June 17, 2016

SITE MITIGATION PLAN

Property Identification:
1005 Northgate Drive
San Rafael, California

AEI Project No. 358536

Prepared for:
George Saad
San Rafael Commercial, LLC
180 Century Park East, Suite 2400
Los Angeles, CA 90067

Prepared by:
AEI Consultants
2500 Camino Diablo
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June 17, 2016

George Saad
Empire USA, LLC
180 Century Park East, Suite 2400
Los Angeles, CA 90067

Subject: **Site Mitigation Plan**
1005 Northgate Drive, San Rafael, California
AEI Project No. 358536

Dear Mr. Saad:

AEI Consultants (AEI) is pleased to provide San Rafael Commercial, LLC (client) with the following Site Mitigation Plan (SMP) for mitigation of potential environmental issues associated with the property located at 1005 Northgate Drive, San Rafael, California (the Site, Figure 1). The client is currently in the permitting and planning process for redevelopment of the property from its current use as a retail gas station and convenience store into a residential development consisting of multi-leveled condominiums with a parking garage on the lower level. Final design plans have not been approved by the city for construction; however, the current design includes a parking facility on the bottom floor in the area overlying the footprint of the existing gas station, which will provide a buffer between the proposed residential units and any potential residual petroleum constituents in soil and groundwater beneath the property.

Historical environmental activities associated with the property have been regulated by the San Francisco Bay Regional Water Quality Control Board (RWQCB). On July 1, 2010, the RWQCB granted case closure with regards to the known hydrocarbon contamination beneath the Site. The closure was granted with the understanding that any land use change would be reported to the RWQCB. Given the planned land use change, prior to the initiation of development activities, AEI will provide consulting with the RWQCB regarding the planned redevelopment and work with the RWQCB to assure the residual hydrocarbon contamination is addressed appropriately. It is assumed that the RWQCB will serve as the lead regulatory agency for future environmental activities at the Site, with input from the City of San Rafael as needed. The City of San Rafael will serve as the regulatory agency overseeing Site re-development activities.

The purpose of the SMP is to provide the City of San Rafael with a framework and definition of appropriate response actions for potential environmental issues which may be encountered during redevelopment of the Site from its current use as a retail gasoline and convenience store to a residential condominium development. A Site vicinity map showing existing buildings and features is provided as Figure 1. The proposed layout for the bottom floor of the planned development (i.e., the parking facility) is shown on Figure 2. Figure 3

shows the features from the existing gas station overlain on the proposed development plan to provide context with the hydrocarbon contamination which may be encountered.

The SMP includes the following components:

1. An overview and description of planned redevelopment activities at the Site;
2. A summary of historical and potential environmental conditions;
3. Guidelines for proposed construction activities;
4. Decision-making framework for assessment of potential soil and soil vapor impacts;
5. Guidelines for managing soil and soil vapors that may be encountered during Site demolition and construction activities;
6. Guidelines for characterization and disposal of impacted soil from the Site, if encountered; and

1.0 BACKGROUND

The subject property is located on the northern corner of the intersection of Northgate Dr. and Manuel T. Freitas Parkway in San Rafael, California (Figure 2). The property is currently occupied by Gateway Gas & Shop, a convenience store, and a UPS store. The parcel (APN 178-240-17) measures 24,458 square feet and is currently improved with one single-story, rectangular convenience store and retail building located in the southwestern portion of the property. The building measures 1,736 square feet. A fuel dispenser island canopy is located in the center of the Site. The remainder of the property is occupied by concrete and asphalt pavement and landscaping.

According to a Phase I Environmental Site Assessment (ESA) performed by ODIC Environmental (ODIC), dated August 28, 2013 (ODIC, 2013), the property was vacant land prior to development for its current use as a gas station in 1964. The property was originally developed as a Texaco-branded gas, including automobile servicing operations through the 1990s. The station building and facilities were demolished and replaced with new facilities in 1998/1999. The existing Gateway Gas & Shop facility has operated on the property since 2000.

A fuel dispenser island canopy with four dual-sided fuel dispensers is located in the center of the site. Fuel is supplied to the dispenser island by two underground storage tanks (USTs) on the property: one 12,000-gallon regular unleaded gasoline UST, and one 8,000 premium unleaded gasoline UST. The USTs are located adjacent and to the west of the dispenser island canopy (Figure 3). Both USTs were installed in the 1990s. Parking is available in the center and northeastern portions of the property.

1.1 HISTORICAL ENVIRONMENTAL INVESTIGATION ACTIVITIES

Numerous rounds of environmental investigation activities have been completed at the Site, beginning in July of 1994 and extending to July of 2010 when the Site was granted closure by the RWQCB. These activities are summarized briefly below.

1994 UST Removal

In July of 1994, California Environmental Engineers and Contractors (CEECON), on behalf of Texaco, removed three 6,000-gallon USTs, two dispenser islands, and related piping from

the site (CEECON, 1994). During UST removal, approximately 350 cubic yards of petroleum-impacted soil were excavated from the UST pit and aerated onsite. Compliance soil samples collected from the UST excavation contained up to 2,100 milligrams per kilogram (mg/kg) total petroleum hydrocarbons as gasoline (TPH-g) and 0.49 mg/kg benzene in sample S-4B at 15 feet below ground surface (bgs). Samples collected from beneath product piping contained up to 800 mg/kg TPH-g and 0.18 mg/kg benzene. Approximately 200 cubic yards (approximately 260-tons) of impacted soil and approximately 15,000 gallons of groundwater were subsequently transported offsite for disposal.

On September 7, 1994, CEECON requested approval from the San Rafael Fire Department to reuse approximately 150-cubic yards of excavated and aerated soil as backfill (CEECON, 1995). It appears that this soil was reused onsite; however, no documentation of these activities was identified.

1996 Used-Oil UST Removal

In July 1996, Flour Daniel GTI (FDG), on behalf of Texaco, removed the 550-gallon steel used-oil UST from the Site (FDG, 1996). A quarter-inch hole was observed in the top of the tank during removal. A soil sample collected beneath the tank contained 16,000 mg/kg total recoverable petroleum hydrocarbons (TRPH), 140 mg/kg TPH-g and 0.18 mg/kg benzene. No other volatile organic compounds were detected. Approximately 120 tons of impacted soil and an unknown amount of groundwater were transported offsite for disposal.

1996 Subsurface Investigation

In December 1996, FDG, on behalf of Texaco, drilled soil borings SB-1 through SB-11 and installed monitoring wells MW-1 through MW-4. Soil and groundwater samples were collected from each monitoring well, and soil samples were collected from the borings. This investigation is documented in FDG's February 17, 1997 Soil and Groundwater Assessment Report (FDG, 1997).

1998/1999 Site Demolition/Remodeling

The structures on the Site were demolished in 1998. Approximately 575 cubic yards of petroleum-impacted soil were transported off-site for disposal in association with these activities. The Site was subsequently redeveloped into its current configuration as a service station operating in early 1999 (ODIC, 2013).

2000 Monitoring Well Installation, Sampling, and Destruction

In May 2000, Cambria Environmental Technology, Inc. (Cambria) installed additional monitoring wells MW-5 through MW-7 and destroyed wells MW-1 and MW-2 due to submerged screens and damage incurred during redevelopment of the Site (Cambria, 2000). The highest TPH-g concentration detected in soil was 2,820 mg/kg in MW-6 at 9.5 bgs. The maximum detected concentration of total petroleum hydrocarbons as diesel (TPH-d) and total petroleum hydrocarbons as motor oil (TPH-mo) were 9.65 mg/kg and 15.2 mg/kg, respectively, in MW-7 at 6 bgs.

2007 Monitoring Well Installation and Sampling

In August 2007, CRA installed monitoring well MW-8 on the western portion of the property to determine whether groundwater flow is diverted and flowing laterally along the edge of the concrete line storm-channel located adjacent to the site (CRA, 2007). No TPHg or TPHd

were detected in soil samples collected from MW-8. All petroleum constituents were below the analytical reporting limits in the groundwater sample collected from MW-8.

2008 Sensitive Receptor Survey

In May 2008, Conestoga-Rover & Associates (CRA) completed a sensitive receptor survey. No wells considered to be sensitive receptors were identified within a 2,000-foot radius of the site (CRA, 2008). The nearest surface water body is the storm channel bordering the northwestern property line. Despite a consistently higher groundwater elevation than the base of the channel, the Sensitive Receptor Survey indicated that no groundwater had been observed entering the channel and no sheen had been observed on the surface of the water during site reconnaissance. No other sensitive surface water receptors were identified.

Request for Closure

The remaining monitoring wells on the Site were abandoned by CRA, with prior notification to the RWQCB, in June 2009 (CRA, 2009). In November 2009, CRA submitted a Closure Request to the RWQCB based on the following:

1. The leak had stopped and ongoing sources including free product, had been removed;
2. The site has been adequately characterized;
3. The dissolved hydrocarbon plume was not migrating;
4. No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors were likely to be impacted;
5. The site did not present a significant risk to human health or the environment.

The RWQCB granted the Closure Request on July 1, 2010. A copy of CRA's Request for Closure is provided in Appendix A.

1.2 Current Environmental Condition

For the purpose of evaluating existing environmental conditions at the Site with respect to the proposed change from commercial to residential land use, historical sampling results were compared to the San Francisco Regional Water Quality Control Board's RWQCB's) residential Environmental Screening Levels (ESLs) for Total Petroleum Hydrocarbons as gasoline (TPH-g) and benzene (updated February 2016). Under most circumstances, the presence of a chemical below the corresponding ESL considered as an indication that the chemical does not pose a significant threat to human health and the environment. The presence of a chemical above the corresponding screening levels indicates that additional analysis may be required to fully evaluate potential health or environmental effects. The residential ESL for TPH-g in soil is 100 mg/kg. The residential ESL for benzene in soil is 0.44 mg/kg.

As shown on Figure 3 as well as on Figure 2 of Appendix A, with the exception of a small area of soil located in the vicinity of the pump islands in the southeast corner of the property, all of the soil between 0 and 5 feet below ground surface contains TPH-g and benzene at concentrations that are below their respective ESLs. As shown on Figure 3 of this SMP document, the anticipated depth of excavation across this portion of the property ranges between 0 and 5 feet. However, the historical sampling results indicate that soils

containing TPH-g and benzene above the ESLs may potentially be present in soils at a depth of 10 feet or greater in the vicinity of the existing pumps, and former and existing USTs. Soil at a depth of 5 feet and less has not historically contained the elevated petroleum concentrations as displayed on the Figure 3.

1.2.1 Planned Soil Vapor Survey

There are no historical soil vapor sampling results available for the Site. In order to assess potential vapor intrusion impacts to the new development, AEI recommends collection of soil vapor samples from borings located across the Site prior to implementation of construction activities. Preliminary soil vapor sampling points are shown on Figure 3. Final sampling locations will be determined after the inclusion of regulatory input.

The results from the soil vapor sampling results will be compared to the residential ESLs for petroleum constituents in soil vapor. These results will be provided to the RWQCB for evaluation of potential vapor intrusion impacts. The residential ESL for TPH in soil vapor is 50,000 micrograms per cubic meter ($\mu g/m^3$). The residential ESL for benzene in soil vapor is 48 $\mu g/m^3$. Soil vapor samples will be collected prior to the initiation of redevelopment activities to evaluate the potential for vapor intrusion given the historical land use.

2.0 SMP APPROACH

AEI will provide SMP support during all subsurface work associated with redevelopment of the Site. Based on our review of the historical data, there appears to be a potential for encountering soils containing residual levels of petroleum hydrocarbons in the areas of the former and existing USTs and existing pump islands. No groundwater is expected to be encountered during Site redevelopment activities.

This SMP presents an approach for addressing areas of impacted soils and/or soil vapors which may be encountered during construction activities including:

- Demolition of the existing buildings and structures;
- Site excavation and regrading activities;
- Closure and removal of the USTs, dispensers, and fuel lines associated with the existing gas station; and
- Installation of subsurface utilities associated with the proposed development.

The SMP protocol to be followed during Site demolition and construction activities is provided below. Although petroleum-impacted soil and soil vapor appears most likely to be encountered primarily in the vicinity of the USTs and pump islands, AEI recommends that contractors and their subcontractors follow the SMP protocol throughout the Site.

2.1 Pre-Construction Planning and Notification

Prior to the start of any subsurface construction or demolition activities, a copy of this SMP will be provided to the general contractor for their review. AEI recommends that the general contractor provide such information to any subcontractors.

