ConocoPhillips
76 Broadway
Sacramento, California 95818

July 30, 2008

Mr. Jerry Wickham
Alameda County Health Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Re: **Revised Corrective Action Plan**
76 Station No. 1156
4276 MacArthur Boulevard
Oakland, California

Dear Mr. Wickham,

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

If you have any questions or need additional information, please contact me at (916) 558-7612.

Sincerely,

Bill Borgh

Bill Borgh
Site Manager – Risk Management and Remediation

Attachment

July 30, 2008

Mr. Jerry Wickham
Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: Revised Corrective Action Plan
76 Station No. 1156
4276 MacArthur Boulevard
Oakland, California

DELTA

Dear Mr. Wickham:

On behalf of ConocoPhillips Company (COP), Delta Consultants (Delta) has prepared this Revised Corrective Action Plan (CAP) for 76 Service Station No. 1156 located at 4276 MacArthur Boulevard in Oakland California (Figure 1). The CAP was prepared as requested by the Alameda County Health Care Services Agency (ACHCSA) in their letter to COP dated June 18, 2008. A copy of the ACHCSA letter is presented as Attachment A. The purpose of the CAP is to evaluate remedial alternatives and select the appropriate alternative to remediate residual petroleum hydrocarbon impacted soil and groundwater beneath the site.

SITE DESCRIPTION

The site is located at the northeast corner of MacArthur Boulevard and High Street in Oakland, California (Figure 1). Two 12,000-gallon gasoline underground storage tanks (USTs) are present in the southwestern portion of the site and two dispenser islands are present at the site, one to the northwest and one to the east of the USTs. A station building is located in the northern portion of the site. There are currently eight groundwater monitoring wells (MW-1 through MW-8) and one tank backfill well (TP-1) located at and in the vicinity of the site. Site features are shown on Figure 2. Properties in the immediate vicinity of the site are utilized for commercial and residential purposes.

a member of: Inogen Environmental Alliance

11050 White Rock Road Suite 110 Rancho Cordova, California 95670 USA
Phone +1 916.638.2085 / USA Toll Free 800.477.7411
Fax +1 916.638.8385 www.deltaenv.com

PREVIOUS ASSESSMENT

In 1997, Pacific Environmental Group Inc. (PEG) advanced 5 soil-gas probes in the vicinity of the USTs, dispenser islands, and product lines to depths ranging from 3 to 15 feet below the ground surface (bgs). Elevated soil vapor concentrations of total petroleum hydrocarbons as gasoline (TPHg), benzene, and methyl tertiary butyl ether (MTBE) were reported at concentrations up to 4,700 micrograms per liter (µg/L), 70 µg/L, and 140 µg/L, respectively.

In 1998, Tosco Marketing Company (now ConocoPhillips) removed one 280-gallon used-oil UST, and removed and replaced two 10,000-gallon gasoline USTs, associated piping, and fuel dispensers. The new USTs were installed in a separate excavation. Total petroleum hydrocarbons as diesel (TPHd), TPHg, benzene, and total recoverable petroleum hydrocarbons (TRPH) were reported in the soil sample collected from the used-oil UST excavation at concentrations of 78,000 milligrams per kilogram (mg/kg), 130 mg/kg, 0.55 mg/kg, and 8,400 mg/kg, respectively. Following the over-excavation of approximately 4.6 tons of soil from the used-oil UST excavation, concentrations of TPHd, TPHg, benzene, and TRPH were reported in soil samples collected from the used-oil UST excavation at concentrations up to 560 mg/kg, 81 mg/kg, 0.64 mg/kg, and 360 mg/kg, respectively. TPHg and benzene were reported in the soil samples collected from the gasoline UST excavation, dispenser islands, and product lines at concentrations up to 1,200 mg/kg and 1.6 mg/kg, respectively. A groundwater sample collected from the gasoline UST excavation contained TPHg and MTBE at concentrations of 41,000 µg/L and 1,800 µg/L, respectively. Benzene was below the laboratory's indicated reporting limit in the groundwater sample collected for analysis.

In 1999, Environmental Resolutions Inc. (ERI) conducted a soil and groundwater assessment which included the installation of four on-site groundwater monitoring wells (MW-1 through MW-4). Analytical data from soil samples collected from the borings at a depth of 10.5 feet bgs indicated TPHg, benzene, and MTBE were present at concentrations up to 6,800 mg/kg, 2.6 mg/kg, and 0.71 mg/kg, respectively. The soil sample from MW-1, near the former used-oil UST, was also analyzed for TPHd and TRPH. This soil sample contained TPHd and TRPH at concentrations of 140 mg/kg and 73 mg/kg, respectively.

Analytical data from an additional soil sample collected at a depth of 20.5 feet bgs from the MW-4 boring indicated that TPHg, benzene, and MTBE were below the laboratory's indicated reporting limits. Quarterly groundwater monitoring and sampling activities commenced in July 1999 and are currently ongoing.

In July 2001, ERI installed a UST pit backfill well (TP-1) and initiated monthly purging of groundwater from the UST excavation. Bi-weekly groundwater purging was conducted at the site using wells TP-1 and MW-1 from July 2001 through December 2004.

In addition, during June 2004, the biweekly purging events included monitor well MW-7. Approximately 1,600 gallons of groundwater were removed from monitoring well MW-7. Through December 2004 a cumulative total of approximately 476,015 gallons removed from the site from wells TP-1, MW-1, and MW-7.

In August 2001, ERI installed three off-site monitoring wells (MW-5 though MW-7). Analytical data from soil samples collected from these well borings indicated TPHg and MTBE were not present above the laboratory's indicated reporting limits. Benzene was present in one soil sample collected from MW-7 at a concentration of 0.18 mg/kg.

During the first quarter 2007 monitoring and sampling event, groundwater samples were collected from monitoring wells MW-2 and MW-4 for heterotrophic plate count (HPC). The HPC analytical data indicated that the dissolved oxygen (DO) in the groundwater in the vicinity of monitoring well MW-2 is depleted, thus limiting the growth of natural bacterial populations. The HPC analytical data indicate that the DO in the groundwater in the vicinity of monitoring well MW-4 is also depleted, but to a lesser extent than in the vicinity of monitoring well MW-2. Therefore, if oxygen were introduced into the groundwater, via ozone or oxygen injection, the increased oxygen would likely stimulate the growth of natural bacterial populations, thus increasing the degradation of the petroleum hydrocarbons in the groundwater.

In November 2007, Delta advanced six soil borings at the site and installed one off-site monitoring well (MW-8) down-gradient of the former waste-oil UST location.

SENSITIVE RECEPTORS

2001 – A GeoTracker database search was conducted which indicated that four public water supply wells owned by the East Bay Regional Park District (Park District) were present within a one-half mile radius of the site. Representatives from the Park District reported having no knowledge or records of any wells located in this area and indicated that the wells may have belonged to the East Bay Municipal Utility District (EBMUD); however, EBMUD also reported no knowledge or records of any wells located in this area.

2001 – A Department of Water Resources (DWR) database search was conducted which indicated four water supply wells belonging to Mills College were present within the one-half mile radius search area. A representative from Mills College indicated that all wells associated with Mills College had been destroyed and Mills College was now connected to a municipal water supply. The DWR search also indicated a well was located at 3397 Arkansas Street, approximately 880 feet outside of the search area. No other wells, surface water bodies, or potentially sensitive environmental habitats were identified during ERI's field receptor search.

2006 – A survey including a visit to the DWR office in Sacramento was conducted to examine well log records and identify domestic wells within the survey area. The DWR survey provided two potential receptors within one mile of the site; one irrigation well located 0.9 miles northwest of the site and one domestic/irrigation well located 1.0 mile northeast of the site. Two additional potential receptors were identified during the visit to the DWR, however, the specific addresses could not be located.

SITE GEOLOGY AND HYDROGEOLOGY

The subject site is located in the San Francisco Bay region in the north-central Coast Range and is underlain by interbedded Holocene age alluvial fan deposits. These deposits are composed of unconsolidated deposits of sand and silt in a clay matrix with some fine-grained gravels. Boring logs from monitoring wells MW-1 through MW-8 and

borings SB-1 through SB-6 are presented as Attachment B. Geologic Cross-sections A-A' and B-B' are presented as Figures 3 and 4, respectively.

Historical monitoring data indicates static depth to water on-site varies from approximately 1 to 6 feet bgs. The groundwater flow direction has predominately been west with variations to the southwest. The average historical gradient is 0.07 foot per foot (ft/ft) with a most recent gradient of 0.007 ft/ft. Historical groundwater flow directions are shown on a Rose diagram presented as Figure 5.

Based on data obtained during previous investigations, it appears that groundwater beneath the site is under confined conditions. Fetter (1988), defines a confined aquifer as follows: "an aquifer that is overlain by a confining bed. The confining bed has a significantly lower hydraulic conductivity than the aquifer". The boring logs from the site investigation conducted by Delta in November 2007 indicate that the subsurface lithology beneath the site is predominately clay from the ground surface to depths ranging from 13 feet to 20 feet bgs in borings SB-1 through SB-6 and MW-8. The clay unit is underlain by a clayey sand unit. Generally, first groundwater was encountered at the contact between these two units.

In addition, based on the boring logs, groundwater in the boring for MW-8 as well as the borings for MW-1 through MW-4 was first encountered at depths ranging from 23 feet to 24 feet bgs. During the second quarter 2008 quarterly monitoring event static groundwater in these monitoring wells was reported between 0.55 feet below top of casing (btoc) in monitoring MW-8 and 5.69 feet btoc in monitoring well MW-3. This differential between first encountered groundwater and static groundwater indicates that the groundwater is under pressure from the overlying confining bed, another indication that the groundwater beneath the site is under confined conditions. First encountered groundwater was not noted on the boring logs from the MW-5 through MW-7 borings.

During previous investigations groundwater was encountered in the former tank pit and the current tank pit at depths ranging from 4 feet bgs to 7.5 feet bgs. This is common when you have tank pits that were excavated into low permeability soils such as the clay unit found beneath the site. In these instances, surface run-off from precipitation and site activities percolates through cracks in the asphalt or between seams in the concrete and fills in the pore space in the fill materials in the UST pits and becomes perched groundwater. Backfill materials generally have a higher permeability than native in place clay soil.

SITE CHARACTERIZATION

Extent of Petroleum Hydrocarbon-Impacted Soil

Petroleum hydrocarbon impacted soil appears to be limited to on-site in the vicinity of the former USTs, the former waste-oil UST, down-gradient of the current USTs, and west, down-gradient of the station building. Petroleum hydrocarbon impacted soil is predominately found in borings MW-1, SB-2, and SB-5 at depths of 10.5 feet bgs, 8.5 bgs, and 17 feet bgs, respectively. In addition, petroleum hydrocarbon impacted soil was reported in the vicinity of the former UST location and the fuel dispensers in the southern portion of the property at depths of 6 feet bgs and 3 feet bgs, respectively during the fuel system upgrades conducted in 1998.

Current soil conditions may not necessarily correlate with historical data, as in-situ degradation of absorbed soil concentrations has likely occurred over time in response to natural attenuation.

Historical petroleum hydrocarbon concentrations in soil are presented in Table 1. Locations of historical soil sampling locations are presented on Figure 2.

Extent of Petroleum Hydrocarbon-Impacted Groundwater

The analytical data obtained during the most recent quarterly monitoring event (second quarter 2008) indicates petroleum hydrocarbon impacted groundwater remains beneath the site in the area of the former waste-oil UST, down-gradient of the former UST basin, and in the vicinity of the existing USTs. In addition, groundwater impacted by petroleum hydrocarbons may have migrated from the ConocoPhillips facility off-site, down-gradient in the vicinity of monitoring well MW-7 and likely in the vicinity of monitoring wells MW-1, MW-8, and MW-9 associated with the former Shell Station, located across MacArthur Boulevard.

During the second quarter 2008 groundwater monitoring and sampling event, TPHg was above the laboratory's indicated reporting limits in on-site monitoring wells MW-1 (71,000 µg/L), MW-2 (1,400 µg/L), MW-3 (7,500 µg/L), MW-4 (180 µg/L), and off-site monitoring wells MW-5 (210 µg/L) and MW-7 (1,800 µg/L). On-site monitoring well MW-1 is located down-gradient of the former waste-oil UST. On-site monitoring wells MW-2 and MW-3 are located down-gradient and adjacent to the existing USTs, respectively. Monitoring wells MW-5 and MW-7 are located off-site, down-gradient of the former waste-oil UST and the existing USTs, respectively. During the second quarter 2008 sampling event, TPHg was below the laboratory's indicated reporting limits in monitoring wells MW-6 and MW-8 located off-site, down-gradient of the former waste-oil UST.

During the second quarter 2008 groundwater monitoring and sampling event, benzene was above the laboratory's indicated reporting limits in on-site monitoring wells MW-1 (6,800 µg/L), MW-2 (15 µg/L), MW-3 (270 µg/L), MW-4 (11 µg/L), and off-site monitoring wells MW-7 (0.72 µg/L) and MW-8 (0.76 µg/L). During the second quarter 2008 sampling event, benzene was below the laboratory's indicated reporting limits in monitoring wells MW-5 and MW-6 located off-site, down-gradient of the former waste-oil UST.

During the second quarter 2008 groundwater monitoring and sampling event, MTBE was above the laboratory's indicated reporting limits in on-site monitoring wells MW-1 (160 µg/L), MW-2 (2,100 µg/L), MW-3 (120 µg/L), MW-4 (110 µg/L), and off-site monitoring wells MW-5 (260 µg/L) and MW-7 (2,700 µg/L). During the second quarter 2008 sampling event, MTBE was below the laboratory's indicated reporting limits in monitoring wells MW-6 and MW-8 located off-site, down-gradient of the former waste-oil UST.

During the second quarter 2008 groundwater monitoring and sampling event, tertiary butyl ether (TBA) was above the laboratory's indicated reporting limits in on-site monitoring wells MW-1 (770 µg/L), MW-2 (5,800 µg/L), and MW-4 (27 µg/L) and off-site monitoring well MW-7 (1,400 ug/ µg/L).

Historical groundwater analytical results and monitoring data are presented as Attachment C. Copies of the iso-concentration maps for TPHg, benzene, and MTBE from the April 2008 event are presented as Attachment D.

Petroleum hydrocarbon concentrations in groundwater samples collected during the 2007 soil boring investigation are presented in Table 2. Locations of historical soil boring locations are presented on Figure 2.

Groundwater Concentration Trends

Although fluctuations have occurred, TPHg, benzene, and MTBE concentrations in the historically impacted monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, and MW-7) have decreased since commencement of monitoring and sampling activities.

Concentrations versus time graphs for the historically impacted wells are presented as Attachment E. Note that when a constituent is below the laboratory's indicated reporting limits, the laboratory's reporting limit was used as the data point to create the plots.

Based on the generally decreasing concentrations of petroleum hydrocarbons in groundwater and the presence of TBA in monitoring wells MW-2, and MW-7, natural attenuation appears to be occurring at the site. TBA is a known byproduct of MTBE biodegradation.

CONSTITUENTS OF CONCERN

The constituents of concern (COCs) in soil at the site are TPHg and benzene. Maximum MTBE concentrations in soil were 1.2 mg/kg in the sample collected from soil boring SB-2 at a depth of 12 feet bgs. TOG was also previously above the laboratory's indicated reporting limits in soil. However, heavier-end petroleum hydrocarbons, such as oil and grease, typically exhibit characteristics of low toxicity and low mobility in the environment. Therefore, TOG is not included as COCs.

TPHg, benzene, MTBE and TBA are the COCs in groundwater, with benzene and MTBE being the primary COCs.

CORRECTIVE ACTTION PLAN OBJECTIVES

The CAP objectives are consistent with those specified in the applicable regulations (California Code of Regulations [CCR] Title 23, Division 3, Chapter 16), and are as follows:

- Investigate and analyze the potential effects of previously reported releases of petroleum hydrocarbons in soil and groundwater at the site;
- Propose a cost-effective plan to adequately protect human health and the environment;
- Protect current and potential beneficial uses of water; and,
- Propose a means to evaluate the effectiveness of the plan upon implementation.

PROPOSED CLEANUP LEVELS

The target groundwater cleanup levels are proposed to be based on the results of risk-based modeling. A Tier 1 Risk Based Corrective Action (RBCA) or equivalent process as approved by the ACHCSA will be conducted. If required, a Tier II RBCA will be conducted using site specific information and data. In addition to the risk evaluation process, a vapor migration risk evaluation per current Department of Toxic Substances Control requirements and a groundwater fate and transport evaluation will be conducted to fully characterize expected risk related to residual gasoline concentrations at this site. Specific risk-based evaluation approaches will be submitted to the ACHCS under separate cover for approval.

If dissolved petroleum hydrocarbon concentrations are currently at or below minimum levels dictated by risk modeling or decline to stable minimum levels below those dictated by risk modeling, the ACHCSA will be contacted for further guidance on expected path to closure.

In their letter dated June 18, 2008 the ACHCSA requested that target clean up levels be established for soil, groundwater, and soil vapor. However, based on the existing data clean up levels can not be established at this time. Additional site investigation needs to be conducted, i.e. the source of the petroleum hydrocarbon impact to the groundwater in the vicinity of monitoring well MW-1 and a soil vapor survey to evaluate vapor intrusion potential should be performed.

REMEDIAL ALTERNATIVE EVALUATION

As mentioned above, impacted soil was previously reported above the laboratory's indicated reporting limits on-site in the vicinity of the former USTs, the former waste-oil UST, down-gradient of the current USTs, and west, down-gradient of the station building. The highest concentrations were reported in the area monitoring well MW-1.

The highest concentrations of petroleum hydrocarbons in groundwater observed during the first quarter 2008 groundwater monitoring and sampling event were in the vicinity of on-site monitoring wells MW-1, MW-2, MW-3 and MW-4, and off-site monitoring well MW-7 located across MacArthur Boulevard, down-gradient of the current USTs.

The remedial alternatives evaluated to address the impacted soil and groundwater at the site include monitoring and natural attenuation, soil vapor extraction, groundwater extraction, and ozone injection. Further discussion of each remedial alternative is presented below.

Risked Based Closure

After an evaluation and determination of appropriate cleanup levels using a risk based assessment is complete, Delta will review current hydrocarbon concentrations in soil and groundwater for stability and a trend of continued decrease in concentrations.

If dissolved petroleum hydrocarbon concentrations are stable and currently at or below minimum levels dictated by risk modeling, the ACHCSA will be contacted for further guidance on expected path to closure.

Monitored Natural Attenuation

Natural attenuation involves the mitigation of contaminant concentrations through natural, non-destructive processes, e.g., dispersion, volatilization, dilution, sorption, etc., and destructive processes, e.g., biodegradation, hydrolysis, etc. Biodegradation is a process by which petroleum hydrocarbons are broken down by naturally occurring microbes present in the subsurface as a direct or indirect function of their metabolic processes.

With monitored natural attenuation, periodic groundwater monitoring and sampling would be used to evaluate contaminant concentrations and document when cleanup goals have been achieved. This is a long-term remedial approach with costs ranging from approximately $45,000 to $80,000 or more, depending on the time necessary to achieve cleanup goals (to be determined by risk modeling) and frequency of monitoring and sampling.

The advantages of monitored natural attenuation are (1) contaminants are transformed into innocuous by-products, not just transferred to another phase or location in the environment; (2) it is non-intrusive, allowing the continued use of infrastructure during the remediation process; and (3) initial capital investment costs are low. Potential disadvantages of monitored natural attenuation are (1) the time-frame for remediation may result in long-term monitoring costs; and (2) natural attenuation is subject to natural and anthropogenic changes in local hydrogeologic and geochemical conditions.

Based on the decreasing petroleum hydrocarbon concentrations in groundwater and observed concentrations of TBA, natural attenuation appears to already be occurring at the site. Gasoline concentrations in groundwater should continue to decrease under current site conditions and monitored natural attenuation is a viable alternative for the reduction of COC concentrations in groundwater.

As risk-based closure goals have not yet been established, monitored natural attenuation is considered a technically viable remedial solution, but overall feasibility will not be further explored until after completion of risk-based modeling to determine if existing concentrations are below risk thresholds, or require further action.

SOIL VAPOR EXTRACTION

Soil vapor extraction (SVE) is a remedial method in which a vacuum is applied to the subsurface of the site in order to extract soil vapors from the vadose zone. The vacuum gradient is able to induce soil vapor flow towards the extraction well. SVE is able to extract volatile contaminants which will enter the vapor phase from the soil-adsorbed state. SVE is suitable for contaminants with vapor pressures greater than 0.5 millimeters of mercury, boiling point ranges less than 250-300 degrees Celsius, and Henry's Law constants greater than 100 atmospheres (EPA, 1994a). The table below lists each of these parameters for the specific constituents of concern.

Property	TPHg	Benzene	MTBE
Vapor Pressure (mm Hg)	350-760[a]	76[c]	245[c]
Boiling Point (°C)	26-227[a,b]	80[d]	55.2[e]
Henry's Law Constant (atm)	NA	230[c]	27[c]

NA = Not available.

[a] = Obtained from MSDS for Conoco Gasoline, Unleaded, Conventional (All Grades) Issue Date 5/14/2003.

[b] = Determined at 100 °F.

[c] = Obtained from EPA How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites: A Guide for Corrective Action Plan Reviewers, Chapter II Soil Vapor Extraction, Octover 1994.

[d] = Obtained from USACE EM 1110-1-4001.

[e] = Obtained from OSHA Chemical Sampling Information

Each of the chemicals of concern satisfy the property conditions for contaminants that can be extracted using SVE. However, soil permeability, structure, and moisture content and the depth to groundwater are other characteristics to consider when evaluating the likely feasibility of SVE.

SVE is generally considered to be effective for sites with intrinsic permeability's greater than 10^{-8} cm^2 but is likely to be ineffective for sites with intrinsic permeability's less than 10^{-10} cm^2 (EPA, 1994a). Since much of the impact to soil is present in clay and sand the intrinsic permeability of the soil in the target zone of remediation is likely to fall within this range; further evaluation would be needed to assess whether the intrinsic permeability's in the target zone would inhibit the feasibility of SVE (i.e. collection of soil samples and performing a feasibility test). The depth to groundwater does not appear to be of concern since, as stated above, the groundwater appears to be under confined conditions. Furthermore, soil moisture presents a problem since soil moisture occupies the pore space of the soil, thus reducing the air permeability. Due to the presence of soil moisture, SVE is generally not effective in remediating soils within the capillary fringe, which often times is the target zone of remediation where hydrocarbons tend to accumulate. For sites with groundwater depths less than 10 feet bgs, special considerations are often required, such as horizontal wells or groundwater extraction.

Since the soil beneath the site is predominately clay above the groundwater and based on the boring logs the soil in the vadose zone is described as moist, SVE is unlikely to be effective at the site. Therefore, Delta does not consider SVE to be a favorable remedial option.

GROUNDWATER EXTRACTION

Groundwater extraction (GWE) is a remedial method using pumps placed in wells to extract groundwater. GWE is typically used to hydraulically control plume migration. Although GWE will remove dissolved contaminants present in the extracted groundwater, the mass recovery rates are usually insignificant compared to the total mass of contaminants present in the subsurface due to a much greater mass being adsorbed to soil rather than dissolved in the groundwater. Since the existing GWE has become economically inefficient at reducing petroleum hydrocarbon concentrations and

GWE will not accomplish the remediation objectives of ultimately reducing dissolved hydrocarbon concentrations in a reasonable amount of time, Delta does not believe GWE is a cost-effective remedial option for the site.

Ozone/Oxygen Injection

Ozone/oxygen injection is a remedial method in which an air/ozone mixture is injected into the groundwater using microporous injection points. Ozone is a highly reactive chemical that has shown to be effective in destroying (via oxidation) a wide variety of organic chemicals including petroleum hydrocarbons and oxygenates with the by-products being carbon dioxide and water. In addition, the injection of ozone into the subsurface can enhance the natural biodegradation of organic chemicals through increased dissolved oxygen concentrations since ozone rapidly decomposes to oxygen. Significant reductions in contaminant concentrations in groundwater have been observed in as little as a few weeks to a few months with ozone injection. A pilot test would be required to evaluate the potential effectiveness of ozone injection.

Mass calculations on remaining petroleum hydrocarbons in soil and groundwater are included as Attachment F. Current soil conditions may not necessarily correlate with historic data, as in-situ degradation of absorbed petroleum hydrocarbons in the soil have likely occurred over time in response to natural attenuation.

For groundwater, the plume area is on-site in and around monitoring wells MW-1, MW-2, MW-3, MW-4 and borings SB-1, SB-2, SB-3, and SB-4 and extends off-site to the west-northwest in the vicinity of MW-5 and MW-7 as well as monitoring wells MW-1, MW-8, and MW-9 associated with the former Shell Station.

For soil, the depth of the petroleum hydrocarbon impacted soil is primarily found in borings MW-1, SB-2, and SB-5 at depths of 10.5 feet bgs, 8.5 bgs, and 17 feet bgs, respectively. In addition, petroleum hydrocarbon impacted soil was reported in the vicinity of the former UST location and the fuel dispensers along the south side of the property at depths of 6 feet bgs and 3 feet bgs, respectively during the fuel system upgrades conducted in 1998.

The approximate costs for installation of the ozone injection points and periodic injection for an 18-24 month period would range from range from $150,000 to $250,000.

The advantages of ozone injection are (1) a reduced time to achieve site closure; (2) ozone is effective at reducing MTBE concentrations, the primary COC at the site; (3) ozone injection can increase dissolved oxygen levels, potentially enhancing natural biodegradation; and (4) no waste is generated, therefore no treatment and/or disposal costs are incurred. Potential disadvantages of ozone injection are (1) it requires the installation and maintenance of injection points (wells); (2) continued regular injection of ozone or oxygen; (3) effectiveness can be limited by subsurface conditions, such as permeability of soil; (4) effectiveness can be limited by other constituents present in the subsurface, such as natural organic matter and ferrous iron, with which ozone may react prior to reaction with the petroleum hydrocarbons; and (5) ozone can degrade underground equipment such as tanks and piping.

