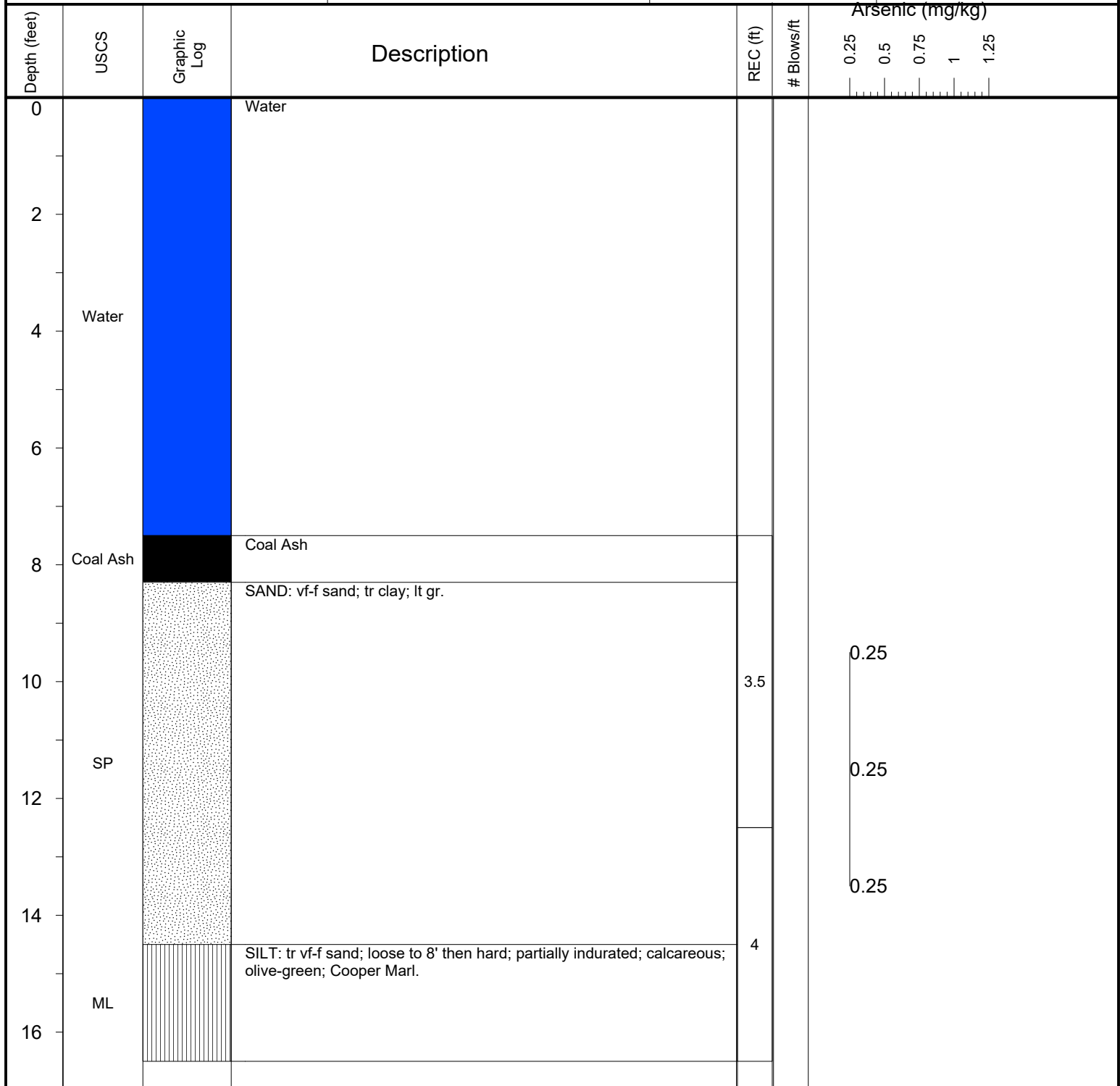


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-33	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447772.44	EASTING: 2116988.31
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 55.54	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 16.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/8/14
		DATE COMPLETED: 5/8/14



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-34	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447704.25	EASTING: 2116847.95
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 55.54	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/8/14
		DATE COMPLETED: 5/8/14

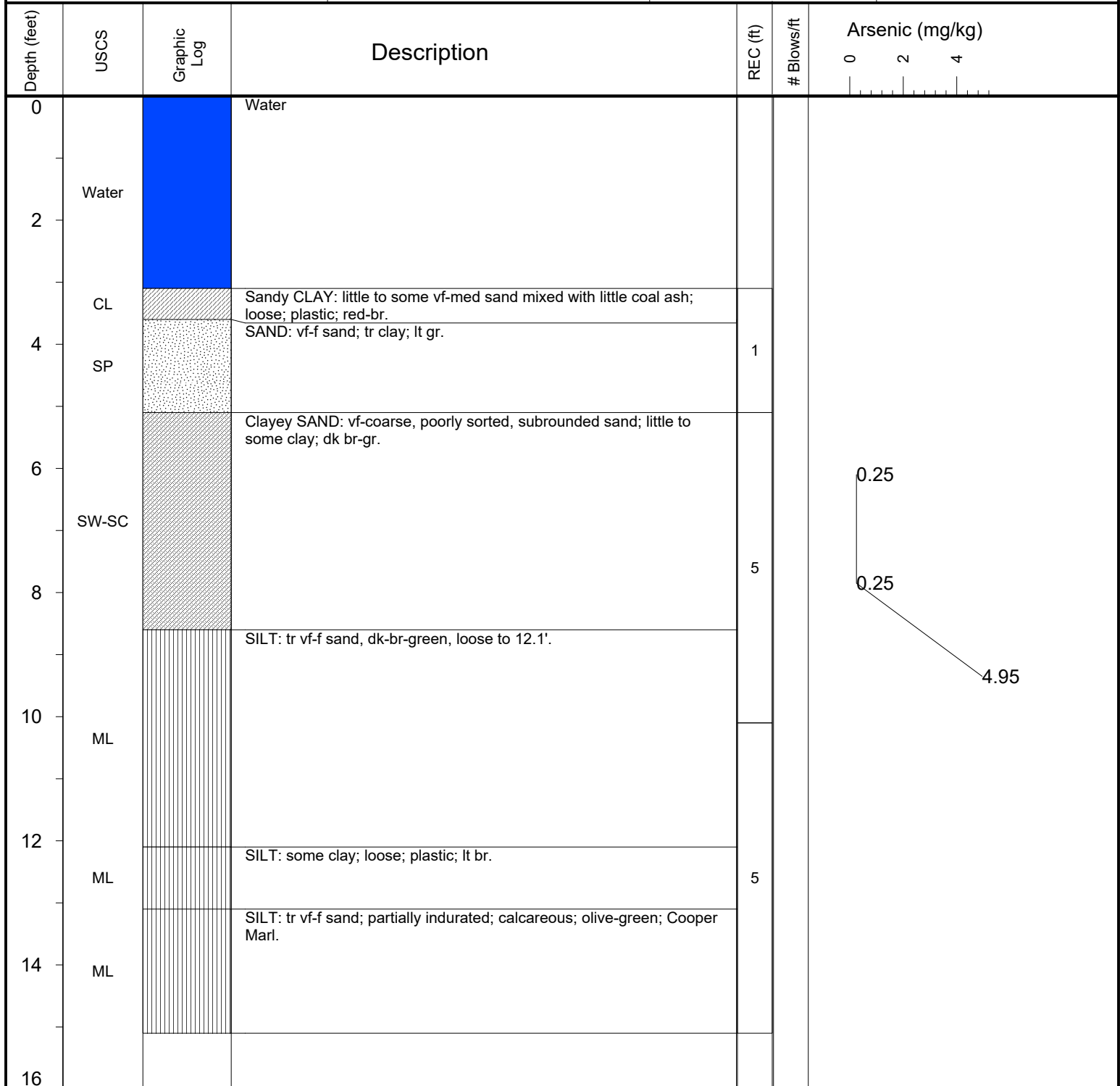
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Water			
2						
4	Water					
6						
8	Coal Ash		Coal Ash			
10	SP		SAND: vf-f sand; tr clay; lt gr to br.	4.75		0.25
12			Sandy CLAY: little to some f-med sand; loose; plastic; plant material and wood; dk br.			0.25
14	CL			0		
16						
18	ML		SILT: tr vf-f sand; partially indurated; calcareous; olive-green; Cooper Marl.	2.5		
20						

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PROJECT: SCE&G - Canadys Station	Boring ID: PB-35	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447700.8	EASTING: 2116700
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 59.94	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15.1' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/8/14
		DATE COMPLETED: 5/8/14



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-36	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447578.73	EASTING: 2116746.4
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 60.04	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 10' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/8/14
		DATE COMPLETED: 5/8/14

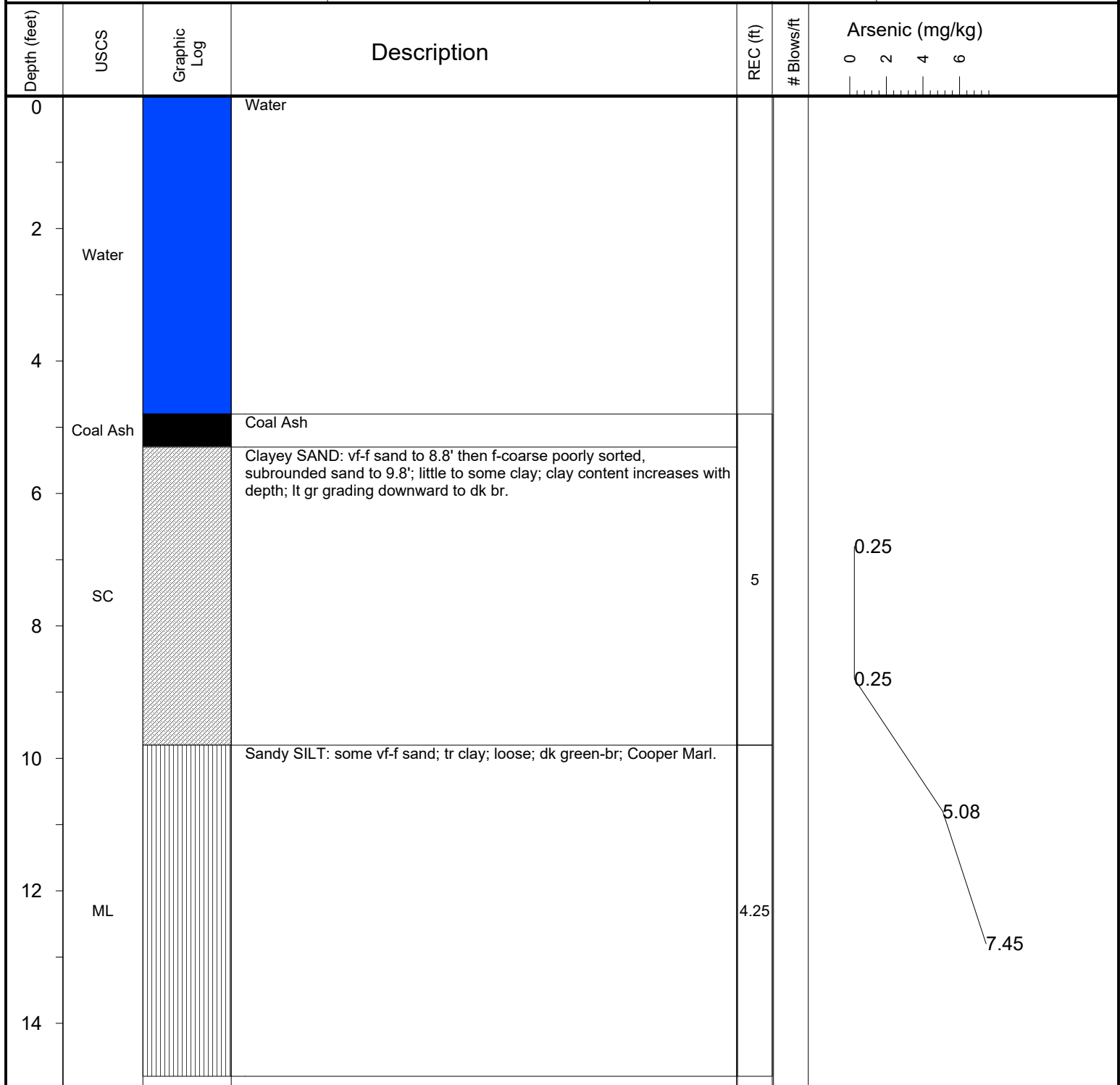
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Water			
2	Water					
4	CL		Sandy CLAY: little f-coarse sand; very loose; plastic; dk gr.	1		
6	OH		SILT: organic; tr to little vf-f sand; loose; dk br.			
8	SC		Clayey SAND: vf-med sand; little to some clay; loose; gr.	4.25		
8	SM		Silty SAND: vf-f sand; some silt; tr med sand; wood frgements; loose; dk br.			
10						

NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-37	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447703.28	EASTING: 2116584.19
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 58.24	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 14.8' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/8/14
		DATE COMPLETED: 5/8/14



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-38	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447579.76	EASTING: 2116533.49
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 56.54	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 12.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/8/14
		DATE COMPLETED: 5/8/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)		
						1.2	2.2	3.2
0			Water					
2								
4	Water							
6								
8	Coal Ash		Coal Ash					
10	CL		Silty Sandy CLAY: tr to little silt; little to some vf-med sand; loose; dk gr to dk br.	2.5				
12	ML		SILT: tr vf-f sand; loose to 11.5' then hard, dense; partially indurated; calcareous; olive-green; Cooper Marl	2.5				

1.26

3.49

NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-39	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447477.16	EASTING: 2116630.06
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 56.14	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 16.9' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/8/14
		DATE COMPLETED: 5/8/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)			
						0.68	0.78	0.88	0.98
0			Water						
2									
4	Water								
6									
8	Coal Ash		Coal Ash						
	CL		Sandy CLAY: little to some vf-med sand; semiplastic; loose; dk br.						
10	SW		SAND: f-coarse, poorly sorted, subrounded sand grading downward to vf-f sand in lower part of section; tr to little clay; dk br grading downward to lt gr in lower part of section.	4.75					
12	ML		SILT: tr to little vf-f sand; very loose; black phosphate nodules to approx. 0.5' dia.; dk green-dk br.						
14									
16	ML		SILT: tr vf-f sand; stiff; partially indurated; calcareous; olive-green; Cooper Marl.	4					

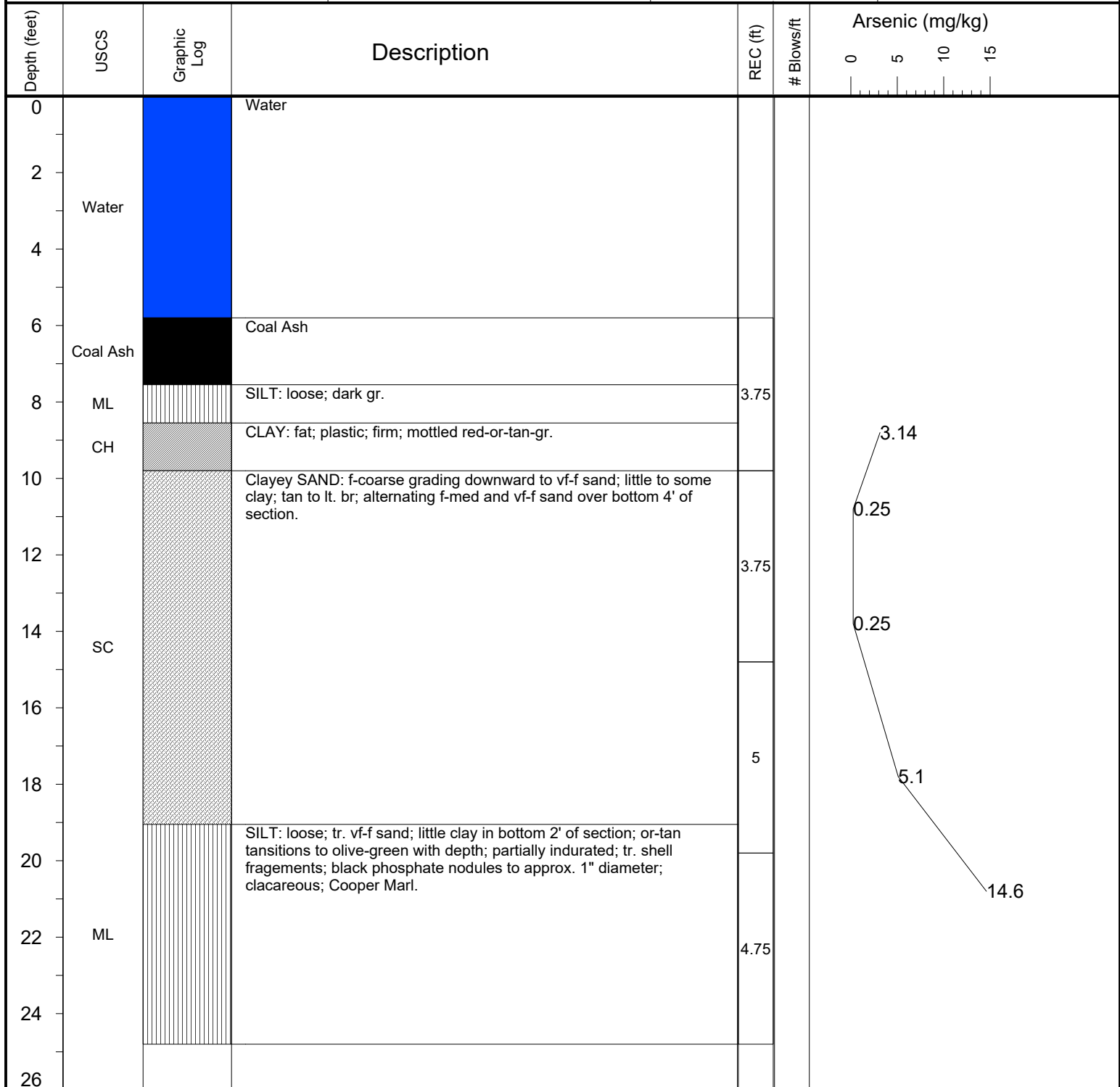
0.7
0.967

NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-4	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448099.11	EASTING: 2114591.54
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 69.86	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 24.8' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/29/14
		DATE COMPLETED: 4/29/14

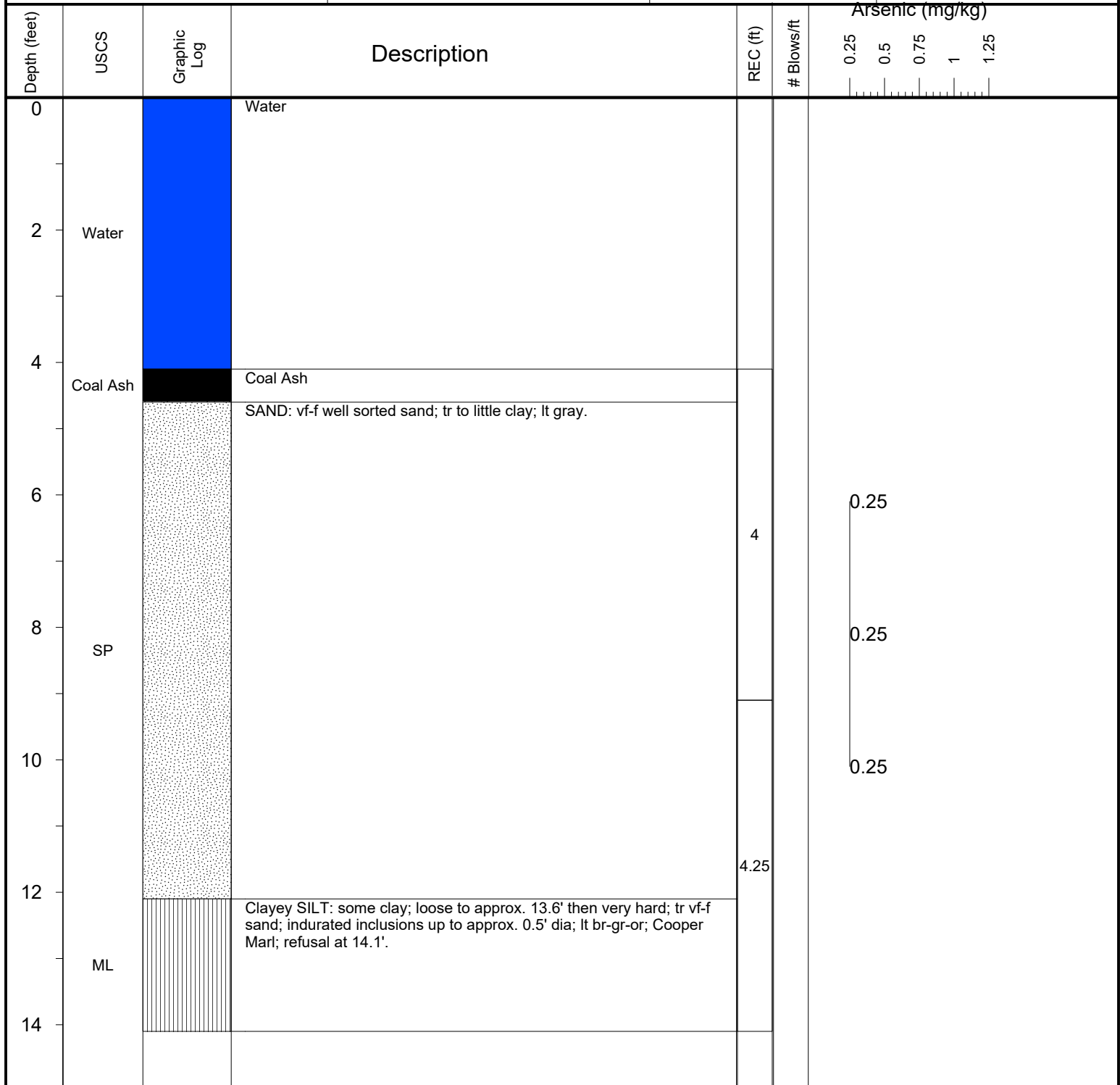


NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-40	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447699.39	EASTING: 2116318
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 58.94	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 14.1' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/8/14
		DATE COMPLETED: 5/8/14

