Groundwater
& Environmental Services, Inc.

2142 Priest Bridge Court • Suite 1 • Crofton, Maryland 21114 • (800) 220-3606 • FAX (410) 721-3733

March 15, 2011

Ms. Susan Bull
Oil Control Program
Maryland Department of the Environment
1800 Washington Blvd, Suite 620
Baltimore, Maryland 21230

RE: **CORRECTIVE ACTION PLAN**
Monrovia BP/Former Green Valley Citgo
11791 Fingerboard Road
Monrovia, Maryland
OCP Case #2005-0834-FR

Dear Ms. Bull:

Groundwater & Environmental Services, Inc. (GES), on behalf of Carroll Independent Fuels Company (Carroll), respectfully submits this Corrective Action Plan (CAP) for the Monrovia BP/Former Green Valley Citgo Station located at 11791 Fingerboard Road in Monrovia, Maryland. This CAP is being submitted to fulfill Carroll's compliance with the Maryland Department of the Environment – Oil Control Program's directive letter dated June 17, 2010.

GES appreciates the continued guidance of the MDE on this project. If you have any questions or would like additional information please contact the undersigned at 800-220-3606, extension 3717 or 3706, respectively, or Herb Meade at 410-261-5450.

Sincerely,

Gregory Reichart
Project Manager

Steven M. Slatnick
Sr. Project Manager
Site Operations Manager

Enclosure

c: Herb Meade – Carroll Independent Fuels Company
Susan Bull – MDE (additional paper copy and electronic copy on CD)
Jim Richmond – MDE
George Keller – Frederick County Health Department
Samir Andrawos – Timbercrest Limited Partnership
Jennifer Andrawos – Timbercrest Limited Partnership
Dwight W. Stone – Whiteford Taylor Preston
Robert S. Bassman – Bassman, Mitchell & Alfano, Chtd.
M. Albert Figinski – Law Offices of Peter Angelos
File – GES, MD

Corrective Action Plan

Monrovia BP/Former Green Valley Citgo
MDE Case #2005-0834-FR
MDE Facility ID #11836
11791 Fingerboard Road
Monrovia, Maryland

Prepared for:

Carroll Independent Fuels Company
1601 West 41st Street
Baltimore, Maryland 21211

Prepared by:

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.
2142 Priest Bridge Court, Suite 1
Crofton, Maryland 21114

March 15, 2011

CORRECTIVE ACTION PLAN

Monrovia BP/Former Green Valley Citgo
MDE Case #2005-0834-FR
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11791 Fingerboard Road
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Prepared for:

Herb Meade
Environmental, Health and Safety Director
Carroll Independent Fuels Company
1601 West 41st Street
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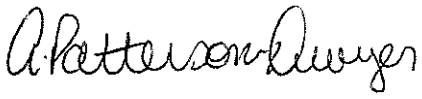
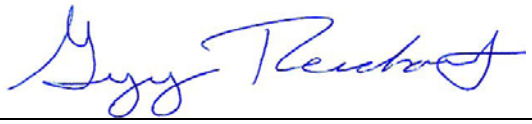
Prepared by:



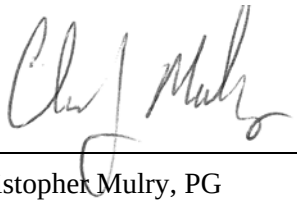
Amanda Patterson-Dwyer
Staff Environmental Scientist

Richard K. Evans, PE
Director of Engineering

Reviewed by:



Gregory Reichart
Project Manager



Christopher Mulry, PG
Vice President, Major Projects & Technical Operations

Groundwater & Environmental Services, Inc.

2142 Priest Bridge Court, Suite 1
Crofton, MD 21114
800-220-3606
410-721-3733

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1.0 INTRODUCTION / BACKGROUND

Groundwater & Environmental Services, Inc. (GES), on behalf of Carroll Independent Fuels Company (Carroll), respectfully submits this Corrective Action Plan (CAP) for the Monrovia BP/Former Green Valley Citgo Station located at 11791 Fingerboard Road in Monrovia, Maryland (the Site). This CAP is being submitted to fulfill Carroll's compliance with the Maryland Department of the Environment – Oil Control Program's (MDE-OCP) directive letter dated June 17, 2010. A copy of this letter is attached in **Appendix A – MDE Correspondence**.

In January 2005, elevated levels of petroleum vapors were detected in the vicinity of the underground storage tank (UST) field during an MDE OCP compliance inspection. The MDE requested testing be performed, and OCP Case #2005-0834-FR was assigned to the site. A soil boring program was conducted at the Site in September 2005, and in February 2006, four bedrock monitoring wells (MW-1 through MW-4) were installed. In March 2006, methyl tertiary butyl ether (MTBE) was detected in the water supply of the Green Valley Plaza (GVP), the shopping center that houses the station building. In April 2007 an initial round of samples was collected from select off-site residential potable wells and the supply wells for the Green Valley Shopping Center (GVSC), a commercial plaza adjacent to the Site.

At the request of the MDE, an *Interim Corrective Action Plan* (ICAP) was submitted by Environmental Alliance (EA) proposing soil-vapor extraction (SVE) feasibility testing (EA, April 25, 2007). A *Drinking Water Well Survey* of the surrounding area was submitted (EA, April 30, 2007), as well as a *Sampling Results and Work Plan*, detailing plans for continued potable well sampling (EA, April 25, 2007). Between April and June 2007, granular activated carbon (GAC) point-of-entry treatment (POET) systems were installed at six area residences where MTBE was detected above the MDE's action level of 20 micrograms per liter (µg/L). In May 2007, EA submitted a *Site Conceptual Model* (SCM) to the MDE.

In June 2007, SVE feasibility testing was performed on-site. Subsequently, four shallow groundwater monitoring wells (MW-5 through MW-8) were installed in May 2008. Down-hole geophysical testing of two of the GVP supply wells was conducted in July 2007 and on monitoring wells MW-6, MW-7 and MW-8 in June 2008. In July 2008, the UST system was removed, approximately 523.5 tons of petroleum-impacted soil was removed from the Site, and new USTs were installed in the same location as the previously-existing UST field. SVE piping was installed and connected to the tank field monitoring wells (EA, August 22, 2008). In September 2008, a POET system was installed on the GVP water supply. Additional SVE feasibility testing was conducted on-site in January 2009.

In March 2009, five additional shallow monitoring wells (MW-9 through MW-13) were installed, and in September 2009, deep monitoring wells MW-14D and MW-15D and shallow monitoring wells MW-16 and MW-17 were installed. In October 2009, pumping tests were performed on-site, including a step-drawdown test and subsequent 72-hour pumping test on monitoring well MW-15D. Geophysical testing of monitoring wells MW-14D, MW-16 and MW-17 and packer testing on monitoring well MW-14D were performed in November 2009. On June 17, 2010, the MDE issued *Request for Corrective Action Plan*, requiring the submission of a CAP designed to capture, contain and reduce the migration of petroleum contamination. In July 2010, monitoring well MW-14S was installed on-site.

In September 2010, GES submitted *Pilot Scale Study Work Plan* to the MDE, proposing the installation of three nested injection wells, a nested observation well, and a vapor extraction well; and an in-situ

chemical oxidation (ISCO) pilot test involving the injection of hydrogen peroxide and ozone at three subsurface intervals during a two-day pilot test. The MDE issued *Work Plan Approval* on November 18, 2010, approving the ISCO pilot test with some minor modifications. A copy of the *Work Plan Approval* is included in **Appendix A**. In November 2010, nested monitoring wells MW-18S and MW-18D, vapor extraction well VE-1 and injection wells IW-1S/D, IW-2S/D and IW-3S/D were installed onsite, and ISCO pilot testing was conducted. The findings of this testing are presented in Section 5.2.5. On December 1, 2010, Carroll informed the MDE of the results of the pilot testing via email, and included a proposed plan to redevelop the injection wells by introducing air. The MDE approved this plan via email. On December 8, 2010, injection wells IW-1S/D, IW-2S/D and IW-3S/D were re-developed. Slug testing was conducted on monitoring wells MW-18S and MW-18D on December 15, 2010.

The goal of this CAP is to implement remedial efforts to address groundwater impact in the area south of the former UST source area, within the shopping center property. The CAP is proposed to reduce contamination impact within the immediate source area and thus reducing contamination levels migrating in the downgradient direction. The approved CAP will continue to be evaluated as needed to further address groundwater impacts downgradient based on the observed success remediating the area currently demonstrating the highest MTBE concentrations. This CAP will propose the implementation of an ISCO remediation system using three injection wells. Additional testing, investigation and/or remedial efforts will be driven by the results of the proposed ISCO system. This CAP documents the following:

- Site history;
- Presentation of existing Site characterization data;
- Installation of injection wells IW-1S/D, IW-2S/D and IW-3S/D, nested monitoring wells MW-18S and MW-18D, and vapor extraction well VE-1;
- Results of the ISCO pilot test conducted in November 2010; and
- Presentation of potential remedial actions suitable to existing Site conditions.

2.0 FACILITY INFORMATION

2.1 Site and Surrounding Area Description

The Site is located in the northeastern section of a 5.2-acre parcel southwest of the intersection of Fingerboard Road and Lynn Burke Road in Monrovia, Frederick County, Maryland. The Site is currently an active BP Station attached to the end of an L-shaped shopping plaza, known as the Green Valley Plaza (GVP), and is located in a mixed commercial and residential area. The Site consists of landscaped areas, a paved parking lot, a convenience store, and a canopy housing five multi-product dispenser (MPD) islands. The current underground storage tank (UST) system is comprised of two 10,000-gallon gasoline USTs, one 10,000-gallon diesel UST and one 4,000-gallon diesel UST in a common tank field. The tanks are constructed of composite steel and were installed in August 2008. A **Site Map** illustrating the tank field and dispenser island locations is included as **Figure 1**.

A dry cleaning establishment (Green Valley Cleaners) conducting on-site dry-cleaning is located within GVP. Another commercial property, GVSC, is located adjacent to the Site to the east, which consists of one shopping plaza building and three ancillary buildings including an Allstate Insurance office, a 7-11 convenience store and an auto repair facility. GVP is bordered to the north by Fingerboard Road (Maryland Route 80) followed by residential properties, to the west by Greenridge Drive followed by residential properties, and to the south by Rosewood Road followed by residential properties.

2.1.1 Sensitive Receptors

The Site is located in a High Risk Groundwater Use Area (HRGUA) served by potable supply wells. GVP is served by five non-transient, non-community supply wells, and GVSC is served by three non-transient, non-community supply wells. All residences in the area are served by private potable supply wells. The locations of area potable wells in the study area are illustrated on **Figure 2, Local Area Map**.

The nearest surface water body is Fahrney Branch, located approximately 2,400 feet to the south. There is a child care facility known as Guardian Angel Child Care located in GVP. The only on-site basement is a room beneath GVP housing pump equipment for the drinking water supply wells.

2.1.2 Utilities

Although not all utilities have been field-verified, on-site below grade utilities include electric, storm sewer, and water lines running from potable wells to the GVP building. Overhead electrical and telephone lines are located along the north side of Fingerboard Road and extend onto the Site. The storm sewer lines are shown on the **Site Map** attached as **Figure 1.**

2.2 Chronology of Events

A history of the Site is included in ongoing Quarterly Monitoring Reports and is attached as **Appendix B**.

2.3 Topography, Geology and Hydrogeology

The following information has largely been excerpted from previous reports prepared for the Site by EA.

The Site is located approximately 660 feet above mean sea level (MSL) at the top of a ridge. The Site itself is relatively flat, but the surrounding land slopes toward the south, west and east away from GVP.

The Site is located in the Lowland Section of the Piedmont Plateau physiographic province. It is located in an area where the Urbana Formation, which is described as dark gray to green phyllite, metasiltstone, and quartzite, with thin lenses of impure marble and calcareous phyllite, the Sams Creek Metabasalt, which consisting of grayish-green, massive to schistose metabasalt, the Ijamville Formation, consisting of blue, green, or purple phyllite and phyllitic slate, with interbedded metasiltstone and metagraywacke, and the Marburg Schist, consisting of bluish-gray to silvery-green, fine-grained schist, meet (Maryland Geological Survey, 1968). Red to orange-brown weathered shale, micaceous saprolite or silt has been encountered at depths of approximately 1 to 6 feet below ground (fbg) across the Site during well and soil boring installation events and UST removal activities. Gray, brown and greenish micaceous phyllite consolidated bedrock has been encountered at depths ranging from 27 to 37 fbg during well installation events. Boring and well logs for all soil borings and monitoring, vapor extraction and injection wells are provided in **Appendix C.**

Groundwater has not been encountered in the unconsolidated sediments overlying the bedrock formation. Historically, groundwater at the Site is found at depths of approximately 50 fbg in bedrock. The primary pathway for groundwater through the bedrock is secondary permeability features (fractures, bedding plane partings, etc.). Structural analysis of bedrock features performed by EA suggests the mean orientation of bedrock fabric planes strikes approximately N31°E and dips steeply (58°) to the southeast

(EA, March 15, 2010). Additional details related to regional and local geology can be found in EA's *Hydrogeologic Investigation Update and Work Plan – June 5, 2009.*

2.4 Monitoring Well Data

Eighteen monitoring wells (MW-1, MW-2, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14S, MW-14D, MW-15D, MW-16, MW-17, and MW-18S/MW-18D), two soil vapor monitoring points (SV-1 and SV-2), one soil vapor extraction point (VE-1) and six injection wells (IW-1S/IW-1D, IW-2S/IW-2D and IW-3S/IW-3D) are located on the Site. Monitoring wells MW-18S and MW-18D are nested in one borehole, and each injection well pair is nested in a single borehole. One monitoring well (MW-3), one soil vapor monitoring point (SV-3), and two tank field monitoring wells (TF-1 and TF-2) on the Site have been abandoned. Boring and well construction logs for all monitoring wells, soil vapor monitoring points, soil vapor extraction wells and injection wells are included as **Appendix C**. The locations of these wells are shown on the **Site Map** attached as **Figure 1**. Well construction details for the wells are included in **Table 1 – Monitoring Well Construction Details Table**.

2.5 Potable Supply Wells

On March 28, 2006, MTBE was detected at a concentration of 14 µg/L in a sample collected from the blended influent of two of the on-site drinking water wells supplying GVP. On September 19, 2006, MTBE was detected in a blended influent sample from GVP's supply wells at a concentration of 42 µg/L, above the MDE's action level of 20 µg/L. The MDE required the initiation of quarterly sampling of the GVP and GVSC supply wells, and an initial round of sampling of area residential potable wells in a directive letter dated January 22, 2007. The private potable wells of 116 area residences were sampled in an initial round of sampling conducted between March and October 2007. Of these, 40 area potable wells were put on a regular sampling schedule. Currently, the potable wells of fourteen area residences are sampled on a quarterly basis and those of an additional eight area residences are sampled on a semiannual basis.

GAC POET systems have been installed on the blended influent of GVP's five potable wells and six area residences at which MTBE has been detected above the MDE action level. Quarterly sampling and system maintenance is currently conducted at the six residences with POET systems and the GVP POET system. Two of the GVP supply wells and the three GVSC supply wells are sampled on a quarterly basis. The remaining three GVP supply wells, which are located upgradient of the UST field, are sampled on an annual basis. This sampling schedule and the most recent sampling results were submitted to the MDE-OCP in *Fourth Quarter 2010 Monitoring Report, Monrovia BP/Former Green Valley Citgo – February 14, 2011.*

3.0 ANALYTICAL DATA

Analytical data have been collected for both subsurface soil and groundwater. The following sections summarize historical and current soil and groundwater quality.

3.1 Soil Sampling Results

A total of 44 soil samples have been collected for laboratory analysis in several phases during soil boring investigations, installations of soil vapor monitoring points, and UST system replacement activities. A **Historical Soil Analytical Data Summary** is included as **Table 2**. Soil samples were collected during the following activities:

- Ten soil samples were collected when ten soil borings (GP-1 through GP-10) were advanced on September 14-15, 2005 as part of the initial subsurface investigation.
- Six soil samples were collected when soil vapor monitoring points SV-1, SV-2 and SV-3 were installed around the tank field on May 31 – June 1, 2007 in preparation for SVE testing. Soil boring SB-1 was also advanced on June 1, 2007, and one soil sample was collected.
- Twenty-seven (27) soil samples were collected between July 16 and July 28, 2008 when USTs, dispensers and product lines were removed from the Site.

Soil samples collected during soil boring activities and soil vapor monitoring point installation were screened in the field using a photoionization detector (PID) to detect volatile organic compounds (VOCs). During the 2005 soil boring event, the soil sample from the interval with the highest PID response at each boring was submitted for laboratory analysis. PID readings during the 2005 soil boring event ranged from 0.0 parts per million (ppm) to 1,428 ppm (GP-3, 8-11 fbg). During the 2007 vapor monitoring point installation and soil boring event, one sample was submitted from soil vapor monitoring point SV-1, three samples were submitted from soil vapor monitoring point SV-2, two samples were submitted from soil vapor monitoring point SV-3, and one sample was submitted from soil boring SB-1. PID responses ranged from 0.0 ppm to 55.0 ppm (SV-3, 15-17 fbg).

During UST system removal in 2008, one soil sample was collected from beneath each dispenser island at a depth of approximately 4 fbg, one sample was collected from beneath piping runs at a depth of approximately 4 fbg at 20-foot intervals, and soil samples were collected from beneath the USTs and the sidewalls of the UST excavation. Elevated PID responses in the field indicated petroleum impact beneath the product piping between the dispensers. Soil in this area was overexcavated to a depth at which elevated PID readings were no longer observed. Confirmation soil samples were collected at the deepest extent of the excavation in this area (EA, August 22, 2008).

None of the soil samples collected at the Site during the three subsurface events noted above contained any concentrations of compounds of concern (COCs) that exceeded the MDE's Generic Numeric Non-Residential Cleanup Standard for Soil (June 2008). Benzene, toluene, and ethylbenzene were not detected in any of the soil samples collected. The highest concentration of total xylenes detected in soil at the Site was 4 micrograms per kilogram (µg/kg) in the sample collected from soil boring GP-8 at a depth of 14 to 16 fbg on September 15, 2005. The highest concentration of MTBE and tert-butyl alcohol (TBA) detected in soil at the Site were 160 µg/kg and 4,800 µg/kg, respectively, in the sample collected from soil vapor point SV-3 at a depth of 10 to 12 fbg on June 1, 2007. The highest concentration of total petroleum hydrocarbons – diesel range organics (TPH-DRO) detected in soil at the Site was 110 milligrams per kilogram (mg/kg) in the sample collected from soil boring GP-1 at a depth of 11 to 14 fbg on September 14, 2005. The highest concentration of TPH – gasoline range organics (GRO) detected in soil at the Site was 0.7 mg/kg in the sample collected from the location PIPE-2 during UST removal activities on July 16, 2008. These results suggest there is no existing source for groundwater impacts in the soil horizons sampled.

3.2 Groundwater Sampling Results

Groundwater samples have been collected from monitoring wells MW-1 through MW-4 since February 2006, and on a regular quarterly basis since August 2008. Monitoring well MW-3 was abandoned in May 2008 prior to UST system removal. Additional monitoring wells have been added to the quarterly sampling schedule as they have been installed. In conjunction with the groundwater sampling events, groundwater elevation data for all wells has been collected on a quarterly basis. Groundwater samples have historically been analyzed for VOCs plus fuel oxygenates via Environmental Protection Agency (EPA) Method 8260, and for TPH-GRO and TPH-DRO via EPA Method 8015B.

On October 13, 2010, GES submitted *Proposed Groundwater and Potable Well Sampling Program* to the MDE, proposing low-flow sampling methods and the collection of field measurements to replace the current purge-and-sample method for groundwater sampling. Field method water quality indicator parameters to be recorded during sampling to demonstrate appropriate geochemical stabilization criteria include pH, specific conductance (SpC), temperature, oxidation-reduction potential (ORP) and dissolved oxygen (DO). The MDE approved this change to the sampling program in correspondence dated November 18, 2010, attached in **Appendix A**. The latest groundwater sampling event was conducted on November 23, December 8, and December 15, 2010. Historic groundwater analytical and gauging data can be found in **Table 3 – Groundwater Analytical Data Summary,** and field parameters recorded during low-flow sampling can be found in **Table 4 – Low Flow Sampling Field Parameter Summary**. Groundwater contours were generated from gauging data collected on December 8, 2010 and are presented on **Figure 3 – Groundwater Contour Map**. Analytical data from the November 23, 2010 and December 8, 2010 groundwater sampling is presented on **Figure 4 – Groundwater Analytical Map**.

Elevated concentrations of dissolved MTBE and TPH-GRO have historically been the primary COCs at the Site. The highest concentrations of dissolved MTBE have been observed in monitoring wells MW-3 (prior to its abandonment), MW-7, MW-10, MW-13, MW-14D, MW-15D, and MW-17 with the highest historic concentration of 86,000 µg/L observed in monitoring well MW-7 on June 12, 2008. During the most recent groundwater sampling event in the fourth quarter of 2010, the highest concentration of dissolved MTBE was observed in injection well IW-2D at a concentration of 38,900 µg/L on December 15, 2010. The highest concentrations of TPH-GRO have been observed in monitoring wells MW-3 (prior to its abandonment), MW-7, MW-13, MW-17, MW-18S and MW-18D with the highest historic concentration of 130,000 µg/L observed in monitoring well MW-7 on June 12, 2008. During the most recent groundwater sampling event in the fourth quarter of 2010, the highest concentration of TPH-GRO was observed in monitoring well MW-7 at a concentration of 1,190 µg/L on November 23, 2010. Elevated concentrations of dissolved benzene, toluene, ethylbenzene and xylenes (BTEX) have not been historically observed in many Site monitoring wells. During the fourth quarter 2010 groundwater sampling event, dissolved BTEX was not detected in any Site monitoring wells. The highest historic dissolved benzene concentrations at the site had been observed in monitoring well MW-3, prior to its abandonment, at 77 µg/L.

3.3 Potable Supply Well Sampling Results

The highest MTBE concentration observed at GVP was 970 µg/L in well FR-94-1233 on January 23, 2008. During the most recent sampling of the GVP wells during the fourth quarter 2010, the highest MTBE concentration observed was 2.96 µg/L in the blended influent of all five wells to the POET system. The highest MTBE concentration observed in an individual GVP potable well during the fourth quarter 2010 was 1.52 µg/L in well FR-94-1281. The highest historic MTBE concentration in an area

residential potable well was observed in the well at 3997 Farm Road, at a concentration of 3,680 µg/L on April 8, 2009. The highest MTBE concentration observed during the fourth quarter 2010 in a residential potable well was 2,640 µg/L in the well at 3990 Farm Road on December 8, 2010. Dissolved MTBE has not historically been detected in any of the GVSC supply wells above the MDE's action level. Analytical results of the POET system sampling, GVSC supply well sampling, and residential sampling can be found in **Table 5 – Green Valley Plaza Supply Well and POET System Analytical Data Summary**, **Table 6 – Green Valley Shopping Center Supply Well Analytical Data Summary,** and **Table 7 – Residential Potable Well Analytical Data Summary.**

4.0 HISTORIC REMEDIAL ACTIVITIES

In July 2008, the UST system, including USTs, dispenser islands and product lines, was removed. Soil samples were collected beneath the dispenser islands, beneath product piping, and at the bottom and sides of the UST excavation. Elevated PID readings were observed in soil beneath piping between the dispensers under the canopy. Impacted soil in this area was over-excavated to an approximate depth of 8 fbg, until elevated PID responses were no longer observed. Approximately 1,100 tons of soil, approximately 523.5 tons of which were identified as petroleum-impacted, were excavated and removed from the Site for off-site treatment.

5.0 CORRECTIVE ACTION

The media of concern at the site is groundwater within the bedrock aquifer. MTBE is the primary COC and is present in groundwater from the area south of the UST field extending beneath the shopping center building toward the residential area across Rosewood Road. The potable groundwater in this residential area is a sensitive receptor and the driver for site remediation. Activated carbon POET systems have been installed at six residences as noted previously. The historic sampling data indicates the POET systems are functioning properly and are able to provide water that meets MDE standards to the properties served.

5.1 Remedial Technology Screening

Various dissolved-phase remediation technologies were screened to determine the most appropriate method to remediate the dissolved-phase hydrocarbon compounds that are present in the subsurface. Remedial technologies selected for consideration were based on the results of the site characterization activities completed to date. The potential remedial technologies and site-specific factors associated with each are discussed below.

In order to identify the appropriate remedial technologies to test, the following Site characteristics were considered:

- Site soil boring information and monitoring well logs indicate that groundwater is present within competent, fractured bedrock.
- Light non-aqueous phase liquids (LNAPL) are not present at this Site.
- Soil is not a media of concern.
- The depth to water at the Site typically ranges from 35 to 65 fbg.

- Dissolved MTBE concentrations have historically been highest in monitoring wells MW-7, MW-10, MW-13, MW-14D, MW-15D, and MW-17.
- Sensitive receptors (i.e., potable wells) are present south of the Site, and MTBE has been detected above the MDE action level of 20 µg/L in six of these potable wells.

5.1.1 Monitored Natural Attenuation

Natural attenuation relies upon natural subsurface processes to reduce contaminant concentrations to acceptable levels. Monitored natural attenuation (MNA) could be considered a viable remedial alternative due to the installation of properly functioning POET systems on all impacted drinking water receptors and the reduction of impacts to the commercial water supply wells noted over time. However, it is not desirable to only utilize MNA due to the extended time period for MNA to be effective. Natural attenuation will be considered following contaminant concentration reduction by an aggressive, active remediation technology as proposed later within this document.

5.1.2 Total Phase Extraction

Total Phase Extraction (TPE) utilizes a high vacuum blower to extract groundwater and soil vapor simultaneously through the same extraction pipe. High vacuum blowers are capable of high vacuum levels [approaching 30 inches of mercury (in. Hg)] and are most effective in lower-yield formations. However, TPE systems are generally limited to sites where the depth to water is no greater than 30 feet. Since impacted groundwater is present below depths of 30 feet, TPE is not considered a viable technology. Furthermore, concerns over water quantity availability to the GVP, GVSC and downgradient private water supply wells limit the reasonable use of TPE.

5.1.3 Dual Phase Extraction/Vacuum-Enhanced Groundwater Extraction

Dual Phase Extraction (DPE)/Vacuum-Enhanced Groundwater Extraction (VEGE) combines both SVE and fluids extraction remedial technologies. It is similar to TPE except that groundwater and vapors are conveyed from the recovery well to the treatment equipment in separate pipes. DPE/VEGE systems can recover higher flow rates of vapors and groundwater than can TPE systems and are not limited by the depth to water. The application of a vacuum to an extraction well creates pressure gradients that enhance total fluid recovery and also serves to remediate impacts in unsaturated and previously-saturated (i.e., prior to fluids recovery) zones. Conventional DPE/VEGE extraction systems typically use pneumatic or electric submersible pumps to extract fluids from the well and a surface blower to extract soil vapors. Soil vapors and fluids are recovered independently, and a range of vacuums can be applied, depending on the formation, to optimize fluid and vapor recovery. DPE/VEGE is considered a potentially viable technology. However, the low affinity for MTBE to adsorb to soils may render DPE/VEGE non-optional. Furthermore, concerns over water quantity availability to the GVP, GVSC and downgradient private supply water wells limit the reasonable use of DPE/VEGE.

5.1.4 Air Sparge/Soil Vapor Extraction

Air Sparge/Soil Vapor Extraction (AS/SVE) involves the delivery of compressed air into wells that are screened below the water table. Air bubbles travel upward and outward in the aquifer, resulting in the mass transfer of adsorbed and dissolved VOCs into the vapor stream. Typically, the volatilized compounds are removed from the vadose zone by an SVE system. Air sparging also enhances aerobic

biodegradation due to increased dissolved oxygen levels that are typically observed during air sparging. Air sparging is most effective at sites with volatile contaminants and a permeable aquifer matrix. An AS/SVE system is considered a viable remedial alternative to remediate the groundwater and soil at this Site. However, consideration must be given to the preferential air flow pathways characteristic of fractured bedrock aquifer systems.

5.1.5 In-Situ Chemical Oxidation via Ozone and Hydrogen Peroxide

ISCO via Ozone and Hydrogen Peroxide Injection uses an injection pump to sparge ozone and dispense a known volume and concentration of hydrogen peroxide into the subsurface through injection points. During the process, direct oxidation of COCs occurs via generation and distribution of ozone and hydroxyl radicals (-OH), which are powerful oxidizers. The oxidation process breaks down petroleum hydrocarbons. Low pressure air injection can be utilized in conjunction with hydrogen peroxide and ozone injection to aid in dispersing the chemicals and provide additional oxygen for enhanced biodegradation of hydrocarbons. This technology would require the installation of dedicated, specialized injection wells. ISCO can be applied at lower permeability sites, but may require additional injection points due to a smaller effective radius-of-influence (ROI). Hydrogen peroxide and ozone addition is viable at sites with moderate hydrocarbon impact in the groundwater such as present at this site. Therefore, ISCO is deemed a potentially appropriate remediation technology.

5.2 Feasibility Testing Activities and Results

To date, six feasibility tests have been conducted at the Site to assess the appropriateness of various remediation technologies. An SVE feasibility test was conducted in June 2007 by EA, a second SVE feasibility test was conducted in January 2009 by EA, a groundwater extraction feasibility test was conducted by EA in October 2009, a groundwater infiltration (percolation) test was conducted by EA in December 2009, and an ISCO pilot test was conducted in November and December 2010 by GES. The test procedures and results are presented below.

5.2.1 Soil Vapor Extraction Feasibility Test (June 2007)

An SVE test was conducted on June 21 and 22, 2007 to evaluate vapor recovery around the UST field. The procedures and results are summarized herein and were reported in detail in the *Quarterly Sampling Report* (EA, October 15, 2007). Three 2-inch diameter soil vapor monitoring points (SV-1, SV-2, and SV-3) were installed via hollow-stem auger prior to the test as monitoring and extraction points for the SVE testing. The soil vapor monitoring points were installed to the top of bedrock (30 to 35 fbg) and screened from 11 fbg to bottom.

SVE feasibility testing was conducted on June 21, 2007 using tank field well TF-1 as the extraction point. Vacuum was applied at seven intervals at tank field well TF-1, ranging from 0.12 to 13 inches of water (i.w.), during the approximately 5.5-hour test. Recovered vapor flow rates ranged from approximately 4 to 164 standard cubic feet per minute (scfm) and increased with applied vacuum. Extracted vapors were field-screened with a PID during the test. PID readings decreased during the test from 1,100 ppm during the first step (lowest applied vacuum) to 204 ppm during the last step (highest applied vacuum). The greatest mass recovery occurred during the fourth vacuum step (4 i.w. and 87 scfm) and was reported as 20.9 pounds per day (lbs/day).

Vacuum response of greater than 0.1 i.w. was observed at all six observation points (MW-1, MW-3, SV-1, SV-2, SV-3, and TF-2). Using 0.1 i.w. as the minimum vacuum response for influence, the vacuum radius-of-influence (ROI) extends at least 82 feet (0.12 i.w., observed at monitoring well MW-1). Observed groundwater mounding at the observation wells was negligible.

On June 22, 2007, additional SVE tests were conducted at monitoring well MW-3 and soil vapor point SV-3 in a similar manner. Vacuum was applied at five intervals at monitoring well MW-1, ranging from 4 to 36 i.w., during the approximately 3.5-hour test. PID readings remained relatively consistent (slightly increasing) during the test (552 to 656 ppm). Extracted vapor flow rates ranged from approximately 0.2 to 3 scfm and increased with applied vacuum. The greatest mass recovery occurred during the final vacuum step (36 i.w. and 3 scfm) and was reported as 0.6 lbs/day.

Vacuum response of greater than 0.1 i.w. was observed at all six observation points (MW-1, SV-1, SV-2, SV-3, TF-1, and TF-2). The vacuum ROI extends at least 96 feet (0.12 i.w., observed at monitoring well MW-1). Groundwater mounding was observed at monitoring well MW-1 (0.1 foot); all other observation points were dry.

Five vacuum intervals were then applied at soil vapor point SV-3, ranging from 4 to 30 i.w. during an approximately 2.5-hour test. PID readings were consistent and slightly decreased during the test from 535 to 415 ppm. Extracted vapor flow rates ranged from approximately 1 to 15 scfm and increased with applied vacuum. The greatest mass recovery occurred during the final vacuum step (30 i.w. and 15 scfm) and was reported as approximately 2 lbs/day.

Vacuum response of greater than 0.1 i.w. was observed at all six observation points (MW-1, MW-3, SV-1, SV-2, TF-1, and TF-2). The vacuum ROI extends at least 55 feet (0.26 i.w., observed at monitoring well MW-1). Groundwater mounding was observed at monitoring well MW-1 (0.2 feet) and monitoring well MW-3 (0.67 foot). The mounding observed during this test includes residual effects from the SVE test at monitoring well MW-3.

Estimated mass recoveries during SVE testing are based on field PID readings as calculated by EA. Laboratory analytical was collected but equipment issues occurred at the laboratory, invalidating the analytical data.

5.2.2 Soil Vapor Extraction Feasibility Test (January 2009)

In July 2008, the existing UST system was removed, and approximately 523.5 tons of impacted soil were removed for off-site disposal. During installation of new USTs (in the same location as the removed USTs), subgrade piping was installed to allow vapor extraction from six tank field wells (TF-3 through TF-8) from a central location. A second SVE test at two locations was conducted on January 16, 2009 to evaluate vapor recovery around the UST field subsequent to the UST removal and replacement. The purpose was to evaluate the efficacy of the soil removal action by comparing these results to the June 2007 SVE feasibility test results. Vacuum steps were selected based on the June 2007 results. The procedures and results are summarized herein and were reported in detail in the *Soil Vapor Extraction Pilot Testing Results* report (EA, February 27, 2009).

A vacuum of 10 i.w. was applied to tank field wells TF-5 and TF-7 simultaneously, yielding a recovered vapor flow rate of approximately 87 scfm and a PID reading of 26 ppm. Using laboratory analytical data, a mass recovery rate of approximately 0.2 lbs/day was reported. This value is 10% of that observed

during the 2007 SVE feasibility test, suggesting the soil removal activities completed during UST replacement was effective at removal of VOC mass in the soil horizon. No vacuum response was observed at the six observation points (SV-1, SV-2, TF-3, TF-4, TF-6, and TF-8).

A vacuum of 36 i.w., was then applied to tank soil vapor point SV-1 for the second SVE test. This test resulted in an extracted vapor flow rate of approximately 52 scfm and a PID reading of 24 ppm. Using laboratory analytical data, a mass recovery rate of approximately 0.4 lbs/day was reported. No vacuum response was observed at the six observation points (SV-2, TF-3, TF-4, TF-5, TF-6, and TF-8).

5.2.3 Groundwater Extraction Feasibility Test (October 2009)

EA conducted a series of tests to determine bedrock aquifer properties and the feasibility of groundwater extraction as a remedy for dissolved-phase impacts at the Site. The procedures and results were detailed in the *Update Report and Work Plan* (EA, March 15, 2010). The feasibility test included deployment of liquid level transducers on October 5, 2009 to establish background conditions and for test monitoring; a step-drawdown test at monitoring well MW-15D on October 8, 2009; a 72-hour aquifer pump test at monitoring well MW-15D from October 12 through 15, 2009; a groundwater recovery test from October 15 through 19, 2009; and four short-term groundwater extraction tests at monitoring wells MW-10, MW-13, MW-16, and MW-17 from October 19 through 22, 2009.

Pressure transducers were deployed at monitoring wells MW-7, MW-8, MW-10, MW-13, MW-14D, and MW-15D on October 5, 2009 to establish baseline liquid level data. Background data was logged for approximately 71 hours. The results indicated that the groundwater level typically fluctuated by approximately 6 inches during that time (except MW-8 which fluctuated by 12 inches). EA reported that groundwater level fluctuations were not a result of barometric pressure and the cause was not identified.

For the step-drawdown test on October 8, 2009, an electric submersible pump was deployed in monitoring well MW-15D with the intake set at approximately 123 fbg. Six steps were conducted by increasing the extracted flow rate from 1 to 6 gallons per minute (gpm) in 1-gpm increments. The steps were conducted for approximately 60 to 150 minutes each. A total of approximately 2,560 gallons of groundwater were recovered during the test. Based on drawdown results and specific capacity calculations, a sustainable flow rate of 4 gpm was estimated.

For the 72-hour pump test, two potable wells (FR-94-1233 and FR-94-1281) were added to the observation well network. The 72-hour aquifer pumping test at monitoring well MW-15D was initiated at a flow rate of 4 gpm. After approximately 30 hours of pumping, the flow rate was reduced and fluctuated between 3 and 4 gpm because liquid levels were continuing to decrease in the extraction well (sustained between 14 and 30 feet of drawdown). Approximately 14,429 gallons of groundwater were recovered during the test at an average groundwater extraction rate of approximately 3.4 gpm.

Drawdown in observation wells ranged from 0.1 foot (observation well MW-16) to 30.1 feet (extraction well MW-15D). Based on the results of the 72-hour test, a preferential flow direction trending from the northeast to the southwest was observed. The results are reportedly consistent with an unconfined fractured bedrock aquifer with delayed yield. Vertical gradients were not evaluated as the extraction and monitoring wells are screened across varying and multiple water-bearing zones.

EA estimated the transmissivity to range between 0.198 square feet per day (ft^2/day) (MW-7) to 28.4 ft^2/day (MW-14D). The storativity calculated by EA ranged from 0.00234 to 0.221, suggesting aquifer conditions are unconfined to semi-confined.

Groundwater recovery testing was initiated on October 15, 2009. By October 19, 2009, the majority of the wells had recovered by at least 90% of the original head condition.

Short-term groundwater extraction tests were conducted at monitoring wells MW-10, MW-13, MW-16, and MW-17 from October 19 through 22, 2009. One well was tested per day for durations of approximately 4 to 8 hours of active groundwater extraction. An electric groundwater extraction pump was deployed at each well near the terminal depth of the well (pump intake depths ranged from 68 to 113 fbg). Recovered groundwater flow rates ranged from approximately 2.2 to 15.5 gpm. The two extraction wells with the intake less than 100 fbg (MW-10 and MW-13) yielded less than 3 gpm. The two extraction wells with the pump intake at a depth greater than 100 feet bgs (MW-16 and MW-17) yielded flow rates of greater than 7 gpm.

Due to transducer malfunction, observation well liquid level data was not available for analysis for the short-term groundwater extraction tests at monitoring wells MW-10 and MW-17. EA estimated the transmissivity at monitoring well MW-13 as 0.33 ft^2/day and the transmissivity at monitoring well MW-16 at 129 ft^2/day. EA reported that the higher transmissivity at monitoring well MW-16 was consistent with the higher yield during drilling and well development.

Drawdown observed at surrounding observation wells during groundwater extraction at monitoring well MW-10 was generally consistent and radial. Results at monitoring well MW-13 indicated a north-south trend, and a northeast-southwest trend was observed at monitoring well MW-16.

Influent (untreated) groundwater samples were collected at various times during the 72-hour aquifer test and the short-term groundwater extraction tests. Generally, the MTBE concentrations present were consistent over the duration of the test at each location.

5.2.4 Groundwater Infiltration (Percolation) Test (December 2009)

On December 29, 2009, EA completed a groundwater infiltration investigation (percolation [perc] test) to evaluate the viability of groundwater reinjection associated with implementing a groundwater extraction and treatment remedy. The perc test basis was 28,800 gallons per day (gpd) at a maximum injection rate of 20 gpm. A one-foot deep test pit was installed. The soils in the test pit reportedly consisted of well-drained soils of weathered phyllite bedrock origin with an expected moderate permeability (Glenelg series).

A falling head test was used to estimate percolation properties of the subsurface. Tests were conducted in an eight foot long by two foot wide by one foot deep trench with approximately one foot of water. The trench was then allowed to drain while water level and time were recorded. The test was repeated three additional times (4 total perc tests). The percolation rates reportedly ranged from 45 feet per day (ft/day) to 96 ft/day. The resulting average percolation rate was approximately 57 ft/day, or 0.3 gpm per square foot (gpm/ft^2). If a groundwater extraction system were installed, with extraction wells capable of extracting up to 3.5 gpm, the installation of an infiltration gallery of at least 12 ft^2 per extraction well would be required.

5.2.5 In-Situ Chemical Oxidation Feasibility Test (November – December 2010)

In November 2010, GES initiated activities for an ISCO feasibility test in accordance with the *Pilot Scale Study Work Plan* (September 9, 2010) and the MDE's additional requirements detailed in the *Work Plan Approval* (November 18, 2010). The purpose of the ISCO feasibility test was to evaluate the viability of gas and liquid oxidant (ozone and hydrogen peroxide) injection and obtain design parameters for a full-scale ISCO remediation program. ISCO has been demonstrated as an effective in-situ remedy for petroleum hydrocarbons, including MTBE. Additionally, ISCO has been successful applied in fractured bedrock applications where oxidants can be injected into fractures or secondary porosity features and distributed throughout the area of impact.

Well Installation

Prior to testing, three pairs of nested injection wells (IW-1 through IW-3) and one SVE well (VE-1) were installed between November 16 and 18, 2010 (**Figure 1, Site Map**). The injection wells are GES-patented Max-Ox points that use a shallower liquid oxidant/ambient air injection point and a deeper ozone injection point. The injection well pairs were installed in increasing depths with IW-1 screened at approximately 63 to 67 fbg and 69 to 73 fbg, IW-2 screened at approximately 93 to 97 fbg and 99 to 103 fbg, and IW-3 screened at approximately 123 to 127 fbg and 129 to 133 fbg. SVE well VE-1 was installed to a depth of approximately 28 fbg and screened from 8 to 28 fbg. The purpose of the SVE well was to provide a monitoring and/or recovery point for vapor phase emissions that may occur during in-situ oxidation.