As risk-based closure goals have not yet been developed, ozone injection is considered a technically viable remedial solution, but overall feasibility will not be further explored

until after completion of risk-based modeling to determine if existing concentrations are below risk thresholds, or require further action.

RECOMMENDED CORRECTIVE ACTION

Recommended Action

Due to the concentrations of petroleum hydrocarbons in the soil and the groundwater currently found beneath the site risk based corrective action is not appropriate at this time.

Of the remedial methods evaluated, **ozone/oxygen injection** is the best-available, most cost-effective approach to corrective action. With the decreasing concentrations of TPHg, benzene, and MTBE in groundwater, natural attenuation is apparently already occurring at the site. Natural attenuation should continue to decrease concentrations in groundwater over time until the cleanup goals are achieved.

As discussed above, during the first quarter 2007 monitoring and sampling event groundwater samples were collected from monitoring wells MW-2 and MW-4 for heterotrophic plate count (HPC). The HPC analytical data indicated that the DO in the groundwater in the vicinity of monitoring well MW-2 is depleted thus limiting the growth of natural bacterial populations. The HPC analytical data indicate that the DO in the groundwater in the vicinity of monitoring well MW-4 is also depleted but to a lesser extent than in the vicinity of monitoring well MW-2. Therefore, if ozone/oxygen were introduced into the groundwater, via ozone/oxygen injection, the increased oxygen would likely stimulate the growth of natural bacterial populations thus increasing the degradation of the petroleum hydrocarbons in the groundwater.

Therefore, Delta recommends that an ozone/oxygen injection well be installed in the vicinity of monitoring well MW-1 and feasibility testing be conducted. The injection well will be screened based on the lithology encountered during installation. The anticipated screen interval is from 17 feet bgs to 15.5 feet bgs, based on the lithology, clayey sand unit, encountered in the SB-6 boring advanced during the November 2007 site investigation. Upon agency concurrence, a work plan will be prepared under a separate cover describing the proposed work. The data from the feasibility testing will be evaluated and a remedial action plan will be prepared for the site.

Alternative Remedial Approach

Of the remaining remedial methods evaluated, **monitored natural attenuation** is the best-available, most cost-effective approach to corrective action. With the decreasing concentrations of TPHg, benzene, and MTBE in groundwater, natural attenuation is apparently already occurring at the site. Natural attenuation should continue to decrease concentrations in groundwater over time until the cleanup goals are achieved. However, due to the concentrations of petroleum hydrocarbons in the groundwater currently found beneath the site monitoring natural attenuation would likely take years to obtain cleanup goals unless enhanced by the introduction of ozone/oxygen.

REGULATORY CLOSURE

Regulatory closure will be requested when COC concentrations have met cleanup goals as approved by the agencies, and remaining dissolved-phase COC concentrations can be demonstrated to not pose a risk to human health or the environment.

After approval of closure and no further action by the ACHCSA, site monitoring wells and injection wells will be abandoned after obtaining the necessary permits.

RECOMMENDATIONS

Based on the data from previous site investigations as well as the data from quarterly groundwater monitoring the petroleum hydrocarbon impact, specifically benzene, to the groundwater in the vicinity of monitoring well MW-1 appears to be significantly higher that what would be expected at this location. Therefore, Delta recommends that additional subsurface characterization be conducted in the vicinity of monitoring well MW-1.

In addition, based on the data from previous investigations the petroleum hydrocarbon impacted soil beneath the site is found at depths shallower than 10 feet bgs. Therefore, Delta recommends that a vapor intrusion investigation be conducted along the northern and eastern property boundaries as well as in the vicinity of the station building.

Upon agency concurrence with these recommendations, the details of the proposed additional subsurface investigation as well as the soil vapor survey investigation will be submitted under a separate cover

REMARKS/SIGNATURES

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report will be performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no expressed or implied warranty as to the contents of this report.

If you have any questions regarding this project, please contact me at (916) 503-1261 or Mr. William Borgh of ConocoPhillips at (916) 558-7612.

Sincerely,
DELTA CONSULTANTS

Dennis S. Dettloff, P.G.
Senior Project Manager
California Registered Professional Geologist No. 7480

FIGURES

Figure 1 – Site Location Map
Figure 3 – Site Map with Location of Geologic Cross Sections
Figure 3 – Geologic Cross Section A-A'
Figure 4 – Geologic Cross Section B-B'
Figure 5 – Historical Groundwater Flow Directions

TABLES

Table 1 - Groundwater Analytical Results, 2007 Soil Boring Investigation
Table 2 - Historical Soil Analytical Results

ATTACHMENTS

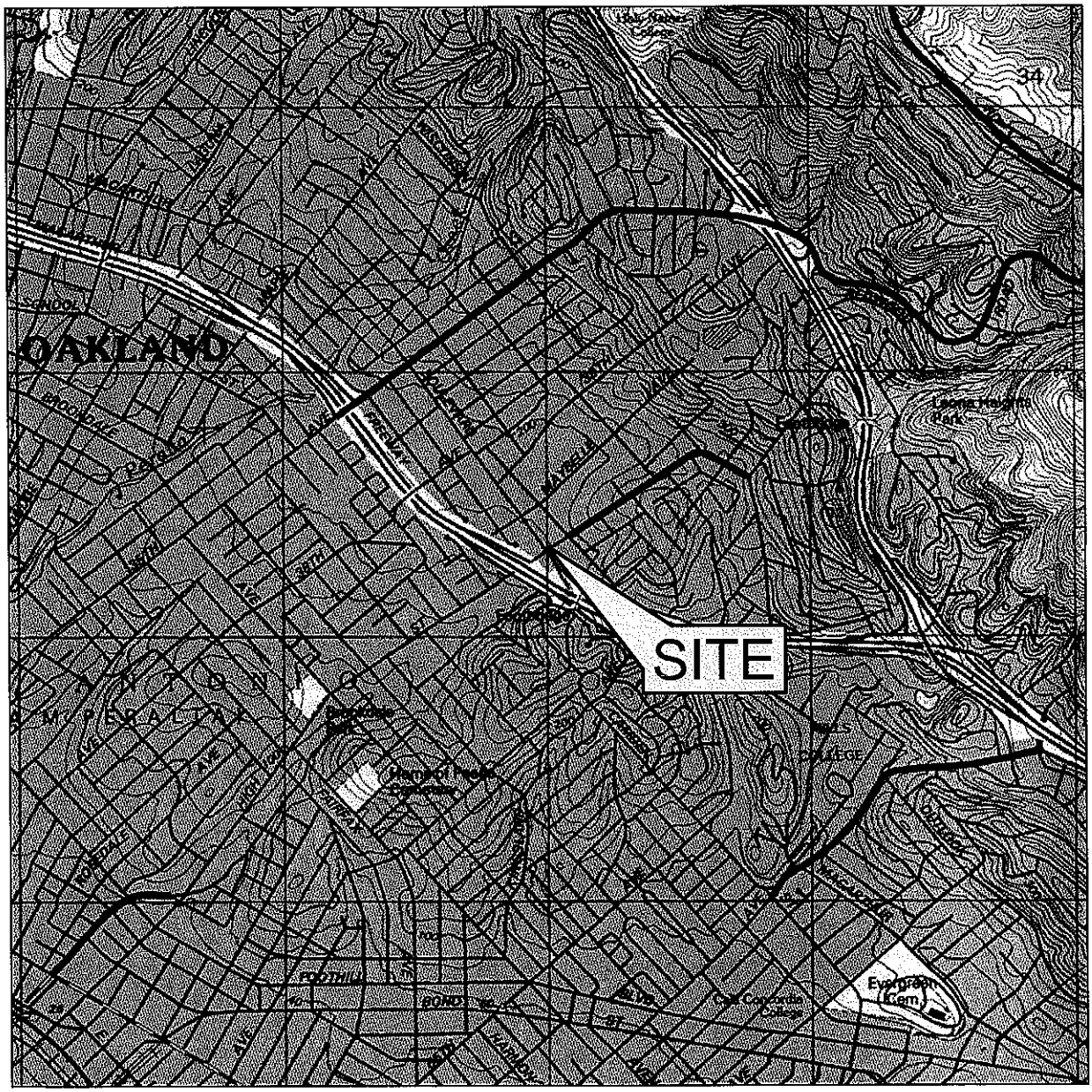
Attachment A - ACHCS Approval Letter
Attachment B - Boring Logs
Attachment C - Historical Groundwater Monitoring Data and Analytical Results
Attachment D - Dissolved Phase Concentration Maps (January 2008)
Attachment E - Groundwater Contaminant Concentration vs. Time Graphs
Attachment F - Mass Calculations

REFERENCES

Applied Hydrogeology, Second Edition, C.W. Fetter, 1988

Environmental Protection Agency (1994a), *How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites: A Guide for Corrective Action Plan Reviewers, Chapter II-Soil Vapor Extraction*, October 1994.

Figures



North

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, OAKLAND EAST QUADRANGLE, 1967

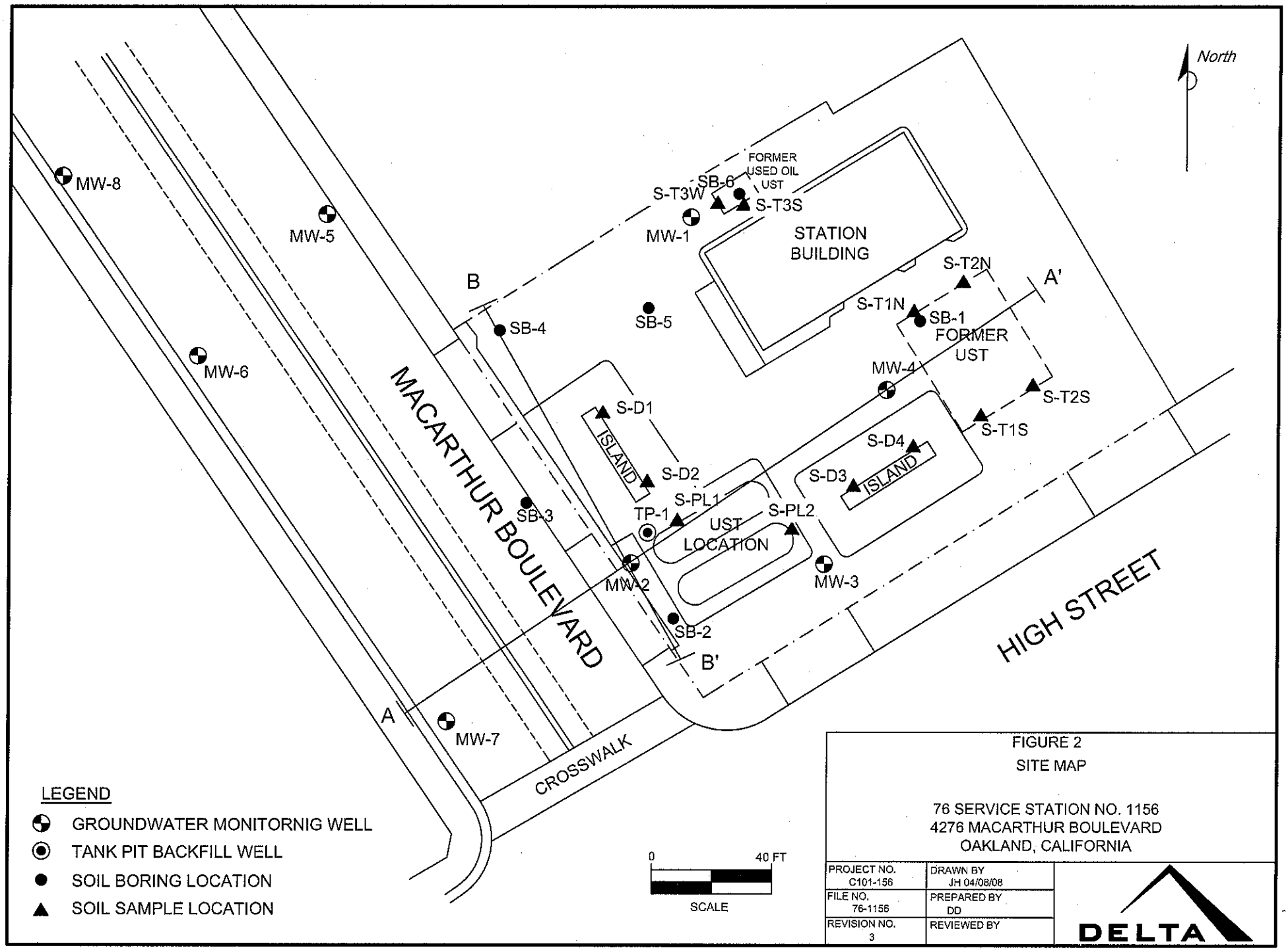
FIGURE 1

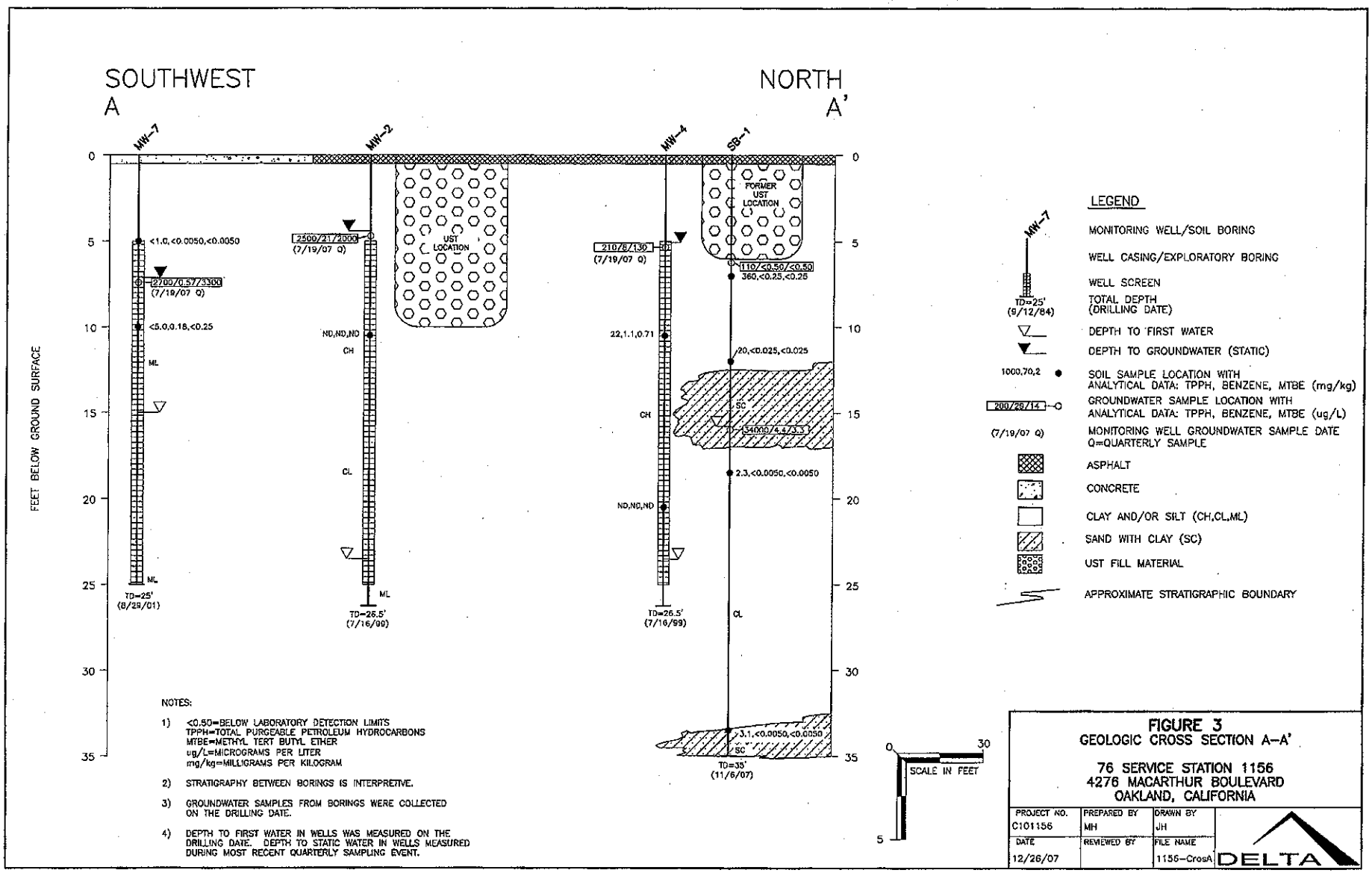
SITE LOCATOR MAP

76 SERVICE STATION NO. 1156
4276 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO. C101-156	DRAWN BY JH 03/01/07
FILE NO. Site Locator	PREPARED BY MC
REVISION NO.	REVIEWED BY

DELTA


North
MW-8
MW-5
MW-6
MW-7
MW-1
MW-2
MW-3
MW-4
SB-1
SB-2
SB-3
SB-4
SB-5
SB-6
FORMER USED OIL UST
S-T3W
S-T3S
S-T2N
S-T1N
S-T2S
S-T1S
S-D1
S-D2
S-D3
S-D4
S-PL1
S-PL2
TP-1
ISLAND
ISLAND
FORMER UST
UST LOCATION
STATION BUILDING
A
A'
B
B'
MACARTHUR BOULEVARD
HIGH STREET
CROSSWALK
LEGEND
GROUNDWATER MONITORNIG WELL
TANK PIT BACKFILL WELL
SOIL BORING LOCATION
SOIL SAMPLE LOCATION
0
40 FT
SCALE
FIGURE 2
SITE MAP
76 SERVICE STATION NO. 1156
4276 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA
PROJECT NO. C101-156
DRAWN BY JH 04/08/08
FILE NO. 76-1156
PREPARED BY DD
REVISION NO. 3
REVIEWED BY
DELTA



NOTES:

1) <0.50=BELOW LABORATORY DETECTION LIMITS
TPPH=TOTAL PURGEABLE PETROLEUM HYDROCARBONS
MTBE=METHYL TERT BUTYL ETHER
ug/L=MICROGRAMS PER LITER
mg/kg=MILLIGRAMS PER KILOGRAM

2) STRATIGRAPHY BETWEEN BORINGS IS INTERPRETIVE.

3) GROUNDWATER SAMPLES FROM BORINGS WERE COLLECTED ON THE DRILLING DATE.

4) DEPTH TO FIRST WATER IN WELLS WAS MEASURED ON THE DRILLING DATE. DEPTH TO STATIC WATER IN WELLS MEASURED DURING MOST RECENT QUARTERLY SAMPLING EVENT.

LEGEND

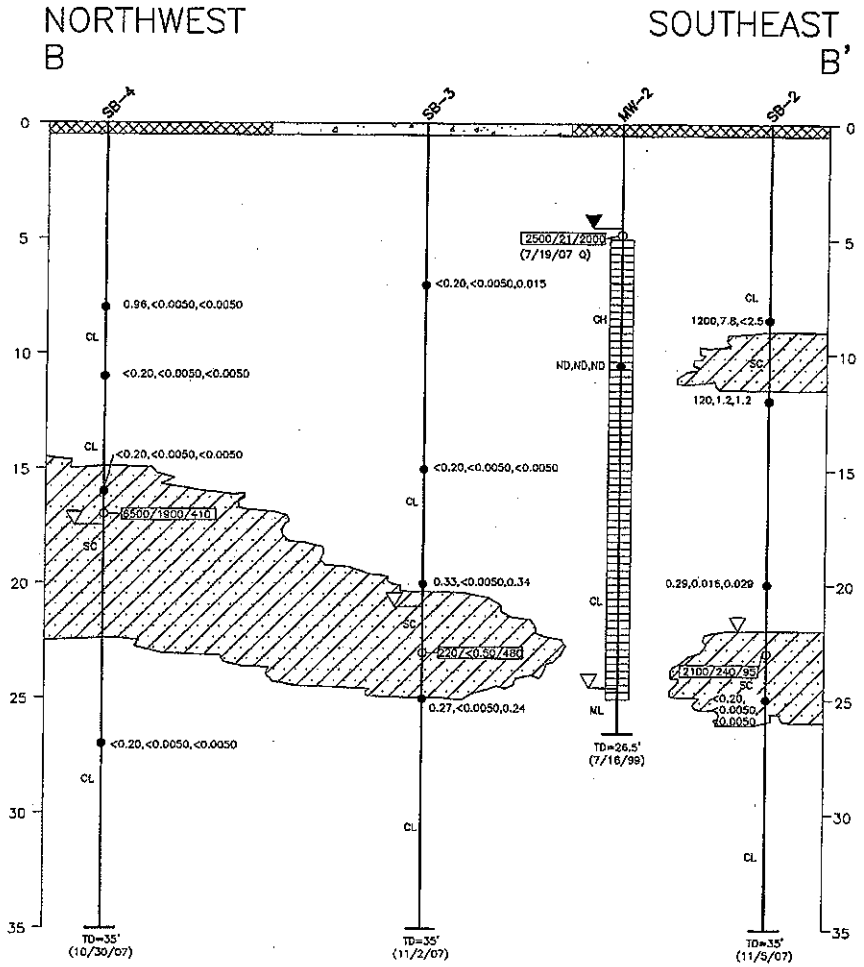
- MW-7 / TD=25' (9/12/84): MONITORING WELL/SOIL BORING; WELL CASING/EXPLORATORY BORING; WELL SCREEN; TOTAL DEPTH (DRILLING DATE)
- DEPTH TO FIRST WATER
- DEPTH TO GROUNDWATER (STATIC)
- 1000,70,2: SOIL SAMPLE LOCATION WITH ANALYTICAL DATA: TPPH, BENZENE, MTBE (mg/kg)
- 200/29/14: GROUNDWATER SAMPLE LOCATION WITH ANALYTICAL DATA: TPPH, BENZENE, MTBE (ug/L)
- (7/19/07 Q): MONITORING WELL GROUNDWATER SAMPLE DATE Q=QUARTERLY SAMPLE
- ASPHALT
- CONCRETE
- CLAY AND/OR SILT (CH,CL,ML)
- SAND WITH CLAY (SC)
- UST FILL MATERIAL
- APPROXIMATE STRATIGRAPHIC BOUNDARY

FIGURE 3
GEOLOGIC CROSS SECTION A–A'

76 SERVICE STATION 1156
4276 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C101156	MH	JH
DATE	REVIEWED BY	FILE NAME
12/26/07		1156-CrosA

DELTA



LEGEND

- MW-2 / TD=25' (9/12/84): MONITORING WELL/SOIL BORING; WELL CASING/EXPLORATORY BORING; WELL SCREEN; TOTAL DEPTH (DRILLING DATE)
- DEPTH TO FIRST WATER
- DEPTH TO GROUNDWATER (STATIC)
- 1000,70,2: SOIL SAMPLE LOCATION WITH ANALYTICAL DATA: TPPH, BENZENE, MTBE (mg/kg)
- 200/29/14: GROUNDWATER SAMPLE LOCATION WITH ANALYTICAL DATA: TPPH, BENZENE, MTBE (ug/L)
- (7/19/07 Q): MONITORING WELL GROUNDWATER SAMPLE DATE Q=QUARTERLY SAMPLE
- ASPHALT
- CONCRETE
- CLAY AND/OR SILT (CH,CL,ML)
- SAND WITH CLAY (SC)
- APPROXIMATE STRATIGRAPHIC BOUNDARY

NOTES:

1) <0.50=BELOW LABORATORY REPORTING LIMITS
TPPH=TOTAL PURGEABLE PETROLEUM HYDROCARBONS
MTBE=METHYL TERT BUTYL ETHER
ug/L=MICROGRAMS PER LITER
mg/kg=MILLIGRAMS PER KILOGRAM

2) STRATIGRAPHY BETWEEN BORINGS IS INTERPRETIVE.

3) GROUNDWATER SAMPLES FROM BORINGS WERE COLLECTED ON THE DRILLING DATE.

4) DEPTH TO FIRST WATER IN WELLS WAS MEASURED ON THE DRILLING DATE. DEPTH TO STATIC WATER IN WELLS MEASURED DURING MOST RECENT QUARTERLY SAMPLING EVENT.