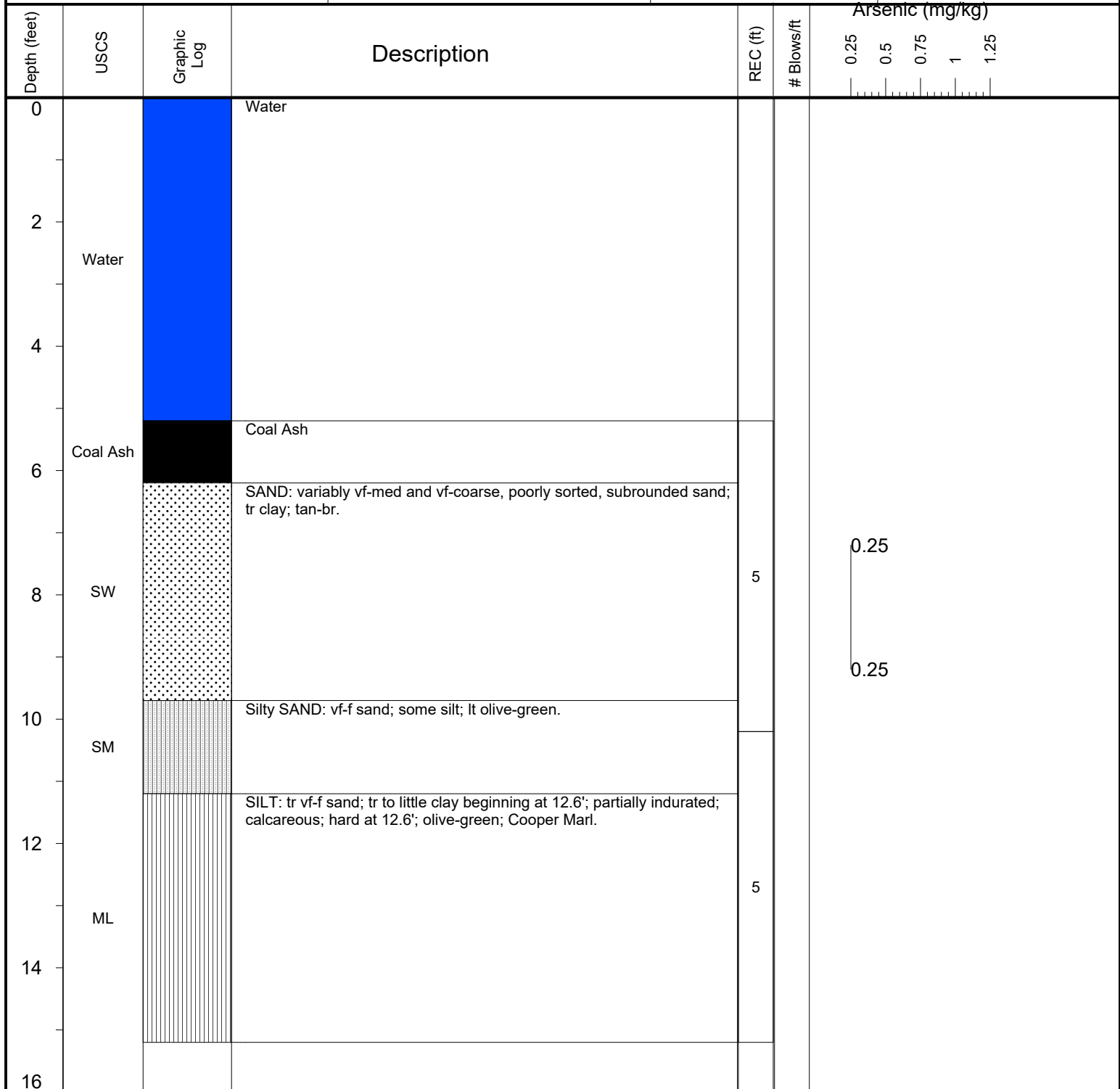


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-41	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447582.85	EASTING: 2116285.03
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 57.82	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15.2' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/9/14
		DATE COMPLETED: 5/9/14



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-42	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447412.91	EASTING: 2116472.22
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 60.32	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 12.7' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/9/14
		DATE COMPLETED: 5/9/14

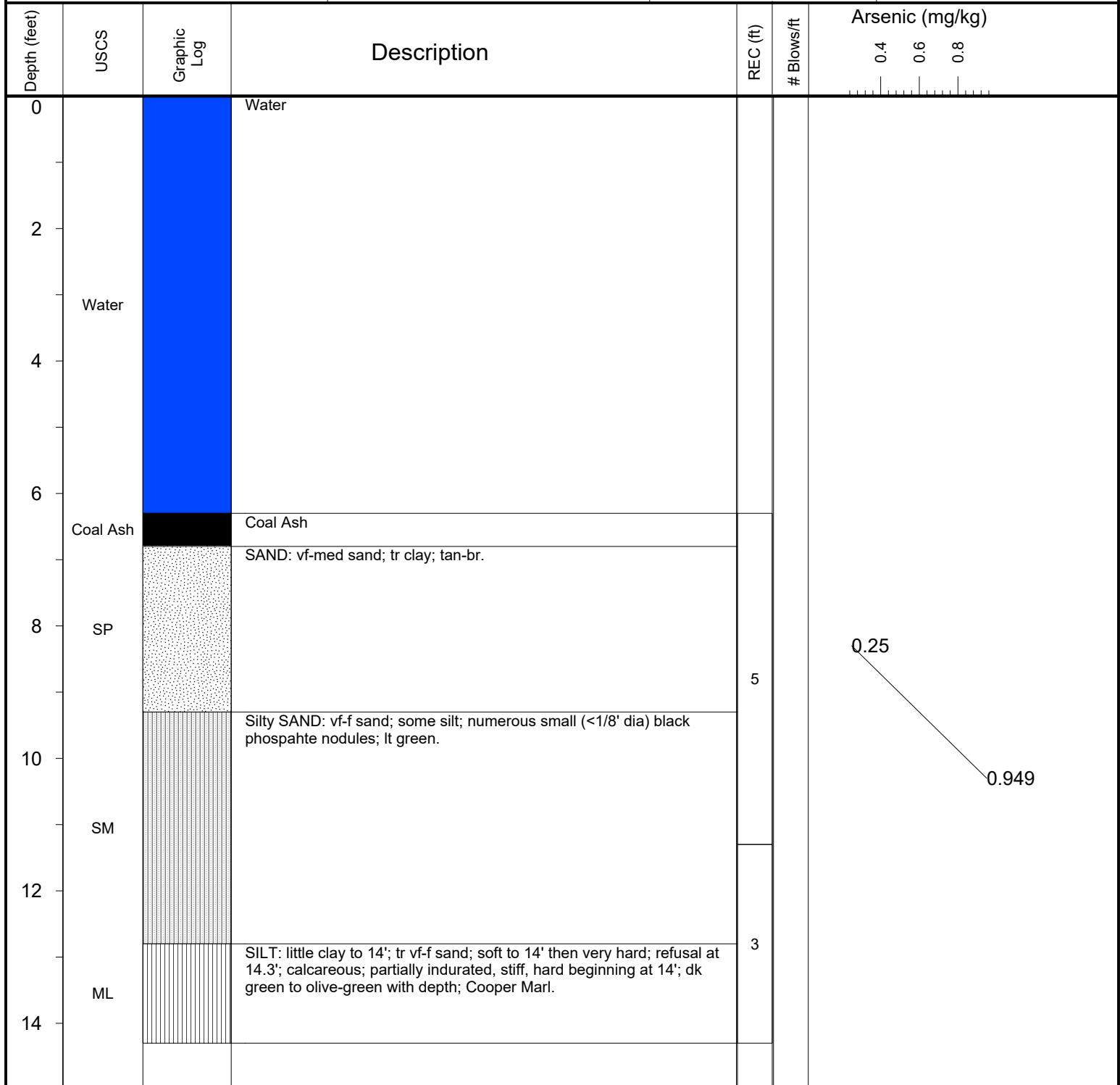
Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Water			
2	Water					
4	Coal Ash		Coal Ash			
6	SP		SAND: vf-f sand with vf-coarse, poorly sorted sand in interval from aprox. 5.7-6.7'; tan.	5		0.25
8			SAND: vf-f sand; tr to little silt; loose; lt green.			0.25
10	SP			2.5		0.25
12	ML		Clayey SILT: some clay; loose; plastic; lt br-olive-green; Cooper Marl.			

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PROJECT: SCE&G - Canadys Station	Boring ID: PB-43	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447569.3	EASTING: 2116459.7
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 56.72	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 14.3' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/9/14
		DATE COMPLETED: 5/9/14

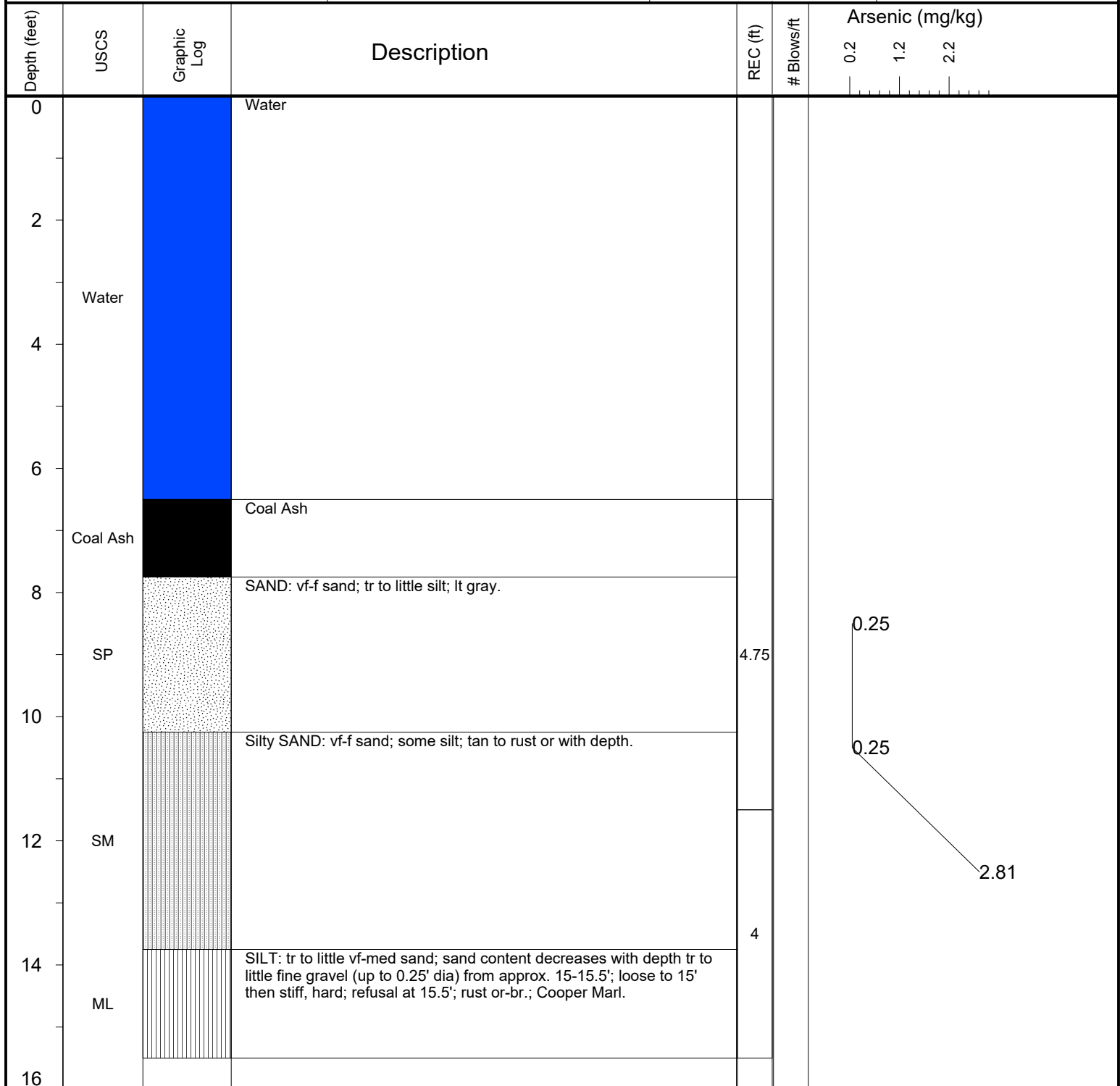


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-44	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447503.57	EASTING: 2116094.78
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 56.52	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/12/14
		DATE COMPLETED: 5/12/14

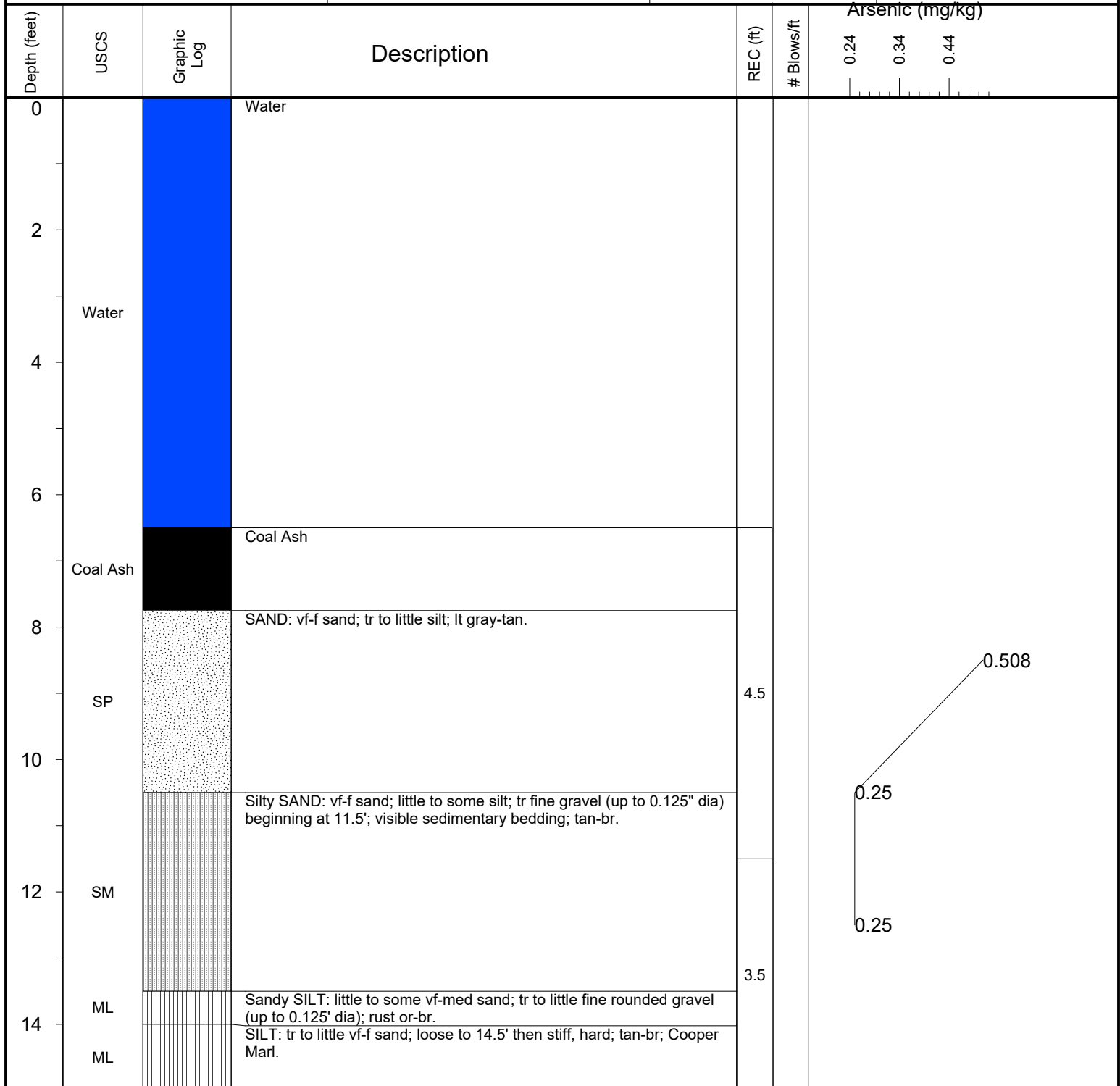


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PROJECT: SCE&G - Canadys Station	Boring ID: PB-45	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447606.62	EASTING: 2116120.75
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 56.52	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 15' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/12/14
		DATE COMPLETED: 5/12/14



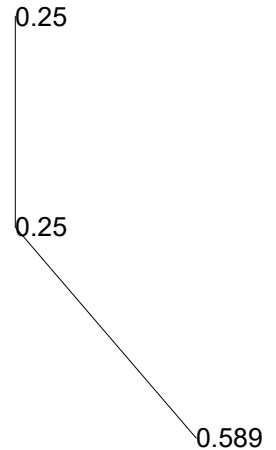
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PROJECT: SCE&G - Canadys Station	Boring ID: PB-46	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447672.52	EASTING: 2116132.45
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 58.82	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 12.2' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/12/14
		DATE COMPLETED: 5/12/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)			
						0.24	0.34	0.44	0.54
0			Water						
2	Water								
4	Coal Ash		Coal Ash						
6			Silty SAND: vf-med sand; sand transitions fro vf-f to vf-med at approx. 9.2'; little to some silt; silt content increases with depth; tr fine gravel up to 0.125" dia in transition zone from 10.7-11.2'; visible sedimentary layering 9.2-11.2'; tan-br.	5					
8	SM								
10									
12	ML		SILT: tr vf-f sand; loose to 11.7' then stiff, hard; tan-br-rust or.	3					



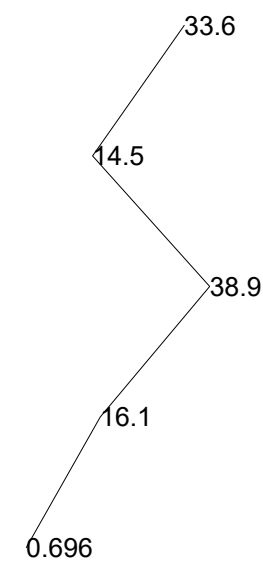
NOTES:



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-47	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448816.11	EASTING: 2114171.11
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 69.9	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/13/14
		DATE COMPLETED: 5/13/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Water			
2						
4	Water					
6						
7	Coal Ash		Coal Ash			
8	CL		Silty CLAY: some silt; loose; dk gray.	4		
10	CL		CLAY: tr vf-f sand; plastic; mottled rust-or-red-br-gr.			
12						
14	SW-SC		Clayey SAND: f-c, poorly sorted, subrounded sand grading downward to vf-med sand; some clay; loose; tan-br.	4.25		
16			Sandy CLAY: some vf-med sand; tr coarse sand and fine rounded gravel; loose; plastic; mottled tan-br-gr.			
18	CL			3		
20						



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PROJECT: SCE&G - Canadys Station	Boring ID: PB-48	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448656.34	EASTING: 2114052.52
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 70.3	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20.1' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/13/14
		DATE COMPLETED: 5/13/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)			
						2	12	22	32
0			Water						
2	Water								
4									
6	Coal Ash		Coal Ash						
8	CL		Silty CLAY: some silt; loose; dk gray.	3.5					
10			Sandy CLAY: tr to some vf-med sand, sand content varies through section; plastic; mottled tan-br-gr-rust or in upper part of section; gr-br in lower part of section.						
12	CL			5					
14			Clayey SAND: f-coarse, poorly sorted, subrounded sand; some clay; loose, or-br.						
16	SW-SC								
18				2.25					
20	SM		Silty SAND: vf-f sand; some silt; black.						

