SIKES PINE LEVEL 231 BP

CORRECTIVE ACTION PLAN

ATTF CP-20

Sikes Pine Level 231 BP
23603 Highway 231
Ramer, Montgomery Co., AL
Fac ID 14247-101-007856
UST 17-03-08

PREPARED FOR
Russell Oil Company, Inc.
P.O. Box 38
Lapine, AL 36046

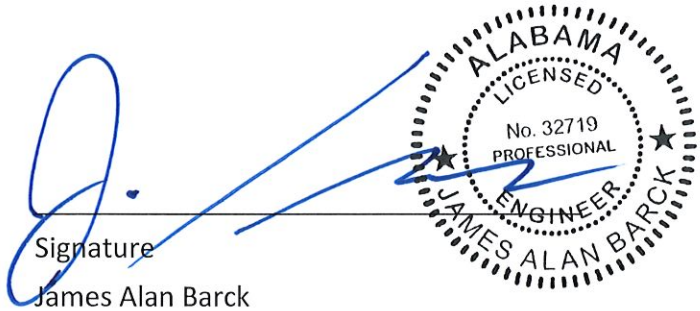
DATE
September 29, 2020

PREPARED BY
CDG Engineers & Associates, Inc.
1840 E. Three Notch St.
Andalusia, AL 36420

CERTIFICATION PAGE

"I hereby certify that, in my professional judgment, the components of this document and associated work satisfy the applicable requirements set forth in Chapter 335-6 of the ADEM Administrative Code, and are consistent with generally accepted professional consulting principles and practices. The information submitted herein, to the best of my knowledge and belief, is true accurate, and complete. I am aware that there are significant penalties for submitting false information."

This document has been prepared based on historical site assessment data and has been prepared to address soil and groundwater contamination at the Sikes Pine Level 231 BP site (Facility Identification Number 14247-101-007856) in Ramer, Montgomery County, Alabama. The recommended action should not be construed to apply to any other site.



Signature

10-1-20

Date

James Alan Barck

Registered Professional Engineer in the State of Alabama

Registration No. 32719

PROJECT SUMMARY

The Sikes Pine Level 231 BP is a commercial property that once operated as a convenience store that sold various grades of gasoline and diesel within the Community of Ramer, Alabama. The tank pit is located east of the building and is comprised of four Underground Storage Tanks (USTs) that contained unleaded gasoline and diesel fuel. Based on tank registration, there are two 10,000 gallon USTs installed in 1979, one 6,000 gallon UST installed in 1979, and one 6,000 gallon UST installed in 1979. Russell Oil Company, Inc. is the Alabama Tank Trust Fund (ATTF) responsible party for the site.

Previously, a Limited Phase II Environmental Site Assessment was conducted in March 2017. The results of the Limited Phase II indicated that a release of petroleum had occurred at the property. A Release Report was subsequently submitted to ADEM. As a result of the Release Report, ADEM sent the owner, Russell Oil Company, Inc., a Notification of Requirement to conduct Investigative and Corrective Actions. In a second letter, ADEM issued a Notice of Alabama Tank Trust Fund Eligibility. In a third letter, ADEM pre-approved costs for conducting Preliminary Investigation activities.

To date, a Preliminary Investigation, Secondary Investigation and Well Installation have been conducted at the site. During these assessment activities, a total of fourteen Type II monitoring wells, one Type III vertical delineation well, and three 4" recovery wells were installed at the site. Between June 2017 and May 2020, eleven groundwater monitoring events have been conducted. An Alabama Risk Based Corrective Action (ARBCA) Tier I/Tier II Evaluation was submitted to ADEM in June 2018 and was approved on July 9, 2018. A Pilot Test was conducted in November 2019. From October 2019 through August 2020, eight 8-hr Mobile Enhanced Multi-phase Extraction (MEME) events have been conducted at the site. Additionally, a High-Resolution Soil Profile Study (HRSPS) was conducted on January 28-31, 2019.

In a letter dated May 8, 2020, ADEM requested that a Corrective Action Plan (CAP) be prepared to address the soil and/or groundwater concentrations so that the accepted alternate corrective action limits be met. As approved under cost proposal CP-20, the following CAP has been developed based on the recommended approach, derived from discussions with ADEM. The data summary tables are included in Appendix A and the site figures are included in Appendix B.

SUMMARY OF PREVIOUSLY CONDUCTED CORRECTIVE ACTIONS

Investigative and Corrective Actions at the Sikes Pine Level 231 BP site have been ongoing since 2017. From October 2019 through August 2020, eight 8-hr MEME events have been conducted at the site. Approximately 21 pounds of hydrocarbons or the equivalent 3.5 gallons of gasoline have been removed from the site. Additionally, a total of 930 gallons of petroleum contaminated water have been recovered and transported for disposal. The following table summarizes the results of these events:

Date	Length of event (hrs)	Total HC removed (lbs)	Equivalent HC (gal)	Total PCW liquid (gal)
10/25/19	8	5.11	0.83	0
01/28/20	8	2.71	0.44	0
03/01/20	8	1.75	0.29	100
04/02/20	8	2.40	0.39	100
05/06/20	8	2.01	0.33	185
06/02/20	8	2.03	0.33	200
07/02/20	8	1.40	0.23	185
08/05/20	8	3.98	0.65	160
TOTALS	**64**	**21.39**	**3.49**	**930**

REMEDIAL OBJECTIVES AND SITE CHARACTERIZATION

GENERAL REMEDIAL OBJECTIVES

The general objectives of the corrective action activities for the facility are as follows:

- Ensure that the health and safety of all project personnel is maintained during remediation activities.
- Prevent hydrocarbon migration to sensitive receptors.
- Remove free product from the site subsurface if present.
- Reduce adsorbed phase petroleum hydrocarbons from soils within the vadose and saturated zone, primarily in the source area, to below accepted Site Specific Target Levels (SSTLs).
- Reduce dissolved petroleum hydrocarbons from groundwater to below proposed SSTLs.
- Accomplish these objectives in a timely and cost-effective manner.

VADOSE ZONE SOIL CHARACTERIZATION

Soil borings previously conducted during the Preliminary Investigation, Secondary Investigation, Well Installation, and HRSPS were reviewed to determine the subsurface soil conditions and the feasibility of the various remediation options for the site. The Chemicals of Concern (COCs) for the release at the site include Benzene, Toluene, Ethylbenzene, Total Xylenes, and Methyl-tert-butyl-ether, (BTEX/MTBE) and Poly-cyclic Aromatic Hydrocarbon (PAH) constituents. The analytical results from the soil samples collected during the site characterization activities are summarized in the Tables located in Appendix A. Figures, located in Appendix B, show the locations of the soil borings and the distribution of soil COC concentrations across the site. The vadose zone soils are predominantly comprised of clayey sand (0' – 5' bgs), clayey silt (5' – 20' bgs), and silty clay (20' – 45' bgs) with an average porosity of 53.6%.

Based on the HRSPS conducted in January 2019, the presence of residual light non-aqueous phase liquids (LNAPL) is primarily in a zone from 4 to 10 feet below ground surface (bgs) in the higher permeability soils above the water table.

AQUIFER CHARACTERIZATION

The analytical results of the groundwater samples collected during the site characterization activities are summarized in data summary tables located in Appendix A. The average historical depth to groundwater beneath the site is approximately 3.78 feet bgs. Based on the most recent groundwater level measurements collected during the May 18, 2020 sampling event, a potentiometric surface map was constructed for the site. As shown in the figures located in Appendix B, the general groundwater flow direction beneath the site is to the west.

Slug testing conducted during the Secondary Investigation activities indicated that the average hydraulic conductivity (K) of the site soils was approximately 0.0000042 cm/sec. Based on these values, the anticipated Darcy velocity (K*i*) of groundwater flow beneath the site would be approximately 2.318 cm/yr. Using the analytical data from the May 18, 2020 groundwater sampling event, a groundwater analytical and benzene contour map was constructed to represent the approximate extent of the current dissolved phase hydrocarbon plume. All site figures are included in Appendix B.

EXPOSURE ASSESSMENT

An exposure assessment was conducted by CDG during the Alabama Risk Based Corrective Action (ARBCA) evaluation. The current land use site conceptual exposure model indicates that complete exposure pathways exist onsite for indoor and outdoor vapor inhalation from soil and groundwater for commercial and construction workers and for dermal contact with affected soil by construction workers. Additionally, it was determined that offsite soil and groundwater is not impacted by this release. Future land use of the site and the surrounding area is expected to remain the same. In addition, there are no public water supply wells located within a one mile radius of the site and no private water wells located within 500 feet of the site.

SITE-SPECIFIC TARGET LEVELS

To assess the risk to human health and the environment of the dissolved hydrocarbon plume associated with the Sikes Pine Level 231 BP site, an ARBCA Tier I/ Tier II evaluation was performed. Details of this evaluation are contained in a report submitted to ADEM in May 2018. Based on the ARBCA Tier II evaluation, Site Specific Target Levels (SSTLs) for site remediation were calculated for the various media (soil and groundwater) at the site. The accepted SSTLs for soil and groundwater are summarized in the following table.

Site Specific Target Levels for Sikes Pine Level 231 BP				
	Soil		**Groundwater**	
Chemicals of Concern	**Dermal Contact (mg/Kg)**	**On-site Indoor Inhalation (mg/Kg)**	**Groundwater Resource Protection (mg/Kg)**	**On-site Indoor Inhalation (mg/L)**
Benzene	275	0.0642	0.306	7.41
Toluene	350	10.2	61.2	526
Ethylbenzene	153	35.9	42.8	169
Xylenes	183	13.9	175	175
MTBE	377	160	1.22	12,700
Anthracene	3.57	3.57	0.0434	0.0434
Benzo(a)anthracene	11.8	11.8	0.0094	0.0094
Benzo(a)pyrene	5.49	5.49	0.00162	0.00162

Site Specific Target Levels for Sikes Pine Level 231 BP				
	Soil		Groundwater	
Chemicals of Concern	Dermal Contact (mg/Kg)	On-site Indoor Inhalation (mg/Kg)	Groundwater Resource Protection (mg/Kg)	On-site Indoor Inhalation (mg/L)
Benzo(b)fluoranthene	6.46	6.46	0.0015	0.0015
Benzo(g,h,i)perylene	3.87	3.87	0.0007	0.0007
Benzo(k)fluoranthene	3.44	3.44	0.0008	0.0008
Chrysene	2.23	2.23	0.0016	0.0016
Fluoranthene	35.4	35.4	0.206	0.206
Fluorene	53.6	53.6	1.98	1.98
Naphthalene	132	10.9	1.22	20.1
Phenanthrene	49.4	49.4	1	1
Pyrene	32.1	32.1	0.135	0.135

A more detailed presentation of these values is provided in the May 2018 ARBCA Evaluation Report. The individual Groundwater Resource Protection (GRP) ACALs generated for each of the site monitoring wells are presented in data summary tables located in Appendix A.

SUMMARY OF SITE CHARACTERIZATION

Soil Characterization Summary

The results of the geotechnical analyses indicate the following physical properties for the soils at the Sikes Pine Level 231 BP site:

- The vadose zone soils are comprised of clayey sand (0’ – 5’ bgs), clayey silt (5’ – 20’ bgs), and silty clay (20’ – 45’ bgs).
- Soil has a porosity of 53.6 %.
- Volumetric water content 10 %
- Available porosity for vapor transport within the vadose zone is 43.6 %.

Aquifer Characterization Summary

The results of the aquifer characterization at the site indicate the follow physical properties for the unconfined groundwater zone beneath the site:

- The average depth to groundwater is 3.78 feet bgs.
- The average hydraulic conductivity within the saturated zone is 0.0000042 cm/sec.
- The general groundwater flow beneath the site is to the west.
- The calculated Darcy velocity for groundwater flow is 2.318 cm/yr.
- No measurable accumulations of free product have been observed in any of the wells since the beginning of assessment activities.

Exposure/Risk Assessment Summary

Based upon current and historical constituent concentrations and site physical properties, SSTLs were calculated for the site using the ARBCA process. The SSTLs have been approved as ACALs for the site. The ARBCA Evaluation indicates that there are complete exposure pathways for vapor inhalation from both soil and groundwater onsite. Offsite soil and groundwater was not impacted by this release. The groundwater Benzene concentrations have historically been above the proposed GRP ACALs. Exceedances of the proposed ACALs for indoor inhalation have historically occurred for Benzene, Toluene Total Xylenes, and Naphthalene in the soil and Benzene in the groundwater. The presence of dissolved hydrocarbon concentrations above the ACALs will require remediation.

REMEDIATION RATIONALE AND APPROACH

Based upon current constituent concentrations and the risk assessment results, there are exceedances in the approved groundwater resource protection (GRP) and vapor inhalation of groundwater ACALs for Benzene and exceedances in the approved GRP values for Naphthalene. However, the MEME events have been effective in reducing the presence of dissolved hydrocarbons. The target levels developed at the site were calculated based on a hypothetical point approximately 500 feet downgradient from the property boundary.

Full-scale technologies addressing both soil and groundwater were reviewed for applicability to the Sikes Pine Level 231 BP site. A detailed discussion of the various corrective action alternatives is provided in the CAP Evaluation report submitted in July 2018. Additional information was gathered during the HRSPS in January 2019. Based on all collected data, it has been determined that the most viable approach would be the installation of a dedicated MPE system connected to a network of three recovery trenches installed at the site.

MPE involves applying vacuum to remove liquid and vapor phase contaminants from low to moderately permeable, heterogenous soils. MPE typically provides a more efficient remedial approach as opposed to conventional pump and treat technology. The application of vacuum to a recovery trench increases the hydraulic driving force that enables groundwater to flow into a recovery trench, while conventional pumping relies mainly on a difference in elevation head.

The vapor phase and absorbed phase hydrocarbon contaminant removal in the soil source area and for dissolved-phase hydrocarbon contaminant removal in the groundwater plume at the Sikes Pine Level 231 BP site can be efficiently addressed with the use of a multi-phase extraction system.

REMEDIATION RECOMMENDATION PLAN

The corrective action approach has four main remedial objectives: removal of free product, if present; removal of vapor phase concentrations; removal of absorbed phase concentrations; and removal of dissolved phase concentrations. In an effort to decrease chemicals of concern (COC) concentrations in both soil and groundwater to levels protective of human health and the environment, a dedicated Multiphase Extraction (MPE) system has been deemed the appropriate remediation approach for the Sikes Pine Level 231 BP site.

An illustration of the estimated extent of the dissolved phase contaminant plume based on the May 2020 monitoring event is shown in the figures located in Appendix B. CDG has reviewed the data provided from the High Resolution Soil Profile Study and concludes that the remedial approach described herein is designed to perform in a cost effective and reliable manner throughout the life of the project. Based on the clean-up time

calculations, the estimated clean-up time under ideal conditions would be approximately 1 - 2 years. Based on CDG's professional experience with similar sites, this clean-up time estimate would be a reasonable expectation of the period that the system would remain in operation at the site followed by an additional two years of rebound and natural attenuation monitoring before the remediation goals would be achieved and the site eligible for No Further Action (NFA) status.

SYSTEM DETAIL

The proposed MPE system to be installed at the Sikes Pine Level 231 BP site will utilize a single 20 hp oil-sealed liquid ring vacuum pump (LRVP) to produce the high vacuum and airflow rate necessary to remove petroleum constituents from the subsurface. A comprehensive detail of the system components are provided in the quotes included in Appendix C. The LRVP will be connected to a network of three recovery trenches. All system components, excluding air treatment operations, will be enclosed in an insulated building with removable panels. Above ground system components will be enclosed in a wooden security fence complete with locking gates in an effort to prevent unauthorized personnel from entering the remediation compound. The fence will be placarded with a sign listing CDG's emergency contact information.

Recovered fluids will travel from the extraction trenches to a primary Air/Water Separator (AWS), utilized to separate vapors and groundwater. Vapors will subsequently pass through the LRVP to granular activated carbon vessels for off-gas treatment prior to discharge to the atmosphere. Groundwater will flow from the AWS through an oil-water separator (OWS) to an air stripper (AS) for treatment. The AS is capable of decreasing hydrocarbon concentrations to below permit requirements at flows up to 15 gallons per minute (gpm). The treated groundwater will be discharged into the storm water drainage ditch to the northeast of the subject site under the terms of the general National Pollutant Discharge Elimination System (NPDES) permit. A copy of the NPDES Permit is included in Appendix D.

Figures in Appendix B illustrate the proposed locations of the recovery trenches, extraction lines, effluent discharge and proposed system location. Equipment specifications and process diagrams are provided in Appendix C.

The system will be outfitted with an intrinsically safe alarm sensor such that, should an alarm condition occur, the system will automatically shut down until the alarm can be relieved and the system reset. These sensors are included in an effort to maintain effective operation of the system and reduce the potential for untreated discharges. The alarms will be integrated with a telemetry system to notify CDG of a system fault, so that it can be restarted as soon as possible. The telemetry system will allow CDG to remotely restart the system, depending on the type of alarm. In addition, remote shut down capabilities will be available. A run time (hour) meter will be installed on the system and the system will be equipped with applicable gauges and meters to allow for measurements as required for monthly and/or quarterly reporting.

OFF-GAS VAPOR TREATMENT

Three off-gas vapor treatment alternatives were reviewed for the site. These alternatives included thermal oxidation, catalytic oxidation, and vapor phase carbon (VPC) absorption. Thermal oxidation is typically utilized for applications having high vapor concentrations and high airflows. Catalytic oxidation is typically utilized for applications having low to moderate vapor concentrations and low to moderate airflows. VPC can be utilized for either situation. Based on the flame ionization detector (FID) readings taken during the MEME events and ADEM 's air division guidance, granular activated carbon (GAC) has been chosen as the initial air pollution control device (APCD) option for the Sikes Pine Level 231 BP site. The off-gas treatment may be eliminated once it is established that nuisance conditions are not present at the site and upon receiving approval from the Air Division. A copy of the ADEM air emission control permit is presented in Appendix E.

SOIL REMEDIATION

Analytical data indicates that soil samples collected during the Preliminary and Secondary Investigations and Well Installation exhibited Benzene, Toluene, Total Xylene, and Naphthalene constituent concentrations above the SSTLs (Tables, Appendix A).

Based on site conditions and analytical data, a number of soil remedial technologies are available to address hydrocarbon contamination in the soil. The soil remedial technologies that were reviewed and considered for this CAP included excavation, air sparging, and in-situ soil vapor extraction. Based on the hydrogeology of the site and

depth of soil contamination, it appears that in-situ soil vapor extraction is the most technically feasible and cost-effective technology to address soil contamination.

Data from the previous MEME events performed at the site were utilized to evaluate expected vacuum radius of influence (ROI). The data indicates that a vacuum ROI of approximately 6 feet from the centerline of the proposed trenches and an average airflow rate of 20 standard cubic feet per minute (scfm) per extraction well can be expected utilizing an applied vacuum of 9.0 in/Hg or greater. The proposed recovery trench locations are illustrated in the site figures located in Appendix B.

Results of the HRSPS indicated the constituents of concern (COC) are primarily located in a zone from 4 to 10 feet below surface level (bsl). To effectively target the shallow zone, three 4" screens will be placed in trenches approximately six to eight feet bsl. The trenches will have higher permeability fill material placed around each screen to allow for optimal air flow. Each of the recovery trenches will be plumbed to the MPE system by way of 2-inch diameter PVC below grade piping. Both vapor and liquid phase hydrocarbons will be removed by applying the vacuum generated by the oil-sealed LRVP directly to the 2" flow lines extending from the horizontal trenches. The locations of the recovery trenches and piping are depicted in Figures in Appendix B.

GROUNDWATER REMEDIATION

Based on a review of the historical groundwater elevation data, one distinct water bearing unit exists beneath the site. The observed depths to groundwater beneath the site average approximately 3.78 feet below ground level. The depth to groundwater has generally exhibited only small fluctuations between gauging events throughout the sampling history of the site.

Based on previous monitoring well gauging and sampling events conducted at the site, the direction of the shallow groundwater flow is predominantly to the west. A potentiometric surface map from the May 2020 sampling event is presented in the figures (Appendix B).

To effectively target the shallow zone, three 4" screens will be placed in trenches approximately six to eight feet bsl. The trenches will have higher permeability fill material placed around each screen to allow for optimal air flow. Each of the recovery trenches will be plumbed to the MPE system by way of 2-inch diameter PVC below grade piping. Both vapor and liquid phase hydrocarbons will be removed by applying the vacuum generated by the oil-sealed LRVP directly to the 2" flow lines extending from the horizontal trenches. The locations of the recovery trenches and piping are depicted in Figures in Appendix B.

Recovered fluids will flow from the well manifold to the air-water separator unit (AWS) where vapor-phase will be separated from groundwater. Groundwater will be transferred from the AWS to the oil-water separator (OWS) for the removal of any phase-separated hydrocarbons. A totalizing flow meter will be placed in line to record the volume of groundwater recovered.

GROUNDWATER TREATMENT

The selection of an appropriate groundwater treatment system was based on the expected flow rate of the extraction system, the influent contaminant concentrations of the groundwater, and discharge limits. Based on the available data, it appears that air stripping is the most feasible and cost-effective method for treatment of recovered groundwater.

The treated effluent will be discharged under the terms of the NPDES permit (ALG340738) to the drainage ditch located along the northern portion of the site property. A 2-inch diameter discharge line will be installed from the system compound to the drainage ditch. The discharge will be sampled monthly and the discharge monitoring reports (DMRs) submitted to ADEM in accordance with the permit requirements.

SITE PREPERATION ACTIVITIES

Site preparation activities will be conducted prior to system arrival at the property and will include the following activities.

LOCAL PERMITTING

CDG and any subcontractors engaged to work on this project will obtain all necessary permits from the City of Ramer for the required construction activities. The anticipated cost for obtaining these permits has been factored into the proposed cost for the system installation phase of this project.

SYSTEM INSTALLATION AND START-UP ACTIVITIES

The MPE system, and all ancillary equipment, will be delivered to the site within 90 days of the approval from ADEM. A professional geologist or engineer experienced in MPE system operation and an environmental technician will be on site to observe installation and start-up activities.

EQUIPMENT REVIEW

An equipment manual and troubleshooting guide will be provided to CDG by the equipment supplier prior to system arrival. Appropriate CDG personnel will familiarize themselves with the manual before starting and operating equipment.

SYSTEM OFFLOADING AND PLACEMENT

The system and all ancillary equipment will be transported on a trailer and offloaded with a crane. The system will be placed on a concrete slab constructed in the approximate location illustrated in the figures in Appendix B. Above ground system components will be enclosed within a wooden security fence complete with locking gates in an effort to prevent unauthorized personnel from entering the equipment compound.

UTILITY CONNECTIONS

The electrical and telephone connections will be completed by CDG's subcontractor in accordance with local requirements.

INITIAL START-UP AND OPTIMIZATION

CDG will notify the ADEM project manager within a minimum of 15 days prior to initiating start-up activities.

Once all connections have been made, each electric motor will be visually tested prior to initiating long-term operation. This will encompass momentarily operating each motor individually and verifying proper rotation.

The MPE system will be temporarily operated for a period of four to eight hours. During this time, system components will be checked and monitored to ensure the system is operating as expected. Alarm conditions will be manually simulated to verify that automatic shutdown operations will occur if system upset conditions occur.

The following observations will be monitored and analyzed as appropriate:

- Extraction Rate (air and liquids)
- Vacuum at the LRVP and at each extraction well
- Influent and effluent vapor concentrations (PID measurements)

Prior to shutting down system operations, samples will be collected as follows:

- Influent water sample from the sampling port prior to the AWS
- Effluent water sample at discharge point from the AS
- Influent air sample at the inlet of the LRVP

Water samples will be submitted under chain-of-custody protocol to the CDG laboratory in Andalusia, AL to be analyzed for BTEX/MTBE/Naphthalene, and Oil and Grease in accordance with EPA methods 8260B and 1664, respectively. Effluent air samples will be transported under chain-of-custody protocol to the Waypoint Analytical laboratory and analyzed for BTEX/GRO in accordance with a modified version of TO-15. A rapid turnaround time will be requested in an effort to expedite the permanent startup of the system.

In the event that a discharge limit is exceeded, the data will be analyzed and modifications to the system will be performed as needed. The start-up/optimization process will be repeated, and additional samples will be collected in an effort to obtain satisfactory discharge limits prior to permanent start-up of the system.

PERMANENT START-UP

The system will be permanently started once it is observed that the treatment system is capable of producing effluent discharge within the required limits. Once permanent operations are initiated, CDG personnel will remain on site for a minimum of one day to monitor system performance. Modifications will be made as necessary in an effort to enhance system operations. Operation parameters monitored during system testing activities will be evaluated further during this time.

SYSTEM OPERATION AND MAINTENANCE

Upon the completion of the initial optimization, CDG will implement an Operation and Maintenance (O&M) program to adequately monitor system performance.

OPERATION AND MAINTENANCE ACTIVITIES

Full scale operations will include O&M of the system and continuing optimization of system performance. Scheduled visits will be made to maintain the system components and ensure the system is operating at the greatest efficiency possible. Minor system components will be regularly inspected and replaced as required. All pumps within the unit will be serviced on a routine basis. If a shutdown of the system occurs, CDG will provide personnel to repair the system within 36 hours of receiving notification of shutdown. The remote start capability of the telemetry system installed in the unit may be utilized to start-up the system following certain shutdown conditions such as interruptions of electrical service. The telemetry can also be utilized to remotely shut-down the system should it become necessary due to an equipment failure or disruption.

Typical O&M activities will include the following:

- Visual inspection of the treatment system components (including pipe connections and bolted flange plates for potential leaks due to vibration)
- Cleaning, inspection, and testing of float switches and conductivity probes
- Monitoring of vacuum levels at designated points in the system
- Monitoring pressure levels on the exhaust side of the LVRP
- Removal of silt and sludge build up from the knockout tank, filtration system, and other system components
- Removal of air stripper foulants

- Monitor destruction efficiency of the granular activated carbon once employed for off- gas treatment
- Treated groundwater effluent sample collection
- Monitor groundwater levels

In order to ensure the system is working properly, during the first quarter of operation, technicians will visit the site weekly. At least twice per month, routine O&M activities as described above will also be conducted. System data, including total operational system hours, temperatures, total system vacuum, individual recovery well vacuums, flow, and water discharge will be recorded for inclusion in quarterly reports to ADEM.

All activities will be performed in accordance with the Quality Assurance/Quality Control Plan and Site Health and Safety Plan included in Appendices F and G, respectively.

QUARTERLY SAMPLING

As part of O&M activities, a groundwater monitoring event will be conducted once per quarter to evaluate the effectiveness of the remediation system. CDG recommends that each of the wells be sampled during the quarterly groundwater monitoring activities.

Prior to sample collection, the depth to groundwater will be measured using an oil/water interface probe. Each monitoring and recovery well will be purged using clean plastic disposable bailers. Approximately three well volumes will be removed from each well. The purge water will be processed through the MPE system.

Samples will be collected using clean plastic disposable bailers and shipped in laboratory supplied 40-mL vials preserved with hydrochloric acid (HCl). The samples will be placed on ice and transported, under chain-of-custody protocol, to the Waypoint Analytical laboratory for analysis of BTEX/MTBE/Naphthalene in accordance with EPA method 8260B.

Groundwater influent and effluent samples will be collected monthly. Effluent samples will be collected from a sample port downstream of the air-stripper treatment unit. Effluent samples will be collected in laboratory-supplied 40-mL vials preserved with HCl. Oil and Grease samples will be collected in one liter glass jars preserved with sulfuric acid

(H_2SO_4). These samples will be packed on ice and transported, under chain-of-custody protocol, to the Waypoint Analytical laboratory for analysis for total BTEX/MTBE/Naphthalene, pH, and Oil and Grease in accordance with EPA Methods 8260B, 150.1, and 1664.

An effluent vapor sample will be collected once per quarter and shipped, under chain-of-custody protocol, to the Waypoint Analyatical laboratory for analysis for BTEX/GRO in accordance with a modified EPA Method TO-15. All sampling shall be completed in accordance with the procedures set forth in the Quality Assurance/Quality Control Plan (Appendix F).

Quarterly Corrective Action System Effectiveness Monitoring Reports (CASEMR) will be completed in accordance with ADEM requirements. The reports will include a summary of all current and historic sample analysis data with corresponding figures and tables, summary of gallons of treated groundwater to date, and a discussion of system effectiveness/run time. The reports will include recommendations for adjustments to the system, if any, and an estimate of the time required for completion of remediation activities.

PROPOSED REPORTING REQUIREMENTS

CDG will submit reports in accordance with ADEM requirements. These reports will include the following:

REPORTING OF CORRECTIVE ACTION IMPLEMENATION

This report will be submitted within 120 days of CAP approval. This report will include as-built drawings of the system, analytical results of the first sampling event and copies of all permits issued to date.

START-UP NOTIFICATION

This report will provide start-up notification within 15 days of corrective action start-up.

REPORTING OF CORRECTIVE ACTION EFFECTIVENESS

CDG will submit corrective action system effectiveness monitoring reports (CASEMR) on a quarterly basis. The CASEMR will summarize field activities and the progress of the system towards meeting the ACALs for the site. The following data will be included in each report: groundwater elevations, a calculation of the volume of vapor-phase hydrocarbons removed, volume of groundwater treated, and groundwater analytical results. The reports will also include system effectiveness and recommendations concerning any additional modifications deemed necessary.