0 20
SCALE IN FEET
5

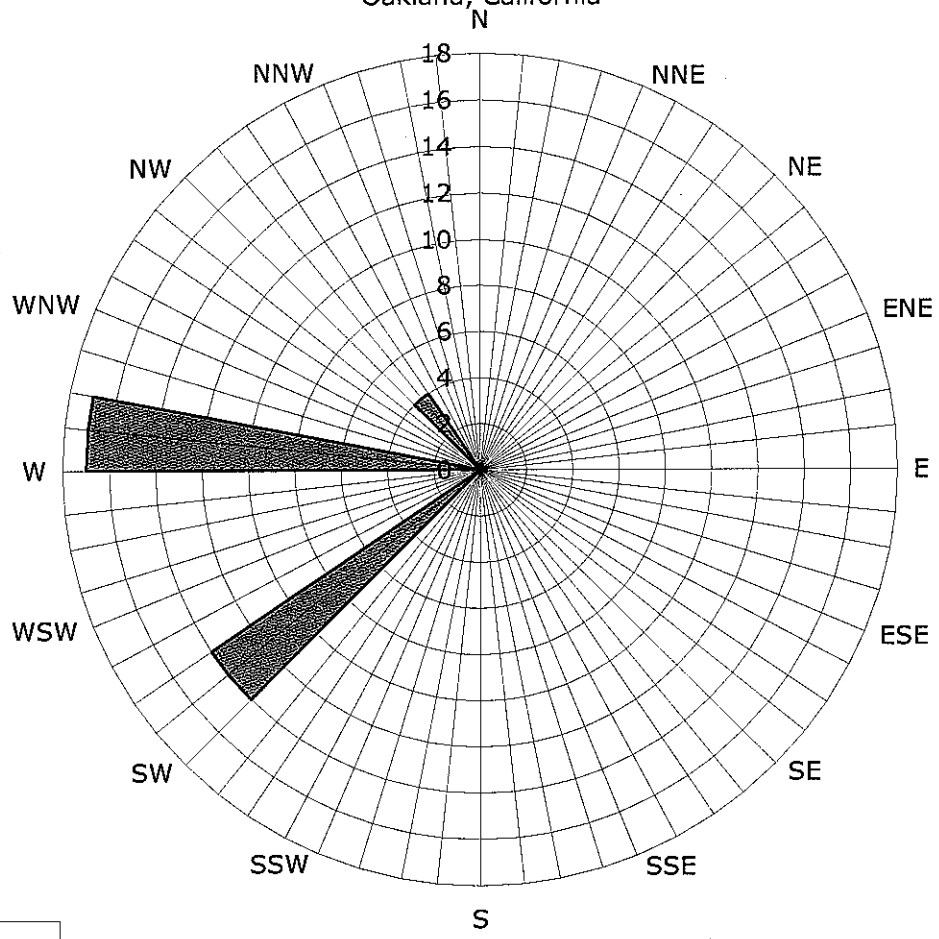
FIGURE 4
GEOLOGIC CROSS SECTION B-B'

76 SERVICE STATION 1156
4276 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C101156	MH	JH
DATE	REVIEWED BY	FILE NAME
12/26/07		1156-CrosB

DELTA

Figure 5
Historic Groundwater Flow Directions
ConocoPhillips Site No. 1156
4276 MacArthur Boulevard
Oakland, California



Legend
Concentric circles represent quarterly montoring events
Third Quarter 1999 through Second Quarter 2008
35 data points shown

Tables

Table 1

GROUNDWATER ANALYTICAL RESULTS
2007 SOIL BORING INVESTIGATION
ConocoPhillips Station No. 1156
4276 MacArthur Boulevard, Oakland, California

Sample ID	Date	Sample Depth (feet)	TPPH (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
Soil Borings								
SB-1@6	11/6/2007	6	**110**	<0.50	**0.51**	**4.2**	**14**	<0.50
SB-1@16	11/6/2007	16	**34,000**	**4.4**	**100**	**2,000**	**9,800**	**3.3**
SB-2@23	11/5/2007	23	**2,100**	**240**	**200**	**70**	**240**	**95**
SB-3@23	11/2/2007	23	**220**	<0.50	<0.50	<0.50	<0.50	**480**
SB-4@17	10/31/2007	17	**6,500**	**1,900**	**100**	**170**	**110**	**410**

Notes:

TPPH =	Total purgeable petroleum hydrocarbons by EPA Method 8260B
BTEX =	Benzene, toluene, ethylbenzene, total xylenes by EPA Method 8260B
MTBE =	Methyl tertiary butyl ether by EPA Method 8260B
µg/L =	micrograms per liter
Bold =	Above the laboratory's indicated reporting limit

Table 2

HISTORICAL SOIL ANALYTICAL RESULTS
ConocoPhillips Station No. 1156
4276 MacArthur Boulevard, Oakland, California

Sample ID	Date	Sample Depth (feet)	TPPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TOG (mg/kg)	TEPHd (mg/kg)
Fuel USTs										
S-6-T1N	3/23/1998	6	**1,200**	**0.9**	<0.50	**14**	**100**	NA	NA	NA
S-9.5-T1S	3/23/1998	9.5	**590**	**1.5**	<0.50	**5.6**	**33**	NA	NA	NA
S-7-T2S	3/23/1998	7	**670**	**1**	**0.74**	**6.8**	**51**	NA	NA	NA
S-6-T2N	3/23/1998	6	**83**	<0.025	<0.025	**0.15**	**0.41**	NA	NA	NA
Dispensers										
S-2-D1	4/9/1998	2	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA	NA
S-3-D2	4/9/1998	3	**16**	<0.0050	<0.0050	<0.0050	**1.3**	NA	NA	NA
S-3-D3	4/9/1998	3	**590**	**1.6**	**15**	**18**	**99**	NA	NA	NA
S-3-D4	4/9/1998	3	<0.0050	<0.0050	<0.0050	<0.0050	**0.07**	NA	NA	NA
Product Lines										
S-3-PL1	4/9/1998	3	**160**	<0.50	<0.50	<0.50	**8.4**	NA	NA	NA
S-3.5-PL2	4/9/1998	3.5	**63**	<0.050	<0.050	<0.050	**0.45**	NA	NA	NA
Waste Oil UST										
S-6.5-T3S	3/23/1998	6.5	**130**	**0.55**	**1.3**	**1.2**	**11**	NA	**8,400**	**78,000**
S-4.5-T3W	4/9/1998	4.5	**5**	<0.0050	**0.066**	<0.0050	**0.011**	NA	<50	**2.3**
S-3-T3S	4/9/1998	3	**1.6**	**0.043**	<0.0050	**0.0091**	<0.0050	NA	<50	<1.0
S-6-T3S	4/9/1998	6	**81**	**0.64**	**1.4**	**1.1**	**5.9**	NA	**360**	**560**
Monitoring Wells										
MW-1@10.5'	7/16/1999	10.5	**6,800**	**2.6**	**25**	**110**	**470**	<0.050	NA	**140**
MW-2@10.5'	7/16/1999	10.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.050	NA	NA
MW-3@10.5'	7/16/1999	10.5	**16**	**0.32**	**0.43**	**0.28**	**1.8**	**0.36**	NA	NA
MW-4@10.5'	7/16/1999	10.5	**22**	**1.1**	**0.32**	**0.46**	**1.3**	**0.71**	NA	NA
MW-4@20.5'	7/16/1999	20.5	<1.0	<0.0050	<0.0050	**0.0069**	<0.0050	<0.050	NA	NA
MW-5@5'	8/29/2001	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND	NA
MW-6@5'	8/29/2001	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA
MW-7@5'	8/29/2001	5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NA	NA
MW-7@10'	8/29/2001	10	<5.0	**0.18**	<0.025	**0.085**	**0.34**	<0.25	NA	NA
MW-8@10'	10/30/2007	10	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	**220**	NA
MW-8@15'	10/30/2007	15	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
MW-8@20'	10/30/2007	20	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
Soil Borings										
SB-1@7	11/6/2007	7	**360**	<0.25	<0.25	**4.2**	**17**	<0.25	<50	NA
SB-1@12	11/6/2007	12	**20**	<0.025	<0.025	**1.7**	**2.2**	<0.025	<50	NA
SB-1@18.5	11/6/2007	18.5	**2.3**	<0.0050	<0.0050	**0.067**	**0.30**	<0.0050	<50	NA
SB-1@33.5	11/6/2007	33.5	**3.1**	<0.0050	**0.012**	**0.26**	**0.14**	<0.0050	<50	NA
SB-2@8.5	11/5/2007	8.5	**1,200**	**7.8**	**51**	**24**	**120**	ND<2.5	<50	NA
SB-2@12	11/5/2007	12	**120**	**1.2**	<0.25	**2.3**	**12**	**1.2**	<50	NA
SB-2@20	11/5/2007	20	**0.029**	**0.016**	**0.011**	**0.0079**	**0.029**	**0.029**	<50	NA
SB-2@25	11/5/2007	25	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
SB-3@7	11/2/2007	7	<0.20	<0.0050	<0.0050	<0.0050	<0.010	**0.015**	<50	NA
SB-3@15	11/2/2007	15	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
SB-3@20	11/2/2007	20	**0.33**	<0.0050	<0.0050	<0.0050	<0.010	**0.34**	<50	NA
SB-3@25	11/2/2007	25	**0.27**	<0.0050	<0.0050	<0.0050	<0.010	**0.24**	<50	NA
SB-4@8'	10/30/2007	8	**0.96**	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
SB-4@11'	10/30/2007	11	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
SB-4@16'	10/30/2007	16	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
SB-4@27	10/30/2007	27	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
SB-5@7	11/1/2007	7	**150**	**0.28**	**0.31**	**1.7**	**8.6**	<0.12	<50	NA
SB-5@12	11/1/2007	12	**6.0**	<0.025	<0.025	<0.025	<0.050	<0.025	<50	NA
SB-5@17	11/1/2007	17	**1,700**	**3.0**	**13**	**28**	**99**	<1.0	<50	NA
SB-5@22	11/1/2007	22	<0.20	**0.0090**	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
SB-5@30	11/1/2007	30	<0.20	**0.0087**	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
SB-6@5	10/31/2007	5	**72**	<0.025	<0.025	**0.047**	<0.050	<0.025	<50	NA
SB-6@8.5	10/31/2007	8.5	**2.0**	**0.016**	<0.0050	**0.016**	<0.010	**0.016**	<50	NA
SB-6@12'	10/31/2007	12	<0.20	<0.0050	<0.0050	<0.0050	<0.010	**0.016**	<50	NA
SB-6@15	10/31/2007	15	<0.20	<0.0050	<0.0050	<0.0050	<0.010	**0.029**	<50	NA
SB-6@17	10/31/2007	17	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA
SB-6@30.5	10/31/2007	30.5	<0.20	<0.0050	<0.0050	<0.0050	<0.010	<0.0050	<50	NA

Notes:

TPPHg =	Total purgeable petroleum hydrocarbons by EPA Method 8260B
BTEX =	Benzene, toluene, ethylbenzene, total xylenes by EPA Method 8260B
MTBE =	Methyl tertiary butyl ether by EPA Method 8260B
TOG =	Total Oil and Grease
TEPHd =	Total extractable petroleum hydrocarbons as diesel
mg/kg =	milligrams per kilogram
Bold =	Above the laboratory's indicated reporting limit
< =	Below the laboratory's indicated reporting limit
ND =	Not detected at or above the laboratory reporting limit
NA =	Not analyzed

Attachment A

ACHCS Approval Letter

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

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

June 18, 2008

William Borgh
ConocoPhillips
76 Broadway
Sacramento, CA 95818

Carole Quick and Lorraine Mudget
P.O. Box 2165
Gearheart, OR 97138

Subject: Fuel Leak Case No. RO0000409 and Geotracker Global ID T0600102279, Unocal #1156, 4276 MacArthur Boulevard, Oakland, CA 94619

Dear Mr. Borgh, Ms. Quick, and Ms. Mudget:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above-referenced site, including the recently submitted document entitled, "*Draft Corrective Action Plan*," dated April 24, 2008. The "*Draft Corrective Action Plan*," (Draft CAP) does not include sufficient evaluation of remedial alternatives to meet the minimum requirements for a corrective action plan. Therefore, we request that you address the technical comments below and submit a revised Draft CAP.

TECHNICAL COMMENTS

1. **Proposed Cleanup Levels.** The Draft CAP indicates that cleanup goals will be established using a risk-based approach that will be submitted to ACEH under separate cover. The revised Draft CAP requested below should include target cleanup levels for soil, soil vapor, and groundwater. We concur with the recommendation to conduct an evaluation of potential vapor intrusion.

2. **Proposed Remedial Alternatives.** The Draft CAP discusses three remedial alternatives: risk-based closure, monitored natural attenuation, and ozone/oxygen injection. Risk-based closure of the case cannot be considered a remedial alternative. Ozone/oxygen injection is the only active remedial alternative considered. The revised Draft CAP must include an evaluation of a minimum of three active remedial alternatives in addition to monitored natural attenuation. A discussion of the feasibility of the proposed remedial alternatives to achieve target cleanup goals and cost effectiveness must be included for the site-specific conditions. The rationale for selection of a remedial alternative is to be discussed in detail.

3. **Confined or Partially Confined Groundwater Conditions.** The Draft CAP presents an interpretation that groundwater at the site is under confined conditions. Groundwater was typically first encountered in soil borings at depths of 13 to 24 feet bgs. Static water levels in the borings were higher, typically ranging from approximately 2 to 10 feet bgs. Although the soil boring data suggest that groundwater is under confined or partially confined conditions,

we note that groundwater was measured at approximately 7.5 feet bgs in the former fuel tank pit during tank removal in 1998 and that tank backfill well TP1 was used to extract 41,000 gallons of hydrocarbon-impacted groundwater in 2001. We also note that the Site Conceptual Model for the site (Environmental Resolutions, Inc., January 7, 2002) described groundwater conditions at the site as unconfined. The revised Draft CAP must include more detailed discussion of the confined or unconfined groundwater conditions and the potential effects of these conditions on the proposed ozone/oxygen injection.

4. **Ozone/Oyxgen Injection.** In situ oxidation and injection technologies require detailed site characterization in order to target zones for ozone or oxygen delivery. Existing monitoring wells at the site, with the exception of tank pit backfill well TP-1, have long screen intervals from approximately 5 to 25 feet bgs. Therefore, they do not provide information on the vertical distribution of groundwater contamination. Limited vertical delineation of soil and groundwater contamination has been conducted. In the revised Draft CAP requested below, please describe the vertical intervals or stratigraphic units that will be targeted for ozone/oxygen injection and the basis for targeting these intervals. In addition, the revised Draft CAP is to include some estimate of the mass of petroleum hydrocarbons in the vadose zone and within vertical intervals of the saturated zone.

5. **Groundwater Concentration Trends.** The Draft CAP cites apparent decreasing trends on time versus concentration graphs as evidence that natural attenuation is occurring at the site. In reviewing the time versus concentration graphs included in the appendix to the Draft CAP, we observed abrupt changes in concentration trends that occurred during 2003. An example of these changes can be observed on the TPHg time concentration graph for monitoring well MW-3. Between 07/07/2003 and 10/09/2003, the concentration of TPHg in groundwater from well MW-3 decreased from 33,000 micrograms per liter (µg/L) to 3,800 µg/L and the trend line changed significantly. In reviewing these data, we note that the abrupt variation in trend that occurred between 07/07/2003 and 10/09/2003 correlates to a change in firms conducting the sampling and analyses. Abrupt changes in trend during this time period are also apparent in wells MW-4, MW-5, and MW-7. Future discussions of decreasing concentration trends must include an evaluation of data quality and potential effects of sampling and analytical methods on apparent concentration trends. Please also revise the graph of benzene concentration versus time for well MW-3 in future documents as the data shown on the graph are actually TPHg data rather than benzene data.

6. **Public Participation.** Public participation is a requirement for the Corrective Action Plan process. Therefore, we request that you submit a Draft CAP for ACEH review. Upon ACEH approval of a Draft CAP, ACEH will notify potentially affected members of the public who live or own property in the surrounding area of the proposed remediation described in the Draft CAP. Public comments on the proposed remediation will be accepted for a 30-day period.

7. **Quarterly Groundwater Monitoring.** Please continue quarterly groundwater monitoring and present the results in the Quarterly Reports requested below.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Jerry Wickham), according to the following schedule:

- **July 30, 2008** – Revised Draft Corrective Action Plan
- **30 days following end of each quarter** – Quarterly Groundwater Monitoring Report (To include summary report, quarterly monitoring report, and remedial performance report if remediation is ongoing)

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

ELECTRONIC SUBMITTAL OF REPORTS

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

PERJURY STATEMENT

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

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

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

UNDERGROUND STORAGE TANK CLEANUP FUND

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

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to $10,000 per day for each day of violation.

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland, CA 94612-2032

Dennis Dettloff, Delta Environmental Consultants, Inc., 3164 Gold Camp Drive, Suite 200 Rancho Cordova, CA 95670

Rajan Goswamy, 4276 MacArthur Boulevard, Oakland, CA 94619

Donna Drogos, ACEH
Jerry Wickham, ACEH
File

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

Effective **January 31, 2006**, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

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

Additional Recommendations

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

Submission Instructions

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

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

3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
   a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
   b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name at acgov.org. (e.g., firstname.lastname@acgov.org)
   c) The subject line of the e-mail must start with the RO# followed by **Report Upload.** (e.g., Subject: RO1234 Report Upload)

Attachment B

Boring Logs

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: P1 /MW1 Plate: APPENDIX

Site: Tosco 76 Service Station 11. Date: 7/16/99

Drill Contractor: Woodward Drlling

Sample Method: Split Spoon Geologist: MARK S. DOCKUM

Drill Rig: B57 Bore Hole Diameter: 8" Signature:

Location: 10 Feet North of Northwestern Corner of Station Registration: R.G. 4412

Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	USCS	GEOLOGIC DESCRIPTION
				2 1/2" asphalt
			CH	Clay, grayish green, very moist, high plasticity
			SP	Sand, fine-grained, grayish green, moist, no plasticity, black staining
5	39	253	CH	Clay, grayish green, very moist, high plasticity
10	27	87	ML	Silty sand, fine-grained sand, black, very moist, no plasticity, (65% silt, 35% sand)
			CL	Clay, with some sand, medium-grained, light olive brown, medium plasticity, wet
15	36	222		
20	37	22		sandy clay, strong brown, (40% sand, 60% clay)
25	33	9		yellow orange, high plasticity, very moist
				Total depth at 26.5 feet. Groundwater encountered at 23'7".

WELL DESIGN

Casing Diameter: 2" Slot Size: 010 , Sand Size: 2/12 , Grout: Portland III

FN: 2235B001

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: B2/MW2 Plate: APPENDIX

Site: Tosco 76 Service Station 1156 Date: 7/16/99

Drill Contractor: Woodward Drilling

Sample Method: Split Spoon Geologist: MARK S. DOCKUM

Drill Rig: B57 Bore Hole Diameter: 8" Signature:

Location: 2 Feet EAst of Southernmost Driveway Registration: R.G. 4412

Along MacArthur Boulevard Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						4" asphalt	
						Clay, dark greenish gray, mottled redish orange, some coarse-grained sand, slightly damp, high plasticity, (35% sand, 65% clay)	
5	11	20			CH		
10	18	0				15% fine gravels up to 0.5", 20% sand, medium-grained, damp	
						Silty clay, orange brown, mottled green gray, (35% silt, 65% clay), moist, medium plasticity	
15	21	130			CL		
20	29	20				gravelly clay, light yellowish brown, (40% fine gravel, 60% clay), medium plasticity, very moist, black staining	
		▼					
25	45	18			ML	Sandy clay, trace of silt, yellowish brown, wet, medium plasticity, (35% sand, 15% silt, 50% clay)	
						Total depth at 26.5 feet. Groundwater encountered at 23' 6".	

Casing Diameter: 2" Slot Size: 010 , Sand Size: 2/12 , Grout: Portland I,II

FN: 22358002

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: B3/MW3 Plate: APPENDIX

Site: Tosco 76 Service Station 1156 Date: 7/16/99

Drill Contractor: Woodward Drilling

Sample Method: Split Spoon Geologist: MARK S. DOCKUM

Drill Rig: B57 Bore Hole Diameter: 8" Signature:

Location: Approximately 15' South West of Southern-most Dispenser Island Parallel to High Street Registration: R.G. 4412

Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						4 1/2" asphalt	
						Clay, dark yellowish brown, mottled, trace of medium-grained sand, slightly damp, high plasticity, (15% sand, 85% clay)	
5	18	235			CH	brown, mottled gray, dry	
10	33	265				staining, trace of coarse gravel and rootlets (15% gravel, 85% clay), slightly damp	
		▽					
						Sandy clay, greenish gray, mottled, orange, some medium-grained sand, slight plasticity, caliche present, (35% sand, 65% clay)	
15	25	81			CL		
						Clay, strong brown, slight mottling, trace of medium-grained sand, 20% sand, high plasticity, black staining, 80% clay	
20	36	9			CH		
		▼				Gravel, yellowish brown, wet	
					GW		
25	25	0			CH	Clay, trace of medium-grained sand, yellowish brown, very moist, high plasticity, (15% sand)	
					GW	Gravel, orange, slight plasticity, wet	
						Clay, yellowish brown, moist, high plasticity	
30	22	0			CH		
						Total depth at 31.5 feet. Groundwater encountered at 23.3 feet. Static groundwater at 12 feet.	

Casing Diameter: 2" Slot Size: .010 , Sand Size: 2/12 , Grout: Portland I,II

FN: 2235B003

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: B4/MW4 Plate: APPENDIX
Site: Tosco 76 Service Station 1156 Date: 7/16/99
Drill Contractor: Woodward Drilling
Sample Method: Split Spoon Geologist: MARK S. DOCKUM
Drill Rig: B57 Bore Hole Diameter: 8" Signature:
Location: 18 Feet North of Southernmost Dispenser Island Parallel High Street Registration: R.G. 4412
Logged by: Dylan Crouse

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						4 1/2'" asphalt	
						Clay, greenish gray, mottled, orange slightly damp, high plasticity	
5	17	309					
10	22	253			CH	trace of medium-grained sand, slightly moist	
15	19	4				moist	
20	28	4				brownish yellow, black staining, 20% gravel, 20% medium-grained sand, moist	
		▼					
25	36	0				brown, mottled, olive yellow, moist, black staining	
						Total depth at 26.5 feet. Groundwater encountered at 23.6 feet.	

Casing Diameter: 2" Slot Size: .010 , Sand Size: 2/12 , Grout: Portland I,II

FN: 2235B004

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: MW5 Plate: Attachment
Site: Tosco 76 Service Station 1156 Date: 8/29/01
Drill Contractor: Woodward Drilling Company, Inc.
Sample Method: Split Spoon Geologist: JOHN B. BOBBITT
Drill Rig: BK-81 Bore Hole Diameter: 8" Signature:
Location: Eastern side of MacArthur Boulevard Registration: R.G. 4313
approximately 40 feet north of site Logged by: Rob Saur

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						6" Concrete	
5	23	8.3 ▽			CL	CLAY WITH SAND AND TRACE OF GRAVEL: greenish gray, moist, high plasticity, fine-grained sand, fine-grained poorly-sorted subangular gravel.	
10	27	7.7				SANDY CLAY: orange brown, moist, low plasticity, fine-grained sand.	
15	57	11.2			ML	SANDY SILT: orange brown, moist, low plasticity, fine-grained sand.	
20	30						
25	38	7.7				light brown, wet.	
						Boring Terminated at 25 feet. Boring converted to groundwater monitoring well. Groundwater encountered at 6 feet.	

Casing Diameter: 2" Slot Size: 0.020 , Sand Size: #3 , Grout: Portland Cement

FN: 22358005

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: MW6 Plate: Attachment
Site: Tosco 76 Service Station 1156 Date: 8/29/01
Drill Contractor: Woodward Drilling Company, Inc.
Sample Method: Split Spoon Geologist: JOHN B. ROBBITT
Drill Rig: BK-81 Bore Hole Diameter: 8" Signature:
Location: Western side of MacArthur Boulevard Registration: R.G. 4313
approx. 30 feet north of Shell station Logged by: Rob Saur

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						6" Concrete	
5	24	10.6				CLAYEY SILT: greenish gray, very moist, medium plasticity.	
10	19	10.0			ML	light brown, trace of fine-grained sub-angular sand (approx. 5%).	
15	24	6.0				CLAYEY SILT WITH SAND: light brown, fine-grained sub-angular sand (approx. 15%).	
20	48	7.7			SM	SAND WITH SILT: orange brown, wet, medium-grained well-sorted well-rounded sand.	
25	50/5"					Boring terminated at 25 feet. Boring converted to groundwater monitoring well. Groundwater encountered at 5.5 feet.	

Casing Diameter: 2" Slot Size: 0.020 , Sand Size: #3 , Grout: Portland Cement

FN: 2235B006

ENVIRONMENTAL RESOLUTIONS, INC.

Project No.: 2235 Boring: MW7 Plate: Attachment
Site: Tosco 76 Service Station 1156 Date: 8/29/01
Drill Contractor: Woodward Drilling Company, Inc.
Sample Method: Split Spoon Geologist: JOHN B. BOBBITT
Drill Rig: BK-81 Bore Hole Diameter: 8" Signature:
Location: Western side of MacArthur Boulevard Registration: R.G. 4313
approx. 40 feet north of High Street Logged by: Rob Saur

DEPTH (ft)	BLOW COUNTS	PID/OVM (ppm)	SAMPLE	COLUMN	USCS	GEOLOGIC DESCRIPTION	WELL DESIGN
						6" Concrete	
5	50/5"	25				SANDY SILT: brown with bluish green mottling, moist, low plasticity, 40% fine-grained sand.	
10	36	236					
15	35	8.9 ▽			ML	light brown, wet.	
20	25	57					
25	50/5"	19.3				reddish brown, 30% medium-grained sand.	
						Boring terminated at 25 feet. Boring converted to groundwater monitoring well. Groundwater encountered at 15 feet.	