Arsenic (mg/kg)

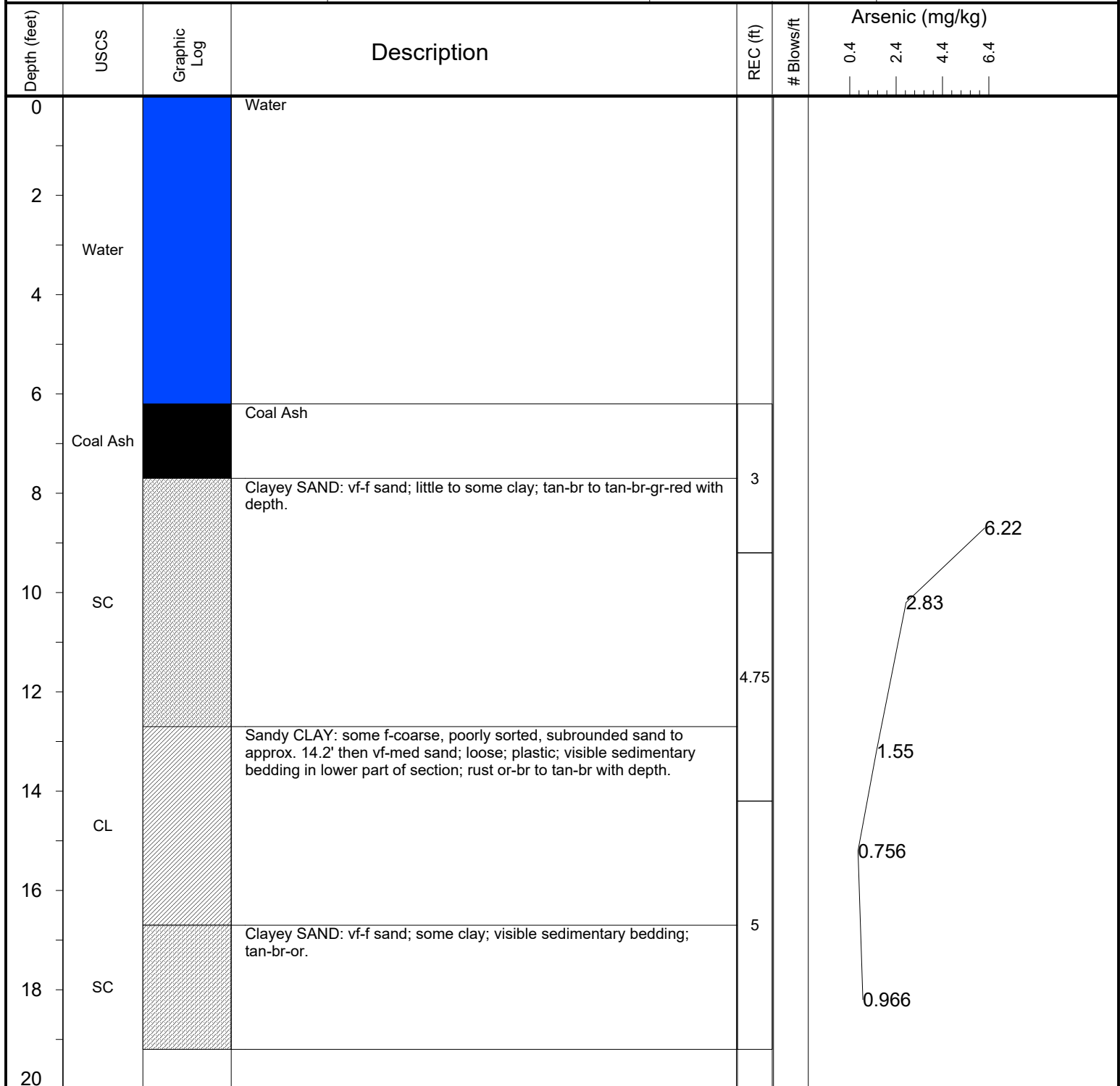
2 12 22 32

NOTES:



11112 Branding Iron Place
Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-49	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448593.02	EASTING: 2114149.86
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 70.2	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 19.2' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/13/14
		DATE COMPLETED: 5/13/14

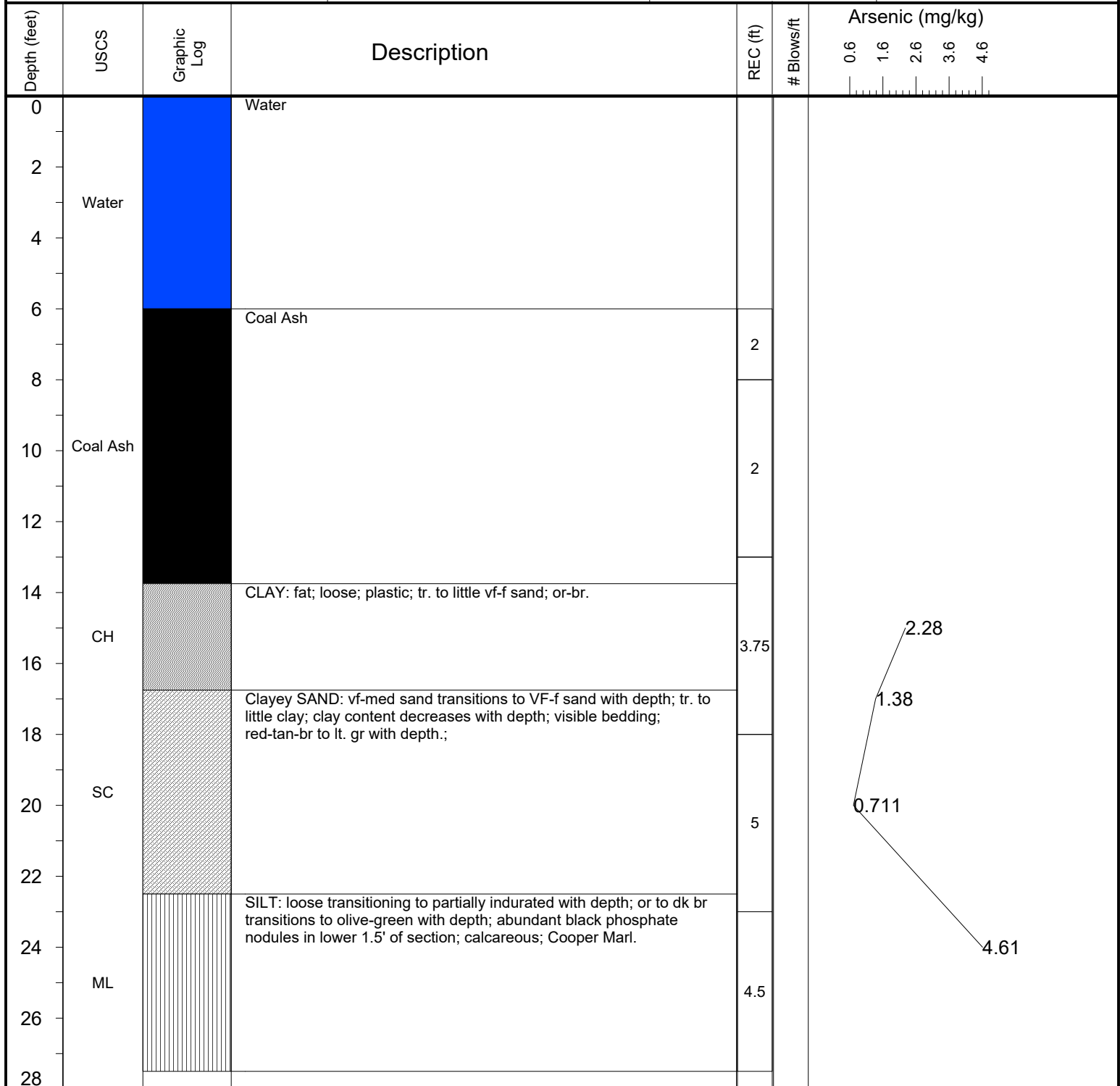


NOTES:



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919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-5	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447981.76	EASTING: 2114535.91
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 69.66	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 27.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/29/14
		DATE COMPLETED: 4/29/14

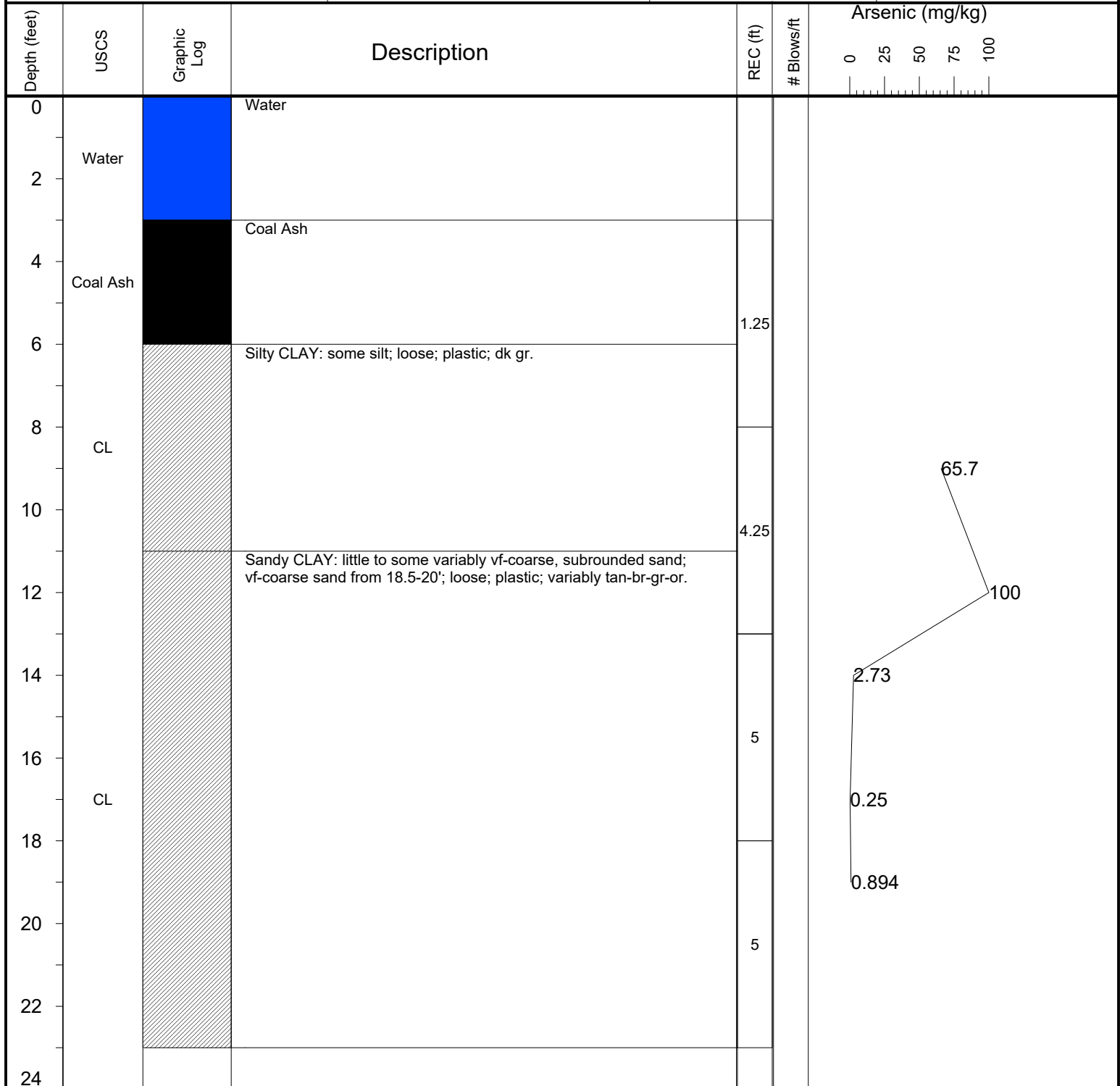


NOTES:



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nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-50	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448512.58	EASTING: 2114037.11
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 73.4	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 23' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/13/14
		DATE COMPLETED: 5/13/14

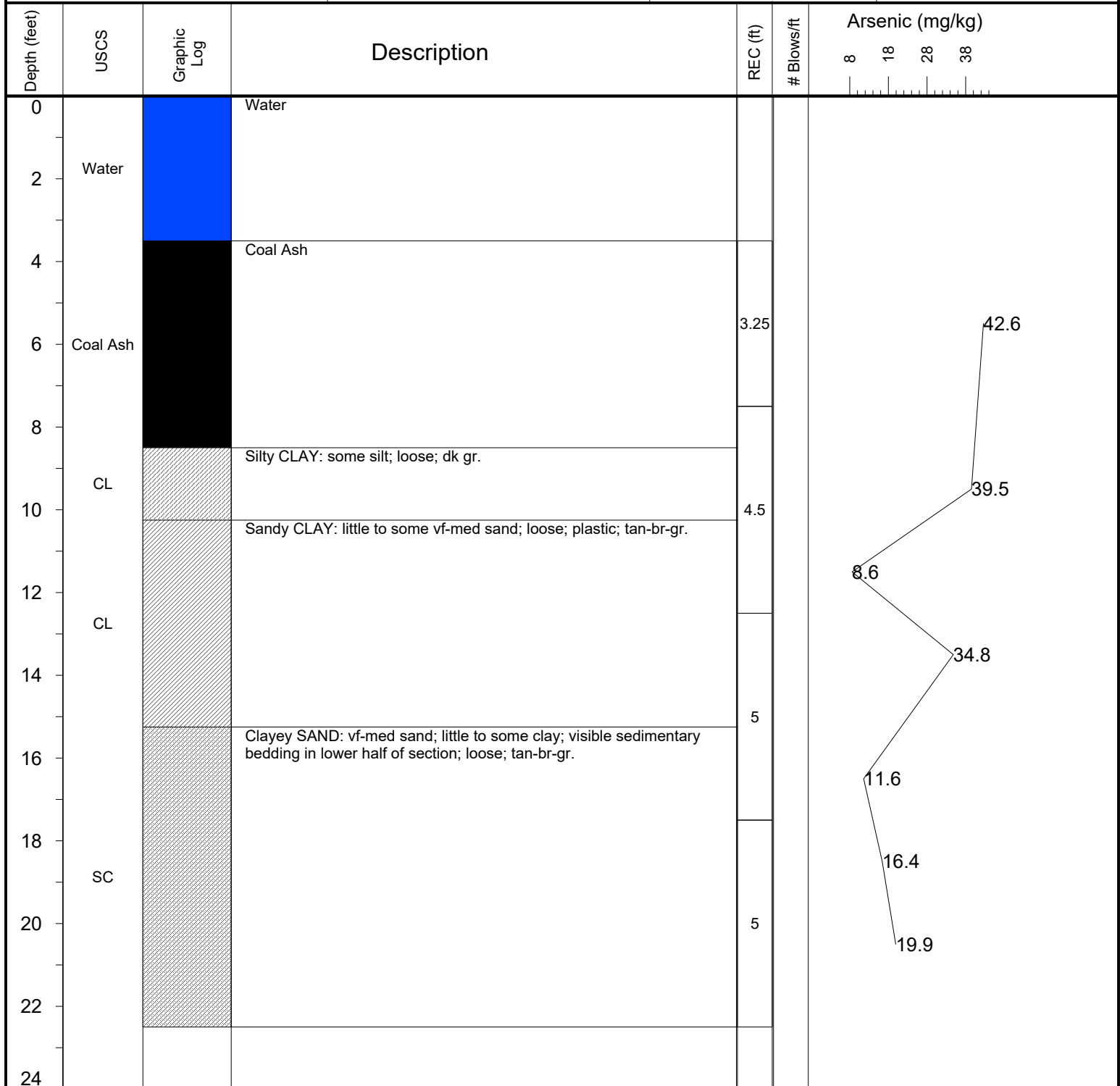


NOTES:



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Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-51	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448448.52	EASTING: 2113929.21
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 72.9	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 22.5' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/13/14
		DATE COMPLETED: 5/13/14



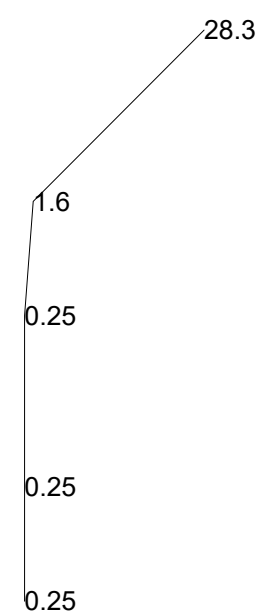
NOTES:



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Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-52	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448306.93	EASTING: 2113909.19
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 72.5	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 22.4' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/13/14
		DATE COMPLETED: 5/13/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)
0			Water			
2	Water					
4			Coal Ash			
6	Coal Ash			3.25		
8						
10	CL		Silty CLAY: some silt; loose; dk gr.			
			Sandy CLAY: some vf-med sand; loose; plastic; mottled red-gr-tan-rust or.	5		
12	CL					
14			Clayey SAND: vf-med sand fining downward to vf-f sand at approx. 14.9'; some clay; visible sedimentary bedding; tan-br to or-br-tan with depth.			
16	SC			4.5		
18			Sandy CLAY: some vf-med sand; loose; plastic; visible sedimentary bedding; tan-br-or.			
20	CL			5		
22						
24						

