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August 17, 2009
(date)

Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Chevron Facility #_9-5542_____

Address: 7007 San Ramon Road, Dublin, California_____

I have reviewed the attached report titled *Site Conceptual Model and Additional Investigation Work Plan*_____ and dated August 17, 2009.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Conestoga-Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

SH Frerichs

Stacie H. Frerichs
Project Manager

Enclosure: Report

# SITE CONCEPTUAL MODEL AND ADDITIONAL INVESTIGATION WORK PLAN

**Chevron Service Station #9-5542**
**7007 San Ramon Road**
**Dublin, California**

**Prepared For:**
**Mr. Paresh Khatri**
**Alameda County Environmental Health**

**Prepared by:**
**Conestoga-Rovers & Associates**

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**AUGUST 17, 2009**
**REF. NO. 611969 (4)**
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# SITE CONCEPTUAL MODEL AND ADDITIONAL INVESTIGATION WORK PLAN

**Chevron Service Station #9-5542**
**7007 San Ramon Road**
**Dublin, California**

**Prepared For:**
**Mr. Paresh Khatri**
**Alameda County Environmental Health**

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**AUGUST 17, 2009**
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## 1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) has prepared this *Site Conceptual Model and Additional Investigation Work Plan* on behalf of Chevron Environmental Management Company (Chevron) for Chevron Service Station No 9-5542, located at 7007 San Ramon Road in Dublin, California. In a letter dated May 15, 2009, Alameda County Environmental Health (ACEH) requested preparation of a site conceptual model (SCM) to establish site conditions, identify potential receptors and potentially complete exposure pathways, and evaluate if any data gaps exist (Technical Comment No. 3). A work plan was also requested to further evaluate the extent of impacted soil in the area of the former gasoline underground storage tanks (USTs) (Technical Comment No. 1), the downgradient extent of impacted groundwater (Technical Comment No. 2), and any identified data gaps (Technical Comment No 3). A copy of the letter is presented in Appendix A.

The site description and background, the site characteristics, a summary of previous environmental work, an evaluation of potential exposure pathway and data gaps, and the proposed additional investigation to address the identified data gaps are presented in the following sections. Please note, however, that based on our review of the data the extent of impacted soil in the area of the former gasoline USTs and the downgradient extent of impacted groundwater appear to have been adequately defined, and therefore no additional work appears warranted to address Technical Comments No. 1 and 2 of the ACEH letter, as will be further discussed.

### 1.1 SITE DESCRIPTION AND BACKGROUND

The site is an active Chevron-branded service station located on the northeast corner of the intersection of San Ramon Road and Dublin Boulevard (Figure 1). Current station facilities include a station building, three 12,000-gallon gasoline USTs, and three dispenser islands. The property reportedly was first leased by Chevron in 1965 at which time the station was constructed. The original station facilities included a station building with two hydraulic hoists, two 10,000-gallon and one 4,000-gallon steel gasoline USTs on the northern side of the site, a 500-gallon steel used-oil UST to the east of the station building, and two dispenser islands on the western side of the site. In 1990, Chevron purchased the property and the station was demolished including the removal of the four USTs, product lines, and dispenser islands. The station was subsequently reconstructed into the current configuration. In 1998, the dispensers and product piping were upgraded. The property is currently owned by Mr. T.W. Johnson. Current and former site facilities are shown on Figure 2. Please note that the former UST locations

shown on previously submitted site plans were incorrect and have been updated based on a station construction plan dated 1964. The approximate former station building and dispenser island locations have also been added to Figure 2.

The site elevation is approximately 360 feet above mean seal level (msl), and local topography slopes gently to the east toward San Ramon Creek. Land use in the site vicinity is mixed commercial and residential. The site is bounded by San Ramon Road to the west, Dublin Boulevard to the south, and undeveloped land to the east and north. A former fuel release case (Unocal #5901 at 11976 Dublin Boulevard) was present on the northwest corner of the intersection of Dublin Boulevard and San Ramon Road; and an open fuel release case (Shell #13-5243 at 11989 Dublin Boulevard) is present on the southwest corner of the intersection of Dublin Boulevard and San Ramon Road.

Environmental investigation associated with the subject site has been ongoing since 1983. To date, 16 groundwater monitoring wells (#1 through #5, and MW-1 through MW-11) and two vacuum monitoring wells (VW-1 and VW-2) have been installed, and 10 exploratory borings (B-1 through B-4, SB-1 through SB-3, and CPT-1 through CPT-3) have been drilled, both on and offsite; and confirmation soil sampling has been performed during UST removal and upgrade activities. The well construction details are presented in Table 1. Wells #3 and MW-6 through MW-10 were later destroyed; wells MW-6 through MW-10 were destroyed with ACEH approval due to proposed development of the adjacent property. Well MW-5 located in the Dublin Boulevard right-of-way was paved over by the City of Dublin (City) in 1995; multiple attempts to re-locate the well (most recently in March 2009) have been unsuccessful and it is considered abandoned. Wells #1, #2, #4, and #5 reportedly were also destroyed sometime prior to 1990; however, no documentation regarding the destructions is available. Based on a recent site visit, wells VW-1 and VW-2 also appear to have been destroyed; however, no documentation is available.

Groundwater monitoring has been performed since 1990. Monitoring and sampling of wells MW-2 and MW-3 was discontinued in 1999; the remaining wells (MW-1, MW-4, and MW-11) are currently monitored and sampled on a semi-annual basis. Gauging of wells MW-2 and MW-3 was recently resumed to prepare groundwater potentiometric maps as requested by ACEH in the May 15, 2009 letter (Technical Comment No. 5). Remedial activities performed at the site have consisted of the over-excavation and offsite disposal of impacted soil (approximately 800 cubic yards), and groundwater oxygenation (via injection) to attempt to reduce petroleum hydrocarbon concentrations in the source area via enhanced biodegradation. A summary of the environmental work

performed at the site to date is presented in Section 3.0. The approximate well and boring locations are shown on Figure 2.

## 2.0 SITE CHARACTERISTICS

### 2.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

The site is located in the north-central portion of the Livermore Valley, within the Coast Range Geomorphic Province, at the base of the eastern slope of the East Bay Hills. The Livermore Valley slopes gently to the west and is underlain by non-water-bearing rocks, and water-bearing rock and sediments. The non-water-bearing rocks are of marine origin and consist of sandstone, shale, and conglomerate of Eocene and Miocene age. These rocks are exposed at higher elevations surrounding Livermore Valley and are found at depths greater than 1,000 feet beneath the valley floor.

The Plio-Pleistocene age Livermore Formation overlaps the Tassajara Formation beneath the northern portion of the valley and is exposed over a broad region south of the valley. Sediments of this formation consist primarily of clayey gravel in a sandy clay matrix. Sedimentary units south of the valley dip gently north, are nearly level beneath the valley floor, and dip gently south beneath the north edge of the valley. The depth to the top of the Livermore Formation beneath the valley ranges from a few feet to greater than 40 feet.

Groundwater beneath the site is located within the Livermore Valley groundwater basin. The sediments and water-bearing units comprising the basin include valley fill materials, the Tassajara Formation, and the Livermore Formation. The basin is characterized by hydrogeologic discontinuities, and is segregated into sub-basins on the basis of localized faults. The Livermore Valley groundwater system is a multi-layered system with an unconfined aquifer overlying sequential partially-confined aquifers. Groundwater in the basin generally flows to the west.

### 2.2 SITE GEOLOGY AND HYDROGEOLOGY

Based on previous investigations, soil encountered beneath the site generally consists of interbedded layers of fine-grained soils (clays and silts) with varying amounts of clay, silt, sand, and gravel to the maximum depth of exploration (55 feet below grade [fbg]). Varying amounts of fill material, sand, and sandy gravel were also observed in some of the borings. Copies of the historical boring logs and well construction diagrams are presented in Appendix B.

Groundwater was encountered in the borings drilled at and in the vicinity of the site at depths of approximately 21 to 29 fbg. The depth to groundwater in the site wells has

ranged from approximately 17 to 30 feet below top of casing (TOC). The groundwater flow direction has generally been easterly. A groundwater flow direction rose diagram depicting radial gradient vectors is presented on Figure 2. Geologic cross-sections presenting soil encountered beneath the site and the historic range of groundwater elevations are presented on Figures 3 and 4.

## 2.3 NEARBY WELLS AND SENSITIVE RECEPTORS

In 1991, Sierra Environmental Services (SES) reviewed California Department of Water Resources (DWR) records to evaluate the presence of any water-supply wells within a ½-mile radius of the site. Twenty-four wells were identified within the search radius; however, 12 were monitoring wells, including four at the subject site. Only one domestic well was identified, located approximately 1/8 mile west-southwest (cross to upgradient) of the site. The remaining identified wells were municipal. Nine of these municipal wells to the east-northeast were identified as being potentially downgradient of the site; however, they were all located approximately ½ mile from the site.

In 2000, Delta Environmental Consultants, Inc. (Delta) contacted the owner of the previously identified domestic well and confirmed that it had been destroyed. Delta also contacted the owner of the nearest previously identified municipal well (Alameda County Flood Control and Water Conservation District [Zone 7]) and confirmed that this well had also been destroyed. According to Zone 7, no known active domestic or municipal water-supply wells were present within 2,000 feet of the site. The well survey information and figures (prepared by others) showing the approximate well locations are presented in Appendix C.

Drinking water for the City of Dublin is provided by Zone 7, which obtains the majority of its supply from the San Francisco Bay Delta via the State Water Project. As stated on the Zone 7 website, other sources include local rainfall runoff stored in Del Valle Reservoir and the groundwater basin. The nearest surface water body in the site vicinity is Dublin Creek, a concrete-lined and intermittent creek, located approximately 3,200 feet east-southeast of the site. Based on the distance from the site and/or the hydrogeologic position relative to the site, none of the identified wells or the surface water body appear likely to be impacted by hydrocarbons from the site.

## 3.0 PREVIOUS INVESTIGATION AND REMEDIATION SUMMARY

***1983 Tank Repair:*** In 1983, a hole was discovered in the regular leaded tank and the tank was re-lined with fiberglass.

***1983-1984 Well Installation and Groundwater Monitoring:*** In December 1983, Gettler-Ryan Inc. (G-R) installed five monitoring wells (#1 through #5) at the site to approximately 20 fbg. Initially, groundwater was not encountered in any of the wells. Two weeks following installation, approximately 6 inches of light non-aqueous phase liquid (LNAPL) (what appeared to be used-oil) was observed in well #3 located just downgradient of the used-oil UST. In January 1984, well #3 was drilled out and deepened to 35 fbg; LNAPL was not observed in the well at this time. The wells were monitored periodically from January through October 1984. In June 1984, approximately 0.02 feet of LNAPL was observed in Well #3. The LNAPL was bailed from the well, and there was no subsequent observation of LNAPL in this well. Details of the well installation were presented in G-R's letter dated December 20, 1983.

***1984 UST System Repairs:*** In September 1984, a corroded section of product piping was replaced and cathodic protection was installed. In November 1984, the regular leaded product line failed a leak test and was subsequently repaired.

***1990 Station Demolition:*** In February 1990, the station was remodeled including the removal of the existing USTs and product lines. Two 10,000-gallon and one 4,000-gallon steel gasoline USTs were removed from the site. Six soil samples were collected beneath the gasoline USTs at depths of 11 to 12 fbg and analyzed for total petroleum hydrocarbons as gasoline (TPHg) and benzene, toluene, ethylbenzene, and xylenes (BTEX). Elevated concentrations of TPHg (up to 5,000 milligrams per kilogram [mg/kg]) and BTEX (up to 780 mg/kg) were detected in several of the samples. Following collection of the initial samples, the gasoline UST excavation was deepened to approximately 15 to 16 fbg and six additional soil samples were collected from the excavation bottom in the approximate locations of the previous samples. Elevated concentrations of TPHg (up to 5,000 mg/kg) were detected in the three samples collected from the southeast portion of the excavation. Therefore, approximately the southeastern one-third of the excavation was deepened to approximately 22 fbg and three additional soil samples were collected from the excavation bottom. Elevated concentrations of TPHg (up to 3,100 mg/kg) and benzene (up to 60 mg/kg) were detected in two of the samples. Three soil samples were also collected from the southwest sidewall of the excavation at depths of 7.5 to 13.5 fbg; only low concentrations of TPHg (up to 18 mg/kg) and BTEX (up to 2.8 mg/kg) were detected in the samples.

Four soil samples (PL1 through PL4) were collected beneath the product piping at depths of 1.5 or 3 fbg and analyzed for TPHg and BTEX; only low concentrations of TPHg (up to 9 mg/kg) and BTEX (up to 1.2 mg/kg) were detected in the samples. A soil sample was also collected at 8 fbg beneath the used-oil UST and analyzed for TPHg, BTEX, total oil and grease (TOG), volatile organic compounds (VOCs), semi-VOCs, and 13 priority pollutant metals. Low concentrations of TPHg (0.55 mg/kg), BTEX (up to 0.49 mg/kg), and TOG (12 mg/kg) were detected in the sample; VOCs and semi-VOCs were not detected and the detected metals concentrations generally were consistent with natural background levels. The used-oil UST excavation was subsequently deepened to approximately 10.5 fbg and an additional soil sample collected from the excavation bottom and analyzed for the same constituents. Only xylenes (0.02 mg/kg), TOG (12 mg/kg), and metals were detected in the sample; the detected metals concentrations generally were consistent with background levels. The impacted soil generated during the work was disposed offsite. The site was then redeveloped into the current configuration including the installation of three 12,000-gallon, fiberglass USTs in a new tank pit to the south of the former USTs.

***1990 Well Destruction and Installation:*** In March 1990, a remaining monitoring well (#3) that had been damaged during station redevelopment activities was destroyed and four new monitoring wells (MW-1 through MW-4) were installed at the site by Burlington Environmental, Inc. (Burlington). The wells were installed to depths of 35 or 37 fbg. A total of six soil samples were collected at various depths from the borings for wells MW-1 through MW-3 and analyzed for TPHg and BTEX. TPHg was only detected in the samples collected at 25 fbg (1,300 mg/kg) and 30 fbg (270 mg/kg) from boring MW-1, and at 25 fbg (51 mg/kg) from boring MW-3. Elevated concentrations of BTEX (benzene at 38 mg/kg) were also detected in the sample collected at 25 fbg from boring MW-1. Low concentrations of BTEX (up to 18 mg/kg) were detected in several of the other samples. Soil samples were collected at depths of 15, 20, and 25 fbg from boring MW-4 and analyzed for TPHg, TPH as diesel (TPHd), and the metals lead, chromium, cadmium, and zinc; which were not detected with the exception of lead (up to 41 mg/kg), chromium (up to 26 mg/kg), and zinc (up to 44 mg/kg). The sample collected at 25 fbg was also analyzed for TOG and BTEX; TOG was detected at 39 mg/kg and BTEX were detected up to 46 mg/kg. TPHg was detected in the initial groundwater samples collected from wells MW-1, MW-3, and MW-4 at concentrations of 46,000 micrograms per liter (µg/L), 2,200 µg/L, and 43,000 µg/L, respectively. Benzene was detected in the initial groundwater samples collected from wells MW-1, MW-3, and MW-4 at concentrations of 8,400 µg/L, 36 µg/L, and 4,000 µg/L, respectively. TOG was detected in the initial groundwater sample collected from well MW-4 at 18,00 µg/L;

TPHd and metals were not detected. Details of the investigation were presented in Burlington's July 19, 1991 *Soil and Groundwater Investigation*.

***1991 Monitoring Well Installation:*** In June 1991, three offsite monitoring wells (MW-5 through MW-7) were installed by SES to depths of 35 or 36 fbg. A soil sample was collected from each well boring at a depth of 26 or 28.5 fbg and analyzed for TPHg, BTEX, and lead. TPHg (5 mg/kg) and BTEX (up to 0.12 mg/kg) were only detected in the soil sample collected at 26 fbg from boring MW-6. Lead was not detected in any of the soil samples. TPHg (3,700 µg/L) and benzene (50 µg/L) were only detected in the initial groundwater sample collected from well MW-6. The initial samples collected from the wells were also analyzed for halogenated VOCs (HVOCs) and organic lead; which were not detected. Details of the investigation were presented in SES's *Subsurface Investigation Report*, dated July 22, 1991.

In December 1991, an additional offsite monitoring well (MW-8) was installed to 35 fbg by GeoStrategies, Inc. (GSI). A soil sample was collected at 20 fbg from the well boring and analyzed for TPHg and BTEX; which were not detected. The initial groundwater sample collected from the well also did not contain TPHg or BTEX. Details of the well installation were presented in GSI's *Well Installation Report*, dated January 16, 1992.

***1992 Well Installation:*** In November 1992, Geraghty & Miller, Inc. (Geraghty & Miller) installed two vacuum monitoring wells (VW-1 and VW-2) and destroyed (overdrilled) and reinstalled existing well MW-1 in the same borehole to a depth of 50 fbg for groundwater extraction and the performance of a soil vapor extraction (SVE) pilot test at the site. Wells VW-1 and VW-2 were installed to depths of 31.5 fbg and 30 fbg, respectively. A total of 13 soil samples were collected at various depths from borings VW-1 and VW-2 and analyzed for TPHg and BTEX. TPHg was detected in several of the samples at concentrations ranging from 1 (VW-2 at 30 fbg) to 990 mg/kg (VW-1 at 24 fbg); BTEX (up to 99 mg/kg) were also detected in several of the samples. Details of the investigation were presented in Geraghty and Miller's *Letter Report for the Installation of Groundwater and Vapor-Extraction Well and Vacuum-Monitoring Wells*, dated January 5, 1993.

***1994 Exploratory Borings and Well Installation:*** In June 1994, SES drilled two exploratory borings (B-1 and B-2) onsite and installed an additional offsite well (MW-9). Well MW-9 was installed to a depth of 34.5 fbg. A total of six soil samples were collected from borings B-1 and B-2 and analyzed for TPHg and BTEX; low concentrations of TPHg (up to 8 mg/kg) and BTEX (up to 0.83 mg/kg) were detected in several of the samples. An elevated concentration of TPHg (1,600 mg/kg) was detected

in the sample collected at 20.5 fbg from boring B-1. Soil samples were also collected at depths of 24.5 fbg and 33.5 fbg from boring MW-9 and analyzed for TPHg and BTEX; TPHg (57 mg/kg) was only detected in the shallower sample. Low concentrations of BTEX (up to 3.4 mg/kg) were detected in both samples. The initial groundwater sample collected from well MW-9 contained elevated concentrations of TPHg (12,000 µg/L) and benzene (1,700 µg/L). Details of the investigation were presented in SES's *Monitoring Well Installation*, dated September 20, 1994.

***1995 Exploratory Borings:*** In July 1995, Groundwater Technology, Inc. (GTI) drilled three offsite exploratory borings (SB-1 through SB-3) to 27 fbg to the east-southeast of the site. A groundwater sample was collected from each of the borings and analyzed for TPHg and BTEX. TPHg was only detected in the samples collected from borings SB-1 (65,000 µg/L) and SB-2 (2,900 µg/L). Benzene was only detected in the sample collected from boring SB-1 (470 µg/L). Concentrations of toluene (up to 200 µg/L), ethylbenzene (up to 210 µg/L), and xylenes (up to 2,100 µg/L) were also detected in the samples. Details of the investigation were presented in GTI's *Environmental Assessment Report*, dated September 28, 1995.

***1996 Exploratory Borings and Well Installation:*** In June 1996, G-R drilled two offsite exploratory borings (B-3 and B-4) to 30 fbg and installed an additional offsite well (MW-10) to 35 fbg. Soil samples collected at 18 fbg from boring B-3 and at 12 fbg from boring B-4 were analyzed for TPHg and BTEX; which were not detected. Groundwater samples were also collected from borings B-3 and B-4 and analyzed for TPHg and BTEX. TPHg (63,000 µg/L), benzene (5,600 µg/L), toluene (2,900 µg/L), ethylbenzene (1,800 µg/L), and xylenes (7,900 µg/L) were only detected in the groundwater sample collected from boring B-3. The initial groundwater sample collected from well MW-10 did not contain TPHg or BTEX. Details of the investigation were presented in G-R's *Soil Boring and Well Installation Report*, dated August 29, 1996.

***1998 Product Piping and Dispenser Replacement:*** In September 1998, G-R collected soil samples during product piping and dispenser replacement activities at the site. Six soil samples (P1 through P6) were collected at a depth of 3 fbg beneath each of the dispensers and analyzed for TPHg, BTEX, methyl tertiary butyl ether (MTBE), and total lead. None of the analytes were detected in any of the soil samples. Approximately 196 cubic yards of soil were removed and disposed offsite during the work. The details and results of the work were presented in G-R's *Soil Sampling During Product Dispenser and Piping Replacement*, dated November 10, 1998.

***2006 Cone Penetrometer Test (CPT) Borings and Well Destructions:*** In January 2006, Cambria Environmental Technology, Inc. (Cambria; now CRA) drilled three offsite CPT borings (CPT-1 through CPT-3) to further evaluate groundwater quality downgradient of the site. Groundwater samples were collected at discrete depths from borings CPT-1 (46, 55, and 65 fbg), CPT-2 (52 and 63 fbg), and CPT-3 (42, 55, and 65 fbg) and analyzed for TPHg, BTEX, fuel oxygenates, 1,2-Dichloroethane (1,2-DCA), and ethylene dibromide (EDB). TPHg was only detected in the samples collected at 52 fbg (1,000 µg/L) and 63 fbg (170 µg/L) from boring CPT-2; low concentrations of ethylbenzene (up to 22 µg/L) and xylenes (up to 120 µg/L) were also detected in these samples. Benzene was only detected in the sample collected at 52 fbg from boring CPT-2 (1 µg/L). The remaining analytes generally were not detected in any of the samples with the exception of a low concentration of 1,2-DCA (3 µg/L) in the sample collected at 42 fbg from boring CPT-3. Wells MW-6 through MW-10 were also destroyed at this time. The details of the investigation were presented in Cambria's *Subsurface Investigation and Well Destruction Report*, dated March 2, 2006.

***2006 Well Installation:*** In November 2006, Cambria installed deeper offsite well MW-11 (screened from 45 to 55 fbg). No soil samples collected from the well boring were submitted for laboratory analysis. Details of the investigation were presented in Cambria's *Subsurface Investigation Report*, dated January 22, 2007.

The historical soil sample and groundwater sample analytical results are presented in Tables 2 and 3, respectively.

## 3.1 OXYGEN INJECTION SUMMARY AND RESULTS

In November 2007, CRA began bi-weekly oxygen injection into impacted wells MW-1 and MW-4 in an effort to decrease dissolved hydrocarbon concentrations in groundwater via enhanced biodegradation. The oxygen injection was performed as outlined in the September 6, 2007 *Revised Remediation Work Plan* prepared by CRA. A response to this document was never received from ACEH; therefore, consent was assumed and the work was initiated. During each event, approximately 125 cubic feet of oxygen was diffused into each well. Dissolved oxygen (DO) measurements were collected in each well before and after each event. CRA collected confirmation grab-groundwater samples (no-purge) from wells MW-1 and MW-4 prior to the first event, then once during December 2007 and February 2008 to evaluate the effectiveness of the oxygen injection. The samples were analyzed for TPHg, BTEX, and MTBE. Regular groundwater monitoring data was then used to evaluate the effectiveness.

Injection into wells MW-1 and MW-4 was discontinued in March and May 2008, respectively.

The TPHg and benzene concentrations in wells MW-1 and MW-4 over the past 3 years (including both confirmation and semi-annual monitoring samples) are summarized in Table A below. Copies of the laboratory analytical reports from the CRA confirmation sampling events are presented in Appendix D.

**TABLE A**
**OXYGEN INJECTION RESULTS SUMMARY**

| *Well* | *Date* | *TPHg* | *Benzene* |
|---|---|---|---|
| | | *(µg/L)* | *(µg/L)* |
| **MW-1** | 3/24/06 | **680** | **130** |
| | 8/24/06 | **1,000** | **180** |
| | 3/1/07 | **28,000** | **1,800** |
| | 9/6/07 | **11,000** | **1,900** |
| Grab (begin $O_2$ injection) | 11/28/07 | **2,900** | **660** |
| Grab | 12/28/07 | **860** | **9** |
| Grab | 2/20/08 | <50 | <0.5 |
| (End $O_2$ Injection 3/5/08) | 3/10/08 | **19,000** | **940** |
| | 9/2/08 | **23,000** | **1,200** |
| | 3/18/09 | **35,000** | **1,200** |
| | | | |
| **MW-4** | 3/24/06 | **17,000** | **930** |
| | 8/24/06 | **10,000** | **1,000** |
| | 3/1/07 | **4,300** | **240** |
| | 9/6/07 | **4,900** | **230** |
| Grab (begin $O_2$ injection) | 11/28/07 | **5,800** | **240** |
| Grab | 12/28/07 | **53** | <0.5 |
| Grab | 2/20/08 | <50 | <0.5 |
| (End $O_2$ Injection 5/15/08) | 3/10/08 | **870** | **8** |
| | 9/2/08 | **1,800** | **36** |
| | 3/18/09 | **3,900** | **46** |

< Not detected at or above stated laboratory reporting limit
Grab Grab-groundwater sample (no purge)

As shown above, the oxygen injection successfully reduced concentrations in the wells as TPHg and benzene were not detected in either of the wells during the February 2008 event. During the first month of injection, increased DO concentrations (up to 16.5 milligrams per liter [mg/L]) were measured in the wells prior to each event. However, following the first month, the measured DO concentrations prior to each

event decreased to pre-injection levels (less than 1 mg/L). The lower DO concentrations possibly indicate that the oxygen was being rapidly utilized by the microorganisms to degrade the hydrocarbons, as evidenced by the rapid decline in concentrations.

However, as shown above concentrations significantly rebounded shortly after the injections ceased. In the case of MW-1, the sample (with purging) collected in March 2008 five days after the last injection event was significantly higher than the no-purge sample collected in February 2008. Based on these results, it appears that only the immediate area around each well was affected by the oxygen. Due to the predominantly fine-grained, low permeability soils at the site, and the low injection pressures utilized, the oxygen likely was not able to diffuse a significant distance away from the wells resulting in only a small area of influence around each well. As a result, concentrations rebounded rapidly as unaffected groundwater re-entered the wells; and have since increased back to pre-injection levels. Therefore, based on the results, it does not appear that limited oxygen injection into the existing wells is feasible as a long-term remedial alternative at the site.

## 4.0 CONSTITUENTS OF CONCERN IN SOIL AND GROUNDWATER

### 4.1 SOIL

Based on the historical data, the primary constituents of concern (COCs) in soil at the site are TPHg and BTEX. The majority of the soil samples collected to date were not analyzed for MTBE. However, MTBE was not detected in the six soil samples collected beneath the second-generation dispensers in 1998; and MTBE is no longer detected in wells MW-1 and MW-4, and has not been detected in well MW-11. Therefore, MTBE does not appear to be a primary COC in site soil.

Only a low concentration of TOG (12 mg/kg) was detected in the final confirmation soil sample collected from the used-oil UST excavation; TPHd, semi-VOCs, and VOCs were not detected and the detected metals concentrations generally were consistent with background levels. Additionally, TPHd was not detected in the soil samples collected from the boring for well MW-4 located downgradient of the former used-oil UST and the detected metals concentrations were consistent with background levels. Only a low concentration of TOG (39 mg/kg) was detected in the soil sample collected at 25 fbg from boring MW-4, and VOCs were not detected (except BTEX). Based on these results, the former used-oil UST does not appear to have significantly impacted soil quality at the site, and none of these constituents appear to be COCs in soil.

### 4.2 GROUNDWATER

Based on the historical data, the primary COCs in groundwater are TPHg, BTEX, and MTBE; although MTBE is no longer detected in wells MW-1 or MW-4, and has not been detected in well MW-11. Other constituents (remaining fuel oxygenates, 1,2-DCA, EDB, ethanol, HVOCs, TOG) either were not detected or were only detected at low concentrations and therefore do not appear to be COCs in groundwater.

## 5.0 PETROLEUM HYDROCARBON SOURCES AND DISTRIBUTION

### 5.1 RELEASE SOURCE AND VOLUME

Based on previous investigations and UST/piping removal confirmation sampling, the primary source of the released petroleum hydrocarbons at the site appears to be the first-generation gasoline USTs formerly located on the north side of the site. The volume of released product is unknown.

### 5.2 POTENTIAL OFFSITE SOURCES

There do not appear to be any offsite sources potentially contributing to the impacts at the site. The nearby former Unocal facility case was closed in 1996 by ACEH. Based on the available data at the time of closure, it did not appear as if impacted groundwater had migrated downgradient of the facility. Based on the most recent groundwater monitoring data at the nearby Shell facility (January 2009), none of the wells downgradient of the facility contain TPHg, benzene, or MTBE.

### 5.3 PETROLEUM HYDROCARBON DISTRIBUTION IN SOIL

Since 1990, a total of 65 soil samples have been collected from excavations and borings to evaluate the horizontal and vertical extent of petroleum hydrocarbons in soil. Based on the analytical results, impacted soil is present in the area of the former first-generation gasoline USTs. Elevated concentrations of TPHg and benzene were detected in final confirmation soil samples #17 (1,300 mg/kg and 20 mg/kg, respectively) and #18 (3,100 mg/kg and 60 mg/kg, respectively) collected at 22 fbg from the bottom of the southeast portion of the gasoline UST excavation in 1990. The remaining final confirmation soil samples collected from the bottom and sidewalls of the gasoline UST excavation contained only low concentrations of TPHg (up to 190 mg/kg) and BTEX (benzene up to 3 mg/kg). Elevated concentrations of TPHg (1,300 mg/kg) and benzene (38 mg/kg) were also detected in the soil sample collected at 25 fbg from the boring for well MW-1 (located in the former gasoline UST pit) drilled in 1990; however, significantly lower concentrations of TPHg (270 mg/kg) and benzene (1 mg/kg) were detected in the deeper sample (30 fbg) collected from this boring.

Impacted soil is also present just downgradient of the former gasoline USTs. TPHg was detected at 1,600 mg/kg in the soil sample collected at 20.5 fbg from boring B-1 drilled in 1994; benzene was detected at 5.3 mg/kg. TPHg and benzene were detected at

990 mg/kg and 2.4 mg/kg, respectively, in the soil sample collected at 24 fbg from the boring for well VW-1 (located near boring B-1) drilled in 1992; however, a significantly lower concentration of TPHg (130 mg/kg) was detected in the sample collected at 31 fbg from this boring, and benzene was not detected. Similarly, TPHg and benzene were detected at 650 mg/kg and 2.7 mg/kg, respectively, in the soil sample collected at 25 fbg from the boring for well VW-2 drilled in 1992; however, significantly lower concentrations of TPHg (1 mg/kg) and benzene (0.07 mg/kg) were detected in the sample collected at 30 fbg from this boring.

Only low concentrations of TPHg (up to 9 mg/kg) and BTEX (up to 1.2 mg/kg) were detected in the soil samples collected beneath the first-generation dispensers/product piping in 1990; and TPHg, BTEX, and MTBE were not detected in the soil samples collected beneath the second-generation dispensers during upgrade work in 1998. Only low concentrations of TPHg and BTEX were detected in the soil samples collected from the remaining perimeter borings; and these constituents generally were not detected in the soil samples collected offsite with the exception of low concentrations of TPHg (up to 57 mg/kg) and BTEX (up to 3.4 mg/kg) in soil samples collected from the borings for downgradient wells MW-6 (26 fbg) and MW-9 (24.5 fbg) in 1991 and 1994, respectively. However, a deeper sample collected from boring MW-9 (33.5 fbg) contained only trace concentrations of benzene (0.038 mg/kg) and xylenes (0.008 mg/kg).

Based on the analytical results, the primary residual impact to site soil consists of TPHg and BTEX. The extent of the soil with elevated concentrations appears limited to the area of the former first-generation gasoline USTs and just downgradient. The approximate extent of soil with elevated concentrations of TPHg (greater than 100 mg/kg) and benzene (greater than 5 mg/kg) is shown on Figures 3 and 4. In Technical Comment No. 1 of the May 15, 2009 letter, ACEH stated that the lateral and vertical extent of impacted soil in the former source area is undefined. However, based on the data the lateral extent of the impacted soil appears to have been adequately defined by the surrounding borings and wells and no further investigation appears warranted. With regards to the vertical extent of impacted soil, in the letter ACEH mistakenly identified the soil sample collected at 30 fbg from boring MW-1 as containing the elevated concentrations of TPHg and benzene (1,300 mg/kg and 38 mg/kg, respectively). As described above, it was the sample at 25 fbg that contained these concentrations while the sample collected at 30 fbg contained significantly lower concentrations. Additionally, based on the time since most of the samples were collected, concentrations likely have further decreased due to natural attenuation processes. Therefore, the vertical extent of impacted soil both in the former source area

also appears to have been adequately evaluated and no further investigation appears warranted.

The historical soil sample analytical results are presented in Table 2. The approximate boring and soil sample locations and the historical TPHg and benzene analytical results are presented on Figure 5.

## 5.4 PETROLEUM HYDROCARBON DISTRIBUTION IN GROUNDWATER

Groundwater monitoring has been performed at the site since 1990. As previously described, well MW-5 was paved over in 1995 and has not been sampled since that time; sampling of wells MW-2 and MW-3 was discontinued in 1999; and wells MW-6 through MW-10 were destroyed in 2006. Remaining wells MW-1, MW-4, and deeper well MW-11 are currently sampled on a semi-annual basis.

The highest concentrations of TPHg and BTEX have historically been detected in well MW-1 located in the former gasoline UST pit and well MW-4 located downgradient of the former USTs. Significant concentration fluctuations have been observed in well MW-1; and while the TPHg, toluene, ethylbenzene, and xylenes concentrations have remained relatively stable overall, the benzene concentrations have significantly decreased since the start of monitoring, but elevated concentrations remain. MTBE generally has not been detected in well MW-1 with the exception of a few events and has not been detected since 2000. Conversely, declining trends in TPHg and BTEX concentrations are evident in well MW-4 and concentrations have significantly decreased throughout the course of monitoring. Low to slightly elevated concentrations of MTBE have sporadically been detected in well MW-4; however, MTBE has not been detected in the last several years. TPHg and BTEX generally have not been detected in downgradient well MW-11 with the exception of low concentrations during a few events; MTBE has not been detected in well MW-11. A comparison of the maximum TPHg, benzene, and MTBE concentrations and the most recent concentrations in wells MW-1, MW-4, and MW-11 is presented in Table B below. A copy of the first semi-annual 2009 groundwater monitoring report is presented in Appendix E. Graphs of TPHg, benzene, and MTBE concentrations in wells MW-1 and MW-4 over time are included in the report in Appendix E.

| TABLE B. SUMMARY OF MAXIMUM AND MOST RECEN GROUNDWATER CONCENTRATIONS (µg/L) | | | | | | |
|---|---|---|---|---|---|---|
| *Well I.D.* | *TPHg* | | *Benzene* | | *MTBE* | |
| | *Historical Maximum Concentration (date)* | *Most Recent Concentration (3/18/09)* | *Historical Maximum Concentration (date)* | *Most Recent Concentration (3/18/09)* | *Historical Maximum Concentration (date)* | *Most Recent Concentration (3/18/09)* |
| MW-1 | 190,000 6) | 35,000 | 29,000 (6/8/95) | 1,200 | 380 (9/30/96) | <3 |
| MW-4 | 94,000 (7/25/93) | 3,900 | 18,000 (7/25/93) | 46 | 250 (2/25/01) | <0.5 |
| MW-11 | 190 (12/29/00) | <50 | 0.8 (3/1/07) | <0.5 | <0.5 | <0.5 |

< Not detected at or above stated laboratory reporting limit

Elevated concentrations of TPHg (4,700 µg/L) and benzene (340 µg/L) were detected in downgradient well MW-9 during third quarter 2005, the last event prior to its destruction in 2006; along with low concentrations of toluene (0.5 µg/L), ethylbenzene (9 µg/L), xylenes (6 µg/L), and MTBE (0.9 µg/L). However, consistent declining trends were evident in this well and concentrations had significantly decreased since the start of monitoring. Concentrations in crossgradient well MW-6 had also decreased and TPHg, BTEX, and MTBE were no longer detected at the time of its destruction. TPHg, BTEX, and MTBE also generally were not detected in downgradient wells MW-8 and MW-10 prior to their destruction. At the time sampling of upgradient well MW-2 and crossgradient well MW-3 was discontinued in 1999, only low concentrations of TPHg (348 µg/L) and benzene (0.98 µg/L) remained in MW-3 (MTBE was not detected), and TPHg, BTEX, and MTBE generally had not been detected in MW-2 throughout the course of monitoring. TPHg and BTEX generally had not been detected in crossgradient well MW-5 prior to it being paved over; and TPHg and BTEX generally were not detected in crossgradient well MW-7 prior to its destruction, and MTBE was not detected.

Elevated concentrations of TPHg (63,000 µg/L) and BTEX (benzene at 5,600 µg/L) were detected in the groundwater sample collected from downgradient boring B-3 drilled approximately 10 feet from well MW-4 in 1996. The concentrations were higher than those in the sample collected from well MW-4 two weeks later (see Appendix E); likely due to the presence of impacted sediment in the sample collected from the boring. TPHg and BTEX were not detected in the groundwater sample collected from crossgradient boring B-4. Elevated concentrations of TPHg (65,000 µg/L) and benzene (470 µg/L) were detected in the groundwater sample collected from downgradient

boring SB-1 in 1995. A significantly lower TPHg concentration (2,900 µg/L) was detected in the groundwater sample collected from further downgradient boring SB-2 (benzene was not detected); and TPHg and BTEX generally were not detected in the groundwater sample collected from furthest downgradient boring SB-3 with the exception of a low concentration of toluene (3.1 µg/L). Deeper groundwater samples collected at 52 fbg (TPHg at 1,000 µg/L; benzene at 1 µg/L) and 63 fbg (TPHg at 170 µg/L; benzene not detected) from boring CPT-2 located adjacent to previous boring SB-1 indicated that the vertical extent of impacted groundwater had been adequately evaluated. TPHg, BTEX, fuel oxygenates, 1,2-DCA, and EDB generally were not detected in deeper groundwater samples collected from borings CPT-1 and CPT-3.

Based on the analytical results, impacted groundwater (TPHg and BTEX) is present beneath the site in the area of the former gasoline USTs (source area) and downgradient. Impacted groundwater also likely remains beneath the adjacent property to the east-northeast. While the benzene concentrations in source area well MW-1 have decreased, the TPHg, toluene, ethylbenzene, and xylenes concentrations have remained relatively stable overall. Conversely, concentrations in onsite downgradient well MW-4 have significantly decreased over time. As described in Section 3.1, limited oxygen injection into these wells failed to decrease concentrations except in the immediate area of the wells as concentrations rebounded quickly after the injection ceased. In Technical Comment No. 2 of the May 15, 2009 letter, ACEH stated that the downgradient extent of the plume is undefined. However, based on the analytical results and the predominant groundwater flow direction, the extent of impacted groundwater appears to have been adequately defined as evidenced by borings CPT-1, CPT-3, and SB-3, and wells MW-5, MW-10, MW-11, and MW-8; and no further investigation appears warranted.

Graphs of TPHg, benzene, and MTBE concentrations in wells MW-1 and MW-4 over time are included in the report in Appendix E. Iso-concentration maps of TPHg and benzene in groundwater are presented on Figures 6 and 7, respectively. The plume appears to be stable, and decreasing in size based on the data from wells MW-4 and MW-9.

It is noted that in the ACEH case closure letter dated June 27, 2005 for the nearby Dublin Retail Center at 7900 Dublin Boulevard, located approximately 400 feet east-southeast of the site at the southwest corner of the intersection of Dublin Boulevard and Regional Street, the detection of MTBE in groundwater (up to 160 µg/L) at this facility was attributed to the subject site. The Dublin Retail Center property reportedly was occupied by an ARCO service station from 1975 to 1983. However, based on the analytical results in well MW-11 and borings CPT-2 and CPT-3, in which MTBE has not

been or was not detected, the subject site does not appear to be the source of the detected MTBE at the facility.

## 5.5 LIGHT NON-AQUEOUS PHASE LIQUID

As described in Section 3.0, approximately 6 inches of LNAPL (what appeared to be used-oil) was observed in well #3 two weeks following installation. In January 1984, well #3 was drilled out and deepened to 35 fbg, and LNAPL was not observed at this time. This well was monitored periodically from January through October 1984 and LNAPL generally was not observed during this time with the exception of June 1984, when approximately 0.0 feet were observed. The LNAPL was bailed from the well. Well #3 was destroyed in 1990. LNAPL has not been observed in any other of the site monitoring wells.

## 5.6 STATUS OF WELL MW-5

As previously discussed, well MW-5 was installed on the south side of Dublin Boulevard in 1991 and sampled quarterly until third quarter 1995, after which it was subsequently paved over by the City during road improvement activities. Several attempts have since been made to re-locate this well using both metal detection and ground-penetrating radar equipment, but have not been successful; most recently in March 2009. Therefore, this well is considered to be abandoned.

Previous correspondence from ACEH (dated between 2005 and 2007) requested that well MW-5 be re-located and sampled to evaluate if a release had occurred from the existing USTs. If well MW-5 could not be located, a replacement well was to be proposed. As previously mentioned, well MW-5 was unable to be re-located. However, based on the predominant groundwater flow direction (easterly), well MW-5 was located in the crossgradient direction from the USTs; and as expected, petroleum hydrocarbons generally were not detected in this well during the time it was monitored. If a release had occurred from the existing USTs, it likely would have been detected in the downgradient wells/borings. Therefore, the replacement of well MW-5 does not appear warranted at this time.

## 6.0 POTENTIAL EXPOSURE PATHWAYS

### 6.1 SOIL

As the site is generally capped with concrete and asphalt, potential exposure to subsurface impacted soil by the general public is essentially eliminated. Therefore, the only identified potential exposure pathway to impacted soil beneath the site is direct exposure by construction workers during trenching or excavating activities. Even then, the soil with elevated concentrations was located at depths greater than 20 feet, and therefore is unlikely to be disturbed.

### 6.2 GROUNDWATER

The extent of impacted groundwater appears to be adequately defined and no water supply wells appear to be located downgradient of the site. As discussed in Section 2.3, drinking water for the City of Dublin is provided by Zone 7, which obtains the majority of its supply from the San Francisco Bay Delta via the State Water Project. Based on the CPT boring results, deeper groundwater does not appear to be significantly impacted. Therefore, no complete groundwater ingestion pathways appear to exist and none are likely to exist in the foreseeable future. Based on the typical depth to groundwater of greater than 20 fbg, it is unlikely groundwater would be encountered during any trenching or excavation activities.

### 6.3 SURFACE WATER

The nearest surface water body is Dublin Creek, located approximately 3,200 feet downgradient of the site. In addition, the site is located in a developed area of Dublin. Based on this information, there is no apparent risk to surface waters or other ecological receptors from the site hydrocarbons.

### 6.4 VAPOR INTRUSION

Benzene is considered the primary COC in groundwater for potential vapor intrusion concerns as it is a known carcinogen. Based on the elevated benzene concentrations detected in well MW-1 located adjacent to the station building, potential vapor intrusion into the existing building appears to be a concern for site workers. As this concern has

not been addressed, potential vapor intrusion into the site building constitutes a data gap and further investigation appears warranted.

With regards to potential vapor intrusion concerns for offsite receptors, although impacted groundwater likely remains beneath the adjacent property, the most recent benzene concentrations detected in well MW-4 (46 µg/L) adjacent to the property line, and well MW-9 in 2005 (340 µg/L), are relatively low. Concentrations beneath the adjacent property likely have further decreased since 2005 as evidenced by the declining trends in well MW-9 prior to its destruction, and in well MW-4. These benzene concentrations do not exceed the groundwater environmental screening level (ESL) associated with potential vapor intrusion concerns at residential sites (most conservative) of 540 µg/L; established by the San Francisco Bay Regional Water Quality Control Board (RWQCB) in May 2008 (Table E-1). In addition, the ESLs conservatively assume a depth to groundwater of approximately 10 fbg whereas the depth to groundwater at the site is greater than 20 fbg; the ESLs also assume the subsurface consists of high permeability soils while the soils beneath the adjacent property are fine-grained, low permeability materials not conducive to the upward migration of vapors. Finally, this property is currently undeveloped so there are no potential receptors. Due to the market conditions, the property likely will remain undeveloped for some time. Based on this information, potential vapor intrusion for offsite receptors does not appear to be a significant concern, and no further investigation appears warranted.

## 7.0 PROPOSED ADDITIONAL INVESTIGATION

Based on the analytical results and site conditions, potential vapor intrusion into the site building appears to be the lone data gap that warrants additional investigation. To evaluate shallow soil vapor quality and potential vapor intrusion concerns, CRA proposes the installation and sampling of three soil vapor wells at the site. The proposed vapor well locations are shown on Figure 2. Details of the proposed investigation are presented in the following sections.

### 7.1 PRE-FIELD ACTIVITIES

***Permits and Access Agreements:*** CRA will obtain all necessary permits and access agreements for the proposed vapor wells prior to beginning field operations. A minimum of 72 hours written notification will be given to ACEH before initiation of drilling activities.

***Site Health and Safety Plan:*** CRA will prepare a site-specific health and safety plan (HASP) to inform site workers of known hazards and to provide health and safety guidance. The plan will be reviewed and signed by all site workers and visitors and will be kept onsite during field activities.

***Underground Utility Location:*** The proposed well locations will be marked at least 48 hours prior to the start of drilling activities and Underground Service Alert (USA) will be notified to clear the proposed locations with local public utility companies. A private utility locator will also be retained to additionally clear the well locations of utility lines prior to drilling.

### 7.2 SOIL VAPOR QUALITY EVALUATION

To evaluate potential vapor intrusion concerns, three soil vapor wells will be installed and sampled adjacent to the site building.

***Drilling:*** The three vapor well borings will be advanced to a total depth of approximately 6 fbg using a 3-inch diameter hand auger in accordance with Chevron and CRA safety protocols. The final locations and depths of the borings will be based on field conditions.

***Soil Sampling and Laboratory Analysis*:** Soil samples will be continuously collected the entire length of each boring for logging and observation purposes. The soil encountered in the borings will be logged in accordance with the modified Unified Soil Classification System (USCS). Soil samples from each boring will be screened in the field for volatile organic vapors using a photo-ionization detector (PID). Samples that return PID readings of 100 parts per million by volume (ppmv) or greater, or those that have evidence of impact, may be retained for laboratory analysis. If no evidence of impact is observed in the borings, a soil sample collected from each boring between 5 and 6 fbg will be submitted for analysis. CRA's standard field procedures for hand auger borings are presented in Appendix F.

Soil samples retained for laboratory analysis will be collected in brass or stainless steel liners, capped using Teflon tape and plastic end caps, labeled, placed in an ice-chilled cooler, and transported under chain of custody to Lancaster Laboratories, Inc. (Lancaster) in Lancaster, Pennsylvania, for analysis. The soil samples will be analyzed for the following constituents:

- TPHg by EPA Method 8015
- BTEX and MTBE by EPA Method 8260B

***Soil Vapor Well Installation:*** The three borings will be completed as soil vapor wells. The soil vapor wells will be constructed in general accordance with CRA's standard field procedures (Appendix F). One-quarter inch diameter Nylaflow® tubing will be fitted with a 6-inch-long section of 0.010-inch slotted, Schedule 40 PVC screen. The tubing and screen will be placed into each open borehole with the bottom of the screen at approximately 5.5 fbg. Washed No. 2/16 silica sand will be placed from 5 to 6 fbg to create a filter pack around the screen. A 3-inch layer of dry granular bentonite will be placed on top of the sand pack followed by hydrated bentonite powder (gel) to a few inches below the surface. The tubing exiting the bentonite will be capped, and well boxes with traffic-rated well vaults will be installed. A schematic diagram of the soil vapor well construction is presented on Figure A of Appendix F.

***Soil Vapor Sampling and Laboratory Analysis:*** Soil vapor samples will be collected from the vapor wells in 1-liter SUMMA™ canisters for laboratory analysis. The samples will be collected in general accordance with the Department of Toxic Substances Control (DTSC) *Advisory-Active Soil Gas Investigations* guidance document dated January 28, 2003. A generalized schematic of the soil vapor sampling apparatus is presented on Figure B of Appendix F. CRA's standard field procedures for soil vapor well installation and sampling are included in Appendix F. The samples will be

collected no sooner than 72 hours after well installation to allow adequate equilibration time.

At least one field duplicate sample per day will also be collected. In accordance with the DTSC guidance, leak testing will be performed during sampling. Helium will be used as a leak check compound to evaluate if significant ambient air is entering the SUMMA™ canisters during sampling. Field application of helium will be accomplished through the use of a containment structure (i.e. a clear, large volume Rubbermaid® or Tupperware® storage container) placed inverted over the entire well and sampling apparatus.

The soil vapor samples will be kept at ambient temperature and submitted under chain-of-custody to Air Toxics Ltd. in Folsom, California, for analysis. The soil vapor samples will be analyzed for the following constituents:

- TPHg by EPA Method TO-3
- BTEX and MTBE by EPA Method TO-15
- Helium (leak check compound), oxygen ($O_2$), carbon dioxide ($CO_2$), and methane ($CH_4$) by ASTM D-1946

## 7.3 SOIL AND WATER DISPOSAL

Soil cuttings and decontamination rinsate generated during field activities will be temporarily stored onsite in 55-gallon steel drums and sampled for disposal purposes. Once profiled, the drums will be transported to a Chevron-approved facility for disposal.

## 7.4 REPORTING

Following receipt of the analytical results, CRA will prepare a subsurface investigation report presenting the results of the investigation and summarizing our conclusions and recommendations. The report will include a description of field activities, a figure illustrating the boring locations, boring logs, tabulated soil and soil vapor analytical results, and copies of the analytical reports and chain-of-custody forms. Our conclusions and recommendations will be based on readily available information, observations of existing site conditions, and our interpretation of the analytical data.

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

Preparation of a SCM to establish site conditions and evaluate if any data gaps exist was requested by ACEH in a letter dated May 15, 2009. This report presents a SCM for the site, an evaluation of potential data gaps, and CRA's proposed additional investigation to evaluate the identified remaining data gap (potential vapor intrusion into the site building). The ACEH letter also contained several technical comments (Nos. 1-5) that were addressed in this report or will be addressed at a later date. The following is a brief summary of the information presented/conclusions reached regarding each of the technical comments in the May 15, 2009 letter:

***Technical Comment No. 1-Contaminant Source Area Characterization:*** ACEH indicated that their records did not include a report summarizing the February 1990 UST removal. As was communicated to ACEH by CRA via e-mail on May 21, 2009, a report titled *Multiple Event Sampling Report*, dated March 7, 1990, was prepared and submitted by Blaine Tech Services, Inc. that documented this work. This report is identified as SITE_SUM_R_1990-03-07.pdf in the online ACEH LOP document database for this site. An additional document identified as MISC_SAMP_R_1990-02-27.pdf in the database contains additional information regarding this work.

ACEH also referenced the analytical results of the soil sample collected from the boring for well MW-1 at 30 fbg as TPHg and benzene at 1,300 mg/kg and 38 mg/kg, respectively. However, these results were actually for the sample collected at 25 fbg; the sample at 30 fbg contained significantly lower concentrations. ACEH stated that "based on the soil sample analytical data, the vertical and lateral extent of soil contamination in the former source area is undefined". Based on our review of the data, the vertical and lateral extent of impacted soil in the former source area appears to have been adequately defined and no further investigation appears warranted.

***Technical Comment No. 2-Soil and Groundwater Characterization:*** ACEH stated that "based on the analytical data, the downgradient extent of the groundwater contaminant plume is undefined". However, based on the predominant groundwater flow direction and the analytical results of the downgradient wells and borings, the downgradient extent of the hydrocarbon plume appears to have been adequately defined and no further investigation appears warranted.

***Technical Comment No. 3-Site Conceptual Model:*** This SCM for the site identified vapor intrusion into the site building as the only remaining data gap. To evaluate shallow soil vapor quality and potential vapor intrusion concerns, CRA proposes the installation and sampling of three soil vapor wells at the site.

***Technical Comment No 4-Feasibility Study/Corrective Action Plan:*** ACEH stated that once assessment activities are complete, preparation of a Feasibility Study/Corrective Action Plan (FS/CAP) appears appropriate. CRA concurs that preparation of a FS/CAP may be warranted as the oxygen injection activities were unsuccessful in reducing source area groundwater concentrations. However, based on the evaluation of potential exposure pathways (Section 6.0), vapor intrusion into the site building was identified as the only potential complete pathway of concern. If the results of the proposed investigation indicate that there is no significant risk to human health via this pathway, preparation of a FS/CAP may not be warranted. Therefore, the need for a FS/CAP will be evaluated following completion of the proposed additional investigation.

