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GLENDAN GULF SERVICE STATION

MODIFIED CAP

ATTF CP-70



Glendean Gulf Service Station
722 East Glenn Avenue
Auburn, Lee Co., AL
Fac ID 14327-081-006291
UST 00-02-03

PREPARED FOR
Saxon Oil
P.O. Box 2467
Opelika, AL 36803

DATE
November 12, 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 Glendean Gulf Service Station site (Facility Identification Number 14327-081-006291) in Auburn, Lee County, Alabama. The recommended action should not be construed to apply to any other site.


Signature

James Alan Barck, PE

Alabama Registration No. 32719



11-4-20

Date

1.0 SITE LOCATION AND HISTORY

The Glendean Gulf Service facility is located at 722 E Glenn Ave, Auburn, Lee County, Alabama. Topographically the site is an area of moderate relief in north western Houston County. The site is situated in the NW ¼ of the SE ¼ of the NW ¼ of Section 29, Township 19 North, Range 26 East. The approximate geographical coordinates are Latitude 32° 36' 30.71" North, Longitude 85° 27' 55.05" West.

Currently inactive, the Glendean Gulf Service Station is the site of a former convenience store located in Auburn, Alabama. The facility operated with underground storage tanks (USTs) that were located on the eastern portion of the site. The tanks were removed from the site in 2013. The Alabama Tank Trust Fund (ATTF) responsible party for the site is Saxon Oil Company.

In order to address the onsite dissolved hydrocarbon plume, ADEM requested that a Modified Corrective Action Plan be prepared for the site. The following report constitutes the Modified Corrective Action Plan developed as approved in a letter dated August 20, 2020 under cost proposal CP-70.

2.0 SUMMARY OF PREVIOUS SITE INVESTIGATIONS

Previous remediation efforts were conducted by CWA Group of Montgomery which included a dual phase vapor extraction system, UST removal and soil excavation. Due to future development plans, the system was decommissioned, and the Glendean Gulf Service Station was demolished. All monitoring and recovery wells were abandoned during this time. After development activities, monitoring wells and recovery wells were reinstalled at the site.

On March 10, 2014, CDG Engineers & Associates (CDG) was engaged by Saxon Oil as the ATTF remediation contractor for the Glendean Gulf Service Station site. Since then, additional monitoring wells and recovery wells have been installed, Mobile Enhanced Multi-phase Extraction (MEME) Events have been conducted, and groundwater monitoring activities have been continued. Currently, there are a total of seventeen Type II monitoring wells, and seven 4-inch recovery wells at the site.

Between October 2015 and August 2018, multiple Mobile Enhanced Multiphase Extraction (MEME) events were conducted. The following table summarizes the results of the last six events:

Date	Length of Event (hrs.)	Total HC Removed (lbs.)	Equivalent HC (gal)	Total PCW Liquid (gal)
01/04/17	8	5.39	0.87	1100
03/02/18	8	4.97	1.49	1300
05/08/18	8	7.51	1.22	1500
07/12/18	8	5.23	0.85	1525
09/11/18	8	2.55	0.41	1175
10/10/18	24	11.42	1.85	2800
TOTALS	64	37.07	6.69	9400

During the period between January 2017 and October 2018, the MEME events were successful in removing approximately 37.07 pounds of gasoline range hydrocarbons or the equivalent of 6.69 gallons of gasoline. Approximately 0.58 pounds of gasoline range hydrocarbons per hour were removed from the site during these events.

3.0 REMEDIAL OBJECTIVES AND EXPOSURE ASSESSMENT

4.1 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 are 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 approved SSTLs.
- Reduce dissolved petroleum hydrocarbons from groundwater to below approved SSTLs.
- Accomplish these objectives within the proposed period of operation.

4.2 Exposure Assessment

An exposure assessment was conducted by CWA 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 groundwater for on-site and off-site commercial workers. There is also a complete exposure

pathway that exists on site for indoor and outdoor vapor inhalation from soils. A complete exposure pathway also exists for off-site construction workers for outdoor vapor inhalation from groundwater. Future land use of the site and the surrounding area is expected to remain the same. There are no public water supply wells located to the within one mile of the site. There are no private water supply wells identified within 1,000 feet of the facility.

4.3 Specific Remedial Objectives

As part of the ARBCA Tier II evaluation process, Site Specific Target Levels (SSTLs) were calculated for the various media (soil and groundwater) at the site based upon the site exposure assessment. The SSTLs were calculated in the ARBCA evaluation conducted in December 2004. A summary of the approved Tier II SSTLs is presented in Appendix C.

5.0 RECENT MONITORING ACTIVITIES, RESULTS, AND COMPARISONS TO ACALS

ADEM requested the development of a modified CAP that would effectively address both soil and groundwater contamination at the site. As part of the modified CAP development, current representative concentrations for the chemicals of concern (COC) are needed in the evaluation and design of a plan to effectively treat and reduce contaminants. The site has had multiple approved groundwater monitoring and MEME events conducted. The most recent groundwater monitoring event was completed on September 10. The following details the activities and results of the September 10 groundwater monitoring event.

5.1 Groundwater Monitoring Activities

During the most recent groundwater monitoring event conducted on September 10, 2020, CDG personnel mobilized to the site to collect groundwater samples for benzene, toluene, ethylbenzene, total xylenes (BTEX), Methyl-tertiary-butyl-ether (MTBE), and Naphthalene analysis. Upon arriving at the site, the CDG technician removed the well caps from a subset of the existing monitoring wells and the water levels in the wells were allowed to stabilize. Potentiometric levels were then measured with an electronic water level indicator and recorded in the site field book. After all measurements were completed, each well was properly purged in preparation for groundwater sampling activities. Approximately 19 gallons of purge water were removed from the wells and treated using a portable carbon unit prior to being discharged on-site. A sample of the treated water was collected for BTEX/MTBE/Naphthalene analysis to verify that the carbon did not have breakthrough.

Groundwater samples were collected from four monitoring wells for BTEX/MTBE/ Naphthalene analyses using new, disposable bailers and transferred to 40 mL glass VOA vials preserved with HCl. The samples were placed on ice and transported under chain-of-custody protocol to Waypoint Analytical Laboratory where they were analyzed by purge and trap Method 8260B for the presence of BTEX/MTBE/Naphthalene constituents.

5.2 Laboratory Analytical Results

Based on the most recent water level measurements, the shallow groundwater flow direction appears to be to the southwest. Historic and current water level measurements are presented in the Monitoring Point Data Summary Table (Appendix A). A potentiometric surface map and a groundwater constituent concentration and benzene contour map for the most recent groundwater monitoring event is presented in Appendix B. The BTEX/MTBE and Naphthalene results from groundwater samples collected during the September 10, 2020 monitoring event indicated detectable concentrations of BTEX/MTBE and/or Naphthalene constituents above Groundwater Resource Protection (GRP) and Stream SSTLs in monitoring wells RMW-10, MW-14, RMW-23, RW-6R, and RW-9. Recovery well RMW-23 was also above the accepted SSTLs for Indoor Inhalation. The data for dissolved oxygen, pH, and Redox potential are presented in Appendix A. The reported concentrations above the SSTLs are as follows:

	<u>COC</u>	<u>Stream SSTLs</u>	<u>GRP SSTLs</u>	<u>Inhalation SSTLs</u>	<u>Concentration</u>
RMW-10	Benzene	0.277 mg/L	0.767 mg/L	14.9 mg/L	0.635 mg/L
MW-14	Benzene	0.277 mg/L	0.767 mg/L	14.9 mg/L	3.96 mg/L
RMW-23	MTBE	NA	0.0789 mg/L	5050 mg/L	0.098 mg/L
	Benzene	0.0278 mg/L	0.0197 mg/L	2.27 mg/L	4.01 mg/L
	Toluene	0.443 mg/L	3.94 mg/L	134 mg/L	1.42 mg/L
	Ethylbenzene	1.15 mg/L	2.76 mg/L	169 mg/L	2.68 mg/L
	Naphthalene	1.57 mg/L	0.0789 mg/L	9.6 mg/L	1.01 mg/L
RW-6R	MTBE	NA	0.0773 mg/L	5050 mg/L	0.142 mg/L
	Benzene	0.0273 mg/L	0.019 mg/L	2.27 mg/L	1.01 mg/L

	<u>COC</u>	<u>Stream SSTLs</u>	<u>GRP SSTLs</u>	<u>Inhalation SSTLs</u>	<u>Concentration</u>
RW-9	Naphthalene	1.57 mg/L	0.0789 mg/L	9.60 mg/L	0.087 mg/L

5.3 Summary of Results

Based upon current constituent concentrations and the risk assessment results, ACALs were calculated for the site using the ARBCA process. There are complete exposure pathways for vapor inhalation from both soil and groundwater on and off-site.

Based upon the September 2020 sampling event, the benzene concentrations in monitoring well MW-14 exceeded the approved GRP SSTLs and the Approved Stream SSTLs. Recovery well RW-9 contained Benzene, MTBE, and Naphthalene concentrations above GRP SSTLs, and Benzene, toluene, and Ethylbenzene concentrations over Stream SSTLs. RMW-23 contained Benzene, MTBE, Ethylbenzene, and Naphthalene concentrations that exceeded the approved GRP SSTLs, Benzene, Toluene, and Ethylbenzene concentrations that exceeded the approved Stream SSTLs, and Benzene concentrations that exceeded the approved Indoor Inhalation SSTLs.

6.0 REMEDIATION RATIONALE AND APPROACH

Based upon current constituent concentrations and the risk assessment results, there are exceedances in the groundwater resource protection for groundwater BTEX constituents.

In order to accelerate the reduction of dissolved hydrocarbon concentrations, CDG recommends that the RNA and MEME activities be enhanced with the introduction of mobile air sparging (AS) technology. Because the COC concentrations observed do not warrant the installation of a dedicated remediation system, RNA in conjunction with monthly MEME/AS events would be an effective means of achieving the site-specific cleanup goals.

Natural attenuation is a passive remediation process by which dilution, volatilization, biodegradation, adsorption, and chemical reactivity are allowed to reduce contaminant concentrations to acceptable levels. As a general rule, decreasing trends indicate these natural attenuation processes are occurring and will likely continue to reduce the contaminant concentrations to below acceptable levels. Used in conjunction with MEME/AS events, periodic groundwater sampling is conducted to monitor the natural attenuation process. If COC concentrations increase based on future monitoring results, the CAP approach will be re-evaluated.

7.0 REMEDIATION RECOMMENDATION PLAN

To address the residual levels of groundwater contamination at the site, the following approach is recommended:

One additional recovery well and six sparge points will be installed at the site at the location indicated in the Proposed Well Figure located in Appendix B. Each of the sparge points will be constructed with 1-inch diameter Schedule 40 PVC risers extending from just below the ground level to approximately two feet above the bottom of the boring. A two-foot porous media sparge point will be connected to the bottom of the solid riser. The riser and screen will be connected using threaded, flush-joint connections. The air sparge points will be installed to a depth of approximately 50 feet below ground level which is 20 feet below the average groundwater level beneath the site. At this depth the AS wells would be expected to produce a theoretical 20 foot radius of influence around each well. The locations of the proposed sparge points are illustrated in the Figures (Appendix B).

Graded filter sand will be placed in the boring annulus for each sparge point from the bottom of the boring to at least two feet above the top of the screen. A bentonite seal approximately two feet thick will be placed at the top of each sand pack. A cement/bentonite grout will be placed above the bentonite seal to within approximately one ft-bls. The purpose of the bentonite seal and grout is to reduce the potential for air to escape up the boring and to the ground surface.

The sparge points will be set within 8-inch diameter steel manway covers surrounded by concrete pads. Construction details are shown in the Figures section (Appendix B).

Following the installation of the proposed sparge points, the modified corrective action approach involves 12-hour MEME/AS events on a monthly basis. In order to receive authorization to inject atmospheric air into the subsurface, an Underground Injection Control (UIC) Permit is required by ADEM. CDG will submit a UIC Permit application to ADEM.

Quarterly groundwater monitoring events will be conducted to monitor the natural attenuation progress toward meeting the remediation goals. Monitoring wells will be sampled for BTEX, MTBE, and Naphthalene and for natural attenuation parameters (DO, pH, and ORP).

8.0 PROPOSED REPORTING REQUIREMENTS

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

Reporting of Natural Attenuation Effectiveness - CDG proposes to submit quarterly NAMR reports, which will summarize field activities and the progress of site groundwater constituent concentrations towards achieving approved corrective action levels. The following data will be included in each report: field activities performed, groundwater elevations, groundwater analytical results as compared to target levels, MEME/AS event results, potentiometric surface maps, and BTEX and MTBE constituent concentration maps. The reports will also include remediation effectiveness and recommendations concerning additional measures deemed necessary.

Request for Closure Evaluation of Corrective Action - This report will include data that shows that remediation goals have been achieved and request a status of NFA. Methods for abandonment of monitoring and recovery wells will be described.

Site Closure Report - This report will describe in detail the closure of the site and removal of all monitoring wells.

9.0 SCHEDULE OF IMPLEMENTATION

The proposed Modified CAP activities will be implemented immediately following the approval of the Modified CAP. The following schedule indicates the timetable for major project events to be completed as part of this modified corrective action plan:

Time Following Cap Approval (months)	Project Event	Project Event Length
0 – 24	Quarterly groundwater monitoring and MEME/AS events, evaluation of performance, and recommendations for further corrective action if required	2 Years
25	Well abandonment; completion and submittal of final report if allowable by ADEM	2 Months

10.0 PROPOSED CORRECTIVE ACTION ACTIVITIES

Following the approval of the Modified CAP, each month there will be two consecutive 12-hour duration MEME/AS events conducted at the site in order to address the two separate contaminant plumes. The first 12-hr MEME/AS event will be conducted during the day to address the contaminant plume closest to the stream, and the second will be conducted at night addressing the plume in front of the shopping center to allow customers to still access the parking spots in the above mentioned area during normal business hours. dissolved hydrocarbon concentrations in the vicinity of the monitoring wells near the tank pit and canopy.

During the first event, atmospheric air will be injected into each of the proposed sparge points, while groundwater and soil vapor is extracted from recovery wells RW-6, RW-9, and RW-8. During the second, event atmospheric air will be injected into each of the proposed sparge points, while groundwater and soil vapor is extracted from recovery wells RW-4, RW-5, and RW-10. The MEME events will be conducted using a mobile liquid ring MPE system operated by Brown Remediation, Inc or equivalent. The MEME system has been approved by ADEM for use at numerous locations in Alabama for free product recovery, emergency response, and pilot testing activities. The unit operates with continuously monitored off-gas treatment (thermal destruction). The AS events will be conducted by CDG Engineers and Associates, Inc. simultaneously with the MEME events.

Prior to the event, static water levels in all site wells will be recorded. Applied vacuum in the extraction well and casing vacuums in the observation wells will be recorded periodically during testing. During the first event water level and vacuum measurements, to determine the radius of influence, will be obtained periodically from adjacent wells (RMW-23, RMW-24, and RW-7). During the second event water level and vacuum measurements, to determine the radius of influence, will be obtained periodically from adjacent wells (MW-14, MW-16, RWM-11, and RWM-6). Measurements of flow and hydrocarbon concentrations will also be obtained periodically during the test. Field measurements will be obtained using a calibrated Ionization Detector (FID) instrument. Hydrocarbon removal rates will be calculated and plotted.

Air will be injected into three newly installed AS points simultaneously in the first event and three newly installed AS points simultaneously in the second event. The AS points will be equipped with wellhead pressure gauges, flowmeters, and control valves. An air supply system

consisting of an air filter, air compressor, and pressure vessel. The air compressor should be capable of providing at least 20 cfm at gage pressures up to 10 to 15 pounds per square inch (psig) above the calculated hydrostatic pressure.

Groundwater Monitoring

Once per quarter, groundwater samples will be collected from all monitoring wells. The groundwater samples will be collected from the monitoring wells using new clean plastic bailers and transferred to 40 milliliter (mL) glass volatile organic analysis (VOA) vials preserved with hydrochloric acid (HCl) for BTEX, MTBE, and Naphthalene analysis in accordance with EPA Method 8260B. During each groundwater sampling event, all monitoring wells will also be sampled for natural attenuation parameters (DO, pH, and ORP). The natural attenuation parameters will provide information concerning the recovery of the shallow aquifer down gradient of the release area.

Reporting

The results of the proposed activities will be submitted to the ADEM in the form of quarterly RNA/MEME/AS Report. Each report will include conclusions regarding the effectiveness of the recovery activities performed and recommendations for future site activities.