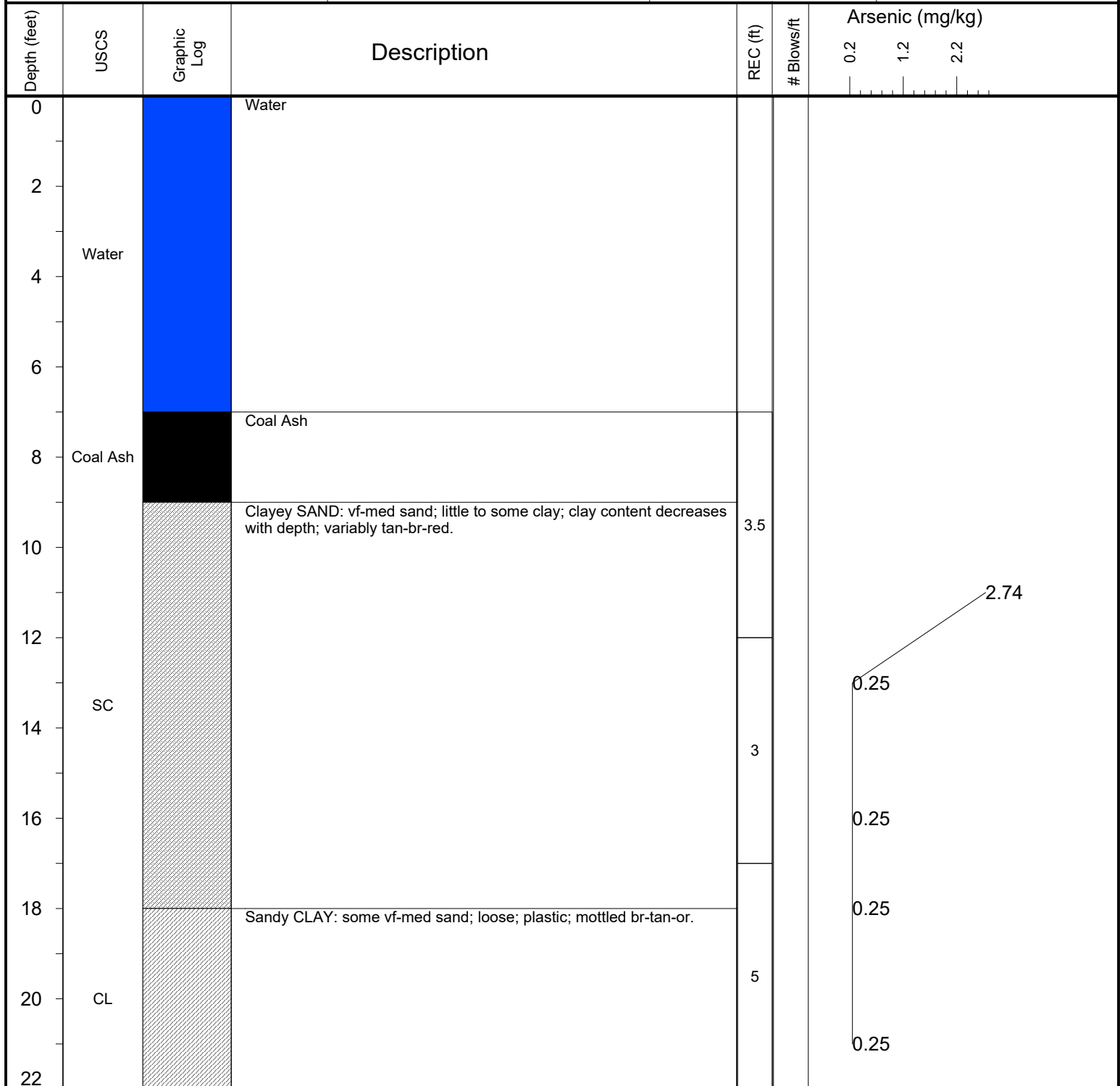


NOTES:



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Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-53	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448398.56	EASTING: 2114097.87
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 69.4	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 22' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/13/14
		DATE COMPLETED: 5/13/14

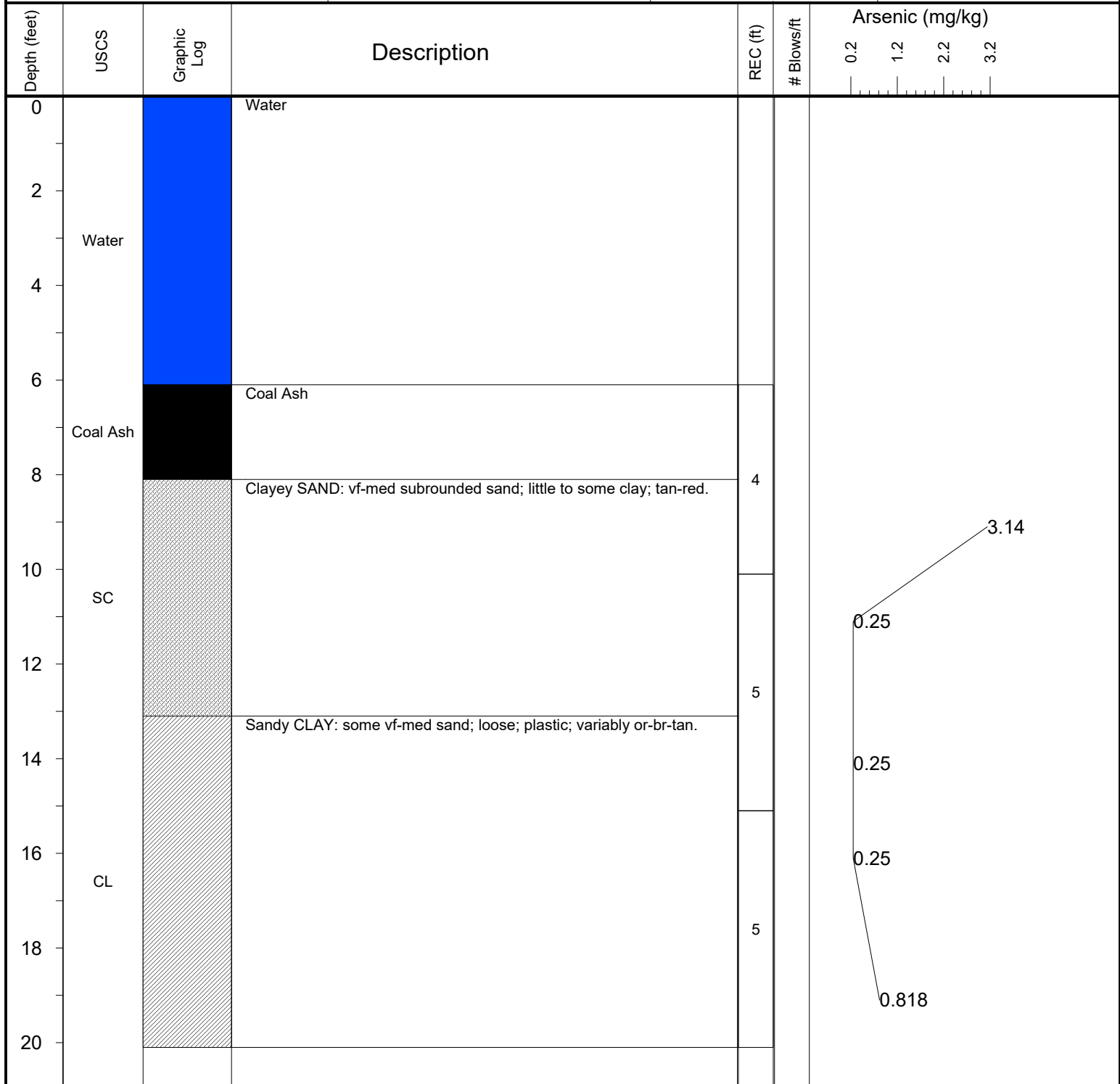


NOTES:



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Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-54	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448512.14	EASTING: 2114219.99
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 70.3	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20.1' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/13/14
		DATE COMPLETED: 5/13/14

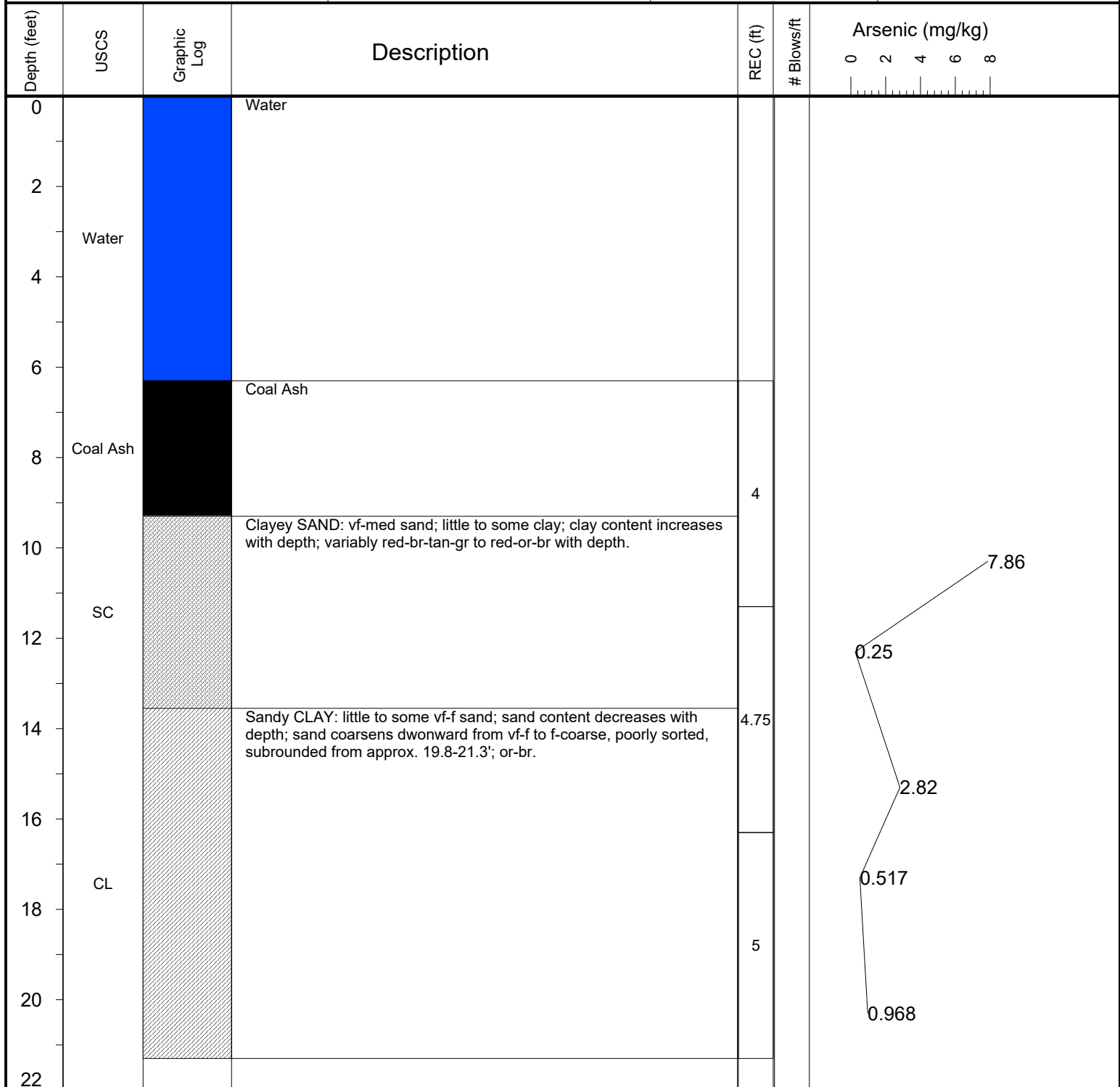


NOTES:



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919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-55	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448157.56	EASTING: 2113953.23
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 70.11	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 21.3' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/14/14
		DATE COMPLETED: 5/14/14

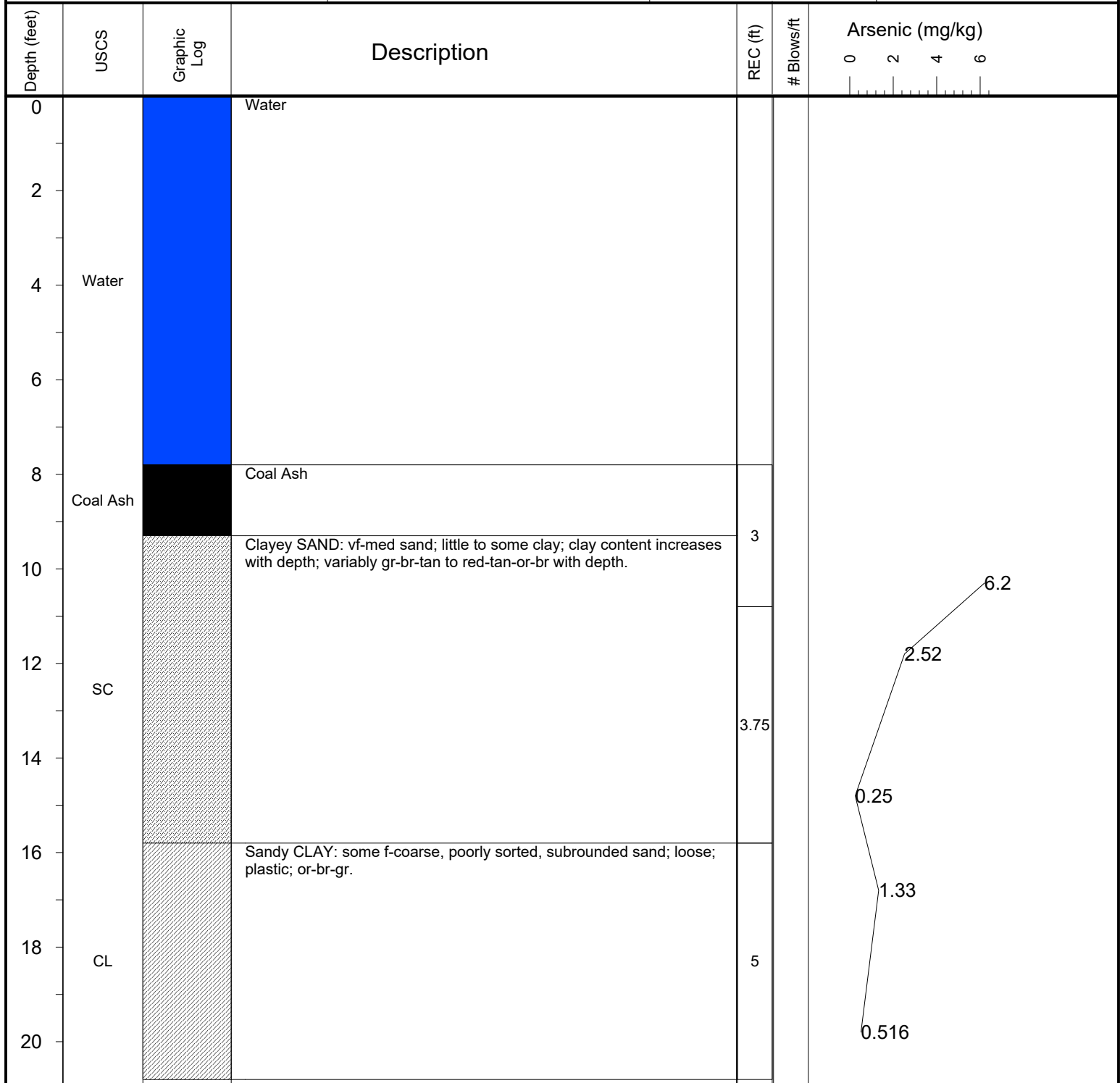


NOTES:



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Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-56	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448233.72	EASTING: 2114088.05
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 68.61	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20.8' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/14/14
		DATE COMPLETED: 5/14/14

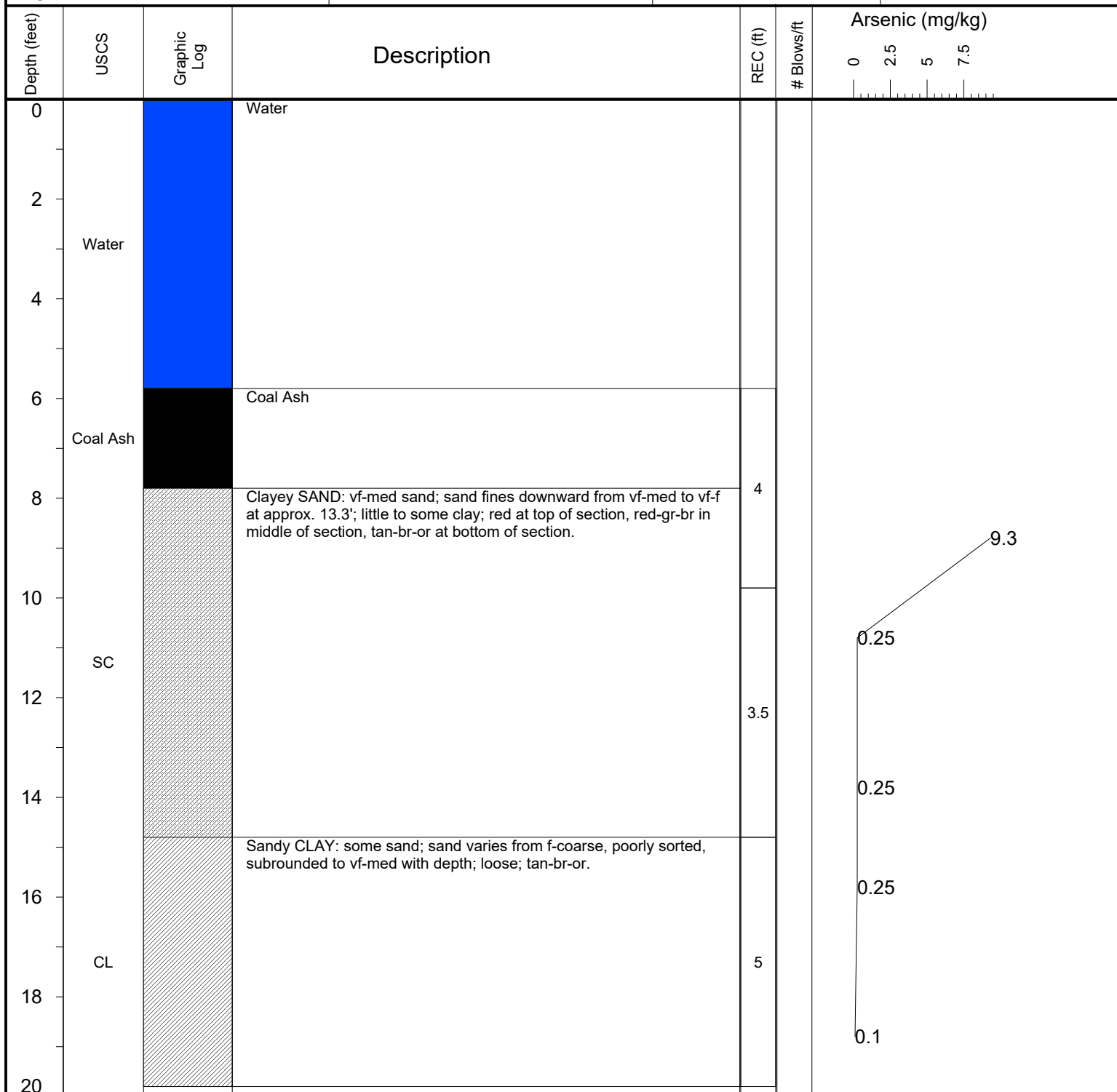


NOTES:



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Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-57	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 448302.92	EASTING: 2114209.72
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 70.61	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 19.8' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 5/14/14
		DATE COMPLETED: 5/14/14



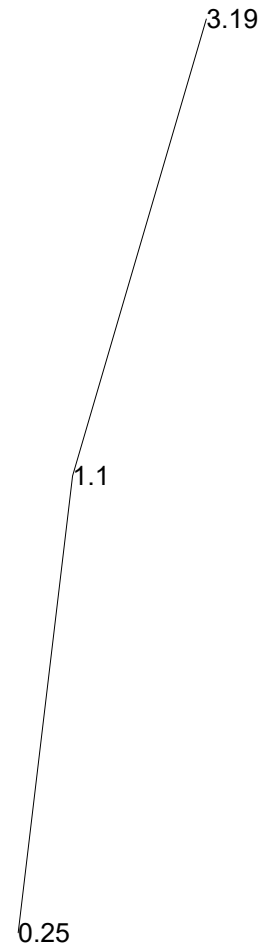
NOTES:



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Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-58	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447428.863	EASTING: 2115762.363
DRILLING EQUIPMENT: Hand Auger	GROUND SURFACE ELEV.: NA	TOC ELEVATION: NA
DRILLING METHOD: Hand Auger	TOTAL DEPTH: 6'	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: Continuous	DATE STARTED: 6/3/14
		DATE COMPLETED: 6/3/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)			
						0.2	1.2	2.2	3.2
0			Clayey SAND: f to med sand; some clay; or-br.						
	SC								
2									
	CL		CLAY: plastic; wet at approx. 3'; pink-gr.						
4			Clayey SAND: f-med sand; some clay; pink-or.						
	SC								
6									



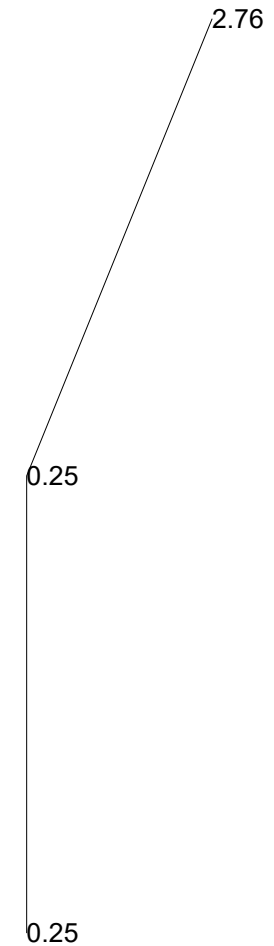
NOTES:



