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BLYMYER ENGINEERS, INC

Estate of Michael Dolan
Ms. Noreen Fitzpatrick, Trustee
3215 Deer Park Dr.
Walnut Creek, CA 94598

RECEIVED
4:50 pm, Jan 27, 2009
Alameda County
Environmental Health

1-23, 2009

Mr. Paresh Khatri
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Perjury Statement
Dolan Property, 6393 Scarlett Court, Dublin, California; RO-210

Dear Mr Khatri,

"I declare under penalty of perjury, that the information and / or recommendations contained in the attached proposal or report is true and correct to the best of my knowledge."

Noreen Fitzpatrick Trustee
Noreen Fitzpatrick, Trustee

c. Peter MacDonald, Esquire
Wanden Treanor, Esquire

Fourth Quarter 2008
Groundwater Monitoring Event

Dolan Trust Property
6393 Scarlett Court
Dublin, California
ACDEH Fuel Leak Case No. RO0000210

December 30, 2008
BEI Job No. 202016

Prepared for:

Estate of Michael Dolan
Ms. Noreen Fitzpatrick, Trustee
3215 Deer Park Dr.
Walnut Creek, CA 94598

Prepared by:

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Limitations

Services performed by Blymyer Engineers, Inc. have been provided in accordance with generally accepted professional practices for the nature and conditions of similar work completed in the same or similar localities, at the time the work was performed. The scope of work for the project was conducted within the limitations prescribed by the client. This report is not meant to represent a legal opinion. No other warranty, expressed or implied, is made. This report was prepared for the sole use of the client, The Estate of Michael Dolan.

Blymyer Engineers, Inc.

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1.0 Introduction

This report documents the Fourth Quarter 2008 groundwater monitoring event at the former Dolan Trust Property in Dublin, California (Figure 1).

1.1 Background

A 600-gallon underground storage tank (UST) was removed in February 1990 from the subject site (Figure 2). Although the UST had reportedly stored diesel more recently, soil and groundwater samples collected for laboratory analysis indicated that the contaminant of concern at the site was gasoline. Files maintained by the Alameda County Department of Environmental Health (ACDEH) do not contain waste manifests for the disposal of soil, although a *Uniform Hazardous Waste Manifest* is present documenting the disposal of a 600-gallon UST. This suggests that contaminated soil may not have been removed from the site. In October 1990, five soil bores were installed at the site, and soil and grab groundwater samples were collected. Additional delineation work was conducted in November 1991, when groundwater monitoring wells MW-1 through MW-4 were installed to a depth of 20 feet below grade surface (bgs). Soil and groundwater samples were collected. In November 1992, 14 additional soil bores were installed, and soil and grab groundwater samples were collected from selected bore locations. Although there were several data gaps in the perimeter zone of soil and groundwater delineation, the soil and groundwater plumes were largely defined as a result of this investigation. The groundwater plume did not appear to extend offsite; however, a thin free-phase layer was present immediately adjacent to the former UST basin, and at a location approximately 40 feet to the east. Additional wells were proposed to fill the existing data gaps and to monitor the lateral extent of impacted groundwater and free-phase. As a consequence, in March 1995, wells MW-5 and MW-6 were installed to a depth of 10 feet bgs. Intermittent groundwater sample collection or groundwater monitoring has occurred at the facility since 1991. In an August 1998 letter, the ACDEH suggested that a health risk analysis or the installation of an oxygen releasing compound (ORC) might be appropriate for the site. Also in the August 1998 letter, the ACDEH stated that groundwater sampling of wells MW-1, MW-3, MW-5, and MW-6 could be discontinued, stated that the sampling interval could be decreased to a semiannual basis, and requested resumption of groundwater monitoring.

In May 2002, Blymyer Engineers was retained by Mr. Michael Fitzpatrick, on behalf of Mr. Michael Dolan, to conduct semiannual groundwater sampling of wells MW-2 and MW-4, and to conduct a file review to help determine the next appropriate step at the site.

In May 2002, Blymyer Engineers located and rehabilitated the wells at the site. Well MW-5 required the most extensive rehabilitation work, and required resurveying due to a change in well casing elevation. In June 2002, wells MW-2 and MW-4 were sampled, while depth to groundwater was measured in all of the wells. Except for a slight increase in benzene in groundwater from well MW-4, the concentration of all analytes in the two wells decreased from the August 1997 sampling event. Based upon a review of the results, the ACDEH recommended that well MW-5 be incorporated into the sampling program and that quarterly groundwater monitoring resume in order that contaminant concentrations and contaminant trends could be quickly generated for the recommended health risk assessment.

Two additional quarters were completed prior to the death of Mr. Dolan. Groundwater monitoring was on hold after January 2003 due to the Estate becoming established. During the groundwater monitoring event in December 2002, analysis for the fuel oxygenates was conducted by EPA Method 8260B. All fuel oxygenates were found to be non-detectable at good limits of detection. Consequently, all sporadic occurrences of methyl tert-butyl ether (MTBE) previously detected at the site have been attributed to 3-methyl-pentane, another gasoline related compound. This suggests that the release predates the use of MTBE and other fuel oxygenates as gasoline additives. All previously available data from the site has been tabulated on Tables I through VI.

On June 13, 2003, a workplan was submitted to the ACDEH in order to allow further subsurface delineation of impacted soil at the site. In a telephone conversation on June 16, 2003, Mr. Scott Seery mentioned that it was unlikely that he would be able to respond in a timely manner due to the work load at the ACDEH, and noted that if a response was not issued 60 days after receipt, regulations stated that the workplan should be considered approved. Consequently, field work commenced on September 13, 2003. Nine Geoprobe[7] soil bores were installed at the site to augment existing soil data. The data indicated that the lateral and vertical extent of impacted soil at the site had been adequately delineated to relatively low concentrations, and the limits further refined for the purposes of determining appropriate remedial actions (*Geoprobe*[7] *Subsurface Investigation*, dated October 10, 2003).

Based on these data and a lack of further comments by the ACDEH, a *Remedial Action Plan* (RAP), dated April 6, 2004, was issued. The plan detailed overexcavation and construction dewatering, as the principal method of remedial action. Introduction of ORC into the resulting excavation as an additional measure of insurance, should residual contamination be intentionally or unintentionally left in place, was also proposed. Use of ORC was proposed based on general knowledge that biodegradation of petroleum hydrocarbons is generally an oxygen limited process. A Request for Proposal (RFP) was generated in early May 2004 for contractor bidding purposes; however, it was not released due to a change in the timeline for sale closure. On September 2, 2004, Blymyer Engineers contacted Mr. Seery in order to determine the status of the RAP review. At that time, Mr. Seery notified Blymyer Engineers that Mr. Robert Schultz was the new case manager for the site. Mr. Schultz required time to review and become familiar with the file. On November 15, 2004, the ACDEH issued a 5-page response letter (*Fuel Leak Case No. RO0000210*) requesting extensive further work and containing several deadlines. A December 31, 2004 deadline was established for a workplan for additional site characterization. The *Workplan for Additional Investigation and Letter Report*, dated December 23, 2004, was submitted to the ACDEH on January 3, 2005.

In a letter dated January 24, 2005, the ACDEH approved the workplan provided four conditions were met:

- A pilot hole was to be used to identify lithology prior to collection of a groundwater sample from a deeper water-bearing zone,
- Should additional groundwater wells be required, the ACDEH would be consulted regarding well construction details,
- Should additional soil or groundwater samples be required, the ACDEH would be kept informed of planned changes and consistent dynamic investigation procedures, and
- A 72-hour written advanced warning would be provided.

On February 18, 2005, Blymyer Engineers mobilized to the site to install two to three dual-tube direct-push soil bores in an attempt to collect the approved soil and groundwater samples. As a precursor to the mobilization, a conduit survey was conducted. However, due to poor soil recovery an additional mobilization to the site was required. After notifying, and obtaining approval from, the ACDEH 72 hours in advance, a Cone Penetrometer Test (CPT) direct-push rig was mobilized to the site on March 28, 2005. Prior to the March 28, 2005 mobilization, the ACDEH approved a reduction in the quarterly analytical program, based on historical analytical trends. Specifically, hydrocarbon analysis of groundwater samples from wells MW-1, MW-3, and MW-6 was eliminated.

On April 13, 2005, CCS Environmental resurveyed all wells at the site. As of April 30, 2005, all tenant operations at the site ceased. This included the batch plant used by Dublin Concrete.

On May 10, 2005, Blymyer Engineers submitted the *Additional Site Investigation Data Transmittal* to the ACDEH providing a brief summary of the results of the CPT bore installations. Based on the detection of hydrocarbon compounds in groundwater between 30 and 40 feet bgs, the letter proposed the installation of groundwater well MW-7 across a deeper water-bearing zone in a downgradient position. Shortly thereafter, the ACDEH reported that Mr. Schultz had left the employ of the agency and that the case had not been assigned to a new case worker yet. The ACDEH was apprised that due to the sale of the parcel, work would proceed, pending agency review.

As a part of another related project, Blymyer Engineers oversaw the permitted destruction of two old water production wells between May 16 and May 24, 2005. According to Zone 7, both wells appear to have dated from the 1940s or 1950s. Well "3S/1E 6F 1", located on the subject parcel was constructed of 8-inch-diameter steel casing and was 95 feet in total depth. Well "3S/1E 6F 2" was located on the adjacent parcel, also owned by Dolan Properties, and was constructed of 13-inch-diameter riveted steel casing and was 38 feet in total depth. All Zone 7 permit conditions were observed; however, the upper 6 to 7.5 feet of each well casing was removed by excavation seven days after it had been filled to the surface with cement grout. An approximately 6- to 12-inch-thick concrete mushroom cap was placed over and around the remaining casing at depths of 6 and 7.5 feet bgs, respectively (where the casing broke during removal). The excavation was backfilled with native soil, and track rolled.

On July 5 and July 8, 2005, Blymyer Engineers oversaw the installation of downgradient groundwater monitoring well MW-7 (Figure 2). The well was installed into the second water-bearing zone beneath the site due to the detection of hydrocarbon contamination in groundwater in both CPT bores at depths of approximately 30 to 40 feet bgs. A conductor casing was installed to a depth of 30 feet in order to exclude upper water-bearing zones, and to prevent cross-contamination of deeper water-bearing zones. A 2-inch-diameter PVC casing was installed through the conductor casing and the well was screened between 30 and 40 feet bgs.

On October 7, 2005, Blymyer Engineers issued the *Remedial Investigation / Feasibility Study* report documenting all field work conducted since January 2005, and the results of a feasibility study. The report evaluated three remedial alternatives, including monitored natural attenuation, dual-phase extraction, and source soil excavation and dewatering. It was found that, under monitored natural attenuation, benzene would require approximately 33 years to reach the Maximum Contaminant Level (MCL) and that the remedial cost was the highest of the three options. Remedial costs were the second highest under the dual-phase extraction scenario, and would be more intrusive with respect to the future owner's land use. Remedial costs were lowest, and the site presence was least intrusive in the longer term under the remedial overexcavation and dewatering scenario. This scenario additionally proposed to introduce oxygen releasing compound (ORC) into the remedial excavation to stimulate biodegradation of the residual hydrocarbon contamination by indigenous microbes, previously shown to be oxygen-limited at the site. This scenario additionally proposed to treat soil and groundwater outside the plume core with ORC injected through Geoprobe bores on an approximately 10-foot spacing interval. Principally because remedial costs were lowest, remedial excavation was selected as the most appropriate remedial technology for the site. On October 26, 2005, Blymyer Engineers issued the *Corrective Action Plan For Source Soil Excavation and Dewatering*. On November 2, 2005, the ACDEH issued the letter *Fuel Leak Case No. RO0000210,* which concurred with the recommended remedial plan, but contained six technical comments for clarification. On November 9, 2005, Blymyer Engineers issued the *Response to November 2, 2005 Letter,* that addressed the technical comments contained in the ACDEH letter. The letter indicated that soil reuse was not planned due to high perched groundwater as shallow as 3 feet bgs, provided documentation (Figure 2 of that letter) of the approximate planned bottom sample soil collection locations based on the iso-concentration figures, stated that ORC would be applied throughout the excavation as requested, attached NPK bio-nutrient calculations for the site, stated that a second excavation backfill well would be installed as requested, and stated that a post-remediation quarterly groundwater sampling program was planned for a minimum period of one year.

Remedial excavation began on November 29, 2005, with the initial installation of a slide-rail shoring system in the area for excavation. Between December 1, and December 8, 2005, Marcor Remediation, Inc. (Marcor) excavated and stockpiled 2,370 cubic yards (3,054.65 tons) of impacted soil from an area approximately 50 by 50 feet, by 20 to 21 feet in depth. Concurrent excavation dewatering was attempted, but due to the load of suspended fine particles, could not keep up with groundwater infiltration. Extracted groundwater was plumbed through a bag filter to remove the sediment load, and then through two 2,000-pound granular activated carbon (GAC) vessels into a 20,000-gallon temporary aboveground storage tank. Prior to discharge to the sanitary sewer a groundwater sample was collected under observation of the Dublin-San Ramon Services District personnel. Four authoritative excavation bottom soil samples were collected from locations in close proximity to previously documented worst-case soil concentrations and each returned non-detectable concentrations for all analytes. The excavation was backfilled with imported crushed rock and locally derived recycled asphaltic baserock. ORC was applied in slurry form to the crushed rock as it was placed into the excavation. On December 21 and 22, 2005, twenty-six ORC injection bores were pushed to approximately 21 feet bgs, and an ORC slurry was injected into the bores in areas surrounding the backfilled excavation in order to address residual contamination outside the area of excavation. The soil stockpiles were sampled concurrently with remedial excavation, and the soil was loaded, transported, and disposed at Keller Canyon Landfill in Pittsburg, California, between December 29, 2005, and January 4, 2006. On January 11, 2006, the property was sold by the Dolan Trust to Ken Harvey Honda, and site redevelopment planning was initiated for a car dealership.

On February 27, 2006, Blaine Tech Services, Inc. (Blaine) mobilized to the site to develop the two new wells (MW-8 and MW-9) located within the remedial excavation. Development details have been reported under separate cover in the report entitled *Report on Source Soil Excavation and Dewatering*, dated April 20, 2006. The first post-remediation groundwater monitoring event occurred on March 2, 2006, and was reported in the report entitled *First Quarter 2006 Groundwater Monitoring Event*, dated April 4, 2006. The *Second Quarter 2006 Groundwater Monitoring Event* dated June 22, 2006, was issued on June 28, 2006, while the *Third Quarter 2006 Groundwater Monitoring Event* dated December 1, 2006, was issued on December 4, 2006.

During the Fourth Quarter 2006 groundwater monitoring event, site redevelopment activities including paving and infrastructure installation for the car dealership precluded access to the groundwater monitoring wells. Groundwater monitoring required access to, and reconstruction of, the groundwater monitoring wells, temporarily paved over during site redevelopment. The wells required raising and lowering of well casings and well boxes to the new grade, as well as re-surveying to GeoTracker standards. Between February 20 and March 9, 2007, remaining wells at the site were raised or lowered, and new well boxes were installed, to conform to the new surface grade at the site. On March 19, 2007, the wells were resurveyed by CSS Environmental to GeoTracker standards.

On January 2, 2007, the ACDEH issued a letter commenting on the *Third Quarter 2006 Groundwater Monitoring Event* report. The letter contained four technical comments that received a response in the *Workplan for Additional Remediation Efforts*, dated February 16, 2007, from Blymyer Engineers, on behalf of the Dolan Estate. The workplan proposed bio-monitoring and the installation of ORC socks into well MW-4. Specifically the technical comments from ACDEH and responses contained in the workplan included:

- ACDEH concurrence with the recommendation for temporary cessation of natural attenuation parameters.

- The ACDEH recommended that microbial assays be conducted in order to determine if an appropriate microbial population is present in subsurface groundwater to allow the natural degradation of petroleum hydrocarbons in the subsurface in the presence of increased oxygen. Blymyer Engineers noted that microbial assays would help determine if augmentation of the current microbial population might allow faster degradation. Blymyer Engineers proposed to collect groundwater at three wells (upgradient, excavation, and downgradient) to determine trends across the site as recommended by the analytical laboratory, CytoCulture Environmental Biotechnology (CytoCulture) in Point Richmond, CA. Collection of the samples was proposed to be coordinated with a groundwater monitoring event, and the results would be reported within a quarterly groundwater monitoring report. The samples were to be analyzed for total microbial population, and the hydrocarbon-degrading population within the total population at the three wells, as also recommended by CytoCulture.