Additionally, a nested monitoring well pair, MW-18S and MW-18D, was installed south of the injection wells to be used for observation during the feasibility test. Monitoring wells MW-18S and MW-18D were installed between November 17 and 18, 2010. Monitoring well MW-18S was installed to a depth of 70 fbg, screened at approximately 45 to 70 fbg. Monitoring well MW-18D was installed to a depth of 130 fbg, screened at approximately 120 to 130 fbg. Boring and well construction details are provided in **Appendix C – Boring Logs**. The **State of Maryland Well Completion Reports** are included as **Appendix D**.

Soil and rock drill cuttings from injection, SVE and monitoring well construction were containerized on-site in 55-gallon drums, and were later removed from the Site for proper off-site disposal by Clean Earth of Maryland, of Hagerstown, Maryland. The newly installed wells were developed on November 19, 2010 by a Maryland-licensed driller. Purge water from well development was containerized on-site in 55-gallon drums, and was later removed from the Site for proper off-site disposal by Triumvirate of Baltimore, Maryland. Copies of the **Non-Hazardous Waste Manifests** for soil and groundwater are included in **Appendix E**.

Baseline Sampling

Baseline groundwater quality field and laboratory samples were collected on November 23, 2010 from selected monitoring locations (MW-7, MW-8, MW-10, MW-13, MW-14S, MW-14D, MW-15D, MW-16, MW-17, and MW-18S, and MW-18D) as outlined in the *Pilot Scale Study Work Plan* and the MDE's *Work Plan Approval*. Groundwater quality and field chemistry samples were collected prior to the feasibility test to establish baseline conditions in the injection wells and nearby monitoring wells. Groundwater quality data are summarized on **Table 3**, and field chemistry data are summarized on **Table 4**.

Baseline field chemistry data collected on November 23, 2010 indicated changes in conditions with depth. Groundwater pH in the 63 to 97 fbg interval ranged from approximately 4.5 to 6 standard units (SU); pH at the 125-fbg sample depth was approximately 7.2 SU; and the pH at the 212-fbg interval was approximately 11.4 SU.

Oxidation-reduction potential (ORP) measures groundwater conditions with negative values representing reducing conditions (typically present at petroleum hydrocarbon-impacted sites) and positive values indicating oxidative conditions are present. The ORP during baseline sampling was positive (oxidative) in all cases and typically ranged from 200 to 400 millivolts (mV). The lowest ORP was measured at monitoring well MW-14D (the deepest sample interval at 212 fbg) in the 100 mV range.

Dissolved oxygen (DO) is another indicator of oxidizing or reducing conditions. Generally, DO concentrations greater than 5 milligrams per liter (mg/L) indicate oxidizing conditions, concentrations less than 2 mg/L indicate reducing conditions, and concentrations between 2 and 5 mg/L may represent limited oxidizing conditions are present. The DO measured on November 23, 2010 depicts overall oxidizing conditions with repressed DO concentrations present at the monitoring wells with greater MTBE concentrations (e.g., MW-15D and MW-17). Monitoring well MW-18D did not adhere to this trend with a DO concentration greater than 5 mg/L and an MTBE concentration of 18,500 µg/L.

Baseline groundwater quality samples collected on November 23, 2010 were generally consistent with historical concentrations ranges detected at the site for the primary COC (MTBE) as well as total petroleum hydrocarbons as gasoline range organics (TPH-GRO). However, at seven locations (MW-10, MW-13, MW-14S, MW-14D, MW-15D, MW-16, and MW-17) the sampling depth may have varied from previous sampling events. Additionally, four monitoring wells (MW-14D, MW-15D, MW-16, and MW-17) were modified from open boreholes to PVC wells between previous sampling events and the November 2010 event which may also affect concentration trends.

Additionally, several non-hydrocarbon petroleum constituents were analyzed at this time. Chemical oxygen demand (COD), total organic carbon (TOC), total dissolved solids (TDS), total suspended solids (TSS), sulfate, total iron, and dissolved iron were sampled and analyzed, and are summarized in **Table 8 – ISCO Groundwater Monitoring Well Data Summary**. These parameters are relevant to ISCO as they provide data on oxidant demand (COD and TOC), are secondary analytes that may be affected by ISCO (TDS, TSS, sulfate, and chromium), or are used in the oxidation process (total and dissolved iron). The baseline data indicated little total organic carbon is present (as anticipated in an MTBE-impacted bedrock scenario), that chromium is present, and that limited iron is present to activate hydrogen peroxide to generate hydroxyl radicals.

ISCO Feasibility Testing

Feasibility testing was planned for two days (November 30 and December 1, 2010). The scope of work included short-duration air sparging, hydrogen peroxide injection, and ozone injection at the three pairs of nested injection wells (IW-1S/D, IW-2S/D, and IW-3S/D). Prior to injection, baseline field chemistry data was collected from the observation well network and is included as **Table 9 – Chemical Oxidation Geochemical Data Summary**. The baseline readings were collected via deploying the meter sonde in the monitoring well or by using a grab sample in a container instead of a flow-through cell, as was used during the November 23, 2010 baseline data collection. The data collected on November 30, 2010 indicates reducing conditions with negative ORP values at all measured locations, and DO concentrations of less than 1 mg/L (except MW-18S and MW-18D where DO was greater than 5 mg/L). Therefore,

conclusions cannot be drawn between the field chemistry collected during the baseline event and immediately prior to the feasibility test.

Testing was initiated at injection well IW-2S and IW-2D with vapor extraction at vapor extraction well VE-1. Prior to injecting liquid oxidants (i.e., hydrogen peroxide solution) or ozone, a short-duration air sparge test was conducted at each point to confirm that the injection points would accept gas injection. Although acceptance of gas injection is not a guarantee that liquids will be accepted, failure to accept gas injection is indicative that liquids are highly unlikely to be accepted into the formation. Neither injection wells IW-2S nor IW-2D accepted air injection. Therefore, the test scope was modified and testing was moved immediately to the injection wells IW-3S and IW-3D. The same conditions were encountered at this injection well pair, so testing was moved to the remaining injection wells (IW-1S and IW-1D).

Short-duration air sparge testing yielded the same results at injection well IW-1D as the other locations, but injection well IW-1S did accept air flow. A small batch (24 gallons) of 17.5% hydrogen peroxide was prepared for injection into injection well IW-1S. An initial hydrogen peroxide solution injection rate of 1 gpm was achieved. However, as back pressure increased at injection well IW-1S, the flow rate decreased. When the back pressure reached 50 pounds per square inch (psi), exceeding the injection pump capability, the injection flow rate decreased to a no-flow condition. Pressure was allowed to dissipate, and injection was subsequently reinitiated. After injecting a total of approximately 20 gallons of 17.5% hydrogen peroxide solution, the back pressure again increased to 50 psi. Air sparge was attempted to disperse the hydrogen peroxide solution into the aquifer but was unsuccessful. Therefore, injection was terminated and post-injection field chemistry data were collected. The hydrogen peroxide injection is summarized in **Table 10 – Chemical Oxidation Event Summary**.

Field chemistry data collected after the limited injection was consistent with the data collected earlier in the day prior to injection. These results are expected due to the limited oxidant injection that occurred. The field chemistry data do not enable determination of a radius-of-influence (ROI) of the injection. However, pressure influence was observed during the short-duration air sparge test at injection well IW-1S. Pressure influence of 0.25 i.w. was measured at monitoring well MW-15D, and a pressure influence of 0.68 i.w. was measured at monitoring well MW-18D. The pressure influence observed at these monitoring wells suggests that a subsurface connection exists between injection well IW-1S and monitoring wells MW-15D and MW-18D, which are located approximately 25 and 50 feet, respectively, from the injection well.

Vapor extraction was conducted throughout testing at vapor extraction well VE-1. The data are summarized in **Table 11 – Chemical Oxidation SVE Data**. An extraction vapor flow rate of approximately 20 scfm at an applied vacuum of 72 i.w. was maintained during testing. Initial PID readings indicated a total VOC vapor concentration of 39.8 ppm which decreased during the test to 7.0 ppm. This confirms that limited adsorbed vapor-phase hydrocarbons are present, but due to the limited oxidant injection, the potential for fugitive emissions during injection cannot be evaluated.

Post-Feasibility Test Groundwater Sampling

Per the work plan, field chemistry and groundwater quality samples were collected from select monitoring wells after completion of the feasibility testing. The results of the December 8, 2010 groundwater sampling event are presented in **Table 3** (groundwater quality) and **Table 4** (field chemistry data).

The field chemistry data collected on December 8, 2010 from monitoring wells MW-9, MW-11, MW-12, and MW-18D were generally consistent with the data collected on November 23, 2010. Monitoring well MW-18D is the only well from which field chemistry data were collected during both events.

Select monitoring wells and the injection wells (except IW-3D, which was dry) were sampled on December 8, 2010. The results are within historical ranges for key COCs. The MTBE concentrations in the injection wells ranged from 1,820 µg/L at injection well IW-2S to 38,900 µg/L at injection well IW-2D. There are no distinguishable trends for MTBE concentrations in the injection wells either based on location or screen internal depth. The TBA concentrations are of note because, unlike the monitoring well network, the TBA concentration is greater than the MTBE concentration at each sampled injection point (approximately by a factor of two).

Additionally, post-injection samples were collected from monitoring wells MW-18S and MW-18D for COD, TOC, TDS, TSS, chromium, sulfate, total iron, and dissolved iron (**Table 8**). Changes in several parameters are noted between the November 23 and December 8, 2010 sampling events. COD, TOC, sulfate, and dissolved iron were relatively consistent between the sampling events. A significant increase in TDS with a decrease in TSS was noted at monitoring well MW-18S. Both TDS and TSS decreased at monitoring well MW-18D. The chromium and total iron concentrations also decreased at both locations.

Well Redevelopment

Since oxidants were not able to be injected as anticipated, inadequate well development was identified as a possible impediment to oxidant delivery. The injection wells had been developed via air lifting by the driller, but the development fluids were still visibly silty after development was complete. Therefore, additional development was conducted on December 8, 2010 by GES. An air lifting process was again used with vacuum application added to enhance development and fluids recovery. Each well was developed until extracted fluids were visibly clear of sediments. All six injection wells were redeveloped by this method. Approximately 18 gallons of fluids were extracted from the injection wells during the redevelopment process. Recharge observed in injection wells IW-2S/IW-1D and IW-2S/IW-2D following this redevelopment was limited and at a very slow rate.

5.2.6 Air Sparge Feasibility Test (December 2010)

Immediately following redevelopment of the injection wells on December 8, 2010, GES conducted a short air sparge (AS) test by introducing air into the injection wells and monitoring wells MW-18S and MW-18D. Injection wells IW-1S, IW-1D, and IW-2S accepted air flow during and after injection (IW-1S – 7 scfm at 40 psi; IW-1D – 10 scfm at 40 psi; and IW-2S – 4 scfm at 50 psi). Injection wells IW-2D, IW-3S, and IW-3D did not accept air flow at a pressure of 60 psi. During air injection at injection wells IW-1S and IW-1D, pressure influences of 1 i.w. and 0.95 i.w., respectively, were observed at monitoring well MW-15D. No pressure influence was observed at monitoring well MW-15D during the air injection at injection well IW-2S. Additionally, monitoring wells MW-18S and MW-18D were injected with air, accepting 2 scfm and 2.5 scfm, respectively, at a pressure of 10 psi. Pressure influences of 0.12 i.w. were observed at monitoring well MW-15D during air injection at both monitoring wells MW-18S and MW-18D.

5.3 Conclusions and Recommendations

Six feasibility tests have been conducted to date – two SVE tests, a groundwater extraction test, a perc test, an ISCO test, and an AS test. The SVE tests indicate that soil was effectively remediated during UST excavation activities. Very limited adsorbed-phase mass appears to remain at the site. The groundwater extraction testing demonstrated that groundwater extraction is a viable technology to mitigate migration of COCs at the site and remediate impacted groundwater. The ISCO testing and subsequent injection well redevelopment indicated that a primarily gas-based oxidation technology could be used to remediate groundwater in bedrock up to 100 fbg in this area but insufficient fluid conductivity exists below this depth in this area for injection. Since the groundwater extraction test did not evaluate the effects of depth on recovery and capture, it is unknown if recovery of impacted groundwater below 100 fbg would be effective; however, it is assumed that the low fluid conductivity observed during ISCO testing would also adversely affect groundwater extraction at this depth.

Groundwater extraction and treatment is a proven technology that could be implemented as the remedy at this site. A network of recovery wells can be designed and installed with a central groundwater treatment area. The primary disadvantages of a groundwater extraction and treatment system are the potential effects to the potable water supply (i.e., decreasing water available to the commercial wells and residential properties downgradient of the Site) and the anticipated operational duration of the system to achieve remedial goals.

ISCO has also been proven to be effective on treatment of the COCs present at this site as well as in fractured bedrock settings. ISCO can be conducted as short-duration events (e.g., less than five days in duration) with mobile equipment or on a longer-term basis with equipment installed in a central area similar to the groundwater extraction option. The primary disadvantages of ISCO at this site are the potential impacts to potable wells and the limited injection success during the feasibility test.

Since the COC mass is limited to dissolved-phase impacts in fractured rock over a large area, ISCO may achieve and accelerate Site remedial goals at a lower life cycle cost than groundwater extraction and treatment. Therefore, an extended ISCO field pilot-scale remediation is proposed for implementation within the area of greatest groundwater impact at this Site. The data obtained at the Site provides sufficient information to specify a source area ISCO remedy and a remedy monitoring plan.

The ISCO feasibility test and well redevelopment results indicate that a gas-based ISCO technology can be used to remediate groundwater present in fractured bedrock (up to 100 fbg at recently installed injection wells). Therefore, GES' patented HypeAir-EX® technology is proposed for implementation using injection wells IW-1S, IW-1D, and IW-2S. The HypeAir-EX process uses ozone/ambient air injection with low-flow hydrogen peroxide injection. Ozone both directly oxidizes organic compounds and reacts with hydrogen peroxide to create hydroxyl radicals that also oxidize organics. This advanced oxidation technology provides several advantages at this site over other ISCO methods.

First, ozone is a highly effective oxidant for MTBE sites where MTBE and TBA are present. A common oxidation pathway for MTBE is to break down to TBA. Continuous ozone injection is effective at oxidizing existing TBA and TBA formed through MTBE oxidation. The use of oxidants that do not effectively treat TBA can result in significant reduction in MTBE with a residual dissolved TBA plume.

Secondly, the ozone-based technology can react with hydrogen peroxide to create hydroxyl radicals with or without iron present. At this Site, iron concentrations are low in many locations (i.e., less than

15 mg/L). Therefore, if hydrogen peroxide is used as the primary oxidant, addition of an iron source would likely be needed as native iron is depleted over time. Although total iron concentrations decreased at monitoring well MW-18S and MW-18D based on pre- and post-ISCO feasibility test sampling, the decrease observed is greater than can be attributed to the 20 gallons of hydrogen peroxide solution injected during the ISCO feasibility test and the distance (approximately 50 feet) from the injection point.

5.4 Conceptual Design of ISCO System

Installation of an ISCO system is the proposed method of remediation for the "source area," or area of greatest groundwater impact, at the Site. Following is a conceptual design and plan for operation of an ISCO system based upon the data collected to date.

The proposed remedy will utilize a system capable of injecting up to 5 lbs/day of ozone with ambient air and up to 14 gallons of hydrogen peroxide per day. The system will be designed such that all three injection points can be used for both ozone injection and hydrogen peroxide injection (though not simultaneously at the same well). Each of the three injection wells will have a dedicated ozone injection line with individual flow meters. Two metered hydrogen peroxide lines will be installed – one to injection wells IW-1S and IW-1D and a separate line to injection well IW-2S. Ozone will be the primary oxidizer, and the hydrogen peroxide lines will be periodically connected to the injection wells and operated for a specified duration.

The system will be enclosed in an 8-foot-wide by 10-foot-long trailer and will include the ozone generator, hydrogen peroxide holding tank, injection pumps, flow meters, and controls. The system includes a telemetry system that will notify GES in the event of an alarm condition or system shut-down. Additionally, an SVE system will be used to mitigate fugitive emissions that may occur as a result of the advanced oxidation process. Vapor extraction well VE-1 is proposed for extraction during system operation. Based on previously conducted SVE testing, a conservative SVE ROI of 50 feet is estimated in the shallow soil above bedrock (e.g., < 25 fbg). Based upon test results, it is not anticipated that off-gas treatment will be required for the SVE component.

Ozone lines will be constructed of stainless steel and Teflon inside the equipment trailer and Teflon below grade and in the injection well vaults. The Teflon will be sleeved inside high density polyethylene (HDPE) tubing below grade. The hydrogen peroxide injection lines will be constructed of compatible hose, schedule 80 PVC, and HDPE. The SVE line will be constructed of schedule 40 PVC below grade and schedule 80 PVC above grade. Subgrade piping will be installed no greater than 36 inches below grade. Piping will be bedded in pea gravel, sand, or other bedding material. Trenches will then be backfilled with suitable material and will be resurfaced to meet existing conditions. The proposed trenching and equipment locations are depicted on **Figure 5 – Proposed Remediation System Layout**. The equipment will require installation of a dedicated power drop.

The effective remediation area is estimated to be approximately 15 feet radially around the three injection points as shown on **Figure 6 – Estimated Target Remediation Area**. However, additional effective downgradient remediation is anticipated to occur through migration of elevated DO concentrations along bedrock fractures. For this initial source area remediation, it is anticipated that the equipment will operate for up to 60 days (eight weeks), injecting up to 5 lbs/day of ozone, while field parameters are monitored in the source area and down gradient to determine the site-specific effectiveness of the source area remediation. During this initial system operation period, GES will conduct routine operation and

maintenance (O&M) of the system on a weekly basis. During each O&M visit, the following data will be measured and/or recorded:

- Ozone/air flow rate to each injection well;
- Ozone concentration to each injection well;
- Hydrogen peroxide injection flow rate to each injection well;
- Volume of hydrogen peroxide injected to each injection well;
- Volume of hydrogen peroxide in injection tank;
- Applied blower vacuum to VE-1;
- Extracted vapor flow rate from SVE system;
- Influent PID reading from SVE system;
- Influent ozone reading from SVE system;
- Headspace PID, LEL, and percent oxygen readings at monitoring wells MW-15D, MW-18S, and MW-18D; and
- Groundwater temperature, DO, ORP, conductivity, and pH at monitoring wells MW-15D, MW-18S, and MW-18D.

On an every-other week basis (starting with week one of operation), the following additional data will be collected:

- Headspace PID, LEL, and percent oxygen readings at monitoring wells MW-7, MW-8, MW-10, MW-13, MW-14S, MW-14D, MW-16, and MW-17; and
- Groundwater temperature, DO, ORP, conductivity and pH at monitoring wells MW-7, MW-8, MW-10, MW-13, MW-14S, MW-14D, MW-16, and MW-17.

In addition to the field parameters above, groundwater sampling will be conducted at monitoring wells MW-7, MW-10, MW-14S, MW-14D, MW-15D, MW-17, MW-18S, and MW-18D after two weeks of operation and after five weeks of operation. Should sampling results indicate ISCO operation is not adversely impacting groundwater chemistry (organic or inorganic) in areas surrounding and downgradient of the primary treatment area, groundwater sampling will subsequently revert to the existing quarterly schedule and scope. Groundwater samples will be laboratory analyzed for the parameters indicated in the following table:

Groundwater Sampling Plan

Well ID	Laboratory Analytical Parameters						
	VOCs	TOC	COD	Diss. Iron	Total Iron	Cr+3 and Cr +6	TDS /TSS
MW-7	X	X	X	X	X	X	X
MW-8	X						
MW-10	X						
MW-13	X						
MW-14S	X						
MW-14D	X	X	X	X	X	X	X

Well ID	Laboratory Analytical Parameters						
	VOCs	TOC	COD	Diss. Iron	Total Iron	Cr+3 and Cr +6	TDS /TSS
MW-15D	X	X	X	X	X	X	X
MW-16	X						
MW-17	X	X	X	X	X	X	X
MW-18S	X	X	X	X	X	X	X
MW-18D	X	X	X	X	X	X	X

The remedial goal for the targeted ISCO remediation is to achieve a 90% or greater reduction in MTBE concentration in monitoring wells MW-15D, MW-18S, and MW-18D and provide increased downgradient DO concentrations in the groundwater. Additional and/or modified operation of an ISCO remediation system in the targeted area and/or additional areas onsite will be determined following the initial eight-week operation of the ISCO remediation system, as proposed.

If the data warrants continued operation of the targeted ISCO remediation system beyond eight weeks, adjustments to the O&M schedule and monitoring program will be submitted to the MDE (via e-mail) for approval. MDE will be given advance notification of any scheduled ISCO system deactivation plans and will be provided a written summary following the deactivation including all data collected during the operation of the ISCO system. Any major adjustments to the implementation of ISCO CAP and/or consideration of additional or supplemental remedial technologies will be proposed in a CAP Addendum for MDE review and approval.

Following the MDE's approval of this conceptual ISCO method, a *CAP Implementation Plan* will be submitted to the MDE including detailed process and instrumentation diagrams and permit information.

6.0 PROPOSED SCHEDULE

The following schedule is proposed for implementing the action items presented in this CAP:

Activity/Milestones	Anticipated Date of Completion
Submit CAP to MDE	Week 0
MDE review and approval of CAP	Week 4
Finalize remediation system design and *CAP Implementation Plan*	Week 9 (MDE approval of CAP + 5 weeks)
Submit *CAP Implementation Plan* to MDE	Week 10
Construction of remediation system (trenching, equipment install)	Week 18
System activation	Week 20
System performance evaluation	Week 25
Determination of additional ISCO system operation	Week 28

7.0 REFERENCES

Environmental Alliance. April 25, 2007, *Interim Corrective Action Plan, Monrovia BP/Former Green Valley Citgo.*

Environmental Alliance. April 25, 2007, *Sampling Results and Work Plan, Monrovia BP/Former Green Valley Citgo.*

Environmental Alliance. April 30, 2007, *Drinking Water Well Survey, Monrovia BP/Former Green Valley Citgo.*

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Environmental Alliance. August 22, 2008, *UST System Closure Soil Sampling Results, Monrovia BP/Former Green Valley Citgo.*

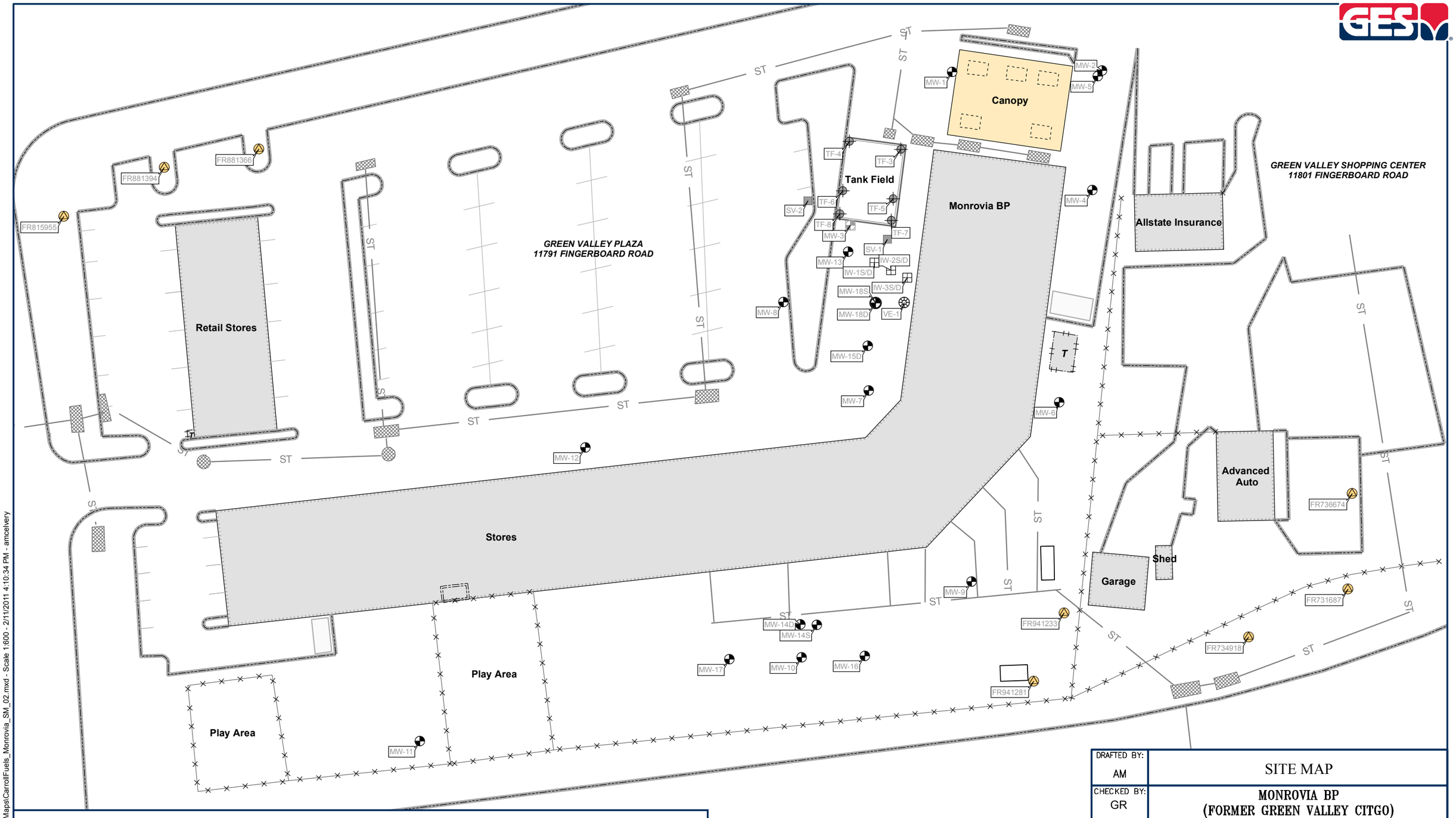
Environmental Alliance. February 27, 2009, *Soil Vapor Extraction Pilot Testing Results, Monrovia BP/Former Green Valley Citgo.*

Environmental Alliance. March 15, 2010, *Update Report and Work Plan, Monrovia BP/Former Green Valley Citgo.*

Groundwater & Environmental Services, Inc. February 14, 2011, *Fourth Quarter 2010 Monitoring Report, Monrovia BP/Former Green Valley Citgo.*

Maryland Geologic Survey. 1968, Geologic *Map of Maryland* (excerpt of Frederick County), http://www.mgs.md.gov/esic/geo

FIGURES



Legend

- Abandoned Well
- Monitoring Well
- Potable Well
- Tank Field Well
- Abandoned Soil Vapor Point
- Injection Well
- Nested Obs Well
- SVE Well
- Curbing
- Fence
- Parking
- ST Storm Sewer
- Building
- Canopy
- Catch Basin
- Dispenser
- Dumpster
- Tank Field
- Propane AST
- Pump Room Door
- T Transformer

Source:
NAIP aerial photograph for Frederick Co.
Based on GIS data provided by
Environmental Alliance, Inc.

DRAFTED BY: AM	SITE MAP
CHECKED BY: GR	MONROVIA BP (FORMER GREEN VALLEY CITGO) 11791 FINGERBOARD ROAD MONROVIA, MARYLAND
REVIEWED BY: SMS	Groundwater & Environmental Services, Inc. 2142 PRIEST BRIDGE COURT, SUITE 1, CROFTON, MD 21114
NORTH	SCALE IN FEET: 0 50 / DATE: 2-11-11 / FIGURE: 1

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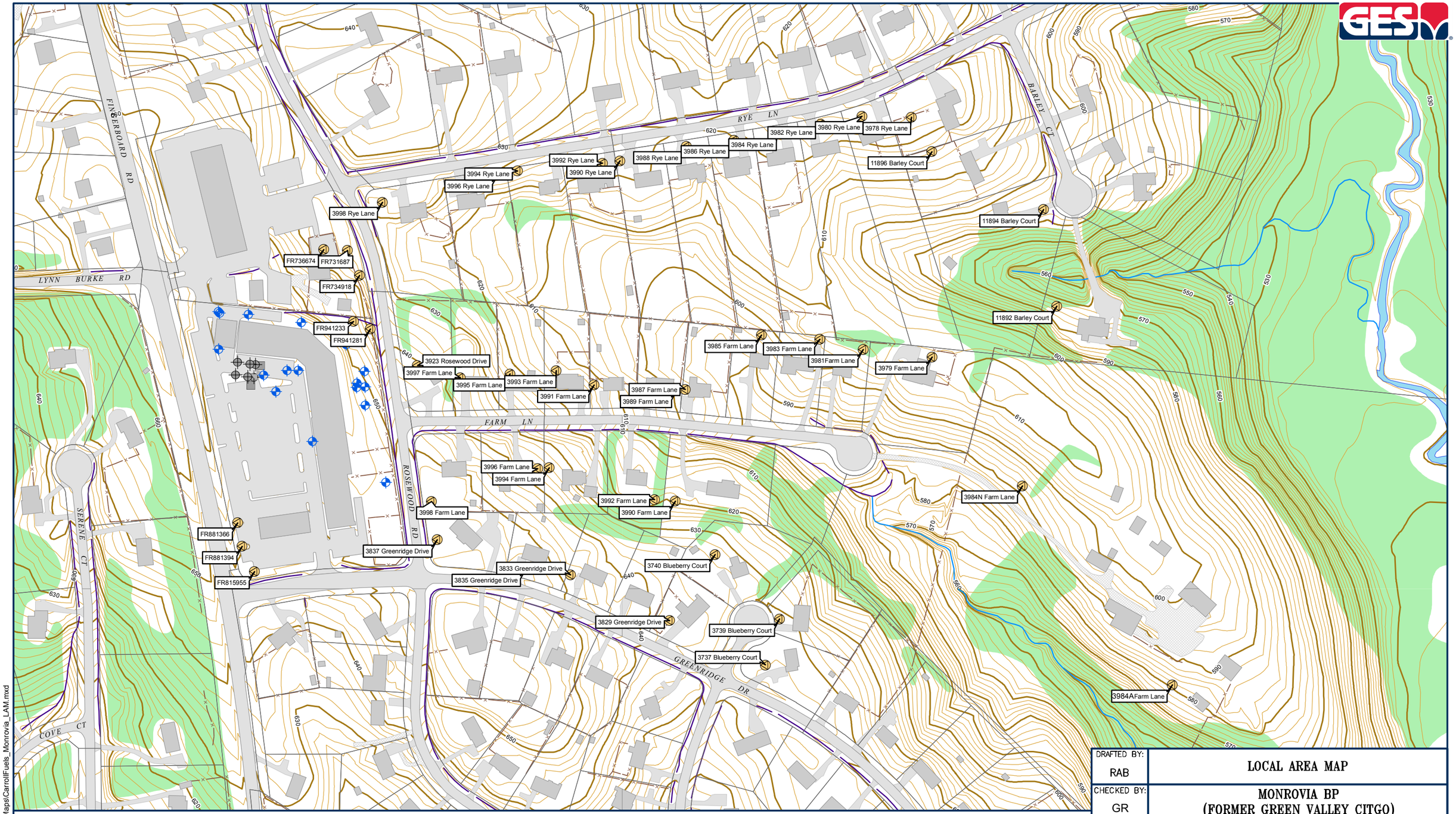

Legend

- Abandoned Well
- Monitoring Well
- Potable Well
- Tank Field Well
- Abandoned Soil Vapor Point
- Fence
- Topographic Contour (10 ft)
- Intermediate Contour (2 ft)
- Property Boundary
- Building
- Paved Road/Drive
- Unpaved Drive
- Stream
- Ditch
- Water Body
- Wooded Area

Source: Frederick County GIS

DRAFTED BY:	RAB
CHECKED BY:	GR
REVIEWED BY:	SMS

NORTH

LOCAL AREA MAP

MONROVIA BP
(FORMER GREEN VALLEY CITGO)
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Groundwater & Environmental Services, Inc.
2142 PRIEST BRIDGE COURT, SUITE 1, CROFTON, MD 21114

SCALE IN FEET: 0 – 200

DATE: 8-26-10

FIGURE: 2

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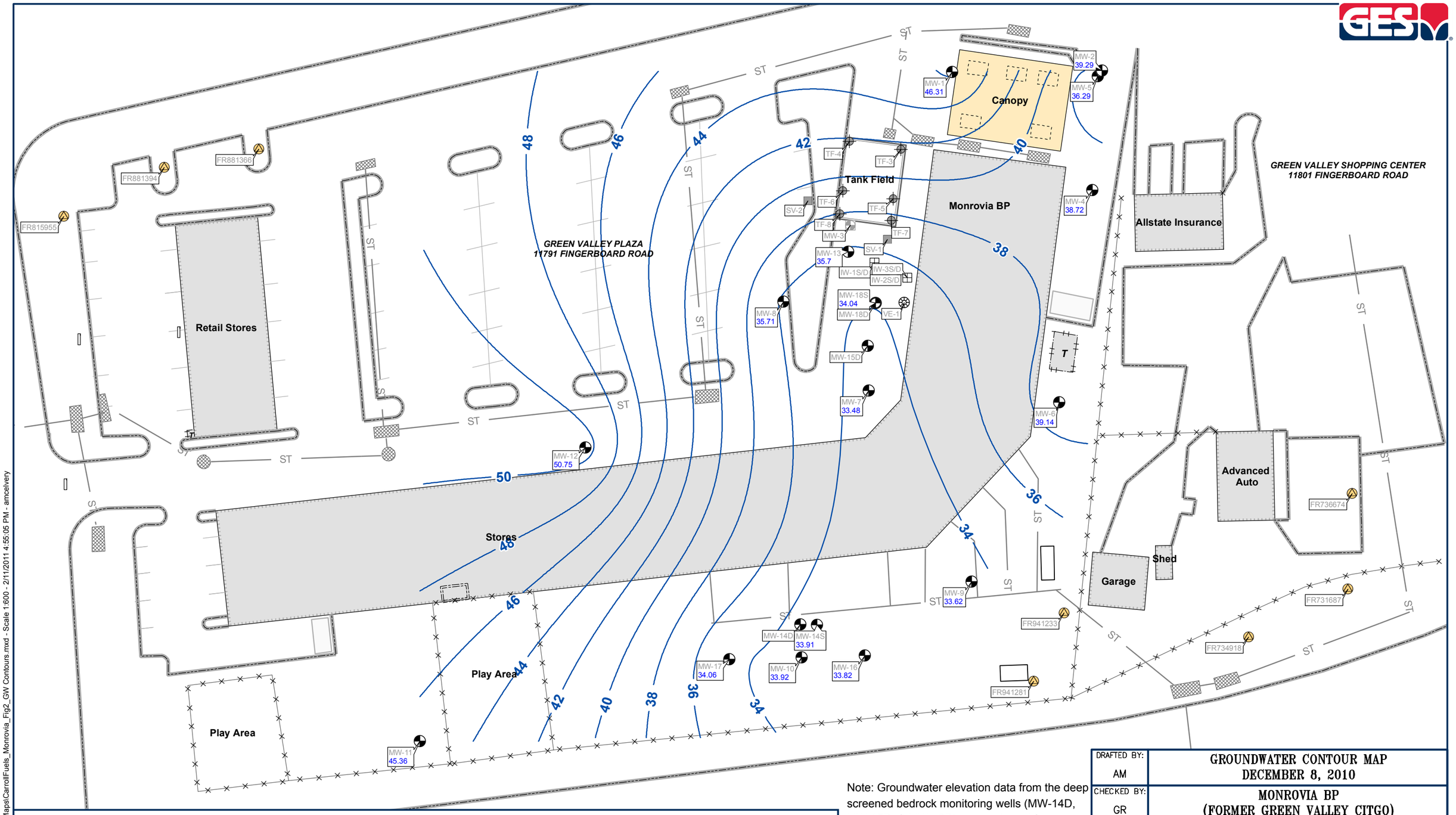

Legend

- Abandoned Well
- Monitoring Well
- Potable Well
- Tank Field Well
- Abandoned Soil Vapor Point
- Injection Well
- Nested Obs Well
- SVE Well
- Curbing
- Fence
- Parking
- ST Storm Sewer
- Groundwater Contours
- Building
- Canopy
- Catch Basin
- Dispenser
- Dumpster
- Tank Field
- Propane AST
- Pump Room Door
- T Transformer

Note: Groundwater elevation data from the deep screened bedrock monitoring wells (MW-14D, MW-15D, & MW-18D) were not used for contouring.

Source:
NAIP aerial photograph for Frederick Co. Based on GIS data provided by Environmental Alliance, Inc.

DRAFTED BY:	AM
CHECKED BY:	GR
REVIEWED BY:	SMS
NORTH	

GROUNDWATER CONTOUR MAP
DECEMBER 8, 2010

MONROVIA BP
(FORMER GREEN VALLEY CITGO)
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Groundwater & Environmental Services, Inc.
2142 PRIEST BRIDGE COURT, SUITE 1, CROFTON, MD 21114

SCALE IN FEET	DATE	FIGURE
0 — 50	2-11-11	3

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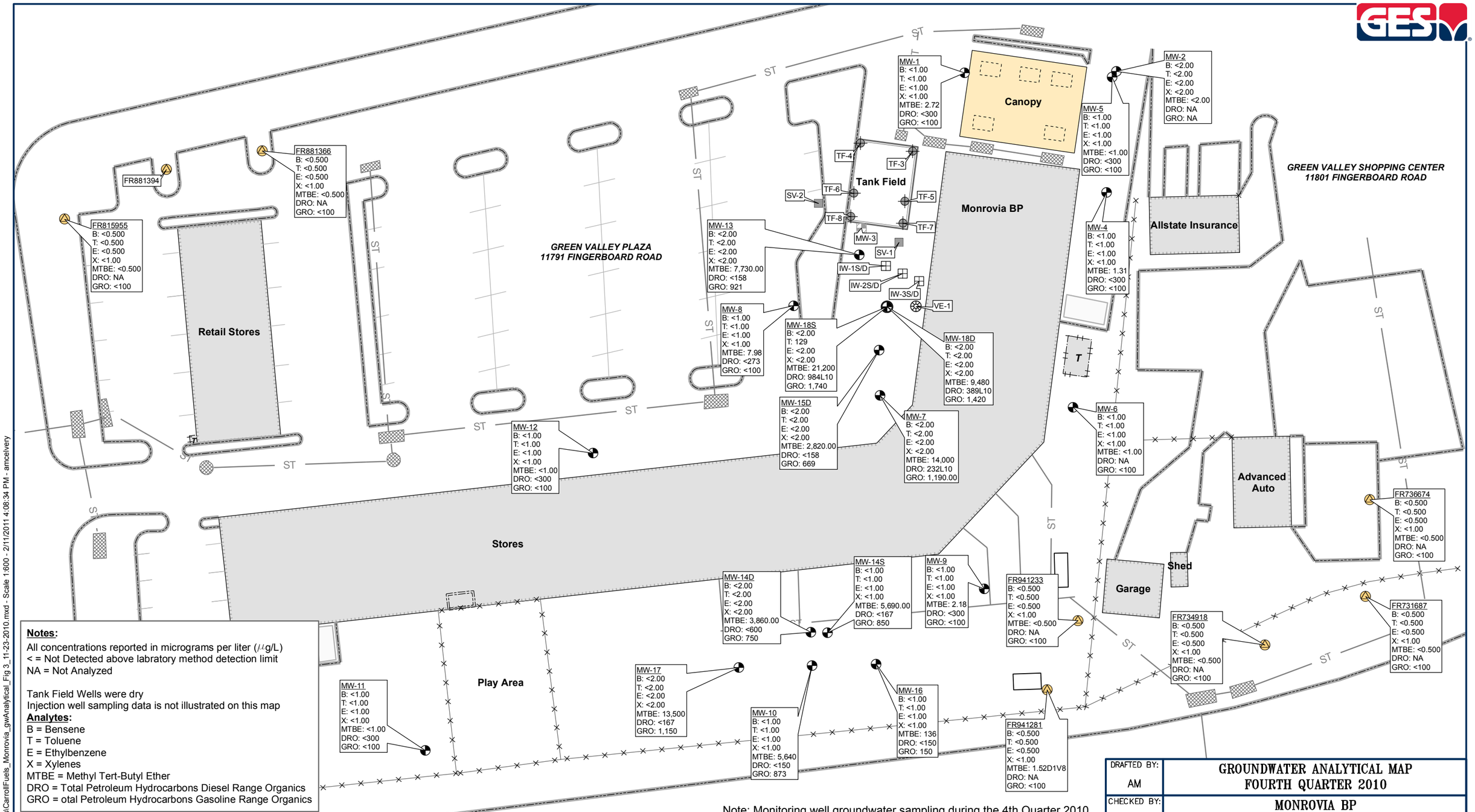

Notes:

All concentrations reported in micrograms per liter (μg/L)
< = Not Detected above labratory method detection limit
NA = Not Analyzed

Tank Field Wells were dry
Injection well sampling data is not illustrated on this map

Analytes:

B = Bensene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl Tert-Butyl Ether
DRO = Total Petroleum Hydrocarbons Diesel Range Organics
GRO = otal Petroleum Hydrocarbons Gasoline Range Organics

Legend

- Abandoned Well
- Monitoring Well
- Potable Well
- Tank Field Well
- Abandoned Soil Vapor Point
- Injection Well
- Nested Obs Well
- SVE Well
- Curbing
- Fence
- Parking
- ST Storm Sewer
- Building
- Canopy
- Catch Basin
- Dispenser
- Dumpster
- Tank Field
- Propane AST
- Pump Room Door
- T Transformer

Note: Monitoring well groundwater sampling during the 4th Quarter 2010 was conducted on 11-23-10 or 12-8-10 with the exception of MW-18S and 18D. MW-18S and 18D were sampled on 11-23-10 and 12-8-10. the concentrations illustrated above for MW-18S and 18D were from the 12-8-10 sampling data.