***Technical Comment No. 5-Groundwater Monitoring Reports:*** ACEH requested that a figure that illustrates groundwater flow direction as well as a figure showing the analytical data with isoconcentration contours for chemicals of concern be included in all future groundwater monitoring reports. As previously mentioned, gauging of wells MW-2 and MW-3 will be resumed to prepare the potentiometric map. CRA will include these figures beginning with the second semi-annual 2009 groundwater monitoring report.

FIGURES

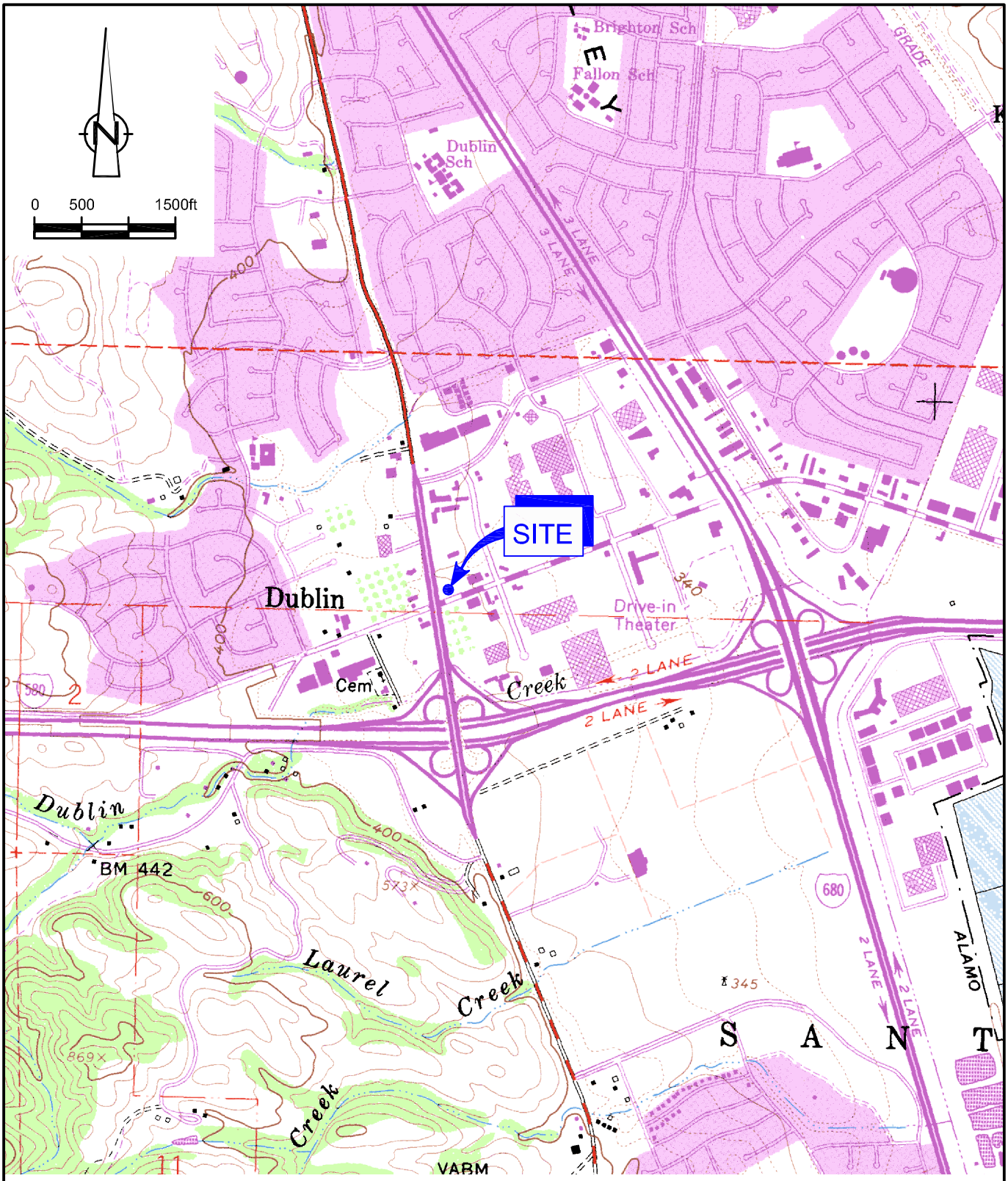



figure 1

VICINITY MAP
CHEVRON SERVICE STATION 9-5542
7007 SAN RAMON ROAD
*Dublin, California*

SOURCE: TOPO! MAPS

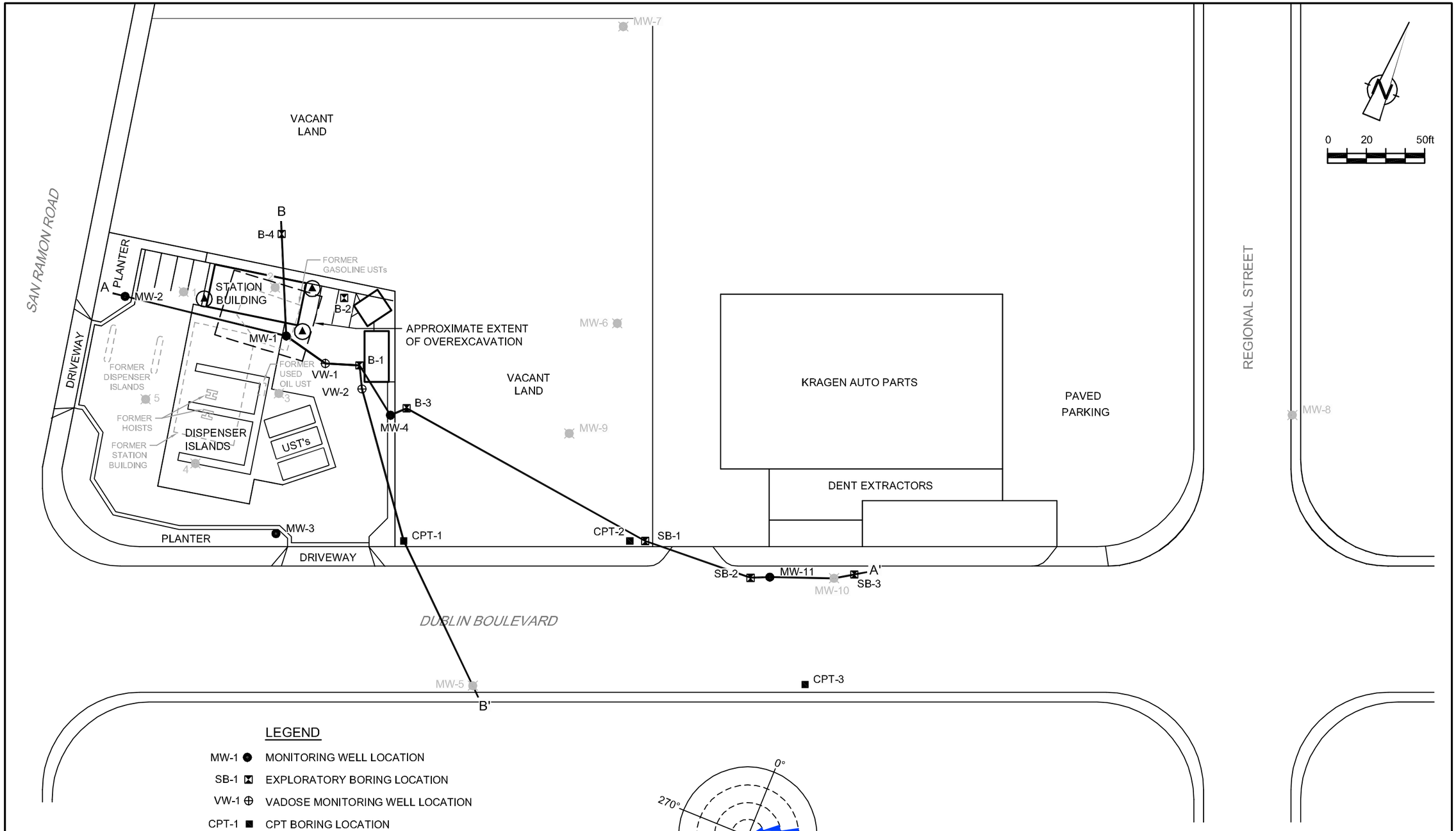
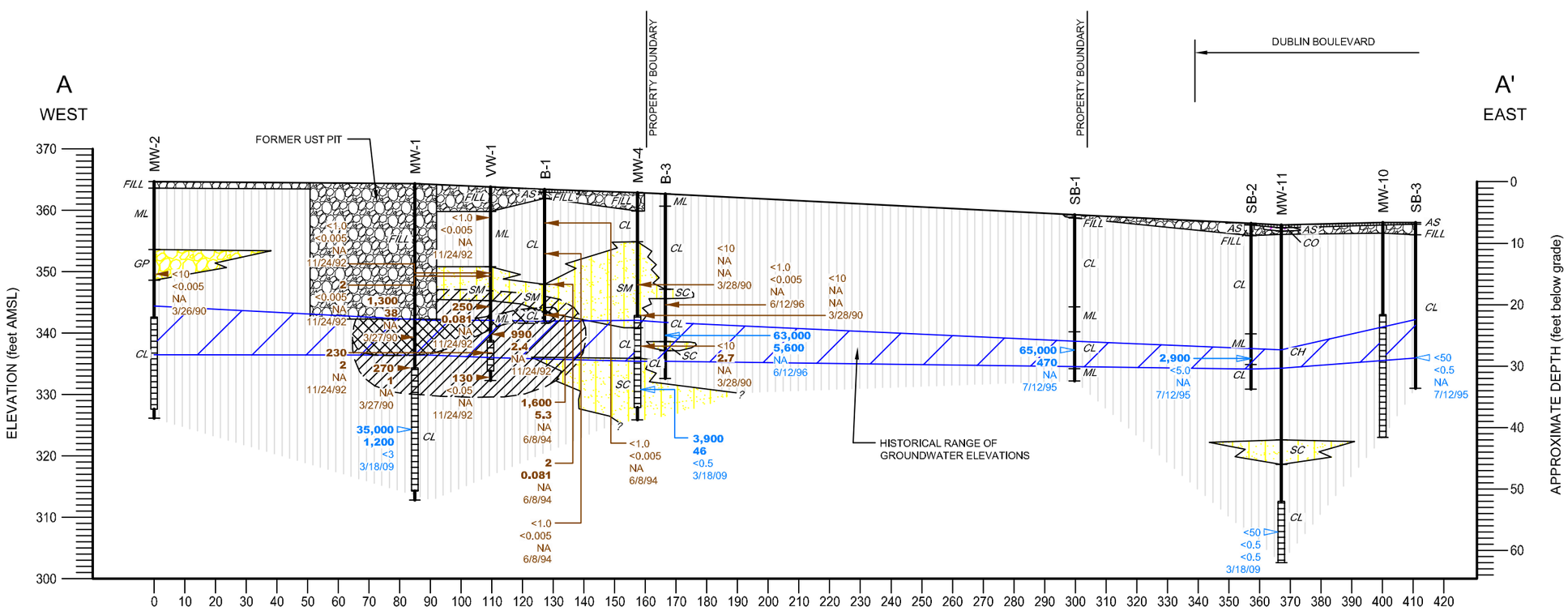


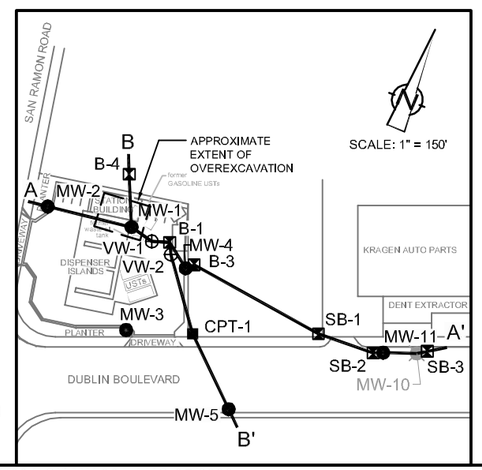

figure 2

SITE PLAN
CHEVRON SERVICE STATION 9-5542
7007 SAN RAMON ROAD
*Dublin, California*

611969-204(004)GN-WA002 AUG 03/2009




SCALE: HORZ. 1" = 40'
VERT. 1" = 20'




## LEGEND

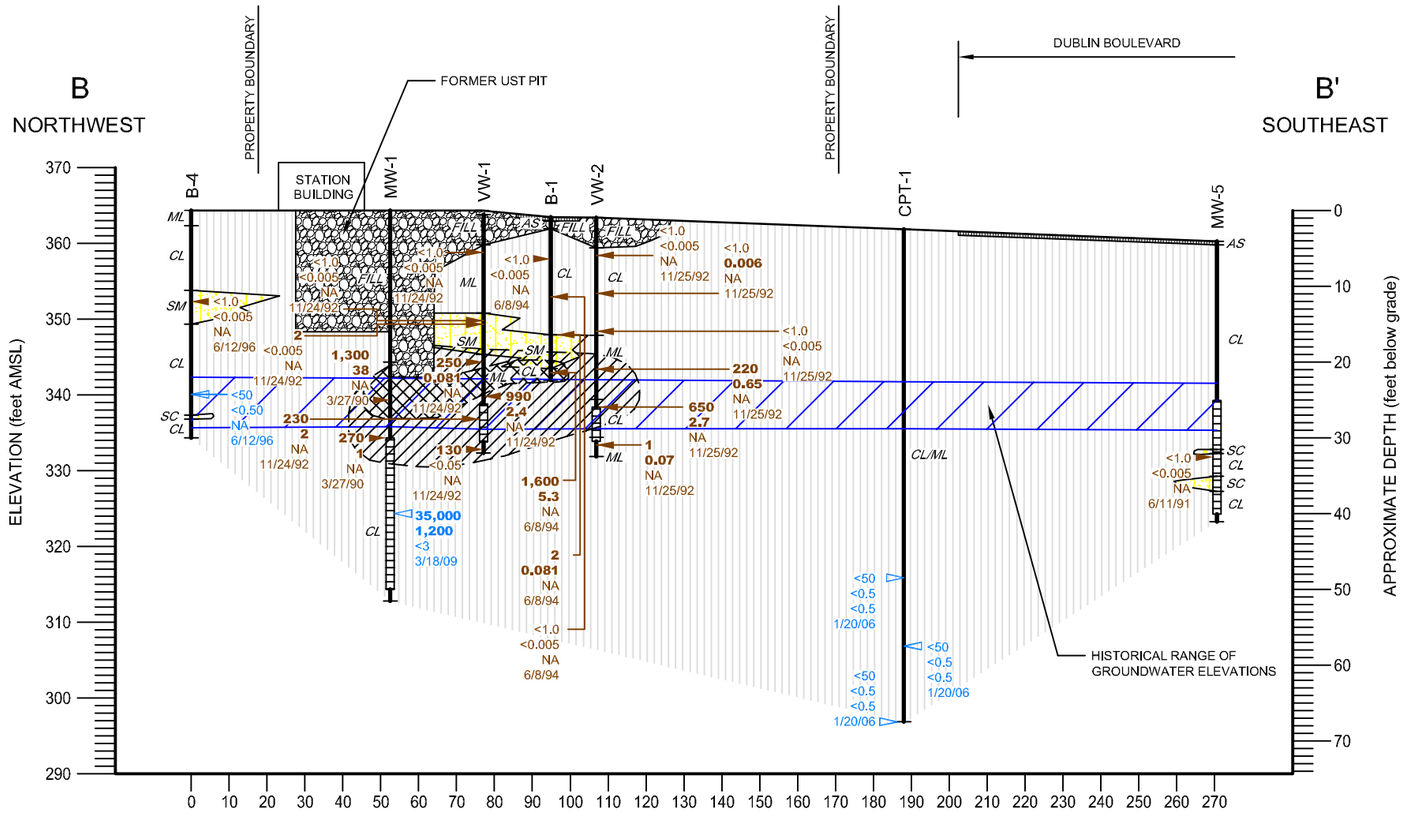
- MW-2 — WELL/BORING DESIGNATION
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- STRATIGRAPHIC BOUNDARY
- CL — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING
- APPROXIMATE SOIL SAMPLE LOCATION
- TPHg / BENZENE / MTBE / DATE — HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)
- APPROXIMATE GRAB GROUNDWATER SAMPLE LOCATION
- TPHg / BENZENE / MTBE / DATE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L)

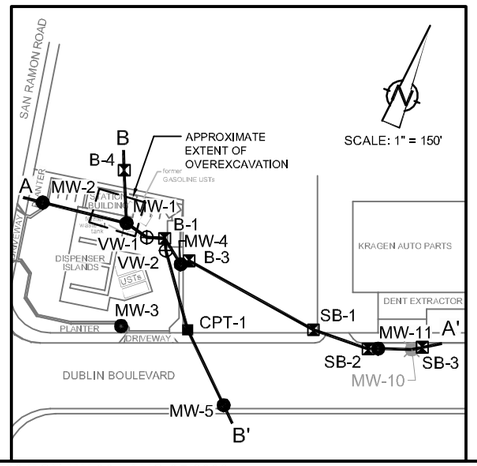
- *FILL*
- *AS* - ASPHALT
- *CO* - CONCRETE
- *CH/CL/ML*- INORGANIC SILTS, AND CLAYS, CLAYEY SILTS WITH SLIGHT PLASTICITY
- *GP* - POORLY-GRADED GRAVELS,GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
- *SC/SM*- SILTY AND CLAYEY SANDS, SAND-SILT AND SAND-CLAY MIXTURES
- NA — NOT ANALYZED
- TPHg CONCENTRATION > 100 mg/kg
- BENZENE CONCENTRATION > 5 mg/kg

NOTE:
NO SOIL SAMPLES WERE ANALYZED IN BORINGS SB-1 THROUGH SB-3, MW-10, AND MW-11.

figure 3

# GEOLOGIC CROSS SECTION A-A'
# CHEVRON SERVICE STATION 9-5542
# 7007 SAN RAMON ROAD
*Dublin, California*




## LEGEND

- MW-1 — WELL/BORING DESIGNATION
- GROUND SURFACE
- OBSERVATION WELL INSTALLATION
- STRATIGRAPHIC BOUNDARY
- CL — TYPICAL SOIL CLASSIFICATION
- SCREENED INTERVAL
- BOTTOM OF BORING
- APPROXIMATE SOIL SAMPLE LOCATION
- TPHg / BENZENE / MTBE / DATE — HYDROCARBON CONCENTRATIONS IN SOIL (mg/kg)
- APPROXIMATE GRAB GROUNDWATER SAMPLE LOCATION
- TPHg / BENZENE / MTBE / DATE — HYDROCARBON CONCENTRATIONS IN GROUNDWATER (µg/L)

- *FILL*
- *AS* - ASPHALT
- *CL/ML* - INORGANIC SILTS, AND CLAYS, CLAYEY SILTS WITH SLIGHT PLASTICITY
- *SC/SM* - SILTY AND CLAYEY SANDS, SAND-SILT AND SAND-CLAY MIXTURES
- NA — NOT ANALYZED
- TPHg CONCENTRATION > 100 mg/kg
- BENZENE CONCENTRATION > 5 mg/kg

figure 4

# GEOLOGIC CROSS SECTION B-B'
# CHEVRON SERVICE STATION 9-5542
# 7007 SAN RAMON ROAD
*Dublin, California*

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| MW-2 | 15 | <10 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| PL2 | 1.5 | <0.5 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| PL1 | 1.5 | **9** | **0.85** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| SIDEWALL-2 | 8.3 | <0.5 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| B-4 | 12 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| SIDEWALL-1 | 13.5 | **1.1** | **0.022** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| #10 | 15 | **12** | **0.12** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| MW-7 | 26 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| #11 | 16 | **8.6** | **0.046** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| #16 | 22 | **18** | **3** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| #12 | 16 | **190** | **0.25** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| B-2 | 20.5 | **2** | **0.06** |
| | 23.5 | **8** | **0.13** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| #17 | 22 | **1,300** | **20** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| MW-1 | 25 | **1,300** | **38** |
| | 30 | **270** | **1** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| #18 | 22 | **3,100** | **60** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| MW-6 | 26 | **5.0** | **0.006** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| VW-1 | 5 | <1.0 | <0.005 |
| | 14 | <1.0 | <0.005 |
| | 14.5 | **2** | <0.005 |
| | 19.5 | **250** | **0.081** |
| | 24 | **990** | **2.4** |
| | 27 | **230** | **2** |
| | 31 | **130** | <0.05 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| B-3 | 18 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| VW-2 | 5 | <1.0 | <0.005 |
| | 10 | <1.0 | **0.006** |
| | 15 | <1.0 | <0.005 |
| | 20 | **220** | **0.65** |
| | 25 | **650** | **2.7** |
| | 30 | **1** | **0.07** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| B-1 | 5.5 | <1.0 | <0.005 |
| | 10.5 | <1.0 | <0.005 |
| | 15.5 | **2** | **0.081** |
| | 20.5 | **1,600** | **5.3** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| MW-4 | 15 | <10 | – |
| | 20 | <10 | – |
| | 25 | <10 | **2.7** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| MW-9 | 24.5 | **57** | **0.07** |
| | 33.5 | <1.0 | **0.038** |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| MW-8 | 20 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| SIDEWALL-3 | 7.5 | 18 | 0.27 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| P1 | 3 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| #8 | 10.5 | <0.5 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| P6 | 3 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| P3 | 3 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| P4 | 3 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| P5 | 3 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| P2 | 3 | <1.0 | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| MW-3 | 15 | <10 | <0.005 |
| | 20 | <10 | <0.005 |
| | 25 | **51** | <0.005 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| MW-5 | 28.5 | <1.0 | <0.005 |

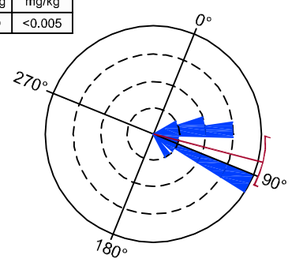
| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| PL3 | 3 | **3.9** | 0.0095 |

| Sample ID | Depth | TPHg | Benzene |
|---|---|---|---|
| | (feet below grade) | mg/kg | mg/kg |
| PL4 | 3 | **2.8** | <0.005 |

SAN RAMON ROAD
PLANTER
DRIVEWAY
FORMER PIPING
VACANT LAND
APPROXIMATE EXTENT OF OVEREXCAVATION
PAVED PARKING
FORMER GASOLINE USTs
FORMER USED OIL UST
FORMER DISPENSER ISLANDS
FORMER HOISTS
FORMER STATION BUILDING
DISPENSER ISLANDS
UST's
DUBLIN BOULEVARD
MW-1 MW-2 MW-3 MW-4 MW-5 MW-6 MW-7 MW-8 MW-9 MW-10 MW-11
B-1 B-2 B-3 B-4
VW-1 VW-2
CPT-1 CPT-3
SB-2 SB-3
SIDEWALL-1 SIDEWALL-2 SIDEWALL-3
STATION BUILDING
PL1 PL2 PL3 PL4
P1 P2 P3 P4 P5 P6
#8 #10 #11 #12 #16 #17 #18
0 20 50ft

LEGEND

| | |
|---|---|
| MW-1 ● | MONITORING WELL LOCATION |
| SB-1 ⊠ | EXPLORATORY BORING LOCATION |
| VW-1 ⊕ | VADOSE MONITORING WELL LOCATION |
| CPT-1 ■ | CPT BORING LOCATION |
| P5 ⊠ | SOIL SAMPLE LOCATION |
| MW-6 | DESTROYED WELL LOCATION |
| < | NOT DETECTED AT OR ABOVE STATED REPORTING LIMIT |



HISTORICAL GROUNDWATER FLOW DIRECTION

figure 5

# HISTORICAL TPHg AND BENZENE CONCENTRATIONS IN SOIL
# CHEVRON SERVICE STATION 9-5542
# 7007 SAN RAMON ROAD
*Dublin, California*

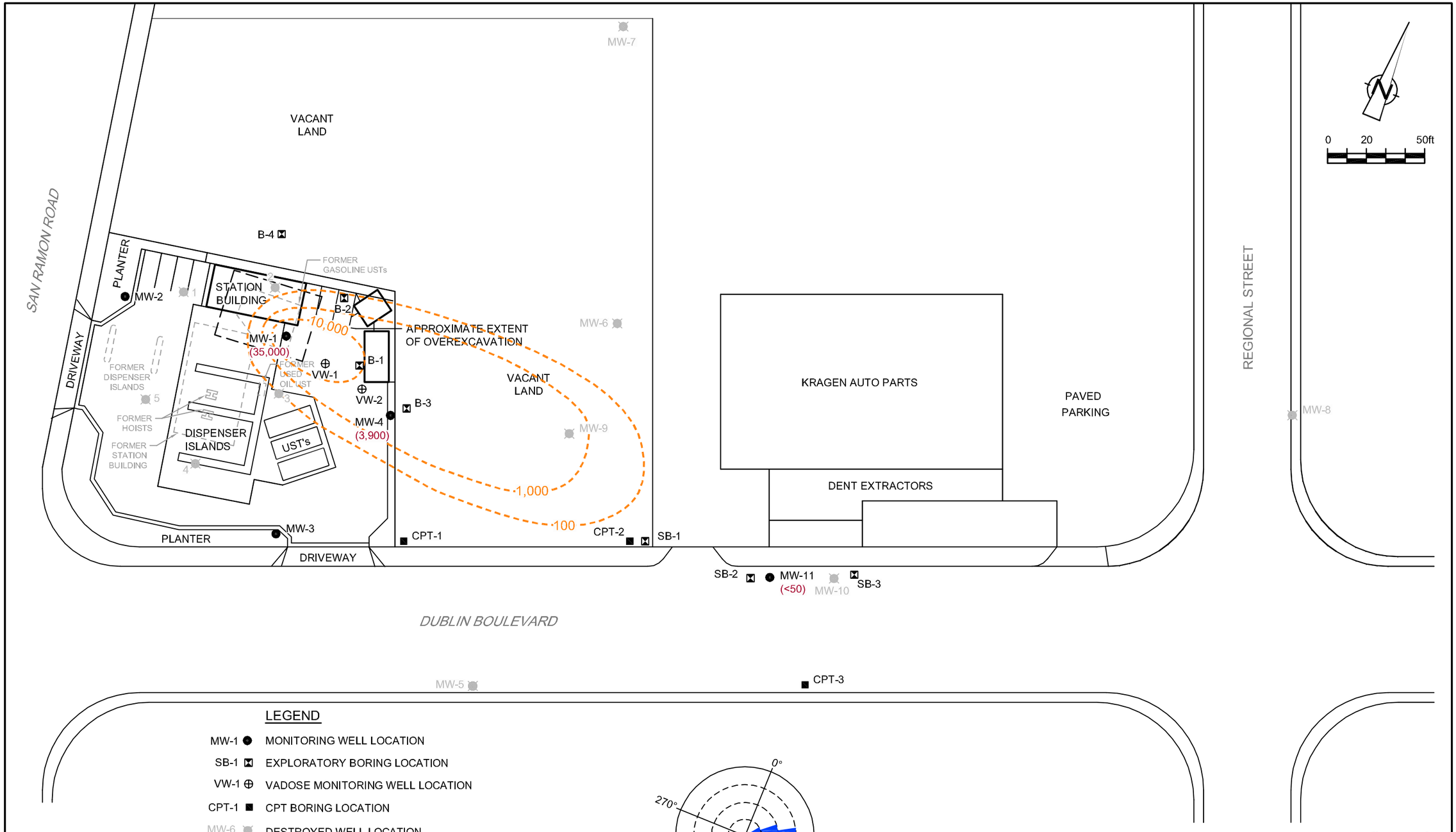
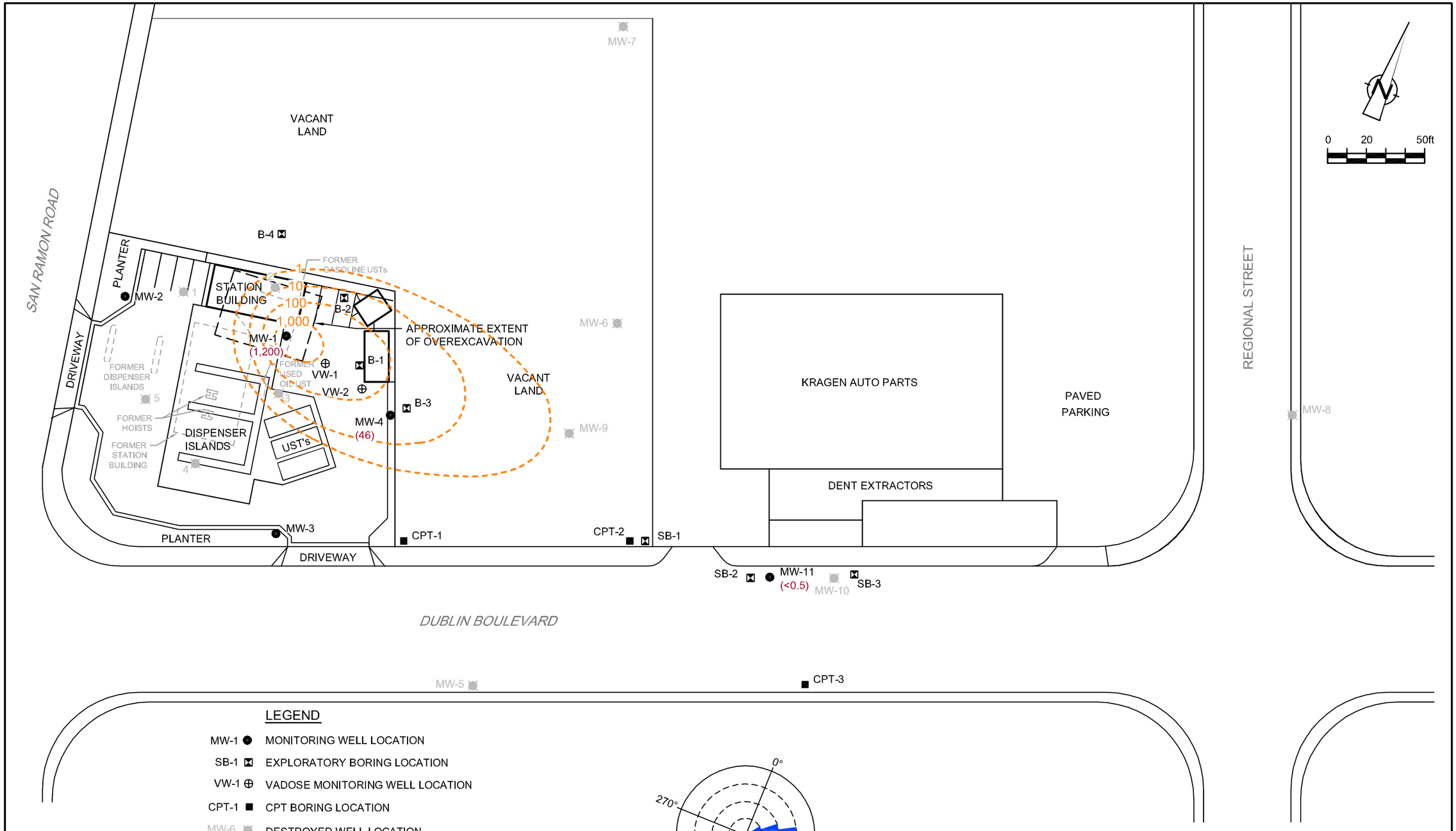


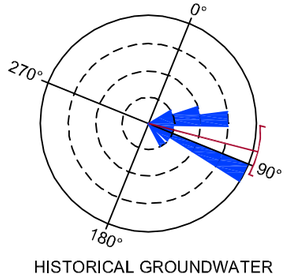

figure 6

TPHg ISOCONCENTRATION MAP - MARCH 18, 2009
CHEVRON SERVICE STATION 9-5542
7007 SAN RAMON ROAD
*Dublin, California*




LEGEND

| | |
|---|---|
| MW-1 ● | MONITORING WELL LOCATION |
| SB-1 ⊠ | EXPLORATORY BORING LOCATION |
| VW-1 ⊕ | VADOSE MONITORING WELL LOCATION |
| CPT-1 ■ | CPT BORING LOCATION |
| MW-6 ✳ | DESTROYED WELL LOCATION |
| —1,000— | BENZENE CONCENTRATION CONTOUR DASHED WHERE INFERRED |
| (1,200) | BENZENE CONCENTRATIONS ARE IN MICROGRAMS PER LITER (ug/L) |




HISTORICAL GROUNDWATER FLOW DIRECTION

figure 7

BENZENE ISOCONCENTRATION MAP - MARCH 18, 2009
CHEVRON SERVICE STATION 9-5542
7007 SAN RAMON ROAD
*Dublin, California*

# TABLES

**TABLE 1**
**WELL CONSTRUCTION DETAILS**
**CHEVRON SERVICE STATION 9-5542**
**7007 SAN RAMON ROAD, DUBLIN, CALIFORNIA**

| Boring ID | Installation Date | Well Depth (fbg) | Well Diameter (inches) | Screen Top (fbg) | Screen Bottom (fbg) | Screen Length (feet) | Comments |
|---|---|---|---|---|---|---|---|
| MW-1 | 03/27/90 | 36.5 | 2 | 21 | 36 | 15 | |
| MW-1 | 11/25/92 | 51.5 | 4 | 30 | 50 | 20 | Original MW-1 overdrilled to new depth |
| MW-2 | 03/26/90 | 37 | 2 | 22 | 37 | 15 | |
| MW-3 | 03/26/90 | 36.5 | 2 | 21 | 36 | 15 | |
| MW-4 | 03/28/90 | 36.5 | 2 | 21 | 36 | 15 | |
| MW-5 | 06/11/91 | 36 | 2 | 21 | 36 | 15 | |
| MW-6 | 06/11/91 | 35 | 2 | 20 | 35 | 15 | |
| MW-7 | 06/12/91 | 35 | 2 | 20 | 35 | 15 | |
| MW-8 | 12/06/91 | 35 | 2 | 15 | 35 | 20 | |
| VW-1 | 11/24/92 | 31.5 | 2 | 25 | 30 | 5 | |
| VW-2 | 11/25/92 | 31.5 | 2 | 25 | 29.5 | 4.5 | |
| MW-9 | 06/08/94 | 34.5 | 2 | 19 | 34.5 | 15.5 | |
| MW-10 | 06/12/96 | 35 | 2 | 15 | 35 | 20 | |
| MW-11 | 11/30/08 | 55 | 2 | 45 | 55 | 10 | |

fbg = feet below grade

**TABLE 2**
**HISTORICAL SOIL SAMPLE ANALYTICAL RESULTS**
**CHEVRON SERVICE STATION 9-5542**
**7007 SAN RAMON ROAD, DUBLIN, CALIFORNIA**

| *Boring/ Sample ID* | *Depth (fbg)* | *Date Sampled* | *TPHg mg/kg* | *TPHd mg/kg* | *TOG mg/kg* | *Benzene mg/kg* | *Toluene mg/kg* | *Ethylbenzene mg/kg* | *Xylenes mg/kg* | *MTBE mg/kg* | *Semi-VOCs mg/kg* | *VOCs mg/kg* | *Pb mg/kg* | *Cd mg/kg* | *Cr mg/kg* | *Zn mg/kg* | *Sb mg/kg* | *As mg/kg* | *Be mg/kg* | *Cu mg/kg* | *Hg mg/kg* | *Ni mg/kg* | *Se mg/kg* | *Ag mg/kg* | *Tl mg/kg* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Gasoline UST and Product Line Removal** | | | | | | | | | | | | | | | | | | | | | | | | | |
| PL1 | 1.5 | 2/8/90 | **9** | NA | NA | **0.85** | **0.017** | **0.2** | **1.2** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| PL2 | 1.5 | 2/8/90 | <0.5 | NA | NA | <0.005 | <0.005 | <0.005 | **0.012** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| PL3 | 3 | 2/8/90 | **3.9** | NA | NA | **0.0095** | **0.011** | **0.16** | **0.15** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| PL4 | 3 | 2/8/90 | **2.8** | NA | NA | <0.005 | <0.005 | **0.16** | **0.072** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #1 | 11.5 | 2/13/90 | ~~3,100~~ | NA | NA | ~~1.8~~ | ~~50~~ | ~~51~~ | ~~360~~ | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #2 | 11 | 2/13/90 | ~~5,000~~ | NA | NA | ~~2~~ | ~~210~~ | ~~120~~ | ~~780~~ | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #3 | 11 | 2/13/90 | ~~5.9~~ | NA | NA | ~~0.19~~ | ~~0.060~~ | ~~0.15~~ | ~~0.34~~ | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #4 | 11.5 | 2/13/90 | ~~4,800~~ | NA | NA | ~~8.8~~ | ~~430~~ | ~~130~~ | ~~690~~ | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #5 | 11 | 2/13/90 | ~~2.4~~ | NA | NA | ~~0.017~~ | ~~0.068~~ | ~~0.045~~ | ~~0.12~~ | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #6 | 12 | 2/13/90 | ~~2,900~~ | NA | NA | ~~2.2~~ | ~~120~~ | ~~51~~ | ~~300~~ | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #10 | 15 | 2/13/90 | **12** | NA | NA | **0.12** | **0.4** | **0.11** | **1.1** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #11 | 16 | 2/13/90 | **8.6** | NA | NA | **0.046** | **0.4** | **0.13** | **1.2** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #12 | 16 | 2/13/90 | **190** | NA | NA | **0.26** | **2.5** | **2.5** | **15** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #13 | 15.5 | 2/13/90 | ~~5,100~~ | NA | NA | ~~30~~ | ~~360~~ | ~~110~~ | ~~680~~ | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #14 | 16 | 2/13/90 | ~~2,900~~ | NA | NA | ~~23~~ | ~~150~~ | ~~45~~ | ~~240~~ | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #16 | 22 | 2/14/90 | **18** | NA | NA | **3** | **5** | **0.5** | **3** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #17 | 22 | 2/14/90 | **1,300** | NA | NA | **20** | **98** | **33** | **160** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| #18 | 22 | 2/14/90 | **3,100** | NA | NA | **60** | **219** | **69** | **355** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sidewall-1 | 13.5 | 2/13/90 | **1.1** | NA | NA | **0.022** | **0.013** | **0.023** | **0.07** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sidewall-2 | 8.3 | 2/13/90 | <0.5 | NA | NA | <0.005 | <0.005 | <0.005 | **0.0068** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Sidewall-3 | 7.5 | 2/13/90 | **18** | NA | NA | **0.27** | **0.89** | **0.4** | **2.8** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| P1 | 3 | 9/16/98 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | <0.05 | NA | NA | <1.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| P2 | 3 | 9/16/98 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | <0.05 | NA | NA | <1.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| P3 | 3 | 9/16/98 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | <0.05 | NA | NA | <1.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| P4 | 3 | 9/16/98 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | <0.05 | NA | NA | <1.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| P5 | 3 | 9/16/98 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | <0.05 | NA | NA | <1.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| P6 | 3 | 9/16/98 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | <0.05 | NA | NA | <1.0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **Used-Oil UST Removal** | | | | | | | | | | | | | | | | | | | | | | | | | |
| #7 | 8 | 2/13/90 | ~~0.55~~ | NA | ~~12~~ | ~~0.0046~~ | ~~0.019~~ | ~~<0.005~~ | ~~0.49~~ | NA | ~~ND~~ | ~~ND~~ | ~~15~~ | ~~<3~~ | ~~8~~ | ~~19~~ | ~~<25~~ | ~~140~~ | ~~<1~~ | ~~21~~ | ~~0.02~~ | ~~23~~ | ~~<50~~ | ~~<5~~ | ~~25~~ |
| #8 | 10.5 | 2/13/90 | <0.5 | <10 | **12** | <0.005 | <0.005 | <0.005 | **0.02** | NA | ND | ND | **12** | <3 | **5** | **17** | <25 | **85** | <1 | **16** | <0.02 | **16** | <50 | <5 | **20** |
| **Exploratory Borings** | | | | | | | | | | | | | | | | | | | | | | | | | |
| B-1 | 5.5 | 6/8/94 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 10.5 | 6/8/94 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 15.5 | 6/8/94 | **2** | NA | NA | **0.081** | **0.19** | **0.02** | **0.13** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 20.5 | 6/8/94 | **1,600** | NA | NA | **5.3** | **72** | **23** | **120** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| B-2 | 20.5 | 6/8/94 | **2** | NA | NA | **0.06** | **0.026** | **0.031** | **0.19** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 23.5 | 6/8/94 | **8** | NA | NA | **0.13** | **0.037** | **0.12** | **0.83** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| B-3 | 18 | 6/12/96 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**TABLE 2**
**HISTORICAL SOIL SAMPLE ANALYTICAL RESULTS**
**CHEVRON SERVICE STATION 9-5542**
**7007 SAN RAMON ROAD, DUBLIN, CALIFORNIA**

| *Boring/ Sample ID* | *Depth (fbg)* | *Date Sampled* | *TPHg mg/kg* | *TPHd mg/kg* | *TOG mg/kg* | *Benzene mg/kg* | *Toluene mg/kg* | *Ethylbenzene mg/kg* | *Xylenes mg/kg* | *MTBE mg/kg* | *Semi-VOCs mg/kg* | *VOCs mg/kg* | *Pb mg/kg* | *Cd mg/kg* | *Cr mg/kg* | *Zn mg/kg* | *Sb mg/kg* | *As mg/kg* | *Be mg/kg* | *Cu mg/kg* | *Hg mg/kg* | *Ni mg/kg* | *Se mg/kg* | *Ag mg/kg* | *Tl mg/kg* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-4 | 12 | 6/12/96 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| **Monitoring and Remedial Wells** | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW-1 | 25 | 3/27/90 | **1,300** | NA | NA | **38** | **150** | **34** | **180** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 30 | 3/27/90 | **270** | NA | NA | **1** | **4** | **4** | **18** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MW-2 | 15 | 3/26/90 | <10 | NA | NA | <0.005 | <0.005 | <0.005 | <0.015 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MW-3 | 15 | 3/26/90 | <10 | NA | NA | <0.005 | <0.005 | <0.005 | <0.015 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 20 | 3/26/90 | <10 | NA | NA | <0.005 | **0.01** | **0.01** | **0.12** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 25 | 3/26/90 | **51** | NA | NA | <0.005 | **0.02** | **0.05** | **0.28** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MW-4 | 15 | 3/28/90 | <10 | <10 | NA | NA | NA | NA | NA | NA | NA | NA | 37 | <3 | 26 | 39 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 20 | 3/28/90 | <10 | <10 | NA | NA | NA | NA | NA | NA | NA | NA | 41 | <3 | 25 | 44 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 25 | 3/28/90 | <10 | <10 | **39** | **2.7** | **23** | **5.6** | **46** | NA | NA | ND[1] | 26 | <3 | 13 | 28 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MW-5 | 28.5 | 6/11/91 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | <10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MW-6 | 26 | 6/11/91 | **5** | NA | NA | **0.006** | **0.006** | **0.06** | **0.12** | NA | NA | NA | <10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MW-7 | 26 | 6/11/91 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | <10 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MW-8 | 20 | 12/6/91 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| MW-9 | 24.5 | 6/8/94 | **57** | NA | NA | **0.07** | **0.11** | **0.58** | **3.4** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 33.5 | 6/9/94 | <1.0 | NA | NA | **0.038** | <0.005 | <0.005 | **0.008** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| VW-1 | 5 | 11/24/92 | <1.0 | NA | NA | <0.005 | **0.006** | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 14 | 11/24/92 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 14.5 | 11/24/92 | **2** | NA | NA | <0.005 | **0.058** | **0.029** | **1.4** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 19.5 | 11/24/92 | **250** | NA | NA | **0.081** | **5.6** | **3.4** | **20** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 24 | 11/24/92 | **990** | NA | NA | **2.4** | **60** | **15** | **99** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 27 | 11/24/92 | **230** | NA | NA | **2** | **15** | **5.4** | **27** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 31 | 11/24/92 | **130** | NA | NA | <0.05 | **0.73** | **1** | **3.9** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| VW-2 | 5 | 11/25/92 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 10 | 11/25/92 | <1.0 | NA | NA | **0.006** | <0.005 | <0.005 | <0.005 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 15 | 11/25/92 | <1.0 | NA | NA | <0.005 | <0.005 | <0.005 | **0.009** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 20 | 11/25/92 | **220** | NA | NA | **0.65** | **8.1** | **26** | **13** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 25 | 11/25/92 | **650** | NA | NA | **2.7** | **23** | **9** | **49** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | 30 | 11/25/92 | **1** | NA | NA | **0.07** | **0.01** | **0.012** | **0.025** | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |

**Abbreviations and Methods:**

TPHg and TPHd = Total petroleum hydrocarbons as gasoline and diesel, respectively, by EPA Method 8015.
TOG = Total oil and grease
MTBE = Methyl tertiary butyl ether.
VOCs = Volatile organic compounds
Semi-VOCs = Semi volatile organic compounds
mg/kg = milligrams per kilogram.
NA = Not analyzed
< = Not detected at or above stated laboratory reporting limit
ND = Not detected; reporting limits vary
1 VOCs not detected except BTEX

Note: Crossed-out samples were collected from soil that was later over-excavated

TABLE 3
HISTORICAL GRAB-GROUNDWATER SAMPLE ANALYTICAL RESULTS
CHEVRON SERVICE STATION 9-5542
7007 SAN RAMON ROAD, DUBLIN, CALIFORNIA

| Boring | Sample Depth (fbg) | Date | TPHg µg/L | Benzene µg/L | Toluene µg/L | Ethylbenzene µg/L | Xylenes µg/L | MTBE µg/L | DIPE µg/L | ETBE µg/L | TAME µg/L | TBA µg/L | 1,2-DCA µg/L | EDB µg/L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB-1 | -- | 7/12/95 | 65,000 | 470 | 200 | 210 | 2,100 | NA | NA | NA | NA | NA | NA | NA |
| SB-2 | -- | 7/12/95 | 2,900 | <5.0 | <5.0 | 72 | 52 | NA | NA | NA | NA | NA | NA | NA |
| SB-3 | -- | 7/12/95 | <50 | <0.5 | 3.1 | <0.5 | <0.5 | NA | NA | NA | NA | NA | NA | NA |
| B-3 | -- | 6/12/96 | 63,000 | 5,600 | 2,900 | 1,800 | 7,900 | NA | NA | NA | NA | NA | NA | NA |
| B-4 | -- | 6/12/96 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | NA | NA | NA | NA | NA | NA | NA |
| CPT-1 | 46 | 1/20/06 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <0.5 |
| | 55 | 1/20/06 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <0.5 |
| | 65 | 1/20/06 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <0.5 |
| CPT-2 | 52 | 1/20/06 | 1,000 | 1 | <0.5 | 22 | 120 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <0.5 |
| | 63 | 1/20/06 | 170 | <0.5 | <0.5 | 1 | 2 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <0.5 |
| CPT-3 | 42 | 1/17/06 | <50 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <25 | 3 | <3 |
| | 55 | 1/17/06 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <0.5 |
| | 65 | 1/17/06 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <0.5 |

**Abbreviations/Notes**
TPHg = total petroleum hydrocarbons as gasoline by EPA Method 8015
BTEX = benzene, toluene, ethylbenzene and xylenes by EPA Method 8260B
MTBE = methyl tertiary butyl ether by EPA Method 8260B
DIPE = di-isopropyl ether by EPA Method 8260B
ETBE = ethyl tertiary butyl ether by EPA Method 8260B
TAME = tertiary amyl methyl ether by EPA Method 8260B
TBA = tertiary butyl alcohol by EPA Method 8260B
1,2-DCA = 1,2-dichloroethane by EPA Method 8260B
EDB = 1,2-dibromoethane by EPA Method 8260B
<x.xx = not detected at or above stated laboratory reporting limit
fbg = feet below grade
ug/L = micrograms per liter
NA = Not analyzed

# APPENDIX A

# ACEH LETTER DATED MAY 15, 2009

ALAMEDA COUNTY
**HEALTH CARE SERVICES**
AGENCY
DAVID J. KEARS, Agency Director

6119b9

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

May 15, 2009

CRA
MAY 28 2009
Received

Stacie H. Frerichs
Chevron Environmental Management Company
6001 Bollinger Canyon Road
San Ramon, CA 94583

T.W. Johnson
7007 San Ramon Road
Dublin, CA 94568-3239

Subject: Fuel Leak Case No. RO0000206 and GeoTracker Global ID T0600100354, Chevron #9-5542, 7007 San Ramon Road, Dublin, CA 94568

Dear Ms. Frerichs and Mr. Johnson:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted document entitled, "Subsurface Investigation Report," dated January 22, 2009, which was received on July 27, 2007 and prepared by Cambria Environmental Technology, Inc. for the subject site. Cambria installed monitoring well MW-11 off-site to assess hydrocarbon concentrations detected in the deeper water-bearing zone and proposed oxygen injection into groundwater monitoring well MW-4.

ACEH is concerned that oxygen injection in groundwater monitoring well MW-4 may have little effect in remediating the significantly elevated concentration detected in groundwater monitoring well MW-1, which detected TPH-g and benzene at concentrations of 35,000 µg/L and 1,200 µg/L, respectively, collected on March 18, 2009.

We request that you address the following technical comments and send us the technical reports requested below.

## TECHNICAL COMMENTS

1. **Contaminant Source Area Characterization** – Based on our records, two 10,000-gallon, one 4,000-gallon, and one 500-gallon underground storage tank (UST) were removed from the site in February 1990. However, our file does not include a tank removal report. In March 1990, four borings, which were converted to groundwater monitoring well MW-1 through MW-4, were installed at the site. Soil sample analytical results detected TPH-g and benzene at concentrations of 1,300 mg/kg and 38 mg/kg, respectively, in a soil sample collected at 30 feet below the ground surface (bgs) from boring MW-1. Based on the soil sample analytical data, the vertical and lateral extent of soil contamination in the former source area is undefined. Please propose a scope of work to address the above-mentioned concerns and submit a work plan due by the date specified below.

2. **Soil and Groundwater Characterization** – As mentioned above, groundwater sample analytical results detected TPH-g and benzene at significantly elevated concentrations of 35,000 µg/L and 1,200 µg/L, respectively, collected on March 18, 2009 from groundwater monitoring well MW-1 located within the former UST pit. Down-gradient groundwater monitoring well MW-4 detected TPH-g and benzene at concentrations of 3,900 µg/L and 46 µg/L, respectively. TPH-g and benzene were also detected in former groundwater monitoring well MW-9 located further down-gradient at concentrations of 4,700 µg/L and 340 µg/L, respectively, collected on September 2, 2005. Based on the analytical data, the down-gradient extent of the groundwater contaminant plume is undefined. Please propose a scope of work to address the above-mentioned concerns and submit a work plan due by the date specified below.

3. **Site Conceptual Model** – To date, no active remediation has been initiated at the site. At this juncture, it may be advantageous to develop a site conceptual model (SCM), which synthesizes all the analytical data and evaluates all potential exposure pathways and potential receptors that may exist at the site, including identifying or developing site cleanup objectives and goals in accordance with the San Francisco Regional Water Quality Control Board Basin Plan and appropriate ESL guidance for all COCs and for the appropriate groundwater designation. Please note that soil cleanup levels should ultimately (within a reasonable timeframe) achieve water quality objectives (cleanup goals) for groundwater in accordance with San Francisco Regional Water Quality Control Board Basin Plan. Please propose appropriate cleanup levels and cleanup goals in accordance with 23 CCR Section 2725, 2726, and 2727 in the SCM. At a minimum, the SCM should include:

   (1) Local and regional plan view maps that illustrate the location of sources (former facilities, piping, tanks, etc.) extent of contamination, direction and rate of groundwater flow, potential preferential pathways, and locations of receptors;

   (2) Geologic cross section maps that illustrate subsurface features, man-made conduits, and lateral and vertical extent of contamination;

   (3) Plots of chemical concentrations versus time;

   (4) Plots of chemical concentrations versus distance from the source;

   (5) Summary tables of chemical concentrations in different media (i.e. soil, groundwater, and soil vapor); and

   (6) Well logs, boring logs, and well survey maps;

   (7) Discussion of likely contaminant fate and transport.

   If data gaps (i.e. potential contaminant volatilization to indoor air or soil and groundwater plume definition, etc.) are identified in the SCM, please include a proposed scope of work to address those data gaps in the work plan due by the date specified below. Please note that the work plan must address all technical comments presented in this correspondence and all data gaps identified in the SCM.