2.2 HEALTH AND SAFETY REQUIREMENTS

As required by the California Occupational Safety and Health Administration (Cal-OSHA), each contractor shall be responsible for the health and safety of their own workers, including but not limited to preparation of their own health and safety plan (HASP) and injury and illness prevention plan (IIPP). The purpose of these documents is to provide general guidance for hazards that may be encountered during construction activities. Contractors are also required by Cal-OSHA to determine the requirements for worker training, based on the level of expected contact to potentially impacted Site media, the contractor's planned activities, and the locations of known or suspected contaminants at the Site. Per these guidelines, the contractor's HASP should contain provisions for limiting and monitoring chemical exposure to construction workers, chemical and non-chemical hazards, emergency procedures, and standard safety protocols.

All construction and other field personnel performing work in known or suspected areas of impacted soil or soil vapor, shall have received appropriate levels of Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) training commensurate with the duties they will be performing on the Site. This typically consists of 40-hour HAZWOPER training plus annual 8-hour refreshers.

2.3 CONSTRUCTION IMPACT MITIGATION MEASURES

Measures will be taken by contractors to minimize dust generation and tracking of soil off-site and manage storm water runoff, if required, during construction. Additional details are provided below.

2.3.1 Site Control

Site access will be limited to necessary personnel during removal of the building slabs and other construction activities conducted in areas of potentially-impacted media. Such areas will be cordoned off using delineators and caution tape, or similar materials to limit access by non-essential personnel.

Site control procedures will be implemented by contractors to control the flow of personnel, vehicles, and materials in and out of the Site while working in potentially contaminated areas to control the spread of contaminants from the Site. The Site perimeter and entry points will be controlled at selected locations by the contractor and visitors will be required to sign in upon entry to the Site and sign back out upon exiting the Site.

2.3.2 Equipment Decontamination

Because there is a potential that soil at the Site may contain petroleum constituents, precautions to limit the off-Site transfer of contaminants in soil are warranted. These precautions are applicable at any on-Site location where contaminants are encountered. If significant levels of petroleum-impacted soil are encountered, decontamination procedures will be established and implemented by AEI and the contractor to reduce the potential for construction equipment and vehicles to spread contaminated soil onto public roadways or other off-Site areas.

2.3.3 Personal Protective Equipment

Appropriate Personal Protective Equipment (PPE) shall be employed to isolate workers from potential exposures to chemicals and physical hazards. Based on the results from the historical Site investigation activities, it is anticipated that all Site work will be conducted using OSHA Level D PPE which consists of the following:

- Coveralls or similar construction work clothing;
- Reflective safety vests;
- Steel-toed boots;
- Hard hat;
- Work gloves;
- Safety glasses; and
- Hearing protection, as necessary.

The level of PPE required to address potential Site hazards will be evaluated on a continuous basis and modified, as appropriate, to account for changing conditions encountered at the Site and the activity being performed.

2.3.4 Dust Control

Mitigation measures will be conducted to minimize the creation and dispersion of dust during excavation, demolition, loading, or other activities performed in potentially impacted areas. These dust control mitigation measures may include the following:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt tracked-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.
- Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes
- Clear signage shall be provided for construction workers at all access points.
- A publicly visible sign shall be posted with the telephone number and person to contact at the City of San Rafael regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Bay Area Air Quality Management District (BAAQMD) phone number shall also be visible to ensure compliance with applicable regulations.

2.3.5 Sediment and Erosion Control

Sediment and erosion control procedures may include, but are not limited to the following:

- Constructing temporary berms or erecting silt fences around exposed soil;
- Placing straw bale barriers or sediment traps around catch basins or other entrances to storm drains; and
- Covering soil stockpiles with plastic sheeting or tarps during rainfall events.

2.4 SOIL MANAGEMENT

2.4.1 Soil Monitoring and Screening

Soil will be field screened by the Environmental Consultant in areas of identified or suspected environmental impact during demolition and excavation on an as needed basis as requested by the general contractor when impacted soil is identified to potentially be present. These will include:

- Discovery and removal of previously unidentified features of concern, such as USTs), sumps, clarifiers, or similar features of potential environmental concern; and
- Areas of suspected contaminated soils as deemed appropriate by the Environmental Consultant or as reported by the contractor.

The Environmental Consultant will be notified by the contractor of the above activities or conditions and will be on-Site to perform screening and possible sample collection as discussed below. The contractor is responsible for notification to the Owner and Environmental Consultant of suspected impacted soils or possible conditions of environmental concern.

If a UST is discovered, work will be suspended in its immediate vicinity and the Owner and Environmental Consultant will be notified, who will then notify City of San Rafael of the proposed response actions. The UST shall be removed or closed in place under permit with the City of San Rafael. City of San Rafael will be provided copies of permits and reports required in regards to any UST discovered.

2.4.2 Soil Screening Rationale

The results from historical investigation activities indicate the potential presence of petroleum-impacted soil and soil vapor in the vicinity of the USTs and dispenser islands. If called onsite as discussed above, AEI will use the following rationale to identify potentially impacted soils which may require additional assessment and/or remediation.

1. Field Screening. Soil samples will be screened for the presence of volatile organic compounds (VOCs) using a hand-held a hand-held photo-ionization detector (PID). The PID instrument will be calibrated prior to use in field screening. Field screening will be performed either by placing the PID probe tip near the surface of the soil or placing a small volume of soil in a sealed container and measuring the VOC concentrations in the headspace of the container.

   A field screening value of 10 parts per million by volume (ppmv) above background will be used as an action level indicating the need for collecting samples for laboratory analysis to evaluate the extent of impacted soils. Where field screening

results indicate PID levels less than 10 ppmv, the soil will be left in place with no further evaluation.

2. Laboratory Analysis. Soil samples selected for analysis, if any, will be analyzed for benzene, toluene, ethylbenzene, xylenes (together BTEX), methyl-tert-butyl ether (MTBE), and TPH-g by Method 8260 and TPH as diesel (TPH-d) and TPH as motor oil (TPH-mo) by Method 8015. Soil vapor samples will be analyzed for VOCs by Method TO-15.
3. Comparison with ESLs. The results from the laboratory analyses will be compared with the ESLs to evaluate whether addition assessment or remedial actions are warranted. These results will be provided to the City pf San Rafael and RWQCB to determine any potential investigation or remediation requirements. Where the analytical results indicate that all constituents are below the ESLs, no additional actions will be recommended.
4. Confirmation Sampling. In the event that removal of areas of impacted soil is required, samples from the sidewalls and bottom of the excavation will be submitted for laboratory analysis for BTEX/MTBE and TPH-g by EPA Method 8260B and TPH-d and TPH-mo by method 8015M. If the laboratory results indicate that soil containing VOCs above the ESLs remain in place, the excavation may be extended is required by the RWQCB. Otherwise, it shall be concluded that all impacted soil in such area has been sufficiently addressed and the remaining soil will be left in place.
5. Characterization and Profiling of Excavated Soil. If soils are required to be excavated from impacted areas, such soils will be stockpiled on site pending characterization for offsite disposal. Such soils shall be properly characterized and profiled in accordance with California Code of Regulations (CCR) Title 22 and other applicable regulations and transported offsite for disposal in appropriately designated facilities.

Additional details regarding management of and characterization of impacted soil are provided below.

2.4.3 Management of Impacted Soil

During site regrading activities, soil generated from areas identified as petroleum constituents above their respective ESLs, if any, shall be stockpiled separately from soils generated from other areas of the Site. Where appropriate, stockpiles of impacted soils may be further subdivided based on the levels or type of suspected contaminants identified to allow the soil to be characterized and profiled for disposal in accordance with chemical-specific criteria. Such soils shall be stockpiled on top of and covered by an impermeable liner such as plastic sheeting to control odors and fugitive dust emissions, reduce potential infiltration by rainwater, and minimize the potential for cross-contamination of underlying soil. Stockpiles shall be checked daily by the contractor to verify that they are adequately covered.

2.4.4 Characterization and Profiling of Excavated Soil

CCR Title 22 requires soils excavated from potentially impacted areas to be properly characterized and profiled for disposal in appropriately designated facilities, prior to being transported offsite. The number of samples required and the specific analytical requirements will be based on the requirements of the disposal facility selected for receipt of the material

and will be determined by the general contractor during the construction planning phase. However, it is anticipated that potential disposal facilities may require analysis for the following:

- VOCs;
- Semi-volatile Organic Compounds (SVOCs);
- TPH-g, TPH-d), and TPH-mo;
- Pesticides;
- Polychlorinated Biphenyls (PCBs); and
- CAM-17 Metals.

The results from these analyses will be used to profile the soil, develop disposal alternatives, and identify appropriate disposal facilities.

2.4.5 Imported Fill Material

To minimize the potential introduction of contaminated fill material onto the Site, AEI recommends that selected sources of import fill, if any, be required to provide documentation verifying that the fill material does not contain contaminants or other regulated waste materials. Such documentation should include detailed information on previous land use of the fill source, any Phase I ESAs performed and the findings from the Site, and the results of any analytical testing performed. If no documentation is available or the documentation is inadequate, AEI recommends that the owners require analytical testing of the material for VOCs, TPH-g, TPH-d, and TPH-mo, and CAM-17 Metals, and that the sample frequency for potential fill material be consistent with the protocol contained in DTSC's technical guidance document entitled, *Information Advisory on Clean Imported Fill Material* (DTSC, October 2001). AEI further recommends that no fill material be accepted if contaminant levels exceed current residential ESLs and/or regional background concentrations.

3.0 VAPOR BARRIER

Upon completion of the soil vapor survey (described in section 1.2.1), an evaluation regarding the necessity of a chemical vapor barrier will be performed. If needed, AEI will provide recommendations on incorporating a gas impermeable vapor barrier into the construction design for the proposed residential development. Such membrane systems serve to reduce the potential for vapor intrusions from potential areas of impacted soil which may remain undetected within the limits of the property following completion of soil excavation activities.

4.0 REPORTING

Following completion of the earthwork associated with redevelopment of the property, a brief report documenting the results of the SMP activities conducted on the Site will be prepared for submittal to the City of San Rafael and RWQCB.

5.0 PROPOSED SCHEDULE

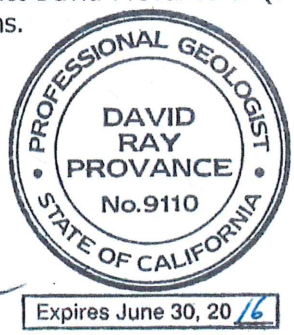
Planning, design, and permitting activities are currently in progress and as such no formal schedule is currently in place, but it anticipated that such activities would occur after the beginning of the year 2017. However, AEI recommends completion of soil vapor sampling activities after planning and permitting have been approved but prior to the beginning of construction or initiation of earthwork in order to access the presence of contamination and if necessary, incorporate the results into the planning and budget for the proposed development. The activities will be scheduled following approval of the SMP by the City of San Rafael.

6.0 LIMITATIONS AND SIGNATURES

This scope of work presented herein will be performed in accordance with generally accepted practices as they existed at the time and location of the work. The number and location of the samples collected to be collected will be selected to provide the information requested; however, it cannot be assumed that the data will be representative of areas not sampled. All work will be performed in accordance with governing regulations. No other warranty is expressed or implied.

We look forward to working with you to address the environmental concerns associated with this Site. Please contact David Provance at (925) 708-5188 or Jeremy Smith at (925) 746-6000 with any questions.