- The ACDEH recommended the installation of ORC socks in well MW-4 in lieu of additional subsurface Geoprobe exploration proposed by Blymyer Engineers in the *Third Quarter 2006*

Groundwater Monitoring Event report. The Geoprobe bores were intended to determine the location of the presumed near-surface source of hydrocarbons of apparently recent origin (see referenced report) that were apparently impacting groundwater in the vicinity of well MW-4. Blymyer Engineers noted general agreement with the recommendation, however, additionally consulted Regenesis, Inc. (Regenesis), provider of ORC products. Regenesis additionally recommended the addition of RegenOx to well MW-4 prior to the installation of the ORC socks in the well as an appropriate method to provide a more rapid decrease in fuel hydrocarbon concentrations, and to extend the life of the ORC socks. Regenesis noted that because RegenOx is essentially a liquid, it will be removed and distributed by natural process in the vicinity of the well, will not solidify in the well, and will not make the well unavailable for future monitoring and sampling. Conversely, because it will not be injected into the subsurface soils and will be distributed by natural groundwater movements, the radius of influence will be more localized, which is presumed beneficial if the source is localized to well MW-4, as suspected.

- The ACDEH also requested continued analysis of groundwater from well MW-5 for fuel oxygenates based on previous groundwater analytical results. Blymyer Engineers noted that sampling of well MW-4 for fuel oxygenates was appropriate in support of determining the source of the hydrocarbons impacting groundwater in the vicinity of well MW-4, and recommended that a minimum of one groundwater sampling event at well MW-4 be conducted.

Since the June 2007 groundwater monitoring event (Second Quarter 2007), the site has completed redevelopment as the new Ken Harvey Honda facility. The facility opened in early September 2007. As part of final site redevelopment, two wells, MW-6 and MW-9, were repaved over again. On August 22, 2007, the access boxes for the wells were replaced and set flush with the new grade surface. The well casing elevations remained unchanged.

In late August 2007, due to the lack of response within the observed 60-day agency comment period to the February 16, 2007 workplan, Blymyer Engineers was authorized to proceed with the installation of the ORC socks in three wells. This was based on the initial suggestion of ORC sock installation by the ACDEH in the January 2, 2007 letter, and a desire by The Estate to expedite case closure at the site rather than to continue to wait. Consequently, on September 5, 2007, after groundwater monitoring and sampling for the third quarter 2007 groundwater monitoring event, fifteen 1.75-inch diameter ORC Advanced socks were installed in 2-inch diameter well MW-4, and fifteen 3-inch diameter ORC Advanced socks were installed in each of the 4-inch diameter wells, MW-8 and MW-9. The socks were installed to help stimulate bacterial activity in the vicinity of the wells. The socks were installed according to the manufacturer's specifications, and typically provide between 6 and 12 months of increased oxygen concentrations in groundwater. It was recommended that these concentrations be monitored during quarterly groundwater monitoring events. Additionally it was recognized that the installation of the ORC socks would require use of micropurging techniques in the future in order to minimize the removal of DO in from these three wells.

In accordance with an analysis of past concentration trends in all wells at the site, Blymyer Engineers recommended a reduction in the number of wells to be sampled (*Third Quarter 2007 Groundwater Monitoring Report,* dated October 12, 2007). The recommendation reduced the number of sampled wells to three wells (MW-4, MW-8, and MW-9). It was reasoned that additional data from wells MW-1, MW-3, MW-6, and MW-7 were not warranted on an on-going basis. Only groundwater from wells MW-1 and MW-6 had yielded trace concentrations shortly after the remedial excavation. With those exceptions, those four wells have been non-detectable since installed (2.5 years for MW-7, and over ten years for the other listed wells). Blymyer Engineers recommended a reduction to an annual sampling interval for these wells. It was noted that well MW-5 has contained only MTBE since December 2004. Blymyer Engineers recommended that further analysis for Total Petroleum Hydrocarbons (TPH) as diesel should be eliminated in this well, and that analysis for TPH as gasoline, benzene, toluene, ethylbenzene, and total xylenes (BTEX), and MTBE could be reduced to a biannual interval to monitor concentration trends. Additionally it was recommended that future analysis for TPH as diesel should employ the use of the silica gel cleanup technique.

In late March 2008, Blymyer Engineers was notified that the new case manager for the ACDEH was Mr. Paresh Khatri. On May 1, 2008, the ACDEH issued a letter documenting receipt of the February 16, 2007 workplan proposing bio-monitoring and installation of ORC socks into well MW-4 at the site, but did not comment on the workplan, judged that the site was ready for case closure, and requested a case closure summary. However, the work proposed in the workplan had previously been implemented in September 2007 due to the expiration of the 60-day agency comment rule on

April 16, 2007 and the initial agency suggestion of ORC sock installation. The May 1, 2008 letter also requested submittal of a previously referenced preferential pathway evaluation. The preferential pathway evaluation had been previously submitted in the *Report on Source Soil Excavation and Dewatering*, dated April 26, 2006, but had been overlooked. This was clarified and the most recent copy of the case closure summary requirements was requested of ACDEH. The requirements were subsequently forwarded on June 27, 2008 shortly before the suggested June 30, 2008 deadline for submittal of the document to ACDEH.

Because the bio-monitoring had been conducted and the ORC socks had been previously installed, ACDEH, Blymyer Engineers, and The Estate concurred that the ORC socks should be removed and one quarter of time should elapse in order to evaluate the potential rebound of contaminants due to the decrease in available dissolved oxygen. As a consequence, and with agency concurrence, the Second Quarter 2008 groundwater monitoring and sampling event consisted only of the removal of the ORC socks.

The first sampling of groundwater after removal of the ORC socks occurred on September 2, 2008. In general groundwater concentrations in perimeter wells MW-1, MW-3, MW-5, MW-6, and deep well MW-7 were non-detectable; however, MTBE was detected and increased marginally in well MW-5, rising above the ESL. Concentrations in former tank basin wells MW-8 and MW-9 essentially stabilized, with slight increases or decreases, all below their respective drinking water ESLs. The concentration of TPH as gasoline in downgradient well MW-4 increased markedly rising from 180 to 810 Fg/L. The concentration of benzene and toluene also increased in well MW-4 over previous data; in the case of benzene returning marginally above the drinking water ESL of 1.0 Fg/L (to 2.1 Fg/L). As a result an additional round of groundwater monitoring was recommended. It was concluded that if concentrations essentially stabilized, case closure would be appropriate.

2.0 Groundwater Sample Collection and Analytical Methods

Groundwater samples were collected from plume core wells MW-4, MW-8, and MW-9 on December 8, 2008. Well MW-1 is in an area of landscaping, and could not be located at the time of the sampling. Depth to groundwater was measured in all wells located (MW-2 was destroyed during the remedial excavation). Groundwater samples were collected by Blaine in accordance with Blaine *Standard Operating Procedures* for groundwater gauging, purging, and sampling. A copy is included as Appendix A. In accordance with the recommendation contained in the previous quarterly reports, Remediation by Natural Attenuation (RNA) laboratory parameters were not collected this quarter; however, DO, ORP, and ferrous iron field measurements were collected as proxies for the RNA laboratory parameters. These RNA field parameters were collected using a peristaltic pump with tubing placed at a depth of 8 to 10 feet in order to obtain more representative samples of groundwater upon infiltration into the well. Temperature, pH, conductivity, and turbidity were measured initially, and then after removal of each purge volume. Groundwater depth measurements and details of the monitoring well purging and sampling are presented on the *Well Gauging Data* sheet and *Well Monitoring Data Sheets* generated by Blaine and included as Appendix B. Additional field forms included in Appendix B include the *Purge Drum Inventory Log* and the *Wellhead Inspection Checklist.* Depth-to-groundwater measurements are presented in Table I. All purge and decontamination water was temporarily stored in Department of Transportation-approved 55-gallon drums for future disposal by the owner.

The groundwater samples were analyzed by McCampbell Analytical, Inc., a California-certified laboratory, on a 5-day turnaround time. Groundwater samples from all wells were analyzed for TPH as gasoline by Modified EPA Method 8015C; BTEX and MTBE by EPA Method 8021B; and TPH as diesel with silica gel cleanup by Modified EPA Method 8015C. Tables II to VI summarize current and previous analytical results for groundwater samples. The laboratory analytical report for the current sampling event is included as Appendix C.

3.0 Groundwater Sample Analytical Results

3.1 Current Analytical Results

Plume core wells MW-4, MW-8, and MW-9 were analyzed for hydrocarbons during the current sampling event. As noted, well MW-2 was destroyed during the remedial excavation in November 2005, but was essentially replaced by excavation wells MW-8 and MW-9. Concentrations in each well essentially stabilized; however, concentrations generally rose slightly in most instances. All wells returned non-detectable concentrations of TPH as diesel with silica gel cleanup. In all wells benzene concentrations increased; in wells MW-8 and MW-9, it rose to slightly over the 1.0 Fg/L ESL for benzene (1.1 and 1.4 Fg/L, respectively), while in well MW-4 it remained slightly over the ESL (rising from 2.1 to 2.2 Fg/L). In well MW-8, TPH as gasoline decreased (86 to 76 Fg/L), while in well MW-9 it rose slightly above the 100 Fg/L ESL (to 110 Fg/L). In well MW-4, TPH as gasoline was essentially stable, but did rise from 810 to 860 Fg/L. A copy of the groundwater petroleum hydrocarbon analytical results can be found in Appendix C, and the results are summarized in Table II.

A graphical analysis of groundwater elevations and concentrations through time indicate that at well MW-2 / MW-9 (Figure 3) a significant downward trend is notable in all post-remedial (late 2005) contaminant concentrations. In well MW-4 (Figure 4), a rapid and large rise in all post-remedial contaminant concentrations from nondetectable levels is apparent as is the subsequent rapid decline. It appears the introduction of the ORC socks in September 2007 (after quarterly sampling) was beneficial as all concentrations again decreased. Since removal of the ORC socks in March 2008, concentrations have risen, particularly the concentration of TPH as gasoline. While additional oxygen would likely be beneficial, the relatively stable concentrations suggest a stable, mature plume that will continue to degrade and attenuate in the downgradient direction with time. Changes in groundwater elevation do not appear any more to have an effect on contaminant concentration in either well. Previous graphs for both wells using pre-remedial data (excluded for simplicity and to focus on more recent data) have indicated that there was a correlation between rising groundwater elevations and increasing contaminant concentrations. This cycle appears to have been broken after the remedial actions and continues this quarter (see Figures 3 and 4 from the *First Quarter 2007 Groundwater Monitoring Event)*.

3.2 Previous Analytical Results and Insights

The use of silica gel cleanup has provided some insight into the nature of hydrocarbons at the site. Silica gel cleanup is an additional analytical technique that removes polar hydrocarbons that are produced by the decomposition of vegetative matter native to a site (i.e. former grasslands or marshlands), as opposed to non-polar hydrocarbons that are found in fuel. Because the site was located in such a pre-development environment, it was judged appropriate to investigate use analytical technique at the site. During the First Quarter 2007, total non-silica gel cleanup TPH concentrations in wells MW-8 and MW-9 were roughly similar to the previous several quarters; however, the silica gel cleanup of the TPH as diesel analysis clearly suggested that the majority of the diesel-range hydrocarbons are vegetation derived. This also likely accounts for the majority of the footnotes previously provided by the laboratory for non-silica gel cleanup analysis (see footnotes f and j for wells MW-4, MW-8, and MW-9).

The laboratory has previously included a note that the hydrocarbon quantified as TPH as diesel in wells MW-2 and MW-5 was present in the requested quantitation range (diesel), but that it did not resemble the fuel pattern requested (footnotes b and c). Inclusion of silica gel cleanup technique in the analytical process for TPH as diesel analysis likely explains these notes. Previously, reviews of the chromatograms from these wells during the September 2002 and the September 2006 quarterly events indicated that the hydrocarbon detected in the diesel range in groundwater from well MW-2 was associated with the heavy end of gasoline (carbon range C4 to C12), which overlaps into the typical carbon range occupied by diesel (carbon range C10 to C22). During several previous quarters, the laboratory also included a note that oil range hydrocarbons were detected in the groundwater samples obtained from wells MW-8 and MW-9. McCampbell Analytical has previously stated (personal communication, October 20, 2006) that the chromatograms indicate that these could be either oil or asphalt related compounds. Those notes have not been present since analysis with silica gel cleanup has been used at the site, and is likely related to removal of non-fuel related oil-ranged compounds with the silica gel cleanup. Copies of the chromatograms reviewed during previous events were attached at the end of Appendix C in the associated quarterly reports.

Prior to the remedial excavation, only wells MW-2 and MW-4 consistently yielded concentrations of petroleum hydrocarbons. Groundwater from well MW-2 consistently contained the highest concentrations at the site, followed by well MW-4. Well MW-2 was destroyed under permit during the remedial excavation. During recent monitoring events the predominant location of contaminants has been in the vicinity of wells MW-4, MW-8, and MW-9; the latter two are former remedial excavation wells. The concentration of each analyte at these wells was significantly less than previously detected in destroyed well MW-2; however, they have remained elevated in well MW-4. Although hydrocarbon concentrations rose marginally in well MW-4 during the current quarter, in most recent events hydrocarbon concentrations in well MW-4 have decreased significantly. During quarterly events in 2006, hydrocarbon concentrations in groundwater in well MW-4 had been assumed to be a by-product of remedial excavation, wherein contaminants formerly sequestered in soil were mixed and released into groundwater in a one-time process. A close review of the analytical data from groundwater collected in well MW-4 during the September 2006 event suggested that this assumption might be incorrect in part. Multiple lines of evidence suggested that a different source of gasoline hydrocarbons could be reflected in the groundwater collected from well MW-4, or that a relatively modest fresh spill of gasoline may have occurred near well MW-4. These lines of evidence were summarized as follows:

- There was a large increase in gasoline and volatile (BTEX) hydrocarbon concentrations in groundwater collected from well MW-4 between September 2005 and March 2006. The relative stability of those concentrations over three quarters had suggested a remaining source as opposed to a transient spike in contaminant concentrations to be expected from a one-time event.

- The analytical laboratory began to flag the gasoline hydrocarbon in groundwater collected from well MW-4 as “unmodified or weakly modified gasoline” (i.e. fresh) in the March 2006 groundwater monitoring event.

- There appears to be no MTBE associated with this hydrocarbon, as would be anticipated with recent release of gasoline due to the required removal of this chemical from reformulated gasoline by December 31, 2003. This was confirmed during the current quarterly event.

- The apparent rapid decrease in the concentration of benzene in comparison to toluene and ethylbenzene would be typical of the chemical behavior (solubility) of these volatile compounds in groundwater.

- The concentration of TPH as diesel in wells MW-4, MW-8, and MW-9 has been very similar, while the concentration of TPH as gasoline in well MW-4 is significantly higher than in the other two wells. This has suggested the source of the TPH as diesel is the same (now more likely understood as a non-fuel related hydrocarbon related to vegetation), but that the source of TPH as gasoline is different between the wells.

- The ratio of TPH as gasoline to TPH as diesel in groundwater collected from well MW-4 has not matched the ratio seen previously in well MW-2, or more recently in wells MW-8 or MW-9. Additionally the ratios of the various volatile organic compounds (BTEX) to TPH as gasoline or to TPH as diesel do not match between wells MW-4 and MW-8 or MW-9. Finally the ratios between the various volatile organic compounds, within a well, are generally not the same (see for example the ratio of total xylenes to benzene in each of the wells).

Each of these lines of evidence is suggestive of a separate source for the hydrocarbons in groundwater samples collected from well MW-4. This evidence appears to indicate an undiscovered residual pocket of contamination outside the area of excavation or the introduction of fresh gasoline hydrocarbons in the vicinity of the well. One potential source may be surface spillage from vehicles parked in the vicinity of well MW-4 waiting for repair at the auto shop across Scarlett Court from the site. During site visits leading up to the remedial excavation, between 6 to 10 cars were parked adjacent to the fence in the vicinity of well MW-4 on a daily basis.

3.3 Previous Bacteria Enumeration Groundwater Sample Analytical Results

Total heterotrophic and hydrocarbon-degrading aerobic bacteria enumeration analysis of groundwater samples from wells MW-1, MW-4, and MW-5 was initially conducted during the First Quarter 2007 sampling event (Table VI). Groundwater samples for aerobic bacteria enumeration were submitted to CytoCulture in Point Richmond, California. As recommended by CytoCulture, groundwater from upgradient, excavation area, and downgradient wells (MW-1, MW-4, and MW-3, respectively) was intended to be sampled; however, Blaine Tech inadvertently sampled well MW-5 in place of MW-3. As a consequence, Blaine Tech returned to the site and well MW-3 was sampled on April 9, 2007.