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919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-59	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447370.441	EASTING: 2115704.371
DRILLING EQUIPMENT: Hand Auger	GROUND SURFACE ELEV.: NA	TOC ELEVATION: NA
DRILLING METHOD: Hand Auger	TOTAL DEPTH: 6'	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: Continuous	DATE STARTED: 6/3/14
		DATE COMPLETED: 6/3/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)		
						0.2	1.2	2.2
0			SAND: vf-med sand; tr clay; or-black.					
	SP							
2			Clayey SAND: vf-med sand; some clay; or.					
	SC							
4			SAND: vf-f sand; wet at approx. 4'; or.					
	SP							
6								

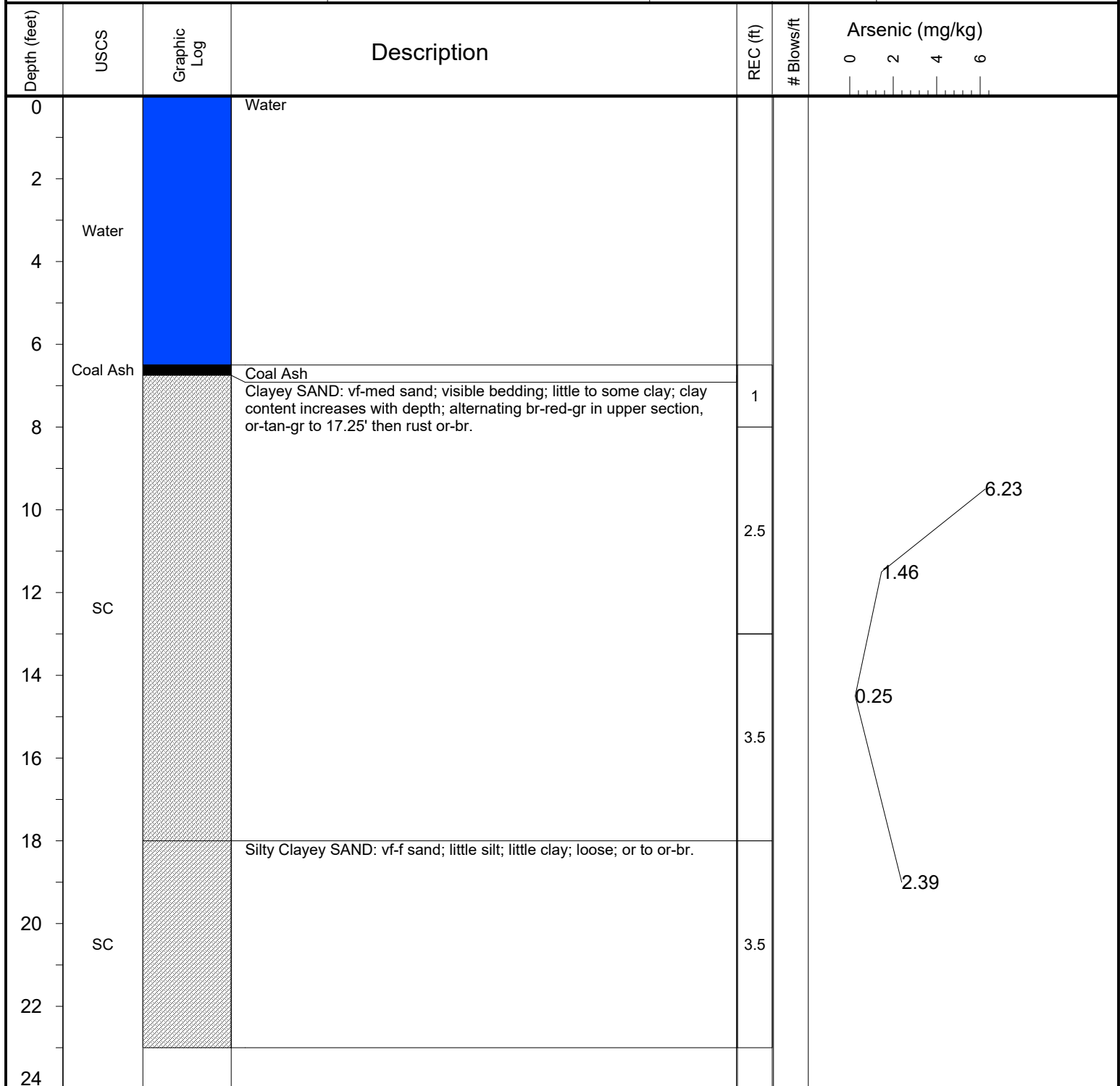


NOTES:



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Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-6	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447813.8	EASTING: 2114467.59
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 69.16	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 23' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/29/14
		DATE COMPLETED: 4/29/14



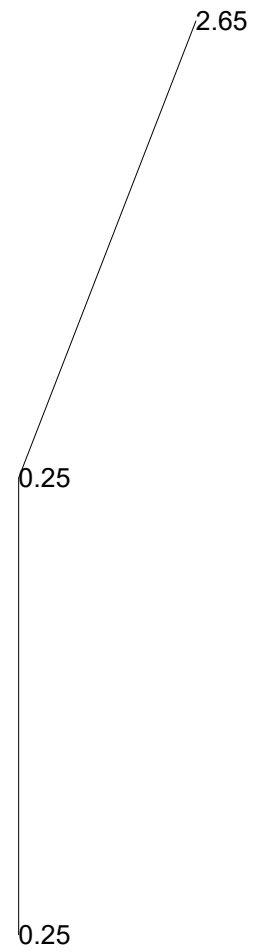
NOTES:



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Wendell, NC 27591
919-366-3663 Office
919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-60	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447271.978	EASTING: 2115640.398
DRILLING EQUIPMENT: Hand Auger	GROUND SURFACE ELEV.: NA	TOC ELEVATION: NA
DRILLING METHOD: Hand Auger	TOTAL DEPTH: 6'	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: Continuous	DATE STARTED: 6/3/14
		DATE COMPLETED: 6/3/14

Depth (feet)	USCS	Graphic Log	Description	REC (ft)	# Blows/ft	Arsenic (mg/kg)		
						0.2	1.2	2.2
0			Clayey SAND: vf-med sand to 4' then vf-c, poorly sorted sand; some clay; wet at approx. 4'; or and gr.					
2								
4	SC							
6								

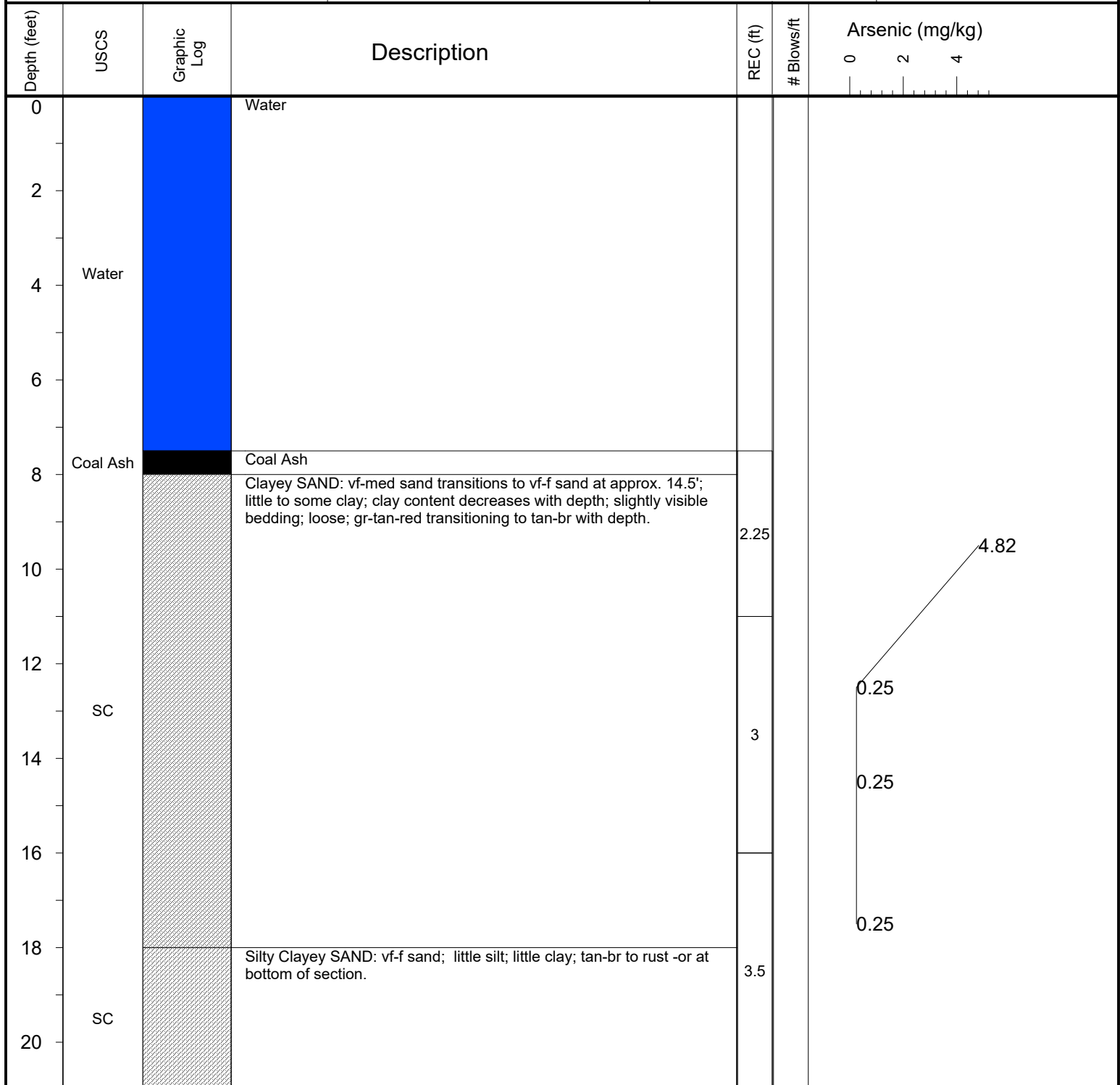


NOTES:



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919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-7	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447918.48	EASTING: 2114340.38
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 68.16	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 21' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/29/14
		DATE COMPLETED: 4/29/14

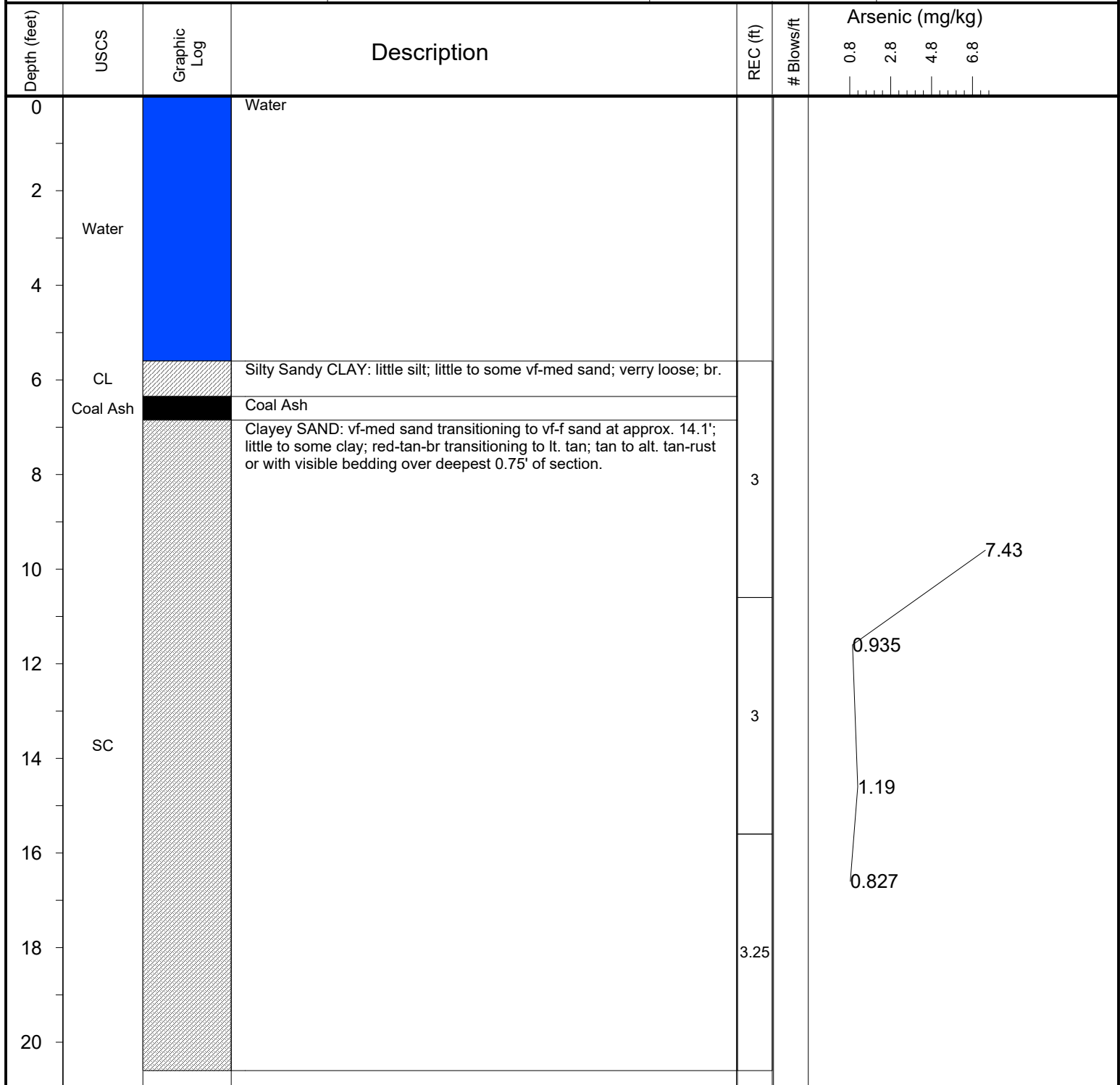


NOTES:



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919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-8	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447736.79	EASTING: 2114401.39
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 70.04	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 20.6' below top f water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/30/14
		DATE COMPLETED: 4/30/14

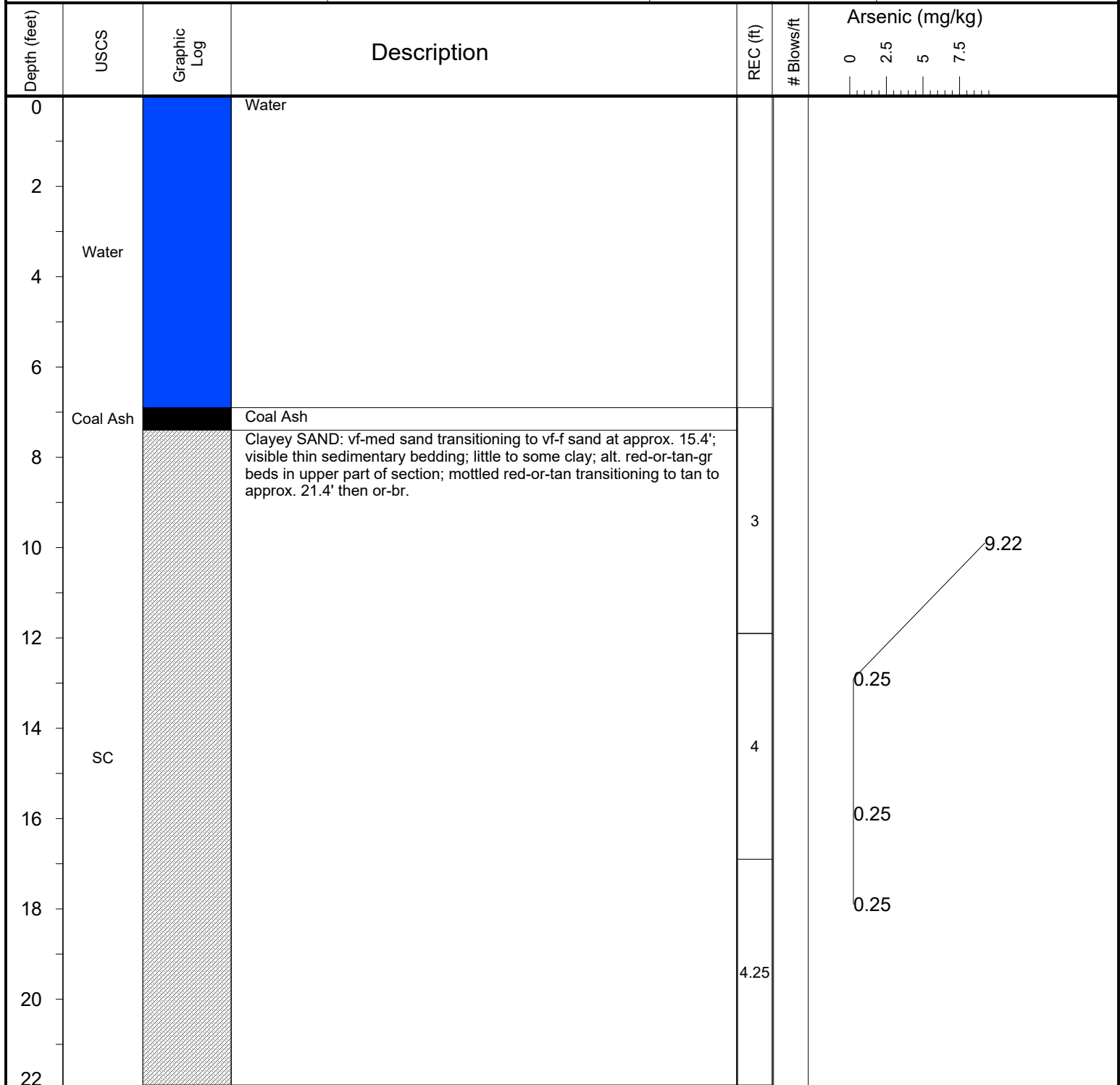


NOTES:



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919-995-0363 Cell
nautilusgeocon@gmail.com

PROJECT: SCE&G - Canadys Station	Boring ID: PB-9	
LOCATION: Canadys, SC	Client: South Carolina Electric & Gas	
DRILLING CONTRACTOR: AE Drilling	NORTHING: 447830.1	EASTING: 2114246.96
DRILLING EQUIPMENT: Geoprobe 6610 DT	GROUND SURFACE ELEV.: 68.74	TOC ELEVATION: NA
DRILLING METHOD: Direct Push	TOTAL DEPTH: 21.9' below top of water	DEPTH TO WATER:
LOGGED BY: BSB	SAMPLING INTERVAL: 5 feet	DATE STARTED: 4/30/14
		DATE COMPLETED: 4/30/14



NOTES:

APPENDIX B

SCDHEC APPROVAL LETTER



W. Marshall Taylor Jr., Acting Director

Promoting and protecting the health of the public and the environment

BUREAU OF WATER

February 23, 2015

MICHAEL E MOORE PG
SCANA SERVICES INC
220 OPERATION WAY MC C221
CAYCE SC 29033-3701

RE: LOA-004415
SCE&G/CANADYS STATION
DELINEATION OF LEGACY COAL ASH & IMPACTED SOIL
Colleton County

Dear Mr. Moore:

The Department's Water Monitoring, Assessment and Protection Division has completed the review of the above referenced Report that was submitted on September 24, 2014. The Department finds the plans at this point to be acceptable. Please proceed with the activities described and develop a closure plan for the site. Once the overall closure plan is submitted the Department must review and approve the plan prior to final closure activities taking place.

Any proposals to modify the pre-existing Consent Agreements regarding groundwater must be submitted to the Bureau of Water for approval.

If you have any questions or comments, please contact me at 803-898-4236 or amickbm@dhec.sc.gov.

