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

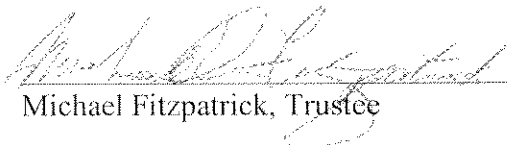
6/28, 2006

Mr. Barney Chan  
Alameda County Health Care Services Agency  
Environmental Protection Division  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

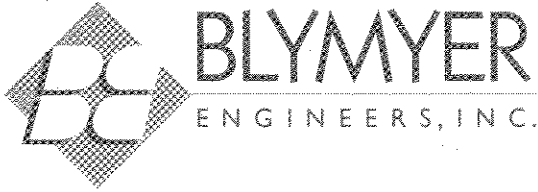
Re: Perjury Statement  
Dolan Property, 6393 Scarlett Court, Dublin, California; RO-210

Dear Mr Chan,

"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."

  
\_\_\_\_\_  
Michael Fitzpatrick, Trustee

c. Peter MacDonald, Esquire  
Wanden Treanor, Esquire



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June 22, 2006

BEI Job No. 202016

Mr. Michael Fitzpatrick, Trustee  
Estate of Michael Dolan  
P.O. Box 31654  
Walnut Creek, CA 94598

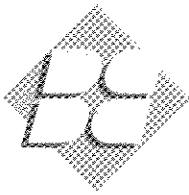
**Subject: Second Quarter 2006 Groundwater Monitoring Event  
Dolan Trust Property  
6393 Scarlett Court  
Dublin, California  
ACHCSA Fuel Leak Case No. RO0000210**

Dear Mr. Fitzpatrick:

This letter documents the Second Quarter 2006 groundwater monitoring event at the subject site (Figure 1). This is the ninth groundwater monitoring event conducted by Blymyer Engineers, Inc. and the second post-remediation groundwater monitoring event at the Dolan Property in Dublin, California.

## **1.0 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 (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



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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.

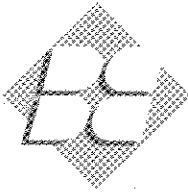
In May 2002, Blymyer Engineers was retained by Mr. Michael Fitzpatrick, on behalf of Mr. Michael Dolan, to conduct semiannual groundwater sampling of wells MW-2 and MW-4, and to conduct a file review to help determine the next appropriate step at the site.

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 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 III.

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<sup>®</sup> 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<sup>®</sup> 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



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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.

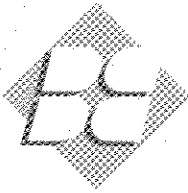
In a letter dated January 24, 2005, the ACDEH approved the workplan provided four conditions were met:

- 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 includes 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



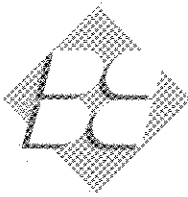
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and that the case had not been assigned to a new case worker yet. The ACDEH was apprised that due to the sale of the parcel, work would proceed, pending agency review.

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*



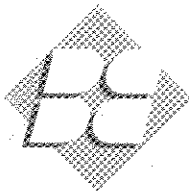
*Letter*, that addressed the technical comments contained in the ACDEH letter. The letter indicated that soil reuse was not planned due to high perched groundwater as shallow as 3 feet bgs, provided documentation (Figure 2 of that letter) of the approximate planned bottom sample soil collection locations based on the iso-concentration figures, stated that ORC would be applied through out 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 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 *Second Quarter 2006 Groundwater Monitoring Event*, dated April 4, 2006.

## **2.0 Groundwater Sample Collection and Analytical Methods**

Groundwater samples were collected from all monitoring wells on June 1, 2006. The 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 report, Remediation by Natural Attenuation (RNA) parameters were not collected this quarter, and standard purge techniques



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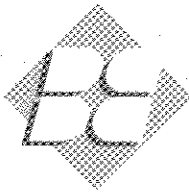
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(employing full well volume purging) were utilized rather than micropurge techniques required for RNA parameter collection. Depth to groundwater was initially not measured in all wells at the site; consequently Blaine returned to the site on June 12, 2006, to collect these missing measurements. Temperature, pH, conductivity, and turbidity were measured initially, and then after removal of each purge volume. The 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 Total Petroleum Hydrocarbons (TPH) as gasoline and as diesel by Modified EPA Method 8015; benzene, toluene, ethylbenzene, and total xylenes (BTEX) and MTBE by EPA Method 8021B; and fuel oxygenates by EPA Method 8260B. Tables II to V 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 Petroleum Hydrocarbon Groundwater Sample Analytical Results

Hydrocarbon analysis of groundwater samples from wells MW-4 through MW-9 was conducted during the current sampling event. Well MW-2 was destroyed during the remedial excavation in November 2005. Wells MW-1 and MW-3 were not sampled this quarter, as recommended in the previous groundwater monitoring event. Wells MW-1 and MW-3 essentially yielded nondetectable concentrations during that quarterly report. Except for 40 or 44  $\mu\text{g/L}$  of MTBE (EPA 8020B vs. EPA 8260B analysis), petroleum hydrocarbons were not detected in well MW-5 during the current monitoring event. This MTBE concentration is an increase from the prior groundwater sampling event, and continues the trend in increasing MTBE concentrations at this well. Additionally, for the first time perimeter well MW-6 contained trace concentrations of detectable hydrocarbons. TPH as gasoline was detected at the limit of detection ( $50 \mu\text{g/L}$ ) and benzene was detected at a concentration of  $0.84 \mu\text{g/L}$ . Both analytes are below their respective RWQCB ESL. Groundwater from deeper water-bearing zone well MW-7 was also again nondetectable for all analytes. Well MW-4, in general, contained lower analyte concentrations than the previous quarter; however, TPH remained at elevated concentrations. Decreases were observed in benzene, toluene, and total xylenes, while an increase was observed in the concentration of ethylbenzene. TPH as gasoline, TPH as diesel, and BTEX were again present in excavation wells MW-8 and MW-9 this quarter. Analytical concentrations decreased for each compound in well MW-8, and only TPH as diesel was above the respective RWQCB ESL. In general analyte concentrations decreased in well MW-9; however an increased concentration of TPH as gasoline was present as was an increased concentration in ethylbenzene. The total TPH concentration, although slightly higher, was roughly similar to the previous quarter.



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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 during the remedial excavation. During the current monitoring event the predominant location of contaminants was in the vicinity of wells MW-4, MW-8, and MW-9, the latter two of which are tank basin wells. As anticipated prior to excavation, contaminant concentrations in groundwater downgradient of the excavation (i.e. generally well MW-4; however see Section 5.0) increased, likely due to the process of remedial excavation, wherein contaminants formerly sequestered in soil were mixed and released into groundwater in a one-time process. The concentrations of each analyte at these wells was significantly less than previously detected in destroyed well MW-2 (Figure 3). Also of note on Figure 3 is the rough correlation between the rise of groundwater and a rise in contaminant concentrations. This cycle appears to have been broken after the remedial actions.

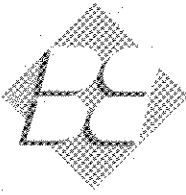
During the previous quarter, the generic RWQCB ESL goals for TPH as gasoline, TPH as diesel, and benzene were exceeded in wells MW-4, MW-8, and MW-9; however, during the current quarter not all compounds exceeded their respective ESL goal in each well. Because the wells were purged and sampled using standard purging techniques rather than micropurge techniques this quarter, it can be argued that the lower concentrations observed in the wells may be the result of the purging technique. Micropurge techniques are generally accepted as yielding higher analyte concentrations in comparison to standard purge techniques. As previously recommended, the micropurge methods will be used during the next quarterly event as those methods are the appropriate technique for collecting RNA parameters.

A copy of the groundwater petroleum hydrocarbon analytical results can be found in Appendix C, and the results are summarized in Table II and Table III.

Well MW-2 yielded a detectable concentration of 1, 2-DCA ( $5.4 \mu\text{g/L}$ ) during the first quarterly groundwater monitoring event of 2005. All other oxygenates and lead scavengers were not detected, sometimes at elevated limits of detection due to the dilutions required because of the elevated hydrocarbon compound concentrations in the sample. However, the lack of MTBE in groundwater collected from well MW-2 at that time, at good limits of detection, is consistent with previous analysis for fuel oxygenates conducted in December 2002. These results suggest that there may have been potentially two separate releases at the site, a non-MTBE-bearing release as detected in well MW-2 (screened between 5 and 20 feet bgs) and an MTBE-bearing release detected in well MW-5 (screened between 3 and 10 feet bgs). Of note is that EDB, 1, 2-DCA, ethanol, and methanol were not detected at good limits of detection in well MW-5. This suggests that portions of the release predate the use of fuel oxygenates as gasoline fuel additives.