REPORTING OF AIR INFLUENT CONCENTRATIONS AND FLOW RATES

CDG will monitor the pretreated air influent concentration and air flow rates monthly. As per the ADEM Air Division requirements, semi-annual reports will be submitted.

REQUEST FOR CLOSURE EVALUATION OF CORRECTIVE ACTION

The remediation goals for this project include reduction of dissolved-phase hydrocarbon concentrations to levels below the ACALs established during the ARBCA. This report will include data that shows that remediation goals have been achieved and request No Further Action (NFA) status. Methods for removal of equipment and abandonment of monitoring and recovery wells will be described.

SITE CLOSURE REPORT

This report will describe in detail the closure of the site and abandonment of all monitoring and recovery wells.

SCHEDULE OF IMPLEMENATION

Task	Time Following CAP Approval
Order System Equipment	10 days
Site Preparation Activities	30 Days
Install System Components	120 days
Initial Start-Up / Optimization	150 days
Quarterly Monitoring of system and evaluation of results with recommendations for system enhancements, if necessary	1 - 2 Years
Removal of system equipment; well abandonment; completion and submittal of final report	1 - 2 Years

ESTIMATED COST

All costs associated with the system rental, system installation, and the first four quarters of system O&M are presented on the ATTF Cost Proposals CP-21 through CP-26 which accompany the submittal of this plan.

CDG

Engineering. Environmental. Answers.

APPENDICES

Engineering. Environmental. Answers.

TABLES

APPENDIX A

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-1**		
INSTALLATION DATE:	06/19/17	WELL DEPTH (FT BTOC):	41.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	494.39	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-1	06/19/17	0 - 3	<0.0330	**8.0600**	**128.0000**	30.8000	**144.0000**	310.8600	**12.6000**
MW-1	06/19/17	3 - 8	0.0020	**0.6620**	7.9600	2.7100	12.3000	23.6320	2.2500
Onsite Tier II Inahalation SSTLs:			**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0130	<0.0080	<0.0100	<0.0080	<0.0130	<0.0110	<0.0110	<0.0100	<0.0150	0.0150
<0.0370	<0.0250	<0.0290	<0.0240	<0.0390	<0.0330	<0.0310	<0.0290	<0.0450	<0.0400
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
06/23/17	9.90	484.49	-	15.0
10/17/17	4.32	490.07	-	8.0
01/25/18	3.50	490.89	-	5.0
04/19/18	3.96	490.43	-	5.0
07/12/18	4.55	489.84	-	17.0
01/17/19	5.13	489.26	-	17.0
05/01/19	2.81	491.58	-	5.0
08/19/19	4.52	489.87	-	5.0
11/21/19	3.81	490.58	-	5.0
02/14/20	2.16	492.23	-	5.0
05/18/20	4.52	489.87	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
06/23/17	2.05	7.2	143
10/17/17	2.57	5.6	-63
01/25/18	6.47	6.4	22
04/19/18	4.56	6.1	129
07/12/18	1.51	6.0	40
01/17/19	1.65	6.1	127
05/01/19	1.38	6.0	97
08/19/19	3.63	6.3	159
11/21/19	2.54	5.9	121
02/14/20	3.29	5.0	112
05/18/20	3.81	5.2	49

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-1**	
INSTALLATION DATE:	06/19/17	WELL DEPTH (FT BTOC):	41.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	494.39	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
06/23/17	<0.0010	0.0311	0.1637	0.0320	0.1349	0.3617	0.0070
10/17/17	0.0015	0.1398	0.0102	0.2622	0.0572	0.4694	0.0826
01/25/18	<0.0010	0.0087	<0.0010	<0.0010	<0.0010	0.0087	<0.0010
04/19/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
07/12/18	0.0021	0.0279	<0.0010	<0.0010	<0.0010	0.0279	0.0037
01/17/19	0.0021	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/01/19	0.0019	0.0015	<0.0010	<0.0010	<0.0010	0.0015	0.0016
08/19/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	0.0011
11/21/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
02/14/20	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/18/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
GRP SSTLs:	**1.22**	**0.306**	**61.2**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP	UST NUMBER:	17-03-08	WELL ID:	**MW-1**
INSTALLATION DATE:	06/19/17	WELL DEPTH (FT BTOC):	41.5	SCREEN LENGTH (FT):	15
CASING ELEV (FT ABOVE MSL):	494.39	WELL TYPE: DIAMETER (IN):	II 2		

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
06/23/17	<0.000015	<0.000016	<0.000015	<0.000019	<0.000016	<0.000013	<0.000016	<0.000016	<0.000014	<0.000009	<0.000017
10/17/17	0.000268	<0.000137	<0.000131	<0.000163	<0.000141	<0.000113	<0.000143	<0.000137	<0.000119	<0.000082	<0.000145
01/25/18	0.000007	0.000025	0.000012	0.000015	0.000012	0.000015	0.000023	<0.000013	<0.000010	<0.000010	<0.000019
04/19/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
07/12/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
01/17/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
05/01/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-2**		
INSTALLATION DATE:	06/19/17	WELL DEPTH (FT BTOC):	40.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	493.84	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-2	06/19/17	0 - 3	0.0170	**1.0100**	0.0300	0.2380	0.0540	1.3320	0.1050
MW-2	06/19/17	3 - 8	0.0040	**0.0760**	0.0120	0.0340	0.0460	0.1680	0.0350
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0130	<0.0080	<0.0100	<0.0080	<0.0130	<0.0110	<0.0110	<0.0100	<0.0150	<0.0130
<0.0130	<0.0080	<0.0100	<0.0080	<0.0130	<0.0110	<0.0110	<0.0100	<0.0150	<0.0130
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
06/23/17	3.04	490.80	-	17.0
10/17/17	3.72	490.12	-	7.0
01/25/18	2.81	491.03	-	5.0
04/19/18	2.73	491.11	-	5.0
01/17/19	4.06	489.78	-	17.0
05/01/19	2.66	491.18	-	5.0
08/19/19	4.92	488.92	-	5.0
11/21/19	2.96	490.88	-	5.0
02/14/20	2.64	491.20	-	5.0
05/18/20	5.10	488.74	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
06/23/17	2.18	7.3	112
10/17/17	2.64	6.4	61
01/25/18	6.58	6.5	116
04/19/18	3.82	6.2	141
01/17/19	4.69	7.3	-84
05/01/19	3.21	6.0	127
08/19/19	2.72	5.8	137
11/21/19	3.21	6.0	144
02/14/20	4.27	6.6	-76
05/18/20	4.98	6.1	53

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-2**	
INSTALLATION DATE:	06/19/17	WELL DEPTH (FT BTOC):	40.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	493.84	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
06/23/17	<0.0010	0.0014	<0.0010	<0.0010	<0.0010	0.0014	0.0007
10/17/17	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/25/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
04/19/18	0.0037	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
07/12/18	NOT SAMPLED						
01/17/19	0.0016	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/01/19	0.0017	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
08/19/19	0.0047	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
11/21/19	0.0029	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
02/14/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/18/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
GRP SSTLs:	**1.22**	**0.306**	**61.2**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-2**	
INSTALLATION DATE:	06/19/17	WELL DEPTH (FT BTOC):	40.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	493.84	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
06/23/17	0.000056	0.000082	0.000033	0.000086	0.000027	<0.000013	<0.000016	0.000157	<0.000014	0.000042	0.000144
10/17/17	<0.000015	<0.000016	<0.000015	<0.000019	<0.000016	<0.000013	<0.000016	<0.000016	<0.000014	<0.000009	<0.000017
01/25/18	<0.000007	0.000028	0.000013	0.000017	0.000014	0.000017	0.000027	<0.000013	<0.000010	0.00001	<0.000019
04/19/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
07/12/18	NOT SAMPLED										
01/17/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
05/01/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-3**		
INSTALLATION DATE:	06/20/17	WELL DEPTH (FT BTOC):	41.5	SCREEN LENGTH (FT):	35	CASING ELEV (FT ABOVE MSL):	495.00	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-3	06/20/17	0 - 3	0.1690	**0.2420**	0.1280	0.2570	0.9990	1.6260	0.1410
MW-3	06/20/17	3 - 8	0.0140	**0.1730**	0.1270	0.4950	2.9800	3.7750	0.5630
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0130	<0.0080	<0.0100	<0.0080	<0.0130	<0.0110	<0.0110	<0.0100	<0.0150	<0.0130
<0.0130	<0.0080	<0.0100	<0.0080	<0.0130	<0.0110	<0.0110	<0.0100	<0.0150	<0.0130
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
06/23/17	4.45	490.55	-	17.0
10/17/17	4.59	490.41	-	7.0
01/25/18	3.32	491.68	-	5.0
04/19/18	2.74	492.26	-	5.0
07/12/18	4.57	490.43	-	17.0
01/17/19	3.96	491.04	-	18.0
05/01/19	2.36	492.64	-	5.0
08/19/19	4.79	490.21	-	5.0
11/21/19	3.12	491.88	-	5.0
02/14/20	2.62	492.38	-	5.0
05/18/20	4.98	490.02	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
06/23/17	2.15	5.9	133
10/17/17	1.65	5.6	17
01/25/18	5.94	4.9	11
04/19/18	3.49	6.0	136
07/12/18	1.59	4.7	-40
01/17/19	1.62	6.7	-63
05/01/19	5.07	5.7	146
08/19/19	2.56	5.7	68
11/21/19	2.04	6.0	241
02/14/20	1.74	5.1	-55
05/18/20	2.01	5.0	25

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-3**	
INSTALLATION DATE:	06/20/17	WELL DEPTH (FT BTOC):	41.5	SCREEN LENGTH (FT):	35	CASING ELEV (FT ABOVE MSL):	495.00	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
06/23/17	0.0048	0.1414	0.0510	0.1321	0.8689	1.1934	0.0953
10/17/17	0.0115	**0.7284**	0.1703	0.8749	4.3333	6.1069	0.5147
01/25/18	0.0154	**1.0527**	0.1419	0.9586	4.6823	6.8355	0.5118
04/19/18	<0.0100	**0.5456**	0.0811	0.5989	2.5454	3.7709	0.2550
07/12/18	<0.0100	**0.6744**	0.0522	0.7044	3.3836	4.8146	0.3396
01/17/19	0.0078	**0.4367**	0.0337	0.3933	0.8829	1.7466	0.1724
05/01/19	0.0119	**0.7826**	0.1003	1.0006	4.6342	6.5177	0.4462
08/19/19	<0.0100	**0.5816**	0.0461	0.9597	3.9465	5.5339	0.4631
11/21/19	<0.0100	**0.4498**	0.0489	0.5720	2.2878	3.3585	0.2855
02/14/20	<0.0100	**0.4730**	0.1810	0.5364	1.8968	3.0871	0.2924
05/18/20	0.0109	**0.6528**	0.1497	1.4210	8.0083	10.2318	0.6133
GRP SSTLs:	**1.22**	**0.306**	**61.2**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-3**
INSTALLATION DATE:	06/20/17	WELL DEPTH (FT BTOC):	41.5	SCREEN LENGTH (FT):	35	CASING ELEV (FT ABOVE MSL):	495.00
WELL TYPE:	II	DIAMETER (IN):	2				

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
06/23/17	<0.000015	<0.000016	<0.000015	<0.000019	<0.000016	<0.000013	<0.000016	<0.000016	<0.000014	<0.000009	<0.000017
10/17/17	<0.000134	<0.000137	<0.000131	<0.000163	<0.000141	<0.000113	<0.000143	<0.000137	0.000211	<0.000082	<0.000145
01/25/18	<0.000644	<0.00126	<0.000987	<0.00128	<0.00102	<0.00114	<0.00108	<0.00114	<0.000913	<0.000862	<0.00165
04/19/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.00004	0.000041	<0.000020
07/12/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000073	<0.000020	<0.000020
01/17/19	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170
05/01/19	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170
08/19/19	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	MW-4		
INSTALLATION DATE:	06/20/17	WELL DEPTH (FT BTOC):	41.5	SCREEN LENGTH (FT):	35	CASING ELEV (FT ABOVE MSL):	494.88	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-4	06/20/17	0 - 3	<0.0003	0.0004	<0.0010	0.0050	<0.0010	0.0054	0.0130
MW-4	06/20/17	3 - 8	<0.0003	<0.0003	<0.0010	<0.0010	<0.0010	BDL	<0.0040
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	**-**	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0130	<0.0080	<0.0100	<0.0080	<0.0130	<0.0110	<0.0110	<0.0100	0.0520	0.0630
<0.0130	<0.0080	<0.0100	<0.0080	<0.0130	<0.0110	<0.0110	<0.0100	<0.0150	0.0230
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
06/23/17	4.11	490.77	-	17.0
10/17/17	4.70	490.18	-	7.0
01/25/18	2.84	492.04	-	5.0
04/19/18	2.23	492.65	-	5.0
07/12/18	4.97	489.91	-	17.0
01/17/19	3.50	491.38	-	18.0
05/01/19	2.07	492.81	-	5.0
08/19/19	4.18	490.70	-	5.0
11/21/19	2.31	492.57	-	5.0
02/14/20	1.93	492.95	-	5.0
05/18/20	4.46	490.42	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
06/23/17	1.86	6.7	87
10/17/17	2.73	5.7	142
01/25/18	5.94	5.0	121
04/19/18	4.34	6.0	164
07/12/18	1.73	7.1	29
01/17/19	2.71	5.6	142
05/01/19	1.58	5.9	121
08/19/19	4.27	6.1	182
11/21/19	1.87	5.7	161
02/14/20	1.81	5.2	145
05/18/20	2.81	5.7	29

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-4**	
INSTALLATION DATE:	06/20/17	WELL DEPTH (FT BTOC):	41.5	SCREEN LENGTH (FT):	35	CASING ELEV (FT ABOVE MSL):	494.88	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
06/23/17	<0.0010	<0.0010	<0.0010	0.0014	0.0020	0.0034	0.0006
10/17/17	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/25/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
04/19/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
07/12/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/17/19	<0.0010	<0.0010	<0.0010	0.0013	0.0027	0.0039	0.0019
05/01/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
08/19/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
11/21/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
02/14/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/18/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
GRP SSTLs:	**1.22**	**0.306**	**61.2**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-4**
INSTALLATION DATE:	06/20/17	WELL DEPTH (FT BTOC):	41.5	SCREEN LENGTH (FT):	35	CASING ELEV (FT ABOVE MSL):	494.88
WELL TYPE:	II	DIAMETER (IN):	2				

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
06/23/17	<0.000158	<0.000161	<0.000154	<0.000192	<0.000166	<0.000133	<0.000168	<0.000162	<0.000140	<0.000096	0.000382
10/17/17	<0.000015	<0.000016	<0.000015	<0.000019	<0.000016	<0.000013	<0.000016	<0.000016	0.000044	<0.000009	<0.000017
01/25/18	<0.000007	<0.000014	<0.000011	<0.000015	<0.000012	<0.000013	<0.000012	<0.000013	<0.000010	<0.000010	<0.000019
04/19/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.00008	<0.000020	<0.000020
07/12/18	0.00003	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000459	0.000307	0.000056
01/17/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
05/01/19	0.000039	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000059	0.000365	0.000122	0.000046
08/19/19	0.000251	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000047	<0.000020	<0.000020
11/21/19						NOT SAMPLED					
02/14/20						NOT SAMPLED					
05/18/20						NOT SAMPLED					
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-5**		
INSTALLATION DATE:	09/29/17	WELL DEPTH (FT BTOC):	41.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	494.62	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-5	09/29/17	0 - 3	<0.0002	<0.0002	<0.0100	<0.0020	<0.0020	BDL	<0.0100
MW-5	09/29/17	3 - 8	<0.0002	<0.0002	<0.0100	<0.0020	<0.0020	BDL	<0.0100
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	**-**	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660		<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/17	5.94	488.68	-	10.0
01/25/18	3.45	491.17	-	5.0
04/19/18	2.24	492.38	-	5.0
07/12/18	7.28	487.34	-	15.0
01/17/19	3.15	491.47	-	18.0
05/01/19	1.67	492.95	-	5.0
08/19/19	3.93	490.69	-	5.0
11/21/19	1.92	492.70	-	5.0
02/14/20	1.67	492.95	-	5.0
05/18/20	4.30	490.32	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/17	2.19	5.8	33
01/25/18	5.56	7.0	95
04/19/18	4.62	6.2	174
07/12/18	3.23	6.8	60
01/17/19	1.47	7.2	106
05/01/19	2.44	5.9	110
08/19/19	3.54	6.1	214
11/21/19	2.68	6.1	133
02/14/20	2.05	6.1	67
05/18/20	1.81	5.6	-28

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-5**	
INSTALLATION DATE:	09/29/17	WELL DEPTH (FT BTOC):	41.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	494.62	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/17	<0.0010	<0.0010	<0.0010	<0.0010	0.0011	0.0011	<0.0010
01/25/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
04/19/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
07/12/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/17/19	<0.0010	<0.0010	<0.0010	<0.0010	0.0010	0.0010	<0.0010
05/01/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
08/19/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
11/21/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
02/14/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/18/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
GRP SSTLs:	**1.22**	**0.306**	**61.2**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-5**
INSTALLATION DATE:	09/29/17	WELL DEPTH (FT BTOC):	41.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	494.62
WELL TYPE:	II	DIAMETER (IN):	2				

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
10/17/17	0.000017	<0.000016	<0.000015	<0.000019	<0.000016	<0.000013	<0.000016	<0.000016	<0.000014	<0.000009	<0.000017
01/25/18	<0.000007	0.000018	<0.000011	<0.000015	<0.000012	<0.000013	0.000016	<0.000013	<0.000010	0.000013	<0.000019
04/19/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
07/12/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
01/17/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
05/01/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
08/19/19	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-6**		
INSTALLATION DATE:	09/29/17	WELL DEPTH (FT BTOC):	24.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	493.49	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-6	09/29/17	0 - 3	0.0060	**0.5500**	0.0290	0.2790	0.5670	1.4250	0.0180
MW-6	09/29/17	3 - 8	0.0090	**0.1600**	0.0120	0.2480	0.8360	1.2560	0.6200
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/17	3.35	490.14	-	7.0
01/25/18	2.42	491.07	-	5.0
04/19/18	2.36	491.13	-	5.0
07/12/18	3.82	489.67	-	9.0
01/17/19	3.52	489.97	-	10.0
05/01/19	2.37	491.12	-	5.0
08/19/19	4.52	488.97	-	5.0
11/21/19	2.56	490.93	-	5.0
02/14/20	2.23	491.26	-	5.0
05/18/20	4.71	488.78	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/17	1.79	5.5	125
01/25/18	6.64	4.6	55
04/19/18	3.54	6.2	149
07/01/18	1.98	5.1	-72
01/17/19	1.27	7.1	-73
05/01/19	1.88	5.7	42
08/19/19	2.81	5.9	149
11/21/19	2.39	5.6	106
02/14/20	1.57	4.7	-25
05/18/20	2.28	5.0	34

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-6**	
INSTALLATION DATE:	09/29/17	WELL DEPTH (FT BTOC):	24.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	493.49	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/17	0.0093	**0.5167**	0.0278	0.0737	0.1677	0.7859	0.0180
01/25/18	0.0361	**2.9492**	0.0481	0.3710	0.2686	3.6369	0.0915
04/19/18	0.0368	**3.4381**	0.0579	0.4937	0.4223	4.4120	0.1668
07/12/18	0.0717	**10.1861**	0.0837	1.6393	1.2015	13.1106	0.4464
01/17/19	0.0595	**6.0787**	0.1160	0.8317	0.6540	7.6804	0.2960
05/01/19	<0.0500	**4.3429**	0.2525	0.9030	2.1502	7.6486	0.5677
08/19/19	0.0139	**1.7686**	<0.0100	0.0503	<0.0100	1.8189	0.1040
11/21/19	0.0308	**2.8175**	0.0387	0.2973	0.1809	3.3344	0.0935
02/14/20	0.0691	**10.7590**	0.4855	1.6470	2.9517	15.8432	0.5092
05/18/20	0.0820	**10.5466**	0.6199	1.7877	3.9148	16.8690	0.5398
GRP SSTLs:	**1.22**	**0.306**	**61.2**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP	UST NUMBER:	17-03-08	WELL ID:	**MW-6**
INSTALLATION DATE:	09/29/17	WELL DEPTH (FT BTOC):	24.5	SCREEN LENGTH (FT):	15
CASING ELEV (FT ABOVE MSL):	493.49	WELL TYPE: DIAMETER (IN):	II 2		

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
10/17/17	<0.000015	<0.000016	<0.000015	<0.000019	<0.000016	<0.000013	<0.000016	<0.000016	<0.000014	<0.000009	<0.000017
01/25/18	0.00001	<0.000014	<0.000011	<0.000015	<0.000012	<0.000013	<0.000012	<0.000013	0.000014	<0.000010	<0.000019
04/19/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000025	0.000023	<0.000020
07/12/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000066	<0.000020	<0.000020
01/17/19	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170
05/01/19	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-7**		
INSTALLATION DATE:	09/29/17	WELL DEPTH (FT BTOC):	40.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	494.43	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-7	09/29/17	0 - 3	<0.0020	<0.0020	<0.0100	<0.0020	<0.0020	BDL	<0.0100
MW-7	09/29/17	8 - 13	<0.0020	<0.0020	<0.0100	<0.0020	<0.0020	BDL	<0.0100
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	**-**	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/17	5.80	488.63	-	8.0
01/25/18	2.70	491.73	-	5.0
04/19/18	2.57	491.86	-	5.0
07/12/18	4.25	490.18	-	17.0
01/17/19	3.55	490.88	-	17.5
05/01/19	2.22	492.21	-	5.0
08/19/19	4.25	490.18	-	5.0
11/21/19	2.55	491.88	-	5.0
02/14/20	1.92	492.51	-	5.0
05/18/20	4.41	490.02	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/17	2.70	6.5	174
01/25/18	6.41	6.5	95
04/19/18	3.75	6.3	188
07/12/18	2.16	6.5	10
01/17/19	5.49	7.5	105
05/01/19	3.62	6.0	115
08/19/19	3.24	6.2	164
11/21/19	3.42	5.8	151
02/14/20	5.17	7.0	18
05/18/20	3.99	6.8	50

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-7**	
INSTALLATION DATE:	09/29/17	WELL DEPTH (FT BTOC):	40.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	494.43	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/17	<0.0010	0.0026	<0.0010	<0.0010	0.0016	0.0042	<0.0010
01/25/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
04/19/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
07/12/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/17/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/01/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
08/19/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
11/21/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
02/14/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/18/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
GRP SSTLs:	**1.2**	**0.301**	**60.2**	**42.2**	**175**	**-**	**1.2**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP	UST NUMBER:	17-03-08	WELL ID:	MW-7
INSTALLATION DATE:	09/29/17	WELL DEPTH (FT BTOC):	40.5	SCREEN LENGTH (FT):	15
CASING ELEV (FT ABOVE MSL):	494.43	WELL TYPE:	II	DIAMETER (IN):	2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
10/17/17	<0.000015	<0.000016	<0.000015	<0.000019	<0.000016	<0.000013	<0.000016	<0.000016	<0.000014	0.000012	<0.000017
01/25/18	<0.000007	<0.000014	<0.000011	0.000022	0.000037	0.000027	<0.000012	<0.000013	<0.000010	<0.000010	<0.000019
04/19/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
07/12/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
01/17/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
05/01/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-8**		
INSTALLATION DATE:	10/02/17	WELL DEPTH (FT BTOC):	40.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	494.54	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-8	10/02/17	3 - 8	<0.0020	<0.0020	<0.0100	<0.0020	<0.0020	BDL	<0.0100
MW-8	10/02/17	8 - 13	<0.0020	<0.0020	<0.0100	<0.0020	<0.0020	BDL	<0.0100
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	**-**	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/17	4.47	490.07	-	8.0
01/25/18	2.91	491.63	-	5.0
04/19/18	2.74	491.80	-	5.0
07/12/18	4.49	490.05	-	17.0
01/17/19	3.50	491.04	-	17.5
05/01/19	2.84	491.70	-	5.0
08/19/19	4.19	490.35	-	5.0
11/21/19	2.71	491.83	-	5.0
02/14/20	2.27	492.27	-	5.0
05/18/20	4.58	489.96	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/17	2.83	6.7	185
01/25/18	6.30	6.5	106
04/19/18	3.97	6.1	168
07/12/18	2.70	6.7	46
01/17/19	4.85	7.0	98
05/01/19	5.05	6.1	139
08/19/19	2.67	6.2	47
11/21/19	2.32	5.8	163
02/14/20	4.70	6.4	-29
05/18/20	4.39	6.6	5

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-8**	
INSTALLATION DATE:	10/02/17	WELL DEPTH (FT BTOC):	40.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	494.54	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/17	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/25/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
04/19/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
07/12/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/17/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/01/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
08/19/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
11/21/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
02/14/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/18/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
GRP SSTLs:	**0.842**	**0.21**	**42.1**	**29.5**	**175**	**-**	**0.842**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP	UST NUMBER:	17-03-08	WELL ID:	MW-8
INSTALLATION DATE:	10/02/17	WELL DEPTH (FT BTOC):	40.5	SCREEN LENGTH (FT):	15
CASING ELEV (FT ABOVE MSL):	494.54	WELL TYPE:	II	DIAMETER (IN):	2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
10/17/17	0.000019	<0.000016	<0.000015	<0.000019	<0.000016	<0.000013	<0.000016	<0.000016	<0.000014	<0.000009	<0.000017
01/25/18	<0.000007	<0.000014	<0.000011	<0.000015	<0.000012	<0.000013	<0.000012	<0.000013	<0.000010	<0.000010	<0.000019
04/19/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
07/12/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
01/17/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
05/01/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-9**		
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	492.70	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-9	04/08/19	0 - 3	<0.2000	**1.4100**	**23.0000**	10.5000	**45.0000**	79.9100	4.7000
MW-9	04/08/19	3 - 8	<0.2000	**0.9530**	7.2500	4.3100	**21.7000**	34.2130	1.9000
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
05/01/19	2.12	490.58	-	3.0
08/19/19	4.41	488.29	-	2.0
11/21/19	4.02	488.68	-	2.0
02/14/20	5.02	487.68	-	1.0
05/18/20	4.32	488.38	-	1.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
05/01/19	2.97	5.9	87
08/19/19	1.93	6.0	119
11/21/19	2.76	5.9	98
02/14/20	1.48	5.4	24
05/18/20	2.31	5.3	-32

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-9**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	492.70	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
05/01/19	<0.1000	**9.3080**	18.0495	2.9607	13.7237	44.0419	**0.7033**
08/19/19	<0.1000	**6.7490**	17.4393	1.9279	9.8621	35.9783	**0.5060**
11/21/19	<0.1000	**10.4643**	16.9832	3.5561	16.1438	47.1474	0.7953
02/14/20	<0.1000	**11.2142**	18.4020	3.6941	17.0673	50.3776	0.8120
05/18/20	<0.1000	**11.1776**	**27.8665**	2.3890	14.3304	55.7633	**0.6838**
GRP SSTLs:	**0.438**	**0.109**	**21.9**	**15.3**	**175**	**-**	**0.438**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-9**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	492.70	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
05/01/19	<0.00170	<0.00170	<0.00170	<0.00170	<0.00170	<0.00170	<0.00170	<0.00170	<0.00170	<0.00170	<0.00170
08/19/19	<0.00170	<0.00170	<0.00170	0.000598	0.000938	0.00176	**0.00174**	<0.00170	<0.00170	<0.00170	<0.00170
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	MW-10		
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	492.38	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-10	04/08/19	0 - 3	<0.0020	0.0060	0.0180	0.0020	0.0140	0.0400	<0.0100
MW-10	04/08/19	3 - 8	<0.0020	0.0080	0.0200	<0.0020	0.0070	0.0350	<0.0100
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
05/01/19	3.31	489.07	-	2.0
08/19/19	7.74	484.64	-	1.0
11/21/19	4.14	488.24	-	2.0
02/14/20	3.15	489.23	-	2.0
05/18/20	5.62	486.76	-	1.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
05/01/19	3.12	6.0	124
08/19/19	2.75	5.8	162
11/21/19	2.57	6.0	140
02/14/20	1.44	5.2	63
05/18/20	1.99	5.8	132

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-10**		
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	492.38	WELL TYPE: DIAMETER (IN):	II 2

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
05/01/19	0.0027	<0.0010	<0.0010	<0.0010	0.0011	0.0011	<0.0010
08/19/19	0.0100	0.0153	<0.0010	<0.0010	<0.0010	0.0153	<0.0010
11/21/19	0.0114	0.0185	<0.0010	<0.0010	<0.0010	0.0185	<0.0010
02/14/20	0.0077	0.0230	<0.0010	<0.0010	<0.0010	0.0230	<0.0010
05/18/20	0.0035	0.0082	<0.0010	<0.0010	<0.0010	0.0082	<0.0010
GRP SSTLs:	**0.38**	**0.0949**	**19**	**13.3**	**175**	**-**	**0.38**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-10**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	492.38	WELL TYPE: II DIAMETER (IN): 2