Bacteria populations for both hydrocarbon degrading and total heterotrophic bacteria ranged from the lower end in upgradient well MW-1 and downgradient well MW-3, to a high concentration in plume core well MW-4. Groundwater from well MW-5 contained intermediate bacterial populations. Groundwater from upgradient well MW-1 contained a low of 80 colony forming units per milliliter (cfu/ml) hydrocarbon degraders, and 400 cfu/ml total heterotrophic bacteria, while well MW-4 contained a high of 5,000 cfu/ml hydrocarbon degraders and 10,000 cfu/ml total heterotrophic bacteria. According to CytoCulture (personal communication, April 2007), bacteria populations in well MW-1 and MW-3 are generally considered low, while populations in MW-4 are on the high side of average and bacterial populations in well MW-5 (400 and 1,000 cfu/ml, respectively) are considered low-average. CytoCulture also reports that, because the enumeration results are separate plate counts, hydrocarbon degraders can be present at a higher population than total heterotrophs, at low population levels.

Based on these data, a hydrocarbon-degrading bacterial population has grown and is present in groundwater beneath the site. In particular, the relative percentages of hydrocarbon-degrading to total heterotrophic bacteria at each well are revealing. The percentages indicated that hydrocarbon degraders had preferentially grown to approximately 50% of the total bacterial population in plume core well MW-4, to 40% in plume lateral well MW-5, and approximately 20% in upgradient well MW-1. While at low population levels in downgradient well MW-3, hydrocarbon degrading bacterial populations are present at a higher percentage (233%) than total heterotrophs, which may suggest that the hydrocarbon degrading population has been preferentially influenced by upgradient events. In total, these results suggest that the introduction of oxygen into the local vicinity has been, or can be, beneficial.

4.0 Intrinsic Bioremediation Groundwater Sample Field Results

Intrinsic bioremediation or RNA laboratory analytical parameters were not collected during the current quarter; however, field RNA parameters were collected. Analytical results for previous groundwater monitoring events are presented on Tables IV and V.

Microbial use of petroleum hydrocarbons as a food source is affected by the concentration of a number of chemical compounds dissolved in groundwater at a site. RNA monitoring parameters were established by research conducted by the Air Force Center for Environmental Excellence. The research results were used to develop a technical protocol for documenting RNA in groundwater at petroleum hydrocarbon release sites (Wiedemeier, Wilson, Kampbell, Miller and Hansen, 1995, *Technical Protocol for Implementing the Intrinsic Remediation with Long Term Monitoring for Natural Attenuation of Fuel Contamination Dissolved in Groundwater, Volumes I and II,* U.S. Air Force Center for Environmental Excellence, Brooks Air Force Base, Texas). The protocol focuses on documenting both aerobic and anaerobic degradation processes whereby indigenous subsurface bacteria use various dissolved electron acceptors to degrade dissolved petroleum hydrocarbons.

In the order of preference, the following electron acceptors and metabolic by-products are used and generated, respectively, by the subsurface microbes (aerobes, Mn – Fe reducers, and methanogens) to degrade petroleum hydrocarbons: oxygen to carbon dioxide, nitrate to nitrogen, insoluble manganese (Mn^{4+}) to soluble manganese (Mn^{2+}), insoluble ferric iron (Fe^{3+}) to soluble ferrous iron (Fe^{2+}), sulfate to hydrogen sulfide, and carbon dioxide to methane. With the exception of oxygen, the use of all other electron acceptor pathways by microbes indicates increasingly anaerobic degradation. Aerobic degradation takes place first, and oxygen inhibits anaerobic degradation. As oxygen is consumed and an anoxic zone develops, the Mn – Fe reducers and methanogens begin to grow and release dissolved Mn, dissolved Fe, and methane (Commission on Geosciences, Environment and Resources, *Natural Attenuation for Groundwater Remediation*, 2000). Investigation of each of these electron acceptor pathways was conducted in all wells at the site as part of the evaluation of RNA chemical parameters. Analytical results collected prior to remedial excavation generally documented oxygen and nutrient (nitrate) limited RNA at the site.

Microbial use of petroleum hydrocarbons as a food source is principally affected by the concentration of dissolved oxygen (DO) in the groundwater present at a site; it is the preferred electron acceptor for the biodegradation of hydrocarbons. This quarter DO concentrations in wells MW-8 and MW-9 decreased notably, whereas in well MW-4 it rose notably. Decreases in DO concentrations are typical at the end of a dry season, prior to replenishment by infiltrating rainwater; thus the concentrations in wells MW-8 and MW-9, are judged appropriate for the time of year, and for the likely oxygen demand in groundwater at these locations. The concentration of DO in well MW-4 is judged as suspect due to the notable increase in light of seasonal fluctuations and oxygen demand at the well.

ORP is another measure of the supply and use of oxygen at a site. The higher the reading in millivolts (mV), the more oxygenated the subsurface environment is, and the lower the readings, the more anaerobic or reducing the subsurface environment is. In all wells ORP values increased from negative to slightly positive readings. In light of the increased concentration of DO in well MW-4 the ORP value in the well would be considered typical; however, the slight increases in wells MW-8 and MW-9 in light of the decreased DO values suggest all ORP values may not be useful this quarter.

Ferrous iron was also investigated during the sampling event. During the Third Quarter 2007 event, all wells appeared to have detectable ferrous iron. After installation of the ORC socks, none of the wells, including the plume core wells, contained ferrous iron. While it was unusual for all wells to contain ferrous iron in the September 2007 event prior to ORC sock installation, the lack of ferrous iron in well MW-4 in particular over the past several quarters strongly suggests that the addition of the ORC socks, and thus generation of additional DO, was beneficial. During the current quarter ferrous iron was not present in any well. Increased concentrations of DO and increased ORP values would positively impact the concentration of ferrous iron in the well (tending to decrease the concentration).

On the whole intrinsic bioremediation field parameters did not provide significant useful insight into natural bio-remediation of the residual contaminants this quarter.

5.0 Groundwater Flow Data

Resurveyed top-of-casing (TOC) elevations were used to construct a groundwater gradient map (Figure 2). The groundwater level from deep well MW-7 was not used to construct the gradient map as the elevation was sufficiently different. Well MW-7 is set in a deeper water-bearing zone but on occasion has contained groundwater elevations very similar to other wells. This suggests that the well could be set in a deeper portion of the same water-bearing zone at the site.

Groundwater depths on December 8, 2008, ranged between 4.26 to 5.47 feet below the top of the casings. On average, the groundwater elevation decreased by approximately 0.25 feet at the site since the September 2008 monitoring and sampling event. Based on these data, the direction of groundwater flow appears to be generally towards the south to southwest. Historically, groundwater has generally flowed to the south to southwest at the site (see for example the Rose Diagram of historic groundwater flow directions included in the *Additional Site Investigation Data Transmittal*); however, in June 2005 and November 1993, groundwater was documented to have flowed to the east. The average groundwater gradient ranges between 0.004 feet/foot to the south and 0.020 feet/foot to the southwest for this monitoring event.

6.0 Conclusions and Recommendations

The following summary and conclusions were generated from the available data discussed above:

- Plume core wells MW-4, MW-8, and MW-9 were analyzed for TPH as gasoline, TPH as diesel (with silica gel cleanup), BTEX and MTBE during the current sampling event.
- Groundwater levels were collected from all wells except well MW-1. Well MW-1 is in an area of landscaping, and could not be located at the time of the sampling.
- All concentrations in each well roughly stabilized; however, concentrations generally rose slightly in most instances.
- All wells returned non-detectable concentrations of TPH as diesel, with silica gel cleanup.
- In all wells benzene concentrations increased; in wells MW-8 and MW-9 it rose to slightly over the drinking water ESL for benzene, while in well MW-4 it remained slightly over the ESL.
- In well MW-8 TPH as gasoline remained below the drinking water ESL and also decreased, while in well MW-9 it rose slightly above the ESL. In well MW-4 TPH as gasoline was essentially stable, but did rise.
- On the whole intrinsic bioremediation field parameters did not provide significant useful insight into natural bio-remediation of the residual contaminants this quarter.
- The direction of groundwater flow appears to be generally towards the south to southwest. The average groundwater gradient ranges between 0.004 feet/foot to the south and 0.020 feet/foot to the southwest for this monitoring event.

The following recommendations were generated from the available data discussed above:

- Although modest rising contaminant concentrations were present this quarter in plume core wells, the concentrations appear to be stabilizing; a case closure summary should be submitted to ACDEH for action.
- A copy of this report should be forwarded to:

  Mr. Paresh Khatri
  Alameda County Department of Environmental Health
  1131 Harbor Bay Parkway, Suite 250
  Alameda, CA 94502-6577

Tables

Table I, Summary of Groundwater Elevation Measurements BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-1	11/27/1991	326.61	4.82	321.79
	9/30/1992		5.34	321.27
	4/7/1994		3.38	323.23
	8/12/1994		4.23	322.38
	11/29/1994		3.44	323.17
	3/21/1995		1.00	325.61
	5/22/1995		2.20	324.41
	8/24/1995		3.45	323.16
	2/12/1996		1.95	324.66
	2/5/1997		Data	Missing
	8/6/1997		3.60	323.01
	6/6/02*		2.89	323.72
	9/23/2002		3.48	323.13
	12/13/2002		3.18	323.43
	12/14/2004		2.76	323.85
	3/23/2005		1.14	325.47
	6/22/2005	329.41	2.58	326.83
	7/18/2005		2.21	327.20
	9/6/2005		3.30	326.11
	3/2/2006		2.32	327.09
	6/12/2006		3.61	325.80
	9/28/2006		3.34 [1]	326.07
	3/20/2007	331.23 [3]	4.60	326.63
	6/15/2007		NS	NS
	9/27/2007		5.14	326.09
	12/18/2007		4.55	326.68
	3/4/2008		3.96	327.27
	9/2/2008		4.83	326.40
	12/8/2008		NS	NS

Table I, Summary of Groundwater Elevation Measurements BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-2	11/27/1991	326.67	4.92	321.75
	9/30/1992		5.42	321.25
	4/7/1994		3.48	323.19
	8/12/1994		4.18	322.49
	11/29/1994		3.76	322.91
	3/21/1995		1.25	325.42
	5/22/1995		2.20	324.47
	8/24/1995		3.57	323.10
	2/12/1996		2.60	324.07
	2/5/1997		1.72	324.95
	8/6/1997		3.72	322.95
	6/6/02*		3.46	323.21
	9/23/2002		4.14	322.53
	12/13/2002		3.45	323.22
	12/14/2004		2.96	323.71
	3/23/2005		1.83	324.84
	6/22/2005	329.46	3.82	325.64
	7/18/2005		3.55	325.91
	9/6/2005		3.70	325.76
	3/2/2006		Destroyed	Destroyed
	6/12/2006		Destroyed	Destroyed
	9/28/2006		Destroyed	Destroyed
	3/20/2007		Destroyed	Destroyed
	6/15/2007		Destroyed	Destroyed
	9/27/2007		Destroyed	Destroyed
	12/18/2007		Destroyed	Destroyed
	3/4/2008		Destroyed	Destroyed
	9/2/2008		Destroyed	Destroyed
	12/8/2008		Destroyed	Destroyed

Table I, Summary of Groundwater Elevation Measurements BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-3	11/27/1991	326.58	4.96	321.62
	9/30/1992		5.46	321.12
	4/7/1994		3.66	322.92
	8/12/1994		4.37	322.21
	11/29/1994		3.60	322.98
	3/21/1995		1.62	324.96
	5/22/1995		2.73	323.85
	8/24/1995		3.76	322.82
	2/12/1996		2.45	324.13
	2/5/1997		1.99	324.59
	8/6/1997		3.83	322.75
	6/6/02*		3.66	322.92
	9/23/2002		4.66	321.92
	12/13/2002		3.66	322.92
	12/14/2004		3.52	323.06
	3/23/2005		1.83	324.75
	6/22/2005	329.37	3.99	325.38
	7/18/2005		3.60	322.98
	9/6/2005		4.42	324.95
	3/2/2006		2.50	326.87
	6/12/2006		3.52	325.85
	9/28/2006		3.88	325.49
	3/20/2007	330.69 [3]	4.40	326.29
	6/15/2007		4.88	325.81
	9/27/2007		4.93	325.76
	12/18/2007		4.57	326.12
	3/4/2008		3.95	326.74
	9/2/2008		4.94	325.75
	12/8/2008		5.13	325.56

Table I, Summary of Groundwater Elevation Measurements BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-4	11/27/1991	326.92	5.26	321.66
	9/30/1992		5.78	321.14
	4/7/1994		4.02	322.90
	8/12/1994		4.81	322.11
	11/29/1994		4.39	322.53
	3/21/1995		1.80	325.12
	5/22/1995		3.07	323.85
	8/24/1995		4.09	322.83
	2/12/1996		2.80	324.12
	2/5/1997		2.32	324.60
	8/6/1997		4.14	322.78
	6/6/02*		3.76	323.16
	9/23/2002		4.14	322.78
	12/13/2002		3.90	323.02
	12/14/2004		3.68	323.24
	3/23/2005		1.93	324.99
	6/22/2005	329.70	3.65	326.05
	7/18/2005		3.69	323.23
	9/6/2005		3.97	325.73
	3/2/2006		2.90	326.80
	6/12/2006		3.88	325.82
	9/28/2006		4.23	325.47
	3/20/2007	330.10 [3]	3.91	326.19
	6/15/2007		4.35	325.75
	9/27/2007		4.39	325.71
	12/18/2007		3.55	326.55
	3/4/2008		3.33	326.77
	9/2/2008		4.38	325.72
	12/8/2008		4.50	325.60

Table I, Summary of Groundwater Elevation Measurements BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-5	3/21/1995	326.50	2.10	324.40
	5/22/1995		2.93	323.57
	8/24/1995		1.57	324.93
	2/12/1996		2.78	323.72
	2/5/1997		2.24	324.26
	8/6/1997		3.02	323.48
	6/6/02*	**	2.79	NM
	9/23/2002		3.07	NM
	12/13/2002		3.14	NM
	12/14/2004		2.92	NM
	3/23/2005		2.39	NM
	6/22/2005	329.16	2.99	326.17
	7/18/2005		3.39	325.77
	9/6/2005		3.07	326.09
	3/2/2006		2.74	326.42
	6/12/2006		3.36	325.80
	9/28/2006		3.33	325.83
	3/20/2007	331.26 [3]	4.80	326.46
	6/15/2007		5.31	325.95
	9/27/2007		5.33	325.93
	12/18/2007		5.30	325.96
	3/4/2008		4.68	326.58
	9/2/2008		5.14	326.12
	12/8/2008		5.47	325.79

Table I, Summary of Groundwater Elevation Measurements
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-6	3/21/1995	327.23	3.24	323.99
	5/22/1995		4.70	322.53
	8/24/1995		4.95	322.28
	2/12/1996		4.50	322.73
	2/5/1997		3.68	323.55
	8/6/1997		4.79	322.44
	6/6/02*		4.81	322.42
	9/23/2002	327.23	5.10	322.13
	12/13/2002		4.88	322.35
	12/14/2004		4.61	322.62
	3/23/2005		3.40	323.83
	6/22/2005	330.02	4.72	325.30
	7/18/2005		2.65	327.37
	9/6/2005		4.98	325.04
	3/2/2006		3.89	326.13
	6/12/2006		4.73	325.29
	9/28/2006		4.85	325.17
	3/20/2007	329.55 [3]	3.94	325.61
	6/15/2007		4.16	325.39
	9/27/2007		3.92	325.63
	12/18/2007		3.81	325.74
	3/4/2008		3.65	325.90
	9/2/2008		4.02	325.53
	12/8/2008		4.26	325.29