Casing Diameter: 2" Slot Size: 0.020 , Sand Size: #3 , Grout: Portland Cement

FN: 2235B007

Delta Consultants

Project No: **C101156151** | Client: **ConocoPhillips** | Boring No: **SB-1**
Logged By: **Tabbitha Croy** | Location: **4276 MacArthur Blvd** | Date Drilled: **11/6/07**
Driller: **Gregg Drilling & Testing** | **Oakland, CA** | Page **1** of **2**
Drilling Method: **HSA** | Hole Diameter: **4"**
Sampling Method: **Continuous** | Hole Depth: **35'**
Casing Type: **NA** | Well Diameter: **NA**
Slot Size: **NA** | Well Depth: **NA**
Gravel Pack: **NA** | First Water Depth: **4'**

Elevation | Northing | Easting

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement	▽			Air-Knife	1			**Asphalt - 6"**
					2			**Fill;** tan, with medium gravel; surrounded; no plasticity; high toughness; soft; moist; (45,5,50)
					3			**Fill;** some clay; brown; gravel medium to coarse; sub rounded; some fine sand; moist
					4			@ 4' large rocks; subround; wet; trace fine sand and clay; (90,5,5)
		wet	6.2		5			
					6			
		wet	326	@ 7* 8:39	7			CL **Lean clay**; olive green; some fine to medium sand; some orange mottling; medium stiff; medium plasticity and toughness; wet; strong odor (0,30,70)
		wet	165	@ 8.5 8.42	8			Some black specs
		wet	221	@ 10 8:45	9			Some black and red staining
					10			
		wet	140	@ 12* 8:48	11			Sand fine to medium grain (0,40,60)
		wet	118	@ 13.5 8:50	12			SC **Poorly graded sand with clay**; brown; some olive green mottling and gray staining; sand fine to medium grain; soft; loose; wet; strong odor (0,70,30)
		wet	133	@ 15 8:52	13			
					14			
					15			
					16			Red brown with orange and olive green mottling; medium stiff; (0,50,50)
		wet	419	@ 17 8:56	17			CL **Lean clay**; some fine to medium sand; red brown with orange mottling and black specs; medium plasticity and toughness; medium stiff; wet; strong odor; (0,35,65)
		wet	1056	@ 18.5* 8:58	18			
		wet	148	@ 20 9:02	19			Stiff; trace medium gravel; sand medium grain; (5,35,60)
					20			
		wet	152	@ 22 9:04	21			Some black staining
					22			

Delta
Consultants

Project No: **C101156151**
Logged By: **Tabbitha Croy**
Driller: **Gregg Drilling & Testing**
Drilling Method: **HSA**
Sampling Method: **Continuous**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **4276 MacArthur Blvd**
Oakland, CA
Hole Diameter: 4"
Hole Depth: **35'**
Well Diameter: NA
Well Depth: NA
First Water Depth: **4'**

Boring No: **SB-1**
Date Drilled: **11/6/07**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement		wet	61.1		23			(5,40,55)
					24			A lot of black specs, very stiff; sand medium to coarse; low plasticity; high toughness; odor; (5,40,55)
		wet	78.1	@ 25 9:13	25			
					26			Tan; some black specs; trace orange mottling; coarse sand; trace fine gravel; sub angular; very stiff; (5,35,60)
		wet	41.2	@ 27 9:15	27			Red brown with orange mottling; soft; no plasticity; sand fine to medium; crumbles easily; (5,40,55)
		wet	53.9		28			No orange mottling; medium stiff; low plasticity; (0,40,60)
		wet	76.8		29			Stiff; red brown; some tan mottling; a lot of black specs; sand fine grain; trace coarse sand; (0,35,65)
					30			
		wet	38.3		31			Medium stiff; red brown with black specs; medium plasticity and toughness
					32			
		wet	65.8	@ 33.5* 9:32	33			SC **Poorly graded sand with clay**; trace fine gravel; sand medium to coarse; red brown and orange; dark red staining; hard but crumbles easily; some black specs; gravel sub angular; wet; odor; (5,65,30)
					34			
					35			**TD = 35 feet bgs**
					36			
					37			
					38			
					39			
					40			
					41			
					42			
					43			
					44			

Delta
Consultants

Project No: **C101156151**	Client: **ConocoPhillips**	Boring No: **SB-2**
Logged By: **Tabbitha Croy**	Location: **4276 MacArthur Blvd**	Date Drilled: **11/5/07**
Driller: **Gregg Drilling & Testing**	**Oakland, CA**	Page **1** of **2**
Drilling Method: **HSA**	Hole Diameter: **4"**	
Sampling Method: **Continuous**	Hole Depth: **35'**	
Casing Type: NA	Well Diameter: NA	
Slot Size: NA	Well Depth: NA	
Gravel Pack: NA	First Water Depth: **22'**	
Elevation	Northing	Easting

▽ = First Water

▼ = Static Groundwater

* = Selected for lab analysis

Well Completion: Backfill	Well Completion: Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample: Recovery	Sample: Interval	Soil Type	LITHOLOGY / DESCRIPTION
										Asphalt - 2"
Neat Cement					Air-Knife	1				**CL** **Lean clay with gravel;** tan; low to medium plasticity; high toughness; stiff; moist; gravel fine to medium; (30,0,70)
						2				
						3				
						4				
			moist	932.0	@ 5 8:43	5				Tan with olive green mottling; medium plasticity and toughness; some silt; trace fine sand; moist; strong odor; (0,10,90)
			moist	1599	@ 7 8:45	6				
			moist	1307	@ 8.5* 8:47	7				Red brown specs; some roots; medium stiff; trace fine gravel; (5,25,70)
			moist	1528	@ 10 8:49	8				(5,40,55)
			moist	1335	@ 12* 8:51	9				**SC** **Clayey sand;** tan and olive green; some red brown mottling; red specs; sand fine to medium medium stiff; crumbles easily; no plasticity; gravel fine grain; moist; strong odor; (15,50,35)
			moist	1227	@ 13.5 8:53	10				Loose; some black specs; red brown and tan
			moist	762	@ 15 8:55	11				**CL** **Lean clay;** red brown; some olive green mottling; stiff; silty; some fine sand; some black specs; low plasticity; high toughness; moist; strong odor; (0,35,65)
			moist	308	@ 17 8:57	12				Sand fine to medium; trace fine gravel; red brown and tan; some olive green; (5,25,70)
			moist	182	@ 18.5 8:59	13				
			moist	124	@ 20* 9:04	14				Medium stiff; medium plasticity and toughness; red brown; some olive green; some black specs; (0,35,65)
		▽	wet	228	@ 22 9:06	15				
						16				
						17				Red brown; some pink staining; olive green mottling; crumbles easily; some fine gravel; (10,35,55)
						18				
						19				Red brown; doesn't crumble easily; some fine sand; odor; (0,40,60)
						20				
						21				Medium soft; medium sand; trace fine gravel; some black specs; low plasticity; high toughness; (10,40,50)
						22				**SC** **Clayey sand;** red brown with orange mottling;

Delta
Consultants

Project No: **C101156151** | Client: **ConocoPhillips** | Boring No: **SB-2**
Logged By: **Tabbitha Croy** | Location: **4276 MacArthur Blvd** | Date Drilled: **11/5/07**
Driller: **Gregg Drilling & Testing** | **Oakland, CA** | Page **2** of **2**
Drilling Method: **HSA** | Hole Diameter: **4"**
Sampling Method: **Continuous** | Hole Depth: **35'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | First Water Depth: **22'**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					23				black specs; silty; sand fine to medium; fine gravel
		wet	55.1						loose; slightly cemented; wet; odor; (15,50,35)
					24				
		wet	51.2	@ 25* 9:30					Cemented; very stiff; sand medium grain; red brown; some orange mottling; (5,55,40)
					25				
					26				
		wet	14.6		27				CL **Lean clay;** red brown and tan with orange mottling; some black specs; medium stiff; medium plasticity and toughness; sand fine grain; wet; odor; (0,40,60)
					28				
		wet	21.1		29				Red brown with tan mottling
		wet	13.7		30				Black specs; stiff; trace fine gravel; low plasticity; high toughness; (5,35,60)
					31				
		wet	2.3		32				Some pink staining Medium soft; (5,40,55)
		wet	11.1		33				Red brown with black specs; very stiff; some fine sand; slight odor; (0,30,70)
					34				
					35				Medium stiff; (0,20,80)
					36				
					37				**TD = 35 feet bgs**
					38				
					39				
					40				
					41				
					42				
					43				
					44				

Delta
Consultants

Project No: **C101156151** | Client: **ConocoPhillips** | Boring No: **SB-3**
Logged By: **Tabbitha Croy** | Location: **4276 MacArthur Blvd** | Date Drilled: **11/2/07**
Driller: **Gregg Drilling & Testing** | **Oakland, CA** | Page **1** of **2**
Drilling Method: **HSA** | Hole Diameter: **4"**
Sampling Method: **Continuous** | Hole Depth: **35'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | First Water Depth: **21'**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
								Concrete - 6"
Neat Cement					1			**CL** **Silty clay;** tannish brown; medium plasticity; medium soft; low to medium toughness; moist; (0,0,100)
				Air-Knife	2			
					3			@ 3' lean clay; stiff; medium plasticity; high toughness; moist; (0,0,100)
					4			
		moist	1.1	@ 5 8:54	5			Some black streaks; tan; some red brown specs; some medium sand; no odor; (0,15,85)
		moist	0.7	@ 7* 8:57	6			
					7			Some gray streaks; (0,20,80)
		moist	0.4	@ 8.5 9:00	8			
		moist	0.6	@ 10 9:02	9			Some black specs; some white caliche; trace fine gravel; sand medium to coarse; (5,25,70)
					10			Tan with red brown mottling
		miost	0.8	@ 12 9:04	11			
		moist	0.6	@ 13.5 9:07	12			Red brown with tan; black specs; trace fine gravel; (10,25,65)
		moist	0.6	@ 15* 9:09	13			A lot of black specs; crumbles easily
					14			
		moist	0.8	@ 17 9:11	15			Very stiff; low plasticity
		moist	2.6	@ 18.5 9:15	16			
		wet	36.1	@ 20* 9:21	17			More sand; some silt; (5,35,60) **Silty lean clay;** red brown with tan mottling; soft; some black specs; (0,35,65)
	▽				18			
		wet	8.8		19			Trace fine gravel; meidum soft; medium palsticity; crumbles easily; silty; (5,40,565)
					20			
					21			**SC** **Clayey sand;** poorly graded with fine gravel; sand fine to medium; red brown with tan mottling; soft; loose; trace black specs; wet; slight odor; (5,55,40)
					22			

Delta
Consultants

Project No: **C101156151** | Client: **ConocoPhillips** | Boring No: **SB-3**
Logged By: **Tabbitha Croy** | Location: **4276 MacArthur Blvd** | Date Drilled: **11/2/07**
Driller: **Gregg Drilling & Testing** | **Oakland, CA** | Page **2** of **2**
Drilling Method: **HSA** | Hole Diameter: **4"**
Sampling Method: **Continuous** | Hole Depth: **35'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | First Water Depth: **21'**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					23				Breaks easily
		wet	3.7		24				Sand mostly medium grain; trace fine sand; red brown
		wet	1.8	@ 25* 9:48	25				**CL** **Lean clay with sand;** fine to medium; red brown and tan with orange mottling; some red specs; stiff; low plasticity; high toughness; wet; no odor; (0,35,65)
		wet	1.7		26				
		wet	0.7		27				Some black specs; red brown and some tan; medium stiff; trace fine gravel; (5,40,55)
		wet	0.5		28				Stiff; sand fine grain; tan with red brown mottling; (0,30,70)
		wet	1.1		29				Tan; some red brown mottling; trace medium sand; very stiff; wet; (0,30,70)
		wet	1.8		30				Trace gravel; sand medium to fine grain; wet; (5,30,65)
					31				A lot of black specs; red brown with tan mottling; sand fine grain; some medium grain; (0,25,75)
					32				
					33				
					34				
					35				**TD = 35 feet bgs**
					36				
					37				
					38				
					39				
					40				
					41				
					42				
					43				
					44				

Delta Consultants

Project No: **C101156151**
Logged By: **Tabbitha Croy**
Driller: **Gregg Drilling & Testing**
Drilling Method: **HSA**
Sampling Method: **Continuous**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **4276 MacArthur Blvd**
Oakland, CA
Hole Diameter: **4"**
Hole Depth: **35'**
Well Diameter: NA
Well Depth: NA
First Water Depth: **17.5'**

Boring No: **SB-4**
Date Drilled: **10/30/07**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery Interval	Soil Type	LITHOLOGY / DESCRIPTION
								Asphalt - 6"
Neat Cement				Air-Knife	1			**CL** **Lean clay;** tan to olive green; medium plasticity; medium toughness; stiff; moist; some black staining; (0,0,100)
					2			
					3			
					4			
		moist	7.5	@ 5 3:30	5			Very stiff; high toughness; some red specs; trace medium sand; odor; (0,5,95)
		moist	27.5	@ 8* 3:32	6			
					7			
		moist	25.3	@ 9 3:35	8			Orange mottling
		moist	11.5	@ 11 3:37	9			Tan some gray staining; stiff
					10			
		miost	6.5	@ 13.5* 3:39	11			Tan and red brown; some medium sand; slight odor; (0,25,75)
		moist	5.5	@ 14 3:40	12			Trace fine gravel; (5,30,65)
					13			
		moist	0.8	@ 16* 3:43	14			**SC** **Clayey sand;** red brown and tan; slightly cemented but crumbles easily; soft; no plasticity; high toughness; sand medium grain; moist; slight odor; (5,60,30)
	▽	wet	0.7		15			Low plasticity; sand fine to medium; wet; (0,60,40)
		wet	1		16			
					17			
		wet	1.1		18			Trace gray staining
					19			
		wet	0.3		20			No plasticity; (0,65,35)
					21			
					22			

Delta
Consultants

Project No: **C101156151** | Client: **ConocoPhillips** | Boring No: **SB-4**
Logged By: **Tabbitha Croy** | Location: **4276 MacArthur Blvd** | Date Drilled: **10/30/07**
Driller: **Gregg Drilling & Testing** | **Oakland, CA** | Page **2** of **2**
Drilling Method: **HSA** | Hole Diameter: **4"**
Sampling Method: **Continuous** | Hole Depth: **35'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | First Water Depth: **17.5'**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement		wet	0.6		23				**CL** **Lean clay;** tan to red brown; medium soft; medium plasticity and toughness; some fine sand; moist; no odor; (0,15,85)
		wet	0.6		24				
					25				With fine to medium sand; some black specs; (0,25,75)
		moist	0.4	@ 27* 4:15	26				
		moist	0.4		27				Olive green and tan; stiff; (0,0,100)
					28				
					29				
					30				
					31				No Recovery
		moist	0.5		32				Very stiff; trace fine gravel; some medium sand; low plasticity; high toughness; tan to red brown; (5,20,70)
		moist	0.4		33				
					34				
					35				(10,30,60)
					36				
					37				**TD = 35 feet bgs**
					38				
					39				
					40				
					41				
					42				
					43				
					44				

Delta
Consultants

Project No: **C101156151**
Logged By: **Tabbitha Croy**
Driller: **Gregg Drilling & Testing**
Drilling Method: **HSA**
Sampling Method: **Continuous**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **4276 MacArthur Blvd**
Oakland, CA
Hole Diameter: **4"**
Hole Depth: **35'**
Well Diameter: NA
Well Depth: NA
First Water Depth: **18'**

Boring No: **SB-5**
Date Drilled: **11/1/07**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
								Asphalt - 5"
Neat Cement				Air-Knife	1			**CL** **Lean clay;** olive green; medium stiff; medium plasticity and toughness; some medium sand and trace fine gravel; some gray staining; moist; strong odor; (10,25,65)
					2			
					3			
					4			
		moist	468	@ 5 11:11	5			Trace white caliche; very stiff; low plasticity; high touchness; with medium to coarse sand; trace fine gravel; (10,30,60)
		moist	688	@ 7* 11:19	6			Tan and olive green; some red brown mottling; some medium sand; (0,20,80)
		moist	638	@ 8.5 11:20	7			Low to medium plasticity
		moist	573	@ 10 11:22	8			
					9			
					10			
		miost	623	@ 12* 11:25	11			(0.25,75) Trace fine gravel; low plasticity; meidum soft; (5,25,70)
		moist	570	@ 13.5 11:27	12			Crumbles easily; (5,35,60)
		moist	532	@ 15 11:30	13			Red brown with olive green mottling; stiff; (0,35,65)
		moist	157	@ 17* 11:32	14			
	▽				15			
		wet	100		16			**SC** **Clayey sand;** red brown and olive; trace gravel; green; poorly graded; loose; soft; crumbles easily; medium sand; fine gravel; wet; odor; (10,50,40)
		wet	53.6	@ 20 11:41	17			
		wet	57	@ 22* 11:44	18			Red brown; soft; sand fine grain; trace fine gravel; black specs; medium plasticity and toughness; wet; odor; (5,50,45)
					19			
					20			
					21			
					22			

Delta
Consultants

Project No: **C101156151**
Logged By: **Tabbitha Croy**
Driller: **Gregg Drilling & Testing**
Drilling Method: **HSA**
Sampling Method: **Continuous**
Casing Type: NA
Slot Size: NA
Gravel Pack: NA

Client: **ConocoPhillips**
Location: **4276 MacArthur Blvd**
Oakland, CA
Hole Diameter: **4"**
Hole Depth: **35'**
Well Diameter: NA
Well Depth: NA
First Water Depth: **18'**

Boring No: **SB-5**
Date Drilled: **11/1/07**
Page **2** of **2**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery / Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement		wet	51.8		23–24		CL	**Lean clay;** tan with red brown mottling; black specs; fine sand; medium soft; medium plasticity and toughness; wet; odor; (0,30,70)
		moist	7.3		25–26			Some fine to medium sand; moist; slight odor
		moist	8.6		27–28			Stiff; (0,15,85) Tan and red brown with some olive green mottling
		moist	11.4		29			Medium stiff; (0,35,65)
		wet	16.8	@ 30* 12:07	30–31		SC	**Clayey sand;** red brown; some black specs; trace fine gravel; sand medium grain; soft; loose; no plasticity; wet; slight odor; (10,50,40)
		wet	14.1		32–33			Some olive green mottling; medium stiff
		moist	13.5		34–35		CL	**Lean clay;** light tan to olive green; stiff; some coarse sand; trace black specs; low to medium plasticity; high toughness; moist; odor; (0,15,85)
					36–44			**TD = 35 feet bgs**

Delta Consultants

Project No: **C101156151** | Client: **ConocoPhillips** | Boring No: **SB-6**
Logged By: **Tabbitha Croy** | Location: **4276 MacArthur Blvd** | Date Drilled: **10/31/07**
Driller: **Gregg Drilling & Testing** | **Oakland, CA** | Page **1** of **2**
Drilling Method: **HSA** | Hole Diameter: **4"**
Sampling Method: **Continuous** | Hole Depth: **35'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | First Water Depth: **17'**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
									Asphalt - 3"
Neat Cement / Casing				Air-Knife	1–4				**CL** **Lean clay;** olive green; medium stiff; medium plasticity and toughness; some tan coloring; some medium sand; medium to coarse gravel; moist; slight odor; (15,25,60)
		moist	253	@ 5* 1:02	5				Strong odor
		moist	47.4	@ 7 1:05	7				Stiff; sand fine to medium grain; (0,20,80)
		moist	96.9	@ 8.5* 1:07	9				Tan with olive green mottling; (0,25,75)
		moist	33.8	@ 10 1:09	10–11				Red brown and tan with olive green mottling; (0,30,70)
		moist	12.7	@ 12* 1:11	12–13				Low plasticity; high toughness; medium stiff; odor; (0,40,60)
		moist	20.6	@ 13.5 1:14	14				**SC** **Clayey sand;** red brown and tan; black specs; medium soft; slightly cemented but crumbles easily; poorly graded; no plasticity; high toughness; sand fine to medium; moist; odor; (0,55,45)
		moist	21	@ 15* 1:16	15–16				Red brown with black specs; (0,70,35)
	▽	wet	4.1	@ 17* 1:19	17–18				Olive green and tan; some gray staining; loose; sand medium to coarse; wet; (0,65,35)
		wet	15		19				**CL** **Lean clay with sand;** red brown with black specs; sand fine grain; medium stiff; medium plasticity and toughness; wet; odor; (0,40,60)
		wet	3.4		20–21				Moist; slight odor; (0,30,70)
		moist	1.8		22				With fine to medium gravel; coarse sand; low

Delta
Consultants

Project No: **C101156151** | Client: **ConocoPhillips** | Boring No: **SB-6**
Logged By: **Tabbitha Croy** | Location: **4276 MacArthur Blvd** | Date Drilled: **10/31/07**
Driller: **Gregg Drilling & Testing** | **Oakland, CA** | Page **2** of **2**
Drilling Method: **HSA** | Hole Diameter: **4"**
Sampling Method: **Continuous** | Hole Depth: **35'**
Casing Type: NA | Well Diameter: NA
Slot Size: NA | Well Depth: NA
Gravel Pack: NA | First Water Depth: **17'**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Neat Cement					23				plasticity; high toughness; moist; (15,35,50)
		moist	1.8	@ 24.5 1:30	24				
		moist	1.4		25				Red brown to tan; ;some medium sand; trace fine gravel; stiff; low plasticity; high toughness; moist; no odor; (5,30,65)
					26				
		moist	1.1		27				Tan; some red brown speca; medium plasticity; (0,10,90)
					28				
		moist	0.8		29				Some black specs; medium soft; no plasticity; fine to medium red brown sand; high toughness; (0,25,75)
		moist	0.6	@ 30.5* 1:43	30				
					31				Dark brown and tan; stiff; some black staining; no odor; (0,40,60)
		moist	0.5		32				
					33				Olive green and tan; fine to medium sand; trace fine gravel; very stiff; some black specs but no staining; (5,25,70)
		moist	0.9		34				
					35				(0,20,80)
					36				
					37				**TD = 35 feet bgs**
					38				
					39				
					40				
					41				
					42				
					43				
					44				

Delta
Consultants

Project No: **C101156151**
Logged By: **Tabbitha Croy**
Driller: **Gregg Drilling & Testing**
Drilling Method: **HSA**
Sampling Method: **Split Spoon**
Casing Type: **Schedule 40 PVC**
Slot Size: **0.010"**
Gravel Pack: **#2/12**

Client: **ConocoPhillips**
Location: **4276 MacArthur Boulevard**
Oakland, CA
Hole Diameter: **8"**
Hole Depth: **25'**
Well Diameter: **2"**
Well Depth: **25'**
First Water Depth: **23'**

Well No: **MW-8**
Date Drilled: **10/30/07**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
Well Box; Neat Cement	▼			Air-Knife	1–4				**Concrete = 6"**
									CL **Silty clay**; black and brown; medium soft; medium to high plasticity; low toughness; trace orange mottling; moist; (0,0,100)
		moist	0.1	@ 5 9:46	5–9				CL **Lean clay**; black; medium stiff; medium plasticity and toughness; some fine sand; some fine to medium sub round gravel; moist; no odor; (15,20,65)
		moist	0.2	@ 10* 9:51	10–14				Tan; some orange mottling; trace roots; some black staining; slight odor; (5,15,80)
		moist	0.2	@ 15* 9:56	15–18				CL **Sandy clay**; tan; orange mottling; trace roots; trace black staining; medium stiff; medium plasticity and toughness; sand fine grain; moist; no odor; (0,40,60)
		moist	0.2	@ 20* 10:37	19–22				Soft; medium to high plasticity; low toughness; (0,30,70)
					21				SC

Delta
Consultants

Project No: **C101156151**
Logged By: **Tabbitha Croy**
Driller: **Gregg Drilling & Testing**
Drilling Method: **HSA**
Sampling Method: **Split Spoon**
Casing Type: **Schdule 40 PVC**
Slot Size: **0.010"**
Gravel Pack: **#2/12**

Client: **ConocoPhillips**
Location: **4276 MacArthur Boulevard**
Oakland, CA
Hole Diameter: **8"**
Hole Depth: **25'**
Well Diameter: **2"**
Well Depth: **25'**
First Water Depth: **23'**

Well No: **MW-8**
Date Drilled: **10/30/07**

▽ = First Water
▼ = Static Groundwater
* = Selected for lab analysis

Elevation | Northing | Easting

Well Completion (Backfill / Casing)	Static Water Level	Moisture Content	PID Reading (ppm)	Sample Identification	Depth (feet)	Sample Recovery	Sample Interval	Soil Type	LITHOLOGY / DESCRIPTION
	▽				23				
					24		▲		**SC** **Clayey sand;** tan; orange mottling; medium grain; poorly graded; loose; wet; no odor (0,65,35)
					25		▼		
					26				**Total Depth = 25 feet bgs**
					27				
					28				
					29				
					30				
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				
					41				
					42				
					43				
					44				

Attachment C

Historical Groundwater Monitoring Data and Analytical Results

Attachment C

Historical Groundwater Monitoring Data and Analytical Results

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

July 1999 Through April 2008

76 Station 1156

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
MW-1	**(Screen Interval in feet: 5.0-25.0)**													
07/20/99	174.86	7.50	0.00	167.36	--	120000	--	11000	27000	3300	18000	ND	--	
09/28/99	174.86	8.75	0.00	166.11	-1.25	6020	--	1030	1040	68.5	412	321	333	
01/07/00	174.86	9.05	0.02	165.82	-0.29	72700	--	7410	13900	2070	9620	ND	--	GWE corrected
03/31/00	174.86	7.18	0.00	167.68	1.86	92000	--	10000	23000	3200	14000	ND	--	
07/14/00	174.86	7.68	0.00	167.18	-0.50	108000	--	8250	18700	3750	17800	ND	--	
10/03/00	174.86	7.99	0.00	166.87	-0.31	96000	--	8760	20000	3350	15600	ND	--	
01/03/01	174.86	9.18	0.00	165.68	-1.19	37000	--	5800	13000	1700	8100	2200	--	
04/04/01	174.86	8.05	0.00	166.81	1.13	86900	--	7780	18500	2470	11800	ND	481	
07/17/01	174.86	7.01	0.00	167.85	1.04	79000	--	5600	11000	2800	12000	ND	230	
10/03/01	177.54	7.89	0.00	169.65	1.80	99000	--	8200	18000	3000	16000	ND<2500	--	
10/05/01	177.54	7.91	0.00	169.63	-0.02	--	--	--	--	--	--	--	--	
01/28/02	177.54	5.98	0.00	171.56	1.93	110000	--	8900	19000	2600	12000	3000	440	
04/25/02	177.54	6.19	0.00	171.35	-0.21	93000	--	8100	18000	3000	15000	810	670	
07/18/02	177.54	6.99	0.00	170.55	-0.80	69000	--	5400	10000	2100	10000	ND<500	620	
10/07/02	177.54	7.73	0.00	169.81	-0.74	82000	--	9200	20000	2600	13000	1300	760	
01/06/03	177.54	5.48	0.00	172.06	2.25	82000	--	6500	18000	2700	11000	ND<1000	790	
04/07/03	177.54	6.30	0.00	171.24	-0.82	74000	--	7000	15000	2400	11000	1000	800	
07/07/03	177.54	6.47	0.00	171.07	-0.17	60000	--	6400	11000	2600	11000	600	530	
10/09/03	177.54	7.85	0.00	169.69	-1.38	91000	81000	8100	17000	3200	14000	--	660	Sampled for TPH-G by 8015M on 11/14/03.
01/14/04	177.54	6.69	0.00	170.85	1.16	98000	--	8000	21000	2600	15000	ND<1300	ND<800	
04/28/04	177.54	6.43	0.00	171.11	0.26	93000	--	9000	20000	1300	10000	1400	560	
07/12/04	177.54	7.44	0.00	170.10	-1.01	57000	--	6900	7200	1600	580	490	440	
10/25/04	177.54	7.54	0.00	170.00	-0.10	66000	--	7300	19000	2700	14000	ND<1300	330	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