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
05/01/19	0.000075	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000369	0.000228	<0.000020
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	MW-11		
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.24	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-11	04/08/19	0 - 3	<0.0020	0.0060	0.0200	<0.0020	0.0090	0.0350	<0.0100
MW-11	04/08/19	3 - 8	<0.0020	0.0080	0.0350	0.0040	0.0240	0.0710	<0.0100
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
05/01/19	2.27	490.97	-	3.0
08/19/19	4.58	488.66	-	2.0
11/21/19	2.61	490.63	-	3.0
02/14/20	3.98	489.26	-	2.0
05/18/20	4.52	488.72	-	1.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
05/01/19	3.49	6.1	68
08/19/19	4.41	6.3	234
11/21/19	2.12	5.7	132
02/14/20	1.64	5.3	87
05/18/20	1.39	5.6	94

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-11**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.24	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
05/01/19	0.0054	0.0425	0.0105	0.0029	0.0139	0.0698	0.0016
08/19/19	0.0548	**0.4439**	<0.0010	<0.0010	0.0011	0.4450	<0.0010
11/21/19	0.0172	0.0584	<0.0010	<0.0010	<0.0010	0.0584	<0.0010
02/14/20	0.0529	**0.4971**	<0.0010	<0.0010	<0.0010	0.4971	<0.0010
05/18/20	0.0414	0.1759	<0.0010	<0.0010	<0.0010	0.1759	<0.0010
GRP SSTLs:	**1**	**0.251**	**50.1**	**35.1**	**175**	**-**	**1**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-11**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.24	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
05/01/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000027	<0.000020	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-12**		
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	494.13	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-12	04/08/19	0 - 3	<0.2000	**0.6670**	0.5620	0.5950	2.3700	4.1940	0.1410
MW-12	04/08/19	3 - 8	<0.2000	**0.4780**	<0.4000	1.6300	7.0200	9.1280	1.2500
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
05/01/19	3.42	490.71	-	2.0
08/19/19	5.28	488.85	-	2.0
11/21/19	3.83	490.30	-	2.0
02/14/20	4.61	489.52	-	1.0
05/18/20	5.03	489.10	-	1.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
05/01/19	2.05	5.8	108
08/19/19	3.32	6.1	127
11/21/19	2.46	6.0	108
02/14/20	1.45	4.7	44
05/18/20	1.76	5.1	14

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-12**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	494.13	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
05/01/19	0.0542	**9.7476**	1.8620	1.0834	3.7364	16.4294	0.2098
08/19/19	<0.0500	**11.3775**	1.6441	2.2885	7.6429	22.9530	0.5082
11/21/19	<0.0500	**13.8944**	0.6323	1.6742	3.1814	19.3823	0.4400
02/14/20	0.0605	**14.3067**	0.5629	1.7043	3.3192	19.8931	0.4411
05/18/20	0.0687	**13.7603**	0.3984	1.8623	4.5946	20.6156	0.5199
GRP SSTLs:	**1.22**	**0.306**	**61.2**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-12**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	494.13	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
05/01/19	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000078	0.000030	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-13**		
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	494.81	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-13	04/08/19	0 - 3	<0.0020	0.0050	0.0130	<0.0020	0.0070	0.0250	<0.0100
MW-13	04/08/19	3 - 8	<0.0070	0.0080	<0.0370	<0.0070	<0.0070	0.0080	<0.0370
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
05/01/19	2.12	492.69	-	3.0
08/19/19	3.79	491.02	-	2.0
11/21/19	3.42	491.39	-	2.0
02/14/20	3.21	491.60	-	2.0
05/18/20	4.19	490.62	-	1.5

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
05/01/19	2.68	5.9	79
08/19/19	3.51	6.2	164
11/21/19	1.79	6.0	200
02/14/20	1.79	5.8	132
05/18/20	2.74	5.0	83

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-13**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	494.81	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
05/01/19	0.0018	0.0013	<0.0010	<0.0010	0.0020	0.0033	<0.0010
08/19/19	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	BDL	0.0027
11/21/19	0.0013	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
02/14/20	0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/18/20	0.0011	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
GRP SSTLs:	**1.22**	**0.306**	**61.1**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-13**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	494.81	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
05/01/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000041	0.000035
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000109	0.000021	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-14**		
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.76	WELL TYPE: DIAMETER (IN):	II 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
MW-14	04/08/19	0 - 3	0.0120	**0.4950**	1.0300	3.0300	13.5000	18.0550	0.8070
MW-14	04/08/19	3 -8	<0.2000	**2.6000**	5.2300	13.7000	**67.0000**	88.5300	5.8300
		Onsite Tier II Inahalation SSTLs:	**160**	**0.0642**	**10.2**	**35.9**	**13.9**	-	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
05/01/19	4.52	489.24	-	2.0
08/19/19	3.67	490.09	-	2.0
11/21/19	4.32	489.44	-	2.0
02/14/20	4.51	489.25	-	1.0
05/18/20	3.92	489.84	-	2.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
05/01/19	1.55	5.7	39
08/19/19	2.59	5.7	148
11/21/19	3.06	5.8	163
02/14/20	1.56	5.0	65
05/18/20	2.16	5.5	-47

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-14**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.76	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
05/01/19	0.0992	**11.3416**	1.7318	1.9367	8.1752	23.1853	0.6508
08/19/19	<0.1000	**8.3251**	1.4398	1.4756	6.5843	17.8248	0.4830
11/21/19	<0.1000	**14.4351**	1.7119	2.4336	10.1654	28.7460	0.7504
02/14/20	0.1008	**17.9467**	2.7310	2.8380	10.5847	34.1004	0.7853
05/18/20	<0.1000	**15.1311**	1.7893	2.2370	9.3687	28.5261	0.8215
GRP SSTLs:	**1.22**	**0.306**	**61.2**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**MW-14**	
INSTALLATION DATE:	04/08/19	WELL DEPTH (FT BTOC):	10.5	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.76	WELL TYPE: II DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
05/01/19	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	0.000191	0.000206	<0.000170
08/19/19	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170	<0.000170
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**VW-1**		
INSTALLATION DATE:	09/27/17	WELL DEPTH (FT BTOC):	46.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	494.55	WELL TYPE: DIAMETER (IN):	III 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

SOIL ANALYTICAL SUMMARY (mg/Kg)

SAMPLE ID	SAMPLE DATE	DEPTH (FT)	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
VW-1	09/27/17	3 - 8	<0.0020	<0.0020	0.0160	0.0150	0.0880	0.1190	0.0880
VW-1	09/27/17	8 - 13	<0.0020	<0.0020	0.0110	<0.0020	0.0080	0.0190	<0.0100
Onsite Tier II Inahalation SSTLs:			**160**	**0.0642**	**10.2**	**35.9**	**13.9**	**-**	**10.9**

ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660	<0.0660
3.57	**11.8**	**5.49**	**6.46**	**3.87**	**3.44**	**2.23**	**35.4**	**53.6**	**49.4**

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
10/17/17	4.15	490.40	-	10.0
01/25/18	3.01	491.54	-	5.0
04/19/18	2.97	491.58	-	5.0
07/12/18	5.19	489.36	-	19.0
01/17/19	4.47	490.08	-	19.5
05/01/19	0.01	494.54	-	5.0
08/19/19	2.62	491.93	-	5.0
11/21/19	5.23	489.32	-	5.0
02/14/20	5.99	488.56	-	5.0
05/18/20	5.61	488.94	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
10/17/17	2.78	6.5	23
01/25/18	7.60	12.6	62
04/19/18	5.47	6.3	152
07/12/18	3.47	12.8	-28
01/17/19	5.31	13.3	-25
05/01/19	3.46	6.3	187
08/19/19	3.39	6.4	268
11/21/19	4.01	6.2	214
02/14/20	5.12	5.9	-44
05/18/20	4.21	5.9	-30

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**VW-1**	
INSTALLATION DATE:	09/27/17	WELL DEPTH (FT BTOC):	46.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	494.55	WELL TYPE: III DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/17/17	0.0032	0.2709	1.5542	0.1904	0.8512	2.8667	0.0466
01/25/18	<0.0100	**0.3062**	1.5108	0.1027	0.5106	2.4303	0.0133
04/19/18	<0.0100	0.3024	1.4705	0.1217	0.5453	2.4400	0.0228
07/12/18	<0.0100	**0.3776**	1.9958	0.1229	0.5773	3.0736	0.0263
01/17/19	<0.0100	**0.3957**	1.9659	0.1273	0.5550	3.0439	0.0248
05/01/19	<0.0100	0.0547	0.1299	0.0398	0.1785	0.4029	0.0234
08/19/19	<0.0010	0.0571	0.3460	0.0336	0.1440	0.5807	0.0081
11/21/19	0.0013	0.0748	0.2743	0.0157	0.0766	0.4414	0.0067
02/14/20	0.0025	0.2195	0.7953	0.0424	0.1845	1.2417	0.0107
05/18/20	<0.0100	0.2157	0.8451	0.0439	0.2218	1.3265	0.0236
GRP SSTLs:	**1.22**	**0.306**	**61.2**	**42.8**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**VW-1**	
INSTALLATION DATE:	09/27/17	WELL DEPTH (FT BTOC):	46.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	494.55	WELL TYPE: III DIAMETER (IN): 2

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
10/17/17	<0.000015	<0.000016	<0.000015	<0.000019	<0.000016	<0.000013	<0.000016	<0.000016	0.000002	0.000012	<0.000017
01/25/18	<0.000007	<0.000014	<0.000011	<0.000015	<0.000012	<0.000013	<0.000012	<0.000013	<0.000010	0.000011	<0.000019
04/19/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.000031	<0.000020
07/12/18	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	0.00002	<0.000020
01/17/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
05/01/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
08/19/19	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**RW-1**		
INSTALLATION DATE:	10/03/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.50	WELL TYPE: DIAMETER (IN):	II 4

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
11/21/19	2.51	490.99	-	5.0
02/14/20	1.51	491.99	-	5.0
05/18/20	4.09	489.41	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
11/21/19	1.92	6.0	172
02/14/20	1.72	5.1	90
05/18/20	2.25	5.2	70

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**RW-1**	
INSTALLATION DATE:	10/03/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.50	WELL TYPE: II DIAMETER (IN): 4

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
11/21/19	<0.0250	**8.7628**	8.3406	2.1910	8.3013	27.5957	0.7577
02/14/20	<0.1000	**12.2429**	8.5844	1.6035	8.7481	31.1790	0.5995
05/18/20	<0.1000	**13.1871**	10.9933	2.2111	9.8865	36.2780	0.7001
GRP SSTLs:	**0.799**	**0.2**	**40**	**28**	**175**	**-**	**0.799**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP		UST NUMBER:	17-03-08	WELL ID:	RW-1	
INSTALLATION DATE:	10/03/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT): 5	CASING ELEV (FT ABOVE MSL):	493.50	WELL TYPE: II DIAMETER (IN): 4

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**RW-2**		
INSTALLATION DATE:	10/03/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.71	WELL TYPE: DIAMETER (IN):	II 4

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
11/21/19	3.81	489.90	-	5.0
02/14/20	0.78	492.93	-	5.0
05/18/20	3.89	489.82	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
11/21/19	2.51	5.8	91
02/14/20	1.33	5.0	112
05/18/20	2.10	5.4	22

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**RW-2**	
INSTALLATION DATE:	10/03/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.71	WELL TYPE: II DIAMETER (IN): 4

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
11/21/19	<0.0250	**5.1300**	3.6631	0.5887	3.9178	13.2996	0.0752
02/14/20	0.0335	**7.1785**	1.4536	0.6738	3.4304	12.7363	0.0555
05/18/20	0.0257	**4.9311**	1.1059	0.6476	3.1578	9.8424	0.1161
GRP SSTLs:	**1.22**	**0.305**	**61**	**42.7**	**175**	**-**	**1.22**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**RW-2**
INSTALLATION DATE:	10/03/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.71
WELL TYPE:	II	DIAMETER (IN):	4				

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**RW-3**		
INSTALLATION DATE:	10/03/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.29	WELL TYPE: DIAMETER (IN):	II 4

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

POTENTIOMETRIC ELEVATION SUMMARY

MEASUREMENT DATE	DEPTH TO WATER (FT BTOC)	ELEVATION (FT ABOVE MSL)	FREE PRODUCT THICKNESS (FT)	PCW GALLONS REMOVED
11/21/19	2.87	490.42	-	5.0
02/14/20	2.24	491.05	-	5.0
05/18/20	4.63	488.66	-	5.0

INTRINSIC GROUNDWATER DATA SUMMARY

SAMPLE DATE	DISSOLVED OXYGEN (mg/L)	pH	REDOX POTENTIAL (mV)
11/21/19	3.10	6.1	148
02/14/20	1.82	5.1	50
05/18/20	1.85	5.5	38

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**RW-3**	
INSTALLATION DATE:	10/03/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT):	5	CASING ELEV (FT ABOVE MSL):	493.29	WELL TYPE: II DIAMETER (IN): 4

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
11/21/19	0.0178	0.0538	<0.0010	<0.0010	0.0011	0.0549	0.0022
02/14/20	0.0544	**2.0122**	0.0231	0.0727	0.1168	2.2248	0.0274
05/18/20	0.0730	**4.5532**	0.0530	0.3643	0.2738	5.2443	0.0930
GRP SSTLs:	**1.03**	**0.258**	**51.5**	**36.1**	**175**	**-**	**1.03**
Inhalation SSTLs:	**12,700**	**7.41**	**526**	**169**	**175**	**-**	**20.1**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP		UST NUMBER:	17-03-08	WELL ID:	RW-3	
INSTALLATION DATE:	10/03/19	WELL DEPTH (FT BTOC):	10.0	SCREEN LENGTH (FT): 5	CASING ELEV (FT ABOVE MSL): 493.29	WELL TYPE: / DIAMETER (IN):	II / 4

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	ANTHRACENE	BENZO(a) ANTHRACENE	BENZO(a) PYRENE	BENZO(b) FLUORANTHENE	BENZO(g,h,i) PERYLENE	BENZO(k) FLUORANTHENE	CHRYSENE	FLUORANTHENE	FLUORENE	PHENANTHRENE	PYRENE
11/21/19	NOT SAMPLED										
02/14/20	NOT SAMPLED										
05/18/20	NOT SAMPLED										
GRP SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**
Inhalation SSTLs:	**0.0434**	**0.0094**	**0.00162**	**0.0015**	**0.0007**	**0.0008**	**0.0016**	**0.206**	**1.98**	**1**	**0.135**

Monitoring Point Data Summary Table

SITE NAME:	Sikes Pine Level 231 BP			UST NUMBER:	17-03-08	WELL ID:	**Carbon Effluent**	
INSTALLATION DATE:	-	WELL DEPTH (FT BTOC):	-	SCREEN LENGTH (FT):	-	CASING ELEV (FT ABOVE MSL):	-	WELL TYPE: - DIAMETER (IN): -

Notes: BTOC (Below Top of Casing); MSL (Mean Sea Level); BDL (Below Detection Limit); CA (Corrective Action)

GROUNDWATER ANALYTICAL SUMMARY (mg/L)

SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
04/19/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
07/12/18	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/17/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/01/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
08/19/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
11/21/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
02/14/20	0.0043	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
05/18/20	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
ISLs:	**0.02**	**0.005**	**1**	**0.7**	**10**	**-**	**0.02**

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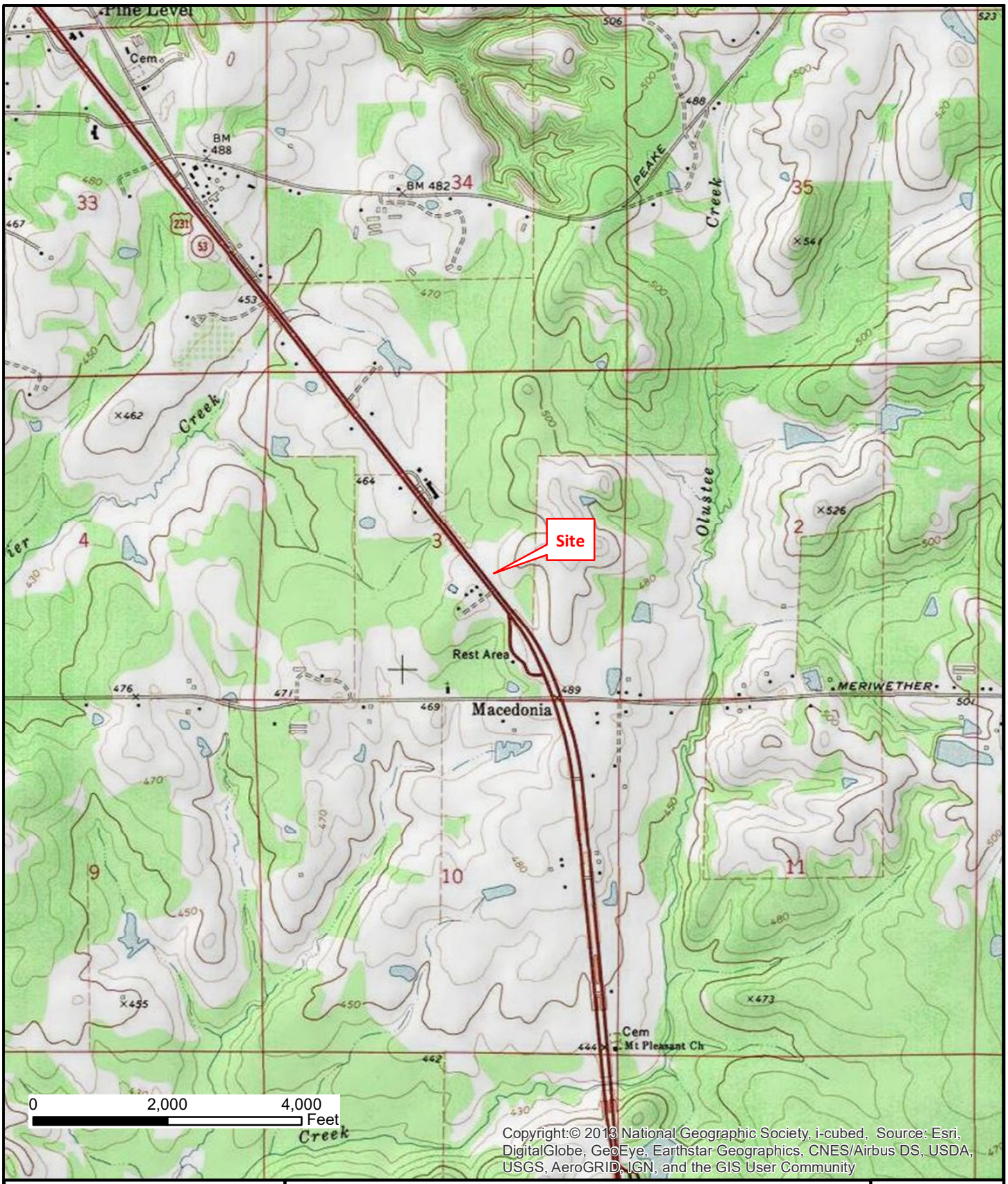
FIGURES

APPENDIX B



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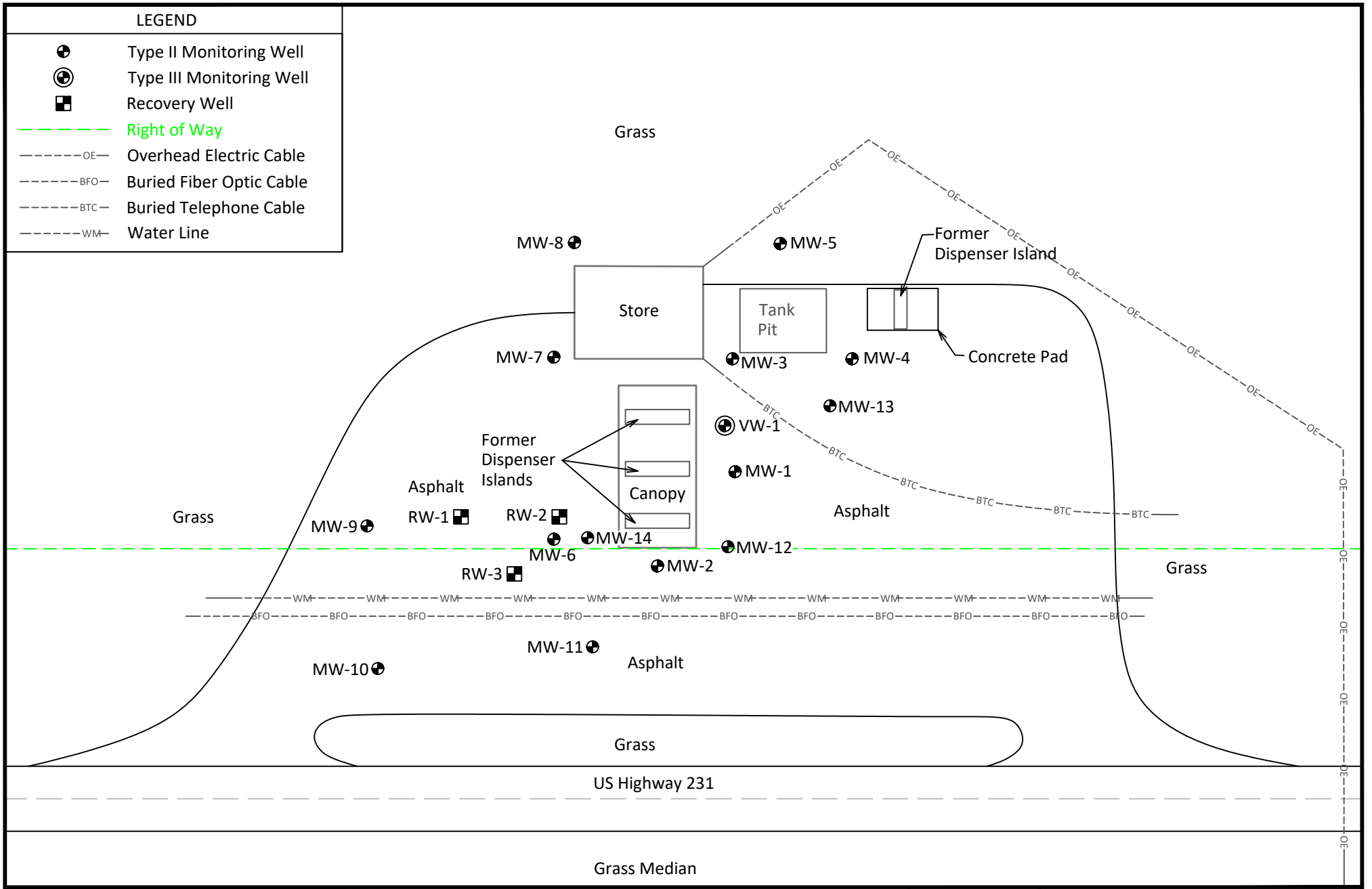
Site Location USGS Topographic Map

Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL

N



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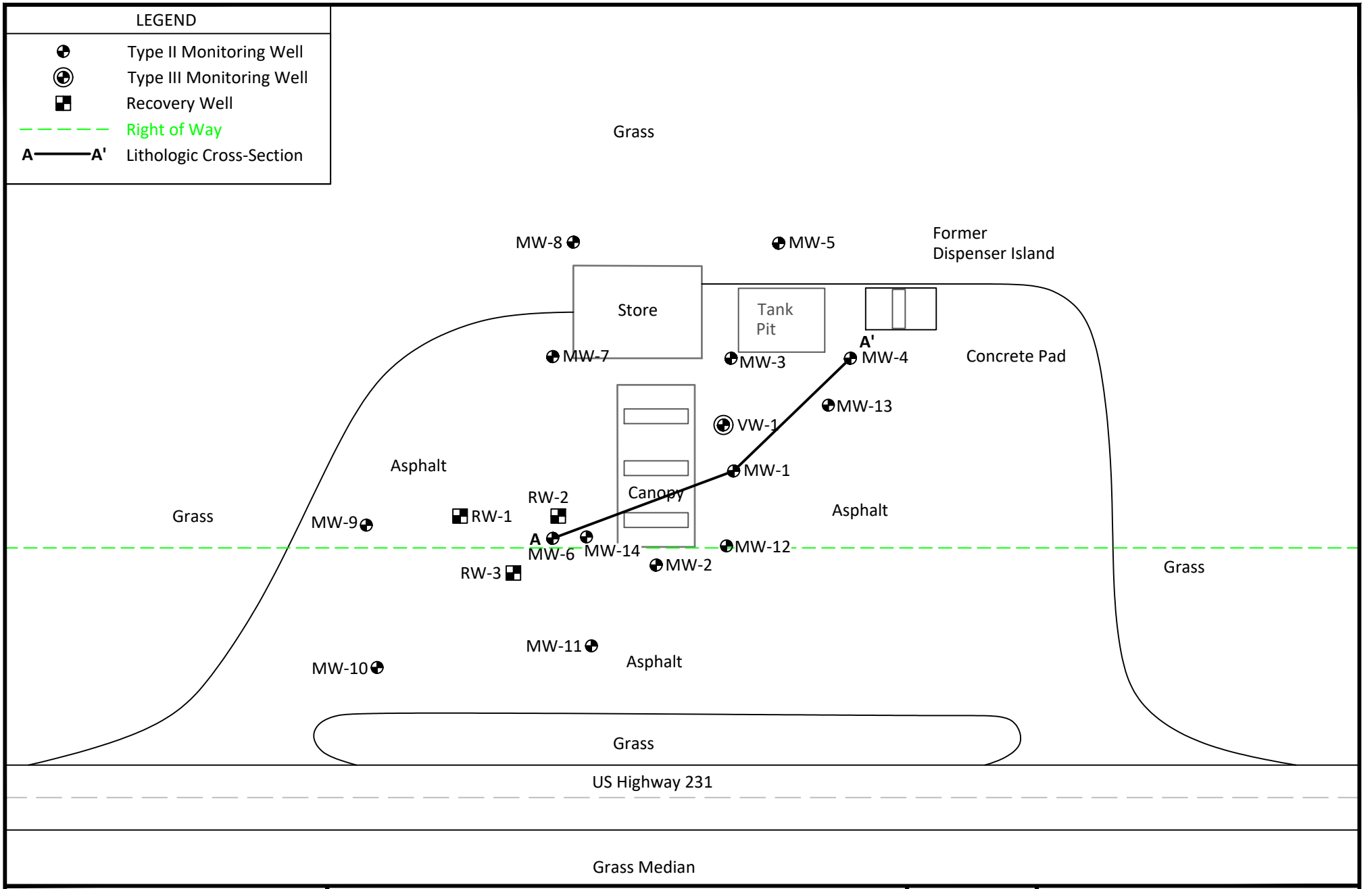
Site Map with Utility and Well Locations

Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL

Approximate Scale in Feet
0 50 100



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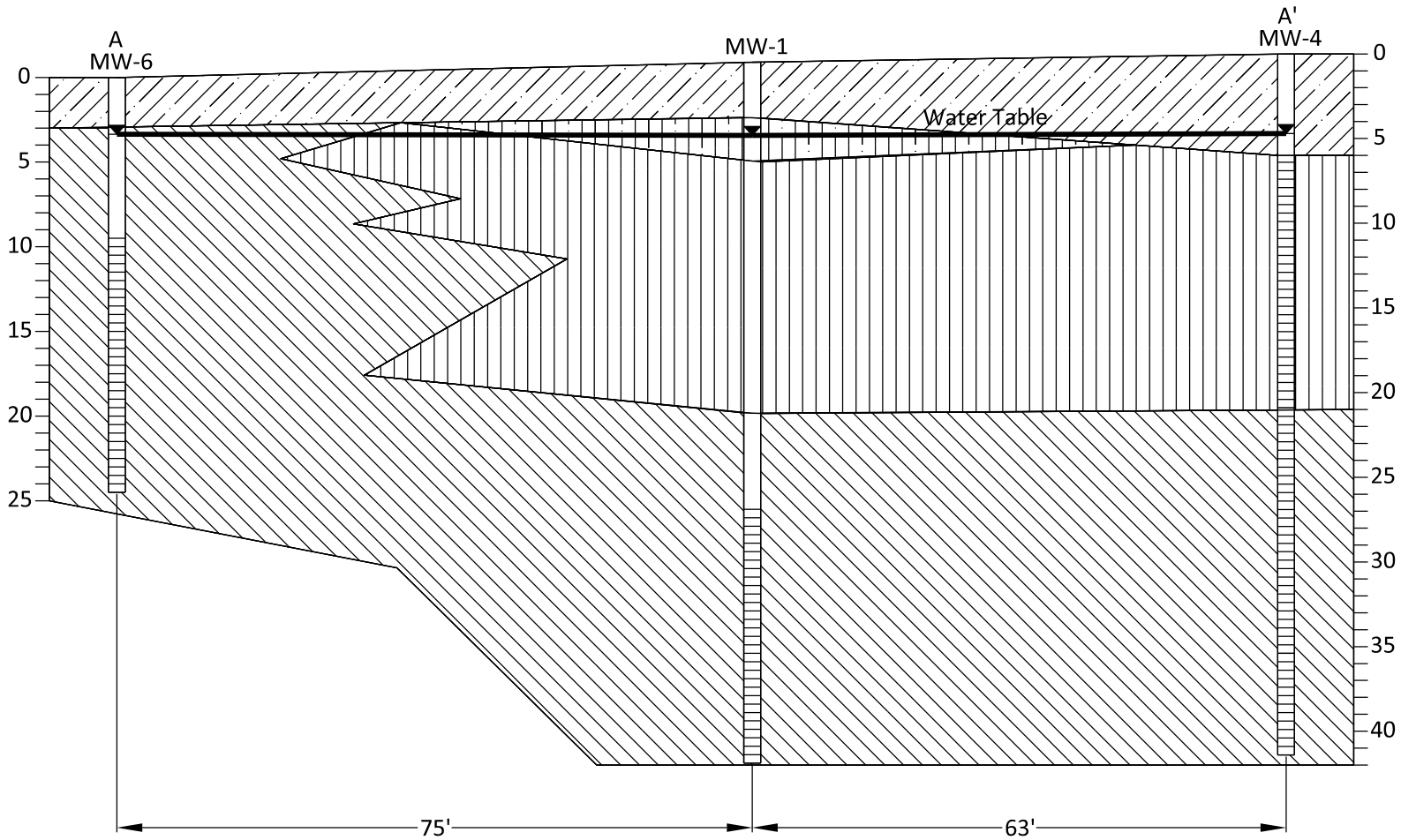
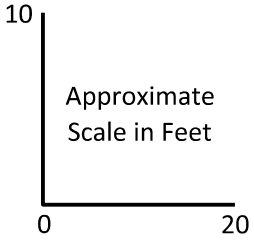
Lithologic Cross Section Location Map

Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL

Approximate Scale in Feet
0 50 100





Legend

- Clayey sand
- Sitly Sand
- Clayey Silt
- Silty Clay
- Screened Interval
- Groundwater Level

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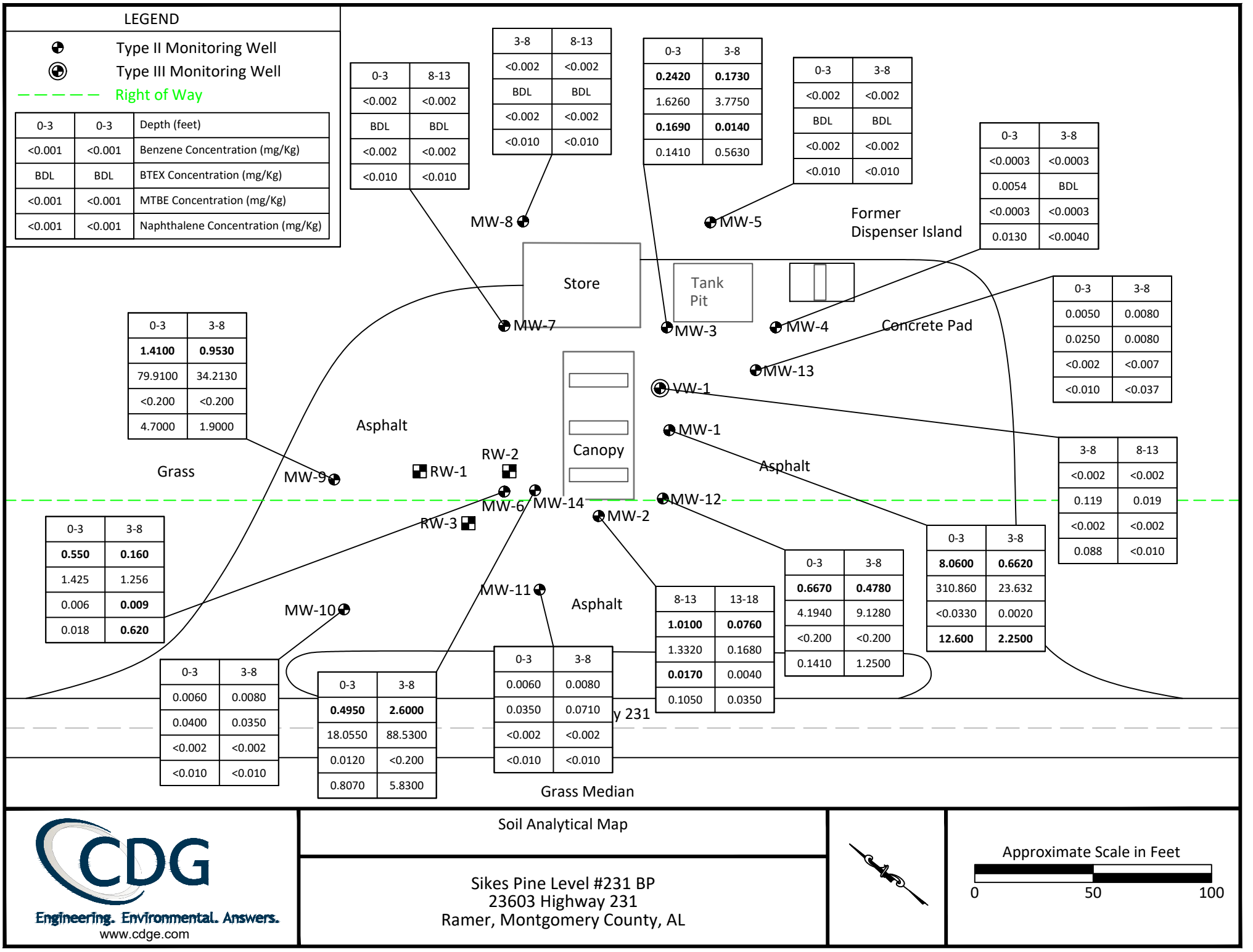
Lithologic Cross-Section A-A'

Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL


LEGEND
Type II Monitoring Well
Type III Monitoring Well
Right of Way
0-3 | 0-3 | Depth (feet)
<0.001 | <0.001 | Benzene Concentration (mg/Kg)
BDL | BDL | BTEX Concentration (mg/Kg)
<0.001 | <0.001 | MTBE Concentration (mg/Kg)
<0.001 | <0.001 | Naphthalene Concentration (mg/Kg)
0-3 | 8-13
<0.002 | <0.002
BDL | BDL
<0.002 | <0.002
<0.010 | <0.010
3-8 | 8-13
<0.002 | <0.002
BDL | BDL
<0.002 | <0.002
<0.010 | <0.010
MW-8
0-3 | 3-8
0.2420 | 0.1730
1.6260 | 3.7750
0.1690 | 0.0140
0.1410 | 0.5630
MW-5
0-3 | 3-8
<0.002 | <0.002
BDL | BDL
<0.002 | <0.002
<0.010 | <0.010
Former Dispenser Island
0-3 | 3-8
<0.0003 | <0.0003
0.0054 | BDL
<0.0003 | <0.0003
0.0130 | <0.0040
Store
Tank Pit
MW-7
MW-3
MW-4
Concrete Pad
0-3 | 3-8
0.0050 | 0.0080
0.0250 | 0.0080
<0.002 | <0.007
<0.010 | <0.037
MW-13
VW-1
MW-1
0-3 | 3-8
1.4100 | 0.9530
79.9100 | 34.2130
<0.200 | <0.200
4.7000 | 1.9000
Asphalt
Grass
MW-9
RW-1
RW-2
Canopy
Asphalt
3-8 | 8-13
<0.002 | <0.002
0.119 | 0.019
<0.002 | <0.002
0.088 | <0.010
MW-6
MW-14
MW-2
MW-12
RW-3
0-3 | 3-8
0.550 | 0.160
1.425 | 1.256
0.006 | 0.009
0.018 | 0.620
MW-10
MW-11
Asphalt
0-3 | 3-8
8.0600 | 0.6620
310.860 | 23.632
<0.0330 | 0.0020
12.600 | 2.2500
8-13 | 13-18
1.0100 | 0.0760
1.3320 | 0.1680
0.0170 | 0.0040
0.1050 | 0.0350
0-3 | 3-8
0.6670 | 0.4780
4.1940 | 9.1280
<0.200 | <0.200
0.1410 | 1.2500
0-3 | 3-8
0.0060 | 0.0080
0.0400 | 0.0350
<0.002 | <0.002
<0.010 | <0.010
0-3 | 3-8
0.4950 | 2.6000
18.0550 | 88.5300
0.0120 | <0.200
0.8070 | 5.8300
0-3 | 3-8
0.0060 | 0.0080
0.0350 | 0.0710
<0.002 | <0.002
<0.010 | <0.010
y 231
Grass Median
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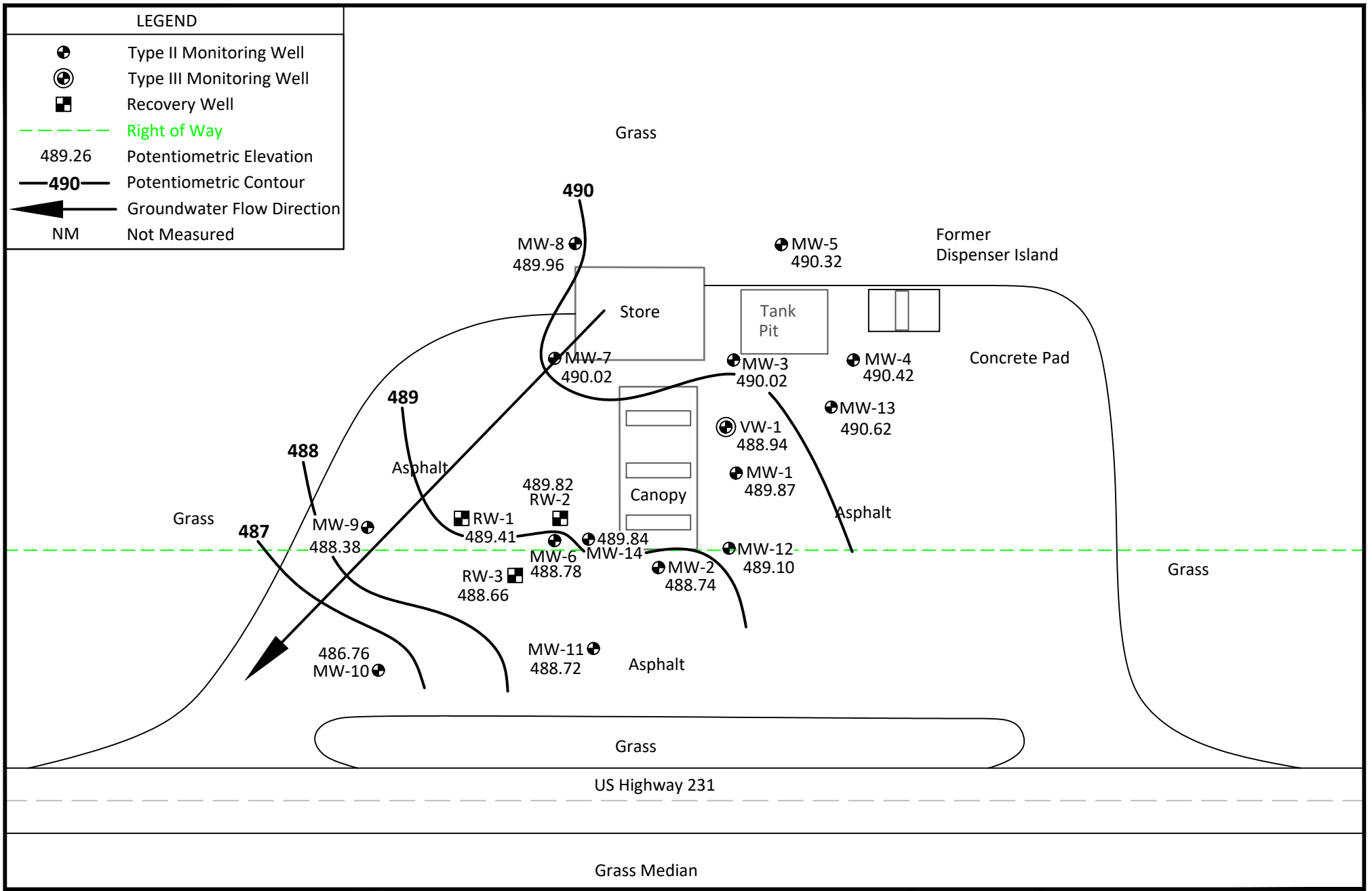
Soil Analytical Map
Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL
Approximate Scale in Feet
0
50
100



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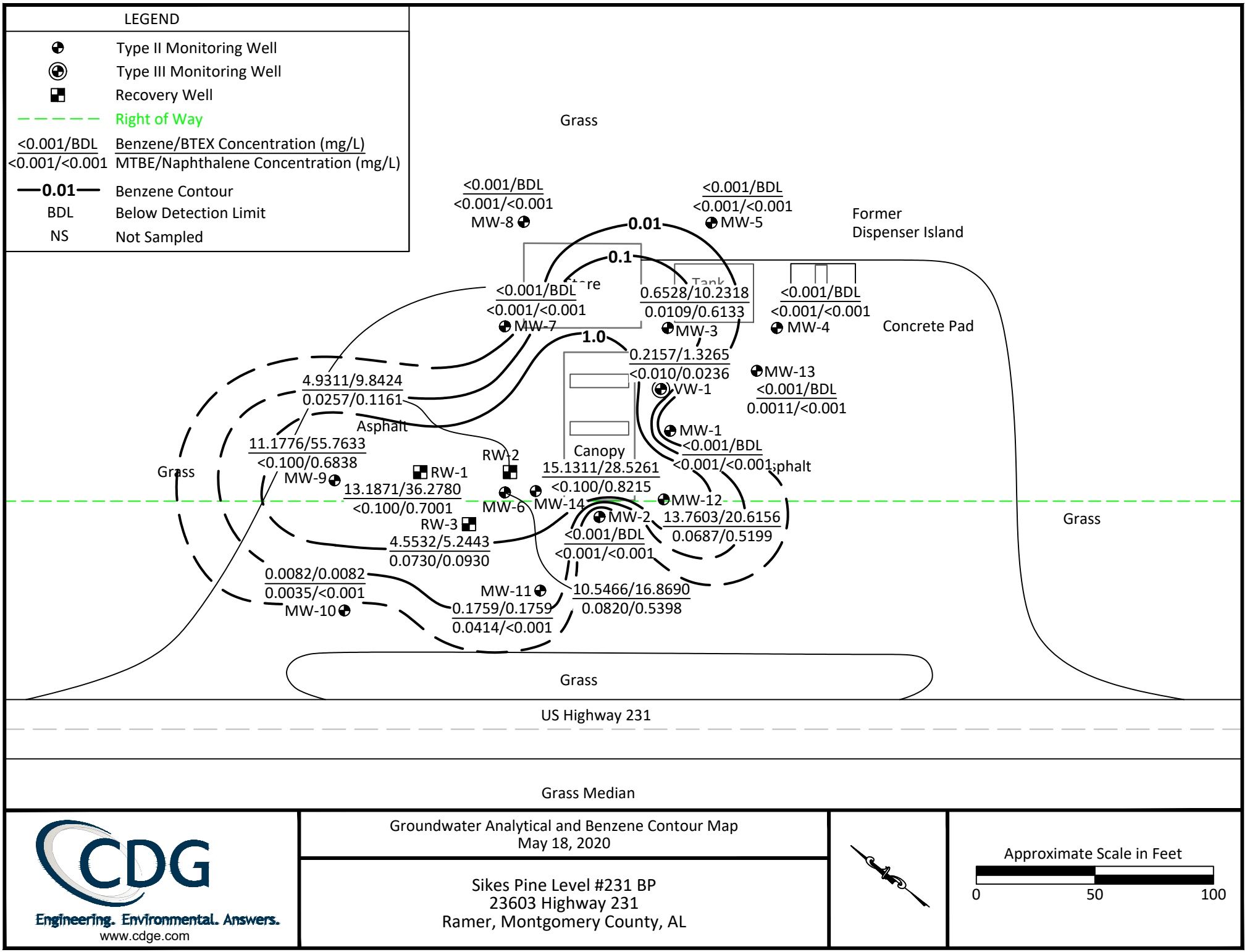
Potentiometric Surface Map
May 18, 2020

Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL

Approximate Scale in Feet
0 50 100



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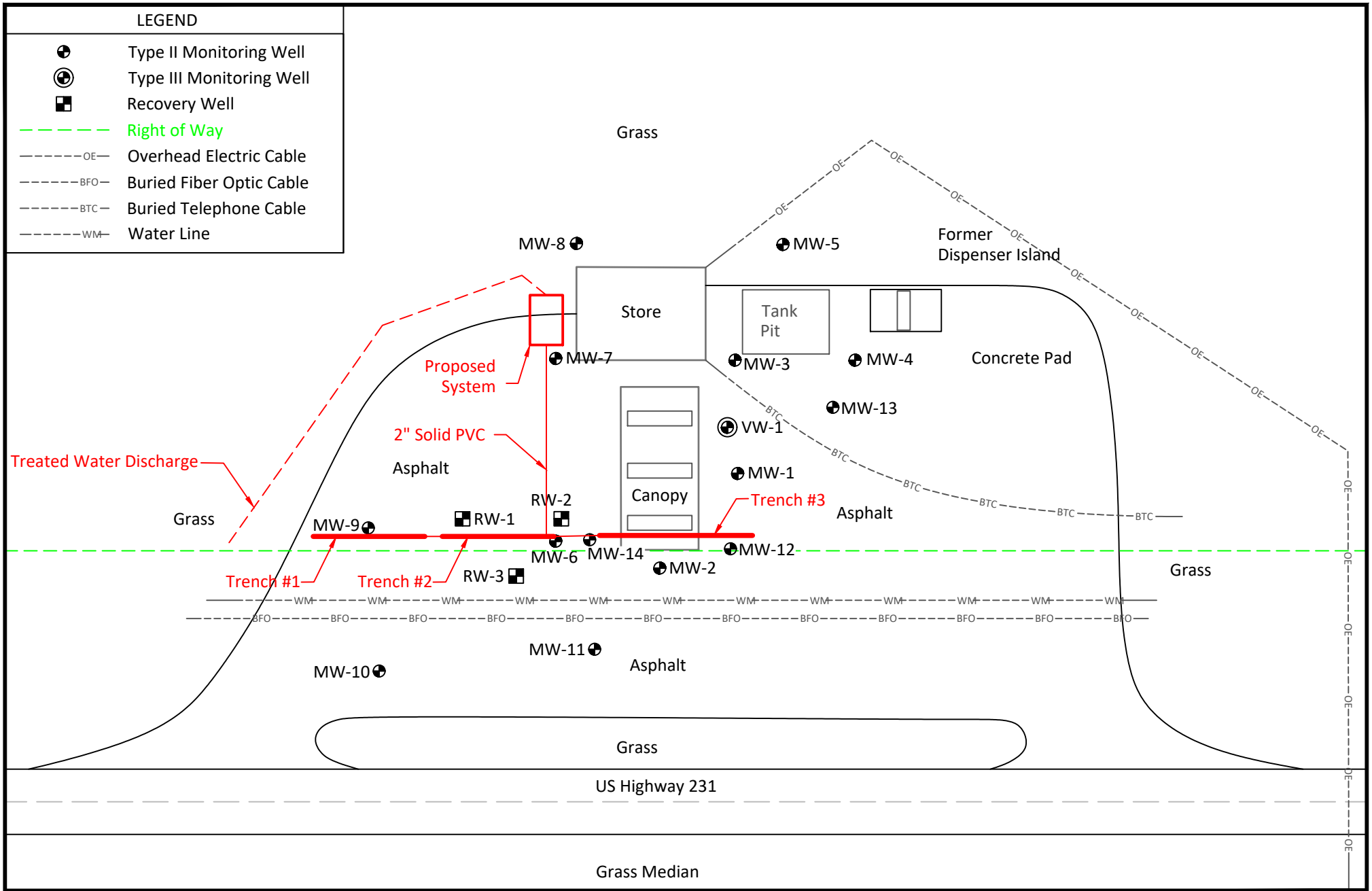
Groundwater Analytical and Benzene Contour Map
May 18, 2020

Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL

Approximate Scale in Feet
0 50 100


LEGEND
Type II Monitoring Well
Type III Monitoring Well
Recovery Well
Right of Way
Overhead Electric Cable
Buried Fiber Optic Cable
Buried Telephone Cable
Water Line
Grass
MW-8
MW-5
Former
Dispenser Island
Store
Tank
Pit
MW-7
MW-3
MW-4
Concrete Pad
Proposed
System
MW-13
VW-1
2" Solid PVC
Asphalt
MW-1
Canopy
Treated Water Discharge
RW-2
Trench #3
Asphalt
Grass
MW-9
RW-1
MW-6
MW-14
MW-12
MW-2
Trench #1
Trench #2
RW-3
Grass
MW-11
MW-10
Asphalt
Grass
US Highway 231
Grass Median
CDG
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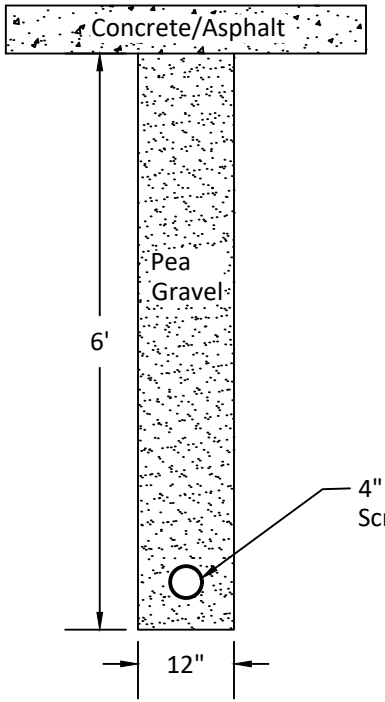
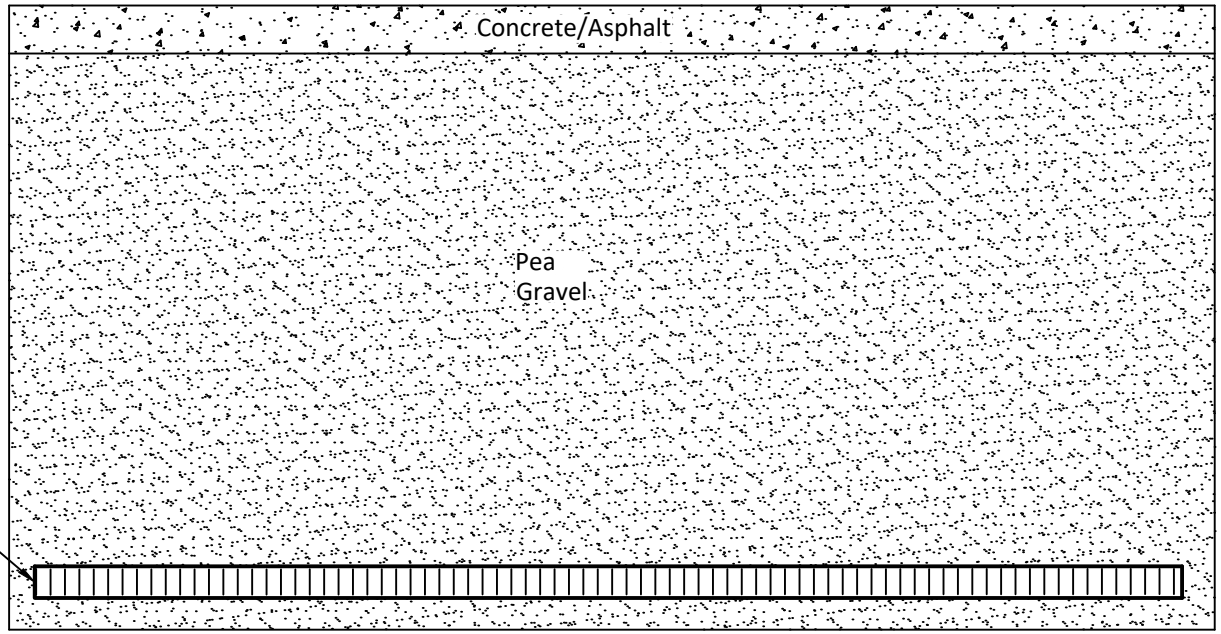
Proposed System Layout Map
Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL
Approximate Scale in Feet
0
50
100

FRONT PROFILE



SIDE PROFILE



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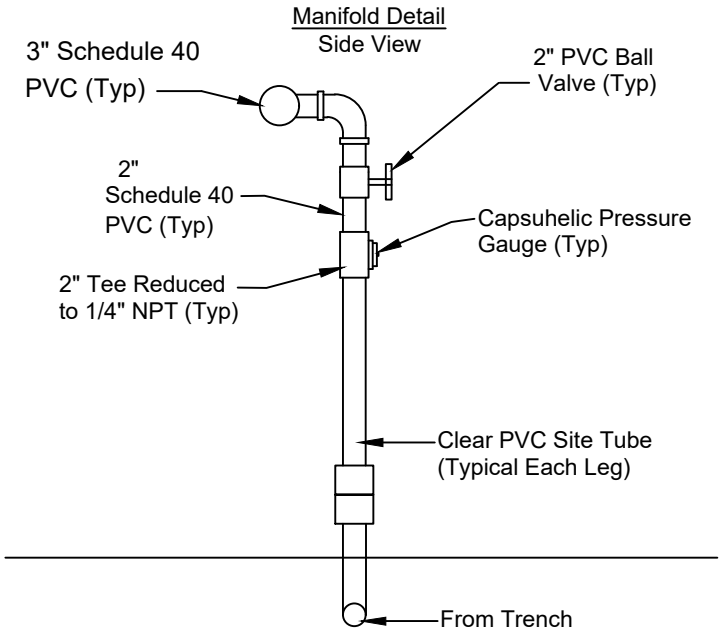
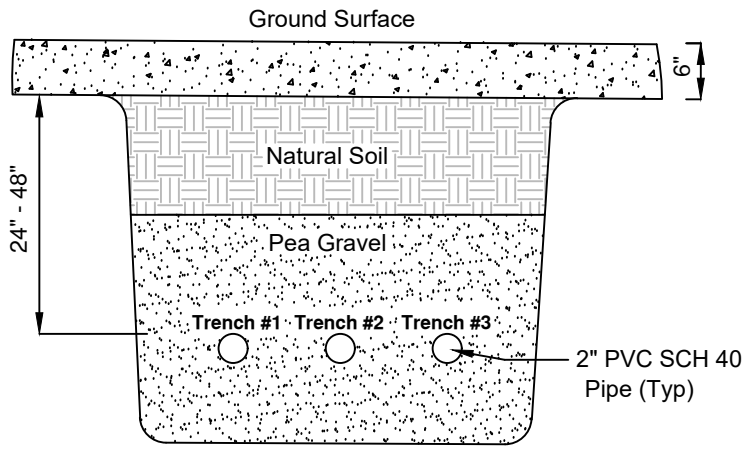
Trench Construction Detail

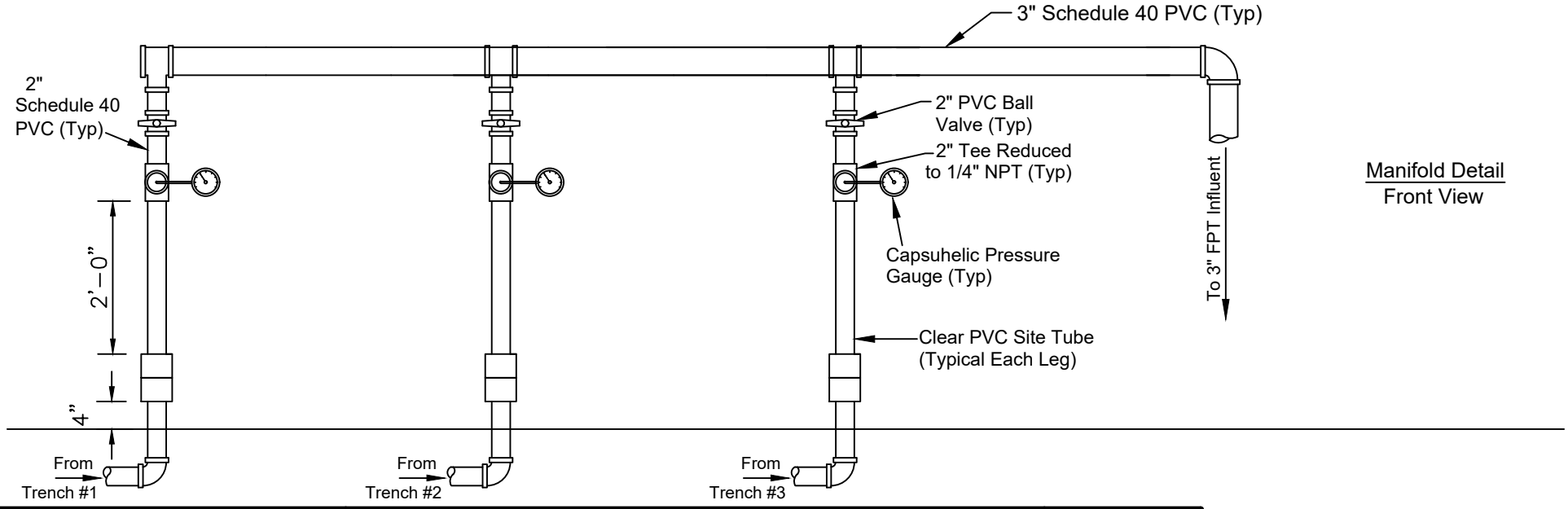
Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL

Approximate Scale in Feet

0 2 4







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Piping Cross Section and Manifold Detail

Sikes Pine Level #231 BP
23603 Highway 231
Ramer, Montgomery County, AL

Not to Scale

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EQUIPMENT SPECIFICATIONS

APPENDIX C

Engineering. Environmental. Answers.