Table I, Summary of Groundwater Elevation Measurements BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-7	7/18/2005	**	6.38	---
	9/6/2005		6.78	---
	3/2/2006	330.25	3.33	326.92
	6/12/2006		4.18	326.07
	9/28/2006		4.52	325.73
	3/20/2007	330.17 [3]	3.74	326.43
	6/15/2007		4.24	325.93
	9/27/2007		4.33	325.84
	12/18/2007		3.70	326.47
	3/4/2008		3.15	327.02
	9/2/2008		4.06	326.11
	12/8/2008		4.41	325.76
MW-8	3/2/2006	328.93	1.54	327.39
	6/12/2006		3.69	325.24
	9/28/2006		3.10	325.83
	3/20/2007	330.51 [3]	4.16	326.35
	6/15/2007		4.62	325.89
	9/27/2007		4.51	326.00
	12/18/2007		3.55	326.96
	3/4/2008		3.69	326.82
	9/2/2008		4.41	326.10
	12/8/2008		4.61	325.90

Table I, Summary of Groundwater Elevation Measurements BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California				
Well ID	Date	TOC Elevation (feet)	Depth to Water (feet)	Water Surface Elevation (feet)
MW-9	3/2/2006	328.67	1.54	327.13
	6/12/2006		3.68	324.99
	9/28/2006		3.08	325.59
	3/20/2007	330.74 [3]	4.37	326.37
	6/15/2007		4.83	325.91
	9/27/2007		4.71	326.03
	12/18/2007		3.84	326.90
	3/4/2008		3.95	326.79
	9/2/2008		4.65	326.09
	12/8/2008		4.91	325.83

Notes:

TOC = Top of Casing
* = Initial data set collected under direction of Blymyer Engineers, Inc.
** = Surveyed elevation not available
[1] = Sampling form indicates casing is bent.
NM = Not measured
NS = Not sampled
[1] = Resurveyed on April 13, 2005 by CSS Environmental Services, Inc.
[2] = Surveyed on February 7, 2006 by CSS Environmental Services, Inc.
[3] = Surveyed on March 19, 2007 by CSS Environmental Services, Inc.
Elevations in feet above mean sea level

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California									
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)			EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	TPH as Diesel	TPH as Diesel with Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RWQCB ESLs; Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water resource)		100	100	100	1	40	30	20	5
MW-1	11/27/1991	<50	NA	NA	<0.3	<0.3	<0.3	<0.3	NA
	9/30/1992	<50	NA	NA	<0.3	<0.3	<0.3	<0.3	NA
	4/7/1994	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	NA
	8/12/1994	<50	NA	NA	**1**	**1**	<0.3	<2	NA
	11/29/1994	<50	NA	NA	<0.5	<0.5	<0.5	<2	NA
	3/21/1995	<50	NA	NA	<0.5	<0.5	<0.5	<2	NA
	5/22/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	8/24/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	2/12/1996	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	6/6/02*	NA	NA	NA	NA	NA	NA	NA	NA
	9/23/2002	NA	NA	NA	NA	NA	NA	NA	NA
	12/13/2002	NA	NA	NA	NA	NA	NA	NA	NA
	12/14/2004	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	3/23/2005	NA	NA	NA	NA	NA	NA	NA	NA
	6/22/2005	NA	NA	NA	NA	NA	NA	NA	NA
	9/6/2005	NA	NA	NA	NA	NA	NA	NA	NA
	3/2/2006	**62** [k]	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	6/1/2006	NA	NA	NA	NA	NA	NA	NA	NA
	9/28/2006	**78** [k]	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	3/20/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/15/2007	NS	NS	NS	NS	NS	NS	NS	NS
	9/27/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	12/18/2007	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/2008	NS	NS	NS	NS	NS	NS	NS	NS
	9/2/2008	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	12/8/2008	NS	NS	NS	NS	NS	NS	NS	NS

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Modified EPA Method 8015 (µg/L)			EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	TPH as Diesel	TPH as Diesel with Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RWQCB ESLs; Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water resource)		100	100	100	1	40	30	20	5
MW-2	11/27/1991	NA	**170,000**	NA	**24,000**	**13,000**	**3,500**	**16,000**	NA
	9/30/1992	NA	**120,000**	NA	**24,000**	**15,000**	**3,800**	**17,000**	NA
	4/7/1994	NA	**120,000**	NA	**21,000**	**14,000**	**4,300**	**21,000**	NA
	8/12/1994	NA	**140,000**	NA	**17,000**	**10,000**	**4,300**	**18,000**	NA
	11/29/1994	NA	**90,000**	NA	**17,000**	**7,500**	**3,400**	**15,000**	NA
	3/21/1995	NA	**83,000**	NA	**17,000**	**8,000**	**3,800**	**17,000**	NA
	5/22/1995	NA	**82,000**	NA	**14,000**	**6,000**	**4,000**	**16,000**	NA
	8/24/1995	NA	**86,000**	NA	**13,000**	**8,100**	**3,700**	**16,000**	NA
	2/12/1996	NA	**78,000**	NA	**15,000**	**8,100**	**4,200**	**18,000**	NA
	2/5/1997	NA	**58,000**	NA	**11,000**	**6,900**	**3,500**	**15,000**	**480**
	8/6/1997	NA	**66,000**	NA	**7,000**	**9,200**	**3,500**	**16,000**	<500
	6/6/02*	NA	**25,000** [a]	NA	**2,900**	**50**	**2,700**	**2,200**	<250
	9/23/2002	**4,300** [c]	**14,000** [b]	NA	**2,700**	**81**	**2,100**	**1,800**	<250
	12/13/2002	**4,000** [c]	**26,900**	NA	**1,120**	**91**	**1,480**	**2,370**	**197 d**
	12/14/2004	**7,600** [f, g]	**21,000** [e]	NA	**1,700**	**120**	**1,600**	**2,400**	<60
	3/23/2005	**15,000** [f, g, i]	**27,000** [e i]	NA	**1,400**	**170**	**1,700**	**2,500**	<170
	6/22/2005	**1,200** [g]	**5,800** [e]	NA	**53**	**46**	**570**	**58**	<50
	9/6/2005	**4,900** [f, g, j]	**14,000** [e]	NA	**1,000**	**40**	**1,500**	**680**	<100
	3/2/2006	NS	NS	NS	NS	NS	NS	NS	NS
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS
	9/28/2006	NS	NS	NS	NS	NS	NS	NS	NS
	3/20/2007	NS	NS	NS	NS	NS	NS	NS	NS
	6/15/2007	NS	NS	NS	NS	NS	NS	NS	NS
	9/27/2007	NS	NS	NS	NS	NS	NS	NS	NS
	12/18/2007	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/2008	NS	NS	NS	NS	NS	NS	NS	NS
	9/2/2008	NS	NS	NS	NS	NS	NS	NS	NS
	12/8/2008	NS	NS	NS	NS	NS	NS	NS	NS

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California									
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)			EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	TPH as Diesel	TPH as Diesel with Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RWQCB ESLs; Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water resource)		100	100	100	1	40	30	20	5
MW-3	11/27/1991	NA	<50	NA	<0.3	<0.3	<0.3	<0.3	NA
	9/30/1992	NA	<50	NA	<0.3	<0.3	<0.3	<0.3	NA
	4/7/1994	NA	<50	NA	**2.5**	**5.5**	**0.9**	**5.1**	NA
	8/12/1994	NA	<50	NA	<0.5	<0.5	<0.3	<2	NA
	11/29/1994	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	3/21/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	5/22/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	8/24/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	2/12/1996	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	2/5/1997	NA	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	6/6/02*	NA	NA	NA	NA	NA	NA	NA	NA
	9/23/2002	NA	NA	NA	NA	NA	NA	NA	NA
	12/13/2002	NA	NA	NA	NA	NA	NA	NA	NA
	12/14/2004	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	3/23/2005	NA	NA	NA	NA	NA	NA	NA	NA
	6/22/2005	NA	NA	NA	NA	NA	NA	NA	NA
	9/6/2005	NA	NA	NA	NA	NA	NA	NA	NA
	3/2/2006	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	6/1/2006	NA	NA	NA	NA	NA	NA	NA	NA
	9/27/2006	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	3/20/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/15/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	9/27/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	12/18/2007	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/2008	NS	NS	NS	NS	NS	NS	NS	NS
	9/2/2008	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	12/8/2008	NS	NS	NS	NS	NS	NS	NS	NS

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California										
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)			EPA Method 8020 or 8021B (µg/L)					
		TPH as Gasoline	TPH as Diesel	TPH as Diesel with Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RWQCB ESLs; Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water resource)		100	100	100	1	40	30	20	5
MW-4	11/27/1991	NA	**11,000**	NA	**100**	**0.7**	**250**	**330**	NA
	9/30/1992	NA	**380**	NA	**3.5**	**2.4**	**8.9**	**3.4**	NA
	4/7/1994	NA	**1,100**	NA	**61**	**5.5**	**17**	**12**	NA
	8/12/1994	NA	**1,000**	NA	**3**	**1**	**8**	**4**	NA
	11/29/1994	NA	**1,100**	NA	**2**	<0.5	**10**	**6**	NA
	3/21/1995	NA	**1,400**	NA	**200**	**5**	**66**	**18**	NA
	5/22/1995	NA	**1,200**	NA	**60**	**1**	**12**	**8**	NA
	8/24/1995	NA	**400**	NA	**1**	<0.5	**1**	<2	NA
	2/12/1996	NA	**1,500**	NA	**130**	<0.5	**120**	**51**	NA
	2/5/1997	NA	**1,200**	NA	**250**	**4.9**	**94**	**12**	**16**
	8/6/1997	NA	**330**	NA	**1.5**	<0.5	<0.5	<0.5	<5.0
	6/6/02*	NA	<50	NA	**1.7**	<0.5	<0.5	<0.5	<2.5
	9/23/2002	<48	<50	NA	<0.5	**1.3**	<0.5	<0.5	<2.5
	12/13/2002	**86** [c]	<50	NA	<0.5	<0.5	<0.5	<1.5	<0.5
	12/14/2004	<50	**95** [h]	NA	**2.6**	<0.5	<0.5	<0.5	<5.0
	3/23/2005	<50	**120** [h]	NA	<0.5	**5**	<0.5	<0.5	<5.0
	6/22/2005	<50	**180** [e]	NA	**1.7**	**7.5**	<0.5	<0.5	<5.0
	9/6/2005	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	3/2/2006	**1,600** [e]	**220** [g]	NA	**47**	**4.1**	**1.6**	**19**	<20
	6/1/2006	**1,000** [e]	**250** [f, g]	NA	**22**	**2.8**	**3.9**	**0.59**	<5.0
	9/27/2006	**1,400** [e]	**220** [f, g]	NA	**8.5**	**7.3**	**2.4**	<0.5	<15
	3/20/2007	**630** [e, h]	**130** [f, g]	**77** [g]	**4.8**	**12**	<0.5	<0.5	<5.0
	6/15/2007	**440** [e, h]	NA	<50	**2.1**	**7.8**	<0.5	<0.5	<5.0
	9/27/2007	**450** [e, h]	NA	**84** [g]	**2.4**	**6.2**	<0.5	<0.5	<5.0
	12/18/2007	**330** [e]	NA	<50	**1.4**	**7.1**	<0.5	<0.5	<35
	3/4/2008	**180** [e]	NA	<50	**0.60**	**3.7**	<0.5	<0.5	<5.0
	9/2/2008	**810** [e]	NA	<50	**2.1**	**13**	<0.5	<0.5	<5.0
	12/8/2008	**860** [e]	NA	<50	**2.2**	**16**	<0.5	**0.83**	<5.0

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Modified EPA Method 8015 (µg/L)			EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	TPH as Diesel	TPH as Diesel with Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RWQCB ESLs; Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water resource)		100	100	100	1	40	30	20	5
MW-5	3/21/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	5/22/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	8/24/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	2/12/1996	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	2/5/1997	NA	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	6/6/02*	NA	NA	NA	NA	NA	NA	NA	NA
	9/23/2002	**310** [c]	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.5
	12/13/2002	**97** [c]	<50	NA	<0.5	<0.5	<0.5	<1.5	**0.720** [d]
	12/14/2004	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	**12**
	3/23/2005	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	**23**
	6/22/2005	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	**31**
	9/6/2005	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	**32**
	3/2/2006	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	**30**
	6/1/2006	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	**44**
	9/28/2006	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	**48**
	3/20/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	**54**
	6/15/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	**38**
	9/27/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	**36**
	12/18/2007	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/2008	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	9/2/2008	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	**23**
	12/8/2008	NS	NS	NS	NS	NS	NS	NS	NS

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California										
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)			EPA Method 8020 or 8021B (µg/L)					
		TPH as Gasoline	TPH as Diesel	TPH as Diesel with Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RWQCB ESLs; Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water resource)		100	100	100	1	40	30	20	5
MW-6	3/21/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	5/22/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	8/24/1995	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	2/12/1996	NA	<50	NA	<0.5	<0.5	<0.5	<2	NA
	2/5/1997	NA	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	6/6/02*	NA	NA	NA	NA	NA	NA	NA	NA
	9/23/2002	NA	NA	NA	NA	NA	NA	NA	NA
	12/13/2002	NA	NA	NA	NA	NA	NA	NA	NA
	12/14/2004	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	3/23/2005	NA	NA	NA	NA	NA	NA	NA	NA
	6/22/2005	NA	NA	NA	NA	NA	NA	NA	NA
	9/6/2005	NA	NA	NA	NA	NA	NA	NA	NA
	3/2/2006	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	6/1/2006	**50** [e]	<50	NA	**0.84**	<0.5	<0.5	<0.5	<5.0
	9/27/2006	<50	**61** [f]	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	3/20/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/15/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	9/27/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	12/18/2007	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/2008	NS	NS	NS	NS	NS	NS	NS	NS
	9/2/2008	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	12/8/2008	NS	NS	NS	NS	NS	NS	NS	NS

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Modified EPA Method 8015 (µg/L)			EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	TPH as Diesel	TPH as Diesel with Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RWQCB ESLs; Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water resource)		100	100	100	1	40	30	20	5
MW-7	7/18/2005	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	9/6/2005	<50	<50	NA	**0.7**	<0.5	**1.2**	<0.5	<5.0
	3/2/2006	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	6/1/2006	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	9/27/2006	<50	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	3/20/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/15/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	9/27/2007	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	12/18/2007	NS	NS	NS	NS	NS	NS	NS	NS
	3/4/2008	NS	NS	NS	NS	NS	NS	NS	NS
	9/2/2008	<50	NA	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	12/8/2008	NS	NS	NS	NS	NS	NS	NS	NS
MW-8	3/2/2006	**590** [e]	**550** [f g]	NA	**6.2**	**2.7**	**0.67**	**21**	<5.0
	6/1/2006	**97** [k]	**250** [f, j]	NA	<0.5	<0.5	<0.5	**1.1**	<5.0
	9/28/2006	**150** [e]	**300** [f, g, j]	NA	**3**	**1.2**	**1.1**	**7.2**	<5.0
	3/20/2007	**140** [e]	**440** [f, g]	**61** [g]	**1.2**	**0.68**	**0.55**	**2.5**	<5.0
	6/15/2007	**140** [e]	NA	**98** [g]	**1.6**	**0.81**	**0.76**	**2.8**	<5.0
	9/27/2007	**140** [e]	NA	**53** [g]	**0.66**	**0.55**	<0.5	**2.3**	<5.0
	12/18/2007	**96** [e]	NA	**94** [f, g]	**1.1**	<0.5	**0.77**	**2.1**	<5.0
	3/4/2008	**95** [e]	NA	<50	**1.1**	<0.5	**0.61**	**1.3**	<5.0
	9/2/2008	**86** [e]	NA	<50	**0.68**	<0.5	<0.5	**1.3**	<5.0
	12/8/2008	**76** [e]	NA	<50	**1.1**	<0.5	2	**2.2**	<5.0

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California										
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)			EPA Method 8020 or 8021B (µg/L)					
		TPH as Gasoline	TPH as Diesel	TPH as Diesel with Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RWQCB ESLs; Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water resource)		100	100	100	1	40	30	20	5
MW-9	3/2/2006	**280** [e]	**430** [f g]	NA	**2.6**	**0.96**	**1**	**10**	<5.0
	6/1/2006	**680** [k]	**180** [f, j]	NA	**0.85**	<0.5	**1.9**	**3.9**	<5.0
	9/28/2006	**150** [e]	**530** [f, g, j]	NA	**0.95**	**0.69**	**0.87**	**6.7**	<5.0
	3/20/2007	**120** [e]	NA	<50	**0.88**	**0.70**	<0.5	**1.8**	<5.0
	6/15/2007	**120** [e]	NA	**62** [g]	**1.3**	**0.84**	**1.1**	**3**	<5.0
	9/27/2007	**180** [e]	NA	**92** [g]	**1.2**	**0.61**	**1.7**	**2.1**	<5.0
	12/18/2007	**130** [e]	NA	**97** [f, g]	**1.5**	**0.58**	**1.1**	**1.9**	<5.0
	3/4/2008	**91** [e]	NA	<50	**2.0**	<0.5	**1.1**	**1.9**	<5.0
	9/2/2008	**93** [e]	NA	<50	**0.68**	<0.5	**1.2**	**3.0**	<5.0
	12/8/2008	**110** [e]	NA	<50	**1.4**	<0.5	**2.0**	**2.2**	<5.0

Table II, Summary of Groundwater Sample Hydrocarbon Analytical Results BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California									
Well ID	Sample Date	Modified EPA Method 8015 (µg/L)			EPA Method 8020 or 8021B (µg/L)				
		TPH as Gasoline	TPH as Diesel	TPH as Diesel with Silica Gel Cleanup	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
RWQCB ESLs; Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water resource)		100	100	100	1	40	30	20	5

Notes: ug/L = micrograms per liter
TPH = Total Petroleum Hydrocarbons
MTBE = Methyl *tert* -Butyl Ether
RWQCB = California Regional Water Quality Control Board, San Francisco Bay Region
ESL = Environmental Screening Level
ND = Not Detected (method reporting limit not known)
NA = Not Analyzed
NS = Not Sampled
<*x* = Analyte not detected at reporting limit *x*
* = Initial data set collected under direction of Blymyer Engineers, Inc.
a = Laboratory note indicates the result is an unidentified hydrocarbon within the C6 to C10 range.
b = Laboratory note indicates the result is gasoline within the C6 to C10 range.
c = Laboratory note indicates the result is a hydrocarbon within the diesel range but that it does not represent the pattern of the requested fuel.
d = MTBE analysis by EPA Method 8260B yielded a non-detectable concentration at a detection
e = Laboratory note indicates that unmodified or weakly modified gasoline is significant.
f = Laboratory note indicates that diesel range compounds are significant, with no recognizable pattern.
g = Laboratory note indicates that gasoline range compounds are significant.
h = Laboratory note indicates that no recognizable pattern is present.
i = Laboratory note indicates that a lighter than water immiscible sheen / product is present.
j = Laboratory note indicates that oil range compounds are significant.
k = Laboratory note indicates one to a few isolated non-target peaks are present.