Source:
NAIP aerial photograph for Frederick Co.
Based on GIS data provided by Environmental Alliance, Inc.

DRAFTED BY: AM	GROUNDWATER ANALYTICAL MAP FOURTH QUARTER 2010
CHECKED BY: GR	MONROVIA BP (FORMER GREEN VALLEY CITGO) 11791 FINGERBOARD ROAD MONROVIA, MARYLAND
REVIEWED BY: SMS	Groundwater & Environmental Services, Inc. 2142 PRIEST BRIDGE COURT, SUITE 1, CROFTON, MD 21114
NORTH	SCALE IN FEET: 0 50 / DATE: 2-11-11 / FIGURE: 4

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PROPOSED EQUIPMENT AREA

GREEN VALLEY PLAZA
11791 FINGERBOARD ROAD

GREEN VALLEY SHOPPING CENTER
11801 FINGERBOARD ROAD

Retail Stores

Stores

Monrovia BP

Canopy

Tank Field

Allstate Insurance

Advanced Auto

Garage

Shed

Play Area

Play Area

MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7 MW-8 MW-9 MW-10 MW-11 MW-12 MW-13 MW-14D MW-14S MW-15D MW-16 MW-17 MW-18D MW-18S

TF-1 TF-2 TF-3 TF-4 TF-5 TF-6 TF-7

SV-1 IW-1S/D IW-2S/D IW-3S/D VE-1

FR815955 FR881394 FR881368 FR941233 FR941281 FR734918 FR731687 FR736674

ST

T

Legend

Abandoned Well	Abandoned Soil Vapor Point	Curbing	Building	Dispenser	Propane AST
Monitoring Well	Injection Well	Fence	Canopy	Dumpster	Pump Room Door
Potable Well	Nested Obs Well	Parking	Catch Basin	Tank Field	T Transformer
Tank Field Well	SVE Well	ST Storm Sewer			

Source:
NAIP aerial photograph for Frederick Co.
Based on GIS data provided by
Environmental Alliance, Inc.

DRAFTED BY: APD	**PROPOSED REMEDIATION SYSTEM LAYOUT**
CHECKED BY: GR	MONROVIA BP (FORMER GREEN VALLEY CITGO) 11791 FINGERBOARD ROAD MONROVIA, MARYLAND
REVIEWED BY: RKE	Groundwater & Environmental Services, Inc. 2142 PRIEST BRIDGE COURT, SUITE 1, CROFTON, MD 21114
NORTH	SCALE IN FEET: 0 50 / DATE: 03-07-11 / FIGURE: 5

GES

GREEN VALLEY PLAZA
11791 FINGERBOARD ROAD

GREEN VALLEY SHOPPING CENTER
11801 FINGERBOARD ROAD

Retail Stores

Stores

Play Area

Play Area

Tank Field

Monrovia BP

Canopy

Allstate Insurance

Advanced Auto

Shed

Garage

ISCO REMEDIATION TARGET AREA

ESTIMATED SVE ROI IN SOIL (<25' feet)

FR881368
FR881394
FR815955
FR736674
FR731687
FR734918
FR941233
FR941281

MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-14D
MW-14S
MW-15D
MW-16
MW-17
MW-18D
MW-18S
MW-1S/D
MW-2S/D
MW-3S/D
SV-1
SV-2
TF-1
TF-2
TF-3
TF-4
TF-5
TF-6
TF-7
TF-8
VE-1

ST

Legend

- Abandoned Well
- Monitoring Well
- Potable Well
- Tank Field Well
- Abandoned Soil Vapor Point
- Injection Well
- Nested Obs Well
- SVE Well
- Curbing
- Fence
- Parking
- ST Storm Sewer
- Building
- Canopy
- Catch Basin
- Dispenser
- Dumpster
- Tank Field
- Propane AST
- Pump Room Door
- T Transformer

ISCO = IN SITU CHEMICAL OXIDATION
SVE = SOIL VAPOR EXTRACTION
ROI = RADIUS OF INFLUENCE
FBG = FEET BELOW GROUND

Source:
NAIP aerial photograph for Frederick Co.
Based on GIS data provided by
Environmental Alliance, Inc.

DRAFTED BY:	APD
CHECKED BY:	GR
REVIEWED BY:	RKE

NORTH

ESTIMATED TARGET REMEDIATION AREA

MONROVIA BP
(FORMER GREEN VALLEY CITGO)
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Groundwater & Environmental Services, Inc.
2142 PRIEST BRIDGE COURT, SUITE 1, CROFTON, MD 21114

SCALE IN FEET	DATE	FIGURE
0 50	03-07-11	6

TABLES

Table 1

MONITORING WELL CONSTRUCTION DETAILS

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Well I.D.	Well Permit #	Date Well Drilled	Date Well Installed	Well Diameter (inches)	TOC Elevation	Date of Last Survey	Total Depth of Well (from Ground Surface)	DTB of Steel Casing (feet)	TOS from Ground Surface	BOS from Ground Surface	COMMENTS
MW-1	FR-94-5045	2/7/06	2/7/2006	2	99.19	2/27/2006	61.5	--	40	61.5	
MW-2	FR-94-5046	2/7/06	2/7/2006	2	99.47	2/27/2006	61.5	--	40	61.5	
MW-3	FR-94-5047	2/7/06	2/7/2006	2	99.16	2/27/2006	81.5	--	40	64	Drilled to 81.5 feet, backfilled and set at 64 feet; well abandoned 5/15/08
MW-4	FR-94-5048	2/7/06	2/7/2006	2	97.84	2/27/2006	61.5	--	40	61.5	
MW-5	FR-95-0982	5/12/08	2/23/2009	4	99.60	3/18/2009	70	14	40	70	
MW-6	FR-95-0983	5/12/08	2/23/2009	4	98.09	3/18/2009	59.5	14	40	59.5	boring caved to 59.5 feet
MW-7	FR-95-0984	5/12/08	2/24/2009	4	97.66	3/18/2009	80	19.5	53	80	
MW-8	FR-95-0985	5/12/08	2/23/2009	4	97.93	3/18/2009	70	15	45	70	
MW-9	FR-95-1216	2/26/09	3/11/2009	4	88.48	3/18/2009	78	10	48	78	
MW-10	FR-95-1217	2/26/09	3/11/2009	4	91.64	3/18/2009	80	10	40	80	
MW-11	FR-95-1219	2/27/09	3/11/2009	4	94.28	3/18/2009	77	10	47	77	
MW-12	FR-95-1218	3/2/09	3/12/2009	4	95.33	3/18/2009	84	10	44	82	
MW-13	FR-95-1215	3/2/09	3/12/2009	4	98.11	3/18/2009	84	10	49	84	
MW-14S	FR-95-1599	7/20/10	7/22/2010	4	91.21	7/22/2010	100	11.0	40	100	
MW-14D	FR-95-1418	9/24/09	7/22/2010	4	92.07	7/22/2010	221	10.5	201	221	
MW-15D	FR-95-1419	9/28/09	7/19/2010	4	97.67	7/22/2010	133.5	10	45.5	133.5	
MW-16	FR-95-1420	9/25/09	7/20/2010	4	89.78	7/22/2010	121	9.75	35.5	121	
MW-17	FR-95-1421	9/25/09	7/20/2010	4	92.84	7/22/2010	121	10.5	35	121	
MW-18S	FR-95-1674	11/17/10	11/17/2010	2	98.29	1/4/2011	70	--	45	70	MW-18S and MW-18D nested in one borehole
MW-18D			11/18/2010	2	98.31	1/4/2011	130	--	120	130	
VE-1	FR-95-1673	11/19/10	11/17/2010	4	98.40	1/4/2011	25	--	5	25	
IW-1S	FR-95-1672	11/18/10	11/18/2010	0.60	98.52	1/4/2011	67	--	63	67	IW-1S and IW-1D nested in one borehole - stainless steel screen and casing
IW-1D			11/19/2010	0.60	98.60	1/4/2011	73	--	69	73	
IW-2S	FR-95-1671	11/18/10	11/18/2010	0.60	98.63	1/4/2011	91	--	87	91	IW-2S and IW-2D nested in one borehole - stainless steel screen and casing
IW-2D			11/19/2010	0.60	98.71	1/4/2011	103	--	99	103	
IW-3S	FR-95-1670	11/18/10	11/18/2010	0.60	98.51	1/4/2011	127	--	123	127	IW-3S and IW-3D nested in one borehole - stainless steel screen and casing
IW-3D			11/19/2010	0.60	98.62	1/4/2011	134	--	130	134	

Notes:

TOS - Top of screen
BOS - Bottom of screen
TOC - Top of casing
U -Unknown

Table 2

HISTORICAL SOIL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Soil Sample ID	Date	Depth (ft)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	tert-Butyl Alcohol (µg/kg)	tert-amyl methyl ether (µg/kg)	ethyl tert-butyl ether (µg/kg)	Diisopropyl ether (µg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)
MDE Non-Residential Clean-up Standard for Soil (June 2008)			**52,000**	**8,200,000**	**10,000,000**	**20,000,000**	**720,000**	**NA**	**NA**	**NA**	**NA**	**620**	**620**
GP-1	09/14/05	11 - 14	< 0.5	< 1	< 1	< 1	13	680	< 1	< 1	< 1	110	< 0.2
GP-2	09/14/05	8 - 11	< 0.6	< 1	< 1	< 1	0.9 J	200	< 1	< 1	< 1	8.7 J	< 0.2
GP-3	09/14/05	8 - 11	< 0.6	< 1	< 1	< 1	20	< 22	< 1	< 1	< 1	66	< 0.2
GP-4	09/14/05	6 - 8	< 0.5	< 1	< 1	< 1	< 0.5	< 21	-	-	-	< 4.2	< 0.2
GP-5	09/14/05	8 - 11	< 0.5	< 1	< 1	< 1	2 J	< 22	-	-	-	< 4.3	< 0.2
GP-6	09/15/05	11 - 14	< 0.5	2 J	< 1	2 J	< 0.5	< 22	< 1	< 1	< 1	43	0.5 J
GP-7	09/15/05	11 - 14	< 0.6	< 1	< 1	< 1	< 0.6	< 22	< 1	< 1	< 1	< 4.4	< 0.2
GP-8	09/15/05	14 - 16	< 0.5	< 1	< 1	4 J	2 J	< 22	-	-	-	15	< 0.2
GP-9	09/15/05	19 - 20	< 0.5	< 1	< 1	< 1	2 J	< 22	-	-	-	24	< 0.2
GP-10	09/15/05	12 - 13	< 0.5	< 1	< 1	1 J	0.6 J	< 21	-	-	-	24	< 0.2
SB-1	06/01/07	15 - 17	< 0.5	< 1	< 1	< 1	< 0.5	< 21	< 1	< 1	< 1	5.4 J	< 0.2
SV-1	05/31/07	24.5	< 0.5	< 1	< 1	< 1	< 0.5	< 21	< 1	< 1	< 1	< 4.2	< 0.2
SV-2	05/31/07	20	< 0.5	< 1	< 1	< 1	24	41 J	< 1	< 1	< 1	-	< 0.2

Table 2

HISTORICAL SOIL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Soil Sample ID	Date	Depth (ft)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	tert-Butyl Alcohol (µg/kg)	tert-amyl methyl ether (µg/kg)	ethyl tert-butyl ether (µg/kg)	Diisopropyl ether (µg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)
MDE Non-Residential Clean-up Standard for Soil (June 2008)			**52,000**	**8,200,000**	**10,000,000**	**20,000,000**	**720,000**	**NA**	**NA**	**NA**	**NA**	**620**	**620**
SV-2	05/31/07	25	-	-	-	-	-	-	-	-	-	< 4.2	-
SV-2	05/31/07	30	< 0.5	< 1	< 1	< 1	15	1,900	< 1	< 1	< 1	-	< 0.2
SV-3	06/01/07	10 - 12	< 0.5	< 1	< 1	< 1	160	4,800	< 1	< 1	< 1	< 4.4	< 0.2
SV-3	06/01/07	15 - 17	< 0.6	< 1	< 1	< 1	73	200	< 1	< 1	< 1	< 4.4	< 0.2
DISP-1	07/16/08	4	< 0.6	< 1	< 1	< 1	< 0.6	< 24	< 1	< 1	< 1	< 4.4	< 0.2
DISP-2	07/16/08	4	< 0.5	< 1	< 1	< 1	< 0.5	< 22	< 1	< 1	< 1	< 4.7	0.4 J
DISP-3	07/16/08	4	< 0.6	< 1	< 1	< 1	< 0.6	< 25	< 1	< 1	< 1	< 4.6	< 0.2
DISP-4	07/16/08	4	< 0.5	< 1	< 1	< 1	< 0.5	< 20	< 1	< 1	< 1	< 4.3	< 0.2
DISP-5	07/16/08	4	< 0.6	< 1	< 1	< 1	< 0.6	< 23	< 1	< 1	< 1	52	0.3 J
PIPE-1	07/16/08	4	< 0.5	< 1	< 1	3 J	< 0.5	< 20	< 1	< 1	< 1	10 J	0.3 J
PIPE-2	07/16/08	4	< 0.6	< 1	< 1	< 1	< 0.6	< 25	< 1	< 1	< 1	8.0 J	0.7 J
PIPE-3	07/16/08	4	< 0.5	< 1	< 1	< 1	< 0.5	< 20	< 1	< 1	< 1	4.9 J	< 0.2
PIPE-4	07/16/08	4	< 0.6	< 1	< 1	< 1	< 0.6	< 24	< 1	< 1	< 1	< 4.7	< 0.2

Table 2

HISTORICAL SOIL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Soil Sample ID	Date	Depth (ft)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	tert-Butyl Alcohol (µg/kg)	tert-amyl methyl ether (µg/kg)	ethyl tert-butyl ether (µg/kg)	Diisopropyl ether (µg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)
MDE Non-Residential Clean-up Standard for Soil (June 2008)			**52,000**	**8,200,000**	**10,000,000**	**20,000,000**	**720,000**	**NA**	**NA**	**NA**	**NA**	**620**	**620**
PIPE-5	07/16/08	4	< 0.6	< 1	< 1	< 1	< 0.6	< 24	< 1	< 1	< 1	6.4 J	< 0.2
LINE-6	07/28/08	4	< 0.5	< 1	< 1	< 1	< 0.5	< 21	< 1	< 1	< 1	9.2 J	< 0.2
LINE-7	07/28/08	4	< 0.5	< 1	< 1	< 1	< 0.5	< 20	< 1	< 1	< 1	< 4.3	< 0.2
LINE-8	07/28/08	4	< 0.6	< 1	< 1	< 1	< 0.6	< 23	< 1	< 1	< 1	< 4.4	< 0.2
DUST-04	07/21/08	11	< 0.6	< 1	< 1	< 1	< 0.6	< 22	< 1	< 1	< 1	6.6 J	< 0.2
TF-BOTTOM	07/22/08	15	< 0.5	< 1	< 1	< 1	< 0.5	< 22	< 1	< 1	< 1	5.2 J	< 0.2
TF-SE	07/22/08	15	< 0.6	< 1	< 1	< 1	< 0.6	1,100	< 1	< 1	< 1	8.3 J	< 0.2
TF-SW	07/22/08	15	< 0.5	< 1	< 1	< 1	< 0.5	< 21	< 1	< 1	< 1	< 4.2	< 0.2
TF-NE	07/28/08	15	< 0.6	< 1	< 1	< 1	< 0.6	< 22	< 1	< 1	< 1	< 4.4	< 0.2
TF-NW	07/28/08	15	< 0.5	< 1	< 1	< 1	< 0.5	< 21	< 1	< 1	< 1	< 4.3	< 0.2
TF-NORTH	07/21/08	5	< 0.7	< 1	< 1	< 1	< 0.7	< 27	< 1	< 1	< 1	< 5.3	< 0.3
TF-SOUTH	07/22/08	5	< 0.6	< 1	< 1	< 1	< 0.6	< 24	< 1	< 1	< 1	4.6 J	< 0.2
TF-WEST	07/24/08	5	< 0.6	< 1	< 1	< 1	< 0.6	< 23	< 1	< 1	< 1	32	< 0.2

Table 2

HISTORICAL SOIL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Soil Sample ID	Date	Depth (ft)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	tert-Butyl Alcohol (µg/kg)	tert-amyl methyl ether (µg/kg)	ethyl tert-butyl ether (µg/kg)	Diisopropyl ether (µg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)
MDE Non-Residential Clean-up Standard for Soil (June 2008)			**52,000**	**8,200,000**	**10,000,000**	**20,000,000**	**720,000**	**NA**	**NA**	**NA**	**NA**	**620**	**620**
TF-EAST	07/24/08	5	< 0.5	< 1	< 1	< 1	< 0.5	< 22	< 1	< 1	< 1	7.2 J	< 0.2
LINE1-PEX-BOTTOM	07/21/08	8	< 0.5	< 1	< 1	< 1	< 0.5	< 21	< 1	< 1	< 1	< 4.3	< 0.2
LINE1-PEX-EAST	07/21/08	8	< 0.5	< 1	< 1	< 1	< 0.5	< 21	< 1	< 1	< 1	< 4.2	< 0.2
LINE1-PEX-NORTH	07/21/08	8	< 0.6	< 1	< 1	< 1	< 0.6	< 22	< 1	< 1	< 1	< 4.3	< 0.2
LINE1-PEX-SOUTH	07/21/08	8	< 0.6	< 1	< 1	< 1	< 0.6	< 23	< 1	< 1	< 1	5.9 J	< 0.2

-	= Not Analyzed
<#	= Less than the method detection limit of #
J	= Estimated Value
ft	= Feet
µg/kg	= Micrograms per kilogram
mg/kg	= Milligrams/kilogram
MTBE	= Methyl tertiary butyl ether
NA	= Not applicable
TPH-DRO	= Total Petroleum Hydrocarbons - Diesel Range Organics
TPH-GRO	= Total Petroleum Hydrocarbons - Gasoline Range Organics

Table 3

GROUNDWATER ANALYTICAL DATA SUMMARY

MONROVIA BP / GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Monitoring Well ID	Date	TOC Elevation (ft)	DTW (ft)	Measured DTB (ft)	Groundwater Elevation (ft)	Sampling Method	Analytes of Concern (ug/l)											Notes / Comments
							BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES*	MTBE	TBA	TAME	ETBE	DIPE	TPH-DRO	TPH-GRO	
MDE GW Clean-up Standards for Type I and II Aquifers							**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**47**	**47**	
MW-1	02/27/06	99.19	45.50	-	53.69	-	< 0.5	1 J	< 0.8	< 0.8	16	15 J	< 0.8	< 0.8	0.8 J	**1,100**	**77**	
TOS = 40	09/19/06		47.44	-	51.75	-	1 J	< 0.7	< 0.8	< 0.8	14	39 J	1.0 J	< 0.8	3 J	**7,900**	**150**	
TD = 61.5	04/19/07		41.83	-	57.36	-	< 0.5	< 0.7	< 0.8	< 0.8	9	< 10	< 0.8	< 0.8	1 J	**160**	33 J	
Dia (in) = 2	08/08/07		51.63	-	47.56	-	1 J	< 0.7	< 0.8	< 0.8	**31**	54 J	1.0 J	< 0.8	6	**2,400**	**220**	
	10/10/07		54.35	-	44.84	-	1 J	< 0.7	< 0.8	< 0.8	**35**	46 J	2 J	< 0.8	7	**1,200**	**210**	
	01/16/08		50.50	-	48.69	-	2 J	< 0.7	< 0.8	< 0.8	**59**	97	2 J	< 0.8	16	**1,500**	**1,000**	
	04/15/08		47.54	-	51.65	-	0.9 J	< 0.7	< 0.8	< 0.8	**28**	76 J	1 J	< 0.8	6	**630**	**770**	
	06/12/08		43.98	-	55.21	-	< 0.5	< 0.7	< 0.8	< 0.8	9	11 J	< 0.8	< 0.8	2 J	**780**	**110**	
	10/21/08		49.50	-	49.69	-	< 0.5	< 0.7	< 0.8	< 0.8	17	< 10	< 0.8	< 0.8	3 J	-	**65**	
	01/30/09		48.61	-	50.58	-	< 1	< 1	< 1	< 1	12.6	< 5	< 1	< 1	3.33	< 40	**60.5 J**	
	04/09/09		51.71	-	47.48	-	< 1	< 1	< 1	< 1	6.83	< 5	< 1	< 1	1.68	< 40	< 25	
	07/23/09		48.78	-	50.41	-	< 2	< 2	< 2	< 2	14.3	< 10	< 2	< 2	3.08	< 40	< 25	
	10/01/09		48.63	-	50.56	-	< 1	< 1	< 1	< 1	5.69	< 5	< 1	< 1	1.22	43.2 J	43.2 J	
	01/15/10		42.83	-	56.36	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 300	< 100	
	04/16/10		43.50	-	55.69	-	< 1	< 1	< 1	< 1	1.54	< 5	< 1	< 1	< 1	< 300	< 100	
	7/20/10 †		51.25	-	47.94	-	< 1.00	< 1.00	< 1.00	< 1.00*	2.15	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
	12/08/10		52.88	60.55	46.31	P&S	< 1.00	< 1.00	< 1.00	< 2.00	2.72	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
MW-2	02/27/06	99.47	49.00	-	50.47	-	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	< 10	< 0.8	< 0.8	< 0.8	**310**	**58**	
TOS = 40	09/19/06		58.31	-	41.16	-	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	< 10	< 0.8	< 0.8	< 0.8	**520 J**	**390**	
TD = 61.5	04/19/07		45.61	-	53.86	-	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	< 10	< 0.8	< 0.8	< 0.8	**380**	**130**	
Dia (in) = 2	08/08/07		60.25	-	39.22	-	-	-	-	-	-	-	-	-	-	-	-	Insufficent Water to Sample
	10/10/07		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Bailer Stuck in well
	01/16/08		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	04/15/08		53.30	-	46.17	-	1 J	< 0.7	< 0.8	< 0.8	< 0.5	10 J	< 0.8	< 0.8	< 0.8	**310**	**650**	
	06/12/08		46.94	-	52.53	-	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	< 10	< 0.8	< 0.8	< 0.8	**150**	**310**	
	10/21/08		58.42	-	41.05	-	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	< 10	< 0.8	< 0.8	< 0.8	-	**170**	
	01/30/09		55.47	-	44.00	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 40	**11,100**	
	04/09/09		60.21	-	39.26	-	-	-	-	-	-	-	-	-	-	-	-	Insufficent Water to Sample
	07/23/09		54.36	-	45.11	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 40	**138**	
	10/02/09		57.18	-	42.29	-	< 1	< 1	< 1	< 1	< 1	< 5	1.08	< 1	< 1	**144 J**	**293**	
	01/15/10		45.09	-	54.38	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 300	< 100	
	04/16/10		46.23	-	53.24	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 300	< 100	
	07/19/10		60.09	-	39.38	-	-	-	-	-	-	-	-	-	-	-	-	Insufficent Water to Sample
	12/08/10		60.18	60.60	39.29	Grab	< 2.00	< 2.00	< 2.00	< 4.00	< 2.00	< 10.0	< 2.00	< 2.00	< 2.00	-	-	Grab Sample
MW-3	02/27/06	99.16	54.24	-	44.92	-	**6**	3 J	< 0.8	1 J	**22,000**	10,000	330	< 0.8	160	**7,600**	**23,000**	
TOS = 40	09/19/06		55.93	-	43.23	-	**66 J**	< 35	< 40	< 40	**59,000**	41,000	920	< 40	550	**8,100**	**82,000**	
TD = 64	04/19/07		51.23	-	47.93	-	**41 J**	< 35	< 40	< 40	**66,000**	57,000	570	< 40	400	**940**	**66,000**	
Dia (in) = 2	08/08/07		57.85	-	41.31	-	**77 J**	< 70	< 80	< 80	**47,000**	17,000	450 J	< 80	410 J	-	**60,000**	
	10/10/07		59.00	-	40.16	-	-	-	-	-	-	-	-	-	-	-	-	Insufficent Water to Sample
	01/16/08		56.41	-	42.75	-	**77 J**	< 70	< 80	< 80	**78,000**	39,000	710	< 80	640	**1,900**	**110,000**	
	04/15/08		55.40	-	43.76	-	< 50	< 70	< 80	< 80	**71,000**	45,000	420 J	< 80	320 J	**1,300**	**78,000**	MW Abandoned in May 2008
MW-4	02/27/06	97.84	51.51	-	46.33	-	< 0.5	< 0.7	< 0.8	< 0.8	3 J	< 10	< 0.8	< 0.8	< 0.8	**170**	**89**	
TOS = 40	09/19/06		55.11	-	42.73	-	< 0.5	< 0.7	< 0.8	< 0.8	3 J	< 10	< 0.8	< 0.8	< 0.8	**5,700**	**100**	
TD = 61.5	04/19/07		50.43	-	47.41	-	< 0.5	< 0.7	< 0.8	< 0.8	1 J	< 10	< 0.8	< 0.8	< 0.8	**130**	< 20	
Dia (in) = 2	08/08/07		57.41	-	40.43	-	< 0.5	< 0.7	< 0.8	< 0.8	4 J	< 10	< 0.8	< 0.8	< 0.8	< 30	< 20	
	10/10/07		59.45	-	38.39	-	< 0.5	< 0.7	< 0.8	< 0.8	2 J	< 10	< 0.8	< 0.8	< 0.8	**840**	< 20	
	01/16/08		58.27	-	39.57	-	< 0.5	< 0.7	< 0.8	< 0.8	2 J	< 10	< 0.8	< 0.8	< 0.8	**360 J**	< 20	

Table 3

GROUNDWATER ANALYTICAL DATA SUMMARY

MONROVIA BP / GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Monitoring Well ID	Date	TOC Elevation (ft)	DTW (ft)	Measured DTB (ft)	Groundwater Elevation (ft)	Sampling Method	Analytes of Concern (ug/l)											Notes / Comments
							BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES*	MTBE	TBA	TAME	ETBE	DIPE	TPH-DRO	TPH-GRO	
MDE GW Clean-up Standards for Type I and II Aquifers							**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**47**	**47**	
MW-4	04/15/08		53.77	-	44.07	-	< 0.5	< 0.7	< 0.8	< 0.8	1 J	< 10	< 0.8	< 0.8	< 0.8	**490**	< 20	
(Cont.)	06/12/08		50.72	-	47.12	-	< 0.5	< 0.7	< 0.8	< 0.8	0.6 J	< 10	< 0.8	< 0.8	< 0.8	**230**	< 20	
	10/21/08		56.58	-	41.26	-	< 0.5	< 0.7	< 0.8	< 0.8	1 J	< 10	< 0.8	< 0.8	< 0.8	-	< 20	
	01/30/09		55.42	-	42.42	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 40	45.4 J	
	04/09/09		68.95	-	28.89	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 40	< 25	
	07/23/09		54.28	-	43.56	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 40	< 25	
	10/02/09		55.84	-	42.00	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	**51.1 J**	**83.9 J**	
	01/15/10		49.97	-	47.87	-	< 2	< 2	< 2	< 2	4.36	< 10	< 2	< 2	< 2	< 300	< 100	
	04/14/10		50.63	-	47.21	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 300	< 100	
	7/20/10†		58.67	-	39.17	-	< 1.00	< 1.00	< 1.00	< 1.00*	2.57	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
	12/08/10		59.12	61.09	38.72	Grab	< 1.00	< 1.00	< 1.00	< 2.00	1.31	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
MW-5	06/12/08	101.30	47.31	-	53.99	-	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	< 10	< 0.8	< 0.8	< 0.8	34 J	26 J	
TOS = 40	10/21/08		58.79	-	42.51	-	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	< 10	< 0.8	< 0.8	< 0.8	**1,200**	22 J	
TD = 70	01/30/09		56.13	-	45.17	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	**92 J**	**122**	
Dia (in) = 4	04/09/09	99.60	60.19	-	39.41	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 40	< 25	PVC Casing Installed
	07/23/09		54.88	-	44.72	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 40	< 25	
	10/02/09		57.58	-	42.02	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	**25.7 J**	**63.9 J**	
	01/15/10		45.19	-	54.41	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 300	< 100	
	04/16/10		46.46	-	53.14	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 300	< 100	
	7/20/10†		62.10	-	37.50	-	< 1.00	< 1.00	< 1.00	< 1.00*	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
	12/08/10		63.31	70.65	36.29	Grab	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
MW-6	06/12/08	99.84	55.22	-	44.62	-	< 0.5	< 0.7	< 0.8	< 0.8	0.9 J	< 10	< 0.8	< 0.8	< 0.8	47 J	< 20	
TOS = 40	10/21/08		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TD = 60	01/30/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Dia (in) = 4	04/09/09	98.09	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PVC Casing Installed
	07/23/09		58.85	-	39.24	-	-	-	-	-	-	-	-	-	-	-	-	
	10/01/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	01/18/10		53.20	-	44.89	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 300	< 100	
	04/14/10		54.63	-	43.46	-	< 1	< 1	< 1	< 1	2.70	< 5	< 1	< 1	< 1	< 300	< 100	
	07/19/10		58.85	-	39.24	-	-	-	-	-	-	-	-	-	-	-	-	Insufficent Water to Sample
	12/08/10		58.95	59.45	39.14	Grab	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	-	< 100	
MW-7	06/12/08	99.38	54.79	-	44.59	-	**52 J**	< 35	< 40	< 40	**86,000**	81,000	2,300	< 40	530	**530**	**130,000**	
TOS = 53	10/21/08		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TD = 80	01/30/09		62.99	-	36.39	-	-	-	-	-	-	-	-	-	-	-	-	
Dia (in) = 4	04/09/09	97.66	64.64	-	33.02	-	**11.5**	< 2	< 2	2.48	**24,900**	22,400	490	< 2	204	< 40	< 25	PVC Casing Installed
	07/23/09		59.17	-	38.49	-	< 5	< 5	< 5	< 5	**27,800**	29,600	636	9.2	474	< 40	**1,380**	
	10/02/09		61.33	-	36.33	-	1.34	< 1	< 1	1.02	**11,800**	8,490	191	< 1	76.3	**57.4 J**	**1,200**	
	01/15/10		51.89	-	45.77	-	< 5	< 5	< 5	< 5	**17,400**	24,000	414	6.9	348	< 300	**234**	
	04/16/10		53.54	-	44.12	-	< 2	< 2	< 2	< 2	**14,700**	8,440	308	3.00	181	< 300	**1,080**	
	7/20/10†		63.56	-	34.10	-	2.52	< 2.00	< 2.00	< 2.00*	**10,600**	10,300	344	< 2.00	144	< 300	**1,010**	
	11/23/10		63.97	79.8	33.69	P&S	< 2.00	< 2.00	< 2.00	< 2.00*	**14,000**	14,000	233	< 2.00	122	**232**	**1,190**	
	12/08/10		64.18	-	33.48	-	-	-	-	-	-	-	-	-	-	-	-	Not Sampled
MW-8	06/12/08	99.7	53.19	-	46.51	-	< 0.5	12	< 0.8	< 0.8	**720**	78 J	11	< 0.8	23	**2,500**	**1,200**	
TOS = 45	10/21/08		59.80	-	39.90	-	< 0.5	< 0.7	< 0.8	< 0.8	**270**	< 10	< 0.8	< 0.8	10	46 J	**260**	
TD = 70	01/30/09		59.15	-	40.55	-	< 1	< 1	< 1	< 1	**33.6**	< 5	< 1	< 1	7.37	**140 J**	**57.7 J**	
Dia (in) = 4	04/09/09	97.93	62.23	-	35.70	-	< 1	< 1	< 1	< 1	**63.4**	< 5	< 1	< 1	8.63	< 40	< 25	PVC Casing Installed

Table 3

GROUNDWATER ANALYTICAL DATA SUMMARY

MONROVIA BP / GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Monitoring Well ID	Date	TOC Elevation (ft)	DTW (ft)	Measured DTB (ft)	Groundwater Elevation (ft)	Sampling Method	Analytes of Concern (ug/l)											Notes / Comments
							BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES*	MTBE	TBA	TAME	ETBE	DIPE	TPH-DRO	TPH-GRO	
MDE GW Clean-up Standards for Type I and II Aquifers							**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**47**	**47**	
MW-8	07/23/09		56.25	-	41.68	-	< 2	< 2	< 2	< 2	**57.4**	< 10	< 2	< 2	44.5	< 40	**80.2 J**	
(Cont.)	10/01/09		57.72	-	40.21	-	< 1	< 1	< 1	< 1	**172**	9.84	< 1	< 1	15.9	43.1 J	**255**	
	01/15/10		50.62	-	47.31	-	< 2	< 2	< 2	< 2	**432**	51.1	< 2	< 2	29.8	< 300	< 100	
	04/14/10		51.97	-	45.96	-	< 2	< 2	< 2	< 2	**23.0**	< 10	< 2	< 2	37.1	< 300	**101**	
	7/20/10†		61.62	-	36.31	-	< 2.00	< 2.00	< 2.00	< 2.00*	**110**	< 50.0	78.1	< 2.00	60.2	**422**	< 100	
	11/23/10		61.94	69.50	35.99	P&S	< 1.00	< 1.00	< 1.00	< 1.00*	**7.98**	< 5.00	< 1.00	< 1.00	4.73	< 273	< 100	
	12/08/10		62.22	-	35.71	-	-	-	-	-	-	-	-	-	-	-	-	Not Sampled
MW-9	04/09/09	88.48	55.21	-	33.27	-	< 1	< 1	< 1	< 1	1.13	< 5	< 1	< 1	< 1	< 40	< 25	
TOS = 48	07/23/09		49.52	-	38.96	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 40	< 25	
TD = 78	10/01/09		51.96	-	36.52	-	< 1	< 1	< 1	< 1	**77.7**	23.7	< 1	< 1	1.41	36.8 J	**102**	
Dia (in) = 4	01/18/10		41.86	-	46.62	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 300	< 100	
	04/16/10		43.30	-	45.18	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 300	< 100	
	7/21/10†		53.64	-	34.84	-	< 1.00	4.36	< 1.00	3.51*	2.44	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
	12/08/10		54.86	77.70	33.62	LF (66)	< 1.00	< 1.01	< 1.00	< 2.00	2.18	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
MW-10	04/09/09	91.64	58.09	-	33.55	-	< 2	< 2	< 2	< 2	**1,750**	798	68.6	< 2	16.8	< 40	**502**	
TOS = 40	07/23/09		52.38	-	39.26	-	< 2	< 2	< 2	< 2	**116**	< 10	2.88	< 2	< 2	< 40	**74.2 J**	
TD = 80	10/01/09		54.88	-	36.76	-	< 1	< 1	< 1	< 1	**227**	93.9	4.54	< 1	1.66	**65.9 J**	**357**	
Dia (in) = 4	01/18/10		45.00	-	46.64	-	< 2	< 2	< 2	< 2	**26**	< 10	< 2	< 2	2.1	< 300	< 100	
	04/16/10		46.52	-	45.12	-	< 1	< 1	< 1	< 1	1.80	< 5	< 1	< 1	< 1	< 300	< 100	
	07/21/10†		56.64	-	35.00	-	< 1.00	< 1.00	< 1.00	< 1.00*	**88.9**	8.72	2.01	< 1.00	1.67	< 300	**128**	
	11/23/10		57.42	80.00	34.22	LF (68)	< 1.00	< 1.00	< 1.00	< 1.00*	**5640**	4120	83.6	< 1.00	36.2	< 150	**873**	
	12/08/10		57.72	-	33.92	-	-	-	-	-	-	-	-	-	-	-	-	Not Sampled
MW-11	04/09/09	94.28	48.75	-	45.53	-	< 1	< 1	< 1	< 1	1.2	< 5	< 1	< 1	< 1	< 40	< 25	
TOS = 47	07/23/09		47.56	-	46.72	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 40	< 25	
TD = 77	10/02/09		46.72	-	47.56	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	39.4 J	**48.6 J**	
Dia (in) = 4	01/15/10		41.56	-	52.72	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 300	< 100	
	04/14/10		42.62	-	51.66	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 300	< 100	
	7/21/10†		50.38	-	43.90	-	< 1.00	< 1.00	< 1.00	< 1.00*	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
	12/08/10		48.92	77.04	45.36	FL (63)	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
MW-12	04/09/09	95.33	44.18	-	51.15	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 40	< 25	
TOS = 44	07/23/09		45.08	-	50.25	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 40	< 25	
TD = 82	10/02/09		43.64	-	51.69	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	**52.6 J**	**42.7 J**	
Dia (in) = 4	01/15/10		39.06	-	56.27	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 300	< 100	
	04/14/10		40.71	-	54.62	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 300	< 100	
	7/20/10†		45.20	-	50.13	-	< 1.00	< 1.00	< 1.00	< 1.00*	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
	12/08/10		44.58	81.20	50.75	LF (64)	< 1.00	< 1.00	< 1.00	< 2.00	< 1.00	< 5.00	< 1.00	< 1.00	< 1.00	< 300	< 100	
MW-13	04/09/09	98.11	62.20	-	35.91	-	< 2	< 2	< 2	< 2	**37,000**	6,590	233	< 2	307	< 40	**966**	
TOS = 49	07/23/09		57.92	-	40.19	-	< 5	< 5	< 5	< 5	**14,100**	22,500	252	7.9	268	< 40	**1,280**	
TD = 84	10/02/09		59.18	-	38.93	-	< 1	< 1	< 1	< 1	**43,400**	32,400	312	< 1	309	**64.3 J**	**1,460**	
Dia (in) = 4	01/15/10		50.72	-	47.39	-	< 5	< 5	< 5	< 5	**5,080**	1,530	76.8	< 5	169	< 300	**109**	
	04/16/10		52.71	-	45.40	-	< 2	< 2	< 2	< 2	**3,080**	849	37.6	< 2	98.6	< 300	**526**	
	7/20/10†		62.12	-	35.99	-	< 2.00	< 2.00	< 2.00	< 2.00*	**12,800**	2,890	144	3.16	174	**320**	**1,050**	
	11/23/10		62.35	84.00	35.76	LF (73)	< 2.00	< 2.00	< 2.00	< 2.00*	**7,730**	785	37.2	< 2.00	103	< 158	**921**	
	12/08/10		62.41	-	35.70	-	-	-	-	-	-	-	-	-	-	-	-	Not Sampled