Sincerely,

Byron M Amick
Industrial Wastewater Permitting Section
Water Facilities Permitting Division

cc via e-mail: Mark Ferguson, SCANA Services Inc
Penny A Cornett, LOW COUNTRY REGION BEHS BEAUFORT
Bruce Crawford, Water Monitoring, Assessment and Protection Division
BOW/WPC Enforcement

APPENDIX C

EDTA Analysis Correspondence



Michael E. Moore, P.G.
Corporate Environmental Services
mmoore@scana.com

April 10, 2018

Judy Canova

S.C. Dept. of Health & Environmental Control
2600 Bull Street
Columbia, SC 29212

Re: Groundwater EDTA Analysis
SCE&G Canady's Site-Plant Side (former)
Site # 00374, NPDES Permit #SC0002020
Colleton County, South Carolina

Ms. Canova,

Please find the "SCE&G Canady's Station Plant Side (former)-Groundwater EDTA Analysis" attached. Groundwater was sampled and analyzed from three groundwater monitoring wells on March 15, 2018 for Ethylenediamine tetraacetic acid (EDTA) per SCDHEC request. This correspondence includes a groundwater results summary table, a sampling location site map, laboratory analysis report, and groundwater sample collection record for each well.

Monitoring wells GW-16N and GW-17N, were sampled along with GW-19N as a representative of area background. The EDTA analysis was performed by Pace Analytical (parent company of KAR, Laboratories Inc.) with a reporting limit of 50 µg/L. The total EDTA analysis results indicate no significant presence of EDTA in groundwater from well locations GW-16N and GW-17N.

The next sampling event for Mixing Zone Compliance and NPDES sampling will be conducted annually during the sampling period Oct. 1st through December 31st with the report submitted by February 12th. If you require any additional information, please feel free to contact me at (803) 331-4463.

Yours Truly,

Mike Moore, P.G.
Environmental Services

cc: J.C. Younan/ M.E. Moore/ R. Archer/ R. Marlowe/Canady's Station
D. Soard/ A. Green
M. Quattlebaum / L. Newman



SCE&G CANADYS Site- Plant Side EDTA Analysis Locations

March 2018

0 300 600
Feet



SOUTH CAROLINA DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL

Facility:	Canada's Station (Former Plant Side)	Permit No.:	N/A	County:	Colleton County, SC
------------------	---	--------------------	-----	----------------	---------------------

Date Sampled: 3/15/2018
year-month-day (Numerical)

Time Sampled: 11:00 A.M.-15:15 P.M.

STATION NUMBERS

		STATION NUMBERS		
PARAMETER	NUMBER	GW-19N	GW-17N	GW-16N
NAME	Lab. Certificate No.	Pace Analytical EDTA-N/A	Pace Analytical EDTA-N/A	Pace Analytical EDTA-N/A
EDTA total (µg/L)		< 50.0	< 50.0	53.5

PARAMETER	NUMBER	GW-19N	GW-17N	GW-16N
NAME	Lab. Certificate No.	32580	32580	32580
Field pH (S.U.)		4.27	6.19	6.01
Field Sp. Conductivity (µmhos/cm)		263	556	756
Field Turbidity (NTU)		0.98	10.9	8.75
Water level elevation (ft)		66.14	69.51	70.92

Authorized Release: _____ Date: _____

March 30, 2018

Mike Moore
SCANA
220 Operations Way
Cayce, SC 29033

RE: Project: EDTA Analysis
Pace Project No.: 92377247

Dear Mike Moore:

Enclosed are the analytical results for sample(s) received by the laboratory on March 16, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Nicole Gasiorowski
nicole.gasiorowski@pacelabs.com
(704)875-9092
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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Canady's Station-Plant Side EDTA Analysis
March 2018

CERTIFICATIONS

Project: EDTA Analysis

Pace Project No.: 92377247

Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512

Minnesota Department of Health, Certificate #1385941

Arkansas Department of Environmental Quality, Certificate
#17-046-0

Georgia Environmental Protection Division, Stipulation

Illinois Environmental Protection Agency, Certificate

#004325

Michigan Department of Environmental Quality, Laboratory

#0034

New York State Department of Health, Serial #56192 and
56193

North Carolina Division of Water Resources, Certificate
#659

Virginia Department of General Services, Certificate #9028

Wisconsin Department of Natural Resources, Laboratory
#999472650

U.S. Department of Agriculture Permit to Receive Soil,
Permit #P330-17-00278

REPORT OF LABORATORY ANALYSIS

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Canady's Station-Plant Side EDTA Analysis
March 2018

SAMPLE ANALYTE COUNT

Project: EDTA Analysis

Pace Project No.: 92377247

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92377247001	CDY-GW-19N (Background)	EDTA	JLB	1	PASI-GRMI
92377247002	CDY-GW-16N	EDTA	JLB	1	PASI-GRMI
92377247003	CDY-GW-17N	EDTA	JLB	1	PASI-GRMI

REPORT OF LABORATORY ANALYSIS

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Canady's Station-Plant Side EDTA Analysis
March 2018

ANALYTICAL RESULTS

Project: EDTA Analysis

Pace Project No.: 92377247

Sample: CDY-GW-19N (Background)		Lab ID: 92377247001		Collected: 03/15/18 11:45		Received: 03/16/18 08:49		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EDTA Water GCSV		Analytical Method: EDTA Preparation Method: EDTA							
EDTA	ND	ug/L	50.0	1	03/28/18 14:48	03/29/18 15:09	60-00-4	N2	

REPORT OF LABORATORY ANALYSIS

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Canady's Station-Plant Side EDTA Analysis
March 2018

ANALYTICAL RESULTS

Project: EDTA Analysis

Pace Project No.: 92377247

Sample: CDY-GW-16N		Lab ID: 92377247002		Collected: 03/15/18 12:52		Received: 03/16/18 08:49		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EDTA Water GCSV		Analytical Method: EDTA Preparation Method: EDTA							
EDTA	53.5	ug/L	50.0	1	03/28/18 14:48	03/29/18 15:17	60-00-4	N2	

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Canady's Station-Plant Side EDTA Analysis
March 2018

ANALYTICAL RESULTS

Project: EDTA Analysis

Pace Project No.: 92377247

Sample: CDY-GW-17N		Lab ID: 92377247003		Collected: 03/15/18 15:25		Received: 03/16/18 08:49		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
EDTA Water GCSV		Analytical Method: EDTA Preparation Method: EDTA							
EDTA	ND	ug/L	50.0	1	03/28/18 14:48	03/29/18 15:25	60-00-4	N2	

REPORT OF LABORATORY ANALYSIS

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Canady's Station-Plant Side EDTA Analysis
March 2018

QUALITY CONTROL DATA

Project: EDTA Analysis

Pace Project No.: 92377247

QC Batch: 18952 Analysis Method: EDTA
QC Batch Method: EDTA Analysis Description: EDTA W GCSV
Associated Lab Samples: 92377247001, 92377247002, 92377247003

METHOD BLANK: 75396 Matrix: Water

Associated Lab Samples: 92377247001, 92377247002, 92377247003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
EDTA	ug/L	ND	50.0	03/29/18 14:54	N2

LABORATORY CONTROL SAMPLE: 75397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
EDTA	ug/L	1000	1000	100	50-150	N2

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 75398 75399

Parameter	Units	92377247003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
EDTA	ug/L	ND	1000	1000	935	951	93	95	50-150	2	N2

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Canady's Station-Plant Side EDTA Analysis
March 2018

QUALIFIERS

Project: EDTA Analysis
Pace Project No.: 92377247

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-GRMI Pace Analytical - Grand Rapids

ANALYTE QUALIFIERS

N2 The lab does not hold NELAC/TNI accreditation for this parameter.

REPORT OF LABORATORY ANALYSIS

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Canada's Station-Plant Side EDTA Analysis
March 2018

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: EDTA Analysis

Pace Project No.: 92377247

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92377247001	CDY-GW-19N (Background)	EDTA	18952	EDTA	19077
92377247002	CDY-GW-16N	EDTA	18952	EDTA	19077
92377247003	CDY-GW-17N	EDTA	18952	EDTA	19077

REPORT OF LABORATORY ANALYSIS

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Canady's Station-Plant Side EDTA Analysis
March 2018

	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: February 7, 2018 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

Laboratory receiving samples:

Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☒ Raleigh ☐ Mechanicsville ☐

Sample Condition
Upon Receipt

Client Name:

SCANA - SCE#6

Project #:

WO# : 92377247



Courier:

☐ Commercial

☐ Fed Ex

☐ UPS

☐ USPS

☐ Client

☒ Pace

☐ Other:

Custody Seal Present?

☐ Yes

☒ No

Seals Intact?

☐ Yes

☒ No

Date/Initials Person Examining Contents: UD 3-16-18

Packing Material:

☐ Bubble Wrap

☒ Bubble Bags

☐ None

☐ Other

Thermometer:

☒ IR Gun ID: 92T036

Type of Ice:

☒ Wet

☐ Blue

☐ None

Biological Tissue Frozen?

☐ Yes

☐ No

☒ N/A

Cooler Temp (°C):

5.3

Correction Factor: Add/Subtract (°C)

+0.1

Cooler Temp Corrected (°C):

5.4

Temp should be above freezing to 6°C

☐ Samples out of temp criteria. Samples on ice, cooling process has begun

USDA Regulated Soil ☒ N/A, water sample

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)?

☐ Yes

☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?

☐ Yes

☒ No

			Comments/Discrepancy:
Chain of Custody Present?	☒ Yes ☐ No ☐ N/A	1.	
Samples Arrived within Hold Time?	☒ Yes ☐ No ☐ N/A	2.	
Short Hold Time Analysis (<72 hr.)?	☐ Yes ☒ No ☐ N/A	3.	
Rush Turn Around Time Requested?	☐ Yes ☒ No ☐ N/A	4.	
Sufficient Volume?	☒ Yes ☐ No ☐ N/A	5.	
Correct Containers Used?	☒ Yes ☐ No ☐ N/A	6.	
-Pace Containers Used?	☒ Yes ☐ No ☐ N/A		
Containers Intact?	☒ Yes ☐ No ☐ N/A	7.	
Dissolved analysis: Samples Field Filtered?	☐ Yes ☐ No ☒ N/A	8.	
Sample Labels Match COC?	☒ Yes ☐ No ☐ N/A	9.	<u>Received 2 trip blanks</u>
-Includes Date/Time/ID/Analysis Matrix:	<u>WTF</u>		
Headspace in VOA Vials (>5-6mm)?	☐ Yes ☒ No ☐ N/A	10.	
Trip Blank Present?	☒ Yes ☐ No ☐ N/A	11.	
Trip Blank Custody Seals Present?	☐ Yes ☒ No ☐ N/A		

COMMENTS/SAMPLE DISCREPANCY

Field Data Required? ☐ Yes ☐ No

Lot ID of split containers:

CLIENT NOTIFICATION/RESOLUTION

Person contacted:

Date/Time:

Project Manager SCURF Review:

Project Manager SRF Review:

Date:

Date:

	Document Name:	Document Revised: February 7, 2018
	Sample Condition Upon Receipt(SCUR)	Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.06	Issuing Authority: Pace Carolinas Quality Office

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC, LLHg

**Bottom half of box is to list number of bottle

Project #

WO# : 92377247

PM: NMG

Due Date: 03/30/18

CLIENT: 92-Scana

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP4S-125 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP4Z-125 mL Plastic ZN Acetate & NaOH (>9)	BP4C-125 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-503S kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A - lab)	SP2T-250 mL Sterile Plastic (N/A - lab)	BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	AG0U-100 mL Amber Unpreserved vials (N/A)	VSGU-20 mL Scintillation vials (N/A)	DG9U-40 mL Amber Unpreserved vials (N/A)	
1																												
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

pH Adjustment Log for Preserved Samples						
Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers.

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A

Required Client Information:

Company: SCANA-SCE&G
 Address: 200 Operations Way
 Cayce, SC 29033
 Email To: mmoore@scana.com
 rashida.marlowe@scana.com
 Phone: (803)331-4463
 (803) 528-1528
 Requested Due Date: As soon as possible

Section B

Required Project Information:

Report To:
 Copy To:
 Purchase Order #:
 Project Name:
 Project Number:

Section C

Invoice Information:

Attention: Mike Moore
 Company Name: SCANA
 Address:
 Pace Quote:
 Pace Project Manager:
 Nicole Gasiorowski
 Pace Profile #:

Page : 1 Of 1

Regulatory Agency

SCDHEC/Columbia, SC

State / Location

Canady's Station Plant Side EDTA Analysis
 March 2018

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW PD SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analyses Test Y/N	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
						START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other-ICE		EDTA (total)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
3-40ML vials per	Rashida Marlowe	03/16/18	0715	Kim Adams	3/16/18	0714				
	J. Adams	3-16-18	1252	J. Adams	3-16-18	849				

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Rashida Marlowe
 SIGNATURE of SAMPLER: *Rashida Marlowe*
 DATE Signed: 03/15/18

Well/Piezo ID: GW-17N

Ground Water Sample Collection Record

Client:	<u>SCEAG / SCANA</u>	Date:	<u>03/15/18</u>
Project No:	<u>EDTA Analysis</u>	Time: Start	<u>1308</u> am/pm
Site Location:	<u>Canada's Station (former) Plant Side</u>	Finish	<u>1515</u> am/pm
Weather Conds:	<u>clear, sunny, 50°F Collector(s) R. Narbonne / M. Moore</u>		

WATER LEVEL DATA: (measured from Top of Casing) Well ☒ Piezometer ☐

a. Total Well Length 19.9 ft c. Casing Material PVC e. Length of Water Column 5.49 ft (a-b)

b. Water Table Depth 14.41 ft d. Casing Diameter 2 inch f. Calculated Well Volume (see back) 0.9

*Top of casing 83.92 feet

WELL PURGING DATA

a. Purge Method low flow / Peristaltic pump Flow Rate 170 mL/min * Flow rate reduced to ~150 mL/min @ 1423 to reach turbidity

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A ≤ 10 NTU
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10%

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556 MPS</u>	<u>#07H101839 / Probe 60834-4M1302</u>
<u>ThermoSci Orion</u>	<u>AQ4500</u>	

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # N/A Page # N/A - see calibration sheet attached

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	TURBIDITY NTUs	D.O. mg/l	ORP MV	Odor	DTW
1308	Initial	19.61	6.10	515	232	0.29	115	None	14.41
1334	4,420 mL	19.70	6.16	513	234	0.29	116	None	14.40
1356	8,160 mL	20.70	6.09	525	174	0.20	106	None	15.01
1404	10,320 mL	20.54	6.14	538	108	0.48	108.9	None	15.05
* 1423	19,170 mL	20.35	6.14	521	64	0.33	105.9	None	15.01
1434	20,870 mL	20.55	6.13	527	47.4	0.48	102.7	None	15.00
1512	32,530 mL	20.52	6.19	556	10.9	0.43	102.1	None	15.00
				<u>03/15/18</u>	<u>N/A</u>				

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☒
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

Required well volume removal not applicable for this sampling event
29 well volumes removed

SAMPLE COLLECTION: Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>COY-GW-17N</u>	<u>40 mL vials</u>	<u>3 vials</u>	<u>ice</u>	<u>EDTA</u>	<u>1512</u>

Comments: * well Volume = $\frac{\text{Total Depth} - \text{Water}}{\text{Depth}} \times (\text{capacity})$, very difficult to reach optimal turbidity (below 10 NTU), well re-development suggested

Signature: R. Narbonne

Date: 03/15/2018

Well/Piezo ID:
GW-19N

Ground Water Sample Collection Record

Client: SCEAG / SCANA (internal) Date: 03/15/18
 Project No: EDTA ANALYSIS Time: Start 1120 ampm
 Site Location: Canada's Station (Former) Plant Side Finish 1145 ampm
 Weather Conds: clear / cool / 50% Collector(s) R. Marlowe / M. Moore

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 21.35 ft c. Casing Material PVC e. Length of Water Column 11.47 ft (a-b)

b. Water Table Depth 6.88 ft d. Casing Diameter 2 inch

f. Calculated Well Volume (see back) 2.3 gallons

* Top of Casing - 73.02 feet

WELL PURGING DATA

a. Purge Method Low Flow / Peristaltic Pump Flow Rate 275 mL/min

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10%

c. Field Testing Equipment Used:

Make Model Serial Number

YSI 556 MPS #07H101839 / Probe 600336-4M 1300Z
ThermoSci Orion AQ4500

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # N/A Page # N/A see Calibration Sheet attached

Time	Volume Removed (ml)	TEMP C	pH S.U.	Spec. Cond (umhos)	TURBIDITY NTUs	D.O. mg/l	ORP MV	Odor	(ft) DTW
1120	Initial	17.45°C	4.04	262	0.69	0.54	323.1	None	7.50
1124	1,100 mL	17.45°C	4.06	262	0.68	0.54	329.3	None	7.55
1129	2,475 mL	17.48°C	4.01	262	1.56	0.55	329.3	None	7.55
1130	2,750 mL	17.35°C	4.27	263	0.98	0.62	374.0	None	7.65
<u>Calculated</u>									

e. Acceptance criteria pass/fail

- Has required volume been removed ☒
- Has required turbidity been reached ☒
- Have parameters stabilized ☒

Yes

No

N/A

If no or N/A - Explain below.

Well turbidity quickly stabilized, No required volume set

SAMPLE COLLECTION:

Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>CDT-GW-19N</u>	<u>40 mL Vial (w/ cap)</u>	<u>3</u>	<u>ICE</u>	<u>EDTA</u>	<u>1130</u>
<u>N/A</u>					

Comments

* Well volume = (well depth - depth to water) x well capacity, initial pump
Well sample - red/orange precipitate, clay-like sediments, Background sample (19N)

Signature

R. Marlowe

Date 03/15/2018

Well/Piezo ID: GW-16N

Ground Water Sample Collection Record

Client:	<u>SCE & G / SCANA</u>	Date:	<u>03/15/18</u>
Project No:	<u>EDTA Analysis</u>	Time: Start	<u>1200</u> am/pm
Site Location:	<u>Canady's Station (former) Plant Side</u>	Finish	<u>1300</u> am/pm
Weather Conds:	<u>clear, sunny, 50°F</u>	Collector(s)	<u>R. Marlowe / M. Moore</u>

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 22.20 ft c. Casing Material PVC Well ☒ Piezometer ☐
 b. Water Table Depth 12.03 feet d. Casing Diameter 2 inch e. Length of Water Column 9.89 ft (a-b)
 * Top of Casing 82.95 feet *Calculated RWH 03/15/18* f. Calculated Well Volume (see back) 1.6 * gallons

WELL PURGING DATA

a. Purge Method Low Flow/Peristaltic Pump Flow Rate 220 mL/minute

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ N/A well volumes) N/A
- Maximum Allowable Turbidity N/A NTUs
- Stabilization of parameters 10%

c. Field Testing Equipment Used:

Make Model Serial Number
YSI 556 MPS #07H101839 / Probe 600336-4M13C02
ThermoFisher Orion AQ4500

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # N/A Page # N/A - *See Calibration Sheet attached*

Time	Volume Removed (ml)	TEMP °C	pH S.U.	Spec. Cond (umhos)	TURBIDITY NTUs	D.O. mg/l	ORP MV	Odor	(feet) DTW
1202	Initial	19.21	6.05	863	51.4	0.31	189.2	None	12.25
1206	1320 mL	19.12	6.06	824	30.9	0.34	186.3	None	12.25
1211	2420 mL	19.26	6.04	823	31.2	0.34	184.0	None	12.25
1234	7480 mL	18.92	5.81	692	23.3	0.29	237.5	None	12.23
1238	8360 mL	19.11	5.73	695	20.8	0.29	240.0	None	12.25
1246	10,120 mL	19.11	5.94	744	13.16	0.20	200.7	None	12.25
1249	10,780 mL	19.27	5.99	753	10.5	0.19	190.7	None	12.25
1252	11,440 mL	19.21	6.01	756	8.75	0.18	184.4	None	12.25

e. Acceptance criteria pass/fail

- Has required volume been removed ☐ Yes ☐ No ☒ N/A
 Has required turbidity been reached ☒
 Have parameters stabilized ☒
 If no or N/A - Explain below.

Required well volume removal not applicable, 72 well volumes removed

SAMPLE COLLECTION:

Method: PUMP TUBING

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
CD1-GW1-K0N	40 mL Vial (seal)	3	ICE	EDTA	1252

Comments

* Well Volume = $\frac{\text{Total Well Depth} - \text{Depth to water}}{\text{Capacity}}$

Signature

R. Marlowe

Date 03/15/2018

APPENDIX D

**SCDHEC Industrial Wastewater Facility Closure Form and Supporting
Documentation (forms, figures, photographic record)**



INDUSTRIAL WASTEWATER FACILITY CLOSURE FORM

Form purpose: This form is intended to facilitate the development and review of industrial wastewater closure plans. Although recommended, it is not required by regulation that you use this form. Please note: All closure plans must be approved by the Department as a prerequisite to closure as per R.61-67.300.F.17 of the Standards for Wastewater Facility Construction.