4. **Feasibility Study/Corrective Action Plan** – Once the contaminant source areas and the down-gradient extent of contamination are adequately characterized, a Feasibility Study/Corrective Action Plan (FS/CAP) prepared in accordance with Title 23, California Code of Regulations, Section 2725 appears appropriate. The FS/CAP must evaluate at least two viable alternatives for remedying or mitigating the actual or potential adverse effects of the unauthorized release(s) besides the "no action" and "monitored natural attenuation" remedial alternatives. Each alternative shall be evaluated for cost-effectiveness and the Responsible Party must propose the most cost-effective corrective action. The FS/CAP will be due following the SCM and site characterization completion.

5. **Groundwater Monitoring Reports** – In future groundwater monitoring reports, please include a figure that illustrates groundwater flow direction as well as a figure that posts the analytical data, which includes iso-concentration contours for chemicals of concern.

## REQUEST FOR INFORMATION

ACEH's case file for the subject site contains the following electronic reports as listed on our website (http://www.acgov.org/aceh/lop/ust.htm). You are requested to submit copies of all other reports related to environmental investigations for this property (including Phase II reports and the UST Removal report) by **June 15, 2009**.

## NOTIFICATION OF FIELDWORK ACTIVITIES

Please schedule and complete the fieldwork activities by the date specified below and provide ACEH with at least three (3) business days notification prior to conducting the fieldwork.

## TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Paresh Khatri), according to the following schedule:

- **July 14, 2009** – Site Conceptual Model with Soil and Water Investigation Work Plan
- **Due within 30 Days of Sampling** – Quarterly Monitoring Report (3rd Quarter 2009)
- **Due within 30 Days of Sampling** – Quarterly Monitoring Report (1st Quarter 2010)

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

## ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used

for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rqmts.shtml.

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

**UNDERGROUND STORAGE TANK CLEANUP FUND**

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

**AGENCY OVERSIGHT**

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety

Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 777-2478 or send me an electronic mail message at paresh.khatri@acgov.org.

Sincerely,

Paresh C. Khatri
Hazardous Materials Specialist

Donna L. Drogos, PE
Supervising Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Douglass Lee, Gettler Ryan, Inc. 6747 Sierra Court, Suite J, Dublin, CA 94568
David Herzog, Conestoga Rovers & Associates, 2000 Opportunity Drive., Suite 100, Roseville, CA 95678
Cheryl Dizon (QIC 8021), Zone 7 Water Agency, 100 North Canyons Pkwy, Livermore, CA 94551
Donna Drogos, ACEH
Paresh Khatri, ACEH
GeoTracker
File

| Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) | **ISSUE DATE:** July 5, 2005 |
|---|---|
| | **REVISION DATE:** March 27, 2009 |
| | **PREVIOUS REVISIONS:** December 16, 2005, October 31, 2005 |
| **SECTION:** Miscellaneous Administrative Topics & Procedures | **SUBJECT:** Electronic Report Upload (ftp) Instructions |

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

**REQUIREMENTS**

- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection**. (Please do not submit reports as attachments to electronic mail.)
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements **must** be included and have either original or electronic signature.
- **Do not password protect the document**. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted**.
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:
  RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

**Additional Recommendations**

- A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in **Excel** format. These are for use by assigned Caseworker only.

**Submission Instructions**

1) Obtain User Name and Password:
   a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
      i) Send an e-mail to dehloptoxic@acgov.org
         Or
      ii) Send a fax on company letterhead to (510) 337-9335, to the attention of My Le Huynh.
   b) In the subject line of your request, be sure to include **"ftp PASSWORD REQUEST"** and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for**.

2) Upload Files to the ftp Site
   a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
      (i) Note: Netscape and Firefox browsers will not open the FTP site.
   b) Click on File, then on Login As.
   c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
   d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
   e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO# use the street address instead.
   d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

# APPENDIX B

# HISTORICAL BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

**Gettler - Ryan Inc.** GENERAL CONTRACTORS

WELL BORING LOG

COMPANY: CHEVRON U.S.A. #5542 JOB NO: OR - 5108

LOCATION: 7007 SAN RAMON VALLEY BLVD DATE: 12-19-83

CITY: DUBLIN, CA WELL #: 1

| DEPTH | SAMPLE NO. | SOIL DESCRIPTION |
|---|---|---|
| 0 ft. | | |
| 2" | | A.C. PAVING |
| 8" | | AGGREGATE |
| 2' | | DARK BROWN CLAY W/FILL |
| 6' | | DARK BROWN SILTY CLAY |
| 14' | | BROWN SILTY CLAY |
| 16' | | BROWN CLAY W/GRAVEL - DAMP VAPOR |
| 20' | | GRAY SILTY CLAY - MOIST |

FOREMAN: DAVID BYRON SHEET: 1 OF 1

**Gettler - Ryan Inc.** GENERAL CONTRACTORS

WELL BORING LOG

COMPANY: CHEVRON U.S.A. #5542 JOB NO: OR - 5108

LOCATION: 7007 SAN RAMON VALLEY BLVD DATE: 12-19-83

CITY: DUBLIN, CA WELL #: 2

| DEPTH | SAMPLE NO. | SOIL DESCRIPTION |
|---|---|---|
| 0 ft. | | |
| 2" | | A.C. PAVING |
| 6" | | AGGREGATE |
| 5' | | DARK BROWN SILTY CLAY W/FILL |
| 8' | | BROWN SILTY CLAY |
| 14' | | DARK BROWN SILTY CLAY - DAMP |
| 16' | | LIGHT BROWN SILTY CLAY W/GRAVEL |
| 20' | | BROWN SANDY CLAY - MOIST |

FOREMAN: DAVID BYRON SHEET: 1 OF 1

Gettler - Ryan Inc. — GENERAL CONTRACTORS

WELL BORING LOG

COMPANY: CHEVRON U.S.A. #5542 JOB NO: OR - 5108

LOCATION: 7007 SAN RAMON VALLEY BLVD DATE: 12-19-83

CITY: DUBLIN, CA WELL #: 3

| DEPTH | SAMPLE NO. | SOIL DESCRIPTION |
|---|---|---|
| 0 ft. | | |
| 2" | | A.C. PAVING |
| 8" | | AGGREGATE |
| 3' | | CLEAN FILL |
| 8' | | BROWN CLAYEY SILT W/GRAVEL - DR |
| 14' | | BROWN SILTY CLAY - DRY |
| 20' | | BROWN SILTY CLAY - DAMP |

FOREMAN: DAVID BYRON SHEET: 1 OF 1

Gettler - Ryan Inc. — General Contractors

WELL BORING LOG

COMPANY: CHEVRON U.S.A. #5542 JOB NO: OR - 5108

LOCATION: 7007 SAN RAMON VALLEY BLVD DATE: 12-19-83

CITY: DUBLIN, CA WELL #: 4

| DEPTH | SAMPLE NO. | SOIL DESCRIPTION |
|---|---|---|
| 0 ft. | | |
| 1" | | A.C. PAVING |
| 6" | | AGGREGATE |
| 3' | | DARK BROWN SILTY CLAY W/GRAVEL |
| 8' | | BROWN SILTY CLAY - DRY |
| 11' | | BROWN SILTY CLAY - DAMP |
| 14' | | DARK BROWN SILTY CLAY W/GRAVEL - DAMP |
| 17' | | GRAY SILTY CLAY - DAMP |
| 20' | | GRAY SANDY CLAY - MOIST |

FOREMAN: DAVID BYRON SHEET: 1 OF 1

Geitler - Ryan Inc. GENERAL CONTRACTORS

WELL BORING LOG

COMPANY: CHEVRON U.S.A. #5542 JOB NO: OR - 5108

LOCATION: 7007 SAN RAMON VALLEY BLVD DATE: 12-19-83

CITY: DUBLIN, CA WELL #: 5

| DEPTH | SAMPLE NO. | SOIL DESCRIPTION |
|---|---|---|
| 0 ft. | | |
| 3" | | A.C. PAVING |
| 6" | | AGGREGATE |
| 3' | | DARK BROWN SILTY CLAY W/FILL |
| 5' | | DARK BROWN SILTY CLAY |
| 13' | | BROWN SILTY CLAY |
| 16' | | GRAY SILTY CLAY W/SAND |
| 20' | | GRAY SILTY CLAY |

FOREMAN: DAVID BYRON SHEET: 1 OF 1

# LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196 — BORING NO. MW-1

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542 — PAGE 1 OF 2

BY K. RAHMAN — DATE 3/27/90 — SURFACE ELEV. 364.25 ft.

| PID (ppm) | RECOVERY (in./in.) | BLOW CT. (blws/ft) | GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO-GRAPHIC COLUMN | DESCRIPTION | WELL DETAIL |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | FILL. | |
| 164 | 8/18 | 19<br>31<br>refusal | | 5 | | | FILL: GRAVELLY SILT (ML), dark brown (10YR, 3/3); 50-60% low plasticity fines; 5-10% fine to medium sand; 15-25% fine to medium gravel; trace iron-oxide staining of clasts; hard; dry; no product odor. | |
| 73 | 10/18 | 14<br>20<br>33 | | 10 | | | @ 10': hard; dry; no product odor. | |
| | | | | 15 | | | @ 17': cobbles; drainage baserock; fill in former tank excavation. | |
| | | | | 20 | | | | |

REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. The wellhead was completed roughly 1 foot above grade prior to resurfacing.

David C. Tigl RG#4603 Exp. 6/30/92

# LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196 — BORING NO. MW-1

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542 — PAGE 2 OF 2

BY K. RAHMAN — DATE 3/27/90 — SURFACE ELEV. 364.25 ft.

| PID (ppm) | RECOVERY (in./in.) | BLOW CT. (blws/ft) | GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO-GRAPHIC COLUMN | DESCRIPTION | WELL DETAIL |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | FILL, continued. | |
| | | | | | | | CLAY (CL), dark brown (10YR, 3/3); 90-95% moderate plasticity fines; 5-10% fine sand; damp; moderate product odor. | |
| 1175 | 16/18 | 7<br>12<br>15 | 4/2/90 ▼ | 25 | | | @25': abundant caliche; trace iron-oxide staining; trace manganese-oxide staining; damp; very stiff; moderate product odor. | |
| 288 | 18/18 | 3<br>7<br>10 | | 30 | | | SANDY CLAY (CL), dark grayish brown (10YR, 4/2); 60-70% moderate plasticity fines; 25-35% fine to medium sand; trace fine gravel; abundant caliche; trace iron-oxide and manganese-oxide staining; very stiff; damp; moderate product odor. | |
| 89.1 | 18/24 | 6<br>10<br>15 | | 35 | | | @35': mottled dark grayish brown (10YR, 4/2) and dark brown (10YR,3/3); very stiff; wet; no product odor. | |
| | | | | | | | BORING TERMINATED AT 35 FEET AND SAMPLED TO 37 FEET. | |
| | | | | 40 | | | | |

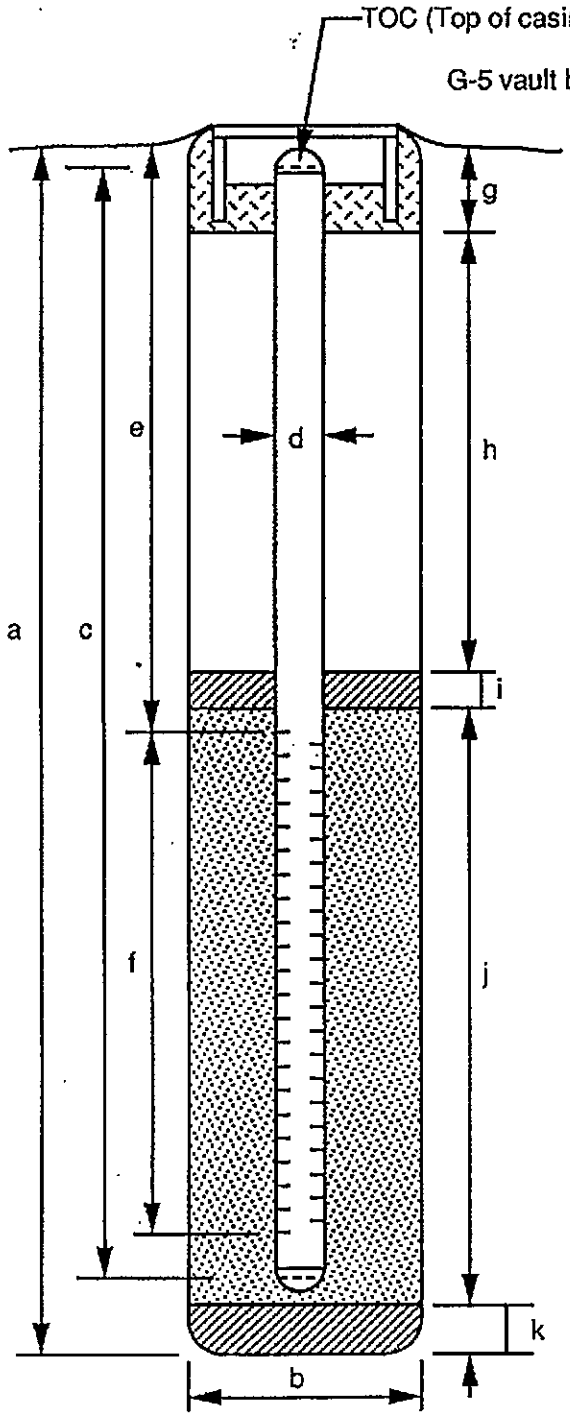
REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. The wellhead was completed roughly 1 foot above grade prior to resurfacing.

# WELL DETAILS

PROJECT NUMBER 1196
PROJECT NAME Chevron SS No. 9-5542
LOCATION 7007 San Ramon Road, Dublin
WELL PERMIT NO. 90182

BORING / WELL NO. MW-1
TOP OF CASING ELEV. 364.25'
GROUND SURFACE ELEV. _____
DATUM MSL
INSTALLATION DATE 3/27/90




## EXPLORATORY BORING

a. Total depth 37 ft.
b. Diameter 8 in.
Drilling method Hollow-Stem Auger

## WELL CONSTRUCTION *

c. Total casing length 37 ft.
Material Schedule 40 PVC
d. Diameter 2 in.
e. Depth to top perforations 20 ft.
f. Perforated length 15 ft.
Perforated interval from 20 to 35 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1 ft.
Material Concrete (above grade)
h. Backfill 16 ft.
Material Bentonite-Cement Grout
i. Seal 3 ft.
Material Bentonite
j. Gravel pack 16 ft.
Gravel pack interval from 19 to 35 ft.
Material # 3 Sand
k. Bottom seal/fill 2.0 ft.
Material Bentonite

* Wellhead completed roughly 1-foot above grade prior to asphalting. Depth measurements taken 1-foot below final grade.

DeT ✓

Form prepared by KBR

# LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196 — BORING NO. MW-2

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542 — PAGE 1 OF 2

BY K. Rahman — DATE 3/26/90 — SURFACE ELEV. 364.58 ft.

| PID (ppm) | RECOVERY (in./in.) | BLOW CT. (blws/ft) | GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO-GRAPHIC COLUMN | DESCRIPTION | WELL DETAIL |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | FILL. | |
| | | | | | | | SILT (ML), very dark brown (10YR, 2/2); 80-85% low plasticity fines; 10-15% fine sand; trace fine gravel; damp; no product odor. | |
| 6.0 | 15/18 | 8<br>15<br>22 | | 5 | | | SILT (ML), very dark grayish brown (2.5Y, 3/2); 90-95% low plasticity fines; 5-10% fine to medium sand; trace rootholes; trace rootlets; hard; damp; no product odor. | |
| 7.9 | 13/18 | 8<br>10<br>29 | | 10 | | | @10': trace coarse sand; trace iron-oxide staining; hard; damp; no product odor.<br>SANDY GRAVEL (GP), very dark grayish brown (2.5Y, 4/2); 5-10% low plasticity fines; 30-40% fine to coarse sand; 50-60% fine to medium gravel, angular to subrounded; abundant iron-oxide staining; dense; dry; no product odor. | |
| 12.2 | 13/18 | 21<br>18<br>25 | | 15 | | | @15': dark grayish brown (2.5Y, 4/2); dense; damp; no product odor. | |
| | | | | 20 | | | SILTY CLAY (CL). | |

REMARKS

Boring was drilled using 8-inch diameter hollow stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. The wellhead was completed roughly 1 foot above grade prior to landscaping.

David C. Tight RG#4603 Exp. 6/30/92

# LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196 — BORING NO. MW-2

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542 — PAGE 2 OF 2

BY K. Rahman — DATE 3/26/90 — SURFACE ELEV. 364.58 ft.

| PID (ppm) | RECOVERY (in./in.) | BLOW CT. (blws/ft) | GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO-GRAPHIC COLUMN | DESCRIPTION | WELL DETAIL |
|---|---|---|---|---|---|---|---|---|
| 12.7 | 13/18 | 7<br>6<br>8 | | | | | SILTY CLAY (CL), dark grayish brown (2.5Y, 4/2); 90-95% moderate to high plasticity fines; trace fine sand; trace fine gravel; trace caliche; stiff; damp; faint organic odor. | |
| 9.0 | 14/24 | | 4/2/90<br>3/26/90 | 25 | | | @25': dark olive gray (5Y, 3/2); stiff; damp; faint organic odor. | |
| 8.1 | 18/18 | 6<br>9<br>8 | | 30 | | | @30': olive (5Y, 4/3); 5-10% fine to coarse sand; trace wood fragments; trace iron-oxide and manganese-oxide staining; very stiff; wet; no product odor. | |
| - | 13/18 | 7<br>6<br>12 | | 35 | | | @35': very stiff; wet; no product odor. | |
| 5.6 | | 3<br>6<br>7 | | | | | @37': stiff; wet; no product odor.<br>BORING TERMINATED AT 37 FEET AND SAMPLED TO 38.5. | |
| | | | | 40 | | | | |

REMARKS

Boring was drilled using 8-inch diameter hollow stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. The wellhead was completed roughly 1 foot above grade prior to landscaping.

# WELL DETAILS

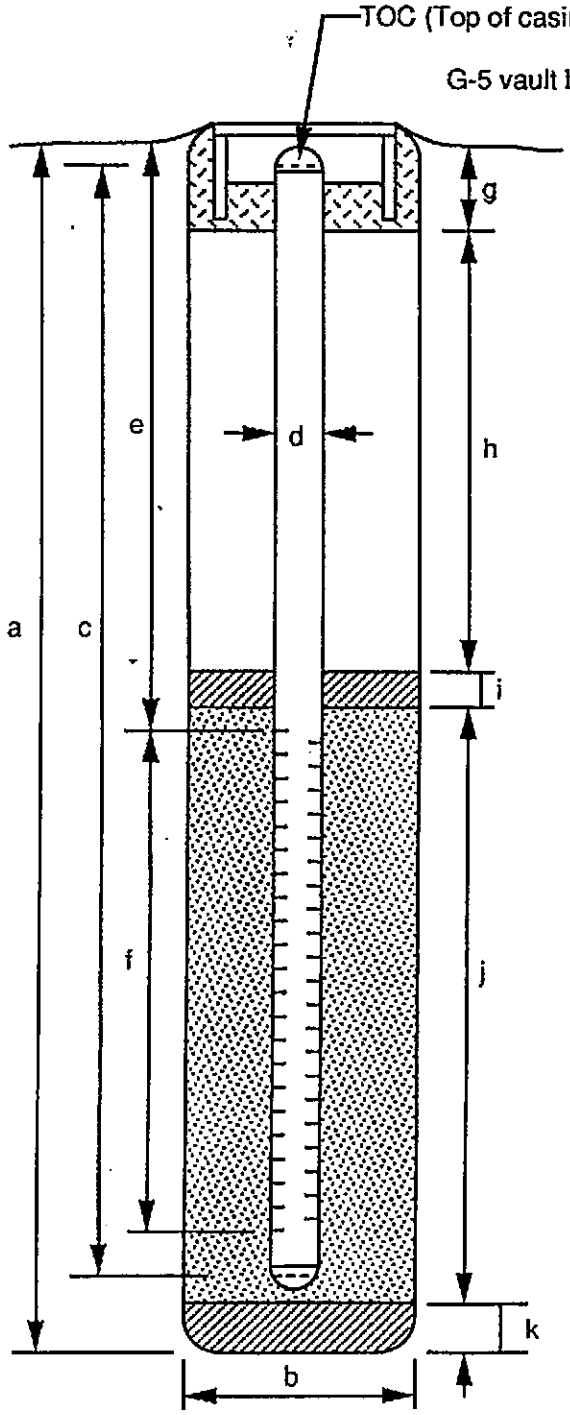
PROJECT NUMBER 1196 | BORING / WELL NO. MW-2

PROJECT NAME Chevron SS No. 9-5542 | TOP OF CASING ELEV. 364.58'

LOCATION 7007 San Ramon Road, Dublin | GROUND SURFACE ELEV. _____

WELL PERMIT NO. 90182 | DATUM MSL

INSTALLATION DATE 3/26/90




## EXPLORATORY BORING

a. Total depth 38.5 ft.

b. Diameter 8 in.

Drilling method Hollow-Stem Auger

## WELL CONSTRUCTION *

c. Total casing length 38.8 ft.

Material Schedule 40 PVC

d. Diameter 2 in.

e. Depth to top perforations 22 ft.

f. Perforated length 15 ft.

Perforated interval from 22 to 37 ft.

Perforation type Machine Slotted

Perforation size 0.020 inch

g. Surface seal 1 ft.

Material Concrete (above grade)

h. Backfill 17 ft.

Material Bentonite-Cement Grout

i. Seal 3 ft.

Material Bentonite

j. Gravel pack 17 ft.

Gravel pack interval from 20 to 37 ft.

Material # 3 Sand

k. Bottom seal/fill 1.5 ft.

Material Bentonite

*Wellhead completed roughly 1-foot above grade prior to landscaping. Depth measurements taken 1-foot below final grade.

Form prepared by KBR

DCT ✓

# LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196 — BORING NO. MW-3

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542 — PAGE 1 OF 2

BY K. RAHMAN — DATE 3/26/90 — SURFACE ELEV. 362.18 ft.

| PID (ppm) | RECOVERY (in./in.) | BLOW CT. (blws/ft) | GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO-GRAPHIC COLUMN | DESCRIPTION | WELL DETAIL |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | FILL, gravel; silt. | |
| - | 8/18 | 12<br>17<br>25 | | 5 | | | SILT (ML), olive (5Y, 4/3); 90-95% low plasticity fines; 5-10% fine sand; thinly laminated; hard; dry; no product odor. | |
| 5.5 | 11/18 | 11<br>15<br>17 | | 10 | | | SANDY CLAY (CL), olive (5Y, 4/3); 70-80% moderate plasticity fines; 15-25% fine to coarse sand; trace fine gravel; trace rootholes; trace caliche; hard; dry; no product odor. | |
| 11.5 | 13/18 | 8<br>16<br>16 | | 15 | | | CLAYEY SAND (SC), olive gray (5Y, 4/2); 25-35% moderate plasticity fines; 50-60% fine to coarse sand; 10-15% fine to medium gravel; dense; damp; faint organic odor. | |
| | | | | 20 | | | CLAY (CL). | |

REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. The wellhead was completed roughly 1 foot above grade prior to landscaping.

David C. Tisdell RG#4603 Exp. 6/30/92

# LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196 BORING NO. MW-3

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542 PAGE 2 OF 2

BY K. RAHMAN DATE 3/26/90 SURFACE ELEV. 362.18 ft.

| PID (ppm) | RECOVERY (in./in.) | BLOW CT. (blws/ft) | GROUND WATER LEVELS | DEPTH IN FT. | SAMPLES | LITHO-GRAPHIC COLUMN | DESCRIPTION | WELL DETAIL |
|---|---|---|---|---|---|---|---|---|
| 160 | 14/18 | 6<br>12<br>18 | | | | | CLAY (CL), mottled olive gray (5Y, 4/2) and olive (5Y, 5/2); 90-95% moderate plasticity fines; 5-10% fine sand; some caliche; abundant rootholes; very stiff; damp; faint product odor. | |
| | | | 4/2/90 ▼ | | | | | |
| 197 | 15/18 | 8<br>10<br>34 | ▽ 3/26/90 | 25 | | | SILTY SAND (SM), dark gray (5Y, 4/1); 20-30% low plasticity fines; 70-80% fine to coarse sand; dense; wet; faint product odor.<br>SANDY GRAVEL (GP), dark gray (5Y, 4/3); trace low plasticity fines; 15-25% fine to coarse sand; 70-80% fine to medium gravel; dense; faint product odor. | |
| 4.6 | 15/18 | 6<br>8<br>11 | | 30 | | | SANDY CLAY (CL), olive (5Y, 4/3); 80-90% moderate plasticity fines; 10-20% fine to coarse sand; trace caliche; very stiff; wet; no product odor. | |
| 5.9 | 14/18 | 14<br>14<br>29 | | 35 | | | @35': trace manganese-oxide and iron-oxide staining; hard; wet; no product odor.<br>BORING TERMINATED AT 35 FEET AND SAMPLED TO 36.5 FEET. | |
| | | | | 40 | | | | |

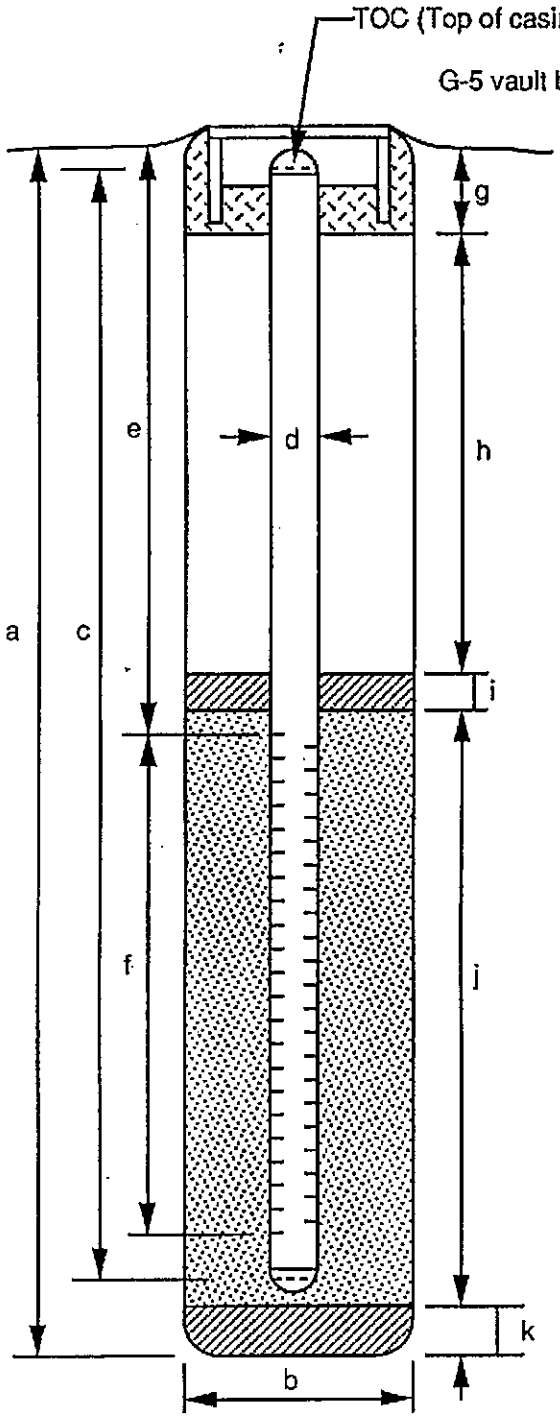
REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. The wellhead was completed roughly 1 foot above grade prior to landscaping.

# WELL DETAILS

PROJECT NUMBER 1196
PROJECT NAME Chevron SS No. 9-5542
LOCATION 7007 San Ramon Road, Dublin
WELL PERMIT NO. 90182

BORING / WELL NO. MW-3
TOP OF CASING ELEV. 362.18'
GROUND SURFACE ELEV. _____
DATUM MSL
INSTALLATION DATE 3/26/90




## EXPLORATORY BORING

a. Total depth 36.5 ft.
b. Diameter 8 in.
Drilling method Hollow-Stem Auger

## WELL CONSTRUCTION *

c. Total casing length 36 ft.
Material Schedule 40 PVC
d. Diameter 2 in.
e. Depth to top perforations 20 ft.
f. Perforated length 15 ft.
Perforated interval from 20 to 35 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1 ft.
Material Concrete (above grade)
h. Backfill 16 ft.
Material Bentonite-Cement Grout
i. Seal 3 ft.
Material Bentonite
j. Gravel pack 16 ft.
Gravel pack interval from 19 to 35 ft.
Material # 3 Sand
k. Bottom seal/fill 1.5 ft.
Material Bentonite

*Wellhead completed roughly 1-foot above grade prior to landscaping. Depth measurements taken 1-foot below final grade.

DCT ✓

Form prepared by KBR

# LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196 — BORING NO. MW-4

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542 — PAGE 1 OF 2

BY K. RAHMAN — DATE 3/28/90 — SURFACE ELEV. 362.97 ft.

| PID (ppm) | RECOVERY (in./in.) | BLOW CT. (blws/ft) | DEPTH IN FT. | DESCRIPTION |
|---|---|---|---|---|
| | | | | **FILL**, gravelly silt. |
| 59 | 10/24 | 6<br>11<br>17 | 5 | **SANDY CLAY (CL)**, very dark grayish brown (2.5Y, 3/2); 70-80% low to moderate plasticity fines; 15-25% fine to medium sand; trace fine gravel; trace iron-oxide staining; very stiff; dry; no product odor. |
| 40.6 | 15/18 | 12<br>14<br>23 | 10 | **SILTY SAND (SM)**, very dark grayish brown (2.5Y, 3/2); 10-20% low plasticity fines; 70-80% fine to coarse sand; 5-10% fine gravel; trace iron-oxide staining; some rootlets; hard; dry; no product odor. |
| 38 | 10/18 | 9<br>15<br>19 | 15 | @15': olive (5Y, 5/3); 75-85% fine to coarse sand, predominantly medium; trace fine gravel; abundant caliche; trace iron-oxide staining; hard; dry; no product odor. |
| | | | 20 | |

GROUND WATER LEVELS — SAMPLES — LITHOGRAPHIC COLUMN — WELL DETAIL

REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. The wellhead was completed roughly 1 foot above grade prior to landscaping.

David C. Tiglet RG#4603 Exp. 6/30/92

# LOG OF EXPLORATORY BORING

PROJECT NUMBER 1196 — BORING NO. MW-4

PROJECT NAME CHEVRON SERVICE STATION NO. 9-5542 — PAGE 2 OF 2

BY K. RAHMAN — DATE 3/28/90 — SURFACE ELEV. 362.97 ft.

| PID (ppm) | RECOVERY (in./in.) | BLOW CT. (blws/ft) | DESCRIPTION |
|---|---|---|---|
| 383 | 15/18 | 7<br>10<br>15 | SILTY SAND (SM), continued<br>@20': olive gray (5Y, 4/2); some caliche; trace manganese-oxide staining; very stiff; damp; faint product odor. |
| 749 | 15/18 | 7<br>9<br>12 | SANDY CLAY (CL), mottled dark olive gray (5Y, 3/2) and olive gray (5Y, 4/2); 90-95% moderate plasticity fines; 5-10% predominantly fine to medium sand; trace caliche; very stiff; damp; moderate product odor. |
| 51.1 | 18/18 | 4<br>5<br>10 | CLAYEY SAND (SC), olive gray (5Y, 4/2); 20-30% moderate plasticity fines; 70-80% fine to coarse sand, predominantly medium; abundant rootholes, coated with caliche; stiff; wet; no product odor. |
| 43.6 | 10/24 | 15<br>21<br>29 | @35': hard; wet; no product odor.<br><br>BORING TERMINATED AT 35 FEET AND SAMPLED TO 37 FEET. |

GROUND WATER LEVELS: 4/2/90, 3/28/90

DEPTH IN FT.: 25, 30, 35, 40

SAMPLES

LITHOGRAPHIC COLUMN

WELL DETAIL

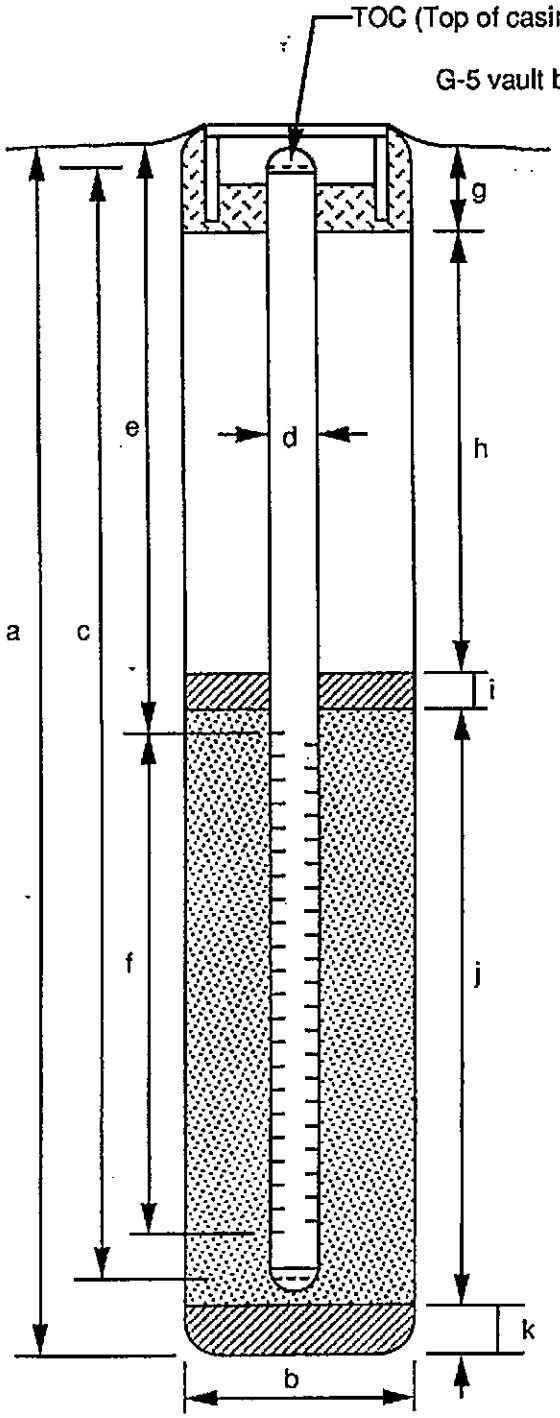
REMARKS

Boring was drilled using 8-inch diameter hollow-stem augers. Soil samples were collected using a 2-inch diameter modified-California split-spoon sampler. A 2-inch diameter groundwater monitor well was installed. The wellhead was completed roughly 1 foot above grade prior to landscaping.

# WELL DETAILS

PROJECT NUMBER 1196
PROJECT NAME Chevron SS No. 9-5542
LOCATION 7007 San Ramon Road, Dublin
WELL PERMIT NO. 90182

BORING / WELL NO. MW-4
TOP OF CASING ELEV. 362.97'
GROUND SURFACE ELEV. _____
DATUM MSL
INSTALLATION DATE 3/28/90




## EXPLORATORY BORING

a. Total depth 37 ft.
b. Diameter 8 in.
Drilling method Hollow-Stem Auger

## WELL CONSTRUCTION *

c. Total casing length 36 ft.
Material Schedule 40 PVC
d. Diameter 2 in.
e. Depth to top perforations 20 ft.
f. Perforated length 15 ft.
Perforated interval from 20 to 35 ft.
Perforation type Machine Slotted
Perforation size 0.020 inch
g. Surface seal 1 ft.
Material Concrete (above grade)
h. Backfill 16 ft.
Material Bentonite-Cement Grout
i. Seal 3 ft.
Material Bentonite
j. Gravel pack 16 ft.
Gravel pack interval from 19 to 35 ft.
Material # 3 Sand
k. Bottom seal/fill 2 ft.
Material Bentonite

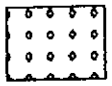
* Wellhead completed roughly 1-foot above grade prior to landscaping. Depth measurements taken 1-foot below final grade.

DCT ✓

Form prepared by KBR

SIERRA

# EXPLANATION FOR SES BORING LOGS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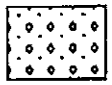
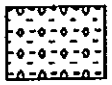
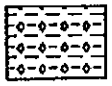
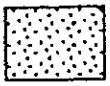
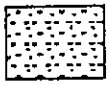
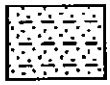

Sandy GRAVEL


Silty GRAVEL


Clayey GRAVEL


SAND


Silty SAND/Sandy SILT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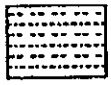
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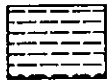
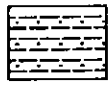
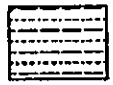
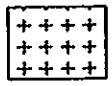

CLAY

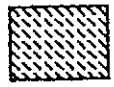

Sandy CLAY


Silty CLAY/Clayey SILT


Organics


Hard Rock


Slough


Asphalt


Concrete

K = Field estimation of soil hydraulic conductivity

Drive sample interval

Drive sample collected for possible chemical analysis

*Note: Soils are logged using ASTM D2487 Soil Classification System*

Contact between sedimentary or lithologic units: dotted where approximate, dashed where uncertain

▽ Initial water level measured during drilling (date in italics)

⧩ Static water level, measured after well development (date in italics)

# UNIFIED SOIL CLASSIFICATION SYSTEM

| PRIMARY DIVISIONS | | | | SECONDARY DIVISIONS |
|---|---|---|---|---|
| COARSE GRAINED SOILS (More than half of material is larger than No. 200 sieve size) | GRAVELS (More than half of coarse fraction is larger than No. 4 sieve) | CLEAN GRAVELS (Less than 5% fines) | GW | Well graded gravels, gravel-sand mixtures, little or no fines. |
| | | | GP | Poorly graded gravels, gravel-sand mixtures, little or no fines. |
| | | GRAVEL WITH FINES | GM | Silty gravels, gravel-sand-silt mixures, non-plastic fines. |
| | | | GC | Clayey gavels, gravel-sand-clay mixtures, plastic fines. |
| | SANDS (More than half of coarse fraction is smaller than No. 4 sieve) | CLEAN SANDS (Less than 5% fines) | SW | Well graded sands, gravelly sands, little or no fines |
| | | | SP | Poorly graded sands or gravelly sands, little or no fines. |
| | | SAND WITH FINES | SM | Silty sands, sand-silt mixtures, non-plastic fines. |
| | | | SC | Clayey sands, sand-clay mixtures, plastic fines. |
| FINE GRAINED SOILS (More than half of material is smaller than No. 200 sieve size) | SILTS AND CLAYS (Liquid limit is less than 50%) | | ML | Inorganic silts and very fine sands, rock flow, silty or clayey fine sands or clayey silts with slight plasticity. |
| | | | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays. |
| | | | OL | Organic silts and organic silty clays of low plasticty. |
| | SILTS AND CLAYS (Liquid limit is greater than 50% | | MH | Inorganic silts, micaceous or diatomaceous fine sand or silty soils, elastic silts. |
| | | | CH | Inorganic clays of high plasticity, fat clays. |
| | | | OH | Organic clays of medium to high plasticity, organic silts. |
| HIGHLY ORGANIC SOILS | | | Pt | Peat and other highly organic soils. |

## DEFINITION OF TERMS

| U.S. STANDARD SERIES SIEVE | | | | CLEAR SQUARE SIEVE OPENINGS | | | |
|---|---|---|---|---|---|---|---|
| 200 | 40 | 10 | 4 | 3/4" | 3" | 12" | |
| SILTS AND CLAYS | SAND | | | GRAVEL | | COBBLES | BOULDERS |
| | FINE | MEDIUM | COARSE | FINE | COARSE | | |

## GRAIN SIZES

| SANDS & GRAVELS | Std. Pen BLOWS/FT[1] | 2" ID SS BLOWS/FT |
|---|---|---|
| VERY LOOSE | 0 - 4 | 0 - 7 |
| LOOSE | 4 - 10 | 7 - 16 |
| MEDIUM DENSE | 10 - 30 | 16 - 50 |
| DENSE | 30 - 50 | 50 - 83 |
| VERY DENSE | OVER 50 | OVER 83 |

RELATIVE DENSITY

| SILTS & CLAYS | POCKET PENETROMETER[2] | Std. Pen BLOWS/FT[1] | 2" ID SS BLOWS/FT |
|---|---|---|---|
| VERY SOFT | 0 - 250 | 0 - 2 | 0 - 3 |
| SOFT | 250 - 500 | 2 - 4 | 3 - 6 |
| FIRM | 500 - 1,000 | 4 - 8 | 6 - 13 |
| STIFF | 1,000 - 2,000 | 8 - 16 | 13 - 26 |
| VERY STIFF | 2,000 - 4,000 | 16 - 32 | 26 - 53 |
| HARD | OVER 4,000 | OVER 32 | OVER 53 |

CONSISTENCY

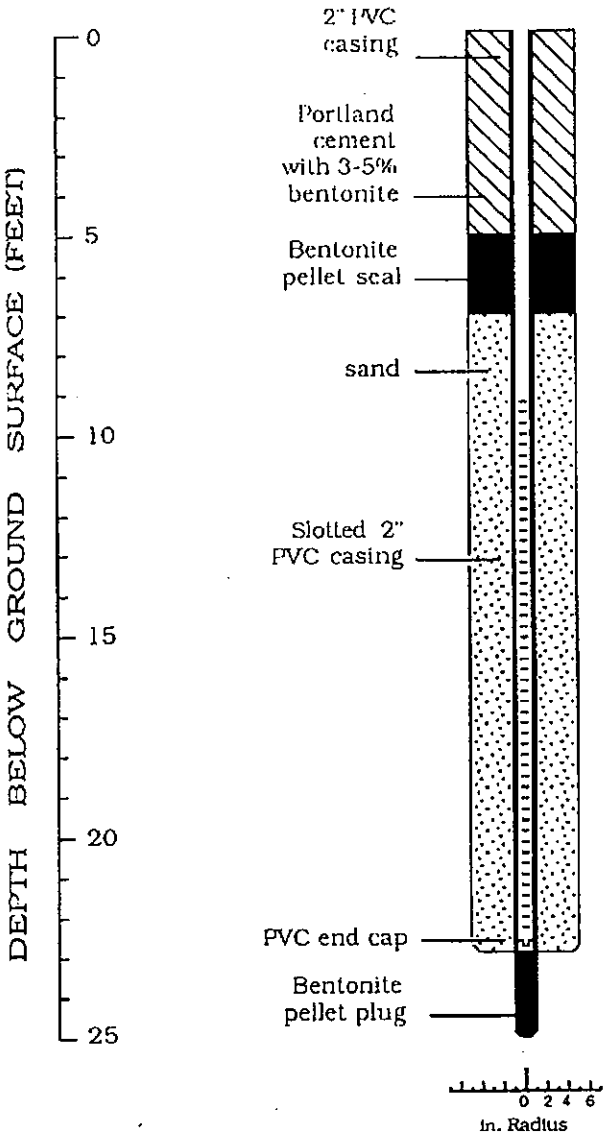
Correction Factor - .6

[1]Number of blows of 140-pound hammer falling 30 inches to drive a 2-inch O.D. (1–3/8 inch I.D.) split spoon (ASTM D–1586).

[2]Unconfined compressive strength in tons/sq. ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D–1586), pocket penetrometer, torvane, or visual observation.

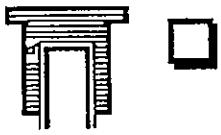
# EXPLANATION
# TYPICAL WELL CONSTRUCTION

SIERRA




**Well Head Completion Schematic**
***Not to scale***

**Christy Box**



**Locking stovepipe & Christy Box**

**Locking cap & stovepipe**

**Locking cap & Christy Box**
**2' x 2' x 6" min.**

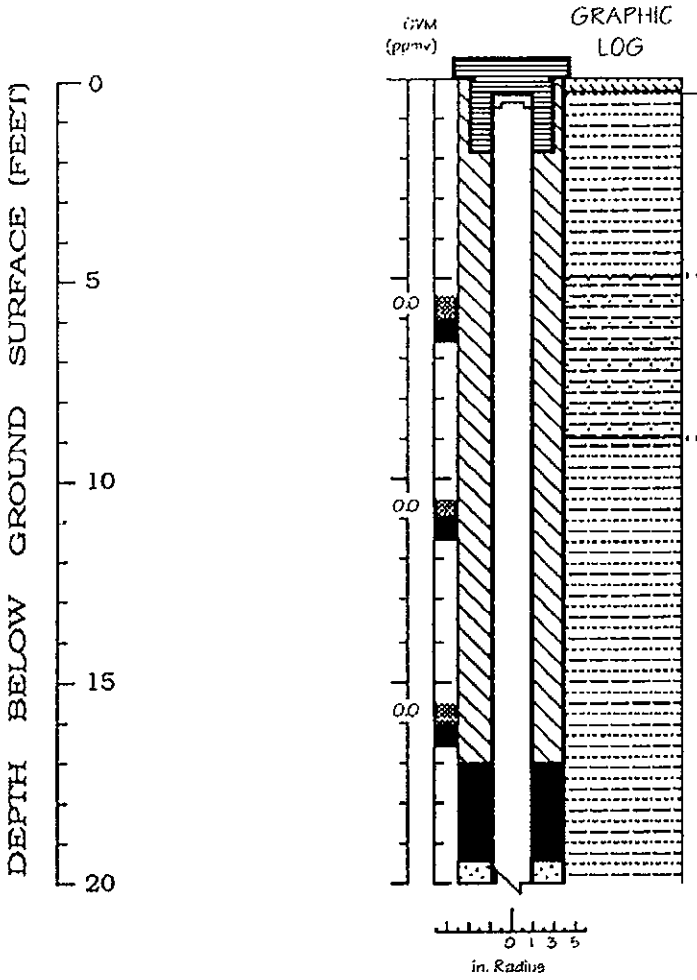
*Water level depth and date:*

▽ Initial water level

▼ Static water level

# WELL MW-5

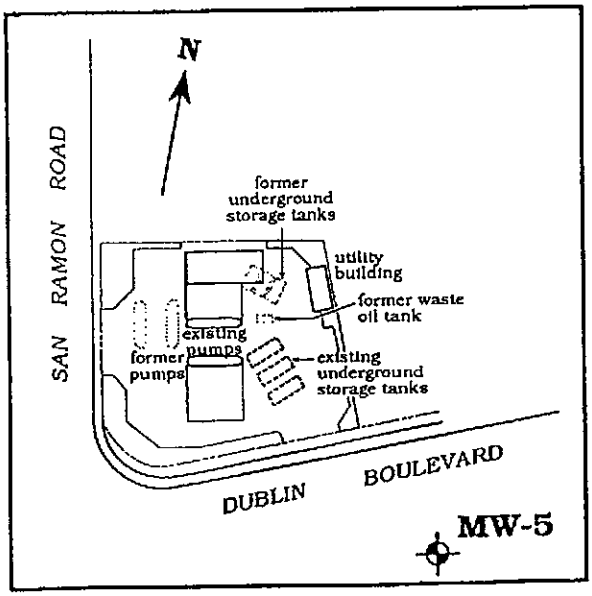
SIERRA




**Well Construction and Boring Log – Well MW-5**

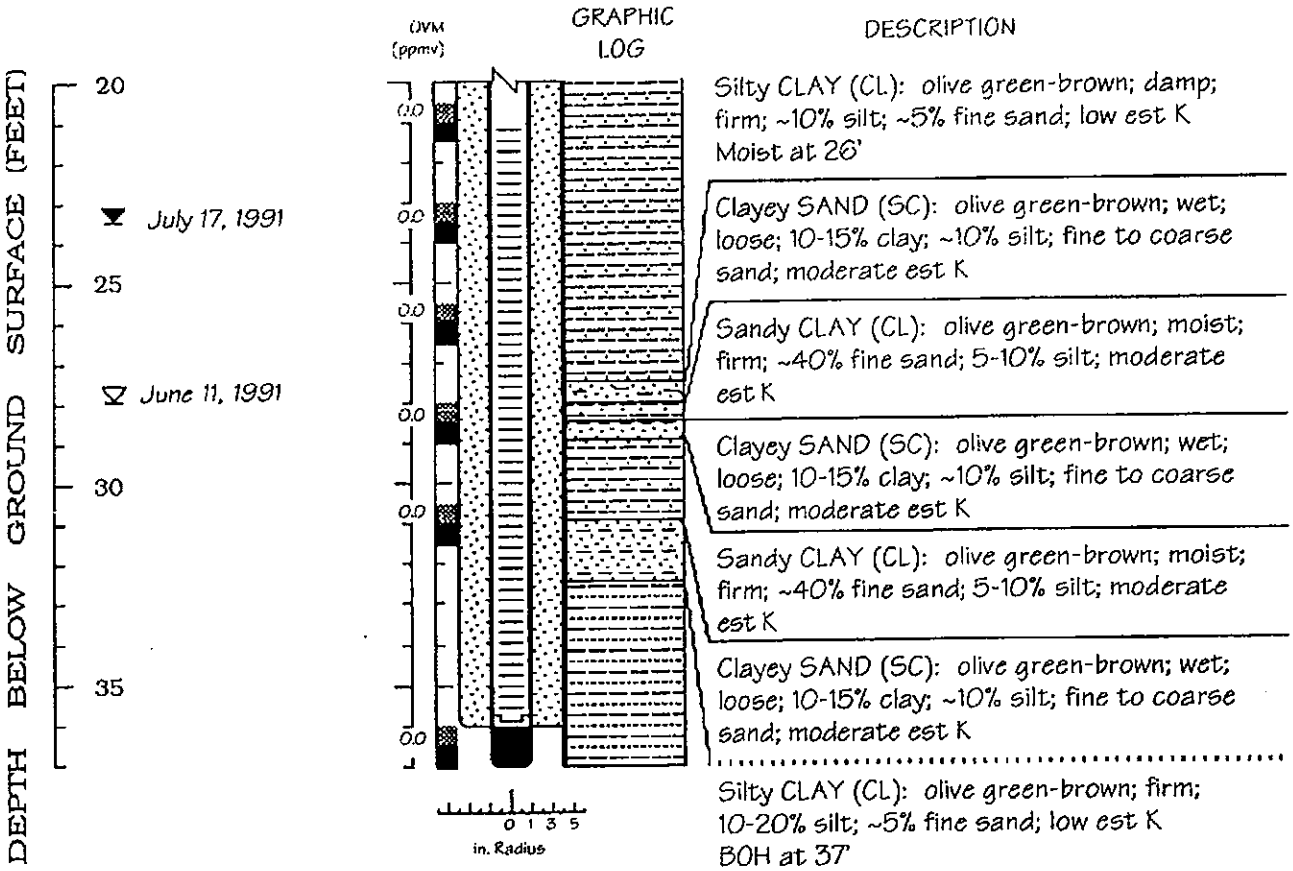
Chevron S. S. #9-5542
7007 San Ramon Road
Dublin, California

| | |
|---|---|
| Logged by: | Eric Grose |
| Supervisor: | R. Greenefelder RG#003011 |
| Drilling Company: | Soils Exploration Services |
| C-57#: | 582696 |
| Driller: | Mike Duffy |
| Drilling Method: | Hollow stem auger |
| Date Drilled: | June 11, 1991 |
| Well Head Completion: | Locking cap & traffic-rated vault |
| Type of sampler: | Split barrel (2" ID) |