July 1999 Through April 2008

76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-1 continued														
01/17/05	177.54	5.79	0.00	171.75	1.75	86000	--	8600	21000	3200	15000	ND<1300	570	
04/06/05	177.54	4.93	0.00	172.61	0.86	85000	--	8400	20000	3200	16000	ND<1300	580	
07/08/05	177.54	5.35	0.00	172.19	-0.42	69000	--	7100	17000	2700	14000	ND<1300	290	
10/07/05	177.54	5.96	0.00	171.58	-0.61	68000	--	5900	8300	1800	8300	330	250	
01/27/06	177.54	5.08	0.00	172.46	0.88	94000	--	7400	19000	3700	14000	450	360	
04/28/06	177.54	4.85	0.00	172.69	0.23	74000	--	6400	13000	2300	10000	460	280	
07/28/06	177.54	5.32	0.00	172.22	-0.47	74000	--	6600	12000	3100	13000	330	220	
10/27/06	177.54	6.13	0.00	171.41	-0.81	100000	--	8300	20000	3600	16000	280	250	
01/10/07	177.54	5.47	0.00	172.07	0.66	84000	--	7100	15000	2600	13000	350	260	
04/13/07	177.54	5.60	0.00	171.94	-0.13	27000	--	5600	840	2300	3200	270	220	
07/19/07	177.54	5.69	0.00	171.85	-0.09	83000	--	6000	15000	2600	13000	1000	200	
10/08/07	177.54	--	--	--	--	--	--	--	--	--	--	--	--	Gate locked; no key available
01/09/08	177.54	5.15	0.00	172.39	--	40000	--	6000	4800	2600	5100	840	170	Gauged on 1/18/08
04/04/08	177.54	5.25	0.00	172.29	-0.10	71000	--	6800	12000	3300	13000	--	160	
MW-2	**(Screen Interval in feet: 5.0-25.0)**													
07/20/99	173.01	5.40	--	167.61	--	ND	--	ND	ND	ND	ND	4500	11000	
09/28/99	173.01	5.60	0.00	167.41	-0.20	1390	--	124	ND	62.9	43.1	5280	6150	
01/07/00	173.01	5.92	0.00	167.09	-0.32	1450	--	99	ND	23.8	16	33100	--	
03/31/00	173.01	5.23	0.00	167.78	0.69	ND	--	42	ND	ND	ND	17000	--	
07/14/00	173.01	5.52	0.00	167.49	-0.29	ND	--	44.7	ND	ND	ND	66500	--	
10/03/00	173.01	6.04	0.00	166.97	-0.52	ND	--	56.7	ND	ND	ND	57500	--	
01/03/01	173.01	6.42	0.00	166.59	-0.38	ND	--	ND	ND	ND	ND	49000	--	
04/04/01	173.01	6.14	0.00	166.87	0.28	ND	--	ND	ND	ND	ND	38700	37800	
07/17/01	173.01	5.30	0.00	167.71	0.84	ND	--	ND	ND	ND	ND	65000	56000	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

July 1999 Through April 2008

76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-2 continued														
10/03/01	173.50	7.38	0.00	166.12	-1.59	ND<250	--	2.7	ND<2.5	ND<2.5	ND<2.5	14000	18000	
01/28/02	173.50	5.68	0.00	167.82	1.70	ND<250	--	2.5	4.4	2.8	7.4	11000	10000	
04/25/02	173.50	5.82	0.00	167.68	-0.14	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	8400	8100	
07/18/02	173.50	6.90	0.00	166.60	-1.08	ND<500	--	ND<5.0	ND<5.0	ND<5.0	ND<5.0	4300	8800	
10/07/02	173.50	7.54	0.00	165.96	-0.64	4300	--	ND<10	27	21	75	7100	5900	
01/06/03	173.50	6.79	0.00	166.71	0.75	5900	--	ND<5.0	ND<5.0	ND<5.0	ND<5.0	31000	35000	
04/07/03	173.50	6.49	0.00	167.01	0.30	1500	--	ND<10	14	11	38	2000	1500	
07/07/03	173.50	6.72	0.00	166.78	-0.23	ND<2500	--	ND<25	ND<25	ND<25	ND<25	5500	8300	
10/09/03	173.50	7.16	0.00	166.34	-0.44	3500	ND<5000	ND<50	ND<50	ND<50	ND<100	--	8500	Sampled for TPH-G by 8015M on 11/14/03.
01/14/04	173.50	5.53	0.00	167.97	1.63	3200	--	ND<25	ND<25	ND<25	ND<25	2600	3200	
04/28/04	173.50	5.21	0.00	168.29	0.32	22000	--	ND<3	9.2	ND<3	ND<6	35000	22000	
07/12/04	173.50	5.83	0.00	167.67	-0.62	1700	--	3.8	18	2.6	16	3000	3000	
10/25/04	173.50	6.89	0.00	166.61	-1.06	3400	--	ND<25	ND<25	ND<25	ND<25	1800	1600	
01/17/05	173.50	5.70	0.00	167.80	1.19	1700	--	ND<10	ND<10	ND<10	ND<10	1600	1500	
04/06/05	173.50	4.50	0.00	169.00	1.20	3000	--	ND<20	ND<20	ND<20	ND<20	2500	3200	
07/08/05	173.50	4.69	0.00	168.81	-0.19	ND<2000	--	ND<20	ND<20	ND<20	ND<20	2900	3100	
10/07/05	173.50	4.61	0.00	168.89	0.08	7500	--	6.7	6.6	ND<3.0	ND<6.0	5900	5200	
01/27/06	173.50	4.10	0.00	169.40	0.51	2500	--	1.0	2.6	ND<0.30	ND<0.60	2600	2800	
04/28/06	173.50	3.75	0.00	169.75	0.35	3100	--	9.4	3.6	0.94	3.4	3700	3600	
07/28/06	173.50	4.34	0.00	169.16	-0.59	3000	--	2.0	ND<1.5	ND<1.5	ND<3.0	3000	2900	
10/27/06	173.50	5.62	0.00	167.88	-1.28	1800	--	1.5	ND<1.5	ND<1.5	ND<3.0	1600	1300	
01/10/07	173.50	4.02	0.00	169.48	1.60	2100	--	1.1	ND<0.60	ND<0.60	ND<1.2	2300	2000	
04/13/07	173.50	4.03	0.00	169.47	-0.01	3300	--	12	1.6	0.46	1.1	3600	3200	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

July 1999 Through April 2008

76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-2 continued														
07/19/07	173.50	4.41	0.00	169.09	-0.38	2500	--	21	0.64	5.1	1.5	2000	2000	
10/08/07	173.50	4.93	0.00	168.57	-0.52	3400	--	38	1.6	13	2.1	5000	4000	
01/09/08	173.50	3.03	0.00	170.47	1.90	1700	--	6.2	2.5	0.61	0.91	2100	2200	Gauged on 1/18/08
04/04/08	173.50	3.52	0.00	169.98	-0.49	1400	--	15	2.1	0.76	ND<0.60	--	2100	
MW-3	**(Screen Interval in feet: 5.0-25.0)**													
07/20/99	178.44	8.50	--	169.94	--	1000	--	76	52	79	76	330	--	
09/28/99	178.44	8.31	0.00	170.13	0.19	1860	--	174	95.4	71.8	135	443	288	
01/07/00	178.44	8.56	0.00	169.88	-0.25	28400	--	2450	3090	1560	3910	1940	--	
03/31/00	178.44	8.42	0.00	170.02	0.14	26000	--	1300	2900	2600	3500	2800	--	
07/14/00	178.44	8.61	0.00	169.83	-0.19	24500	--	1850	2630	2750	3900	548	--	
10/03/00	178.44	9.14	0.00	169.30	-0.53	22000	--	1910	2020	2400	2680	965	--	
01/03/01	178.44	9.06	0.00	169.38	0.08	14000	--	1600	1100	2300	1400	3300	--	
04/04/01	178.44	8.98	0.00	169.46	0.08	19600	--	1150	1470	2100	1820	1050	450	
07/17/01	178.44	7.46	0.00	170.98	1.52	26000	--	1500	2100	2100	3400	ND	350	
10/03/01	178.13	9.81	0.00	168.32	-2.66	22000	--	830	1900	1700	3000	ND<1000	--	
01/28/02	178.13	7.39	0.00	170.74	2.42	30000	--	880	2600	1800	4300	3200	210	
04/25/02	178.13	7.86	0.00	170.27	-0.47	18000	--	500	2000	1300	3800	500	260	
07/18/02	178.13	8.83	0.00	169.30	-0.97	37000	--	1800	3800	2200	8000	ND<250	270	
10/07/02	178.13	9.71	0.00	168.42	-0.88	26000	--	600	2000	1800	6400	ND<120	ND<200	
01/06/03	178.13	7.40	0.00	170.73	2.31	27000	--	800	2100	2000	6400	440	110	
04/07/03	178.13	8.17	0.00	169.96	-0.77	28000	--	660	2200	1900	6300	440	100	
07/07/03	178.13	8.35	0.00	169.78	-0.18	33000	--	1200	2500	2700	8300	280	100	
10/09/03	178.13	9.39	0.00	168.74	-1.04	3800	6000	120	260	390	1200	--	190	Sampled for TPH-G by 8015M on 11/14/03.

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
July 1999 Through April 2008
76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-3 continued														
01/14/04	178.13	6.86	0.00	171.27	2.53	5100	--	120	240	310	720	190	230	
04/28/04	178.13	6.63	0.00	171.50	0.23	7300	--	250	440	580	1300	740	240	
07/12/04	178.13	7.41	0.00	170.72	-0.78	5500	--	350	310	120	350	180	100	
10/25/04	178.13	8.81	0.00	169.32	-1.40	3300	--	96	140	270	490	94	260	
01/17/05	178.13	6.37	0.00	171.76	2.44	3400	--	150	270	360	750	55	200	
04/06/05	178.13	4.69	0.00	173.44	1.68	14000	--	420	1300	1000	3100	ND<250	200	
07/08/05	178.13	5.23	0.00	172.90	-0.54	5000	--	180	290	500	800	ND<250	150	
10/07/05	178.13	6.35	0.00	171.78	-1.12	6800	--	270	120	ND<0.30	210	260	180	
01/27/06	178.13	5.24	0.00	172.89	1.11	3200	--	120	140	270	460	280	250	
04/28/06	178.13	5.01	0.00	173.12	0.23	4500	--	130	250	380	670	230	180	
07/28/06	178.13	6.21	0.00	171.92	-1.20	4700	--	160	240	510	730	250	150	
10/27/06	178.13	6.93	0.00	171.20	-0.72	3700	--	150	160	460	530	250	140	
01/10/07	178.13	5.93	0.00	172.20	1.00	4800	--	180	160	550	600	230	150	
04/13/07	178.13	6.10	0.00	172.03	-0.17	5100	--	180	240	550	710	230	160	
07/19/07	178.13	6.51	0.00	171.62	-0.41	2000	--	110	64	220	190	190	180	
10/08/07	178.13	7.05	0.00	171.08	-0.54	2100	--	72	65	180	290	180	120	
01/09/08	178.13	3.65	0.00	174.48	3.40	4200	--	200	160	510	580	290	120	Gauged on 1/18/08
04/04/08	178.13	5.69	0.00	172.44	-2.04	7500	--	270	390	810	1200	--	120	
MW-4	**(Screen Interval in feet: 5.0-25.0)**													
07/20/99	179.10	7.40	--	171.70	--	69	--	2.7	0.77	ND	7.1	100	--	
09/28/99	179.10	7.19	0.00	171.91	0.21	4050	--	1250	72	51.3	133	416	459	
01/07/00	179.10	8.98	0.00	170.12	-1.79	7010	--	2260	167	271	276	764	--	
03/31/00	179.10	7.26	0.00	171.84	1.72	5500	--	1800	230	330	400	1000	--	
07/14/00	179.10	7.67	0.00	171.43	-0.41	7940	--	2810	332	450	247	1530	--	

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
July 1999 Through April 2008
76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-4 continued														
10/03/00	179.10	8.12	0.00	170.98	-0.45	11400	--	3110	437	519	816	1040	--	
01/03/01	179.10	9.10	0.00	170.00	-0.98	8600	--	2500	340	480	960	850	--	
04/04/01	179.10	8.63	0.00	170.47	0.47	9950	--	2380	126	416	725	1140	819	
07/17/01	179.10	6.49	0.00	172.61	2.14	10000	--	2300	110	410	800	1200	900	
10/03/01	178.96	7.01	0.00	171.95	-0.66	7800	--	2100	85	380	390	580	820	
01/28/02	178.96	6.21	0.00	172.75	0.80	12000	--	2100	130	350	670	1100	500	
04/25/02	178.96	5.49	0.00	173.47	0.72	3300	--	1300	42	270	250	680	600	
07/18/02	178.96	8.28	0.00	170.68	-2.79	4800	--	1300	71	290	220	530	760	
10/07/02	178.96	7.49	0.00	171.47	0.79	5100	--	1400	110	330	380	650	540	
01/06/03	178.96	6.36	0.00	172.60	1.13	5600	--	1100	57	260	320	370	520	
04/07/03	178.96	6.24	0.00	172.72	0.12	5100	--	1100	55	190	370	550	420	
07/07/03	178.96	6.43	0.00	172.53	-0.19	3000	--	920	28	170	330	480	450	
10/09/03	178.96	7.97	0.00	170.99	-1.54	530	700	100	2.2	5.4	14	--	270	Sampled for TPH-G by 8015M on 11/14/03.
01/14/04	178.96	6.30	0.00	172.66	1.67	530	--	88	4.1	9.9	11	150	180	
04/28/04	178.96	5.68	0.00	173.28	0.62	1200	--	200	5.3	21	13	490	310	
07/12/04	178.96	6.48	0.00	172.48	-0.80	3600	--	1000	14	260	72	710	470	
10/25/04	178.96	6.85	0.00	172.11	-0.37	490	--	34	ND<2.5	ND<2.5	ND<2.5	200	170	
01/17/05	178.96	4.56	0.00	174.40	2.29	620	--	100	2.6	15	8.0	240	200	
04/06/05	178.96	2.90	0.00	176.06	1.66	630	--	81	9.6	16	41	ND<25	26	
07/08/05	178.96	3.74	0.00	175.22	-0.84	980	--	170	24	44	140	ND<25	64	
10/07/05	178.96	4.24	0.00	174.72	-0.50	4900	--	1100	11	110	110	370	310	
01/27/06	178.96	3.65	0.00	175.31	0.59	2800	--	580	20	130	230	320	240	
04/28/06	178.96	3.94	0.00	175.02	-0.29	710	--	110	2.4	21	22	140	140	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

July 1999 Through April 2008

76 Station 1156

Date Sampled	TOC Elevation	Depth to Water	LPH Thickness	Ground-water Elevation	Change in Elevation	TPH-G (8015M)	TPH-G (GC/MS)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE (8021B)	MTBE (8260B)	Comments
	(feet)	(feet)	(feet)	(feet)	(feet)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	
MW-4 continued														
07/28/06	178.96	4.63	0.00	174.33	-0.69	550	--	120	2.1	12	19	170	150	
10/27/06	178.96	5.19	0.00	173.77	-0.56	260	--	37	2.0	1.9	6.7	130	130	
01/10/07	178.96	4.82	0.00	174.14	0.37	270	--	29	0.72	1.8	2.7	160	150	
04/13/07	178.96	4.25	0.00	174.71	0.57	390	--	53	1.2	3.1	4.1	210	160	
07/19/07	178.96	5.35	0.00	173.61	-1.10	210	--	8.0	1.0	1.4	4.5	120	130	
10/08/07	178.96	5.48	0.00	173.48	-0.13	290	--	17	2.3	3.8	14	160	150	
01/09/08	178.96	3.40	0.00	175.56	2.08	770	--	190	5.9	21	40	210	220	Gauged on 1/18/08
04/04/08	178.96	4.20	0.00	174.76	-0.80	180	--	11	2.0	0.67	2.9	--	110	
MW-5	**(Screen Interval in feet: 5.0-25.0)**													
10/03/01	169.18	2.81	0.00	166.37	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	1800	2100	
01/28/02	169.18	1.88	0.00	167.30	0.93	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	650	550	
04/25/02	169.18	1.99	0.00	167.19	-0.11	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	2200	2400	
07/18/02	169.18	2.49	0.00	166.69	-0.50	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	530	690	
10/07/02	169.18	2.80	0.00	166.38	-0.31	140	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	300	330	
01/06/03	169.18	1.86	0.00	167.32	0.94	120	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	410	350	
04/07/03	169.18	2.15	0.00	167.03	-0.29	220	--	0.53	ND<0.50	ND<0.50	ND<0.50	450	420	
07/07/03	169.18	2.26	0.00	166.92	-0.11	120	--	ND<1.2	ND<1.2	ND<1.2	ND<1.2	220	200	
10/09/03	169.18	2.72	0.00	166.46	-0.46	560	210	ND<1.0	ND<1.0	ND<1.0	ND<2.0	--	290	Sampled for TPH-G by 8015M on 11/14/03.
01/14/04	169.18	2.00	0.00	167.18	0.72	560	--	ND<2.5	ND<2.5	ND<2.5	ND<2.5	670	760	
04/28/04	169.18	2.01	0.00	167.17	-0.01	760	--	ND<0.3	1.8	ND<0.3	ND<0.6	1200	790	
07/12/04	169.18	2.56	0.00	166.62	-0.55	96	--	1.8	3.3	0.54	3.6	2.8	ND<0.5	
10/25/04	169.18	2.43	0.00	166.75	0.13	1100	--	ND<5.0	ND<5.0	ND<5.0	ND<5.0	780	1100	
01/17/05	169.18	1.49	0.00	167.69	0.94	720	--	ND<5.0	ND<5.0	ND<5.0	ND<5.0	530	550	

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

July 1999 Through April 2008

76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-5 continued														
04/06/05	169.18	0.95	0.00	168.23	0.54	830	--	ND<5.0	ND<5.0	ND<5.0	ND<5.0	600	760	
07/08/05	169.18	1.49	0.00	167.69	-0.54	ND<500	--	ND<5.0	ND<5.0	ND<5.0	ND<5.0	570	630	
10/07/05	169.18	1.92	0.00	167.26	-0.43	540	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	530	490	
01/27/06	169.18	2.03	0.00	167.15	-0.11	490	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	580	610	
04/28/06	169.18	1.02	0.00	168.16	1.01	430	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	590	520	
07/28/06	169.18	1.57	0.00	167.61	-0.55	480	--	0.34	ND<0.30	ND<0.30	ND<0.60	440	420	
10/27/06	169.18	2.20	0.00	166.98	-0.63	420	--	0.34	ND<0.30	ND<0.30	ND<0.60	460	390	
01/10/07	169.18	1.57	0.00	167.61	0.63	390	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	430	420	
04/13/07	169.18	1.89	0.00	167.29	-0.32	170	--	3.8	5.9	1.5	3.8	160	120	
07/19/07	169.18	1.92	0.00	167.26	-0.03	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	19	23	
10/08/07	169.18	2.28	0.00	166.90	-0.36	200	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	310	280	
01/09/08	169.18	1.09	0.00	168.09	1.19	150	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	170	170	Gauged on 1/18/08
04/04/08	169.18	1.72	0.00	167.46	-0.63	210	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	--	260	
MW-6	**(Screen Interval in feet: 5.0-25.0)**													
10/03/01	169.04	2.87	0.00	166.17	--	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	200	270	
01/28/02	169.04	1.82	0.00	167.22	1.05	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
04/25/02	169.04	2.01	0.00	167.03	-0.19	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	--	
07/18/02	169.04	2.44	0.00	166.60	-0.43	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	ND<2.0	
10/07/02	169.04	2.72	0.00	166.32	-0.28	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.5	ND<2.0	
01/06/03	169.04	1.90	0.00	167.14	0.82	ND<50	--	0.62	1.2	1.2	3.5	ND<2.0	ND<2.0	
04/07/03	169.04	2.02	0.00	167.02	-0.12	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	46	46	
07/07/03	169.04	2.21	0.00	166.83	-0.19	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<2.0	ND<2.0	
10/09/03	169.04	2.71	0.00	166.33	-0.50	ND<50	ND<50	0.95	3.0	1.4	5.5	--	ND<2.0	Sampled for TPH-G by 8015M on 11/14/03.

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

July 1999 Through April 2008

76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-6 continued														
01/14/04	169.04	2.00	0.00	167.04	0.71	ND<50	--	ND<0.50	0.57	ND<0.50	0.64	ND<5.0	ND<2.0	
04/28/04	169.04	2.18	0.00	166.86	-0.18	ND<50	--	0.39	0.78	ND<0.3	ND<0.6	ND<1	ND<0.5	
07/12/04	169.04	2.69	0.00	166.35	-0.51	ND<50	--	ND<0.3	ND<0.3	ND<0.3	ND<0.6	6.4	ND<0.5	
10/25/04	169.04	2.46	0.00	166.58	0.23	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	0.57	
01/17/05	169.04	1.54	0.00	167.50	0.92	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<0.50	
04/06/05	169.04	1.15	0.00	167.89	0.39	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<0.50	
07/08/05	169.04	1.05	0.00	167.99	0.10	ND<50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<5.0	ND<0.50	
10/07/05	169.04	1.90	0.00	167.14	-0.85	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
01/27/06	169.04	1.32	0.00	167.72	0.58	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
04/28/06	169.04	0.00	0.00	169.04	1.32	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
07/28/06	169.04	1.68	0.00	167.36	-1.68	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
10/27/06	169.04	1.98	0.00	167.06	-0.30	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
01/10/07	169.04	1.60	0.00	167.44	0.38	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
04/13/07	169.04	2.01	0.00	167.03	-0.41	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
07/19/07	169.04	1.96	0.00	167.08	0.05	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
10/08/07	169.04	2.35	0.00	166.69	-0.39	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	0.80	
01/09/08	169.04	1.10	0.00	167.94	1.25	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	Gauged on 1/18/08
04/04/08	169.04	1.60	0.00	167.44	-0.50	ND<50	--	ND<0.30	0.40	ND<0.30	0.71	--	ND<0.50	
MW-7	**(Screen Interval in feet: 5.0-25.0)**													
10/03/01	171.64	7.62	0.00	164.02	--	10000	--	210	ND<50	ND<50	800	35000	40000	
01/28/02	171.64	7.21	0.00	164.43	0.41	ND<1000	--	ND<10	ND<10	ND<10	ND<10	42000	38000	
04/25/02	171.64	7.25	0.00	164.39	-0.04	ND<5000	--	660	ND<50	ND<50	ND<50	42000	45000	
07/18/02	171.64	8.12	0.00	163.52	-0.87	ND<5000	--	130	ND<50	ND<50	ND<50	51000	53000	
10/07/02	171.64	7.71	0.00	163.93	0.41	18000	--	ND<50	ND<50	ND<50	ND<50	33000	38000	

Table 2
HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS
July 1999 Through April 2008
76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-7 continued														
01/06/03	171.64	7.63	0.00	164.01	0.08	410	--	0.61	1.0	0.89	2.9	3900	3100	
04/07/03	171.64	7.58	0.00	164.06	0.05	13000	--	ND<20	ND<20	ND<20	ND<20	32000	28000	
07/07/03	171.64	7.56	0.00	164.08	0.02	990	--	8.2	ND<0.50	1.2	ND<0.50	36000	45000	
10/09/03	171.64	7.72	0.00	163.92	-0.16	6800	ND<13000	ND<130	ND<130	ND<130	ND<250	--	20000	Sampled for TPH-G by 8015M on 11/14/03.
01/14/04	171.64	6.97	0.00	164.67	0.75	19000	--	ND<100	ND<100	ND<100	ND<100	20000	25000	
04/28/04	171.64	8.70	0.00	162.94	-1.73	19000	--	ND<3	ND<3	ND<3	ND<6	30000	21000	
07/12/04	171.64	9.44	0.00	162.20	-0.74	12000	--	28	14	330	200	12000	11000	
10/25/04	171.64	7.23	0.00	164.41	2.21	28000	--	ND<250	ND<250	ND<250	ND<250	13000	14000	
01/17/05	171.64	6.30	0.00	165.34	0.93	15000	--	ND<100	ND<100	ND<100	ND<100	17000	16000	
04/06/05	171.64	5.96	0.00	165.68	0.34	13000	--	ND<100	ND<100	ND<100	ND<100	14000	17000	
07/08/05	171.64	6.45	0.00	165.19	-0.49	ND<10000	--	ND<100	ND<100	ND<100	ND<100	8600	11000	
10/07/05	171.64	6.78	0.00	164.86	-0.33	13000	--	ND<3.0	ND<3.0	ND<3.0	ND<6.0	9400	9800	
01/27/06	171.64	5.82	0.00	165.82	0.96	8200	--	0.64	1.6	ND<0.30	ND<0.60	9900	7900	
04/28/06	171.64	5.57	0.00	166.07	0.25	6900	--	0.88	1.5	0.34	1.0	9600	11000	
07/28/06	171.64	6.67	0.00	164.97	-1.10	5400	--	5.2	ND<3.0	ND<3.0	ND<6.0	5000	5300	
10/27/06	171.64	6.93	0.00	164.71	-0.26	4500	--	ND<1.5	ND<1.5	ND<1.5	ND<3.0	4700	3700	
01/10/07	171.64	6.41	0.00	165.23	0.52	4000	--	ND<1.2	ND<1.2	ND<1.2	ND<2.4	4400	4400	
04/13/07	171.64	--	--	--	--	--	--	--	--	--	--	--	--	Paved over
07/19/07	171.64	7.10	0.00	164.54	--	2700	--	0.57	ND<0.30	ND<0.30	ND<0.60	2700	3300	
10/08/07	171.64	7.42	0.00	164.22	-0.32	1600	--	0.47	0.49	ND<0.30	ND<0.60	2500	2200	
01/09/08	171.64	5.98	0.00	165.66	1.44	1500	--	0.45	0.49	ND<0.30	ND<0.60	1900	1900	Gauged on 1/18/08
04/04/08	171.64	6.80	0.00	164.84	-0.82	1800	--	0.72	0.58	ND<0.30	ND<0.60	--	2700	
MW-8	**(Screen Interval in feet: 15.0-25.0)**													