Table 3

GROUNDWATER ANALYTICAL DATA SUMMARY

MONROVIA BP / GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Monitoring Well ID	Date	TOC Elevation (ft)	DTW (ft)	Measured DTB (ft)	Groundwater Elevation (ft)	Sampling Method	Analytes of Concern (ug/l)											Notes / Comments
							BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES*	MTBE	TBA	TAME	ETBE	DIPE	TPH-DRO	TPH-GRO	
MDE GW Clean-up Standards for Type I and II Aquifers							**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**47**	**47**	
MW-14S	07/22/10	91.21	56.35	-	34.86	-	< 1.00	< 1.00	< 1.00	< 1.00*	**53.4**	< 5.00	1.18	< 1.00	1.15	< 300	< 100	
TOS = 40	11/23/10		57.03	100.00	34.18	LF (78)	< 1.00	< 1.00	< 1.00	< 1.00*	**5690**	4300	89.6	< 1.00	40.2	< 167	**850**	
TD = 100	12/08/10		57.30	-	33.91	-	-	-	-	-	-	-	-	-	-	-	-	Not Sampled
Dia (in) = 4																		
MW-14D	10/01/09	92.22	55.36	-	36.86	-	< 1	< 1	< 1	< 1	**7,860**	4,740	167	< 1	39.9	36.9 J	**1,110**	
TOS = 201	01/18/10		45.54	-	46.68	-	< 2	< 2	< 2	< 2	**1,080**	416	30.6	< 2	11.5	< 300	< 100	
TD = 221	04/16/10		47.06	-	45.16	-	< 2	< 2	< 2	< 2	**133**	< 10	< 2	< 2	< 2	< 300	**107**	
Dia (in) = 4	7/22/10†		57.19	-	35.03	-	< 1.00	< 1.00	< 1.00	< 1.00*	**3,150**	1,970	56.7	< 1.00	22.4	< 300	**768**	Open Borehole
	07/22/10	92.07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PVC Casing Installed
	11/23/10		63.15	212.00	28.92	LF (212)	< 2.00	< 2.00	< 2.00	< 2.00*	**3,860**	2,670	78.4	< 2.00	29.2	< 600	**750**	
	12/08/10		63.68	-	28.39	-	-	-	-	-	-	-	-	-	-	-	-	Not Sampled
				-														
MW-15D	10/01/09	96.98	59.95	-	37.03	-	< 2	< 2	< 2	< 2	**10,600**	9,890	234	2.04	125	**53 J**	**1,160**	
TOS = 46	01/18/10		50.81	-	46.17	-	< 2	< 2	< 2	< 2	**6,520**	2,910	100	< 2	91.9	< 300	**102**	
TD = 134	04/14/10		52.48	-	44.50	-	< 2	< 2	< 2	2.74	**23,800**	14,100	579	2.64	204	< 300	**1,450**	
Dia (in) = 4	7/20/10†		62.36	-	34.62	-	3.88	5.96	< 2.00	3.98	**7,390**	4,140	43.3	< 2.00	51.6	**574**	**652**	Open Borehole
	07/22/10	97.67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PVC Casing Installed
	11/23/10		63.41	134.00	34.26	LF (97)	< 2.00	< 2.00	< 2.00	< 2.00*	**2,820**	1,590	18.6	< 2.00	32.5	< 158	**669**	
	12/08/10		63.59	-	34.08	-	-	-	-	-	-	-	-	-	-	-	-	Not Sampled
MW-16	10/01/09	89.79	53.13	-	36.66	-	< 1	< 1	< 1	< 1	**160**	67.4	2.30	< 1	2.46	**55.9 J**	**176**	
TOS = 36	01/18/10		43.20	-	46.59	-	< 2	< 2	< 2	< 2	< 2	< 10	< 2	< 2	< 2	< 300	< 100	
TD = 121	04/15/10		44.68	-	45.11	-	< 1	< 1	< 1	< 1	< 1	< 5	< 1	< 1	< 1	< 300	< 100	
Dia (in) = 4	7/21/10†		54.83	-	34.96	-	< 1.00	< 1.00	< 1.00	< 1.00*	17.8	< 5.00	< 1.00	< 1.00	< 1.00	**384**	< 100	Open Borehole
	07/22/10	89.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PVC Casing Installed
	11/23/10		55.68	121.00	34.10	LF (83)	< 1.00	< 1.00	< 1.00	< 1.00*	**136**	51	1.81	< 1.00	7.95	< 150	**150**	
	12/08/10		55.96	-	33.82	-	-	-	-	-	-	-	-	-	-	-	-	Not Sampled
MW-17	10/01/09	92.61	55.73	-	36.88	-	**7.38**	< 2	< 2	8.44	**31,000**	25,800	591	4.24	202	< 20	**1,710**	
TOS = 35	01/18/10		45.92	-	46.69	-	< 5	< 5	< 5	< 5	**11,600**	14,600	354	< 5	217	< 300	**164**	
TD = 121	04/15/10		47.45	-	45.16	-	< 2	< 2	< 2	< 2	**6,460**	3,890	166	< 2	61.0	< 300	**654**	
Dia (in) = 4	7/22/10†		57.54	-	35.07	-	< 2.00	< 2.00	< 2.00	< 2.00*	**11,100**	9,640	291	2.86	136	< 300	**1,150**	Open Borehole
	07/22/10	92.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	PVC Casing Installed
	11/23/10		58.54	121.00	34.30	LF (68)	< 2.00	< 2.00	< 2.00	< 2.00*	**13,500**	11,800	251	< 2.00	117	< 167	**1150**	
	12/08/10		58.78	-	34.06	-	-	-	-	-	-	-	-	-	-	-	-	Not Sampled
MW-18S	11/23/10	98.29	69.05	-	29.24	Grab	< 2.00	106	< 2.00	< 2.00*	**17,100**	16,500	385	< 2.00	160	**984**	**1,540**	
TOS = 45	12/08/10		64.25	70.26	34.04	P&S	< 2.00	129	< 2.00	< 4.00	**21,200**	24,200	545	< 2.00	163	**621**	**1740**	
TD = 70																		
Dia (in) = 2																		
MW-18D	11/23/10	98.31	73.75	-	24.56	LF (125)	< 2.00	< 2.00	< 2.00	<4.00	**15,300**	14,200	354	< 2.00	138	**389**	**1,420**	
TOS = 120	12/08/10		84.72	130.57	13.59	LF (125)	< 2.00	< 2.00	< 2.00	<4.00	**9,480**	9,600	123	< 2.00	34.3	< 300	**1050**	
TD = 130																		
Dia (in) = 2																		
IW-1S	12/15/10	98.52	-	-	NA	Grab	<2.00	<2.00	<2.00	<4.00	**13,500**	23,600	199	< 2.00	110	-	-	Screen Interval 63-67

Table 3

GROUNDWATER ANALYTICAL DATA SUMMARY

MONROVIA BP / GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Monitoring Well ID	Date	TOC Elevation (ft)	DTW (ft)	Measured DTB (ft)	Groundwater Elevation (ft)	Sampling Method	Analytes of Concern (ug/l)											Notes / Comments
							BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES*	MTBE	TBA	TAME	ETBE	DIPE	TPH-DRO	TPH-GRO	
MDE GW Clean-up Standards for Type I and II Aquifers							**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**47**	**47**	
IW-1D	12/15/10	98.60	-	-	NA	Grab	<2.00	<2.00	<2.00	<4.00	**9,520**	22,900	100	< 2.00	50.2	-	-	Screen Interval 69-73
IW-2S	12/15/10	98.63	-	-	NA	Grab	<2.00	<2.00	<2.00	<4.00	**1,820**	4,270	23.7	<2.00	6.422	-	-	Screen Interval 87-91
IW-2D	12/15/10	98.71	-	-	NA	Grab	<2.00	<2.00	<2.00	<4.00	**38,900**	85,900	675	<2.00	112	-	-	Screen Interval 99-103
IW-3S	12/15/10	98.51	-	-	NA	Grab	<2.00	<2.00	<2.00	<4.00	**6,020**	15,700	102	<2.00	23.2	-	-	Screen Interval 123-127
IW-3D	12/15/10	98.62	DRY	-	NA	-	-	-	-	-	-	-	-	-	-	-	-	Screen Interval 130-134
VE-1	12/08/10	98.40	DRY	-	NA	-	-	-	-	-	-	-	-	-	-	-	-	Screen Interval 5-25
TF-1	9/19/06	NR	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/19/07		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	8/8/07		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10/10/07		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/16/08		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/15/08		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6/12/08		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MW Destroyed in June 2008
TF-2	9/19/06	NR	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/19/07		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	8/8/07		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10/10/07		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/16/08		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/15/08		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	6/12/08		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MW Destroyed in June 2008
TF-3	10/21/08	NR	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/30/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/9/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/23/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10/1/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/15/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/13/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/19/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/8/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TF-4	10/21/08	NR	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/30/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/9/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/23/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10/1/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/15/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/13/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/19/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/8/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TF-5	10/21/08	NR	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/30/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/9/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/23/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10/1/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/15/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/13/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/19/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/8/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table 3

GROUNDWATER ANALYTICAL DATA SUMMARY

MONROVIA BP / GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Monitoring Well ID	Date	TOC Elevation (ft)	DTW (ft)	Measured DTB (ft)	Groundwater Elevation (ft)	Sampling Method	Analytes of Concern (ug/l)											Notes / Comments
							BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES*	MTBE	TBA	TAME	ETBE	DIPE	TPH-DRO	TPH-GRO	
MDE GW Clean-up Standards for Type I and II Aquifers							**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**47**	**47**	
TF-6	10/21/08	NR	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/30/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/9/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/23/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10/1/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/15/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/13/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/19/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/8/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TF-7	10/21/08	NR	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/30/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/9/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/23/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10/1/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/15/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/13/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/19/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/8/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TF-8	10/21/08	NR	DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/30/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/9/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/23/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	10/1/09		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	1/15/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	4/13/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	7/19/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/8/10		DRY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

NA = Not Available
ND = Not Detected
NR = Not Recorded
P&S = Purge well and sample
LF (#) = Low Flow Sampling (Depth of sample interval in feet below TOC)
- = Not Analyzed / Not Available
J = Estimated Value
D = dilution (secondary value)
ft = feet
Concentrations in ug/l
ug/l = micrograms per liter
Top of casing elevation based on arbitrary datum of 100 feet.
Values exceeding the specified MDE GW Clean-up Standards are **bolded.**
<# = Less than the method detection limit of #
TPH analysis conducted in accordance with EPA Method 8015B.
Volatile organic compound (VOC) analysis conducted in accordance with EPA Method 8260B; only BTEX and oxygenates are summarized
† = DTW taken on 07/19/10
*Total Xylenes represents the calculated sum of laboratory results for o-xylene and m,p-xylenes. In the case of non-detect, the highest detection limit was used.

MTBE = Methyl-tertiary butyl-ether
TBA = Tertiary butyl alcohol
TAME = Tertiary-amyl methyl ether
DIPE = Di-isopropyl Ether
ETBE = Ethyl tertiary-butyl ether
TPH = Total petroleum hydrocarbons
GRO = Gasoline-range organics
DRO = Diesel-range organics
TD = Total depth of well (feet)
TOS = Top of screen (feet)

Table 4

LOW FLOW SAMPLING FIELD PARAMETER SUMMARY

MONROVIA BP / GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Well ID	Sample Location	Date	Time	Depth to Water (fbg)	Total Depth of Well (fbg)	Height of Water Column (ft)	Temp (°C)	Specific Conductance (µs/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)
MW-9	Low Flow (66')	12/08/10	-	54.86	77.70	22.84	-	-	-	-	-
			15:00	54.97			12.93	480	7.60	4.73	253.0
			15:05	54.97			13.40	528	3.88	4.67	261.6
			15:10	55.04			13.47	531	3.31	4.66	266.4
			15:15	55.07			13.45	533	2.81	4.65	270.2
			15:20	55.05			13.36	533	2.54	4.65	273.6
			15:25	55.07			13.39	532	2.45	4.65	275.0
MW-10	Low Flow (68')	11/23/10	-	57.42	80.00	22.58	-	-	-	-	-
			11:14	57.55			14.60	588	9.78	5.38	305.9
			11:19	57.60			14.57	604	9.33	5.27	313.7
			11:24	57.50			14.56	599	10.21	5.23	321.1
			11:29	57.50			14.54	600	9.36	5.23	328.0
			11:34	57.50			14.53	580	11.00	5.17	347.3
			11:39	57.52			14.52	579	8.76	5.16	248.5
			11:44	57.58			14.52	578	9.13	5.21	349.3
MW-11	Low Flow (63')	12/08/10	-	48.92	77.04	28.12	-	-	-	-	-
			14:10	49.17			12.89	280	8.27	5.25	222.2
			14:15	49.32			13.78	278	7.69	5.25	223.9
			14:20	49.45			13.73	278	7.82	5.26	225.3
			14:25	49.60			13.72	279	7.81	2.27	226.1
			14:30	49.68			13.74	279	7.79	5.27	226.3
			14:35	49.76			13.69	279	7.81	5.28	226.5
MW-12	Low Flow (64')	12/08/10	-	44.58	81.20	36.62	-	-	-	-	-
			13:10	44.98			14.45	475	9.41	5.12	181.9
			13:15	45.38			14.99	476	8.60	4.80	229.1
			13:20	45.62			14.93	476	8.56	4.78	237.4
			13:25	45.85			14.92	473	8.55	4.76	248.5
			13:30	46.24			14.96	471	8.48	4.76	258.0
			13:35	46.44			15.04	470	8.43	4.75	261.5
MW-13	Low Flow (73')	11/23/10	-	62.31	84.00	21.69	-	-	-	-	-
			14:32	62.46			16.65	585	4.55	5.24	268.2
			14:37	62.46			16.33	523	1.07	5.10	298.2
			14:42	62.51			16.28	533	0.59	5.08	311.3
			14:47	62.48			16.31	539	0.52	5.09	317.5
			14:52	62.51			16.30	540	0.52	5.11	318.2
			14:57	62.52			16.31	542	1.38	5.15	321.3
			15:02	62.53			16.33	541	1.46	5.15	322.0
			15:07	62.50			16.31	542	1.70	5.14	325.0

Table 4

LOW FLOW SAMPLING FIELD PARAMETER SUMMARY

MONROVIA BP / GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Well ID	Sample Location	Date	Time	Depth to Water (fbg)	Total Depth of Well (fbg)	Height of Water Column (ft)	Temp (°C)	Specific Conductance (µs/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)
MW-14S	Low Flow (78')	11/23/10	-	57.03	100.00	42.97	-	-	-	-	-
			9:42	57.03			14.71	778	1.87	6.13	208.0
			9:47	57.06			14.66	777	6.11	5.95	257.5
			9:52	57.10			14.66	758	5.51	5.85	255.4
			9:57	57.11			14.67	756	5.03	5.83	255.7
			10:02	57.07			14.64	754	5.72	5.80	256.0
			10:07	57.12			14.64	738	5.36	5.72	262.0
			10:12	57.12			14.64	733	5.43	5.69	265.1
MW-14D	Low Flow (212')	11/23/10	-	63.15	221.00	157.85	-	-	-	-	-
			15:10	64.77			14.83	883	16.30	10.82	104.6
			15:15	65.21			14.78	965	14.17	11.23	93.1
			15:20	65.85			14.74	1028	9.91	11.35	86.6
			15:25	66.35			14.73	1049	6.52	11.40	91.0
			15:30	66.77			14.76	1051	4.25	11.41	99.4
			15:35	67.10			14.79	1060	3.31	11.41	106.4
			15:40	67.26			14.84	1063	5.02	11.42	109.8
MW-15D	Low Flow (97')	11/23/10	-	63.41	134.00	70.59	-	-	-	-	-
			11:05	63.56			15.84	545	8.42	8.90	261.7
			11:10	63.50			15.56	522	5.02	7.59	186.6
			11:15	63.60			15.58	523	10.22	7.26	182.7
			11:20	63.54			15.69	526	7.41	6.89	198.2
			11:25	63.55			15.73	524	5.09	6.75	195.4
			11:30	63.48			15.72	524	3.71	6.60	198.7
			11:35	63.47			15.72	524	3.54	6.51	201.4
			11:40	63.47			15.72	526	2.80	6.39	205.8
			11:45	63.48			15.70	528	2.28	6.28	215.4
			11:50	63.55			15.71	530	2.09	6.21	220.1
			11:55	63.53			15.68	529	1.91	6.18	221.4
			12:00	63.49			15.72	530	1.72	6.11	225.6
			12:05	63.47			15.75	532	1.59	6.07	231.4
MW-16	Low Flow (83')	11/23/10	-	55.68	121.00	65.32	-	-	-	-	-
			16:10	55.68			14.44	713	10.99	8.19	275.8
			16:15	55.68			14.45	701	8.19	7.25	313.9
			16:20	55.68			14.47	674	8.58	6.27	346.4
			16:25	55.68			14.46	672	6.81	5.89	351.9
			16:30	55.68			14.44	673	6.21	5.74	351.8
			16:35	55.68			14.45	668	5.54	5.63	351.0
			16:40	55.68			14.43	664	4.85	5.51	351.2
			16:45	55.68			14.42	664	4.43	5.48	350.4

Table 4

LOW FLOW SAMPLING FIELD PARAMETER SUMMARY

MONROVIA BP / GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Well ID	Sample Location	Date	Time	Depth to Water (fbg)	Total Depth of Well (fbg)	Height of Water Column (ft)	Temp (°C)	Specific Conductance (µs/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)
MW-17	Low Flow (68')	11/23/10	-	58.54	121.00	62.46	-	-	-	-	-
			13:20	58.54			15.23	682	14.75	6.28	261.8
			13:15	58.56			15.03	682	14.19	5.55	307.8
			13:20	58.60			14.95	682	2.85	5.45	320.5
			13:25	58.53			14.93	682	1.44	5.41	329.2
			13:30	58.55			14.94	682	1.22	5.39	334.7
			13:35	58.55			14.96	682	1.26	5.38	339.0
			13:40	58.55			14.95	681	1.26	5.37	342.6
			13:45	58.55			14.91	682	1.15	5.36	349.0
MW-18D	Low Flow (125')	11/23/10	-	73.75	130.57	56.82	-	-	-	-	-
			8:27	76.65			15.48	7.87	7.40	7.89	228.6
			8:32	77.64			15.27	7.88	6.94	7.41	247.0
			8:37	78.42			15.40	7.85	6.33	7.25	263.6
			8:42	78.68			15.52	7.84	6.13	7.21	270.1
			8:47	79.30			15.72	7.84	5.67	7.17	279.2
			8:52	80.95			15.85	7.80	5.29	7.16	285.8
	Low Flow (125')	12/08/10	-	84.72	130.57	36.62	-	-	-	-	-
			10:10	85.50			12.97	721	8.76	7.56	52.5
			10:15	87.30			13.64	721	7.57	7.45	53.2
			10:20	88.34			13.78	717	6.71	7.42	53.0
			10:25	89.27			13.60	718	6.17	7.42	51.9
			10:30	89.92			13.59	716	5.74	7.41	51.2
			10:35	90.44			13.45	717	5.32	7.42	50.7

mV = Millivolts
µs/cm = Microsiemens per centimeter
mg/L = Milligrams per liter
°C = Degees Celcius
fbg = Feet below grade
MW-#S = Shallow well
MW-#D = Deep well
- = Not available

Table 5

GREEN VALLEY PLAZA SUPPLY WELL AND POET SYSTEM ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD RD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)											
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE	TPH-DRO	TPH-GRO
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**	**47**	**47**
FR-81-5955INF	01/04/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
PW-1-West	01/10/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
TOC=91.48	09/04/08	< 0.1	< 0.1	< 0.1	< 0.1	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	35 J	< 20
TD=300 feet	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 32	21 J
BOC = 32 feet	10/29/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**94 J**	**143**
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500	-	-
FR-88-1394-INF	01/04/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
PW-2-Center	01/10/07	< 0.1	0.1 J	< 0.1	< 0.2	2	25	< 0.1	< 0.1	< 0.1	< 0.2	-	-
TOC=93.91	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 29	< 20
TD=400 feet	04/17/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 31	< 20
BOC = 47 feet	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	30 J	< 20
	09/04/08	< 0.1	< 0.1	< 0.1	< 0.1	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 32	< 20
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	1.5	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 33	22 J
	10/29/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**153 J**	**100**
FR-94-1233-INF	01/04/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
PW-2-South	01/10/07	< 0.1	< 0.1	< 0.1	< 0.2	12	< 5	0.3 J	< 0.1	0.2 J	< 0.2	-	-
TOC=88.36	01/19/07	< 0.5	< 0.7	< 0.8	< 0.8	1 J	-	-	-	-	-	-	-
TD=400 feet	04/17/07	< 0.1	< 0.1	< 0.1	< 0.2	12	< 5	0.2 J	< 0.1	0.3 J	< 0.2	< 28	21 J
BOC = 40 feet	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	11	< 5	0.1 J	< 0.1	0.5	< 0.2	29 J	< 20
	10/10/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
	01/23/08	< 1	< 1	< 1	< 2	**970**	390	28	< 1	4.1 J	< 2	< 28	**1,000**
	04/15/08	< 0.1	< 0.1	< 0.1	< 0.2	**110**	6.9 J	1.6	< 0.1	1.3	< 0.2	**76 J**	**900**
	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	33 J	< 20
	09/04/08	< 0.1	< 0.1	< 0.1	< 0.1	2.6	< 5	< 0.1	< 0.1	1.8	< 0.2	< 32	< 20
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	13	< 5	0.2 J	< 0.1	1.8	< 0.2	< 32	47 J
	01/30/09	< 0.5	< 0.5	< 0.5	< 0.5	7.55	< 2.5	< 0.5	< 0.5	2.37	< 0.5	**126 J**	< 25
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	**487**	25.0	10.3	< 0.5	3.01	< 0.5	**338**	**307**
	07/17/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	**163**
	10/29/09	< 0.5	< 0.5	< 0.5	< 0.5	1.04	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**99.2 J**	40.6 J
	01/15/10	< 0.5	< 0.5	< 0.5	< 0.5	0.66	< 2.5	< 0.5	< 0.5	0.6	< 0.5	< 300	< 100
	04/15/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	1.38	< 0.5	< 300	< 100
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500	-	-
FR-88-1366-INF	01/04/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
PW-3-East	01/10/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
TOC=95.22	04/17/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
TD=400 feet	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	40 J	< 20
BOC = 41 feet	10/10/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	0.6	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
	04/15/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 30	< 20
	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 29	< 20
	09/04/08	< 0.1	< 0.1	< 0.1	< 0.1	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 35	< 20
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	4.3	< 5	0.1 J	< 0.1	< 0.1	< 0.2	< 35	< 20
	10/29/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**96.6 J**	**84.5 J**
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500	-	-

Table 5

GREEN VALLEY PLAZA SUPPLY WELL AND POET SYSTEM ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD RD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)											
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE	TPH-DRO	TPH-GRO
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**	**47**	**47**
FR-94-1281-INF	01/04/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
PW-3-South	01/10/07	< 0.1	< 0.1	< 0.1	< 0.2	0.5 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
TOC=83.26	01/19/07	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	-	-	-	-	-	-	-
TD=400 feet	04/17/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
BOC = 40 feet	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	11	< 5	< 0.1	< 0.1	1.7	< 0.2	35 J	< 20
	10/10/07	< 0.1	< 0.1	< 0.1	< 0.2	4.5	< 5	< 0.1	< 0.1	2.8	< 0.2	< 28	< 20
	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	9.5	< 5	< 0.1	< 0.1	0.9	< 0.2	< 29	< 20
	04/15/08	< 0.1	< 0.1	< 0.1	< 0.2	1.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2	**81 J**	**530**
	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	11	< 5	< 0.1	< 0.1	0.2 J	< 0.2	< 29	< 20
	09/04/08	< 0.1	< 0.1	< 0.1	< 0.1	11	< 5	0.2 J	< 0.1	0.4 J	< 0.2	< 31	< 20
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	17	< 5	0.5	< 0.1	0.2 J	< 0.2	< 33	24 J
	01/30/09	< 0.5	< 0.5	< 0.5	< 0.5	10.1	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	6.77	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	07/17/09	< 0.5	< 0.5	< 0.5	< 0.5	9.34	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	10/29/09	< 0.5	< 0.5	< 0.5	< 0.5	16.7	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**103 J**	**139**
	01/15/10	< 0.5	< 0.5	< 0.5	< 0.5	1.23	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	04/15/10	< 0.5	< 0.5	< 0.5	< 0.5	6.85	3.59	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	5.10	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	10/25/10	<0.500	<0.500	<0.500	<1.00	1.52 D1	<2.50	<0.500	<0.500	<0.500	<0.500	-	-
GVP POET-INF	03/28/06	< 0.1	< 0.1	< 0.1	< 0.2	14	< 5	0.3 J	< 0.1	0.1 J	< 0.2	-	-
PW-1	09/19/06	< 0.1	0.1 J	< 0.1	< 0.2	**42**	6.8 J	0.5	< 0.1	0.4 J	< 0.2	-	-
(blended sample)	11/06/06	< 0.1	< 0.1	< 0.1	< 0.2	**24**	5.1 J	0.3 J	< 0.1	0.7	< 0.2	-	-
	04/05/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
	02/20/08	< 0.2	< 0.2	< 0.2	< 0.4	**74**	66	1.5	< 0.2	0.4 J	< 0.4	**83 J**	**82**
	09/04/08	< 0.1	< 0.1	< 0.1	< 0.1	10	5.6 J	0.2 J	< 0.1	0.2 J	< 0.2	-	-
	09/08/08	< 0.1	0.2 J	< 0.1	< 0.2	**50**	29	1.4	< 0.1	0.5 J	< 0.2	-	-
	09/17/08	< 0.1	< 0.1	< 0.1	< 0.2	3.8	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 32	< 20
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	6.8	< 5	0.2 J	< 0.1	< 0.1	< 0.2	< 33	< 20
	12/29/08	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	-	< 300	< 100
	01/30/09	< 0.5	< 0.5	< 0.5	< 0.5	2.46	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**130 J**	< 25
	03/18/09	< 0.5	< 0.5	< 0.5	< 0.5	14	6.37	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	7.72	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	05/19/09	< 0.5	< 0.5	< 0.5	< 0.5	1.41	< 2.5	< 0.5	< 0.5	< 0.5	-	< 40	< 25
	06/05/09	< 1	< 1	< 1	< 1	2.00	< 5	< 1	< 1	< 1	< 1	< 40	< 25
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	3.87	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	08/12/09	< 0.5	< 0.5	< 0.5	< 0.5	3.33	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	09/04/09	< 0.5	< 0.5	< 0.5	< 0.5	3.17	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**108 J**	41.9 J
	10/29/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**64.4 J**	44.8 J
	11/06/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**86.2 J**	41.0 J
	12/04/09	< 0.5	< 0.5	< 0.5	< 0.5	11.6	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 345	< 100
	01/25/10	< 0.5	< 0.5	< 0.5	< 0.5	0.86	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	02/09/10	< 0.5	< 0.5	< 0.5	< 0.5	0.69	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	03/01/10	< 0.5	< 0.5	< 0.5	< 0.5	2.76	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	04/15/10	< 0.5	< 0.5	< 0.5	< 0.5	0.940	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	05/10/10	< 0.5	< 0.5	< 0.5	< 0.5	1.00	< 2.5	< 0.5	< 0.5	< 0.5	-	< 300	< 100
	06/07/10	< 0.5	< 0.5	< 0.5	< 0.5	1.21	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-
	10/25/10	<0.500	<0.500	<0.500	<1.00	2.96	<2.50	<0.500	<0.500	<0.500	<0.500	-	-

Table 5

GREEN VALLEY PLAZA SUPPLY WELL AND POET SYSTEM ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD RD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)											
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE	TPH-DRO	TPH-GRO
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**	**47**	**47**
GVP POET-MID	09/04/08	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
	09/08/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
	09/17/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	41 J	< 20
	10/03/08	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	< 10	-	-	-	-	-	-
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 35	< 20
	12/29/08	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	-	< 300	< 100
	01/30/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 80	< 25
	03/18/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	05/19/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	-	< 40	< 25
	06/05/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	08/12/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	09/04/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**83.6 J**	33.8 J
	10/29/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**110 J**	**52 J**
	11/06/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**57.6 J**	46.0 J
	12/04/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 360	< 100
	01/15/10	**carbon change out conducted January 15, 2010**											
	01/25/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	02/09/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	03/01/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	04/15/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	05/10/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	-	< 300	< 100
	06/07/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500	-	-
GVP POET-EFF	09/04/08	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
	09/08/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	-	-
	09/17/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 31	< 20
	10/03/08	< 0.5	< 0.7	< 0.8	< 0.8	< 0.5	< 10	-	-	-	-	-	-
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 33	< 20
	12/29/08	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	-	< 300	< 100
	01/30/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	03/18/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	05/19/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	-	< 40	< 25
	06/05/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	08/12/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	09/04/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**65.6 J**	42.2 J
	10/29/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**89.8 J**	**121**
	11/06/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	**86.1 J**	**70.7 J**
	12/04/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 390	< 100
	01/15/10	**carbon change out conducted January 15, 2010**											
	01/25/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	02/09/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	03/01/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	04/15/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	05/10/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	-	< 300	< 100
	06/07/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	-	-
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500	-	-

Table 5

GREEN VALLEY PLAZA SUPPLY WELL AND POET SYSTEM ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD RD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)											
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE	TPH-DRO	TPH-GRO
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**	**47**	**47**

ND = Not Detected
NG = No Guideline
- = Not Applicable / Not Available
J = Estimated Value
D = dilution (secondary value)
* = Represents the sum of o-Xylenes and m,p-Xylenes
Concentrations in ug/l
ug/l = micrograms per liter
Values exceeding the specified MDE criteria are **bolded.**
<# = Less than the method detection limit of #
TPH-GRO analysis conducted in accordance with EPA Method 8015B.
TPH-DRO analysis conducted in accordance with EPA Method 8015B - modified.
MTBE = Methyl-tertiary butyl-ether
TBA = Tert-butyl alcohol
TAME = Tert-amyl methyl ether
DIPE = Di-isopropyl Ether
ETBE = Ethyl tert-butyl ether
TPH = Total petroleum hydrocarbons
GRO = Gasoline-range organics
DRO = Diesel-range organics
TOC = Top of well casing elevation (feet)
TD = Total depth of well (feet)
BOC = Bottom of well casing (feet)
Volatile organic compound (VOC) analysis is conducted in accordance with EPA Method 8260B; only BTEX and oxygenates are summarized
Effective 11/09, Volatile organic compound (VOC) analysis on POET samples is conducted in accordance with EPA Method 524.2

Table 6

GREEN VALLEY SHOPPING CENTER SUPPLY WELL ANALYTICAL DATA SUMMARY

MONROVIA BP/FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)											
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE	TPH-DRO	TPH-GRO
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**	**47**	**47**
FR-73-4918-INF	04/05/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
TOC = 79.06	07/18/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
TD = 360 feet	10/11/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
BOC = 42 feet	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 29	< 20
	04/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	33 J	< 20
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 34	< 20
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 100	33.3
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	10/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	44.9 J	43.9 J
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	04/15/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	07/22/10	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500	< 300	< 100
	10/26/10	< 0.500	< 0.500	< 0.500	<1.00	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500	-	-
FR-73-6674-INF	04/05/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
TOC = 80.82	07/18/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 28	< 20
TD = 200 feet	10/11/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3	< 5	< 0.1	< 0.1	0.2	< 0.2	< 28	< 20
BOC = 63 feet	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 29	< 20
	04/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 29	< 20
	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	36 J	< 20
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2	< 33	< 20
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	33.2
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	10/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	33.4 J	39.5 J
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	04/15/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 300	< 100
	07/22/10	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500	< 300	< 100
	10/26/10	< 0.500	< 0.500	< 0.500	<1.00	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500	-	-

Table 6

GREEN VALLEY SHOPPING CENTER SUPPLY WELL ANALYTICAL DATA SUMMARY

MONROVIA BP/FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)											
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE	TPH-DRO	TPH-GRO
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**	**47**	**47**
FR-73-1687-INF	04/17/07	< 0.1	< 0.1	< 0.1	< 0.2	1.3	< 5	< 0.1	< 0.1	6.3	< 0.2	< 27	< 20
TOC = 79.31	07/18/07	< 0.1	< 0.1	< 0.1	< 0.2	0.6	< 5	< 0.1	< 0.1	3.6	< 0.2	< 28	< 20
TD=100 feet	10/11/07	< 0.1	< 0.1	< 0.1	< 0.2	0.5	< 5	< 0.1	< 0.1	3.9	< 0.2	< 28	< 20
BOC = 43 feet	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.5 J	< 5	< 0.1	< 0.1	1.2	< 0.2	< 28	< 20
	04/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.5	< 5	< 0.1	< 0.1	4.8	< 0.2	< 29	< 20
	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	7.2	< 5	< 0.1	< 0.1	10	< 0.2	39 J	23 J
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.6	< 5	< 0.1	< 0.1	3.0	< 0.2	37 J	< 20
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	1.03	< 0.5	< 40	35.2
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	1.37	< 2.5	< 0.5	< 0.5	1.19	< 0.5	< 40	< 25
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	0.960	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 40	< 25
	10/08/09	< 0.5	< 0.5	< 0.5	< 0.5	1.09	< 2.5	< 0.5	< 0.5	5.06	< 0.5	**60.8 J**	**49.5 J**
	12/04/09	< 0.5	< 0.5	< 0.5	< 0.5	0.51	< 2.5	< 0.5	< 0.5	5.74	< 0.5	< 315	< 100
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	5.9	< 0.5	< 300	< 100
	04/15/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	3.70	< 0.5	< 300	< 100
	07/22/10	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 2.50	< 0.500	< 0.500	1.67	< 0.500	< 300	< 100
	10/26/10	< 0.500	< 0.500	< 0.500	<1.00	< 0.500	< 2.50	< 0.500	< 0.500	1.81	< 0.500	-	-

NG = No Guideline
- = Not Applicable / Not Available
J = Estimated Value
* = Represents the sum of o-Xylenes and m,p-Xylenes
Concentrations in ug/l
ug/l = micrograms per liter
Values exceeding the specified MDE criteria are **bolded.**
<# = Less than the method detection limit of #
TPH analysis conducted in accordance with EPA Method 8015B.

MTBE = Methyl-tertiary butyl-ether
TBA = Tert-butyl alcohol
TAME = Tert-amyl methyl ether
DIPE = Di-isopropyl Ether
ETBE = Ethyl tert-butyl ether
TPH = Total petroleum hydrocarbons
GRO = Gasoline-range organics
DRO = Diesel-range organics
TOC = Top of well casing elevation (feet)
TD = Total depth of well (feet)
BOC = Bottom of well casing (feet)

Volatile organic compound (VOC) analysis conducted in accordance with EPA Method 8260B; only BTEX and oxygenates are summarized

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
11892BARINF	05/03/07	< 0.1	0.2 J	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR815959	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	04/17/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
11894BARINF	05/03/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR735173	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	04/18/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	0.1 J	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
11896BARINF	05/24/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR735011	10/08/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3717BLUEINF	07/06/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3719BLUEINF	07/06/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3723BLUEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3724BLUEINF	05/29/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3725BLUEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3726BLUEINF	05/24/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3727BLUEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3729BLUEINF	05/23/07	< 0.1	0.2 J	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3731BLUEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3732BLUEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3733BLUEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3734BLUEINF	05/01/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3737BLUEINF	05/21/07	< 0.1	< 0.1	< 0.1	< 0.2	0.6	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR735013	10/11/07	< 0.1	< 0.1	< 0.1	< 0.2	0.7	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	0.9	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	0.7	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.5	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.6	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.7	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	1.0	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	0.68	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/07/09	< 0.5	< 0.5	< 0.5	< 0.5	0.66	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/22/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3739BLUEINF	05/21/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR730493	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 160	11/13/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 21	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/13/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/07/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3740BLUEINF	04/26/07	< 0.1	< 0.1	< 0.1	< 0.2	0.6	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR720717	10/12/07	< 0.1	1.9	< 0.1	< 0.2	0.5	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 240	11/14/07	< 0.1	0.3 J	< 0.1	< 0.2	0.5 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 20	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/13/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.5 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3740BLUEINF	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
(Cont.)	04/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/09/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3913CHAUCERINF	07/06/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3915CHAUCERINF	06/18/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3919CHAUCERINF	05/24/07	< 0.1	0.2 J	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
4002CORNINF	07/02/07	< 0.1	< 0.1	< 0.1	< 1	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3991DAISYINF	05/31/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3992DAISYINF	05/23/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3993DAISYINF	05/29/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3994DAISYINF	06/18/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3995DAISYINF	05/24/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3996DAISYINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3997DAISYINF	05/29/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3979FARMINF	05/03/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR732615	10/11/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 150	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 23	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/13/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/27/10	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500
	10/25/10	<0.500	<0.500	<0.500	<1.00	60.7	<2.50	<0.500	<0.500	3.07	<0.500

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3981FARMINF	06/18/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR732882	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 150	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 22	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/17/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
3983FARMINF	07/06/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR732884	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 150	11/13/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 55	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/13/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	0.4 J	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
3984FARMINF	05/11/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR738553	10/10/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 160	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 26	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/25/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/20/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
3984AFARMINF	10/10/07	< 0.1	0.2 J	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR950162	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 300	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 51	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3985FARMINF	05/07/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR732894	10/08/07	< 0.1	0.1 J	0.6	3.1	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 150	11/13/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 22	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/18/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/20/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/27/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3987FARMINF	05/07/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR732897	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 150	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 23	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/25/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/27/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/17/08	< 0.1	0.3 J	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	11/21/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/09/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/15/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/23/10	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500
	10/26/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3989FARMINF	05/07/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR732664	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 150	10/12/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 23	11/19/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/20/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/18/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/30/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3989FARMINF	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
(Cont.)	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/27/10	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500
	10/26/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3990FARMINF	05/01/07	0.4 J	ND	ND	0.2 J	**1,100**	590 J	33 J	ND	6.2	ND
FR735449	05/16/07	< 0.3	< 0.3	< 0.3	< 0.5	**770**	440	25	< 0.3	4.5	< 0.5
TOC = 64.90	06/21/07	< 1	< 1	< 1	< 2	**1,100**	590	33	< 1	5.8	< 2
TD = 80 feet	07/18/07	< 2	< 2	< 2	< 4	**1,500**	720	34	< 2	5.7 J	< 4
BOC = unknown	08/08/07	< 1	< 1	< 1	< 2	**1,300**	500	44	< 1	5.8	< 2
	09/26/07	< 2	< 2	< 2	< 4	**950**	470 J	24	< 2	4.7 J	< 4
	10/10/07	< 2	< 2	< 2	< 4	**1,200**	560	33	< 2	5.9 J	< 4
	11/14/07	< 1	< 1	< 1	< 2	**1,200**	520	36	< 1	6.6	< 2
	12/19/07	< 2	< 2	< 2	< 4	**1,300**	730	37	< 2	6.5 J	< 4
	01/23/08	< 1	< 1	< 1	< 2	**1,400**	530	40	< 1	5.4	< 2
	02/13/08	< 1	< 1	< 1	< 2	**1,400**	610	42	< 1	5.7	< 2
	03/12/08	< 1	< 1	< 1	< 2	**1,400**	510	38	< 1	5.6	< 2
	04/16/08	< 1	< 1	< 1	< 2	**920**	580	28	< 1	5.4	< 2
	05/21/08	< 1	< 1	< 1	< 2	**920**	610	30	< 1	4.8 J	< 2
	06/26/08	< 5	< 5	< 5	< 10	**1,100**	540 J	28	< 5	< 5	< 10
	07/16/08	< 1	< 1	< 1	< 2	**1,100**	510	29	< 1	5.6	< 2
	08/20/08	< 1	< 1	< 1	< 2	**1,100**	520	31	< 1	4.7 J	< 2
	09/25/08	< 0.5	< 0.5	< 0.5	< 1	**1,300**	620	36	< 0.5	6.8	< 1
	10/15/08	< 1	< 1	< 1	< 2	**1,200**	450	33	< 1	5.9	< 2
	11/19/08	< 1	< 1	< 1	< 2	**1,900**	770	45	< 1	9.3	< 2
	12/11/08	< 1	< 1	< 1	< 2	**1,400**	620	35	< 1	7.6	< 2
	01/14/09	0.82	< 0.5	< 0.5	< 0.5	**1,520**	607	39.7	< 0.5	8.62	< 0.5
	02/11/09	0.89	< 0.5	< 0.5	< 0.5	**2,090**	838	43.1	< 0.5	10.5	< 0.5
	03/18/09	0.77	< 0.5	< 0.5	< 0.5	**1,580**	937	38.3	< 0.5	11.7	< 0.5
	04/08/09	0.930	< 0.5	< 0.5	< 0.5	**2,810**	1,100	48.3	< 0.5	10.6	< 0.5
	07/15/09	0.850	< 0.5	< 0.5	< 0.5	**1,380**	913	40.8	< 0.5	12.4	< 0.5
	10/07/09	0.580	< 0.5	< 0.5	< 0.5	**1,420**	675	30.1	< 0.5	9.67	< 0.5
	01/13/10	0.510	< 0.5	< 0.5	< 0.5	**1,260**	485	27.6	< 0.5	7.47	< 0.5
	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	**1,050**	483	24.4	< 0.5	7.41	< 0.5
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	**1,770**	350	22.0	< 0.5	8.39	< 0.5
	10/26/10	<0.500	<0.500	<0.500	<1.00	**1,890**	571	27.5	<0.500	8.99	<0.500
	12/08/10	<0.500	<0.500	<0.500	<1.00	**2,640**	579	38.4	<0.500	13	<0.500
3991FARMINF	05/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR732663	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 150	10/11/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 21	11/19/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/13/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3991FARMINF (Cont.)	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/09/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/07/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3992FARMINF unknown well ID TOC = 64.02 TD = unknown BOC = unknown	05/15/07	< 1	< 1	< 1	< 2	**710**	360	22	< 1	3.6 J	< 2
	05/30/07	< 1	< 1	< 1	< 2	**630**	330	16	< 1	3 J	< 2
	06/13/07	< 1	< 1	< 1	< 2	**640**	110 J	17	< 1	3.8 J	< 2
	07/18/07	< 1	< 1	< 1	< 2	**930**	440	24	< 1	4.6 J	< 2
	08/29/07	< 1	< 1	< 1	< 2	**880**	520	25	< 1	4.7 J	< 2
	09/26/07	< 0.1	0.2 J	< 0.1	< 0.2	< 0.1	500	< 0.1	< 0.1	< 0.1	< 0.2
	10/31/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	520	< 0.1	< 0.1	< 0.1	< 0.2
	11/07/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	8.4 J	< 0.1	< 0.1	< 0.1	< 0.2
	12/19/07	< 1	< 1	< 1	< 2	**1,300**	660	37	< 1	6.6	< 2
	01/16/08	< 1	< 1	< 1	< 2	**1,300**	530	43	< 1	5.6	< 2
	02/13/08	< 1	< 1	< 1	< 2	**1,100**	500	30	< 1	4.5 J	< 2
	03/12/08	< 1	< 1	< 1	< 2	**1,200**	380	26	< 1	5	< 2
	04/16/08	< 1	< 1	< 1	< 2	**780**	490	22	< 1	4.7 J	< 2
	05/05/08	< 1	< 1	< 1	< 2	**850**	390	25	< 1	4.1 J	< 2
	06/18/08	< 0.3	< 0.3	< 0.3	< 0.5	**500**	270	15	< 0.3	3.3	< 0.5
	07/16/08	< 0.5	< 0.5	< 0.5	< 1	**760**	340	19	< 0.5	4.1	< 1
	08/20/08	< 1	< 1	< 1	< 2	**990**	460	25	< 1	4.3 J	< 2
	09/17/08	< 1	< 1	< 1	< 2	**1,000**	1,100	24	< 1	4.2 J	< 2
	10/15/08	< 1	1.1 J	< 1	< 2	**1,300**	500	33	< 1	6.2	< 2
	11/05/08	< 0.1	0.1 J	< 0.1	< 0.2	< 0.1	140	< 0.1	< 0.1	< 0.1	< 0.2
	12/10/08	<1	<1	<1	<2	**1,400**	900	39	<1	8.2	<2
	01/14/09	0.75	< 0.5	< 0.5	< 0.5	**1,750**	1,230	31.4	< 0.5	8.16	< 0.5
	02/11/09	0.69	< 0.5	< 0.5	< 0.5	**1,710**	930	31.8	< 0.5	8.65	< 0.5
	03/18/09	0.73	< 0.5	< 0.5	< 0.5	**1,460**	906	31.3	< 0.5	10.7	< 0.5
	04/15/09	0.510	< 0.5	< 0.5	< 0.5	**2,290**	1,230	35.9	< 0.5	8.22	< 0.5
	07/15/09	< 0.5	< 0.5	< 0.5	< 0.5	**1,020**	413	14.8	< 0.5	7.07	< 0.5
	10/07/09	< 0.5	< 0.5	< 0.5	< 0.5	**1,110**	372	16.8	< 0.5	6.06	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	**381**	15.6	6.5	< 0.5	3.57	< 0.5
	04/12/10	< 0.5	< 0.5	< 0.5	< 0.5	**536**	107	7.87	< 0.5	3.92	-
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	**1,280**	98.6	13.0	< 0.5	6.58	< 0.5
	10/27/10	<0.500	<0.500	<0.500	<1.00	**1,660**	286	21.3	<0.500	8.49	<0.500
	11/30/10	<0.500	<0.500	<0.500	<1.00	**1,370**	436	22.3	<0.500	9.36	<0.500