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APPENDICES

Tables	A
Figures	B
Site Location USGS Topographic Map	
Land Use Map	
Site Map with Utility and Well Locations	
Site Map with Proposed Sparge Point Locations	
Lithologic Cross Section	
Potentiometric Surface Map	
Groundwater Analytical and Benzene Contour Map	
Air Sparge Well Construction Detail	
Diagram of a Recovery Well	
Approved ARBCA SSTLs.....	C
Quality Assurance/ Quality Control Plan.....	D
Site Health and Safety Plan.....	E
Tasks Performance Summary	F



Appendices



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TABLES

APPENDIX A

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-1		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
03/31/00	0.0120	<0.001	0.0360	0.0870	0.4000	0.5230	-
11/30/00	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
03/07/01	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
06/05/01	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
09/27/01	<0.001	0.0030	<0.001	<0.001	0.0010	0.0040	-
07/08/02	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
10/14/03	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
03/15/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
09/13/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
08/05/05	<0.001	0.0020	<0.005	<0.001	<0.003	0.0020	-
12/06/05	<0.001	<0.005	<0.005	<0.0005	<0.0015	BDL	-
03/07/06	<0.001	<0.001	<0.005	<0.001	<0.003	BDL	-
06/08/06	<0.00032	<0.00031	<0.00032	<0.00026	<0.00073	BDL	-
12/2006	CA VIA MPE						
12/08/06	<0.00033	0.0002	<0.0016	<0.00016	<0.0005	0.0002	-
02/23/07	<0.00033	<0.0016	<0.00016	0.0010	0.0010	0.0020	-
06/08/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
08/13/07	<0.00033	0.0000	<0.0016	<0.00016	<0.0005	BDL	-
11/14/07	<0.00033	<0.00016	<0.0016	0.0000	0.0020	0.0020	-
02/19/08	<0.00033	0.0000	<0.0016	<0.00016	0.0010	0.0010	-
05/07/08	<0.00033	0.0000	<0.0016	<0.00016	<0.0005	BDL	-
08/05/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
11/11/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
02/07/11	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
03/07/12	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
09/26/12	WELL ABANDONED						
GRP SSTLS:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLS:	48000	14.9	526	169	175	-	31
Stream SSTLS:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-2		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
03/31/00	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
11/30/00	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
03/07/01	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
06/05/01	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
09/27/01	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
07/08/02	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
10/14/03	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
03/15/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
09/13/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
08/05/05	<0.001	<0.001	<0.005	<0.001	<0.003	BDL	-
03/07/06	<0.001	<0.001	<0.005	<0.001	<0.003	BDL	-
06/08/06	<0.00032	<0.00031	<0.00032	<0.00026	<0.00073	BDL	-
12/2006	CA VIA MPE						
12/08/06	<0.00033	0.0002	<0.0016	<0.00016	<0.0005	0.0002	-
02/23/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
06/08/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
08/13/07	<0.00033	0.0000	<0.0016	<0.00016	<0.0005	BDL	-
11/14/07	<0.00033	<0.00016	<0.0016	0.0000	0.0010	0.0010	-
02/19/08	<0.00033	<0.00016	<0.0016	<0.00016	0.0010	0.0010	-
05/07/08	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
08/05/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
11/11/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
02/07/11	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
03/07/12	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
09/26/12	WELL ABANDONED						
GRP SSTLS:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLS:	48000	14.9	526	169	175	-	31
Stream SSTLS:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-3		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
03/31/00	0.0068	0.0319	0.0935	0.0293	0.1567	0.3114	-
11/30/00	0.0013	0.0018	0.0064	0.0011	0.0040	0.0134	-
03/07/01	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
06/05/01	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
09/27/01	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
07/08/02	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
10/14/03	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
03/15/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
09/13/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
08/05/05	<0.001	0.0140	<0.005	<0.001	<0.003	0.0140	-
12/06/05	<0.001	<0.005	<0.005	<0.0005	<0.0015	BDL	-
03/07/06	<0.001	<0.001	<0.005	<0.001	<0.003	BDL	-
06/08/06	<0.00032	<0.00031	<0.00032	<0.00026	<0.00073	BDL	-
12/2006	CA VIA MPE						
12/08/06	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
02/23/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
06/08/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
08/13/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
11/14/07	<0.00034	0.0004	<0.0016	0.0002	<0.0005	0.0006	-
05/07/08	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
08/05/08	<0.0004	0.0003	<0.00026	<0.00037	<0.0006	0.0003	-
11/11/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
02/07/11	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
03/07/12	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
09/26/12	WELL ABANDONED						
GRP SSTLS:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLS:	48000	14.9	526	169	175	-	31
Stream SSTLS:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-4		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
03/31/00	1.4100	1.1000	2.1200	0.2240	3.1820	6.6260	
11/30/00	NOT SAMPLED - FREE PRODUCT						
03/07/01	NOT SAMPLED - FREE PRODUCT						
06/05/01	NOT SAMPLED - FREE PRODUCT						
09/27/01	NOT SAMPLED - FREE PRODUCT						
07/08/02	NOT SAMPLED - FREE PRODUCT						
12/02/02	NOT SAMPLED - FREE PRODUCT						
12/19/02	NOT SAMPLED - FREE PRODUCT						
04/24/03	NOT SAMPLED - FREE PRODUCT						
10/14/03	NOT SAMPLED - FREE PRODUCT						
03/15/04	22.2000	9.4300	15.7000	2.3000	13.9900	41.4200	
09/13/04	9.9500	3.1800	5.3400	0.9660	3.0520	12.5380	
08/05/05	2.6000	2.2000	5.0000	0.4000	0.0700	7.6700	
12/06/05	20.0000	6.0000	9.4000	0.6300	4.7000	20.7300	
03/07/06	1.7000	0.5600	0.9800	0.1400	1.2000	2.8800	
06/08/06	2.7000	1.2000	1.9000	0.1500	1.7000	4.9500	
12/2006	CA VIA MPE						
12/08/06	NOT SAMPLED - FREE PRODUCT						
02/23/07	NOT SAMPLED - FREE PRODUCT						
06/08/07	3.8000	0.9300	1.4000	0.1800	1.9000	4.4100	
08/13/07	8.5000	3.1000	4.3000	0.7500	4.7000	12.8500	
11/14/07	NOT SAMPLED - FREE PRODUCT						
02/19/08	2.6000	1.0000	1.1000	0.3800	1.8000	4.2800	
05/07/08	4.3000	1.7000	2.3000	0.3800	3.1000	7.4800	
08/05/08	0.0046	0.0023	0.0062	0.0051	0.0390	0.0526	-
11/11/08	<0.0004	<0.00022	<0.00026	<0.00037	0.0032	0.0032	-
02/07/11	0.0660	0.0160	0.0040	0.0090	0.0310	0.0600	-
11/08/11	0.0080	0.0020	0.0000	<0.001	0.0036	0.0056	-
03/07/12	0.2700	0.2600	0.0150	0.0310	0.2200	0.5260	-
09/26/12	WELL ABANDONED						
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-5		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
07/08/02	<0.001	1.3300	2.5600	0.3210	1.9000	6.1110	-
10/14/03	0.0020	1.0400	0.7570	0.2560	1.4870	3.5400	-
03/15/04	<0.001	0.1370	0.0500	0.0150	0.1430	0.3450	-
09/13/04	0.0070	2.0600	3.5000	0.5950	3.0520	9.2070	-
08/05/05	<0.001	0.1500	0.0360	0.0100	0.0700	0.2660	-
12/06/05	7.1600	1.7000	1.6000	0.4400	2.0000	5.7400	-
03/07/06	<0.0025	1.9000	2.2000	0.3900	2.2000	6.6900	-
06/08/06	<0.032	3.2000	5.5000	1.2000	6.4000	16.3000	-
12/2006	CA VIA MPE						
12/08/06	0.4200	4.0000	6.8000	1.1000	5.7000	17.6000	-
02/23/07	0.0050	0.0810	0.0750	0.0180	0.0780	0.2520	-
06/08/07	0.0010	0.0240	0.0030	0.0050	0.0070	0.0390	-
08/13/07	0.0050	0.0290	0.0020	0.0010	0.0180	0.0500	-
11/14/07	0.0520	0.0950	0.0030	0.0010	0.0280	0.1270	-
02/19/08	0.0010	0.0040	0.0020	0.0000	0.0020	0.0080	-
05/07/08	<0.00033	0.0006	<0.0016	<0.00016	<0.0005	0.0006	-
08/05/08	0.0011	0.0013	0.0013	<0.00037	<0.0006	0.0026	-
11/11/08	0.0210	0.0400	0.0015	<0.00037	0.0210	0.0625	-
02/07/11	0.0320	0.0540	0.0380	0.0060	0.0540	0.1520	-
03/07/12	0.0260	0.9800	0.0430	0.1500	0.3400	1.5130	-
09/26/12	WELL ABANDONED						
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-6		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
07/08/02	2.1700	2.5000	2.2700	0.6830	3.1570	8.6100	-
10/14/03	1.4900	1.6700	0.9840	0.5080	1.8900	5.0520	-
03/15/04	1.5700	1.5800	0.6030	0.1660	0.7980	3.1470	-
09/13/04	2.8400	3.2500	1.8300	0.5910	2.1450	7.8160	-
08/05/05	1.2000	2.8000	1.3000	0.2300	1.0000	5.3300	-
12/06/05	1.4000	3.2000	1.8000	0.4600	1.7000	7.1600	-
03/07/06	0.9100	2.4000	1.3000	0.4100	1.4000	5.5100	-
06/08/06	0.7000	2.0000	1.3000	0.3900	1.5000	5.1900	-
12/2006	CA VIA MPE						
12/08/06	2.7000	4.7000	3.4000	0.8800	3.2000	12.1800	-
02/23/07	0.9100	1.8000	0.9400	0.3200	1.1000	4.1600	-
06/08/07	2.3000	3.7000	2.1000	0.5600	2.2000	8.5600	-
08/13/07	1.6000	3.2000	2.0000	0.5000	1.9000	7.6000	-
11/14/07	0.6000	1.9000	0.9100	0.3000	1.0000	4.1100	-
02/19/08	0.0010	0.0040	0.0020	0.0000	0.0020	0.0080	-
05/07/08	1.0000	1.7000	0.8800	0.3800	1.4000	4.3600	-
08/05/08	0.1500	0.4800	0.2700	0.1800	0.5200	1.4500	-
11/11/08	0.0250	0.0640	0.0120	0.0700	0.3600	0.5060	-
02/12/09	0.5100	0.7600	0.5800	0.4900	2.3000	4.1300	-
05/13/09	0.8700	1.3000	0.5000	0.5600	2.5000	4.8600	-
08/13/09	0.6600	1.6000	0.7200	0.6300	2.7000	5.6500	-
11/04/09	0.5000	1.4000	0.5700	0.7400	3.2000	5.9100	-
02/17/10	0.2100	1.1000	0.9400	0.6000	2.6000	5.2400	-
05/28/10	0.1700	1.2000	0.8300	0.6100	3.1000	5.7400	-
08/06/10	0.2300	1.4000	0.9600	0.7200	3.4000	6.4800	-
11/12/10	0.2100	0.4200	0.3500	0.0400	1.8000	2.6100	-
02/07/11	0.3500	0.3000	0.3300	0.0890	1.8000	2.5190	-
03/07/12	0.1100	0.2900	0.0730	0.0590	0.4100	0.8320	-
05/23/12	0.6900	1.9000	0.1400	0.2400	2.4000	4.6800	-
09/26/12	WELL ABANDONED						
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-7		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
07/08/02	0.0370	0.0370	0.0520	0.0270	0.1490	0.2650	-
10/14/03	<0.001	<0.001	0.0020	<0.001	0.0010	0.0030	-
03/15/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
09/13/04	<0.001	0.0090	0.0110	<0.001	0.0050	0.0250	-
08/05/05	<0.001	0.0020	<0.005	<0.001	<0.003	0.0020	-
12/06/05	<0.001	<0.005	<0.005	<0.0005	<0.0015	BDL	-
03/07/06	<0.001	<0.001	<0.005	<0.001	<0.003	BDL	-
06/08/06	<0.00032	<0.00031	<0.00032	<0.00026	<0.00073	BDL	-
12/2006	CA VIA MPE						
12/08/06	<0.00033	0.0730	0.0320	0.0036	0.0410	0.1496	-
02/23/07	<0.00033	0.0016	0.0020	<0.00016	0.0012	0.0048	-
06/08/07	0.0015	0.0003	<0.0016	<0.00016	<0.0005	0.0003	-
08/13/07	0.0100	0.0490	<0.0016	<0.00016	0.0006	0.0496	-
11/14/07	0.0390	0.0840	0.0560	0.0068	0.0730	0.2198	-
02/19/08	0.0039	0.0040	<0.0016	<0.00016	0.0010	0.0050	-
05/07/08	0.0150	0.2100	<0.0016	<0.00016	0.0027	0.2127	-
08/05/08	0.0014	0.0160	<0.00026	<0.00037	0.0025	0.0185	-
11/11/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
02/07/11	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
03/07/12	<0.005	0.0010	<0.001	<0.001	<0.002	0.0010	-
09/26/12	WELL ABANDONED						
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-8		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
07/08/02	<0.001	0.0030	0.0060	<0.001	0.0070	0.0160	-
10/14/03	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
03/15/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
09/13/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
08/05/05	<0.001	0.0120	<0.005	<0.001	<0.003	0.0120	-
12/06/05	<0.001	<0.005	<0.005	<0.0005	<0.0015	BDL	-
03/07/06	<0.001	0.0010	<0.005	<0.001	<0.003	0.0010	-
06/08/06	<0.00032	<0.00031	<0.00032	<0.00026	<0.00073	BDL	-
12/2006	CA VIA MPE						
12/08/06	<0.00033	0.0004	<0.0016	<0.00016	0.0007	0.0011	-
02/23/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
06/08/07	<0.00033	0.0002	<0.0016	<0.00016	<0.0005	0.0002	-
08/13/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
11/14/07	<0.00033	0.0010	<0.0016	0.0000	0.0010	0.0020	-
02/19/08	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
05/07/08	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
08/05/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
11/11/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
02/07/11	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
03/07/12	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
09/26/12	WELL ABANDONED						
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-9		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/22/02	<0.001	0.1130	0.0050	0.0190	0.1110	0.2480	-
10/14/03	<0.001	0.0100	<0.001	<0.001	0.0050	0.0150	-
03/15/04	<0.001	0.0010	<0.001	<0.001	0.0040	0.0050	-
09/13/04	<0.001	0.0082	<0.001	<0.001	0.0030	0.0112	-
08/05/05	<0.001	0.0074	<0.005	<0.001	<0.003	0.0074	-
12/06/05	<0.001	0.0046	<0.005	<0.0005	0.0030	0.0076	-
03/07/06	<0.001	0.0022	<0.005	<0.001	<0.003	0.0022	-
06/08/06	<0.00032	0.0015	<0.00032	<0.00026	0.0010	0.0025	-
12/2006	CA VIA MPE						
12/08/06	<0.00033	0.0012	<0.0016	0.0002	0.0023	0.0037	-
02/23/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
06/08/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
08/13/07	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
11/14/07	0.0004	0.0004	<0.016	0.0003	0.0007	0.0014	-
02/19/08	<0.00033	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
05/07/08	<0.00033	0.0004	<0.0016	0.0002	0.0007	0.0013	-
08/05/08	<0.0004	0.0005	<0.00026	<0.00037	<0.0006	0.0005	-
11/11/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
02/07/11	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
03/07/12	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
09/26/12	WELL ABANDONED						
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-10		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
03/15/04	<0.001	3.6600	0.1770	1.2500	7.1700	12.2570	-
09/13/04	0.0080	2.9400	0.1020	0.7650	3.8800	7.6870	-
08/05/05	<0.02	1.3000	<0.5	0.5700	2.8000	4.6700	-
12/06/05	0.0390	1.2000	0.0420	0.4200	1.9000	3.5620	-
03/07/06	<0.02	2.6000	<0.1	0.8800	4.4000	7.8800	-
06/08/06	0.0140	1.3000	0.0730	0.4800	2.3000	4.1530	-
12/2006	CA VIA MPE						
12/08/06	0.0240	0.9200	0.0390	0.3400	1.6000	2.8990	-
02/23/07	0.1400	2.6000	<0.082	0.8000	3.9000	7.3000	-