Table 2

HISTORIC FLUID LEVELS AND SELECTED ANALYTICAL RESULTS

July 1999 Through April 2008

76 Station 1156

Date Sampled	TOC Elevation (feet)	Depth to Water (feet)	LPH Thickness (feet)	Ground-water Elevation (feet)	Change in Elevation (feet)	TPH-G (8015M) (µg/l)	TPH-G (GC/MS) (µg/l)	Benzene (µg/l)	Toluene (µg/l)	Ethyl-benzene (µg/l)	Total Xylenes (µg/l)	MTBE (8021B) (µg/l)	MTBE (8260B) (µg/l)	Comments
MW-8 continued														
01/18/08	167.97	0.43	0.00	167.54	--	ND<50	--	ND<0.30	ND<0.30	ND<0.30	ND<0.60	ND<1.0	ND<0.50	
04/04/08	167.97	0.55	0.00	167.42	-0.12	ND<50	--	0.76	1.6	0.72	2.3	--	ND<0.50	

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	TPH-D	TBA	Ethanol (8015B)	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Acenaph-thylene	Bromo-dichloro-methane	Bromo-form	Bromo-methane	Carbon Tertra-chloride	Chloro-benzene
	(µg/l)	(µg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-1															
07/20/99	16000	--	--	--	--	--	--	--	--	--	--	--	--	--	12
09/28/99	2410	ND	--	--	--	--	ND	ND	ND	--	--	--	--	--	--
01/07/00	7870	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03/31/00	3600	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07/14/00	8580	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/03/00	9260	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01/03/01	11000	--	--	--	--	--	--	--	--	--	--	--	--	--	--
04/04/01	14000	ND	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	5.6
07/17/01	2200	ND	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
10/05/01	13000	--	--	--	--	--	--	--	--	--	--	--	--	--	--
01/28/02	4400	--	--	--	--	--	--	--	--	--	--	--	--	--	--
04/25/02	9000	--	--	--	--	--	--	--	--	--	--	--	--	--	--
07/18/02	9200	ND<100	--	ND<2500000	ND<10	ND<10	ND<10	ND<10	ND<10	--	--	--	--	--	5.9
10/07/02	3400	ND<10000	--	ND<50000000	ND<200	ND<200	ND<200	ND<200	ND<200	--	--	--	--	--	--
01/06/03	5100	ND<20000	--	ND<100000000	ND<400	ND<400	ND<400	ND<400	ND<400	--	--	--	--	--	--
04/07/03	2800	ND<10000	--	ND<50000000	ND<200	ND<200	ND<200	ND<200	ND<200	--	--	--	--	--	--
07/07/03	7000	ND<25000	ND<120000	--	ND<500	ND<500	ND<500	ND<500	ND<500	--	--	--	--	--	ND<120
10/09/03	4300	ND<20000	--	ND<100000	ND<400	ND<400	ND<400	ND<400	ND<400	--	--	--	--	--	--
01/14/04	6200	ND<40000	--	ND<200000	ND<800	ND<800	ND<800	ND<800	ND<800	--	--	--	--	--	--
04/28/04	--	800	--	ND<1000	ND<50	ND<50	ND<1	ND<1	ND<1	--	--	--	--	--	--
07/12/04	270	1100	--	ND<20000	ND<10	ND<10	ND<20	ND<20	ND<20	ND<2	ND<10	ND<10	ND<20	ND<10	ND<10
10/25/04	5100	ND<2000	--	ND<20000	ND<200	ND<200	ND<400	ND<200	ND<200	--	--	--	--	--	--
01/17/05	6400	3100	--	ND<20000	ND<200	ND<200	ND<400	ND<200	ND<200	--	--	--	--	--	--
04/06/05	2800	1500	--	ND<10000	ND<100	ND<100	ND<100	ND<100	ND<100	--	--	--	--	--	--
07/08/05	6400	ND<1300	--	ND<13000	ND<130	3.8	ND<130	ND<130	ND<130	--	ND<0.50	ND<2.0	ND<1.0	ND<0.50	12
10/07/05	5500	680	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	TPH-D	TBA	Ethanol (8015B)	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Acenaph-thylene	Bromo-dichloro-methane	Bromo-form	Bromo-methane	Carbon Tertra-chloride	Chloro-benzene
	(µg/l)	(µg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-1 continued															
01/27/06	9000	ND<500	--	ND<12000	ND<25	ND<25	ND<25	ND<25	ND<25	--	--	--	--	--	--
04/28/06	9200	ND<500	--	ND<12000	ND<25	ND<25	ND<25	ND<25	ND<25	--	--	--	--	--	--
07/28/06	5100	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50
10/27/06	4600	ND<2500	--	ND<62000	ND<120	ND<120	ND<120	ND<120	ND<120	--	--	--	--	--	--
01/10/07	12000	ND<1000	--	ND<25000	ND<50	ND<50	ND<50	ND<50	ND<50	--	--	--	--	--	--
04/13/07	8400	730	--	ND<250	ND<0.50	0.68	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/19/07	10000	ND<1000	--	ND<25000	ND<50	ND<50	ND<50	ND<50	ND<50	--	ND<50	ND<50	ND<100	ND<50	ND<50
01/09/08	12000	ND<250	--	ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12	--	--	--	--	--	--
04/04/08	15000	770	--	ND<5000	ND<10	ND<10	ND<10	ND<10	ND<10	--	--	--	--	--	--
MW-2															
09/28/99	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--	--	--
04/04/01	--	ND	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
07/17/01	--	ND	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
07/18/02	--	ND<1000	--	ND<25000000	ND<100	ND<100	ND<100	ND<100	ND<100	--	--	--	--	--	--
10/07/02	--	ND<20000	--	ND<100000000	ND<400	ND<400	ND<400	ND<400	ND<400	--	--	--	--	--	--
01/06/03	--	ND<50000	--	ND<250000000	ND<1000	ND<1000	ND<1000	ND<1000	ND<1000	--	--	--	--	--	--
04/07/03	--	ND<2000	--	ND<10000000	ND<40	ND<40	ND<40	ND<40	ND<40	--	--	--	--	--	--
07/07/03	--	ND<5000	--	ND<25000000	ND<100	ND<100	ND<100	ND<100	ND<100	--	--	--	--	--	--
10/09/03	--	ND<10000	--	ND<50000	ND<200	ND<200	ND<200	ND<200	ND<200	--	--	--	--	--	--
01/14/04	--	ND<2500	--	ND<13000	ND<50	ND<50	ND<50	ND<50	ND<50	--	--	--	--	--	--
04/28/04	--	13000	--	ND<1000	ND<0.5	ND<0.5	ND<1	ND<1	11	--	--	--	--	--	--
07/12/04	--	110	--	ND<4000	ND<3	ND<3	ND<5	ND<5	ND<5	--	--	--	--	--	--
10/25/04	--	1100	--	ND<1300	ND<13	ND<13	ND<25	ND<13	ND<13	--	--	--	--	--	--
01/17/05	--	1200	--	ND<1300	ND<13	ND<13	ND<25	ND<13	ND<13	--	--	--	--	--	--
04/06/05	--	2800	--	ND<2500	ND<25	ND<25	ND<25	ND<25	ND<25	--	--	--	--	--	--
07/08/05	--	4300	--	ND<2500	ND<25	ND<25	ND<25	ND<25	ND<25	--	--	--	--	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	TPH-D	TBA	Ethanol (8015B)	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Acenaph-thylene	Bromo-dichloro-methane	Bromo-form	Bromo-methane	Carbon Tertra-chloride	Chloro-benzene
	(µg/l)	(µg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-2 continued															
10/07/05	--	8700	--	ND<250	ND<0.50	1.4	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/27/06	--	5200	--	ND<12000	ND<25	ND<25	ND<25	ND<25	ND<25	--	--	--	--	--	--
04/28/06	--	6700	--	ND<250	ND<0.50	1.4	ND<0.50	ND<0.50	1.6	--	--	--	--	--	--
07/28/06	--	5100	--	ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12	--	--	--	--	--	--
10/27/06	--	6600	--	ND<1200	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	--	--	--	--	--
01/10/07	--	6000	--	ND<1200	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	--	--	--	--	--
04/13/07	--	7400	--	ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12	--	--	--	--	--	--
07/19/07	--	6200	--	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--
10/08/07	--	20000	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/09/08	--	9900	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/04/08	--	5800	--	ND<1200	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	--	--	--	--	--
MW-3															
09/28/99	--	ND	--	--	--	--	ND	ND	8.80	--	--	--	--	--	--
04/04/01	--	ND	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
07/17/01	--	ND	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
07/18/02	--	ND<50	--	ND<1200000	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--
10/07/02	--	ND<10000	--	ND<50000000	ND<200	ND<200	ND<200	ND<200	ND<200	--	--	--	--	--	--
01/06/03	--	ND<4000	--	23000000	ND<80	ND<80	ND<80	ND<80	ND<80	--	--	--	--	--	--
04/07/03	--	ND<4000	--	ND<20000000	ND<80	ND<80	ND<80	ND<80	ND<80	--	--	--	--	--	--
07/07/03	--	ND<2000	--	ND<10000000	ND<40	ND<40	ND<40	ND<40	ND<40	--	--	--	--	--	--
10/09/03	--	ND<1000	--	ND<5000	ND<20	ND<20	ND<20	ND<20	ND<20	--	--	--	--	--	--
01/14/04	--	ND<1000	--	ND<5000	ND<20	ND<20	ND<20	ND<20	ND<20	--	--	--	--	--	--
04/28/04	--	ND<12	--	ND<1000	ND<3	ND<3	ND<1	ND<1	ND<1	--	--	--	--	--	--
07/12/04	--	350	--	ND<20000	ND<10	ND<10	ND<20	ND<20	ND<20	--	--	--	--	--	--
10/25/04	--	39	--	ND<250	ND<2.5	ND<2.5	ND<5.0	ND<2.5	ND<2.5	--	--	--	--	--	--
01/17/05	--	120	--	ND<250	ND<2.5	ND<2.5	ND<5.0	ND<2.5	ND<2.5	--	--	--	--	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	TPH-D	TBA	Ethanol (8015B)	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Acenaph-thylene	Bromo-dichloro-methane	Bromo-form	Bromo-methane	Carbon Tertra-chloride	Chloro-benzene
	(µg/l)	(µg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-3 continued															
04/06/05	--	150	--	ND<1000	ND<10	ND<10	ND<10	ND<10	ND<10	--	--	--	--	--	--
07/08/05	--	64	--	ND<250	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	--	--	--	--	--
10/07/05	--	ND<200	--	ND<5000	ND<10	ND<10	ND<10	ND<10	ND<10	--	--	--	--	--	--
01/27/06	--	ND<10	--	ND<250	ND<0.50	1.5	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/28/06	--	190	--	ND<250	ND<0.50	0.63	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/28/06	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
10/27/06	--	ND<10	--	ND<250	ND<0.50	1.3	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/10/07	--	66	--	ND<250	ND<0.50	1.4	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/13/07	--	ND<10	--	ND<250	ND<0.50	1.2	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/19/07	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
10/08/07	--	ND<20	--	ND<500	ND<1.0	1.1	ND<1.0	ND<1.0	ND<1.0	--	--	--	--	--	--
01/09/08	--	ND<20	--	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	--	--	--	--	--	--
04/04/08	--	ND<50	--	ND<1200	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	--	--	--	--	--
MW-4															
09/28/99	--	ND	--	--	--	--	ND	ND	ND	--	--	--	--	--	--
04/04/01	--	ND	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
07/17/01	--	ND	--	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--
07/18/02	--	ND<100	--	ND<2500000	ND<10	49	ND<10	ND<10	ND<10	--	--	--	--	--	--
10/07/02	--	ND<10000	--	ND<50000000	ND<200	ND<200	ND<200	ND<200	ND<200	--	--	--	--	--	--
01/06/03	--	ND<1000	--	ND<5000000	ND<20	ND<20	ND<20	ND<20	ND<20	--	--	--	--	--	--
04/07/03	--	ND<1000	--	ND<5000000	ND<20	ND<20	ND<20	ND<20	ND<20	--	--	--	--	--	--
07/07/03	--	ND<1000	--	ND<5000000	ND<20	ND<20	ND<20	ND<20	ND<20	--	--	--	--	--	--
10/09/03	--	ND<200	--	ND<1000	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	--	--	--	--	--	--
01/14/04	--	ND<200	--	ND<1000	ND<4.0	6.5	ND<4.0	ND<4.0	ND<4.0	--	--	--	--	--	--
04/28/04	--	150	--	ND<1000	ND<0.5	ND<0.5	ND<1	ND<1	ND<1	--	--	--	--	--	--
07/12/04	--	210	--	ND<4000	ND<3	14	ND<5	ND<5	ND<5	--	--	--	--	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	TPH-D	TBA	Ethanol (8015B)	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Acenaph-thylene	Bromo-dichloro-methane	Bromo-form	Bromo-methane	Carbon Tertra-chloride	Chloro-benzene
	(µg/l)	(µg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-4 continued															
10/25/04	--	38	--	ND<100	ND<1.0	2.0	ND<2.0	ND<1.0	ND<1.0	--	--	--	--	--	--
01/17/05	--	110	--	ND<100	ND<1.0	3.6	ND<2.0	ND<1.0	ND<1.0	--	--	--	--	--	--
04/06/05	--	ND<25	--	73000	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	--	--	--	--	--	--
07/08/05	--	29	--	ND<50	ND<0.50	1.2	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
10/07/05	--	210	--	ND<250	ND<0.50	26	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/27/06	--	280	--	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--
04/28/06	--	130	--	ND<250	ND<0.50	0.97	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/28/06	--	64	--	ND<250	ND<0.50	5.8	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
10/27/06	--	54	--	ND<250	ND<0.50	1.5	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/10/07	--	33	--	310	ND<0.50	1.9	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/13/07	--	82	--	ND<250	ND<0.50	0.77	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/19/07	--	13	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
10/08/07	--	ND<20	--	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	--	--	--	--	--	--
01/09/08	--	ND<20	--	ND<500	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	--	--	--	--	--	--
04/04/08	--	27	--	ND<250	ND<0.50	1.0	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
MW-5															
07/18/02	--	ND<20	--	ND<500000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--
10/07/02	--	ND<100	--	ND<500000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--
01/06/03	ND<50	ND<100	--	ND<500000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	ND<0.50
04/07/03	--	ND<500	--	ND<2500000	ND<10	ND<10	ND<10	ND<10	ND<10	--	--	--	--	--	--
07/07/03	--	ND<200	--	ND<1000000	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	--	--	--	--	--	--
10/09/03	--	ND<200	--	ND<1000	ND<4.0	ND<4.0	ND<4.0	ND<4.0	ND<4.0	--	--	--	--	--	--
01/14/04	--	ND<2000	--	ND<10000	ND<40	ND<40	ND<40	ND<40	ND<40	--	--	--	--	--	--
04/28/04	--	ND<12	--	ND<1000	ND<0.5	1.8	ND<1	ND<1	ND<1	--	--	--	--	--	--
07/12/04	--	ND<12	--	ND<800	ND<0.5	0.76	ND<1	ND<1	ND<1	--	--	--	--	--	--
10/25/04	--	ND<500	--	ND<5000	ND<50	ND<50	ND<100	ND<50	ND<50	--	--	--	--	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	TPH-D	TBA	Ethanol (8015B)	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Acenaph-thylene	Bromo-dichloro-methane	Bromo-form	Bromo-methane	Carbon Tertra-chloride	Chloro-benzene
	(µg/l)	(µg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-5 continued															
01/17/05	--	100	--	ND<250	ND<2.5	ND<2.5	ND<5.0	ND<2.5	ND<2.5	--	--	--	--	--	--
04/06/05	--	7.6	--	ND<50	ND<0.50	1.4	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/08/05	--	180	--	ND<500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--
10/07/05	--	ND<10	--	ND<250	ND<0.50	1.0	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/27/06	--	1000	--	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--
04/28/06	--	130	--	ND<250	ND<0.50	0.95	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/28/06	--	ND<100	--	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--
10/27/06	--	43	--	ND<250	ND<0.50	1.5	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/10/07	--	28	--	ND<250	ND<0.50	1.7	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/13/07	--	ND<10	--	ND<250	ND<0.50	0.84	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/19/07	--	ND<10	--	ND<250	ND<0.50	ND<5.0	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
10/08/07	--	ND<10	--	ND<250	ND<0.50	1.3	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/09/08	--	ND<10	--	ND<250	ND<0.50	1.2	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/04/08	--	ND<10	--	ND<250	ND<0.50	1.4	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
MW-6															
07/18/02	--	ND<20	--	ND<500000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--
10/07/02	--	ND<100	--	ND<500000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--
01/06/03	--	ND<100	--	ND<500000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--
04/07/03	--	ND<100	--	ND<500000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--
07/07/03	--	ND<100	--	ND<500000	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--
10/09/03	--	ND<100	--	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--
01/14/04	--	ND<100	--	ND<500	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	--	--	--	--	--	--
04/28/04	--	ND<12	--	ND<1000	ND<0.5	ND<0.5	ND<1	ND<1	ND<1	--	--	--	--	--	--
07/12/04	--	ND<12	--	ND<800	ND<0.5	ND<0.5	ND<1	ND<1	ND<1	--	--	--	--	--	--
10/25/04	--	ND<5.0	--	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	--	--	--	--	--	--
01/17/05	--	ND<5.0	--	ND<50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<0.50	--	--	--	--	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	TPH-D	TBA	Ethanol (8015B)	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Acenaph-thylene	Bromo-dichloro-methane	Bromo-form	Bromo-methane	Carbon Tertra-chloride	Chloro-benzene
	(µg/l)	(µg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-6 continued															
04/06/05	--	ND<5.0	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/08/05	--	ND<5.0	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
10/07/05	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/27/06	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/28/06	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/28/06	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
10/27/06	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/10/07	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/13/07	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
07/19/07	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
10/08/07	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
01/09/08	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/04/08	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
MW-7															
07/18/02	--	33000	--	ND<5000000	ND<20	ND<20	ND<20	ND<20	ND<20	--	--	--	--	--	--
10/07/02	--	26000	--	ND<100000000	ND<400	ND<400	ND<400	ND<400	ND<400	--	--	--	--	--	--
01/06/03	ND<50	ND<10000	--	ND<50000000	ND<200	ND<200	ND<200	ND<200	ND<200	--	--	--	--	--	ND<50
04/07/03	--	ND<40000	--	ND<200000000	ND<800	ND<800	ND<800	ND<800	ND<800	--	--	--	--	--	--
07/07/03	--	27000	--	ND<100000000	ND<400	ND<400	ND<400	ND<400	ND<400	--	--	--	--	--	--
10/09/03	--	ND<25000	--	ND<130000	ND<500	ND<500	ND<500	ND<500	ND<500	--	--	--	--	--	--
01/14/04	--	ND<40000	--	ND<200000	ND<800	ND<800	ND<800	ND<800	ND<800	--	--	--	--	--	--
04/28/04	--	9200	--	ND<1000	ND<0.5	6.8	ND<1	ND<1	12	--	--	--	--	--	--
07/12/04	--	4600	--	ND<8000	ND<5	5.1	ND<10	ND<10	ND<10	--	--	--	--	--	--
10/25/04	--	3900	--	ND<5000	ND<50	ND<50	ND<100	ND<50	ND<50	--	--	--	--	--	--
01/17/05	--	4200	--	ND<5000	ND<50	ND<50	ND<100	ND<50	ND<50	--	--	--	--	--	--
04/06/05	--	4200	--	ND<10000	ND<0.50	6.4	ND<0.50	ND<0.50	9.3	--	--	--	--	--	--

Table 2 a
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	TPH-D	TBA	Ethanol (8015B)	Ethanol (8260B)	Ethylene-dibromide (EDB)	1,2-DCA (EDC)	DIPE	ETBE	TAME	Acenaph-thylene	Bromo-dichloro-methane	Bromo-form	Bromo-methane	Carbon Tertra-chloride	Chloro-benzene
	(µg/l)	(µg/l)	(mg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-7 continued															
07/08/05	--	4300	--	ND<5000	ND<50	ND<50	ND<50	ND<50	ND<50	--	--	--	--	--	--
10/07/05	--	1100	--	ND<12000	ND<25	ND<25	ND<25	ND<25	ND<25	--	--	--	--	--	--
01/27/06	--	1600	--	ND<25000	ND<50	ND<50	ND<50	ND<50	ND<50	--	--	--	--	--	--
04/28/06	--	2900	--	ND<250	ND<0.50	3.4	ND<0.50	ND<0.50	6.3	--	--	--	--	--	--
07/28/06	--	1300	--	ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12	--	--	--	--	--	--
10/27/06	--	1700	--	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--
01/10/07	12000	1300	--	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--
07/19/07	--	ND<100	--	ND<2500	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--
10/08/07	--	ND<500	--	ND<12000	ND<25	ND<25	ND<25	ND<25	ND<25	--	--	--	--	--	--
01/09/08	--	2700	--	ND<250	ND<0.50	1.2	ND<0.50	ND<0.50	1.1	--	--	--	--	--	--
04/04/08	--	1400	--	ND<6200	ND<12	ND<12	ND<12	ND<12	ND<12	--	--	--	--	--	--
MW-8															
01/18/08	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--
04/04/08	--	ND<10	--	ND<250	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	--	--	--	--

Table 2 b
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	Chloro-ethane	Chloroform	Chloro-methane	Dibromo-chloro-methane	1,2-Dichloro-benzene	1,3-Dichloro-benzene	1,4-Dichloro-benzene	Dichloro-difluoro-methane	1,1-DCA	1,1-DCE	cis- 1,2-DCE	trans- 1,2-DCE	1,2-Dichloro-propane	cis-1,3-Dichloro-propene	trans-1,3-Dichloro-propene
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-1															
07/20/99	--	--	--	--	3.9	--	--	--	2.0	--	3.6	--	0.92	--	--
03/31/00	--	--	--	--	6.2	--	--	--	--	--	--	--	--	--	--
04/04/01	--	--	--	--	4.6	--	--	--	--	--	3.4	--	--	--	--
07/17/01	--	--	--	--	18	--	--	--	--	--	--	--	--	--	--
07/18/02	1.1	--	--	--	5.8	--	1.3	--	--	--	1.3	--	--	--	--
07/07/03	--	--	--	--	--	--	--	--	--	--	ND<120	--	--	--	--
07/12/04	ND<10	ND<10	ND<10	ND<10	ND<2	ND<2	ND<2	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
07/08/05	1.0	ND<0.50	ND<1.0	ND<0.50	9.0	ND<0.50	1.2	ND<1.0	1.3	ND<0.50	3.1	ND<0.50	ND<0.50	ND<0.50	ND<0.50
07/28/06	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	4.5	ND<0.50	ND<0.50	ND<0.50	ND<0.50
07/19/07	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50	ND<50
MW-5															
01/06/03	--	--	--	--	--	--	--	--	--	--	ND<0.50	--	--	--	--
MW-7															
01/06/03	--	--	--	--	--	--	--	--	--	--	ND<50	--	--	--	--

Table 2 c
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	Hexa-chloro-butadiene	Methylene chloride	Naph-thalene	n-Propyl-benzene	1,1,2,2-Tetrachloro ethane	Tetrachloro-ethene (PCE)	Trichloro-trifluoro-ethane	1,2,4-Trichloro-benzene	1,1,1-Trichloro-ethane	1,1,2-Trichloro-ethane	Trichloro-ethene (TCE)	Trichloro-fluoro-methane	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Vinyl chloride
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-1															
07/20/99	--	--	600	--	--	--	--	--	--	--	--	--	--	--	--
09/28/99	--	--	534	--	--	--	--	--	--	--	--	--	1240	318	--
01/07/00	--	--	1050	371	--	--	--	--	--	--	--	--	2210	597	--
03/31/00	--	--	140	--	--	--	--	--	--	--	--	--	--	--	--
07/14/00	--	--	690	--	--	334	--	--	--	--	--	--	--	--	--
10/03/00	--	--	361	--	--	--	--	--	--	--	--	--	--	--	--
01/03/01	--	--	400	--	--	--	--	--	--	--	--	--	--	--	--
04/04/01	--	--	490	--	--	--	--	--	--	--	--	--	--	--	--
07/17/01	--	--	740	--	--	--	--	--	--	--	--	--	--	--	--
07/18/02	--	--	910	--	--	ND<0.60	--	--	--	--	--	--	--	--	--
07/07/03	--	--	850	--	--	ND<120	--	--	--	--	--	--	--	--	--
07/12/04	ND<2	ND<20	450	--	ND<10	ND<10	ND<10	ND<2	ND<10	ND<10	ND<10	ND<10	--	--	ND<10
07/08/05	ND<20	ND<5.0	250	--	ND<0.50	ND<0.50	ND<0.50	ND<20	ND<0.50	ND<0.50	0.73	ND<1.0	--	--	ND<0.50
07/28/06	--	ND<1.0	--	--	ND<0.50	ND<0.50	ND<0.50	--	ND<0.50	ND<0.50	ND<0.50	ND<0.50	--	--	ND<0.50
07/19/07	--	ND<100	--	--	ND<50	ND<50	ND<50	--	ND<50	ND<50	ND<50	ND<50	--	--	ND<50
MW-5															
01/06/03	--	--	ND<10	--	--	ND<0.50	--	--	--	--	--	--	--	--	--
MW-7															
01/06/03	--	--	ND<10	--	--	ND<50	--	--	--	--	--	--	--	--	--