Bold results indicate detectable analyte concentrations.
Note: Shaded cell indicates that detected concentration exceeds ESL

Table III, Summary of Groundwater Sample Fuel Additive Analytical Results BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California										
Well ID	Sample Date	EPA Method 8260B (ug/L)								
		TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol	ETBE	Methanol	MTBE
RWQCB Groundwater ESLs Table F-1a: Groundwater Screening Levels (groundwater IS a current or potential drinking water source)		NV	12	0.05	0.5	NV	50,000	NV	NV	5.0
MW-2	12/13/2002	<0.50	<2,000	NA	NA	<0.50	NA	<0.50	NA	<0.50
	3/23/2005	<5.0	<50	<5.0	**5.4**	<5.0	<500	<5.0	<5,000	<5.0
MW-4	3/20/2007	<0.5	<5.0	NA	NA	<0.5	NA	<0.5	NA	<0.5
MW-5	12/14/2004	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	**12**
	3/2/2006	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	**28***
	6/1/2006	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	**40***
	9/28/2006	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	**48**
	3/20/2007	<1.0	<10	NA	NA	<1.0	NA	<1.0	NA	**57***

Notes:
TAME = Methyl tert-Amyl Ether
TBA = tert-Butyl Alcohol
EDB = 1,2-Dibromoethane
1,2-DCA = 1,2-Dichloroethane
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
MTBE = Methly tert-butyl ether
(µg/L) = Micrograms per liter
NA = Not analyzed
NV = No value
* = Differs from result yielded by EPA 8021B

Bold results indicate detectable analyte concentrations.
Note: Shaded cell indicates that detected concentration exceeds ESL

Table IV, Summary of Groundwater Intrinsic Bioremediation Field Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Field Meter	Field Meter	Field Test Kit	Field Meter	Field Meter
		Dissoved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (Fe 2+)	Field Temperature (^oC or ^oF)	Field pH pH units
MW-1	12/14/2004	0.2 / 2.0	224 / 160	0.1	18.8	6.9
	3/23/2005	5.1 / 0.2	105 / 102	0.0	17.3	6.9
	6/22/2005	0.51 / 0.28	-208.2 / -137.4	0.3	19.6	6.7
	3/2/2006	0.53 / 0.38	441.3 / 448.7	0.0	17.4	6.8
	6/1/2006	NS	NS	NS	NS	NS
	9/28/2006	0.74 / 0.45	-11.9 / -129.5	<0.2	22.6	6.8
	3/20/2007	0.2	88	0	65.9	7.0
	6/15/2007	NS	NS	NS	NS	NS
	9/27/2007	1.6	245.0	0.81	23.1	7.24
	12/18/2007	NS	NS	NS	NS	NS
	3/4/2008	NS	NS	NS	NS	NS
	9/2/2008	0.15	78	0.0	19.7	7.0
	12/8/2008	NS	NS	NS	NS	NS
MW-2	12/14/2004	0.3 / 2.0	-160 / -148	1.4	18.4	6.9
	3/23/2005	0.1 / 0.1	-133 / -145	2.0	16.6	7.0
	6/22/2005	0.55 / 0.11	-208.5 / -229.6	1.0	22.6	7.0
	3/2/2006	NS	NS	NS	NS	NS
	6/1/2006	NS	NS	NS	NS	NS
	9/28/2006	NS	NS	NS	NS	NS
	3/20/2007	NS	NS	NS	NS	NS
	6/15/2007	NS	NS	NS	NS	NS
	9/27/2007	NS	NS	NS	NS	NS
	12/18/2007	NS	NS	NS	NS	NS
	3/4/2008	NS	NS	NS	NS	NS
	9/2/2008	NS	NS	NS	NS	NS
	12/8/2008	NS	NS	NS	NS	NS

Table IV, Summary of Groundwater Intrinsic Bioremediation Field Results BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California						
		Field Meter	Field Meter	Field Test Kit	Field Meter	Field Meter
Well ID	Sample Date	Dissoved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (Fe 2+)	Field Temperature (^oC or ^oF)	Field pH pH units
MW-3	12/14/2004	0.3 / 0.6	171 / 165	0.1	19.4	7.2
	3/23/2005	0.1 / 0.1	81 / 79	0.0	17.7	7.2
	6/22/2005	1.49/1.39	100.7 / 30.3	0.1	20.8	7.1
	3/2/2006	0.49 / 0.17	414.9 / 419.7	0.0	18.7	6.1
	6/1/2006	NS	NS	NS	NS	NS
	9/27/2006	0.64 / 0.39	-49.0 / -103.2	<0.2	22.1	7.0
	3/20/2007	0.1	92	0	64.3	7.2
	6/15/2007	0.22	82	0	20.0	7.3
	9/27/2007	0.40	216	0.6	21.3	7.2
	12/18/2007	NS	NS	NS	NS	NS
	3/4/2008	NS	NS	NS	NS	NS
	9/2/2008	0.15	22	0.0	20.0	7.2
	12/8/2008	NS	NS	NS	NS	NS
MW-4	12/14/2004	0.7 / 0.1	-7 / -41	0.8	18.0	6.8
	3/23/2005	0.1 / 0.4	-17 / -19	1.2	15.9	6.9
	6/22/2005	0.23 / 0.12	-28.6 / -30.9	1.2	20.1	6.7
	3/2/2006	0.58 / 0.56	-169.5 / -205.6	1.2	16.2	7.5
	6/1/2006*	0.31	-78	1.0	18.5	7.0
	9/27/2006	1.88 / 0.51	109 / -1.9	<0.2	19.4	6.7
	3/20/2007	0.1	6.2	1.5	36.4	7.1
	6/15/2007	0.18	-30	1.0	20.3	7.4
	9/27/2007	0.20	30	0.95	18.7	7.1
	12/18/2007	15.89	10.8	0.0	17.5	8.7
	3/4/2008	4.73 / 2.93	217.5 / 159.9	0.0	16.5	7.4
	9/2/2008	0.11	-24	0.6	20.3	7.4
	12/8/2008	1.28	88	0.0	64.3	7.3

Table IV, Summary of Groundwater Intrinsic Bioremediation Field Results BEI Job No. 202016, Dolan Rentals 6393 Scarlett Court, Dublin, California						
		Field Meter	Field Meter	Field Test Kit	Field Meter	Field Meter
Well ID	Sample Date	Dissoved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (Fe 2+)	Field Temperature (^oC or ^oF)	Field pH pH units
MW-5	12/14/2004	0.5 / 2.0	5 / 532	0.1	17.9	7.1
	3/23/2005	0.1 / 0.9	-17 / 0	0.0	15.1	7.2
	6/22/2005	0.52 / 0.27	14.4 / -35.3	0.1	23.8	7.0
	3/2/2006	0.84 / 0.59	436.8 / 449.2	0.0	14.6	6.2
	6/1/2006*	0.49	-34	0.0	19.4	7.2
	9/28/2006	0.75 / 0.78	153.1 / 94.1	<0.2	20.5	6.7
	3/20/2007	1.4	108	0	61.6	7.3
	6/15/2007	2.21	5.5	0	18.3	7.8
	9/27/2007	0.90	27	0.08	20.6	7.3
	12/18/2007	NS	NS	NS	NS	NS
	3/4/2008	2.76 / 0.81	89.2 / 0.9	0.0	17.9	7.5
	9/2/2008	1.98	41	0.0	22.9	7.3
	12/8/2008	NS	NS	NS	NS	NS
MW-6	12/14/2004	0.3 / 1.2	125 / -25	0.0	15.5	7.2
	3/23/2005	0.1 / 0.8	52 / -4	0.0	13.9	7.2
	6/22/2005	0.53 / 0.49	-22.3 / -18	0.1	22.7	7.0
	3/2/2006	1.53 / 0.51	-116.5 / -189.9	0.2	13.5	8.2
	6/1/2006*	0.50	16	0.0	20.1	8.0
	9/27/2006	0.69 / 0.35	-50.2 / -72.9	<0.2	22.9	7.5
	3/20/2007	1.5	74	0	60.2	7.5
	6/15/2007	1.30	-51	0	20.5	7.7
	9/27/2007	1.2	-83	2.4	21.0	7.0
	12/18/2007	NS	NS	NS	NS	NS
	9/2/2008	NS	NS	NS	NS	NS
	9/2/2008	0.49	-77	0.0	23.0	7.6
	12/8/2008	NS	NS	NS	NS	NS

Table IV, Summary of Groundwater Intrinsic Bioremediation Field Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Field Meter	Field Meter	Field Test Kit	Field Meter	Field Meter
		Dissoved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (Fe 2+)	Field Temperature (^oC or ^oF)	Field pH pH units
MW-7	7/18/2005	NS	NS	NS	68.7 / 69.4	7.5
	3/2/2006	2.71 / 1.08	214.3 / -176.9	0.4	14.0	8.0
	6/1/2006*	0.45	62	0.4	20.2	7.15
	9/27/2006	0.67 / 0.26	70.0 / 62.0	<0.2	19.8	7.0
	3/20/2007	0.1	92	0	63.9	7.4
	6/15/2007	0.25	56	0	20.1	7.4
	9/27/2007	0.90	125	0.85	18.4	7.1
	12/18/2007	NS	NS	NS	NS	NS
	3/4/2008	NS	NS	NS	NS	NS
	9/2/2008	0.15	20	0.0	20.3	7.3
	12/8/2008	NS	NS	NS	NS	NS
MW-8	3/2/2006	1.20 / 0.85	423.8 / 456.9	0.0	14.1	8.4
	6/1/2006*	0.60	-50	0.0	19.9	10.3
	9/28/2006	0.97 / 0.40	51.9 / 63.9	<0.2	20.2	10.3
	3/20/2007	0.1	101	0	62.3	9.9
	6/15/2007	0.3	4	0	19.0	9.1
	9/27/2007	0.4	1.53	0.2	21.3	9.2
	12/18/2007	5.6	-20.4	0.0	17.7	10.7
	3/4/2008	5.03 / 3.50	90.8 / 49.1	0.0	17.3	10.6
	9/2/2008	1.21	-2	0.0	20.7	8.8
	12/8/2008	0.12	33	0.0	67.7	9.1

Table IV, Summary of Groundwater Intrinsic Bioremediation Field Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Field Meter	Field Meter	Field Test Kit	Field Meter	Field Meter
		Dissoved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Ferrous Iron (Fe 2+)	Field Temperature (^{o}C or ^{o}F)	Field pH pH units
MW-9	3/2/2006	0.52 / 0.20	118.0 / 112.6	0.0	15.2	9.4
	6/1/2006*	0.42	-30	0.0	20.5	10.5
	9/28/2006	1.15 / 0.23	78.5 / -6.1	<0.2	21.1	10.8
	3/20/2007	0.2	136	0	62.8	8.9
	6/15/2007	0.21	46	0	19.0	6.9
	9/27/2007	0.4	-96	0.6	21.8	8.4
	12/18/2007	11.7	20	0.0	19.0	10.5
	3/4/2008	4.61 / 3.12	92.3 / 8.7	0.0	18.9	10.9
	9/2/2008	0.62	-51	0.0	21.8	10.1
	12/8/2008	0.06	42	0.0	67.6	10.1

Notes:
mV = Millivolts
mg/L = Milligrams per liter
oC = Degrees Centigrade
2.6 / 2.2 = Initial reading (pre-purge) / Final reading (post-purge)
NS = Not sampled
* = Post purge value

Table V, Summary of Groundwater Intrinsic Bioremediation Analytical Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Method SM 5310B	Method E300.1		Method RSK 174	Method E200.7		Method E365.1	Method SM 5210B	Method SM 5220D
		CO2	Nitrate (as N)	Sulfate	Methane	Manganese	Potassium	Total Phosphorous (as P)	BOD	COD
		mg/L			µg/L			mg/L		
MW-1	12/14/2004	580	<20	1,100	2.2	NA	NS	NS	NS	NS
	3/23/2005	660	0.41	620	<0.5	NS	NS	NS	NS	NS
	6/22/2005	660	<0.1	580	0.91	NS	NS	NS	NS	NS
	3/2/2006	850	<0.7 [1]	610	0.65	1,700	5,100	0.19	<3.0	43
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/28/2006	660	<0.1	980	0.86	1,900	1,200	0.18	<4.0	15
MW-2	12/14/2004	940	<5.0	220	4,700	NS	NS	NS	NS	NS
	3/23/2005	1,100	0.34	180	3,700	NS	NS	NS	NS	NS
	6/22/2005	990	<0.1	290	1,800	NS	NS	NS	NS	NS
	3/2/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/28/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS

Table V, Summary of Groundwater Intrinsic Bioremediation Analytical Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Method SM 5310B	Method E300.1		Method RSK 174	Method E200.7		Method E365.1	Method SM 5210B	Method SM 5220D
		CO_2	Nitrate (as N)	Sulfate	Methane	Manganese	Potassium	Total Phosphorous (as P)	BOD	COD
		mg/L			µg/L			mg/L		
MW-3	12/14/2004	610	<20	780	<0.5	NS	NS	NS	NS	NS
	3/23/2005	590	0.2	560	<0.5	NS	NS	NS	NS	NS
	6/22/2005	320	1.3	540	<0.5	NS	NS	NS	NS	NS
	3/2/2006	730	2.0 [1]	630	<0.5	1,800	4,400	0.18	<3.0	<10
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/27/2006	650	1.5	580	<0.5	1,500	900	0.16	<4.0	<10
MW-4	12/14/2004	680	<10	760	170	NS	NS	NS	NS	NS
	3/23/2005	700	0.3	430	24	NS	NS	NS	NS	NS
	6/22/2005	700	<0.1	480	71	NS	NS	NS	NS	NS
	3/2/2006	370	0.88 [1]	490	90	5,300	3,900	0.17	<3.0	33
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/27/2006	290	<0.1	480	51	4,100	670	0.13	<4.0	22