Quote

September 29, 2020
Project Phase 20

Russell Oil Company, Inc.
P.O. Box 38
Lapine, AL 36046

Project: Sikes Pine Level 231 BP

CDG is pleased to provide this quote for the following equipment rental:

(1) CDG supplied DPVE Package system and building
-20 HP single stage oil sealed liquid ring blower with 300 ACFM @ 20"Hg capacity or greater
-200 gallon air/water separator
-1.5 HP transfer pumps
-15 GPM oil/water separator and air stripper treatment system
-Groundwater flow totalizer with pulse output for remote totalization
-Fleet Zoom cellular wireless telemetry
-Master control panel system
-System building, 8.5'W x 12'L x 9.5'H aluminum/steel fully insulated enclosure
-12,000BTU XP heater with XP thermostat
(2) Round trip freight services. Outbound and return after rental. Off and on loading services not included.

Pricing:

Monthly Rental		Monthly Price	Amount
12	- CDG Supplied DPE Package System and Building	$4,500.00	$54,000.00
	- (1) Round Trip Freight Services		$2,500.00

Notes:

1. Above rental is based on a nonrefundable 12-month commitment. Any rental beyond 12 months will be month-to-month.
2. CDG gets back this rental equipment after rental period.
3. Renter is responsible for removal and disposal of any spent carbon and/or carbon replacement
4. Renter is responsible for returning equipment with no significant damage other than normal wear and tear.
5. Rental price does not include installation.

Equipment Sub Total	$ 54,000.00
Freight	$ 2,500.00
Total this Invoice	**$ 56,000.00**

TERMS: Net 10 Days. When submitting remittance, please include project number. Client shall pay all costs and fees, including, but not limited to, Attorney's fees, incurred by CDG in the collection of any sums due for services rendered and related service expenses.

Remit Payment to: Post Office Box 278, Andalusia, AL 36420

CDG
Engineering. Environmental. Answers.

Quote

September 29, 2020
Phase No. 21

Russell Oil Company, Inc.
P.O. Box 38
Lapine, AL 36046

Project: Sikes Pine Level 231 BP

CDG is pleased to provide this proposal for the following equipment rental:

(2) 1,000 lbs vapor phase carbon vessel
-1,000 lbs initial load of reactivated carbon
-3' 8" diameter footprint by 4' 6" high steel vessel with forkliftable channel base
-8" inlet and outlet connections

Pricing:

Monthly Rental		Monthly Price	Amount
12	-(2) 1,000 lbs vessel w/initial carbon	$600	$7,200.00

Notes:

1. Above rental is based on a nonrefundable 12-month commitment (March 2021 – February 2022).
2. The rental fee will not exceed the purchase price of $12,988. If the rental fee extends beyond the purchase price, rental fees will no longer be charged.
3. CDG gets back this rental equipment after rental period.
4. Renter is responsible for removal and disposal of any spent carbon and/or carbon replacement
5. Renter is responsible for returning equipment with no significant damage other than normal wear and tear.
6. Rental price does not include installation.

Equipment Sub Total	$7,200.00
Freight	$1,000.00
Total this Quote	**$8,200.00**

TERMS: Net 10 Days. When submitting remittance, please include project number. Client shall pay all costs and fees, including, but not limited to, Attorney's fees, incurred by CDG in the collection of any sums due for services rendered and related service expenses.

Remit Payment to: Post Office Box 278, Andalusia, AL 36420

MK ENVIRONMENTAL INC.

765 Springer Drive
Lombard, IL. 60148-6412
615-392-7737

jgiltz@mkenv.com

QUOTATION

Date	9/4/2020
Quote No.	220064
Reference	Sikes Pine Level
Page No.	1 of 3
Freight	Included
Terms	PWP, Net 180
Ship Via	FLATBED
F.O.B.	Factory

SOLD TO:	**SHIP TO:**
Anna Brunson CDG Engineers & Associates Inc. 1840 US Hwy 29 North Andalusia, AL. 36420 334-222-9431	Sikes Pine Level 231 BP 23603 Highway 231 Ramer, AL.

Quotation valid for 90 days

QUANTITY		UNIT PRICE	AMOUNT
	200 amp 3/60/230 volt 4 wire plus ground electrical service Brought to NEMA 3R control Panel Interior electrical will comply with NEC requirements for Class 1, Division 2, Group D Hazardous locations Motors will be TEFC construction		
12	Month Rental Commitment of a MK DPVE Package 20 HP single stage oil sealed liquid ring blower or equal 300 ACFM @ 20"Hg. Capacity 3/60/230-460 volt, 40 HP TEFC motor Direct drive motor Oil Scavenge line Backpressure gauge Air/Oil Separator Temperature gauge Y strainer with clean out plug High temperature switch low and high oil level switches inlet filter inlet check valve (1) extra 5-gallon bucket of seal oil for top off	4,250.00	$51,000.00
1	200 gallon Air/water separator with conductivity probe level switches 10" diameter clean out ports with vacuum rated quick release lid Liquid filled vacuum gauge Vacuum assist hose tank drain valve Vacuum relief valve Dilution valve with filter/silencer Inlet screen		
1	1.5 hp transfer pump, 3450 rpm, TEFC motor Cast Iron housing with bronze impeller, anti air lock design manual "Pump ON" button inside building for sampling		
1	MKE Model SA15 STRIPPERATOR or Equal 15 GPM oil/water Separator and Air stripper treatment system Coalescing separator with skimming weir and water sump tank Low profile air stripping system with nylon aeration tubes and dual pattern diffusers 2.0 HP aluminum blower, AMCA B rated spark resistant Air pressure gauge Intrinsically safe high-high sump level and low blower pressure alarm switches Blower silencer		
1	1.5 hp transfer pump, 3450 rpm, TEFC motor Cast Iron housing with composite impeller, anti air lock design manual "Pump ON" button inside building for sampling		
1	Groundwater flow totalizer with pulse output for remote totalization Flow calibration button		
1	FleetZOOM FZ300 Cellular Wireless Monitoring Unit, or equal 14 Digital Inputs, 4 Digital Outputs, 2 Analog Input plus internal temperature and DC power monitoring. Includes: Cellular antenna, wiring diagrams, setup forms. Web based monitoring capabilities with graphing and data export. Email & SMS alarming capabilities. Annual renewal service invoiced at end of each year, due Jan of following year. Renewal: $420/yr per unit, BY OTHERS for this MK rental system. (subject to change)		

MK ENVIRONMENTAL INC.

CDG Engineers & Associates Inc.
1840 US Hwy 29 North

Date 9/4/2020
Quote No. 220064
Reference Sikes Pine Level

QUANTITY		UNIT PRICE	AMOUNT
1	Vacuum transducer integrated into telemetry system for real time monitoring, 4-20mA		
1	Master Control Panel System, Including: NEMA 3R control panel with blank front cover Swing out sub panel for gauges, control operators, and switches IEC Magnetic motor starters, safety switches, H-O-A controls Control transformer (8) intrinsically safe relays, (8) alarm indicator LED's, (16) output channels Hard wired relay logic (1) exterior GFCI utility outlet System run time totalizing hour meter Blower low pressure alarm Anti-falsing alarm circuit to prevent nuisance tripping Auto-release restart timer for remote restarts via telemetry Three phase voltage and phase monitor Emergency E-stop LED red indicator light located on swing out sub panel		
1	System building 8.5'W x 12'L or 16'L x 9.5'H aluminum/steel enclosure, fully insulated with Removable sliding wall panels for ease of maintenance Exterior grade plywood floor, structural steel frame Includes 100 watt XP interior light, and removable center grate for ease of maintenance The breaker panel and control panel will be mounted on a vertical steel bracket attached to platform end. The bracket, panels and all conduits will allow for the removal of the enclosure panels by one person. 10" structural steel base with 4" steel cross members Steel corner posts and roof frame Continuous sheet aluminum roof for superior protection		
1	12,000 BTU XP heater with XP thermostat. All components fully piped, wired and factory tested		
1	Equipment Electrical Installation Includes XP wiring, XP seal off connectors, liquid tight flexible conduit		
1	Equipment Mechanical Installation Includes mounting, piping and connectors		
1	200 Amp Fused Main Disconnect Weatherhead with extension pole and bracket support Electric meter socket base installed		
1	Round trip freight services. Outbound and return after rental. Off loading and on loading services with supervision provided by others.	5,000.00	$5,000.00
1	Startup & training services Based on 2-weeks notice.	2,500.00	$2,500.00
	NOTES: 1. Above MK rental is based on a 12-month commitment. 2. MK gets back this rental equipment after completion. MK retains title to the equipment. 3. Power and piping disconnect, decon, flushing of tanks, etc… by others after rental. MK to provide a Field Readiness Checklist upon system shutdown to be completed. 4. Full rental contract to apply. 5. MK standard warranty included during the duration of the paid rental. 6. FleetZoom wireless telemetry annual renewel service fee by others on this rental system.		

EQUIP. SUB TOTAL		$58,500.00
START UP/TRAINING		
FREIGHT		
NET TOTAL		$58,500.00

Does not include permits, fees, etc…
Offloading & placement by others.

Jerry Giltz
MK ENVIRONMENTAL, INC.

CDG Engineers & Associates Inc.
1840 US Hwy 29 North

Date 9/4/2020
Quote No. 220064
Reference Sikes Pine Level

QUANTITY		UNIT PRICE	AMOUNT
	MK Offgas Treatment Page: (Add to the Net Total)		
12	MONTH rental commitment Set of (2) Vapor Phase Carbon Vessels - Dual phase offgas - piped in series 1,000 lb vapor carbon vessels, empty. Carbon change out services require change order approval if required during rental period. 4" plain pipe fitting AWS3 condensate drum included Off loading, placement & piping provided by others	360.00	$4,320.00
2,000	lbs of reactivated carbon media fill each carbon vessel filled & shipped with 1,000 lbs of reactivated vapor phase carbon media	1.00	$2,000.00
1	Return freight after rental commitment is completed On loading services provided by others Carbon vessels need to be returned empty. MK can offer carbon disposal services if needed.	2,000.00	$2,000.00
1	Outbound freight included if shipped with the MK remediation system rental per this quote. Off loading & placment provided by others If not shipped with MK remediation system rental add $ 2000 to the net total below.		
	Notes:		
	1. Does not include carbon change out services when the initial load of carbon is spent. By others. MK can offer this service if needed. Requires change order approval.		
	2. Deos not include carbon vacuum and disposal services after the carbon rental is complete. By others. MK can offer this service if needed. Requires change order approval.		
	3. Off loading and on loading services after rental provided by others.		

EQUIP. SUB TOTAL	$8,320.00
EQUIP. SALES TAX	
START UP/TRAINING	
FREIGHT	
NET TOTAL	$8,320.00

Does not include permits, fees, etc…
Offloading & placement by others.

Jerry Giltz,
MK ENVIRONMENTAL, INC.

CDG

Engineering. Environmental. Answers.

NPDES PERMIT

APPENDIX D

LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

September 1, 2020

TOM RUSSELL
OWNER
RUSSELL OIL COMPANY, INC.
P.O. BOX 38
LAPINE AL 36046

RE: Sikes Pine Level 231 BP
23603 Highway 231
Ramer, AL 36069
Montgomery County (101)

Dear Mr. Russell:

Based on your request (as evidenced by the submittal of a Notice of Intent) coverage under **General NPDES Permit Number ALG340738** is granted. The effective date of coverage is September 1, 2020**.**

Coverage under this permit does not authorize the discharge of any pollutant or wastewater that is not specifically identified in the permit and by the Notice of Intent, which resulted in the granting of coverage. Those discharges identified in the NOI are:

Discharges	**Receiving Waters**
DSN001-1	Unnamed Tributary to Greenbrier Creek

You are responsible for compliance with all provisions of the permit including but not limited to, the performance of any monitoring, the submittal of any reports, and the preparation and implementation of any plans required by the permit.

Discharge Monitoring Reports (DMRs) must be submitted electronically via the Department's E2 Reporting System in accordance with Permit Condition I. C. To participate in this program, the Permittee Participation Package and registration forms may be downloaded online at https://e2.adem.alabama.gov/npdes. ADEM will not provide paper DMR forms due to the electronic reporting requirements.

If you discharge to an impaired waterway, additional Best Management Practices (BMPs) will be required. The Alabama Department of Environmental Management encourages you to exercise pollution prevention practices and alternatives at your facility. Pollution prevention will assist you in complying with effluent limitations and permit regulations.

A copy of the General NPDES Permit under which coverage of your discharges has been granted is enclosed. If you have any questions concerning this permit, please contact Vernetta Holdren by email at vholdren@adem.alabama.gov or by phone at (334) 394-4365.

Sincerely,

Jeffery W. Kitchens
Chief
Water Division

JWK/vjh File: NOI/FID: 64412.1

Enclosure: Permit

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
3664 Dauphin Street, Suite B
Mobile, AL 36608-1211
(251) 304-1176
(251) 304-1189 (FAX)

ADEM

ALABAMA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT

DISCHARGE AUTHORIZED:	DISCHARGES ASSOCIATED WITH PETROLEUM PRODUCTS CONSISTING OF STORM WATER, HYDROSTATIC TEST WATER, AND GROUNDWATER DISCHARGES RESULTING FROM THE STORAGE, HANDLING, TRANSPORTATION, SPILL CLEANUP, CONTAMINATED GROUNDWATER AND/OR SOIL REMEDIATION AND INVESTIGATION, OR OTHER OPERATIONS INVOLVING PETROLEUM AND ITS DERIVATIVES AND EXTERIOR VEHICLE WASHWATER
AREA OF COVERAGE:	THE STATE OF ALABAMA
PERMIT NUMBER:	ALG340738
RECEIVING WATERS:	ALL WATERS OF THE STATE NOT DESIGNATED OUTSTANDING NATIONAL RESOURCE WATER OR OUTSTANDING ALABAMA WATER

In accordance with and subject to the provisions of Federal Water Pollution Control Act, as amended, 33 U.S.C. §§1251-1388 (the "FWPCA"), the Alabama Water Pollution Control Act, as amended, ***Code of Alabama 1975,*** *§§22-22-1 to 22-22-14 (the "AWPCA"), the Alabama Environmental Management Act, as amended,* ***Code of Alabama 1975****, §§22-22A-1 to 22-22A-17, and rules and regulations adopted thereunder, and subject further to the terms and conditions set forth in this permit, the dischargers covered by this permit are hereby authorized to discharge into the above receiving waters.*

ISSUANCE DATE:	September 9, 2016
EFFECTIVE DATE:	February 1, 2017
EXPIRATION DATE:	January 31, 2022

Glenda L. Dean

Alabama Department of Environmental Management

PETROLEUM INDUSTRIES GENERAL PERMIT

TABLE OF CONTENTS

PETROLEUM PRODUCTS GENERAL PERMIT LIMITS
GENERAL NPDES PERMIT ALG340000
PART I

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN001: Groundwater and/or storm water incidental to groundwater cleanup operations which has been contaminated with automotive gasoline, aviation fuel, jet fuel, or diesel fuel.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	UNITS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS 1/	
		Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
Flow 2/	gal/day	-	Monitor	1/month	Instantaneous
pH	s.u.	6.0	8.5	1/month	Grab
Benzene 3/	µg/l	-	15.5	1/month	Grab
Ethylbenzene 4/	µg/l	-	1,244	1/month	Grab
Toluene 5/	µg/l	-	8,723	1/month	Grab
Xylene	µg/l	-	Monitor	1/month	Grab
Total Recoverable Lead 6/	µg/l	-	2.5	1/month	Grab
Naphthalene 7/	µg/l	-	620	1/month	Grab
Oil and Grease	mg/l	-	15	1/month	Grab
MTBE (Methyl Tertiary Butyl Ether)	µg/l	-	Monitor	1/month	Grab

THERE SHALL BE NO DISCHARGE OF DEBRIS. THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment.
2/ If groundwater is being discharged, monitoring shall be performed when remediated groundwater only is being discharged. If flows are intermittent, the flow volume may be estimated.
3/ The limit for benzene shall be 1.12 µg/l l if the discharge is to a body of water which is designated as a public water supply or within a 24 hour travel time to a body of water designated as a PWS.
4/ The limit for ethylbenzene shall be 448 µg/l l if the discharge is to a body of water which is designated as a public water supply or within a 24 hour travel time to a body of water designated as a PWS.
5/ The limit for toluene shall be 1,206 µg/l if the discharge is to a body of water which is designated as a public water supply or within a 24 hour travel time to a body of water designated as a PWS.
6/ To be monitored only when contamination resulted from leaded fuels or if required by the Department.
7/ To be monitored only when contamination resulted from aviation fuel, jet fuel, or diesel fuel.

PETROLEUM PRODUCTS GENERAL PERMIT LIMITS
GENERAL NPDES PERMIT ALG340000
PART I

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN002: Storm water runoff from petroleum storage and fueling areas. 7/

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	UNITS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS 1/	
		Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
Rainfall	inches	-	Monitor	1/quarter	2/
pH	s.u.	Monitor	Monitor	1/quarter	Grab
Benzene 3/	µg/l	-	15.5	1/quarter	Grab
Ethylbenzene 4/	µg/l	-	1,244	1/quarter	Grab
Toluene 5/	µg/l	-	8,723	1/quarter	Grab
Xylene	µg/l	-	Monitor	1/quarter	Grab
Naphthalene 6/	µg/l	-	620	1/quarter	Grab
Oil and Grease	mg/l	-	15	1/quarter	Grab
MTBE (Methyl Tertiary Butyl Ether)	µg/l	-	Monitor	1/quarter	Grab

THERE SHALL BE NO DISCHARGE OF DEBRIS. THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment.
2/ See Part IV.A.
3/ The limit for benzene shall be 1.12 µg/l if the discharge is to a body of water which is designated as a public water supply or within a 24 hour travel time to a body of water designated as a PWS.
4/ The limit for ethylbenzene shall be 448 µg/l if the discharge is to a body of water which is designated as a public water supply or within a 24 hour travel time to a body of water designated as a PWS.
5/ The limit for toluene shall be 1,206 µg/l if the discharge is to a body of water which is designated as a public water supply or within a 24 hour travel time to a body of water designated as a PWS.
6/ To be monitored only at facilities which handle diesel fuel.
7/ If fueling operations are the only industrial activities occurring within the drainage area, then DSN004 applies for the discharge, unless the Department deems it necessary to require monitoring under DSN002 in addition to DSN004.

PETROLEUM PRODUCTS GENERAL PERMIT LIMITS
GENERAL NPDES PERMIT ALG340000
PART I

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN004: Discharge limitations and monitoring requirements for uncontaminated storm water from equipment maintenance and storage, fueling, and petroleum storage and handling areas.

Such discharge shall be limited and monitored by the permittee as specified below:

1. The facility will have a valid Spill Prevention, Control, and Countermeasures (SPCC) plan, if required, pursuant to 40 CFR 112.

2. Best Management Practices (BMP) will be used to prevent pollution of storm water by spillage or leakage during petroleum handling and fueling operations and from equipment maintenance and storage areas. The BMP shall include at a minimum:

    a. Twice per week inspections of the area and removal of any leaked petroleum product;
    b. Immediate cleanup of spilled or leaked petroleum product during handling operations, including fueling; and
    c. All cleanup activities shall be conducted using dry sweep or other approaches that do not result in the creation of polluted wastewater or storm water runoff.

3. Records shall be maintained in the form of a log and shall contain the following information, at a minimum:

    a. Date and time of inspections;
    b. Any cleanup accomplished as a result of the inspection
    c. Time the cleanup was initiated and the time it was completed;
    d. Initials of person making visual inspection and performing any cleanup; and
    e. Description of any spillage occurring during petroleum handling, which shall include the date and time of the spill, estimated volume of spill, name of the person observing the spill, date and time the spill was cleaned up, and name of the person cleaning up the spill.

4. Best Management Practices (BMP) are used in draining the diked area. BMP is defined as use of a portable oil skimmer or similar device or the use of absorbant material to remove oil and grease (as indicated by the presence of a sheen) immediately prior to draining.

5. Monitoring records for dike drainage shall be maintained in the form of a log and shall contain the following information, at a minimum:

    a. Date and time of discharge;
    b. Estimated volume of discharge;
    c. Initials of person making visual inspection and authorizing discharge.

6. The discharge shall have no sheen, and there shall be no discharge of visible oil, floating solids or visible foam in other than trace amounts.

***** 7. The permittee shall submit an **Annual Certification** by January 28th that all discharges during the preceding year, associated with the above, were in accordance with the conditions of the permit.

PETROLEUM PRODUCTS GENERAL PERMIT LIMITS
GENERAL NPDES PERMIT ALG340000
PART I

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN005: Vehicle and equipment exterior washing operations (excluding commercial car washes) that DO NOT use solvents.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	UNITS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS 1/	
		Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
Flow	gal/day	-	Monitor	1/week	Instantaneous 2/
pH	s.u.	6.0	8.5	1/month	Grab
Oil and Grease	mg/l	-	15	1/month	Grab
Phosphorus, Total	mg/l	-	1.0	1/month	Grab
Total Suspended Solids	mg/l	-	50	1/month	Grab

THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment.
2/ If flows are intermittent, the flow volume may be estimated.

PETROLEUM PRODUCTS GENERAL PERMIT LIMITS
GENERAL NPDES PERMIT ALG340000
PART I

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

DSN007: Hydrostatic test water generated on site. 3/

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTIC	UNITS	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS 1/	
		Daily Minimum	Daily Maximum	Monthly Average 2/	Measurement Frequency	Sample Type
Flow	gal/day	-	Monitor	-	1/month	Instantaneous
pH	s.u.	6.0	8.5	-	1/month	Grab
Total Recoverable Lead 4/ 11/	µg/l	-	2.5	-	1/month	Grab
Benzene 5/11/	µg/l	-	15.5		1/month	Grab
Ethylbenzene 6/ 11/	µg/l	-	1,244		1/month	Grab
Toluene 7/ 11/	µg/l	-	8,723		1/month	Grab
Xylene 11/	µg/l	-	Monitor		1/month	Grab
Naphthalene 8/ 11/	µg/l	-	620	-	1/month	Grab
Oil and Grease	mg/l	-	15	-	1/month	Grab
Total Residual Chlorine 9/ 10/	mg/l	-	0.019	0.011	1/month	Grab
MTBE (Methyl Tertiary Butyl Ether) 11/	µg/l	-	Monitor	-	1/month	Grab

ALL DISCHARGES SHALL MEET THE FOLLOWING CONDITIONS:

- ALL WATERS SHALL BE DISCHARGED IN A MANNER TO PREVENT EROSION OF SOIL OR OTHER MATERIALS INTO SURFACE WATERS.
- ALL WATERS SHALL BE TREATED IF NECESSARY TO REMOVE SUSPENDED SOLIDS AND TURBIDITY TO A LEVEL CONSISTENT WITH THE RECEIVING WATERS;
- THE DISCHARGE SHALL HAVE NO SHEEN, AND THERE SHALL BE NO DISCHARGE OF VISIBLE OIL, FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

1/ Samples collected to comply with the monitoring requirements specified above shall be collected at the following location: At the nearest accessible location just prior to discharge and after final treatment.
2/ Monthly average limits apply only when a parameter is monitored more than once in a month.
3/ Best Management Practices (BMP) are to be used. BMP is defined as the use of portable oil skimmer or similar device, or the use of absorbant material to remove oil and grease (as indicated by the presence of a sheen) immediately prior to draining.
4/ Monitoring of lead is not required if leaded fuel has not been handled or for hydrostatic test water if leaded fuel has not been present in the pipeline for 30 days prior to monitoring.
5/ The limit for benzene shall be 1.12 µg/l if the discharge is to a body of water which is designated as a public water supply or within a 24 hour travel time to a body of water designated as a PWS.
6/ The limit for ethylbenzene shall be 448 µg/l if the discharge is to a body of water which is designated as a public water supply or within a 24 hour travel time to a body of water designated as a PWS.
7/ The limit for toluene shall be 1,206 µg/l if the discharge is to a body of water which is designated as a public water supply or within a 24 hour travel time to a body of water designated as a PWS.
8/ To be monitored only at facilities which handle diesel fuel.
9/ Monitoring is not required if the source water is free of chlorine and no chlorine is added by the permittee.
10/ A measurement of TRC below 0.05 mg/l shall be considered in compliance with the permit limitations above and should be reported as NODI=B or *B on the discharge monitoring reports.
11/ Monitoring is not required for testing new pipe that has not transported product.

PETROLEUM PRODUCTS GENERAL PERMIT LIMITS
GENERAL NPDES PERMIT ALG340000
PART I

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the expiration date of this permit, the permittee is authorized to discharge from the following point source(s) outfall(s), described more fully in the permittee's application:

Discharge Monitoring Requirements applicable to all storm water discharges.

Monitoring of one storm water outfall within a designed drainage area as representative of the remaining outfalls, may be allowed if the applicant submits certification that the discharges are essentially the same. If at a later date the discharges are determined to be dissimilar or if pollutant concentrations are such that water quality standards are contravened, then monitoring of all discharges may be required.

B. DISCHARGE MONITORING AND RECORD KEEPING REQUIREMENTS

1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge and shall be in accordance with the provisions of this permit.

2. Test Procedures

For the purpose of reporting and compliance, permittees shall use the Minimum Level (ML) as established by EPA. All analytical values at or above the ML shall be reported as the measured value. Values below the ML shall be reported as "0". Test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and guidelines published pursuant to Section 304(h) of the FWPCA, 33 U.S.C. Section 1314(h). If more than one method for analysis of a substance is approved for use, a method having a minimum level lower than the permit limit shall be used. If the minimum level of all methods is higher than the permit limits, the method having the lowest minimum level shall be used and a report of less than the minimum level shall be reported as zero and will constitute compliance, however should EPA approve a method with a lower minimum level during the term of this permit the permittee shall use the newly approved method.

For pollutant parameters without an established ML, an interim ML may be utilized. The interim ML shall be calculated as 3.18 times the Method Detection Level (MDL) calculated pursuant to 40 CFR Part 136, Appendix B.

Permittees may develop an effluent matrix-specific ML, where an effluent matrix prevents attainment of the established ML. However, a matrix specific ML shall be based upon proper laboratory method and technique. Matrix-specific MLs must be approved by the Department, and may be developed by the permittee during permit issuance, reissuance, modification, or during compliance schedule.

When an EPA approved test procedure for analysis of a pollutant does not exist, the Director shall approve the procedure to be used.

3. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The facility name and location, point source number, date, time and exact place of sampling;

b. The name(s) of person(s) who obtained the samples or measurements;

c. The dates and times the analyses were performed;

d. The name(s) of the person(s) who performed the analyses;

e. The analytical techniques or methods used, including source of method and method number; and

f. The results of all required analyses.

4. Records Retention and Production

a. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by the permit, and records of all data used to complete the above reports or the application for this permit, for a period of at least three years from the date of the sample measurement, report or application. This period may be extended by request of the Director at any time. If litigation or other enforcement action, under the AWPCA and/or the FWPCA, is ongoing which involves any of the above records, the records shall be kept until the litigation is resolved. Upon the written request of the Director or his designee, the permittee shall provide the Director with a copy of any record required to be retained by this paragraph. Copies of these records shall not be submitted unless requested.

b. All records required to be kept for a period of three years shall be kept at the permitted facility or an alternate location approved by the Department in writing and shall be available for inspection. A complete copy of the permit, the Best Management Practices (BMP) Plan, most recent BMP inspection records, and, if applicable, a Spill Prevention, Control, and Countermeasures (SPCC) Plan shall be maintained at the facility. The past three years of DMRs, laboratory records, and historical BMP inspection and training records may be kept at an alternate Alabama location if approved by the Department.

5. Monitoring Equipment and Instrumentation

All equipment and instrumentation used to determine compliance with the requirements of this permit shall be installed, maintained, and calibrated in accordance with the manufacturer's instructions or, in the absence of manufacturer's instructions, in accordance with accepted practices. At a minimum, flow measurement devices shall be calibrated at least once every 12 months.

C. DISCHARGE REPORTING REQUIREMENTS

1. Reporting of Monitoring Requirements

a. This permit requires weekly, monthly, and quarterly self monitoring. The permittee shall conduct the required monitoring in accordance with the following schedule:

MONITORING REQUIRED MONTHLY AND MORE FREQUENTLY THAN MONTHLY shall be conducted during the first full month following the effective date of initial coverage under this permit and every month thereafter.