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. A review of the chromatograms from wells during the September 2002 quarterly event indicated that the hydrocarbon detected in the diesel range in





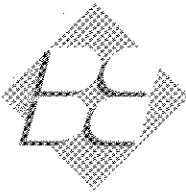
groundwater from well MW-2 is associated with the heavy end of gasoline (carbon range C4 to C12) which overlaps into the typical carbon range occupied by diesel (carbon range C10 to C22). However, the compound previously detected in well MW-5 suggests that it may be an aged diesel product as the smooth curve lay between carbon ranges C10 to C22. During the current quarter, the laboratory included a note that oil range hydrocarbons were detected in the groundwater samples obtained from wells MW-8 and MW-9.

#### 4.0 Intrinsic Bioremediation Groundwater Sample Analytical Results

Intrinsic bioremediation laboratory analytical parameters were not collected during the current quarter; however, post-purge field parameters were collected. Tables IV and V present the analytical results of current and previous RNA indicator parameters. 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 selected wells at the site as part of the evaluation of RNA chemical parameters. Previous analytical results appear to have documented oxygen and nutrient (nitrate) limited natural biodegradation 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. DO was present in post-purge groundwater in concentrations ranging from 0.31 milligrams per liter (mg/L) in well MW-4 to 0.60 mg/L in the groundwater sample from well MW-8. This post-purge concentration of DO is fairly



tight. This may suggest oxygen from the ORC has diffused throughout the area of the remedial excavation. Excavation wells MW-8 and MW-9 both contained concentrations of DO generally higher than destroyed well MW-2, previously located in the same area. In general, although there have been decreases in the concentration of DO in groundwater in some of the wells since the first quarterly event after remedial exaction, the concentration of DO generally remains higher than the concentration of DO prior to remedial action. During the previous groundwater sampling event post-purge DO concentrations were generally lower than pre-purge concentrations. Previously, lack of DO appeared to be one of the RNA-limiting factors in the remedial area.

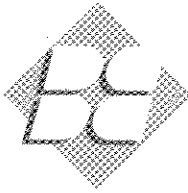
ORP is another measure of the supply and use of oxygen at a site. The higher the reading in millivolts (mV), the more oxygenated the subsurface environment is, and the lower the readings, the more anaerobic or reducing the subsurface environment is. In wells surrounding the remedial excavation, ORP readings have either increased, or returned to pre-injection values, since injection of the ORC in December 2005. Within the remedial excavation, ORP in wells MW-8 and MW-9 have decreased from the previous quarterly values, but remain higher than ORP values in well MW-2 prior to the remedial excavation. As noted in the previous quarterly report, the significant rise in ORP values in site wells during the previous quarterly event may have in part be related to natural rainwater recharge of groundwater, as well as to the remedial excavation and ORC injection activity at the site.

For a more in-depth review of recent RNA parameters, please refer to the *First Quarter 2006 Groundwater Monitoring Event* report, dated April 4, 2006.

## **5.0 Groundwater Flow Data**

Surveyed top-of-casing (TOC) elevations were used to construct a groundwater gradient map (Figure 2). Wells MW-5 and MW-6 were not used to construct the map as the wells are screened at a shallower level (5 to 10 feet bgs). Based on a review of the case file at the ACDEH, groundwater elevations in wells MW-5 and MW-6 historically appear to have been consistently different than wells MW-1 through MW-4 at the site. The water level in well MW-7, presumed to be set in a deeper water-bearing zone (30 to 40 feet bgs), has previously been very similar to the water level in wells set in the middle water-bearing zone (10 to 20 feet bgs; MW-1, MW-3, and MW-4). The similarity of this water level may indicate the well is set in a deeper portion of the same water-bearing zone at the site. It was used to help generate the gradient and flow direction depicted Figure 2.

Because Blaine Tech inadvertently failed to collect depth to water measurements from several wells on June 1, Blaine Tech revisited the site on June 12, 2006 to collect depth to water measurements (and to conduct wellhead maintenance at several locations) from all wells in order to allow determination of the groundwater gradient and flow direction. Groundwater depths on June 12, 2006, ranged between 3.52 to 4.73 feet below the top of the casings. On average, depth to groundwater increased by approximately 1.24 feet across the site since the March 2006 monitoring



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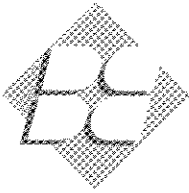
and sampling event; however, depth to groundwater in well MW-5 increased by only 0.62 feet, while in excavation backfill wells MW-8 and MW-9 it increased by 2.14 and 2.15 feet, respectively.

Based on these data, the direction of groundwater flow appears to be generally towards the east to northeast. This is an unusual flow direction and may be related to the porosity of the excavation backfill. 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 was calculated to be at approximately 0.026 feet/foot for this monitoring event.

## 6.0 Conclusions and Recommendations

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

- Groundwater was not collected from wells MW-1 and MW-3 during the present monitoring event.
- Groundwater obtained from wells MW-6 and MW-7 yielded trace to nondetectable concentrations of some analytes, respectively. This is the first time groundwater from well MW-6 has yielded trace concentrations of petroleum hydrocarbons. The detected concentrations are below the respective RWQCB ESLs.
- Except for the detection of MTBE at a concentration of 40 to 44  $\mu\text{g/L}$  in well MW-5, this well again yielded nondetectable concentrations of petroleum hydrocarbons, consistent with the majority of historic groundwater analytical results from this perimeter well. The concentration of MTBE is consistent with previously detected concentrations at this location, and continues an increasing concentration trend in this contaminant at this well.
- Excavation wells MW-8 and MW-9, in the general location of destroyed plume core well MW-2, yielded concentrations of all analytes at significantly lower concentrations in comparison to concentrations previously detected in groundwater at well MW-2, and in general, at lower concentrations than the previous monitoring event.
- Groundwater obtained from well MW-4 contained elevated concentrations of all hydrocarbon compounds as a result of the remedial excavation process. These concentrations are generally lower than the previous groundwater monitoring event and remain below those previously seen in well MW-2, but are higher than historically seen in well MW-4. These concentrations are anticipated to be transitory in nature.
- Only post-purge field RNA parameters were collected during this quarterly event, including DO and ORP. Microbial use of petroleum hydrocarbons as a food source has historically been principally limited by the concentration of DO in the groundwater; it is the preferred



electron acceptor for the biodegradation of hydrocarbons. Nitrate concentrations in groundwater have also historically been a limiting factor at the site.

- In general, the post-purge concentration of DO was fairly tight and ranged between 0.31 and 0.60 mg/L. This may suggest oxygen from the ORC has diffused throughout the area of the remedial excavation. Although there have been decreases in the concentration of DO in groundwater since the previous event, DO remains at a higher concentration than prior to remedial action.
- ORP readings have either increased, or returned to pre-ORC injection values. Within the remedial excavation ORP readings in wells MW-8 and MW-9 have decreased from the previous quarterly readings, but remain higher than ORP readings in well MW-2 prior to the remedial excavation.
- In general, RNA parameters from the previous quarterly event indicate some microbial activity in groundwater beneath the site.
- During the current quarter, groundwater flow appears to be towards the east to northeast and the average groundwater gradient was calculated at 0.026 feet/foot. This is an unusual flow direction and may be related to the porosity of the excavation backfill. Eastward flows have previously been observed at the site, but are uncommon.

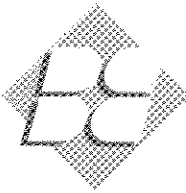
The following recommendations were generated from the available data discussed above:

- Hydrocarbon analysis, as well as analysis of RNA parameters in all groundwater wells, should be performed during the next quarterly groundwater monitoring event, in order to monitor the changing events beneath the site.
- The next quarterly groundwater sampling event is scheduled to occur in September 2006.
- A copy of this letter report should be forwarded to:

Mr. Barney Chan  
Alameda County Health Care Services Agency  
Environmental Protection Division  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

## 7.0 Limitations

Services performed by Blymyer Engineers have been provided in accordance with generally accepted professional practices for the nature and conditions of the work completed in the same or



Mr. Michael Fitzpatrick  
June 22, 2006  
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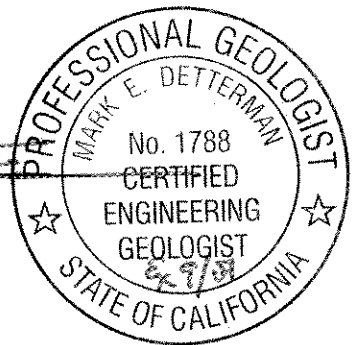
similar localities, at the time the work was performed. The scope of work for the project was conducted within the limitations prescribed by the client. This report is not meant to represent a legal opinion. No other warranty, expressed or implied, is made. This report was prepared for the sole use of the client.