06/08/07	<0.00033	1.7000	0.0320	0.3900	2.3000	4.4220	-
08/13/07	0.1100	1.9000	0.0280	0.7500	3.7000	6.3780	-
11/14/07	0.0840	2.0000	0.0300	0.6000	3.0000	5.6300	-
02/19/08	0.0260	0.3900	0.0090	0.2200	0.5500	1.1690	-
05/07/08	0.0460	0.5000	<0.0016	0.4000	1.8000	2.7000	-
08/05/08	0.0013	0.4900	0.0051	0.3900	1.5000	2.3851	-
11/11/08	0.0028	0.7400	0.0037	0.5900	1.9000	3.2337	-
02/12/09	<0.005	0.4400	0.0025	0.4100	1.3000	2.1525	-
05/13/09	<0.005	0.0860	0.0010	0.1900	0.6100	0.8870	-
08/13/09	<0.005	0.0250	<0.001	0.0560	0.1500	0.2310	-
11/04/09	<0.005	0.0440	<0.001	0.0500	0.0950	0.1890	-
02/17/10	0.0006	0.0340	0.0008	0.0180	0.0430	0.0958	-
05/28/10	0.0030	0.0880	0.0013	0.0140	0.0400	0.1433	-
02/07/11	0.0720	0.9500	0.0030	0.1700	0.1500	1.2730	-
05/24/11	0.0150	0.1500	0.0009	0.0610	0.0620	0.2739	-
09/02/11	0.0150	0.1300	0.0009	0.0390	0.0390	0.2089	-
11/08/11	0.0260	0.1200	<0.001	0.0680	0.0330	0.2210	-
03/07/12	0.0420	0.3900	0.0009	0.0720	0.0620	0.5249	-
05/23/12	0.0092	0.1100	<0.001	0.0240	0.0060	0.1400	-
08/21/12	0.0046	0.0420	<0.001	0.0100	0.0020	0.0540	-
09/26/12	WELL ABANDONED						
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-11		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/22/02	6.5900	11.3000	5.8500	1.2800	5.9400	24.3700	-
10/14/03	4.8300	12.5000	6.8800	1.6700	6.9600	28.0100	-
03/15/04	8.1100	12.7000	3.5900	0.9050	3.6100	20.8050	-
09/13/04	11.4000	15.4000	7.1100	1.5600	6.0300	30.1000	-
08/05/05	11.0000	14.0000	7.3000	1.6000	6.0000	28.9000	-
12/06/05	31.4000	15.0000	8.3000	1.6000	6.5000	31.4000	-
03/07/06	12.0000	14.0000	6.2000	1.7000	6.4000	28.3000	-
06/08/06	14.0000	11.0000	6.3000	1.7000	6.4000	25.4000	-
12/2006	CA VIA MPE						
12/08/06	13.0000	12.0000	7.9000	1.5000	6.1000	27.5000	-
06/08/07	0.6600	1.5000	3.8000	1.2000	5.9000	12.4000	-
08/13/07	0.9300	0.8600	2.0000	1.1000	5.3000	9.2600	-
11/14/07	7.2000	5.9000	3.1000	1.1000	5.3000	15.4000	-
02/19/08	8.3000	9.5000	2.2000	1.3000	3.9000	16.9000	-
05/07/08	8.2000	15.0000	1.2000	1.2000	3.0000	20.4000	-
08/05/08	5.2000	9.3000	0.3600	0.5000	1.2000	11.3600	-
11/11/08	4.5000	3.7000	0.0740	0.4500	0.5200	4.7440	-
02/12/09	3.3000	5.7000	0.2000	0.5100	0.6300	7.0400	-
05/13/09	3.1000	9.1000	0.7000	1.3000	3.5000	14.6000	-
08/13/09	2.9000	7.8000	0.8800	1.3000	3.7000	13.6800	-
11/04/09	5.3000	17.0000	0.3300	1.3000	11.0000	29.6300	-
02/17/10	3.4000	9.5000	0.7800	1.9000	4.7000	16.8800	-
05/28/10	2.7000	7.6000	1.6000	1.2000	5.7000	16.1000	-
08/06/10	2.2000	6.6000	1.3000	1.5000	5.3000	14.7000	-
11/12/10	0.2000	0.0210	0.0120	0.0020	0.0580	0.0930	-
02/07/11	0.1500	0.4000	0.0370	0.1100	0.3300	0.8770	-
03/07/12	0.4300	0.4800	0.0300	0.4300	2.3000	3.2400	-
05/23/12	0.2100	0.3900	0.1400	0.2900	1.3000	2.1200	-
09/26/12	WELL ABANDONED						
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-12		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	24.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	720.41	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/14/03	0.0090	0.2290	0.7250	0.3490	1.3590	2.6620	-
03/15/04	0.0060	0.0020	0.0040	0.0020	0.0260	0.0340	-
09/13/04	0.0040	0.0210	0.0110	0.0170	0.0410	0.0900	-
08/05/05	0.0180	0.4100	0.6900	0.5000	1.7000	3.3000	-
12/06/05	0.0200	0.1200	0.3000	0.2100	0.8300	1.4600	-
03/07/06	<0.01	0.0510	0.0740	0.0610	0.2500	0.4360	-
06/08/06	0.0090	0.1400	0.2600	0.1800	0.8000	1.3800	-
12/2006	CA VIA MPE						
12/08/06	0.0098	0.0350	0.0200	0.0300	0.0960	0.1810	-
06/08/07	0.0110	<0.00016	<0.0016	<0.00016	0.0011	0.0011	-
08/13/07	0.0070	0.0065	<0.0016	0.0006	0.0020	0.0091	-
11/14/07	0.0040	0.0056	<0.0016	0.0005	0.0020	0.0081	-
02/19/08	0.0030	0.0046	<0.0016	0.0002	0.0008	0.0056	-
05/07/08	0.0200	0.0062	<0.0016	0.0006	0.0007	0.0075	-
08/05/08	0.0150	0.0063	<0.00026	<0.00037	<0.0006	0.0063	-
11/11/08	0.0120	0.0047	<0.00026	<0.00037	<0.0006	0.0047	-
02/07/11	0.0050	0.0032	<0.001	<0.001	<0.002	0.0032	-
03/07/12	0.0170	0.0024	<0.001	<0.001	<0.002	0.0024	-
03/12/13	0.0088	<0.001	<0.001	<0.001	<0.001	BDL	-
09/2012	CA VIA MPE - SYSTEM OFF PER ADEM						
11/15/13	0.0003	0.0004	<0.001	0.0003	0.0012	0.0018	-
12/01/14	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
10/2015	CA VIA MEME						
10/28/15	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
10/26/16	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
10/10/19	NOT SAMPLED						
01/16/20	NOT SAMPLED						
05/19/20	NOT SAMPLED						
09/10/20	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-13		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/22/02	<0.001	0.0900	0.0020	0.0390	0.0480	0.1790	-
10/14/03	<0.001	0.0720	<0.001	0.0030	0.0130	0.0880	-
03/15/04	<0.001	0.2460	0.0070	0.0250	0.3280	0.6060	-
09/13/04	<0.001	0.1830	0.0050	0.0150	0.1490	0.3520	-
08/05/05	<0.001	0.0890	<0.005	0.0080	0.0370	0.1340	-
12/06/05	0.0020	0.0780	<0.005	0.0040	0.0160	0.0980	-
03/07/06	<0.005	0.0670	<0.025	0.0050	0.0210	0.0930	-
06/08/06	0.0010	0.1700	0.0020	0.0180	0.0550	0.2450	-
12/2006	CA VIA MPE						
12/08/06	<0.00033	0.0018	<0.0016	0.0003	0.0014	0.0035	-
06/08/07	<0.0003	0.0350	<0.0016	0.0040	0.0150	0.0540	-
08/13/07	0.0008	0.0160	<0.0016	0.0000	0.0033	0.0193	-
11/14/07	0.0014	0.0310	<0.0016	0.0010	0.0063	0.0383	-
02/19/08	0.0012	0.0160	<0.0016	<0.00016	0.0049	0.0209	-
05/07/08	0.0009	0.0200	<0.0016	<0.00016	0.0036	0.0236	-
08/05/08	<0.0004	0.0460	<0.00026	<0.00037	0.0069	0.0529	-
11/11/08	0.0010	0.0470	<0.00026	<0.00037	0.0098	0.0568	-
02/07/11	0.0040	0.0270	<0.001	0.0000	0.0140	0.0410	-
03/07/12	0.0020	0.0070	<0.001	<0.001	0.0017	0.0087	-
09/26/12	WELL ABANDONED						
GRP SSTLS:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLS:	48000	14.9	526	169	175	-	31
Stream SSTLS:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-14		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	20.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	716.16	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
12/2006	CA VIA MPE						
06/08/07	1.4000	0.5800	0.0890	0.0590	0.3500	1.0780	-
08/14/07	0.0820	0.0024	0.0019	0.0009	0.0120	0.0172	-
11/14/07	0.0170	0.0023	0.0020	0.0005	0.0070	0.0118	-
02/20/08	0.0023	0.0010	<0.0016	0.0004	0.0019	0.0033	-
05/08/08	0.0072	<0.00016	<0.0016	<0.00016	<0.0005	<0.00242	-
08/05/08	0.0036	<0.00022	<0.00026	<0.00037	<0.0006	<0.00145	-
11/11/08	0.0010	<0.00022	<0.00026	<0.00037	<0.0006	<0.00145	-
02/07/11	0.1400	0.0410	0.0020	0.0140	0.0450	0.1020	-
03/07/12	0.0050	<0.001	<0.001	<0.001	<0.002	<0.005	-
09/2012	CA VIA MPE - SYSTEM OFF PER ADEM						
03/12/13	0.0042	<0.001	<0.001	<0.001	<0.001	<0.004	-
11/15/13	0.2800	0.0420	0.0011	0.0088	0.0710	0.1229	-
12/01/14	1.7179	0.5977	0.0471	0.4897	2.1606	3.2951	0.4012
07/22/15	0.6566	0.3635	0.1635	0.5880	4.0902	5.2052	0.6120
10/2015	CA VIA MEME						
10/28/15	0.5624	0.1718	0.0048	0.0348	0.2042	0.4156	0.0896
02/29/16	0.1681	0.0908	0.0310	0.0386	0.6166	0.7770	0.1100
10/26/16	0.4209	0.5112	0.0155	0.1763	0.6223	1.3253	0.3104
02/23/17	0.1169	0.0363	<0.004	0.0049	0.0155	0.0567	0.0341
06/26/17	0.3054	0.6786	0.0444	0.3316	0.9887	2.0433	0.4554
02/12/18	0.3829	0.8326	0.0496	0.5902	2.4212	3.8936	0.6726
06/13/18	0.3918	0.8509	0.0633	0.5208	2.0788	3.5138	0.5960
02/12/19	0.2540	1.8216	0.1224	0.3441	1.0351	3.3231	0.4038
06/06/19	0.1984	3.7525	0.0852	0.5862	1.2516	5.6755	0.4386
10/10/19	NOT SAMPLED						
01/16/20	0.0832	0.0422	<0.0010	0.0014	0.0042	0.0478	0.0331
05/19/20	0.1530	4.8824	0.1706	0.6567	1.4317	7.1414	0.4881
09/10/20	0.248	3.69	0.080	0.697	2.06	6.527	1.29
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-15		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	33.0	SCREEN LENGTH (FT):	10	CASING ELEV (FT ABOVE MSL):	718.89	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
12/2006	CA VIA MPE						
02/12/09	1.3000	0.0230	0.0023	0.0110	0.0120	0.0483	-
05/13/09	0.9400	0.1400	0.0150	0.0300	0.0930	0.2780	-
08/13/09	0.7000	0.1900	0.0400	0.0680	0.3300	0.6280	-
11/04/09	0.0190	0.0064	0.0013	0.0026	0.0082	0.0185	-
02/17/10	0.8500	1.1000	0.6000	0.3900	1.4000	3.4900	-
05/28/10	0.8600	1.1000	0.8500	0.4500	2.6000	5.0000	-
02/07/11	0.7900	0.2100	0.0296	0.1500	0.2600	0.6496	-
05/24/11	0.9700	0.2200	0.0150	0.1700	0.2100	0.6150	-
09/02/11	0.6900	0.0730	0.0055	0.0470	0.0570	0.1825	-
11/08/11	0.6500	0.0410	0.0037	0.0270	0.0490	0.1207	-
03/07/12	0.9000	0.0960	0.0031	0.0420	0.0280	0.1691	-
05/23/12	0.7600	0.1200	0.0110	0.0620	0.0580	0.2510	-
08/21/12	0.6400	0.0063	0.0015	0.0050	0.0130	0.0258	-
09/2012	CA VIA MPE - SYSTEM OFF PER ADEM						
03/12/13	0.0750	0.0100	0.0009	0.0095	0.0042	0.0246	-
11/15/13	0.4200	0.0140	0.0010	0.0260	0.0160	0.0570	-
12/01/14	0.3109	0.0378	0.0061	0.0577	0.2272	0.3288	0.0357
07/22/15	0.2554	0.1062	0.0034	0.0340	0.0438	0.1874	0.0960
10/2015	CA VIA MEME						
10/28/15	0.2353	0.0081	<0.001	0.0048	0.0022	0.0151	0.0035
02/29/16	0.2085	0.1598	0.0046	0.0747	0.0696	0.3087	0.0514
10/26/16	0.1350	0.0631	<0.002	0.0386	0.0079	0.1096	0.0476
02/23/17	0.1342	0.0937	0.0014	0.0515	0.0045	0.1511	0.0512
06/26/17	0.1248	0.0496	0.0011	0.0159	0.0477	0.1143	0.0388
10/10/19	NOT SAMPLED						
01/16/20	NOT SAMPLED						
05/19/20	NOT SAMPLED						
09/10/20	0.014	0.071	0.049	0.185	0.396	0.701	0.106
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-16		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	26.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	716.60	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
12/19/02	3.4300	9.1400	7.1300	1.3700	6.1500	23.7900	-
10/14/03	2.0300	8.1700	7.6800	1.0400	7.1000	23.9900	-
03/15/04	3.1400	10.8000	6.2000	0.7890	3.9400	21.7290	-
09/13/04	4.2800	15.8000	16.7000	1.8900	8.9300	43.3200	-
08/05/05	3.4000	10.0000	10.0000	1.7000	7.0000	28.7000	-
12/06/05	1.7000	13.0000	16.0000	2.2000	10.0000	41.2000	-
03/07/06	2.4000	15.0000	15.0000	1.9000	9.1000	41.0000	-
06/08/06	3.2000	15.0000	15.0000	2.1000	10.0000	42.1000	-
12/2006	CA VIA MPE						
12/08/06	3.7000	8.0000	6.5000	1.4000	5.7000	21.6000	-
06/08/07	1.5000	2.5000	7.7000	1.3000	6.9000	18.4000	-
08/14/07	3.8000	4.4000	9.6000	1.9000	8.9000	24.8000	-
11/14/07	3.8000	7.8000	11.0000	1.7000	8.5000	29.0000	-
02/20/08	2.2000	4.6000	6.9000	1.4000	5.8000	18.7000	-
05/08/08	0.0600	0.0360	0.1200	0.1400	0.4000	0.6960	-
08/05/08	0.0570	0.0560	0.0062	0.0650	0.1400	0.2672	-
11/11/08	0.1600	0.0740	0.0040	0.1300	0.0930	0.3010	-
02/07/11	0.8300	1.3000	3.2000	1.2000	4.8000	10.5000	-
05/24/11	0.9200	1.2000	5.6000	1.5000	7.6000	15.9000	-
09/02/11	0.7100	2.6000	10.0000	2.4000	13.0000	28.0000	-
11/08/11	0.5200	1.7000	6.8000	1.7000	8.1000	18.3000	-
03/07/12	0.0040	0.0010	0.0015	0.0030	0.0110	0.0165	-
05/24/12	0.0060	0.0010	0.0018	0.0050	0.0040	0.0118	-
08/21/12	0.0110	0.0010	<0.001	<0.001	<0.002	0.0010	-
12/28/15	NOT SAMPLED (DRY)						
10/10/19	NOT SAMPLED						
01/16/20	NOT SAMPLED						
05/19/20	NOT SAMPLED						
09/10/20	0.020	0.631	0.016	0.398	0.737	1.782	0.701
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-17		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	17.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	715.50	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
12/2006	CA VIA MPE						
12/06/05	0.0160	0.0140	<0.025	0.0030	0.0180	0.0350	-
03/07/06	0.0020	<0.001	<0.005	<0.001	<0.003	BDL	-
06/08/06	0.0020	0.0010	0.0010	<0.00026	<0.00073	0.0020	-
12/08/06	0.0020	0.0020	<0.0016	0.0000	0.0020	0.0040	-
06/08/07	0.0013	<0.00016	<0.0016	0.0002	0.0008	0.0010	-
08/14/07	0.0016	0.0002	<0.0016	<0.00016	<0.0005	0.0002	-
11/14/07	0.0025	0.0008	<0.0016	<0.00016	0.0009	0.0017	-
02/20/08	0.0024	0.0004	<0.0016	0.0002	0.0008	0.0014	-
05/08/08	0.0026	0.0047	<0.0016	0.0006	0.0025	0.0078	-
08/05/08	0.0022	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
11/11/08	0.0030	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
02/07/11	0.0030	<0.001	<0.001	<0.001	<0.002	BDL	-
03/07/12	0.0070	<0.001	<0.001	<0.001	<0.002	BDL	-
09/2012	CA VIA MPE - SYSTEM OFF PER ADEM						
03/12/13	0.0120	<0.001	<0.001	<0.001	<0.001	BDL	-
11/15/13	0.0063	0.0008	0.0004	0.0005	0.0018	0.0035	-
12/01/14	0.0096	0.0044	0.0049	0.0041	0.0133	0.0267	1.0738
07/22/15	<0.01	0.0148	0.0140	0.0141	0.0486	0.0915	2.9888
10/2015	CA VIA MEME						
10/28/15	<0.025	<0.025	<0.025	<0.025	0.0257	0.0257	1.9084
02/29/16	0.0159	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
10/26/16	<0.001	0.0105	0.0112	0.0090	0.0293	0.0600	1.0876
02/23/17	0.0128	<0.001	<0.001	<0.001	<0.001	BDL	0.0012
06/26/17	0.0086	0.0021	<0.001	<0.001	0.0025	0.0046	0.3823
10/10/19	NOT SAMPLED						
01/16/20	NOT SAMPLED						
05/19/20	NOT SAMPLED						
09/10/20	0.006	0.001	<0.001	0.002	0.006	0.009	0.240
GRP SSTLS:	0.915	0.229	45.8	32	175	-	0.915
Inhalation SSTLS:	48000	14.9	526	169	175	-	31
Stream SSTLS:	-	0.0826	1.31	3.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-18		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	26.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	717.18	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
12/2006	CA VIA MPE						
06/08/07	0.4300	0.0180	0.0040	0.0088	0.0130	0.0438	-
08/14/07	0.3600	0.0100	<0.0016	0.0030	0.0057	0.0187	-
11/14/07	0.4000	0.0080	<0.0016	0.0029	0.0062	0.0171	-
02/20/08	0.3300	0.0063	<0.0016	0.0022	0.0049	0.0134	-
05/08/08	0.2600	0.0075	<0.0016	0.0030	0.0058	0.0163	-
08/05/08	0.2100	0.0020	<0.00026	0.0009	0.0011	0.0040	-
11/11/08	0.1800	0.0009	<0.00026	0.0008	0.0012	0.0029	-
02/12/09	0.1900	0.0009	<0.001	0.0021	0.0059	0.0089	-
05/13/09	0.1100	<0.001	<0.001	<0.001	<0.002	BDL	-
08/13/09	0.0960	<0.001	<0.001	<0.001	<0.002	BDL	-
11/04/09	0.0830	<0.001	<0.001	<0.001	<0.002	BDL	-
02/17/10	0.0460	0.0007	<0.001	<0.001	<0.002	0.0007	-
05/28/10	0.0400	0.0012	<0.001	<0.001	<0.002	0.0012	-
02/07/11	0.0660	0.0033	<0.001	0.0009	<0.002	0.0042	-
09/2012	CA VIA MPE - SYSTEM OFF PER ADEM						
03/07/12	0.1600	0.0013	<0.001	0.0007	0.0008	0.0028	-
03/12/13	0.1400	0.0008	<0.001	<0.001	<0.001	0.0008	0.0564
11/15/13	0.1200	0.0008	<0.001	<0.001	<0.002	0.0008	-
12/01/14	0.1856	0.0013	<0.001	<0.001	<0.001	0.0013	0.0564
10/2015	CA VIA MEME						
10/28/15	0.2426	0.0023	<0.001	<0.001	0.0012	0.0035	0.0050
10/26/16	0.1581	<0.0025	<0.0025	<0.0025	<0.0025	BDL	0.0065
02/23/17	0.1647	0.0018	<0.001	<0.001	0.0012	0.0030	0.0031
06/26/17	0.1526	0.0019	<0.001	<0.001	0.0018	0.0037	0.0044
10/10/19	NOT SAMPLED						
01/16/20	NOT SAMPLED						
05/19/20	NOT SAMPLED						
09/10/20	0.063	0.001	<0.001	<0.001	<0.001	0.001	0.008
GRP SSTLS:	0.212	0.053	10.6	7.41	106	-	0.212
Inhalation SSTLS:	48000	14.9	526	169	175	-	31
Stream SSTLS:	-	0.0191	0.304	0.787	-	-	1.08