QUARTERLY MONITORING shall be conducted at least once during each calendar quarter. Calendar quarters are the periods of January through March, April through June, July through September, and October through December. The permittee shall conduct the quarterly monitoring during the first full quarter following the effective date of initial coverage and each quarter thereafter.

b. The permittee shall submit discharge monitoring reports (DMRs) in accordance with the following schedule:

REPORTS OF MORE FREQUENTLY THAN MONTHLY, MONTHLY, QUARTERLY, AND SEMI-ANNUAL MONITORING shall be submitted on a semiannual basis. The semiannual reports shall be submitted so that they are received by the Department no later than the 28th day of July and the 28th day of January, unless otherwise directed by the Department. Each submittal shall report results of all testing performed during the six month period preceding the reporting month. For example, the semiannual report due on January 28 should report the results of testing conducted during the months of July through December.

c. Except as allowed by Provision I.C.1.c.(1) or (2), the permittee shall submit all Discharge Monitoring Reports (DMRs) required by Provision I.C.1.b. by utilizing the Department's web-based Electronic Environmental (E2) Reporting System.

(1) If the permittee is unable to complete the electronic submittal of DMR data due to technical problems originating with the Department's E2 Reporting System (this could include entry/submittal issues with an entire set of DMRs or individual parameters), the permittee is not relieved of their obligation to submit DMR data to the Department by the date specified in Provision I.C.1.b., unless otherwise directed by the Department.

If the E2 Reporting System is down on the 28th day of the month in which the DMR is due or is down for an extended period of time, as determined by the Department, when a DMR is required to be submitted, the permittee may submit the data in an alternate manner and format acceptable to the Department. Preapproved alternate acceptable methods include faxing, e-mailing, mailing, or hand-delivery of data such that they are received by the required reporting date. Within five calendar days of the E2 Reporting System resuming operation, the permittee shall enter the data into the E2 Reporting System, unless an alternate timeframe is approved by the Department. An attachment

should be included with the E2 DMR submittal verifying the original submittal date (date of the fax, copy of dated e-mail, or hand-delivery stamped date), if applicable.

(2) The permittee may submit a request to the Department for a temporary electronic reporting waiver for DMR submittals. The waiver request should include the permit number; permittee name; facility/site name; facility address; name, address, and contact information for the responsible official or duly authorized representative; a detailed statement regarding the basis for requesting such a waiver; and the duration for which the waiver is requested. Approved electronic reporting waivers are not transferrable.

Permittees with an approved electronic reporting waiver for DMRs may submit hard copy DMRs for the period that the approved electronic reporting waiver request is effective. The permittee shall submit the Department-approved DMR forms to the address listed in Provision I.C.1.e.

(3) If a permittee is allowed to submit a hard copy DMR, the DMR must be legible and bear an original signature. Photo and electronic copies of the signature are not acceptable and shall not satisfy the reporting requirements of this permit.

(4) If the permittee, using approved analytical methods as specified in Provision I.B.2, monitors any discharge from a point source for a limited substance identified in Provision I.A. of this permit more frequently than required by this permit, the results of such monitoring shall be included in the calculation and reporting of values on the DMR and the increased frequency shall be indicated on the DMR.

(5) In the event no discharge from a point source identified in Provision I.A. of this permit and described more fully in the permittee's application occurs during a monitoring period, the permittee shall report "No Discharge" for such period on the appropriate DMR.

d. All reports and forms required to be submitted by this permit, the AWPCA and the Department's Rules and Regulations, shall be electronically signed (or, if allowed by the Department, traditionally signed) by a "responsible official" of the permittee as defined in ADEM Administrative Code Rule 335-6-6-.09 or a "duly authorized representative" of such official as defined in ADEM Administrative Code Rule 335-6-6-.09 and shall bear the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

e. Discharge Monitoring Reports required by this permit, the AWPCA, and the Department's Rules that are being submitted in hard copy shall be addressed to:

Alabama Department of Environmental Management
Permits and Services Division
Environmental Data Section
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail containing Discharge Monitoring Reports shall be addressed to:

Alabama Department of Environmental Management
Permits and Services Division
Environmental Data Section
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400

f. All other correspondence and reports required to be submitted by this permit, the AWPCA, and the Department's Rules shall be addressed to:

Alabama Department of Environmental Management
Water Division
Post Office Box 301463
Montgomery, Alabama 36130-1463

Certified and Registered Mail shall be addressed to:

Alabama Department of Environmental Management
Water Division
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2400

2. Noncompliance Notification

a. If for any reason, the permittee's discharge (1) does not comply with any daily minimum or maximum discharge limitation for an effluent characteristic specified in Provision I. A. of this permit which is denoted by an "(X)", (2) threatens human health or welfare, fish or aquatic life, or water quality standards, (3) does not comply with an applicable toxic pollutant effluent standard or prohibition established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a), (4) contains a quantity of a hazardous substance which has been determined may be harmful to public health or welfare under Section 311(b)(4) of the FWPCA, 33 U.S.C. Section 1321(b)(4), (5) exceeds any discharge limitation for an effluent characteristic as a result of an unanticipated bypass, upset, (6) is an unpermitted direct or indirect discharge of a pollutant to a water of the state (unpermitted discharges properly reported to the Department under any other requirement are not required to be reported under this provision), the permittee shall orally report the occurrence and circumstances of such discharge to the Director within 24-hours after the permittee becomes aware of the occurrence of such discharge. In addition to the oral report, the permittee shall submit to the Director electronically a report (or if acceptable to the Department a written report) as provided in Provision I. C. 2. c. no later than five (5) days after becoming aware of the occurrence of such discharge.

b. If for any reason, the permittee's discharge does not comply with any limitation of this permit, the permittee shall submit to the Director a report as provided in Provision I. C. 2. c. below, such report shall be submitted with the next Discharge Monitoring Report required to be submitted by Provision I. C. 1. of this permit after becoming aware of the occurrence of such noncompliance.

c. Any electronic report (or if acceptable to the Department a written report) required to be submitted to the Director by Provision I. C. 2 a. or b. shall be submitted using a copy of the Department's Noncompliance Notification Form and shall include the following information:

(1) A description of the discharge and cause of noncompliance;

(2) The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

(3) A description of the steps taken and/or being taken to reduce or eliminate the noncomplying discharge and to prevent its recurrence.

D. OTHER REPORTING AND NOTIFICATION REQUIREMENTS

1. Anticipated Noncompliance

The permittee shall give the Director written advance notice of any planned changes or other circumstances regarding a facility, which may result in noncompliance with permit requirements. This information must be submitted electronically unless acceptable to the Department to submit otherwise.

2. Termination of Discharge

The permittee shall notify the Director, in writing, when any point source discharges authorized by this permit have permanently ceased. This notification shall serve as sufficient cause for instituting procedures for termination of the permittees authority to discharge under this General Permit.

3. Updating Information

a. The permittee shall inform the Director of any change in the permittee's mailing address or telephone number or in the permittee's designation of a facility contact or office having the authority and responsibility to prevent and abate violations of the AWPCA, the Department's Rules and the terms and conditions of this permit, in writing, no later than ten (10) days after such change. Upon request of the Director or his designee, the permittee shall furnish the Director with an update of any information provided in the Notice of Intent.

b. If the permittee becomes aware that it failed to submit any relevant facts in the Notice of Intent, or submitted incorrect information in the Notice of Intent; or in any report to the Director, it shall promptly submit such facts or information with a written explanation for the mistake and/or omission. This information must be submitted electronically unless acceptable to the Department to submit otherwise.

4. Duty to Provide Information

a. Any permittee shall furnish to the Director, within a reasonable time, any information which the Director or his designee may request to determine whether cause exists for suspending or revoking the permittee's authorization to discharge under this General Permit, in whole or in part, or to determine compliance with this permit or to determine if the permittee should be required to apply for an individual permit.

b. Any or all permittees shall furnish to the Director, within a reasonable time, any information which the Director or his designee may request to determine whether cause exists for modifying or terminating this permit.

5. New or Increased Discharges

If there is an increase in pollution potential of the discharges from the permittee's facility the permittee must notify the Director in writing. The Director may at his discretion determine under Part II.F. of this permit what action if any will be taken.

E. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the discharge limitations specified in Provision I. A. in accordance with the following schedule:

COMPLIANCE SHALL BE ACHIEVED
ON THE EFFECTIVE DATE OF COVERAGE UNDER THIS PERMIT

2. If required, no later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement. This information must be submitted electronically unless acceptable to the Department to submit otherwise.

PART II

A. REQUIREMENTS FOR COVERAGE UNDER THIS GENERAL PERMIT

1. Notice of Intent

Any person wishing to be permitted to discharge under this General Permit shall submit a Notice of Intent to be covered by this General Permit at least 30 days prior to the date of desired coverage. No discharge authorized under this General Permit may commence until the discharger receives the Director's acknowledgement of the Notice of Intent and approval of the coverage of the discharge by this General Permit. The Director's acknowledgement shall include a copy of this General Permit and the appropriate discharge monitoring report forms. **The permittee must complete and submit all Departmental forms available electronically, including the E-NOI, unless the permittee submits in writing valid justification as to why the electronic submittal process cannot be utilized and the Department approves in writing utilization of hard copy submittals.** Departmental forms are available on ADEM's webpage at http://www.adem.state.al.us/DeptForms/ .

Any person discharging to a municipal storm sewer, sanitary sewer or combination sewer must notify the municipality by letter of the discharge.

2. Content of Notice of Intent

a. A description of the process generating the discharge for which coverage is desired. This description shall be in sufficient detail to allow the Director to determine that the discharge is included in the category permitted by this General Permit;

b. The latitude and longitude of the discharge points for each discharge and the name of the waterbody receiving each discharge for which coverage under this General Permit is desired; and

c. A contact person, address and phone number for the facility or activity to be covered under this General Permit;

(1) A Notice of Intent shall be electronically signed (or if acceptable to the Department traditionally signed) by a person meeting the requirements for signatories to permit application under ADEM Administrative Code Rule 335-6-6-.09 and the person signing the Notice of Intent shall make the certification required for submission of documents under ADEM Administrative Code Rule 335-6-6.09.

(2) Signatories to reports, discharge monitoring reports and any other submissions required by this General Permit shall be signed in accordance with the requirements of ADEM Administrative Code Rule 335-6-6.09.

B. OPERATIONAL AND MANAGEMENT REQUIREMENTS

1. Facilities Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities only when necessary to achieve compliance with the conditions of the permit.

2. Best Management Practices

a. Dilution water shall not be added to achieve compliance with discharge limitations except when the Director or his designee has granted prior written authorization for dilution to meet water quality requirements.

b. The permittee shall prepare, implement, and maintain a Spill Prevention, Control and Countermeasures (SPCC) Plan in accordance with 40 CFR Part 112 if required thereby.

c. The permittee shall prepare and implement a Best Management Practices (BMP) Plan according to Part IV of this permit.

3. Spill Prevention, Control, and Management

The permittee shall provide spill prevention, control, and/or management sufficient to prevent any spills of pollutants from entering a water of the state or a publicly or privately owned treatment works. Any containment system used to implement this requirement shall be constructed of materials compatible with the substance(s) contained and which shall prevent the contamination of groundwater and such containment system shall be capable of retaining a volume equal to 110 percent of the capacity of the largest tank for which containment is provided.

C. OTHER RESPONSIBILITIES

1. Duty to Mitigate Adverse Impacts

The permittee shall promptly take all reasonable steps to mitigate and minimize or prevent any adverse impact on human health or the environment resulting from noncompliance with any discharge limitation of this permit, including such accelerated or additional monitoring of the discharge and/or the receiving waterbody as necessary to determine the nature and impact of the noncomplying discharge.

2. Right of Entry and Inspection

The permittee shall allow the Director, or an authorized representative, upon the presentation of proper identification to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of the permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the AWPCA, any substances or parameters at any location.

D. BYPASS AND UPSET

1. Bypass

a. Any bypass is prohibited except as provided in b. and c. below:

b. A bypass is not prohibited if:

(1) It does not cause any discharge limitation specified in Provision I. A. of this permit to be exceeded;

(2) It is necessary for essential maintenance of a treatment or control facility or system to assure efficient operation of such facility or system; or

(3) It is part of the storm water control system when the intention of the design, as approved by the Director, is to contain the first flush only.

c. A bypass is not prohibited and need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) It is unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime (this condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance); and

(3) The permittee submits a written request for authorization to bypass to the Director at least ten (10) days prior to the anticipated bypass (if possible), the permittee is granted such authorization, and the permittee complies with any conditions imposed by the Director to minimize any adverse impact on human health or the environment resulting from the bypass. This request must be submitted electronically unless acceptable to the Department to submit otherwise.

d. The permittee has the burden of establishing that each of the conditions of Provision II. D. 1. b. or c. have been met to qualify for an exception to the general prohibition against bypassing contained in a. and an exemption, where applicable, from the discharge limitations specified in Provision I. A. of this permit.

2. Upset

a. A discharge which results from an upset need not meet the discharge limitations specified in Provision I. A. of this permit if:

(1) No later than 24-hours after becoming aware of the occurrence of the upset, the permittee orally reports the occurrence and circumstances of the upset to the Director or his designee; and

(2) No later than five (5) days after becoming aware of the occurrence of the upset, the permittee furnishes the Director with evidence, including properly signed, contemporaneous operating logs, or other relevant evidence, demonstrating that (i) an upset occurred; (ii) the permittee can identify the specific cause(s) of the upset; (iii) the permittee's facility was being properly operated at the time of the upset; and (iv) the permittee promptly took all reasonable steps to minimize any adverse impact on human health or the environment resulting from the upset.

b. The permittee has the burden of establishing that each of the conditions of Provision II D. 2. a. of this permit have been met to qualify for an exemption from the discharge limitations specified in Provision I. A. of this permit.

E. DUTY TO COMPLY WITH PERMIT, RULES, AND STATUTES

1. Duty to Comply

a. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the AWPCA and the FWPCA and is grounds for: enforcement action, termination, or suspension of authorization under this permit; denial of a permit renewal application; a requirement that permittee submit an application for an individual NPDES permit.

b. The necessity to halt or reduce production or other activities in order to maintain compliance with the conditions of the permit shall not be a defense for a permittee in an enforcement action.

c. The discharge of a pollutant from a source not specifically identified in the Notice of Intent to be covered under this General Permit and not specifically included in the description of an outfall in this permit is not authorized and shall constitute noncompliance with this permit.

d. The permittee shall take all reasonable steps, including cessation of production or other activities, to minimize or prevent any violation of this permit or to minimize or prevent any adverse impact of any permit violation.

2. Removed Substances

Solids, sludges, filter backwash, or any other pollutant or other waste removed in the course of treatment or control of storm waters and/or process water shall be disposed of in a manner that complies with all applicable Department Rules.

3. Loss or Failure of Treatment Facilities

Upon the loss or failure of any treatment facility, including but not limited to the loss or failure of the primary source of power of the treatment facility, the permittee shall, where necessary to maintain compliance with the discharge limitations specified in Provision I. A. of this permit, or any other terms or conditions of this permit, cease, reduce, or otherwise control production and/or all discharges until treatment is restored.

4. Compliance With Statutes and Rules

a. This permit has been issued under ADEM Administrative Code, Chapter 335-6-6. All provisions of this chapter, that are applicable to this permit, are hereby made a part of this permit. A copy of this chapter may be obtained for a small charge from the Office of General Counsel, Alabama Department of Environmental Management, 1400 Coliseum Boulevard, Montgomery, AL 36110.

b. This permit does not authorize the noncompliance with or violation of any Laws of the State of Alabama or the United States of America or any regulations or rules implementing such laws. FWPCA, 33 U.S.C. Section 1319, and Code of Alabama 1975, Section 22-22-14.

F. PERMIT TRANSFER, MODIFICATION, SUSPENSION, REVOCATION, REISSUANCE, AND TERMINATION

1. Duty to Reapply or Notify of Intent to Cease Discharge

a. The permittee authorized to discharge under this General Permit, who wishes to continue to discharge upon the expiration of this permit, shall submit an E-NOI or Notice of Intent to be covered by the reissued General Permit. Such Notice of Intent shall be submitted at least 90 days prior to the expiration date of this General Permit.

b. Failure of the permittee to submit the appropriate application material for reauthorization under this permit at least 90 days prior to the permit's expiration will void the automatic continuation of the authorization to discharge under this permit as provided by ADEM Administrative Code Rule 335-6-6-.06. Should the permit not be reissued for any reason prior to its expiration date, permittees who failed to meet the 90-day submittal deadline will be illegally discharging without a permit after the expiration date of the permit.

2. Change in Discharge

a. The permittee shall give notice to the Director at least 180 days in advance of any facility expansion, production increase, process change, or other action that could result in:

(1) The discharge of additional pollutants;

(2) The increase in the quantity of any discharge such that existing permit limitations would be exceeded;

(3) Or that could result in an additional discharge point.

This requirement applies to pollutants that are or that are not subject to discharge limitations in this permit. No new or increased discharge may begin until the Director has reviewed the information and taken appropriate action to authorize the discharge under this General Permit, or

until such time as an appropriate action has been taken to authorize the discharge under an individual permit.

b. The permittee shall notify the Director as soon as it is known or there is reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following notification levels:

(a) One hundred micrograms per liter;

(b) Two hundred micrograms per liter for acrolein and acrylonitrile; five hundred micrograms per liter for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter for antimony;

(c) Five times the maximum concentration value reported for that pollutant in the permit application; or

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

(a) Five hundred micrograms per liter;

(b) One milligram per liter for antimony;

(c) Ten times the maximum concentration value reported for that pollutant in the permit application.

3. Transfer of Permit

This permit may not be transferred or the name of the permittee changed without notice to the Director and subsequent modification or revocation and reissuance of the permit to identify the new permittee and to incorporate any other changes as may be required under the FWPCA or AWPCA. In the case of a change in name, ownership or control of the permittee's premises only, a request for permit modification in a format acceptable to the Director is required at least 30 days prior to the change. In the case of a change in name, ownership or control of the permittee's premises accompanied by a change or proposed change in effluent characteristics, a complete permit application is required to be submitted to the Director at least 180 days prior to the change. Whenever the Director is notified of a change in name, ownership or control, he may decide not to modify the existing permit and require the submission of a new permit application.

4. Permit Modification, Revocation and Reissuance (of Modified General or Individual), and Termination

a. During the term of this General Permit the Director may, for cause, and subject to the public notice procedure of ADEM Administrative Code, Rule 335-6-6-.21, modify or revoke and reissue this General Permit, or terminate it and require all those authorized under it to apply for individual NPDES permits. The causes for this action include but are not limited to the causes listed below:

(1) There are material and substantial alterations or additions to the facility or activity generating the discharges which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit;

(2) When the Director receives any information that was not available at the time of permit issuance and that would have justified the application of different permit conditions at the time of issuance;

(3) When the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued;

(4) Upon the failure of the state to notify, as required by Section 402(b)(3) of the FWPCA, another state whose waters may be affected by a discharge;

(5) When the level of discharge of any pollutant which is not limited in the permit exceeds the level which can be achieved by the technology based treatment requirements appropriate to discharge under 40 CFR 125.3(c);

(6) To correct technical mistakes, such as errors in calculation, clerical errors or mistaken interpretations of law made in determining permit conditions;

(7) If the permit limitations are found not to be protective of water quality standards;

(8) To incorporate an applicable 307(a) FWPCA toxic effluent standard or prohibition;

(9) When required by the reopener conditions in this permit, and

(10) For any applicable cause set forth in ADEM Administrative Code Rule 335-6-6-.17.

b. Subject to the public notice procedures of ADEM Administrative Code Rule 335-6-6-.21, the Director may terminate this General Permit during its term for any of the causes for modification listed in Part II.F.4.a.

c. The Director may terminate authorization to discharge under this General Permit for cause. Cause shall include but not be limited to:

(1) Noncompliance with the permit;

(2) Noncompliance with Department Rules;

(3) A finding that this General Permit does not control the discharges sufficiently to protect water quality or comply with treatment based limits applicable to the discharge;

(4) The permittee's misrepresentation or failure to disclose fully all relevant facts in the permit application or during the permit issuance process or the permittee's misrepresentation of any relevant facts at any time;

(5) Materially false or inaccurate statements or information in the permit application or the permit;

(6) A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

(7) The permittee's discharge threatens human life or welfare;

(8) Permanent closure of the facility generating the wastewater permitted to be discharged by this permit or permanent cessation of wastewater discharge; and

(9) New or revised requirements of any applicable standard or limitation that is promulgated under Sections 301(b)(2)(C),(D),(E),and (F), and 307(a)(2) of the FWPCA that the Director determines cannot be complied with by the permittee.

d. If the permittee believes that any past or planned activity would be cause for modification or revocation and reissuance of this General Permit under ADEM Administrative Code Rule 335-6-6-.23 (7), or termination and issuance of an individual permit under ADEM Administrative Code Rule 335-6-6-.23 (9) the permittee must report such information to the Permit Issuing Authority. The submittal of a new application may be required of the permittee. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of

planned change, anticipated noncompliance or application for an individual permit, does not stay any permit condition.

5. Issuance by the Director of an Individual NPDES Permit to a Person Eligible for Coverage or Covered by This General Permit.

   a. The Director may require any person, otherwise eligible for coverage under this General Permit, to apply for an individual NPDES permit by notifying that person that an application is required. Notification shall consist of a written description of the reason(s) for the decision, appropriate permit application forms and directions, a statement informing the person that upon issuance of the individual permit coverage by this General permit shall automatically terminate. Reasons for this requirement may be:

      (1) Noncompliance with the General Permit;

      (2) Noncompliance with Department Rules;

      (3) A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the wastewater being discharged;

      (4) Effluent guidelines are promulgated for a point source(s) covered by the General Permit;

      (5) A water quality management plan applicable to the wastewater being discharged under this General Permit;

      (6) Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under this General Permit or either a temporary reduction or permanent reduction or elimination of the authorized discharge is necessary;

      (7) Standards for sewage sludge use or disposal have been promulgated for the sludge use or disposal practice covered by this General Permit;

      (8) The discharge(s) is a significant contributor of pollutants. In making this decision the Director may consider:

         (i) the location of the discharges with respect to waters of the state,

         (ii) the size of the discharger, and

         (iii) the quantity and nature of the pollutants discharged to waters of the state.

      (9) A determination that the water of the state receiving the discharge is not meeting applicable water quality standards.

6. Request for an Individual NPDES Permit by a Person Covered Under This General Permit.

   a. Any person covered by this General Permit may apply for termination of coverage by applying for an individual NPDES permit.

   b. A permit application submitted voluntarily or at the direction of the Director for the purpose of termination of coverage by this General Permit shall be processed in accordance with the rules found in ADEM Administrative Code 335-6-6 applicable to individual permits.

   c. Any person may petition the Director for withdrawal of this General Permit authority from a discharger. The Director shall consider the information submitted by the petitioner and any other information he may be aware of and may obtain additional information from the discharger and through inspections by Department staff and shall decide if coverage should be withdrawn. The petitioner shall be informed of the Director's decision and shall be provided a summary of the information considered.

7. Request for Permit Action Does Not Stay Any Permit Requirement

The filing of a request by the permittee for any permit action such as termination, or application for individual permit or any other action, does not stay any permit term or condition.

G. COMPLIANCE WITH TOXIC POLLUTANT STANDARD OR PROHIBITION

If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the FWPCA, 33 U.S.C. Section 1317(a), for a toxic pollutant discharged by the permittee and such standard or prohibition is more stringent than any discharge limitation on the pollutant specified in Provision I. A. of this permit, or controls a pollutant not limited in Provision I. A. of this permit, this permit shall be modified to conform to the toxic pollutant effluent standard or prohibition and the permittee shall be notified of such modification. If this permit has not been modified to conform to the toxic pollutant effluent standard or prohibition before the effective date of such standard or prohibition, the permittee shall attain compliance with the requirements of the standard or prohibition within the time period required by the standard or prohibition and shall continue to comply with the standard or prohibition until this permit is modified or reissued.

H. DISCHARGE OF WASTEWATER GENERATED BY OTHERS

The discharge of wastewater, generated by any process, facility, or by any other means not under the operational control of the permittee or not identified in the application for this permit or not identified specifically in the description of an outfall in this permit is not authorized by this permit.

PART III

A. CIVIL AND CRIMINAL LIABILITY

1. Tampering

Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained or performed under the permit shall, upon conviction, be subject to penalties as provided by the AWPCA.

2. False Statements

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties as provided by the AWPCA.

3. Permit Enforcement

a. Any NPDES permit issued or reissued by the Department is a permit for the purpose of the AWPCA and the FWPCA and as such any terms, conditions, or limitations of the permit are enforceable under state and federal law and as described under Rule 335-6-6-.18.

b. Any person required to have a NPDES permit pursuant to ADEM Administrative Code Chapter 335-6-6 and who discharges pollutants without said permit, who violates the conditions of said permit, who discharges pollutants in a manner not authorized by the permit, or who violates applicable orders of the Department or any applicable rule or standard of the Department, is subject to any one or combination of the following enforcement actions under applicable state statutes.

(1) An administrative order requiring abatement, compliance, mitigation, cessation, clean-up, and/or penalties;

(2) An action for damages;

(3) An action for injunctive relief; or

(4) An action for penalties.

4. Relief From Liability

Except as provided in Provision II. D. 1. (Bypass) and Provision II. D. 2. (Upset), nothing in this permit shall be construed to relieve the permittee of civil or criminal liability under the AWPCA or FWPCA for noncompliance with any term or condition of this permit.

B. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the FWPCA, 33 U.S.C. Section 1321.

C. PROPERTY AND OTHER RIGHTS

This permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of federal, state, or local laws or regulations, nor does it authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any waters of the state or of the United States.

D. AVAILABILITY OF REPORTS

Except for data determined to be confidential under Code of Alabama 1975, Section 22-22-9(c), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department. Effluent data shall not be considered confidential.

E. COMPLIANCE WITH WATER QUALITY STANDARDS

1. The permittee may be required by the Director to apply for an individual permit, if the Director determines that discharge under this General Permit causes a violation of a water quality standard or stream use classification.

2. Compliance with permit terms and conditions notwithstanding, if the permittee's discharge(s) from point sources identified in Provision I. A. of this permit cause or contribute to a condition in contravention of state water quality standards, the Department may require the permittee to take abatement action or apply for an individual permit pursuant to the Department's Rules, or both.

3. If the Department determines, on the basis of a notice provided pursuant to this permit or any investigation, inspection or sampling, that a modification of this permit is necessary to assure maintenance of water quality standards or compliance with other provisions of the AWPCA or FWPCA, the Department may require such modification.

F. GROUNDWATER

Unless specifically authorized by a permit issued by the Department, the discharge of pollutants to groundwater is prohibited. Should a threat of groundwater contamination occur, the Director may require groundwater monitoring to properly assess the degree of the problem and the Director may require that the permittee undertake measures to abate any such discharge and/or contamination.

G. DEFINITIONS

1. Authorization – means granted the privilege of discharging under the terms of this General Permit.

2. Average monthly discharge limitation - means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

3. Average weekly discharge limitation - means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week (zero discharge days shall not be included in the number of "daily discharges" measured and a less than detectable test result shall be treated as a concentration of zero if the most sensitive EPA approved method was used).

4. AWPCA - means the Alabama Water Pollution Control Act.

5. Bypass - means the intentional diversion of waste streams from any portion of a treatment facility.

6. Daily discharge - means the discharge of a pollutant measured during any consecutive 24 hour period in accordance with the sample type and analytical methodology specified by the discharge permit.

7. Daily maximum - means the highest value of any individual sample result obtained during a day.

8. Daily minimum - means the lowest value of any individual sample result obtained during a day.

9. Day - means any consecutive 24-hour period.

10. Department - means the Alabama Department of Environmental Management.

11. Director - means the Director of the Department.

12. Discharge - means "[t]he addition, introduction, leaking, spilling or emitting of any sewage, industrial waste, pollutant or other wastes into waters of the state". Code of Alabama 1975, Section 22-22-1(b)(8).

13. Discharge monitoring report (DMR) - means the form approved by the Director to accomplish reporting requirements of an NPDES permit.

14. EPA - means the United States Environmental Protection Agency.

15. FWPCA - means the Federal Water Pollution Control Act.

16. Notice of Intent – means forms and additional information that are required by ADEM Administrative Code Rule 335-6-6-.23 and applicable permit fees.

17. Permit application - means forms and additional information that is required by ADEM Administrative Code Rule 335-6-6-.08 and applicable permit fees.

18. Point source - means "any discernible, confined and discrete conveyance, including but not limited to any pipe, channel, ditch, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." Section 502(14) of the FWPCA, 33 U.S.C. Section 1362(14).

19. Pollutant - includes for purposes of this permit, but is not limited to, those pollutants specified in Code of Alabama 1975, Section 22-22-1(b)(3) and those effluent characteristics specified in Provision I. A. of this permit.

20. Severe property damage - means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

21. Shock chlorination – means the periodic use of chlorine in cooling water systems as a biocide.

22. Upset - means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit discharge limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

23. Waters - means "[a]ll waters of any river, stream, watercourse, pond, lake, coastal, ground or surface water, wholly or partially within the state, natural or artificial. This does not include waters which are entirely confined and retained completely upon the property of a single individual, partnership or corporation unless such waters are used in interstate commerce." Code of Alabama 1975, Section 22-22-1(b)(2). Waters "include all navigable waters" as defined in Section 502(7) of the FWPCA, 22 U.S.C. Section 1362(7), which are within the State of Alabama.