Table V, Summary of Groundwater Intrinsic Bioremediation Analytical Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Method SM 5310B	Method E300.1		Method RSK 174	Method E200.7		Method E365.1	Method SM 5210B	Method SM 5220D
		CO2	Nitrate (as N)	Sulfate	Methane	Manganese	Potassium	Total Phosphorous (as P)	BOD	COD
		mg/L			µg/L			mg/L		
MW-5	12/14/2004	1,400	<20	1,200	120	NS	NS	NS	NS	NS
	3/23/2005	1,400	1	640	57	NS	NS	NS	NS	NS
	6/22/2005	1,500	<0.1	590	1.5	NS	NS	NS	NS	NS
	3/2/2006	1,600	<0.7 [1]	450	490	960	4,000	0.14	<3.0	31
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/28/2006	1,400	<0.1	410	24	630	920	0.13	<4.0	15
MW-6	12/14/2004	790	<10	460	180	NS	NS	NS	NS	NS
	3/23/2005	770	0.12	380	60	NS	NS	NS	NS	NS
	6/22/2005	770	<0.1	400	36	NS	NS	NS	NS	NS
	3/2/2006	470	5.2 [1]	540	12	480	1,600	0.099	<3.0	21
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/27/2006	400	<0.1	530	55	410	320	0.079	<4.0	25

Table V, Summary of Groundwater Intrinsic Bioremediation Analytical Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Method SM 5310B	Method E300.1		Method RSK 174	Method E200.7		Method E365.1	Method SM 5210B	Method SM 5220D
		CO2	Nitrate (as N)	Sulfate	Methane	Manganese	Potassium	Total Phosphorous (as P)	BOD	COD
		mg/L			µg/L			mg/L		
MW-7	7/18/2005	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/2/2006	450	<0.7 [1]	260	1.7	5,500	7,300	0.16	<3.0	26
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/27/2006	350	<0.1	270	1.1	4,600	1,700	0.13	<4.0	<10
MW-8	3/2/2006	9	13 [1]	570	17	<20	19,000	0.21	<3.0	71
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/28/2006	5	0.29	290	18	<20	6,000	<0.04	<4.0	34
MW-9	3/2/2006	8	11 [1]	890	19	<20	20,000	<0.04	<3.0	61
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
	9/28/2006	6.3	<0.1	120	28	<20	5,300	<0.04	<4.0	42

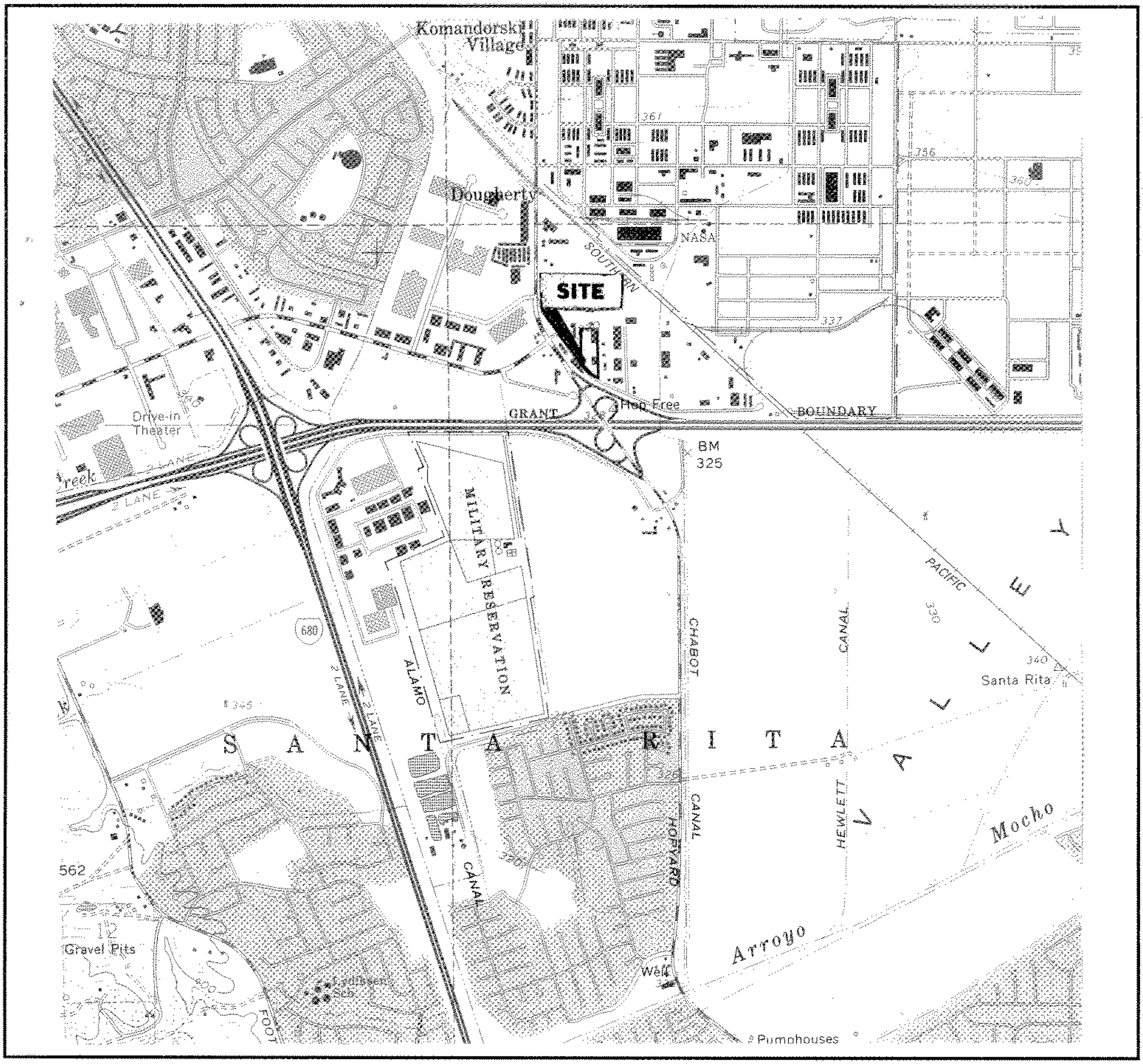
Notes:
SM = Standard Method
mg/L = Milligrams per liter
µg/L = Micrograms per liter
CO_2 = Carbon Dioxide
NS = Not sampled
BOD = Biological Oxygen Demand
COS = Chemical Oxygen Demand
[1] = Total Nitrogen (Nitrate, Nitrite, & Ammonia)

Table VI, Summary of Groundwater Bacteria Enumeration Analytical Results
BEI Job No. 202016, Dolan Rentals
6393 Scarlett Court, Dublin, California

Well ID	Sample Date	Aerobic Bacteria Method 9215A (HPC) / SM 9215 B Modified		
		Hydrocarbon Degraders	Total Heterotrophs	Target Hydrocarbons Tested
		cfu/ml		
MW-1	3/20/2007	80	400	Gasoline/Diesel
MW-3	4/9/2007	700	300	Gasoline/Diesel
MW-4	3/20/2007	5,000	10,000	Gasoline/Diesel
MW-5	3/20/2007	400	1,000	Gasoline/Diesel

Notes: SM = Standard Method
cfu/ml = Colony forming units per milliliter

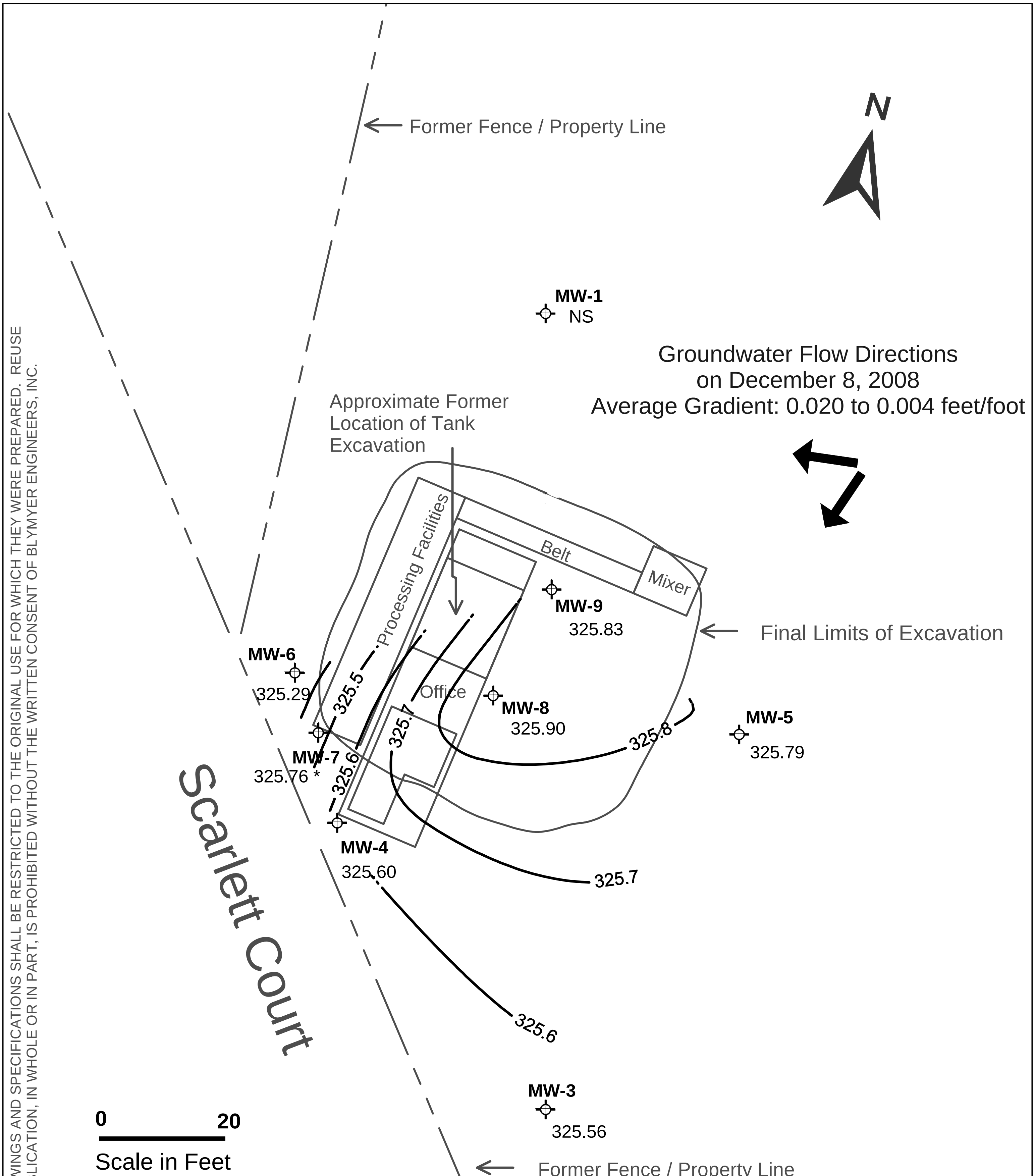
Figures



UNITED STATES GEOLOGICAL SURVEY 7.5 QUAD "Dublin, CA" Photorevised 1980

BLYMYER ENGINEERS, INC.		N 0 1000 2000 3000 SCALE IN FEET	**SITE LOCATION MAP** Former Dolan Rental Property 6393 Scarlett Court Dublin, CA	FIGURE **1**
BEI JOB NO. 202016	DATE 9/26/2008			

H:\Blymyer_Jobs\2002\202016 dolan\Reports\Standard Docs\202016 Figure 1 Std Plate.doc



Blymyer Engineers, Inc.

BEI Job No.	Date:
202016	12/19/08

Legend

- ⌖ Groundwater Monitoring Well
- **326.2** Groundwater Elevation
- ***** Anomalous Water Level, (Not Used in Gradient Calculation)

Site Plan and
Groundwater Gradient
December 8, 2008

Former Dolan Rental Property
6393 Scarlett Court
Dublin, California

Figure

2

Figure 3: Petroleum Concentrations vs. Time & Groundwater Elevation in Well MW-2 / 9

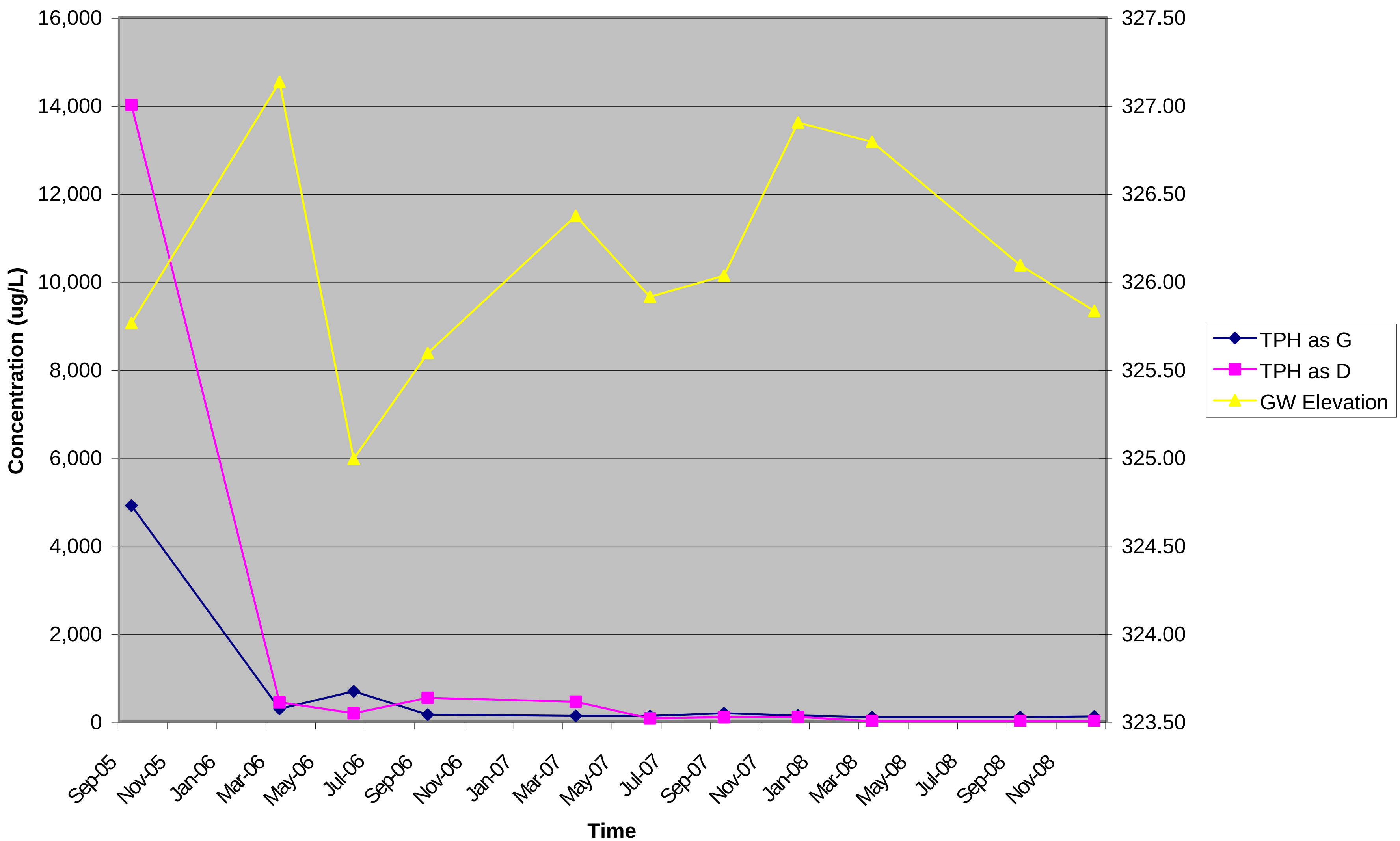
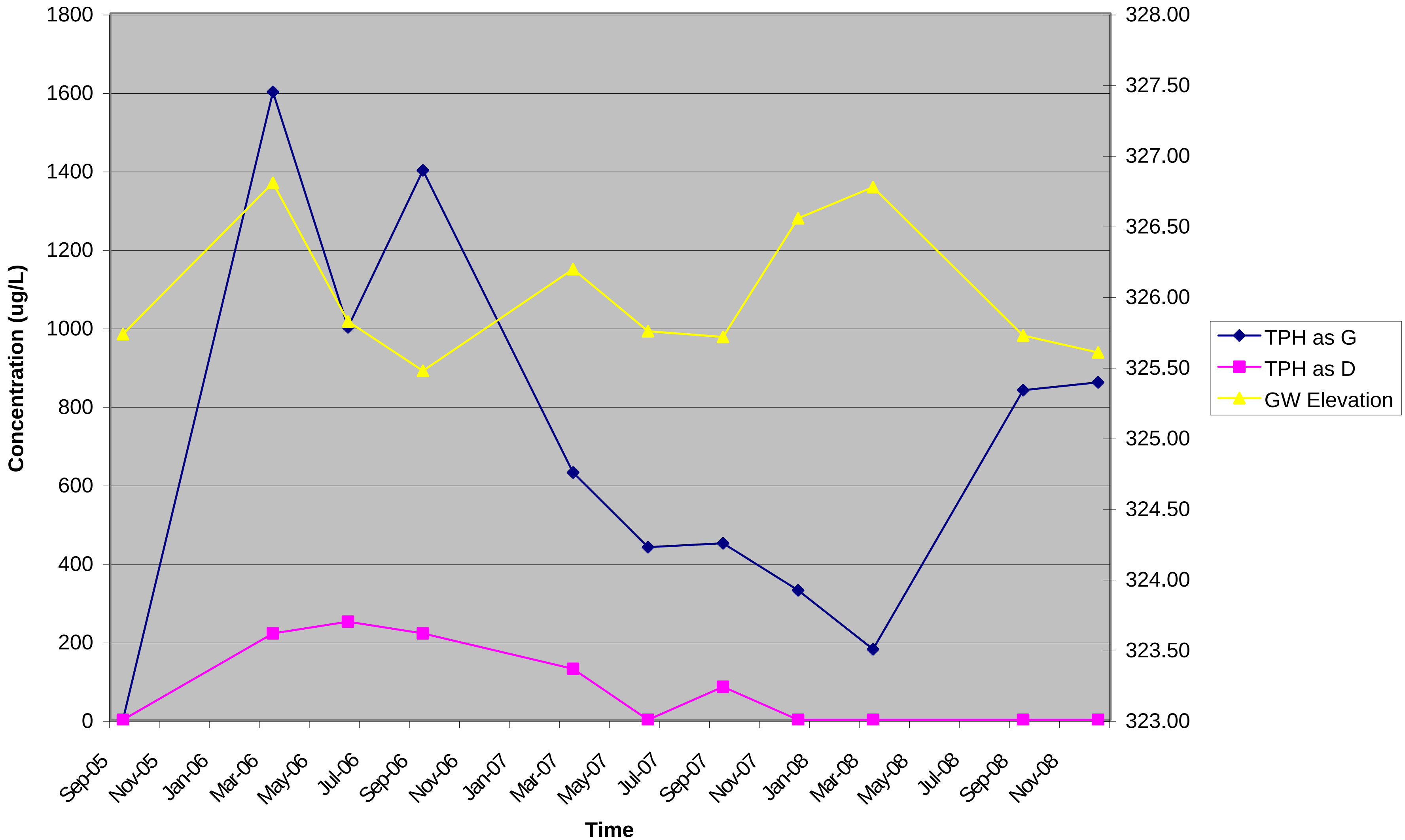