Sincerely,
AEI Consultants



Expires June 30, 2016

David R. Provance, PG
Senior Project Manager

Jeremy Smith
Senior Project Manager

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FIGURES

LEGEND

Approximate Property Boundary

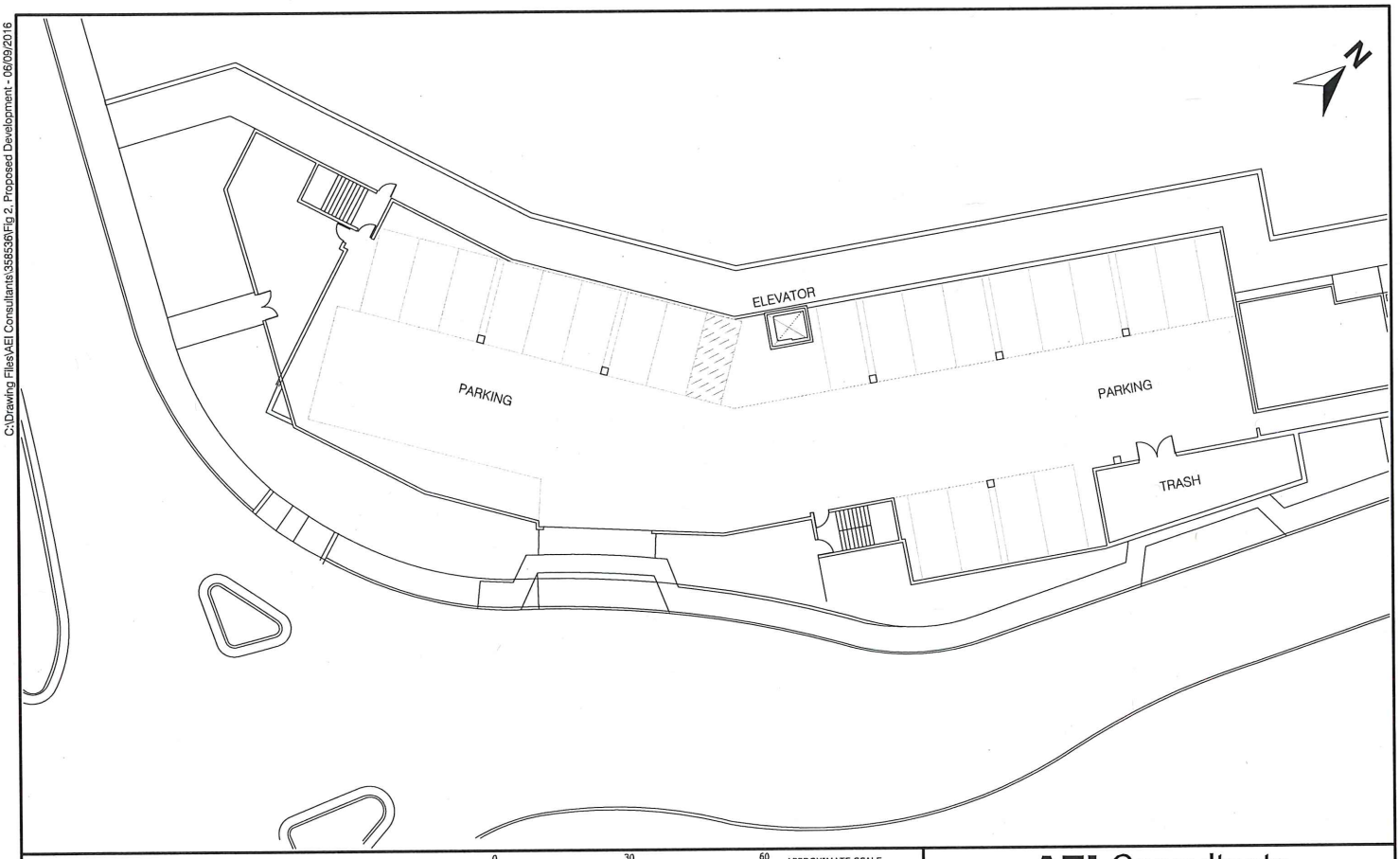
AEI Consultants
Walnut Creek, California

SITE VICINITY MAP

1005 Northgate Drive
San Rafael, California

FIGURE 1
Project No. 358536

C:\Drawing Files\AEI Consultants\358536\Fig 2. Proposed Development - 06/09/2016



LEGEND

0 30 60 APPROXIMATE SCALE IN FEET

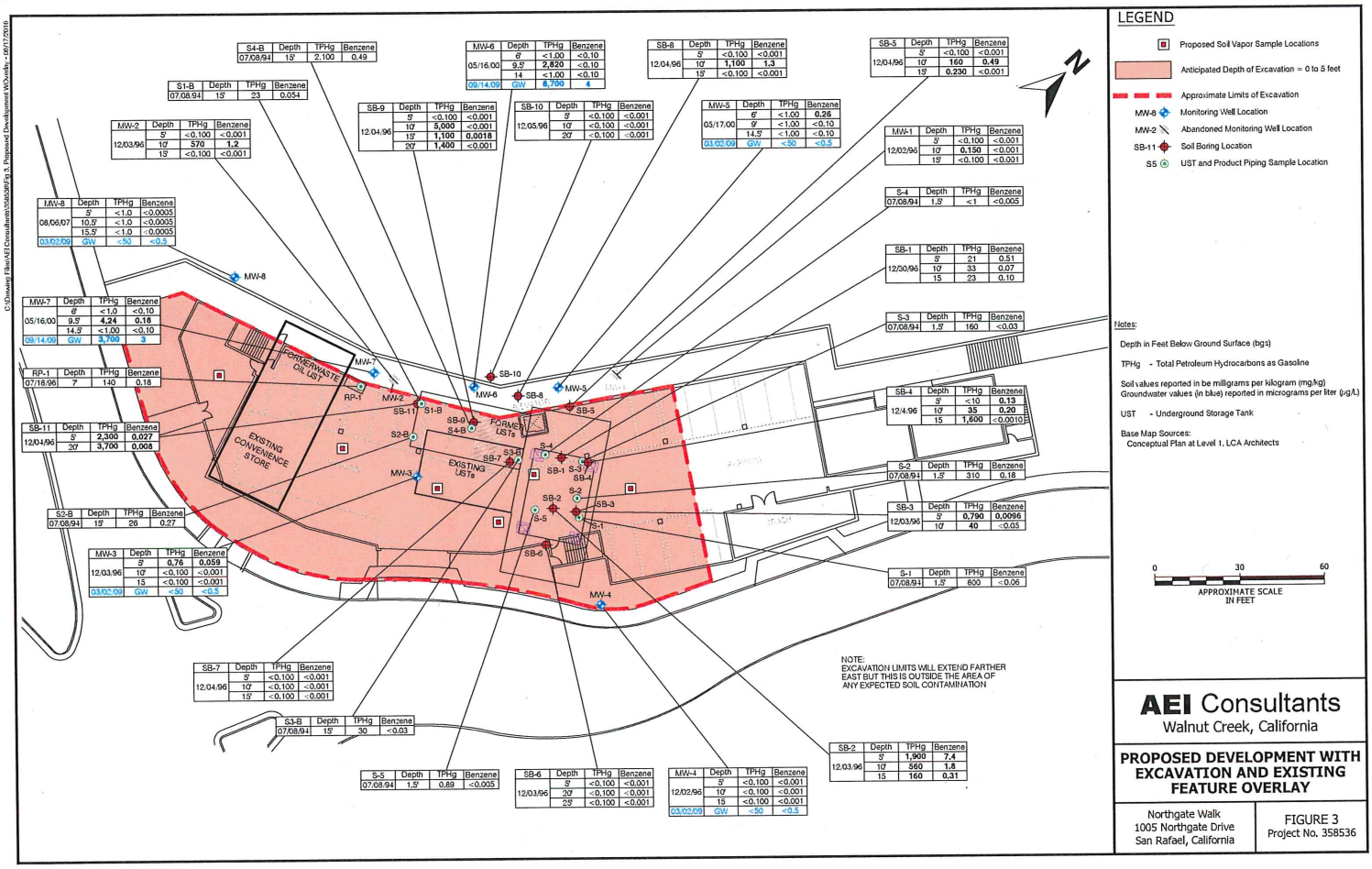
Notes:
Base Map Sources:
Conceptual Plan at Level 1, LCA Architects

AEI Consultants
Walnut Creek, California

PROPOSED DEVELOPMENT

Northgate Walk
1005 Northgate Drive
San Rafael, California

FIGURE 2
Project No. 358536


S4-B 07/08/94 15' 2,100 0.49
S1-B 07/08/94 15' 23 0.054
MW-2 12/03/96 5' <0.100 <0.001; 10' 570 1.2; 15' <0.100 <0.001
MW-8 08/06/07 5' <1.0 <0.0005; 10.5' <1.0 <0.0005; 15.5' <1.0 <0.0005; 03/02/09 GW <50 <0.5
MW-7 05/16/00 6' <1.0 <0.10; 9.5' 4.24 0.18; 14.5' <1.0 <0.10; 09/14/09 GW 3,700 3
RP-1 07/18/96 7' 140 0.18
SB-11 12/04/96 5' 2,300 0.027; 20' 3,700 0.008
S2-B 07/08/94 15' 26 0.27
MW-3 12/03/96 5' 0.76 0.059; 10' <0.100 <0.001; 15' <0.100 <0.001; 03/02/09 GW <50 <0.5
SB-7 12/04/96 5' <0.100 <0.001; 10' <0.100 <0.001; 15' <0.100 <0.001
S3-B 07/08/94 15' 30 <0.03
S-5 07/08/94 1.5' 0.89 <0.005
SB-6 12/03/96 5' <0.100 <0.001; 20' <0.100 <0.001; 25' <0.100 <0.001
MW-4 12/02/96 5' <0.100 <0.001; 10' <0.100 <0.001; 15' <0.100 <0.001; 03/02/09 GW <50 <0.5
SB-2 12/03/96 5' 1,900 7.4; 10' 560 1.8; 15' 160 0.31
MW-6 05/16/00 6' <1.00 <0.10; 9.5' 2,820 <0.10; 14 <1.00 <0.10; 09/14/09 GW 5,700 4
SB-9 12/04/96 5' <0.100 <0.001; 10' 5,000 <0.001; 15' 1,100 0.0018; 20' 1,400 <0.001
SB-10 12/05/96 5' <0.100 <0.001; 10' <0.100 <0.001; 20' <0.100 <0.001
SB-8 12/04/96 5' <0.100 <0.001; 10' 1,100 1.3; 15' <0.100 <0.001
MW-5 03/17/00 6' <1.00 0.26; 9' <1.00 <0.10; 14.5' <1.00 <0.10; 03/02/09 GW <50 <0.5
SB-5 12/04/96 5' <0.100 <0.001; 10' 160 0.49; 15' 0.230 <0.001
MW-1 12/02/96 5' <0.100 <0.001; 10' 0.150 <0.001; 15' <0.100 <0.001
S-4 07/08/94 1.5' <1 <0.005
SB-1 12/30/96 5' 21 0.51; 10' 33 0.07; 15 23 0.10
S-3 07/08/94 1.5' 160 <0.03
SB-4 12/4/96 5' <10 0.13; 10' 35 0.20; 15 1,600 <0.0010
S-2 07/08/94 1.5' 310 0.18
SB-3 12/03/96 5' 0.790 0.0096; 10' 40 <0.05
S-1 07/08/94 1.5' 800 <0.06
MW-8
MW-7
RP-1
MW-2
SB-11
S1-B
MW-6
SB-8
MW-5
SB-10
SB-9
S4-B
SB-5
S2-B
S-4
SB-7
S3-B
SB-1
S-3
SB-4
MW-3
S-2
SB-2
S-5
SB-3
S-1
SB-6
MW-4
CONVENIENCE OIL UST
EXISTING CONVENIENCE STORE
FORMER USTs
EXISTING USTs
NOTE:
EXCAVATION LIMITS WILL EXTEND FARTHER EAST BUT THIS IS OUTSIDE THE AREA OF ANY EXPECTED SOIL CONTAMINATION
LEGEND
Proposed Soil Vapor Sample Locations
Anticipated Depth of Excavation = 0 to 5 feet
Approximate Limits of Excavation
MW-8 Monitoring Well Location
MW-2 Abandoned Monitoring Well Location
SB-11 Soil Boring Location
S5 UST and Product Piping Sample Location
Notes:
Depth in Feet Below Ground Surface (bgs)
TPHg - Total Petroleum Hydrocarbons as Gasoline
Soil values reported in be milligrams per kilogram (mg/kg)
Groundwater values (in blue) reported in micrograms per liter (µg/L)
UST - Underground Storage Tank
Base Map Sources:
Conceptual Plan at Level 1, LCA Architects
0 30 60
APPROXIMATE SCALE IN FEET
AEI Consultants
Walnut Creek, California
PROPOSED DEVELOPMENT WITH EXCAVATION AND EXISTING FEATURE OVERLAY
Northgate Walk
1005 Northgate Drive
San Rafael, California
FIGURE 3
Project No. 358536

APPENDIX A

Second Semi-Annual 2009 Groundwater Monitoring Report and Closure Request Conestoga-Rovers & Associates (CRA), November 13, 2009

CONESTOGA-ROVERS
& ASSOCIATES

5900 Hollis Street, Suite A, Emeryville, Calfornia 94608
Telephone: 510-420-0700 Facsimile: 510-420-9170
www.CRAworld.com

November 13, 2009 Reference No. 311869

Mr. Ralph Lambert
Regional Water Quality Control Board (RWQCB)
San Francisco Bay Region
1515 Clay St., Suite 1400
Oakland, California 94612

Re: Second Semi-Annual 2009 Groundwater Monitoring Report and Closure Request
Former Texaco Service Station 21-1299
1005 Northgate Drive
San Rafael, California
RWQCB File 21-0275

Dear Mr. Lambert:

Conestoga-Rovers & Associates (CRA) is submitting this *Second Semi-Annual 2009 Groundwater Monitoring Report and Closure Request* on behalf of Chevron for the site referenced above. Groundwater monitoring data is being submitted in accordance with the reporting requirements of 23CCR2652d. Given continued decreasing dissolved hydrocarbon concentration trends in groundwater, past plume definition activities, evidence of ongoing biodegradation, and lack of sensitive receptors, CRA is requesting closure at this site. Included below are the site background, investigation summary, a description of the current monitoring activities, and a closure request, including evaluation of currently understood site characteristics to RWQCB low-risk closure criteria.