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3993FARMINF	04/24/07	< 0.1	< 0.1	< 0.1	< 0.2	0.8	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR732474	07/27/07	< 0.1	0.1 J	< 0.1	< 0.2	1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 150	10/08/07	< 0.1	0.2 J	< 0.1	< 0.2	0.8	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 23	11/14/07	< 0.1	0.1 J	< 0.1	< 0.2	0.8	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	0.7	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.6	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/13/08	< 0.1	< 0.1	< 0.1	< 0.2	0.8	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.6	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	0.1 J	< 0.1	< 0.2	0.5 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.7	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/09/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/17/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/07/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/19/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3994FARMINF	04/24/07	< 1	< 1	< 1	< 2	**480**	300	17	< 1	3.3	< 2
FR732625	05/07/07	< 1	< 1	< 1	< 2	**690**	340	18	< 1	3.2 J	< 2
TOC = 77.88	05/16/07	< 0.5	< 0.5	< 0.5	< 1	**1,000**	540	28	< 0.5	4.6	< 1
TD = 160 feet	06/13/07	< 2	< 2	< 2	< 4	**1,200**	560	31	< 2	4.9 J	< 4
BOC = 21 feet	07/02/07	< 2	< 2	< 2	< 4	**1,200**	630	30	< 2	4.8 J	< 4
	08/08/07	< 1	< 1	< 1	< 2	**1,100**	420	33	< 1	4.3 J	< 2
	09/26/07	< 2	< 2	< 2	< 4	**1,100**	680	27	< 2	4.6 J	< 4
	10/12/07	< 2	< 2	< 2	< 4	**1,100**	590	26	< 2	4.5	< 4
	11/14/07	< 1	< 1	< 1	< 2	**930**	430	25	< 1	4.6 J	< 2
	12/19/07	< 1	< 1	< 1	< 2	**850**	490	23	< 1	4 J	< 2
	01/23/08	< 0.5	< 0.5	< 0.5	< 1	**750**	330	20	< 0.5	2.7	< 1
	02/13/08	< 0.5	< 0.5	< 0.5	< 1	**670**	370	19	< 0.5	2.7	< 1
	03/12/08	< 0.5	< 0.5	< 0.5	< 1	**610**	250	16	< 0.5	2.4	< 1
	04/16/08	< 1	< 1	< 0.1	< 2	**360**	260	9.7	< 1	2 J	< 2
	05/21/08	< 0.1	< 0.1	< 0.1	< 0.2	**240**	130	6.5	< 0.1	1.7	< 0.2
	06/26/08	< 1	< 1	< 1	< 2	**790**	480	21	< 1	4 J	< 2
	07/16/08	< 1	< 1	< 1	< 2	**1,200**	580	28	< 1	5.9	< 2
	08/20/08	< 1	< 1	< 1	< 2	**1,100**	640	27	< 1	4.2 J	< 2
	09/17/08	< 1	< 1	< 1	< 2	**920**	710	26	< 1	5.7	< 2
	10/15/08	< 1	< 1	< 1	< 2	**1,300**	570	33	< 1	6.2	< 2
	11/19/08	< 1	< 1	< 1	< 2	**1,600**	1,200	38	< 1	8.3	< 2
	12/11/08	< 1	< 1	< 1	< 2	**1,300**	810	28	< 1	6.4	< 2
	01/14/09	0.62	< 0.5	< 0.5	< 0.5	**1,030**	786	20.2	< 0.5	5.5	< 0.5
	02/11/09	0.73	< 0.5	< 0.5	< 0.5	**1,360**	741	26.9	< 0.5	7.53	< 0.5
	03/18/09	0.58	< 0.5	< 0.5	< 0.5	**1,100**	768	22.1	< 0.5	8.18	< 0.5
	04/15/09	0.560	< 0.5	< 0.5	< 0.5	**1,780**	1,140	24.8	< 0.5	5.92	< 0.5
	07/15/09	< 0.5	< 0.5	< 0.5	< 0.5	**861**	660	22	< 0.5	8.14	< 0.5

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3994FARMINF (Cont.)	10/07/09	< 0.5	< 0.5	< 0.5	< 0.5	**988**	389	14.8	< 0.5	4.87	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	**578**	195	10.5	< 0.5	4.08	< 0.5
	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	**970**	438	18.5	< 0.5	7.40	< 0.5
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	**878**	284	16.5	< 0.5	8.08	< 0.5
	10/25/10	<0.500	<0.500	<0.500	<1.00	**1,990**	346	15.2	<0.500	6.75	<0.500
3995FARMINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	0.1 J	< 0.2
FR732475	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 185	10/12/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	0.1	< 0.2
BOC = 23	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	12/19/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	0.1 J	< 0.2
	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	0.1 J	< 0.2
	02/13/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	0.1	< 0.2
	04/14/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	0.2 J	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	0.2 J	< 0.2
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/17/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/07/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/27/10	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500
	10/25/10	< 0.500	< 0.500	< 0.500	<1.00	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500
3996FARMINF	04/16/07	0.2 J	< 0.1	< 0.1	< 0.2	**370**	260 J	12	< 0.1	2	< 0.2
FR732624	05/03/07	< 0.5	< 0.5	< 0.5	< 1	**430**	250	12	< 0.5	1.9 J	< 1
TOC = 79.68	06/13/07	< 0.5	< 0.5	< 0.5	< 1	**360**	220	11	< 0.5	1.9 J	< 1
TD = 150 feet	07/18/07	< 1	< 1	< 1	< 2	**390**	230 J	9.3	< 1	1.6 J	< 2
BOC = 21 feet	08/08/07	< 0.4	< 0.4	< 0.4	< 0.8	**320**	190	9.3	< 0.4	1.6 J	< 0.8
	09/27/07	< 0.4	< 0.4	< 0.4	< 0.8	**330**	220	8.6	< 0.4	1.6 J	< 0.8
	10/12/07	< 0.5	< 0.5	< 0.5	< 1	**250**	180	7.6	< 0.5	1.4	< 1
	11/14/07	< 0.3	< 0.3	< 0.3	< 0.5	**240**	140	6.2	< 0.3	1.1 J	< 0.5
	12/19/07	< 0.2	< 0.2	< 0.2	< 0.4	**230**	140	6.5	< 0.2	1.3	< 0.4
	02/13/08	0.1 J	< 0.1	< 0.1	< 0.2	**220**	110	5.8	< 0.1	0.9	< 0.2
	03/25/08	0.1	< 0.1	< 0.1	< 0.2	**160**	100	5.3	< 0.1	0.9	< 0.2
	04/16/08	< 0.2	< 0.2	< 0.2	< 0.4	**150**	99	4.2	< 0.2	0.8 J	< 0.4
	04/18/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	05/21/08	0.1 J	< 0.1	< 0.1	< 0.2	**180**	130	6.2	< 0.1	1.1	< 0.2
	06/18/08	< 0.3	< 0.3	< 0.3	< 0.5	**310**	230	9	< 0.3	1.7	< 0.5
	07/23/08	< 0.5	< 0.5	< 0.5	< 1	**350**	220	8.4	< 0.5	1.7 J	< 1
	08/20/08	0.3 J	< 0.1	< 0.1	< 0.2	**380**	240	10	< 0.1	1.9	< 0.2
	09/17/08	< 0.5	< 0.5	< 0.5	< 1	**290**	180	6.6	< 0.5	1.6 J	< 1
	10/15/08	0.3 J	< 0.3	< 0.3	< 0.5	**370**	220	9.4	< 0.3	1.9	< 0.5
	11/19/08	< 0.3	< 0.3	< 0.3	< 0.5	**360**	260	7.9	< 0.3	1.9	< 0.5

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3996FARMINF	12/29/08	< 0.5	< 0.5	< 0.5	< 0.5	**276**	91.7	5.23	< 0.5	1.63	-
(Cont.)	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	**289**	107	4.97	< 0.5	1.56	< 0.5
	01/30/09	< 0.5	< 0.5	< 0.5	< 0.5	**379**	104	-	-	-	-
	02/11/09	< 0.5	< 0.5	< 0.5	< 0.5	**208**	17	3.39	< 0.5	1.35	< 0.5
	03/18/09	< 0.5	< 0.5	< 0.5	< 0.5	**222**	22.3	2.66	< 0.5	1.75	< 0.5
	04/08/09	< 0.5	< 0.5	< 0.5	< 0.5	**182**	7.35	2	< 0.5	1.35	< 0.5
	07/15/09	< 0.5	< 0.5	< 0.5	< 0.5	**242**	32.5	2.58	< 0.5	2.33	< 0.5
	10/08/09	< 0.5	< 0.5	< 0.5	< 0.5	**23.7**	< 2.5	< 0.5	< 0.5	1.1	< 0.5
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	**38.3**	8.7	< 0.5	< 0.5	2.08	< 0.5
	04/16/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	**29.9**	< 2.5	< 0.5	< 0.5	2.30	< 0.5
	10/26/10	< 0.500	< 0.500	< 0.500	<1.00	9.4	< 2.50	< 0.500	< 0.500	1.39	< 0.500
3997FARMINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	14	< 5	0.1 J	< 0.1	1.9	< 0.2
FR732472	05/01/07	< 0.1	< 0.1	< 0.1	< 0.2	3.7	< 5	< 0.1	< 0.1	0.2	< 0.2
TOC = 80.16	06/08/07	< 0.1	< 0.1	< 0.1	< 0.2	**140**	19 J	2.2	< 0.1	2.7	< 0.2
TD = 140 feet	07/17/07	< 1	< 1	< 1	< 2	**710**	300	20	< 1	5.8	< 2
BOC = 23 feet	08/08/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	09/26/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	340	< 0.1	< 0.1	< 0.1	< 0.2
	10/10/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	490	< 0.1	< 0.1	< 0.1	< 0.2
	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	820	< 0.1	< 0.1	< 0.1	< 0.2
	12/19/07	1.1 J	< 1	< 1	< 2	**3,300**	1,500	100	< 1	18	< 2
	01/16/08	< 2	< 2	< 2	< 4	**2,700**	1,000	93	< 2	13	< 4
	02/13/08	< 0.5	< 0.5	< 0.5	< 1	**640**	210	18	< 0.5	4.0	< 1
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	**130**	7.4	3.5	< 0.1	1.6	< 0.2
	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	**110**	24 J	2.3	< 0.1	1.4	< 0.2
	05/21/08	< 0.1	< 0.1	< 0.1	< 0.2	**130**	18 J	3.1	< 0.1	1.5	< 0.2
	06/18/08	< 0.1	< 0.1	< 0.1	< 0.2	**56**	13 J	1	< 0.1	0.9	< 0.2
	07/16/08	< 0.5	< 0.5	< 0.5	< 1	**460**	77 J	8.2	< 0.5	4.2	< 1
	08/20/08	< 0.5	< 0.5	< 0.5	< 1	**690**	200	20	< 0.5	4.8	< 1
	09/17/08	< 0.5	< 0.5	< 0.5	< 1	**1,100**	400	30	< 0.5	7.0	< 1
	10/15/08	< 0.5	< 0.5	< 0.5	< 1	**1,100**	400	33	< 0.5	6.4	< 1
	11/19/08	0.9 J	< 0.5	< 0.5	< 1	**2,100**	980	63	< 0.5	14	< 1
	12/10/08	1.4 J	<1	<1	<2	**2,800**	1,500	80	<1	16	<2
	12/29/08	< 0.5	< 0.5	< 0.5	< 0.5	**500**	66.2	-	-	-	-
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	**493**	79.2	8.95	< 0.5	3	< 0.5
	01/30/09	< 0.5	< 0.5	< 0.5	< 0.5	**426**	61.3	-	-	-	-
	02/11/09	< 0.5	< 0.5	< 0.5	< 0.5	**1,110**	274	23.3	< 0.5	7.7	< 0.5
	03/18/09	0.89	< 0.5	< 0.5	< 0.5	**2,060**	1,120	53.3	< 0.5	17	< 0.5
	04/08/09	0.870	< 0.5	< 0.5	< 0.5	**3,680**	1,700	61.8	< 0.5	14.5	< 0.5
	07/15/09	< 0.5	< 0.5	< 0.5	< 0.5	**136**	21.5	1.89	< 0.5	3.04	< 0.5
	10/07/09	< 0.5	< 0.5	< 0.5	< 0.5	**608**	93.1	8.22	< 0.5	6.49	< 0.5

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3997FARMINF	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	**21.5**	< 2.5	< 0.5	< 0.5	1.35	< 0.5
(Cont.)	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	6.87	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	**20.5**	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/25/10	< 0.500	< 0.500	< 0.500	<1.00	**60.7**	< 2.50	< 0.500	< 0.500	3.07	< 0.500
3998FARMINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	0.7	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR732623	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 400	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 22	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/25/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	02/13/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	1.4	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/10/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/17/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/09/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/15/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/27/10	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500
	10/25/10	< 0.500	< 0.500	< 0.500	<1.00	< 0.500	< 2.50	< 0.500	< 0.500	< 0.500	< 0.500
11703FININF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
11711FININF	05/24/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
11902FININF	03/16/07	< 0.5	< 0.5	< 0.5	< 1	< 0.5	< 5	< 0.5	< 0.5	-	< 0.5
	04/06/07	< 0.1	< 0.1	< 0.1	< 0.2	0.8	< 5	< 0.1	< 0.1	< 0.1	< 0.2
11906FININF	04/25/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3815GREENINF	07/06/07	< 0.1	< 0.1	< 0.1	< 0.2	1.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3816GREENINF	07/06/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3817GREENINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3818GREENINF	05/07/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3819GREENINF	05/31/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3820GREENINF	05/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2

Table 7

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MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3821GREENINF	05/31/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3822GREENINF	05/07/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3823GREENINF	05/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3825GREENINF	05/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3826GREENINF	05/07/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3828GREENINF	04/24/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3829GREENINF	04/24/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR730009	10/11/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 100	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 20	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/09/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/26/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3830GREENINF	04/26/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3831GREENINF	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3832GREENINF	04/24/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3833GREENINF	04/26/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR735017	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	10/08/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	11/13/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	0.3	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/08/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/20/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/28/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3834GREENINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2

Table 7

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MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3835GREENINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	1.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR735019	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.6	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	10/08/07	< 0.1	< 0.1	< 0.1	< 0.2	0.9	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	12/20/07	< 0.1	< 0.1	< 0.1	< 0.2	0.8	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.8	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	08/12/09	< 0.5	< 0.5	< 0.5	< 0.5	0.81	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/09/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	11/23/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3836GREENINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3837GREENINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	1.3	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR735175	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.5 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	1.5	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	1.4	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	12/20/07	< 0.1	< 0.1	< 0.1	< 0.2	1.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.9	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	03/12/08	< 0.1	< 0.1	< 0.1	< 0.2	1.6	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	1.8	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	2.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	1.39	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	04/08/09	< 0.5	< 0.5	< 0.5	< 0.5	1.31	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/23/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/22/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	10/25/10	<0.500	<0.500	<0.500	<1.00	<0.500	<2.50	<0.500	<0.500	<0.500	<0.500
3840GREENINF	04/17/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3904ROSEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3905ROSEINF	06/08/07	< 0.1	0.1 J	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3906ROSEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	6.4 J	< 0.1	< 0.1	< 0.1	< 0.2
3907ROSEINF	05/30/07	< 0.1	0.3 J	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3908ROSEINF	05/23/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3909ROSEINF	05/23/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3913ROSEINF	06/08/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3914ROSEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3916ROSEINF	06/13/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3918ROSEINF	04/17/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3923ROSEINF	04/06/07	< 0.1	< 0.1	< 0.1	< 0.2	**170**	< 5	4.9	< 0.1	1.5	< 0.2
FR-73-2473	05/21/07	< 0.1	< 0.1	< 0.1	< 0.2	4.2	< 5	< 0.1	< 0.1	1.3	< 0.2
TOC = 84.26	06/13/07	< 0.1	< 0.1	< 0.1	< 0.2	**76**	< 5	0.5 J	< 0.1	2.5	< 0.2
TD = 250 feet	07/18/07	< 2	< 2	< 2	< 4	**1,100**	360 J	27	< 2	5.7 J	< 4
BOC = 23 feet	08/08/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	09/26/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	13 J	< 0.1	< 0.1	< 0.1	< 0.2
	10/10/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	31	< 0.1	< 0.1	< 0.1	< 0.2
	11/14/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	100	< 0.1	< 0.1	< 0.1	< 0.2
	12/19/07	< 2.5	< 2.5	< 2.5	< 5	**2,600**	1,200	68	< 2.5	12 J	< 5
	01/23/08	< 2	< 2	< 2	< 4	**2,200**	930	71	< 2	10	< 4
	02/13/08	< 1	< 1	< 1	< 2	**1,300**	520	45	< 1	6.8	< 2
	03/12/08	< 1	< 1	< 1	< 2	**1,200**	400	33	< 1	5.8	< 2
	04/17/08	< 0.1	< 0.1	< 0.1	< 0.2	**54**	5.1 J	0.6	< 0.1	1	< 0.2
	05/05/08	< 0.1	< 0.1	< 0.1	< 0.2	6.5	< 5	0.1 J	< 0.1	0.2 J	< 0.2
	06/18/08	< 0.1	< 0.1	< 0.1	< 0.2	7.3	< 5	< 0.1	< 0.1	0.5 J	< 0.2
	07/16/08	< 0.5	< 0.5	< 0.5	< 1	**320**	32 J	4	< 0.5	3.2	< 1
	08/20/08	< 0.5	< 0.5	< 0.5	< 1	**610**	160	16	< 0.5	3.9	< 1
	09/17/08	< 0.5	< 0.5	< 0.5	< 1	**1,000**	420	31	< 0.5	6.8	< 1
	10/15/08	< 0.5	< 0.5	< 0.5	< 1	**810**	250	24	< 0.5	5.4	< 1
	11/19/08	1 J	< 0.5	< 0.5	< 1	**2,200**	1,100	65	< 0.5	15	< 1
	12/10/08	<2	<2	<2	<4	**2,300**	1,100	62	<2	13	<4
	12/29/08	< 0.5	< 0.5	< 0.5	< 0.5	**613**	99	-	-	-	-
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	**642**	121	10.9	< 0.5	4.41	< 0.5
	01/30/09	< 0.5	< 0.5	< 0.5	< 0.5	**631**	149	-	-	-	-
	02/11/09	< 0.5	< 0.5	< 0.5	< 0.5	**503**	55.3	8.11	< 0.5	4.39	< 0.5
	03/18/09	< 0.5	< 0.5	< 0.5	< 0.5	**1,480**	806	38.1	< 0.5	12.8	< 0.5
	04/08/09	< 0.5	< 0.5	< 0.5	< 0.5	**2,600**	1,190	40.2	< 0.5	10.7	< 0.5
	07/15/09	< 0.5	< 0.5	< 0.5	< 0.5	**48**	16.6	< 0.5	< 0.5	2	< 0.5
	10/07/09	< 0.5	< 0.5	< 0.5	< 0.5	**1,160**	230	18.2	< 0.5	7.44	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	6.52	< 2.5	< 0.5	< 0.5	0.98	< 0.5
	04/14/10	< 0.5	< 0.5	< 0.5	< 0.5	2.24	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	12.4	< 2.5	< 0.5	< 0.5	2.44	< 0.5
	10/25/10	<0.500	<0.500	<0.500	<1.00	14.9	<2.50	<0.500	<0.500	2.73	<0.500
3927ROSEINF	04/06/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3928ROSEINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3930ROSEINF	05/30/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3931ROSEINF	05/07/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3932ROSEINF	05/30/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3933ROSEINF	05/24/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3934ROSEINF	07/02/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3936ROSEINF	07/06/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3937ROSEINF	06/08/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3939ROSEINF	05/24/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3978RYEINF	05/23/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	0.2 J	< 0.2
FR734370	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	0.2 J	< 0.2
TD = 150	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	0.1 J	< 0.2
BOC = 21	04/16/08	< 0.1	0.2 J	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	0.1 J	< 0.2
	07/16/08	< 0.1	0.3 J	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	0.1 J	< 0.2
3979RYEINF	05/21/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3980RYEINF	07/06/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR882818	04/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3981RYEINF	05/21/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3982RYEINF	05/31/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 150	10/08/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 21	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/15/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3983RYEINF	05/03/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3984RYEINF	05/03/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR734367	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 185	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 23	10/17/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2

Table 7

RESIDENTIAL POTABLE WELL ANALYTICAL DATA SUMMARY

MONROVIA BP / FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Location ID	Sample Date	Analytes of Concern (ug/l)									
		BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES *	MTBE	TBA	TAME	ETBE	DIPE	NAPH-THALENE
MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3985RYEINF	05/16/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3986RYE INF	05/07/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR731221	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	01/25/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3987RYEINF	05/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3988RYEINF	05/03/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR731218	10/10/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3989RYEINF	06/18/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3990RYEINF	05/16/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR731167	10/08/07	< 0.1	< 0.1	< 0.1	< 0.2	0.3 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3991RYEINF	05/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3992RYEINF	05/09/07	< 0.1	< 0.1	< 0.1	< 0.2	1.9	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR733391	10/12/07	< 0.1	< 0.1	< 0.1	< 0.2	1.4	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = unknown	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	1.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = unknown	04/17/08	< 0.1	< 0.1	< 0.1	< 0.2	1.9	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	1.2	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/14/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/20/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
3994RYEINF	04/05/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR733390	10/09/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 140	01/23/08	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 21	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/16/08	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/17/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5

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MONROVIA, MARYLAND

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MDE GW Clean-up Standards for Type I and II Aquifers		**5**	**1,000**	**700**	**10,000**	**20**	**NG**	**NG**	**NG**	**NG**	**10**
3994RYEINF	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
(Cont.)	07/21/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
3995RYEINF	04/06/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3996RYEINF	04/05/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR733495	10/10/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 160	04/18/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 28	10/17/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/17/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/14/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
3997RYEINF	04/06/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
3998RYEINF	04/06/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
FR733496	07/27/07	< 0.1	< 0.1	< 0.1	< 0.2	0.1 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
TD = 200	10/08/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
BOC = 21	01/24/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	04/16/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	07/17/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	10/15/08	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
	01/15/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/16/09	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	01/13/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
	07/22/10	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5
11711SEREINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1	< 5	< 0.1	< 0.1	< 0.1	< 0.2
11712SEREINF	04/16/07	< 0.1	< 0.1	< 0.1	< 0.2	0.4 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2
11713SEREINF	04/06/07	< 0.1	< 0.1	< 0.1	< 0.2	0.2 J	< 5	< 0.1	< 0.1	< 0.1	< 0.2

NG = No Guideline
- = Not Applicable / Not Available
J = Estimated Value
Concentration in ug/l = micrograms per liter
Values exceeding the specified MDE criteria are **bolded.**
<# = Less than the method detection limit of #
* = Represents the sum of o-Xylenes and m,p-Xylenes
TPH analysis conducted in accordance with EPA Method 8015B.
Samples analyzed for VOCs by EPA Method 524.2, only BTEX and oxygenates are summarized

MTBE = Methyl-tertiary butyl-ether
TBA = Tertiary butyl alcohol
TAME = Tertiary-amyl methyl ether
DIPE = Di-isopropyl Ether
ETBE = Ethyl tertiary-butyl ether
TOC = Top of well casing elevation (feet)
TD = Total depth of well (feet)
BOC = Bottom of well casing (feet)

Table 8

ISCO GROUNDWATER MONITORING WELL DATA SUMMARY

MONROVIA BP
(FORMER GREEN VALLEY CITGO)
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

Monitoring Well ID		Sample Date	ISCO Pilot Test Analytes of Concern (µg/l)							
			Chemical Oxygen Demand (COD)	Total Organic Carbon	Total Dissolved Solids	Total Suspended Solids	Chromium	Sulfate as SO4	Iron (total)	Iron (dissolved)
MW-7		11/23/10	60,400	8340	142,000	312,000	14.6	<10,000	15,000	<20.0
MW-8		11/23/10	<15,000	1160	212,000	1,070,000	125	<10,000	33,700	<20.0
MW-10		11/23/10	<15,000	2,130	261,000	<4,000	<1.00	<10,000	55.9	<20.0
MW-13		11/23/10	23,400	1,340	332,000	<4,000	<1.00	<10,000	26.6	<20.0
MW-14S		11/23/10	21,400	1,840	378,000	24,000	2.65	<10,000	572	<20.0
MW-14D		11/23/10	17,100	1,230	267,000	38,000	1.57	<10,000	865	43.8
MW-16		11/23/10	<15,000	<500	369,000	64,000	1.11	<10,000	964	<20.0
MW-17		11/23/10	65,400	5,470	371,000	17,000	1.24	<10,000	570	<20.0
MW-18S		11/23/10	215,000	50,100	2,730,000	3,560,000	1,590	<10,000	497,000	340
MW-18S		12/08/10	435,000	36,500	6,390,000	496,000	71.6	<10,000	23,700	359
MW-18D		11/23/10	87,700	10,800	448,000	1,310,000	23.6	45,900	15,900	33.9
MW-18D		12/08/10	38,100	7,690	352,000	202,000	8.5	53,500	4,460	<20.0

µg/l = micrograms per liter

Table 9

CHEMICAL OXIDATION GEOCHEMICAL DATA SUMMARY

MONROVIA BP/FORMER GREEN VALLEY CITGO
11791 FINGERBOARD RD.
MONROVIA, MD

NOVEMBER 30, 2010

Well ID	Depth to Water		Headspace						Temperature		Dissolved Oxygen		pH		Oxidation-Reduction Potential (ORP)	
	feet below top of casing		PID ppm		LEL %		O_2 %		degrees Celsius		milligrams per liter		standard units		millivolts	
	Baseline	**End of Day**	**Baseline**	**End of Day**	**Baseline**	**End of Day**	**Baseline**	**End of Day**	**Baseline**	**End of Day**	**Baseline**	**End of Day**	**Baseline**	**End of Day**	**Baseline**	**End of Day**
MW-18S	64.28	64.25	12.4	0.0	NM	0	NM	20.9	15.3	14.1	11.3	10.4	11.1	6.6	-65.2	-1.1
MW-18D	100.92	100.37	1.0	1.8	NM	0	NM	20.9	14.3	12.9	6.0	11.4	10.0	7.9	-65.4	-20.4
VE-1	-	NM	0.6	0.0	NM	NM	NM	NM	-	NM	-	NM	-	NM	-	NM
MW-13	62.76	62.65	0.1	0.0	NM	0	NM	20.9	15.4	15.3	0.7	0.4	6.1	5.6	-45.3	-7.0
MW-15D	63.67	63.69	4.5	2.3	NM	0	NM	20.2	14.4	14.4	0.5	0.5	6.7	6.7	-56.0	-31.2
MW-7	64.22	64.25	7.6	0.8	NM	0	NM	20.9	15.3	14.9	0.7	0.4	5.6	5.6	-50.0	-19.7
MW-17	58.72	58.75	0.3	NM	NM	NM	NM	NM	14.1	14.5	0.8	0.5	7.2	5.8	-70.1	-22.0
MW-14D	65.25	65.07	1.9	NM	NM	NM	NM	NM	14.5	14.4	1.4	0.7	8.7	8.8	-69.8	-25.4

Notes:

NM = Not measured
PID = Photoionization detector (VOC measurements)
LEL = Lower explosive limit
O_2 = Oxygen
ppm = parts per million
VOC = Volatile organic compounds

Table 10

CHEMICAL OXIDATION EVENT SUMMARY

MONROVIA BP/FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

NOVEMBER 29, 2010

Hydrogen Peroxide Injection 11/30/2010					
Batch #	**Well ID**	**H_2O_2 Concentration (%)**	**Injection Volume (approx. gal)**	**Max Flow Rate (gpm)**	**Max Pressure (psi)**
1 (24 gal)	IW-1S	17.5%	20 gallons	1.0	50.0
Total Injection Volume: 20 gallons					

Notes:

H_2O_2 = Hydrogen Peroxide
psi = Pounds per square inch
gpm = Gallons per minute
scfm = Standard cubic feet per minute

Table 11

CHEMICAL OXIDATION SVE DATA

MONROVIA BP/FORMER GREEN VALLEY CITGO
11791 FINGERBOARD ROAD
MONROVIA, MARYLAND

NOVMEBER 29, 2010

Well ID	**Flow** scfm	**Vacuum** i.w.	**SVE Effluent PID** (ppm)				
			11:20 AM	**11:38 AM**	**11:55 AM**	**12:15 PM**	**12:30 PM**
VE-1	20	72	39.8	17.7	11.5	8.8	7.0

Notes:
PID = Photoionization detector (VOC Measurements)
scfm = Standard cubic feet per minute
i.w. = Inches of water column
ppm = Parts per million

APPENDIX A

Maryland Department of the Environment Correspondence

MARYLAND DEPARTMENT OF THE ENVIRONMENT
Oil Control Program, Suite 620, 1800 Washington Blvd., Baltimore MD 21230-1719
410-537-3442 • 410-537-3092 (fax) 1-800-633-6101

June 17, 2010

Mr. John Phelps
Carroll Independent Fuel Company
2700 Loch Raven Boulevard
Baltimore MD 21208

Mr. Arshad M. Ranjha
Mr. Saquib Iqbal Khan
Mr. Znafar
Saaba Corporation
2926 Summit Circle
Ellicott City MD 21207

and

Mr. Kiran M. Dewan, Resident Agent
1657 Whitehead Court
Baltimore MD 21207

Mr. Samir Andrawos
Timbercrest LP
P.O. Box 369
Damascus MD 20872

and

Ms. Jennifer Andrawos, Resident Agent
25133 Silver Crest Drive
Gaithersburg MD 20882

RE: REQUEST FOR CORRECTIVE ACTION PLAN
Case No. 2005-0834-FR
Notice of Violation NV-2007-069
Green Valley Citgo
11791 Fingerboard Road, Monrovia
Frederick County, Maryland
Facility I.D. No. 11836

Dear Messrs. Phelps, Ranjha, Khan, Znafar, and Dewan, and Mr. and Ms Andrawos:

The Oil Control Program recently completed a review of the case file for the above-referenced property, including the *Update Report and Work Plan - March 15, 2010.* In September 2009, two deep monitoring wells (MW-14D and MW-15D) and two shallow monitoring wells (MW-16 and MW-17) were installed on the south side of the Green Valley Plaza and north of the impacted off-site residential properties. At that time, the new monitoring wells were completed as open boreholes with steel casing installed in each to a depth of between 10 and 11 feet below ground surface (bgs). In October 2009, pilot testing activities included a step drawdown test, a 72-hour pumping test, and four individual short-term pumping tests. In November 2009, geophysical testing was completed on monitoring wells MW-14D, MW-16, and MW-17. Additionally, packer testing was completed on MW-14D.

A review of the long-term pumping test data suggests the presence of a preferred pathway for groundwater/contaminant migration (northeast-southwest) at the site. Additionally, the long-term pumping test data indicate that MW-15D could be used as a groundwater extraction well to capture contaminated groundwater on the north and northeast areas of the site; however, this well would not exert hydraulic influence on the southern portion of the site. Short-term pumping suggests that monitoring wells MW-13 and MW-16 are hydraulically connected to the contaminant plume and may serve as part of a groundwater recovery system.

The November 2009 geophysical evaluation identified numerous potential water bearing features (e.g. fractures, bedding planes) in the area of the site bisected by shallow monitoring wells MW-16 and MW-17 and deep monitoring well MW-14D. Additionally, packer testing of four isolated intervals in MW-14D indicate these water bearing features are hydraulically well connected throughout the vertical profile bisected by MW-14D and further suggests that MW-14D could function as a groundwater recovery well.

Considering the results of pilot testing, the *Update Report and Work Plan - March 15, 2010* proposes additional investigative work at the site including: construction of two 2-inch monitoring wells within MW-14D; completion of MW-15D, MW-16, and MW-17 as permanent 4-inch monitoring wells; continued on-site and off-site groundwater sampling; and the submittal of a *Corrective Action Plan* (*CAP*).

Based on our review of the *Update Report and Work Plan - March 15, 2010* and the continued presence of methyl tertiary-butyl ether (MTBE) in the monitoring well network and off-site private drinking water supply wells, the Department hereby requires the responsible parties to submit a *CAP* for our review and approval. In accordance with Code of Maryland Regulations (COMAR) 26.10.09.07, the *CAP* must be designed to mitigate any potential risk to human health and the environment and must plan to capture, contain, and reduce the migration of the existing groundwater contaminant plume centered around the former and currently active underground storage tank (UST) systems.

The proposed *CAP* must aggressively remediate contaminated soil and groundwater at the subject property. Site assessment activities completed thus far (e.g. groundwater monitoring, pumping test, geophysical evaluation) indicate the possibility of using deep monitoring wells MW14D and MW-15D and shallow monitoring wells MW-13 and MW-16 as groundwater recovery wells. The Department acknowledges that modifications to the *CAP* may be required as site conditions change.

1) **No later than August 6, 2010**, submit a *Corrective Action Plan* (*CAP*) in accordance with the Department's *Maryland Environmental Assessment Technology* (MEAT) *for Leaking Underground Storage Tanks* guidance document, which may be accessed at: **http://www.mde.state.md.us/assets/document/MEAT_Guidance.pdf**.

2) The *CAP* must fully delineate the migration of the subsurface dissolved-phase hydrocarbon plume and mitigate any potential current and future risks to on-site and/or off-site receptors. The proposed *CAP* must thoroughly assess the vertical and horizontal extent of petroleum contamination in the soil and groundwater, giving due consideration to the migration of dissolved phase petroleum hydrocarbons off-site via groundwater and/or any preferential subsurface pathways.

3) The *CAP* must fully describe any treatment and/or disposal measures used as part of remedial activities to handle any waste materials generated (e.g. treated groundwater, contaminated soils).

4) Prior implementation of remedial technologies, other than SVE, may require additional pilot tests to demonstrate effectiveness.

5) Following Departmental approval of the *CAP*, immediately implement field activities to address on-site environmental conditions. Provide the Oil Control Program at least five (5) days prior notice so that representatives have an opportunity to observe field activities.

Based on our review of the *Update Report and Work Plan - March 15, 2010,* the Department requires the following:

6) The Department requires that the open borehole at MW-14D be completed as a 4-inch well with a screened depth as indicated in the work plan. A new 4-inch diameter monitoring well, MW-14S, must be installed adjacent to MW-14D and screened between 40 and 100 feet bgs to allow for fluctuations in groundwater elevation. MW-14S must be installed following the previously approved methods for this site.

7) The Department concurs with the completion of open boreholes at MW-15D, MW-16, and MW-17 as 4-inch monitoring wells.

8) Continue **quarterly (every three months)** sampling of the monitoring well network, including the newly constructed monitoring wells (MW-14S, MW-14D, MW-15D, MW-16, and MW-17). All samples collected must be analyzed for full-suite volatile organic compounds (VOCs), including fuel oxygenates, using EPA Method 8260 and for total petroleum hydrocarbons/diesel- and gasoline-range organics (TPH/DRO and TPH/GRO) using EPA Method 8015B.

9) In June 2010, begin **quarterly (every three months)** sampling of the granular activated carbon (GAC) filtration system installed on the Green Valley Plaza drinking water supply wells. Samples must be collected pre-, mid-, and post-filtration and analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 524.2. The Department does not require analyses for TPH/DRO and TPH/GRO.

10) Continue **quarterly (every three months)** sampling of the private drinking water supply wells where point-of-entry treatment systems have been installed:
- 3990, 3992, 3994, 3996, and 3997 Farm Lane; and
- 3923 Rosewood Road.

11) Continue **quarterly (every three months)** sampling of the private drinking water supply wells at:
- 3985, 3987, 3989, 3991, 3993, 3995, and 3998 Farm Lane;
- 3829, 3833, 3835, and 3837 Green Ridge Drive; and
- 3737, 3739, and 3740 Blueberry Court.

12) Continue **semi-annual (every six months)** sampling of the private drinking water supply wells at:
- 3979, 3981, 3983, and 3984 Farm Lane; and
- 3992, 3994, 3996, and 3998 Rye Lane.

13) All samples collected from the above off-site private drinking water supply wells must be analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 524.2. Provide a copy of the sampling results to the property owner, the Frederick County Health Department (Attn: George Keller), and the MDE-Oil Control Program (Attn: Jim Richmond).

When submitting documentation to the Oil Control Program, provide two hard copies and one copy on a compact disc (CD) for updating the Oil Control Program's *Remediation Sites* list on the MDE website. If you have any questions, please contact the case manager, Mr. Jim Richmond, at 410-537 3337 (email: jrichmond@mde.state.md.us) or me at 410-537-3499 (email: sbull@mde.state.md.us).

Sincerely,

Susan R. Bull, Western Region Section Head
Remediation and State-Lead Division
Oil Control Program

JWR/nln

cc: Ms. Cari Finch (Environmental Alliance)
Mr. George Keller (Frederick County Health Dept.)
Mr. John Grace (MDE-Water Supply Program)
Priscilla Carroll, Esq.
Mr. Christopher H. Ralston
Mr. Horacio Tablada

MARYLAND DEPARTMENT OF THE ENVIRONMENT

Oil Control Program, Suite 620, 1800 Washington Blvd., Baltimore MD 21230-1719
410-537-3442 • 410-537-3092 (fax) 1-800-633-6101

November 18, 2010

Mr. Herbert M. Meade
Environmental, Health and Safety Director
Carroll Independent Fuel Company
2700 Loch Raven Boulevard
Baltimore MD 21208

Mr. Arshad M. Ranjha
Mr. Saquib Iqbal Khan
Mr. Znafar
Saaba Corporation
2926 Summit Circle
Ellicott City MD 21207

and

Mr. Kiran M. Dewan, Resident Agent
1657 Whitehead Court
Baltimore MD 21207

Mr. Samir Andrawos
Timbercrest LP
P.O. Box 369
Damascus MD 20872

and

Ms. Jennifer Andrawos, Resident Agent
25133 Silver Crest Drive
Gaithersburg MD 20882

RE: WORK PLAN APPROVAL
Case No. 2005-0834-FR
Notice of Violation NV-2007-069
Green Valley Citgo
11791 Fingerboard Road, Monrovia
Frederick County, Maryland
Facility I.D. No. 11836

Dear Messrs. Meade, Ranjha, Khan, Znafar, and Dewan, and Mr. and Ms Andrawos:

The Oil Control Program recently completed a review of the case file for the above-referenced property, including the *Groundwater Sampling Report - August 31, 2010* and the *In-Situ Chemical Oxidation Pilot Test Work Plan - September 9, 2010.* In June 2010, the Department required the submittal of a *Corrective Action Plan (CAP)* to address the elevated concentrations of methyl tertiary-butyl ether (MTBE) remaining in the on-site monitoring well network and several off-site private drinking water supply wells. In July 2010, groundwater sampling detected MTBE up to 12,800 parts per billion (ppb) in the vicinity of the active underground storage tank (UST) field. In addition, pre-filtration samples collected from the impacted off-site private drinking water wells detected MTBE up to 1,770 ppb.

In September 2010, the Department was notified by the Carroll Independent Fuel Company (CIFC) of their intent to evaluate in-situ chemical oxidation (ISCO) as a possible remedial technology. The *Chemical Oxidation Pilot Test Work Plan* proposes to inject hydrogen peroxide and ozone at three distinct subsurface intervals, in an area to the south of the active tank field, during a two-day pilot test. The proposed ISCO pilot test activities include the installation of three nested injection wells (IW-1, IW-2, IW-3), a nested observation well (MW-18N), and a vapor extraction well (VE-1). In addition, eleven existing on-site monitoring wells will be used to evaluate the aquifer for changes in groundwater chemistry and elevation. Prior to the start of pilot test activities, groundwater samples will be collected from the five identified monitoring wells (MW-7, MW-14D, MW-15D, MW-17, and MW-18N) in the vicinity of the study area. Post-injection samples will also be collected from the same five monitoring wells after one week and after four weeks following the oxidant injections. To minimize the potential for vapor migration, pilot test activities will include hourly vapor monitoring using the above five monitoring wells. Additionally, vapor monitoring will be conducted within the occupied areas of the Green Valley Plaza building.

The Department understands that should changing site conditions warrant, pilot testing activities will cease and the contingency plans, including groundwater extraction, vapor extraction, and increased vapor monitoring, will be enacted to further ensure that pilot testing activities do not pose a threat to human health or the environment.

In October 2010, the Department received the *Proposed Groundwater and Potable Well Sampling Program - October 13, 2010.* The *Sampling Program* proposes to use U.S. EPA approved low flow sampling procedures when collecting samples from the monitoring well network. In addition, the *Sampling Program* proposes to eliminate total petroleum hydrocarbons/diesel-range organics from the list of required analytes.

Based our review of the data submitted thus far, the Department hereby approves the *In-Situ Chemical Oxidation Pilot Test Work Plan - September 9, 2010* for immediate implementation, contingent upon the following modifications.