1. Name of Facility	Name of Facility: SCE&G/Canadys Station - Plant Side Ponds Closure		
2. Facility Contact	First Name: Jean-Claude	MI:	Last Name: Younan
	Title: Environmental Services	Phone: 803-217-9617	E-mail: jyounan@scana.com
3. Facility Contact Mailing Address	Street or P.O. Box: 220 Operation Way MC C221		
	City: Cayce	State: SC	Zip Code: 29033-3701
4. Facility Location Address	Street, Route, or Other Specific Identifier: 13139 Augusta Highway		
	City: Canadys	State: SC	Zip Code: 29433
5. Legal Owner	Name: South Carolina Electric & Gas	Phone: 803-217-9617 (Jean-Claude Younan)	
6. Legal Owner Mailing Address (If different from Facility Contact Mailing Address in Item 3 above)	Street or P.O. Box: 220 Operation Way MC C221		
	City: Cayce	State: SC	Zip Code: 29033-3701
7. Wastewater Facility Existence Date	Facility Existence Date (mm/dd/yyyy): 08/12/1987		
8. SIC or NAICS Codes	Primary: 4953	2nd: 4911	3rd: 4th:
9. Facility Type	Pretreatment: ☐ yes ☒ no	NPDES: ☒ yes ☐ no	Land Application: ☐ yes ☒ no If yes, check type: ☐ wastewater ☐ sludge
10. Applicable NPDES and/or ND Permits (List All)	NPDES or ND: SC0002020	NPDES or ND:	NPDES or ND:
11. Wastewater Construction Permits (List All)	Permit #:	Permit #:	Permit #:
	Permit #:	Permit #:	Permit #:
	Permit #:	Permit #:	Permit #:
12. Satellite Sewer Permit Coverage (If Applicable)	S S S		
13. Current Pump and Haul Approvals (List All)	Date or LOA #:	Date or LOA #:	Date or LOA #:
14. EPA ID Number (If Applicable)	S C		
15. RCRA/HSWA Corrective Action	Is this facility subject to RCRA/HSWA corrective action requirement via a permit or an order? ☐ yes ☒ no		
16. Groundwater Questions	Any known releases to soil or groundwater from the wastewater treatment unit? ☒ yes ☐ no		
	Depth to groundwater (in feet): varies across site, generally 5'-15' below natural ground surface		
	Is this facility subject to groundwater monitoring requirements via a permit, order or other agreement? ☒ yes ☐ no		
	If yes, list permit number, order, number, or date of agreement: NPDES #SC0002020		

17. List below the name, physical address, and telephone number for each facility that is receiving wastewater, sludge, soil, etc. as a result of this closure. Additionally, please attach a letter of acceptance from each facility. The letter of acceptance should clearly state the amount and type of waste to be received.			
Name of Receiving Facility: Oakridge Landfill (or other off-site commercial landfill)		Name of Receiving Facility: Future on-site Class 3 landfill (under plan development)	
Address (Street, Route, or Other Specific Identifier): 2183 US-78		Address (Street, Route, or Other Specific Identifier): 13139 Augusta Highway	
City: Dorchester	State: SC	Zip: 29437	City: Canadys
Phone: 888-964-9730		Phone: TBD	
Contact: TBD		Contact: TBD	
Waste types to be received: ☐ Wastewater ☒ Sludge ☒ Soils ☐ Other (specify _____)		Waste types to be received: ☐ Wastewater ☒ Sludge ☒ Soils ☐ Other (specify _____)	
Name of Receiving Facility:		Name of Receiving Facility:	
Address (Street, Route, or Other Specific Identifier):		Address (Street, Route, or Other Specific Identifier):	
City:	State:	Zip:	City:
Phone:		Phone:	
Contact:		Contact:	
Waste types to be received: ☐ Wastewater ☐ Sludge ☐ Soils ☐ Other (specify _____)		Waste types to be received: ☐ Wastewater ☐ Sludge ☐ Soils ☐ Other (specify _____)	
18. Provide a topographic map or maps of the area extending to at least one mile beyond the property boundaries of the facility.			
The map should clearly show the following: SEE FIGURES 1 AND 2 IN THIS APPENDIX • The legal boundaries of the facility; • The location of any intake and discharge structures; • The location of any wastewater treatment facilities; • All land application sites; • All groundwater monitoring, recovery, or injection wells (not just those associated with the wastewater treatment plant); • All surface water bodies in the area; • All drinking water wells within 1/4 mile of the facility identified in the public record or otherwise known to you. On each map, include the map scale, a meridian arrow showing north, and latitude and longitude at the nearest whole second of the wastewater treatment plant and any outfall structures. Use a 7-1/2 minute series map published by the U.S. Geological Survey. If a 7-1/2 minute series map has not been published for your facility site, then you may use a 15-minute series map from the U.S. Geological Survey. If neither a 7-1/2 nor 15-minute series map has been published for your facility site, use a plant map or other appropriate map, and include all the requested information.			
19. Provide a drawing showing the general layout of the wastewater treatment facility. SEE FIGURE 3 IN THIS APPENDIX			
This drawing should be approximately to scale and should clearly show the following: • All components of the wastewater treatment plant, each clearly labeled; • Dimensions and materials of construction; • The locations of any known leaks or spills; and • The locations of any proposed soil sample or groundwater monitoring locations.			
20. Provide photographs that clearly delineate all existing wastewater structures. SEE FIGURES 2 AND 3 AND PHOTO RECORD IN THIS APPENDIX			
Photographs may be color or black and white, ground-level or aerial. Indicate the date each photograph was taken			

21. On Appendix A of this document, identify all pollutants that may be present in the wastewater treatment system by placing a check mark '✓' in the 'Believed Present' column. Additionally, please list below any pollutants that may be present that are not listed on Appendix A.

[illegible]

22. Please provide a detailed description of how each wastewater treatment component will be closed.

Additionally, in your description, please include the following:

- Your reasons for closing the system;
- If this is to be a closure of the entire wastewater treatment system or if only certain components are to be closed; and
- If the closure plan is intended to be a clean-out plan rather than a complete closure of the system (for example, if the system is being cleaned out for resale to another owner).

Use the space below and attach additional sheets as necessary; or provide as a separate attachment.

A description of how the Plant Side Ponds will be closed is presented in the report titled "SCE&G Canadys Station Plant Side Ponds Closure Plan", to which this Form is attached as Appendix A.

APPENDIX A

Pollutant	CAS No.	Believed Present	Pollutant	CAS No.	Believed Present
Acenaphthene	83-82-9		Chrysene	218-01-9	
Acenaphthylene	208-96-8		Colbalt, Total	7440-48-4	
Acetaldehyde	75-07-0		Color	n/a	
Acrolein	107-02-8		Copper, Total	7440-50-8	X
Acrylonitrile	107-13-1		Coumaphos	56-72-4	
Aldrin	309-00-2		o-Cresol	95-48-7	
Allyl alcohol	107-18-6		m-Cresol	108-39-4	
Allyl chloride	107-05-1		p-Cresol	106-44-5	
Aluminum, Total	7429-90-5		Cresols	1319-77-3	
Ammonia	7664-41-7		Crotonaldehyde	123-73-9	
Amyl acetate	628-63-7		Cyanide, Total	57-12-5	
Aniline	62-53-3		Cyclohexane	110-82-7	
Anthracene	120-12-7		2,4-D	94-75-7	
Antimony, Total	7440-36-0		Diazinon	333-41-5	
Arsenic, Total	7440-38-2	X	Dibenz[a,h]anthracene	53-70-3	
Asbestos	1332-21-4		Dicamba	1918-00-9	
Barium, Total	7440-39-3	X	Dichlobenil	1194-65-6	
Benzene	71-43-2		Dichlone	117-80-6	
Benzidene	92-87-5		1,2-Dichlorobenzene	95-50-1	
Benz[a]anthracene	56-55-3		1,3-Dichlorobenzene	541-73-1	
Benzo[a]pyrene	50-32-8		1,4-Dichlorobenzene	106-46-7	
Benzo[ghi]perylene	191-24-2		3,3-Dichlorobenzidine	91-94-1	
Benzo[k]fluoranthene	207-08-9		Dichlorobromomethane	75-27-4	
3,4-Benzofluoranthene	205-99-2		Dichlorodifluoromethane	75-71-8	
Benzyl chloride	100-44-7		1,1-Dichloroethane	75-34-3	
Beryllium, Total	7440-41-7	X	1,2-Dichloroethane	107-06-2	
alpha-BHC	319-84-6		1,1-Dichloroethylene	75-35-4	
beta-BHC	319-85-7		1,2-trans-Dichloroethylene	156-60-5	
delta-BHC	319-86-8		2,4-Dichlorophenol	120-83-2	
gamma-BHC	58-89-9		1,2-Dichloropropane	78-87-5	
Biochemical Oxygen Demand (BOD)	n/a		2,2-Dichloropropionic acid	75-99-0	
Bis(2-chloroethoxy) methane	111-91-1		1,3-Dichloropropylene	542-75-6	
Bis(2-chloroethyl) ether	111-44-4		Dichlorvos	62-73-7	
Bis(2-chloroisopropyl) ether	102-80-1		4,4'-DDD	72-54-8	
Bis(2-ethylhexyl) phthalate	117-81-7		4,4'-DDE	72-55-9	
Bis(chloromethyl) ether	542-88-1		4,4'-DDT	50-29-3	
Boron, Total	7440-42-8		Dieldrin	60-57-1	
Bromide	24959-67-9		Diethylamine	109-89-7	
Bromoform	75-25-2		Diethyl phthalate	84-66-2	
4-Bromophenyl phenyl ether	101-55-3		Dimethylamine	124-40-3	
N-Butylamine	109-73-9		2,4-Dimethylphenol	105-67-9	
N-Butyl acetate	123-86-4		Dimethyl phthalate	131-11-3	
Butyl benzyl phthalate	85-68-7		Di-N-butylphthalate	84-74-2	
Cadmium, Total	7440-43-9	X	o-Dinitrobenzene	528-29-0	
Captan	133-06-2		m-Dinitrobenzene	99-65-0	
Carbaryl	63-25-2		4,6-Dinitro-o-cresol	534-52-1	
Carbofuran	1563-66-2		2,4-Dinitrophenol	51-28-5	
Carbon disulfide	75-15-0		2,4-Dinitrotoluene	121-14-2	
Carbon tetrachloride	56-23-5		2,6-Dinitrotoluene	606-20-2	
Chemical Oxygen Demand (COD)	n/a		Di-N-octyl phthalate	117-84-0	
Chlordane	57-74-9		1,2-Diphenylhydrazine	122-66-7	
Chlorine, Total Residual	n/a		Diquat	85-00-7	
Chlorobenzene	108-90-7		Disulfoton	298-04-4	
Chlorodibromomethane	124-48-1		Diuron	330-54-1	
Chloroethane	75-00-3		alpha-Endosulfan	959-98-8	
2-Chloroethylvinyl ether	110-75-8		beta-Endosulfan	33213-65-9	
Chloroform	67-66-3		Endosulfan sulfate	1031-07-8	
2-Chloronaphthalene	91-58-7		Endrin	72-20-8	
2-Chlorophenol	95-57-8		Endrin aldehyde	7421-93-4	
4-Chlorophenyl phenyl ether	7005-72-3		Epichlorohydrin	106-89-8	
Chlorpyrifos	2921-88-2		Ethion	563-12-2	
Chromium, Total	7440-47-3	X	Ethylbenzene	100-41-4	

Pollutant	CAS No.	Believed Present	Pollutant	CAS No.	Believed Present
Ethylene diamine	107-15-3		PCB-1260	11096-82-5	
Ethylene dibromide	106-93-4		p-Chloro-m-cresol	59-50-7	
Fecal Coliform	n/a		Pentachlorophenol	87-86-5	
Fluoranthene	206-44-0		pH	n/a	
Fluorene	86-73-7		Phenanthrene	85-01-8	
Fluoride	16984-48-8		Phenol	108-95-2	
Formaldehyde	50-00-0		Phenols, Total	n/a	
Furfural	98-01-1		Phenolsulfonates, Total	n/a	
Guthion	86-50-0		Phosgene	75-44-5	
Heptachlor	76-44-8		Phosphorus, Total	7723-14-0	X
Heptachlor epoxide	1024-57-3		Propargite	2312-35-8	
Hexachlorobenzene	118-74-1		Propylene oxide	75-56-9	
Hexachlorobutadiene	87-68-3		Pyrene	129-00-0	
Hexachlorocyclopentadiene	77-47-4		Pyrethrins	n/a	
Hexachloroethane	67-72-1		Quinoline	91-22-5	
Indeno(1,2,3-cd)pyrene	193-39-5		Resorcinol	108-46-3	
Iron, Total	7439-89-6	X	Selenium, Total	7782-49-2	X
Isophorone	78-59-1		Silver, Total	7440-22-4	X
Isoprene	78-79-5		Strontium	7440-24-6	
Isopropanolamine	78-96-6		Strychnine	57-24-9	
Keithane	115-32-2		Styrene	100-42-5	
Kepone	143-50-0		Sulfate (as SO4)	14808-79-8	X
Lead, Total	7439-92-1	X	Sulfide (as S)	18496-25-8	
Magnesium, Total	7439-95-4		Sulfite (as S03)	14265-45-3	
Malathion	121-75-5		Surfactants	n/a	
Manganese, Total	7439-96-5		2,4,5-T	93-76-5	
Mercaptodimethur	2032-65-7		TDE (Tetrachlorodiphenylethane)	72-54-8	
Mercury, Total	7439-97-6	X	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1764-01-6	
Methoxychlor	72-43-5		1,1,2,2-Tetrachloroethane	79-34-5	
Methyl bromide	74-83-9		Tetrachloroethylene	127-18-4	
Methyl chloride	74-87-3		Thallium, Total	7440-28-0	
Methyl mercaptan	74-93-1		Tin, Total	7440-31-5	
Methyl methacrylate	80-62-6		Titanium, Total	7440-32-6	
Methyl parathion	298-00-0		Toluene	108-88-3	
Methylene chloride	75-09-2		Total Organic Carbon (TOC)	n/a	
Mevinphos	7786-34-7		Total Suspended Solids (TSS)	n/a	
Mexacarbate	315-18-4		Toxaphene	8001-35-2	
Molybdenum, Total	7439-98-7		2,4,5-TP	93-72-1	
Monoethylamine	75-04-7		1,2,4-Trichlorobenzene	120-82-1	
Monomethylamine	74-89-5		1,1,1-Trichloroethane	71-55-6	
Naled	300-76-5		1,1,2-Trichloroethane	79-00-5	
Naphthalene	91-20-3		Trichloroethylene	79-01-6	
Napthenic acid	1338-24-5		Trichlorofluoromethane	75-69-4	
Nickel, Total	7440-02-0	X	Trichlorofon	52-68-6	
Nitrate-Nitrite (as N)	n/a		2,4,6-Trichlorophenol	88-06-2	
Nitrobenzene	98-95-3		Triethanolamine	102-71-6	
Nitrogen, Total Organic (as N)	n/a		Triethylamine	121-44-8	
2-Nitrophenol	88-75-5		Trimethylamine	75-50-3	
4-Nitrophenol	100-02-7		Uranium	7440-61-1	
Nitrotoluene	1321-12-6		Vanadium	7440-62-2	X
N-Nitrosodimethylamine	62-75-9		Vinyl acetate	108-05-4	
N-Nitrosodi-N-propylamine	621-64-7		Vinyl chloride	75-01-4	
N-Nitrosodiphenylamine	86-30-6		Xylene	1330-20-7	
Oil and Grease	n/a		Xylenol	1300-71-6	
Parathion	56-38-2		Zinc, Total	7440-66-6	X
PCB-1016	12674-11-2		Zirconium	7440-67-7	
PCB-1221	11104-28-2		Radionuclides		
PCB-1232	11141-16-5		Alpha, Total	n/a	
PCB-1242	53469-21-9		Beta, Total	n/a	
PCB-1248	12672-29-6		Radium, Total	n/a	
PCB-1254	11097-69-1		Radium-226, Total	n/a	

Instructions

Purpose of the Form

This form is intended to facilitate the development and review of industrial wastewater closure plans. Although recommended, it is not required by regulation that you use this form. Please note: All closure plans must be approved by the Department as a prerequisite to closure as per R.61-67.300.F.17 of the Standards for Wastewater Facility Construction.

Intended Users

Owners/operators of industrial wastewater treatment facilities.

Completing the Form

Please type or print all information. If you have any questions regarding this form, please call SCDHEC at (803) 898-4300.

Where to File the Form

Three (3) copies of the completed form should be mailed to the following address:

SCDHEC
Bureau of Water
Industrial Wastewater Permitting Section
2600 Bull Street
Columbia, SC 29201

Item 1

Please provide the legal name of company at which the wastewater treatment facility is located.

Item 2

Enter the name, title, phone number, and electronic mailing address (e-mail) of the person who is familiar with the operation of the wastewater treatment facility and with the facts reported on this form and to whom all correspondence should be sent.

Item 3

Enter the complete mailing address for the facility contact above.

Item 4

Enter the physical address for the property at which the wastewater treatment facility is located.

Item 5

Provide the name and phone number of the legal owner of the wastewater treatment facility. This could be a person, firm, public organization or entity. This name should be the name registered with the SC Secretary of State to do business in SC.

Item 6

Provide the complete mailing address for the legal owner above. If address is the same as the Facility Contact Mailing Address in Item 3 you may just put 'Same as Item 3'.

Item 7

Provide the date the wastewater treatment facility first began operation.

Item 8

List, in descending order of significance, up to four 4-digit Standard Industrial Classification (SIC) codes or 2-6 digit North American Industry Classification System (NAICS) codes that best describe the principal products or services provided at the location identified in Item 4. If you are not sure of the appropriate code to use, go to the following websites to search by keywords:

<http://www.osha.gov/pls/imis/sicsearch.html>

<http://www.census.gov/eos/www/naics/>

Item 9

Please identify the type of wastewater treatment system to be closed: pretreatment (i.e. system discharges to a POTW or other treatment system not owned by the facility); NPDES (i.e. system discharges to a Waters of the State); and/or Land Application (i.e. wastewater or sludge from system is applied to the land).

Item 10

List any applicable NPDES or ND (land application) permits issued for the facility.

Item 11

List any wastewater construction permits associated with the wastewater treatment facility.

Item 12

List any satellite sewer permit coverages associated with the facility, if applicable. Note: This is a 9-digit number beginning with SSS.

Item 13

List the date or Letter of Approval (LOA) number (if available) of any pump and haul approvals.

Item 14

List the Resource Conservation and Recovery Act (RCRA) EPA Identification Number (if applicable) for the property at which the wastewater treatment facility is located. This is a 12-digit number beginning with SC and is associated with facilities with regulated hazardous waste management activities.

Item 15

Please indicate if the facility at which the wastewater treatment facility is located is subject to RCRA/HSWA corrective action. If so, this will be in a permit or order issued by SCDHEC or the Environmental Protection Agency (EPA).

Item 16

Please indicate if there are any known releases to groundwater as a result of operating the wastewater treatment unit. If the depth to groundwater is known, please provide that in the space indicated. Also, please indicate if the facility is subject to groundwater monitoring requirements via a permit, order, or other agreement and if so, provide the permit or order number or the date of the agreement.

Item 17

Provide the name, physical address, contact name, and telephone number for each facility that is receiving wastewater, sludge, contaminated soils, etc. as a result of this closure. Please include also a letter of acceptance from each facility listed. The letter of acceptance should clearly state the amount and type of waste to be received.

Item 18

Provide a topographic map or maps of the area extending to at least one mile beyond the property boundaries of the facility. The map should clearly show the following: the legal boundaries of the facility; the location of any intake and discharge structures; the location of any wastewater treatment facilities; all land application sites; all groundwater monitoring, recovery, or injection wells (not just those associated with the wastewater treatment plant); all surface water bodies in the area; all drinking water wells within 1/4 mile of the facility identified in the public record or otherwise known to you.