SITE BACKGROUND

Site Description: The site is a former Texaco service station (Chevron site 21-1299) located on the northwest corner of Northgate Drive and Freitas Parkway in a commercial area of San Rafael, California (Figure 1). The site currently operates as Gateway Gas, dispensing unbranded gasoline, with an attached delicatessen business. A concrete-lined storm-water drainage canal borders the site to the northwest. Commercial businesses are located to the east and southeast across Northgate Drive and to the south and southwest across Freitas Parkway (Figure 2).

Site Ownership and Operation: Texaco leased the property from D.M. Christensen Construction Company, Inc. beginning in 1963. In May 1965, a service station was constructed with four 6,000-gallon underground storage tanks (USTs) and one 550-gallon used-oil UST. In

1965, the property was sold to General Investment Funds Real Estate Holding Company. Texaco continued operating the station until assigning the lease and selling all improvements to Robert F. and Fay L. Rinehart on August 14, 1984. In August 1986, the property was purchased by John and Arnette Monfredini of Monfredini Properties LLC. The existing lease agreement was honored by the new property owners. In September 1989, Rinehart reassigned the lease to their sub-lessee, Quing X. "Albert" Huang (dba Art's Texaco/Art's Auto Care). In 1999, Shahram Shahnazi purchased the property. The property was sold to the current owner, Mr. Achilles Marchesiello, in October of 2007 and is leased and operated by Gateway Gas of San Rafael, California.

SITE GEOLOGY AND HYDROGEOLOGY

The site is located within the Coast Range geomorphic province of California. The regional basement rock primarily consists of greywacke, sandstone, and mudstone with intermittent chert, greenstone, basalt, and schist of the Cretaceous Franciscan Complex. The subsurface soils have been classified as artificial fill overlying bay mud and unconsolidated Quaternary alluvium[1]. Soils encountered in borings advanced at the site consist primarily of clay and silt, with interbedded lenses of sand and gravel, all of which is underlain by weathered Franciscan bedrock to the total depth explored of 47 feet below grade (fbg).

The site is located within the San Rafael Valley groundwater basin bound by Rafael Creek to the north, by the San Francisco Bay to the south, and by San Rafael Bay to the east. The groundwater basin's potential beneficial uses are municipal and domestic, agricultural, industrial process, and industrial service water supplies[2]. Groundwater monitoring began in December 1996, and is currently monitored semi-annually during the first and third quarters. Depth to groundwater has not fluctuated substantially in individual wells, and the historical depth to water has ranged between 4.10 and 13.40 feet at the site. Groundwater consistently flows to the north-northwest toward an intermittently flowing, concrete-lined North Fork Gallinas Creek. The creek flows toward the northeast and discharges into San Pablo Bay approximately 2.8 miles northeast of the site.

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1 *California's Groundwater Bulletin 11*State of California The Resources Agency Department of Water Resources February 27, 2004

2 Table 2-2 Existing and Potential Beneficial Uses in Groundwater in Identified Basins; *Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin*; California Regional Water Quality Control Board- San Francisco Bay Region, January 18, 2007.

SUMMARY OF PREVIOUS ENVIRONMENTAL INVESTIGATIONS

Environmental investigation and remediation of the site have been ongoing since 1994. To date, 8 monitoring wells have been installed, 11 soil borings have been advanced, and 10 soil compliance samples have been collected at the site. In May 2000, monitoring wells MW-1 and MW-2 were properly destroyed. A summary of activities conducted to date is presented as Attachment A.

RESULTS OF SECOND SEMI-ANNUAL 2009 MONITORING EVENT

Groundwater Monitoring: On September 14, 2009, G-R gauged and sampled wells MW-3 through MW-8 for several bioparameters. Only wells MW-6 and MW-7 were analyzed for total petroleum hydrocarbons as diesel (TPHd), total petroleum hydrocarbons as gasoline (TPHg), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) during this event, as requested by the RWQCB (Attachment B). The results of the second semi-annual 2009 event are included in G-R's *Groundwater Monitoring and Sampling Report*, dated October 7, 2009 (Attachment C). A potentiometric map, hydrocarbon concentration map, historical groundwater data and standard procedures for well sampling are presented in G-R's report. The results of the current event are summarized below.

Groundwater elevations ranged from 7.89 feet above mean sea level (msl) in well MW-5 to 18.80 ft msl in well MW-4. Groundwater elevation continues to increase since 2000. The calculated groundwater gradient for this event varied from 0.1 to 0.2 with the flow direction to the northwest toward the storm channel. G-R's *Groundwater Monitoring and Sampling Report*, including a potentiometric map, historical groundwater data and standard procedures for well sampling, is presented as Attachment C. Specific concentration details are presented below.

- *TPHd Analytical Concentration:* Only wells MW-6 and MW-7 were analyzed for TPHd with concentrations of 2,800 and 1,800 micrograms per liter (µg/L), respectively.

- *TPHg Analytical Concentration:* Only wells MW-6 and MW-7 were analyzed for TPHg with concentrations of 8,700 and 3,700 µg/L, respectively.

- *Benzene Analytical Concentration:* Only wells MW-6 and MW-7 were analyzed for benzene with concentrations of 4 and 3 µg/L, respectively.

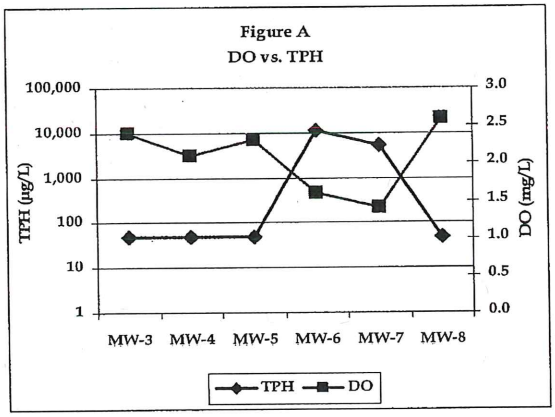
INTRINSIC BIODEGRADATION EVALUATION

To assess whether natural hydrocarbon biodegradation is occurring, G-R collected intrinsic bioparameter data from wells MW-3 through MW-8 on September 14, 2009.

- Results of laboratory analyses of groundwater samples analyzed for nitrates, sulfates, dissolved total ferrous iron, and methane are shown in Table 4 of Attachment C.
- Pre-purge and post-purge dissolved oxygen (DO) and oxidation reduction potential (ORP) measurements are shown in Table 5 of Attachment C.
- A table summarizing current total petroleum hydrocarbon (TPH) analytical data and bioparameter data (Table 1) and biodegradation evaluation graphs showing bioparameter data versus TPH data are shown on Figures A through F of Attachment D.

DISCUSSION OF BIOPARAMETER DATA

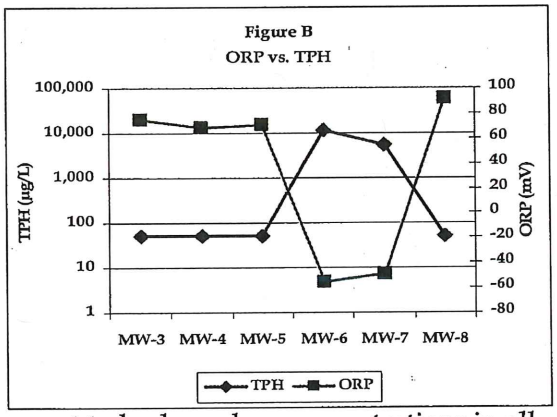
To summarize typical parameter relationships, active biodegradation is indicated by inverse relationships between hydrocarbon concentrations and DO, nitrate and sulfate concentrations, and direct relationships between total hydrocarbons, ferrous iron and methane. Each of these parameters is discussed below. Since only groundwater samples from wells MW-6 and MW-7 were analyzed for petroleum hydrocarbons during the current event, petroleum hydrocarbon data collected during the first semi-annual 2009 event was used for wells MW-3, MW-4, MW-5, and MW-8.



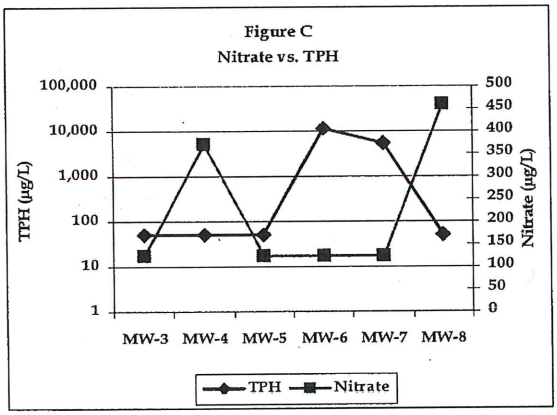
Dissolved Oxygen: During aerobic biodegradation, DO concentrations are reduced as aerobic respiration occurs. DO is the most thermodynamically favored electron acceptor used in aerobic biodegradation of petroleum hydrocarbons. Active aerobic biodegradation of BTEX compounds requires at least 1 milligram per liter (mg/L) DO in groundwater. DO concentrations can be as high as 8 to 13 mg/L in oxygen-saturated groundwater that is free of hydrocarbons. Inverse relationships between DO and hydrocarbon concentrations indicate the occurrence of aerobic degradation, provided that at least 1 to 2 mg/L of DO is present in groundwater. At the site, DO concentrations ranged from 1.4 to 2.6 mg/L. As shown in Figure A, DO concentrations vary inversely with respect to

hydrocarbon concentrations in all wells. Therefore, it appears there are sufficient DO concentrations for aerobic biodegradation to occur across the site and that aerobic biodegradation is occurring.

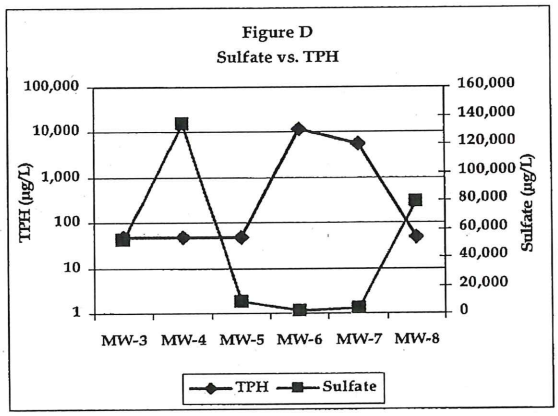
Oxidation-Reduction Potential: The oxidation-reduction potential (ORP) of groundwater is a measure of electron activity and is an indicator of the relative tendency of a solute species to gain or lose electrons. The ORP of groundwater generally ranges from -400 millivolts (mV) to +800 mV. Under oxidizing conditions the ORP of groundwater is positive, while under reducing conditions the ORP is usually negative. Reducing conditions (negative ORP) suggests that anaerobic biodegradation is occurring. As shown in Figure B, ORP concentrations vary inversely with respect to hydrocarbon concentrations in all wells. At this site, ORP ranges from -56 to 92 mV, indicating that aerobic conditions are present on the edges of the hydrocarbon plume and anaerobic conditions are present within the source area.



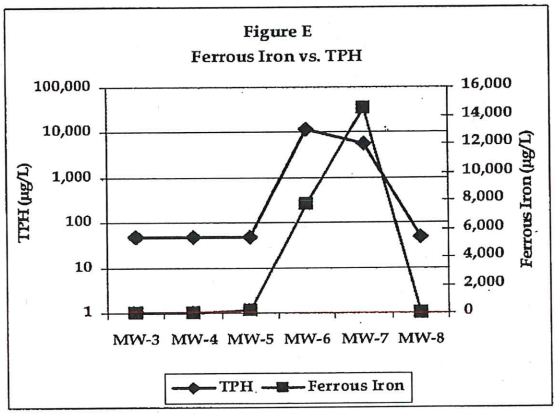
Nitrate: After DO has been depleted in groundwater, nitrate may be used as an electron acceptor for anaerobic biodegradation. In this denitrification process, nitrate is reduced to nitrite. If nitrate concentrations vary inversely with hydrocarbon concentrations and if nitrates are depleted in the core of the plume, anaerobic biodegradation of fuel hydrocarbons is probably occurring. At this site, nitrate concentrations were not detected in any wells, except for 370 µg/L in well MW-4 and 460 µg/L in well MW-8. No nitrate concentrations in wells with hydrocarbon concentrations suggest that anaerobic biodegradation is occurring in the center of the plume (Figure C).