Please call Mark Detterman at (510) 521-3773 with any questions or comments.

Sincerely,

Blymyer Engineers, Inc.

By:   
Mark Detterman, C.E.G. 1788  
Senior Geologist



And:   
Michael S. Lewis  
Vice President, Technical Services

Enclosures:

- Table I: Summary of Groundwater Elevation Measurements
- Table II: Summary of Groundwater Sample Hydrocarbon Analytical Results
- Table III: Summary of Groundwater Sample Fuel Additive Analytical Results
- Table IV: Summary of Groundwater Intrinsic Bioremediation Field Results
- Table V: Summary of Groundwater Intrinsic Bioremediation Analytical Results
  
- Figure 1: Site Location Map
- Figure 2: Site Plan and Groundwater Gradient, March 2, 2006
- Figure 3: TPH Concentration and Groundwater Elevation vs. Time in Wells MW-2 / MW-9
  
- Appendix A: *Standard Operating Procedures*, Blaine Tech Services, Inc.
- Appendix B: *Purge Drum Inventory Log, Test Equipment Calibration Log, Wellhead Inspection Checklist, Well Gauging Data, and Repair Data Sheet*, Dated June 1 and June 12, 2006
- Appendix C: Analytical Laboratory Report, McCampbell Analytical, Inc., Dated June 9 and June 15, 2006

## *Tables*

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**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
	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		

**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
	7/18/2005	3.55		325.91
	9/6/2005	3.70		325.76
	3/2/2006	Destroyed		Destroyed
6/12/2006	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
	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		

**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
	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		

**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
	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
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

**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	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
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
MW-8	3/2/2006	328.93	1.54	327.39
	6/12/2006		3.69	325.24
MW-9	3/2/2006	328.67	1.54	327.13
	6/12/2006		3.68	324.99

- Notes:
- TOC = Top of Casing
  - \* = Initial data set collected under direction of Blymyer Engineers, Inc.
  - \*\* = Surveyed elevation not available
  - NM = Not measured
  - <sup>1</sup> = Resurveyed on April 13, 2005 by CSS Environmental Services, Inc.
  - <sup>2</sup> = Surveyed on February 7, 2006 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	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	1	40	30	20	5
MW-1	11/27/1991	<50	NA	<0.3	<0.3	<0.3	<0.3	NA
	9/30/1992	<50	NA	<0.3	<0.3	<0.3	<0.3	NA
	4/7/1994	<50	NA	<0.5	<0.5	<0.5	<0.5	NA
	8/12/1994	<50	NA	1	1	<0.3	<2	NA
	11/29/1994	<50	NA	<0.5	<0.5	<0.5	<2	NA
	3/21/1995	<50	NA	<0.5	<0.5	<0.5	<2	NA
	5/22/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	8/24/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	2/12/1996	NA	<50	<0.5	<0.5	<0.5	<2	NA
	6/6/02*	NA	NA	NA	NA	NA	NA	NA
	9/23/2002	NA	NA	NA	NA	NA	NA	NA
	12/13/2002	NA	NA	NA	NA	NA	NA	NA
	12/14/2004	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	3/23/2005	NA	NA	NA	NA	NA	NA	NA
	6/22/2005	NA	NA	NA	NA	NA	NA	NA
	9/6/2005	NA	NA	NA	NA	NA	NA	NA
3/2/2006	62 <sup>k</sup>	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
6/1/2006	NA	NA	NA	NA	NA	NA	NA	

**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	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	1	40	30	20	5
MW-2	11/27/1991	NA	170,000	24,000	13,000	3,500	16,000	NA
	9/30/1992	NA	120,000	24,000	15,000	3,800	17,000	NA
	4/7/1994	NA	120,000	21,000	14,000	4,300	21,000	NA
	8/12/1994	NA	140,000	17,000	10,000	4,300	18,000	NA
	11/29/1994	NA	90,000	17,000	7,500	3,400	15,000	NA
	3/21/1995	NA	83,000	17,000	8,000	3,800	17,000	NA
	5/22/1995	NA	82,000	14,000	6,000	4,000	16,000	NA
	8/24/1995	NA	86,000	13,000	8,100	3,700	16,000	NA
	2/12/1996	NA	78,000	15,000	8,100	4,200	18,000	NA
	2/5/1997	NA	58,000	11,000	6,900	3,500	15,000	480
	8/6/1997	NA	66,000	7,000	9,200	3,500	16,000	<500
	6/6/02*	NA	25,000 <sup>a</sup>	2,900	50	2,700	2,200	<250
	9/23/2002	4,300 <sup>c</sup>	14,000 <sup>b</sup>	2,700	81	2,100	1,800	<250
	12/13/2002	4,000 <sup>c</sup>	26,900	1,120	91	1,480	2,370	197 <sup>d</sup>
	12/14/2004	7,600 <sup>f, g</sup>	21,000 <sup>e</sup>	1,700	120	1,600	2,400	<60
	3/23/2005	15,000 <sup>f, g, i</sup>	27,000 <sup>ei</sup>	1,400	170	1,700	2,500	<170
	6/22/2005	1,200 <sup>g</sup>	5,800 <sup>e</sup>	53	46	570	58	<50
9/6/2005	4,900 <sup>f, g, j</sup>	14,000 <sup>e</sup>	1,000	40	1,500	680	<100	
3/2/2006	NS	NS	NS	NS	NS	NS	NS	
6/1/2006	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	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	1	40	30	20	5
MW-3	11/27/1991	NA	<50	<0.3	<0.3	<0.3	<0.3	NA
	9/30/1992	NA	<50	<0.3	<0.3	<0.3	<0.3	NA
	4/7/1994	NA	<50	<b>2.5</b>	<b>5.5</b>	<b>0.9</b>	<b>5.1</b>	NA
	8/12/1994	NA	<50	<0.5	<0.5	<0.3	<2	NA
	11/29/1994	NA	<50	<0.5	<0.5	<0.5	<2	NA
	3/21/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	5/22/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	8/24/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	2/12/1996	NA	<50	<0.5	<0.5	<0.5	<2	NA
	2/5/1997	NA	<50	<0.5	<0.5	<0.5	<0.5	<5
	6/6/02*	NA	NA	NA	NA	NA	NA	NA
	9/23/2002	NA	NA	NA	NA	NA	NA	NA
	12/13/2002	NA	NA	NA	NA	NA	NA	NA
	12/14/2004	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	3/23/2005	NA	NA	NA	NA	NA	NA	NA
	6/22/2005	NA	NA	NA	NA	NA	NA	NA
9/6/2005	NA	NA	NA	NA	NA	NA	NA	
3/2/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
6/1/2006	NA	NA	NA	NA	NA	NA	NA	

**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	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	1	40	30	20	5
MW-4	11/27/1991	NA	11,000	100	0.7	250	330	NA
	9/30/1992	NA	380	3.5	2.4	8.9	3.4	NA
	4/7/1994	NA	1,100	61	5.5	17	12	NA
	8/12/1994	NA	1,000	3	1	8	4	NA
	11/29/1994	NA	1,100	2	<0.5	10	6	NA
	3/21/1995	NA	1,400	200	5	66	18	NA
	5/22/1995	NA	1,200	60	1	12	8	NA
	8/24/1995	NA	400	1	<0.5	1	<2	NA
	2/12/1996	NA	1,500	130	<0.5	120	51	NA
	2/5/1997	NA	1,200	250	4.9	94	12	16
	8/6/1997	NA	330	1.5	<0.5	<0.5	<0.5	<5
	6/6/02*	NA	<50	1.7	<0.5	<0.5	<0.5	<2.5
	9/23/2002	<48	<50	<0.5	1.3	<0.5	<0.5	<2.5
	12/13/2002	86 <sup>c</sup>	<50	<0.5	<0.5	<0.5	<1.5	<0.5
	12/14/2004	<50	95 <sup>h</sup>	2.6	<0.5	<0.5	<0.5	<5.0
	3/23/2005	<50	120 <sup>h</sup>	<0.5	5	<0.5	<0.5	<5.0
	6/22/2005	<50	180 <sup>e</sup>	1.7	7.5	<0.5	<0.5	<5.0
	9/6/2005	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
3/2/2006	1,600 <sup>e</sup>	220 <sup>g</sup>	47	4.1	1.6	19	<20	
6/1/2006	1,000 <sup>e</sup>	250 <sup>f,g</sup>	22	2.8	3.9	0.59	<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	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	1	40	30	20	5
MW-5	3/21/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	5/22/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	8/24/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	2/12/1996	NA	<50	<0.5	<0.5	<0.5	<2	NA
	2/5/1997	NA	<50	<0.5	<0.5	<0.5	<0.5	<5
	6/6/02*	NA	NA	NA	NA	NA	NA	NA
	9/23/2002	<b>310<sup>c</sup></b>	<50	<0.5	<0.5	<0.5	<0.5	<2.5
	12/13/2002	<b>97<sup>c</sup></b>	<50	<0.5	<0.5	<0.5	<1.5	<b>0.720 d</b>
	12/14/2004	<50	<50	<0.5	<0.5	<0.5	<0.5	<b>12</b>
	3/23/2005	<50	<50	<0.5	<0.5	<0.5	<0.5	<b>23</b>
	6/22/2005	<50	<50	<0.5	<0.5	<0.5	<0.5	<b>31</b>
	9/6/2005	<50	<50	<0.5	<0.5	<0.5	<0.5	<b>32</b>
	3/2/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<b>30</b>
	6/1/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<b>44</b>