# WELL MW-5
*(continued)*

SIERRA

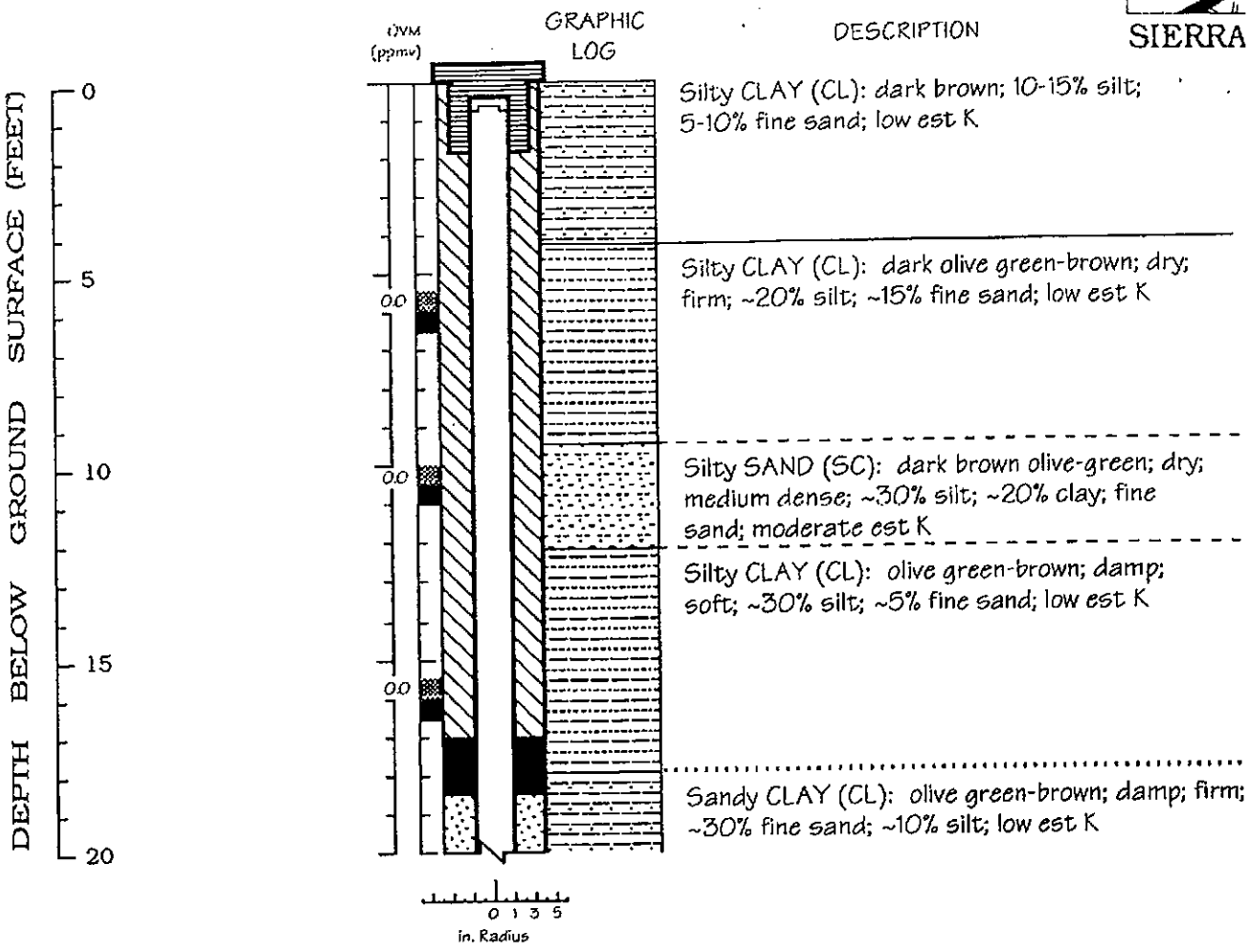



**Well Construction and Boring Log – Well MW-5**

Chevron S. S. #9-5542
7007 San Ramon Road
Dublin, California

# WELL MW-6

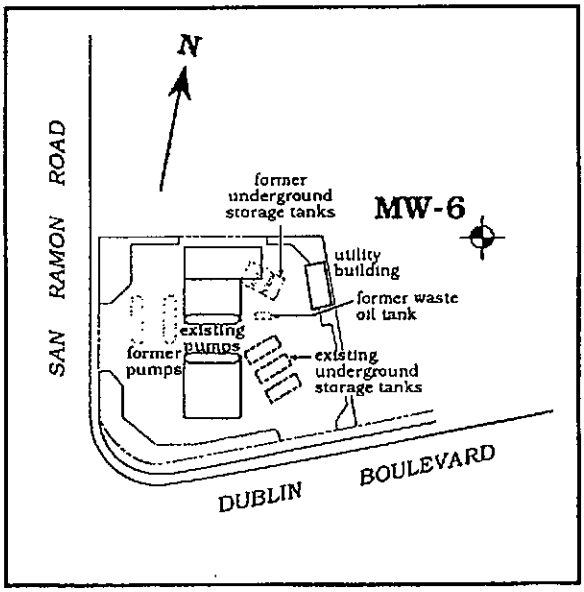
SIERRA




**Well Construction and Boring Log – Well MW-6**

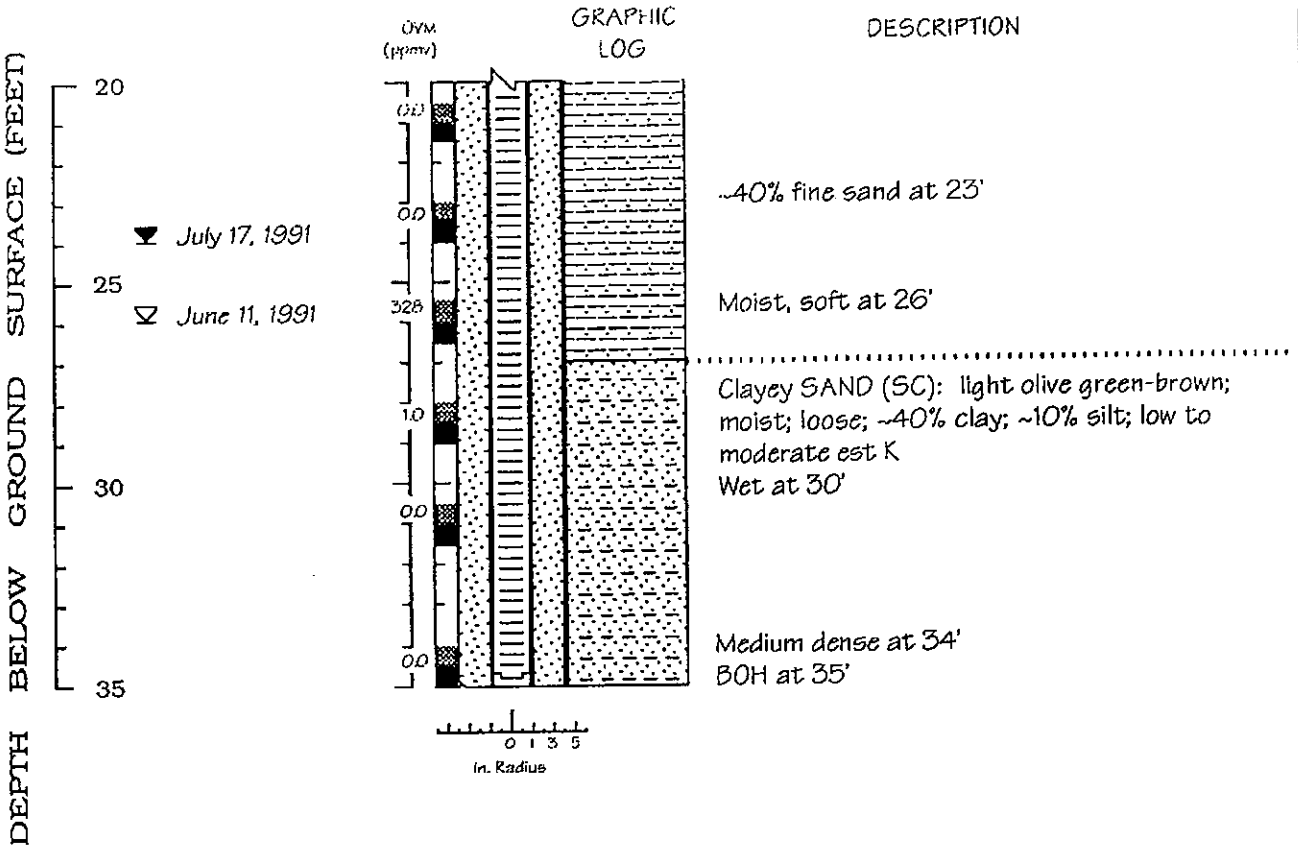
Chevron S. S. #9-5542
7007 San Ramon Road
Dublin, California

| | |
|---|---|
| Logged by: | Eric Groes |
| Supervisor: | R. Greenefelder RG#003011 |
| Drilling Company: | Soils Exploration Services |
| C-57#: | 582696 |
| Driller: | Mike Duffy |
| Drilling Method: | Hollow stem auger |
| Date Drilled: | June 11, 1991 |
| Well Head Completion: | Locking cap & traffic-rated vault |
| Type of sampler: | Split barrel (2" ID) |



# WELL MW-6
*(continued)*

SIERRA

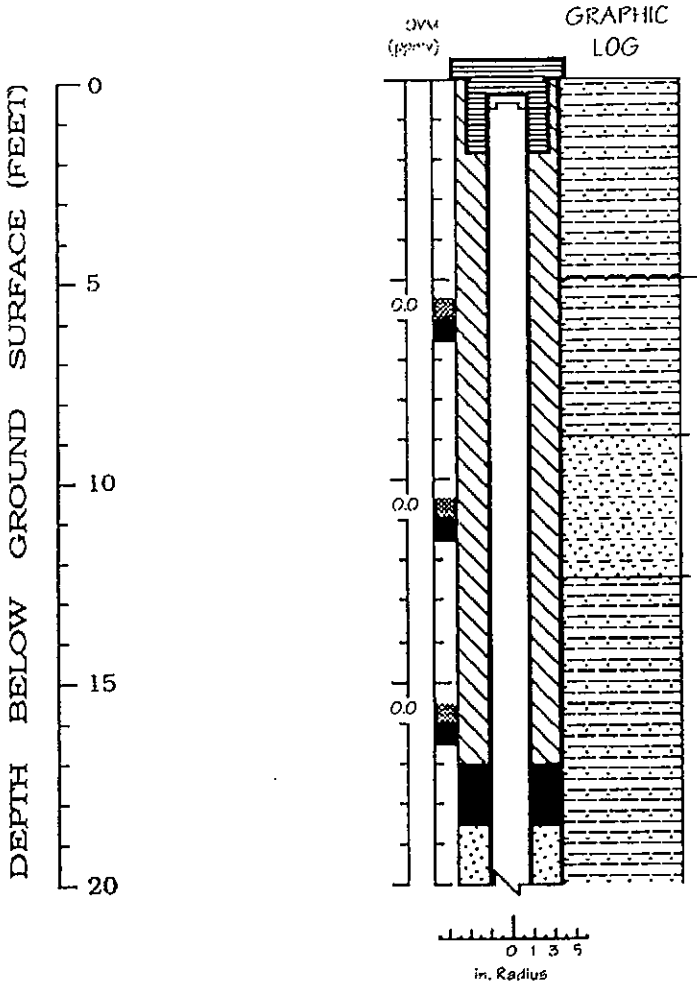



**Well Construction and Boring Log – Well MW-6**

Chevron S. S. #9-5542
7007 San Ramon Road
Dublin, California

# WELL MW-7

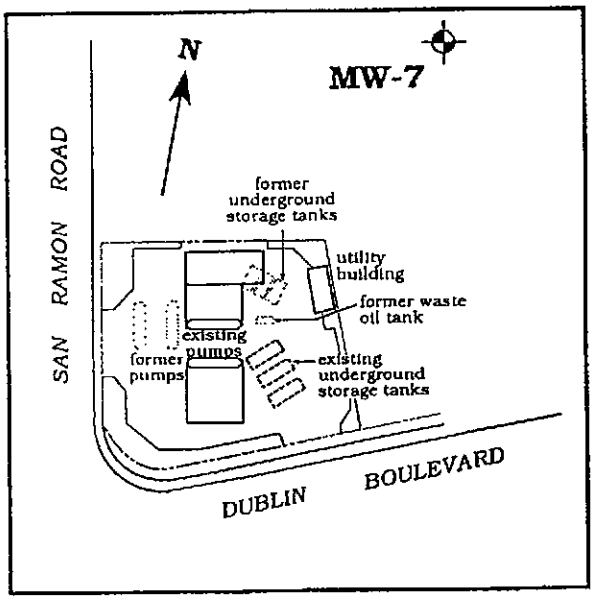
SIERRA




**Well Construction and Boring Log – Well MW-7**

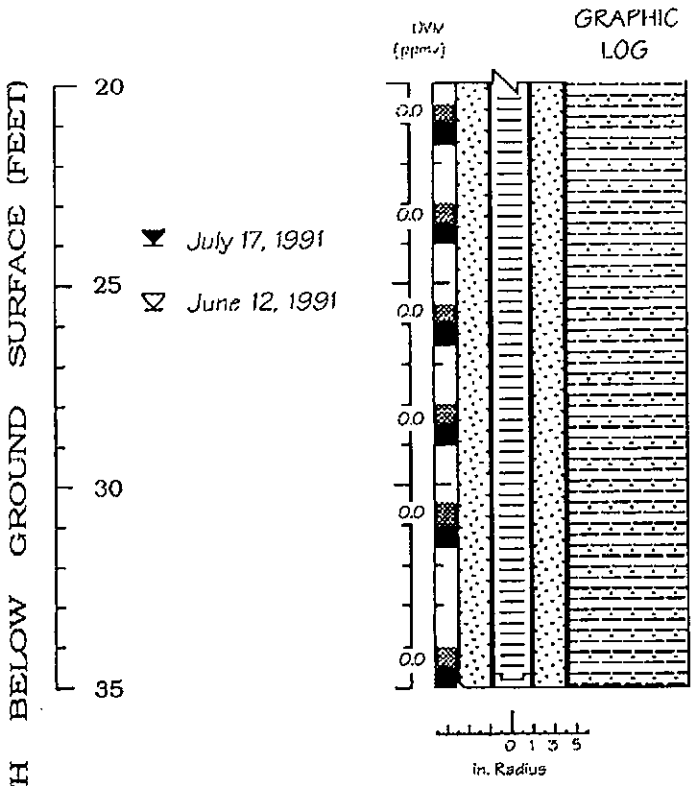
Chevron S. S. #9-5542
7007 San Ramon Road
Dublin, California

| | |
|---|---|
| Logged by: | Eric Gross |
| Supervisor: | R. Greensfelder RG#003011 |
| Drilling Company: | Soils Exploration Services |
| C-57#: | 582696 |
| Driller: | Mike Duffy |
| Drilling Method: | Hollow stem auger |
| Date Drilled: | June 12, 1991 |
| Well Head Completion: | Locking cap & traffic-rated vault |
| Type of sampler: | Split barrel (2" ID) |



# WELL MW-7
*(continued)*

SIERRA




DESCRIPTION

5-10% silt, 10-15% fine sand at 23'

Moist at 26'

Lighter olive green-brown, wet, 5-10% silt; ~40% fine sand, moderate est K at 28'

20-30% fine sand, moderate est K at 31'

5-10% silt, 40-45% fine sand, moderate est K at 34'
BOH at 35'

**Well Construction and Boring Log – Well MW-7**

Chevron S. S. #9-5542
7007 San Ramon Road
Dublin, California

Field location of boring:

(See Plate 2)

| | | | |
|---|---|---|---|
| Project No.: 729001 | Date: 12/6/91 | Boring No: MW-8 | |
| Client: Chevron Service Station No. 5542 | | | |
| Location: 7007 San Ramon Road | | | |
| City: Dublin, California | | Sheet 1 of 2 | |
| Logged by: R.S.Y. | Driller: Hazmat | | |
| Casing installation data: | | | |
| Drilling method: Hollow Stem Auger | | | |
| Hole diameter: 8-inches | Top of Box Elevation: 355.54 | Datum: MSL | |
| | Water Level: 23' | | |
| | Time: 11:30 | | |
| | Date: 12/6/91 | | |

| PID (ppm) | Blows/ft.* or Pressure (psi) | Type of Sample | Sample Number | Depth (ft.) | Sample | Well Detail | Soil Group Symbol (USCS) | Description |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Concrete Sidewalk - 6 inches |
| | | | | 1 | | | | SILTY CLAY (CL) - very dark gray (10YR 2/1), medium stiff, moist; low plasticity; trace fine sand; roots, voids. |
| | | | | 2 | | | | |
| | | | | 3 | | | | |
| | | | | 4 | | | | |
| | | | | 5 | | | | |
| | | | MW-8- | 6 | | | | SANDY SILT (ML) - dark yellow brown (10YR 4/4), stiff, moist; low plasticity; 30% fine sand; roots. |
| 0 | 19 | S&H | 6.5 | 7 | | | | |
| | | | | 8 | | | | |
| | | | | 9 | | | | |
| | | | MW-8- | 10 | | | | COLOR CHANGE to dark gray (7.5YR 4/0), sand from fine to 30% coarse; trace fine subround gravel. |
| 0 | 15 | S&H | 10.5 | 11 | | | | |
| | | | | 12 | | | | |
| | | | | 13 | | | | |
| | | | | 14 | | | | CLAY (CL) - olive gray (5Y 4/2), hard, moist; medium plasticity; minor silt; calcareous stringers. |
| | | | MW-8- | 15 | | | | |
| 0 | 51 | S&H | 15.5 | 16 | | | | |
| | | | | 17 | | | | |
| | | | | 18 | | | | SILTY CLAY (CL) - olive gray (5Y 4/2), very stiff, moist; low to medium plasticity; trace fine sand. |
| | | | | 19 | | | | |
| | | | MW-8- | 20 | | | | |
| 0 | 27 | S&H | 20 | | | | | |

Remarks:

* Converted to equivalent Standard Penetration blows/ft.

Log of Boring

BORING NO. MW-8

GeoStrategies Inc.

| JOB NUMBER | REVIEWED BY RG/CEG | DATE | REVISED DATE | REVISED DATE |
|---|---|---|---|---|
| 729001 | MCC | 12/91 | | |

| | | | |
|---|---|---|---|
| Field location of boring: (See Plate 2) | Project No.: 729001 | Date: 12/6/91 | Boring No.: MW-8 |
| | Client: Chevron Service Station No. 5542 | | |
| | Location: 7007 San Ramon Road | | |
| | City: Dublin, California | | Sheet 2 of 2 |
| | Logged by: R.S.Y. | Driller: Hazmat | |
| | Casing installation data: | | |
| Drilling method: Hollow Stem Auger | | | |
| Hole diameter: 8-inches | Top of Box Elevation: | | Datum: |

| PID (ppm) | Blows/ft.* or Pressure (psi) | Type of Sample | Sample Number | Depth (ft.) | Sample | Well Detail | Soil Group Symbol (USCS) | Water Level / Time / Date | Description |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 21 | | | | | |
| | | | | 22 | | | | | |
| | | | | 23 | | ▽ | | | 10% medium sand, saturated at 23 ft. |
| | | | | 24 | | | | | |
| | | | MW-8- | 25 | | | | | |
| 0 | 53 | S&H | 25.5 | | | | | | |
| | | | | 26 | | | | | |
| | | | | 27 | | | | | |
| | | | | 28 | | | | | |
| | | | | 29 | | | | | |
| | | | MW-8- | 30 | | | | | |
| 0 | 23 | S&H | 30.5 | | | | | | |
| | | | | 31 | | | | | |
| | | | | 32 | | | | | |
| | | | | 33 | | | | | |
| | | | | 34 | | | | | |
| | | | MW-8- | 35 | | | | | lenses of sand 1-2 inches thick interfingered with clay and clayey sand. |
| 0 | 15 | S&H | 35.5 | | | | | | |
| | | | | 36 | | | | | Bottom of Boring at 35.5 ft. |
| | | | | 37 | | | | | 12/6/91 |
| | | | | 38 | | | | | |
| | | | | 39 | | | | | |
| | | | | 40 | | | | | |

Remarks:

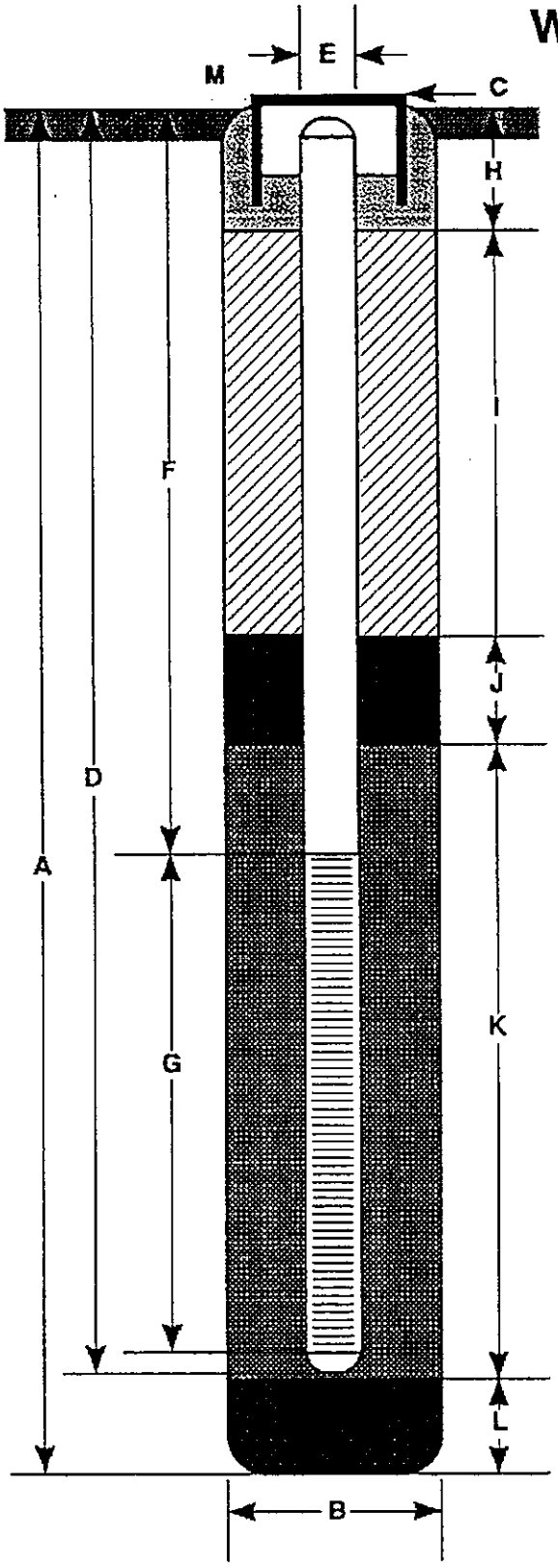
GeoStrategies Inc.

Log of Boring

BORING NO. MW-8

| JOB NUMBER | REVIEWED BY RG/CEG | DATE | REVISED DATE | REVISED DATE |
|---|---|---|---|---|
| 729001 | MCC | 12/91 | | |

# WELL CONSTRUCTION DETAIL




**A** Total Depth of Boring: 35.5 ft.

**B** Diameter of Boring: 8 in.
Drilling Method: Hollow Stem Auger

**C** Top of Box Elevation: 355.54 ft.
[X] Referenced to Mean Sea Level
[ ] Referenced to Project Datum

**D** Casing Length: 35 ft.
Material: Schedule 40 PVC

**E** Casing Diameter: 2 in.

**F** Depth to Top Perforations: 15 ft.

**G** Perforated Length: 20 ft.
Perforated Interval from: 15 to 35 ft.
Perforation Type: Factory slot
Perforation Size: 0.020 in.

**H** Surface Seal from: 0.0 to 1.5 ft.
Seal Material: Concrete grout

**I** Backfill from: 1.5 to 11 ft.
Backfill Material: Cement grout

**J** Seal from: 11 to 13 ft.
Seal Material: Bentonite pellets

**K** Gravel Pack from: 13 to 35 ft.
Pack Material: Lonestar #2/12 sand

**L** Bottom Seal: 0.5 ft.
Seal Material: Native material

**M** Traffic-rated box with locking well cap and lock.

Note: Depths measured from initial ground surface.

GeoStrategies Inc.

Well Construction Detail

WELL NO.
**MW-8**

| JOB NUMBER | REVIEWED BY RG/CEG | DATE | REVISED DATE | REVISED DATE |
|---|---|---|---|---|
| 729001 | MCC | 12/91 | | |

# KEY TO BORING LOG SYMBOLS

## UNIFIED SOIL CLASSIFICATION SYSTEM - ASTM D2488

| MAJOR DIVISIONS | | | SYMBOL/ GRAPHIC | DESCRIPTIONS |
|---|---|---|---|---|
| COARSE GRAINED SOILS (>50% by weight larger than #200 sieve) | GRAVELS (More than 50% of coarse fraction is larger than the #4 sieve size.) | Clean gravels with little or no fines | GW | Well Graded Gravels, Gravel - Sand Mixtures |
| | | | GP | Poorly Graded Gravels, Gravels - Sand Mixtures |
| | | Gravels with over 12% fines | GM | Silty Gravels, Poorly Graded Gravel - Sand - Silt Mixtures |
| | | | GC | Clayey Gravels, Poorly Graded Gravel - Sand - Clay Mixtures |
| | SANDS (More than 50% of coarse fraction is smaller than #4 sieve size.) | Clean sands with little or no fines | SW | Well Graded Sands, Gravelly Sands |
| | | | SP | Poorly Graded Sands, Gravelly Sands |
| | | Sands with over 12% fines | SM | Silty Sands, Poorly Graded Sand - Silt Mixtures |
| | | | SC | Clayey Sands, Poorly Graded Sand - Clay Mixtures |
| FINE GRAINED SOILS (>50% smaller than #200 sieve) | SILTS AND CLAYS (liquid limit less than 50) | | ML | Inorganic Silts and Very Fine Sands, Silty or Clayey Fine Sands |
| | | | CL | Inorganic Clays of Low to Medium Plasticity; Gravelly, Sandy or Silty Clays; Lean Clays |
| | | | OL | Organic Clays and Organic Silty Clays of Low Plasticity |
| | SILTS AND CLAYS (liquid limit greater than 50) | | MH | Inorganic Silts, Micaceous or Diatomaceous Fine Sandy or Silty Soils, Elastic Silts |
| | | | CH | Inorganic Clays of High Plasticity, Fat Clays |
| | | | OH | Organic Clays of Medium to High Plasticity, Organic Silts |
| HIGHLY ORGANIC SOILS | | | Pt | Peat and other Highly Organic Soils |

Stabilized water level (date)

Water level encountered during drilling

Shaded interval represents soil sample. Blackened interval indicates portion of sample prepared for laboratory analysis.

Indicates no recovery of sample

Monitoring well

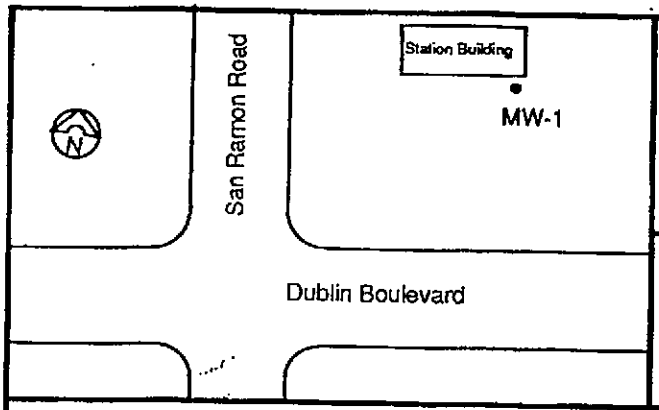
Soil boring

| | |
|---|---|
| | Asphaltic Concrete |
| | Portland Cement Concrete |
| | Cement Grout |

**PID** Photo-ionization detector readings (ppmv)

**FID** Flame-ionization detector readings (ppmv)

**EXP** Gastech explosimeter readings (ppmv)



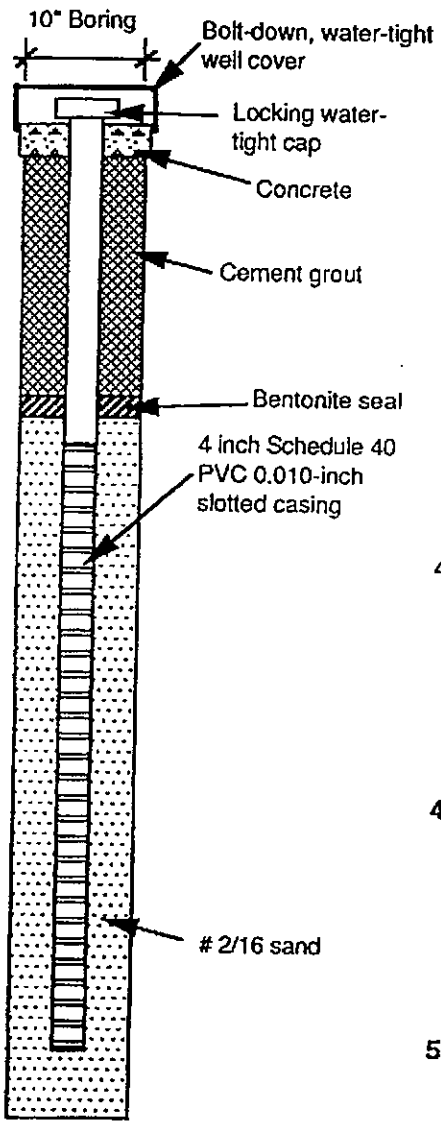

# LOG OF BORING MW-1

## Chevron Service Station #9-5542
## 7007 San Ramon Road
## Dublin, California

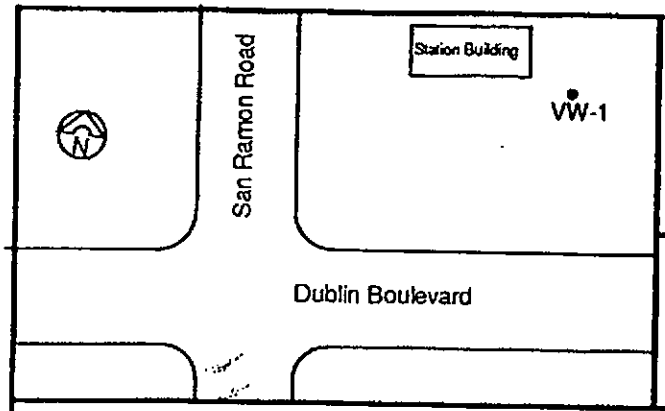
Project No.: RC09303
Logged By: M. M. Bessette
Drilling Co.: Great Sierra
Driller: Scott Irwin

Date Drilled: November 25, 1992
Drilling Method: 10" hollow-stem auger
Sampling Method: Continuous
Inclination: Vertical

**WELL CONSTRUCTION**




| Depth (ft.) | Blows/ft. | Samples | Graphic | DESCRIPTION |
|---|---|---|---|---|
| | | | | Surface Elevation: 364.89 feet<br>Casing Elevation: 364.53 feet |
| 0 | | | | <u>0 - 40 FEET BELOW GROUND SURFACE:</u><br>Geologic description of soil from ground surface to 40 feet below ground surface (BGS) previously logged by Chempro during the installation of the original Monitor Well MW-1 which was destroyed and rebored by Geraghty & Miller on this date to the depth of 50-feet below ground surface. |
| 20 | | | | 11/25/92 |
| 40 | | | | SILTY CLAY (CL); dark yellowish brown (10 YR 5/3); 25-35% silt; trace coarse-grained sand; medium firm; damp. |
| 45 | | | | @ 47 feet; SANDY CLAY (CL); brown (10YR, 5/3); 30-40% fine-grained sand; 5-10% medium-grained sand; very stiff; damp. |
| 50 | | | | @ 50 feet; SILTY SANDY CLAY (CL); brown (10YR, 5/3); 40-50% clay; 35-45% fine to medium-grained sand; 10-20% silt; medium firm; damp.<br>Bottom of boring: 51.5 feet BGS |
| 55 | | | | |




# LOG OF BORING VW-1

## Chevron Service Station #9-5542
## 7007 San Ramon Road
## Dublin, California

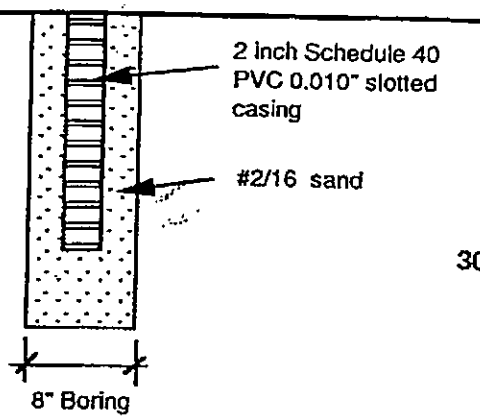
Project No.: RC09303
Logged By: M. M. Bessette
Drilling Co.: Great Sierra
Driller: Scott Irwin

Date Drilled: November 24, 1992
Drilling Method: 10" hollow-stem auger
Sampling Method: Continuous
Inclination: Vertical

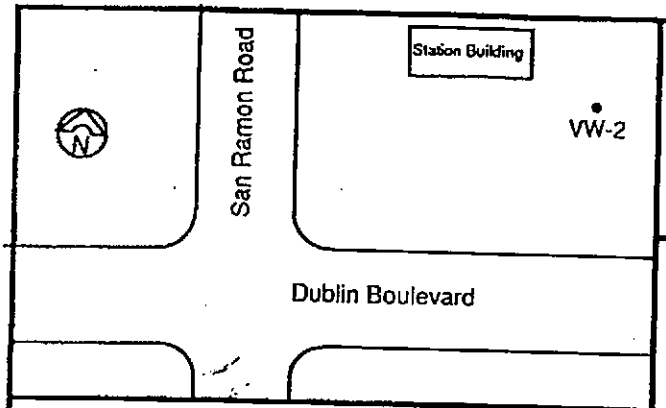
| WELL CONSTRUCTION | Depth (ft.) | Blows/ft. | Samples | Graphic | DESCRIPTION |
|---|---|---|---|---|---|
| 8" Boring; Bolt-down, water-tight well cover; Locking water-tight cap; Concrete; Cement grout; 2 inch Schedule 40 PVC blank casing; Bentonite seal; # 2/16 sand | 0 | | | | Surface Elevation: 363.80 feet<br>Casing Elevation: 363.57 feet |
| | | | | | SILTY GRAVEL (GM); Backfill material; dark brown (10YR, 4/3); poorly sorted; 50-60% fine-gravel; 40-50% silt; dense; dry. |
| | 5 | | | | CLAYEY SILT (ML); dark brown (10YR, 3/3); 5-15% fine-grained sand; 5-10% clay; 5-10% fine gravel; dense; dry; roots.<br>@ 8 feet: dark yellowish brown (10YR, 4/4); 75-85% silt; 15-25% fine-grained sand; trace coarse-grained sand; dry; dense; extensive root galleries.<br>@ 10 feet: very dark greyish brown (10YR, 5/4); 15-20% clay; trace fine-grained sand; hard; damp. |
| | 10 | | | | |
| | 15 | | | | SILTY SAND (SM); brown (10YR 5/3); moderate sorting; 70-80% fine-grained sand; 20-30% silt; loose; damp.<br>@ 15 feet: trace coarse-grained sand.<br>@ 17.5 feet: dark brown (10YR 4/3); poorly sorted; 60-70% fine-grained sand; 15-25% coarse gravel; 5-10% silt; 5-10% coarse-grained sand; damp. |
| | 20 | | | | SILT (ML); yellowish brown (10YR, 5/4); soft; damp.<br>@ 22 feet; dark brown (10YR, 4/3); 70-80% silt; 20-30% clay; trace fine-grained sand; stiff; damp.<br>@ 24 feet: dark grey; 60-70% silt; 15-25% clay; 10-15% fine-grained sand; stiff; damp. |
| | 25 | | | | |

## LOG OF BORING VW-1 (continued)

**WELL CONSTRUCTION**




| Depth (ft.) | Blows/ft. | Samples | Graphic | DESCRIPTION |
|---|---|---|---|---|
| | | | | @ 28 feet: dark greyish brown (5GY, 4/1); 60-70% silt; 20-25% very fine-grained sand; 5-15% clay; medium firm; damp. |
| | | | | 11/24/92 |
| 30 | | | | Bottom of boring: 31.5 feet. |
| 35 | | | | |
| 40 | | | | |
| 45 | | | | |
| 50 | | | | |
| 55 | | | | |
| 60 | | | | |



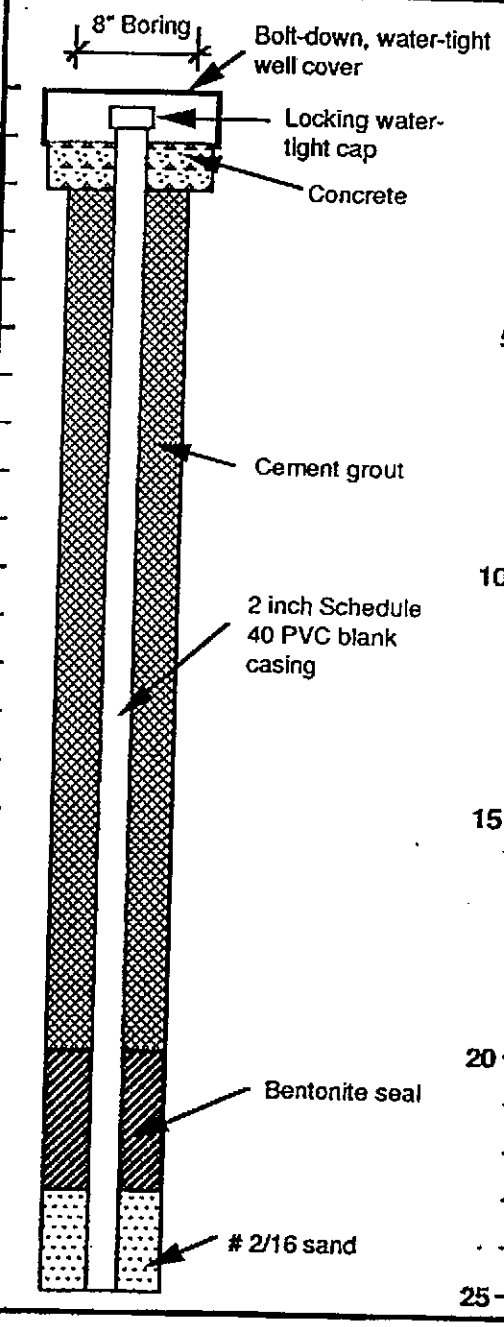

# LOG OF BORING VW-2

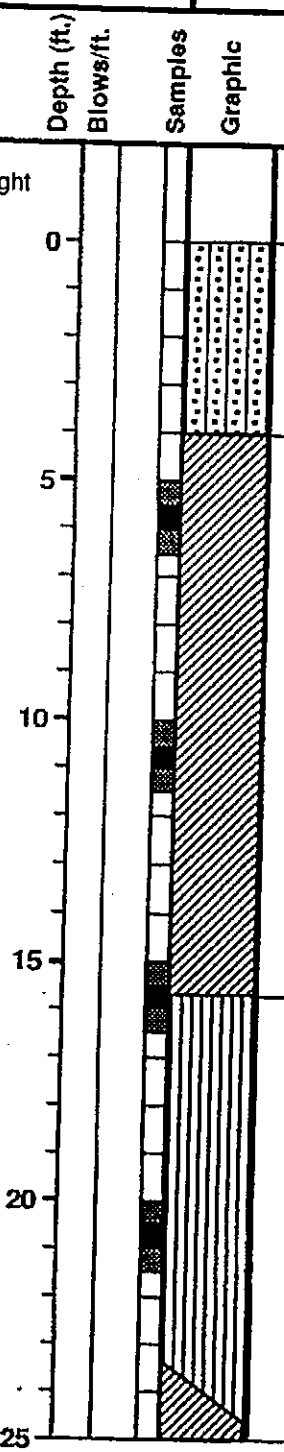
## Chevron Service Station #9-5542
## 7007 San Ramon Road
## Dublin, California

Project No.: RC09303
Logged By: M. M. Bessette
Drilling Co.: Great Sierra
Driller: Scott Irwin

Date Drilled: November 25, 1992
Drilling Method: 8" hollow-stem auger
Sampling Method: Split Spoon
Inclination: Vertical

**WELL CONSTRUCTION**




**DESCRIPTION**

Surface Elevation: 363.39 feet
Casing Elevation: 363.10 feet

SILTY GRAVEL (GM); Backfill material: dark brown (10YR, 4/3); poorly sorted; 50-60% fine-gravel; 40-50% silt; dense; dry.

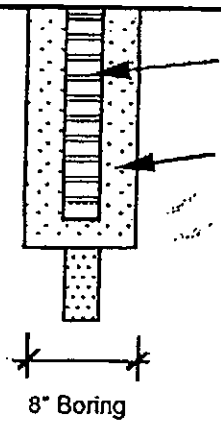
SILTY CLAY (CL); dark brown (10YR. 3/3); 60-70% clay; 15-25% fine-grained sand; 10-20% silt; roots; very stiff; dry.

SANDY SILT (ML); brown (10YR 5/3); poorly sorted; 50-60% silt; 30-40% fine-grained sand; trace coarse-grained sand; roots; stiff; damp.

@ 20 feet: same as above with moderate sorting; 15-25% fine-grained sand; trace medium-grained sand; stiff; damp.

## LOG OF BORING VW-2 (continued)

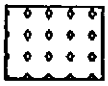
**WELL CONSTRUCTION**

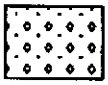


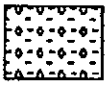

| Depth (ft.) | Blows/ft. | Samples | Graphic | DESCRIPTION |
|---|---|---|---|---|
| 30 | | | | SILTY CLAY (CL); dark grayish brown (2.5Y, 4/2); 55-65% clay; 20-30% silt; 10-20% fine-grained sand; stiff; damp. |
| | | | | SANDY SILT (ML); dark greenish gray (5GY, 4/1); 50-60% silt; 35-45% fine-grained sand; 5-10% medium-grained sand; trace coarse-grained sand; stiff; damp. |
| | | | | Bottom of boring: 31.5 feet BGS |
| 35 | | | | |
| 40 | | | | |
| 45 | | | | |
| 50 | | | | |
| 55 | | | | |
| 60 | | | | |

SIERRA

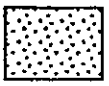
# EXPLANATION FOR SES BORING LOGS

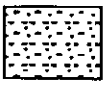

GRAVEL

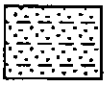

Sandy GRAVEL


Silty GRAVEL

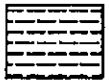

Clayey GRAVEL

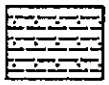

SAND

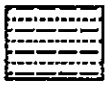

Silty SAND/Sandy SILT

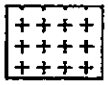

Clayey SAND


SILT


CLAY

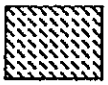

Sandy CLAY

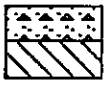

Silty CLAY/Clayey SILT


Organics


Hard Rock


Slough


Asphalt


Concrete
Cement/Grout

K = Field estimation of soil hydraulic conductivity

Drive sample interval

Drive sample collected for possible chemical analysis

Contact between sedimentary or lithologic units; dotted where approximate, dashed where uncertain, hatched where gradational

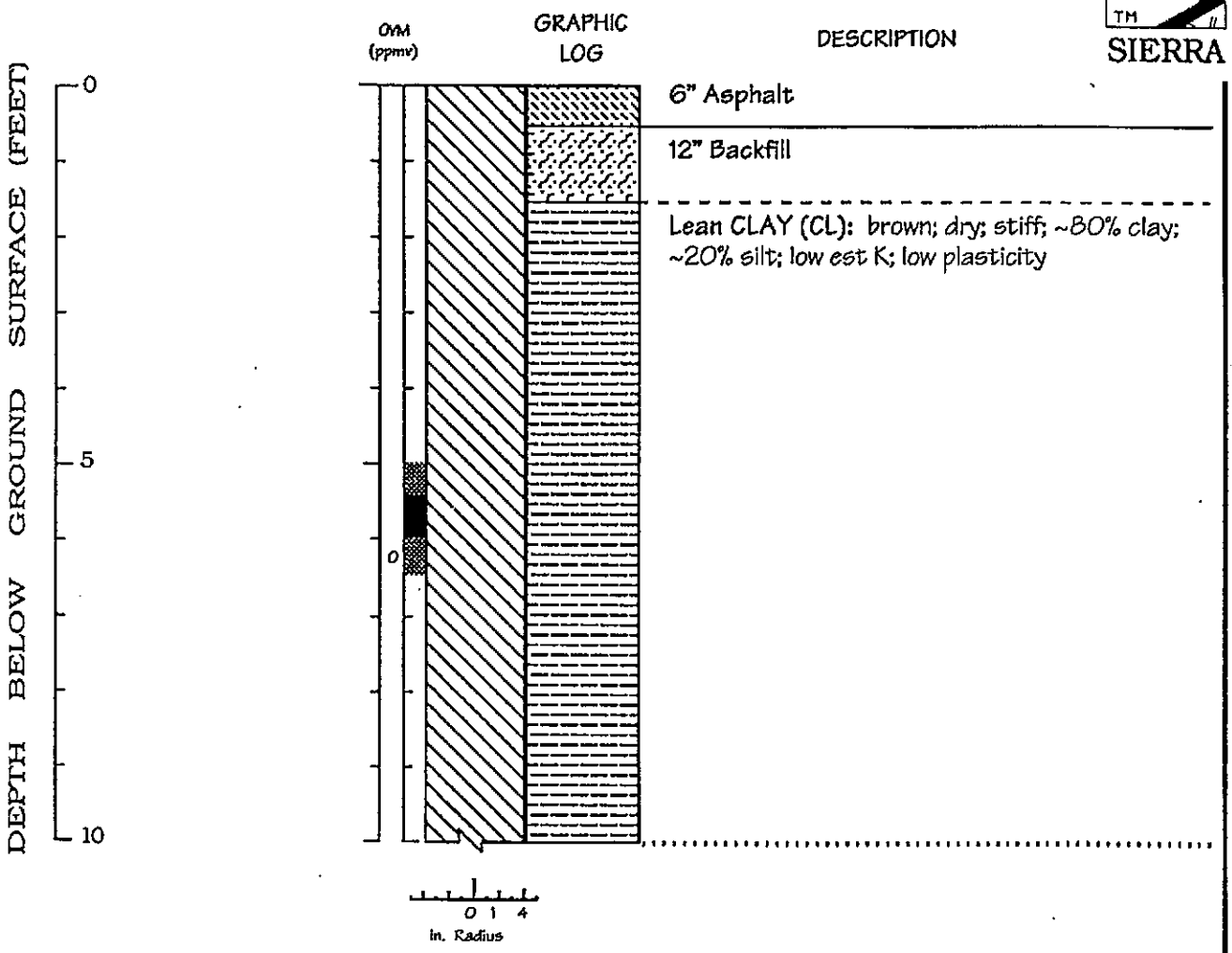
Initial water level measured during drilling (date in italics)

Static water level, measured after well development (date in italics)

*Note: Soils are logged using ASTM D2487 Soil Classification System*

# BORING B-1

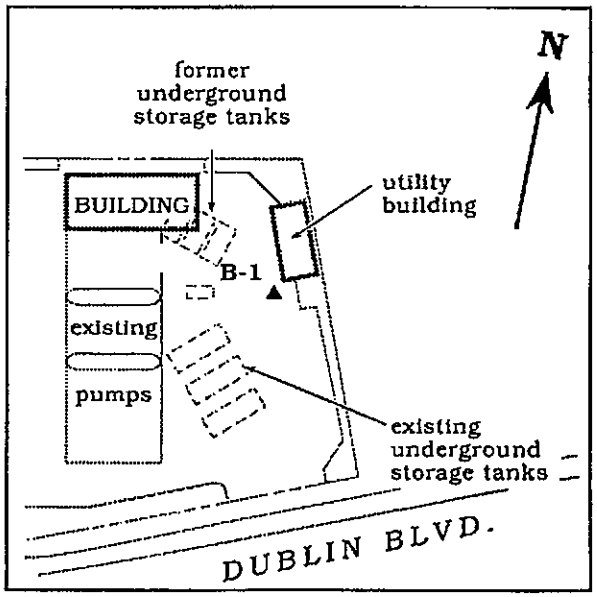
SIERRA




**Boring Log – Boring B-1**

Chevron Service Station #9-5542
7007 San Ramon Valley Blvd.
Dublin, California

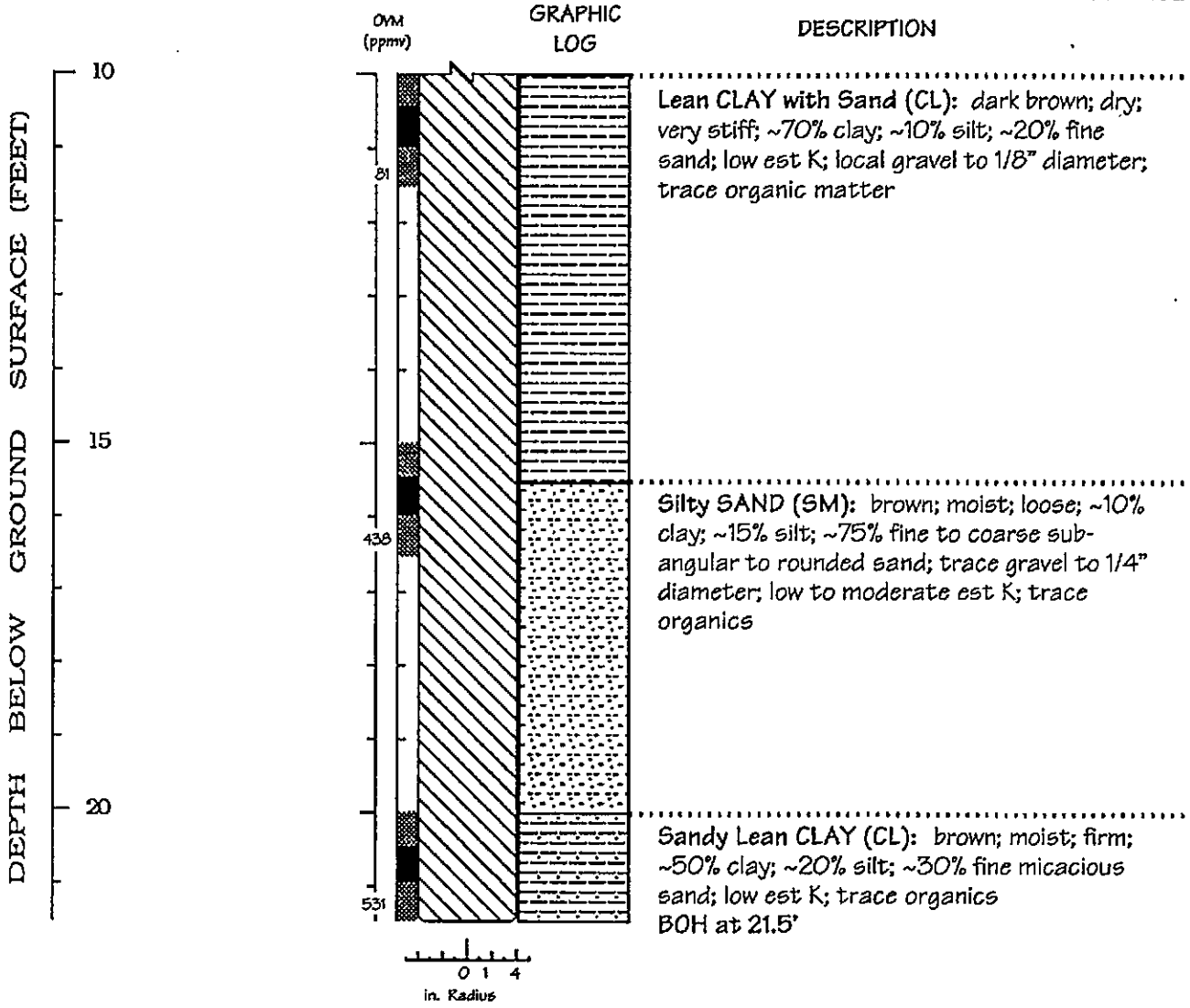
| | |
|---|---|
| Logged by: | Argy Mena |
| Supervisor: | C. Bramer P.E. #C48846 |
| Drilling Company: | Soils Exploration Services |
| C-57#: | 582696 |
| Driller: | Morris Petersen |
| Drilling Method: | Hollow stem auger |
| Date Drilled: | June 8, 1994 |
| Well Head Completion: | Grouted to surface |
| Type of sampler: | Split barrel (2" ID) |