1) The Department requires the addition of monitoring wells MW-8, MW-10, MW-13, MW-14S, and MW-16 to the list of monitoring wells (MW-7, MW-14D, MW-15D, MW-17, and MW-18N) at which samples will be collected as part of the baseline and post-pilot test groundwater sampling plans. The Department reserves the right to require additional groundwater sampling and vapor monitoring as deemed necessary.

2) All wastewater generated as a result of pilot test activities will be containerized for off-site disposal at an approved facility.

3) The Department anticipates receiving a complete report evaluating the results of approved pilot test activities and submission of the *Corrective Action Plan* no later than January 31, 2011.

4) The Department approves the collection of samples from the monitoring well network in accordance with U.S. EPA approved low flow sampling techniques and as proposed in the *Sampling Program - October 13, 2010.*

5) Continue **quarterly (every three months)** sampling of the monitoring well network, including the newly constructed monitoring well MW-18N. All samples collected must be analyzed for full-suite volatile organic compounds (VOCs), including fuel oxygenates, using EPA Method 8260 and for total petroleum hydrocarbons/diesel and gasoline-range organics (TPH/DRO and TPH/GRO) using EPA Method 8015B. The Department will review the request to eliminate TPH/DRO from the list of required analyses pending an evaluation of the low flow sampling data and pilot testing activities.

6) Continue sampling of the granular activated carbon (GAC) filtration system installed on the transient non-community supply wells serving the Green Valley Plaza, as directed in the Department's correspondence dated June 17, 2010. Additionally, continue sampling supply wells FR-88-1366, FR-88-1394, and FR-81-5955 on an annual basis. All samples collected from the transient non-community supply wells must be analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 524.2. The Department does not require analyses for TPH/DRO and TPH/GRO for samples collected from the transient non-community supply wells.

7) Continue sampling the three transient non-community supply wells serving the Green Valley Shopping Center on a **quarterly (every three months)** basis. All samples collected from the transient non-community supply wells must be analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 524.2. The Department does not require analyses for TPH/DRO and TPH/GRO for samples collected from the transient non-community supply wells.

8) Continue **quarterly (every three months)** sampling of the private drinking water supply wells where point-of-entry treatment systems have been installed:
- 3990, 3992, 3994, 3996, and 3997 Farm Lane; and
- 3923 Rosewood Road.

8) Continue **quarterly (every three months)** sampling of the private drinking water supply wells at:
- 3985, 3987, 3989, 3991, 3993, 3995, and 3998 Farm Lane;
- 3829, 3833, 3835, and 3837 Green Ridge Drive; and
- 3737, 3739, and 3740 Blueberry Court.

9) Continue **semi-annual (every six months)** sampling of the private drinking water supply wells at:
- 3979, 3981, 3983, and 3984 Farm Lane; and
- 3992, 3994, 3996, and 3998 Rye Lane.

10) All samples collected from the above off-site private drinking water supply wells must be analyzed for full-suite VOCs, including fuel oxygenates, using EPA Method 524.2. Provide a copy of the sampling results to the property owner, the Frederick County Health Department (Attn: George Keller), and the MDE-Oil Control Program (Attn: Jim Richmond).

Notify the Oil Control Program at least five (5) working days prior to starting pilot test activities so we can be on-site to observe field activities. When submitting documentation to the Oil Control Program, provide two hard copies and a digital copy on a labeled compact disc (CD) for updating the Oil Control Program's *Remediation Sites* list on the MDE website. If you have any questions, please contact the case manager, Mr. Jim Richmond, at 410-537 3337 (email: jrichmond@mde.state.md.us) or me at 410-537-3499 (email: sbull@mde.state.md.us).

Sincerely,

FOR

Susan R. Bull, Western Region Section Head
Remediation and State-Lead Division
Oil Control Program

JWR/nln

cc: Mr. Steven M. Slatnick (Groundwater and Environmental Services, Inc.)
Mr. Norman B. Handler (Resident Agent)
Robert S. Bassman, Esquire (Bassman, Mitchell & Alfano)
Dwight W. Stone, Esquire (Whiteford, Taylor, Preston)
Mr. Christopher J. Miceli (VERTEX)
Mr. George Keller (Frederick County Health Dept.)
Mr. John Grace (MDE-Water Supply Program)
Ms. Priscilla Carroll, Esquire
Mr. Christopher H. Ralston
Mr. Thomas L. Walter
Mr. Horacio Tablada

APPENDIX B

Site History

Monrovia BP/Former Green Valley Citgo
11791 Fingerboard Road, Monrovia, Frederick County, MD

Site History

1990 – 2000:	The facility was operated by Timbercrest LP.
2000:	Underground storage tanks (USTs) were registered to Carroll Independent Fuels Company (Carroll).
June 13, 2001:	Three soil borings (SB-1AR, SB-2AR and SB-3) were advanced onsite and soil samples were collected by ATC Associates (ATC) as part of a Phase II Environmental Assessment.
July 24, 2001:	ATC completed a *Phase II Environmental Assessment* report.
January 28, 2005:	The Maryland Department of the Environment – Oil Control Program (MDE-OCP) conducted a compliance inspection, during which elevated levels of petroleum vapors were detected in the vicinity of the tank field, around tank top components, and in the tank field monitoring wells.
June 1, 2005:	MDE correspondence required vapor leak testing, containment sump and catchment basin testing, the installation of groundwater monitoring wells to comply with High Risk Groundwater Use Area Regulations, and the submittal of a *Subsurface Investigation Work Plan* to assess the vertical and lateral extent of any contamination of soil and/or groundwater. OCP Case #2005-0834-FR was assigned to the site.
July 8, 2005:	A *Work Plan – Subsurface Investigation and Emergency Regulation Compliance* was submitted to the MDE by Environmental Alliance (EA), proposing a soil boring event, installation of four monitoring wells, groundwater sampling, slug tests, and a sensitive receptor search.
August 18, 2005:	The MDE approved the *Work Plan*, with modifications, and required a drinking water well survey within a half-mile radius of the site be conducted.
September 14-15, 2005:	Ten soil borings (GP-1 through GP-10) were advanced.
February 6-7, 2006:	Four bedrock monitoring wells (MW-1 through MW-4) were installed.
March 28, 2006:	Methyl tertiary butyl ether (MTBE) was detected at a concentration of 14 micrograms per liter (µg/L) in a blended influent sample collected from two onsite drinking water wells supplying Green Valley Plaza (GVP), the shopping center that houses the station.
April 2006:	Mr. Arshad Ranjha, doing business as Saaba Corporation, registered as the new UST owner.
May 24, 2006:	An *Assessment for the Emergency Regulations Compliance Report* was submitted to the MDE, detailing the soil boring event, the monitoring well installation, groundwater sampling, sampling of the onsite potable wells, and a sensitive receptor survey.
July 7, 2006:	The MDE responded to the *Assessment Report*, and required semi-annual sampling of the monitoring wells, the tank field wells, and the Site's supply wells, and submittal of boring logs for the onsite drinking water supply wells and the bedrock monitoring wells.
September 19, 2006:	MTBE was detected in a blended influent sample from the GVP's supply wells at a concentration of 42 µg/L.
November 17, 2006:	A *Semi-Annual Sampling Report* was submitted to the MDE detailing the results of groundwater sampling and the potable well sampling, and the intention to install a point-of-entry treatment (POET) system on GVP's water supply.

January 22, 2007:	The MDE issued a *Request for Interim Corrective Action Plan* (ICAP) *and Supplemental Investigation*, requiring the submittal of an ICAP to reduce vapor concentrations in the tank field, including a soil vapor extraction (SVE) test on the tank field and monitoring well MW-3, an investigation of surface drains, and increased frequency of monitoring well and tank field well sampling from semi-annually to quarterly. The submittal of a *Site Conceptual Model* (SCM) and a supplemental *Work Plan* to further develop the SCM were also required. Quarterly sampling of GVP's and the adjacent Green Valley Shopping Center's (GVSC's) potable wells, initial sampling of several private offsite potable wells, and a detailed drinking water well survey within a half-mile radius of the site was required.
March 23, 2007:	An extension request for the submittal of the ICAP was submitted to the MDE, noting that there was more than one potentially responsible party at the Site.
April 5, 2007:	MDE correspondence acknowledged that more than one potentially responsible party existed at the Site.
April 5, 2007:	The MDE issued *Notice of Violation (NOV) NV-2007-069* to all potentially responsible parties for failure to meet the requirements of the January 22, 2007 directive letter within the specified deadlines. The MDE also sent correspondence regarding the case to the Frederick County Health Department.
April 5-6, 2007:	An initial round of samples was collected from select offsite residential potable wells.
April 11, 2007:	EA met with the MDE's Water Supply Division to discuss installing a POET system on GVP's water supply.
April 12, 2007:	Email correspondence to MDE proposed sampling of additional select residential potable wells. The proposal was approved.
April 19, 2007:	Email correspondence to MDE proposed sampling of additional select residential potable wells. The proposal was approved.
April 25, 2007:	An ICAP was submitted to the MDE proposing SVE feasibility testing.
April 25, 2007:	A *Sampling Results and Work Plan* was submitted to the MDE detailing the results of sampling of offsite residential potable wells, the GVP supply wells and the GVSC supply wells, and included plans for future sampling.
April 30, 2007:	A *Drinking Water Well Survey* detailing the results of a search for potable wells within a half-mile radius of the site was submitted to the MDE.
April 30, 2007:	GAC POET systems were installed at two residences (3996 and 3994 Farm Lane) where MTBE was detected above the MDE's action level of 20 µg/L.
May 7, 2007:	The MDE approved the ICAP, with modifications, and required monthly sampling of certain residential potable wells. EA submitted *Site Conceptual Model and Supplemental Work Plan* to the MDE. A POET system was installed at 3990 Farm Lane.
May 11, 2007:	A POET system was installed at 3923 Rosewood Lane.
May 17, 2007:	A *Surface Drain Evaluation* was submitted to the MDE.
May 22, 2007:	*Modifications to the Work Plan and the ICAP* was submitted to the MDE via email.
May 23, 2007:	A POET system was installed at 3992 Farm Lane.
May 31 – June 1, 2007:	Soil vapor monitoring points SV-1, SV-2 and SV-3 were installed around the tank field in preparation for SVE testing. Soil boring SB-1 was also advanced.
June 9, 2007:	A POET system was installed at 3997 Farm Lane.
June 21-22, 2007:	SVE feasibility testing was performed onsite.
June 27, 2007:	The MDE approved the *Supplemental Work Plan.*
July 2007:	Down-hole geophysical testing of GVP drinking water wells FR-88-1356 and FR-94-1233 was conducted.

July 27, 2007:	The MDE sent *Request to Sample Drinking Water Supply Well* notices to seven residences surrounding the Site.
August 8, 2007:	The MDE issued the directive *Off-Site Domestic Well Sampling Frequencies* requiring monthly sampling of 25 residences with potable wells and the submission of *Monthly Status Reports*, and quarterly sampling of 14 residences with potable wells and the submission of *Quarterly Drinking Water Supply Well Sampling Reports*.
October 15, 2007:	A *Potable Well Sampling Report* was submitted to the MDE. A *Quarterly Sampling Report* was also submitted, and included details of the SVE testing.
March 27, 2008:	The MDE issued *Modifications to Off-Site Domestic Well Sampling Frequencies and Request for Site Status*, reducing the reporting frequency for all data and the sampling frequency of certain potable wells to quarterly, but still required monthly sampling of wells outfitted with POET systems. The MDE requested an update on the proposed installation of a POET system on the GVSC supply wells, and the installation of five monitoring wells required in the April 5, 2007 NOV.
May 6, 2008:	A *Supplemental Work Plan Addendum* was submitted to the MDE proposing changes to the construction and installation of monitoring wells.
May 12-15 2008:	Four shallow groundwater monitoring wells (MW-5 through MW-8) were installed. The monitoring wells were left as open boreholes in the water-bearing zone. Monitoring well MW-3 was abandoned in anticipation of upcoming UST removal activities.
May 28, 2008:	The MDE approved the *Supplemental Work Plan Addendum.*
June 2008:	Down-hole geophysical testing of monitoring wells MW-6, MW-7 and MW-8 was conducted.
June 20, 2008:	A *Response to Directive* was submitted to the MDE, proposing the installation of four monitoring wells rather than five.
July 21-25, 2008:	One 2,000-gallon diesel UST and three 10,000-gallon gasoline USTs were removed from the Site. MDE was onsite to observe UST removal activities. Over 1,100 tons of soil, approximately 523.5 tons of which were petroleum-impacted, were removed from the Site. Soil vapor point SV-3 and tank field wells TF-1 and TF-2 were destroyed during UST removal activities. Site surface water discharge was reconfigured during Site upgrade activities.
August 2008:	A new UST system, consisting of two 10,000-gallon gasoline USTs, one 10,000-gallon diesel UST and one 4,000-gallon diesel UST, was installed at the Site. SVE piping was installed, connected to the tank field monitoring wells.
August 2008:	Water treatment permit was approved for modifications to the GVP supply well.
August 22, 2008:	A *UST System Closure Report* was submitted to the MDE.
September 2008:	A POET system was installed on the GVP water supply.
September 16, 2008:	A *Hydrogeologic Investigation Update Report and Work Plan* was submitted to the MDE, and included results of the down-hole geophysical well testing. The Work Plan proposed the installation of monitoring wells within the open boreholes of monitoring wells MW-5 through MW-8, installation of additional shallow monitoring wells, additional SVE testing, modifications to the potable well sampling plan, and preparation of an updated SCM.

December 12, 2008:	The MDE approved the *Work Plan* with modifications. The MDE did not approve the installation of new shallow monitoring wells, but requested the evaluation of need for deep monitoring wells near the tank field and offsite to the south and southeast; frequency of sampling POET systems at three residential addresses was increased to semi-monthly, frequency of the other three residential POET systems remained monthly; frequency of sampling at certain residences with potable wells was changed to quarterly, and others were changed to semi-annually. The MDE sent letters to area residents to inform them of the sampling frequency change.
December 16, 2008:	The need for installation of shallow monitoring wells in order to better place deep monitoring wells was verbally discussed with Jim Richmond of MDE.
December 17, 2008:	Susan Bull of MDE approved, via email, the installation of shallow monitoring wells if the data from them was needed in order to place deep monitoring wells.
December 30, 2008:	A *Response to Directive* was sent to the MDE.
January 16, 2009:	SVE feasibility testing was conducted.
February 3, 2009:	The MDE issued *Work Plan Clarification*, approving the installation of shallow wells in order to better place deep monitoring wells, and clarified the frequency of monitoring of the GVP and CVSC supply wells and residential potable wells.
February 2009:	Permanent screened monitoring wells were constructed in the open boreholes of monitoring wells MW-5 through MW-8.
February 27, 2009:	EA submitted *Soil Vapor Extraction (SVE) Pilot Testing Results* to the MDE.
March 12, 2009:	Five shallow monitoring wells (MW-9 through MW-13) were installed.
May 20, 2009:	The MDE issued *Changes to Off-Site Sampling Frequency*, changing the frequency of sampling residential POET systems to quarterly, and restating the required frequency of sampling offsite residential potable wells. The MDE also sent letters to area residents to inform them of the sampling frequency changes.
June 5, 2009:	A *Hydrogeologic Investigation Update and Work Plan* was submitted to MDE, detailing recent monitoring well installation, groundwater and potable well sampling, and updating the SCM. The *Work Plan* proposed the installation and geophysical testing of one deep monitoring well, installation of five shallow monitoring wells to help monitoring pump testing, packer testing of the deep monitoring well, pump testing of monitoring well MW-10, installation of an injection well, and injection testing of that well.
August 21, 2009:	A meeting was conducted with representatives of Carroll, EA, and MDE to discuss monitoring well installation and aquifer testing activities proposed in the *Work Plan*. It was decided that additional investigation in the vicinity of the tank field was necessary, and that short-term and long-term aquifer testing would be completed on monitoring wells close to the tank field in order to determine hydraulic conductivity and determine if any of the selected wells could function as recovery wells.
August 26, 2009:	*Work Plan Update* was submitted to the MDE, proposing installation of two deep monitoring wells, installation of two shallow monitoring wells, down-hole geophysical testing, packer testing of proposed deep monitoring well PMW-14D, a 72-hour pumping test on proposed deep monitoring well PMW-15D, and 4-hour pumping tests on monitoring wells MW-10 and MW-13, and proposed monitoring wells PMW-16, and PMW-17.
September 22, 2009:	The MDE approved the *Work Plan Update*, but required a brief report be submitted prior to packer testing, and a brief report be submitted prior to the short-term pumping tests.

September 21–25, 2009:	Deep monitoring wells MW-14D and MW-15D and shallow monitoring wells MW-16 and MW-17 were installed. The monitoring wells were left as open boreholes.
October 8, 2009:	EA submitted *Response to September 22, 2009 Directive*, and included the required details of the planned short-term pumping tests.
October 19, 2009:	Pumping tests were performed onsite, including a step-drawdown test and subsequent 72-hour pumping test on monitoring well MW-15D.
November 2, 2009:	Geophysical testing of monitoring wells MW-14D, MW-16 and MW-17 was performed.
November 4, 2009:	*Packer Testing Work Plan* was submitted to the MDE.
November 2009:	Packer testing was completed on monitoring well MW-14D.
December 29, 2009:	A groundwater infiltration investigation (percolation test) was conducted on-site.
March 15, 2010:	EA submitted *Update Report and Work Plan* to the MDE detailing monitoring well installation, step testing, pump testing, geophysical well testing and packer testing. The *Work Plan* proposed the installation of 2-inch wells within monitoring well MW-14D, conversion of monitoring wells MW-15D, MW-16 and MW-17 to permanent screened wells, and the submittal of a *Corrective Action Plan* (CAP).
June 17, 2010:	MDE issued *Request for Corrective Action Plan*, requiring the submittal of a CAP by August 6, 2010. The MDE also required that monitoring well MW-14D be finished as a 4-inch well, and a new 4-inch well, MW-14S be installed adjacent to it; and approved the completion of monitoring wells MW-15D, MW-16, and MW-17 as permanent screened wells, continued quarterly groundwater sampling, the initiation of quarterly sampling of the GVP POET system, continued quarterly sampling of residential POET systems, continued quarterly sampling of 14 residential potable wells, continued semi-annual sampling of 8 residential potable wells.
July 9, 2010:	Carroll submitted a response to the MDE's request for a CAP, requesting an extension of the deadline for the submittal of a CAP to October 31, 2010.
July 19-21, 2010:	Monitoring well MW-14S was installed onsite. Monitoring wells MW-15D, MW-16, and MW-17 were converted to permanent screened wells.
August 9, 2010:	The MDE approved the extension of the deadline for CAP submittal.
August 10, 2010:	A meeting was conducted between GES, Carroll, and the MDE.
September 2010:	The case was transferred from EA to GES.
September 9, 2010:	GES submitted *Pilot Scale Study Work Plan* to the MDE, proposing the installation of three nested injection wells, a nested observation well, and a vapor extraction well; and an ISCO pilot test involving the injection of hydrogen peroxide and ozone at three subsurface intervals during a two-day pilot test.
October 13, 2010:	A *Proposed Groundwater and Potable Well Sampling Program* was submitted to the MDE, proposing low-flow sampling methods and the collection of field measurements to replace the current purge and sample method for groundwater sampling; and the removal of Total Petroleum Hydrocarbons – Diesel Range Organics (TPH-DRO) from the list of parameters analyzed for all monitoring and non-transient, non-community supply wells. All POET system sampling, non-transient, non-community supply well sampling and residential potable well sampling was to remain on the schedule previously followed.
November 16–19, 2010:	Nested monitoring wells MW-18S and MW-18D, vapor extraction well VE-1 and injection wells IW-1S/D, IW-2S/D and IW-3S/D were installed onsite.

November 18, 2010:	The MDE approved the *Pilot Scale Study Work Plan*, with slight modifications, and the use of low-flow sampling techniques at the Site. The MDE approved the elimination of TPH-DRO and TPH-Gasoline Range Organics (GRO) from analysis of samples collected from the GVP POET system, the GVP supply wells, and the GVSC supply wells. The MDE stated that the request to eliminate TPH-DRO from the analysis of groundwater would be considered pending a review of low-flow sampling data and pilot testing activities.
November 30, 2010:	ISCO pilot testing was conducted onsite.
December 1, 2010:	Carroll informed the MDE of the results of the pilot testing via email, and included a proposed plan to redevelop the injection wells and introduce air to see if they could be used for further injection testing. Carroll also requested to modify the post-ISCO pilot test groundwater sampling plan proposed in the *Pilot Scale Study Work Plan.* Monitoring wells sampled prior to the pilot testing (with the exception of MW-18S and MW-18D) would be omitted from additional groundwater sampling in December 2010. The MDE approved both proposals via email.
December 8, 2010:	Injection wells IW-1S/D, IW-2S/D and IW-3S/D were re-developed.
December 15, 2010:	Slug testing was conducted on monitoring wells MW-18S and MW-18D.
January 4, 2011:	Monitoring wells MW-18S and MW-18D, vapor extraction well VE-1 and injection wells IW-1S/D, IW-2S/D and IW-3S/D were surveyed into the existing well network.

APPENDIX C

Soil Boring Log and Monitoring Well Construction Documentation

Log of Boring: GP-01

Date Started: 09/14/05
Date Completed: 09/14/05
Total Depth (ft): 16.00
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeves

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		0.0	ASPHALT SC: Red sandy clay, dry, no odor.			
-5	2		48		19.4	SHALE: Red/orange silty sandy weathered shale, dry.			
	3		36		96.3				
-10	4		36		770				Sample collected 11'-14' for laboratory analysis. Slight petroleum odor 11'-16'.
	5		24		575				
-15									

Log of Boring: GP-02

Date Started: 09/14/05
Date Completed: 09/14/05
Total Depth (ft): 13.00
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeves

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		0.0	ASPHALT			
						MH: Silty clay, red, dry, no odor.			
						SHALE: Silty/sandy weathreed shale, brown/orange, dry, no odor.			
	2		48		0.0				
-5									
	3		36		58				Mica at 8', sample collected for laboratory analysis.
-10									
	4		24		0.0				

Log of Boring: GP-03

Date Started: 09/14/05
Date Completed: 09/14/05
Total Depth (ft): 13.00
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeves

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		0.0	ASPHALT SHALE: Silty sandy weathered shale, dry, no odor.			
	2		48		108				
-5									
	3		36		1428				Sample collected 8'-11' for laboratory analysis.
-10									Quartz 10'-11'.
	4		24		693				

Log of Boring: GP-04

Date Started: 09/14/05
Date Completed: 09/14/05
Total Depth (ft): 15.00
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeves

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		0.0	ASPHALT SHALE: Sandy silty weathered shale, brown/orange, dry, no odor.			
	2		48		0.0				
-5									
	3		36		98.5				Sample collected 8'-11 for laboratory analysis.
-10									
	4		36		48.5				
	5		12		84.7				
-15									

Log of Boring: GP-05

Date Started: 09/14/05
Date Completed: 09/14/05
Total Depth (ft): 12.50
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeves

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		0.0	ASPHALT			
						SHALE: Red silty shale, dry, no odor.			
	2		48		0.0				
-5									
	3		36		0.0				Collected sample 8'-11' for laboratory analysis.
-10									
	4		18		0.0				

Log of Boring: GP-06

Date Started: 09/15/05
Date Completed: 09/15/05
Total Depth (ft): 17.00
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeve

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		49.5	ASPHALT			
						SHALE: Silty sandy weathered shale, dry, brown/orange, no odor.			
	2		48		540				
-5									
	3		36		803				Sample collected 8'-11' for laboratory analysis.
-10									
	4		36		221				
	5		24		225				
-15									
	6		12		137				

Log of Boring: GP-07

Date Started: 09/15/05
Date Completed: 09/15/05
Total Depth (ft): 14.00
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeves

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		0.0	ASPHALT CL: Red clay, dry, no odor.			
						SHALE: Silty sandy weathered shale, orange/brown, dry, no odor.			
-5	2		48		308				
	3		36		246				
-10	4		36		502				Sample collected 11'-14' for laboratory analysis.
15									

Log of Boring: GP-08

Date Started: 09/15/05
Date Completed: 09/15/05
Total Depth (ft): 17.00
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeves

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		0.0	ASPHALT			
						MH: Red silty clay, dry, no odor.			
	2		48		0.0				
-5									
						SHALE: Silty sandy shale, dry, brown/orange, changes to red at 11'.			
	3		36		0.0				
-10									
	4		36		0.0				
	5		24		398				Sample collected 14'-16' for laboratory analysis.
-15									
	6		12		0.0				

Log of Boring: GP-09

Date Started: 09/15/05
Date Completed: 09/15/05
Total Depth (ft): 20.00
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeves

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		0.0	ASPHALT			
						SHALE: Red/brown silty sandy weathered shale, dry, no odor.			
	2		48		0.0				
-5									
	3		36		0.0				
-10									
	4		36		0.0				
	5		24		0.0				
-15									
	6		36		0.0				
	7		12		0.0				Sample collected 18'-20' for laboratory analysis.
-20									

Log of Boring: GP-10

Date Started: 09/15/05
Date Completed: 09/15/05
Total Depth (ft): 12.00
Boring Diameter (in): 2
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Jason Thomas
Drill Rig: Simco Earthprobe 200
Drill Method: Direct push
Sampling Method: Acetate sleeves

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1		48		0.0	ASPHALT			
						SHALE: Red/brown silty sandy weathered shale, dry, no odor, changes to brown at 6.5'.			
	2		48		0.0				
-5									
	3		36		0.0				
-10									
	4		12		0.0				Sample collected 11'-12' for laboratory analysis.

Log of Boring: MW-1

Date Started: 02/07/06
Date Completed: 02/07/06
Total Depth (ft): 61.50
Boring Diameter (in): 6
Bedrock Depth (ft): 38
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Andrew Applebaum
Drill Rig: Schramm T450WS
Drill Method: Air rotary
Sampling Method: N/A

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					0.0	ASPHALT: and gravel fill.			Background air PID 0.0.
-5						MH: Orange brown/tan alternating micaceous silt, dry. Soft spot, damp at 12'.			Set 2" Sch. 40 PVC well at 60.5' with 20' of 0.01"-slot screen and 40' of casing. #1 sand 61.5'-38', bentonite 38'-2', cement/set manhole 2'-grade.
-10									
-15									
-20									
-25					0.0	SAPROLITE: Tan micaceous weathered rock, dry, harder drilling with depth.			
-30									
-35									
-40					0.0	BEDROCK: Gray micaceous rock, dry, hard drilling, possible soft zones at 53' to 57'.			
-45									
-50									
-55									
-60									

Log of Boring: MW-2

Date Started: 02/07/06
Date Completed: 02/07/06
Total Depth (ft): 61.50
Boring Diameter (in): 6
Bedrock Depth (ft): 33
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Andrew Applebaum
Drill Rig: Schramm T450WS
Drill Method: Air rotary
Sampling Method: N/A

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					0.0	ASPHALT: and gravel fill.			Background air PID 0.0.
-5						MH: Orange brown micaceous silt, grades to red brown, soft, dry to damp with depth.			Set 2" Sch. 40 PVC well at 60.5' with 20' of 0.01"-slot screen and 40' of casing. #1 sand 61.5'-37', bentonite 37'-2',cement/set manhole 2'-grade.
-10									
-15									
-20									
-25					0.0	SAPROLITE: Orange brown to red brown weathered micaceous rock & rock fragments, dry.			
-30									
-35					0.0	BEDROCK: Gray micaceous rock, dry, darker moist zones at 41', 47', 53' & 57'. The 53' & 57' zones produce water.			
-40									
-45									
-50									
-55									
-60									

Log of Boring: MW-3

Date Started: 02/07/06
Date Completed: 02/07/06
Total Depth (ft): 81.50
Boring Diameter (in): 6
Bedrock Depth (ft): 32
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Andrew Applebaum
Drill Rig: Schramm T450WS
Drill Method: Air rotary
Sampling Method: N/A

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					0.0	ASPHALT: and gravel fill.			Background air PID 0.0.
-5					14.9	MH: Orange brown to red brown micaceous silt, rock fragments, dry. Soft damp zone 8'-9'.			Backfilled borehole to 64' with bentonite and 64' to 60' with #1 sand. Set 2" Sch. 40 PVC well at 60' with 20' of0.01"-slot screen and 40' of casing. #1 sand 60'-38', bentonite 38'-2', cement/set manhole 2'-grade.
-10									
-15									
-20					7.9	SAPROLITE: Tan micaceous weathered rock, dry.			
-25									
-30					2.2	BEDROCK: Orange brown to tan micaceous rock, dry.			
-35									
-40									
-45						BEDROCK: Gray micaceous rock, dry, with darker discoloration/damp at 47'.			
-50									
-55									
-60									
-65									
-70									
-75									
-80									

Log of Boring: MW-4

Date Started: 02/06/06
Date Completed: 02/06/06
Total Depth (ft): 61.50
Boring Diameter (in): 6
Bedrock Depth (ft): 28
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Andrew Applebaum
Drill Rig: Schramm T450WS
Drill Method: Air rotary
Sampling Method: N/A

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID Units	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					0.0	ASPHALT: and gravel fill.			Background air PID 0.0.
-5						MH: Orange brown micaceous silt, some fine to medium sand & rock fragments, grades to micaceous silt, dry.			Set 2" Sch. 40 PVC well at 60.5' with 20' of 0.01"-slot screen and 40' of casing. #1 sand 61.5'-38', bentonite 38'-2',cement/set manhole 2'-grade.
-10									
-15									
-20					0.0	MH: Orange-red micaceous silt, dry to damp.			
-25					0.0	SAPROLITE: Brown to tan micaceous weathered rock, dry.			
-30						BEDROCK: Tan micaceous rock, competent, harder drilling, dry.			
-35									
-40									
-45						BEDROCK: Gray micaceous rock with soft spot/dust reduction at 49'-50' and 58'.			
-50									
-55									
-60									

Log of Boring: SV-1

Date Started: 05/31/07
Date Completed: 05/31/07
Total Depth (ft): 35.25
Boring Diameter (in): 8
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Aaron Hartman
Drill Rig: Boart Longyear
Drill Method: Hollow stem auger
Sampling Method: Split spoon

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1				0.0	SC: Orange-brown micaceous silt with phyllite gravel, dry.			
-5	2		9	10-30-38-40	0.0 0.0 0.0 0.0 0.0				
-10	3		10	18-46-51/4"	0.0 0.0 0.0 0.0 0.0	SAPROLITE: Micaceous phyllite (saprolite, orange brown, silty, dry).			
-15	4		10	20-51/5"	0.0 0.0 0.0 0.0 0.0	SAPROLITE: Light brown micaceous phyllite, silty, dry. SAPROLITE: Same as above with quartz gravel.			

Log of Boring: SV-1

Date Started: 05/31/07
Date Completed: 05/31/07
Total Depth (ft): 35.25
Boring Diameter (in): 8
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Aaron Hartman
Drill Rig: Boart Longyear
Drill Method: Hollow stem auger
Sampling Method: Split spoon

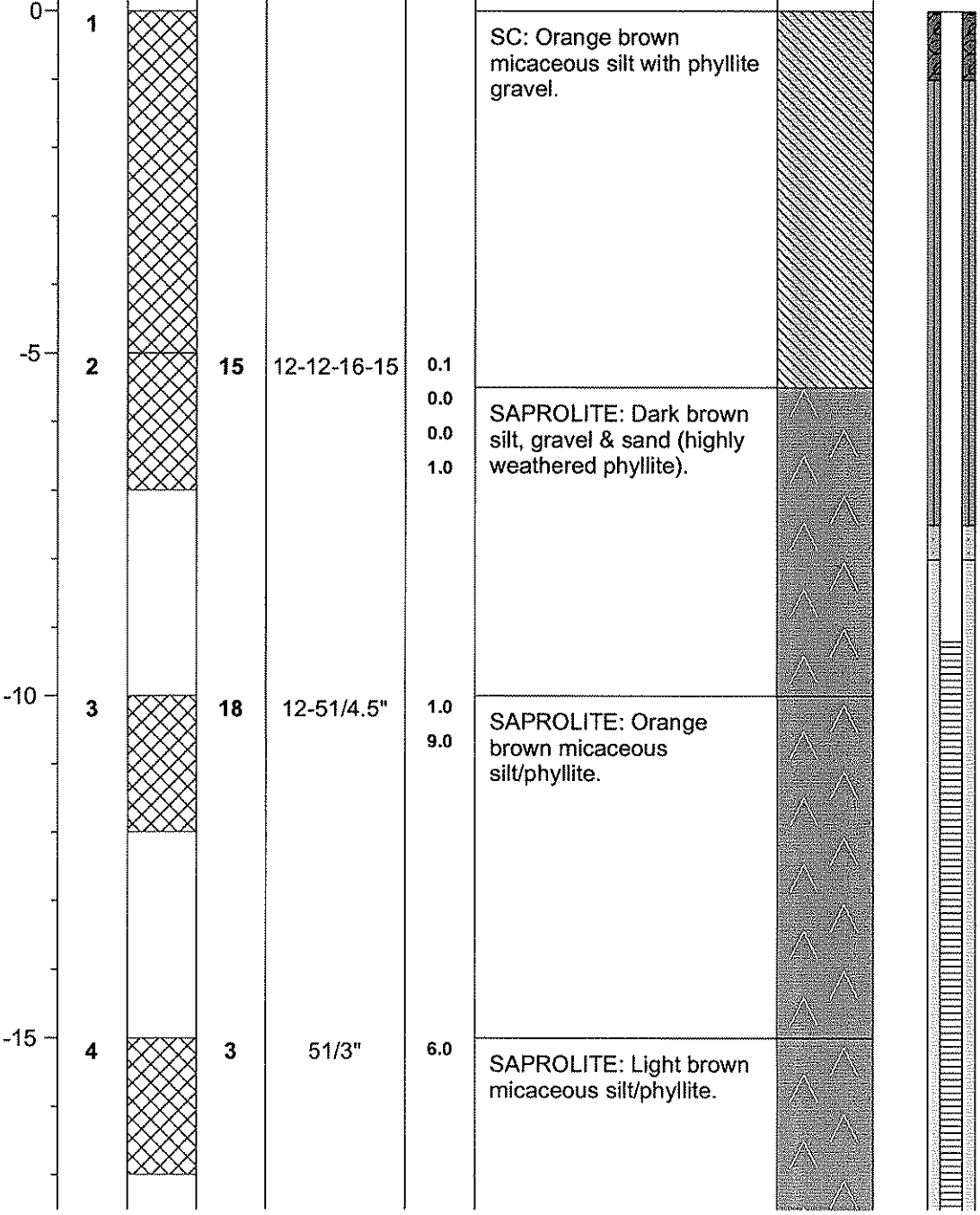
Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
	5		12	20-51/5"	0.0	SAPROLITE: Orange brown silt with quartz gravel, moist.			
					0.0				
					0.0	SAPROLITE: Orange brown, with quartz gravel, dry.			
	6		16	51/4"	0.0				
-20	7		7	51/4.5"	0.0				
					0.0				
	8		6	51/5"	0.0	SAPROLITE: Orange brown gray phyllite.			
					0.0				
	9		6	71/6"	0.0				
	10		1	100/1"	0.0				Collected soil sample from 24.5' for laboratory analysis of VOCs, fuel oxygenates, TPH-DRO & TPH-GRO.
-25	11		NA		0.0				
-30	12		NA		0.1	SAPROLITE: Same as above with fine cuttings.			
						SAPROLITE: Same as above with larger phyllite cuttings.			
						SAPROLITE: Same as above with fine cuttings - green/dark gray on fresh surfaces.			
-35	13		3	51/3"					

Log of Boring: SV-2

Date Started: 05/31/07
Date Completed: 05/31/07
Total Depth (ft): 30.25
Boring Diameter (in): 8
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Aaron Hartman
Drill Rig: Boart Longyear
Drill Method: Hollow stem auger
Sampling Method: Split spoon

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1					SC: Orange brown micaceous silt with phyllite gravel.			
-5	2		15	12-12-16-15	0.1 0.0 0.0 1.0	SAPROLITE: Dark brown silt, gravel & sand (highly weathered phyllite).			
-10	3		18	12-51/4.5"	1.0 9.0	SAPROLITE: Orange brown micaceous silt/phyllite.			
-15	4		3	51/3"	6.0	SAPROLITE: Light brown micaceous silt/phyllite.			



Log of Boring: SV-2

Date Started: 05/31/07
Date Completed: 05/31/07
Total Depth (ft): 30.25
Boring Diameter (in): 8
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Aaron Hartman
Drill Rig: Boart Longyear
Drill Method: Hollow stem auger
Sampling Method: Split spoon

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
-20	5		1	51/1"	1.0	SAPROLITE: Light brown & gray phyllite.			Collected soil sample from 20' for laboratory analysis of VOCs, fuel oxygenates, TPH-DRO & TPH-GRO.
-25	6		5	51/5"	14.3	SAPROLITE: Same as above.			Collected soil sample for laboratory analysis of TPH-DRO as composite sample from 25' & 30' due to insufficient volume.
-30	7		3	51/3"	20.3 30.2				Collected soil sample from 30' for laboratory analysis of VOCs, fuel oxygenates & TPH-GRO.
-35									

Log of Boring: SV-3

Date Started: 06/01/07
Date Completed: 06/01/07
Total Depth (ft): 32.00
Boring Diameter (in): 8
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Chris Thoeny
Drill Rig: Boart Longyear
Drill Method: Hollow stem auger
Sampling Method: Split spoon

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1				0.0	SC: Orange brown micaceous silt, moist, with pieces of mica schist/phyllite (quartz veins).			
-5	2		14	9-25-32-40	3.6 2.7	SC: Saprolite crushes to gravel & silt. PID screening of cuttings 4.0-35.0.			
-10	3		15	16-23-24-24	24.6 39.0	SAPROLITE: Orange red saprolite/phyllite. PID screening of cuttings 29.0-16.0.			Collected soil sample from 10' to 12' and 15'-17' for laboratory analysis of VOCs, fuel oxygenates, TPH-DRO & TPH-GRO.
-15	4		14	24-51/5"	24.0 55.0	SAPROLITE: Orange red silt (crushed saprolite) with minor pieces of rock. PID screening of cuttings 21.9-16.0.			
-20	5		15	35-51/4"	17.4 36.3	SAPROLITE: Weathered phyllite, satiny texture, crushes to gravel & silt, orange red & tan, high angle foliations. PID screeningof cuttings 29.5-42.6.			
-25	6		4	51/4"	11.3 21.7	SAPROLITE: Red, micaceous, orange red silt with some rock fragments. PID screening of cuttings 52.1-14.5.			
-30	7		5	51/4"	10.2 6.8	SAPROLITE: Red orange phyllite/saprolite.			

Log of Boring: SB-1

Date Started: 06/01/07
Date Completed: 06/01/07
Total Depth (ft): 17.00
Boring Diameter (in): 8
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark:

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Earth Matters, Inc.
Logged By: Chris Thoeny
Drill Rig: Boart Longyear
Drill Method: Hollow stem auger
Sampling Method: Split spoon

Depth	Sample Number	Sample Interval	Recovery (inches)	Blow Counts	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0	1				0.0	SC: Pinkish brown micaceous silt with pieces of phyllite.			
-5	2		13	11-18-18-24	0.0	SAPROLITE: Red silt with crushed micaceous phyllite.			
-10	3		18	10-20-40-46	0.0	SAPROLITE: Gray & red weathered phyllite with high laminations/foliation.			
-15	4		13	51/5"	0.0	SAPROLITE: Reddish brown silt, red-gray saprolite, relict structure, satiny texture (phyllite).			Collected soil sample from 15'-17' for laboratory analysis of VOCs, fuel oxygenates, TPH-DRO & TPH-GRO.