**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	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	1	40	30	20	5
MW-6	3/21/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	5/22/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	8/24/1995	NA	<50	<0.5	<0.5	<0.5	<2	NA
	2/12/1996	NA	<50	<0.5	<0.5	<0.5	<2	NA
	2/5/1997	NA	<50	<0.5	<0.5	<0.5	<0.5	<5
	6/6/02*	NA	NA	NA	NA	NA	NA	NA
	9/23/2002	NA	NA	NA	NA	NA	NA	NA
	12/13/2002	NA	NA	NA	NA	NA	NA	NA
	12/14/2004	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	3/23/2005	NA	NA	NA	NA	NA	NA	NA
	6/22/2005	NA	NA	NA	NA	NA	NA	NA
	9/6/2005	NA	NA	NA	NA	NA	NA	NA
	3/2/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
6/1/2006	<b>50<sup>e</sup></b>	<50	<b>0.84</b>	<0.5	<0.5	<0.5	<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	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	1	40	30	20	5
MW-7	7/18/2005	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	9/6/2005	<50	<50	<b>0.7</b>	<0.5	<b>1.2</b>	<0.5	<5.0
	3/2/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	6/1/2006	<50	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW-8	3/2/2006	<b>590<sup>e</sup></b>	<b>550<sup>f,g</sup></b>	<b>6.2</b>	<b>2.7</b>	<b>0.67</b>	<b>21</b>	<5.0
	6/1/2006	<b>97<sup>k</sup></b>	<b>250<sup>f,j</sup></b>	<0.5	<0.5	<0.5	<b>1.1</b>	<5.0
MW-9	3/2/2006	<b>280<sup>e</sup></b>	<b>430<sup>f,g</sup></b>	<b>2.6</b>	<b>0.96</b>	<b>1</b>	<b>10</b>	<5.0
	6/1/2006	<b>680<sup>k</sup></b>	<b>180<sup>f,j</sup></b>	<b>0.85</b>	<0.5	<b>1.9</b>	<b>3.9</b>	<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	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	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	<b>5.4</b>	<5.0	<500	<5.0	<5,000	<5.0
MW-5	12/14/2004	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<b>12</b>
	3/2/2006	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<b>28*</b>
	6/1/2006	<0.5	<5.0	<0.5	<0.5	<0.5	<50	<0.5	<500	<b>40*</b>

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 = Methyl 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)	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
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
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
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

**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)	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	7.16
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
MW-7	7/18/2005	NS	NS	NS	68.7 / 69.4	7.0 / 7.0
	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
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
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	10.45

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 <sup>1</sup>	610	0.65	1,700	5,100	0.19	<3.0	43
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
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
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 <sup>1</sup>	630	<0.5	1,800	4,400	0.18	<3.0	<10
	6/1/2006	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
		CO2	Nitrate (as N)	Sulfate	Methane	Manganese	Potassium	Total Phosphorous (as P)	BOD	COD
		mg/L			µg/L			mg/L		
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 <sup>1</sup>	490	90	5,300	3,900	0.17	<3.0	33
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
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 <sup>1</sup>	450	490	960	4,000	0.14	<3.0	31
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
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 <sup>1</sup>	540	12	480	1,600	0.099	<3.0	21
	6/1/2006	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**

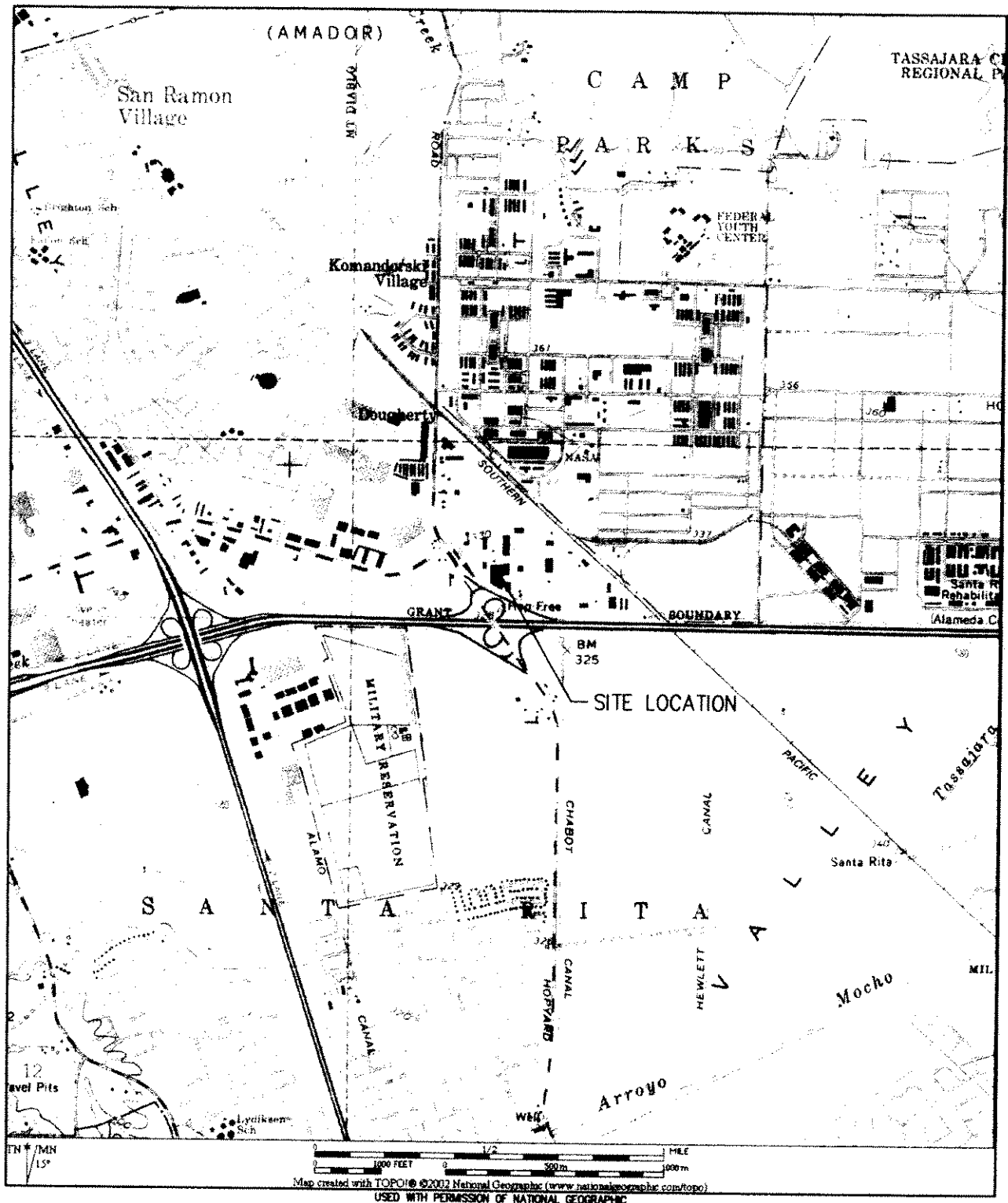
Well ID	Sample Date	Method SM 5310B	Method E300.1		Method RSK 174	Method E200.7		Method E365.1	Method SM 5210B	Method SM 5220D
		CO <sub>2</sub>	Nitrate (as N)	Sulfate	Methane	Manganese	Potassium	Total Phosphorous (as P)	BOD	COD
		mg/L			µg/L			mg/L		
MW-7	7/18/2005	NS	NS	NS	NS	NS	NS	NS	NS	NS
	3/2/2006	450	<0.7 <sup>1</sup>	260	1.7	5,500	7,300	0.16	<3.0	26
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-8	3/2/2006	9	13 <sup>1</sup>	570	17	<20	19,000	0.21	<3.0	71
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-9	3/2/2006	8	11 <sup>1</sup>	890	19	<20	20,000	<0.04	<3.0	61
	6/1/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: SM = Standard Method  
mg/L = Milligrams per liter  
µg/L = Micrograms per liter  
CO<sub>2</sub> = Carbon Dioxide  
NS = Not sampled  
BOD = Biological Oxygen Demand  
COS = Chemical Oxygen Demand  
<sup>1</sup> = Total Nitrogen (Nitrate, Nitrite, & Ammonia)