# BORING B-1

*(continued)*

SIERRA

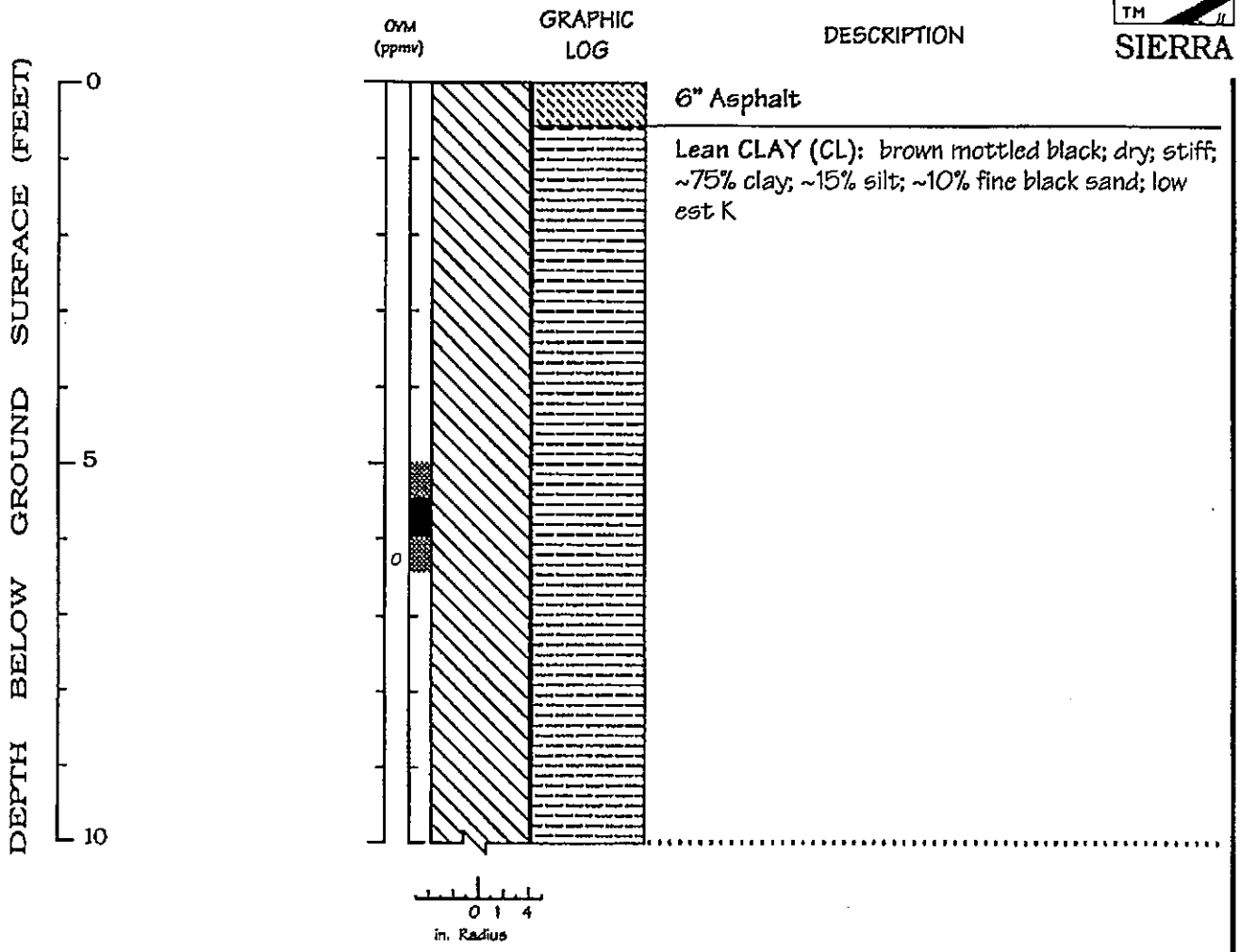



**Boring Log - Boring B-1**

Chevron Service Station #9-5542
7007 San Ramon Valley Blvd.
Dublin, California

# BORING B-2

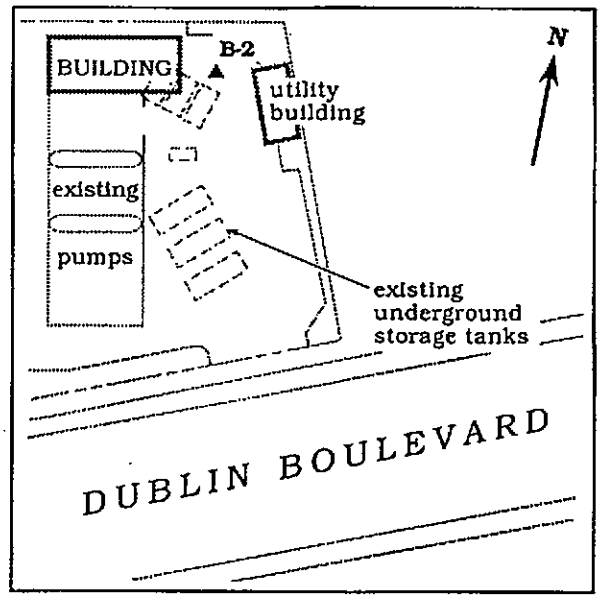
SIERRA




**Boring Log - Boring B-2**

Chevron Service Station #9-5542
7007 San Ramon Valley Blvd.
Dublin, California

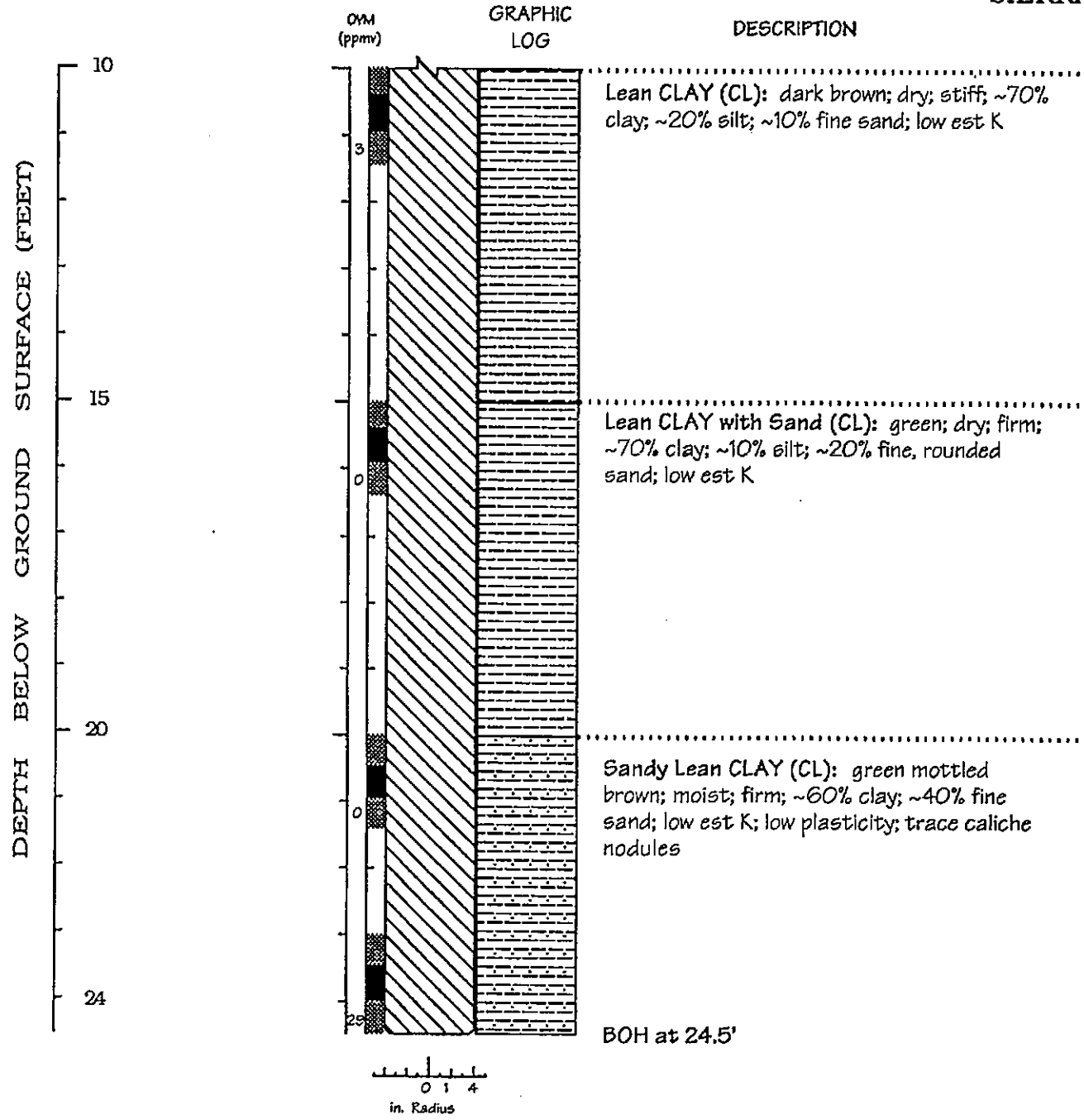
| | |
|---|---|
| Logged by: | Argy Mena |
| Supervisor: | C. Bramer P.E. #C48846 |
| Drilling Company: | Soils Exploration Services |
| C-57#: | 582696 |
| Driller: | Morris Petersen |
| Drilling Method: | Hollow stem auger |
| Date Drilled: | June 8, 1994 |
| Well Head Completion: | Grouted to surface |
| Type of sampler: | Split barrel (2" ID) |



# BORING B-2

*(continued)*

SIERRA

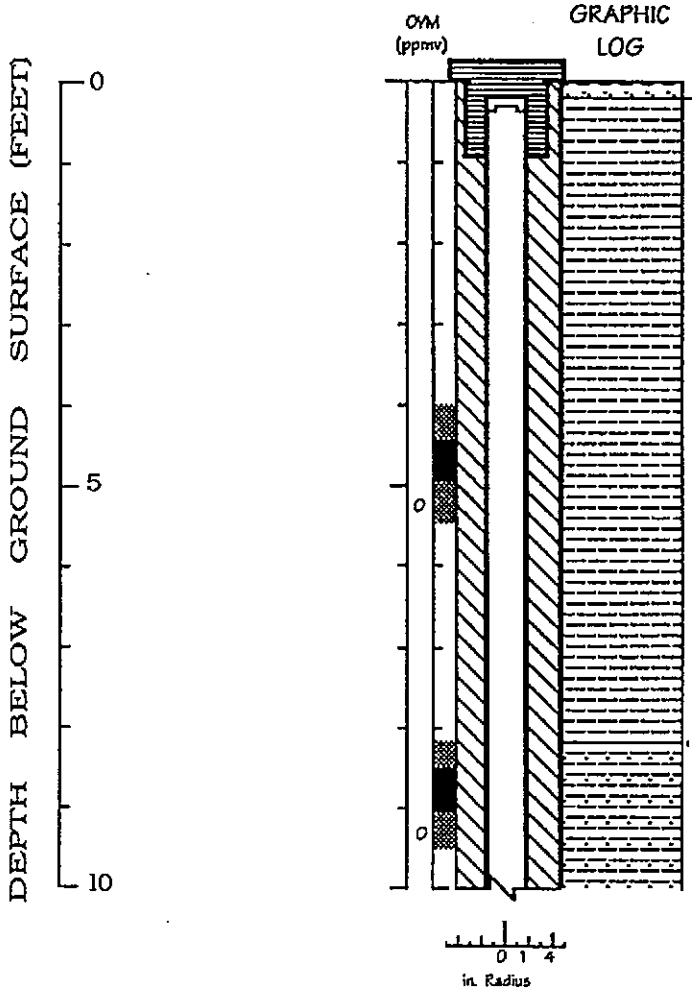



**Boring Log - Boring B-2**

Chevron Service Station #9-5542
7007 San Ramon Valley Blvd.
Dublin, California

# WELL MW-9

SIERRA




DESCRIPTION

2" topsoil with subangular gravel

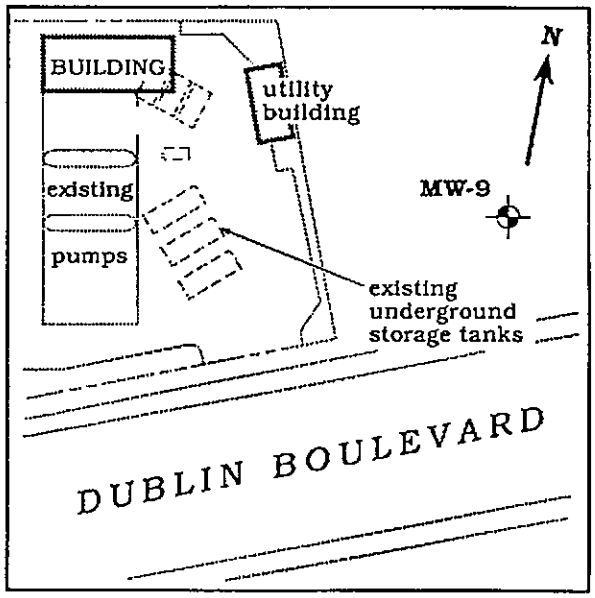
Lean CLAY with Sand (CL): dark brown; dry; firm; ~55% clay; ~30% silt; ~15% very fine sand; low est K; trace caliche nodules

Sandy Lean CLAY with Gravel (CL): light brown; dry; firm; 50-60% clay; ~10% silt; 15-25% fine sand; ~15% subangular gravel to .5" diameter; low est K

**Well Construction and Boring Log - Well MW-9**

Chevron Service Station #9-5542
7007 San Ramon Valley Blvd.
Dublin, California

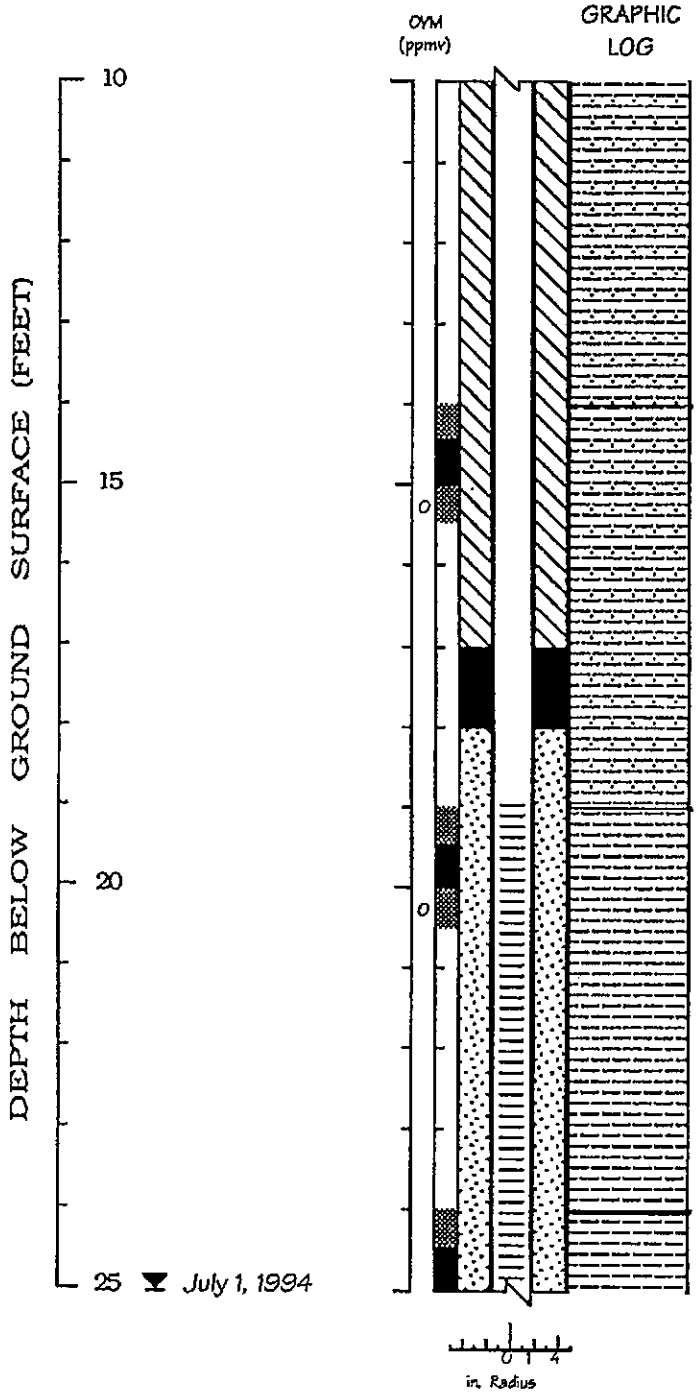
| | |
|---|---|
| Logged by: | Argy Mena |
| Supervisor: | C. Bramer P.E. #C48846 |
| Drilling Company: | Soils Exploration Services |
| C-57#: | 582696 |
| Driller: | Morris Petersen |
| Drilling Method: | Hollow stem auger |
| Date Drilled: | June 8, 1994 |
| Well Head Completion: | Locking cap & traffic-rated vault |
| Type of sampler: | Split barrel (2" ID) |



# WELL MW-9

*(continued)*

SIERRA




Sandy Lean CLAY with Gravel (CL): continued

Sandy Fat CLAY (CH): brown; moist; stiff; ~50% clay; ~10% silt; ~30% very fine to fine sand; ~10% gravel to 1/8" diameter; trace angular gravel to 1" diameter; low est K; high plasticity

Fat CLAY with Sand (CH): olive brown; moist; firm; ~60% clay; ~20% silt; ~20% fine sand; low est K; micaceous, trace caliche nodules; high plasticity

Lean CLAY (CL): olive brown; moist; firm; ~80% clay; ~20% silt; trace gravels; low est K; trace caliche nodules, micaceous

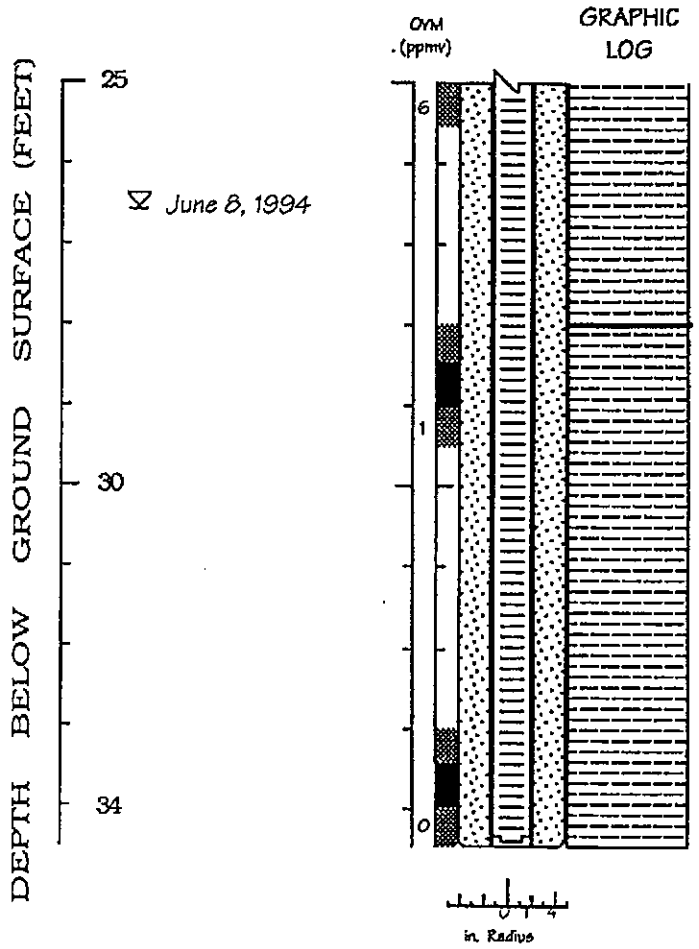
**Well Construction and Boring Log - Well MW-9**

Chevron Service Station #9-5542
7007 San Ramon Valley Blvd.
Dublin, California

# WELL MW-9

*(continued)*

SIERRA




**Well Construction and Boring Log - Well MW-9**

Chevron Service Station #9-5542
7007 San Ramon Valley Blvd.
Dublin, California

# Drilling Log

GROUNDWATER TECHNOLOGY

## Soil Boring SB-1

Project Chevron – Dublin  Owner Chevron U.S.A. Products Company
Location 7007 San Ramon Road, Dublin, CA  Proj. No. 02070 0156
Surface Elev. ____  Total Hole Depth 27 ft.  Diameter 2 in.
Top of Casing ____  Water Level Initial 21.8 ft.  Static ____
Screen: Dia ____  Length ____  Type/Size ____
Casing: Dia ____  Length ____  Type ____
Fill Material Neat Cement  Rig/Core Geoprobe/Polytube HDP
Drill Co. Kvilhaug  Method Geoprobe
Driller Mike Crocker  Log By Brian McAloon  Date 07/12/95  Permit # 95361
Checked By Ed Simonis  License No. RG#4422

See Site Map For Boring Location

COMMENTS:

Collected "GRAB" groundwater samples.

| Depth (ft.) | PID (ppm) | Sample ID | Blow Count/ % Recovery | Graphic Log | USCS Class. | Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50% |
|---|---|---|---|---|---|---|
| -2 | | | | | | |
| 0 | | | | | GM | Silty GRAVEL (40,60): backfill. |
| 2 | | | | | CL | Silty CLAY (40,60): brown, dry, no hydrocarbon odor. |
| 4 | | | | | | Gravelly silty CLAY (10,30,60): brown, dry to damp, no hydrocarbon odor. |
| 6 | 0 | SB-1 -7.0' | | | CL | |
| 8 | | | | | | |
| 10 | | | | | | Silty CLAY (40,60): brown, with white mottling, dry to damp, no hydrocarbon odor. |
| 12 | 0 | SB-1 -12.0' | | | CL | |
| 14 | | | | | | |
| 16 | | | | | | Clayey sandy SILT (20,30,50): brown grading to silty CLAY (30,70): brown, damp, no hydrocarbon odor. |
| 18 | 0 | SB-1 -17.0' | | | ML/CL | |
| 20 | | | | | | Sandy silty CLAY (10,30,60): olive-gray with 10% white mottling, 5% rust-brown rootlet cast, damp, no hydrocarbon odor. |
| 22 | 0 | SB-1 -22.0' | | | CL | *Encountered Water (Drillers Call)* |
| 24 | | | | | | |

# Drilling Log

GROUNDWATER TECHNOLOGY

Soil Boring **SB-1**

Project *Chevron – Dublin* Owner *Chevron U.S.A. Products Company*
Location *7007 San Ramon Road, Dublin, CA* Proj. No. *02070 0156*

| Depth (ft.) | PID (ppm) | Sample ID | Blow Count/ % Recovery | Graphic Log | USCS Class. | Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50% |
|---|---|---|---|---|---|---|
| 24 | | | | | CL | Sandy clayey SILT (20,30,50): olive-gray grading to clayey SILT (40,60): damp to moist, strong hydrocarbon odor. |
| 26 | 60 | SB-1 -27.0' | | | ML | |
| 28 | 80 | | | | | End of Boring. Backfilled with neat cement 07/12/95. |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| 40 | | | | | | |
| 42 | | | | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |

# Drilling Log

GROUNDWATER TECHNOLOGY

## Soil Boring SB-2

Project Chevron - Dublin — Owner Chevron U.S.A. Products Company
Location 7007 San Ramon Road, Dublin, CA — Proj. No. 02070 0156
Surface Elev. ____ Total Hole Depth 27 ft. — Diameter 2 in.
Top of Casing ____ Water Level Initial 21.8 ft. — Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material Neat Cement — Rig/Core Geoprobe/Polytube HDP
Drill Co. Kvilhaug — Method Geoprobe
Driller Mike Crocker — Log By Brian McAloon — Date 07/12/95 — Permit # 95361
Checked By Ed Simonis — License No. RG#4422

*See Site Map For Boring Location*

*COMMENTS:*

*Collected "GRAB" groundwater samples.*

| Depth (ft.) | PID (ppm) | Sample ID | Blow Count/ % Recovery | Graphic Log | USCS Class. | Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50% |
|---|---|---|---|---|---|---|
| -2 | | | | | | |
| 0 | | | | | GM | 3" Asphalt<br>Silty GRAVEL (40,60): brown, dry, no hydrocarbon odor (backfill). |
| 2 | | | | | | Silty CLAY: brown. |
| 4 | | | | | CL | |
| 6 | 0 | SB-2 -7.0' | | | | Sandy silty CLAY (10,30,60): brown, damp, no hydrocarbon odor. |
| 8 | | | | | | |
| 10 | | | | | | |
| 12 | 0 | SB-2 -12.0' | | | CL | |
| 14 | | | | | | |
| 16 | | | | | | |
| 18 | 0 | SB-2 -17.0' | | | | Clayey SILT (40,60): olive-gray, damp to moist, no hydrocarbon odor. |
| 20 | | | | | ML | |
| 22 | 0 | SB-2 -22.0' | | | | *Encountered Water (Drillers Call)* |
| 24 | | | | | CL | Silty CLAY (30,70): olive-gray, damp, no hydrocarbon odors. |

GROUNDWATER TECHNOLOGY

# Drilling Log

## Soil Boring SB-2

Project Chevron - Dublin  Owner Chevron U.S.A. Products Company
Location 7007 San Ramon Road, Dublin, CA  Proj. No. 02070 0156

| Depth (ft.) | PID (ppm) | Sample ID | Blow Count/ % Recovery | Graphic Log | USCS Class. | Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50% |
|---|---|---|---|---|---|---|
| 24 | | | | | | Silty CLAY (cont) |
| 26 | 2 | SB-2 -27.0' | | | CL | |
| 28 | | | | | | End of Boring. Backfilled with neat cement 07/12/95. |
| 30 | | | | | | |
| 32 | | | | | | |
| 34 | | | | | | |
| 36 | | | | | | |
| 38 | | | | | | |
| 40 | | | | | | |
| 42 | | | | | | |
| 44 | | | | | | |
| 46 | | | | | | |
| 48 | | | | | | |
| 50 | | | | | | |
| 52 | | | | | | |
| 54 | | | | | | |
| 56 | | | | | | |

# Drilling Log

GROUNDWATER TECHNOLOGY

## Soil Boring SB-3

Project Chevron - Dublin Owner Chevron U.S.A. Products Company
Location 7007 San Ramon Road, Dublin, CA Proj. No. 02070 0156
Surface Elev. ____ Total Hole Depth 27 ft. Diameter 2 in.
Top of Casing ____ Water Level Initial 21.8 ft. Static ____
Screen: Dia ____ Length ____ Type/Size ____
Casing: Dia ____ Length ____ Type ____
Fill Material Neat Cement Rig/Core Geoprobe/Polytube HDP
Drill Co. Kvilhaug Method Geoprobe
Driller Mike Crocker Log By Brian McAloon Date 07/12/95 Permit # 95361
Checked By Ed Simonis License No. RG#4422

*See Site Map For Boring Location*

*COMMENTS:*

*Collected "GRAB" groundwater samples.*

| Depth (ft.) | PID (ppm) | Sample ID | Blow Count/ % Recovery | Graphic Log | USCS Class. | Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50% |
|---|---|---|---|---|---|---|
| 0 | | | | | | 3" Asphalt |
| 2 | | | | | GM | Silty GRAVEL (40,60): brown, dry. |
| 4 | | | | | CL | Silty CLAY (35,65): brown, dry, no hydrocarbon odor. |
| 6 | 0 | SB-3 -7.0' | | | CL | Gravelly silty CLAY (10,30,60): brown, dry to damp, no hydrocarbon odor. |
| 8 | | | | | | |
| 10 | | | | | CL | Sandy silty CLAY (10,40,50): brown, damp, no hydrocarbon odor. |
| 12 | 0 | SB-3 -12.0' | | | | |
| 14 | | | | | | Sandy silty CLAY (10,30,60): brown with 5% white mottling, damp, no hydrocarbon odor. |
| 16 | 0 | SB-3 -17.0' | | | | |
| 18 | | | | | CL | |
| 20 | | | | | | |
| 22 | 0 | SB-3 -22.0' | | | | *Encountered Water (Drillers Call)* |
| 24 | | | | | | |

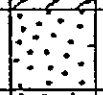
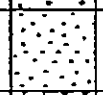
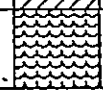
# Drilling Log

GROUNDWATER TECHNOLOGY

## Soil Boring SB-3

Project Chevron - Dublin  Owner Chevron U.S.A. Products Company
Location 7007 San Ramon Road, Dublin, CA  Proj. No. 02070 0156

| Depth (ft.) | PID (ppm) | Sample ID / Blow Count / % Recovery | Graphic Log | USCS Class. | Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50% |
|---|---|---|---|---|---|
| 24 | | | | | Sandy silty CLAY (20,20,60): brown, damp to moist, no hydrocarbon odor. |
| 26 | 0 | SB-3 -27.0' | | CL | End of Boring. Backfilled with neat cement 07/12/95. |
| 28 | | | | | |
| 30 | | | | | |
| 32 | | | | | |
| 34 | | | | | |
| 36 | | | | | |
| 38 | | | | | |
| 40 | | | | | |
| 42 | | | | | |
| 44 | | | | | |
| 46 | | | | | |
| 48 | | | | | |
| 50 | | | | | |
| 52 | | | | | |
| 54 | | | | | |
| 56 | | | | | |

| MAJOR DIVISIONS | | | | | TYPICAL NAMES |
|---|---|---|---|---|---|
| COARSE-GRAINED SOILS MORE THAN HALF IS COARSER THAN NO. 200 SIEVE | GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE | CLEAN GRAVELS WITH LITTLE OR NO FINES | GW |  | WELL GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES |
| | | | GP |  | POORLY GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES |
| | | GRAVELS WITH OVER 15% FINES | GM |  | SILTY GRAVELS, SILTY GRAVELS WITH SAND |
| | | | GC |  | CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND |
| | SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE | CLEAN SANDS WITH LITTLE OR NO FINES | SW |  | WELL GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES |
| | | | SP |  | POORLY GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES |
| | | SANDS WITH OVER 15% FINES | SM |  | SILTY SANDS WITH OR WITHOUT GRAVEL |
| | | | SC |  | CLAYEY SANDS WITH OR WITHOUT GRAVEL |
| FINE-GRAINED SOILS MORE THAN HALF IS FINER THAN NO. 200 SIEVE | SILTS AND CLAYS LIQUID LIMIT 50% OR LESS | | ML |  | INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTS WITH SANDS AND GRAVELS |
| | | | CL |  | INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS |
| | | | OL |  | ORGANIC SILTS OR CLAYS OF LOW PLASTICITY |
| | SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50% | | MH |  | INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS |
| | | | CH |  | INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS |
| | | | OH |  | ORGANIC SILTS OR CLAYS OF MEDIUM TO HIGH PLASTICITY |
| HIGHLY ORGANIC SOILS | | | PT |  | PEAT AND OTHER HIGHLY ORGANIC SOILS |

LL - Liquid Limit (%)

PI - Plastic Index (%)

PID - Volatile Vapors in ppm

MA - Particle Size Analysis

2.5 YR 6/2 - Soil Color according to Munsell Soil Color Charts (1975 Edition)

5 GY 5/2 - GSA Rock Color Chart

 - No Soil Sample Recovered

 - "Undisturbed" Sample

 - Bulk or Classification Sample

 - First Encountered Ground Water Level

 - Piezometric Ground Water Level

Penetration - Sample drive hammer weight - 140 pounds falling 30 inches. Blows required to drive sampler 1 foot are indicated on the logs

Unified Soil Classification - ASTM D 2488-85
and Key to Test Data

| Gettler-Ryan, Inc. | Log of Boring B-3 |
|---|---|
| PROJECT: *Chevron SS# 9-5542* | LOCATION: *7007 San Ramon Road, Dublin, CA* |
| G-R PROJECT NO. : *5290.01* | SURFACE ELEVATION: *feet MSL* |
| DATE STARTED: *06/12/96* | WL (ft. bgs): *23.3* DATE: *06/12/96* TIME: *14:30* |
| DATE FINISHED: *06/12/96* | WL (ft. bgs): DATE: TIME: |
| DRILLING METHOD: *6 in. Hollow Stem Auger* | TOTAL DEPTH: *30 Feet* |
| DRILLING COMPANY: *Bay Area Exploration, Inc.* | GEOLOGIST: *B. Sieminski* |

| DEPTH feet | PID (ppm) | BLOWS/FT. * | SAMPLE NUMBER | SOIL CLASS | GEOLOGIC DESCRIPTION | REMARKS |
|---|---|---|---|---|---|---|
| | | | | ML | GRAVELLY SILT (ML) – brown (7.5YR 5/2), damp; 50% silt, 30% fine gravel, 20% fine to coarse sand. | Boring backfilled with neat cement with 2% bentonite. |
| | | | | CL | CLAY WITH SAND (CL) – dark grayish brown (2.5Y 4/2), damp, low plasticity; 85% clay, 15% fine to coarse sand, trace fine gravel. | |
| 5 | 0 | | B3-8 | | | |
| | 0 | | B3-10 | CL | SANDY CLAY (CL) – dark grayish brown (2.5Y 4/2), moist, low plasticity ; 65% clay, 30% fine to coarse sand, 5% fine gravel. | |
| 10 | 0 | | B3-12 | | | |
| | 0 | | B3-14 | | | |
| 15 | 0 | | B3-16 | SC | CLAYEY SAND (SC) – dark grayish brown (2.5Y 4/2), moist; 60% fine sand , 40% clay. | |
| | 0 | | B3-18 | CL | CLAY WITH SAND (CL) – olive (5Y4/3) with white (5Y 8/1) and brown (10 YR 5/3) mottling, moist, low plasticity; 85% clay, 15% fine to coarse sand. | |
| 20 | 0 | | B3-20 | | | |
| | 320 | | B3-22 | | | |
| | 980 | | B3-24 | | ▽ Becomes saturated at 23.3 feet. | |
| 25 | 1050 | | B3-26 | SC | CLAYEY SAND (SC) – dark greenish gray (5GY 4/1), saturated; 60% fine sand, 40% clay; product odor. | |
| | 370 | | B3-28 | CL | SANDY CLAY (CL) – dark greenish gray (5GY 4/1), saturated, low plasticity; 60% fine to coarse sand, 40% clay, trace fine gravel; product odor. | |
| | 760 | | B3-29.5 | | Color changes to olive (5Y 4/3) with white mottling (5Y 8/1), sand decreases to 30%, becomes moist. | |
| 30 | | | | | Bottom of boring at 30 feet, 06/12/96. | |
| | | | | | (* = not applicable – sampling performed using 5-foot core barrel.) | |
| 35 | | | | | | |

JOB NUMBER: *5290.01*

# Gettler-Ryan, Inc.

# Log of Boring B-4

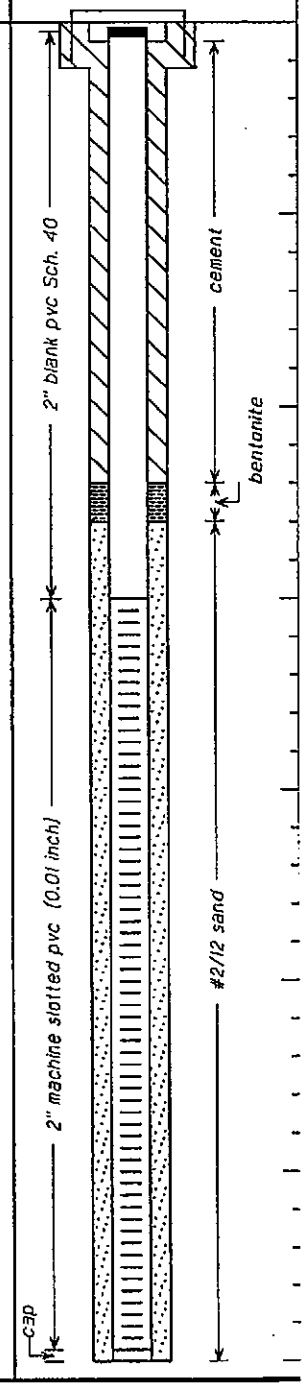
| | |
|---|---|
| PROJECT: *Chevron SS# 9-5542* | LOCATION: *7007 San Ramon Road, Dublin, CA* |
| G-R PROJECT NO. : *5290.01* | SURFACE ELEVATION: *feet MSL* |
| DATE STARTED: *06/12/96* | WL (ft. bgs): *24.5* DATE: *06/12/96* TIME: *16:10* |
| DATE FINISHED: *06/12/96* | WL (ft. bgs): DATE: TIME: |
| DRILLING METHOD: *6 in. Hollow Stem Auger* | TOTAL DEPTH: *30 Feet* |
| DRILLING COMPANY: *Bay Area Exploration, Inc.* | GEOLOGIST: *B. Sieminski* |

| DEPTH feet | PID (ppm) | BLOWS/FT. * | SAMPLE NUMBER | SAMPLE INT. | GRAPHIC LOG | SOIL CLASS | GEOLOGIC DESCRIPTION | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | | | | | | ML | GRAVELLY SILT (ML) – grayish brown (10YR 5/2), damp, low plasticity; 50% silt, 30% fine gravel, 20% fine to coarse sand. | Boring backfilled with neat cement with 2% bentonite. |
| | | | | | | CL | SANDY CLAY (CL) – dark grayish brown (2.5Y 4/2), damp, low plasticity; 70% clay, 30% fine to coarse sand. | |
| 5 | 0 | | B4-6 | | | | | |
| 10 | 0 | | B4-10 | | | SM | SILTY SAND WITH GRAVEL (SM) – light olive brown (2.5Y 5/4), damp; 50% fine to coarse sand, 30% silt, 20% fine gravel. | |
| | 0 | | B4-12 | | | | | |
| 15 | | | | | | CL | CLAY (CL) – olive gray (5Y 4/2), moist, low plasticity; 90% clay, 10% fine sand; soil description based on sample B4-18 collected from drill cuttings. | |
| | 0 | | B4-18 | | | | | |
| 20 | | | | | | CL | SANDY CLAY (CL) – dark greenish gray (5GY 4/1), moist, low to medium plasticity; 55-70% clay, 30-40% fine sand; 0-5% fine gravel; soil description based on sample B4-24 recovered using a split spoon sampler. | |
| | 0 | | B4-24 | | | | ▽ Becomes saturated at 24.5 feet. | |
| 25 | 0 | | B4-26 | | | | | |
| | 0 | | B4-27 | | | | | |
| | 0 | | B4-28 | | | SC CL | CLAYEY SAND (SC) – light olive brown (2.5Y 5/4), saturated; 60% fine to coarse sand, 30% clay, 10% fine gravel. | |
| | 0 | | B4-29.5 | | | | SANDY CLAY (CL) – olive brown (2.5Y 4/2), saturated, low plasticity; 50% clay, 40% fine to coarse sand, 10% fine gravel; color changes to olive gray (5Y 5/2) at 29 feet; sand increases to 50%, no gravel. | |
| 30 | | | | | | | Bottom of boring at 30 feet, 06/12/96. | |
| 35 | | | | | | | (* = not applicable – sampling performed using 5-foot core barrel.) | |

JOB NUMBER: *5290.01*

| Gettler-Ryan, Inc. | Log of Boring MW-10 |
|---|---|
| PROJECT: *Chevron SS# 9-5542* | LOCATION: *7007 San Ramon Road, Dublin, CA* |
| G-R PROJECT NO.: *5290.01* | SURFACE ELEVATION: *feet MSL* |
| DATE STARTED: *06/12/96* | WL (ft. bgs): *21.0* DATE: *06/12/96* TIME: *12:50* |
| DATE FINISHED: *06/12/96* | WL (ft. bgs): DATE: TIME: |
| DRILLING METHOD: *8 in. Hollow Stem Auger* | TOTAL DEPTH: *35 Feet* |
| DRILLING COMPANY: *Bay Area Exploration, Inc.* | GEOLOGIST: *B. Sieminski* |

| DEPTH feet | PID (ppm) | BLOWS/FT. * | SAMPLE NUMBER | SAMPLE INT. | GRAPHIC LOG | SOIL CLASS | GEOLOGIC DESCRIPTION | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | Boring MW-10 was not sampled because it was located approximately 5 feet from boring SB-3. | |
| 5 | | | | | | | | |
| 10 | | | | | | | | |
| 15 | | | | | | | | |
| 20 | | | | | | | ▽ | |
| 25 | | | | | | | | |
| 30 | | | | | | | | |
| 35 | | | | | | | Bottom of boring at 35 feet, 06/12/96. | |




JOB NUMBER: *5290.01*

# Boring/Well Log Legend

## KEY TO SYMBOLS/ABBREVIATIONS

- First encountered groundwater
- Static groundwater
- Soils logged by hand-auger or air-knife cuttings
- Soils logged by drill cuttings or disturbed sample
- Undisturbed soil sample interval
- Soil sample retained for submittal to analytical laboratory
- No recovery within interval
- Hydropunch screen interval
- ——— Definite contact line
- ----- Inferred or gradational contact line

PID = Photo-ionization detector or organic vapor meter reading in parts per million (ppm)

fbg = Feet below grade

Blow Counts = Number of blows required to drive a California-modified split-spoon sampler using a 140-pound hammer falling freely 30 inches, recorded per 6-inch interval of a total 18-inch sample interval

msl = Mean sea level

Soils logged according to the USCS.

## UNIFIED SOILS CLASSIFICATION SYSTEM (USCS) SUMMARY

| Major Divisions | | | Graphic | Group Symbol | Typical Description |
|---|---|---|---|---|---|
| Coarse-Grained Soils (>50% Sands and/or Gravels) | Gravel and Gravelly Soils | Clean Gravels (≤5% fines) | | GW | Well-graded gravels, gravel-sand mixtures, little or no fines |
| | | | | GP | Poorly-graded gravels, gravel-sand mixtures, little or no fines |
| | | Gravels with Fines ( ≥15% fines) | | GM | Silty gravels, gravel-sand-silt mixtures |
| | | | | GC | Clayey gravels, gravel-sand-clay mixtures |
| | Sand and Sandy Soils | Clean Sands (≤5% fines) | | SW | Well-graded sands, gravelly sands, little or no fines |
| | | | | SP | Poorly-graded sands, gravelly sand, little or no fines |
| | | Sands with Fines ( ≥15% fines) | | SM | Silty sands, sand-silt mixtures |
| | | | | SC | Clayey sands, sand-clay mixtures |
| Fine-Grained Soils (>50% Silts and/or Clays) | Silts and Clays | | | ML | Inorganic silts, very fine sands, silty or clayey fine sands, clayey silts with slight plasticity |
| | | | | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays |
| | | | | OL | Organic silts and organic silty clays of low plasticity |
| | Silts and Clays | | | MH | Inorganic silts, micaceous or diatomaceous fine sand or silty soils |
| | | | | CH | Inorganic clays of high plasticity |
| | | | | OH | Organic clays of medium to high plasticity, organic silts |
| Highly Organic Soils | | | | PT | Peat, humus, swamp soils with high organic contents |

I:\0-Chevron\Templates, Forms and Procedures\Field Forms\Boring Logs\Boring Log Legend

CAMBRIA

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# BORING/WELL LOG

| | | | |
|---|---|---|---|
| CLIENT NAME | Chevron Environmental Management Co. | BORING/WELL NAME | MW-11 |
| JOB/SITE NAME | 9-5542 | DRILLING STARTED | 30-Nov-06 |
| LOCATION | 7007 San Ramon Road, Dublin, CA | DRILLING COMPLETED | 30-Nov-06 |
| PROJECT NUMBER | 61H-1969 | WELL DEVELOPMENT DATE (YIELD) | 29-Dec-06 |
| DRILLER | Test America, d.b.A West Hazmat | GROUND SURFACE ELEVATION | 347.62 ft above msl |
| DRILLING METHOD | Hollow-stem auger | TOP OF CASING ELEVATION | 357.39 ft above msl |
| BORING DIAMETER | 8" | SCREENED INTERVAL | 45 to 55 fbg |
| LOGGED BY | J. Bostick | DEPTH TO WATER (First Encountered) | 29.0 fbg (30-Nov-06) |
| REVIEWED BY | D. Herzog, PG# 7211 | DEPTH TO WATER (Static) | NA |
| REMARKS | Cleared to 8 fbg using a combination of handauger and airknife. | | |

| PID (ppm) | BLOW COUNTS | SAMPLE ID | EXTENT | DEPTH (fbg) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH (fbg) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Asphalt | 0.5 | Concrete |
| | | | | | | | Concrete | 1.0 | |
| | | | | | | | | 2.0 | |
| | | | | | CH | | CLAY: dark brown; dry; 90% clay, 10% silt; high plasticity; low estimated permeability. | 3.0 | |
| | | | | 5 | | | | | |
| | | | | | | | | 8.5 | |
| 1 | 14 15 16 | MW-11 @9 | | 10 | CH | | CLAY: dark brown; dry; 60% clay, 35% silt, 5% sand; high plasticity; low estimated permeability. | 10.0 | |
| | | | | | | | | 14.0 | |
| 1 | 13 15 17 | MW-11 @14.5 | | 15 | CH | | CLAY: dark brown with white mottling; dry; hard; 70% clay, 30% silt; high plasticity; low estimated permeability. | 15.5 | |
| | | | | | | | | 19.0 | |
| 1 | 7 9 13 | MW-11 @19.5 | | 20 | CH | | CLAY: dark brown; moist; very stiff; 75% clay, 25% silt; high plasticity; low estimated permeability. | 20.5 | Portland Type I/II |
| | | | | | | | | | 2" diam., Schedule 40 PVC |
| | | | | | | | | 24.0 | |
| 7 | 7 9 11 | MW-11 @24.5 | | 25 | CH | | Sandy CLAY: gray and green; moist; very stiff; fine grained sand; 50% clay, 30% sand; 20% silt; moderate plasticity; moderate estimated permeability. | 25.5 | |
| | | | | | | | ▽ | 29.0 | |
| | 9 | | | | | | @ 29 fbg: No Recovery; saturated. | 29.5 | |
| 1 | 10 12 | MW11-@29.5 | | 30 | CH | | CLAY: brown; wet; 60% clay, 30% silt, 10% sand; moderate plasticity; low estimated permeability. | 30.5 | |
| | | | | | | | | 34.0 | |
| | 7 9 | | | 35 | CH | | CLAY: dark brown with gray mottling; wet; very stiff; | 35.0 | |

Continued Next Page

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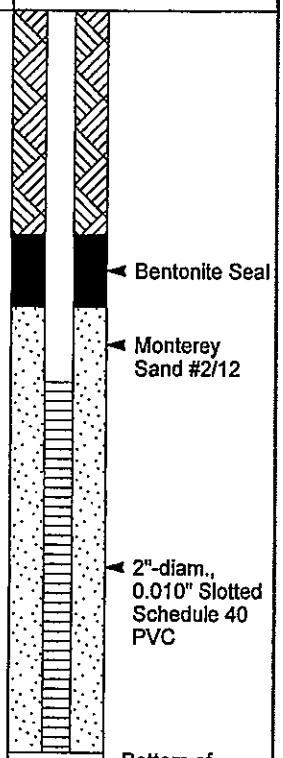
# BORING/WELL LOG

| | | | |
|---|---|---|---|
| **CLIENT NAME** | Chevron Environmental Management Co. | **BORING/WELL NAME** | MW-11 |
| **JOB/SITE NAME** | 9-5542 | **DRILLING STARTED** | 30-Nov-06 |
| **LOCATION** | 7007 San Ramon Road, Dublin, CA | **DRILLING COMPLETED** | 30-Nov-06 |

*Continued from Previous Page*

| PID (ppm) | BLOW COUNTS | SAMPLE ID | EXTENT | DEPTH (fbg) | U.S.C.S. | GRAPHIC LOG | LITHOLOGIC DESCRIPTION | CONTACT DEPTH (fbg) |
|---|---|---|---|---|---|---|---|---|
| 0 | 11 | MW-11 @34.5 | | | SC | | 60% clay, 30% silt, 10% sand; medium plasticity; low estimated permeability. Clayey SAND: dark brown; wet; hard; 60% sand 30% clay, 10% silt; medium plasticity; moderate estimated permeability. | 35.5 |
| 1 | 3 13 16 | MW-11 @39.5 | | 40 | CH | | CLAY:brown with white mottling; wet; very stiff; 65% clay, 30% silt, 5% sand; medium plasticity; low estimated permeability. | 39.0 / 40.5 |
| 1 | 12 11 16 | MW-11 @44.5 | | 45 | CH | | CLAY: dark brown with red and green mottling; wet; very stiff; 65% clay, 30% silt, 5% silt; medium plasticity; low estimated permeability. | 44.0 / 45.5 |
| 1 | 15 16 17 | MW-11 @49.5 | | 50 | CH | | CLAY: dark brown; wet; hard; 55% clay, 35% silt, 10% sand; medium plasticity; low estimated permeability. | 49.0 / 50.5 |
| 0 | 15 17 19 | MW-11 @54.5 | | 55 | CH | | CLAY with sand: dark brown; wet; hard; 50% clay, 30% silt, 20% sand; medium plasticity; moderate estimated permeability. | 53.5 / 55.0 |

WELL DIAGRAM




WELL LOG (PID) R:\9-5542-1\GINT\9-5542.GPJ DEFAULT.GDT 1/11/07

# APPENDIX C

# WELL SURVEY INFORMATION

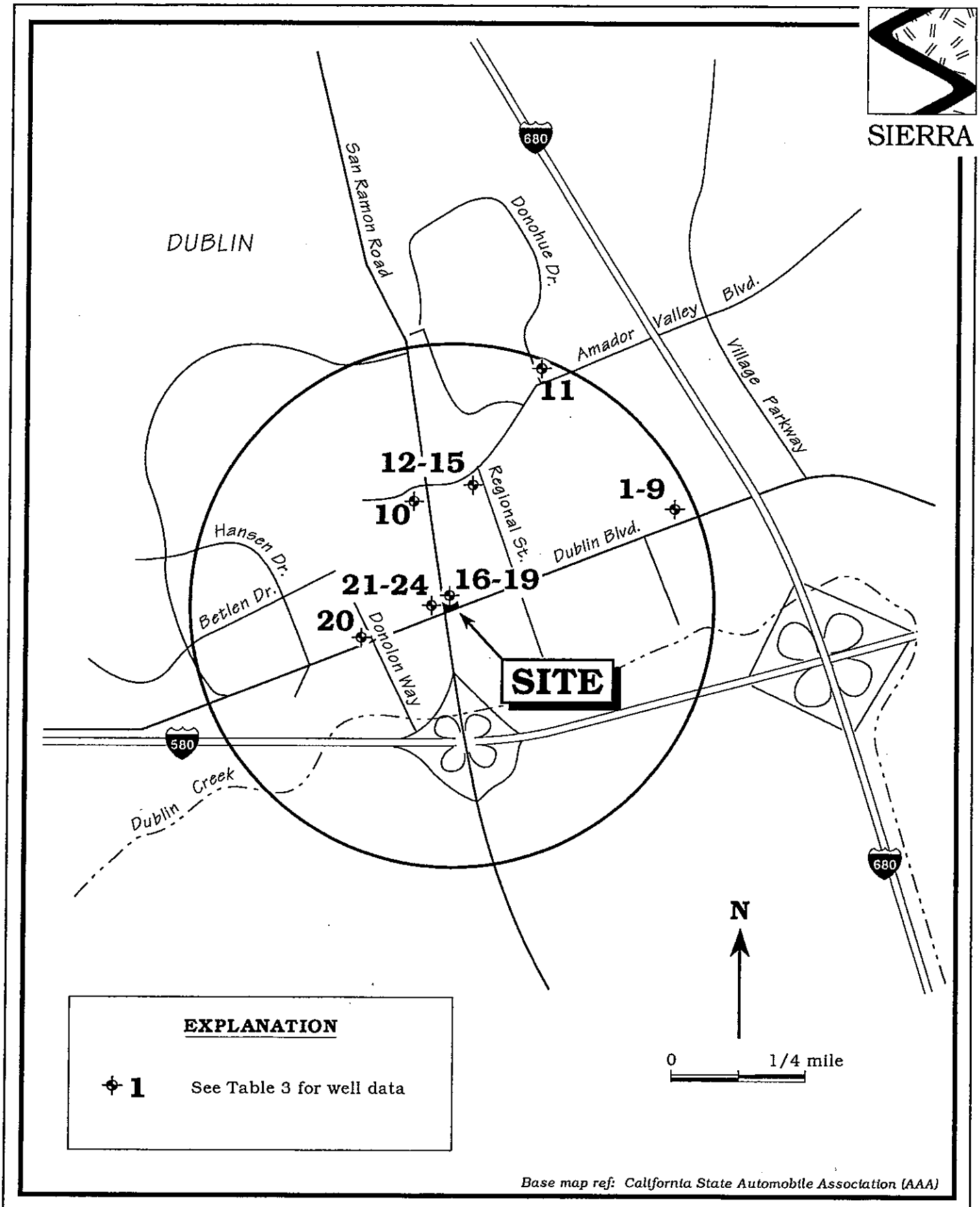



Figure 4. Water Wells Within One-Half Mile of Chevron Service Station #9-5542 – 7007 San Ramon Road, Dublin, California

SIERRA

Table 3. Water Wells Within One-Half Mile of Chevron Service Station #9-5542, 7007 San Ramon Road, Dublin, California

| Map Ref | Well Owner | Well Owner's Address | Well Location* | Well Use |
|---|---|---|---|---|
| 1-9 | A.D. Selditch & Assoc Inc. | 6267E Joaquin Manela Ave.<br>Newark, California | Montgomery Ward<br>6900 Amador Plaza Rd.<br>(7575 Dublin Blvd.) | M |
| 10 | Zone 7 Water Agency | 5997 Parkside Dr.<br>Pleasanton, California | SW corner of San Ramon Rd.<br>Amador Valley Blvd. | M |
| 11 | Dougherty Regional Fire Authority | 9399 Firecrest Ln<br>San Ramon, California | 7494 Donohue Dr., Dublin | M |
| 12-15 | Texaco | --- | 7840 Amador Valley Rd.<br>Dublin | Mon |
| 16-19 | Chevron USA | P.O. Box 5004<br>San Ramon, California | 7007 San Ramon Rd.<br>(San Ramon & Dublin Blvd.) | Mon |
| 20 | Dublin Historical | Donolan Way<br>Dublin, California | same ? | D |
| 21-24** | Unocal | Unocal Corporation<br>2000 Crow Canyon Place<br>San Ramon, California | 11976 Dublin Boulevard<br>Dublin, California | Mon |

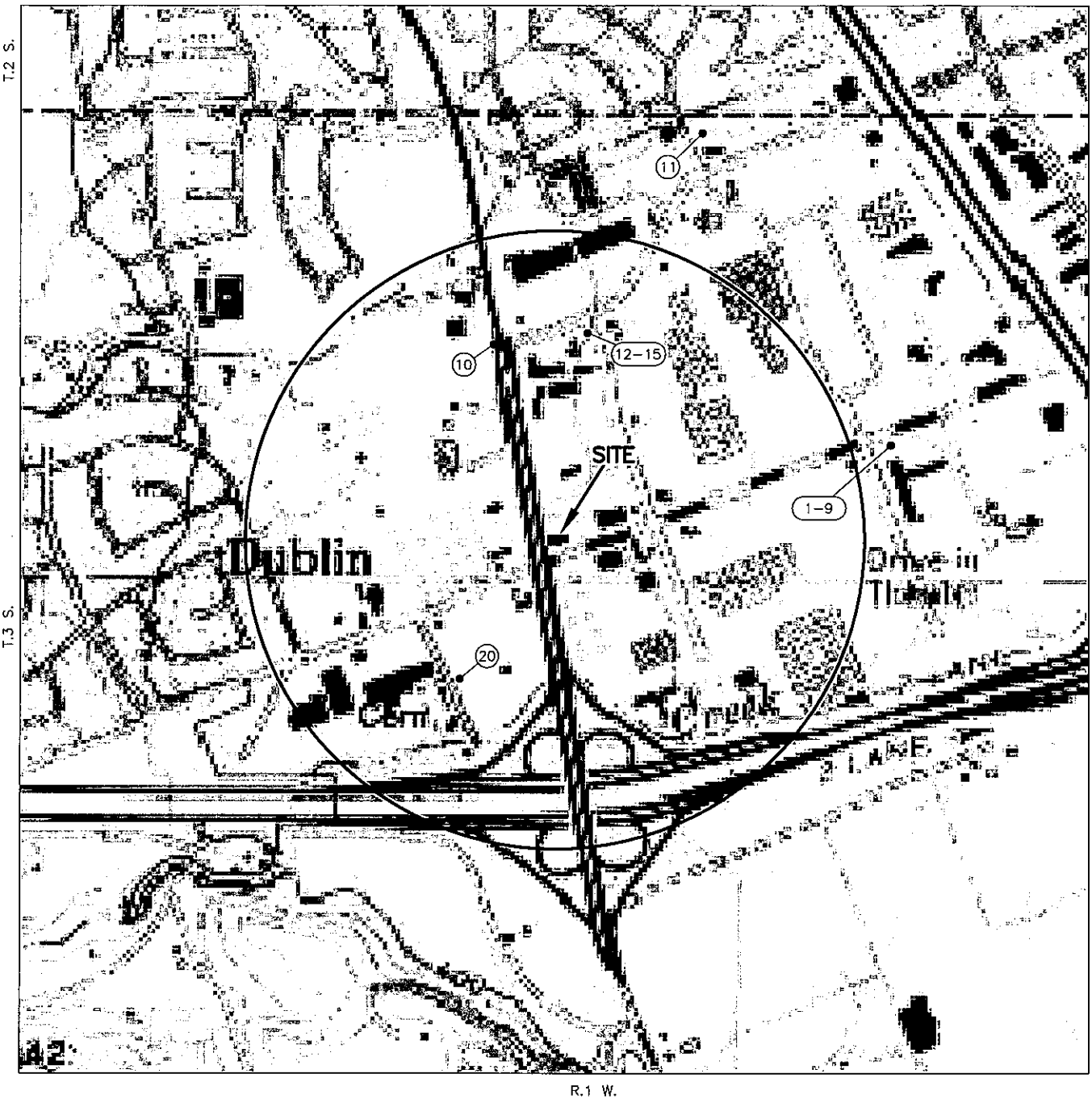
EXPLANATIONS:

D = Domestic
I = Irrigation
M = Municipal
Mon = Monitoring

NOTES:

* Well locations are shown on Figure 4 (Appendix A)
** These wells were identified during the area business survey

21400T.WW




North

GENERAL NOTES:
BASE MAP FROM U.S.G.S.
DUBLIN, CA
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1980

LEGEND:
① WATER WELL LOCATION

0 1000 FT
SCALE

QUADRANGLE LOCATION

FIGURE 8
WATER WELL LOCATION MAP
WITHIN A 2,000 FOOT RADIUS OF SITE
CHEVRON SERVICE STATION NO. 9-5542
7007 SAN RAMON ROAD
DUBLIN, CA.

| | |
|---|---|
| PROJECT NO. DG95-542 | DRAWN BY M.L. 8/10/00 |
| FILE NO. DG95542A | PREPARED BY JWS |
| REVISION NO. 1 | REVIEWED BY |

Delta Environmental Consultants, Inc.