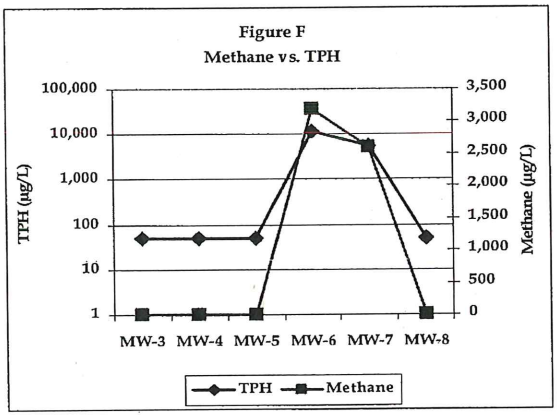
Sulfate: After DO and nitrate have been depleted in groundwater, sulfate may be used as an electron acceptor for anaerobic biodegradation. If sulfate concentrations vary inversely with hydrocarbon concentrations, anaerobic biodegradation of fuel hydrocarbons is probably occurring. As shown in Figure D, sulfate concentrations vary inversely with hydrocarbon concentrations. This suggests that anaerobic biodegradation is occurring in the source area onsite.



Ferrous Iron: In some cases ferric iron is used as an electron acceptor during anaerobic biodegradation of petroleum hydrocarbons. In this process, ferric iron is reduced to ferrous iron, which may be soluble in water. As shown on Figure E, ferrous iron concentrations are highest in wells with higher hydrocarbon concentrations, indicating anaerobic hydrocarbon biodegradation in the plume source area.



Methane: Since methane is not present in fuels, it can be used as an indicator of biodegradation. Methane is produced only under strong reducing conditions by methanogens. Methanogens are one of the most common classes of naturally occurring microorganisms. Methanogens are anaerobic organisms that can utilize either acetate or hydrogen, which are common products of fermentative bacteria. Methanogenic microorganisms become metabolically active if electron acceptors stronger than carbon dioxide have been depleted and hydrogen and/or acetate are being produced and are available. If carbon



dioxide is being used as an electron acceptor methane concentrations will be directly proportional to biodegradation across the dissolved hydrocarbon plume. At this site, a direct relationship between elevated concentrations of methane and petroleum hydrocarbons is apparent; therefore anaerobic biodegradation is occurring in the source area.

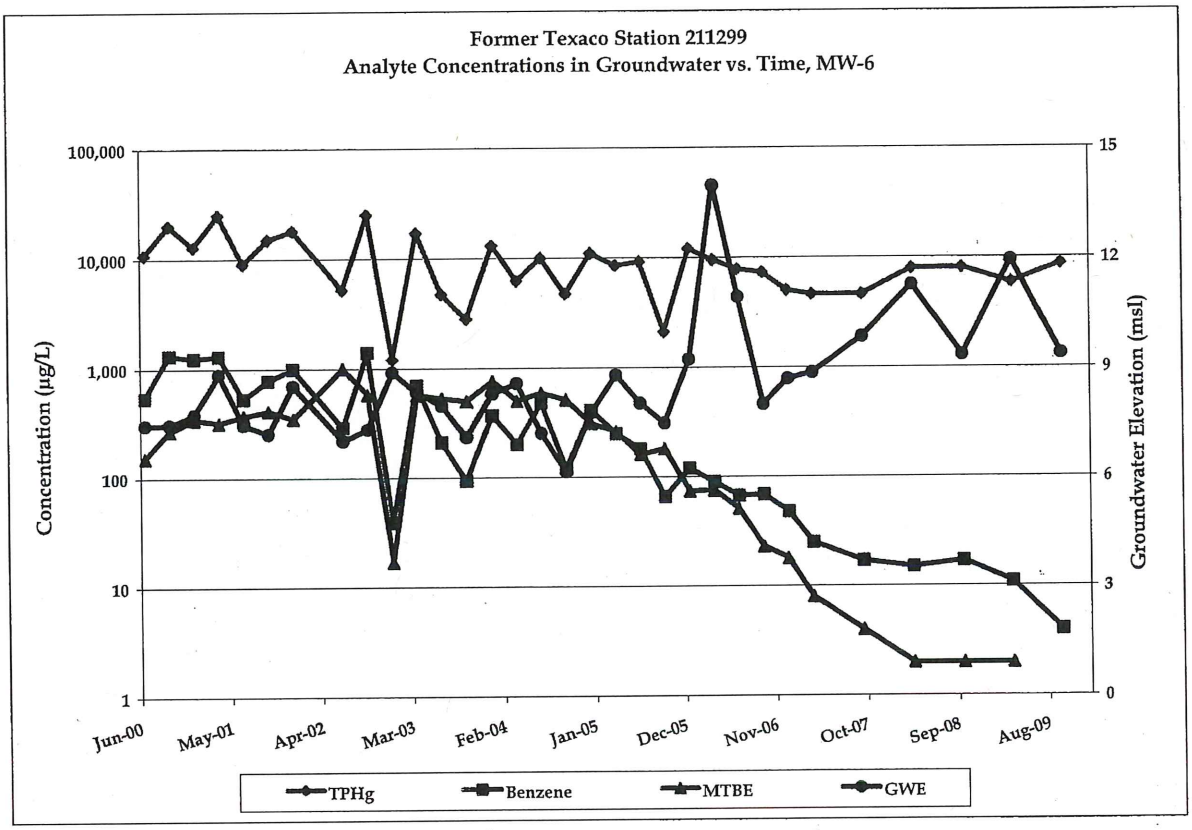
SUMMARY OF INTRINSIC BIODEGRADATION EVALUATION

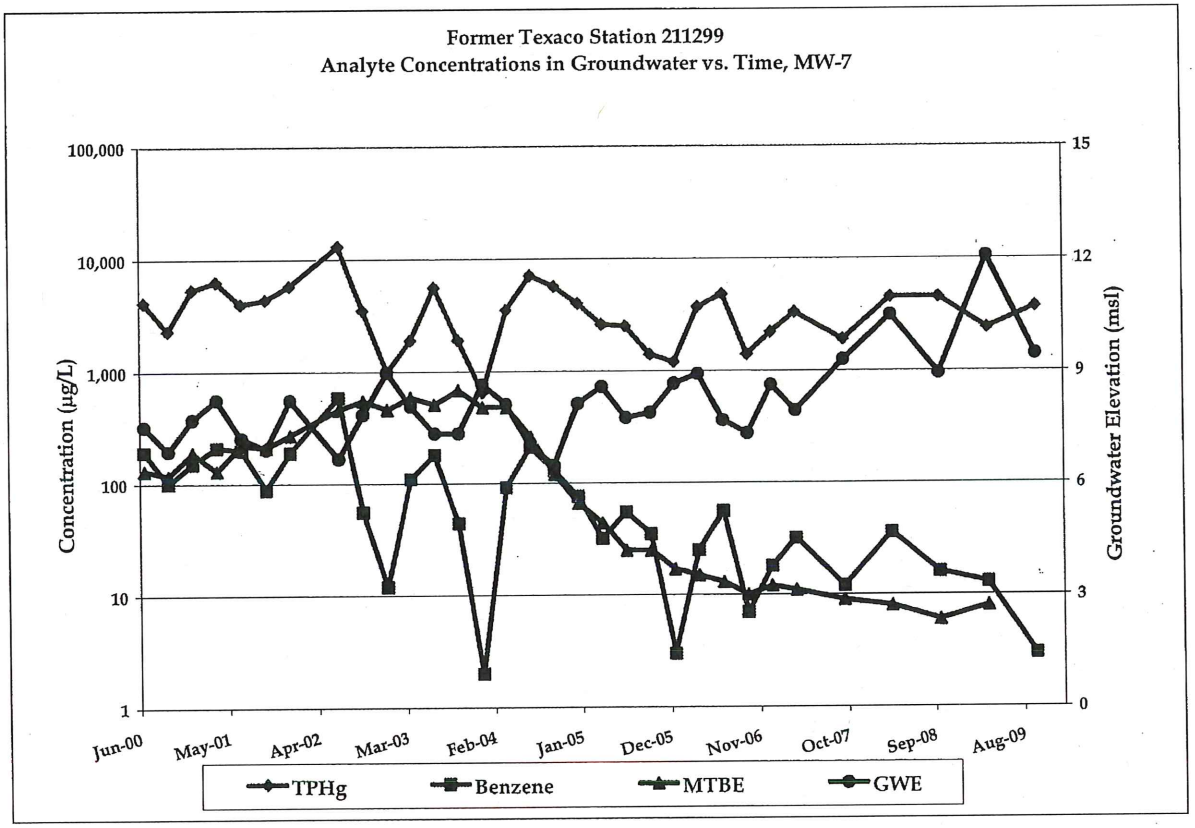
In summary, there is sufficient DO in groundwater to support aerobic biodegradation in all wells. However, the data demonstrates that anaerobic hydrocarbon biodegradation is occurring in the core of the plume and aerobic degradation is occurring along the perimeter of the plume onsite.

PLUME DEFINITION

The petroleum hydrocarbon plume is defined by well MW-5 to the north, well MW-4 to the east, well MW-3 to the south, and well MW-8 to the west for all constituents. The plume is not fully defined to the northwest due to the steep slope between the concrete-lined North Fork Gallinas Creek and the site. Assessment northwest of the concrete-lined North Fork Gallinas Creek is not necessary since the groundwater table is interrupted by the storm channel. Also based on the available data, groundwater is not readily entering the storm channel in the vicinity of the site. A site plan with soil and groundwater data is presented as Figure 2. Isoconcentration maps for TPHg and benzene are presented as Figures 3 and 4.

Concentration Trends: The graphs below show historical concentration trends of TPHg, benzene and MTBE in groundwater versus time for wells MW-6 and MW-7. Both source area wells demonstrate decreasing trends, which is indicative of a petroleum hydrocarbon plume that has reached its maximum extent and is naturally degrading.


Former Texaco Station 211299
Analyte Concentrations in Groundwater vs. Time, MW-6
Concentration (µg/L)
100,000
10,000
1,000
100
10
1
Groundwater Elevation (msl)
15
12
9
6
3
0
Jun-00
May-01
Apr-02
Mar-03
Feb-04
Jan-05
Dec-05
Nov-06
Oct-07
Sep-08
Aug-09
TPHg
Benzene
MTBE
GWE



ENVIRONMENTAL SCREENING LEVELS

The San Rafael Valley Groundwater Basin is zoned for potential beneficial use for municipal and domestic, industrial process and service, and agricultural water supply. However, a 2008 CRA sensitive receptor survey did not identify any potential well receptors with in a 2000-foot radius of the site. The nearest receptor that is potentially at risk is the concrete lined North Fork Gallinas Creek adjacent to the site. Site groundwater elevations are above the bottom of the concrete-lined North Fork Gallinas Creek and groundwater seepage into the channel has never been observed; however it is potentially possible that seepage can occur through the expansion joints. Therefore, CRA compared groundwater at the site to the most conservative environmental screening levels (ESLs)[3] for aquatic life protection in Table A. The aquatic life

3 *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* prepared by the California Regional Water Quality Control Board San Francisco Bay Region, Interim final dated November 2007, revised May 2008.

protection ESLs are the same as the final groundwater protection ESLs where groundwater is not a current or potential source of drinking water.

TABLE A: SUMMARY OF ENVIRONMENTAL SCREENING LEVELS GROUNDWATER IS NOT A CURRENT OR POTENTIAL SOURCE OF DRINKING WATER RESIDENTIAL AND-COMMERCIAL/INDUSTRIAL LAND USE

	TPHd	*TPHg*	*B*	*T*	*E*	*X*
MW-3 (3/2/2009)	--	<50	<0.5	<0.5	<0.5	<0.5
MW-4 (3/2/2009)	--	<50	<0.5	<0.5	<0.5	<0.5
MW-5 (3/2/2009)	--	<50	<0.5	<0.5	<0.5	<0.5
MW-6	**2,800**	**8,700**	4	2	**75**	2
MW-7	**1,800**	**3,700**	3	1	3	2
MW-8 (3/2/2009)	--	<50	<0.5	<0.5	<0.5	<0.5
Groundwater ESLs, Table F-1b	**210**	**210**	**46**	**130**	**43**	**100**

Only TPHd and TPHg concentrations in wells MW-6 and MW-7, and an ethylbenzene concentration in well MW-6 exceed the applicable ESLs. However, these screening levels assume no dilution upon discharge to surface water. The North Fork Gallinas Creek is concrete-lined at the site and water only intermittently flows through the channel. Intermittent flow through the creek suggests that groundwater is not a prominent source of water in the channel and indicates the creek is predominantly storm water drainage. With that said, hydrocarbon constituents in groundwater that may potentially enter the channel will be diluted when water is flowing through the channel, and will be subject to volatilization and biological degradation. Any potential risk associated with these hydrocarbon concentrations entering the channel will diminish within a short distance of the site. Therefore, the decreasing petroleum hydrocarbon plume does not appear to pose a significant risk to human health or the environment.