*Figures*

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LEGEND

SITE LOCATION MAP

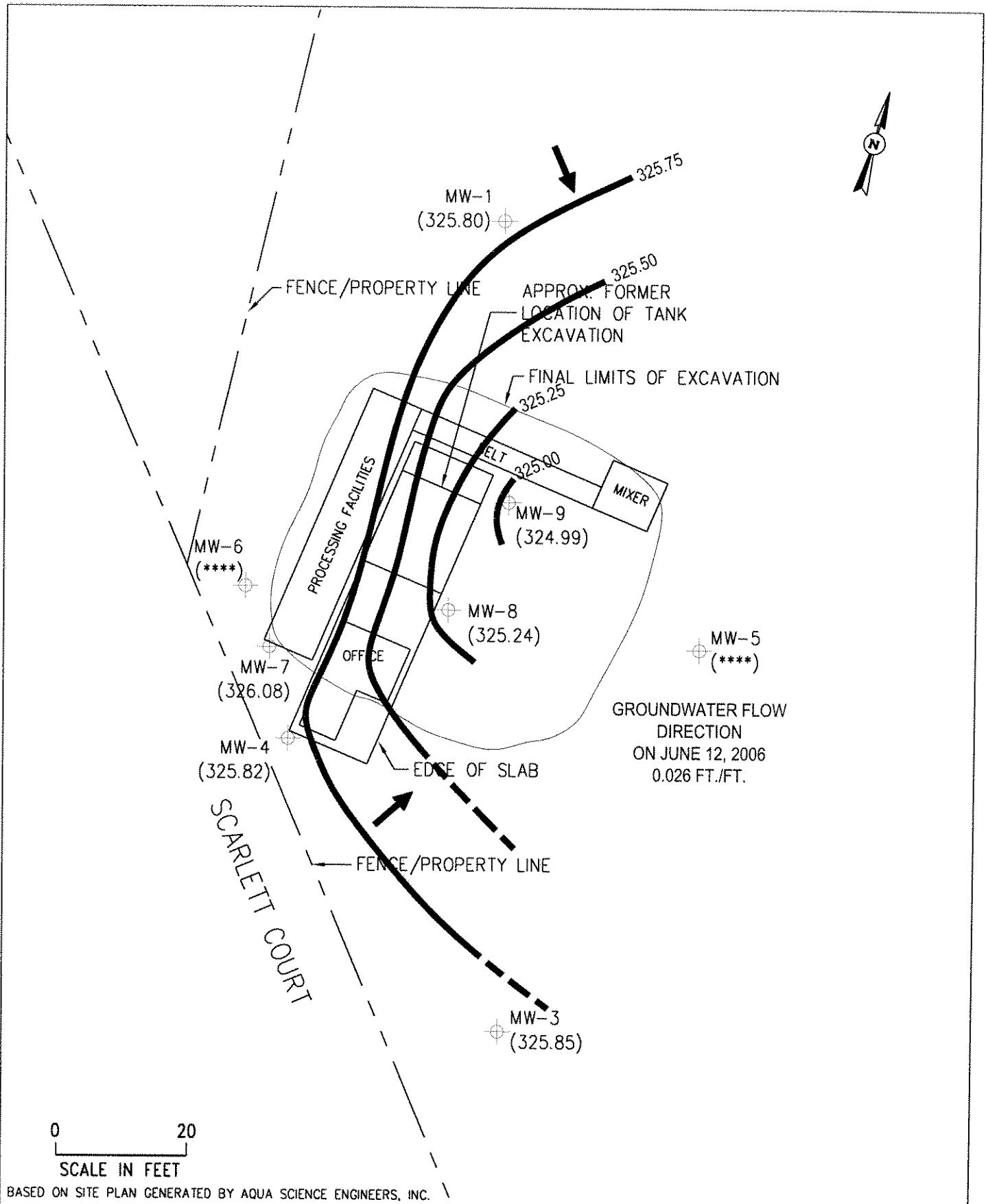
FIGURE

FORMER DOLAN RENTAL PROPERTY  
6393 SCARLETT COURT  
DUBLIN, CA

1

BEI JOB NO. 202016	DATE 6-27-02
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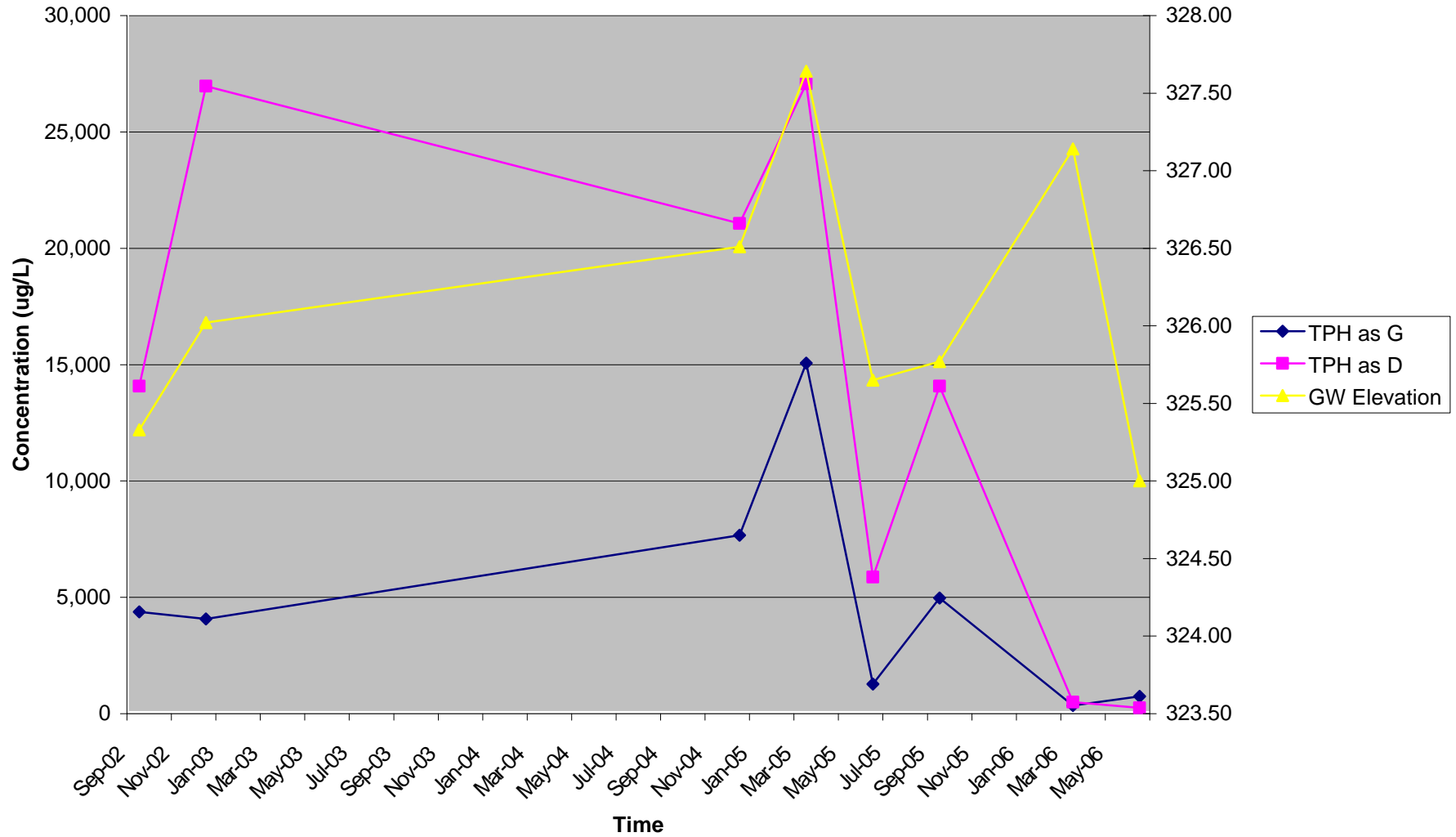
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BASED ON SITE PLAN GENERATED BY AQUA SCIENCE ENGINEERS, INC.