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-19		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	33.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	716.83	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/14/03	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
03/15/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
09/13/04	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	-
08/05/05	<0.001	<0.001	<0.005	<0.001	<0.003	BDL	-
12/06/05	<0.001	<0.0005	<0.005	<0.0005	<0.0015	BDL	-
03/07/06	<0.001	<0.001	<0.005	<0.001	<0.003	BDL	-
06/08/06	0.0007	<0.00031	<0.00032	<0.00026	<0.00073	BDL	-
12/2006	CA VIA MPE						
12/08/06	<0.00033	0.0005	<0.0016	0.0002	0.0009	0.0015	-
06/08/07	0.0004	0.0002	<0.0016	<0.00016	<0.0005	0.0002	-
08/14/07	0.0008	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
11/14/07	<0.00033	<0.00016	<0.0016	0.0002	0.0010	0.0012	-
02/20/08	0.0005	<0.00016	<0.0016	<0.00016	<0.0005	BDL	-
05/08/08	<0.00033	0.0002	<0.0016	<0.00016	<0.0005	0.0002	-
08/05/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
11/11/08	<0.0004	<0.00022	<0.00026	<0.00037	<0.0006	BDL	-
02/07/11	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
03/07/12	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
09/2012	CA VIA MPE - SYSTEM OFF PER ADEM						
03/12/13	<0.005	<0.001	<0.001	<0.001	<0.001	BDL	-
11/15/13	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	-
12/01/14	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
10/2015	CA VIA MEME						
10/28/15	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
10/26/16	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
10/10/19	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/16/20	NOT SAMPLED						
05/19/20	NOT SAMPLED						
09/10/20	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	0.001
GRP SSTLs:	0.138	0.0345	6.91	4.83	69.1	-	0.138
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.0125	0.198	0.513	-	-	0.703

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-21		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	35.0	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	717.06	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
12/2006	CA VIA MPE						
02/20/08	0.2100	0.1400	<0.0016	0.0100	0.0360	0.1860	-
05/08/08	0.2000	0.1600	<0.0016	0.0100	0.0380	0.2080	-
08/05/08	0.1600	0.0860	<0.00026	0.0061	0.0180	0.1101	-
11/11/08	0.1500	0.0740	<0.00026	0.0057	0.0160	0.0957	-
02/12/09	0.1900	0.0500	<0.001	0.0061	0.0130	0.0691	-
05/13/09	0.1800	0.2000	0.0013	0.0320	0.0900	0.3233	-
08/13/09	0.1800	0.1600	<0.001	0.0190	0.0350	0.2140	-
11/04/09	0.1500	0.1200	<0.001	0.0120	0.0250	0.1570	-
02/17/10	0.2400	0.4400	0.0014	0.0780	0.1500	0.6694	-
05/28/10	0.2500	0.3300	0.0008	0.0460	0.0900	0.4668	-
02/07/11	0.0910	0.0240	<0.001	0.0026	0.0050	0.0316	-
05/24/11	0.1300	0.0170	0.0012	0.0039	0.0090	0.0311	-
11/08/11	0.0860	0.0090	0.0005	0.0029	0.0010	0.0134	-
03/07/12	0.0870	0.0100	0.0004	0.0036	0.0030	0.0170	-
05/23/12	0.0640	0.0060	0.0005	0.0016	<0.002	0.0081	-
08/21/12	0.0650	0.0050	0.0004	0.0023	<0.002	0.0077	-
09/2012	CA VIA MPE - SYSTEM OFF PER ADEM						
03/12/13	0.0500	0.0013	<0.001	<0.001	<0.001	0.0013	-
11/15/13	0.0390	0.0060	<0.001	0.0012	0.0015	0.0087	-
12/01/14	0.0488	0.0061	<0.001	0.0012	0.0017	0.0090	0.0018
10/2015	CA VIA MEME						
10/28/15	0.0540	0.0151	<0.001	0.0019	0.0028	0.0198	0.0024
10/26/16	0.0665	0.0088	<0.001	<0.001	0.0029	0.0117	0.0066
02/23/17	0.0646	0.0082	<0.001	<0.001	0.0021	0.0103	<0.001
06/26/17	0.0424	0.0037	<0.001	<0.001	0.0011	0.0048	0.0068
10/10/19	NOT SAMPLED						
01/16/20	NOT SAMPLED						
05/19/20	NOT SAMPLED						
09/10/20	0.032	0.002	<0.001	<0.001	<0.001	0.002	0.001
GRP SSTLS:	0.104	0.0259	5.18	3.62	51.8	-	0.104
Inhalation SSTLS:	48000	14.9	526	169	175	-	31

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-22		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	49.5	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	716.96	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
10/14/03	0.0580	0.0039	<0.001	<0.001	<0.001	0.0039	-
03/15/04	0.0600	0.0033	<0.001	<0.001	0.0020	0.0053	-
09/13/04	0.0520	0.0019	<0.001	<0.001	<0.001	0.0019	-
08/05/05	0.1100	0.0031	<0.005	<0.003	<0.003	0.0031	-
12/06/05	0.0480	0.0012	<0.005	<0.0005	<0.0015	0.0012	-
03/07/06	0.0790	0.0036	<0.005	<0.001	<0.003	0.0036	-
06/08/06	0.0690	0.0010	<0.00032	<0.00026	<0.00073	0.0010	-
12/2006	CA VIA MPE						
12/08/06	0.0990	0.0029	<0.0016	<0.00016	0.0011	0.0040	-
06/08/07	0.0790	0.0013	<0.0016	<0.0016	<0.0005	0.0013	-
08/14/07	0.0680	0.0012	<0.0016	<0.0016	<0.0005	0.0012	-
11/14/07	0.1300	0.0044	<0.0016	<0.0016	0.0006	0.0050	-
02/20/08	0.0720	0.0021	<0.0016	<0.0016	0.0027	0.0048	-
05/08/08	0.1300	0.0050	<0.0016	<0.0016	0.0008	0.0058	-
08/05/08	0.0620	0.0026	<0.00026	<0.00037	<0.0006	0.0026	-
11/11/08	0.0270	0.0006	<0.00026	<0.00037	<0.0006	0.0006	-
02/07/11	0.0790	0.0022	<0.001	<0.001	<0.002	0.0022	-
03/07/12	0.0500	0.0010	<0.001	<0.001	<0.002	0.0010	-
09/2012	CA VIA MPE - SYSTEM OFF PER ADEM						
03/12/13	0.0550	0.0048	<0.001	0.0010	<0.001	0.0058	-
11/15/13	0.0380	0.0020	<0.001	<0.001	<0.002	0.0020	-
12/01/14	0.0205	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
10/2015	CA VIA MEME						
10/28/15	0.0081	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
10/26/16	0.0114	<0.001	<0.001	<0.001	0.0018	0.0018	<0.001
10/10/19	0.0062	<0.0010	<0.0010	<0.0010	<0.0010	BDL	<0.0010
01/16/20	NOT SAMPLED						
05/19/20	NOT SAMPLED						
09/10/20	<0.001	<0.001	<0.001	<0.001	<0.001	BDL	<0.001
GRP SSTLs:	0.0789	0.0197	3.94	2.76	39.4	-	0.0789
Inhalation SSTLs:	5050	2.27	134	169	112	-	9.60
Stream SSTLs:	-	0.0278	0.443	1.15	-	-	1.57

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	MW-23		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	15	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
08/05/05	0.1200	0.8500	<0.25	0.3300	1.7000	2.8800	-
12/06/05	0.1600	1.3000	0.1600	0.5700	2.7000	4.7300	-
03/07/06	0.1200	0.9400	<0.12	0.3800	1.9000	3.2200	-
06/08/06	0.0060	0.0470	0.0047	0.0180	0.0950	0.1647	-
12/2006	CA VIA MPE						
12/08/06	0.0690	0.1100	0.0097	0.0180	0.3800	0.5177	-
06/08/07	0.0720	0.2000	0.0190	0.0640	0.3300	0.6130	-
08/14/07	0.1300	0.6300	0.0660	0.0280	1.4000	2.1240	-
11/14/07	0.2700	0.6500	0.1800	0.4100	1.1000	2.3400	-
02/20/08	0.8300	0.2900	0.0180	0.1100	0.4900	0.9080	-
05/08/08	0.0690	0.2200	0.1700	0.1200	0.4800	0.9900	-
08/05/08	0.0620	0.1600	0.0092	0.0460	0.1800	0.3952	-
11/11/08	0.0640	0.2900	0.0220	0.2500	1.2000	1.7620	-
02/12/09	0.0900	0.4000	0.0480	0.2800	1.4000	2.1280	-
05/13/09	0.0310	0.0180	0.0010	0.0096	0.0350	0.0636	-
08/13/09	0.1100	0.3200	0.0290	0.1700	0.7600	1.2790	-
11/04/09	0.1000	0.3200	0.0320	0.2300	1.2000	1.7820	-
02/17/10	0.0620	0.2500	0.0190	0.2000	0.8800	1.3490	-
05/28/10	0.0860	0.3700	0.0310	0.2300	1.3000	1.9310	-
02/07/11	0.0590	0.2300	0.2000	0.2200	0.8600	1.5100	-
05/24/11	0.0430	0.1100	0.0120	0.1200	0.5100	0.7520	-
11/08/11	0.0150	0.0530	0.0035	0.0360	0.1300	0.2225	-
03/07/12	0.0180	0.0860	0.0061	0.0610	0.1800	0.3331	-
05/23/12	0.0200	0.0790	0.0052	0.0580	0.1500	0.2922	-
08/21/12	0.2100	0.0830	0.0056	0.0650	0.2100	0.3636	-
09/2012	CA VIA MPE - SYSTEM OFF PER ADEM						
03/12/13	0.0170	0.0590	0.0037	0.0450	0.1100	0.2177	-
10/2015	CA VIA MEME						
11/15/13	0.0610	0.4000	0.0250	0.2800	0.7500	1.4550	-
UNABLE TO LOCATE WELL							
GRP SSTLS:	0.0789	0.0197	3.94	2.76	39.4	-	0.0789
Inhalation SSTLS:	5050	2.27	134	169	112	-	9.60
Stream SSTLS:	-	0.0278	0.443	1.15	-	-	1.57

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station	UST NUMBER:	00-02-03	WELL ID:	RW-1			
INSTALLATION DATE:	WELL DEPTH (FT BTOC):	33.5	SCREEN LENGTH (FT):	CASING ELEV (FT ABOVE MSL):	718.63	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
08/06/10	0.5000	0.1700	0.3100	0.0590	0.5000	1.0390	-
11/12/10	0.3100	0.2700	0.3200	0.0040	0.7800	1.3740	-
02/07/11	0.2700	1.1000	2.1000	0.0160	3.7000	6.9160	-
05/25/11	0.2600	0.6000	1.2000	0.0830	2.7000	4.5830	-
09/02/11	0.2100	0.6200	1.1000	0.0830	2.2000	4.0030	-
11/08/11	0.2100	0.8100	1.8000	0.2200	3.0000	5.8300	-
03/07/12	0.0680	0.1100	0.3700	0.0240	0.5600	1.0640	-
05/23/12	0.0710	0.1500	0.4500	0.0340	0.6100	1.2440	-
08/21/12	0.0510	0.0600	0.0620	0.0100	0.1500	0.2820	-
09/26/12	WELL ABANDONED						
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	RW-2		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	UNKNOWN	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
08/06/10	<0.005	<0.005	<0.001	<0.001	<0.001	BDL	-
11/12/10	<0.005	<0.005	<0.001	<0.001	<0.001	BDL	-
02/07/11	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	0.0011
05/25/11	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	0.0077
11/08/11	<0.005	0.0000	0.0090	<0.001	<0.002	0.0090	0.0674
03/07/12	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	0.7301
05/24/12	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	0.0931
08/21/12	<0.005	<0.001	<0.001	<0.001	<0.002	BDL	0.0247
WELL ABANDONED							
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	RW-3		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	UNKNOWN	SCREEN LENGTH (FT):	UNKNOWN	CASING ELEV (FT ABOVE MSL):	UNKNOWN	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
08/06/10	0.0170	0.0010	0.0010	0.0010	0.0140	0.0170	-
11/12/10	0.2400	0.1500	0.1400	0.0130	0.9100	1.2130	-
02/07/11	0.1500	1.0000	0.5300	0.3900	2.3000	4.2200	-
05/25/11	0.1400	0.3100	0.1600	0.0840	0.8000	1.3540	-
09/02/11	0.1700	0.4100	0.3600	0.1700	0.9600	1.9000	-
11/08/11	0.0930	0.0840	0.0670	0.0020	0.3300	0.4830	-
03/07/12	0.0070	0.0020	<0.001	0.0010	0.0060	0.0090	-
05/23/12	0.0500	0.0500	<0.001	0.0030	0.0040	0.0570	-
08/21/12	0.1600	0.0890	0.0080	0.0120	0.0380	0.1470	-
WELL ABANDONED							
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	RW-5		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	33.5	SCREEN LENGTH (FT):	UNKNOWN	CASING ELEV (FT ABOVE MSL):	716.85	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	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
08/06/10	0.0170	0.3000	0.1900	0.0160	0.6900	1.1960	-
11/12/10	0.3400	1.4000	1.6000	0.0330	2.6000	5.6330	-
05/25/11	0.2100	1.1000	0.5000	0.0720	1.1000	2.7720	-
09/02/11	0.1300	0.6600	0.1000	0.0570	0.4500	1.2670	-
03/07/12	0.1000	0.4800	0.3500	0.0180	0.6700	1.5180	-
05/23/12	0.0930	0.3400	0.1800	0.0120	0.5300	1.0620	-
08/21/12	0.1300	0.3000	0.1800	0.0120	0.5500	1.0420	-
WELL ABANDONED							
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6

Monitoring Point Data Summary Table

SITE NAME:	Glendean Gulf Service Station			UST NUMBER:	00-02-03	WELL ID:	RW-6		
INSTALLATION DATE:	UNKNOWN	WELL DEPTH (FT BTOC):	33.5	SCREEN LENGTH (FT):	UNKNOWN	CASING ELEV (FT ABOVE MSL):	716.85	WELL TYPE: DIAMETER (IN):	