**TABLE 4**

**WATER WELLS WITHIN A 2,000 FOOT RADIUS**

Chevron Station No. 9-5542
7007San Ramon Road
Dublin, California

| NUMBER | WELL TYPE | WELL OWNER | OWNER ADDRESS | WELL STATUS | WELL ID |
|---|---|---|---|---|---|
| 19 | Municipal | A.D. Selditch & Associates, Inc. | 6267E Joaquin Manela Avenue Newark, Ca. | Unknown | --- |
| 10 | Municipal | Zone-7 | 5997 Parkside Drive Pleasanton, Ca. | Destroyed | 3S/1W-2A1 |
| 11 | Municipal | Dougherty Regional Fire Authority | 9399 Firecrest Lane San Ramon, Ca. | Unknown | --- |
| 12 15 | Monitoring | Texaco | 7540 Amador Valley Road Dublin, Ca. | Active | --- |
| 16-19 | Monitoring | Chevron Products Company | P.O. Box 5004 San Ramon, Ca. | Active | --- |
| 20 | Domestic | Dublin Heritage Center | 6600 Donolan Way Dublin, Ca. | Destroyed | 3S/1W-2K6 |
| 21 24 | Monitoring | Unocal | 2000 Crow Canyon Place San Ramon, Ca. | Active | --- |

# APPENDIX D

# OXYGEN INJECTION CONFIRMATION SAMPLE LABORATORY REPORTS

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report

ANALYTICAL RESULTS

Prepared for:

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

916-677-3407

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1067782. Samples arrived at the laboratory on Saturday, December 01, 2007. The PO# for this group is 0015002175 and the release number is MTI.

| Client Description | Lancaster Labs Number |
|---|---|
| MW-4-W-071128 Grab Water | 5225561 |
| MW-1-W-071128 Grab Water | 5225562 |

ELECTRONIC COPY TO CRA Attn: Brian Carey

Lancaster Laboratories

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# Analysis Report

Questions? Contact your Client Services Representative
Angela M Miller at (717) 656-2300

Respectfully Submitted,

Marla S. Lord
Senior Specialist

Lancaster Laboratories

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# Analysis Report



**Lancaster Laboratories Sample No. WW 5225561**

**MW-4-W-071128 Grab Water**
**Facility# 95542 MTI# 61H-1965 CETK**
**7007 San Ramon Rd-Dublin T0600100354 MW-4**
Collected:11/28/2007 12:05 by JB

Account Number: 11997

Submitted: 12/01/2007 10:10
Reported: 12/13/2007 at 08:32
Discard: 01/13/2008

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

SANM4
**I 5E w**

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | n.a. | 5,800. | 250. | ug/l | 5 |
| | The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time. | | | | | |
| 06054 | BTEX+MTBE by 8260B | | | | | |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | 0.5 | 0.5 | ug/l | 1 |
| 05401 | Benzene | 71-43-2 | 240. | 3. | ug/l | 5 |
| 05407 | Toluene | 108-88-3 | 22. | 0.5 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | 340. | 3. | ug/l | 5 |
| 06310 | Xylene (Total) | 1330-20-7 | 1,100. | 3. | ug/l | 5 |

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | SW-846 8015B modified | 1 | 12/06/2007 10:14 | Steven A Skiles | 5 |
| 06054 | BTEX+MTBE by 8260B | SW-846 8260B | 1 | 12/07/2007 15:29 | Ginelle L Feister | 1 |
| 06054 | BTEX+MTBE by 8260B | SW-846 8260B | 1 | 12/07/2007 15:52 | Ginelle L Feister | 5 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 12/06/2007 10:14 | Steven A Skiles | 5 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 12/07/2007 15:29 | Ginelle L Feister | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 2 | 12/07/2007 15:52 | Ginelle L Feister | 5 |

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# Analysis Report



**Lancaster Laboratories Sample No. WW 5225562**

**MW-1-W-071128 Grab Water**
**Facility# 95542 MTI# 61H-1965 CETK**
**7007 San Ramon Rd-Dublin T0600100354 MW-1**
Collected:11/28/2007 13:50 by JB

Account Number: 11997

Submitted: 12/01/2007 10:10
Reported: 12/13/2007 at 08:32
Discard: 01/13/2008

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

SANM1
**I 5E w**

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | n.a. | 2,900. | 250. | ug/l | 5 |
| | The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time. | | | | | |
| 06054 | BTEX+MTBE by 8260B | | | | | |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | ug/l | 1 |
| 05401 | Benzene | 71-43-2 | 660. | 3. | ug/l | 5 |
| 05407 | Toluene | 108-88-3 | 39. | 0.5 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | 94. | 0.5 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | 310. | 0.5 | ug/l | 1 |

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | SW-846 8015B modified | 1 | 12/06/2007 10:44 | Steven A Skiles | 5 |
| 06054 | BTEX+MTBE by 8260B | SW-846 8260B | 1 | 12/07/2007 16:15 | Ginelle L Feister | 1 |
| 06054 | BTEX+MTBE by 8260B | SW-846 8260B | 1 | 12/07/2007 16:38 | Ginelle L Feister | 5 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 12/06/2007 10:44 | Steven A Skiles | 5 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 12/07/2007 16:15 | Ginelle L Feister | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 2 | 12/07/2007 16:38 | Ginelle L Feister | 5 |

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# Analysis Report



## Quality Control Summary

Client Name: Chevron c/o CRA Group Number: 1067782
Reported: 12/13/07 at 08:32 AM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

## Laboratory Compliance Quality Control

| Analysis Name | Blank Result | Blank MDL | Report Units | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|
| Batch number: 07339B08A | Sample number(s): 5225561-5225562 | | | | | | | |
| TPH-GRO - Waters | N.D. | 50. | ug/l | 112 | 99 | 75-135 | 12 | 30 |
| Batch number: D073412AA | Sample number(s): 5225561-5225562 | | | | | | | |
| Methyl Tertiary Butyl Ether | N.D. | 0.5 | ug/l | 99 | | 73-119 | | |
| Benzene | N.D. | 0.5 | ug/l | 103 | | 78-119 | | |
| Toluene | N.D. | 0.5 | ug/l | 109 | | 85-115 | | |
| Ethylbenzene | N.D. | 0.5 | ug/l | 108 | | 82-119 | | |
| Xylene (Total) | N.D. | 0.5 | ug/l | 107 | | 83-113 | | |

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: 07339B08A | Sample number(s): 5225561-5225562 UNSPK: P226075 | | | | | | | | |
| TPH-GRO - Waters | 126 | | 63-154 | | | | | | |
| Batch number: D073412AA | Sample number(s): 5225561-5225562 UNSPK: P226060 | | | | | | | | |
| Methyl Tertiary Butyl Ether | 106 | 105 | 69-127 | 1 | 30 | | | | |
| Benzene | 113 | 114 | 83-128 | 1 | 30 | | | | |
| Toluene | 121 | 121 | 83-127 | 0 | 30 | | | | |
| Ethylbenzene | 120 | 118 | 82-129 | 2 | 30 | | | | |
| Xylene (Total) | 119 | 117 | 82-130 | 2 | 30 | | | | |

## Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-GRO - Waters
Batch number: 07339B08A

| | Trifluorotoluene-F |
|---|---|
| 5225561 | 96 |
| 5225562 | 92 |
| Blank | 85 |
| LCS | 89 |
| LCSD | 90 |
| MS | 91 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: Chevron c/o CRA Group Number: 1067782
Reported: 12/13/07 at 08:32 AM

### Surrogate Quality Control

Limits: 63-135

Analysis Name: BTEX+MTBE by 8260B
Batch number: D073412AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 5225561 | 91 | 91 | 102 | 108 |
| 5225562 | 92 | 91 | 103 | 103 |
| Blank | 100 | 96 | 105 | 104 |
| LCS | 92 | 90 | 98 | 106 |
| MS | 96 | 96 | 104 | 110 |
| MSD | 96 | 97 | 102 | 110 |
| Limits: | 80-116 | 77-113 | 80-113 | 78-113 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

# Chevron California Region Analysis Request/Chain of Custody

**Lancaster Laboratories**
*Where quality is a science.*

Acct. #: 11997 — For Lancaster Laboratories use only — Sample #: 5225561-62 — SCR#:

MT #611965

Group# 1067782

Facility #: Chevron 9-5542
Site Address: 7007 San Ramon Rd, Dublin, CA
Chevron PM: T. Bauhs — Lead Consultant: CRA
Consultant/Office: CRA / Roseville
Consultant Prj. Mgr.: B. Carey
Consultant Phone #: 916 677 3407 — Fax #: 916 677 3487
Sampler: J. Bostek
Service Order #: ____ ☐ Non SAR: ____

**Analyses Requested**

**Preservation Codes**

**Preservative Codes**
H = HCl — T = Thiosulfate
N = $HNO_3$ — B = NaOH
S = $H_2SO_4$ — O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

| Field Point Name | Matrix | Repeat Sample | Top Depth | Year Month Day | Time Collected | New Field Pt. | Grab | Composite | Total Number of Containers | BTEX + MTBE 8260 ☐ 8021 ☐ | TPH 8015 MOD GRO | TPH 8015 MOD DRO ☐ Silica Gel Cleanup | 8260 full scan | Oxygenates | Lead 7420 ☐ 7421 ☐ | | | | | | | Comments / Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-4 | W | - | - | 071128 | 1205 | - | X | | 4 | X | X | | | | | | | | | | | |
| MW-1 | W | - | - | 071128 | 1330 | - | X | | 4 | X | X | | | | | | | | | | | |

**Turnaround Time Requested (TAT)** (please circle)
~~STD.~~ TAT — 72 hour — 48 hour
24 hour — 4 day — 5 day

**Data Package Options** (please circle if required)
QC Summary — Type I – Full
Type VI (Raw Data) — ☐ Coelt Deliverable not needed
WIP (RWQCB)
Disk

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by: | Date 11.29.07 | Time | Received by: | Date | Time |
| Relinquished by: | Date | Time | Received by: | Date | Time |
| Relinquished by: | Date | Time | Received by: | Date | Time |
| Relinquished by Commercial Carrier: UPS (FedEx) Other ____ | | | Received by: Katie Nathane | Date 12/1/07 | Time 10:10 |
| Temperature Upon Receipt 3.4 C° | | | Custody Seals Intact? (Yes) No | | |

# Lancaster Laboratories
# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | | | |
|---|---|---|---|
| **N.D.** | none detected | **BMQL** | Below Minimum Quantitation Level |
| **TNTC** | Too Numerous To Count | **MPN** | Most Probable Number |
| **IU** | International Units | **CP Units** | cobalt-chloroplatinate units |
| **umhos/cm** | micromhos/cm | **NTU** | nephelometric turbidity units |
| **C** | degrees Celsius | **F** | degrees Fahrenheit |
| **Cal** | (diet) calories | **lb.** | pound(s) |
| **meq** | milliequivalents | **kg** | kilogram(s) |
| **g** | gram(s) | **mg** | milligram(s) |
| **ug** | microgram(s) | **l** | liter(s) |
| **ml** | milliliter(s) | **ul** | microliter(s) |
| **m3** | cubic meter(s) | **fib >5 um/ml** | fibers greater than 5 microns in length per ml |

**<** less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

**>** greater than

**ppm** parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

**ppb** parts per billion

**Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

*U.S. EPA data qualifiers:*

**Organic Qualifiers**

| | |
|---|---|
| **A** | TIC is a possible aldol-condensation product |
| **B** | Analyte was also detected in the blank |
| **C** | Pesticide result confirmed by GC/MS |
| **D** | Compound quatitated on a diluted sample |
| **E** | Concentration exceeds the calibration range of the instrument |
| **J** | Estimated value |
| **N** | Presumptive evidence of a compound (TICs only) |
| **P** | Concentration difference between primary and confirmation columns >25% |
| **U** | Compound was not detected |
| **X,Y,Z** | Defined in case narrative |

**Inorganic Qualifiers**

| | |
|---|---|
| **B** | Value is <CRDL, but ≥IDL |
| **E** | Estimated due to interference |
| **M** | Duplicate injection precision not met |
| **N** | Spike amount not within control limits |
| **S** | Method of standard additions (MSA) used for calculation |
| **U** | Compound was not detected |
| **W** | Post digestion spike out of control limits |
| ***** | Duplicate analysis not within control limits |
| **+** | Correlation coefficient for MSA <0.995 |

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

**WARRANTY AND LIMITS OF LIABILITY –** In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

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# Analysis Report

ANALYTICAL RESULTS

Prepared for:

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

916-677-3407

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1071696. Samples arrived at the laboratory on Thursday, January 03, 2008. The PO# for this group is 0015002175 and the release number is MTI.

| Client Description | Lancaster Labs Number |
|---|---|
| MW-1-W-071228 Grab Water | 5248489 |
| MW-4-W-071228 Grab Water | 5248490 |

ELECTRONIC COPY TO CRA Attn: Brian Carey

Questions? Contact your Client Services Representative
Angela M Miller at (717) 656-2300

Respectfully Submitted,

Christine Dulaney
Senior Specialist

Lancaster Laboratories

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# Analysis Report



**Lancaster Laboratories Sample No. WW5248489 Group No. 1071696**

**MW-1-W-071228 Grab Water**
**Facility# 95542 MTI# 611965 CETK**
**7007 San Ramon Rd-Dublin T0600100354 MW-1**
Collected:12/28/2007 09:10 by BS

Account Number: 11997

Submitted: 01/03/2008 09:50
Reported: 01/11/2008 at 15:01
Discard: 02/11/2008

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

RAMM1

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | n.a. | 860. | 50. | ug/l | 1 |
| | The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time. | | | | | |
| 06054 | BTEX+MTBE by 8260B | | | | | |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | ug/l | 1 |
| 05401 | Benzene | 71-43-2 | 9. | 0.5 | ug/l | 1 |
| 05407 | Toluene | 108-88-3 | 150. | 0.5 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | N.D. | 0.5 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | 36. | 0.5 | ug/l | 1 |

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 6.

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | SW-846 8015B modified | 1 | 01/06/2008 22:00 | Martha L Seidel | 1 |
| 06054 | BTEX+MTBE by 8260B | SW-846 8260B | 1 | 01/09/2008 14:01 | Ginelle L Feister | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 01/06/2008 22:00 | Martha L Seidel | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 01/09/2008 14:01 | Ginelle L Feister | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. WW5248490 Group No. 1071696**

**MW-4-W-071228 Grab Water**
**Facility# 95542 MTI# 611965 CETK**
**7007 San Ramon Rd-Dublin T0600100354 MW-4**
Collected:12/28/2007 09:40 by BS

Account Number: 11997

Submitted: 01/03/2008 09:50
Reported: 01/11/2008 at 15:01
Discard: 02/11/2008

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

RAMM4

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | n.a. | 53. | 50. | ug/l | 1 |
| | The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time. | | | | | |
| 06054 | BTEX+MTBE by 8260B | | | | | |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | ug/l | 1 |
| 05401 | Benzene | 71-43-2 | N.D. | 0.5 | ug/l | 1 |
| 05407 | Toluene | 108-88-3 | N.D. | 0.5 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | N.D. | 0.5 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | N.D. | 0.5 | ug/l | 1 |

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | SW-846 8015B modified | 1 | 01/06/2008 22:22 | Martha L Seidel | 1 |
| 06054 | BTEX+MTBE by 8260B | SW-846 8260B | 1 | 01/09/2008 14:22 | Ginelle L Feister | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 01/06/2008 22:22 | Martha L Seidel | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 01/09/2008 14:22 | Ginelle L Feister | 1 |

Lancaster Laboratories

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# Analysis Report



## Quality Control Summary

Client Name: Chevron c/o CRA Group Number: 1071696
Reported: 01/11/08 at 03:01 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

## Laboratory Compliance Quality Control

| Analysis Name | Blank Result | Blank MDL | Report Units | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|
| Batch number: 08005A53B | Sample number(s): 5248489-5248490 | | | | | | | |
| TPH-GRO - Waters | N.D. | 50. | ug/l | 102 | 102 | 75-135 | 0 | 30 |
| Batch number: Z080091AA | Sample number(s): 5248489-5248490 | | | | | | | |
| Methyl Tertiary Butyl Ether | N.D. | 0.5 | ug/l | 86 | 86 | 73-119 | 1 | 30 |
| Benzene | N.D. | 0.5 | ug/l | 87 | 86 | 78-119 | 1 | 30 |
| Toluene | N.D. | 0.5 | ug/l | 87 | 87 | 85-115 | 0 | 30 |
| Ethylbenzene | N.D. | 0.5 | ug/l | 86 | 85 | 82-119 | 1 | 30 |
| Xylene (Total) | N.D. | 0.5 | ug/l | 88 | 87 | 83-113 | 2 | 30 |

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: 08005A53B | Sample number(s): 5248489-5248490 UNSPK: P248461 | | | | | | | | |
| TPH-GRO - Waters | 159* | | 63-154 | | | | | | |
| Batch number: Z080091AA | Sample number(s): 5248489-5248490 UNSPK: P248590 | | | | | | | | |
| Methyl Tertiary Butyl Ether | -143* | | 69-127 | | | | | | |
| Benzene | 98 | | 83-128 | | | | | | |
| Toluene | 98 | | 83-127 | | | | | | |
| Ethylbenzene | 96 | | 82-129 | | | | | | |
| Xylene (Total) | 97 | | 82-130 | | | | | | |

## Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-GRO - Waters
Batch number: 08005A53B

| | Trifluorotoluene-F |
|---|---|
| 5248489 | 78 |
| 5248490 | 81 |
| Blank | 79 |
| LCS | 83 |
| LCSD | 83 |
| MS | 88 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

# Quality Control Summary

Client Name: Chevron c/o CRA Group Number: 1071696
Reported: 01/11/08 at 03:01 PM

## Surrogate Quality Control

Limits: 63-135

Analysis Name: BTEX+MTBE by 8260B
Batch number: Z080091AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 5248489 | 94 | 90 | 93 | 84 |
| 5248490 | 94 | 91 | 93 | 83 |
| Blank | 94 | 92 | 93 | 83 |
| LCS | 94 | 92 | 92 | 84 |
| LCSD | 93 | 93 | 92 | 84 |
| MS | 95 | 94 | 93 | 85 |
| Limits: | 80-116 | 77-113 | 80-113 | 78-113 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

# Chevron California Region Analysis Request/Chain of Custody

**Lancaster Laboratories**
*Where quality is a science.*

For Lancaster Laboratories use only
Acct. #: 11997 Sample #: 5248489-90 SCR#:

MT# 611965

Group# 1071696

Facility #: Chevron 9-5542
Site Address: 7007 San Ramon Rd Dublin
Chevron PM: T. Baulds Lead Consultant: CRA
Consultant/Office: CRA/Roseville
Consultant Prj. Mgr.: B. Carey
Consultant Phone #: 916-677-3407 Fax #: 916-677-3687
Sampler: B. Summercott
Service Order #: ☐ Non SAR:

**Analyses Requested**

**Preservation Codes**

| Field Point Name | Matrix | Repeat Sample | Top Depth | Year Month Day | Time Collected | New Field Pt. | Grab | Composite | Total Number of Containers | BTEX + MTBE 8260 ☒ 8021 ☐ | TPH 8015 MOD GRO | TPH 8015 MOD DRO ☐ Silica Gel Cleanup | 8260 full scan | Oxygenates | Lead 7420 ☐ 7421 ☐ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| mw-1 | W | – | – | 07-12-28 | 910 | | X | | 4 | X | X | | | | |
| mw-4 | " | – | – | " | 940 | | X | | 4 | X | X | | | | |

**Preservative Codes**
H = HCl T = Thiosulfate
N = $HNO_3$ B = NaOH
S = $H_2SO_4$ O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

**Comments / Remarks**

**Turnaround Time Requested (TAT)** (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

**Data Package Options** (please circle if required)
QC Summary Type I – Full
Type VI (Raw Data) ☐ Coelt Deliverable not needed
WIP (RWQCB)
Disk

| | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| Relinquished by: | 1/2/08 | 1600 | FED-EX | 1/2/08 | 1600 |
| Relinquished by: | Date | Time | Received by: | Date | Time |
| Relinquished by: | Date | Time | Received by: | Date | Time |
| Relinquished by Commercial Carrier: UPS FedEx Other | | | Received by: Mary Beth Reed | 1/3/08 | 0950 |
| Temperature Upon Receipt 2.6 C° | | | Custody Seals Intact? Yes No | | |



Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

# Lancaster Laboratories
# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | | | |
|---|---|---|---|
| **N.D.** | none detected | **BMQL** | Below Minimum Quantitation Level |
| **TNTC** | Too Numerous To Count | **MPN** | Most Probable Number |
| **IU** | International Units | **CP Units** | cobalt-chloroplatinate units |
| **umhos/cm** | micromhos/cm | **NTU** | nephelometric turbidity units |
| **C** | degrees Celsius | **F** | degrees Fahrenheit |
| **Cal** | (diet) calories | **lb.** | pound(s) |
| **meq** | milliequivalents | **kg** | kilogram(s) |
| **g** | gram(s) | **mg** | milligram(s) |
| **ug** | microgram(s) | **l** | liter(s) |
| **ml** | milliliter(s) | **ul** | microliter(s) |
| **m3** | cubic meter(s) | **fib >5 um/ml** | fibers greater than 5 microns in length per ml |

**<** less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

**>** greater than

**ppm** parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

**ppb** parts per billion

**Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

*U.S. EPA data qualifiers:*

**Organic Qualifiers**

| | |
|---|---|
| **A** | TIC is a possible aldol-condensation product |
| **B** | Analyte was also detected in the blank |
| **C** | Pesticide result confirmed by GC/MS |
| **D** | Compound quatitated on a diluted sample |
| **E** | Concentration exceeds the calibration range of the instrument |
| **J** | Estimated value |
| **N** | Presumptive evidence of a compound (TICs only) |
| **P** | Concentration difference between primary and confirmation columns >25% |
| **U** | Compound was not detected |
| **X,Y,Z** | Defined in case narrative |

**Inorganic Qualifiers**

| | |
|---|---|
| **B** | Value is <CRDL, but ≥IDL |
| **E** | Estimated due to interference |
| **M** | Duplicate injection precision not met |
| **N** | Spike amount not within control limits |
| **S** | Method of standard additions (MSA) used for calculation |
| **U** | Compound was not detected |
| **W** | Post digestion spike out of control limits |
| ***** | Duplicate analysis not within control limits |
| **+** | Correlation coefficient for MSA <0.995 |

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

**WARRANTY AND LIMITS OF LIABILITY –** In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

Lancaster Laboratories

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# Analysis Report

ANALYTICAL RESULTS

Prepared for:

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

916-677-3407

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1078592. Samples arrived at the laboratory on Friday, February 22, 2008. The PO# for this group is 0015002175 and the release number is MTI.

| Client Description | Lancaster Labs Number |
|---|---|
| MW-4-W-080220 Grab Water | 5286131 |
| MW-1-W-080220 Grab Water | 5286132 |

ELECTRONIC COPY TO CRA Attn: Brian Carey

Questions? Contact your Client Services Representative
Angela M Miller at (717) 656-2300

Respectfully Submitted,

Christine Dulaney
Senior Specialist

Lancaster Laboratories

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# Analysis Report



**Lancaster Laboratories Sample No. WW5286131 Group No. 1078592**

**MW-4-W-080220 Grab Water**
**Facility# 95542 MTI# 611965 CETK**
**7007 San Ramon-Dublin T0600100354 MW-4**
Collected:02/20/2008 14:00 by JB

Account Number: 11997

Submitted: 02/22/2008 10:25
Reported: 02/28/2008 at 14:20
Discard: 03/30/2008

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

DUMW4

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | n.a. | N.D. | 50. | ug/l | 1 |
| | The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time. | | | | | |
| 06054 | BTEX+MTBE by 8260B | | | | | |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | ug/l | 1 |
| 05401 | Benzene | 71-43-2 | N.D. | 0.5 | ug/l | 1 |
| 05407 | Toluene | 108-88-3 | N.D. | 0.5 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | N.D. | 0.5 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | N.D. | 0.5 | ug/l | 1 |

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | SW-846 8015B modified | 1 | 02/25/2008 22:27 | Steven A Skiles | 1 |
| 06054 | BTEX+MTBE by 8260B | SW-846 8260B | 1 | 02/26/2008 18:33 | Ginelle L Feister | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 02/25/2008 22:27 | Steven A Skiles | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 02/26/2008 18:33 | Ginelle L Feister | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. WW5286132 Group No. 1078592**

**MW-1-W-080220 Grab Water**
**Facility# 95542 MTI# 611965 CETK**
**7007 San Ramon-Dublin T0600100354 MW-1**
Collected:02/20/2008 15:20 by JB

Account Number: 11997

Submitted: 02/22/2008 10:25
Reported: 02/28/2008 at 14:20
Discard: 03/30/2008

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

DUMW1

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | n.a. | N.D. | 50. | ug/l | 1 |
| | The reported concentration of TPH-GRO does not include MTBE or other gasoline constituents eluting prior to the C6 (n-hexane) TPH-GRO range start time. | | | | | |
| 06054 | BTEX+MTBE by 8260B | | | | | |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | ug/l | 1 |
| 05401 | Benzene | 71-43-2 | N.D. | 0.5 | ug/l | 1 |
| 05407 | Toluene | 108-88-3 | N.D. | 0.5 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | N.D. | 0.5 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | N.D. | 0.5 | ug/l | 1 |

State of California Lab Certification No. 2116
Trip blank vials were not received by the laboratory for this sample group.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO - Waters | SW-846 8015B modified | 1 | 02/25/2008 22:56 | Steven A Skiles | 1 |
| 06054 | BTEX+MTBE by 8260B | SW-846 8260B | 1 | 02/26/2008 18:58 | Ginelle L Feister | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 02/25/2008 22:56 | Steven A Skiles | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 02/26/2008 18:58 | Ginelle L Feister | 1 |

Lancaster Laboratories

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# Analysis Report



## Quality Control Summary

Client Name: Chevron c/o CRA Group Number: 1078592
Reported: 02/28/08 at 02:20 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

## Laboratory Compliance Quality Control

| Analysis Name | Blank Result | Blank MDL | Report Units | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|
| Batch number: 08056A08A | Sample number(s): 5286131-5286132 | | | | | | | |
| TPH-GRO - Waters | N.D. | 50. | ug/l | 91 | 100 | 75-135 | 10 | 30 |
| Batch number: Z080572AA | Sample number(s): 5286131-5286132 | | | | | | | |
| Methyl Tertiary Butyl Ether | N.D. | 0.5 | ug/l | 93 | | 73-119 | | |
| Benzene | N.D. | 0.5 | ug/l | 89 | | 78-119 | | |
| Toluene | N.D. | 0.5 | ug/l | 89 | | 85-115 | | |
| Ethylbenzene | N.D. | 0.5 | ug/l | 88 | | 82-119 | | |
| Xylene (Total) | N.D. | 0.5 | ug/l | 88 | | 83-113 | | |

## Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: 08056A08A | Sample number(s): 5286131-5286132 UNSPK: P286050 | | | | | | | | |
| TPH-GRO - Waters | 118 | | 63-154 | | | | | | |
| Batch number: Z080572AA | Sample number(s): 5286131-5286132 UNSPK: P284837 | | | | | | | | |
| Methyl Tertiary Butyl Ether | 97 | 97 | 69-127 | 0 | 30 | | | | |
| Benzene | 98 | 97 | 83-128 | 1 | 30 | | | | |
| Toluene | 99 | 98 | 83-127 | 1 | 30 | | | | |
| Ethylbenzene | 102 | 101 | 82-129 | 1 | 30 | | | | |
| Xylene (Total) | 113 | 108 | 82-130 | 1 | 30 | | | | |

## Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-GRO - Waters
Batch number: 08056A08A

| | Trifluorotoluene-F |
|---|---|
| 5286131 | 87 |
| 5286132 | 84 |
| Blank | 83 |
| LCS | 91 |
| LCSD | 92 |
| MS | 85 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: Chevron c/o CRA Group Number: 1078592
Reported: 02/28/08 at 02:20 PM

### Surrogate Quality Control

Limits: 63-135

Analysis Name: BTEX+MTBE by 8260B
Batch number: Z080572AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 5286131 | 93 | 92 | 91 | 88 |
| 5286132 | 95 | 92 | 92 | 88 |
| Blank | 92 | 92 | 91 | 88 |
| LCS | 93 | 92 | 90 | 90 |
| MS | 94 | 93 | 91 | 91 |
| MSD | 94 | 93 | 92 | 91 |
| Limits: | 80-116 | 77-113 | 80-113 | 78-113 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

# Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories
*Where quality is a science.*

For Lancaster Laboratories use only
Acct. #: 11997 Sample #: 5286131-32 SCR#: 242778
Grp# 1078592

MT 6119165

Facility #: 9-5542
Site Address: 7007 San Ramon Rd Dublin
Chevron PM: T. Barks Lead Consultant: CRA
Consultant/Office: CRA / Roseville
Consultant Prj. Mgr.: B. Carey
Consultant Phone #: 916 677 3407 Fax #: 916 677 3687
Sampler: J. Bastel
Service Order #: ☐ Non SAR:

**Analyses Requested**

**Preservation Codes**

**Preservative Codes**
H = HCl T = Thiosulfate
N = $HNO_3$ B = NaOH
S = $H_2SO_4$ O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

| Field Point Name | Matrix | Repeat Sample | Top Depth | Year Month Day | Time Collected | New Field Pt. | Grab | Composite | Total Number of Containers | BTEX + MTBE 8260 ☒ 8021 ☐ | TPH 8015 MOD GRO | TPH 8015 MOD DRO ☐ Silica Gel Cleanup | 8260 full scan | Oxygenates ____ | Lead 7420 ☐ 7421 ☐ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-4 | W | — | — | 2008 02 20 | 1400 | | X | | 4 | X | X | | | | |
| MW-1 | W | — | — | 2008 02 20 | 1520 | | X | | 4 | X | X | | | | |

**Comments / Remarks**

**Turnaround Time Requested (TAT)** (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

**Data Package Options** (please circle if required)
QC Summary Type I – Full
Type VI (Raw Data) ☐ Coelt Deliverable not needed
WIP (RWQCB)
Disk

| | Date | Time | | Date | Time |
|---|---|---|---|---|---|
| Relinquished by: | 2/21/08 | | Received by: | | |
| Relinquished by: | | | Received by: | | |
| Relinquished by: | | | Received by: | | |
| Relinquished by Commercial Carrier: UPS FedEx Other | | | Received by: | 2.22.08 | 1025 |
| Temperature Upon Receipt 2.2 C° | | | Custody Seals Intact? Yes No | | |

# Lancaster Laboratories
# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | | | |
|---|---|---|---|
| **N.D.** | none detected | **BMQL** | Below Minimum Quantitation Level |
| **TNTC** | Too Numerous To Count | **MPN** | Most Probable Number |
| **IU** | International Units | **CP Units** | cobalt-chloroplatinate units |
| **umhos/cm** | micromhos/cm | **NTU** | nephelometric turbidity units |
| **C** | degrees Celsius | **F** | degrees Fahrenheit |
| **Cal** | (diet) calories | **lb.** | pound(s) |
| **meq** | milliequivalents | **kg** | kilogram(s) |
| **g** | gram(s) | **mg** | milligram(s) |
| **ug** | microgram(s) | **l** | liter(s) |
| **ml** | milliliter(s) | **ul** | microliter(s) |
| **m3** | cubic meter(s) | **fib >5 um/ml** | fibers greater than 5 microns in length per ml |

**<** less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

**>** greater than

**ppm** parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

**ppb** parts per billion

**Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

*U.S. EPA data qualifiers:*

**Organic Qualifiers**

| | |
|---|---|
| **A** | TIC is a possible aldol-condensation product |
| **B** | Analyte was also detected in the blank |
| **C** | Pesticide result confirmed by GC/MS |
| **D** | Compound quatitated on a diluted sample |
| **E** | Concentration exceeds the calibration range of the instrument |
| **J** | Estimated value |
| **N** | Presumptive evidence of a compound (TICs only) |
| **P** | Concentration difference between primary and confirmation columns >25% |
| **U** | Compound was not detected |
| **X,Y,Z** | Defined in case narrative |

**Inorganic Qualifiers**

| | |
|---|---|
| **B** | Value is <CRDL, but ≥IDL |
| **E** | Estimated due to interference |
| **M** | Duplicate injection precision not met |
| **N** | Spike amount not within control limits |
| **S** | Method of standard additions (MSA) used for calculation |
| **U** | Compound was not detected |
| **W** | Post digestion spike out of control limits |
| ***** | Duplicate analysis not within control limits |
| **+** | Correlation coefficient for MSA <0.995 |

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

**WARRANTY AND LIMITS OF LIABILITY –** In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

# APPENDIX E

# FIRST SEMI-ANNUAL 2009 GROUNDWATER MONITORING REPORT

# GETTLER-RYAN INC.

## TRANSMITTAL

April 20, 2009
G-R #385290

TO: Mr. James Kiernan
Conestoga-Rovers & Associates
2000 Opportunity Drive, Suite 110
Roseville, California 95678

FROM: Deanna L. Harding
Project Coordinator
Gettler-Ryan Inc.
6747 Sierra Court, Suite J
Dublin, California 94568

**RE: Chevron Service Station**
**#9-5542 (MTI)**
**7007 San Ramon Road**
**Dublin, California**

WE HAVE ENCLOSED THE FOLLOWING:

| COPIES | DATED | DESCRIPTION |
|---|---|---|
| 2 | April 14, 2009 | Groundwater Monitoring and Sampling Report **First Semi-Annual Event of March 18, 2009** |

COMMENTS:

Pursuant to your request, we are providing you with copies of the above referenced report for **your use and distribution to the following:**

Ms. Stacie H. Frerichs, Chevron Environmental Management Company, 6111 Bollinger Canyon Road, Room 3596, San Ramon, CA 94583

Please provide any comments/changes and propose any groundwater monitoring modifications for the next event prior to ***May 4, 2009,*** at which time this final report will be distributed to the following:

cc: Ms. Mary Diamond, Sees Candy Shops, Inc., 3423 South La Cienega Blvd., Los Angeles, CA 90016
Mr. Steven Plunkett, Alameda County Health Care Services, Dept. of Environmental Health, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502-6577 **(No Hard Copy-UPLOAD TO ALAMEDA CO.)**

Enclosures

trans/9-5542-SHF

Chevron

**Stacie H. Frerichs**
Team Lead
Marketing Business Unit

**Chevron Environmental Management Company**
6001 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 842-9655
Fax (925) 842-8370

April 20, 2009
(date)

Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Chevron Facility #9-5542

Address: 7007 San Ramon ROad, Dublin, California

I have reviewed the attached routine groundwater monitoring report dated April 20, 2009.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Gettler-Ryan, Inc., upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,

SHFrerichs

Stacie H. Frerichs
Project Manager

Enclosure: Report

# WELL CONDITION STATUS SHEET

Client/Facility #: Chevron #9-5542
Site Address: 7007 San Ramon Valley Rd
City: Dublin, CA

Job # 385290
Event Date: 3/18/09
Sampler: KE

| WELL ID | Vault Frame Condition | Gasket/ O-Ring (M)missing | BOLTS (M) Missing (R) Replaced | Bolt Flanges B= Broken S= Stripped R=Retap | APRON Condition C=Cracked B=Broken G=Gone | Grout Seal (Deficient) inches from TOC | Casing (Condition prevents tight cap seal) | REPLACE LOCK Y / N | REPLACE CAP Y / N | WELL VAULT Manufacture/Size/ # of Bolts | Pictures Taken Yes / No |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mw-1 | OK | OK | OK | OK | OK | OK | OK | N | N | BoartLongyear/8/3 | |
| mw-4 | ↓ | ↓ | ↓ | 2(S) | ↓ | ↓ | ↓ | ↓ | ↓ | morrisson/8/2 | |
| mw-11 | ↓ | M | ↓ | OK | ↓ | ↓ | ↓ | Y | Y | Emco/8/2 | |
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Comments

# GETTLER-RYAN INC.

April 14, 2009
G-R Job #385290

Ms. Stacie Hartung-Frerichs
Chevron Environmental Management Company
P.O. Box 6012, Room K2200
San Ramon, CA 94583

**RE: First Semi-Annual Event of March 18, 2009**
Groundwater Monitoring & Sampling Report
Chevron Service Station #9-5542
7007 San Ramon Road
Dublin, California

Dear Ms. Hartung-Frerichs:

This report documents the most recent groundwater monitoring and sampling event performed by Gettler-Ryan Inc. (G-R) at the referenced site. All field work was conducted in accordance with G-R Standard Operating Procedure - Groundwater Sampling (attached).

Static groundwater levels were measured and the wells were checked for the presence of separate-phase hydrocarbons. Static water level data, groundwater elevations, and separate-phase hydrocarbon thickness (if any) are presented in the attached Table 1. A Groundwater Elevation Map is included as Figure 1.

Groundwater samples were collected from the monitoring wells and submitted to a state certified laboratory for analyses. The field data sheets for this event are attached. Analytical results are presented in the table(s) listed below. The chain of custody document and laboratory analytical report are also attached. All groundwater and decontamination water generated during sampling activities was removed from the site, per the Standard Operating Procedure.

Please call if you have any questions or comments regarding this report. Thank you.

Sincerely,

Cheryl L. Hansen
-FOR-
Deanna L. Harding
Project Coordinator

Douglas J. Lee
Senior Geologist, P.G. No. 6882

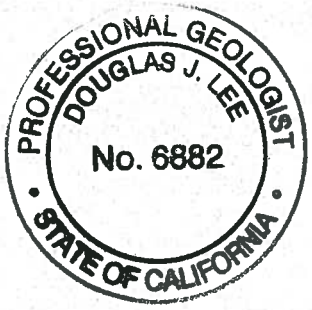
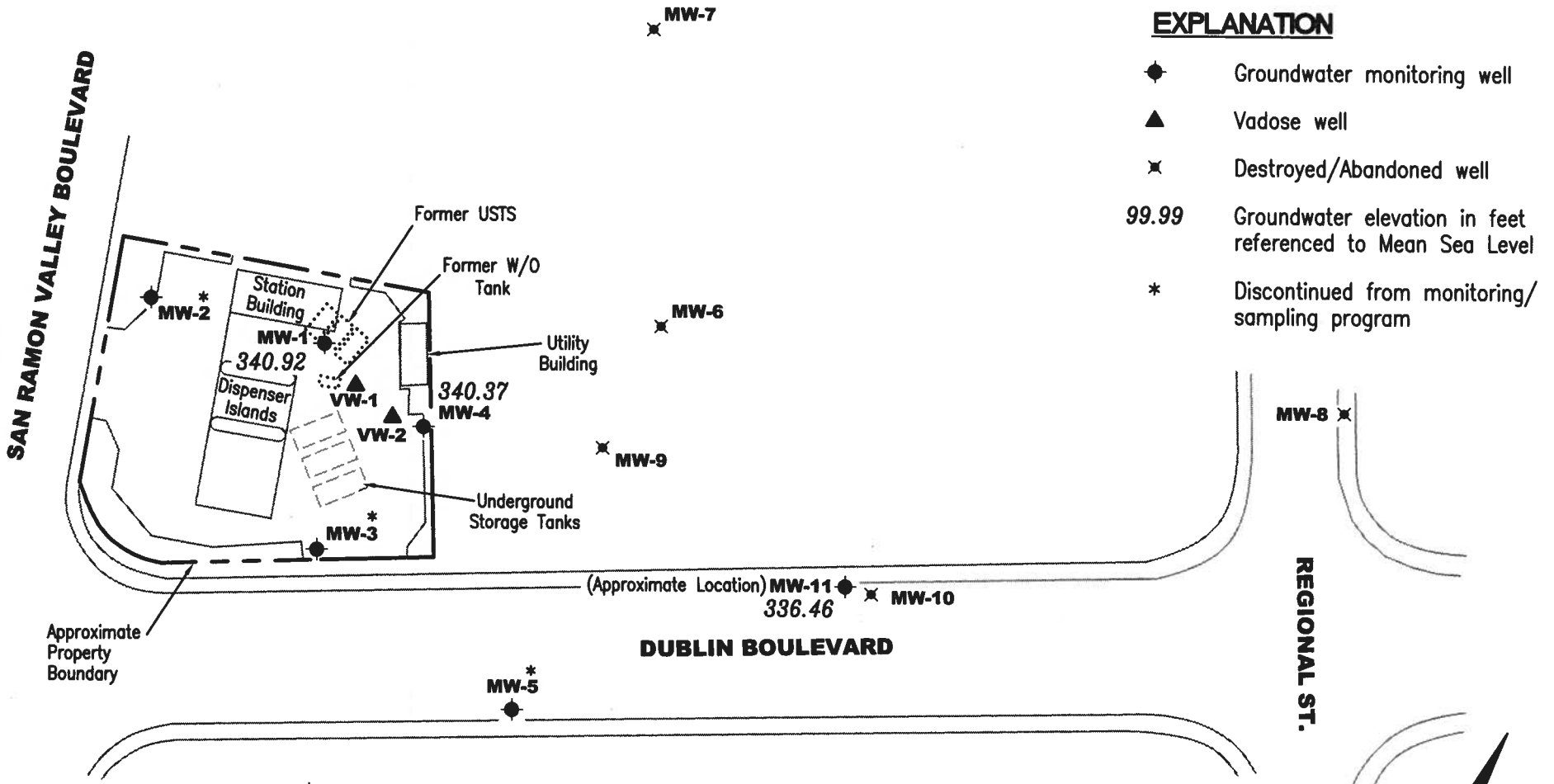



Figure 1: Groundwater Elevation Map
Table 1: Groundwater Monitoring Data and Analytical Results
Table 2: Groundwater Analytical Results – Oxygenate Compounds
Attachments: Standard Operating Procedure - Groundwater Sampling
Field Data Sheets
Chain of Custody Document and Laboratory Analytical Reports

6747 Sierra Court, Suite J • **Dublin**, CA 94568 • (925) 551-7555 • Fax (925) 551-7888
3140 Gold Camp Drive, Suite 170 • **Rancho Cordova**, CA 95670 • (916) 631-1300 • Fax (916) 631-1317
1364 N. McDowell Blvd., Suite B2 • **Petaluma**, CA 94954 • (707) 789-3255 • Fax (707) 789-3218




Source: Figure modified from drawing provided by RRM engineering contracting firm & Cambria, Dated: 04/26/05

GETTLER - RYAN INC.
6747 Sierra Court, Suite J
Dublin, CA 94568 (925) 551-7555

**GROUNDWATER ELEVATION MAP**
Chevron Service Station #9-5542
7007 San Ramon Road
Dublin, California

FIGURE
1

| PROJECT NUMBER | REVIEWED BY | DATE | REVISED DATE |
|---|---|---|---|
| 385290 | | March 18, 2009 | |

FILE NAME: P:\Enviro\Chevron\9-5542\Q09-9-5542.DWG | Layout Tab: Pot1

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-1** | | | | | | | | | | | | | | |
| 4/3-4/90 | | 363.98 | -- | -- | 46,000 | 8,400 | 7,400 | 860 | 5,600 | -- | -- | -- | 1.04 | -- |
| 4/3-4/90 | (D) | 363.98 | -- | -- | 43,000 | 8,400 | 7,200 | 840 | 5,200 | -- | -- | -- | 1.1 | -- |
| 05/31/91 | | 363.98 | 338.31 | 25.67 | 31,000 | 7,400 | 2,500 | 630 | 2,100 | -- | -- | 2.0 | -- | ND[3] |
| 05/31/91 | | 363.98 | -- | -- | -- | -- | -- | -- | -- | -- | <5000 | -- | -- | -- |
| 06/21/91 | | 363.98 | 337.75 | 26.23 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/17/91 | | 363.98 | 337.45 | 26.53 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/20/91 | | 363.98 | -- | -- | 31,000 | 3,000 | 2,800 | 610 | 3,100 | -- | -- | 0.6 | -- | ND[3] |
| 10/04/91 | | 363.98 | 336.08 | 27.90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/19/91 | | 363.98 | 335.86 | 28.12 | 20,000 | 5,200 | 1,700 | 560 | 2,000 | -- | -- | 3.3 | -- | ND[3] |
| 03/19/92 | | 363.98 | 339.35 | 24.63 | 30,000 | 8,500 | 3,600 | 590 | 2,400 | -- | -- | 2.7 | -- | ND[3] |
| 06/19/92 | | 364.32 | 338.09 | 26.23 | 25,000 | 1,100 | 2,000 | 520 | 1,800 | -- | -- | -- | -- | -- |
| 09/22/92 | | 364.32 | 336.59 | 27.73 | 21,000 | 8,000 | 3,500 | 670 | 2,900 | -- | -- | -- | -- | -- |
| 12/18/92 | | 364.32 | 337.56 | 26.76 | 79,000 | 12,000 | 12,000 | 1,600 | 8,500 | -- | -- | -- | -- | -- |
| 03/10/93[1] | | 364.32 | -- | -- | 45,000 | 16,000 | 14,000 | 1,100 | 5,500 | -- | -- | -- | -- | -- |
| 03/22/93[2] | | 364.32 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 06/14/93[2] | | 364.32 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/25/93[2] | | 364.32 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/23/93[2] | | 364.32 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 03/21/94 | | 364.32 | 338.16 | 26.16 | 5,900 | 1,600 | 560 | 140 | 330 | -- | -- | -- | -- | -- |
| 07/06/94 | | 364.32 | 337.12 | 27.20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 08/26/94 | | 364.32 | -- | -- | 20,000 | 5,300 | 4,900 | 610 | 2,900 | -- | -- | -- | -- | -- |
| 09/22/94 | | 364.32 | 336.88 | 27.44 | 42,000 | 10,000 | 8,300 | 1,000 | 4,900 | -- | -- | -- | -- | -- |
| 12/08/94 | | 364.32 | 337.62 | 26.70 | 38,000 | 9,000 | 7,700 | 830 | 3,800 | -- | -- | -- | -- | -- |
| 03/06/95 | | 364.32 | 340.64 | 23.68 | 47,000 | 9,400 | 7,100 | 750 | 3,400 | -- | -- | -- | -- | -- |
| 06/08/95 | | 364.32 | 341.64 | 22.68 | 170,000 | 29,000 | 29,000 | 2,600 | 13,000 | -- | -- | -- | -- | -- |
| 09/13/95 | | 364.32 | 339.22 | 25.10 | 39,000 | 11,000 | 10,000 | 1,100 | 4,900 | -- | -- | -- | -- | -- |
| 12/16/95 | | 364.32 | 338.24 | 26.08 | 40,000 | 7,000 | 6,300 | 570 | 2,500 | <2.5 | -- | -- | -- | -- |
| 03/28/96 | | 364.32 | 342.12 | 22.20 | 16,000 | 3,700 | 3,200 | 330 | 1,500 | <120 | -- | -- | -- | -- |
| 06/27/96 | | 364.32 | 340.12 | 24.20 | 40,000 | 6,900 | 8,700 | 830 | 4,000 | <120 | -- | -- | -- | -- |
| 09/30/96 | | 364.32 | 338.70 | 25.62 | 190,000 | 24,000 | 31,000 | 2,900 | 14,000 | 380 | -- | -- | -- | -- |
| 12/30/96 | | 364.32 | 340.11 | 24.21 | 130,000 | 25,000 | 32,000 | 2,900 | 15,000 | <500 | -- | -- | -- | -- |
| 03/11/97 | | 364.32 | 340.60 | 23.72 | 76,000 | 11,000 | 13,000 | 1,000 | 6,500 | <500 | -- | -- | -- | -- |
| 06/10/97 | | 364.32 | 339.00 | 25.32 | 63,000 | 9,900 | 15,000 | 1,400 | 7,000 | <500 | -- | -- | -- | -- |
| 10/01/97 | | 364.32 | 338.31 | 26.01 | 48,000 | 8,400 | 12,000 | 1,200 | 5,700 | <500 | -- | -- | -- | -- |
| 12/17/97 | | 364.32 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 03/29/98 | | 364.32 | DISCONTINUED | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-1 (cont)** | | | | | | | | | | | | | |
| 09/12/98[5] | 364.32 | 340.10 | 24.22 | 61,000 | 10,000 | 13,000 | 1,700 | 7,600 | <125/143[6] | -- | -- | -- | -- |
| 09/29/99[4] | 364.32 | 339.04 | 25.28 | 423 | 65 | 48.8 | 12.4 | 43.7 | 8.0 | -- | <2.0 | <2.0 | -- |
| 03/17/00 | 364.32 | 341.34 | 22.98 | 61,200 | 10,200 | 15,300 | 1890 | 8540 | <2000 | -- | -- | -- | -- |
| 08/28/00 | 364.32 | 338.30 | 26.02 | 2,000[15] | 590 | 470 | 110 | 390 | 25 | -- | -- | -- | -- |
| 02/25/01 | 364.32 | 338.84 | 25.48 | 440[15] | 120 | 33 | 8.5 | 260 | <13 | -- | -- | -- | -- |
| 09/17/01 | 364.32 | 337.65 | 26.67 | 16,000 | 1,500 | 1,900 | 340 | 1,400 | <20 | -- | -- | -- | -- |
| 03/25/02 | 364.32 | 340.81 | 23.51 | 96,000 | 11,000 | 21,000 | 2,500 | 12,000 | <100 | -- | -- | -- | -- |
| 09/16/02[5] | 364.32 | 337.91 | 26.41 | 3,700 | 1,200 | 52 | 140 | 92 | 6.9/<2[6] | -- | <2 | <2 | -- |
| 03/18/03 | 364.32 | 339.86 | 24.46 | 740 | 120 | 43 | 25 | 70 | <2.5/<0.5[6] | -- | -- | -- | -- |
| 09/18/03[16] | 364.32 | 338.36 | 25.96 | 66,000 | 6,600 | 12,000 | 1,500 | 6,900 | <2 | -- | -- | -- | -- |
| 03/24/04[16] | 364.32 | 340.44 | 23.88 | 130 | 8 | 2 | 2 | 4 | <0.5 | -- | -- | -- | -- |
| 09/16/04[16] | 364.32 | 337.68 | 26.64 | 14,000 | 1,600 | 2,200 | 500 | 2,000 | <1 | -- | -- | -- | -- |
| 03/23/05[16] | 364.32 | 342.04 | 22.28 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 09/02/05[16] | 364.32 | 338.60 | 25.72 | 3,100 | 630 | 60 | 110 | 160 | <0.5 | -- | -- | -- | -- |
| 03/24/06[16] | 364.32 | 340.49 | 23.83 | 680 | 130 | 0.7 | 15 | 16 | <0.5 | -- | -- | -- | -- |
| 08/24/06[16] | 364.32 | 338.36 | 25.96 | 1,000 | 180 | 8 | 20 | 41 | <0.5 | -- | -- | -- | -- |
| 03/01/07[16] | 364.32 | 340.47 | 23.85 | 28,000 | 1,800 | 3,800 | 710 | 3,100 | <5 | -- | -- | -- | -- |
| 09/06/07[16] | 364.32 | 338.07 | 26.25 | 11,000 | 1,900 | 46 | 410 | 960 | <1 | -- | -- | -- | -- |
| 03/10/08[16] | 364.32 | 341.36 | 22.96 | 19,000 | 940 | 3,800 | 590 | 3,000 | <5 | -- | -- | -- | -- |
| 09/02/08[16] | 364.32 | 338.07 | 26.25 | 23,000 | 1,200 | 4,300 | 840 | 4,100 | <3 | -- | -- | -- | -- |
| **03/18/09[16]** | **364.32** | **340.92** | **23.40** | **35,000** | **1,200** | **6,400** | **1,400** | **5,800** | **<3** | **--** | **--** | **--** | **--** |