SITE CLOSURE EVALUATION

The site appears to be a candidate for the SF-RWQCB low-risk case closure. As described by the Regional Board Supplemental Instructions to State Water Board December 8, 1995, Interim Guidance on Required Cleanup at Low-Risk Fuel Sites, a low-risk groundwater case has the following general characteristics:

- The leak has stopped and ongoing sources, including free product, have been removed or remediated.
- The site has been adequately characterized.
- The dissolved hydrocarbon plume is not migrating.
- No water wells, deeper drinking water aquifers, surface water, or other sensitive receptors are likely to be impacted.
- The site presents no significant risk to human health or the environment.

Each of the low-risk groundwater case characteristics, as they relate to the site, is discussed below.

The Leak has stopped and ongoing sources, including free product, have been removed: Between 1994 and 1998, all 1964 fueling facilities were removed from the site and replaced with new facilities. Approximately 15,000 gallons of groundwater was extracted during the 1994 UST removal, and an unknown amount was extracted during the waste-oil UST removal in 1996. Approximately 380 tons of hydrocarbon impacted soil has been excavated and disposed of offsite during the UST removals in 1994 and 1996. CRA is unsure whether an additional 455-ton was reused or disposed of offsite during the 1994 excavation. No light non-aqueous phase liquid has been observed in any wells or borings to date. Hydrocarbon concentrations in wells MW-6 and MW-7 exhibit decreasing trends indicating that the leak has stopped and an adequate source mass has been removed.

The Site Has Been Adequately Characterized: Hydrocarbon impacted soil has been defined by samples collected during investigations and fueling facility removals from 1994 to present. To date, 8 monitoring wells have been installed, 11 soil borings have been advanced, and 10 compliance soil samples have been collected. Historical soil analytical data is on Table 1. The petroleum hydrocarbon plume is defined by well MW-5 to the north, well MW-4 to the east, well MW-3 to the south, and well MW-8 to the west for all constituents. The plume is not fully defined to the northwest due to the steep slope between the concrete-lined North Fork Gallinas Creek and the site. Assessment northwest of the concrete-lined North Fork Gallinas Creek is not necessary since the groundwater table is interrupted by the storm channel. Also based on the available data, groundwater is not readily entering the storm channel in the vicinity of the site. Concentrations above the applicable ESLs are detected in wells MW-6 and MW-7; however, these concentrations are decreasing and there is evidence of biodegradation occurring.

The Dissolved Hydrocarbon Plume is Not Migrating: TPHg, BTEX, and MTBE concentrations are degrading in all wells at the site. These decreasing trends are indicative of a petroleum hydrocarbon plume that is collapsing back toward the source. Therefore, the plume has already reached its maximum extent in the past, is decreasing in mass, and is no longer migrating.

No Water Wells, Deeper Drinking Water Aquifers, Surface Water, or Other Sensitive Receptors are Likely to be Impacted: The results of the sensitive receptor survey conducted in 2008 indicate that no potential sensitive receptors are likely to be impacted by the residual petroleum hydrocarbon concentrations beneath the site. All irrigation/domestic wells are located either upgradient or crossgradient of the site and are over 2,000 feet away. The nearest surface water body is a concrete-lined channel adjacent to the site. As discussed above, the petroleum hydrocarbon plume at the site does not appear to pose a significant risk to the channel.

The Site Presents No Significant Risk to Human Health or the Environment: The site is completely capped with concrete and asphalt with the exception of the planter and grass area to the south and west of the site building. This uncapped area is not within the residual dissolved hydrocarbon plume, and therefore, there is no current direct exposure risk at the site. No current petroleum hydrocarbon concentrations in groundwater pose a soil vapor intrusion risk. Groundwater at the site does not appear to readily enter the concrete-lined channel adjacent to the site. Surface water only flows through this channel during and after storm events. The residual petroleum hydrocarbons in groundwater are not a significant risk to the environment. The data gathered to date appears to be sufficient to determine that the site presents no threat to human health or environment.

CONCLUSIONS AND RECOMMENDATIONS

- The source area of residual hydrocarbons onsite has been adequately defined by the network of monitoring wells and soil borings.
- Concentrations of aqueous phase hydrocarbons have been steadily declining at the site and are currently limited to the vicinity of wells MW-6 and MW-7.
- Groundwater analytical data indicates anaerobic biodegradation is occurring in the plume core and aerobic biodegradation is occurring along the plume perimeter at the site.
- No hydrocarbons are detected at the site above applicable ESLs with the exception of TPHd, TPHg, and ethylbenzene in wells MW-6 and MW-7.

Based on these considerations, CRA believes the site satisfies the RWQCB criteria for a low-risk fuel site. On behalf of Chevron, we request low-risk case closure for the site.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Christine Orlowski

PROFESSIONAL GEOLOGIST
BRANDON S. WILKEN
No. 7564
STATE OF CALIFORNIA

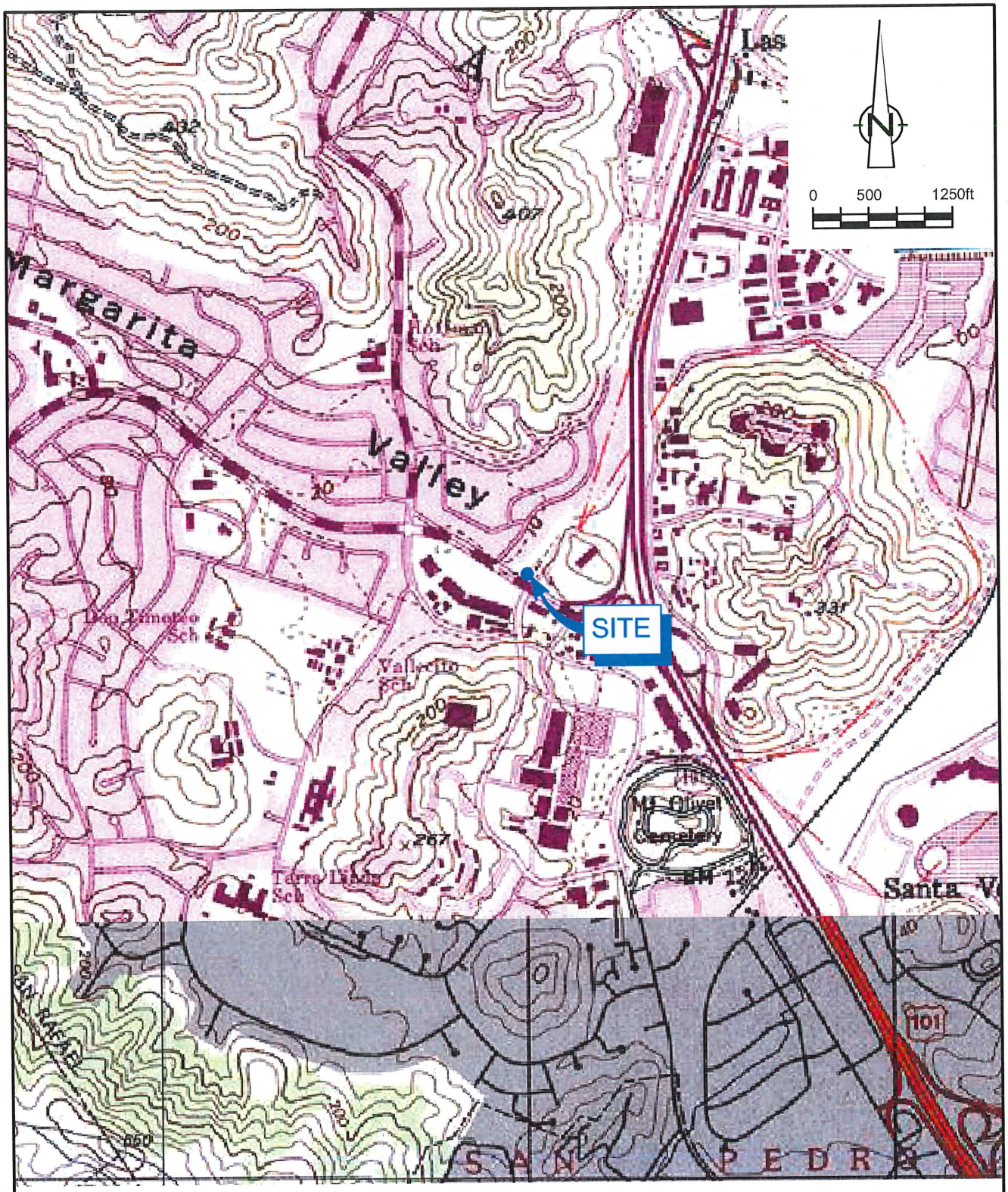
Brandon S. Wilken, PG# 7564

CO/doh/3
Enc.

Figure 1	Site Vicinity Map
Figure 2	Site Plan with Soil and Groundwater Tables
Figure 3	TPHg Isoconcentration Map
Figure 4	Benzene Isoconcentration Map
Table 1	Cumulative Soil Analytical Table
Attachment A	Environmental Summary
Attachment B	Regulatory Correspondence
Attachment C	October 14, 2009 G-R *Groundwater Monitoring and Sampling Report*
Attachment D	TPH and Bioparameter Table and Intrinsic Biodegradation Evaluation Graphs

c.c.: Mr. Aaron Costa
Mr. Daniel P. Trump, Esq.
Mr. Achille Marchesiello
Rinehart Corrective Action Account, c/o John Yurish
CUPA, Marin County Public Works

FIGURES

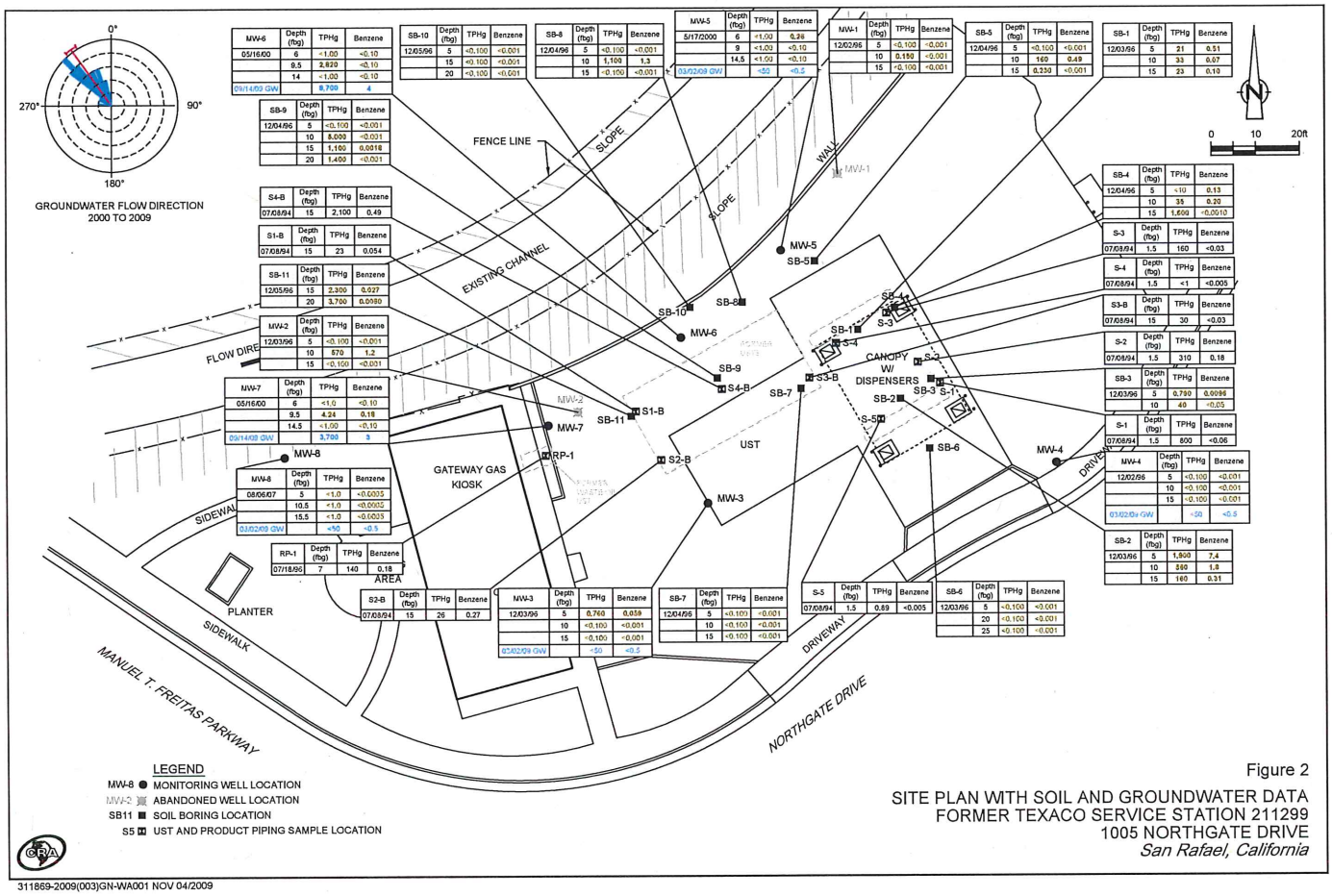


SOURCE: TOPO! MAPS.