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

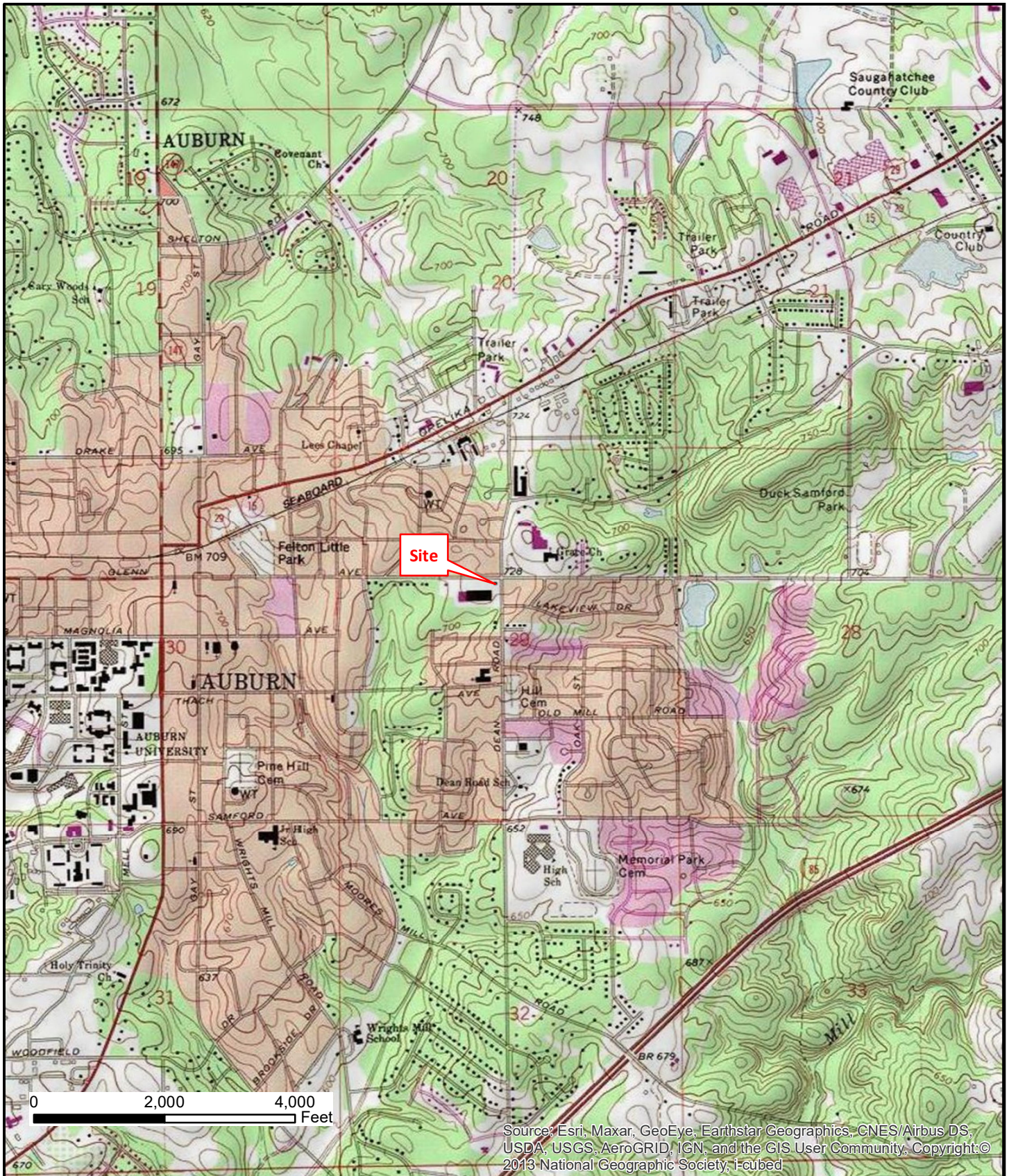
GROUNDWATER ANALYTICAL SUMMARY (mg/L)							
SAMPLE DATE	MTBE	BENZENE	TOLUENE	ETHYLBENZENE	TOTAL XYLENES	TOTAL BTEX	NAPHTHALENE
05/25/11	0.7300	1.2000	1.7000	0.5300	4.8000	8.2300	-
09/02/11	0.1900	0.7600	0.2800	0.2000	1.7000	2.9400	-
11/08/11	0.1200	0.3000	0.0940	0.0770	1.7000	2.1710	-
03/07/12	0.1100	0.2900	0.0730	0.0590	0.4100	0.8320	-
08/21/12	0.0650	0.5300	0.1700	0.1800	1.0000	1.8800	-
WELL ABANDONED							
GRP SSTLs:	3.07	0.767	153	107	175	-	3.07
Inhalation SSTLs:	48000	14.9	526	169	175	-	31
Stream SSTLs:	-	0.277	4.4	11.4	-	-	15.6



Engineering. Environmental. Answers.

FIGURES

APPENDIX B



Engineering. Environmental. Answers.
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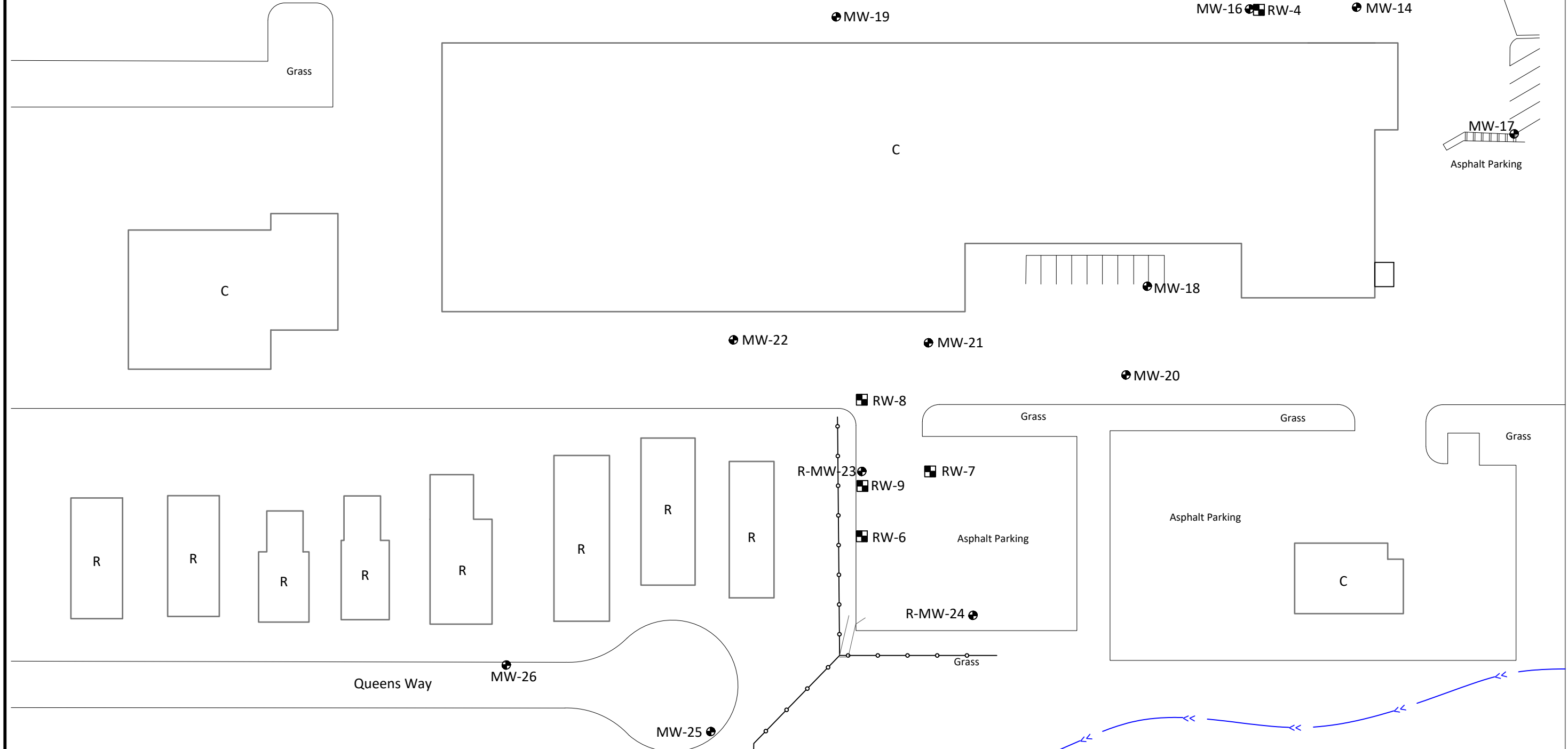
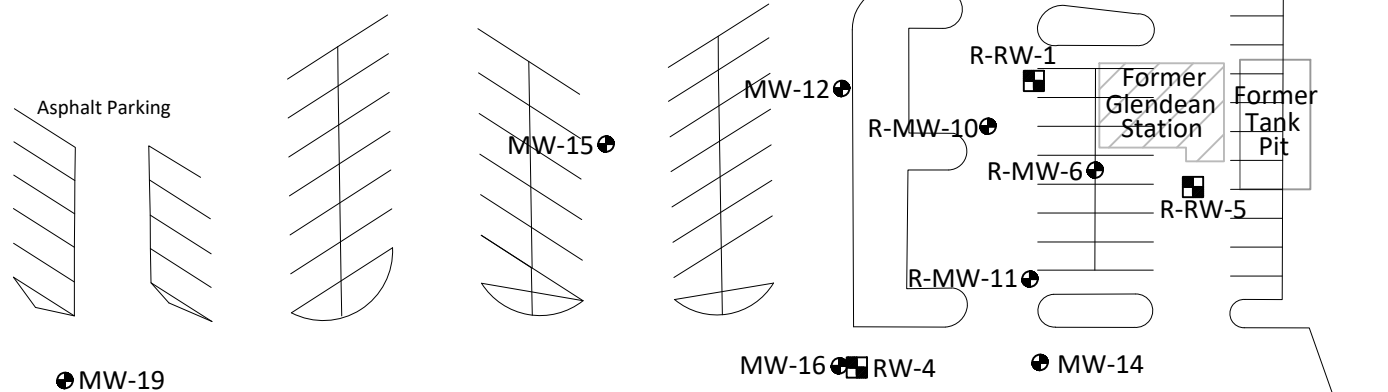
Site Location USGS Topographic Map

Glendean Gulf Service Station
772 East Glenn Avenue
Auburn, Lee County, AL



LEGEND

- Type II Monitoring Well
- Recovery Well
- C Commercial
- R Residential
- Chain Link Fence
- ← Stream

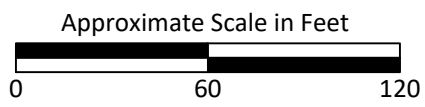


North Dean Road







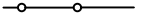

Queens Way

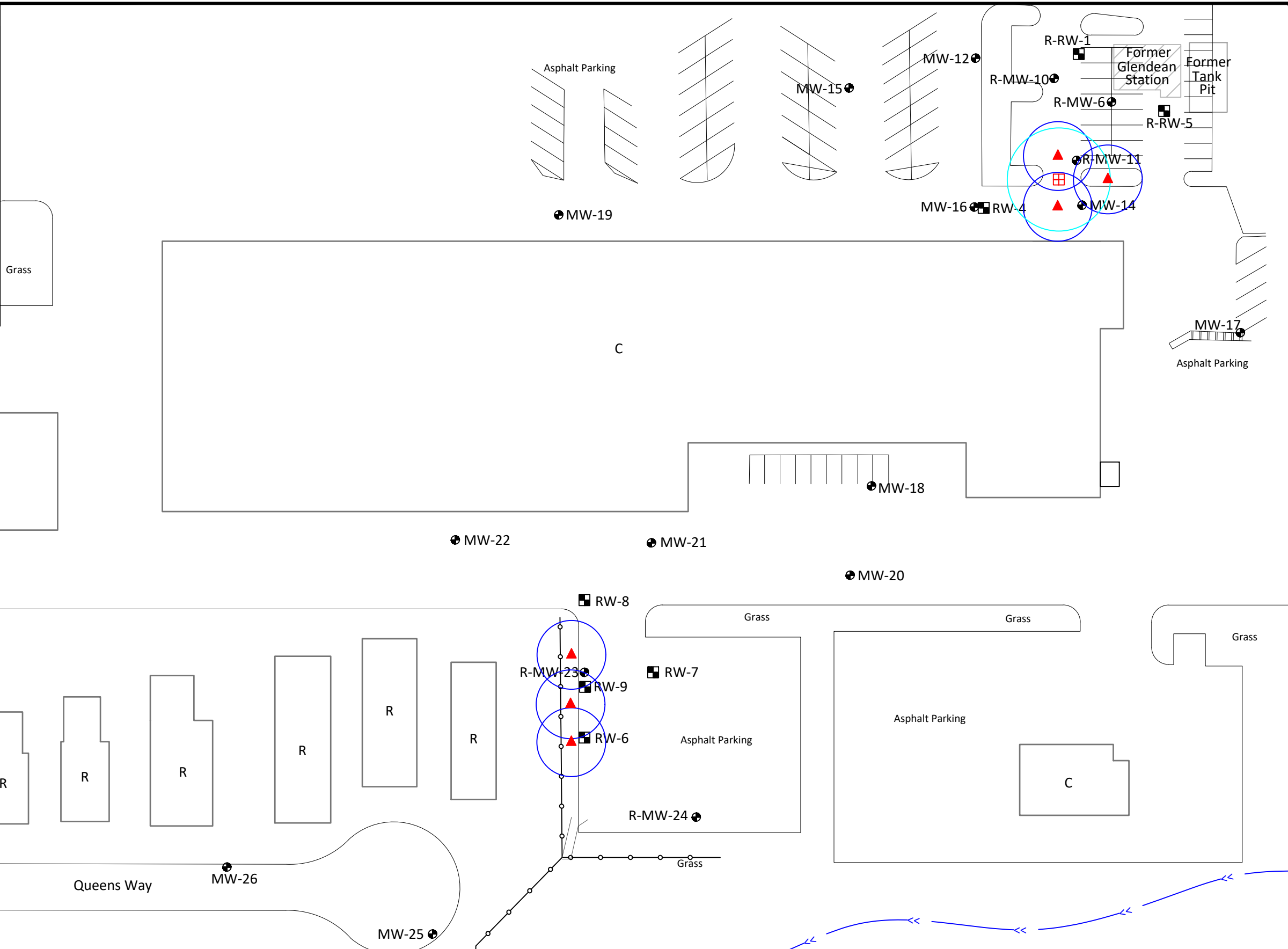
Site Map with Well Locations

Glendean Gulf Service Station
772 East Glenn Avenue
Auburn, Lee County, AL



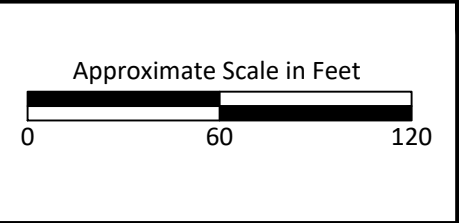
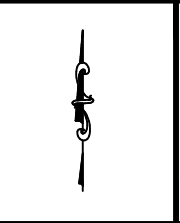
LEGEND

-  Type II Monitoring Well
-  Recovery Well
-  Proposed Recovery Well
-  Proposed Air Sparge Well
-  20' Theoretical Injection Radius of Influence for Proposed Air Sparge Well
-  30' Theoretical Vacuum Radius of Influence for Proposed Recovery Well
- C Commercial
- R Residential
-  Chain Link Fence
-  Stream

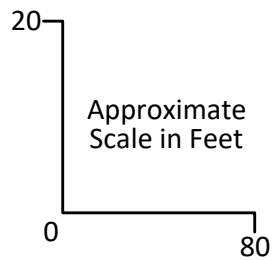
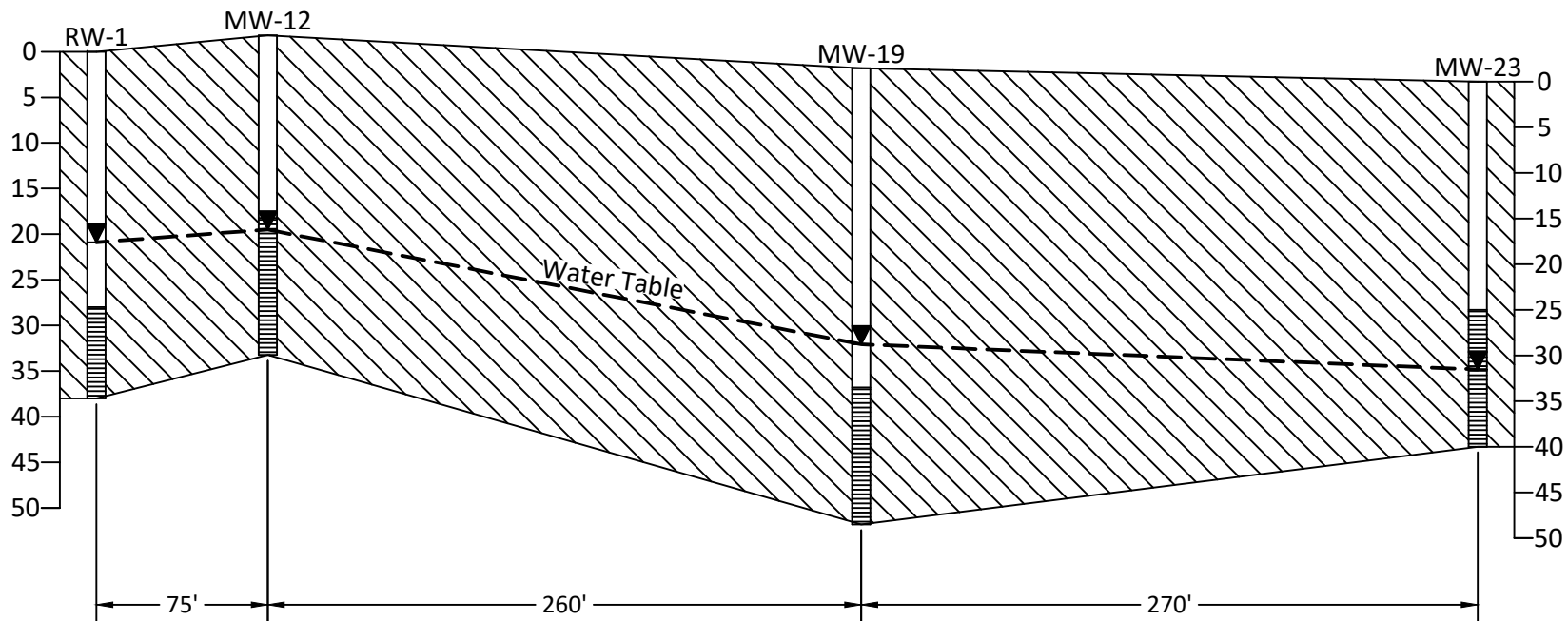