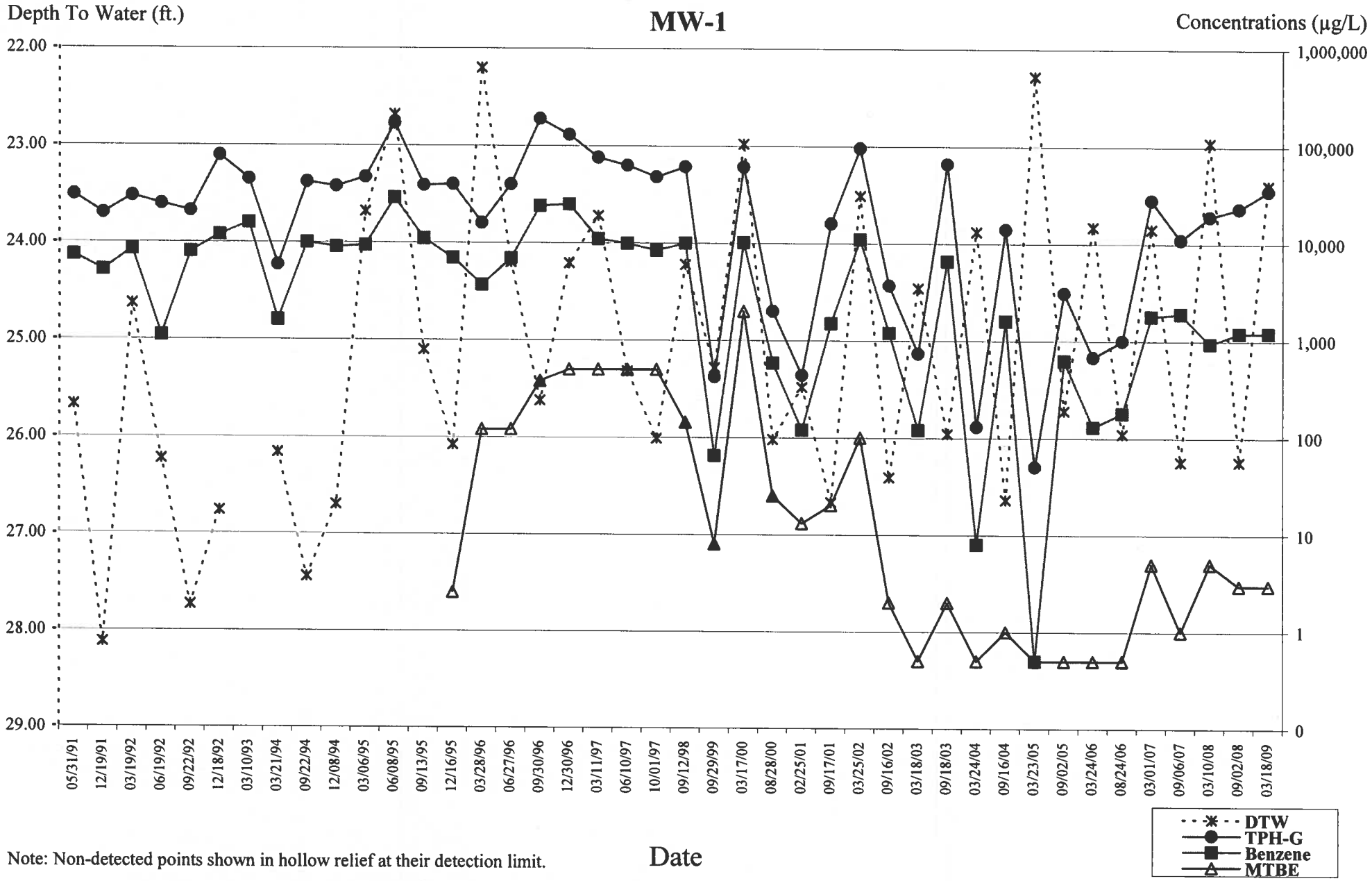
# Table 1

**Groundwater Monitoring Data and Analytical Results**

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California




Note: Non-detected points shown in hollow relief at their detection limit.

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-4** | | | | | | | | | | | | | |
| 4/3-4/90 | 362.70 | -- | -- | 43,000 | 4,000 | 5,000 | 790 | 5,500 | -- | 18,000 | -- | <0.02 | -- |
| 4/3-4/90 | 362.70 | -- | -- | -- | 6,000 | 8,200 | 1,500 | -- | -- | -- | -- | -- | -- |
| 05/31/91 | 362.70 | 338.03 | 24.67 | 34,000 | 2,900 | 2,900 | 680 | 3,300 | -- | -- | <0.5 | -- | ND[3] |
| 05/31/91 | 362.70 | -- | -- | <5000 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 06/21/91 | 362.70 | 337.39 | 25.31 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/17/91 | 362.70 | 336.97 | 25.73 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/20/91 | 362.70 | -- | -- | 37,000 | 4,000 | 3,200 | 580 | 3,000 | -- | -- | 9.2 | -- | ND[3] |
| 10/04/91 | 362.70 | 335.62 | 27.08 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/19/91 | 362.70 | 335.46 | 27.24 | 41,000 | 5,500 | 4,900 | 1,000 | 4,400 | -- | -- | 17 | -- | ND[3] |
| 03/19/92 | 362.70 | 339.04 | 23.66 | 21,000 | 3,800 | 2,900 | 500 | 3,200 | -- | -- | 15 | -- | ND[8] |
| 06/19/92 | 363.07 | 337.74 | 25.33 | 27,000 | 1,800 | 1,600 | 570 | 1,900 | -- | <5000 | -- | -- | -- |
| 09/22/92 | 363.07 | 336.17 | 26.90 | 20,000 | 4,100 | 2,700 | 670 | 3,200 | -- | <5000 | -- | -- | -- |
| 12/18/92 | 363.07 | 337.45 | 25.62 | 15,000 | 2,200 | 2,000 | 370 | 1,600 | -- | <5000 | -- | -- | -- |
| 03/22/93 | 363.07 | 342.27 | 20.80 | 41,000 | 3,900 | 5,100 | 840 | 4,500 | -- | 5000 | -- | -- | -- |
| 06/14/93 | 363.07 | 337.34 | 25.73 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/25/93 | 363.07 | 339.05 | 24.02 | 94,000 | 18,000 | 30,000 | 2,400 | 14,000 | -- | <5000 | -- | -- | -- |
| 09/23/93 | 363.07 | 338.07 | 25.00 | 23,000 | 4,700 | 2,000 | 900 | 4,600 | -- | <5000 | -- | -- | -- |
| 12/22/93 | 363.07 | 337.35 | 25.72 | 18,000 | 2,800 | 1,300 | 420 | 1,700 | -- | <5000 | -- | -- | -- |
| 03/21/94 | 363.07 | 337.98 | 25.09 | 21,000 | 2,800 | 1,700 | 540 | 1,900 | -- | <5000 | -- | -- | -- |
| 06/29/94 | 363.07 | -- | -- | 25,000 | 4,000 | 2,600 | 960 | 3,300 | -- | <5000 | -- | -- | -- |
| 07/06/94 | 363.07 | 336.96 | 26.11 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/22/94 | 363.07 | 336.53 | 26.54 | 45,000 | 11,000 | 8,800 | 1,000 | 5,100 | -- | <5000 | -- | -- | -- |
| 12/08/94[9] | 363.07 | 337.52 | 25.55 | 6700 | 1,200 | 720 | 34 | 1,100 | -- | <5000 | -- | -- | -- |
| 03/06/95 | 363.07 | 340.43 | 22.64 | 8900 | 1,400 | 540 | 350 | 940 | -- | -- | -- | -- | -- |
| 06/08/95 | 363.07 | 341.06 | 22.01 | 15,000 | 2,000 | 1,500 | 400 | 1,500 | -- | -- | -- | -- | -- |
| 09/13/95 | 363.07 | 338.65 | 24.42 | 10,000[10] | 3,100 | 670 | 500 | 1,400 | -- | -- | -- | -- | -- |
| 12/16/95 | 363.07 | 337.89 | 25.18 | 15,000 | 2,900 | 960 | 420 | 1,200 | <2.5 | -- | -- | -- | -- |
| 03/28/96 | 363.07 | 342.10 | 20.97 | 8600 | 1,300 | 920 | 330 | 1,100 | <10 | -- | -- | -- | -- |
| 06/27/96 | 363.07 | 341.44 | 21.63 | 18,000 | 2,600 | 1,500 | 740 | 2,400 | <50 | -- | -- | -- | -- |
| 09/30/96 | 363.07 | 338.22 | 24.85 | 24,000 | 3,200 | 1,200 | 710 | 2,200 | 87 | -- | -- | -- | -- |
| 12/30/96 | 363.07 | 339.79 | 23.28 | 15,000 | 2,300 | 1,000 | 600 | 1,900 | 84 | -- | -- | -- | -- |
| 03/11/97 | 363.07 | 340.45 | 22.62 | 23,000 | 2,600 | 920 | 780 | 2,200 | 84 | -- | -- | -- | -- |
| 06/10/97 | 363.07 | 338.58 | 24.49 | 17,000 | 2,900 | 790 | 750 | 1,700 | <100 | -- | -- | -- | -- |
| 10/01/97 | 363.07 | 337.57 | 25.50 | 21,000 | 3,600 | 1,400 | 1,300 | 2,700 | <50 | -- | -- | -- | -- |
| 12/17/97 | 363.07 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 03/29/98 | 363.07 | DISCONTINUED | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-4 (cont)** | | | | | | | | | | | | | |
| 09/29/99[11] | 363.07 | 337.75 | 25.32 | 26,700 | 3,770 | 844 | 1,290 | 2,970 | <500 | -- | <40 | <40 | -- |
| 03/17/00 | 363.07 | 340.26 | 22.81 | 17,400 | 2,560 | 942 | 688 | 1,980 | <1000 | -- | -- | -- | -- |
| 08/28/00 | 363.07 | 337.98 | 25.09 | 12,000[15] | 2,700 | 220 | 530 | 750 | 140 | -- | -- | -- | -- |
| 02/25/01 | 363.07 | 338.77 | 24.30 | 8,700[15] | 1,600 | 400 | 600 | 1,500 | 250 | -- | -- | -- | -- |
| 09/17/01 | 363.07 | 337.29 | 25.78 | 22,000 | 2,200 | 620 | 860 | 2,400 | <50 | -- | -- | -- | -- |
| 03/25/02 | 363.07 | 340.55 | 22.52 | 5,400 | 720 | 53 | 230 | 390 | <13 | -- | -- | -- | -- |
| 09/16/02[5] | 363.07 | 337.90 | 25.17 | 16,000 | 2,000 | 180 | 630 | 1,800 | 39/<2[6] | -- | <2 | <2 | -- |
| 03/18/03 | 363.07 | 339.66 | 23.41 | 10,000 | 1,400 | 110 | 490 | 1,100 | <13/1[6] | -- | -- | -- | -- |
| 09/18/03[16] | 363.07 | 337.99 | 25.08 | 7,100 | 750 | 61 | 240 | 560 | 1 | -- | -- | -- | -- |
| 03/24/04[16] | 363.07 | 340.18 | 22.89 | 16,000 | 1,600 | 170 | 720 | 2,000 | 1 | -- | -- | -- | -- |
| 09/16/04[16] | 363.07 | 337.34 | 25.73 | 6,700 | 540 | 160 | 250 | 1,000 | 0.7 | -- | -- | -- | -- |
| 03/23/05[16] | 363.07 | 341.91 | 21.16 | 8,900 | 550 | 75 | 470 | 1,500 | 1 | -- | -- | -- | -- |
| 09/02/05[16] | 363.07 | 338.31 | 24.76 | 9,300 | 1,000 | 41 | 440 | 840 | <1 | -- | -- | -- | -- |
| 03/24/06[16] | 363.07 | 340.59 | 22.48 | 17,000 | 930 | 120 | 800 | 2,700 | 0.9 | -- | -- | -- | -- |
| 08/24/06[16] | 363.07 | 338.03 | 25.04 | 10,000 | 1,000 | 29 | 350 | 590 | <3 | -- | -- | -- | -- |
| 03/01/07[16] | 362.88 | 339.89 | 22.99 | 4,300 | 240 | 25 | 130 | 460 | <0.5 | -- | -- | -- | -- |
| 09/06/07[16] | 362.88 | 337.57 | 25.31 | 4,900 | 230 | 11 | 170 | 420 | <0.5 | -- | -- | -- | -- |
| 03/10/08[16] | 362.88 | 340.75 | 22.13 | 870 | 8 | 0.7 | 8 | 32 | <0.5 | -- | -- | -- | -- |
| 09/02/08[16] | 362.88 | 337.57 | 25.31 | 1,800 | 36 | 2 | 72 | 160 | <0.5 | -- | -- | -- | -- |
| **03/18/09[16]** | **362.88** | **340.37** | **22.51** | **3,900** | **46** | **4** | **190** | **450** | **<0.5** | -- | -- | -- | -- |

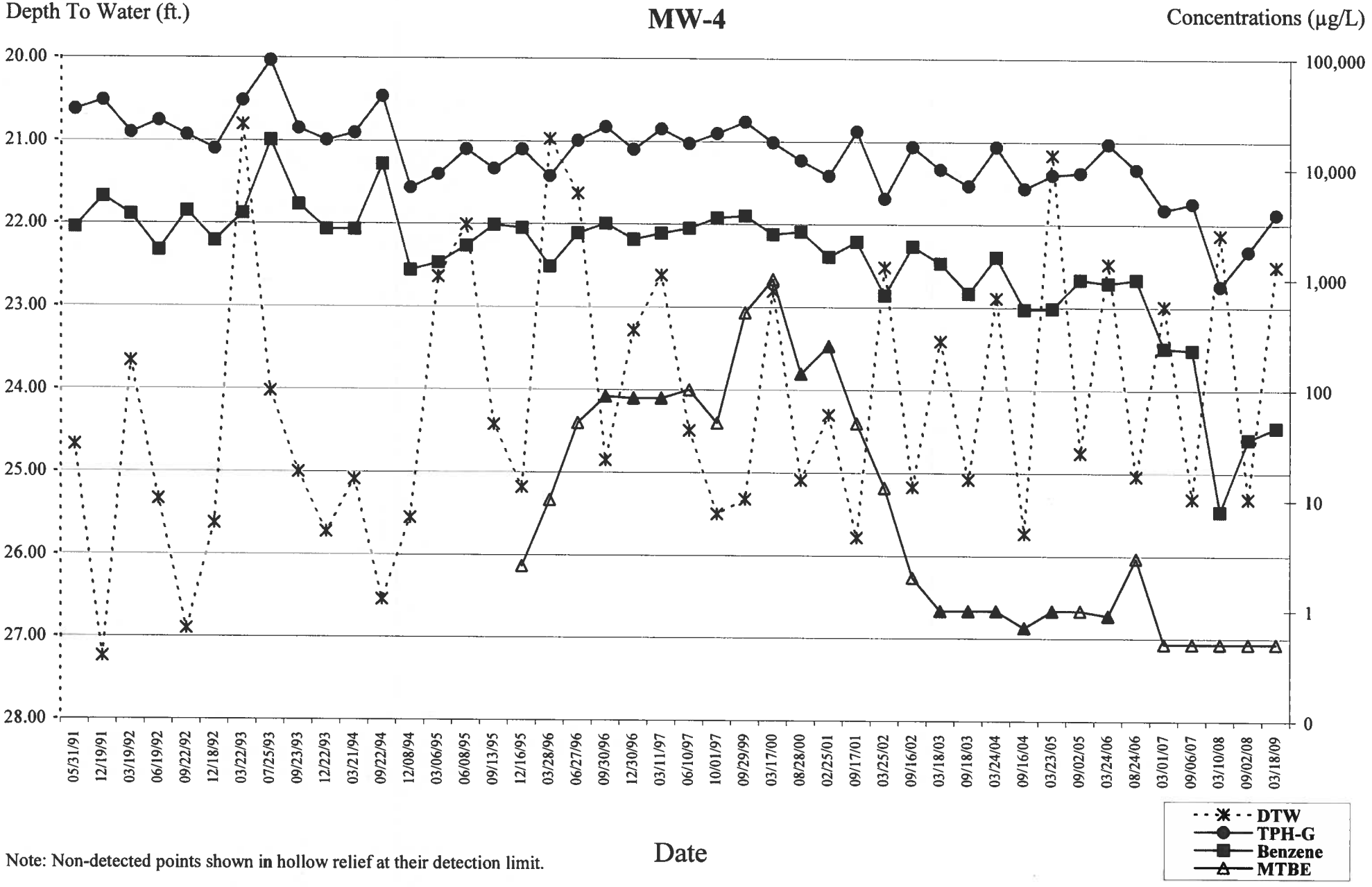
# Table 1

**Groundwater Monitoring Data and Analytical Results**

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California




Note: Non-detected points shown in hollow relief at their detection limit.

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-11** | | | | | | | | | | | | | |
| 12/29/06[17] | 357.39 | 335.25 | 22.14 | 190 | <0.5 | 0.6 | 6 | 0.6 | <0.5 | -- | -- | -- | -- |
| 03/01/07[16] | 357.39 | 334.89 | 22.50 | <50 | 0.8 | 2 | 0.7 | 3 | <0.5 | -- | -- | -- | -- |
| 09/06/07[16] | 357.39 | 333.99 | 23.40 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 03/10/08[16] | 357.39 | 335.83 | 21.56 | <50 | <0.5 | <0.5 | <0.5 | 0.8 | <0.5 | -- | -- | -- | -- |
| 09/02/08[16] | 357.39 | 333.73 | 23.66 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| **03/18/09[16]** | **357.39** | **336.46** | **20.93** | **<50** | **<0.5** | **0.5** | **<0.5** | **<0.5** | **<0.5** | -- | -- | -- | -- |
| **MW-9** | | | | | | | | | | | | | |
| 07/06/94[13] | 361.23 | 336.08 | 25.15 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 08/26/94 | 361.23 | -- | -- | 12,000 | 1,700 | 240 | 410 | 1,400 | -- | -- | -- | -- | -- |
| 09/22/94 | 361.23 | 335.49 | 25.74 | 10,000 | 1,900 | 290 | 320 | 1,200 | -- | -- | -- | -- | -- |
| 12/08/94 | 361.23 | 336.39 | 24.84 | 18,000 | 2,400 | 780 | 450 | 4,600 | -- | -- | -- | -- | -- |
| 03/06/95 | 361.23 | 339.40 | 21.83 | 6,100 | 1,400 | 260 | 420 | 1,500 | -- | -- | -- | -- | -- |
| 06/08/95 | 361.23 | 339.94 | 21.29 | 14,000 | 2,100 | 220 | 540 | 1,700 | -- | -- | -- | -- | -- |
| 09/13/95 | 361.23 | 337.85 | 23.65 | 11,000 | 1,900 | 120 | 490 | 1,400 | -- | -- | -- | -- | -- |
| 12/16/95 | 361.23 | 336.91 | 24.32 | 16,000 | 1,900 | <0.5 | 680 | 1,200 | <2.5 | -- | -- | -- | -- |
| 03/28/96 | 361.23 | 340.78 | 20.45 | 960 | 120 | 5.9 | 33 | 70 | 18 | -- | -- | -- | -- |
| 06/27/96 | 361.23 | 338.39 | 22.84 | 10,000 | 1,200 | 46 | 340 | 1,000 | 66 | -- | -- | -- | -- |
| 09/30/96 | 361.59 | 337.47 | 24.12 | 15,000 | 1,300 | 36 | 390 | 950 | 100 | -- | -- | -- | -- |
| 12/30/96 | 361.59 | 338.95 | 22.64 | 12,000 | 1,200 | 54 | 470 | 1,300 | 100 | -- | -- | -- | -- |
| 03/11/97 | 361.59 | 339.50 | 22.09 | 13,000 | 850 | 37 | 310 | 930 | 63 | -- | -- | -- | -- |
| 06/10/97 | 361.59 | 337.81 | 23.78 | 9,000 | 800 | 7.7 | 220 | 360 | 86 | -- | -- | -- | -- |
| 10/01/97 | 361.59 | 338.06 | 23.53 | 7,000 | 770 | 13 | 270 | 540 | 99 | -- | -- | -- | -- |
| 12/17/97 | 361.59 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 03/29/98 | 361.59 | 341.11 | 20.48 | 4,900 | 400 | 850 | 160 | 720 | 170 | -- | -- | -- | -- |
| 09/12/98 | 361.59 | 338.86 | 22.73 | 7,400 | 900 | 6.6 | 150 | 440 | 68 | -- | -- | -- | -- |
| 03/26/99 | 361.59 | 339.34 | 22.25 | 3,490 | 441 | 10.7 | 121 | 135 | 33.6 | -- | -- | -- | -- |
| 09/29/99 | 361.59 | 337.67 | 23.92 | 3,820 | 455 | <20 | 66.5 | 46.6 | <200 | -- | <2.0 | <2.0 | -- |
| 03/17/00 | 361.59 | 340.20 | 21.39 | 4,680 | 510 | <10 | 146 | 528 | <100 | -- | -- | -- | -- |
| 08/28/00 | 361.59 | UNABLE TO LOCATE | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 02/25/01 | 361.59 | UNABLE TO LOCATE | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/17/01 | 361.59 | 336.69 | 24.90 | 7,700 | 540 | 2.7 | 89 | 81 | <20 | -- | -- | -- | -- |
| 03/25/02 | 361.59 | 339.78 | 21.81 | 8,000 | 730 | 4.4 | 120 | 380 | <13 | -- | -- | -- | -- |
| 09/16/02 | 361.59 | 336.97 | 24.62 | 4,400 | 420 | <5.0 | 25 | 29 | 19 | -- | -- | -- | -- |
| 03/18/03 | 361.59 | 339.08 | 22.51 | 3,600 | 510 | <2.0 | 16 | 10 | <10/1[6] | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-9 (cont)** | | | | | | | | | | | | | |
| 09/18/03[16] | 361.59 | 337.34 | 24.25 | 5,300 | 530 | 0.8 | 32 | 29 | 1 | -- | -- | -- | -- |
| 03/24/04[16] | 361.59 | 339.35 | 22.24 | 4,500 | 290 | 0.6 | 17 | 31 | 0.9 | -- | -- | -- | -- |
| 09/16/04[16] | 361.59 | 336.66 | 24.93 | 4,000 | 400 | 5 | 11 | 10 | <1 | -- | -- | -- | -- |
| 03/23/05[16] | 361.59 | 341.11 | 20.48 | 5,100 | 190 | 0.6 | 21 | 29 | 1 | -- | -- | -- | -- |
| 09/02/05[16] | 361.59 | 337.53 | 24.06 | 4,700 | 340 | 0.5 | 9 | 6 | 0.9 | -- | -- | -- | -- |
| 03/24/06 | 361.59 | INACCESSIBLE - POSSIBLY DESTROYED | | | | -- | -- | -- | -- | -- | -- | -- | -- |
| DESTROYED - 2006 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| **MW-10** | | | | | | | | | | | | | |
| 06/27/96 | 358.02 | -- | 20.74 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 09/30/96 | 358.02 | 335.99 | 22.03 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 12/30/96 | 358.02 | 337.46 | 20.56 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 03/11/97 | 358.02 | 338.09 | 19.93 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 7.0 | -- | -- | -- | -- |
| 06/10/97 | 358.02 | 336.37 | 21.65 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 5.3 | -- | -- | -- | -- |
| 10/01/97 | 358.02 | 335.50 | 22.52 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 12/17/97 | 358.02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 03/29/98 | 358.02 | 340.55 | 17.47 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 4.3 | -- | -- | -- | -- |
| 09/12/98 | 358.02 | 337.39 | 20.63 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 3.8 | -- | -- | -- | -- |
| 03/26/99 | 358.02 | 337.98 | 20.04 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 4.15 | -- | -- | -- | -- |
| 09/29/99 | 358.02 | 336.30 | 21.72 | 5,020 | 547 | <10 | 79.6 | 49.5 | <100 | -- | -- | -- | -- |
| 03/17/00 | 358.02 | 338.67 | 19.35 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 08/28/00 | 358.02 | 335.88 | 22.14 | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | -- | -- | -- | -- |
| 02/25/01 | 358.02 | INACCESSIBLE | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/17/01 | 358.02 | 335.41 | 22.61 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | <2.5 | -- | -- | -- | -- |
| 03/25/02 | 358.02 | 338.64 | 19.38 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | <2.5 | -- | -- | -- | -- |
| 09/16/02 | 358.02 | 335.68 | 22.34 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | 3.1 | -- | -- | -- | -- |
| 03/18/03 | 358.02 | 338.11 | 19.91 | <50 | <0.50 | <0.50 | <0.50 | <1.5 | <2.5/2[6] | -- | -- | -- | -- |
| 09/18/03[16] | 358.02 | 336.10 | 21.92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 2 | -- | -- | -- | -- |
| 03/24/04[16] | 358.02 | 338.18 | 19.84 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 0.5 | -- | -- | -- | -- |
| 09/16/04[16] | 358.02 | 335.39 | 22.63 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 0.9 | -- | -- | -- | -- |
| 03/23/05[16] | 358.02 | 339.73 | 18.29 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 0.7 | -- | -- | -- | -- |
| 09/02/05[16] | 358.02 | 336.30 | 21.72 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 0.8 | -- | -- | -- | -- |
| 03/24/06 | 358.02 | INACCESSIBLE - POSSIBLY DESTROYED | | | | -- | -- | -- | -- | -- | -- | -- | -- |
| DESTROYED - 2006 | | | | | | | | | | | | | |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-2** | | | | | | | | | | | | | |
| 4/3-4/90 | 364.19 | -- | -- | <50 | <0.3 | <0.3 | <0.3 | <0.6 | -- | -- | -- | <0.02 | -- |
| 05/31/91 | 364.19 | 338.68 | 25.51 | 100 | 3.1 | 4.2 | 0.7 | 2.0 | -- | -- | <0.5 | -- | ND[3] |
| 05/31/91 | 364.19 | -- | -- | -- | -- | -- | -- | -- | -- | <5000 | -- | -- | -- |
| 06/21/91 | 364.19 | 338.06 | 26.13 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/17/91 | 364.19 | 337.73 | 26.46 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/20/91 | 364.19 | -- | -- | 68 | 1.3 | 1.6 | 0.8 | 3.0 | -- | -- | -- | -- | -- |
| 10/04/91 | 364.19 | 336.40 | 27.79 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/19/91 | 364.19 | 336.13 | 28.06 | <50 | 0.6 | 1.2 | 0.8 | 2.5 | -- | -- | -- | -- | -- |
| 03/19/92 | 364.19 | 339.73 | 24.46 | <50 | 2.5 | 2.0 | 1.1 | 2.4 | -- | -- | -- | -- | -- |
| 06/19/92 | 364.64 | 338.54 | 26.10 | <50 | <0.5 | 0.6 | 0.7 | 1.2 | -- | -- | -- | -- | -- |
| 09/22/92 | 364.64 | 337.04 | 27.60 | 200 | 16 | 42 | 6.1 | 32 | -- | -- | -- | -- | -- |
| 12/18/92 | 364.64 | 338.32 | 26.32 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/22/93 | 364.64 | 343.29 | 21.39 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/14/93 | 364.64 | 339.49 | 25.15 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/25/93 | 364.64 | 340.12 | 24.52 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/23/93 | 364.64 | 339.01 | 25.63 | 72 | 12 | 4.0 | 6.0 | 8.0 | -- | -- | -- | -- | -- |
| 12/22/93 | 364.64 | 338.30 | 26.34 | 1,600 | 25 | <0.5 | 3.8 | 4.8 | -- | -- | -- | -- | -- |
| 03/21/94 | 364.64 | 338.81 | 25.83 | <50 | 0.7 | 3.3 | <0.5 | 1.9 | -- | -- | -- | -- | -- |
| 06/29/94 | 364.64 | -- | -- | 52 | 0.8 | 0.9 | 0.8 | 1.9 | -- | -- | -- | -- | -- |
| 07/06/94 | 364.64 | 337.94 | 26.70 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/22/94 | 364.64 | 337.82 | 26.82 | <50 | 0.7 | <0.5 | <0.5 | 0.6 | -- | -- | -- | -- | -- |
| 12/08/94 | 364.64 | 338.36 | 26.28 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/06/95 | 364.64 | 341.37 | 23.27 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/08/95 | 364.64 | 342.26 | 22.38 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/13/95 | 364.64 | 339.95 | 24.95 | <50 | <0.5 | 0.8 | <0.5 | 0.8 | -- | -- | -- | -- | -- |
| 12/16/95 | 364.64 | 338.86 | 25.78 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 03/28/96 | 364.64 | 343.30 | 21.34 | <50 | 0.8 | 5.6 | 1.0 | 6.2 | <5.0 | -- | -- | -- | -- |
| 06/27/96 | 364.64 | 340.65 | 23.99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 09/30/96 | 364.64 | 339.50 | 25.14 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 12/30/96 | 364.64 | 341.03 | 23.61 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 03/11/97 | 364.64 | 341.47 | 23.17 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 06/10/97 | 364.64 | 339.92 | 24.72 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 10/01/97 | 364.64 | 338.79 | 25.85 | <50 | 1.0 | 1.2 | <0.5 | 1.7 | <5.0 | -- | -- | -- | -- |
| 12/17/97 | 364.64 | 339.66 | 24.98 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 03/29/98 | 364.64 | 344.30 | 20.34 | 110 | 20 | 12 | 4.3 | 14 | 5.4 | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-2 (cont)** | | | | | | | | | | | | | |
| 09/12/98 | 364.64 | 341.05 | 23.59 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 03/26/99 | 364.64 | 341.30 | 23.34 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.0 | -- | -- | -- | -- |
| 09/29/99 | 364.64 | 339.63 | 25.01 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| NOT MONITORED/SAMPLED | | | | | | | | | | | | | |
| **MW-3** | | | | | | | | | | | | | |
| 4/3-4/90 | 361.92 | -- | -- | 2,200 | 36 | 5.0 | 6.0 | 17 | -- | -- | -- | <0.02 | -- |
| 05/31/91 | 361.92 | 338.72 | 23.20 | 2,200 | 130 | 11 | 31 | 78 | -- | -- | 19 | -- | ND[3] |
| 05/31/91 | 361.92 | -- | -- | -- | -- | -- | -- | -- | -- | <5000 | -- | -- | -- |
| 06/21/91 | 361.92 | 337.79 | 24.13 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/17/91 | 361.92 | 337.73 | 24.59 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/20/91 | 361.92 | 335.94 | 25.98 | 2,200 | 190 | 6.0 | 24 | 32 | -- | -- | -- | -- | -- |
| 12/19/91 | 361.92 | 335.68 | 26.24 | 640 | 73 | 27 | 17 | 56 | -- | -- | -- | -- | -- |
| 03/19/92 | 361.92 | 339.46 | 22.46 | 4,500 | 1,000 | 15 | 91 | 240 | -- | -- | -- | -- | -- |
| 06/19/92 | 362.26 | 337.94 | 24.32 | 1,100 | 89 | 3.3 | 9.1 | 13 | -- | -- | -- | -- | -- |
| 09/22/92 | 362.26 | 336.42 | 25.84 | 1,400 | 81 | 51 | 15 | 49 | -- | -- | -- | -- | -- |
| 12/18/92 | 362.26 | 337.86 | 24.40 | 1,100 | 2.0 | 1.1 | 53 | 38 | -- | -- | -- | -- | -- |
| 03/22/93 | 362.26 | 342.54 | 19.72 | 1,600 | 96 | 9.0 | 14 | 91 | -- | -- | -- | -- | -- |
| 06/14/93 | 362.26 | 338.74 | 23.52 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/25/93 | 362.26 | 339.05 | 23.21 | 1,200 | 19 | 6.0 | 2.0 | 5.0 | -- | -- | -- | -- | -- |
| 09/23/93 | 362.26 | 338.24 | 24.02 | 1,500 | 35 | <0.5 | 5.0 | 13 | -- | -- | -- | -- | -- |
| 12/22/93 | 362.26 | 337.59 | 24.67 | 1,500 | 26 | <0.5 | 3.9 | 4.9 | -- | -- | -- | -- | -- |
| 03/21/94 | 362.26 | 338.21 | 24.05 | 1,400 | 22 | 14 | 1.1 | 5.3 | -- | -- | -- | -- | -- |
| 06/29/94 | 362.26 | -- | -- | 1,700 | 90 | 6.1 | 20 | 81 | -- | -- | -- | -- | -- |
| 07/06/94 | 362.26 | 337.18 | 25.08 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/22/94 | 362.26 | 337.48 | 24.78 | 2,600 | 72 | 7.6 | 110 | 370 | -- | -- | -- | -- | -- |
| 12/08/94 | 362.26 | 337.91 | 24.35 | 2,700 | 32 | <0.5 | 100 | 140 | -- | -- | -- | -- | -- |
| 03/06/95 | 362.26 | 340.79 | 21.47 | 1,000 | 4.0 | 9.9 | 8.8 | 7.7 | -- | -- | -- | -- | -- |
| 06/08/95 | 362.26 | 341.27 | 20.99 | 1,500 | 13 | 3.2 | 12 | 17 | -- | -- | -- | -- | -- |
| 09/13/95 | 362.26 | 338.75 | 23.51 | 2,100 | 12 | 79 | 76 | 420 | -- | -- | -- | -- | -- |
| 12/16/95 | 362.26 | 338.26 | 24.00 | 650 | <0.5 | <0.5 | 4.4 | 6.5 | 12 | -- | -- | -- | -- |
| 03/28/96 | 362.26 | 342.36 | 19.90 | 1,500 | 4.3 | 6.5 | 60 | 100 | 15 | -- | -- | -- | -- |
| 06/27/96 | 362.26 | 340.28 | 21.98 | 1,200 | <0.5 | <0.5 | 1.9 | 2.0 | 13 | -- | -- | -- | -- |
| 09/30/96 | 362.26 | 338.44 | 23.82 | 620 | <0.5 | <0.5 | <0.5 | 0.8 | 10 | -- | -- | -- | -- |
| 12/30/96 | 362.26 | 339.96 | 22.30 | 1,200 | 0.6 | <0.5 | 0.6 | 0.7 | 12 | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-3 (cont)** | | | | | | | | | | | | | |
| 03/11/97 | 362.26 | 340.75 | 21.51 | 1,400 | <0.5 | 3.1 | <0.5 | 0.7 | 32 | -- | -- | -- | -- |
| 06/10/97 | 362.26 | 338.66 | 23.60 | 1,400 | 1.8 | 4.8 | 0.8 | 1.1 | 18 | -- | -- | -- | -- |
| 10/01/97 | 362.26 | 337.53 | 24.73 | 1,100 | 0.6 | 2.2 | 1.0 | 1.3 | 7.8 | -- | -- | -- | -- |
| 12/17/97 | 362.26 | 338.99 | 23.27 | 450[7] | 7.9 | 1.2 | <1.0 | 1.5 | 11 | -- | -- | -- | -- |
| 03/29/98 | 362.26 | 342.01 | 20.25 | 890 | 0.84 | 1.4 | 1.3 | 0.68 | 100 | -- | -- | -- | -- |
| 09/12/98 | 362.26 | 340.38 | 21.88 | 740[7] | <0.5 | <0.5 | <0.5 | <0.5 | 5.4 | -- | -- | -- | -- |
| 03/26/99 | 362.26 | 339.83 | 22.43 | 661 | <0.5 | 34.9 | 0.848 | 1.36 | 5.68 | -- | -- | -- | -- |
| 09/29/99 | 362.26 | 338.63 | 23.63 | 348 | 0.975 | 0.58 | <0.5 | 0.618 | <5.0 | -- | -- | -- | -- |
| NOT MONITORED/SAMPLED | | | | | | | | | | | | | |
| **MW-5** | | | | | | | | | | | | | |
| 06/21/91 | 359.95 | 336.78 | 23.17 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/21/91 | 359.95 | -- | -- | -- | -- | -- | -- | -- | -- | -- | <0.5 | -- | ND[3] |
| 07/17/91 | 359.95 | 336.27 | 23.68 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/20/91 | 359.95 | -- | -- | 170[7] | 0.8 | 0.9 | <0.5 | 1.5 | -- | -- | -- | -- | -- |
| 10/04/91 | 359.95 | 334.75 | 25.20 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/19/91 | 359.95 | 334.75 | 25.20 | <50 | 0.7 | 0.7 | <0.5 | 1.4 | -- | -- | -- | -- | -- |
| 03/19/92 | 359.95 | 338.74 | 21.21 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/19/92 | 360.28 | 336.86 | 23.42 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/22/92 | 360.28 | 335.31 | 24.97 | 150 | 13 | 34 | 5.0 | 26 | -- | -- | -- | -- | -- |
| 12/18/92 | 360.28 | 336.76 | 23.52 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/10/93 | 360.28 | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/22/93 | 360.28 | 341.18 | 19.10 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 06/14/93 | 360.28 | 337.57 | 22.71 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/25/93 | 360.28 | 338.29 | 21.99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/23/93 | 360.28 | 336.80 | 23.48 | <50 | 3.0 | 1.0 | 1.0 | 2.0 | -- | -- | -- | -- | -- |
| 12/22/93 | 360.28 | 336.30 | 23.98 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/21/94 | 360.28 | 337.10 | 23.18 | <50 | 2.4 | 1.4 | <0.5 | 2.0 | -- | -- | -- | -- | -- |
| 06/29/94 | 360.28 | -- | -- | <50 | <0.5 | <0.5 | <0.5 | 1.0 | -- | -- | -- | -- | -- |
| 07/06/94 | 360.28 | 335.87 | 24.41 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/22/94 | 360.28 | 335.50 | 24.78 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/08/94 | 360.28 | 336.86 | 23.42 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/06/95 | 360.28 | 339.63 | 20.65 | 67 | 1.9 | 2.5 | 4.7 | 19 | -- | -- | -- | -- | -- |
| 06/08/95 | 360.28 | 339.52 | 20.76 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/13/95 | 360.28 | 337.12 | 23.16 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-5 (cont)** | | | | | | | | | | | | | |
| 12/16/95 | 360.28 | INACCESSIBLE -PAVED OVER | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 03/28/96 | 360.28 | INACCESSIBLE -PAVED OVER | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 06/27/96 | 360.28 | INACCESSIBLE -PAVED OVER | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/30/96 | 360.28 | INACCESSIBLE -PAVED OVER | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/30/96 | 360.28 | INACCESSIBLE -PAVED OVER | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 03/11/97 | 360.28 | INACCESSIBLE -PAVED OVER | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 06/10/97 | 360.28 | INACCESSIBLE -PAVED OVER | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 10/01/97 | 360.28 | INACCESSIBLE -PAVED OVER | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/17/97 | 360.28 | DISCONTINUED | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 03/26/99 | 360.28 | INACCESSIBLE -PAVED OVER | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| NOT MONITORED/SAMPLED | | | | | | | | | | | | | |
| **MW-6** | | | | | | | | | | | | | |
| 06/21/91 | 360.22 | 336.67 | 23.55 | 3,700 | 50 | 2.6 | 150 | 340 | -- | -- | -- | -- | -- |
| 06/21/91 | 360.22 | -- | -- | -- | -- | -- | -- | -- | -- | -- | <0.5 | -- | ND[3] |
| 07/17/91 | 360.22 | 336.22 | 24.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/20/91 | 360.22 | -- | -- | 3,200 | 28 | <0.5 | 140 | 100 | -- | -- | -- | -- | -- |
| 10/04/91 | 360.22 | 334.93 | 25.29 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/19/91 | 360.22 | 334.88 | 25.34 | 380 | 2.7 | 4.0 | 15 | 10 | -- | -- | -- | -- | -- |
| 03/19/92 | 360.22 | 338.17 | 22.05 | 3,400 | 57 | 4.5 | 330 | 360 | -- | -- | -- | -- | -- |
| 06/19/92 | 360.58 | 337.06 | 23.52 | 980 | 11 | 4.2 | 57 | 38 | -- | -- | -- | -- | -- |
| 09/22/92 | 360.58 | 334.98 | 25.60 | 1,100 | 22 | 41 | 77 | 58 | -- | -- | -- | -- | -- |
| 12/18/92 | 360.58 | 336.40 | 24.18 | 1,900 | 3.2 | 1.3 | 58 | 47 | -- | -- | -- | -- | -- |
| 03/10/93 | 360.58 | -- | -- | 1,400 | 30 | 9.0 | 8.0 | 22 | -- | -- | -- | -- | -- |
| 03/22/93 | 360.58 | 341.22 | 19.36 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 06/14/93 | 360.58 | 337.10 | 23.48 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/25/93 | 360.58 | 338.28 | 22.30 | 83[12] | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/23/93 | 360.58 | 337.38 | 23.20 | 200 | 6.0 | 2.0 | 3.0 | 3.0 | -- | -- | -- | -- | -- |
| 12/22/93 | 360.58 | 336.67 | 23.91 | 130 | <0.5 | 1.8 | 1.2 | 1.5 | -- | -- | -- | -- | -- |
| 03/21/94 | 360.58 | 337.31 | 23.27 | 290 | 3.0 | 10 | 1.6 | 4.7 | -- | -- | -- | -- | -- |
| 06/29/94 | 360.58 | -- | -- | 300 | 0.6 | 1.2 | 2.4 | 4.6 | -- | -- | -- | -- | -- |
| 07/06/94 | 360.58 | 336.31 | 24.27 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/22/94 | 360.58 | 335.74 | 24.84 | 2,300 | 58 | 3.6 | 100 | 290 | -- | -- | -- | -- | -- |
| 12/08/94 | 360.58 | 336.73 | 23.85 | <50 | <0.5 | <0.5 | <0.5 | 0.9 | -- | -- | -- | -- | -- |
| 03/06/95 | 360.58 | 339.67 | 20.91 | 360 | 2.0 | 3.6 | 0.9 | 2.3 | -- | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-6 (cont)** | | | | | | | | | | | | | |
| 06/08/95 | 360.58 | 340.40 | 20.18 | 230 | <0.5 | <0.5 | 1.0 | 1.6 | -- | -- | -- | -- | -- |
| 09/13/95 | 360.58 | 337.05 | 23.53 | 88 | <0.5 | <0.5 | <0.5 | 1.1 | -- | -- | -- | -- | -- |
| 12/16/95 | 360.58 | 337.20 | 23.38 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 7.3 | -- | -- | -- | -- |
| 03/28/96 | 360.58 | 341.21 | 19.37 | 130 | <0.5 | <0.5 | <0.5 | <0.5 | 9.2 | -- | -- | -- | -- |
| 06/27/96 | 360.58 | 338.92 | 21.66 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | 5.7 | -- | -- | -- | -- |
| 09/30/96 | 360.58 | 337.52 | 23.06 | 50 | <0.5 | <0.5 | <0.5 | <0.5 | 6.3 | -- | -- | -- | -- |
| 12/30/96 | 360.58 | 339.12 | 21.46 | 90 | <0.5 | <0.5 | <0.5 | <0.5 | 5.5 | -- | -- | -- | -- |
| 03/11/97 | 360.58 | 339.67 | 20.91 | 80 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 06/10/97 | 360.58 | 337.93 | 22.65 | <50 | 1.6 | 2.3 | <0.5 | 1.2 | <5.0 | -- | -- | -- | -- |
| 10/01/97 | 360.58 | 336.95 | 23.63 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 12/17/97 | 360.58 | 337.81 | 22.77 | 92 | 0.98 | <0.5 | 0.72 | 1.6 | 2.7 | -- | -- | -- | -- |
| 03/29/98 | 360.58 | 342.24 | 18.34 | 95[7] | <0.5 | <0.5 | <0.5 | <0.5 | 3.0 | -- | -- | -- | -- |
| 09/12/98 | 360.58 | 338.90 | 21.68 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 03/26/99 | 360.58 | 339.42 | 21.16 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.0 | -- | -- | -- | -- |
| 09/29/99 | 360.58 | 337.73 | 22.85 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| DESTROYED - 2006 | | | | | | | | | | | | | |
| **MW-7** | | | | | | | | | | | | | |
| 06/21/91 | 360.63 | 337.18 | 23.45 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/21/91 | 360.63 | -- | -- | -- | -- | -- | -- | -- | -- | -- | <0.5 | -- | ND[3] |
| 07/17/91 | 360.63 | 336.73 | 23.90 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/20/91 | 360.63 | -- | -- | 69 | 4.4 | 3.3 | 1.2 | 3.9 | -- | -- | -- | -- | -- |
| 10/04/91 | 360.63 | 335.60 | 25.03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/19/91 | 360.63 | 335.53 | 25.10 | <50 | 0.9 | 2.8 | 1.7 | 5.9 | -- | -- | -- | -- | -- |
| 03/19/92 | 360.63 | 337.89 | 22.74 | <50 | 1.1 | 0.6 | 0.9 | 2.5 | -- | -- | -- | -- | -- |
| 06/19/92 | 360.99 | INACCESSIBLE | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/22/92 | 360.99 | INACCESSIBLE | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/18/92 | 360.99 | INACCESSIBLE | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 03/22/93 | 360.99 | INACCESSIBLE | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 06/14/93 | 360.99 | INACCESSIBLE | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/25/93 | 360.99 | INACCESSIBLE | | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12/23/93[1] | 361.68 | 338.01 | 23.67 | <50 | 0.9 | 0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/21/94 | 361.68 | 337.55 | 24.13 | <50 | 0.5 | 1.1 | <0.5 | 1.4 | -- | -- | -- | -- | -- |
| 06/29/94 | 361.68 | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 07/06/94 | 361.68 | 335.23 | 26.45 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-7 (cont)** | | | | | | | | | | | | | |
| 09/22/94 | 361.68 | 334.28 | 27.40 | 11,000 | 1,900 | 230 | 310 | 970 | -- | -- | -- | -- | -- |
| 12/08/94 | 361.68 | 335.45 | 26.23 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/06/95 | 361.68 | 338.49 | 23.19 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/08/95 | 361.68 | 339.54 | 22.14 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/13/95 | 361.68 | 337.13 | 24.55 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/16/95 | 361.68 | 335.94 | 25.74 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 03/28/96 | 361.68 | 339.96 | 21.72 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 06/27/96 | 361.68 | 338.18 | 23.50 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 09/30/96 | 361.68 | 336.48 | 25.20 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 12/30/96 | 361.68 | 337.80 | 23.88 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 03/11/97 | 361.68 | 338.69 | 22.99 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 06/10/97 | 361.68 | 336.98 | 24.70 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 10/01/97 | 361.68 | 335.98 | 25.70 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| DESTROYED - 2006 | | | | | | | | | | | | | |
| **MW-8** | | | | | | | | | | | | | |
| 12/12/91 | 354.89 | -- | 22.54 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/19/92 | 354.89 | 334.42 | 20.47 | <50 | 1.2 | 1.4 | 0.5 | 2.9 | -- | -- | -- | -- | -- |
| 09/22/92 | 354.89 | 325.09 | 29.80 | 180 | 17 | 42 | 6.0 | 31 | -- | -- | -- | -- | -- |
| 12/18/92 | 354.89 | 333.71 | 21.18 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/10/93 | 354.89 | -- | -- | <50 | 0.8 | 2.0 | <0.5 | 2.0 | -- | -- | -- | -- | -- |
| 03/22/93 | 354.89 | 337.98 | 16.91 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 06/14/93 | 354.89 | 330.59 | 24.30 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 07/25/93 | 354.89 | 331.12 | 23.77 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/23/93 | 354.89 | 334.49 | 20.40 | <50 | 1.0 | 0.9 | 0.7 | 1.0 | -- | -- | -- | -- | -- |
| 12/22/93 | 354.89 | 333.97 | 20.92 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/21/94 | 354.89 | 334.70 | 20.19 | <50 | 0.9 | 1.5 | <0.5 | 2.0 | -- | -- | -- | -- | -- |
| 06/29/94 | 354.89 | -- | -- | <50 | <0.5 | <0.5 | <0.5 | 0.8 | -- | -- | -- | -- | -- |
| 07/06/94 | 354.89 | 333.84 | 21.05 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 09/22/94 | 354.89 | 333.05 | 21.84 | 9,600 | 1,600 | 180 | 260 | 840 | -- | -- | -- | -- | -- |
| 10/14/94 | 354.89 | 333.05 | 21.84 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/08/94 | 354.89 | 334.18 | 20.71 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/06/95 | 354.89 | 336.78 | 18.11 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/08/95 | 354.89 | 337.10 | 17.79 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/13/95 | 354.89 | 335.09 | 19.80 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-8 (cont)** | | | | | | | | | | | | | |
| 12/16/95 | 354.89 | 334.43 | 20.46 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 03/28/96 | 354.89 | 339.47 | 15.42 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 06/27/96 | 354.89 | 335.81 | 19.08 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 09/30/96 | 360.58 | 340.28 | 20.30 | <50 | <0.5 | <0.5 | <0.5 | 0.6 | <5.0 | -- | -- | -- | -- |
| 12/30/96 | 360.58 | 341.55 | 19.03 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 03/11/97 | 360.58 | 342.17 | 18.41 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 06/10/97 | 360.58 | 340.67 | 19.91 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 10/01/97 | 360.58 | 339.87 | 20.71 | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| DESTROYED - 2006 | | | | | | | | | | | | | |
| **BAILER BLANK** | | | | | | | | | | | | | |
| 05/31/91 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/21/91 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/20/91 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/19/91 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/19/92 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/19/92 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/22/92 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | 0.8 | -- | -- | -- | -- | -- |
| 12/21/92 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/10/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| **TRIP BLANK** | | | | | | | | | | | | | |
| 03/22/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | 0.6 | -- | -- | -- | -- | -- |
| 07/25/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/23/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/22/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/21/94 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 05/31/91 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/21/91 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/20/91 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/19/91 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/19/92 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/19/92 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/22/92 | -- | -- | -- | 92[14] | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/18/92 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TRIP BLANK (cont)** | | | | | | | | | | | | | |
| 03/10/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/22/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 07/25/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/23/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/22/93 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/21/94 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/29/94 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 07/01/94 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 07/06/94 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/22/94 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/08/94 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 03/06/95 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 06/08/95 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 09/13/95 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- |
| 12/16/95 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 03/28/96 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 06/27/96 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 09/30/96 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 12/30/96 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 03/11/97 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 06/10/97 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 10/01/97 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 12/17/97 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 03/29/98 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 09/12/98 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | -- | -- | -- | -- |
| 03/26/99 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <2.0 | -- | -- | -- | -- |
| 09/29/99 | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | -- | -- | -- | -- |
| 08/28/00 | -- | -- | -- | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | -- | -- | -- | -- |
| 02/25/01 | -- | -- | -- | <50 | <0.50 | <0.50 | <0.50 | <0.50 | <2.5 | -- | -- | -- | -- |
| 09/17/01 | -- | -- | -- | <50 | <0.50 | <0.50 | <0.50 | <1.5 | <2.5 | -- | -- | -- | -- |
| 03/25/02 | -- | -- | -- | <50 | <0.50 | <0.50 | <0.50 | <1.5 | <2.5 | -- | -- | -- | -- |
| 09/16/02 | -- | -- | -- | <50 | <0.50 | <0.50 | <0.50 | <1.5 | <2.5 | -- | -- | -- | -- |
| 03/18/03 | -- | -- | -- | <50 | <0.50 | <0.50 | <0.50 | <1.5 | <2.5 | -- | -- | -- | -- |
| 09/18/03[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 03/24/04[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID/ DATE | TOC* (ft.) | GWE (msl) | DTW (ft.) | TPH-GRO (µg/L) | B (µg/L) | T (µg/L) | E (µg/L) | X (µg/L) | MTBE (µg/L) | TOG (µg/L) | 1,2-DCA (µg/L) | EDB (µg/L) | HVOCs (µg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TRIP BLANK (cont)** | | | | | | | | | | | | | |
| 09/16/04[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 03/23/05[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 09/02/05[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 03/24/06[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 08/24/06[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| **QA** | | | | | | | | | | | | | |
| 12/29/06[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 03/01/07[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 09/06/07[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 03/10/08[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| 09/02/08[16] | -- | -- | -- | <50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- |
| **03/18/09[16]** | -- | -- | -- | **<50** | **<0.5** | **<0.5** | **<0.5** | **<0.5** | **<0.5** | -- | -- | -- | -- |

# Table 1

## Groundwater Monitoring Data and Analytical Results

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

**EXPLANATIONS:**

Groundwater monitoring and laboratory analytical results prior to August 28, 2000, were compiled from reports prepared by Blaine Tech Services, Inc.