figure 1

VICINITY MAP
FORMER TEXACO SERVICE STATION 211299
1005 NORTHGATE DRIVE
San Rafael, California

311869-2007(PRES001)GN-WA002 DEC 18/2007



MW-6	Depth (fbg)	TPHg	Benzene
05/16/00	6	<1.00	<0.10
	9.5	2,820	<0.10
	14	<1.00	<0.10
09/14/09 GW		8,700	4

SB-10	Depth (fbg)	TPHg	Benzene
12/05/96	5	<0.100	<0.001
	15	<0.100	<0.001
	20	<0.100	<0.001

SB-8	Depth (fbg)	TPHg	Benzene
12/04/96	5	<0.100	<0.001
	10	1,100	1.3
	15	<0.150	<0.001

MW-5	Depth (fbg)	TPHg	Benzene
5/17/2000	6	<1.00	0.26
	9	<1.00	<0.10
	14.5	<1.00	<0.10
03/02/09 GW		<50	<0.5

MW-1	Depth (fbg)	TPHg	Benzene
12/02/96	5	<0.100	<0.001
	10	0.150	<0.001
	15	<0.100	<0.001

SB-5	Depth (fbg)	TPHg	Benzene
12/04/96	5	<0.100	<0.001
	10	160	0.49
	15	0.230	<0.001

SB-1	Depth (fbg)	TPHg	Benzene
12/03/96	5	21	0.51
	10	33	0.07
	15	23	0.10

SB-9	Depth (fbg)	TPHg	Benzene
12/04/96	5	<0.100	<0.001
	10	8,000	<0.001
	15	1,100	0.0018
	20	1,400	<0.001

S4-B	Depth (fbg)	TPHg	Benzene
07/08/94	15	2,100	0.49

S1-B	Depth (fbg)	TPHg	Benzene
07/08/94	15	23	0.054

SB-11	Depth (fbg)	TPHg	Benzene
12/05/96	15	2,300	0.027
	20	3,700	0.0080

MW-2	Depth (fbg)	TPHg	Benzene
12/03/96	5	<0.100	<0.001
	10	670	1.2
	15	<0.100	<0.001

MW-7	Depth (fbg)	TPHg	Benzene
05/16/00	6	<1.0	<0.10
	9.5	4.24	0.16
	14.5	<1.00	<0.10
09/14/09 GW		3,700	3

MW-8	Depth (fbg)	TPHg	Benzene
08/06/07	5	<1.0	<0.0005
	10.5	<1.0	<0.0005
	15.5	<1.0	<0.0005
03/02/09 GW		<50	<0.5

RP-1	Depth (fbg)	TPHg	Benzene
07/18/95	7	140	0.18

S2-B	Depth (fbg)	TPHg	Benzene
07/08/94	15	26	0.27

MW-3	Depth (fbg)	TPHg	Benzene
12/03/96	5	8,700	0.059
	10	<0.100	<0.001
	15	<0.100	<0.001
03/02/09 GW		<50	<0.5

SB-7	Depth (fbg)	TPHg	Benzene
12/04/96	5	<0.100	<0.001
	10	<0.100	<0.001
	15	<0.100	<0.001

S-5	Depth (fbg)	TPHg	Benzene
07/08/94	1.5	0.89	<0.005

SB-6	Depth (fbg)	TPHg	Benzene
12/03/96	5	<0.100	<0.001
	20	<0.100	<0.001
	25	<0.100	<0.001

SB-4	Depth (fbg)	TPHg	Benzene
12/04/96	5	<10	0.13
	10	35	0.20
	15	1,600	<0.0010

S-3	Depth (fbg)	TPHg	Benzene
07/08/94	1.5	160	<0.03

S-4	Depth (fbg)	TPHg	Benzene
07/08/94	1.5	<1	<0.005

S3-B	Depth (fbg)	TPHg	Benzene
07/08/94	15	30	<0.03

S-2	Depth (fbg)	TPHg	Benzene
07/08/94	1.5	310	0.18

SB-3	Depth (fbg)	TPHg	Benzene
12/03/96	5	0.790	0.0096
	10	40	<0.05

S-1	Depth (fbg)	TPHg	Benzene
07/08/94	1.5	600	<0.06

MW-4	Depth (fbg)	TPHg	Benzene
12/02/96	5	<0.100	<0.001
	10	<0.100	<0.001
	15	<0.100	<0.001
03/02/09 GW		<50	<0.5

SB-2	Depth (fbg)	TPHg	Benzene
12/03/96	5	1,900	7.4
	10	390	1.8
	15	160	0.31

Figure 2

SITE PLAN WITH SOIL AND GROUNDWATER DATA
FORMER TEXACO SERVICE STATION 211299
1005 NORTHGATE DRIVE
San Rafael, California

311869-2009(003)GN-WA001 NOV 04/2009

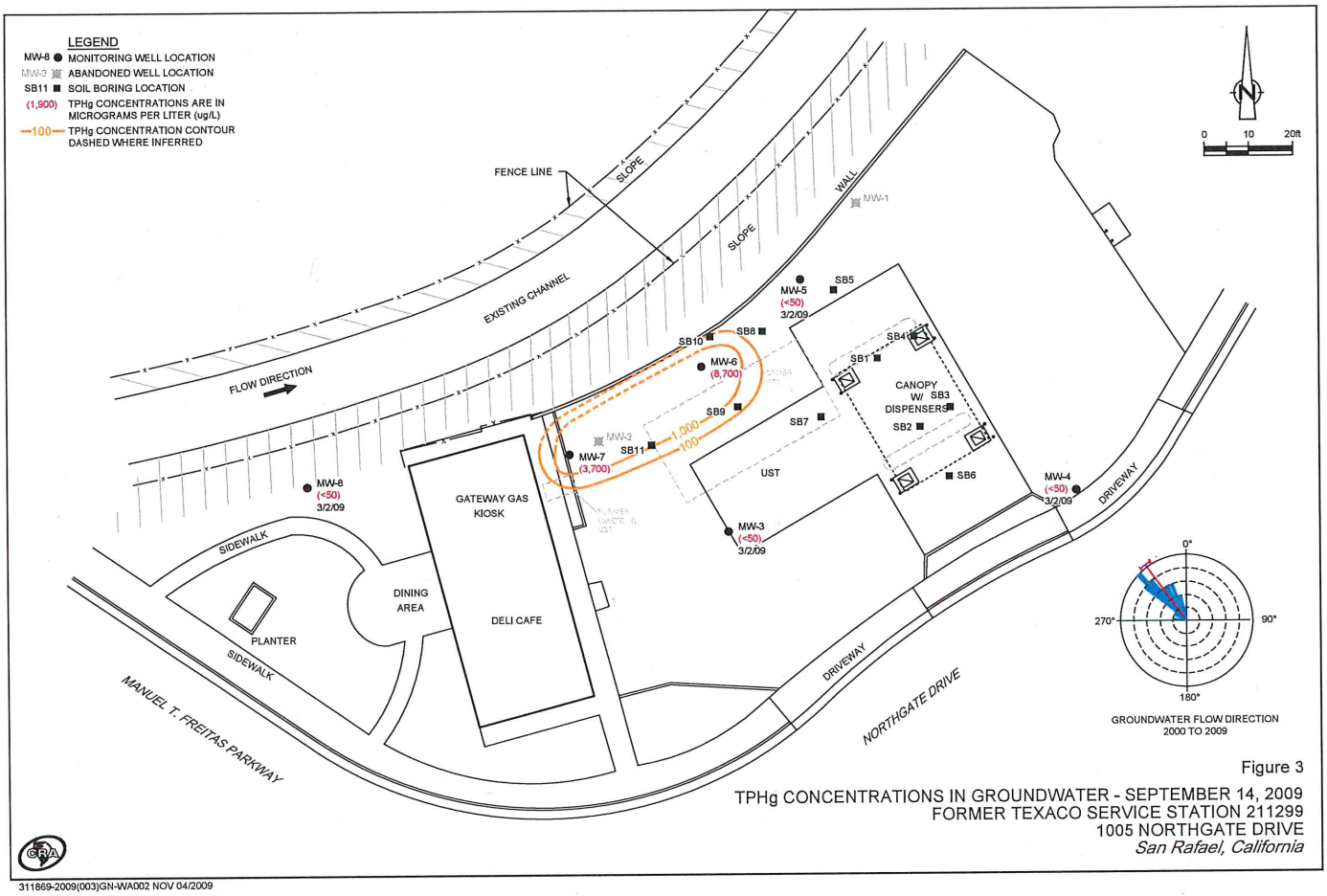


Figure 3

TPHg CONCENTRATIONS IN GROUNDWATER - SEPTEMBER 14, 2009
FORMER TEXACO SERVICE STATION 211299
1005 NORTHGATE DRIVE
San Rafael, California

311869-2009(003)GN-WA002 NOV 04/2009

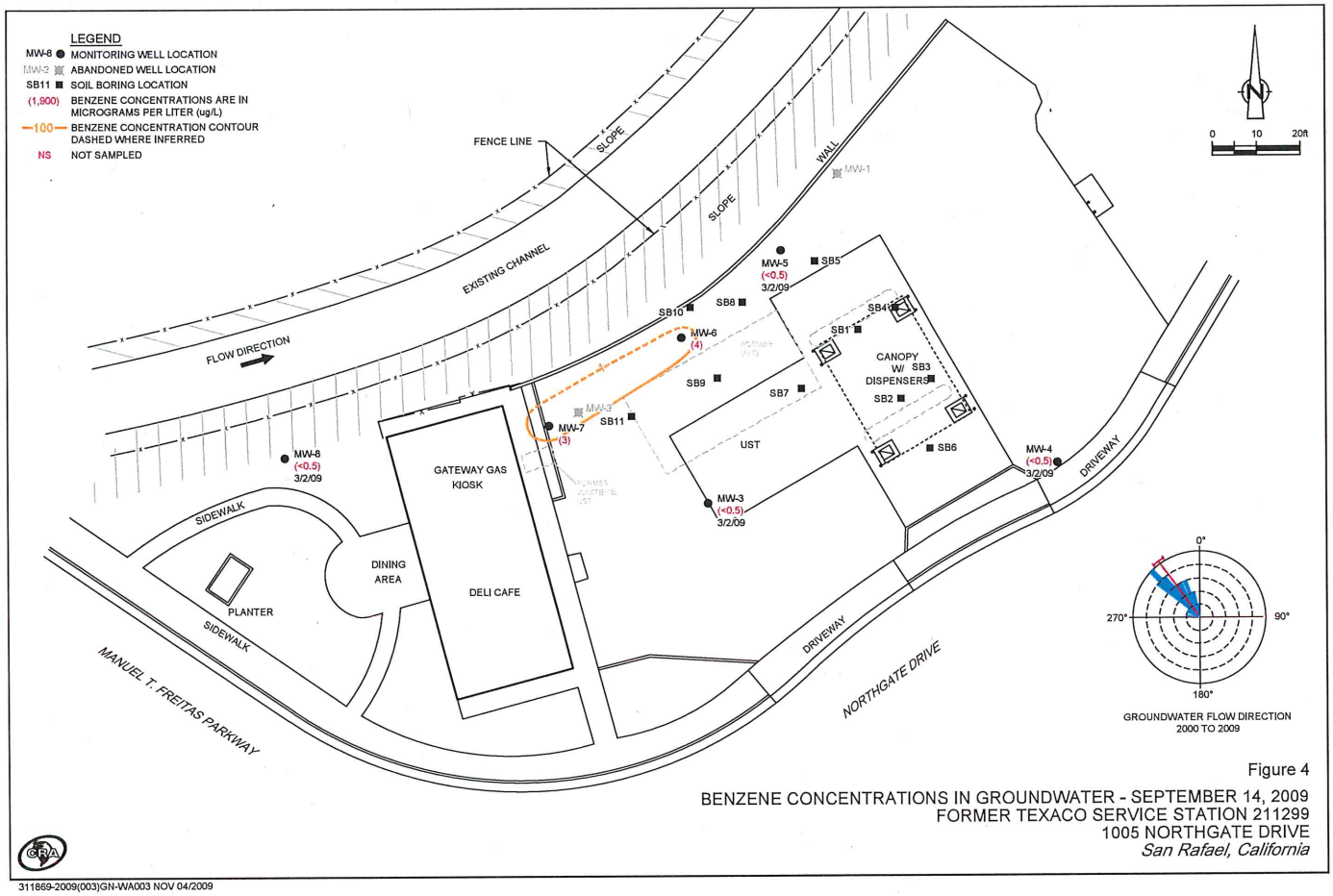


Figure 4

BENZENE CONCENTRATIONS IN GROUNDWATER - SEPTEMBER 14, 2009
FORMER TEXACO SERVICE STATION 211299
1005 NORTHGATE DRIVE
San Rafael, California