Figure 4: Hydrocarbon Concentrations vs. Time & Groundwater Elevation in Well MW-4



Appendix A

Standard Operating Procedures

Blaine Tech Services, Inc.

Blaine Tech Services, Inc.
Standard Operating Procedure

WATER LEVEL, SEPARATE PHASE LEVEL AND TOTAL WELL DEPTH MEASUREMENTS (GAUGING)

Routine Water Level Measurements

1. Establish that water or debris will not enter the well box upon removal of the cover.
2. Remove the cover using the appropriate tools.
3. Inspect the wellhead (see Wellhead Inspections).
4. Establish that water or debris will not enter the well upon removal of the well cap.
5. Unlock and remove the well cap lock (if applicable). If lock is not functional cut it off.
6. Loosen and remove the well cap. CAUTION: DO NOT PLACE YOUR FACE OR HEAD DIRECTLY OVER WELLHEAD WHEN REMOVING THE WELL CAP. WELL CAP MAY BE UNDER PRESSURE AND/OR MAY RELEASE ACCUMULATED AND POTENTIALLY HARMFULL VAPORS.
7. Verify and identify survey point as written on S.O.W.
   TOC: If survey point is listed as Top of Casing (TOC), look for the exact survey point in the form of a notch or mark on the top of the casing. If no mark is present, use the north side of the casing as the measuring point.
   TOB: If survey point is listed as Top of Box (TOB), the measuring point will be established manually. Place the inverted wellbox lid halfway across the wellbox opening and directly over the casing. The lower edge of the inverted cover directly over the casing will be the measuring point.
8. Put new Latex or Nitrile gloves on your hands.
9. Slowly lower the Water Level Meter probe into the well until it signals contact with water with a tone and/or flashing a light.
10. Gently raise the probe tip slightly above the water and hold it there. Wait momentarily to see if the meter emits a tone, signaling rising water in the casing. Gently lower the probe tip slightly below the water. Wait momentarily to see if the meter stops emitting a tone, signaling dropping water in the casing. Continue process until water level stabilizes indicating that the well has equilibrated.
11. While holding the probe at first contact with water and the tape against the measuring point, note depth. Repeat twice to verify accuracy. Write down measurement on Well Gauging Sheet under Depth to Water column.
12. Recover probe, replace and tighten well cap, replace lock (if applicable), replace well box cover and tighten hardware (if applicable)

Water Level and Separate Phase Thickness Measurements in Wells Suspected of Containing Separate Phase

1. Establish that water or debris will not enter the well box upon removal of the cover.
2. Remove the cover using the appropriate tools.
3. Inspect the wellhead (see Wellhead Inspections).
4. Establish that water or debris will not enter the well upon removal of the well cap.

5. Unlock and remove the well cap lock (if applicable). If lock is not functional cut it off.
6. Loosen and remove the well cap. CAUTION: DO NOT PLACE YOUR FACE OR HEAD DIRECTLY OVER WELLHEAD WHEN REMOVING THE WELL CAP. WELL CAP MAY BE UNDER PRESSURE AND/OR MAY RELEASE ACCUMULATED AND POTENTIALLY HARMFULL VAPORS.
7. Verify and identify survey point as written on S.O.W.

   TOC: If survey point is listed as Top of Casing (TOC), look for the exact survey point in the form of a notch or mark on the top of the casing. If no mark is present, use the north side of the casing as the measuring point.

   TOB: If survey point is listed as Top of Box (TOB), the measuring point will be established manually. Place the inverted well box lid halfway across the well box opening and directly over the casing. The lower edge of the inverted cover directly over the casing will be the measuring point.
8. Put new Nitrile gloves on your hands.
9. Slowly lower the tip of the Interface Probe into the well until it emits either a solid or broken tone.

   BROKEN TONE: Separate phase layer is not present. Go to Step 8 of Routine Water Level Measurements shown above to complete gauging process using the Interface probe as you would a Water Level Meter.

   SOLID TONE: Separate phase layer is present. Go to the next step.
10. Gently raise the probe tip slightly above the separate phase layer and hold it there. Wait momentarily to see if the meter emits a tone, signaling rising water in the casing. Gently lower the probe tip slightly below the separate phase layer. Wait momentarily to see if the meter stops emitting a tone, signaling dropping water in the casing. Continue process until water level stabilizes indicating that the well has equilibrated.
11. While holding the probe at first contact with the separate phase layer and the tape against the measuring point, note depth. Repeat twice to verify accuracy. Write down measurement on Well Gauging Sheet under Depth to Product column.
12. Gently lower the probe tip until it emits a broken tone signifying contact with water. While holding the probe at first contact with water and the tape against the measuring point, note depth. Repeat twice to verify accuracy. Write down measurement on Well Gauging Sheet under Depth to Water column.
13. Recover probe, replace and tighten well cap, replace lock (if applicable), replace well box cover and tighten hardware (if applicable).

Routine Total Well Depth Measurements

1. Lower the Water Level Meter probe into the well until it lightens in your hands, indicating that the probe is resting at the bottom of well.
2. Gently raise the tape until the weight of the probe increases, indicating that the probe has lifted off the well bottom.
3. While holding the probe at first contact with the well bottom and the tape against the well measuring point, note depth. Repeat twice to verify accuracy. Write down measurement on Well Gauging Sheet under Total Well Depth column.

4. Recover probe, replace and tighten well cap, replace lock (if applicable), replace well box cover and tighten hardware (if applicable).

Blaine Tech Services, Inc.
Standard Operating Procedure

WELL WATER EVACUATION (PURGING)

Purpose
Evacuation of a predetermined minimum volume of water from a well (purging) while *simultaneously* measuring water quality parameters is typically required prior to sampling. Purging a minimum volume guarantees that actual formation water is drawn into the well. Measuring water quality parameters either verifies that the water is stable and suitable for sampling or shows that the water remains unstable, indicating the need for continued purging. Both the minimum volume and the stable parameter qualifications need to be met prior to sampling. This assures that the subsequent sample will be representative of the formation water surrounding the well screen and not of the water standing in the well.

Defining Casing Volumes
The predetermined minimum quantity of water to be purged is based on the wells' casing volume. A casing volume is the volume of water presently standing within the casing of the well. This is calculated as follows:

Casing Volume = (TD – DTW) VCF

1. Subtract the wells' depth to water (DTW) measurement from its total depth (TD) measurement. This is the height of the water column in feet.
2. Determine the well casings' volume conversion factor (VCF). The VCF is based on the diameter of the well casing and represents the volume, in gallons, that is contained in one (1) foot of a particular diameter of well casing. The common VCF's are listed on our Well Purge Data Sheets.
3. Multiply the VCF by the calculated height of the water column. This is the casing volume, the amount of water in gallons standing in the well.

Remove Three to Five Casing Volumes
Prior to sampling, an attempt will be made to purge all wells of a minimum of three casing volumes and a maximum of five casing volumes except where regulations mandate the minimum removal of four casing volumes.

Choose the Appropriate Evacuation Device Based on Efficiency
In the absence of instructions on the SOW to the contrary, selection of evacuation device will be based on efficiency.

Measure Water Quality Parameters at Each Casing Volume
At a minimum, water quality measurements include pH, temperature and electrical conductivity (EC). Measurements are made and recorded at least once every casing volume. They are considered stable when all parameters are within 10% of their previous measurement.

Note: The following instructions assume that well has already been properly located, accessed, inspected and gauged.

Prior to Purging a Well
1. Confirm that the well is to be purged and sampled per the SOW.
2. Confirm that the well is suitable based on the conditions set by the client relative to separate phase.
3. Calculate the wells' casing volume.
4. Put new Latex or Nitrile gloves on your hands.

Purging With a Bailer (Stainless Steel, Teflon or Disposable)
1. Attach bailer cord or string to bailer. Leave other end attached to spool.
2. Gently lower empty bailer into well until well bottom is reached.
3. Cut cord from spool. Tie end of cord to hand.
4. Gently raise full bailer out of well and clear of well head. Do not let the bailer or cord touch the ground.
5. Pour contents into graduated 5-gallon bucket or other graduated receptacle.
6. Repeat purging process.
7. Upon removal of first casing volume, fill clean parameter cup with purgewater, empty the remainder of the purgewater into the bucket, lower the bailer back into the well and secure the cord on the Sampling Vehicle.
8. Use the water in the cup to collect and record parameter measurements.
9. Continue purging until second casing volume is removed.
10. Collect parameter measurements.
11. Continue purging until third casing volume is removed.
12. Collect parameter measurements. If parameters are stable, stop purging. If parameters remain unstable, continue purging until stabilization occurs or the fifth casing volume is removed.

Purging With a Pneumatic Pump
1. Position Pneumatic pump hose reel over the top of the well.
2. Gently unreel and lower the pump into the well. Do not contact the well bottom.
3. Secure the hose reel.
4. Begin purging into graduated 5-gallon bucket or other graduated receptacle.
5. Adjust water recharge duration and air pulse duration for maximum efficiency.
6. Upon removal of first casing volume, fill clean parameter cup with water.
7. Use the water in the cup to collect and record parameter measurements.
8. Continue purging until second casing volume is removed.

9. Collect parameter measurements.
10. Continue purging until third casing volume is removed.
11. Collect parameter measurements. If parameters are stable, stop purging. If parameters remain unstable, continue purging until stabilization occurs or the fifth casing volume is removed.
12. Upon completion of purging, gently recover the pump and secure the reel.

Purging With a Fixed Speed Electric Submersible Pump

1. Position Electric Submersible hose reel over the top of the well.
2. Gently unreel and lower the pump to the well bottom.
3. Raise the pump 5 feet off the bottom.
4. Secure the hose reel.
5. Begin purging.
6. Verify pump rate with flow meter or graduated 5-gallon bucket
7. Upon removal of first casing volume, fill clean parameter cup with water.
8. Use the water in the cup to collect and record parameter measurements.
9. Continue purging until second casing volume is removed.
10. Collect parameter measurements.
11. Continue purging until third casing volume is removed.
12. Collect parameter measurements. If parameters are stable, stop purging. If parameters remain unstable, continue purging until stabilization occurs or the fifth casing volume is removed.
13. Upon completion of purging, gently recover the pump and secure the reel.

Blaine Tech Services, Inc.
Standard Operating Procedure

SAMPLE COLLECTION FROM GROUNDWATER WELLS USING BAILERS

Sampling with a Bailer (Stainless Steel, Teflon or Disposable)

1. Put new Latex or Nitrile gloves on your hands.
2. Determine required bottle set.
3. Fill out sample labels completely and attach to bottles.
4. Arrange bottles in filling order and loosen caps (see Determine Collection Order below).
5. Attach bailer cord or string to bailer. Leave other end attached to spool.
6. Gently lower empty bailer into well until water is reached.
7. As bailer fills, cut cord from spool and tie end of cord to hand.
8. Gently raise full bailer out of well and clear of well head. Do not let the bailer or cord touch the ground. If a set of parameter measurements is required, go to step 9. If no additional measurements are required, go to step 11.
9. Fill a clean parameter cup, empty the remainder contained in the bailer into the sink, lower the bailer back into the well and secure the cord on the Sampling Vehicle. Use the water in the cup to collect and record parameter measurements.
10. Fill bailer again and carefully remove it from the well.
11. Slowly fill and cap sample bottles. Fill and cap volatile compounds first, then semi-volatile, then inorganic. Return to the well as needed for additional sample material.

    Fill 40-milliliter vials for volatile compounds as follows: Slowly pour water down the inside on the vial. Carefully pour the last drops creating a convex or positive meniscus on the surface. Gently screw the cap on eliminating any air space in the vial. Turn the vial over, tap several times and check for trapped bubbles. If bubbles are present, repeat process.

    Fill 1 liter amber bottles for semi-volatile compounds as follows: Slowly pour water into the bottle. Leave approximately 1 inch of headspace in the bottle. Cap bottle.

    Field filtering of inorganic samples using a stainless steel bailer is performed as follows: Attach filter connector to top of full stainless steel bailer. Attach 0.45 micron filter to connector. Flip bailer over and let water gravity feed through the filter and into the sample bottle. If high turbidity level of water clogs filter, repeat process with new filter until bottle is filled. Leave headspace in the bottle. Cap bottle.

    Field filtering of inorganic samples using a disposable bailer is performed as follows: Attach 0.45 micron filter to connector plug. Attach connector plug to bottom of full disposable bailer. Water will gravity feed through the filter and into the sample bottle. If high turbidity level of water clogs filter, repeat process with new filter until bottle is filled. Leave headspace in the bottle. Cap bottle.

12. Bag samples and place in ice chest.
13. Note sample collection details on well data sheet and Chain of Custody.

Appendix B

Purge Drum Inventory Log, Wellhead Inspection Checklist, Well Gauging Data, and Repair Data Sheet

Blaine Tech Services, Inc.

Dated December 8, 2008

d or Purge Water Drum L

Client: Blymer

Site Address: 6393 Scarlett Ct. Dublin, CA

STATUS OF DRUM(S) UPON ARRIVAL						
Date	9/2	12.8.08				
Number of drum(s) empty:	Ø	Ø				
Number of drum(s) 1/4 full:	2	Ø				
Number of drum(s) 1/2 full:	Ø	Ø				
Number of drum(s) 3/4 full:	Ø	Ø				
Number of drum(s) full:	2	5				
Total drum(s) on site:	4	5				
Are the drum(s) properly labeled?	yes	Y				
Drum ID & Contents:	Purge H2O (1 Drum w/ ORS)	H2O (PURGE)				
If any drum(s) are partially or totally filled, what is the first use date:						

- If you add any SPH to an empty or partially filled drum, drum must have at least 20 gals. of Purgewater or DI Water.

-If drum contains SPH, the drum MUST be steel AND labeled with the appropriate label.

-All BTS drums MUST be labeled appropriately.