TOC = Top of Casing
(ft.) = Feet
GWE = Groundwater Elevation
(msl) = Mean sea level
DTW = Depth to Water
TPH = Total Petroleum Hydrocarbons
GRO = Gasoline Range Organics

B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylenes
MTBE = Methyl tertiary butyl ether
TOG = Total Oil and Grease
1,2-DCA = 1,2-Dichloroethane

EDB = Ethylene dibromide
HVOCs = Halogenated Volatile Organic Compounds
-- = Not Measured/Not Analyzed
(D) = Duplicate
(µg/L) = Micrograms per liter
(ppb) = Parts per billion
QA = Quality Assurance/Trip Blank

* TOC elevations for MW-1, MW-4 and MW-11 were surveyed on January 3, 2007, by Virgil Chaves Land Surveying. The benchmark for this survey was a bronze disk established by the USGS, located under a manhole cover in the left turn lane in front of Mervyn's on Dublin Blvd. Benchmark Elevation = 347.622 feet (NGVD 29).

1 TOC elevation surveyed by Ron Miller, PE #15816, on January 13, 1994.

2 Monitoring well part of remediation system.

3 All other HVOCs were not detected at detection limits ranging from 0.5 to 1 ppb.

4 Sample analyzed for Volatile Organic Compounds (VOCs) by EPA method 8260. MTBE was detected at 10.1 ppb, and all other VOCs were ND ranging from <2.0 to <1000 ppb.

5 Oxygenate compounds were not detected.

6 MTBE by EPA Method 8260.

7 Chromatogram pattern indicated an unidentified hydrocarbon.

8 Chloroform and Bromodichloromethane were detected at 1.3 and 0.9 ppb, respectively. Other HVOCs were not detected at detection limits ranging from 0.5 to 1 ppb.

9 TPH-GRO and BTEX results are estimated concentrations. Due to laboratory error, sample was analyzed past the recommended holding time. (GTEL).

10 Laboratory report indicates uncategorized compound is not included in gasoline concentration.

11 Sampled analyzed for VOCs by EPA method 8260, all other results were ND ranging from <40 to <20,000 ppb.

12 Uncategorized compound not included in gasoline total.

13 Monitoring well surveyed by Ron Miller, PE #15816, on July 5, 1994.

14 Gasoline range concentration reported. The chromatogram shows only a single peak in the gasoline range.

15 Laboratory report indicates gasoline C6-C12.

16 BTEX and MTBE by EPA Method 8260.

17 Well development attempted; well dewatered.

# Table 2

## Groundwater Analytical Results - Oxygenate Compounds

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID | DATE | ETHANOL (µg/L) | TBA (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) |
|---|---|---|---|---|---|---|---|
| MW-1 | 03/18/03 | <50 | <5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 09/18/03 | <200 | -- | <2 | -- | -- | -- |
| | 03/24/04 | <50 | -- | <0.5 | -- | -- | -- |
| | 09/16/04 | <130 | -- | <1 | -- | -- | -- |
| | 03/23/05 | <50 | -- | <0.5 | -- | -- | -- |
| | 09/02/05 | <50 | -- | <0.5 | -- | -- | -- |
| | 03/24/06 | <50 | -- | <0.5 | -- | -- | -- |
| | 08/24/06 | <50 | -- | <0.5 | -- | -- | -- |
| | 03/01/07 | <500 | -- | <5 | -- | -- | -- |
| | 09/06/07 | <130 | -- | <1 | -- | -- | -- |
| | 03/10/08 | <500 | -- | <5 | -- | -- | -- |
| | 09/02/08 | <250 | -- | <3 | -- | -- | -- |
| | **03/18/09** | **<250** | -- | **<3** | -- | -- | -- |
| MW-4 | 09/18/03 | <50 | -- | 1 | -- | -- | -- |
| | 03/24/04 | <100 | -- | 1 | -- | -- | -- |
| | 09/16/04 | <50 | -- | 0.7 | -- | -- | -- |
| | 03/23/05 | <50 | -- | 1 | -- | -- | -- |
| | 09/02/05 | <100 | -- | <1 | -- | -- | -- |
| | 03/24/06 | <50 | -- | 0.9 | -- | -- | -- |
| | 08/24/06 | <250 | -- | <3 | -- | -- | -- |
| | 03/01/07 | <50 | -- | <0.5 | -- | -- | -- |
| | 09/06/07 | <50 | -- | <0.5 | -- | -- | -- |
| | 03/10/08 | <50 | -- | <0.5 | -- | -- | -- |
| | 09/02/08 | <50 | -- | <0.5 | -- | -- | -- |
| | **03/18/09** | **<50** | -- | **<0.5** | -- | -- | -- |
| MW-11 | 12/29/06 | <50 | -- | <0.5 | -- | -- | -- |
| | 03/01/07 | <50 | -- | <0.5 | -- | -- | -- |
| | 09/06/07 | <50 | -- | <0.5 | -- | -- | -- |
| | 03/10/08 | <50 | -- | <0.5 | -- | -- | -- |
| | 09/02/08 | <50 | -- | <0.5 | -- | -- | -- |
| | **03/18/09** | **<50** | -- | **<0.5** | -- | -- | -- |

# Table 2

**Groundwater Analytical Results - Oxygenate Compounds**

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

| WELL ID | DATE | ETHANOL (µg/L) | TBA (µg/L) | MTBE (µg/L) | DIPE (µg/L) | ETBE (µg/L) | TAME (µg/L) |
|---|---|---|---|---|---|---|---|
| MW-2 | 03/18/03 | <100 | <10 | 1 | <1 | <1 | <1 |
| MW-9 | 03/18/03 | <50 | <5 | 1 | <0.5 | <0.5 | <0.5 |
| | 09/18/03 | <50 | -- | 1 | -- | -- | -- |
| | 03/24/04 | <50 | -- | 0.9 | -- | -- | -- |
| | 09/16/04 | <100 | -- | <1 | -- | -- | -- |
| | 03/23/05 | <50 | -- | 1 | -- | -- | -- |
| | 09/02/05 | <50 | -- | 0.9 | -- | -- | -- |
| | 03/24/06 | INACCESSIBLE/POSSIBLY DESTROYED | | | -- | -- | -- |
| | DESTROYED - 2006 | | | | | | |
| MW-10 | 03/18/03 | <50 | <5 | 2 | <0.5 | <0.5 | <0.5 |
| | 09/18/03 | <50 | -- | 2 | -- | -- | -- |
| | 03/24/04 | <50 | -- | 0.5 | -- | -- | -- |
| | 09/16/04 | <50 | -- | 0.9 | -- | -- | -- |
| | 03/23/05 | <50 | -- | 0.7 | -- | -- | -- |
| | 09/02/05 | <50 | -- | 0.8 | -- | -- | -- |
| | 03/24/06 | INACCESSIBLE/POSSIBLY DESTROYED | | | -- | -- | -- |
| | DESTROYED - 2006 | | | | | | |

# Table 2

## Groundwater Analytical Results - Oxygenate Compounds

Chevron Service Station #9-5542

7007 San Ramon Road

Dublin, California

**EXPLANATIONS:**

TBA = t-Butyl alcohol
MTBE = Methyl Tertiary Butyl Ether
DIPE = di-Isopropyl ether
ETBE = Ethyl t-butyl ether
TAME = t-Amyl methyl ether
(µg/L) = Micrograms per liter
(D) = Duplicate
-- = Not Analyzed

**ANALYTICAL METHOD:**

EPA Method 8260 for Oxygenate Compounds

# STANDARD OPERATING PROCEDURE - GROUNDWATER SAMPLING

Gettler-Ryan Inc. field personnel adhere to the following procedures for the collection and handling of groundwater samples prior to analysis by the analytical laboratory. Prior to sample collection, the type of analysis to be performed is determined. Loss prevention of volatile compounds is controlled and sample preservation for subsequent analysis is maintained.

Prior to sampling, the presence or absence of free-phase hydrocarbons is determined using an interface probe. Product thickness, if present, is measured to the nearest 0.01 foot and is noted in the field notes. In addition, all depth to water level measurements are collected with a static water level indicator and are also recorded in the field notes, prior to purging and sampling any wells.

After water levels are collected and prior to sampling, if purging is to occur, each well is purged a minimum of three well casing volumes of water using pre-cleaned pumps (stack, suction, Grundfos), or disposable bailers. Temperature, pH and electrical conductivity are measured a minimum of three times during the purging. Purging continues until these parameters stabilize.

Groundwater samples are collected using disposable bailers. The water samples are transferred from the bailer into appropriate containers. Pre-preserved containers, supplied by analytical laboratories, are used when possible. When pre-preserved containers are not available, the laboratory is instructed to preserve the sample as appropriate. Duplicate samples are collected for the laboratory to use in maintaining quality assurance/quality control standards. The samples are labeled to include the job number, sample identification, collection date and time, analysis, preservation (if any), and the sample collector's initials. The water samples are placed in a cooler, maintained at 4°C for transport to the laboratory. Once collected in the field, all samples are maintained under chain of custody until delivered to the laboratory.

The chain of custody document includes the job number, type of preservation, if any, analysis requested, sample identification, date and time collected, and the sample collector's name. The chain of custody is signed and dated (including time of transfer) by each person who receives or surrenders the samples, beginning with the field personnel and ending with the laboratory personnel.

A laboratory supplied trip blank accompanies each sampling set. For sampling sets greater than 20 samples, 5% trip blanks are included. The trip blank is analyzed for some or all of the same compounds as the groundwater samples.

As requested by Chevron Environmental Management Company, the purge water and decontamination water generated during sampling activities is transported by IWM to Chemical Waste Management located in Kettleman Hills, California.

# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #9-5542 Job Number: 385290
Site Address: 7007 San Ramon Valley Rd Event Date: 3/18/09 (inclusive)
City: Dublin, CA Sampler: KE

Well ID MW-1 Date Monitored: 3/18/09
Well Diameter 2 (4) in.
Total Depth 47.81 ft.
Depth to Water 23.40 ft. ☐ Check if water column is less then 0.50 ft.

| Volume Factor (VF) | 3/4"= 0.02 | 1"= 0.04 | 2"= 0.17 | 3"= 0.38 |
|---|---|---|---|---|
| | 4"= 0.66 | 5"= 1.02 | 6"= 1.50 | 12"= 5.80 |

24.41 xVF .66 = 16.1 x3 case volume = Estimated Purge Volume: 48 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 28.28

**Purge Equipment:**
Disposable Bailer
Stainless Steel Bailer
Stack Pump ✓
Suction Pump
Grundfos
Peristaltic Pump
QED Bladder Pump
Other:

**Sampling Equipment:**
Disposable Bailer ✓
Pressure Bailer
Discrete Bailer
Peristaltic Pump
QED Bladder Pump
Other:

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 0900 Weather Conditions: Foggy
Sample Time/Date: 0925 / 3/18/09 Water Color: Clear Odor (Y) N Strong
Approx. Flow Rate: 3 gpm. Sediment Description: Clear
Did well de-water? NO If yes, Time: — Volume: — gal. DTW @ Sampling: 27.96

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (µmhos/cm (µS)) | Temperature (C / F) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 0905 | 15 | 6.90 | 1176 | 17.8 | | |
| 0910 | ~~30~~ | 6.83 | 1204 | 18.7 | | |
| 0916 | ~~49~~ | 6.76 | 1217 | 19.0 | | |
| | | | | | | |

### LABORATORY INFORMATION

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW-1 | 6 x voa vial | YES | HCL | LANCASTER | TPH-GRO(8015)/BTEX+MTBE(8260)/ ETHANOL (8260) |
| | | | | | |
| | | | | | |
| | | | | | |
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**COMMENTS:**

Add/Replaced Lock: Add/Replaced Plug: Add/Replaced Bolt:

# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #9-5542 Job Number: 385290
Site Address: 7007 San Ramon Valley Rd Event Date: 3/18/09 (inclusive)
City: Dublin, CA Sampler: KE

Well ID MW-4 Date Monitored: 3/18/09
Well Diameter (2) 4 in.
Total Depth 35.93 ft.
Depth to Water 22.51 ft.

| Volume Factor (VF) | 3/4"= 0.02 | 1"= 0.04 | 2"= 0.17 | 3"= 0.38 |
|---|---|---|---|---|
| | 4"= 0.66 | 5"= 1.02 | 6"= 1.50 | 12"= 5.80 |

☐ Check if water column is less then 0.50 ft.

13.42 xVF .17 = 2.2 x3 case volume = Estimated Purge Volume: 6.8 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 25.19

**Purge Equipment:**

| | |
|---|---|
| Disposable Bailer | |
| Stainless Steel Bailer | |
| Stack Pump | ✓ |
| Suction Pump | |
| Grundfos | |
| Peristaltic Pump | |
| QED Bladder Pump | |
| Other: | |

**Sampling Equipment:**

| | |
|---|---|
| Disposable Bailer | ✓ |
| Pressure Bailer | |
| Discrete Bailer | |
| Peristaltic Pump | |
| QED Bladder Pump | |
| Other: | |

Time Started: (2400 hrs)
Time Completed: (2400 hrs)
Depth to Product: ft
Depth to Water: ft
Hydrocarbon Thickness: ft
Visual Confirmation/Description:
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: gal
Amt Removed from Well: gal
Water Removed:
Product Transferred to:

Start Time (purge): 0815 Weather Conditions: Foggy
Sample Time/Date: 0835 / 3/18/09 Water Color: Clear Odor: Y / N moderate
Approx. Flow Rate: - gpm. Sediment Description: Clear
Did well de-water? no If yes, Time: - Volume: - gal. DTW @ Sampling: 22.83

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (µmhos/cm - µS) | Temperature (C / F) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 0818 | 3 | 6.85 | 1228 | 18.0 | | |
| 0820 | 5 | 6.81 | 1214 | 19.2 | | |
| 0822 | 7 | 6.77 | 1210 | 19.6 | | |
| | | | | | | |

### LABORATORY INFORMATION

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW-4 | 6 x voa vial | YES | HCL | LANCASTER | TPH-GRO(8015)/BTEX+MTBE(8260)/ ETHANOL (8260) |
| | | | | | |
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**COMMENTS:**

Add/Replaced Lock: Add/Replaced Plug: Add/Replaced Bolt:

# GETTLER-RYAN INC.

## WELL MONITORING/SAMPLING FIELD DATA SHEET

Client/Facility#: Chevron #9-5542 | Job Number: 385290
Site Address: 7007 San Ramon Valley Rd | Event Date: 3/18/09 (inclusive)
City: Dublin, CA | Sampler: KE

Well ID: MW-11
Well Diameter: (2) 4 in.
Total Depth: 55.95 ft.
Depth to Water: 20.63 ft.
Date Monitored: 3/18/09

| Volume Factor (VF) | 3/4"= 0.02 | 1"= 0.04 | 2"= 0.17 | 3"= 0.38 |
|---|---|---|---|---|
| | 4"= 0.66 | 5"= 1.02 | 6"= 1.50 | 12"= 5.80 |

☐ Check if water column is less then 0.50 ft.

35.52 xVF .17 = 5.8 x3 case volume = Estimated Purge Volume: 17.6 gal.

Depth to Water w/ 80% Recharge [(Height of Water Column x 0.20) + DTW]: 27.83

**Purge Equipment:**
- Disposable Bailer: ____
- Stainless Steel Bailer: ____
- Stack Pump: ✓
- Suction Pump: ____
- Grundfos: ____
- Peristaltic Pump: ____
- QED Bladder Pump: ____
- Other: ____

**Sampling Equipment:**
- Disposable Bailer: ✓
- Pressure Bailer: ____
- Discrete Bailer: ____
- Peristaltic Pump: ____
- QED Bladder Pump: ____
- Other: ____

Time Started: ____ (2400 hrs)
Time Completed: ____ (2400 hrs)
Depth to Product: ____ ft
Depth to Water: ____ ft
Hydrocarbon Thickness: ____ ft
Visual Confirmation/Description: ____
Skimmer / Absorbant Sock (circle one)
Amt Removed from Skimmer: ____ gal
Amt Removed from Well: ____ gal
Water Removed: ____
Product Transferred to: ____

Start Time (purge): 1015 | Weather Conditions: Partly Cloudy
Sample Time/Date: 1225 / 3/18/09 | Water Color: Clear | Odor: Y / (N)
Approx. Flow Rate: 2 gpm. | Sediment Description: Clear
Did well de-water? Yes If yes, Time: 1019 Volume: 7 gal. DTW @ Sampling: 36.75

| Time (2400 hr.) | Volume (gal.) | pH | Conductivity (µmhos/cm (µS)) | Temperature (C / F) | D.O. (mg/L) | ORP (mV) |
|---|---|---|---|---|---|---|
| 1018 | 6 | 7.14 | 849 | 20.4 | | |
| 1021 | 12 | | | | | |
| 1024 | 18 | | | | | |
| | | | | | | |

### LABORATORY INFORMATION

| SAMPLE ID | (#) CONTAINER | REFRIG. | PRESERV. TYPE | LABORATORY | ANALYSES |
|---|---|---|---|---|---|
| MW-11 | 6 x voa vial | YES | HCL | LANCASTER | TPH-GRO(8015)/BTEX+MTBE(8260)/ ETHANOL (8260) |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |

COMMENTS: Slow recharge waited 2 hrs Sample taken

Add/Replaced Lock: X | Add/Replaced Plug: X2 | Add/Replaced Bolt: ____

# Chevron California Region Analysis Request/Chain of Custody

Lancaster Laboratories

031809-04

For Lancaster Laboratories use only
Acct. #: 12099 Sample # 562101105-68 Group #: 016658
Group# 1136805

CRA MTI Project #: 61H-1969

Facility #: SS#9-5542 G-R#385290 Global ID#T0600100354
Site Address: 7007 SAN RAMON ROAD, DUBLIN, CA
Chevron PM: MTI Lead Consultant: CRAKJ
Consultant/Office: G-R, Inc., 6747 Sierra Court, Suite J, Dublin, CA 94568
Consultant Prj. Mgr.: Deanna L. Harding (deanna@grinc.com)
Consultant Phone #: 925-551-7555 Fax #: 925-551-7899
Sampler: Kyle Erbland

| Sample Identification | Date Collected | Time Collected | Grab | Composite | Matrix: Soil | Matrix: Water (Potable ☐ NPDES ☐) | Matrix: Oil ☐ Air | Total Number of Containers | Analyses Requested / Preservation Codes: BTEX + MTBE 8260 ☒ 8021 ☐ | TPH 8015 MOD GRO | TPH 8015 MOD DRO ☐ Silica Gel Cleanup | 8260 full scan | Oxygenates ____ Method ____ | Total Lead Method ____ | Dissolved Lead Method ____ | Ethanol (8260) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COC | 3/18/09 | | X | | | X | | 2 | X | X | | | | | | |
| mw-1 | | 0925 | X | | | X | | 6 | X | X | | | | | | X |
| mw-4 | | 0835 | X | | | X | | 6 | X | X | | | | | | X |
| mw-11 | ↓ | 1225 | X | | | X | | 6 | X | X | | | | | | X |

**Preservative Codes**
H = HCl T = Thiosulfate
N = $HNO_3$ B = NaOH
S = $H_2SO_4$ O = Other

☐ J value reporting needed
☒ Must meet lowest detection limits possible for 8260 compounds
8021 MTBE Confirmation
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

**Comments / Remarks**

**Turnaround Time Requested (TAT)** (please circle)
STD. TAT | 72 hour | 48 hour
24 hour | 4 day | 5 day

**Data Package Options** (please circle if required)
QC Summary | Type I - Full
Type VI (Raw Data) | ☐ Coelt Deliverable not needed
WIP (RWQCB)
Disk
EDF/EDD

| | Date | Time | | Date | Time |
|---|---|---|---|---|---|
| Relinquished by: | 3/18/09 | 1424 | Received by: A. Aslayan 18MAR09 | | 1426 |
| Relinquished by: A. Aslayan 18MAR09 | | 1630 | Received by: FEDEX | | |
| Relinquished by: | | | Received by: | | |
| Relinquished by Commercial Carrier: UPS FedEx Other | | | Received by: | 3/18/09 | 0910 |
| Temperature Upon Receipt 16-3.1 C° | | | Custody Seals Intact? Yes No | | |

Lancaster Laboratories
2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

# Analysis Report

ANALYTICAL RESULTS



Prepared for:

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

916-677-3407

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1136805. Samples arrived at the laboratory on Thursday, March 19, 2009. The PO# for this group is 95542 and the release number is MTI.

| Client Description | Lancaster Labs Number |
|---|---|
| QA-T-090318 NA Water | 5626165 |
| MW-1-W-090318 Grab Water | 5626166 |
| MW-4-W-090318 Grab Water | 5626167 |
| MW-11-W-090318 Grab Water | 5626168 |

ELECTRONIC COPY TO Gettler-Ryan, Inc. Attn: Cheryl Hansen

Lancaster Laboratories

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# Analysis Report

Questions? Contact your Client Services Representative
Jill M Parker at (717) 656-2300

Respectfully Submitted,

Barbara F. Reedy
Senior Specialist

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 •717-656-2300 Fax:717-656-2681• www.lancasterlabs.com

# Analysis Report



**Lancaster Laboratories Sample No. WW5626165** **Group No. 1136805**

**QA-T-090318 NA Water**
**Facility# 95542 Job# 385290 MTI# 61H-1969 GRD**
**7007 San Ramon-Dublin T0600100354 QA**
Collected:03/18/2009

Account Number: 12099

Submitted: 03/19/2009 09:10
Reported: 03/27/2009 at 13:07
Discard: 04/27/2009

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

DUBQA

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO N. CA water C6-C12 | n.a. | N.D. | 50 | ug/l | 1 |
| 06054 | BTEX+MTBE by 8260B | | | | | |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | ug/l | 1 |
| 05401 | Benzene | 71-43-2 | N.D. | 0.5 | ug/l | 1 |
| 05407 | Toluene | 108-88-3 | N.D. | 0.5 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | N.D. | 0.5 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | N.D. | 0.5 | ug/l | 1 |

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO N. CA water C6-C12 | SW-846 8015B | 1 | 03/24/2009 17:30 | Carrie E Youtzy | 1 |
| 06054 | BTEX+MTBE by 8260B | SW-846 8260B | 1 | 03/24/2009 06:31 | Michael A Ziegler | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 03/24/2009 17:30 | Carrie E Youtzy | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 03/24/2009 06:31 | Michael A Ziegler | 1 |

Lancaster Laboratories

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# Analysis Report



**Lancaster Laboratories Sample No. WW5626166** **Group No. 1136805**

**MW-1-W-090318 Grab Water**
**Facility# 95542 Job# 385290 MTI# 61H-1969 GRD**
**7007 San Ramon-Dublin T0600100354 MW-1**
Collected:03/18/2009 09:25 by KE

Account Number: 12099

Submitted: 03/19/2009 09:10
Reported: 03/27/2009 at 13:07
Discard: 04/27/2009

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

DUBM1

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO N. CA water C6-C12 | n.a. | 35,000 | 1,000 | ug/l | 20 |
| 06067 | BTEX, MTBE, ETOH | | | | | |
| 01587 | Ethanol | 64-17-5 | N.D. | 250 | ug/l | 5 |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 3 | ug/l | 5 |
| 05401 | Benzene | 71-43-2 | 1,200 | 25 | ug/l | 50 |
| 05407 | Toluene | 108-88-3 | 6,400 | 25 | ug/l | 50 |
| 05415 | Ethylbenzene | 100-41-4 | 1,400 | 25 | ug/l | 50 |
| 06310 | Xylene (Total) | 1330-20-7 | 5,800 | 25 | ug/l | 50 |

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO N. CA water C6-C12 | SW-846 8015B | 1 | 03/24/2009 18:31 | Carrie E Youtzy | 20 |
| 06067 | BTEX, MTBE, ETOH | SW-846 8260B | 1 | 03/24/2009 03:49 | Michael A Ziegler | 5 |
| 06067 | BTEX, MTBE, ETOH | SW-846 8260B | 1 | 03/24/2009 04:14 | Michael A Ziegler | 50 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 03/24/2009 18:31 | Carrie E Youtzy | 20 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 03/24/2009 03:49 | Michael A Ziegler | 5 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 2 | 03/24/2009 04:14 | Michael A Ziegler | 50 |

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# Analysis Report



**Lancaster Laboratories Sample No. WW5626167** **Group No. 1136805**

**MW-4-W-090318 Grab Water**
**Facility# 95542 Job# 385290 MTI# 61H-1969 GRD**
**7007 San Ramon-Dublin T0600100354 MW-4**
Collected:03/18/2009 08:35 by KE

Account Number: 12099

Submitted: 03/19/2009 09:10
Reported: 03/27/2009 at 13:07
Discard: 04/27/2009

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

DUBM4

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO N. CA water C6-C12 | n.a. | 3,900 | 50 | ug/l | 1 |
| 06067 | BTEX, MTBE, ETOH | | | | | |
| 01587 | Ethanol | 64-17-5 | N.D. | 50 | ug/l | 1 |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | ug/l | 1 |
| 05401 | Benzene | 71-43-2 | 46 | 0.5 | ug/l | 1 |
| 05407 | Toluene | 108-88-3 | 4 | 0.5 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | 190 | 0.5 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | 450 | 0.5 | ug/l | 1 |

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO N. CA water C6-C12 | SW-846 8015B | 1 | 03/24/2009 19:01 | Carrie E Youtzy | 1 |
| 06067 | BTEX, MTBE, ETOH | SW-846 8260B | 1 | 03/24/2009 04:38 | Michael A Ziegler | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 03/24/2009 19:01 | Carrie E Youtzy | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 03/24/2009 04:38 | Michael A Ziegler | 1 |

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# Analysis Report



**Lancaster Laboratories Sample No. WW5626168** **Group No. 1136805**

**MW-11-W-090318 Grab Water**
**Facility# 95542 Job# 385290 MTI# 61H-1969 GRD**
**7007 San Ramon-Dublin T0600100354 MW-11**
Collected:03/18/2009 12:25 by KE

Account Number: 12099

Submitted: 03/19/2009 09:10
Reported: 03/27/2009 at 13:07
Discard: 04/27/2009

Chevron c/o CRA
Suite 110
2000 Opportunity Drive
Roseville CA 95678

DUB11

| CAT No. | Analysis Name | CAS Number | As Received Result | As Received Method Detection Limit | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO N. CA water C6-C12 | n.a. | N.D. | 50 | ug/l | 1 |
| 06067 | BTEX, MTBE, ETOH | | | | | |
| 01587 | Ethanol | 64-17-5 | N.D. | 50 | ug/l | 1 |
| 02010 | Methyl Tertiary Butyl Ether | 1634-04-4 | N.D. | 0.5 | ug/l | 1 |
| 05401 | Benzene | 71-43-2 | N.D. | 0.5 | ug/l | 1 |
| 05407 | Toluene | 108-88-3 | 0.5 | 0.5 | ug/l | 1 |
| 05415 | Ethylbenzene | 100-41-4 | N.D. | 0.5 | ug/l | 1 |
| 06310 | Xylene (Total) | 1330-20-7 | N.D. | 0.5 | ug/l | 1 |

State of California Lab Certification No. 2116

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

## Laboratory Chronicle

| CAT No. | Analysis Name | Method | Trial# | Analysis Date and Time | Analyst | Dilution Factor |
|---|---|---|---|---|---|---|
| 01728 | TPH-GRO N. CA water C6-C12 | SW-846 8015B | 1 | 03/23/2009 23:57 | Marie D John | 1 |
| 06067 | BTEX, MTBE, ETOH | SW-846 8260B | 1 | 03/24/2009 05:28 | Michael A Ziegler | 1 |
| 01146 | GC VOA Water Prep | SW-846 5030B | 1 | 03/23/2009 23:57 | Marie D John | 1 |
| 01163 | GC/MS VOA Water Prep | SW-846 5030B | 1 | 03/24/2009 05:28 | Michael A Ziegler | 1 |

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# Analysis Report



## Quality Control Summary

Client Name: Chevron c/o CRA
Reported: 03/27/09 at 01:07 PM

Group Number: 1136805

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

### Laboratory Compliance Quality Control

| Analysis Name | Blank Result | Blank MDL | Report Units | LCS %REC | LCSD %REC | LCS/LCSD Limits | RPD | RPD Max |
|---|---|---|---|---|---|---|---|---|
| Batch number: 09082A15A | Sample number(s): 5626168 | | | | | | | |
| TPH-GRO N. CA water C6-C12 | N.D. | 50. | ug/l | 127 | 127 | 75-135 | 0 | 30 |
| Batch number: 09083A15A | Sample number(s): 5626165-5626167 | | | | | | | |
| TPH-GRO N. CA water C6-C12 | N.D. | 50. | ug/l | 127 | 118 | 75-135 | 7 | 30 |
| Batch number: Z090823AA | Sample number(s): 5626165 | | | | | | | |
| Methyl Tertiary Butyl Ether | N.D. | 0.5 | ug/l | 101 | | 78-117 | | |
| Benzene | N.D. | 0.5 | ug/l | 98 | | 80-116 | | |
| Toluene | N.D. | 0.5 | ug/l | 107 | | 80-115 | | |
| Ethylbenzene | N.D. | 0.5 | ug/l | 106 | | 80-113 | | |
| Xylene (Total) | N.D. | 0.5 | ug/l | 104 | | 81-114 | | |
| Batch number: Z090824AA | Sample number(s): 5626166-5626168 | | | | | | | |
| Ethanol | N.D. | 50. | ug/l | 97 | | 40-158 | | |
| Methyl Tertiary Butyl Ether | N.D. | 0.5 | ug/l | 100 | | 78-117 | | |
| Benzene | N.D. | 0.5 | ug/l | 98 | | 80-116 | | |
| Toluene | N.D. | 0.5 | ug/l | 105 | | 80-115 | | |
| Ethylbenzene | N.D. | 0.5 | ug/l | 104 | | 80-113 | | |
| Xylene (Total) | N.D. | 0.5 | ug/l | 102 | | 81-114 | | |

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Batch number: 09082A15A | Sample number(s): 5626168 UNSPK: P626171 | | | | | | | | |
| TPH-GRO N. CA water C6-C12 | 118 | | 63-154 | | | | | | |
| Batch number: 09083A15A | Sample number(s): 5626165-5626167 UNSPK: P626404 | | | | | | | | |
| TPH-GRO N. CA water C6-C12 | 145 | | 63-154 | | | | | | |
| Batch number: Z090823AA | Sample number(s): 5626165 UNSPK: P625040 | | | | | | | | |
| Methyl Tertiary Butyl Ether | 109 | 109 | 72-126 | 1 | 30 | | | | |
| Benzene | 107 | 107 | 80-126 | 0 | 30 | | | | |
| Toluene | 116 | 114 | 80-125 | 2 | 30 | | | | |
| Ethylbenzene | 115 | 114 | 77-125 | 1 | 30 | | | | |
| Xylene (Total) | 113 | 113 | 79-125 | 0 | 30 | | | | |
| Batch number: Z090824AA | Sample number(s): 5626166-5626168 UNSPK: P626269 | | | | | | | | |
| Ethanol | 82 | 93 | 37-164 | 12 | 30 | | | | |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

## Quality Control Summary

Client Name: Chevron c/o CRA
Reported: 03/27/09 at 01:07 PM

Group Number: 1136805

### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

| Analysis Name | MS %REC | MSD %REC | MS/MSD Limits | RPD | RPD MAX | BKG Conc | DUP Conc | DUP RPD | Dup RPD Max |
|---|---|---|---|---|---|---|---|---|---|
| Methyl Tertiary Butyl Ether | 103 | 101 | 72-126 | 1 | 30 | | | | |
| Benzene | 106 | 104 | 80-126 | 2 | 30 | | | | |
| Toluene | 113 | 109 | 80-125 | 4 | 30 | | | | |
| Ethylbenzene | 113 | 110 | 77-125 | 3 | 30 | | | | |
| Xylene (Total) | 109 | 106 | 79-125 | 3 | 30 | | | | |

### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 09082A15A

| | Trifluorotoluene-F |
|---|---|
| 5626168 | 102 |
| Blank | 111 |
| LCS | 110 |
| LCSD | 111 |
| MS | 114 |
| Limits: | 63-135 |

Analysis Name: TPH-GRO N. CA water C6-C12
Batch number: 09083A15A

| | Trifluorotoluene-F |
|---|---|
| 5626165 | 110 |
| 5626166 | 114 |
| 5626167 | 135 |
| Blank | 111 |
| LCS | 115 |
| LCSD | 111 |
| MS | 97 |
| Limits: | 63-135 |

Analysis Name: BTEX+MTBE by 8260B
Batch number: Z090823AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 5626165 | 89 | 89 | 99 | 88 |
| Blank | 86 | 86 | 99 | 87 |
| LCS | 86 | 88 | 98 | 91 |
| MS | 85 | 86 | 98 | 92 |
| MSD | 86 | 86 | 98 | 91 |
| Limits: | 80-116 | 77-113 | 80-113 | 78-113 |

Analysis Name: BTEX, MTBE, ETOH

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Lancaster Laboratories

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# Analysis Report



## Quality Control Summary

Client Name: Chevron c/o CRA
Reported: 03/27/09 at 01:07 PM

Group Number: 1136805

### Surrogate Quality Control

Batch number: Z090824AA

| | Dibromofluoromethane | 1,2-Dichloroethane-d4 | Toluene-d8 | 4-Bromofluorobenzene |
|---|---|---|---|---|
| 5626166 | 92 | 92 | 111 | 100 |
| 5626167 | 91 | 91 | 112 | 100 |
| 5626168 | 93 | 94 | 110 | 96 |
| Blank | 91 | 94 | 109 | 95 |
| LCS | 92 | 95 | 108 | 98 |
| MS | 92 | 94 | 108 | 99 |
| MSD | 90 | 95 | 108 | 98 |
| Limits: | 80-116 | 77-113 | 80-113 | 78-113 |

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

# Lancaster Laboratories
# Explanation of Symbols and Abbreviations

*The following defines common symbols and abbreviations used in reporting technical data:*

| | | | |
|---|---|---|---|
| **N.D.** | none detected | **BMQL** | Below Minimum Quantitation Level |
| **TNTC** | Too Numerous To Count | **MPN** | Most Probable Number |
| **IU** | International Units | **CP Units** | cobalt-chloroplatinate units |
| **umhos/cm** | micromhos/cm | **NTU** | nephelometric turbidity units |
| **C** | degrees Celsius | **F** | degrees Fahrenheit |
| **Cal** | (diet) calories | **lb.** | pound(s) |
| **meq** | milliequivalents | **kg** | kilogram(s) |
| **g** | gram(s) | **mg** | milligram(s) |
| **ug** | microgram(s) | **l** | liter(s) |
| **ml** | milliliter(s) | **ul** | microliter(s) |
| **m3** | cubic meter(s) | **fib >5 um/ml** | fibers greater than 5 microns in length per ml |

**<** less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

**>** greater than

**ppm** parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

**ppb** parts per billion

**Dry weight basis** Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

*U.S. EPA data qualifiers:*

**Organic Qualifiers**

| | |
|---|---|
| **A** | TIC is a possible aldol-condensation product |
| **B** | Analyte was also detected in the blank |
| **C** | Pesticide result confirmed by GC/MS |
| **D** | Compound quatitated on a diluted sample |
| **E** | Concentration exceeds the calibration range of the instrument |
| **J** | Estimated value |
| **N** | Presumptive evidence of a compound (TICs only) |
| **P** | Concentration difference between primary and confirmation columns >25% |
| **U** | Compound was not detected |
| **X,Y,Z** | Defined in case narrative |

**Inorganic Qualifiers**

| | |
|---|---|
| **B** | Value is <CRDL, but ≥IDL |
| **E** | Estimated due to interference |
| **M** | Duplicate injection precision not met |
| **N** | Spike amount not within control limits |
| **S** | Method of standard additions (MSA) used for calculation |
| **U** | Compound was not detected |
| **W** | Post digestion spike out of control limits |
| ***** | Duplicate analysis not within control limits |
| **+** | Correlation coefficient for MSA <0.995 |

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

# APPENDIX F

# STANDARD FIELD PROCEDURES

# Conestoga-Rovers & Associates

## STANDARD FIELD PROCEDURES FOR HAND-AUGER SOIL BORINGS

This document describes Conestoga-Rovers & Associates standard field methods for drilling and sampling soil borings using a hand-auger. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

### Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor odor or staining, estimate ground water depth and quality and to submit samples for chemical analysis.

### Soil Classification/Logging

All soil samples are classified according to the Unified Soil Classification System by a trained geologist or engineer working under the supervision of a California Professional Geologist (PG) or a Certified Engineering Geologist (CEG). The following soil properties are noted for each soil sample:

- Principal and secondary grain size category (i.e. sand, silt, clay or gravel)
- Approximate percentage of each grain size category,
- Color,
- Approximate water or product saturation percentage,
- Observed odor and/or discoloration,
- Other significant observations (i.e. cementation, presence of marker horizons, mineralogy), and
- Estimated permeability.

### Soil Boring and Sampling

Hand-auger borings are typically drilled using a hand-held bucket auger to remove soil to the desired sampling depth. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments beyond the bottom of the augered hole. The vertical location of each soil sample is determined using a tape measure. All sample depths use the ground surface immediately adjacent to the boring as a datum. The horizontal location of each boring is measured in the field from an onsite permanent reference using a measuring wheel or tape measure.

Augering and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

### Sample Storage, Handling and Transport

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

### Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable photoionization detector (PID) measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. PID measurements are used along with the field observations, odors, stratigraphy and ground water depth to select soil samples for analysis.

### Water Sampling

Water samples, if they are collected from the boring, are collected from the open borehole using bailers. The ground water samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory.

### Duplicates and Blanks

Blind duplicate water samples are collected usually collected only for monitoring well sampling programs, at a rate of one blind sample for every 10 wells sampled. Laboratory-supplied trip blanks accompany samples collected for all sampling programs to check for cross-contamination caused by sample handling and transport. These trip blanks are analyzed if the internal laboratory QA/QC blanks contain the suspected field contaminants. An equipment blank may also be analyzed if non-dedicated sampling equipment is used.

### Grouting

The borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

### Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite on top of and covered by plastic sheeting. At least four individual soil samples are collected from the stockpiles for later compositing at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Ground water removed during sampling and/or rinsate generated during decontamination procedures are stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Disposal of the water is based on the analytic results for the well samples. The water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

# Conestoga-Rovers & Associates

## STANDARD FIELD PROCEDURES FOR SOIL VAPOR PROBE INSTALLATION AND SAMPLING

## VAPOR POINT METHODS

This document describes Conestoga-Rovers & Associates' standard field methods for soil vapor sampling. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

### Objectives

Soil vapor samples are collected and analyzed to assess whether vapor-phase subsurface contaminants pose a threat to human health or the environment.

### Shallow Soil Vapor Point Installation

The shallow soil vapor point method for soil vapor sampling utilizes a hand auger or drill rig to advance a boring for the installation of a soil vapor sampling point. Once the boring is hand augered to the final depth, a probe, connected with Swagelok fittings to nylon or Teflon tubing of ¼-inch outer-diameter, is placed within 12-inches of number 2/16 filter sand (Figure A). A 12-inch layer of dry granular bentonite is placed on top of the filter pack. Pre-hydrated granular bentonite is then poured to fill the borehole. The tube is coiled and placed within a wellbox finished flush to the surface. Soil vapor samples will be collected no sooner than 48 hours after installation of the soil vapor points to allow adequate time for representative soil vapors to accumulate. Soil vapor sample collection will not be scheduled until after a minimum of three consecutive precipitation-free days and irrigation onsite has ceased. Figure B shows the soil vapor sampling apparatus. A measured volume of air will be purged from the tubing using a different Summa purge canister. Immediately after purging, soil vapor samples will be collected using the appropriate size Summa canister with attached flow regulator and sediment filter. The soil vapor points will be preserved until they are no longer needed for risk evaluation purposes. At that time, they will be destroyed by extracting the tubing, hand augering to remove the sand and bentonite, and backfilling the boring with neat cement. The boring will be patched with asphalt or concrete, as appropriate.

### Sampling of Soil Vapor Points

Samples will be collected using a SUMMA™ canister connected to sampling tubing at each vapor point. Prior to collecting soil vapor samples, the initial vacuum of the canisters is measured and recorded on the chain-of-custody. The vacuum of the SUMMA™ canister is used to draw the soil vapor through the flow controller until a negative pressure of approximately 5-inches of Hg is observed on the vacuum gauge and recorded on

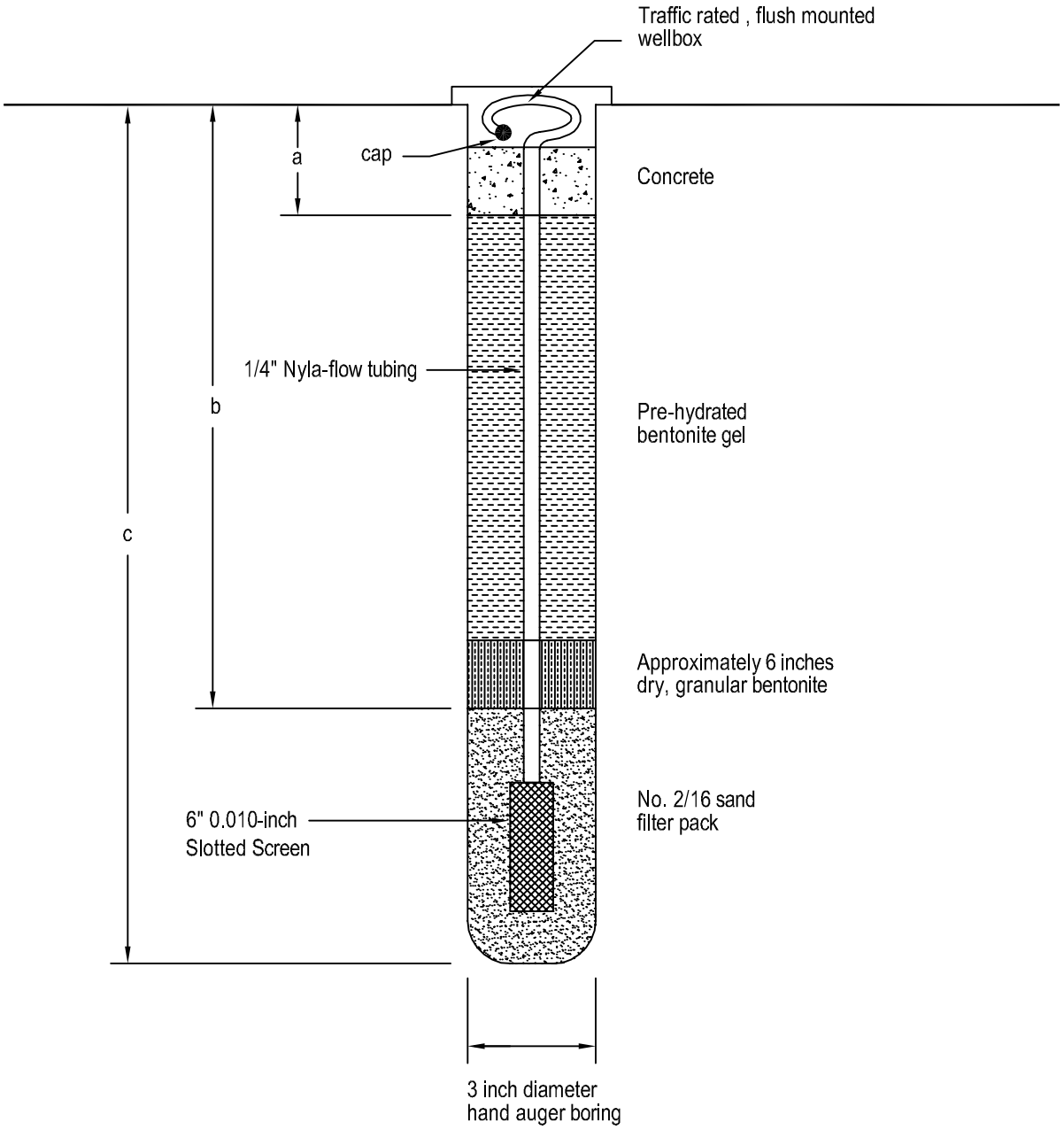
the chain-of-custody. The flow controllers should be set to 100-200 ml/minute. Field duplicates should be collected for every day of sampling and/or for every 10 samples collected.

Prior to sample collection, stagnant air in the sampling apparatus should be removed by purging approximately 3 purge volumes. The purge volume is defined as the amount of air within the probe and tubing.

In accordance with the DTSC Advisory-Active Soil Gas Investigations guidance document, dated January 28, 2003, leak testing needs to be performed during sampling. Helium is recommended, although shaving cream is acceptable.

### Vapor Sample Storage, Handling, and Transport

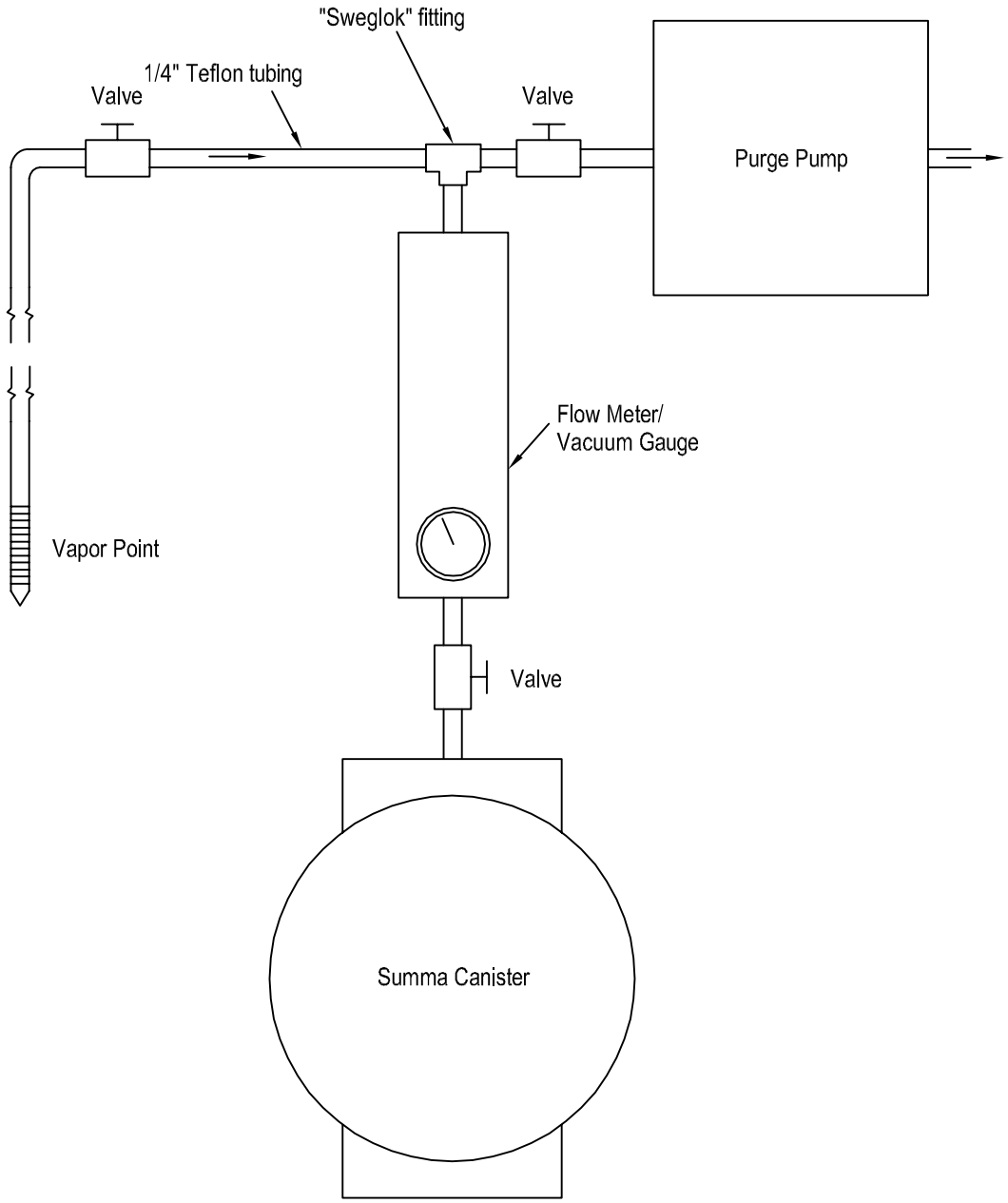
Samples are stored and transported under chain-of-custody to a state-certified analytic laboratory. Samples should never be cooled due to the possibility of condensation within the canister.




Schematic Not to Scale

figure A

SOIL VAPOR POINT




Schematic Not to Scale

figure B

SOIL VAPOR SAMPLING APPARATUS DIAGRAM