Site Map with Proposed Well Locations



Glendean Gulf Service Station
772 East Glenn Avenue
Auburn, Lee County, AL



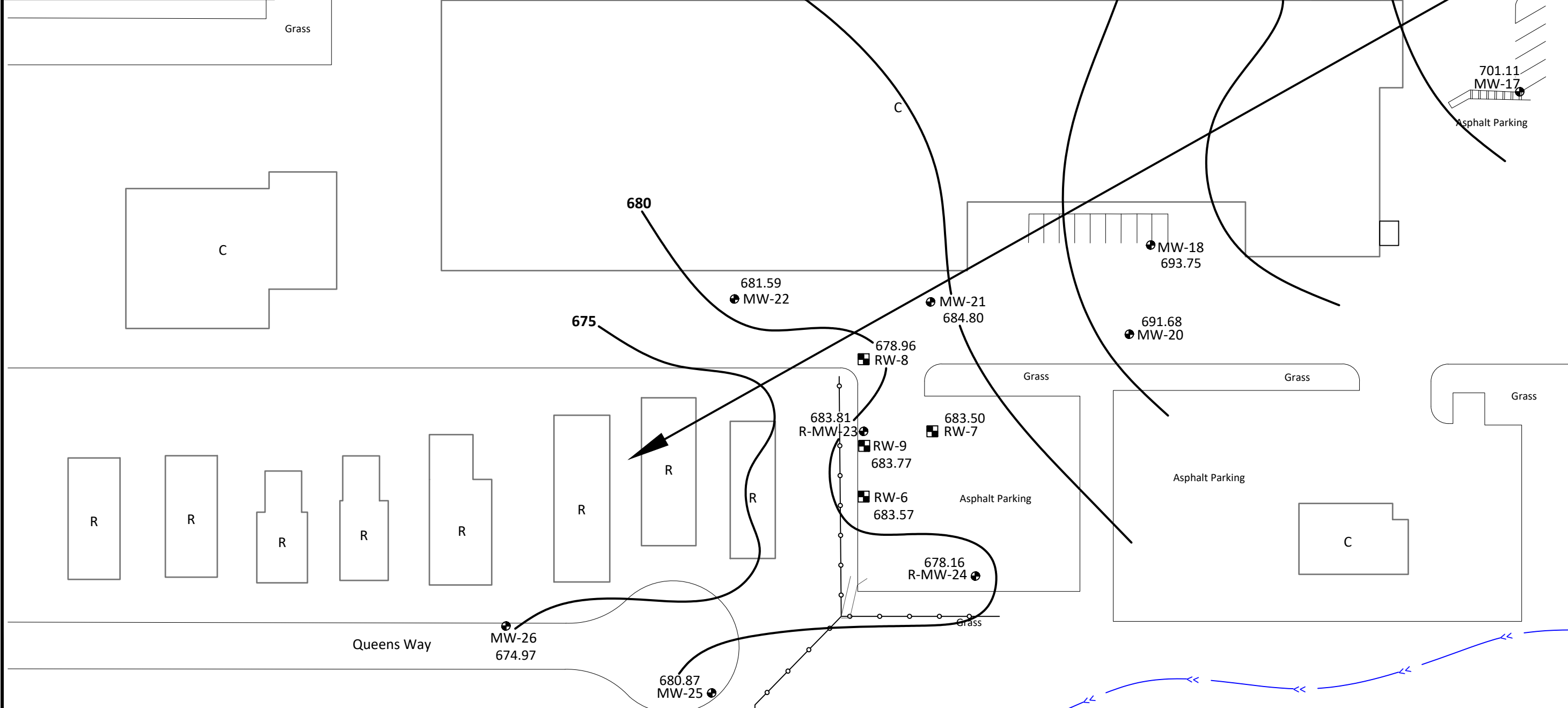
North Dean Road



Legend

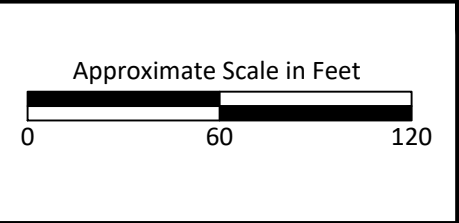
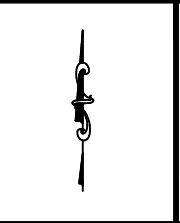
-  Sandy Clay
-  Screened Interval
-  Groundwater Level

LEGEND	
	Type II Monitoring Well
	Recovery Well
C	Commercial
R	Residential
	Chain Link Fence
	Stream
699.06	Potentiometric Elevation
	Potentiometric Contour
	Groundwater Flow Direction
NM	Not Measured



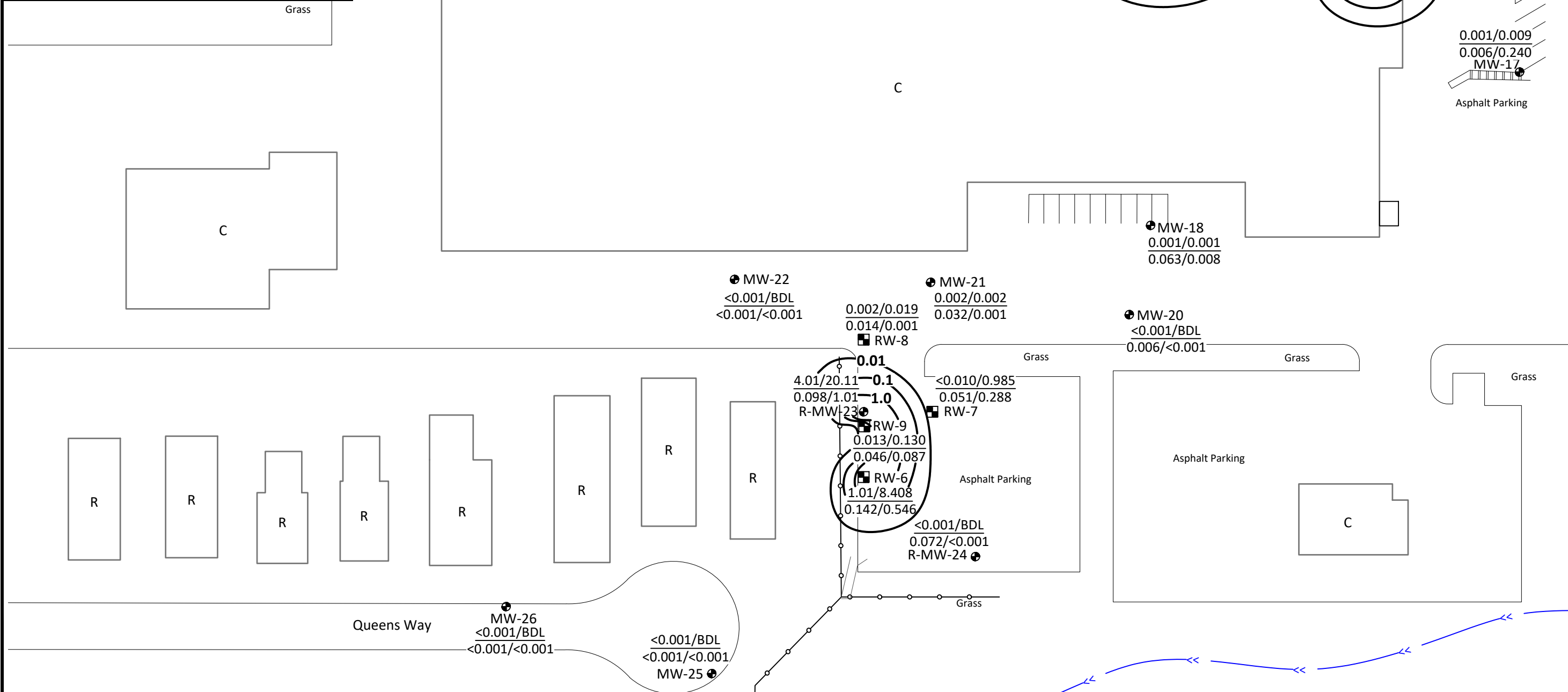
Potentiometric Surface Map
September 10, 2020

Glendean Gulf Service Station
772 East Glenn Avenue
Auburn, Lee County, AL



North Dean Road

LEGEND	
	Type II Monitoring Well
	Recovery Well
C	Commercial
R	Residential
	Chain Link Fence
	Stream
$<0.001/BDL$	Benzene/BTEX Concentration (mg/L)
$<0.001/<0.001$	MTBE/Naphthalene Concentration (mg/L)
	Benzene Contour
BDL	Below Detection Limit
NS	Not Sampled

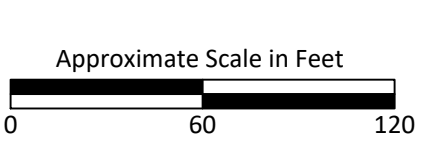


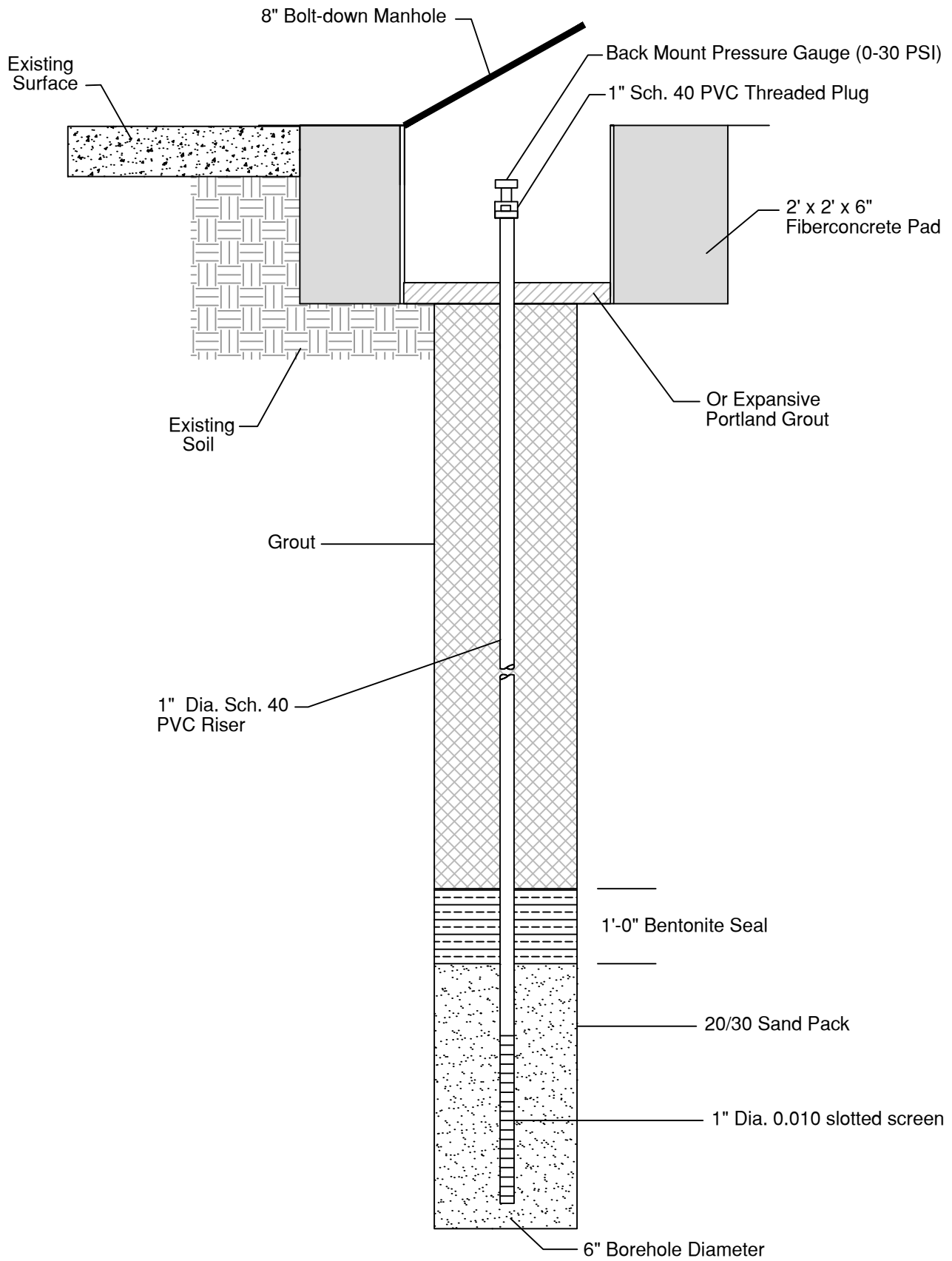
North Dean Road



Groundwater Analytical and Benzene Contour Map
September 10, 2020

Glendean Gulf Service Station
772 East Glenn Avenue
Auburn, Lee County, AL





Air Sparge Well Construction Detail

Glendean Gulf Service Station
 772 East Glenn Avenue
 Auburn, Lee County, AL

Not to Scale



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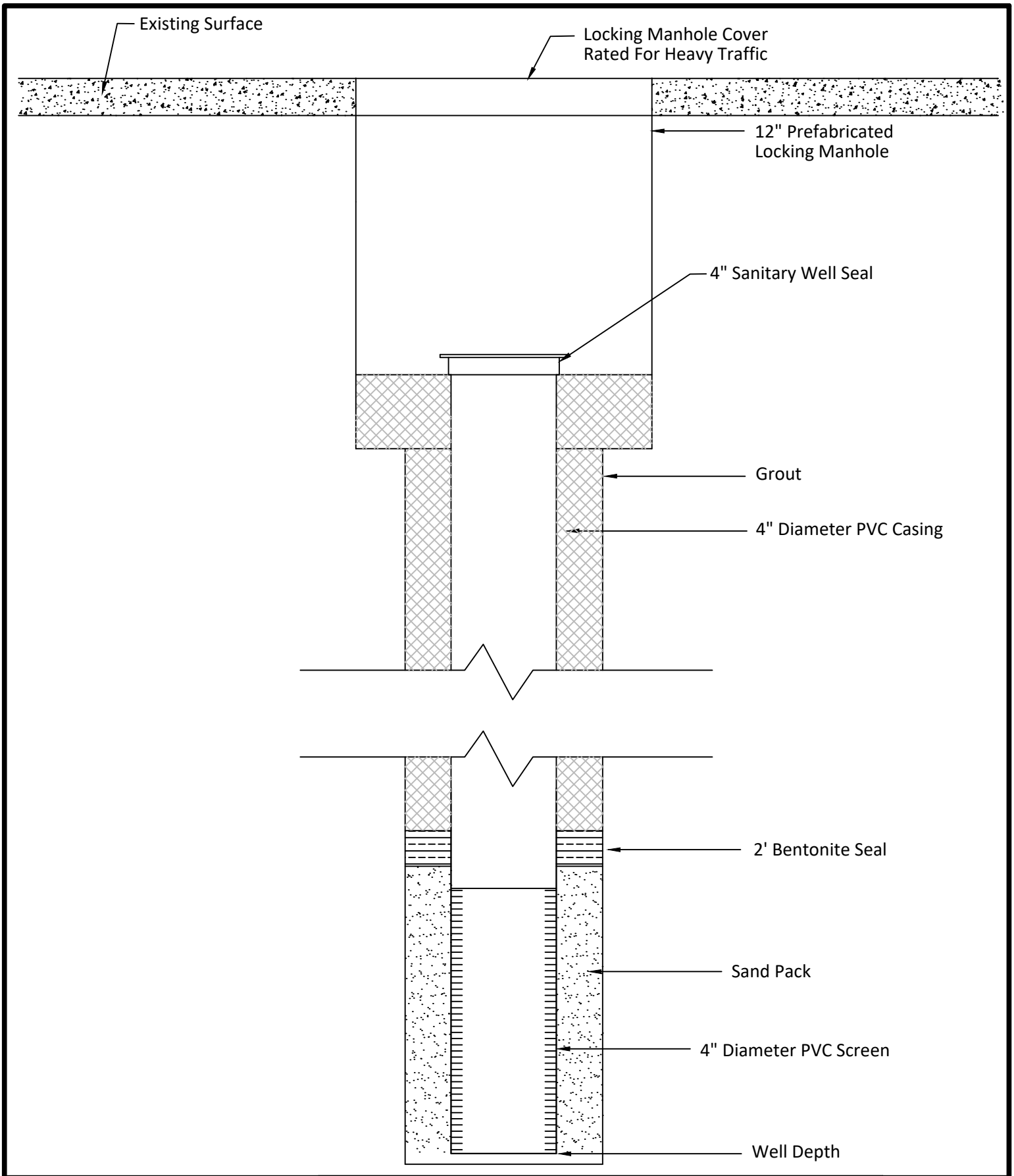


Diagram of a Recovery Well

Glendean Gulf Service Station
 772 East Glenn Avenue
 Auburn, Lee County, AL

Not to Scale



Engineering. Environmental. Answers.