		<b>LEGEND</b> ⊕ GROUNDWATER MONITORING WELL (323.72) GROUND WATER ELEV. (****) GROUNDWATER ELEV. (NOT USED FOR CONTOURING) — GROUNDWATER ELEV. CONTOUR → GROUNDWATER FLOW DIRECTION	<b>SITE PLAN AND GROUNDWATER GRADIENT ON JUNE 12, 2006</b> FORMER DOLAN RENTAL PROPERTY 6393 SCARLETT COURT DUBLIN, CA	<b>FIGURE</b> 2

**Figure 3: TPH Concentration and Groundwater Elevation vs Time in Wells MW-2 / MW-9**



*Appendix A*

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*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 HARMFUL 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 HARMFUL 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:

$$\text{Casing Volume} = (\text{TD} - \text{DTW}) \text{ VCF}$$

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*

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

**Blaine Tech Services, Inc.**

**Dated June 1 and June 12, 2006**



# PURGE DRUM INVENTORY LOG

CLIENT Blymyer

SITE ADDRESS 6393 Scarlett Ct., Dublin

STATUS OF DRUM(S) UPON ARRIVAL						
Number of drum(s) empty:		1	0		2	
Number of drum(s) 1/4 full:		2	0		0	
Number of drum(s) 1/2 full:		2	0		0	
Number of drum(s) 3/4 full:	1	1	0	1	1	
Number of drum(s) full:	14	18	0	3	3	
Total drum(s) on site:	15	24	0	4	4	

STATUS OF DRUM(S) AT DEPARTURE						
Number of drum(s) empty:		1	0			
Number of drum(s) 1/4 full:		2	0			
Number of drum(s) 1/2 full:		1	0			
Number of drum(s) 3/4 full:		1	1		1	
Number of drum(s) full:	15	19	3	4	5	
Total drum(s) on site:	15	24	4	4	6	

LOCATION OF DRUM(S)						
Is/Are drum(s) at wellhead(s)?	<del>yes</del>	yes		yes	✓	
Describe location if drum(s) is/are located elsewhere:	Next to MW-7 & MW-2. Next to MW-7 on Scarlett Ct. side					
Label drum(s) properly:	yes	yes	yes	yes	✓	

FINAL STATUS						
Number of new BTS drum(s) left on site this event:	0	0	4	0	2	
Date of inspection:	7/18/05	9-6-05	02/27/06	3-2-06	6/1/06	
Logged by BTS Field Technician:	MO	DW	ST	DW	PA	
Office Review by:			2/28	3/3	✓	







## WELL MONITORING DATA SHEET

Project #: <u>DB0601-DA1</u>	Client: <u>Blymer Eng.</u>
Sampler: <u>DA</u>	Start Date: <u>6/1/06</u>
Well I.D.: <u>MW-4</u>	Well Diameter: <u>②</u> 3 4 6 8
Total Well Depth: <u>18.63</u>	Depth to Water Pre: <u>3.80</u> Post: <u>—</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVC</u> Grade	Flow Cell Type: <u>—</u>

Purge Method: 2" Grundfos Pump 2.4 g/min Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing x3 = 7.2 New Tubing Other disp bowl  
 Flow Rate: 1.0 gpm Pump Depth: —

Time	Temp. (°C or °F)	pH	Cond. (mS or <del>µS</del> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Observations
0943	19.9	7.1	3407	130	—	—	1.25	cloudy
0944	19.6	7.11	3395	122	—	—	2.5	"
0945	19.2	7.0	3380	76	—	—	3.75	clearing
0946	18.9	6.9	3361	62	—	—	5.0	"
0947	18.6	7.0	3349	35	—	—	6.25	"
0948	18.5	7.0	3336	28	—	—	7.25	"
				post-purge	0.31	-78	Fe <sup>2+</sup> = 1.0 mg/l	

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: <u>7.25</u>
Sampling Time: <u>0951</u>	Sampling Date: <u>6/1/06</u>
Sample I.D.: <u>MW-4</u>	Laboratory: <u>McCampbell</u>
Analyzed for: <input type="checkbox"/> TPH-G <input type="checkbox"/> BTEX <input type="checkbox"/> MTBE <input type="checkbox"/> TPH-D	Other: <u>see vol</u>
Equipment Blank I.D.: <u>@</u>	Duplicate I.D.:

## WELL MONITORING DATA SHEET

Project #: 060601-DA1	Client: Blysser
Sampler: DA	Start Date: 6/1/06
Well I.D.: MW-5	Well Diameter: <input checked="" type="radio"/> 3 <input type="radio"/> 4 <input type="radio"/> 6 <input type="radio"/> 8
Total Well Depth: 9.82	Depth to Water    Pre: 3.26    Post: —
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <input checked="" type="checkbox"/> Grade	Flow Cell Type: —

Purge Method:  2" Grundfos Pump 1.0 g/L     Peristaltic Pump     Bladder Pump  
 Sampling Method:  Dedicated Tubing     New Tubing     Other disp. bail  
 Flow Rate: 0.5 gpm     $\times 3 = 3.0$     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
1009	19.3	6.87	3672	49	—	—	0.5	↓ clear
1010	19.1	6.90	3690	38	—	—	1	
1011	19.5	6.99	3728	34	—	—	1.5	
1012	19.5	7.03	3820	33	—	—	2	
1013	19.4	7.11	3952	30	—	—	2.5	
1014	19.4	7.16	3877	28	—	—	3	
				Post-purge	0.49	-34	Fe <sup>2+</sup> = 0.0 mg/L	

Did well dewater? Yes <input checked="" type="checkbox"/> No	Amount actually evacuated: 3.0g
Sampling Time: 1016	Sampling Date: 6/1/06
Sample I.D.: MW-5	Laboratory: McCampbell
Analyzed for: TPH-G    BTEX    MTBE    TPH-D	Other: see coc
Equipment Blank I.D.: @	Duplicate I.D.:

## WELL MONITORING DATA SHEET

Project #: <u>060601-DAX1</u>	Client: <u>Blymer</u>
Sampler: <u>DA</u>	Start Date: <u>6/1/06</u>
Well I.D.: <u>MW-6</u>	Well Diameter: <u>Ø 3 4 6 8</u>
Total Well Depth: <u>9.85</u>	Depth to Water Pre: <u>4.69</u> Post: <u>—</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PTD</u> Grade	Flow Cell Type: <u>—</u>

Purge Method: 2" Grundfos Pump 0.8 g/w      Peristaltic Pump  
 Sampling Method: Dedicated Tubing      New Tubing      Bladder Pump  
 Flow Rate: 0.5 gpm      x3 = 2.4      Other: disp bail  
 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
0911	20.5	8.60	3726	84	—	—	0.4	
0912	20.3	8.52	3726	70	—	—	0.8	
0913	20.3	8.41	3728	42	—	—	1.2	
0914	20.3	8.13	3731	30	—	—	1.6	
0915	20.2	8.05	3733	25	—	—	2.0	
0916	20.1	7.97	3734	22	—	—	2.4	
				Post-purge	0.50	16	Fe <sup>2+</sup> = 0.0 mg/l	

Did well dewater? Yes <input checked="" type="checkbox"/>	Amount actually evacuated: <u>2.5g</u>
Sampling Time: <u>0918</u>	Sampling Date: <u>6/1/06</u>
Sample I.D.: <u>MW-6</u>	Laboratory: <u>McCampbell</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>see w</u>
Equipment Blank I.D.: <u>@</u> Time	Duplicate I.D.:

## WELL MONITORING DATA SHEET

Project #: 060601-DA1	Client: Blymer
Sampler: DA	Start Date: 6/1/06
Well I.D.: MW-7	Well Diameter: ② 3 4 6 8
Total Well Depth: 39.95	Depth to Water ③ Pre: 3.95 Post: -
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <input checked="" type="checkbox"/> PVC Grade	Flow Cell Type: -

Purge Method: 2" Grundfos Pump 5.8 g/cv Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing x3 = 17.4 New Tubing Other disp. bail  
 Flow Rate: 1.0 gpm 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
1214	21.0	8.04	3086	20	-	-	3	clear
1217	21.0	7.67	3224	15	-	-	6	"
1220	21.0	7.45	3301	9	-	-	9	"
1223	20.7	7.27	3349	11	-	-	12	"
1226	21.1	7.16	3344	5	-	-	15	"
1229	20.2	7.15	3358	3	-	-	17.5	"
				post-purge	0.45	62	Fe <sup>2+</sup> = 0.4 mg/l	