311869-2009(003)GN-WA003 NOV 04/2009

TABLES

TABLE 1

CUMMULATIVE SOIL ANALYTICAL TABLE
FORMER TEXACO SERVICE STATION 21-1299
1005 NORTHGATE DRIVE SAN RAFAEL, CALIFORNIA

Sample ID	Date	Depth (fbg)	TOG	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
			Reported in milligrams per kilogram (mg/kg)								
Final ESL (Table K-1), Residential Direct Exposure			370	370	110	110	0.12	63	2.3	31	30
Final ESL (Table K-2), Commercial/Industrial Worker Direct Exposure			3,700	3,700	450	450	0.27	210	5.0	100	65
Final ESL (Table K-2), Commercial/Industrial Worker Direct Exposure			12,000	12,000	4,200	4,200	12	650	210	420	2,800
Final ESL (Table G), Soil Leaching Screening Level (NON-Drinking Water Resource)			NE	NE	180	180	2.0	9.3	4.7	11	8.4
			MONITORING WELLS								
MW-1	12/2/1996	5	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
MW-1	12/2/1996	10	--	--	--	0.150	<0.001	<0.002	<0.002	<0.004	--
MW-1	12/2/1996	25	--	--	--	<0.100*	<0.001*	<0.002*	<0.002*	<0.004*	--
MW-1	12/3/1996	30	--	--	--	<0.100*	<0.001*	<0.002*	<0.002*	<0.004*	--
MW-2	12/3/1996	5	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
MW-2	12/3/1996	10	--	--	--	570	**1.2**	0.99	**8.4**	4.5	--
MW-2	12/3/1996	15	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
MW-2	12/3/1996	20	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
MW-2	12/3/1996	25	--	--	--	0.110	0.0017	<0.002	<0.002	<0.004	--
MW-2	12/3/1996	30	--	--	--	0.160*	<0.001*	<0.002*	<0.002*	<0.004*	--
MW-2	12/3/1996	35	--	--	--	0.180*	0.016*	<0.002*	<0.002*	<0.004*	--
MW-2	12/3/1996	40	--	--	--	0.100*	0.0024*	<0.002*	<0.002*	<0.004*	--
MW-3	12/3/1996	5	--	--	--	0.760	0.059	<0.002	<0.002	<0.004	--
MW-3	12/3/1996	10	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
MW-3	12/3/1996	15	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
MW-3	12/3/1996	30	--	--	--	<0.100*	<0.001*	<0.002*	<0.002*	<0.004*	--
			--	--	--						
MW-4	12/2/1996	5	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
MW-4	12/2/1996	10	--	--	--	<0.100*	<0.001*	<0.002*	<0.002*	<0.004*	--
MW-4	12/2/1996	15	--	--	--	<0.100*	<0.001*	<0.002*	<0.002*	<0.004*	--
MW-4	12/2/1996	25	--	--	--	<0.100*	<0.001*	<0.002*	<0.002*	<0.004*	--

TABLE 1

CUMMULATIVE SOIL ANALYTICAL TABLE
FORMER TEXACO SERVICE STATION 21-1299
1005 NORTHGATE DRIVE SAN RAFAEL, CALIFORNIA

Sample ID	Date	Depth (fbg)	TOG	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
			Reported in milligrams per kilogram (mg/kg)								
Final ESL (Table K-1), Residential Direct Exposure			370	370	110	110	0.12	63	2.3	31	30
Final ESL (Table K-2), Commercial/Industrial Worker Direct Exposure			3,700	3,700	450	450	0.27	210	5.0	100	65
Final ESL (Table K-2), Commercial/Industrial Worker Direct Exposure			12,000	12,000	4,200	4,200	12	650	210	420	2,800
Final ESL (Table G), Soil Leaching Screening Level (NON-Drinking Water Resource)			NE	NE	180	180	2.0	9.3	4.7	11	8.4
MW-5	5/17/1996	6	--	--	--	<1.00	0.26	<0.10	<0.10	<0.10	<0.10
MW-5	5/17/1996	9	--	--	--	<1.00	<0.10	<0.10	<0.10	<0.10	<0.10
MW-5	5/17/1996	14.5	--	--	--	<1.00	<0.10	<0.10	<0.10	<0.10	<0.10
MW-6	5/16/2000	6	--	--	--	<1.00	<0.10	<0.10	<0.10	<0.10	<0.10
MW-6	5/16/2000	9.5	--	--	--	2,820	<0.10	<0.10	16	20	<0.10
MW-6	5/16/2000	14	--	--	--	<1.00	<0.10	<0.10	<0.10	<0.10	<0.10
MW-7	5/16/2000	6	--	15.2	9.65	<1.00	<0.10	<0.10	<0.10	<0.10	<0.10
MW-7	5/16/2000	9.5	--	<10.0	9.27	4.24	0.18	<0.10	<0.10	<0.10	<0.10
MW-7	5/16/2000	14.5	--	<10.0	<5.00	<1.00	<0.10	<0.10	<0.10	<0.10	<0.10
MW-8	8/6/2007	5	--	--	<4.0	<1.0	<0.0005	0.001	<0.001	<0.001	<0.0005
MW-8	8/6/2007	10.5	--	--	<4.0	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005
MW-8	8/6/2007	15.5	--	--	<4.0	<1.0	<0.0005	<0.001	<0.001	<0.001	<0.0005
MW-8	8/6/2007	19.5	--	--	<4.0	<20	<0.0005	0.002	<0.001	<0.001	<0.0005
						Soil Borings					
SB-1	12/3/1996	5	--	--	--	21	0.51	<0.10	<0.10	0.79	--
SB-1	12/3/1996	10	--	--	--	33	0.07	0.11	0.21	0.81	--
SB-1	12/3/1996	15	--	--	--	23	0.1	0.36	0.29	1.9	--
SB-2	12/3/1996	5	--	--	--	1,900	7.4	21	22	92	--
SB-2	12/3/1996	10	--	--	--	560	1.8	3.6	5.5	26	--
SB-2	12/3/1996	15	--	--	--	160	0.31	0.54	0.85	3.5	--

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CUMMULATIVE SOIL ANALYTICAL TABLE
FORMER TEXACO SERVICE STATION 21-1299
1005 NORTHGATE DRIVE SAN RAFAEL, CALIFORNIA

Sample ID	Date	Depth (fbg)	TOG	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
			Reported in milligrams per kilogram (mg/kg)								
Final ESL (Table K-1), Residential Direct Exposure			370	370	110	110	0.12	63	2.3	31	30
Final ESL (Table K-2), Commercial/Industrial Worker Direct Exposure			3,700	3,700	450	450	0.27	210	5.0	100	65
Final ESL (Table K-2), Commercial/Industrial Worker Direct Exposure			12,000	12,000	4,200	4,200	12	650	210	420	2,800
Final ESL (Table G), Soil Leaching Screening Level (NON-Drinking Water Resource)			NE	NE	180	180	2.0	9.3	4.7	11	8.4
SB-3	12/3/1996	5	--	--	--	0.79	0.0096	0.0041	0.0058	0.017	--
SB-3	12/3/1996	10	--	--	--	40	<0.05	<0.10	0.12	0.74	--
SB-4	12/4/1996	5	--	--	--	<10	**0.13**	<0.10	<0.10	0.32	--
SB-4	12/4/1996	10	--	--	--	35	**0.2**	0.31	0.2	1.8	--
SB-4	12/4/1996	15	--	--	--	1.600	<0.0010	0.0021	0.0054	0.021	--
SB-5	12/4/1996	5	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-5	12/4/1996	10	--	--	--	**160**	**0.49**	0.19	0.94	3.8	--
SB-5	12/4/1996	15	--	--	--	0.23	<0.001	<0.002	0.0030	0.013	--
SB-6	12/4/1996	5	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-6	12/4/1996	20	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-6	12/4/1996	25	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-7	12/4/1996	5	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-7	12/4/1996	10	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-7	12/4/1996	15	--	--	--	<0.100	<0.001	<0.002	<0.002	0.0054	--
SB-7	12/4/1996	25	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-8	12/4/1996	5	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-8	12/4/1996	10	--	--	--	**1,100**	**1.3**	1.9	**8.2**	3.7	--
SB-8	12/4/1996	15	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-8	12/4/1996	20	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-8	12/4/1996	25	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--

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CUMMULATIVE SOIL ANALYTICAL TABLE
FORMER TEXACO SERVICE STATION 21-1299
1005 NORTHGATE DRIVE SAN RAFAEL, CALIFORNIA

Sample ID	Date	Depth (fbg)	TOG	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
			Reported in milligrams per kilogram (mg/kg)								
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Final ESL (Table K-2), Commercial/Industrial Worker Direct Exposure			12,000	12,000	4,200	4,200	12	650	210	420	2,800
Final ESL (Table G), Soil Leaching Screening Level (NON-Drinking Water Resource)			NE	NE	180	180	2.0	9.3	4.7	11	8.4
SB-9	12/4/1996	5	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-9	12/4/1996	10	--	--	--	5.000	<0.001	0.0087	0.027	0.039	--
SB-9	12/4/1996	15	--	--	--	1.100	0.0018	0.0059	0.011	0.077	--
SB-9	12/4/1996	20	--	--	--	1.400	<0.001	<0.002	0.019	0.130	--
SB-10	12/5/1996	5	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-10	12/5/1996	15	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-10	12/5/1996	20	--	--	--	<0.100	<0.001	<0.002	<0.002	<0.004	--
SB-11	12/5/1996	15	--	--	--	2.300	0.027	0.0039	0.120	0.17	--
SB-11	12/5/1996	20	--	--	--	3.700	0.0080	<0.002	0.024	0.100	--
						1994 UST and Product Line Removal					
S1-B	7/8/1994	15	--	--	--	23	0.054	<0.03	0.26	0.63	--
S2-B	7/8/1994	15	--	--	--	26	0.27	0.16	0.39	1.8	--
S3-B	7/8/1994	15	--	--	--	30	<0.03	<0.03	<0.03	0.32	--
S4-B	7/8/1994	15	--	--	--	2,100	0.49	3.4	18	73	--
S1	7/8/1994	1.5	--	--	--	800	<0.06	4.5	11	35	--
S2	7/8/1994	1.5	--	--	--	310	0.18	1.5	2.2	13	--
S3	7/8/1994	1.5	--	--	--	160	<0.03	0.28	0.45	0.92	--
S4	7/8/1994	1.5	--	--	--	<1	<0.005	<0.005	<0.005	<0.005	--
S5	7/8/1994	1.5	--	--	--	0.89	<0.005	<0.005	<0.005	<0.005	--

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CUMMULATIVE SOIL ANALYTICAL TABLE
FORMER TEXACO SERVICE STATION 21-1299
1005 NORTHGATE DRIVE SAN RAFAEL, CALIFORNIA

Sample ID	Date	Depth (fbg)	TOG	TPHmo	TPHd	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
			Reported in milligrams per kilogram (mg/kg)								
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Final ESL (Table K-2), Commercial/Industrial Worker Direct Exposure			3,700	3,700	450	450	0.27	210	5.0	100	65
Final ESL (Table K-2), Commercial/Industrial Worker Direct Exposure			12,000	12,000	4,200	4,200	12	650	210	420	2,800
Final ESL (Table G), Soil Leaching Screening Level (NON-Drinking Water Resource)			NE	NE	180	180	2.0	9.3	4.7	11	8.4
1996 Waste UST Removal											
RP-1	7/18/1996	7	16,000	--	--	140 a,b	0.18	1.4	0.97	5.5	--

Abbreviations/Notes:

fbg = feet below grade
TOG = Total Recoverable Petroleum Hydrocarbons as Oil & Grease by EPA method 418.1
TPHmo = Total petroleum hydrocarbons as mothor oil by EPA Method 8015 (Modified)
TPHd = Total petroleum hydrocarbons as diesel, analyzed by EPA Method 8015B.
TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method 8015M.
Benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tertiary-butyl ether (MTBE), t- butyl alcohol (TBA), di-isopropyl ether (DIPE), ethyl tertiary-butyl ether (ETBE) and tertiary-amyl methyl ether (TAME) analyzed by EPA Method 8260B from 2001
-- = Not analyzed/not applicable
NE = Not established
<x = Not detected above laboratory reporting limit x.
bold = Above Residential Direct Exposure ESL
* = The reported values should be considered estimates because surrogate recoveries were outside acceptable limits due to matrix interference.
The following descriptions of the TPH chromatogram are cursury in nature and McCampbell Analytical is not responsible for their interpretation:
a = heavier gasoline range compounds are significant (aged gasoline?)
b= gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?