ARBCA SSTLs

APPENDIX C

ARBCA SUMMARY REPORT

UST Incident No(s): 00-02-03

Facility ID: 14327-081-006291

Date Form Completed: November, 2004

Form Completed By: Janet Lanier/Richard Dour

FORM NO. 26 - ON-SITE RESIDENT CHILD

COMPARISON OF THE RESULTS WITH REPRESENTATIVE ON-SITE CONCENTRATIONS

CHEMICALS OF CONCERN	SURFICIAL SOIL				SUBSURFACE SOIL				GROUNDWATER			
	Outdoor Inhalation, Ingestion, & Dermal Contact		Indoor Inhalation		Outdoor Inhalation		Indoor Inhalation		Outdoor Inhalation		Ingestion of Water	
	Rep. Conc. [mg/kg]	Target Levels [mg/kg]	Rep. Conc. [mg/kg]	Target Levels [mg/kg]	Rep. Conc. [mg/kg]	Target Levels [mg/kg]	Rep. Conc. [mg/L]	Target Levels [mg/L]	Rep. Conc. [mg/L]	Target Levels [mg/L]	Rep. Conc. [mg/L]	Target Levels [mg/L]
Select the representative concentration (Rep. Conc.) for each medium.												
<input type="checkbox"/> Maximum <input type="checkbox"/> Arithmetic Average <input type="checkbox"/> Area-Weighted Average												
Use the historic maximum concentration from the water use well as the Rep. Conc.												
ORGANICS												
Benzene												
Toluene												
Ethylbenzene												
Xylenes (Total)												
MIBE												
Anthracene												
Benzo(a)anthracene												
Benzo(a)pyrene												
Benzo(b)fluoranthene												
Benzo(g,h,i)perylene												
Benzo(k)fluoranthene												
Chrysene												
Fluoranthene												
Fluorene												
Naphthalene												
Phenanthrene												
Pyrene												
METALS												
Arsenic												
Barium												
Cadmium												
Chromium VI												
Lead												
Zinc												

NOTE: The Rep. Conc. and the target levels are user-inputs. Use the ARBCA Computational Software for calculating the Tier 2 SSTLs.

E: Representative concentration exceeds Tier 2 SSTLs

NE: Representative concentration does not exceed Tier 2 SSTLs

C: Complete pathway

NC: Not a Complete Pathway

NA: Not available

Facility ID: 14327-081-006291

Form Completed By: Janet Lanier/ Richard Dour

Date Form Completed: November, 2004

COMPARISON OF TIER 2 SSTLS WITH REPRESENTATIVE ON-SITE CONCENTRATIONS

CHEMICALS OF CONCERN	SURFICIAL SOIL				SUBSURFACE SOIL				GROUNDWATER			
	Outdoor Inhalation, Ingestion, & Dermal Contact		Indoor Inhalation		Outdoor Inhalation		Indoor Inhalation		Outdoor Inhalation		Ingestion of Water	
	Rep. Conc. [mg/kg]	E/NE Target Levels [mg/kg]	Rep. Conc. [mg/kg]	E/NE Target Levels [mg/kg]	Rep. Conc. [mg/kg]	E/NE Target Levels [mg/kg]	Rep. Conc. [mg/L]	E/NE Target Levels [mg/L]	Rep. Conc. [mg/L]	E/NE Target Levels [mg/L]	Rep. Conc. [mg/L]	E/NE Target Levels [mg/L]
Select the representative concentration (Rep. Conc.) for each medium.												
	<input type="checkbox"/> Maximum	<input type="checkbox"/> Arithmetic Average	<input type="checkbox"/> Maximum	<input type="checkbox"/> Arithmetic Average	<input type="checkbox"/> Maximum	<input type="checkbox"/> Arithmetic Average	<input type="checkbox"/> Maximum	<input type="checkbox"/> Arithmetic Average	<input type="checkbox"/> Maximum	<input type="checkbox"/> Arithmetic Average	<input type="checkbox"/> Maximum	<input type="checkbox"/> Arithmetic Average
	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average	<input type="checkbox"/> Area-Weighted Average
ORGANICS												
Benzene												
Toluene												
Ethylbenzene												
Xylenes (Total)												
MTBE												
Anthracene												
Benzo(a)anthracene												
Benzo(a)pyrene												
Benzo(b)fluoranthene												
Benzo(g,h,i)perylene												
Benzo(k)fluoranthene												
Chrysene												
Fluoranthene												
Fluorene												
Naphthalene												
Phenanthrene												
Pyrene												
METALS												
Arsenic												
Barium												
Cadmium												
Chromium VI												
Lead												
Zinc												

NOTE: The Rep. Conc. and the target levels are user-inputs. Use the ARBCA Computational Software for calculating the Tier 2 SSTLS.

E: Representative concentration exceeds Tier 2 SSTLS

NE: Representative concentration does not exceed Tier 2 SSTLS

C: Complete Pathway

NC: Not a Complete Pathway

NA: Not available

ARBCA SUMMARY REPORT

UST Incident No(s): 00-02-03

Facility ID: 14327-081-006291

Date Form Completed: November, 2004

Form Completed By: Janet Lanier/ Richard Dour

FORM NO. 26 - ON-SITE COMMERCIAL WORKER

COMPARISON OF TIER 2 SSTLS WITH REPRESENTATIVE ON-SITE CONCENTRATIONS

CHEMICALS OF CONCERN	SURFICIAL SOIL			SUBSURFACE SOIL			GROUNDWATER			
	Outdoor Inhalation, Ingestion, & Dermal Contact	Indoor Inhalation	Outdoor Inhalation	Indoor Inhalation	Outdoor Inhalation	Indoor Inhalation	Outdoor Inhalation	Indoor Inhalation	Ingestion of Water	
	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/kg]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/kg]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/kg]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]	Use the historic maximum concentration from the water use well as the Rep. Conc.
ORGANICS										
Benzene	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	NE
Toluene	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	3.18	NE
Ethylbenzene	6.89	6.89	6.89	6.89	6.89	6.89	6.89	6.89	6.89	NE
Xylenes (Total)	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	NE
MTBE	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	NE
Anthracene										
Benzo(a)anthracene										
Benzo(a)pyrene										
Benzo(b)fluoranthene										
Benzo(g,h,i)perylene										
Benzo(k)fluoranthene										
Chrysene										
Fluoranthene										
Fluorene										
Naphthalene										
Phenanthrene										
Pyrene										
METALS										
Arsenic										
Barium										
Cadmium										
Chromium VI										
Lead										
Zinc										

NOTE: The Rep. Conc. and the target levels are user-inputs. Use the ARBCA Computational Software for calculating the Tier 2 SSTLS.
 E: Representative concentration exceeds Tier 2 SSTLS
 C: Complete Pathway
 NC: Not available
 NE: Representative concentration does not exceed Tier 2 SSTLS

ARBCA SUMMARY REPORT

FORM NO. 26 - ON-SITE CONSTRUCTION WORKER

UST Incident No(s): 00-02-03

Facility ID: 14327-081-006291

Date Form Completed: November, 2004

Form Completed By: Janet Lanier/ Richard Dour

COMPARISON OF TIER 2 SSILS WITH REPRESENTATIVE ON-SITE CONCENTRATIONS

CHEMICALS OF CONCERN	SURFICIAL SOIL			SUBSURFACE SOIL			GROUNDWATER												
	Outdoor Inhalation, Ingestion, & Dermal Contact	Indoor Inhalation	Outdoor Inhalation	NC	NC	C	NC	NC	C										
	<input type="checkbox"/> Maximum <input type="checkbox"/> Arithmetic Average <input type="checkbox"/> Area-Weighted Average Rep. Conc. [mg/kg]	<input type="checkbox"/> Maximum <input type="checkbox"/> Arithmetic Average <input type="checkbox"/> Area-Weighted Average Rep. Conc. [mg/kg]	<input type="checkbox"/> Maximum <input type="checkbox"/> Arithmetic Average <input type="checkbox"/> Area-Weighted Average Rep. Conc. [mg/kg]	E/NE	E/NE	E/NE	E/NE	E/NE	E/NE										
ORGANICS																			
Benzene			0.172	2140	NE														
Toluene			3.18	1340	NE														
Ethylbenzene			0.88	616	NE														
Xylenes (Total)			0.92	772	NE														
MIBE			1.29	1770	NE														
Anthracene																			
Benzo(a)anthracene																			
Benzo(a)pyrene																			
Benzo(b)fluoranthene																			
Benzo(g,h,i)perylene																			
Benzo(k)fluoranthene																			
Chrysene																			
Fluoranthene																			
Fluorene																			
Naphthalene																			
Phenanthrene																			
Pyrene																			
METALS																			
Arsenic																			
Barium																			
Cadmium																			
Chromium VI																			
Lead																			
Zinc																			

NOTE: The Rep. Conc. and the target levels are user-inputs. Use the ARBCA Computational Software for calculating the Tier 2 SSILs.
 E: Representative concentration exceeds Tier 2 SSILs
 NE: Representative concentration does not exceed Tier 2 SSILs
 * The higher of the representative concentrations for surficial and subsurface soil should be entered in the representative concentration column. The target level is the target level for surficial soil.

ARBCA SUMMARY REPORT

FORM NO. 26 - OFF-SITE RESIDENT CHILD

UST Incident No(s): 00-02-03

Facility ID: 14327-081-006291

Date Form Completed: November, 2004

Form Completed By: Janet Lanier/ Richard Dour

COMPARISON OF TIER 2 SSTLS WITH REPRESENTATIVE OFF-SITE CONCENTRATIONS

CHEMICALS OF CONCERN	SURFICIAL SOIL			SUBSURFACE SOIL			INDOOR AIR			OUTDOOR AIR			GROUNDWATER			Ingestion of Water		
	Outdoor Inhalation, Ingestion, & Dermal Contact			Indoor Inhalation			Outdoor Inhalation			Indoor Inhalation			Outdoor Inhalation					
	Maximum	Arithmetic Average	Area-Weighted Average	Maximum	Arithmetic Average	Area-Weighted Average	Maximum	Arithmetic Average	Area-Weighted Average	Maximum	Arithmetic Average	Area-Weighted Average	Maximum	Arithmetic Average	Area-Weighted Average		Use the historic maximum concentration from the water use well as the Rep. Conc.	
Rep. Conc. [mg/kg]	Target Levels [mg/kg]	E/NE	Rep. Conc. [mg/kg]	Target Levels [mg/kg]	E/NE	Rep. Conc. [mg/kg]	Target Levels [mg/kg]	E/NE	Rep. Conc. [mg/L]	Target Levels [mg/L]	E/NE	Rep. Conc. [mg/L]	Target Levels [mg/L]	E/NE	Rep. Conc. [mg/L]	Target Levels [mg/L]	E/NE	
ORGANICS																		
Benzene																		
Toluene																		
Ethylbenzene																		
Xylenes (Total)																		
MTBE																		
Anthracene																		
Benzo(a)anthracene																		
Benzo(a)pyrene																		
Benzo(b)fluoranthene																		
Benzo(g,h,i)perylene																		
Benzo(k)fluoranthene																		
Chrysene																		
Fluoranthene																		
Fluorene																		
Naphthalene																		
Phenanthrene																		
Pyrene																		
METALS																		
Arsenic																		
Barium																		
Cadmium																		
Chromium VI																		
Lead																		
Zinc																		

NOTE: The Rep. Conc. and the target levels are user-inputs. Use the ARBCA Computational Software for calculating the Tier 2 SSTLS.

E: Representative concentration exceeds Tier 2 SSTLS

C: Complete Pathway

NE: Representative concentration does not exceed Tier 2 SSTLS

NA: Not available

ARBCA SUMMARY REPORT

FORM NO. 26 - OFF-SITE COMMERCIAL WORKER

UST Incident No(s): 00-02-03

Facility ID: 14327-081-006291

Date Form Completed: November, 2004

Form Completed By: Janet Lanier/ Richard Dour

COMPARISON OF TIER 2 SSTITLs WITH REPRESENTATIVE TYPICAL OFF-SITE CONCENTRATIONS

CHEMICALS OF CONCERN	SURFICIAL SOIL				SUBSURFACE SOIL				GROUNDWATER				
	Outdoor Inhalation, Ingestion, & Dermal Contact		Indoor Inhalation		Outdoor Inhalation		Indoor Inhalation		Outdoor Inhalation		Ingestion of Water		
	Maximum	Arithmetic Average	Area-Weighted Average	Rep. Conc.	Target Levels	E/NE	Maximum	Arithmetic Average	Area-Weighted Average	Rep. Conc.	Target Levels	E/NE	
Select the representative concentration (Rep. Conc.) for each medium.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ORGANICS													
Benzene													
Toluene													
Ethylbenzene													
Xylenes (Total)													
MTBE													
Anthracene													
Benzo(a)anthracene													
Benzo(e)pyrene													
Benzo(b)fluoranthene													
Benzo(g,h,i)perylene													
Benzo(k)fluoranthene													
Chrysene													
Fluoranthene													
Fluorene													
Naphthalene													
Phenanthrene													
Pyrene													
METALS													
Arsenic													
Barium													
Cadmium													
Chromium VI													
Lead													
Zinc													

NOTE: The Rep. Conc. and the target levels are user-inputs. Use the ARBCA Computational Software for calculating the Tier 2 SSTITLs.

E: Representative concentration exceeds Tier 2 SSTITLs

C: Complete Pathway

NE: Representative concentration does not exceed Tier 2 SSTITLs

NC: Not a Complete Pathway

NA: Not available

ARBCA SUMMARY REPORT

FORM NO. 26 - OFF-SITE CONSTRUCTION WORKER

UST Incident No(s): 00-02-03

Facility ID: 14327-081-006291

Date Form Completed: November, 2004

Form Completed By: Janet Lanier/ Richard Dour

COMPARISON OF TIER 2 SSITLs WITH REPRESENTATIVE OFF-SITE CONCENTRATIONS

CHEMICALS OF CONCERN	SURFICIAL SOIL			SUBSURFACE SOIL			GROUNDWATER		
	Outdoor Inhalation, Ingestion, & Dermal Contact	Indoor Inhalation	Outdoor Inhalation	Indoor Inhalation	Outdoor Inhalation	Indoor Inhalation	Outdoor Inhalation	Indoor Inhalation	Outdoor Inhalation
	Maximum Arithmetic Average Area-Weighted Average Rep. Conc.* [mg/kg]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/kg]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/kg]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/kg]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/kg]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]	Maximum Arithmetic Average Area-Weighted Average Rep. Conc. [mg/L]
ORGANICS	E/NE	E/NE	E/NE	E/NE	E/NE	E/NE	E/NE	E/NE	E/NE
Benzene									
Toluene									
Ethylbenzene									
Xylenes (Total)									
MTBE									
Anthracene									
Benzo(a)anthracene									
Benzo(a)pyrene									
Benzo(b)fluoranthene									
Benzo(g,h,i)perylene									
Benzo(k)fluoranthene									
Chrysene									
Fluoranthene									
Fluorene									
Naphthalene									
Phenanthrene									
Pyrene									
METALS									
Arsenic									
Barium									
Cadmium									
Chromium VI									
Lead									
Zinc									

NOTE: The Rep. Conc. and the target levels are user-inputs. Use the ARBCA Computational Software for calculating the Tier 2 SSITLs.
 E: Representative concentration exceeds Tier 2 SSITLs
 NE: Representative concentration does not exceed Tier 2 SSITLs
 * The higher of the representative concentrations for surficial and subsurface soil should be entered in the representative concentration column. The target level is the target level for surficial soil.

ARBCA SUMMARY REPORT

UST Incident No(s): 00-02-03

Date Form Completed: November, 2004

Facility ID: 14327-081-006291

Form Completed By: Janet Lamier/ Richard Dour

FORM NO. 27

TIER 2 GROUNDWATER RESOURCE PROTECTION TARGET CONCENTRATIONS

Distance from source to the point of exposure (POE): 476.63' from source area to property line and 511' included for off-site properties for a distance of 926.63' to POE.