Did well dewater? Yes <input checked="" type="checkbox"/> NO	Amount actually evacuated: 17.5
Sampling Time: 1231	Sampling Date: 6/1/06
Sample I.D.: MW-7	Laboratory: McCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D	Other: see w/c
Equipment Blank I.D.: @	Duplicate I.D.:

## WELL MONITORING DATA SHEET

Project #: 060601-DA1	Client: Blymer Eng.
Sampler: DA	Start Date: 6/1/06
Well I.D.: MW-9	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: 19.98	Depth to Water Pre: 2.52 Post: —
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>PVO</u> Grade	Flow Cell Type: —

Purge Method: 2" Grundfos Pump 11.3 g/w Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other disp. bail  
 Flow Rate: 1.0 gpm x3 = 33.9 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
1036	19.1	9.57	1267	16	—	—	11.56	clear
1042	20.1	10.57	1278	9	—	—	23 12	"
1048	22.5	10.66	1270	8	—	—	34 18	"
1054	19.4	10.55	1378	6	—	—	24	"
1100	19.9	10.18	1255	5	—	—	30	"
1106	19.9	10.30	1251	5	—	—	34	"
				post-purge	0.60	-50	Fe <sup>2+</sup> = 0.0 mg/L	

Did well dewater? Yes <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Amount actually evacuated: 34
Sampling Time: 1108	Sampling Date: 6/1/06
Sample I.D.: MW-8	Laboratory: McCampbell
Analyzed for: TPH-G BTEX MTBE TPH-D	Other:
Equipment Blank I.D.: @	Duplicate I.D.:

## WELL MONITORING DATA SHEET

Project #: <u>060601-DA1</u>	Client: <u>Blymer</u>
Sampler: <u>DA</u>	Start Date: <u>6/1/06</u>
Well I.D.: <u>MW-9</u>	Well Diameter: 2 3 <u>4</u> 6 8
Total Well Depth: <u>19.92</u>	Depth to Water Pre: <u>2.53</u> Post: <u>-</u>
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: <u>Pvc</u> Grade	Flow Cell Type: <u>-</u>

Purge Method: \* 2" Grundfos Pump 11.3 g/10v Peristaltic Pump Bladder Pump  
 Sampling Method: Dedicated Tubing New Tubing Other disp. bail  
 Flow Rate: 1.0 gpm x3 = 33.9 Pump Depth: -

Time	Temp. (°C or °F)	pH	Cond. (mS or <u>µS</u> )	Turbidity (NTUs)	D.O. (mg/L)	ORP (mV)	Water Removed (gals. or mL)	Observations
1125	18.7	10.28	1233	5	-	-	6	clear
1131	19.2	10.28	1310	6	-	-	12	
1137	20.4	10.39	1259	6	-	-	18	
1143	20.5	10.42	1253	6	-	-	24	
1149	20.5	10.44	1250	6	-	-	30	
1153	20.5	10.45	1248	6	-	-	34	
				post-purge	0.42 0.0	-30	Fe <sup>2+</sup> = 0.0 mg/L	

Did well dewater? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Amount actually evacuated: <u>34</u>
Sampling Time: <u>1156</u>	Sampling Date: <u>6/1/06</u>
Sample I.D.: <u>MW-9</u>	Laboratory: <u>Mc Campbell</u>
Analyzed for: <u>TPH-G BTEX MTBE TPH-D</u>	Other: <u>see cx</u>
Equipment Blank I.D.: <u>@</u>	Duplicate I.D.:



WELL GAUGING DATA

Project # 060612-WC-2 Date 6-12-06 Client BLYMER

Site 6393 SCARLETT CT., DUBLIN

Well ID	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 <del>TOC</del>
MW-1	2					3.61	19.54	↓
MW-3	2					3.52	18.29	
MW-4	2					3.88	18.64	
MW-5	2					3.36	9.78	
MW-6	2					4.73	9.85	
MW-7	2					4.18	39.84	
MW-8	4					3.69	20.04	
MW-9	4					3.68	19.82	
<p><del>⊗</del> opened all caps 15 min prior to gauging.</p>								



# WELLHEAD INSPECTION CHECKLIST

Date 6-12-06 Client BLYMER  
 Site Address 6393 SCARLETT CT. DUBLIN  
 Job Number 060612-WC2 Technician WILL CROW

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		X						
MW-3		X						
MW-4	X							
MW-5							X	
MW-6	X							
MW-7	X							
MW-8	replaced 4 1/2" bolts / no lock							
MW-9	X → PVC cap							

NOTES: MW-5 ~~off~~ 1 of 2 ~~bolts~~ tabs partially stripped. Bolt does not fit threads (15/16" EMCO), left bolt in hole to prevent dirt from falling in hole. Box sits ~ 8" below grade.

*Appendix C*

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**Analytical Laboratory Report  
McC Campbell Analytical, Inc.  
Dated June 9 and June 15, 2006**

 <b>McC Campbell Analytical, Inc.</b>	110 2nd Avenue South, #D7, Pacheco, CA 94553-5560 Telephone : 925-798-1620 Fax : 925-798-1622 Website: www.mcccampbell.com E-mail: main@mcccampbell.com
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Blymyer Engineers, Inc.  1829 Clement Avenue  Alameda, CA 94501-1395	Client Project ID: Dolan Rentals	Date Sampled: 06/01/06
		Date Received: 06/02/06
	Client Contact: Mark Detterman	Date Reported: 06/09/06
	Client P.O.:	Date Completed: 06/15/06

**WorkOrder: 0606064**

June 15, 2006

Dear Mark:

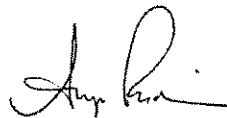
Enclosed are:

- 1). the results of 6 analyzed samples from your **Dolan Rentals project**,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill 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 please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,



Angela Rydelius, Lab Manager

Blymyer Engineers, Inc.  
 1829 Clement Avenue  
 Alameda, CA 94501-1395

Client Project ID: Dolan Rentals  
 Client Contact: Mark Detterman  
 Client P.O.:

Date Sampled: 06/01/06  
 Date Received: 06/02/06  
 Date Extracted: 06/06/06-06/08/06  
 Date Analyzed: 06/06/06-06/08/06

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

Extraction method: SW5030B

Analytical methods: SW8021B/8015Cm

Work Order: 0606064

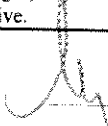
Lab ID	Client ID	Matrix	TPH(g)	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	DF	% SS
001A	MW-4	W	1000,a	ND	22	2.8	3.9	0.59	1	117
002A	MW-5	W	ND	44	ND	ND	ND	ND	1	104
003A	MW-6	W	50,a	ND	0.84	ND	ND	ND	1	116
004A	MW-7	W	ND	ND	ND	ND	ND	ND	1	116
005A	MW-8	W	97,f	ND	ND	ND	ND	1.1	1	105
006A	MW-9	W	680,f	ND	0.85	ND	1.9	3.9	1	104

Reporting Limit for DF=1; ND means not detected at or above the reporting limit	W	50	5.0	0.5	0.5	0.5	0.5	0.5	1	µg/L
	S	NA	NA	NA	NA	NA	NA	NA	1	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 McC Campbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern; n) TPH(g) range non-target isolated peaks subtracted out of the TPH(g) concentration at the client's request; p) see attached narrative.