Log of Boring: MW-5

Date Started: 05/12/08
Date Completed: 02/23/09
Total Depth (ft): 70.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 36
Elevation (ft-msl): N/A
Remark: Permit # FR-95-0982

Project Code: 1953
Project Name: Monrovia BP (former Green Valley Citgo)
Drilled By: Eichelbergers
Logged By: Chris Thoeny
Drill Rig: Schram T450
Drill Method: Air Hammer Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID/ FID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					SAPROLITE: Asphalt, gravel then orange-tan silt and clay with pieces of flat, angular, silver-gray phyllite / saprolite.			0-5' soft dig with air knife.
-5				0.3	SAPROLITE: Saprolite crushed to pinkish brown micaceous silt.			5'-14' drill with a 12" dual roller bit
-10				0.3	SAPROLITE: Light tan colored micaceous saprolite as above.			
-15				0.2	SAPROLITE: Saprolite crushed to varicolored orange-brown, slightly micaceous silt.			Drill out hole with 8" diameter air hammer.
-20								Well Construction - Flushmount: Steel casing 0 to 14-ft. bgs. Cement placed from 0 to 30-ft. bgs. Bentonite placed from 30 to 33-ft. bgs Filter pack of #1 sand placed from 33 to 70-ft. bgs. 4-inch Schedule 40 PVC riser placed from 0 to 40-ft. bgs 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 40 to 70-ft. bgs
-25				0.2	SAPROLITE: Saprolite as above, all soft drilling with increase in crushed rock fragments at 29'.			
-30				0.2	SAPROLITE: Saprolite as above, possible soft zone at 33 and 34'.			
-35				0.2	BEDROCK: Bedrock at 36' shows increase in dust and cuttings change to gray silt (from crushed phyllite/schist). Slightly moist and discolored tan-light tan at 39', then more competent drilling by 40'.			
-40								
-45				1.4	BEDROCK: Phyllite/schist as above, Possible water zone at 44.5' slightly discolored brown along with increase in rock fragments. Cuttings change back to gray at 49.5' with harder drilling.			
-50								
-55				0.7	BEDROCK: Rock as above. Possible fractures/soft zones at 51.5' 53' and 57-58' indicated by softer drilling and discoloration.			
-60				0.4	BEDROCK: Phyllite/Schist, Cuttings greenish-gray micaceaous silt. Soft zone at 62'. Darder drilling 63'-69' Soft zone with some discoloration 69-70'			
-65								
-70								End boring at 70'

Log of Boring: MW-6

Date Started: 05/12/08
Date Completed: 02/23/09
Total Depth (ft): 66.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 58
Elevation (ft-msl): N/A
Remark: Permit # FR-95-0983

Project Code: 1953
Project Name: Monrovia BP (former Green Valley Citgo)
Drilled By: Eichelbergers
Logged By: Chris Thoeny
Drill Rig: Schram T450
Drill Method: Air Hammer Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID/ FID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					SAPROLITE: Asphalt, gravel then orange-tan silt and clay with pieces of flat, angular, silver-gray phyllite / saprolite			0-5' soft dig with air knife.
-5				1.7	SAPROLITE: Saprolite, crushed to brown slightly micaceous silt. Cuttings change from orange-brown to brown at ~ 10'.			5'-14' drill with a 12" dual roller bit
-10				2.0				
-15				0.4	SAPROLITE: Cuttings, brown micaceous silt with fine grain schist/phyllite and quartz fragments.			Drill out hole with 8" diameter air hammer.
-20				4.8	SAPROLITE: As above, soft drilling at 26.5'			Well Construction - Flushmount: Steel casing 0 to 14-ft. bgs. Cement placed from 0 to 33-ft. bgs. Bentonite placed from 33 to 36-ft. bgs Filter pack of #1 sand placed from 36 to 59.5-ft. bgs. 4-inch Schedule 40 PVC riser placed from 0 to 39.5-ft. bgs 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 39.5 to 59.5-ft. bgs
-25								
-30				0.0	SAPROLITE: Cuttings as above, soft, moist zone at 35' with reddish brown discoloration.			
-35								
-40				0.0	SAPROLITE: Saprolite: Cuttings: Brown, micaceous silt.			
-45								
-50								
-55								
-60				22.4	BEDROCK: Harder driling at 58', cuttings change to silver and greenish gray phyllite/schist, slightly micaceous with quartz veins. Begin show water at 62'. Possible fracture at 64. Showing good water by 66'.			Boring depth measures 59.5' indicating the bedrock that the boring infiltrated collapsed.
-65								End boring at 66'

Log of Boring: MW-7

Date Started: 05/12/08
Date Completed: 02/24/09
Total Depth (ft): 80.60
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 50
Elevation (ft-msl): N/A
Remark: Permit # FR-95-0984

Project Code: 1953
Project Name: Monrovia BP (former Green Valley Citgo)
Drilled By: Eichelbergers
Logged By: Chris Thoeny
Drill Rig: Schram T450
Drill Method: Air Hammer Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID/ FID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					SAPROLITE: Asphalt, gravel then orange-tan silt and clay with pieces of flat, angular, silver-gray phyllite / saprolite			0-5' soft dig with air knife.
-5				0.0				5'-14' drill with a 12" dual roller bit
				0.3	SAPROLITE: Pinkish, micaceous saprolite ground to sand and clay with pieces of fine grain rock fragments.			
-10				0.2				
-15					SAPROLITE: As above, soft from 15-16', harder drilling 18-19'			Drill out hole with 8" diameter air hammer.
-20				0.3	SAPROLITE: Orange-brown micaceous silt. Soft zone at 27'.			Well Construction - Flushmount: Steel casing 0 to 19.5-ft. bgs. Cement placed from 0 to 48.5-ft. bgs. Bentonite placed from 48.5 to 52-ft. bgs Filter pack of #1 sand placed from 52 to 80.6-ft. bgs. 4-inch Schedule 40 PVC riser placed from 0 to 53-ft. bgs 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 53 to 80-ft. bgs
-25								
-30				0.8	SAPROLITE: Cuttings as above, become slightly darker at 30' harder drilling at 32'.			
-35								
-40				0.8	SAPROLITE: Cuttings as above, soft zone at 41' and 46.5'. Color change to orange at 48'.			
-45								
-50				9.8	BEDROCK: Cuttings change to silver-blue-gray, very dusty. Soft zone at 60', cuttings change to green-brown phyllite/schist. End boring at 63'.			Begin adding water at 50' to keep dust down.
-55								
-60								
-65				0.0	BEDROCK: Phyllite, varying shades of brown and micaceous cuttings with small fragments of phyllite. 73'-74' evidence of water.			
-70								
-75								
-80								End boring at 80.6'

Log of Boring: MW-8

Date Started: 05/12/08
Date Completed: 02/23/09
Total Depth (ft): 71.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 38
Elevation (ft-msl): N/A
Remark: Permit # FR-95-0985

Project Code: 1953
Project Name: Monrovia BP (former Green Valley Citgo)
Drilled By: Eichelbergers
Logged By: Chris Thoeny
Drill Rig: Schram T450
Drill Method: Air Hammer Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID/ FID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0				0.4	SAPROLITE: Asphalt, gravel then orange-tan silt and clay with pieces of flat, angular, silver-gray phyllite / saprolite			0-5' soft dig with air knife; Rain; Breathing Zone PID 2.1-5.1
-5					SAPROLITE: Pinkish-tan, micaceous phyllite, soft at 10'. Color change to deeper orange. Slightly firmer drilling by 15'			5'-15' drill with a 12" dual roller bit
-10								
-15				0.2	SAPROLITE: Crushed Saprolite: light tan-brown micaceous fine grain silt.			Drill out hole with 8" diameter air hammer.
-20				0.2				Well Construction - Flushmount: Steel casing 0 to 15-ft. bgs. Cement placed from 0 to 33-ft. bgs. Bentonite placed from 33 to 36-ft. bgs Filter pack of #1 sand placed from 36 to 71-ft. bgs. 4-inch Schedule 40 PVC riser placed from 0 to 45-ft. bgs 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 45 to 70-ft. bgs
-25								
-30								
-35								
-40				0.4	BEDROCK: Greenish gray schist, crushed to silt with fine grain pieces of slightly micaceous rock.			Slightly harder drilling
-45				1.8				
-50				1.8	BEDROCK: Possible water bearing zone, softer drilling and decrease in dust.			
				2.4	BEDROCK: Major increase in dust at 55'. Rock fragments: dark green, slightly micaceous schist with quartz veins.			
-55				2.4				Drill out boring at 60' clear hole and let sit for recharge evaluation. Only one-foot of water accumulated in hole after allowing to sit for 24 hours.
-60				0.2	BEDROCK: Cuttings: Crushed phyllite/schist as bluish-gray silt, fairly dry. Soft zone at 64' with some brown discoloration. Cuttings show gradual decrease in dust 66-70'.			
-65								
-70								End boring at 71'

Log of Boring: MW-9

Date Started: 02/25/09
Date Completed: 03/11/09
Total Depth (ft): 78.00
Boring Diameter (in): 8
Bedrock Depth (ft): 22
Elevation (ft-msl): N/A
Remark: Permit # FR-95-1216

Project Code: 1953
Project Name: Monrovia BP (former Green Valley Citgo)
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Hammer Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID/ FID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					SAPROLITE: Saprolite, brown with rock (phyllite) fragments. 17'-17.5 Orange with no rock fragments.			Well Construction - Flushmount: Steel casing 0 to 10.5-ft. bgs. Cement placed from 0 to 40-ft. bgs. Bentonite placed from 40 to 46-ft. bgs Filter pack of #1 sand placed from 46 to 78-ft. bgs. 4-inch Schedule 40 PVC riser placed from 0 to 48-ft. bgs 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 48 to 78-ft. bgs
-5								
-10								
-15								
-20								
-25				0.0	BEDROCK: Phyllite, varying shades of brown and micaceous cuttings with rock (phyllite) fragments. 22' Increase in amount of rock fragments. 55'-56' Soft zone. 56'-58' Grey. 61'-64' Grey. 64'-66' Greenish. 71'-73' Green/grey. 77'-78' Greenish.			
-30								
-35								
-40								
-45								
-50								
-55				0.0				
-60				0.0				No evident water bearing zone observed during drilling. Drill was stopped at 78' bgs and the boring was allowed to sit for approximately half an hour. When drill was reengaged water was present.
-65								
-70								
-75				0.0				End boring at 78'.

Log of Boring: MW-10

Date Started: 02/25/09
Date Completed: 03/11/09
Total Depth (ft): 80.00
Boring Diameter (in): 8
Bedrock Depth (ft): 21
Elevation (ft-msl): N/A
Remark: Permit # FR-95-1217

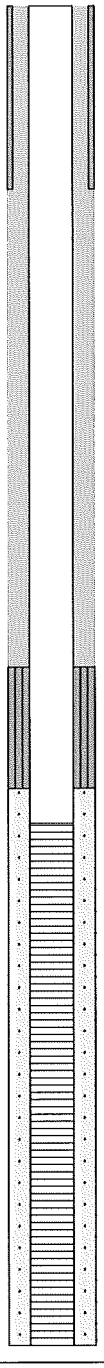
Project Code: 1953
Project Name: Monrovia BP (former Green Valley Citgo)
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Hammer Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID/ FID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					MH: Clayey silt.			Well Construction - Flushmount: Steel casing 0 to 10.5-ft. bgs. Cement placed from 0 to 32.5-ft. bgs. Bentonite placed from 32.5 to 38.5-ft. bgs Filter pack of #1 sand placed from 38.5 to 80-ft. bgs. 4-inch Schedule 40 PVC riser placed from 0 to 40-ft. bgs 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 40 to 80ft. bgs
-5				0.0	SAPROLITE: Brown with fragments of phyllite. 11'-16' Micaceous. 16'-21' More fragments of phyllite.			
-10				0.0				
				0.0				
-15				0.0				
-20				0.0				
-25				0.0	BEDROCK: Phyllite, varying shades of brown and micaceous cuttings with small rock (phyllite) fragments. 32'-34' Shades of grey. 40'-43' Soft zone. 47.5'-48' Soft zone. 54'-55' Green. 56'-60' Red; soft zone. 64'-70' Green/grey/brown. 64' Evidence of water. 70' Saturated cuttings with a high concentration of rock fragments (rock fragments include orange phyllite, blue phyllite, green phyllite, and a trace amount of quartz). 76-80' Green/brown.			
-30				0.0				
-35								
-40				0.0				
-45				0.0				
-50				0.0				
-55				0.0				Drill held at 55' bgs for approximately 10 minutes; when reengaged no evidence of water.
-60								Indication of water at 64' bgs; drill held for 10 minutes. When reengaged small amount of water present. Drill to 70' bgs to extend water column.
				0.0				
-65								
-70				0.0				End boring at 70'.
-75				0.0				
-80				0.0				Extended boring to 80' bgs on 03/11/2009

Log of Boring: MW-11

Date Started: 02/25/09
Date Completed: 03/11/09
Total Depth (ft): 77.00
Boring Diameter (in): 8
Bedrock Depth (ft): 19.5
Elevation (ft-msl): N/A
Remark: Permit # FR-95-1219

Project Code: 1953
Project Name: Monrovia BP (former Green Valley Citgo)
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Hammer Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID/ FID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					SAPROLITE: Brown, micaceous weathered rock. 0-15' Fragments of phyllite and quartz. 15'-16' Orange/brown. 16'-18.5' Red/brown.			Well Construction - Flushmount: Steel casing 0 to 10.5-ft. bgs. Cement placed from 0 to 38-ft. bgs. Bentonite placed from 38 to 45-ft. bgs Filter pack of #1 sand placed from 45 to 77-ft. bgs. 4-inch Schedule 40 PVC riser placed from 0 to 47-ft. bgs 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 47 to 77-ft. bgs
-5				0.0				
				0.0				
-10								
-15				0.0				
-20				0.0	BEDROCK: Phyllite, varying shades of brown with small fragments of phyllite throughout and quartz fragments to 44'. 34'-35' Soft zone. 51'-59' Dark grey/brown to grey/green; an increase in small rock fragments. 58'-59.5' Soft zone. 62'-63.5' Blue/grey with larger rock fragments. 65'-70' Blue/grey with high concentration of rock fragments. 68' Evidence of water. 74'-77' Blue/grey.			
-25				0.0				
-30				0.0				
-35				0.0				
-40				0.0				
-45				0.0				
-50				0.0				Stop drill at 51' bgs for 10 minutes; when drill is reengaged no evidence of water. Continue drilling. Evidence of water at 68' bgs.
-55				0.0				
-60				0.0				
-65				0.0				
-70				0.0				
-75				0.0				End boring at 77'.

Log of Boring: MW-12

Date Started: 02/25/09
Date Completed: 03/12/09
Total Depth (ft): 84.00
Boring Diameter (in): 8
Bedrock Depth (ft): 35
Elevation (ft-msl): N/A
Remark: Permit # FR-95-1218

Project Code: 1953
Project Name: Monrovia BP (former Green Valley Citgo)
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Hammer Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID/ FID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					ASPHALT			Well Construction - Flushmount: Steel casing 0 to 10.5-ft. bgs. Cement placed from 0 to 35-ft. bgs. Bentonite placed from 35 to 42-ft. bgs Filter pack of #1 sand placed from 42 to 82-ft. bgs. 4-inch Schedule 40 PVC riser placed from 0 to 44-ft. bgs 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 44 to 82-ft. bgs
-5				0.0	SAPROLITE: Varying shades of brown, clayey, micaceous, crushed weathered rock, relict structures. 0.5'-10' Small fragments of phyllite and quartz. 15'-17' Orange. 21'-23.5' Orange. 26'-27' Red with an increase of small fragments of phyllite. 27'-29.5' Orange. 32'-35' Yellow tint.			
-10				0.0				
-15				0.0				
-20				0.0				
-25				0.0				
-30				0.0				
-35				0.0	BEDROCK: Phyllite. 35'-37.5' Brown becoming more yellow at 37' with large rock (phyllite) fragments. 37.5'-84' Alternating between brown and blue/grey. 43'-44' Blue/grey with a high concentration of rock fragments. 51'-56' High concentration of rock fragments. 71'-78' Blue with larger rock fragments. 81'-84' Blue.			
-40				0.0				
-45				0.0				
-50				0.0				Stop drill at 78' bgs for 10 minutes; when drill is reengaged no evidence of water. Drill to 84' bgs. No clear water bearing zone observed.
-55				0.0				
-60				0.0				
-65								
-70				0.0				
-75				0.0				
-80				0.0				
-85								End boring at 84'.

Log of Boring: MW-13

Date Started: 02/26/09
Date Completed: 03/12/09
Total Depth (ft): 84.00
Boring Diameter (in): 8
Bedrock Depth (ft): 20
Elevation (ft-msl): N/A
Remark: Permit # FR-95-1215

Project Code: 1953
Project Name: Monrovia BP (former Green Valley Citgo)
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Hammer Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID/ FID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					ASPHALT			Well Construction - Flushmount: Steel casing 0 to 10.5-ft. bgs. Cement placed from 0 to 41-ft. bgs. Bentonite placed from 41 to 47-ft. bgs Filter pack of #1 sand placed from 47 to 84-ft. bgs. 4-inch Schedule 40 PVC riser placed from 0 to 49-ft. bgs 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 49 to 84-ft. bgs
-5				0.0	SAPROLITE: Saprolite, clayey, micaceous. 0.5'-11' Brown with large fragments of phyllite and quartz. 11'-20' Orange into brown at 15'.			
-10				0.0				
-15				0.0				
-20				0.0	BEDROCK: Phyllite, micaceous cuttings. 20'-34' Shades of brown. 20' Increase in rock fragments. 30-34' Higher concentration of rock fragments. 34'-38' Grey/green with a high concentration of rock fragments. 38'-56' Shades of brown. 56'-84' High concentration of very small rock fragments. 60.5'-76' Shades of grey. 76' Evidence of water. 76'-84' Brown with blue tint.			
-25				0.0				
-30				0.0				
-35				0.0				
-40				0.0				
-45								
-50				0.0				
-55				0.0				
-60				0.0				
-65								
-70				0.0				
-75				0.0				
-80				0.0				
-85								End boring at 84'.

Log of Boring: MW-14S

Date Started: 07/20/10
Date Completed: 07/21/10
Total Depth (ft): 100.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 37'
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Gill Rock Beetle
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Penetration Rate (Ft/Min)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					TOPSOIL: Grass/Top soil			8" diameter steel casing set at 11-ft. bgs and grouted in place - Well Construction - Flushmount: - Sand placed from 0 to 10-ft. bgs. - Bentonite placed from 10 to 37.25-ft. bgs - 4-inch Schedule 40 PVC riser placed from 0 to 40-ft. bgs - Filter pack of #2 sand placed from 37.25 to 100-ft. bgs. - 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 40 to 100-ft. bgs PID did not function properly due to high humidity
-5				0.0	SAPROLITE: Varying color (brown, red-brown, orange-brown, tan), crushes to silt, some weathered phyllite, dry, micaceous, 35-36' soft			
-10				0.0				
-15								
-20								
-25								
-30								
-35								
-40					BEDROCK: Phyllite varying browns 49-50' soft zone 52-55' orange-brown soft zone 60-63' orange-brown soft zone, water-bearing 70' more competent 75-90' olive-brown 90-100' competent, blue phyllite with some quartz			
-45								
-50								
-55								
-60								
-65								
-70								
-75								
-80								
-85								
-90								
-95								
-100								

Log of Boring: MW-14D

Date Started: 09/24/09
Date Completed: 09/24/09
Total Depth (ft): 273.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 50
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0 to -140				0.0	UNKNOWN: Top Soil			Air knifed & vacuum extracted soil to 3.25' bgs before refusal
-5 to -10				0.0	ML: Brown silt; very micaceous, with some weathered phyllite fragments			10.5' of 8" diameter; 3/8" thick, steel casing set at 10.75' bgs & grouted in place
-15 to -25				0.0	SAPROLITE: Saprolite weathered phyllite with relict structures, 2.75-10.75' Brown, 10.75-23' Red/orange brown, 23-50' brown & orange-brown 48' soft zone			
-50 to -140				0.0	BEDROCK: Phyllite, 50-51' grey, 51-74' Brown, orange, yellow/orange, 74-273' Competent bedrock; soft directly above, almost completely phyllite rock fragments in cuttings. 83' free water is observed; blue-grey cuttings, small phyllite fragmetns with little quartz. 124' little brown phyllite fragments, 126' blue-grey, 150' amount of quartz fragments increase. 164-170' brown. 170-190' blue-grey, 190-203' purple-grey, 199' possible small fracture, 203' green mineral, 223' orange phyllite large rock fragments. 239-257' blue-grey, decreased amount of orange phyllite fragments; increase in amount of quartz. 257' cuttings become very fine grained, groundwater is very silty; blue-grey.			

Log of Boring: MW-14D

Date Started: 09/24/09
Date Completed: 09/24/09
Total Depth (ft): 273.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 50
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
-145								
-150								
-155								
-160				0.0				
-165								
-170								
-175								
-180				0.0				
-185				0.0				
-190								
-195								
-200								
-205				0.0				
-210								
-215								
-220								
-225								
-230								
-235								
-240				0.0				
-245								
-250								
-255								
-260				0.0				
-265								
-270								

Log of Boring: MW-14D

Date Started: 09/24/09
Date Completed: 07/21/10
Total Depth (ft): 273.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 50
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Penetration Rate (Ft/Min)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0 to -135				0.0	UNKNOWN: Top Soil			Air knifed & vacuum extracted soil to 3.25' bgs before refusal
				0.0	ML: Brown silt; very micaceous, with some weathered phyllite fragments			
				0.0	SAPROLITE: Saprolite weathered phyllite with relict structures, 2.75-10.75' Brown, 10.75-23' Red/orange brown, 23-50' brown & orange-brown 48' soft zone			10.5' of 8" diameter; 3/8" thick, steel casing set at 10.75' bgs & grouted in place Well constructed in previous open borehole
				0.0	BEDROCK: Phyllite, 50-51' grey, 51-74' Brown, orange, yellow/orange, 74-273' Competent bedrock; soft directly above, almost completely phyllite rock fragments in cuttings. 83' free water is observed; blue-grey cuttings, small phyllite fragments with little quartz. 124' little brown phyllite fragments, 126' blue-grey, 150' amount of quartz fragments increase. 164-170' brown. 170-190' blue-grey, 190-203' purple-grey, 199' possible small fracture, 203' green mineral, 223' orange phyllite large rock fragments. 239-257' blue-grey, decreased amount of orange phyllite fragments; increase in amount of quartz. 257' cuttings become very fine grained, groundwater is very silty; blue-grey.			- Well Construction - Flushmount: - Sand placed from 0 to 10-ft. bgs. - Bentonite placed from 10 to 196-ft. bgs - 4-inch Schedule 40 PVC riser placed from 0 to 201-ft. bgs - Filter pack of #2 sand placed from 196 to 224-ft. bgs. - 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 201 to 221-ft. bgs - Bentonite placed from 224 to 241-ft. bgs - Grout placed from 241 to 273-ft. bgs

Log of Boring: MW-14D

Date Started: 09/24/09
Date Completed: 07/21/10
Total Depth (ft): 273.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 50
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Penetration Rate (Ft/Min)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
-140				0.0				
-145								
-150								
-155								
-160				0.0				
-165								
-170								
-175								
-180				0.0				
-185				0.0				
-190								
-195								
-200								
-205				0.0				
-210								
-215								
-220								
-225								
-230								
-235								
-240				0.0				
-245								
-250								
-255								
-260				0.0				
-265								
-270								

Log of Boring: MW-15D

Date Started: 09/28/09
Date Completed: 09/28/09
Total Depth (ft): 132.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 43'
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450WS
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0				0.0	ASPHALT			
-5				0.0	ML: Brown, very micaceous silt; some weathered phyllite;dry			Air knifed & vacuum clear soil to 3' bgs before native material too hard to clear
-10				0.0	SAPROLITE: Saprolite brown, weathered phyllite; phyllitic structures; very micaceous. 2' medium to large rock fragments, 5' rock fragment size decreases			
-15								10' of 8" diameter; 3/8" thick, steel casing set at 10.5' bgs & grouted in place
-20								
-25				0.0				
-30								
-35								
-40				0.0				
-45					BEDROCK: Bedrock; grey phyllite. 43-50.5' tan & brown; medium rock fragments 50.5-57.5' orange-brown; brown; yellow-brown silty cuttings with small rock fragments. 57.5-71' brown with larger rock fragments 61-61.5' red/orange-brown. 71-132' competent bedrock-slower drilling; grey with larger rock fragments. 75' very sily free water. 77' free water is more abundant but silty. 83' free water becomes less silty. 85' no silt; little quartz. 83-88' slower drilling; 91' trace orange phyllite fragments			
-50				0.0				
-55								
-60								
-65				0.0				

Log of Boring: MW-15D

Date Started: 09/28/09
Date Completed: 09/28/09
Total Depth (ft): 132.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 43'
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450WS
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
-70								
-75				0.0 0.0				
-80								
-85				0.0				
-90								
-95								
-100								
-105				0.0				
-110								
-115								
-120								
-125								
-130								

Log of Boring: MW-15D

Date Started:	09/28-09
Date Completed:	07/19/10
Total Depth (ft):	132.00
Boring Diameter (in):	12"/8"
Bedrock Depth (ft):	43'
Elevation (ft-msl):	N/A
Remark:	N/A

Project Code:	1953
Project Name:	Green Valley Citgo
Drilled By:	Eichelbergers
Logged By:	Megan Brown
Drill Rig:	Schramm T450WS
Drill Method:	Air Rotary
Sampling Method:	Cuttings

Depth	Sample Number	Sample Interval	Penetration Rate (Ft/Min)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					ASPHALT			
-5				0.0	ML: Brown, very micaceous silt; some weathered phyllite;dry			Air knifed & vacuum clear soil to 3' bgs before native material too hard to clear
-10				0.0	SAPROLITE: Saprolite brown, weathered phyllite; phyllitic structures; very micaceous. 2' medium to large rock fragments, 5' rock fragment size decreases			
-15								10' of 8" diameter; 3/8" thick, steel casing set at 10.5' bgs & grouted in place
-20								
-25				0.0				
-30								
-35								Well constructed in previous open borehole
-40				0.0				
-45					BEDROCK: Bedrock; grey phyllite. 43-50.5' tan & brown; medium rock fragments 50.5-57.5' orange-brown; brown; yellow-brown silty cuttings with small rock fragments. 57.5-71' brown with larger rock fragments 61-61.5' red/orange-brown. 71-132' competent bedrock-slower drilling; grey with larger rock fragments. 75' very sily free water. 77' free water is more abundant but silty. 83' free water becomes less silty. 85' no silt; little quartz. 83-88' slower drilling; 91' trace orange phyllite fragments			- Well Construction - Flushmount: - Sand placed from 0 to 7-ft. bgs. - Bentonite placed from 7 to 41-ft. bgs - 4-inch Schedule 40 PVC riser placed from 0 to 45.5-ft. bgs - Filter pack of #2 sand placed from 41 to 133.5-ft. bgs. - 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 45.5 to 133.5-ft. bgs
-50				0.0				
-55								
-60								
-65				0.0				

Log of Boring: MW-15D

Date Started: 09/28-09
Date Completed: 07/19/10
Total Depth (ft): 132.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): 43'
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450WS
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Penetration Rate (Ft/Min)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
-70								
-75				0.0 0.0				
-80								
-85				0.0				
-90								
-95								
-100								
-105				0.0				
-110								
-115								
-120								
-125								
-130								

Log of Boring: MW-16

Date Started: 09/21/09
Date Completed: 09/21/09
Total Depth (ft): 120.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450WS
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					ML: Brown, very micaceous silt with small phyllite rock fragments, dry			Air knifed & vacuum extracted soil to 4.5' bgs before refusal
-5				0.0	SAPROLITE: Weathered phyllite, crushes to micaceous silt 2-31 dry 2-6 brown 6-8 dark brown 8-21 orange-brown			
-10				0.0				
-15								9.57' of 8" diameter; 3/8" thick, steel casing set at 11.25' bgs & grouted in place
-20				0.0				
-25				0.0				
-30				0.0	BEDROCK: Bedrock-phyllite 31-34.5' grey, 34.5-35.5' brown-grey 35.5-51.5 brown; orange-brown & tan. 51.5-52.5' grey-brown 52.5-53 dark brown 53-57.5' brown & orange-brown, 54' first water 57.5-61 red/orange-brown 61-85' browns, tan; orange-brown, 68' soft zone; possible water bearing fracture			
-35								
-40								
-45				0.0				
-50								
-55				0.0				
-60								
-65				0.0				

Log of Boring: MW-16

Date Started: 09/21/09
Date Completed: 09/21/09
Total Depth (ft): 120.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450WS
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
-70								
-75								
-80								
-85				0.0	BEDROCK: Competent bedrock-harder drilling; blue-grey phyllte cuttings; little quartz; free water starts very silty; by 115' free water is cloudy by cuttings have no visible silt in them			
-90								
-95								
-100				0.0				
-105								
-110				0.0				
-115								
-120				0.0				

Log of Boring: MW-16

Date Started: 09/21/09
Date Completed: 07/20/10
Total Depth (ft): 120.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450WS
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Penetration Rate (Ft/Min)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0					ML: Brown, very micaceous silt with small phyllite rock fragments, dry			Air knifed & vacuum extracted soil to 4.5' bgs before refusal
-5				0.0	SAPROLITE: Weathered phyllite, crushes to micaceous silt 2-31 dry 2-6 brown 6-8 dark brown 8-21 orange-brown			
-10				0.0				
-15								9.57' of 8" diameter; 3/8" thick, steel casing set at 11.25' bgs & grouted in place
-20				0.0				
-25				0.0				
-30				0.0				Well constructed in previous open borehole
-35					BEDROCK: Bedrock-phyllite 31-34.5' grey, 34.5-35.5' brown-grey 35.5-51.5 brown; orange-brown & tan. 51.5-52.5' grey-brown 52.5-53 dark brown 53-57.5' brown & orange-brown, 54' first water 57.5-61 red/orange-brown 61-85' browns, tan; orange-brown, 68' soft zone; possible water bearing fracture			
-40								- Well Construction - Flushmount: - Sand placed from 0 to 10-ft. bgs. - Bentonite placed from 10 to 35.5-ft. bgs - 4-inch Schedule 40 PVC riser placed from 0 to 39-ft. bgs - Filter pack of #2 sand placed from 35.5 to 121-ft. bgs. - 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 39 to 121-ft. bgs
-45				0.0				
-50								
-55				0.0				
-60								

Log of Boring: MW-16

Date Started: 09/21/09
Date Completed: 07/20/10
Total Depth (ft): 120.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450WS
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Penetration Rate (Ft/Min)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
-65				0.0				
-70								
-75								
-80								
-85				0.0	BEDROCK: Competent bedrock-harder drilling; blue-grey phyllte cuttings; little quartz; free water starts very silty; by 115' free water is cloudy by cuttings have no visible silt in them			
-90								
-95				0.0				
-100								
-105								
-110				0.0				
-115								
-120				0.0				

Log of Boring: MW-17

Date Started: 09/21/09
Date Completed: 09/21/09
Total Depth (ft): 120.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Rotary
Sampling Method: Cuttings

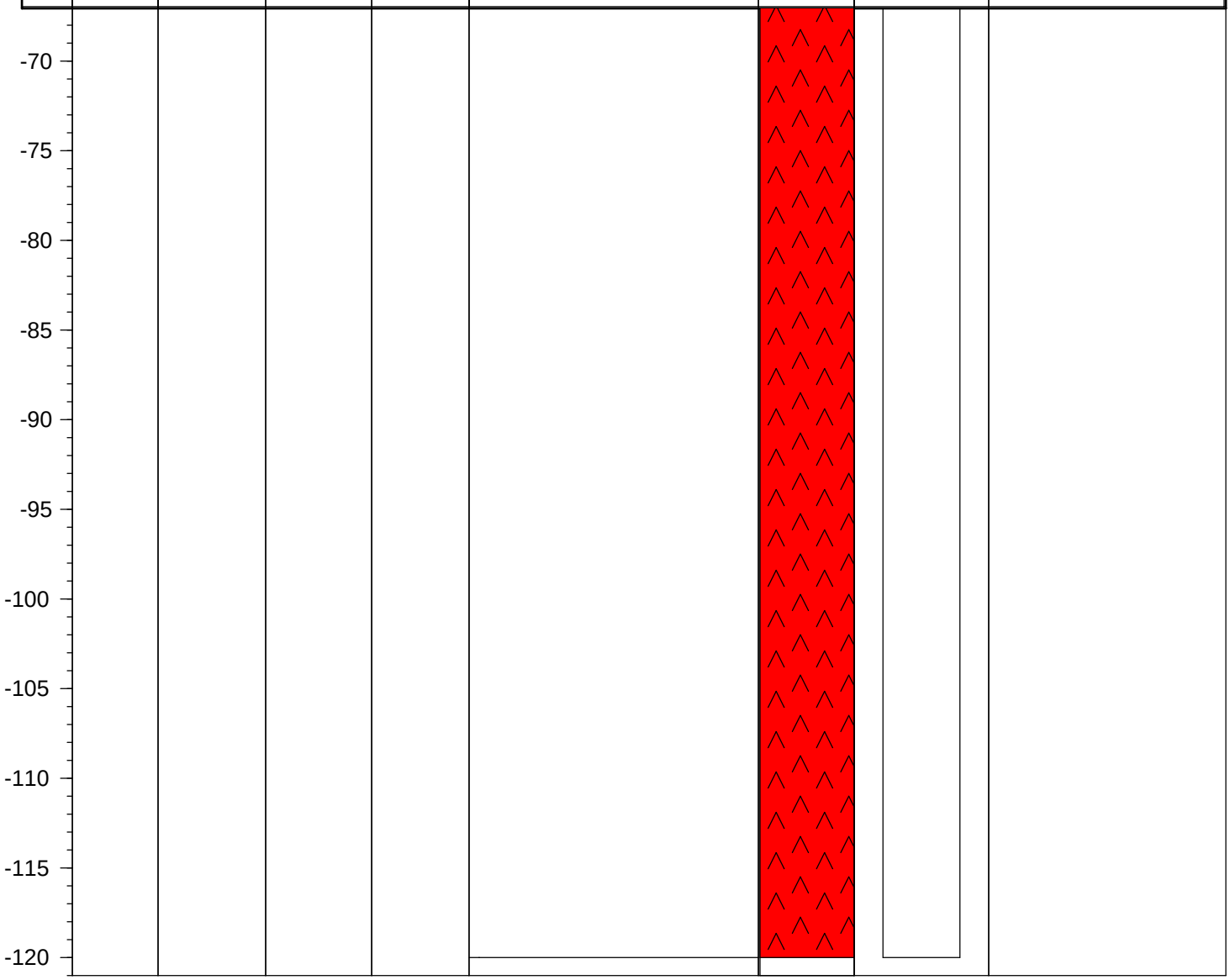
Depth	Sample Number	Sample Interval	Recovery (inches)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0				0.0	ML: Brown, very micaceous silt with weathered phyllite fragments			Air knifed & vacuum extracted soil to 4.5' bgs before refusal
-5					SAPROLITE: Saprolite: very micacous silty cuttings with phyllite rock fragments; orange-brown 22-23' red/orange-brown 24-26.5' red/orange-brown 29-31 red			
-10				0.0				
-15								10.5' of 8" diameter; 3/8" thick, steel casing set at 11' bgs & grouted in place
-20								
-25				0.0				
-30								
-35					BEDROCK: Phyllite, 33-35' green/grey- brown 35-36' red 36-38' orange-brown 38-40' red 40-74' browns;orange-brown;tan 63 first water, very silty 74-120' competent bedrock, phyllite rock fragments; groundwater is less silty, blue-grey			
-40								
-45								
-50								
-55								
-60								
-65								

Log of Boring: MW-17

Date Started: 09/21/09
Date Completed: 09/21/09
Total Depth (ft): 120.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Rotary
Sampling Method: Cuttings

Depth	Sample Number	Sample Interval	Recovery (inches)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments



Log of Boring: MW-17

Date Started: 09/21/09
Date Completed: 07/20/10
Total Depth (ft): 120.00
Boring Diameter (in): 12"/8"
Bedrock Depth (ft): N/A
Elevation (ft-msl): N/A
Remark: N/A

Project Code: 1953
Project Name: Green Valley Citgo
Drilled By: Eichelbergers
Logged By: Megan Brown
Drill Rig: Schramm T450
Drill Method: Air Rotary
Sampling Method: Cuttings

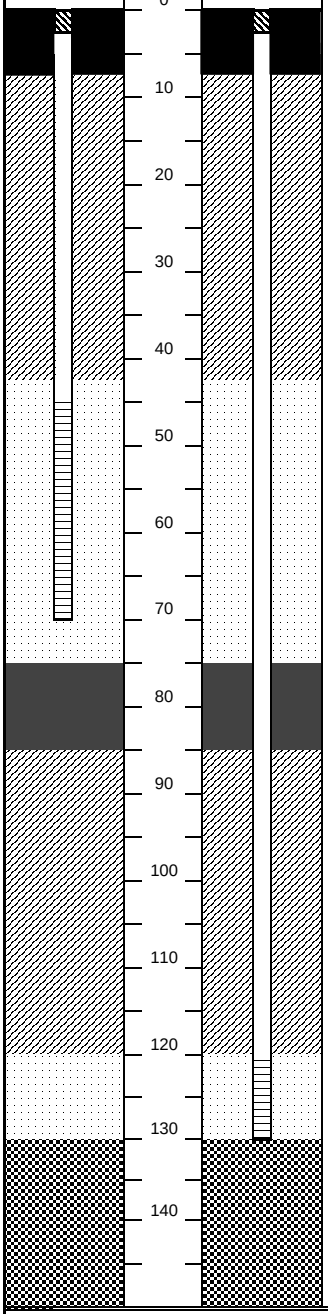
Depth	Sample Number	Sample Interval	Penetration Rate (Ft/Min)	PID	Lithological Description	Interpreted Lithology	Well Construction	Comments
0				0.0	ML: Brown, very micaceous silt with weathered phyllite fragments			Air knifed & vacuum extracted soil to 4.5' bgs before refusal
-5								
-10				0.0	SAPROLITE: Saprolite: very micacous silty cuttings with phyllite rock fragments; orange-brown 22-23' red/orange-brown 24-26.5' red/orange-brown 29-31 red			10.5' of 8" diameter; 3/8" thick, steel casing set at 11' bgs & grouted in place
-15								
-20								
-25				0.0				
-30								
-35					BEDROCK: Phyllite, 33-35' green/grey- brown 35-36' red 36-38' orange-brown 38-40' red 40-74' browns;orange-brown;tan 63 first water, very silty 74-120' competent bedrock, phyllite rock fragments; groundwater is less silty, blue-grey			Well constructed in previous open borehole - Well Construction - Flushmount: - Sand placed from 0 to 10-ft. bgs. - Bentonite placed from 10 to 35-ft. bgs - 4-inch Schedule 40 PVC riser placed from 0 to 41-ft. bgs - Filter pack of #2 sand placed from 35 to 121-ft. bgs. - 4-inch Schedule 40 PVC 0.020-inch slotted screen placed from 41 to 121-ft. bgs
-40								
-45								
-50								
-55								
-60								
-65								
-70								
-75								
-80								
-85								
-90								
-95								
-100								
-105								
-110								
-115								
-120								

NESTED MONITORING WELLS MW-18S AND MW-18D

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

2142 Priest Bridge Ct. - Suite 1, Crofton, MD (800) 220-3606

Client: **Carrol Fuel**	Depth to Water		Site Elevation Datum
Well: **MW-18S & MW-18D**	(ft. from measuring pt.)		Ground Elevation
Site Name: Address:	Date	DTW	NA
Monrovia BP **11791 Fingerboard Rd., Monvoria, MD**			Lat. N39°20.611
Drilling Company: Method:	-	not measured	Long. W77°15.236
BL Myers **Air Rotary - 6" down-hole hammer**	-	for either zone	Top of Casing
Date Started: Date Completed:			Shallow = Not determined
11/17/10 **11/18/10**		TOC	Deep = Not determined
Boring Depth:	Permit #		
130' (Nested 2" Mon. Wells terminating at 70' & 130')	FR-95-1674		



SHALLOW / DEEP	DEPTH (ft. below grade)	SAMPLES Recover. (inches)	SAMPLES Blow Count	SAMPLES PID (ppm)	SOIL DESCRIPTION
	0	NA	not taken		0 - 1' Asphalt, fill, gravel
					1' -4' WEATHERED ROCK Orange brown SILT w/ rock frags
					4' -40' Orange, brown cuttings
	20			0.2	
				1.3	
				0.3	
	30			4.9	
				6.4	
	40			16.3	40' Orange, brown, grey cuttings
				9	45' Orange, brown, grey, green cuttings
	50			1.6	
				4.5	50' -65' Orange, brown, grey cuttings
	60			6.2	
				1.8	65' -70' Brown, grey, orange cuttings
	70			0.6	
				0.2	70' -75' Grey, green, orange cuttings - Driller notes rock
	80			0.3	75' -130' COMPETENT ROCK Grey cuttings
				8.2	
				0.3	
	90			0.1	
				0.1	
	100			0.7	
	110			0.1	
	120			0.1	
	130			0.1	
	140				

NOTE : PID values are presented were bagged screened, collected as cutting grab samples

Rig: Schramm T450 with 6" hammer

Shallow Zone Specifications:

Well screen: 2 inch PVC screened from **45 fbg to 70 fbg**

Riser: 2 inch PVC from **surface to 45 fbg**

Sand: **41 fbg to 725 fbg**

Bentonite: **6 fbg to 41 fbg**

Grout: **surface to 6 fbg**

Deep Zone Specifications:

Well screen: 2 inch PVC screened from **120 fbg to 130 fbg**

Riser: 2 inch PVC from **surface to 120 fbg**

Sand: **119 fbg to 130 fbg**

Bentonite: **85 fbg to 119 fbg (intermediate sealing zone)**

Grout: **72 fbg to 85 fbg (intermediate sealing zone)**

Legend

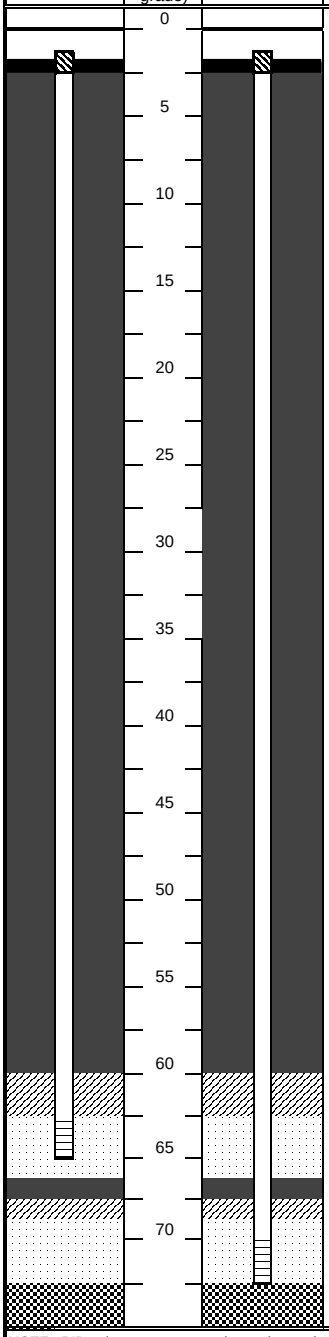
- Cement
- 2" PVC Riser
- Bentonite Seal
- #2 Morie Sand
- .020 Slot 2" PVC Screen
- Native Soil
- Top Cap/ Skirt