Table 2 d
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	Acena-phthene (µg/l)	Acena-phthylene (svoc) (µg/l)	Anthra-cene (µg/l)	Benzo[a]-anthracene (µg/l)	Benzo[a]-pyrene (µg/l)	Benzo[b]-fluor-anthene (µg/l)	Benzo-[g,h,I]-perylene (µg/l)	Benzo[k]-fluor-anthene (µg/l)	Benzoic Acid (µg/l)	Benzyl Alcohol (µg/l)	Bis(2-chloro-ethoxy) methane (µg/l)	Bis(2-chloro-ethyl) ether (µg/l)	Bis(2-chloro-isopropyl)-ether (µg/l)	Bis(2-ethyl-hexyl) phthalate (µg/l)	4-Bromo-pheny phe-nyl ether (µg/l)
MW-1															
03/31/00	--	--	--	--	--	--	--	--	--	--	--	--	--	10	--
10/03/00	--	--	--	--	--	--	--	--	--	--	--	--	--	51.6	--
04/04/01	--	--	--	--	--	--	--	--	--	--	--	--	--	55	--
07/17/01	--	--	--	--	--	--	--	--	--	--	--	--	--	400	--
07/18/02	--	--	--	--	--	--	--	--	--	--	--	--	--	120	--
07/07/03	--	--	--	--	--	--	--	--	--	--	--	--	--	70	--
07/12/04	ND<2	--	ND<2	ND<2	ND<2	ND<2	ND<2	ND<2	--	--	--	--	--	ND<5	--
07/28/06	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<50	ND<10	ND<10	ND<10	ND<10	33	ND<10
07/19/07	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<11	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<4.4	ND<2.2
MW-5															
01/06/03	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<5.0	--
MW-7															
01/06/03	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<5.0	--

Table 2 e
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	Butyl-benzyl phthalate (µg/l)	4-Chloro-3-methyl-phenol (µg/l)	4-Chloro-aniline (µg/l)	2-Chloro-naphtha-lene (µg/l)	2-Chloro-phenol (µg/l)	4-Chloro-phenyl phenyl ether (µg/l)	Chrysene (µg/l)	Dibenzo-[a,h]-anthracene (µg/l)	Dibenzo-furan (µg/l)	1,2-Dichloro-benzene (svoc) (µg/l)	1,3-Dichloro-benzene (svoc) (µg/l)	1,4-Dichloro-benzene (svoc) (µg/l)	3,3-Dichloro-benzidine (µg/l)	2,4-Dichloro-phenol (µg/l)	Diethyl phthalate (µg/l)
MW-1															
07/12/04	--	--	--	--	--	--	ND<2	ND<3	--	--	--	--	--	--	--
07/28/06	ND<10	ND<25	ND<10	ND<10	ND<10	ND<10	ND<10	ND<15	ND<10	ND<10	ND<10	ND<10	ND<50	ND<10	ND<10
07/19/07	ND<2.2	ND<5.5	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<3.3	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<11	ND<2.2	ND<2.2

Table 2 f
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	2,4-Dimethyl-phenol	Dimethyl phthalate	Di-n-butyl phthalate	2,4-Dinitro-phenol	2,4-Dinitro-toluene	2,6-Dinitro-toluene	Di-n-octyl phthalate	Fluoran-thene	Fluorene	Hexa-chloro-benzene	HCBD (svoc)	Hexachloro cyclopenta-diene	Hexachloro ethane	Indeno-[1,2,3-c,d] pyrene	Isophorone
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-1															
07/12/04	--	--	--	--	--	--	--	ND<2	ND<2	--	--	--	--	ND<2	--
07/28/06	ND<10	ND<10	ND<10	ND<50	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<5.0	ND<10	ND<10	ND<10	ND<10
07/19/07	ND<2.2	ND<2.2	ND<2.2	ND<11	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<1.1	ND<2.2	ND<2.2	ND<2.2	ND<2.2

Table 2 g
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

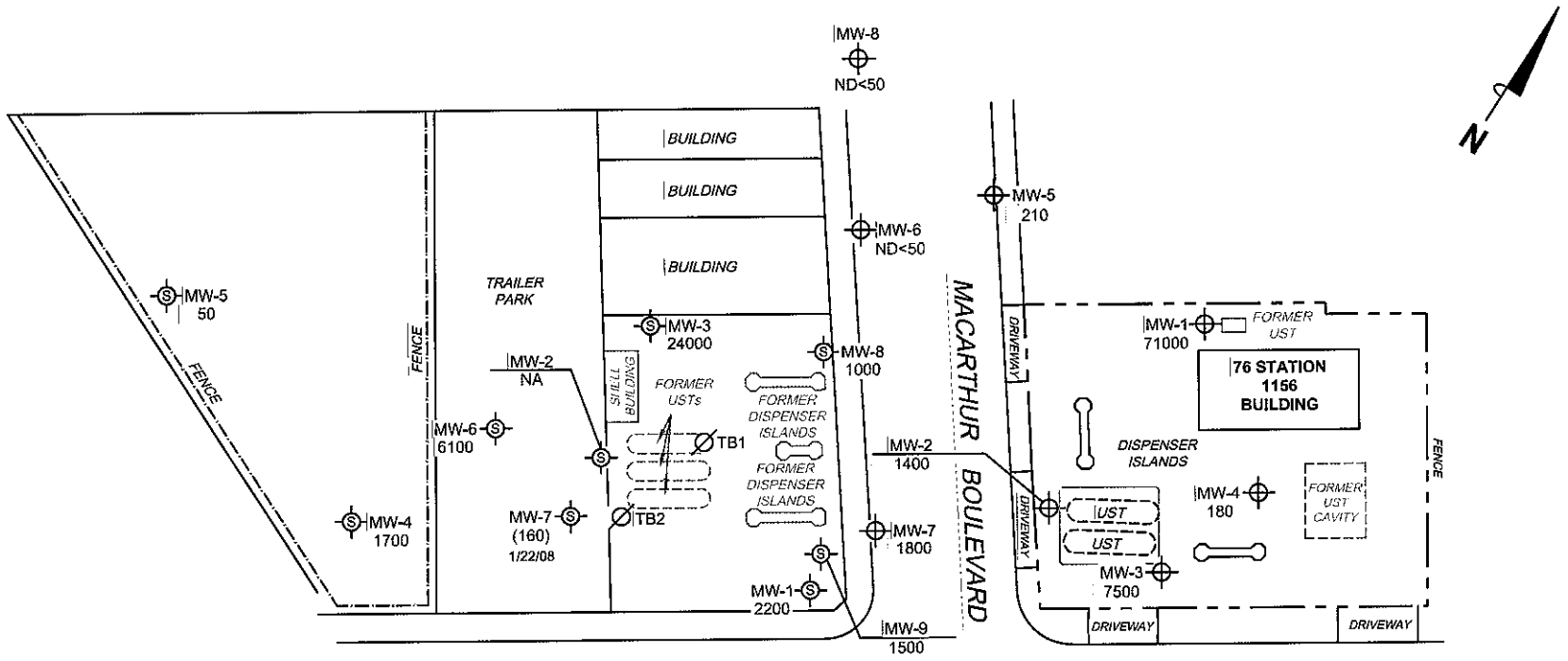
Date Sampled	2-Methyl-4,6-dinitro-phenol	2-Methyl-naphtha-lene	2-Methyl-phenol	4-Methyl-phenol	Naphtha-lene (svoc	2-Nitro-aniline	3-Nitro-aniline	4-Nitro-aniline	Nitro-benzene	2-Nitro-phenol	4-Nitro-phenol	N-nitrosodi-n-propyl-amine	N-Nitro-sodiphenyl-amine	Penta-chloro-phenol	Phen-anthrene
	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)	(µg/l)
MW-1															
07/20/99	--	240	--	27	--	--	--	--	--	--	--	--	--	--	--
09/28/99	--	87.4	26.4	35.6	--	--	--	--	--	--	--	--	--	--	--
01/07/00	--	315	--	--	--	--	--	--	--	--	--	--	--	--	--
03/31/00	--	73	31	18	--	--	--	--	--	--	--	--	--	--	--
07/14/00	--	300	--	--	--	--	--	--	--	--	--	--	--	--	--
10/03/00	--	98.1	--	28.9	--	--	--	--	--	--	--	--	--	--	--
01/03/01	--	180	--	--	--	--	--	--	--	--	--	--	--	--	--
04/04/01	--	78	--	--	--	--	--	--	--	--	--	--	--	--	--
07/17/01	--	290	47	25	--	--	--	--	--	--	--	--	--	--	--
07/18/02	--	420	13	25	--	--	--	--	--	--	--	--	--	--	--
07/07/03	--	260	ND<5.0	22	--	--	--	--	--	--	--	--	--	--	--
07/12/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND<2
07/28/06	--	280	ND<10	--	660	ND<10	ND<10	ND<25	ND<10	ND<10	ND<10	ND<10	ND<10	ND<50	ND<10
07/19/07	ND<11	230	29	--	770	ND<2.2	ND<2.2	ND<5.5	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<2.2	ND<11	ND<2.2
MW-5															
01/06/03	--	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--	--	--	--	--	--
MW-7															
01/06/03	--	ND<5.0	ND<5.0	ND<5.0	--	--	--	--	--	--	--	--	--	--	--

Table 2 h
ADDITIONAL HISTORIC ANALYTICAL RESULTS
76 Station 1156

Date Sampled	Phenol (µg/l)	Pyrene (µg/l)	1,2,4-Trichloro-benzene (svoc) (µg/l)	2,4,6-Trichloro-phenol (µg/l)	2,4,5-Trichloro-phenol (µg/l)
MW-1					
07/12/04	--	ND<2	--	--	--
07/28/06	ND<10	ND<10	ND<10	ND<25	ND<25
07/19/07	ND<2.2	ND<2.2	ND<2.2	ND<5.5	ND<5.5

Attachment D

Dissolved Phase Concentration Maps (April 2008)



LEGEND

MW-8 ⊕ 76 Station Monitoring Well with Dissolved-Phase TPH-G Concentration (µg/l)

MW-9 Ⓢ Shell Monitoring Well with Dissolved-Phase TPH-G (GC/MS) Concentration (µg/l)

TB2 ∅ Destroyed Shell Well

NOTES

TPH-G = total petroleum hydrocarbons as gasoline.
TPH-G (GC/MS) = total petroleum hydrocarbons with gasoline distinction utilizing EPA Method 8260B.
µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report.
( ) = representative historical data. UST = underground storage tank. Shell data supplied by Blaine Tech; TPH-G Results obtained using EPA Method 8015.

SCALE (FEET)

0 60

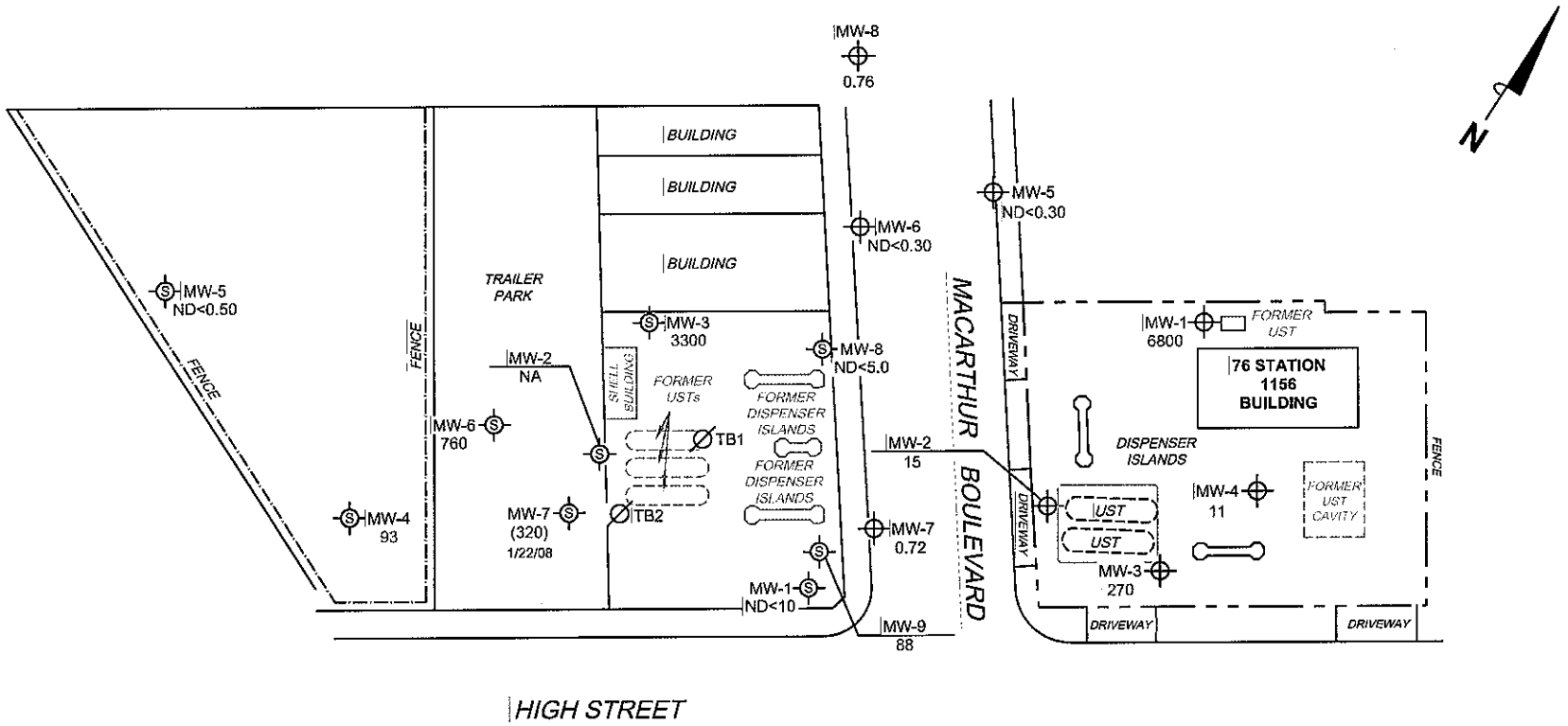
GW elevation and concentration maps obtained from TRC.

DISSOLVED-PHASE TPH-G CONCENTRATION MAP
April 4, 2008

76 STATION 1156
4276 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C101156	DD	JH
DATE	REVIEWED BY	FILE NAME
07/24/08	DD	76-1156-TRC

DELTA



LEGEND

MW-8 ⊕ 76 Monitoring Station Well with Dissolved-Phase Benzene Concentration (µg/l)

MW-9 Ⓢ Shell Monitoring Well

TB2 ∅ Destroyed Shell Well

NOTES:

µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. NA = not analyzed, measured, or collected. ( ) = representative historical data. UST = underground storage tank. Shell data supplied by Blaine Tech.

SCALE (FEET)

0 60

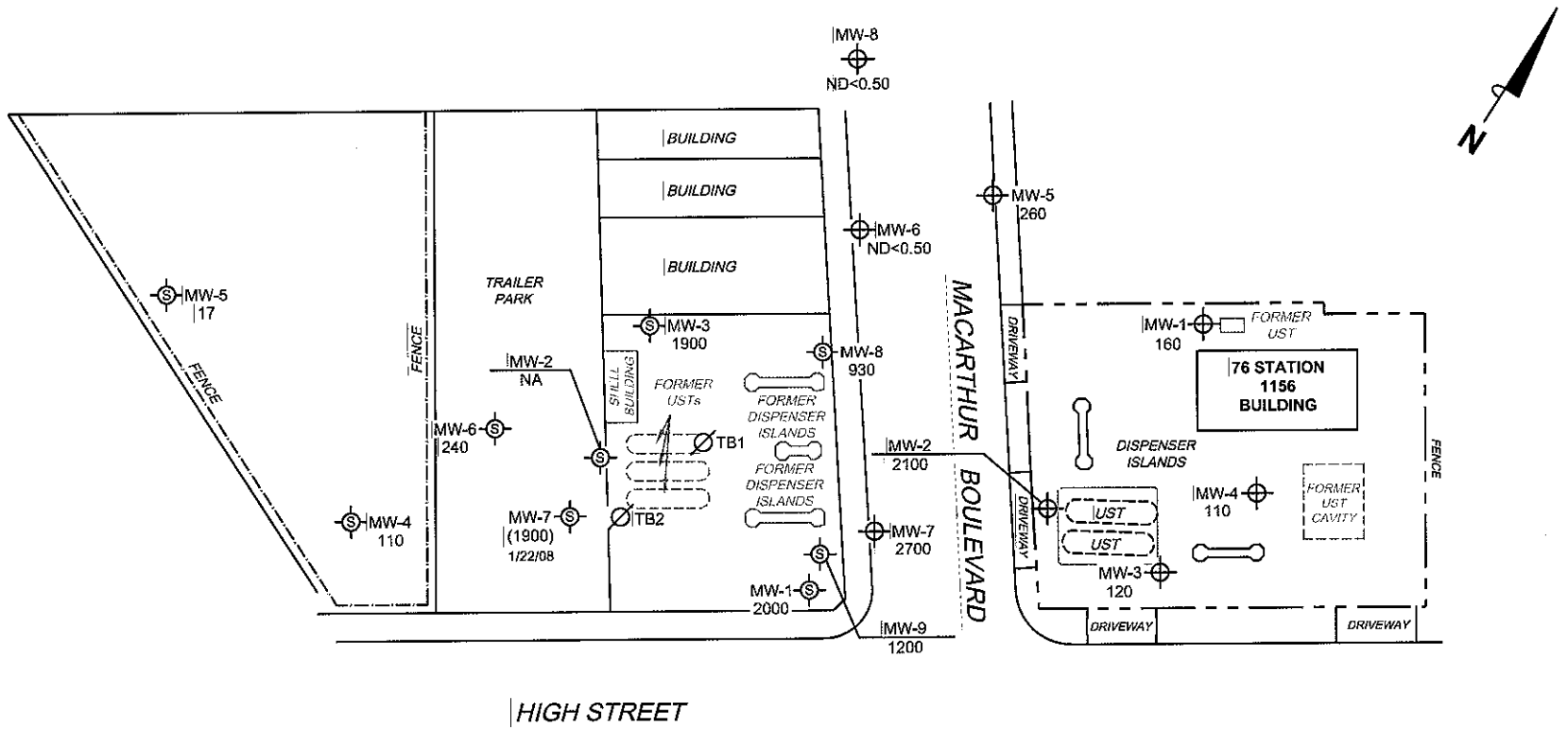
GW elevation and concentration maps obtained from TRC.

DISSOLVED–PHASE BENZENE CONCENTRATION MAP
April 4, 2008

76 STATION 1156
4276 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C101156	DD	JH
DATE	REVIEWED BY	FILE NAME
07/24/08	DD	76-1156-TRC

DELTA



LEGEND

MW-8 ⊕ 76 Station Monitoring Well with Dissolved-Phase MTBE Concentration (µg/l)

MW-9 Ⓢ Shell Monitoring Well

TB2 ∅ Destroyed Shell Well

NOTES:

MTBE = methyl tertiary butyl ether. µg/l = micrograms per liter. ND = not detected at limit indicated on official laboratory report. NA = not analyzed, measured, or collected. ( ) = representative historical data.
UST = underground storage tank. Shell data supplied by Blaine Tech. Results obtained using EPA Method 8260B.

SCALE (FEET)

0 60

GW elevation and concentration maps obtained from TRC.

DISSOLVED–PHASE MTBE CONCENTRATION MAP
April 4, 2008

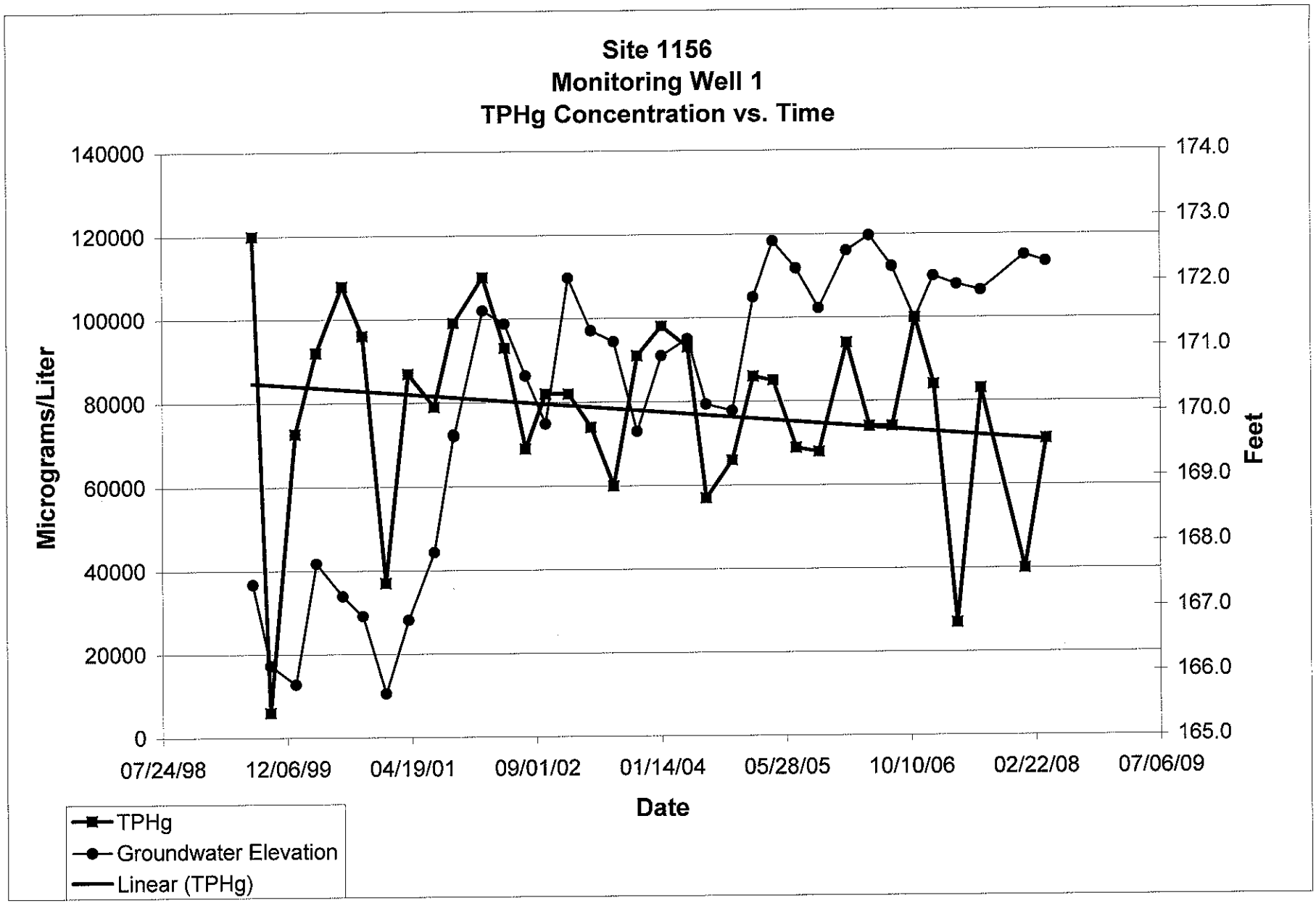
76 STATION 1156
4276 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