 Angela Rydelius, Lab Manager





# McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560  
 Telephone : 925-798-1620 Fax : 925-798-1622  
 Website: www.mccampbell.com E-mail: main@mccampbell.com

Blymyer Engineers, Inc. 1829 Clement Avenue Alameda, CA 94501-1395	Client Project ID: Dolan Rentals	Date Sampled: 06/01/06
		Date Received: 06/02/06
	Client Contact: Mark Detterman	Date Extracted: 06/10/06
	Client P.O.:	Date Analyzed: 06/10/06

## Oxygenated Volatile Organics + EDB and 1,2-DCA by P&T and GC/MS\*

Extraction Method: SW5030B

Analytical Method: SW8260B

Work Order: 0606064

Lab ID	0606064-002C	Reporting Limit for DF=1	S	W
Client ID	MW-5			
Matrix	W			
DF	1			

Compound	Concentration			ug/kg	µg/L
	tert-Amyl methyl ether (TAME)	ND			NA
t-Butyl alcohol (TBA)	ND			NA	5.0
1,2-Dibromoethane (EDB)	ND			NA	0.5
1,2-Dichloroethane (1,2-DCA)	ND			NA	0.5
Diisopropyl ether (DIPE)	ND			NA	0.5
Ethanol	ND			NA	50
Ethyl tert-butyl ether (ETBE)	ND			NA	0.5
Methanol	ND			NA	500
Methyl-t-butyl ether (MTBE)	40			NA	0.5

### Surrogate Recoveries (%)

%SSI:	104			
Comments				

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

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

# surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.





QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0606064

EPA Method: SW8021B/8015Cm		Extraction: SW5030B			BatchID: 22019			Spiked Sample ID: 0606064-004A		
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	LCS / LCSD
TPH(btex) <sup>£</sup>	ND	60	112	103	8.10	107	104	2.53	70 - 130	70 - 130
MTBE	ND	10	93.8	108	14.3	102	102	0	70 - 130	70 - 130
Benzene	ND	10	105	82.9	23.8	89.4	92.2	3.07	70 - 130	70 - 130
Toluene	ND	10	102	85.3	17.6	92.3	94.5	2.38	70 - 130	70 - 130
Ethylbenzene	ND	10	106	104	1.22	92.1	95.5	3.68	70 - 130	70 - 130
Xylenes	ND	30	96	96.3	0.347	90	94	4.35	70 - 130	70 - 130
%SS:	116	10	105	99	5.29	103	105	2.67	70 - 130	70 - 130

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

BATCH 22019 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0606064-001A	6/01/06 9:51 AM	6/07/06	6/07/06 6:43 AM	0606064-002A	6/01/06 10:16 AM	6/06/06	6/06/06 9:46 AM
0606064-003A	6/01/06 9:18 AM	6/08/06	6/08/06 9:33 AM	0606064-004A	6/01/06 12:31 PM	6/06/06	6/06/06 10:45 AM
0606064-005A	6/01/06 11:08 AM	6/08/06	6/08/06 10:40 AM	0606064-006A	6/01/06 11:56 AM	6/06/06	6/06/06 11:15 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 applicable or 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.



**QC SUMMARY REPORT FOR SW8260B**

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0606064

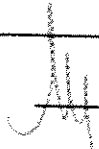
EPA Method: SW8260B		Extraction: SW5030B			BatchID: 22143			Spiked Sample ID: 0606250-001A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
tert-Amyl methyl ether (TAME)	ND	10	91	97.1	6.49	94.8	92.9	2.03	70 - 130	70 - 130
t-Butyl alcohol (TBA)	ND	50	85.5	89.9	5.10	87.4	87.5	0.127	70 - 130	70 - 130
1,2-Dibromoethane (EDB)	ND	10	107	110	3.06	110	109	0.988	70 - 130	70 - 130
1,2-Dichloroethane (1,2-DCA)	ND	10	96.5	102	5.62	99	97.5	1.48	70 - 130	70 - 130
Diisopropyl ether (DIPE)	ND	10	87.2	94.7	8.22	90.4	88.8	1.81	70 - 130	70 - 130
Ethanol	ND	500	97.2	107	9.22	97.2	89.9	7.81	70 - 130	70 - 130
Ethyl tert-butyl ether (ETBE)	ND	10	84.6	89.2	5.33	87.2	86.2	1.06	70 - 130	70 - 130
Methanol	ND	2500	98	97	1.03	95.4	93.9	1.56	70 - 130	70 - 130
Methyl-t-butyl ether (MTBE)	ND	10	90.1	94.9	5.14	92.9	90.8	2.27	70 - 130	70 - 130
%SSI:	102	10	105	104	0.748	107	104	2.84	70 - 130	70 - 130

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

**BATCH 22143 SUMMARY**

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0606064-002C	6/01/06 10:16 AM	6/10/06	6/10/06 7:21 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.  
 Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.


 QA/QC Officer

# McC Campbell Analytical, Inc.

110 Second Avenue South, #D7  
 Pacheco, CA 94553-5560  
 (925) 798-1620

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 0606064      ClientID: BEIA      EDF: YES

**Report to:**  
 Mark Detterman  
 Blymyer Engineers, Inc.  
 1829 Clement Avenue  
 Alameda, CA 94501-1395

**TEL:** (510) 521-3773  
**FAX:** (510) 865-2594  
**ProjectNo:** Dolan Rentals  
**PO:**

**Bill to:**

**Requested TAT:** 5 days

**Date Received:** 06/02/2006  
**Date Printed:** 06/02/2006

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)												
					1	2	3	4	5	6	7	8	9	10	11	12	
0606064-001	MW-4	Water	6/1/06 9:51:00 AM	<input type="checkbox"/>	A	A	B										
0606064-002	MW-5	Water	6/1/06 10:16:00 AM	<input type="checkbox"/>	A		B										
0606064-003	MW-6	Water	6/1/06 9:18:00 AM	<input type="checkbox"/>	A		B										
0606064-004	MW-7	Water	6/1/06 12:31:00 PM	<input type="checkbox"/>	A		B										
0606064-005	MW-8	Water	6/1/06 11:08:00 AM	<input type="checkbox"/>	A		B										
0606064-006	MW-9	Water	6/1/06 11:56:00 AM	<input type="checkbox"/>	A		B										

**Test Legend:**

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

Prepared by: Kathleen Owen

**Comments:**

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

**McC Campbell Analytical, Inc.**

110 Second Avenue South, #D7  
 Pacheco, CA 94553-5560  
 (925) 798-1620

**CHAIN-OF-CUSTODY RECORD**

WorkOrder: 0606064      ClientID: BEIA      EDF: YES

<b>Report to:</b>		<b>Bill to:</b>	<b>Requested TAT:</b>
Mark Detterman	TEL: (510) 521-3773	Accounts Payable	5 days
Blymyer Engineers, Inc.	FAX: (510) 865-2594	Blymyer Engineers, Inc.	<i>Date Received:</i> 06/02/2006
1829 Clement Avenue	ProjectNo: Dolan Rentals	1829 Clement Avenue	<i>Date Add-On:</i> 06/09/2006
Alameda, CA 94501-1395	PO:	Alameda, CA 94501-1395	<i>Date Printed:</i> 06/09/2006

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)																		
					1	2	3	4	5	6	7	8	9	10	11	12							
0606064-002	MW-5	Water	6/1/06 10:16:00 AM	<input type="checkbox"/>	C																		

Test Legend:

1	9-OXYS_W	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Kathleen Owen

**Comments:** NO MTBE CONF. NEEDED PER MARK D. ON 06/05/06 PER EMAIL, 9-OXYS ADDED TO 002 PER NOTE 6/9/06.

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

# BLAINE

TECH SERVICES, INC.

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

0606064 BEIA

## CONDUCT ANALYSIS TO DETECT

LAB

McCampbell

DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

EPA

LIA

OTHER

RWQCB REGION

### SPECIAL INSTRUCTIONS

Invoice and Report to : Blymyer Engineers, Inc.

Attn: Mark Detterman

EDF Format Required.

\*\*Rerun highest MTBE detection by 8021 for (5) oxygenates, 1,2-DCA, EDB, Methanol and Ethanol all by EPA 8260.

CHAIN OF CUSTODY

BTS # 060601-DA1

CLIENT Blymyer Engineers, Inc.

SITE Dolan Rentals

6393 Scarlett Ct.

Dublin, CA

C = COMPOSITE ALL CONTAINERS

SAMPLE I.D.	DATE	TIME	MATRIX		TOTAL	C	TPH-G (8015M)	BTEX & **MTBE (8021B)	TPH-D (8015M)	Soxy + Pb Scav + MeOH: EtOH per note	6-9-06	ADD'L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
			S=SOIL	W=H <sub>2</sub> O											
MW-4	6/1/06	0957	W		5		X	X	X						
MW-5		1016					X	X	X						
MW-6		0914					X	X	X						
MW-7		1231					X	X	X						
MW-8		1103					X	X	X						
MW-9		1150					X	X	X						

SAMPLING COMPLETED 6/1/06 12:15

SAMPLING PERFORMED BY David Albert

RESULTS NEEDED NO LATER THAN As contracted

RELEASED BY David Albert DATE 6/1/06 TIME 1429 RECEIVED BY [Signature] DATE 6/1/06 TIME 1429

RELEASED BY [Signature] DATE 6/2/06 TIME 0940 RECEIVED BY [Signature] DATE 6-2-06 TIME 0940

RELEASED BY [Signature] DATE 6-2-06 TIME 1440 RECEIVED BY [Signature] #280 DATE 6-2-06 TIME 15:00

SHIPPED VIA DATE SENT TIME SENT COOLER #

Received BY: Valentin [Signature]