24. Week - means the period beginning at twelve midnight Saturday and ending at twelve midnight the following Saturday.

H. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART IV

A. STORM WATER MEASUREMENT AND SAMPLING

1. Storm Water Measurement

   a. All storm water samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches.

   b. The storm water event must be monitored, including the date and rainfall (in inches) for the storm event(s) sampled. The duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event must be a minimum of 72 hours. This information must be recorded as part of the sampling procedure and records retained according to Part I.B.4.b. of this permit.

   c. During the sampling storm event, rainfall must be reported and may be measured using a rain gauge. This information must be recorded as part of the sampling procedure and records retained according to Part I.B.4.b. of this permit.

2. Storm Water Sampling

   a. A grab sample, if required by this permit, shall be taken during the first thirty minutes of the discharge (or as soon thereafter as practicable); and a flow weighted composite sample, if required by this permit, shall be taken for the entire event or for the first three hours of the event.

   b. All test procedures will be in accordance with Part I.B.2. of this permit.

B. BEST MANAGEMENT PRACTICES (BMP) PLAN

1. Plan Content. With the exception of DSN001 for remediation sites, the permittee shall prepare and implement a Best Management Practices (BMP) plan which shall:

   a. Provide control sufficient to prevent or control pollution of storm water by particles to the degree required to maintain compliance with this permit and water quality standards. Erosion control should also be addressed

   b. Prevent the spillage or loss of any fluids, oil, grease, gasoline, etc. and thereby prevent the contamination of storm water from these substances;

   c. Prevent or minimize storm water contact with residual washdown water;

d. Prevent or minimize storm water contact with any other pollutants present at the permittees facility;

e. Designate by position or name the person or persons responsible for the day to day implementation of the BMP;

f. Provide for, at a minimum, two inspections per week, on workdays, of any structures that function to prevent storm water pollution or to remove pollutants from storm water and of the facility in general to ensure that the BMP is continually implemented and effective;

g. Include a diagram of the facility showing the direction of the storm water flow, the discharge point(s), and the locations of any structures or other mechanisms intended to prevent pollution of storm water. The site map should also identify the location, size, and contents of any tanks.

h. Bear the signature of the plant manager or corporate official.

2. DSN001 Remediation Sites:

a. A comprehensive operations manual along with supporting documents, such as a list of emergency contacts and phone numbers, shall be an acceptable substitute for a Best Management Practices (BMP) plan.

b. The documents required in 2.a above may be kept at an alternate location provided ADEM is notified in writing of the location, contact name, and phone number, and this information is posted at the remediation site where it is readily visible.

c. Site BMP inspections of remediation systems need not necessarily be done twice per week as with other types of facilities unless permit compliance is not achieved.

Inspections should be performed and documented as often as necessary to properly maintain the remediation system and to prevent permit limit exceedances.

3. Compliance Schedule: The permittee shall prepare and fully implement the BMP no later than the date coverage is granted.

4. Department Review

a. When requested by the Director or his designee, the permittee shall make the BMP available for Department review.

b. The Director or his designee may notify the permittee at any time that the BMP is deficient and requires correction of the deficiency.

c. The permittee shall correct any BMP deficiency identified by the Director or his designee within 30 days of receipt of notification and shall certify to the Department that the correction has been made and implemented.

5. Administrative Procedures

a. A copy of the BMP plan shall be maintained at the facility and shall be available for inspection by representatives of the Department.

b. A log of the inspections required by Part IV.B. of this permit shall be maintained at the facility and shall be available for inspection by representatives of the Department. The log shall contain records of all inspections performed and any corrective actions taken for the last three years and each entry shall be signed by the person performing the inspection.

c. The permittee shall provide training for any personnel required to implement the BMP and shall retain documentation of such training at the facility. This documentation shall be available for

inspection by representatives of the Department. Training shall be performed prior to the date that implementation of the BMP is required.

C. DISCHARGE(S) TO IMPAIRED WATERS REQUIREMENTS

1. Requirements Applicable to a Facility Eligible for Coverage, or Covered, under this Permit with Discharge(s) to 303(d) Listed Waters

   This permit does not authorize new sources or new dischargers of pollutants of concern to impaired waters unless consistent with an EPA-approved or EPA-established Total Maximum Daily Load (TMDL) and applicable State law. Impaired waters are those that do not meet applicable water quality standards and are identified by an EPA-approved or EPA-established TMDL and/or on the State of Alabama's 303(d) list. Pollutants of concern are those pollutants for which the water body is listed as impaired and which contribute to the listed impairment.

   a. The facility eligible for coverage, or covered, under this permit must determine whether its discharge(s) contributes directly or indirectly to a waterbody that is included on the latest 303(d) list or otherwise designated by the Department as impaired or is included in an EPA-approved or EPA-established TMDL. If the facility has discharges meeting this criterion, it must comply with Part IV.C., if its discharge does not meet this criterion, Part IV.C. does not apply to the facility.

   b. Facilities that discharge into a receiving water which is listed on the State of Alabama's 303(d) list of impaired waters, and with discharges that contain the pollutant(s) for which the waterbody is impaired, must by April 30th of the following year or within 6 months of such approval of the 303(d) list or applicable TMDL or establishment of TMDL by EPA (whichever is longer), document in its BMP plan how the BMPs will control the discharge of the pollutant(s) of concern, and must ensure that there will be no increase of the pollutants of concern. A monitoring plan to assess the effectiveness of the BMPs in achieving the allocations must also be included in the BMP plan.

   c. If the facility discharges to a waterbody described above, it must also determine whether a total maximum daily load (TMDL) has been developed and approved or established by EPA for the listed waterbody. If a TMDL is approved or established during this permit cycle by USEPA for any waterbody into which the facility discharges, the facility must review the applicable TMDL to see if it includes requirements for control of storm water discharges. By April 30th of the following year or within 6 months of such approval of the 303(d) list or applicable TMDL or establishment of TMDL by EPA (whichever is longer), the facility must notify the Department on how it will modify its BMP plan to include best management practices specifically targeted to achieve the allocations prescribed by the TMDL. Revised BMP plans must be submitted to the Department for review. The facility must include a monitoring component in the BMP plan to assess the effectiveness of the BMPs in achieving the allocations. If the facility cannot ensure its discharges will not cause or contribute to impairment, then the facility must apply for and obtain permit coverage under an individual permit.

2. Requirements Applicable to a Facility Eligible for Coverage, or Covered, under this Permit with Discharges into Waters with EPA-Approved or EPA-Established TMDLs

   a. The facility must determine whether the EPA-approved or EPA-established TMDL is for a pollutant likely to be found in discharges from its facility.

   b. The facility must determine whether the TMDL includes a pollutant allocation or other performance requirements specifically for discharges from its facility.

   c. If, after the determinations above have been made and if it is determined that the facility must implement specific allocations provisions of the TMDL, then the facility must assess whether the allocations are being met through implementation of existing control measures or if additional control measures are necessary.

d. The facility must document all control measures currently being implemented or planned to be implemented, to include a schedule of implementation for all planned controls, and must document calculations or other evidence showing that the allocations will be met. Revised BMP plans must be submitted to the Department for review.

e. If a TMDL contains requirements for control of pollutants from the facility's discharges, then the BMP plan must include BMPs specifically targeted to achieve the allocations prescribed by the TMDL. A monitoring plan to assess the effectiveness of the BMPs in achieving the allocations must also be included in the BMP plan. Implementation of the monitoring plan in accordance with Part IV.C.2 will determine whether the controls are adequate to meet the TMDL allocations. If the facility cannot comply with the requirements of the TMDL, then the facility must apply for and obtain permit coverage under an individual permit.

f. If the evaluation shows that additional or modified controls are necessary, the facility must describe the type and schedule for the control additions/revisions in the BMP plan. The facility must also continue Paragraphs IV.C.2.d.-f. until two continuous monitoring cycles, as defined in the monitoring plan in accordance with Part IV.C.2., show that the TMDL allocations are being met or that water quality (WQ) standards are being met.

3. Requirements for New or Revised BMP Plans

New or revised BMP plans developed in accordance with Parts IV.C.1 and IV.C.2 above must be submitted to the Department for review by April 30th of the year following EPA approval of the 303(d) list or EPA establishment/approval of applicable TMDL or within 6 months of such approval of the 303(d) list or applicable TMDL or establishment of TMDL by EPA (whichever is longer).

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AIR DIVISION PERMIT

APPENDIX E

LANCE R. LEFLEUR
DIRECTOR

KAY IVEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov

1400 Coliseum Blvd. 36110-2400 ■ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700 ■ FAX (334) 271-7950

September 9, 2020

MS ANNA BRUNSON
CDG ENGINEERS & ASSOCIATES INC
P O BOX 278
ANDALUSIA AL 36420

RE: Sikes Pine Level 231 BP
23603 Hwy 231
Ramer, Montgomery County
UST17-03-08
Facility ID#: 14247-101-007856
Air ID#: 209-20-D002

Dear Ms. Brunson:

The Air Division evaluated the information submitted concerning the use of dual-phase remediation system at the above-referenced site. Using the flow rate and stack parameters provided, it has been determined through air dispersion modeling that off-gas treatment will be required on the blower stack until all free product is removed and the following chemical concentrations are consistently maintained at or below:

Benzene:	0.983 lbs/hr
Toluene:	46.399 lbs/hr
Ethylbenzene:	53.464 lbs/hr

Air dispersion modeling was performed using the following stack parameters: **Height – 15 ft, Inside Diameter – 0.5 ft and Blower – 300 CFM.** Therefore, the system will be required to operate with these stack parameters once the air pollution control device is removed. The information provided indicates the use of granular activated carbon for off-gas treatment. Also, a review of the remediation system has led to the determination that no State or federal emission standard is expected to be exceeded and the remediation system will not require permitting.

Please use the attached "Air Division Requirements for Active Soil and Groundwater Remediation Projects" as a guideline. Also, if any of the factors in the operation of the remediation system change, you should notify the Air Division prior to those changes so that a re-evaluation can be made. Should you have any questions, please contact me in Montgomery at (334) 271-7907.

Sincerely,

Katie Smith

Katie Smith
Petroleum Unit
Energy Branch
Air Division

KMS/kms

cc: Dorothy Malaier – UST Corrective Action Section

Attachment

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (FAX)

Decatur Branch
2715 Sandlin Road, S.W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (FAX)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (FAX)

Mobile-Coastal
4171 Commanders Drive
Mobile, AL 36615-1421
(251) 432-6533
(251) 432-6598 (FAX)

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QUALITY ASSURANCE/ QUALITY CONTROL PLAN

APPENDIX F

QA/QC MONITORING/SAMPLING PLAN

FIELD ACTIVITIES

Groundwater Monitoring/Sampling Activity Protocols

Groundwater monitoring/sampling includes the following associated activities:

1) Measurement of free product if present;
2) Measurement of static water level;
3) Calculation of standing water volume (in well);
4) Well Evacuation
5) Collection of samples; and
6) Decontamination of equipment

Groundwater sampling parameters are recorded in the field on a monitoring well sampling record form. Details for the above referenced monitoring/sampling activities are described in the following sections.

Calculation of Standing Water Volume

The standing water volume in a monitoring well is calculated using the equation:

$v = 3.14 \times r^2 \times l$

(where **v** = well volume, **r** = well radius, and **l** = length of the water column).

The column of water in the well can be calculated using the equation:

$l = w - d$

(where **w** = distance from the top of casing to the bottom of the well and **d** = distance from the top of casing to the top of the water).

Well Evacuation

Well evacuation is initiated after the static water level is measured and the standing water volume has been calculated. Well evacuation is conducted by either using a new disposable (single-use) bailer, a well-dedicated PVC bailer, or a surface mounted pneumatic operated diaphragm pump. A diaphragm pump is only used in deep wells

(greater than 25 feet) or wells that yield such large volumes that hand-bailing is not practical.

Well evacuation with a bailer is performed by attaching a new nylon line to the bailer, and then lowering the bailer in to the well until the bailer is submerged. The bailer is then retrieved from the well in such a manner that the bailer and nylon line do not contact the ground or surrounding vegetation (to prevent contaminating the bailer or line). The water removed from the well is poured into a graduated bucket so that the amount of water removed can be determined. This procedure is repeated until three well volumes of water are removed, or until the well is purged dry. For wells that recharge very slowly, the purge water is limited to one well volume. The volume of groundwater purged from each well will be recorded.

Well evacuation with a diaphragm pump is conducted by lowering disposable tubing into the well to sufficient depth. For deeper wells, a PVC pipe, equipped with a foot valve (to stage-lift the water out of the well) will be employed. The piping will be dedicated to each well to prevent cross-contamination. Pumping will be performed until at least three well volumes are recovered (purge volume will be recorded).

Petroleum contaminated water (PCW) purged from wells in conjunction with groundwater monitoring/sampling activities will be processed through the on-site MPE system.

Groundwater Sample Collection

Groundwater samples are collected from monitoring wells not containing free-phase hydrocarbons unless otherwise directed by the ADEM. Groundwater sampling is performed using a new disposable bailer for each sampled well. The disposable bailers are purchased in individually wrapped packages, and are not opened until ready to use. Once opened, the bailers are attached to a length of new nylon string. The bailer and string are not allowed to touch the ground or vegetation, and are disposed of after each well. Sampling is accomplished by slowly lowering the bailer into the well to a depth where the bailer is almost completely submerged. The bailer is then slowly retrieved from the well to minimize agitation of the sample. Once collected, the water sample is

immediately transferred (poured slowly to minimize agitation and formation of air bubbles) into the designated sample containers.

Groundwater samples collected for BTEX/MTBE/Naphthalene analysis (volatile organics) are poured very slowly down the inside of the sample vial to avoid aeration. The sample vials, consisting of 40 ml glass with a Teflon septum cap, are provided directly from the CDG analytical laboratory. The groundwater sample is added to the vial until a convex meniscus is formed across the top of the vial. The Teflon septum cap is placed on the vial and the vial is upended to check for trapped air bubbles. If bubbles are present, the sample container is opened, and topped off again until an air-free sample is obtained. If the vial cannot be closed "air-free" after three tries, it is discarded. Two samples are collected for each BTEX/MTBE/Naphthalene (volatile) analysis. The preservation employed for BTEX/MTBE/Naphthalene (volatile) analysis will include either of the following (depending on holding time constraints):

- Cool collected sample to 4^{o}C and maintain (7-day holding time), or
- Add 4 drops concentrated HCl to sample vial (typically the acid is pre-added by the laboratory to the sample vial) and then cool sample to 4^{o}C and maintain (14-day holding time).

Immediately following collection of each groundwater sample, the sample is labeled, placed in bubble pack (to prevent the glass vial from breaking during shipping), and stored in an ice chest with sufficient ice. Each sample label includes the site location, sample identification number, name of collector, date/time of collection, and parameter(s) requested.

Following collection of all samples, the ice chest will be sealed and transported to the laboratory following appropriate chain of custody protocols (refer to description of Chain of Custody protocols provided below).

Decontamination of Groundwater Sampling Equipment

All equipment used for groundwater sampling is either well-dedicated or is used only once and disposed of. As a result, cleaning/decontamination of sampling equipment are minimal.

QA/QC PROCEDURES DISCUSSION

Chain of Custody

Sample custody begins with the CDG laboratory when sample kits are prepared and shipped for field personnel use at a specified project location. Responsibility for sample container materials and preparation lies with the CDG laboratory. Upon receipt of the kits, CDG field personnel complete an inventory of the contents to confirm that the containers, etc. are adequate for the number of wells and specified analytes. Sample bottles may be pre-labeled and contain the proper preservative. The individual sample vials and/or other sample containers are not opened until used in the field. CDG will secure the sample kits inside the office until the specific sampling project is to be performed.

The samples remain in the custody of the CDG field personnel representative until delivered to the CDG laboratory or dispatched via common carrier for shipment to the laboratory. In cases where samples leave the direct control of CDG personnel, such as shipment to a laboratory by a common carrier (FedEx, UPS, etc.), a seal will be provided on the shipping container or individual sample bottles to ensure that the samples have not been opened or otherwise disturbed during transportation.

To establish and maintain the documentation necessary to trace sample possession from the time of collection, a chain of custody record will be completed and will accompany every sample. The record contains the following types of information:

- Sample number
- Signature of collector
- Date and time of collection
- Sample type (soil, groundwater, air, etc.)
- Identification of well
- Number of containers
- Parameters requested for analysis
- Required detection limit
- Signature of person(s) involved in the chain of possession.

Field QA/QC Program

Various types of field blanks are collected to verify that the sample collection and handling process has not affected the quality or integrity of the samples.

1) Trip Blanks – A trip blank is a field blank that is transported from the laboratory to the sampling site, handled in the same manner as other samples, and then returned to the laboratory for analysis in determining QA/QC of sample handling procedures. The trip blank is prepared in the laboratory with distilled/organic free water and is utilized at a frequency of 1 trip blank for each cooler (or other shipping container) used to transport samples from the laboratory to the field and back to the laboratory.

2) Duplicate Sample – Duplicate samples are collected simultaneously from the same source, under identical conditions, into separate sample containers. These samples provide a check on the sampling techniques as well as laboratory equipment. Duplicate samples are only collected on groundwater samples at a frequency of one sample per sampling event.

The results of the analysis of the blanks will not be used to correct the groundwater data. If contaminants are found in the blanks, an attempt to identify the source of contamination will be initiated and corrective action, including re-sampling if necessary, will be evaluated.

After completing a sampling program, the field data package (field logs, calibration records, chain of custody forms, etc.) will be reviewed for completeness and accuracy. Some of the items considered in the Field Data Package Validation Procedure include but are not limited to the following:

- A completeness review of field data contained on water and soil sampling logs;
- A verification that sampler blanks were properly prepared, identified, and analyzed;
- A check on field analyses for equipment calibration and condition; and
- A review of chain of custody forms for proper completion, signatures of field personnel and the laboratory sample custodian, and dates.

Laboratory QA/QC Program

The selection of a contract laboratory can be directed either by the client or by CDG. In either case, the selection of the laboratory is typically based upon several facts including cost, laboratory certification, quality of data and reporting, and turn around time. The most critical factor in the selection of an analytical laboratory by CDG is the quality of data and reporting provided by the laboratory. Typically, the results of analytical laboratory testing dictate the activities conducted at a site. The activities conducted when selecting a laboratory include discussions with current and past customers, discussions with regulatory agencies, and review of laboratory QA/QC practices.

The normal turn around for samples will be two weeks for most samples. Prior to contracting a laboratory to conduct analysis, an estimate of the turn around time is obtained. If the expected turn around is in excess of three weeks then a backup laboratory is contacted to determine their availability. A decision of which laboratory to use in a particular instance is made on a case-by-case basis.

Once an analytical report is received by CDG, validation of the analytical data package will be performed. The Analytical Data Package Validation procedure will include but is not limited to the following:

- A comparison of the Data Package to the reporting level requirements designed for the project, to ensure completeness;
- A comparison of sampling dates, sample extraction dates, and analysis dates to determine if samples were extracted and/or analyzed within the proper holding times' as failure in this area may render the data unusable;
- A review of analytical methods and required detection limits to verify that they agree with set standards; as failure in this area may render the data unusable;
- A review of sample blanks to evaluate possible sources of contamination. The preparation techniques and frequencies, and the analytical results (if appropriate) will be considered; and
- A review of blanks (trip blanks, reagent blanks, method blanks, and extraction blanks) to assure that they are contamination free at the lowest possible

detection limit. All blank contaminants must be explained or the data applicable to those blanks will be labeled suspect and may only be sufficient for qualitative purposes.

- A review of detection limits, to ensure sample results are accurate to below the levels specified as ADEM Initial Screening Levels.
- A review of data “qualifiers” reported by the laboratory for significance to the results.

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SITE HEALTH AND SAFETY PLAN

APPENDIX G

Site Health and Safety Plan

Sikes Pine Level 231 BP
23603 Highway 231
Ramer, Montgomery County, Alabama
Facility ID# 14247-101-007856
UST No. 17-03-08

Prepared For:

Russell Oil Company, Inc.
P.O. Box 38
Lapine, Alabama 36046

Prepared By:

CDG Engineers & Associates, Inc.
1840 East Three Notch Street
Andalusia, Alabama 36420

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Table of Contents

Page No.

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared specifically for corrective action activities to be conducted by CDG Engineers & Associates, Inc. (CDG) for the Sikes Pine Level 231 BP site in Ramer, Montgomery County, Alabama. These activities include all fieldwork necessary to conduct soil and groundwater remediation of petroleum hydrocarbons at the site.

2.0 PURPOSE

This HASP describes the preventative measures, personal protection, and safety procedures to be followed by CDG personnel and subcontractors during all field activities. The HASP has been prepared in accordance with and meets the requirements of the Occupation Safety and Health Administration (OSHA) General Safety Standards for industry under 29 CFR 1910 and construction under 29 CFR 1926, the joint NIOSH/OSHA/USCG/EPA, *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities*, dated October 1985, and NFPA Safety Guidelines. Should any unexpected conditions arise, the HASP will be amended to accommodate site specific conditions.

3.0 KEY PERSONNEL AND RESPONSIBILITIES

All CDG personnel have received an initial 40-hour HAZWOPER certification, which is updated annually through an 8-hour refresher course. This training course meets the requirements of the OSHA 29 CFR 1910.120 standards. CDG personnel assigned to the project include:

NAME	TITLE	RESPONSIBILITIES
James Alan Barck	Professional Geologist	Overall management of entire project from beginning to completion. Responsible for preparation and implementation of the HASP and reporting of all hazard incidents to appropriate enforcement agencies. Coordinates and oversees all field activities.
Anna Brunson	Project Manager	Performs all field activities and is responsible for recognizing site hazards and reporting hazard incidents to Corporate HSO.

4.0 SCOPE OF WORK

Work to be performed will include the installation of interceptor trenches, system installation,

and quarterly operation and maintenance activities.

5.0 CHEMICAL HAZARDS

When conducting the corrective action activities, the primary chemicals of concern are gasoline.

5.1 Gasoline

Gasoline is a substance to be potentially encountered in the soil and groundwater at the site. Gasoline components include benzene, toluene, ethylbenzene, and xylenes (BTEX).

5.2 Hazard Identification

During the corrective action activities, many hazards or potential hazards may be encountered when dealing with gasoline or diesel. This section serves as a guideline in recognizing hazards associated with these chemicals that exist or may potentially arise during field activities. Recognition is the first step in eliminating exposure to these hazards.

Occasionally, methyl-tertiary butyl ether (MTBE) is encountered. MTBE has been used since 1979 as an oxygenate to gasoline in order to decrease carbon monoxide production in cars, particularly older model cars; however, MTBE has been determined to be a potential carcinogen. MTBE has low taste and odor thresholds, which can make a water supply non-potable even at low concentrations.

Exposure to MTBE will only be seen through exposure to gasoline containing MTBE and the effects of gasoline containing MTBE are relatively similar to gasoline not containing MTBE. The following are hazards associated with exposure to gasoline:

- Contact may irritate or burn the skin and eyes and absorption through the skin may be poisonous.
- Vapors may be poisonous if inhaled and are irritating to the respiratory tract.
- Vapors are an explosion hazard and may travel to a source of ignition and produce flashback.
- A gasoline fire may produce irritating and poisonous gases.
- Gasoline and diesel are flammable/combustible materials that may be ignited by heat, sparks, or flames, and a gasoline container may explode when exposed to heat or fire.

The primary hazard associated with exposure to gasoline is the inhalation of vapors.

5.3 Hazard Prevention

Preventing exposure to chemical hazards generally requires the use of personal protective equipment (PPE). Level D equipment will provide the protection necessary to prevent exposure to these hazards. Level D equipment is discussed further in Section 10.1, Personal Protective Equipment.

5.4 Symptoms and First Aid Procedures

Many of the constituents found in gasoline and diesel act as central nervous system (CNS) depressants. The following table includes first aid measures for CNS depressants, which affect a person through inhalation (breathing), dermal (skin), or ingestion (mouth) exposure. In addition, the eye can be very sensitive to exposure to chemicals and is therefore included in the following table:

ROUTES OF EXPOSURE	SYMPTOMS	TREATMENT
Inhalation	Dizziness, nausea, lack of coordination, headache, irregular and rapid breathing, weakness, loss of consciousness, coma	Bring victim to fresh air. Rinse eyes or throat with plenty of water, if irritated. If symptoms are severe (victim vomits, is very dizzy or groggy, etc.), evacuate to hospital. Be prepared to administer CPR if certified. Monitor victim for at least 48 hours.
Dermal	Irritation, rash, or burning	Flush affected area with water for at least 15 minutes. Apply clean dressing and get medical attention.
Ingestion	Dizziness, nausea with stomach, cramps, loss of consciousness, coma	Evacuate victim to hospital. Do not induce vomiting.
Eye	Redness, irritation, pain, impaired vision	Flush with an abundant amount of water for at least 15 minutes. If severe, seek medical attention immediately.

6.0 EQUIPMENT/OPERATIONAL HAZARDS

The following sections will address the hazards, preventative measures, and first aid procedures associated with the drill rig, backhoes, and other heavy equipment. The drill rig used during these field activities generally requires the use of augers for probing. These augers are designed to rotate in a circular motion while being forced downward through the soil. Field personnel are required to assemble and disassemble these parts. Contact with these rotating parts is one recognized hazard. In addition, the machinery also contains parts that become increasingly heated during operation.

6.1 Hazard Identification

There are several hazards associated with the use of any type of drill rig or heavy machinery while performing corrective action activities. Generally during these field operations, the general public may become fascinated with the operation and approach the work area. All unauthorized personnel are required to remain 100 feet away from the work area. The site HSO officer will be responsible for keeping all unauthorized personnel away from the work area. The hazards associated with the use of a drill rig or other heavy machinery is as follows:

- Gasoline vapors from nearby dispensers can potentially enter the diesel-operated engine thereby causing fire/explosion hazards.
- Rotating augers may catch onto gloves or clothing thereby pulling hands or arms into the rotating machinery.
- Drilling equipment may rupture hydraulic hoses thereby releasing hydraulic fluids.
- Engine and exhaust systems of an engine are extremely hot during and following operation.
- Potential contact with overhead and underground utilities
- Open excavations/boreholes can be the source of trips and falls.
- Digging machinery such as backhoes may puncture subsurface utilities.
- Operators of heavy machinery may be unable to locate pedestrians near the operating equipment; therefore, all field personnel are to remain within eye contact of the operator at all times during operation.

6.2 Hazard Prevention

Hazards associated with heavy machinery can easily be avoided with additional planning. The

key to avoiding these hazards includes being familiar with the equipment and the process. In addition, being familiar with and implementing the precautionary measures listed below may reduce or eliminate the risks of a hazardous situation.

- Wear hard hat when working near or around the machinery
- Wear safety glasses when performing maintenance to machinery or power tools
- Shut down the machine engine when repairing or adjusting equipment
- Prevent accidental starting of the engine during maintenance procedures by removing or tagging ignition key
- Block wheels or lower leveling jacks and set hand brakes to prevent equipment form moving during drilling procedures
- When possible, release all pressure on hydraulic systems, drilling fluid systems, and air pressure systems of heavy machinery prior to performing maintenance
- Know the location of the emergency shut-off switch for all equipment
- Avoid contact with engine or exhaust system of engine following its operation
- Avoid using gasoline or other volatile/flammable liquids as a cleaning agent on or around heavy machinery
- Replace all caps, filler plugs, protective guards or panels, and high-pressure hose clamps, chains or cables moved during maintenance prior to excavation
- Avoid wearing rings or jewelry during drilling or installation procedures
- Be aware of all overhead and underground utilities
- Avoid alcohol or other CNS depressants or stimulants prior to excavation
- Avoid contact with equipment parts during freezing weather. Freezing of moist skin to metal can occur almost instantaneously
- Shut all field operations during an electrical storm
- Do not operate heavy equipment within 20 feet of overhead power lines

6.3 Symptoms and First Aid Procedure

Hazards associated with heavy equipment were identified in Section 6.1. Unlike hazards associated with temperature or chemicals, symptoms will not be apparent with these types of hazards. In addition, these hazards will occur rapidly as opposed to over a period of time. Due to the size and composition of hydraulic vehicles, exposure to these hazards will range from extremely serious to life-threatening; therefore CDG requires that exposed field personnel seek

medical attention at the nearest medical facility and the Project Manager be notified immediately. A site location map to the nearest hospital is presented in the back.

7.0 TEMPERATURE HAZARDS

Another hazard associated with corrective action activities involves working in extreme weather conditions. Temperatures in the Southeast USA during the spring, summer, and occasionally the fall seasons can vary from mild to extremely hot. During this season, extra precautions are necessary to prevent hazards associated with elevated temperatures, which result in various forms of heat stress. In addition, the Southeast is known for its rather mild winter condition; however, on occasion, the Southeast may experience freezing conditions; therefore, precautions are also necessary to prevent hazards associated with these extreme temperatures.

7.1 Heat

As stated in OSHA's regulatory guidelines for heat exposure operations involving high air temperatures, radiant heat sources, high humidity, direct physical contact with hot objects, or strenuous physical activities have a high potential for inducing heat stress. Additional factors to consider in the determination of heat stress on an individual include age, weight, degree of physical fitness, degree of acclimatization, metabolism, use of alcohol or drugs, and a variety of medical conditions such as hypertension (high blood pressure). The following sections will identify the hazards associated with heat stress, the measures needed in order to prevent exposure to these hazards, and first aid procedures in the event exposure to these hazards should occur.