CHEMICALS OF CONCERN	COMPARISON FOR SOURCE SOIL			COMPARISON FOR GROUNDWATER			COMPARISON FOR COMPLIANCE WELLS					
	Soil Source Rep. Conc. 1 [mg/kg]	Allowable Soil Conc. 2 [mg/kg]	E/NE	GW Source Rep. Conc. 3 [mg/L]	Allowable GW Conc. at a POC 4 [mg/L]	E/NE	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	E/NE	CW Rep. Conc. 5 [mg/L]	Allowable GW Conc. at a POC 6 [mg/L]	E/NE
COMPLIANCE WELL NO.												
DISTANCE FROM SOURCE												
RECENT TREND												
ORGANICS												
Benzene	0.00	1.21	NE	0.00	0.048	E	0.00	0.0188	NE	0.00	0.0188	NE
Toluene	0.00	507	NE	0.00	130	NE	0.00	0.0173	NE	0.00	0.0173	NE
Ethylbenzene	0.00	506	NE	0.00	130	NE	0.00	0.0173	NE	0.00	0.0173	NE
Xylenes (Total)	0.00	506	NE	0.00	130	NE	0.00	0.0173	NE	0.00	0.0173	NE
MTBE	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Anthracene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Benzo(a)anthracene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Benzo(b)fluoranthene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Benzo(g,h,i)perylene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Benzo(k)fluoranthene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Chrysene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Fluoranthene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Fluorene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Naphthalene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Phenanthrene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
Pyrene	0.00	415	NE	0.00	105	NE	0.00	0.0173	NE	0.00	0.0173	NE
METALS												
Arsenic												
Barium												
Cadmium												
Chromium VI												
Lead												
Zinc												

NOTE: Use the ARBCA Computational Software to calculate the allowable (i) soil source conc., (ii) GW source conc., and (iii) compliance well conc.
 1: The soil source representative concentrations have to be calculated and entered here.
 2: Allowable soil concentrations at the source protective of groundwater at the POE.
 3: The groundwater source representative concentrations have to be calculated and entered here.
 4: Allowable groundwater concentrations at the source protective of groundwater at the POE.
 5: Representative concentrations in the compliance well.
 6: Allowable groundwater concentrations at a point of compliance (POC) protective of a POE.
 E: Representative concentration exceeds allowable concentration.
 NE: Recommended Attachment: A map showing the location(s) of the soil source(s), location of POE, and location(s) of POC.
 Recommended Attachment: A map showing the location(s) of the soil source(s), location of POE, and location(s) of POC.



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QA/QC PLAN

APPENDIX D

QA/QC MONITORING/SAMPLING PLAN

FIELD ACTIVITIES

Air Sampling

Air samples are collected utilizing an air sampling pump system or Summa canister. The pump is primed, prior to collection of each sample, to displace any trapped air or gases with the targeted air make-up. The air is drawn in and exits through polyethylene tubing. The sample is collected directly into and stored in a Tedlar air/gas sampling bag or Summa canister. The sample bag or canister is provided to CDG by the analytical laboratory. The air sampling pump system is also used to extract air/gases from a vacuum and drive them into a field-screening instrument. The air sample collection and screening protocols are described below.

Air Screening

Air screening is conducted to provide a field indication of the levels of hydrocarbon gases in vapor phase. The air/gases are screened with an organic vapor analyzer, equipped with a methane filter (as applicable). The field instrument is field calibrated to a gas standard of known concentration. Field air/gas samples are screened at ambient conditions and the data recorded. The field screening test form contains the following information:

- Project name (client and location);
- Data table number;
- Personnel collecting samples;
- Field screening instrument used and I.D. number;
- Calibration information;
- Description of field screening method;
- Sample identification information; and
- Screening data, including time collected/screened, ambient temperature/results.

Air Sampling Protocols

Air samples designated for laboratory analysis are collected in Tedlar bags or a Summa canister. The sample bags or canister are provided to CDG directly by the analytical laboratory. If Tedlar bags are used, two Tedlar bags are filled for each sample, in the event the bags are damaged during shipment. Upon collection, each sample bag is immediately placed in a cooler or other secure shipping container, following laboratory instructions and appropriate chain of custody documentation. The samples are sent direct to the laboratory via overnight carrier or are picked up from the CDG office by a representative of the laboratory.

Groundwater Monitoring/Sampling Activity Protocols

Groundwater monitoring/sampling includes the following associated activities:

- 1) Measurement for the presence of free product;
- 2) Measurement of static water level;
- 3) Calculation of standing water volume (in well);
- 4) Sample collection; and
- 5) Equipment decontamination.

Groundwater sampling parameters are recorded in the field on a monitor well sampling record form. The details for each of the above referenced monitoring/sampling activities are described in the following sections.

Free Product Detection and Measurement

The presence of free product is measured prior to free product recovery and purging/sampling the selected monitor well. Free product is detected/measured using a hydrocarbon/water interface probe. The probe is lowered slowly into the well until an instrument tone is heard (a constant tone indicates that free product is present, and an intermittent tone indicates that water is present). The point at which a constant tone is first heard is considered the top of free product. The measurement from the top of the PVC well casing to the top of free product is recorded. The measurement is checked at least twice. The probe is then slowly lowered further into the well until an intermittent tone is heard (indicating that the probe has passed through the free product layer into the underlying groundwater interval). Once the intermittent tone is encountered, the probe is slowly raised until the constant tone is again indicated. This point is considered the interface between the floating free product layer and the groundwater table. The measurement from the top of the PVC casing to the interface is recorded. This measurement is also checked at least twice.

The free product thickness is determined by calculating the difference between the measurement to the top of free product and the measurement to the free product/water interface (the interface probe measures free product and water levels to an accuracy of 0.01 feet). If free product is identified by the interface probe, a clear bailer is lowered into the well to collect a sample for visual confirmation of the free product. Remarks regarding visual characteristics of the free product are recorded (black, clear, colored, etc.).

Calculation of Standing Water Volume

The standing water volume in a monitor 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 column of water in the well).

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

$I = w - d$ (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 in 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 (hose) 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 well-dedicated 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 containerized on-site in labeled 55-gallon drums. PCW will be removed periodically from the site to an appropriate disposal/treatment/recycling facility approved by the ADEM. Records will be maintained as to the volume of PCW accumulated at the site, and identification labels will be affixed to PCW containers. Prior to disposal, samples will be collected and analyzed as required by the ADEM and the disposal/treatment/recycling facility. No waste will be removed from the site without ADEM knowledge/approval.

Groundwater Sample Collection

Groundwater samples are collected from monitor wells not containing free product, 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 and naphthalene analysis (volatile organics) are transferred 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 shipped to CDG directly from the 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 (volatile) analysis. The preservation employed for BTEX/MTBE (volatile) analysis will include either of the following (depending on holding time constraints):

- Cool collected sample to 4°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°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 a well-iced ice chest. 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 iced 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 is minimal.

QA/QC PROCEDURES DISCUSSION

Chain of Custody

Sample custody begins with the subcontracted laboratory when sample kits are prepared and shipped for CDG use at a specified project location. Responsibility for

sample container materials and preparation lies with the subcontracted laboratory. Sample containers and kits are normally shipped to CDG by common carrier or are dropped off by a laboratory representative. Upon receipt of the kits, CDG 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 representative until delivered to the subcontract 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 is typically based upon several facts, including cost; laboratory certification; quality 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 regulators, 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 E

Site Health and Safety Plan

**Glendean Gulf Service
722 East Glenn Ave
Auburn, Lee County, Alabama
Facility ID No. 14327-081-006291
UST No. 00-02-03**

Prepared For:

**Saxon Oil
P.O. Box 2467
Opelika, AL 36803**

Prepared By:

**CDG Engineers & Associates, Inc.
1840 East Three Notch Street
Andalusia, Alabama 36421**

Table of Contents

	Page No.
1.0	Introduction..... 1
2.0	Purpose 1
3.0	Key Personnel and Responsibilities 1
4.0	Scope of Work 2
4.1	Installation Activities..... 2
4.2	Operation & Maintenance Activities..... 2
5.0	Chemical Hazards 3
5.1	Gasoline 3
5.2	Hazard Identification..... 3
5.3	Hazard Prevention 4
5.4	Symptoms and First Aid Procedures 4
6.0	Equipment/Operational Hazards..... 5
6.1	Hazard Identification..... 5
6.2	Hazard Prevention 6
6.3	Symptoms and First Aid Procedure..... 7
7.0	Temperature Hazards..... 7
7.1	Heat..... 7
7.1.1	Hazard Identification 7
7.1.1.1	Heat Fatigue..... 8
7.1.1.2	Heat Rash..... 8
7.1.1.3	Heat Collapse 8
7.1.1.4	Heat Cramps 8
7.1.1.5	Heat Exhaustion..... 8
7.1.1.6	Heat Stroke 9
7.1.2	Hazard Prevention..... 9
7.1.3	Symptoms and First Aid Procedures 10
8.0	Explosion/Electrocution Hazards 10
8.1	Explosion 11
8.1.1	Hazard Identification 11
8.1.2	Hazard Prevention..... 11
8.2	Electrocution 12
8.2.1	Hazard Identification 12
8.2.2	Hazard Prevention..... 12
8.2.3	Symptoms and First Aid Procedures 12
9.0	Miscellaneous Hazards..... 13
9.1	Hazard Identification..... 13
9.2	Hazard Prevention 13
9.3	Symptoms and First Aid Procedures 14

10.0	Additional Precautions	14
10.1	Personal Protective Equipment	14
10.2	Signs, Signals, and Barricades	15
10.3	Fire Protection and Prevention	15
10.4	Storage and Decontamination	16
11.0	Emergency Contingency Plan	16
11.1	Notification/Reporting Procedures	16
11.2	Hazardous Substance Release.....	17
11.3	Personnel Injury	17
11.4	Evacuation Plan	17
11.5	Spill Prevention and Response.....	17
11.6	Emergency Communication	17
11.7	Contingency Contacts	18
11.8	Medical Facility	19

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 Glendean Gulf Service facility located in Auburn, Lee 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, person 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
David Dailey or Alan Barck	Professional Engineer/ Corporate HSO	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.
April Harrelson	Project Manager / Site HSO	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 installation and excavation activities.

4.1 Installation Activities

Installation activities generally involve preparing the site for installation activities and also the construction of the MPVE unit onsite. More specifically this will include:

- Preparing the site for work to be performed
- Saw-cutting concrete surface, excavating, and installing well vaults
- Installing polyvinyl chloride (PVC) extraction piping and subsurface utility lines
- Installing piping connections from extraction piping to wellhead
- Overseeing placing and leveling of remediation system
- Completing all piping connections from extraction and utility lines to remediation unit
- Completing all electrical connections
- Installing concrete block security fence
- Inspecting rotation on all electric motors
- Inspecting PVC piping, extraction lines, treatment system, and associated connections for leaks at start up

4.2 Operation and Maintenance Activities

Subsequent to the construction and installation of the MPVE unit, the unit must periodically undergo inspections or maintenance. CDG field personnel will inspect the unit on a weekly basis, taking certain instrument readings necessary to determine the progress of the remediation being performed at that particular site. Maintenance of the unit is performed on an as needed basis. The following applies to operation and maintenance activities associated with the MPVE unit:

- Inspecting proper working condition of telemetry system
- Lubricating motors
- Inspecting piping for leaks
- Inspecting belts on Liquid Ring Vacuum Pump (LRVP) system
- Periodic cleaning of equipment and components
- Periodic inspections of electrical connections
- Measuring induced vacuum in on site monitoring wells
- Removing silt and sludge buildup from knockout pot air stripper, filtration system and other system components
- Measuring air flow from MPVE unit

- Measuring liquid levels in wells
- Sampling effluent for discharge parameters
- Measuring volume of liquids removed and discharged

5.0 Chemical Hazards

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

5.1 Gasoline and Diesel

Gasoline and diesel are substances to be potentially encountered in the soil and groundwater at the site. Gasoline components include benzene, toluene, ethylbenzene, and xylenes (BTEX). Diesel components may include anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene.

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. The Material Safety Data Sheets (MSDS's) are presented in Attachment A.

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 use of any type of drill rig and 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 arms into the rotating machinery
- Drilling equipment may rupture hydraulic hoses thereby releasing hydraulic fluids
- Engine and exhaust system 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 with 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 engine during maintenance procedures by removing or tagging ignition key
- Block wheels or lower leveling jacks and set hand brakes to prevent equipment from 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 Attachment B.

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 OSHA.

7.1.1.2 Heat Rash

Heat rash (prickly heat) is the most common heat stress factor and may result from 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 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, and nausea	Get victim into shade or cooler place. Immediately remove any protective clothing. Victim should drink plenty of fluids. Victim should lie down with 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 are discussed further in the following section.

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 Electrocutation

8.2.1 Hazard Identification

The 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

The last hazard identified when performing corrective action activities has 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		911
Police Department		911
Ambulance		911
Hospital		1-334-539-1771
Corporate HSO	David Dailey or Alan Barck	1-205-403-2600 or 1-334-222-9431
Project Manager	April Harrelson	1-334-222-1162
EPA RCRA-Superfund Hotline		1-800-424-9346
Chemtrec (24 hours)		1-800-424-9300
Bureau of Explosives (24 hours)		1-202-293-4048
Centers for Disease Control (Biological Agents)		1-404-633-5353
National Response Center		1-800-424-8802

Medical Facility

Name of Hospital: Southeast Medical Center

Address: 3365 Skyway Dr, Auburn, AL

Phone: 334-539-1770

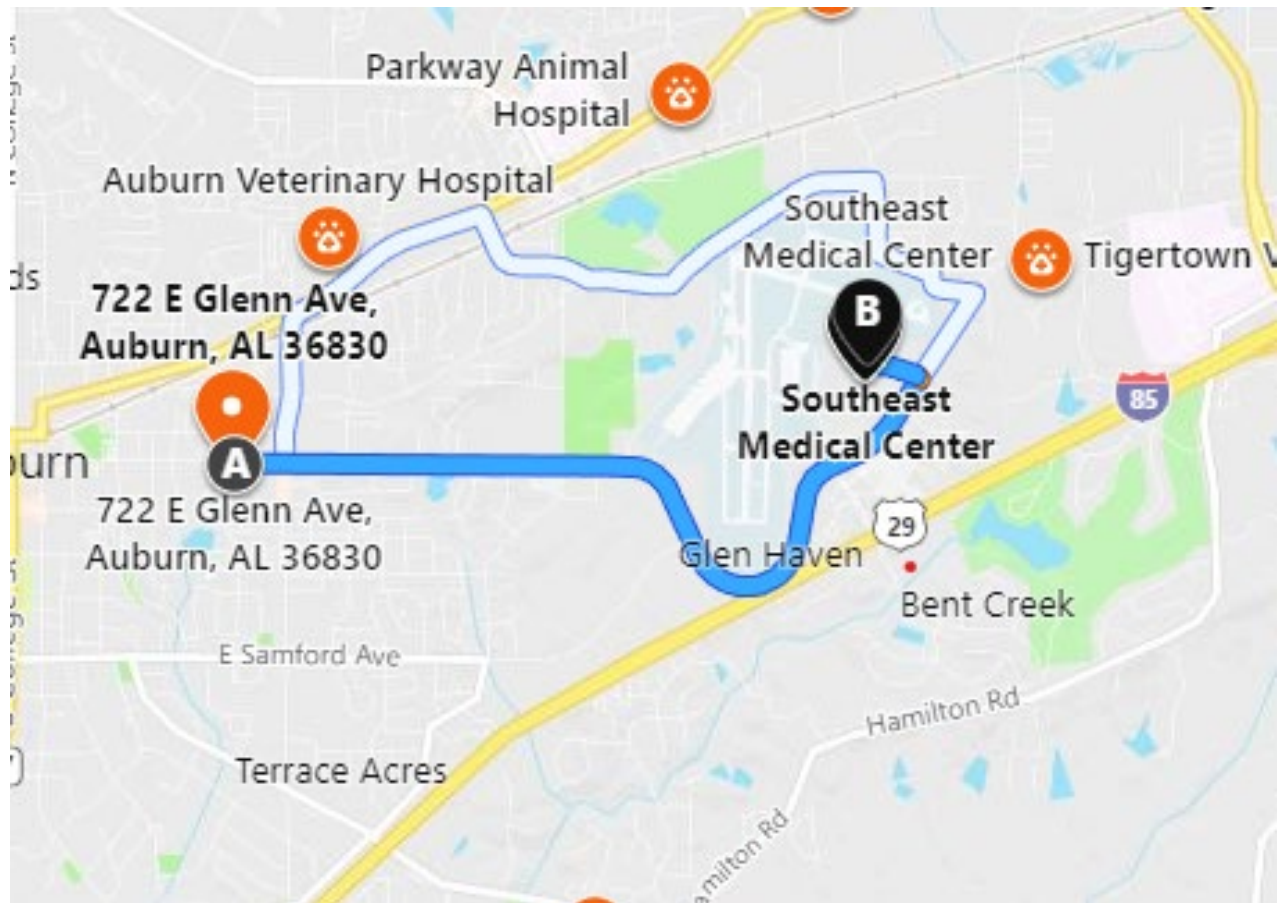
Route to Hospital: See attached map with driving directions.

Travel Time from Site: 9 minutes

Distance to Hospital: 3.3 miles

Name/Number of 24-hour Ambulance Service: 911

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





Engineering. Environmental. Answers.

TASKS PERFORMANCE SUMMARY

APPENDIX F

TASK PERFORMANCE SUMMARY

Modified CAP (CP-70)
 Glendean Gulf Service Station
 722 East Glenn Avenue
 Auburn, Lee County, AL

Task Completed by Personnel/Title:	Griffin Gatschet, PG/PM	Alan Barck, PG/PE	April Harrelson, PM	Ray Hollinghead, Drafter	Colt Harrell, Staff Geologist	Rob Maddox, Staff Scientist	Karen Moore, Admin	Leigh Caylor, Admin	Kim Ballard, Admin	Patricia Horwath, Admin
Project Management			PM							
Work Plan Preparation/Review			PM							
Cost Proposal Preparation/Review	X		PM		X			X	X	X
Field Work			PM							
Data Interpretation/Tabulations			PM				X			
Drafting				X						
Report Preparation/Review		X	PM			X		X	X	X
Payment Request Preparation/Review	X		PM			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