On each map, include the map scale, a meridian arrow showing north, and latitude and longitude at the nearest whole second of the wastewater treatment plant and any outfall structures. Use a 7-1/2 minute series map published by the U.S. Geological Survey. If a 7-1/2 minute series map has not been published for your facility site, then you may use a 15-minute series map from the U.S. Geological Survey. If neither a 7-1/2 nor 15-minute series map has been published for your facility site, use a plant map or other appropriate map, and include all the requested information.

Item 19

Provide a drawing showing the general layout of the wastewater treatment facility. This drawing should be approximately to scale and should clearly show the following: all components of the wastewater treatment plant, each clearly labeled; dimensions; materials of construction; the locations of any known leaks or spills; and the locations of any proposed soil sample or groundwater monitoring locations.

Item 20

Provide photographs that clearly delineate all existing wastewater structures. Photographs may be color or black and white, ground-level or aerial. Indicate the date each photograph was taken.

Item 21

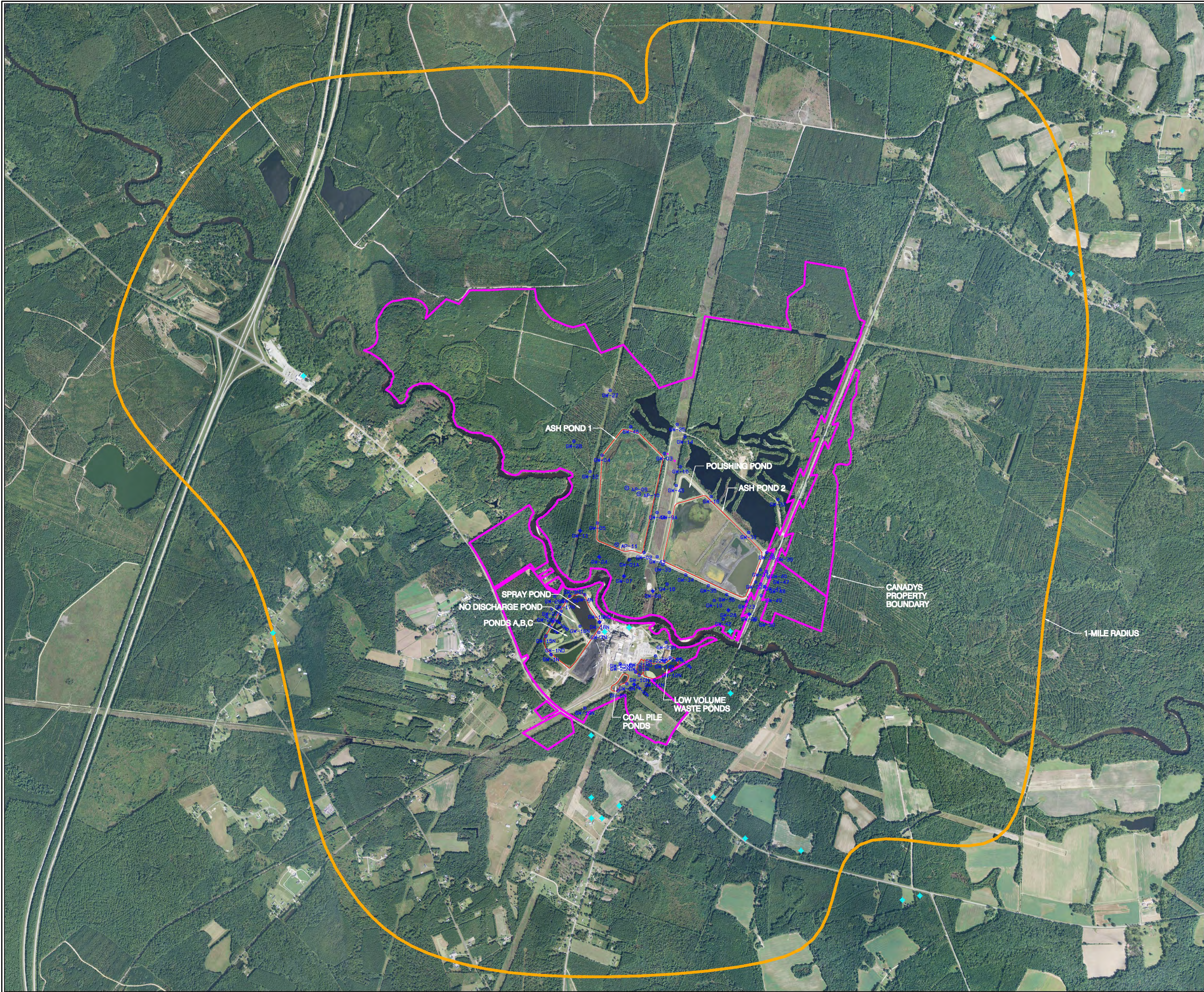
On Appendix A of this document, identify all pollutants that may be present in the wastewater treatment system by placing a check mark '✓' in the 'Believed Present' column. Additionally, please list in the additional spaces provided any pollutants that may be present that are not listed on Appendix A.

Item 22

Please provide a detailed description of how each wastewater treatment component will be closed. Also, in your description please indicate your reasons for closing the system; if this is to be a closure of the entire wastewater treatment system or if only certain components are to be closed; and if the closure plan is intended to be a clean-out plan rather than a complete closure of the system (for example, if the system is being cleaned out for resale to another owner). Attach additional sheets as necessary.

Appendix A

See Item 21 above.



◆ WELL LOCATED WITHIN 1/4 MILE OF PROPERTY BOUNDARY (FROM DNR DATABASE - SEE NOTE 7)

◆ ONSITE GROUNDWATER MONITORING WELL

NOTES:

THE FOLLOWING NOTES ARE INTENDED TO ADDRESS ITEM NO. 18 IN THE INDUSTRIAL WASTEWATER FACILITY CLOSURE FORM, DHEC FORM 1795 (09/2009).

1. THE FACILITY BOUNDARY IS SHOWN ON THE MAP.
 2. THE LOCATION OF THE POND DISCHARGE STRUCTURE IS SHOWN ON THE MAP.
 3. WASTEWATER TREATMENT FACILITIES ARE SHOWN ON THE MAP.
 4. THERE ARE NO ON-SITE LAND APPLICATION SITES.
 5. EXISTING GROUNDWATER MONITORING WELLS ARE SHOWN ON THE MAP.
 6. SURFACE WATER BODIES ARE IDENTIFIED ON THE MAP.
 7. WATER WELLS SHOWN WITHIN 1/4-MILE OF THE FACILITY OBTAINED FROM SCDNR HYDROLOGY SECTION WEBSITE. DATA CAN BE FOUND AT: http://www.dnr.sc.gov/water/hydro/WellRecords/Wells_main.htm
- SCDNR'S WEBSITE PROVIDES THE FOLLOWING DISCLAIMER REGARDING THE DATA:

The SCDNR does not guarantee the accuracy of this well information. In many cases, our well information comes from old well records, and as a result, some of the information, such as the well owner or the well use, may no longer be accurate. This is in no way a complete inventory of all the water wells in the South Carolina Coastal Plain.

MAP NOTES:

1. BACKGROUND ORTHOPHOTO OBTAINED FROM USDA/FSA - AERIAL PHOTOGRAPHY FIELD OFFICE, DATED 2013
2. GROUNDWATER MONITORING WELL LOCATIONS ARE APPROXIMATE.



MAP SCALE: 1-IN = 1,100-FT

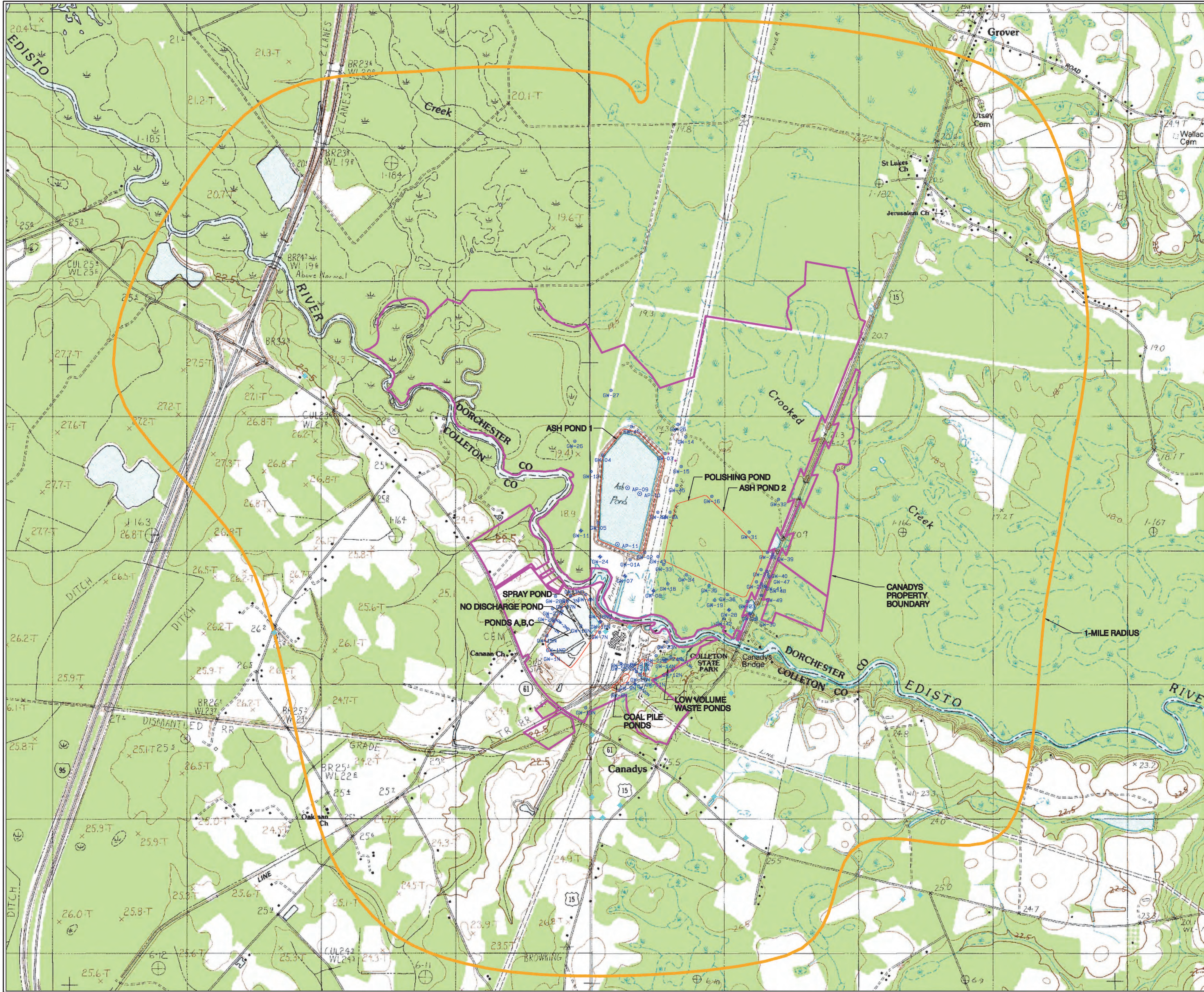
REVISION	DATE
1)	
2)	
3)	
4)	

GARRETT & MOORE
Engineering for the Power and Waste Industries
1258 BENSON ROAD
GARNER, N.C. 27626
TEL: 616-752-1000
FAX: 616-751-7206
www.garrett-moore.com

**SCE&G CANADYS STATION
POND CLOSURES**

1-MILE RADIUS MAP WITH ORTHOPHOTO

JOB NUMBER
SHEET
1



- WELL LOCATED WITHIN 1/4 MILE OF PROPERTY BOUNDARY (FROM DNR DATABASE - SEE NOTE 7)
- ONSITE GROUNDWATER MONITORING WELL

NOTES:

THE FOLLOWING NOTES ARE INTENDED TO ADDRESS ITEM NO. 18 IN THE INDUSTRIAL WASTEWATER FACILITY CLOSURE FORM, DHEC FORM 1795 (09/2009).

- THE FACILITY BOUNDARY IS SHOWN ON THE MAP.
- THE LOCATION OF THE POND DISCHARGE STRUCTURE IS SHOWN ON THE MAP.
- WASTEWATER TREATMENT FACILITIES ARE SHOWN ON THE MAP.
- THERE ARE NO ON-SITE LAND APPLICATION SITES.
- EXISTING GROUNDWATER MONITORING WELLS ARE SHOWN ON THE MAP.
- SURFACE WATER BODIES ARE IDENTIFIED ON THE MAP.
- WATER WELLS SHOWN WITHIN 1/4-MILE OF THE FACILITY OBTAINED FROM SCDNR HYDROLOGY SECTION WEBSITE. DATA CAN BE FOUND AT: http://www.dnr.sc.gov/water/hydro/WellRecords/Wells_main.htm

SCDNR'S WEBSITE PROVIDES THE FOLLOWING DISCLAIMER REGARDING THE DATA:

The SCDNR does not guarantee the accuracy of this well information. In many cases, our well information comes from old well records, and as a result, some of the information, such as the well owner or the well use, may no longer be accurate. This is in no way a complete inventory of all the water wells in the South Carolina Coastal Plain.

- MAP NOTES:
- BACKGROUND ORTHOPHOTO OBTAINED FROM USDA/FSA - AERIAL PHOTOGRAPHY FIELD OFFICE, DATED 2013
 - GROUNDWATER MONITORING WELL LOCATIONS ARE APPROXIMATE.



MAP SCALE: 1-IN = 1,100-FT

Path: C:\Users\jbray\Desktop\Canadys\Canadys MILE MAP.pro Plot Date/Time: Mon Mar 21, 2016 / 2:30:05

REVISION	DATE
1)	
2)	
3)	
4)	

GARRETT & MOORE
Engineering for the Power and Waste Industries


1258 BENSON ROAD
GARNER, N.C. 27626
TEL: 919-782-1800
FAX: 919-811-7209
www.garrett-moore.com

SCE&G CANADYS STATION POND CLOSURES

1-MILE RADIUS MAP WITH USGS QUAD

JOB NUMBER
SHEET
2

ORTHOPHOTO DATED FEBRUARY 2016



- ① SPRAY POND
- ② NO DISCHARGE POND
- ③ POND A
- ④ POND B
- ⑤ POND C
- ⑥ COAL PILE RUNOFF POND #1
- ⑦ COAL PILE RUNOFF POND #2
- ⑧ SETTLING POND #1
- ⑨ SETTLING POND #2
- ⑩ ASH POND #1
- ⑪ ASH POND #2
- ⑫ POLISHING POND
- ⑬ NPDES OUTFALL 006

⊕ EXISTING GROUNDWATER MONITORING WELL

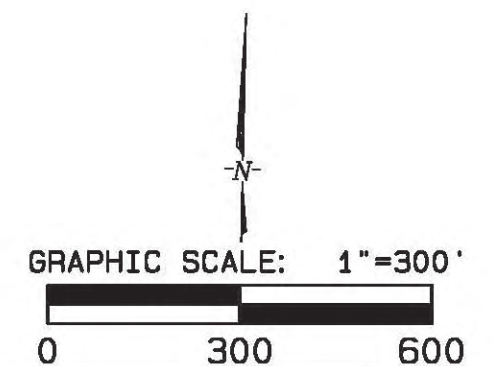
NOTES:

THE FOLLOWING NOTES ARE INTENDED TO ADDRESS ITEMS NO. 19 AND 20 IN THE INDUSTRIAL WASTEWATER FACILITY CLOSURE FORM, DHEC FORM 1795 (09/2009).

1. ALL COMPONENTS OF THE WASTEWATER TREATMENT FACILITY ARE LABELED ON THE MAP.
2. COMPONENTS SHOWN ON THE MAP ARE SHOWN TO SCALE AS INDICATED.
3. THE LOCATIONS OF ANY KNOWN SITE SPILL OR LEAKS ARE MAINTAINED IN THE FACILITY SWPPP. TO THE BEST OF SCE&G'S KNOWLEDGE, THERE HAVE BEEN NO KNOWN SPILLS OR LEAKS WITHIN THE ASH PONDS OR INTO THE MISC. PLANT-SIDE PONDS.
4. NO NEW BORING OR GROUNDWATER WELL LOCATIONS ARE PROPOSED. EXISTING GROUNDWATER MONITORING WELLS ARE SHOWN.

MAP NOTES:

1. BACKGROUND AERIAL PHOTO DATED FEBRUARY 2016
2. GROUNDWATER MONITORING WELL LOCATIONS ARE APPROXIMATE.



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CANADYS STATION COLLETON COUNTY PONDS CLOSURE

FACILITY LAYOUT & FEATURES

FIGURE
3

PHOTOGRAPHIC RECORD



Figure 1 - Settling Pond #2 (looking NE)

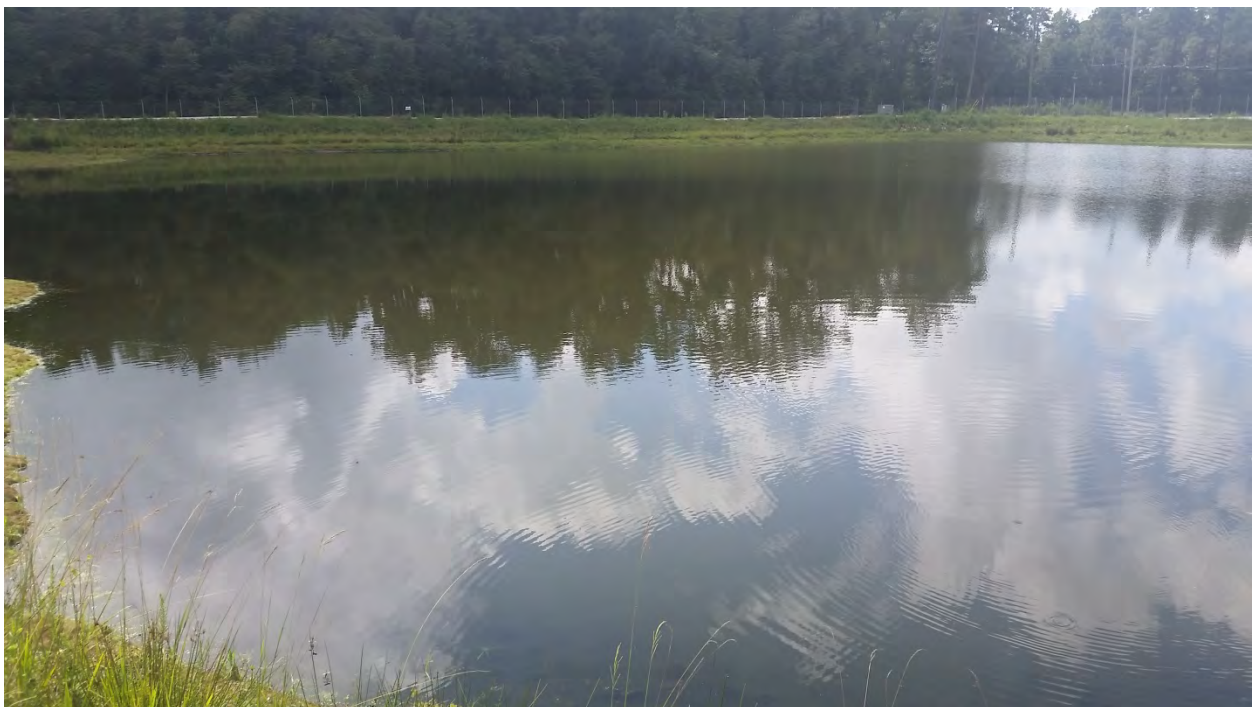


Figure 2- Settling Pond #2 (looking SW)



Figure 3 - Settling Pond #2 Pump Station



Figure 4 - Settling Pond #1 (looking south)



Figure 5 - Coal Pile Runoff Pond #2 (looking east)



Figure 6 - Coal Pile Runoff Pond #2 (looking SSW)



Figure 7 - Coal Pile Runoff Pond #2 (looking south)



Figure 8 - Pond C (looking SW)



Figure 9 - Pond C (looking south)



Figure 10 - Pond B (looking south)



Figure 11 - Metals Pond (looking SE)



Figure 12 - Spray Pond (looking north)



Figure 13 - Spray Pond SE Pump Station



Figure 14 - Spray Pond Outlet Structure



Figure 15 - Spray Pond (looking ESE)



Figure 16 - Spray Pond NW Pump Station



Figure 17 - Piping & Bridge System (to AP2 & Outfall 006)