7.1.1 Hazard Identification

Heat stress is a major hazard, especially for workers wearing protective clothing. Depending on the ambient conditions and the work being performed, heat stress can occur very rapidly- within as little as 15 minutes. The key to preventing excessive heat stress is educating personnel on the hazards associated with working in heat and the benefits of implementing proper controls and work practices. The hazards associated with heat stress range from heat fatigue (mild discomfort) to heat stroke (extreme danger, which may result in death, and are discussed in the following sections.

7.1.1.1 Heat Fatigue

Heat fatigue occurs due to a lack of acclimatization (adjusting one's tolerance to work in elevated temperatures). Acclimatization is a gradual process. This process should include all field personnel being permitted to work in elevated temperatures in specified increments. On a daily basis, the maximum allowable work period should gradually be increased until the worker is able to perform his/her duties more proficiently under these conditions. The use of an acclimatization program is recommended in the regulatory guidelines established by OHSA.

7.1.1.2 Heat Rash

Heat rash (prickly heat) is the most common heat stress factor and may result form continuous exposure to heat or humid air where the skin remains wet due to lack of evaporation. Under these conditions, sweat ducts become plugged, and a skin rash appears, generally in areas where clothing is restrictive. This uncomfortable rash can be prevented by resting in a cool place during breaks and by implementing good daily personal hygiene.

7.1.1.3 Heat Collapse

Heat collapse is commonly referred to as "fainting." Fainting generally occurs when the brain does not receive enough oxygen. As a result of this condition, the exposed individual may lose consciousness. Heat collapse is rapid and unpredictable; therefore, acclimatization is an important factor in preventing this condition.

7.1.1.4 Heat Cramps

Heat cramps are muscular spasms, which usually occur in the abdomen or limbs due to loss of electrolytes following profuse sweating. Cramps are caused by either too much or too little salt intake. During the sweating process, salt exits the body; therefore, without the proper replenishment, the body experiences an electrolyte imbalance thereby inducing heat cramps. Thirst cannot be relied upon as a guide to the need for water. When working in hot environments, water must be replenished every 15 to 20 minutes.

7.1.1.5 Heat Exhaustion

Heat exhaustion is a result of overexertion in hot or warm weather. It is highly possible

for an onsite worker to experience heat exhaustion due to the use of worker-protective coveralls, boots, gloves, and respirator protection, even when ambient temperatures are mild. Fainting may also occur with heat exhaustion. This can become an extreme hazard if operating heavy machinery.

Caution: Individuals with heart problems or on a "low sodium" diet who may work in these environments should consult a physician and Corporate HSO prior to working in these conditions.

7.1.1.6 Heat Stroke

Heat stroke is the most severe form of heat stress. The body's temperature control system is maintained through sweat production. Perspiration is a cooling process for the body and keeps the body core temperature within a stable range. During heat stroke, sweat production is inhibited and the body temperature begins to rapidly rise. Brain damage and death may occur if body core temperature is extremely elevated and is not reduced.

7.1.2 Hazard Prevention

Hazards associated with temperature extremes can also be prevented with additional planning and preparation. The hazards associated with temperature can range from heat fatigue to heat stroke as described previously in Section 7.1.1 Measures to ensure the prevention of temperature hazards are as follows:

- Adhere to acclimatization process by exposing field personnel to progressively longer periods of time in hot environments.
- Schedule work for early morning or evening during warm weather.
- Work in shifts; limit exposure time of personnel and allow frequent breaks.
- Have cool liquids at an Exclusion Zone border for exposed personnel to continuously replace body fluids. As stated in the previous section, OSHA recommends that fluids, preferably water and/or a water-electrolyte solution be replenished every 15 to 20 minutes.
- Avoid caffeine and alcoholic beverages both during work hours and 24 hours prior to performing field activities

The site HSO or designee should continually monitor personnel for signs of heat stress. If any signs of heat disorders are apparent, all field personnel must immediately rest and

replenish fluids until body core temperature is lowered and remains stable.

7.1.3 Symptoms and First Aid Procedures

As discussed previously in Section 7.1.1, hazards associated with heat stress range from heat fatigue to heat stroke. Taking precautionary measures to ensure that personnel are not exposed to extreme temperatures for long periods of time can prevent these hazards. First aid measures for heat fatigue, heat rash, and heat collapse include taking frequent breaks so that the body core temperature can cool down. The following table includes first aid measures for signs of overexposure to heat.

TEMPERATURE HAZARDS	SYMPTOMS	TREATMENT
Heat Fatigue	Impaired performance of skilled sensorimotor, mental or vigilance jobs	No known treatment. Victim should be placed under cooler conditions until body core temperature lowers.
Heat Rash	Rash due to plugged sweat ducts, generally where clothing is restrictive	Keep dry towels or paper towels at the site to dry skin when excessive sweating occurs. Rash usually disappears when affected individual returns to cooler environment.
Heat Collapse	Loss of consciousness	Attempt to awaken individual. Relocate victim to a cooler area until body core temperature lowers and replenish fluids. Victim should rest for a few days.
Heat Cramps	Uncontrollable muscle spasms	Apply warm, moist heat and pressure to reduce pain. Give electrolyte drinks by mouth. Victim should intake additional potassium (Bananas are good potassium source).
Heat Exhaustion	Pale, clammy skin, profuse perspiration, weakness, headache,	Get victim into shade or cooler place. Immediately remove any protective clothing. Victim should drink plenty of fluids. Victim should lie down with

	and nausea	feet raised. Fan and cool victim with wet compresses. If vomiting occurs, transport to hospital. Victim should rest for a few days.
Heat Stroke	Pale, dry skin due to lack of perspiration, weakness, unconsciousness	Immediately take precautions to cool body core temperature by removing clothing and sponging body with cool water, or placing in tub of cool water until temperature is lowered sufficiently (102°F). Stop cooling and observe victim for 10 minutes. Once temperature remains lowered, dry person off. Use fans or air conditioning, if available. Do not give the victim stimulants. Transfer to medical facility. Under no condition is the victim to be left unattended unless authorized by a physician.

8.0 EXPLOSION/ELECTROCUTION HAZARDS

As stated previously in Section 4.1, extensive efforts are made in order to determine the location of subsurface utilities prior to corrective action activities. Efforts are made to obtain the location of underground utilities through the Line Locator Services, and utility companies are notified in advance to perform a site inspection and utility marking; however, the potential for a subsurface utility to go unnoticed exists. Therefore, the hazards associated with exposure to these utilities are identified and preventative measures and first aid procedures are discussed further in the following sections.

8.1 Explosion

Primarily when dealing with subsurface utilities, two potentially life-threatening hazards exist. The first hazard identified in association with subsurface utilities during excavation activities is discussed further in the following sections.

8.1.1 Hazard Identification

The main hazard associated with puncturing a subsurface utility gas line is explosion. By releasing gas (usually natural gas, which is generally methane gas or propane gas) into the atmosphere, explosive conditions are favorable; therefore, ignition sources must be immediately eliminated in the event a gas release occurs. Due to the flammability of

gasoline, ignition sources will be minimized; however, the engines are needed during field activities. Therefore, the only alternative to reducing the explosion hazard is to stop the release as soon as possible. However, when dealing with gases under pressure, the volatilization process may occur at such a rapid speed that an explosive situation is inevitable.

8.1.2 Hazard Prevention

Preventative measures are ensured prior to field activities. These measures generally encompass locating subsurface utilities. In addition, CDG will request local utility companies to perform site inspections and mark all subsurface utilities. In addition to this notification, if a particular subsurface utility is not identified and CDG suspects the utility to exist, CDG will take additional precautionary measures to ensure the suspected utility does not exist. These measures generally include locating utility meter boxes, etc. In addition, a field technician or subcontractor will generally probe the ground with a small rod in order to possibly identify the existence of subsurface utilities. This is conducted usually when machinery reaches 2-3 feet below the ground surface (ft-bgs).

8.2 Electrocution

8.2.1 Hazard Identification

The second main hazard associated with puncturing a subsurface electrical line or coming into contact with an overhead power line is electrocution. When dealing with electricity, all things are classified as either conductors or insulators. Conductors allow electricity to pass through them while insulators prevent electricity to pass through. Examples of conductors are metals, wood, and water, and examples of insulators are rubber and PVC. Humans are also classified as conductors; therefore, contact with electrical sources can be fatal.

Because the heavy machinery is metal, which has been classified as one of the best sources of electrical conduction, contact with exposed electrical lines will allow current to flow. The National Electrical Code (NEC) has determined that 20 milliamps (mA) of current can be fatal. For comparison, a common household circuit breaker may conduct 15, 20, or 30 amps of electrical current.

8.2.2 Hazard Prevention

As stated previously in Section 8.1.2, preventative measures to locate subsurface and overhead electrical lines prior to corrective action activities are required by CDG. CDG will notify local utility companies to provide a site inspection and mark any existing subsurface electrical lines. In addition, CDG will contact the local power provider to insulate overhead lines if necessary. When dealing with the electrical components of the dewatering system, the following precautionary measures may prevent exposure to electrocution:

- Avoid contact with exposed connections/wiring and other related components
- If unfamiliar with the system, do not attempt contact with any component
- Call the Project Manager if unsure of any connections associated with the operations of the system.

8.2.3 Symptoms and First Aid Procedures

As discussed previously in Section 8.2.1, the hazard associated with puncturing subsurface electrical utilities and contacting electrical components of dewatering system is electrocution. The primary route of exposure is contact. The transmission of electricity is allowed because the metal equipment serves as a conductor for electrical current. Symptoms and treatment for exposure to electrical current is presented in the following table:

Caution: NEVER attempt to dislodge or remove someone that is contacting a high voltage line. Use an insulating material (PVC) to release the victim from the electrocution source.

9.0 MISCELLANEOUS HAZARDS

Additional hazards identified when performing corrective action activities have been classified as miscellaneous hazards due to the variety of these hazards. These hazards generally are nothing more than nuisances and with additional planning should be entirely avoidable; however, there are instances in which exposure to these hazards will occur. Therefore, these hazards are identified and preventative measures and first aid procedures are discussed in further detail in the following sections.

9.1 Hazard Identification

Occasionally, exposure to common nuisances may potentially result in a life-threatening

situation. For example, a wasp or bee sting for some individuals only causes irritation or localized soreness; however, to others with little tolerance for wasp or bee venom, an allergic reaction can result which could potentially lead to death if not treated immediately. Therefore, allergic reactions to these insects have been identified as a potential hazard. In addition to the insects, contact with black widow spiders (red hourglass), brown recluse spiders (violin shape on back), and snakes are also potential hazard.

9.2 Hazard Prevention

Prevention, with regards to miscellaneous hazards, is more difficult to plan ahead. Generally, prior to conducting corrective action activities, the primary location for the activities has been established; therefore, barricades such as cones and company vehicles can be placed around the work area to prevent exposure to incoming and ongoing vehicles. However, the limitation to using cones is that they are often small and unnoticeable to drivers once inside the vehicles; therefore, the best prevention with regards to this miscellaneous hazard is to constantly be aware of your surroundings. This preventative measure can also be applied to exposure to insects, snakes, and spiders. Be aware of your surrounding when working around dark, secluded areas such as cracks and crevices, where snakes, spiders, and mice like to hide.

9.3 Symptoms and First Aid Procedures

If an employee or subcontractor shows any signs of an allergic reaction (anaphylactic shock, hives, or difficulty breathing) to a sting or bite, immediately seek medical attention at the nearest hospital. In the event that an operating vehicle strikes a person, seek medical attention immediately. In the meantime, a first aid kit and eye wash bottle will be provided by CDG and should be kept in all company vehicles. If field personnel are aware of their allergic reactions to insect bites, CDG requires that medication be kept on hand during field activities and at least one other field technician be made aware of the medication in the event of an allergic reaction should occur.

10.0 ADDITIONAL PRECAUTIONS

Additional precautions have been implemented in order to ensure overall safety for all field personnel. The safety protocols listed in this segment are to be considered the minimum requirements to be met by all field personnel engaging in corrective action activities.

10.1 Personal Protective Equipment

PPE is the most effective measure to prevent exposure to chemical hazards. There are four levels of PPE protection ranging from Level A to Level D equipment. Level A protection serves as the most conservative protective equipment, and Level D protection serves as the least conservative protective equipment. These levels are described further in the following table:

LEVELS OF PPE PROTECTION	PPE REQUIREMENTS
Level A	Worn when the highest level of respiratory, skin, and eye protection is necessary.
Level B	Worn when the highest level of respiratory protection is needed, but a lesser level of skin protection is necessary.
Level C	Worn when the criteria for using air-purifying respirators are met, and a lesser level of skin protection is necessary.
Level D	Refers to work conducted without respiratory protection. This level should be used only when the atmosphere contains no know or suspected airborne chemical or radiological contaminants and oxygen concentrations are between 19.5 % and 23.0%

Level D protective clothing, as indicated below, shall be considered the minimum requirements for installation and excavation operations:

- Hard hat
- Coveralls*
- Non permeable gloves
- Steel-toe, non-permeable boots
- Hearing protection*
- Safety goggles (chemical)*

*These items are mandatory on an “as needed” basis. Generally, normal site conditions do not warrant the use of this equipment; however, under certain conditions where large amounts of free product are encountered, the issue of coveralls and safety goggles may be warranted. Safety goggles and hearing protection are mandatory when near the drill rig to reduce stress on the ear and also prevent objects from the soil or drill rig from lodging in the eye.

Equipment may be upgraded to Level C depending on the site conditions and/or monitoring results. Level C protection, in addition to Level D protection, includes the following:

- Rubber/chemical resistant outer gloves
- Face-shield if splash hazards exists
- Outer disposable booties
- Half-mask respirator

10.2 Signs, Signals, and Barricades

As stated previously in Section 9.1, corrective action activities are generally conducted at retail gasoline facilities and convenience stores, and are therefore, high traffic areas. All CDG field personnel must be aware of his/her surroundings at all times. In addition, the items listed below will be provided to secure the area in order to protect all field personnel as well as the general public.

- Utilize barricades to protect workers, pedestrians and vehicles from work activities
- Post area for "NO SMOKING"
- Utilize cones to protect workers from incoming and ongoing vehicles

10.3 Fire Protection and Prevention

As stated previously in Section 5.1, gasoline is a highly flammable substance. CDG requires that the work area be posted with "NO SMOKING" signs in an attempt to prevent fires from occurring; however, as a secondary precaution CDG plans to implement the following:

- Maintain a 20 lb. ABC Dry Chemical fire extinguisher on site at all times
- Eliminate ALL ignition sources in the vicinity of any releases
- The contractor will clean up all small spills using absorbent materials or by pumping

10.4 Storage and Decontamination

During the corrective action activities, impacted soils will be encountered. Groundwater will be treated and pumped to an NPDES outfall. Contaminated soil will be temporarily stored until transported for disposal. Decontamination procedures will be implemented should chemical exposure occur. The procedures are detailed below:

- Avoid contact with liquid gasoline or diesel
- Place contaminated soil on visqueen and cover once removed from the excavation
- Change any product contaminated soil immediately
- Wash any contaminated skin surfaces immediately with soap and water

Caution: All personnel are required to wash hands at the completion of work, before and after restroom use and before eating in order to prevent dermal contact with or ingestion of contaminants encountered during field activities.

11.0 EMERGENCY CONTINGENCY PLAN

If an incident occurs that requires declaring an emergency, all personnel will assemble at a designated emergency meeting location for further instruction. Arrangement for decontamination, evacuation and/or transport will be made at that time. The client and appropriate CDG personnel will be notified of the incident as soon as possible.

11.1 Notification/Reporting Procedures

In the event of an emergency, CDG Project Manager will be notified as soon as possible regarding the nature of the incident and emergency service contact will be notified as needed (see Section 11.7, Contingency Contacts). It is the responsibility of the Site HSO to report all incidents to the CDG Corporate HSO so that the required reporting procedures may be implemented.

11.2 Hazardous Substance Release

In the event that potentially hazardous substances migrate from the work zone and potentially endanger unprotected personnel or the community all on site activities will cease until the release is brought under control. CDG will immediately notify the proper authorities so that they may be able to ensure that public health and safety is maintained throughout this process event to the extent of evacuation if necessary.

11.3 Personnel Injury

In the event of an injury, all personnel will assemble at the designated emergency meeting location. The Site HSO, prior to the beginning of filed activities should designate this location. If the injured person is immobile one or more persons should remain nearby to provide any necessary first aid techniques. If medical help is necessary, the Site HSO will summon the

appropriate assistance for transportation to the nearest medical facility. Due to the potential for these situations, CDG recommends that at least one qualified person be CPR/First Aid certified.

11.4 Evacuation Plan

Gasoline and diesel are flammable substances; therefore, a fire/explosion potential exists during the excavation activities. In the event of an onsite evacuation, the following plan will be implemented:

- A signal consisting of one continuous blast of a vehicle or air horn will be used
- All personnel will immediately evacuate the area and report to the designated emergency meeting location for further instruction

11.5 Spill Prevention and Response

In the event of a leak or spill, the area will be blocked using barricades, and the spill contained until absorbed and removed by authorized personnel. Unauthorized persons will be denied access to the area until all spills have been removed and field operations completed. CDG will follow prescribed procedures for reporting and responding to large releases by notifying the National Response Center (see Section 11.7). All materials will be disposed of according to regulatory guidelines.

11.6 Emergency Communication

In the event of an emergency situation, the following standard hand signals will be used onsite as a means of communication:

- Hand gripping throat- (cannot breathe)
- Grip partner's wrist or both hands around waist- (leave area immediately)
- Hands on top of head- (need assistance)
- Thumbs up- (OK, I am all right, I understand)
- Thumbs down- (No, negative)

11.7 Contingency Contacts

In the event of an emergency, CDG has provided several emergency contacts. These contacts, along with phone numbers, are listed in the following table. The Site HSO will be responsible

for the notification of these contacts in the event of an emergency.

AGENCY	CONTACT	TELEPHONE NO.
Fire Department	South Montgomery County Volunteer Fire Department	334-562-92802 or 911
Police Department	County Police Department	334-241-2651 or 911
Ambulance	Baptist Medical Center South	334-288-2100 or 911
Hospital	Baptist Medical Center South	334-288-2100
Corporate HSO	Robert Shepard	334-222-9431
Project Manager	Anna Brunson	334-222-9431
EPA RCRA-Superfund Hotline		800-424-9346
Chemtrec (24 hours)		800-424-9300
Bureau of Explosives (24 hours)		202-293-4048
Centers for Disease Control (Biological Agents)		404-633-5353
National Response Center		800-424-8802

MEDICAL FACILITY

Name of Hospital: Baptist Medical Center South

Address: 2105 E. South Blvd.
Montgomery, Alabama 36116

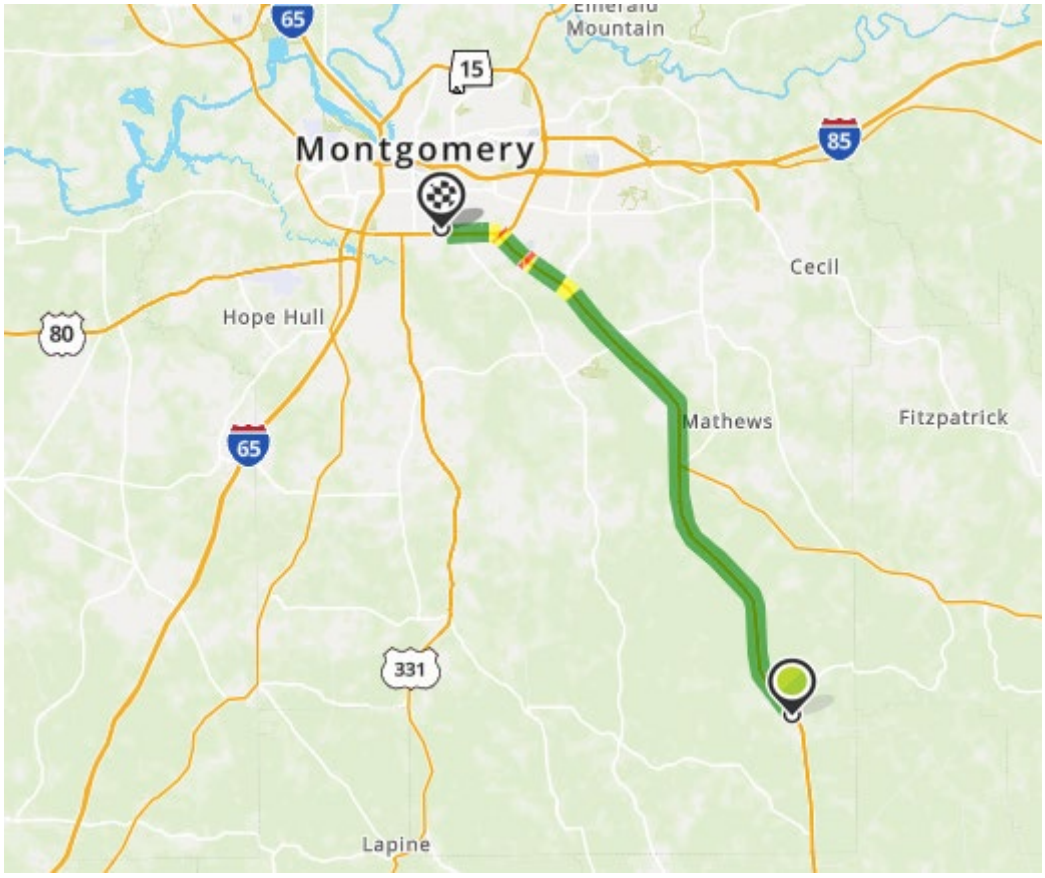
Phone: 334-288-2100

Route to Hospital: Start out going northwest of Troy Highway/US-231/AL-53 toward Upper Troy Ln. Continue to follow AS-53 for 24.15 miles. Turn left onto E. South Blvd for 2.06 miles. Turn right onto Morrow Dr. for 0.01 miles. Take the 1st left onto E. South Blvd for 0.03 miles. Reach 2105 E. South Blvd on the right.

Travel Time from Site: 28 minutes

Distance to Hospital: 26.2 miles

In cases of construction accidents, rapid notification to OSHA is required.



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TASKS PERFORMANCE SUMMARY

APPENDIX I

UST RELEASE FACT SHEET

GENERAL INFORMATION:

SITE NAME: Sikes Pine Level 231 BP
ADDRESS: 23603 Highway 231
Ramer, Montgomery County, Alabama

FACILITY I.D. NO.: 14247-101-007856
UST INCIDENT NO.: UST17-03-08

RESULTS OF EXPOSURE ASSESSMENT:

How many private drinking water wells are located within 1,000 ft. of site?	0
How many public water supply wells are located within 1 mile of the site?	0
Have any drinking water supply wells been impacted by contamination from this release?	No
Is there an imminent threat of contamination to any drinking water wells?	{ } Yes { x} No
Have vapors or contaminated groundwater posed a threat to the public?	{ } Yes { x} No
Are any underground utilities impacted or imminently threatened by the release?	{ } Yes { x} No
Have surface waters been impacted by the release?	{ } Yes { x} No
Is there an imminent threat of contamination to surface waters?	{ } Yes { x } No
What is the type of surrounding population?	Residential

CONTAMINATION DESCRIPTION:

Type of contamination at site: {X} Gasoline, { } Diesel, { } Waste Oil
{ } Kerosene { } Other _____

Free product present in wells? { } Yes {X} No Maximum thickness measured: N/A

Maximum BTEX or PAH concentrations measured in soil: BTEX 310.860 mg/Kg in MW-1 (0-3') on 06/19/17

Maximum BTEX or PAH concentrations measured in groundwater: BTEX 55.7633 mg/L in MW-9 on 05/18/20

ADEM UST Form - 001 (04/22/93)

ADEM GROUNDWATER BRANCH
UST SITE CLASSIFICATION SYSTEM
CHECKLIST

Please read all of the following statements and mark either yes or no if the statement applies to your site. If you have conducted a Preliminary or Secondary Investigation, all questions should be answered. Closure site assessment reports may not provide you with all the necessary information but answer the statements with the knowledge obtained during the closure site assessment.

SITE NAME:	Sikes Pine Level 231 BP
SITE ADDRESS:	23603 Highway 231
	Ramer, Montgomery County, Alabama
FACILITY I.D. NO.:	14247-101-007856
UST INCIDENT NO.:	UST17-03-08
OWNER NAME:	Russell Oil Company, Inc.
OWNER ADDRESS:	P.O. Box 38
	Lapine, Alabama 36046
NAME & ADDRESS OF PERSON COMPLETING THIS FORM:	Anna Brunson, Project Manager
	CDG Engineers & Associates, Inc.
	P.O. Box 278
	Andalusia, Alabama 36420

CLASSIFICATION	***DESCRIPTION***	***YES***	***NO***
CLASS A	IMMEDIATE THREAT TO HUMAN HEALTH, HUMAN SAFETY OR SENSITIVE ENVIRONMENTAL RECEPTOR		
A.1	Vapor concentrations at or approaching explosive levels that could cause health effects, are present in a residence or building.	☐	☒
A.2	Vapor concentrations at or approaching explosive levels are present in subsurface utility system(s), but no buildings or residences are impacted.	☐	☒
CLASS B	IMMEDIATE THREAT TO HUMAN HEALTH, HUMAN SAFETY OR SENSITIVE ENVIRONMENTAL RECEPTOR		
B.1	An active public water supply well, public water supply line or public surface water intake is impacted or immediately threatened.	☐	☒
B.2	An active domestic water supply well, domestic water supply line or domestic surface water intake is impacted or immediately threatened.	☐	☒
B.3	The release is located within a designated Wellhead Protection Area I.	☐	☒
CLASS C	IMMEDIATE THREAT TO HUMAN HEALTH, HUMAN SAFETY OR SENSITIVE ENVIRONMENTAL RECEPTOR		
C.1	Ambient vapor/particulate concentrations exceed concentrations of concern from an acute exposure, or safety viewpoint.	☐	☒
C.2	Free product is present on the groundwater, at ground surface, on surface water bodies, in utilities other than water supply lines, or in surface water runoff.	☐	☒

CLASSIFICATION	*DESCRIPTION*	*YES*	*NO*
CLASS D	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
D.1	There is a potential for explosive levels, or concentrations of vapors that could cause acute effects, to accumulate in a residence or other building.	☐	☒
D.2	A non-potable water supply well is impacted or immediately threatened.	☐	☒
D.3	Shallow contaminated surface soils are open to public access, and dwellings, parks, playgrounds, day care centers, schools or similar use facilities are within 500 feet of those soils.	☐	☒
CLASS E	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
E.1	A sensitive habitat or sensitive resources (sport fish, economically important species, threatened and endangered species, etc.) are impacted and affected.	☐	☒
CLASS F	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
F.1	Groundwater is impacted, and a public well is located within 1 mile of the site.	☐	☒
F.2	Groundwater is impacted and a domestic well is located within 1,000 feet of the site.	☐	☒
F.3	Contaminated soils and/or groundwater are located within designated Wellhead Protection Areas (Areas II or III).	☐	☒
CLASS G	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
G.1	Contaminated soils and/or groundwater are located within areas vulnerable to contamination from surface sources.	☐	☒
GLASS H	SHORT TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
H.1	Impacted surface water, storm water or groundwater discharges within 500 feet of a surface water body used for human drinking water, whole body water-contact sports, or habitat to a protected or listed endangered plant and animal species.	☐	☒
CLASS I	LONG TERM THREAT TO HUMAN HEALTH, SAFETY, OR SENSITIVE ENVIRONMENTAL RECEPTORS		
I.1.	Site has contaminated soils and/or groundwater but does not meet any of the above-mentioned criteria.	☒	☐

ADDITIONAL COMMENTS:

Complete the classification evaluation questions listed above. Upon completion, determine the highest rank of the site (A.1 is the highest rank) based on the statements answered with a yes.

Enter the determined classification ranking:	I.1

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ADEM FORMS

APPENDIX H

TASK PERFORMANCE SUMMARY

Corrective Action Plan, CP-20
Sikes Pine Level 231 BP
23603 Highway 231
Ramer, Montgomery County, Alabama

Task Completed by Personnel/Title:	Griffin Gatschet, P.G.	James Alan Barck, P.G./P.E.	Anna Brunson, Project Manager	Ray Hollinghead, Drafter	Leigh Caylor, Administrative Assistant	Kim Ballard, Administrative Assistant	Patricia Horwath, Administrative Assistant
Project Management			X				
Work Plan Preparation/Review			X				
Cost Proposal Preparation/Review	X		X		X	X	X
Field Work							
Data Interpretation/Tabulations			X				
Drafting				X			
Report Preparation/Review		X	X		X	X	X
Payment Request Preparation/Review	X		X		X	X	X

Notes:
DO=Drilling Oversight
BL=Boring Log Description/Soil Classification
WG=Well Gauging
GSC=Groundwater Sample Collection
MEME=MEME Oversight
PM=Project Management
O&M=Routine Operation & Maintenance
HRS=High Resolution Study
VM=Vapor Monitoring
FC=Fan Check