INJECTION POINT IW-1

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

2142 Priest Bridge Ct. - Suite 1, Crofton, MD (800) 220-3606

Client: **Carrol Fuel**		Depth to Water	Site Elevation Datum
Well: **IW-1**		(ft. from measuring pt.)	Ground Elevation
Site Name:	Address:	Date / DTW	NA
Monrovia BP	**11791 Fingerboard Rd., Monvoria, MD**		Lat. N39°20.611
Drilling Company:	Method:	- not measured	Long. W77°15.245
BL Myers	**Air Rotary - 6" down-hole hammer**	- for either zone	Top of Casing
Date Started:	Date Completed:		Shallow = Not determined
11/17/10	**11/18/10**	TOC	Deep = Not determined
Boring Depth:		Permit #	
73.5' (Nested 3/4" Injection Points terminating at 66.5' & 73.5')			



SHALLOW	DEPTH (ft. below grade)	DEEP	SAMPLES Recover. (inches)	Blow Count	PID (ppm)	SOIL DESCRIPTION
	0		NA	not taken		0 - 1' Asphalt, fill, gravel
						1' -2' WEATHERED ROCK
	5				2.1	Orange brown SILT w/ rock frags
						2' -42' Orange, brown cuttings
	10				0	
	15				2.2	
	20				9.7	
	25				7.1	
	30				8.9	
					10.6	
	35				11.9	
	40				7.3	
						42' -50' Orange, brown, grey cuttings
					5.2	
	45				8.5	
	50				1.7	50' -60' Brown, green, grey cuttings
	55				6.2	
	60				3	60' -70' Grey, brown cuttings
	65				2	
	70				0.9	70' -73.5 Grey, brown green cuttings
					1.1	

NOTE : PID values are presented were bagged screened, collected as cutting grab samples

Rig: Schramm T450 with 6" hammer

Shallow Zone Specifications:

Well screen: ¾ inch stainless steel screened from **63 fbg to 67 fbg**

Riser: ¾ inch stainless steel from **surface to 63 fbg**

Sand: **60 fbg to 67 fbg**

Bentonite: **55.5 fbg to 60 fbg**

Grout: **surface to 55.5 fbg**

Deep Zone Specifications:

Well screen: ¾ inch stainless steel screened from **69 fbg to 73 fbg**

Riser: ¾ inch stainless steel from **surface to 69 fbg**

Sand: **68.5 fbg to 73.5 fbg**

Bentonite: **67 fbg to 68.5 fbg (intermediate sealing zone)**

Grout: **66.5 fbg to 67 fbg (intermediate sealing zone)**

Legend

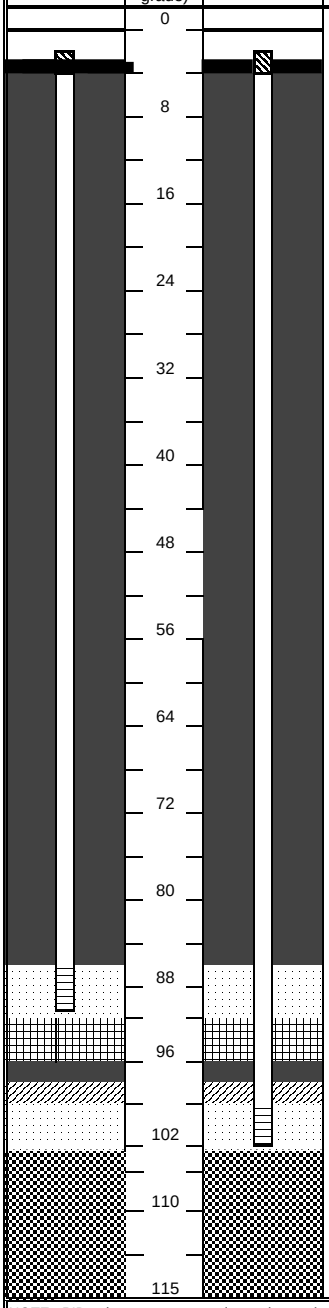
- Cement
- 3/4" SS Injection Point Riser
- Bentonite Seal
- #2 Morie Sand
- .020 Slot 3/4" SS Injection Screen
- Native Soil

INJECTION POINT IW-2

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

2142 Priest Bridge Ct. - Suite 1, Crofton, MD (800) 220-3606

Client: **Carrol Fuel**		Depth to Water	Site Elevation Datum
Well**: IW-2**		(ft. from measuring pt.)	Ground Elevation
Site Name:	Address:	Date / DTW	NA
Monrovia BP	**11791 Fingerboard Rd., Monvoria, MD**		Lat. N39°20.609
Drilling Company:	Method:	- not measured	Long. W77°15.241
BL Myers	**Air Rotary - 6" down-hole hammer**	- for either zone	Top of Casing
Date Started:	Date Completed:		Shallow = Not determined
11/18/10	**11/19/10**	TOC	Deep = Not determined
Boring Depth:		Permit #	
103.5' (Nested 3/4" Injection Points terminating at 91' & 103')			



SHALLOW	DEPTH (ft. below grade)	DEEP	SAMPLES Recover. (inches)	SAMPLES Blow Count	SAMPLES PID (ppm)	SOIL DESCRIPTION
	0		NA	not taken		0 - 1' Asphalt, fill, gravel
						1' -3' WEATHERED ROCK Orange brown SILT w/ rock frags
	8				0.1	3' -10' Orange, brown, grey cuttings
					0	
	16				0.1	
					0	
	24				0.5	10' -30' Orange, brown cuttings
					2.2	
	32				5.7	30' -40' Orange, brown, grey cuttings (Driller notes "bedrock" encounted @ 30'-32')
					4.1	
	40					40' -46' Orange, brown cuttings
					15.1	47' Brown, grey green cuttings
	48					47' -55' Orange, brown, grey cuttings
					10.5	
	56				4	
					7.5	
	64					
					0.5	55' -75' Brown, grey, green cuttings
	72				0.1	
					0.1	
	80				0.1	
					0	
	88					75' -90' Grey, brown cuttings
					0	(Driller notes that rock "hardens")
	96					
					0.1	90' -100' Grey cuttings
	102					
	110					
	115					

NOTE : PID values are presented were bagged screened, collected as cutting grab samples

Rig: Schramm T450 with 6" hammer

Shallow Zone Specifications:

Well screen: ¾ inch stainless steel screened from **87 fbg to 91 fbg**

Riser: ¾ inch stainless steel from **surface to 87 fbg**

Sand: **86 fbg to 91 fbg**

Bentonite: **83 fbg to 86 fbg**

Grout: **surface to 83 fbg**

Deep Zone Specifications:

Well screen: ¾ inch stainless steel screened from **99 fbg to 103 fbg**

Riser: ¾ inch stainless steel from **surface to 99 fbg**

Sand: **98 fbg to 103.5 fbg**

Bentonite: **96 fbg to 98 fbg (intermediate sealing zone)**

Grout: **95.5 fbg to 96 fbg (intermediate sealing zone)**

Cave-In Slough: **91 fbg to 95.5 fbg (hardened)**

Legend

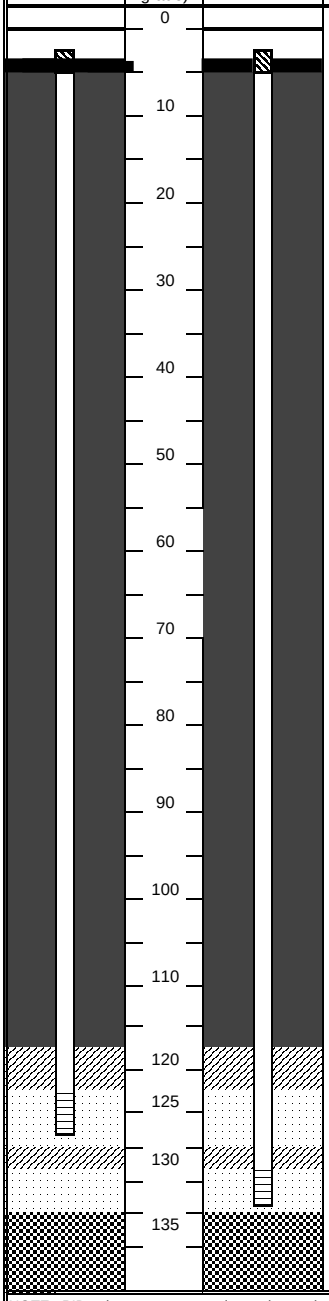
- Cement
- 3/4" SS Injection Point Riser
- Bentonite Seal
- #2 Morie Sand
- .020 Slot 3/4" SS Injection Screen
- Native Soil
- Slough (cave-in native soil)

INJECTION POINT IW-3

GROUNDWATER & ENVIRONMENTAL SERVICES, INC.

2142 Priest Bridge Ct. - Suite 1, Crofton, MD (800) 220-3606

Client: **Carrol Fuel**		Depth to Water	Site Elevation Datum
Well**: IW-3**		(ft. from measuring pt.)	Ground Elevation
Site Name:	Address:	Date / DTW	NA
Monrovia BP	**11791 Fingerboard Rd., Monvoria, MD**		Lat. N39°20.609
Drilling Company:	Method:	- not measured	Long. W77°15.238
BL Myers	**Air Rotary - 6" down-hole hammer**	- for either zone	Top of Casing
Date Started:	Date Completed:		Shallow = Not determined
11/18/10	**11/19/10**	TOC	Deep = Not determined
Boring Depth:		Permit #	
134' (Nested 3/4" Injection Points terminating at 127' & 134')			



SHALLOW	DEPTH (ft. below grade)	DEEP	SAMPLES Recover. (inches)	Blow Count	PID (ppm)	SOIL DESCRIPTION
	0		NA	not taken		0 - 1' Asphalt, fill, gravel
					0.9	1' -4' 8" WEATHERED ROCK
	10				1.8	Orange brown SILT w/ rock frags
					0.3	4' 8' -10' Orange, brown, grey cuttings
	20				0.4	
					0.2	
	30				0.2	
					0.2	10' -30' Orange, brown cuttings
	40				0.6	
					1.3	
						30' -40' Orange, brown, grey cuttings
	50				2.5	(Driller notes "bedrock" encounted @ 30'-32')
					10.7	40' -46' Orange, brown cuttings
	60				6.6	47' Brown, grey green cuttings
					1.5	
						47' -55' Orange, brown, grey cuttings
	70				4.2	
					0.4	
	80				0.6	
					0.1	
	90				0.1	
						55' -75' Brown, grey, green cuttings
					0.3	
	100				0.3	
					0.3	
	110				0.4	
					0.3	
						75' -90' Grey, brown cuttings
	120				0.3	(Driller notes that rock "hardens")
	125				0.4	
						90' -100' Grey cuttings
	130					
	135					

NOTE : PID values are presented were bagged screened, collected as cutting grab samples

Rig: Schramm T450 with 6" hammer

Shallow Zone Specifications:

Well screen: ¾ inch stainless steel screened from **123 fbg to 127 fbg**

Riser: ¾ inch stainless steel from **surface to 123 fbg**

Sand: **122 fbg to 127 fbg**

Bentonite: **117 fbg to 122 fbg**

Grout: **surface to 117 fbg**

Deep Zone Specifications:

Well screen: ¾ inch stainless steel screened from **130 fbg to134 fbg**

Riser: ¾ inch stainless steel from **surface to 130 fbg**

Sand: **129.5 fbg to 134.5 fbg**

Bentonite: **127 fbg to 129 fbg (intermediate sealing zone)**

Grout: **None used in intermediate sealing zone**

Legend

- Slough (cave-in native soil)
- Cement
- 3/4" SS Injection Point Riser
- Bentonite Seal
- #2 Morie Sand
- .020 Slot 3/4" SS Injection Screen
- Native Soil

VAPOR EXTRACTION WELL LOG

Groundwater & Environmental Services, Inc.

ID NO. **VE-1**

Project: **Monrovia BP/Fmr Green Valley Citgo** Client: **Carroll Fuels** Regulatory Case #: **2005-0834-FR**

Address: **11791 Fingerboard Rd,Monrovia,MD** GES Job #: **0402632** Regulatory Case Mgr: **Jim Richmond**

County: **Frederick, MD** GES Project Mgr: **Gregory Reichart** Permit #:

Logged By: **Pete Reichardt** Date Drilled: **11-18-2010** Split Spoon/Acetate Sleeve Diameter:

Drilling Company: **BL Myer** Completion Date: **11-18-2010** Split Spoon/Acetate Sleeve Length: **NA**

Drill Operator: **Paul Fikes** Drilling Method: **Down-hole Air Hammer** Soil Classification System: **Burmister**

Drill Rig Type: **Schramm T450** Sampling Method: **Cuttings** Field Screening: **PID 10.9 eV Lamp (ppm)**

Borehole Details:
Borehole Diameter: **6"**
Total Boring Depth: **28 fbg.**
Initial Depth to Water: **Not encountered**
Longitude:
Lattitude:

Well Completion #1:
Riser Length: **8 ft**
Well Diameter: **4 in.**
Screen Length **20 ft.**
Screen Slot Size: **0.20**
Total Depth: **NA**

Well Completion #2:
Riser Length: **8 ft.**
Well Diameter: **4 in.**
Screen Length: **20 ft**
Screen Slot Size: **Slot #20**
Total Depth: **28 fbg**

Completion Details:
Grout Seal: **NA**
Type of Seal: **Bentonite Chips**
Sand Type: **#2 Sand, etc.**
Well Material Type: **Schedule 40 PVC**

Depth (feet)	Sample Interval (feet)	Recovery (inches)	Field Screen (ppm) 0 1	Blow Counts 1 50	Geologic Description	Comments	Well Completion:
5	5	NA	0.5		Asphalt: Asphalt	12 in. Flush-mount Manway in 2ft. x 2ft. Concrete Pad	
					SILT: Orange-brown SILT matrix with weathered rock fragments (Schist-phyllite)	0-4 fbg Grout	
10	10	NA	0.4	1 26 50	PHYLLIC: Red, orange and brown cuttings	0-8 fbg Solid PVC Riser	
				No Data Collected		4-8 fbg Bentonite Seal	
15	15	NA	0.2			6-28 fbg Filter Sand	
20	20	NA	0.6	0.1 1 1 26 50		8-28 fbg 0.020 in.-Slot PVC Well Screen	
25	25	NA	0.3			Threaded End Cap	

Proportions Used:
Trace = <5%
Few = 5-10%
Little = 10-20%
Some = 20-30%
Adjective = 30-40%
And = >40%

Notes:
NA = not available; fbg. = feet below grade
in. = inches; ft.= feet; ppm.= parts per million
Soil Lithologies based on field observations only.

Blow Count Pentration Resistance:

Consistency (M&C)		Density (G&S)	
<2 =	Very Soft	0-4 =	Very Loose
2-4 =	Soft	4-10 =	Loose
4-8 =	Medium	10-30 =	Medium
8-15 =	Stiff	30-50 =	Dense
15-30 =	Very Stiff	>50 =	Very Dense
>30 =	Hard		

Symbols:
Apparent Water Level
Lab Sample Location

APPENDIX D

State of Maryland Well Completion Reports

C 1 | SEQUENCE NO. (MDE USE ONLY)

1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received MM DD YY
8 13

DATE WELL COMPLETED MM DD YY: 11 19 10 (15 20)

Depth of Well: 133 (TO NEAREST FOOT) (22 26)

PERMIT NO. FROM "PERMIT TO DRILL WELL": FR-95-1670 (28 29 30 31 32 33 34 35 36 37)

OWNER Timber Crest Ltd Part. (last name) Carroll Eyels (first name)

STREET OR RFD 11791 Fingerboard Rd TOWN Monrovia

SUBDIVISION _____ SECTION _____ LOT _____

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
Brown silty overburden	0	32	
Grey Rock	32	133	
Two wells completed in the same borehole			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED (yes / no): no (N)

CIRCLE APPROPRIATE LETTER
- A — A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E — ELECTRIC LOG OBTAINED
- P — TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO.: MWD 424

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO.: ___ D ___

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box) yes (Y) (44) no (N) (44)

TYPE OF GROUTING MATERIAL (Circle one)

CEMENT (CM) (45 46) BENTONITE CLAY (BC) (45 46)

NO. OF BAGS 22 NO. OF POUNDS 2068

GALLONS OF WATER 132

DEPTH OF GROUT SEAL (to nearest foot)

from 0 (TOP) (48 52) ft. to 122 (BOTTOM) (54 58) ft.

(enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below

(ST) STEEL (CO) CONCRETE (PL) PLASTIC (OT) OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
ST (60 61)	1 (63 64)	129 (66 70)

EACH CASING

OTHER CASING (if used)	diameter inch	depth (feet) from	depth (feet) to
ST	1	0	123

SCREEN RECORD
screen type or open hole — insert appropriate code below

(ST) STEEL (BR) BRASS BRONZE (PL) PLASTIC (HO) OPEN HOLE (OT) OTHER

C 2 (1 2)

DEPTH (nearest ft.)

EACH SCREEN

1	ST (8 9)	129 (11 15)	133 (17 21)
2	ST (23 24)	123 (26 30)	127 (32 36)
3	(38 39)	(41 45)	(47 51)

SLOT SIZE 1 010 2 ___ 3 ___

DIAMETER OF SCREEN 1 (56 60) (NEAREST INCH)

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

from	to
128	133
122 (68)	127

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T (70) (E.R.O.S.) (72) W Q (74 75 76)

TELESCOPE CASING | LOG INDICATOR | OTHER DATA

C 3 (1 2)

PUMPING TEST
HOURS PUMPED (nearest hour) monitoring (8 9)

PUMPING RATE (gal. per min.) well (11 15)

METHOD USED TO MEASURE PUMPING RATE no test

WATER LEVEL (distance from land surface)

BEFORE PUMPING — (17 20) ft.

WHEN PUMPING ___ (22 25) ft.

TYPE OF PUMP USED (for test)
- (A) air (27)
- (P) piston (27)
- (T) turbine (27)
- (C) centrifugal (27)
- (R) rotary (27)
- (O) other (describe below) (27)
- (J) jet (27)
- (S) submersible (27)

PUMP INSTALLED
DRILLER INSTALLED PUMP (CIRCLE) (YES or NO) YES (NO)

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. — (29)

CAPACITY: GALLONS PER MINUTE (to nearest gallon) — (31 35)

PUMP HORSE POWER — (37 41)

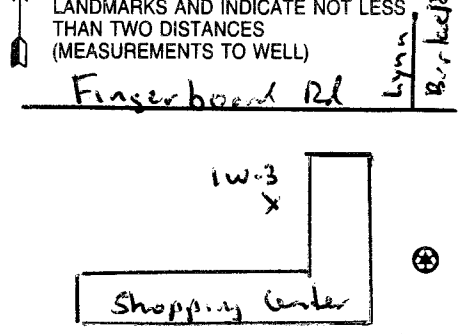
PUMP COLUMN LENGTH (nearest ft.) — (43 47)

CASING HEIGHT (circle appropriate box and enter casing height)

(+) above (49) / (−) below (49) LAND SURFACE

0 (nearest foot) (50 51)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)



DENV-CR00

C 1 [redacted] SEQUENCE NO. (MDE USE ONLY)

1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received MM DD YY
8 13

DATE WELL COMPLETED MM DD YY: 11 19 10 (15 20)

Depth of Well: 22 103 26 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL": FR-95-1671 (28 29 30 31 32 33 34 35 36 37)

OWNER Timber Crest Ltd Porte (last name) Carroll Fuels (first name)

STREET OR RFD 11791 Fingerboard Road TOWN Monrovia

SUBDIVISION _____ SECTION _____ LOT _____

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
Brown silty overburden	0	32	
Grey Rock	32	103	
Two wells completed in the same borehole			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes [Y] no [N]

CIRCLE APPROPRIATE LETTER
- A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E ELECTRIC LOG OBTAINED
- P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO.: MWD 421

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO.: ___ D ___

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box) yes [Y] (44) no [N] (44)

TYPE OF GROUTING MATERIAL (Circle one)

CEMENT [C M] (45 46) BENTONITE CLAY [B C] (45 46)

NO. OF BAGS 15 NO. OF POUNDS 1410

GALLONS OF WATER 90

DEPTH OF GROUT SEAL (to nearest foot)

from 0 (48 TOP 52) ft. to 86 (54 BOTTOM 58) ft.

(enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below

[S T] STEEL [C O] CONCRETE [P L] PLASTIC [O T] OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
ST (60 61)	1 (63 64)	99 (66 70)

EACH CASING — OTHER CASING (if used)

	diameter inch	depth (feet) from	depth (feet) to
ST	1	0	87

SCREEN RECORD
screen type or open hole insert appropriate code below

[S T] STEEL [B R] BRASS BRONZE [H O] OPEN HOLE [P L] PLASTIC [O T] OTHER

C 2 (1 2)

EACH SCREEN — DEPTH (nearest ft.)

1	ST (8 9)	99 (11 15)	103 (17 21)
2	ST (23 24)	87 (26 30)	91 (32 36)
3	(38 39)	(41 45)	(47 51)

SLOT SIZE 1 010 2 ___ 3 ___

DIAMETER OF SCREEN 1 (56 60) (NEAREST INCH)

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

from	to
98	103
86	91

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T (70) (E.R.O.S.) (72) W Q (74 75 76)

TELESCOPE CASING | LOG INDICATOR | OTHER DATA

C 3 (1 2)

PUMPING TEST
HOURS PUMPED (nearest hour) monitor (8 9)

PUMPING RATE (gal. per min.) well • (11 15)

METHOD USED TO MEASURE PUMPING RATE no test

WATER LEVEL (distance from land surface)

BEFORE PUMPING - (17 20) ft.

WHEN PUMPING ___ (22 25) ft.

TYPE OF PUMP USED (for test)

- [A] air (27)
- [P] piston (27)
- [T] turbine (27)
- [C] centrifugal (27)
- [R] rotary (27)
- [O] other (describe below) (27)
- [J] jet (27)
- [S] submersible (27)

PUMP INSTALLED
DRILLER INSTALLED PUMP (CIRCLE) (YES or NO) YES (NO)

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. ___ (29)

CAPACITY: GALLONS PER MINUTE (to nearest gallon) ___ (31 - 35)

PUMP HORSE POWER ___ (37 41)

PUMP COLUMN LENGTH (nearest ft.) ___ (43 47)

CASING HEIGHT (circle appropriate box and enter casing height)

[+] above [−] below (49) LAND SURFACE

0 (50 51) (nearest foot)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

N

Fingerboard Rd

Lynn Rock Rd

IW-2

Shopping Center

DENV-CR00

C 1 | SEQUENCE NO. (MDE USE ONLY)

1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received MM DD YY
8 13

DATE WELL COMPLETED MM DD YY: 11 19 10 (15 20)

Depth of Well: 73 (TO NEAREST FOOT) (22 26)

PERMIT NO. FROM "PERMIT TO DRILL WELL": FR-95-1672 (28 29 30 31 32 33 34 35 36 37)

OWNER Timber Crest Ltd Partnership (last name) Carroll Fuels (first name)

STREET OR RFD 11791 Fingerboard Rd TOWN Monrovia

SUBDIVISION _____ SECTION _____ LOT _____

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
Brown Silty Overburden	0	32	
Grey Rock	32	73	
Two wells completed in the same borehole			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED yes [Y] no [N]

CIRCLE APPROPRIATE LETTER
- A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E ELECTRIC LOG OBTAINED
- P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO.: MDD 421

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO.: __ __ D __ __ __

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box) yes [Y] no [N] (44 44)

TYPE OF GROUTING MATERIAL (Circle one)

CEMENT [CM] (45 46) BENTONITE CLAY [BC] (45 46)

NO. OF BAGS 10 NO. OF POUNDS 940

GALLONS OF WATER 60

DEPTH OF GROUT SEAL (to nearest foot)

from 0 (48 TOP 52) ft. to 61 (54 BOTTOM 58) ft.

(enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below

[ST] STEEL [CO] CONCRETE [PL] PLASTIC [OT] OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
ST (60 61)	1 (63 64)	69 (66 70)

OTHER CASING (if used)

EACH CASING	diameter inch	depth (feet) from	depth (feet) to
ST	1	0	62

SCREEN RECORD
screen type or open hole insert appropriate code below

[ST] STEEL [BR] BRASS BRONZE [PL] PLASTIC [HO] OPEN HOLE [OT] OTHER

C 2 (1 2)

DEPTH (nearest ft.)

EACH SCREEN		from (8 9 / 11 15)	to (17 21)
1	ST	69	73
2	ST	62	66
3			

SLOT SIZE 1 010 2 ____ 3 ____

DIAMETER OF SCREEN 1 (56 60) (NEAREST INCH)

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

from	to
68	73
61 (68)	66

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T (70) (E.R.O.S.) (72) W Q (74 75 76)

TELESCOPE CASING | LOG INDICATOR | OTHER DATA

C 3 (1 2)

PUMPING TEST
HOURS PUMPED (nearest hour) monitoring (8 9)

PUMPING RATE (gal. per min.) well (11 15)

METHOD USED TO MEASURE PUMPING RATE no Test

WATER LEVEL (distance from land surface)

BEFORE PUMPING _____ ft. (17 20)

WHEN PUMPING _____ ft. (22 25)

TYPE OF PUMP USED (for test)

[A] air [P] piston [T] turbine [C] centrifugal [R] rotary [O] other (describe below) [J] jet [S] submersible (27)

PUMP INSTALLED
DRILLER INSTALLED PUMP (CIRCLE) (YES or NO) YES (NO)

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. (29)

CAPACITY: GALLONS PER MINUTE (to nearest gallon) (31 35)

PUMP HORSE POWER (37 41)

PUMP COLUMN LENGTH (nearest ft.) (43 47)

CASING HEIGHT (circle appropriate box and enter casing height)

[+] above [−] below (49) LAND SURFACE (nearest foot) (50 51)

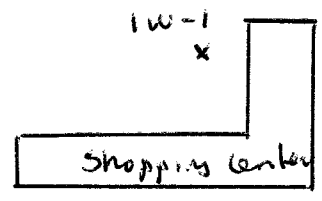
LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

N

Fingerboard Rd

Lang

Burke Rd



DENV-CR00

C 1 — SEQUENCE NO. (MDE USE ONLY): 3393

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY DATE Received MM DD YY

DATE WELL COMPLETED: MM 11 DD 19 YY 10

Depth of Well: 28 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL": FR-97-1673

OWNER Timber Crest Ltd. Part. (last name) Carroll Fuels (first name)

STREET OR RFD 11791 Fingerboard Rd TOWN Monrovia

SUBDIVISION ____ SECTION ____ LOT ____

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
Brunswick overburden	0	28	

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes [Y] no [N]

CIRCLE APPROPRIATE LETTER
- A — A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E — ELECTRIC LOG OBTAINED
- P — TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO.: MWD 421

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO.: ___ D ___

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes [Y] no [N]

TYPE OF GROUTING MATERIAL (Circle one)

CEMENT [CM] BENTONITE CLAY [BC]

NO. OF BAGS 4 NO. OF POUNDS 200

GALLONS OF WATER 10

DEPTH OF GROUT SEAL (to nearest foot)

from 0 (TOP) ft. to 6 (BOTTOM) ft.

(enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below

[ST] STEEL [CO] CONCRETE [PL] PLASTIC [OT] OTHER

MAIN CASING TYPE: PL

Nominal diameter top (main) casing (nearest inch)!: 4

Total depth of main casing (nearest foot): 8

OTHER CASING (if used)

EACH CASING	diameter inch	depth (feet) from	depth (feet) to

SCREEN RECORD
screen type or open hole — insert appropriate code below

[ST] STEEL [BR] BRASS BRONZE [HO] OPEN HOLE [PL] PLASTIC [OT] OTHER

C 2

EACH SCREEN	DEPTH (nearest ft.)	
1 PL	8	28
2		
3		

SLOT SIZE 1 020 2 ____ 3 ____

DIAMETER OF SCREEN 4 (NEAREST INCH)

	from	to
GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68	6	28

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T ____ (E.R.O.S.) ____ W Q ____

TELESCOPE CASING ____ LOG INDICATOR ____ OTHER DATA ____

C 3

PUMPING TEST
HOURS PUMPED (nearest hour): more than 8

PUMPING RATE (gal. per min.): well dry

METHOD USED TO MEASURE PUMPING RATE: no test

WATER LEVEL (distance from land surface)

BEFORE PUMPING ____ ft.

WHEN PUMPING ____ ft.

TYPE OF PUMP USED (for test)

[A] air [P] piston [T] turbine [C] centrifugal [R] rotary [O] other (describe below) [J] jet [S] submersible

PUMP INSTALLED
DRILLER INSTALLED PUMP (CIRCLE) (YES or NO): YES (NO)

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. ____

CAPACITY: GALLONS PER MINUTE (to nearest gallon) ____

PUMP HORSE POWER ____

PUMP COLUMN LENGTH (nearest ft.) ____

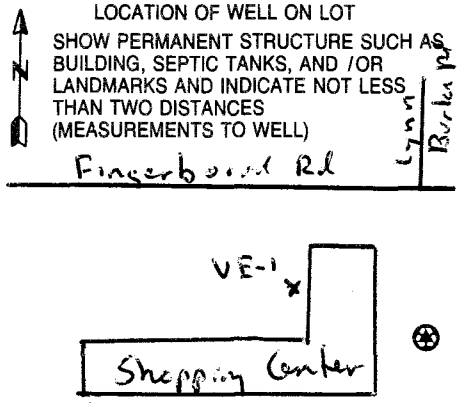
CASING HEIGHT (circle appropriate box and enter casing height)

[+] above [−] below LAND SURFACE

0 (nearest foot)

LOCATION OF WELL ON LOT

SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)



DENV-CR00

C 1 | SEQUENCE NO. (MDE USE ONLY)

1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received MM DD YY
8 13

DATE WELL COMPLETED MM DD YY: 11 19 10 (15 20)

Depth of Well 22 130 26 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL": FR-95-1674 (28 29 30 31 32 33 34 35 36 37)

OWNER Timber Crest Ltd Part. (last name) Carroll Fuels (first name)

STREET OR RFD 11791 Fingerboard Rd TOWN Monrovia

SUBDIVISION SECTION LOT

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
Brown silty overburden	0	32	
Grey Rock	32	130	
Two wells completed in the same borehole			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes (Y) no (N)

CIRCLE APPROPRIATE LETTER
- A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E ELECTRIC LOG OBTAINED
- P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO.: M-D-421

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO.: ___ D ___

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes (Y) no (N) (44 44)

TYPE OF GROUTING MATERIAL (Circle one)

CEMENT (CM) BENTONITE CLAY (BC) (45 46)

NO. OF BAGS 35 NO. OF POUNDS 1750 (45 46)

GALLONS OF WATER 15

DEPTH OF GROUT SEAL (to nearest foot)

from 0 (48 TOP 52) ft. to 43 (54 BOTTOM 58) ft.

43 (enter 0 if from surface) 120

CASING RECORD
casing types insert appropriate code below

ST STEEL; CO CONCRETE; PL PLASTIC; OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
PL (60 61)	2 (63 64)	120 (66 70)

OTHER CASING (if used) — EACH CASING

	diameter inch	depth (feet) from	depth (feet) to
PL	2	0	45

SCREEN RECORD
screen type or open hole — insert appropriate code below

ST STEEL; BR BRASS BRONZE; HO OPEN HOLE; PL PLASTIC; OT OTHER

C 2 (1 2)

DEPTH (nearest ft.) — EACH SCREEN

		DEPTH from	DEPTH to
1	PL (8 9)	120 (11 15)	130 (17 21)
2	PL (23 24)	45 (26 30)	70 (32 36)
3	(38 39)	(41 45)	(47 51)

SLOT SIZE 1 020 2 ___ 3 ___

DIAMETER OF SCREEN 2 (56 60) (NEAREST INCH)

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

from	to
118	130
43 (68)	70

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T (70) (E.R.O.S.) (72) W Q (74 75 76)

TELESCOPE CASING; LOG INDICATOR; OTHER DATA

C 3 (1 2)

PUMPING TEST
HOURS PUMPED (nearest hour) monitoring (8 9)

PUMPING RATE (gal. per min.) well • (11 15)

METHOD USED TO MEASURE PUMPING RATE no list

WATER LEVEL (distance from land surface)

BEFORE PUMPING - (17 20) ft.

WHEN PUMPING ___ (22 25) ft.

TYPE OF PUMP USED (for test)

A (27) air; P (27) piston; T (27) turbine; C (27) centrifugal; R (27) rotary; O (27) other (describe below); J (27) jet; S (27) submersible

PUMP INSTALLED
DRILLER INSTALLED PUMP (CIRCLE) (YES or NO): YES (NO)

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. (29)

CAPACITY: GALLONS PER MINUTE (to nearest gallon) - (31 35)

PUMP HORSE POWER - (37 41)

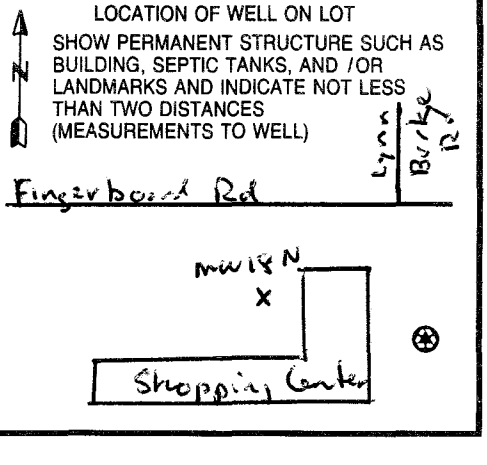
PUMP COLUMN LENGTH (nearest ft.) - (43 47)

CASING HEIGHT (circle appropriate box and enter casing height)

(+) (49) above; (−) (49) below LAND SURFACE

0 (50 51) (nearest foot)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)



DENV-CR00

APPENDIX E

Non-Hazardous Waste Manifests

SHIPPING DOCUMENT

Manifest Document #: _____

Document #: 18440

Generator: Carroll Independent Fuel Company (CIFC)	Facility: TRIUMVIRATE ENVIRONMENTAL
US EPA ID#: N/A	US EPA ID#: MDD093002384
Address: 2700 Loch Haven Road	☒ 1500 Carbon Avenue - Baltimore, MD 21226 (410) 636-3700
City: Baltimore State: Md Zip:	☐ 195 Wyche Road - Stafford, VA 22554 (540) 288-1176
Contact: Herb Meade Phone: 410-261-5450	☐ 702-D Naylor Mill Rd. - Salisbury, MD 21801 (410) 543-1559
Transporter 1: Triumvirate Environmental	Other Facility: FCC Environmental
US EPA ID#: MAD985286988 Phone: 617-628-8098	US EPA ID#: DED984073692
Transporter 2:	Address: 505 S. Market Street
US EPA ID#: Phone:	City: Wilmington State: DE Zip: 19801

Non RCRA/Non DOT Regulated Materials-Solids

Line		Profile #
_____	Spill Debris	25000A
_____	Soil, Petroleum	24000A
_____	Soil, Gasoline for Recycling	24000F
_____	Sorbents, Gasoline for Recycling	24000G
_____	Sorbents, Jet Fuel	24000H
_____	Sorbents, Oil	24000I
_____	Oil, Sludge	23000A
_____	Gasoline, Sludge for Recycling	23000B
_____	Industrial Sludge	23000D
_____	Construction Debris	25000B
_____	Carbon Media	24000C
_____	Gasoline Filters for Recycling	24000E
_____	Oil Filters for Recycling	24300A
_____	Empty Drums	24400A
_____	Sandblast Media	24500A
_____		
_____		

Non RCRA/Non DOT Regulated Materials-Liquids

Line		Profile #
A	Petroleum Impacted Water	20020A
_____	Oil, Water for Recycling	21050A
_____	Oil for Recycling	21050B
_____	Oil, Water, Sludge for Recycling	21050C
_____	Mineral Oil for Recycling	21050D
_____	Glycols for Recycling	21070A
_____	Diesel, Water for Recycling	22070F
_____	Kerosene/Jet Fuel, Water for Recycling	22070D
_____	Commercial Contact Water	20020B
_____		

DOT Regulated/Non RCRA Materials-Liquids

Line		Profile #
_____	UN1203, Gasoline Mixture, 3, PGII, ERG #128	22070A
_____	UN1203, Gasoline, 3, PGII, ERG #128	22070B
_____	NA1993, Combustible Liquid, N.O.S., 3, PGII, ERG #128	22070C
_____	NA1993, Diesel Fuel, 3, PGIII, ERG #128	22070G
_____	UN1863, Fuel, Aviation, Turbine Engine, 3, PGII, ERG #128	22070H
_____	UN1223, Kerosene, 3, PGIII, ERG #128	22070E
_____		
_____		

Additional Information: Carroll Monroiva BP Station
Job No.: 307436 11791 Fingerboard Road
24 Hr. Emergency #: (410) 636-3700 Monrovia, Md

Line	Profile No.	Containers No.	Containers Type	Total Quantity	Unit Wt./Vol.	Quantity Liquid	Quantity Solid	Quantity Sludge	Notes
A	20020A	3	DM	165	G				
B									
C									
D									
E									
F									

Generator's Certification: I certify the materials described above on this shipping document are not subject to Federal Regulations for reporting proper disposal of Hazardous Waste. I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable and national government regulations.

Type/Print Name	Signature	Month Day Year
Gregory Reichart on behalf of CIFC		12 29 2010

Transporter Acknowledgement of Receipt of Materials

Type/Print Name	Signature	Month Day Year
Peter Duffy		12-29-10

Transporter 2 Acknowledgement of Receipt of Materials

Type/Print Name	Signature	Month Day Year

Discrepancy Indication Space

Facility Owner or Operator: Certification of receipt of materials covered by this shipping document except as noted in Discrepancy area above.

Type/Print Name	Signature	Month Day Year
CRAIG CHILDRESS		12-29-10

ORIGINAL COPY

SD 27088

CLEANEARTH

Manifest # 4010

GLOBAL JOB NUMBER: 117508 **FACILITY APPROVAL NUMBER:** 103120411

Please Check One:

☐ Clean Earth of Carteret
24 Middlesex Avenue
Carteret, NJ 07008
Ph: 732-541-8909

☒ ☐ Clean Earth of Maryland
1469 Oak Ridge Place
Hagerstown, MD 21740
Ph: 301-791-6220

☐ Clean Earth of New Castle
94 Pyles Lane
New Castle, DE 19720
Ph: 302-427-6633

☐ Other

☐ Clean Earth of Philadelphia
3201 S. 61st Street
Philadelphia, PA 19153
Ph: 215-724-5520

☐ Clean Earth of North Jersey
115 Jacobus Avenue
Kearny, NJ 07032
Ph: 973-344-4004

☐ Clean Earth of Southeast Pennsylvania
7 Steel Road East
Morrisville, PA 19067
Ph: 215-428-1700

Non-Hazardous Material Manifest

(Type or Print Clearly)

GENERATOR'S NAME & SITE ADDRESS:	GROSS WEIGHT: ☐Tons ☐Yards	
CARROLL INDEPENDENT FUEL 2700 LOCH RAVEN ROAD BALTIMORE, MD	TARE WEIGHT: ☐Tons ☐Yards	
GENERATOR'S PHONE: 410-261-5450	NET WEIGHT: ☐Tons ☐Yards	

DESCRIPTION OF MATERIAL/SAMPLE ID AND LOCATION

CARROLL MONROVIA BP STATION
11791 FINGERBOARD ROAD
MONROVIA, MD

NON-HAZ
CONTAMINATED
SOIL

GENERATOR'S CERTIFICATION – Incomplete and/or unsigned manifests will cause the load to be delayed and/or rejected.

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, is not a DOT hazardous substance as defined by 49 CFR Part 172 or any applicable state law, has been fully and accurately described above, classified, packaged and is in proper condition for transportation according to all applicable state and federal regulations.

Name: _____ Title: _____

Signature: see attached Date and Time: 12-9-10

TRANSPORTER

Company: CHEETAH SERVICES Phone Number: 410-840-3999

Address: 830 FSK Hwy KEYMAR MD Truck # and License Plate: 1963 181KGC1

Driver: DENNIS SW Haulers Permit #: 11874
(Type or Print Clearly) (applicable state permit #)

I hereby certify that the above named material was picked up at the site listed above.

Driver Signature: _____ Date and Time: 12-9-10

DESTINATION

I hereby certify that the above named material was delivered without incident to the facility noted above.

Driver Signature: _____ Date and Time: 12-9-10

I hereby certify that the above named material has been accepted at the above referenced facility.

Authorized Signature: _____ Date and Time: 12/9/10 3:13pm

GENERATOR

Clean Earth of Maryland
1469 Oak Ridge Place
Hagerstown, MD 21740
Ph: (301) 791-6220 Fax: (301) 791-6044

Ticket: 312000031291

	Date	Time	Scale
In:	12/9/2010	15:12:53	Scale 1
Out:	12/9/2010	15:13:14	P.T.

	Lbs	Tns
Gross:	50640	25.32
Tare:	35860	17.93
Net:	14780	7.39

Manifest: 444010
Vehicle ID: CHTH-1963
Vehicle Permit:
Customer: GROUNDWATER & ENVIRONMENT
Generator EPA#:
Facility Approval#: 103120411
Generator: Carroll Independent Fuel
Job Name: Carroll Fuels/Monrovia BP Sta
Gen Address: 2700 Loch Raven Road
Baltimore, MD 21218
Job Address: 1700 Fingerboard Road
Monrovia, MD 21770

Origin	Materials & Services	Quantity	Unit
Frederick	Soil Treatment Type III	7.39	Tns
	Contaminate Type: Petroleum		
	Treatment Type: Fixation		
	Fac Waste Code: Soils		
Frederick	Transportation In - Unit	1.00	Unts
	Contaminate Type: Not Applicable		
	Treatment Type: Not Applicable		
	Fac Waste Code: Not Applicable		

Storage Area: Area B
Sample ID: 86458
Comment:

Driver: _____
DENNIS SPIELMAN

Facility: Chandra M
Morgan, Chandra