STATUS OF DRUM(S) UPON DEPARTURE						
Date	9/2	12.8.08				
Number of drums empty:	Ø	/				
Number of drum(s) 1/4 full:	1	/				
Number of drum(s) 1/2 full:	Ø	/				
Number of drum(s) 3/4 full:	1	/				
Number of drum(s) full:	3	6				
Total drum(s) on site:	5	6				
Are the drum(s) properly labeled?	Yes	Y				
Drum ID & Contents:	Purge H2O	PURGE H2O				

LOCATION OF DRUM(S)

Describe location of drum(s):

FINAL STATUS						
Number of new drum(s) left on site this event	1	1				
Date of inspection:	9/2	12.8.08				
Drum(s) labelled properly:	yes	Y				
Logged by BTS Field Tech:	MT	JC				
Office reviewed by:	N	[illegible]				

TEST EQUIPMENT CALIBRATION LOG

PROJECT NAME BLYMYERS				PROJECT NUMBER 081208 AKY			
EQUIPMENT NAME	EQUIPMENT NUMBER	DATE/TIME OF TEST	STANDARDS USED	EQUIPMENT READING	CALIBRATED TO: OR WITHIN 10%:	TEMP.	INITIALS
ULTRAMETER	6226029	1100 12-8-08	PH 4.0 7.0 10.0	4.01 7.02 10.01	Y	48.8	JC
			CONDUCTIVITY 3900	3901	Y	49.0	JC
YSI 550	04808 22AE	1100 12-8-08	DO 100%	104.1	Y	—	JC

WELLHEAD INSPECTION CHECKLIST

Date 12.8.08 Client BLYMYER

Site Address 6393 SCARLETT CT, DUBLIN

Job Number 081208AK1 Technician J KRESS

Well ID	Well Inspected - No Corrective Action Required	Water Bailed From Wellbox	Wellbox Components Cleaned	Cap Replaced	Debris Removed From Wellbox	Lock Replaced	Other Action Taken (explain below)	Well Not Inspected (explain below)
MW-1	UNABLE TO LOCATE							
MW-3	✓					✓		
MW-4	✓							
MW-5	✓							
MW-6		✓						
MW-7	✓	✓						
MW-8	✓					✓		
MW-9	✓							

NOTES: MW-6 : 1/2 TABS BROKEN/MISSING + 1/2 BOLTS MISSING

WELL GAUGING DATA

Project # 081208AK1 Date 12-8-08 Client BLYMYER

Site 6393 SCARLETT CT, DUBLIN

Well ID	Time	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water (ft.)	Depth to well bottom (ft.)	Survey Point: TOB or TOC (TOC circled)	Notes
MW-1		UNABLE	TO	LOCATE					|	
MW-3	1110	2	OUT OF	ORDER -	ACCESS		5.13	17.97	|	
MW-4	1235	2					4.50	18.40	|	
MW-5	1029	2					5.47	12.09	|	
MW-6	1042	2					4.26	8.94	|	
MW-7	1038	2					4.41	39.99	|	
MW-8	1033	4					4.61	20.46	✓✓	
MW-9	1026	4					4.91	~~20.50~~ 20.55	✓✓	

WELL MONITORING DATA SHEET

Project #: 081208AK1	Client: BLYMYERS
Sampler: J KRESS	Date: 12-8-08
Well I.D.: MW-4	Well Diameter: (2) 3 4 6 8 ____
Total Well Depth: 18.40	Depth to Water Pre: 4.50 Post: 4.65
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 550

Purge Method: 2" Grundfos Pump Peristaltic Pump Bladder Pump DISP. BAILER
Sampling Method: Dedicated Tubing New Tubing Other DISP BAILER

Flow Rate: ____ Pump Depth: ____

Time	Temp. (°C or (°F))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Observations
2.2	× 3 =	6.6	80% 13.90	=	7.28			
1241	62.3	7.7	2145	>1000			2.5	
1245	64.2	7.4	2341	>1000			5.0	
1248	64.3	7.3	2395	>1000			7.5	
POST DO, ORP &	Fe++	TAKEN @	10'					
DO =	1.28							
ORP=	98							
Fe++ =	0.0							

Did well dewater? Yes (No)	Amount actually evacuated: 7.5
Sampling Time: 1250	Sampling Date: 12-8-08
Sample I.D.: MW-4	Laboratory: ~~TA SF~~ McCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
Equipment Blank I.D.: @ Time	Duplicate I.D.:

WELL MONITORING DATA SHEET

Project #: 081208AK1	Client: BLYMYERS
Sampler: J KRESS	Date: 12-8-08
Well I.D.: MW-8	Well Diameter: 2 3 (4) 6 8 ___
Total Well Depth: 20.46	Depth to Water Pre: 4.61 Post: 4.64
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI 550

Purge Method: 2" Grundfos Pump (3" ES) Peristaltic Pump Bladder Pump
Sampling Method: Dedicated Tubing New Tubing Other (DISP BAILER)
Flow Rate: ______ 15.85 Pump Depth: ______

Time	Temp. (°C or (°F))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Observations
10.3 X	3 =	30.9	, 80	70 7.78				
1155	66.4	8.9	2261	77			10.5	
1157	67.8	9.0	2198	31			21.0	
1159	67.7	9.1	2176	30			31.5	
DO, ORP, Fe++	reading	taken	@ 10'					
DO :	0.12							
ORP :	33							
Fe ++	0.0							

Did well dewater? Yes (No)	Amount actually evacuated: 31.5
Sampling Time: 1200	Sampling Date: 12-8-08
Sample I.D.: MW-8	Laboratory: McCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
Equipment Blank I.D.: @ Time	Duplicate I.D.:

WELL MONITORING DATA SHEET

Project #: 081208AC	Client: BLYMYERS
Sampler: J KRESS	Date: 12.08.08
Well I.D.: MW.9	Well Diameter: 2 3 (4) 6 8 ____
Total Well Depth: 20.55	Depth to Water Pre: 4.91 Post: 4.98
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: (PVC) Grade	Flow Cell Type: YSI

Purge Method: 2" Grundfos Pump (3") Peristaltic Pump Bladder Pump

Sampling Method: Dedicated Tubing New Tubing Other DIS BAILOR

Flow Rate: ____ 15.64 Pump Depth: ____

Time	Temp. (°C or (°F))	pH	Cond. (mS or (µS))	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Observations
10.1	X 3	=	30.3	, 80%	=	8.03		
1118	65.9	10.0	1659	82			10.25	
1120	67.5	10.1	1652	39			20.50	
1122	67.6	10.1	1649	22			30.75	
DO &	ORP &	Fe II	SAMPLES	TAKEN	@	10'		
DO =	0.06	mg/L						
Fe II =	0.0							
ORP =	42							

Did well dewater? Yes (No)	Amount actually evacuated: 30.75
Sampling Time: 1125	Sampling Date: 12.8.08
Sample I.D.: MW.9	Laboratory: McCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
Equipment Blank I.D.: @ Time	Duplicate I.D.:

Appendix C

Analytical Laboratory Report
McCampbell Analytical, Inc.
Dated December 16, 2008

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Blymyer Engineers, Inc	Client Project ID: #081208AK1	Date Sampled: 12/08/08
6711 Old Station Drive		Date Received: 12/10/08
West Chester, OH 45069	Client Contact: Mark Detterman	Date Reported: 12/16/08
	Client P.O.:	Date Completed: 12/16/08

WorkOrder: 0812324

December 16, 2008

Dear Mark:

Enclosed within are:

1) The results of the **3** analyzed samples from your project: **#081208AK1,**
2) A QC report for the above samples,
3) A copy of the chain of custody, and
4) An invoice for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions or concerns, please feel free to give me a call. Thank you for choosing McCampbell Analytical Laboratories for your analytical needs.

Best regards,

Angela Rydelius
Laboratory Manager
McCampbell Analytical, Inc.

0812324

BLAINE
TECH SERVICES, INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112-1105
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY BTS # 081208AK1

CLIENT: Blymyer Engineers, Inc.

SITE: Dolan Rentals
6393 Scarlett Ct.
Dublin, CA

CONDUCT ANALYSIS TO DETECT

LAB: McCampbell DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND
☐ EPA ☐ RWQCB REGION
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS

Invoice and Report to : Blymyer Engineers, Inc.
Attn: Mark Detterman
EDF Format Required. Global ID =T0600101601
mdetterman@blymyer.com 510.521.3773 office

	SAMPLE I.D.	DATE	TIME	MATRIX S= SOIL W=H_2O	CONTAINERS TOTAL		C = COMPOSITE ALL CONTAINERS	TPH-G (8015M)	BTEX & MTBE (8021B)	TPH-D w/Silica gel clean up (8015M)						ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
	~~MW-1~~			W	4	3 HCL VOA 1 HCL AMBER		X	X	X									
	~~MW-3~~			W	4	3 HCL VOA 1 HCL AMBER		X	X	X									
+	MW-4	12-8	1250	W	4	3 HCL VOA 1 HCL AMBER		X	X	X									
	~~MW-5~~			W	4	3 HCL VOA 1 HCL AMBER		X	X	X									
	~~MW-6~~			W	4	3 HCL VOA 1 HCL AMBER		X	X	X									
	~~MW-7~~			W	4	3 HCL VOA 1 HCL AMBER		X	X	X									
+	MW-8	12-8	1200	W	4	3 HCL VOA 1 HCL AMBER		X	X	X									
+	MW-9	12-8	1125	W	4	3 HCL VOA 1 HCL AMBER		X	X	X									

ICE / t° YES 3.9 °C
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ✓ CONTAINERS ✓
DECHLORINATED IN LAB NA PRESERVED IN LAB NO
PRESERVATION VOAS | O & G | METALS | OTHER

SAMPLING COMPLETED	DATE	TIME	SAMPLING PERFORMED BY	RESULTS NEEDED NO LATER THAN
	12-8-08	1250	J KRESS	As contracted

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
[signature]	12-8-08	1705	[signature]	12-8-08	1705
[signature] (Sample Custodian)	12/10/08	1205	Derek Cast	12/10/08	1205
Derek Cast	12-10-08	1615	[signature]		

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0812324 **ClientCode: BEIW**

☐ WriteOn ☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Report to:
Mark Detterman
Blymyer Engineers, Inc
6711 Old Station Drive
West Chester, OH 45069
513-755-3700 FAX 513-755-2770

Email: mdetterman@blymyer.com
cc:
PO:
ProjectNo: #081208AK1

Bill to:
Accounts Payable
Blymyer Engineers, Inc.
1829 Clement Avenue
Alameda, CA 94501-1395

Requested TAT: 5 days

Date Received: 12/10/2008
Date Printed: 12/10/2008

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
0812324-001	MW-4	Water	12/8/2008 12:50	☐	B	A	A									
0812324-002	MW-8	Water	12/8/2008 12:00	☐	B		A									
0812324-003	MW-9	Water	12/8/2008 11:25	☐	B		A									

Test Legend:

1	G-MBTEX_W	2	PREDF REPORT	3	TPH(D)WSG_W	4		5	
6		7		8		9		10	
11		12							

Prepared by: Samantha Arbuckle

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
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1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Sample Receipt Checklist

Client Name: **Blymyer Engineers, Inc** Date and Time Received: **12/10/08 6:43:31 PM**

Project Name: **#081208AK1** Checklist completed and reviewed by: Samantha Arbuckle

WorkOrder N°: **0812324** Matrix Water Carrier: Derik Cartan (MAI Courier)

Chain of Custody (COC) Information

Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Sample IDs noted by Client on COC?	Yes ☑	No ☐	
Date and Time of collection noted by Client on COC?	Yes ☑	No ☐	
Sampler's name noted on COC?	Yes ☑	No ☐	

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	NA ☑
Shipping container/cooler in good condition?	Yes ☑	No ☐	
Samples in proper containers/bottles?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature	Cooler Temp: 3.9°C		NA ☐
Water - VOA vials have zero headspace / no bubbles?	Yes ☑	No ☐	No VOA vials submitted ☐
Sample labels checked for correct preservation?	Yes ☑	No ☐	
TTLC Metal - pH acceptable upon receipt (pH<2)?	Yes ☐	No ☐	NA ☑
Samples Received on Ice?	Yes ☑	No ☐	
	(Ice Type: WET ICE)		

** NOTE: If the "No" box is checked, see comments below.*

Client contacted: Date contacted: Contacted by:

Comments:

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

Blymyer Engineers, Inc 6711 Old Station Drive West Chester, OH 45069	Client Project ID: #081208AK1	Date Sampled: 12/08/08 Date Received: 12/10/08
	Client Contact: Mark Detterman	Date Extracted: 12/13/08
	Client P.O.:	Date Analyzed 12/13/08

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE*

Extraction method SW5030B Analytical methods SW8021B/8015Cm Work Order: 0812324

Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001B	MW-4	W	860,d1	ND	2.2	16	ND	0.83	1	91
002B	MW-8	W	76,d1	ND	1.1	ND	0.76	1.4	1	103
003B	MW-9	W	110,d1	ND	1.4	ND	2.0	2.2	1	99

Reporting Limit for DF =1; ND means not detected at or above the reporting limit		TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	Units
	W	50	5	0.5	0.5	0.5	0.5	µg/L
	S	1.0	0.05	0.005	0.005	0.005	0.005	mg/Kg

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

d1) weakly modified or unmodified gasoline is significant

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Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"
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Telephone: 877-252-9262 Fax: 925-252-9269

Blymyer Engineers, Inc	Client Project ID: #081208AK1	Date Sampled: 12/08/08
6711 Old Station Drive		Date Received: 12/10/08
	Client Contact: Mark Detterman	Date Extracted: 12/10/08
West Chester, OH 45069	Client P.O.:	Date Analyzed 12/11/08

Total Extractable Petroleum Hydrocarbons with Silica Gel Clean-Up*

Extraction method: SW3510C/3630C Analytical methods: SW8015B Work Order: 0812324

Lab ID	Client ID	Matrix	TPH-Diesel (C10-C23)	DF	% SS
0812324-001A	MW-4	W	ND	1	102
0812324-002A	MW-8	W	ND	1	104
0812324-003A	MW-9	W	ND	1	101

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	μg/L
	S	NA	NA

* water samples are reported in μg/L, wipe samples in μg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in μg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract/matrix interference.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation:

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QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water | QC Matrix: Water | BatchID: 40204 | WorkOrder: 0812324

EPA Method SW8021B/8015Cm **Extraction SW5030B** **Spiked Sample ID: 0812316-025B**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH(btex)£	ND	60	104	112	6.87	98.7	103	4.25	70 - 130	20	70 - 130	20
MTBE	ND	10	114	119	4.52	111	113	1.65	70 - 130	20	70 - 130	20
Benzene	ND	10	92.6	94.1	1.62	94	93.4	0.613	70 - 130	20	70 - 130	20
Toluene	ND	10	103	107	3.33	104	104	0	70 - 130	20	70 - 130	20
Ethylbenzene	ND	10	100	103	2.81	102	103	0.842	70 - 130	20	70 - 130	20
Xylenes	ND	30	111	113	1.68	113	114	1.11	70 - 130	20	70 - 130	20
%SS:	100	10	93	93	0	96	93	2.52	70 - 130	20	70 - 130	20

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 40204 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0812324-001B	12/08/08 12:50 PM	12/13/08	12/13/08 7:28 AM	0812324-002B	12/08/08 12:00 PM	12/13/08	12/13/08 9:46 AM
0812324-003B	12/08/08 11:25 AM	12/13/08	12/13/08 9:12 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = matrix interference and/or analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content, or inconsistency in sample containers.

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_______ QA/QC Officer

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QC SUMMARY REPORT FOR SW8015B

W.O. Sample Matrix: Water QC Matrix: Water BatchID: 40203 WorkOrder: 0812324

EPA Method SW8015B **Extraction SW3510C/3630C** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)			
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	RPD	LCS/LCSD	RPD
TPH-Diesel (C10-C23)	N/A	1000	N/A	N/A	N/A	91.4	92.4	1.07	N/A	N/A	70 - 130	30
%SS:	N/A	2500	N/A	N/A	N/A	75	77	2.60	N/A	N/A	70 - 130	30

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
NONE

BATCH 40203 SUMMARY

Lab ID	Date Sampled	Date Extracted	Date Analyzed	Lab ID	Date Sampled	Date Extracted	Date Analyzed
0812324-001A	12/08/08 12:50 PM	12/10/08	12/11/08 5:06 PM	0812324-002A	12/08/08 12:00 PM	12/10/08	12/11/08 6:14 PM
0812324-003A	12/08/08 11:25 AM	12/10/08	12/11/08 7:22 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QA/QC Officer