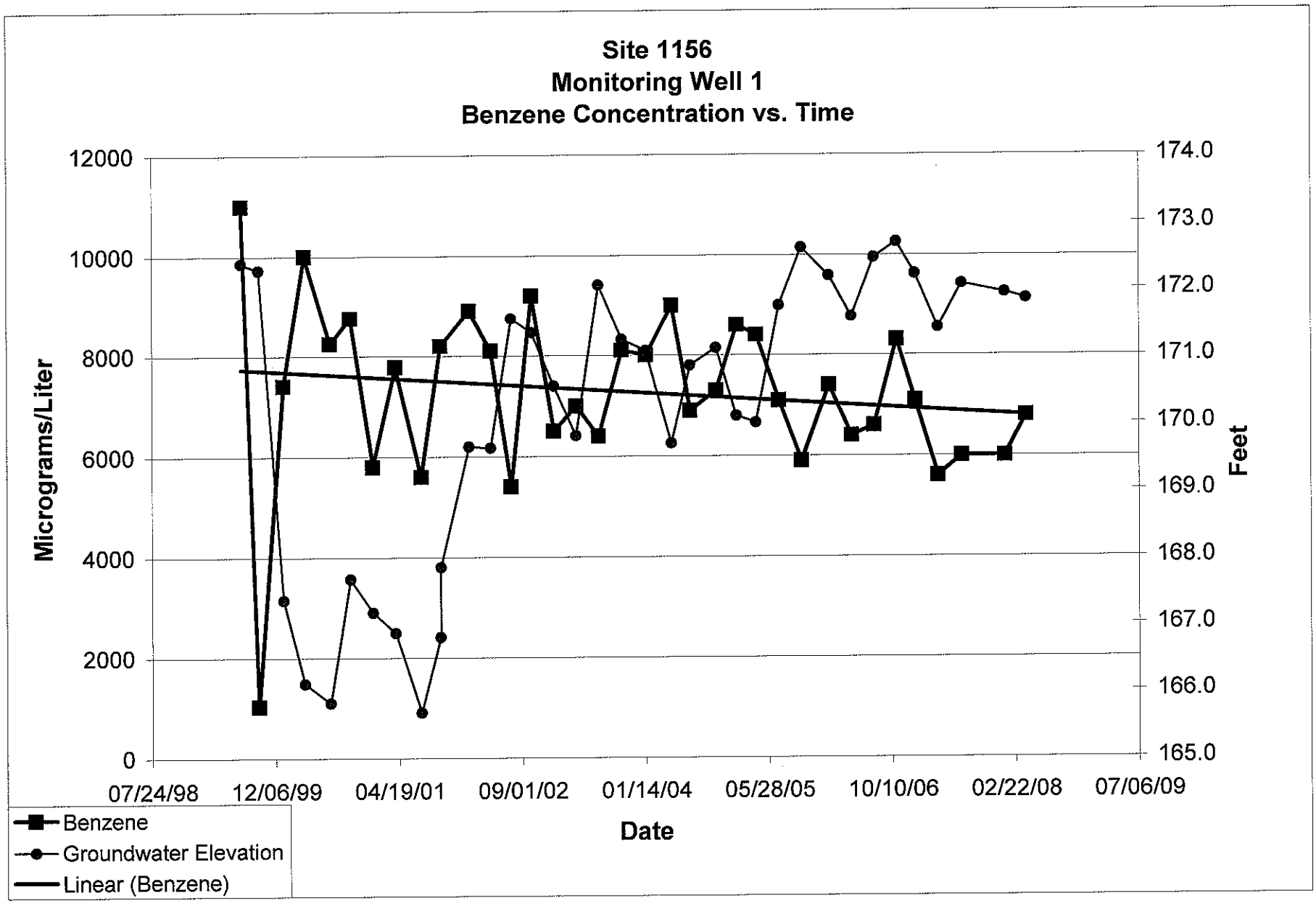
PROJECT NO.	PREPARED BY	DRAWN BY
C101156	DD	JH
DATE	REVIEWED BY	FILE NAME
07/24/08	DD	76-1156-TRC

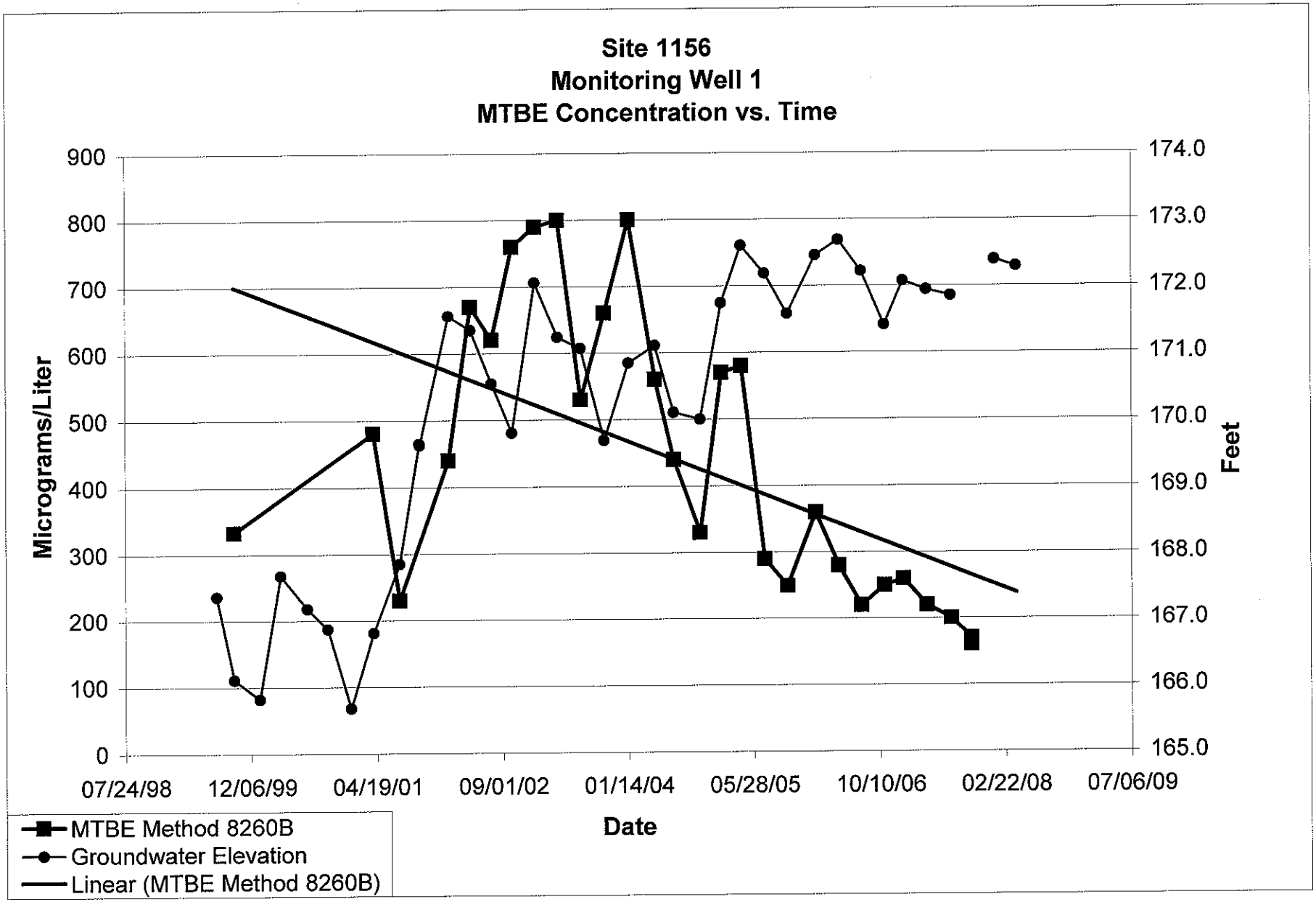
DELTA

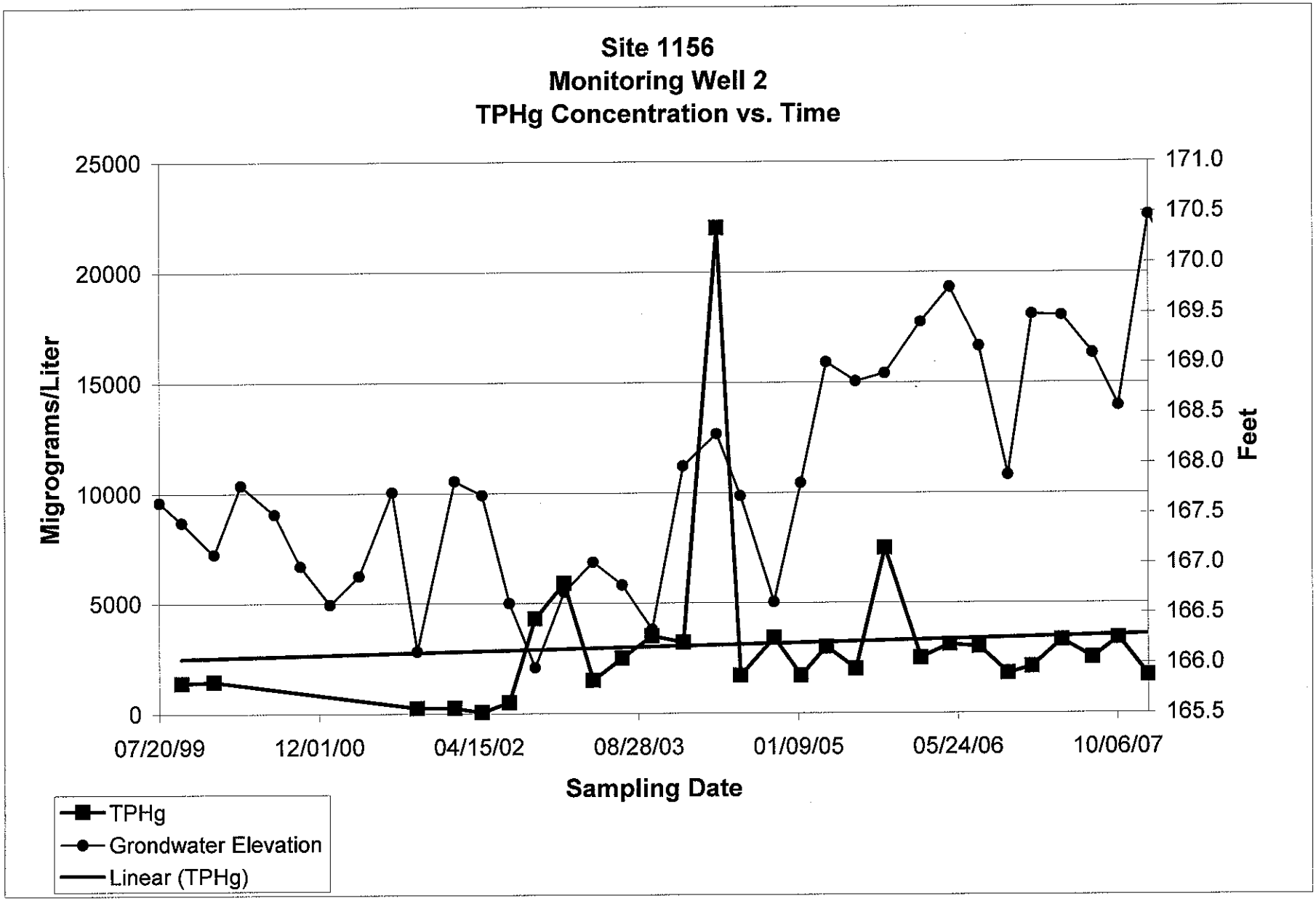
Attachment E

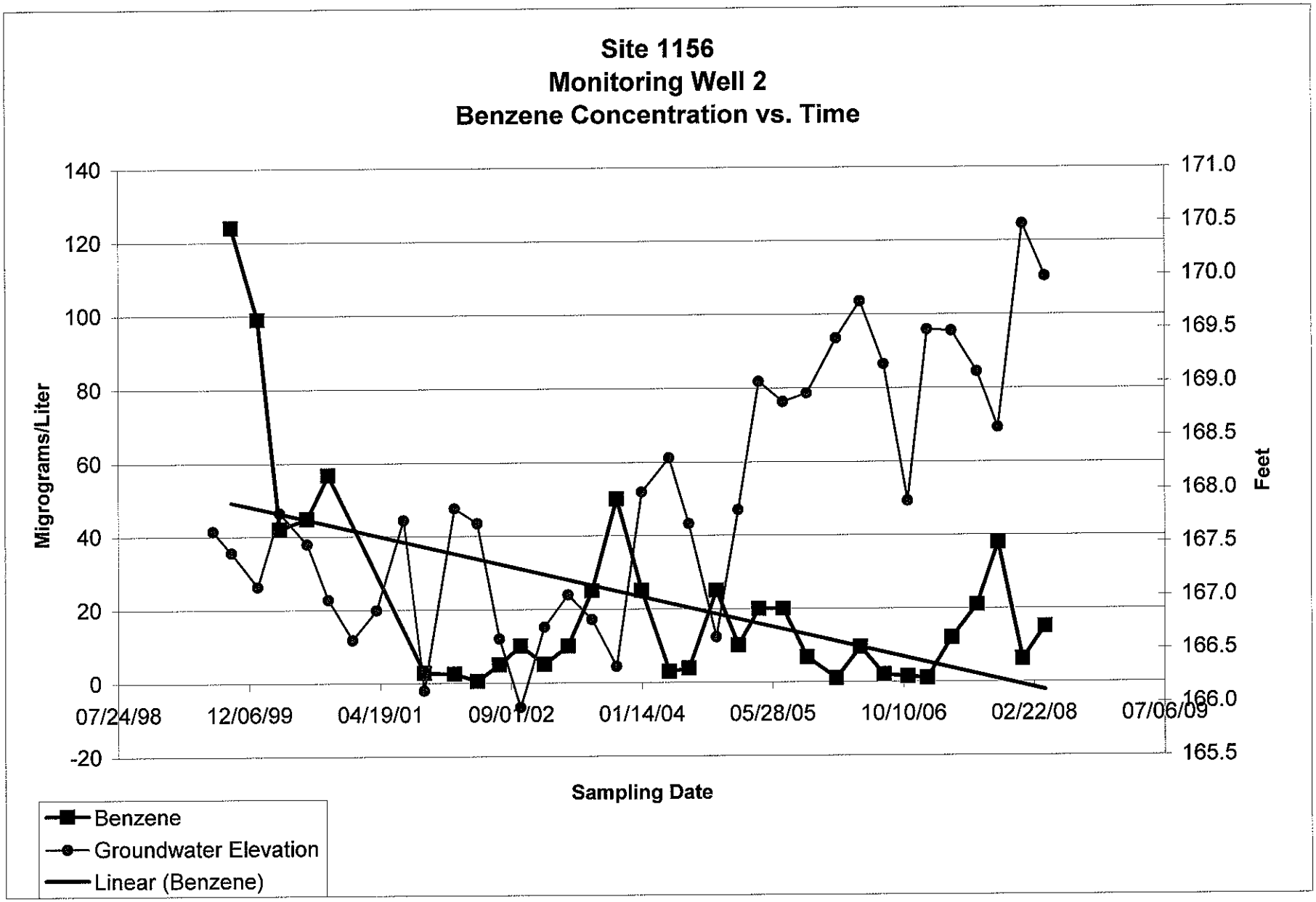
Groundwater Contaminant Concentration
vs.
Time Graphs

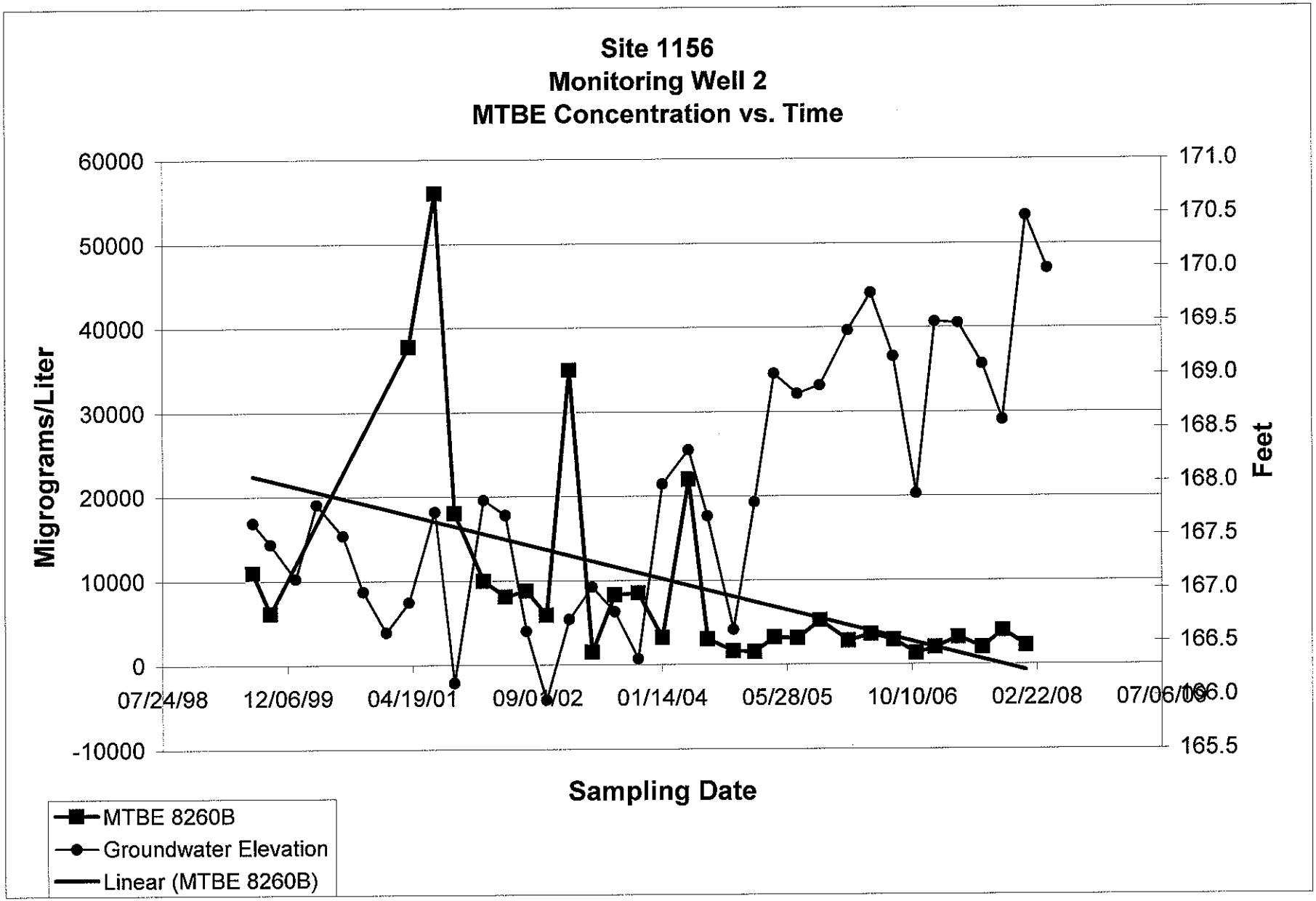

Site 1156
Monitoring Well 1
TPHg Concentration vs. Time
Micrograms/Liter
Feet
Date
140000
120000
100000
80000
60000
40000
20000
0
174.0
173.0
172.0
171.0
170.0
169.0
168.0
167.0
166.0
165.0
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
TPHg
Groundwater Elevation
Linear (TPHg)

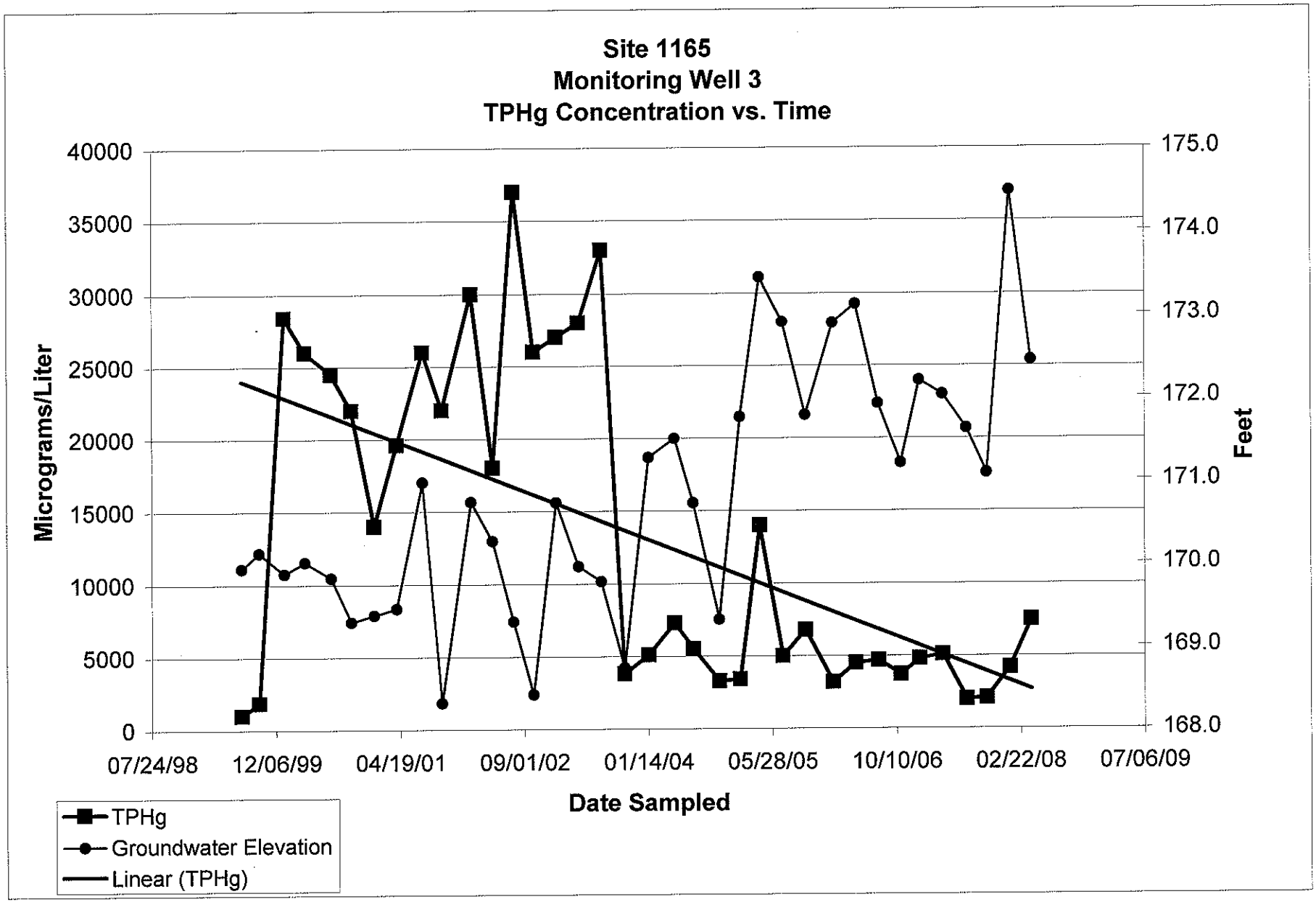

Site 1156
Monitoring Well 1
Benzene Concentration vs. Time
Micrograms/Liter
Feet
Date
12000
10000
8000
6000
4000
2000
0
174.0
173.0
172.0
171.0
170.0
169.0
168.0
167.0
166.0
165.0
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Benzene
Groundwater Elevation
Linear (Benzene)

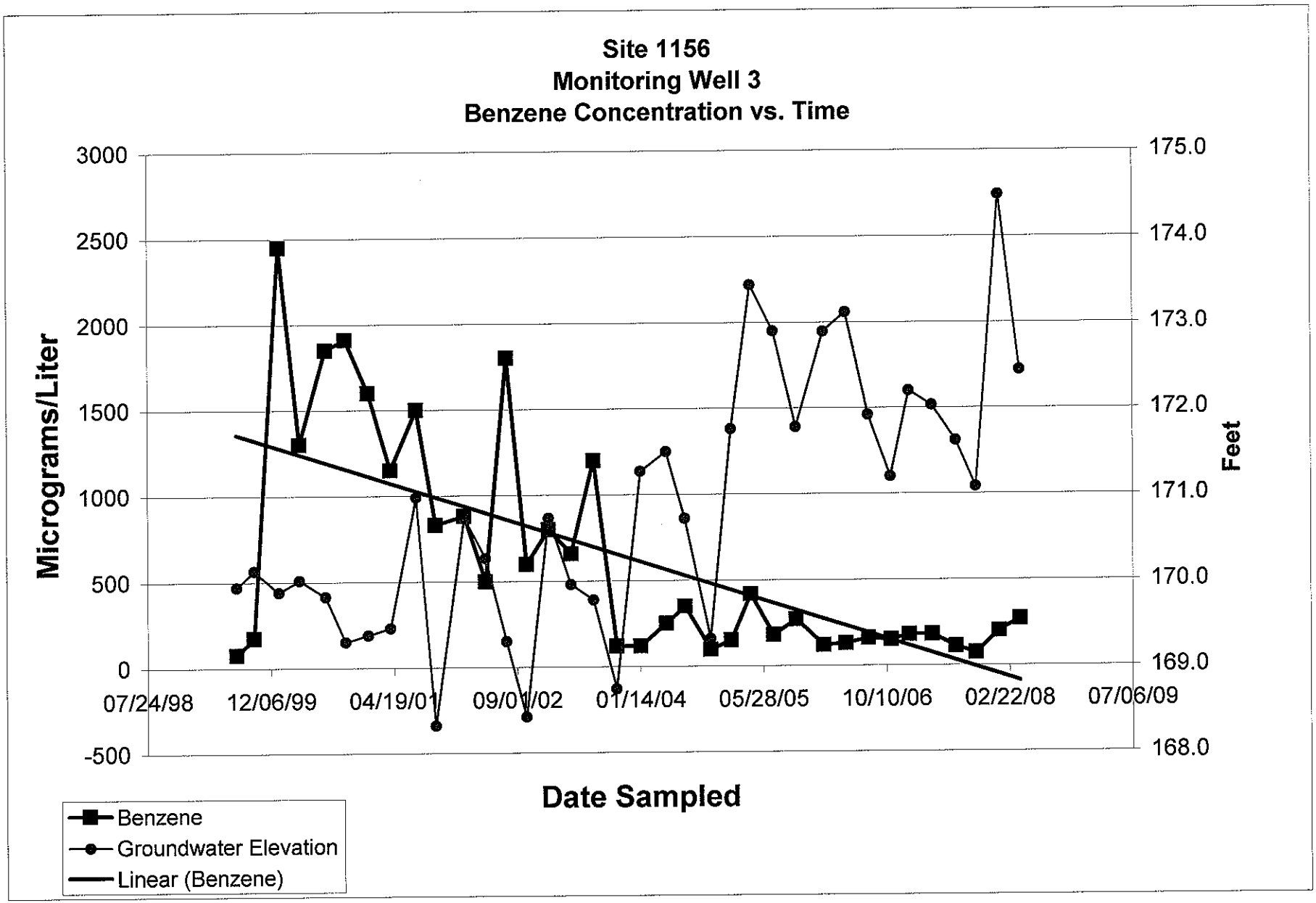

Site 1156
Monitoring Well 1
MTBE Concentration vs. Time
Micrograms/Liter
900
800
700
600
500
400
300
200
100
0
174.0
173.0
172.0
171.0
170.0
169.0
168.0
167.0
166.0
165.0
Feet
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date
MTBE Method 8260B
Groundwater Elevation
Linear (MTBE Method 8260B)

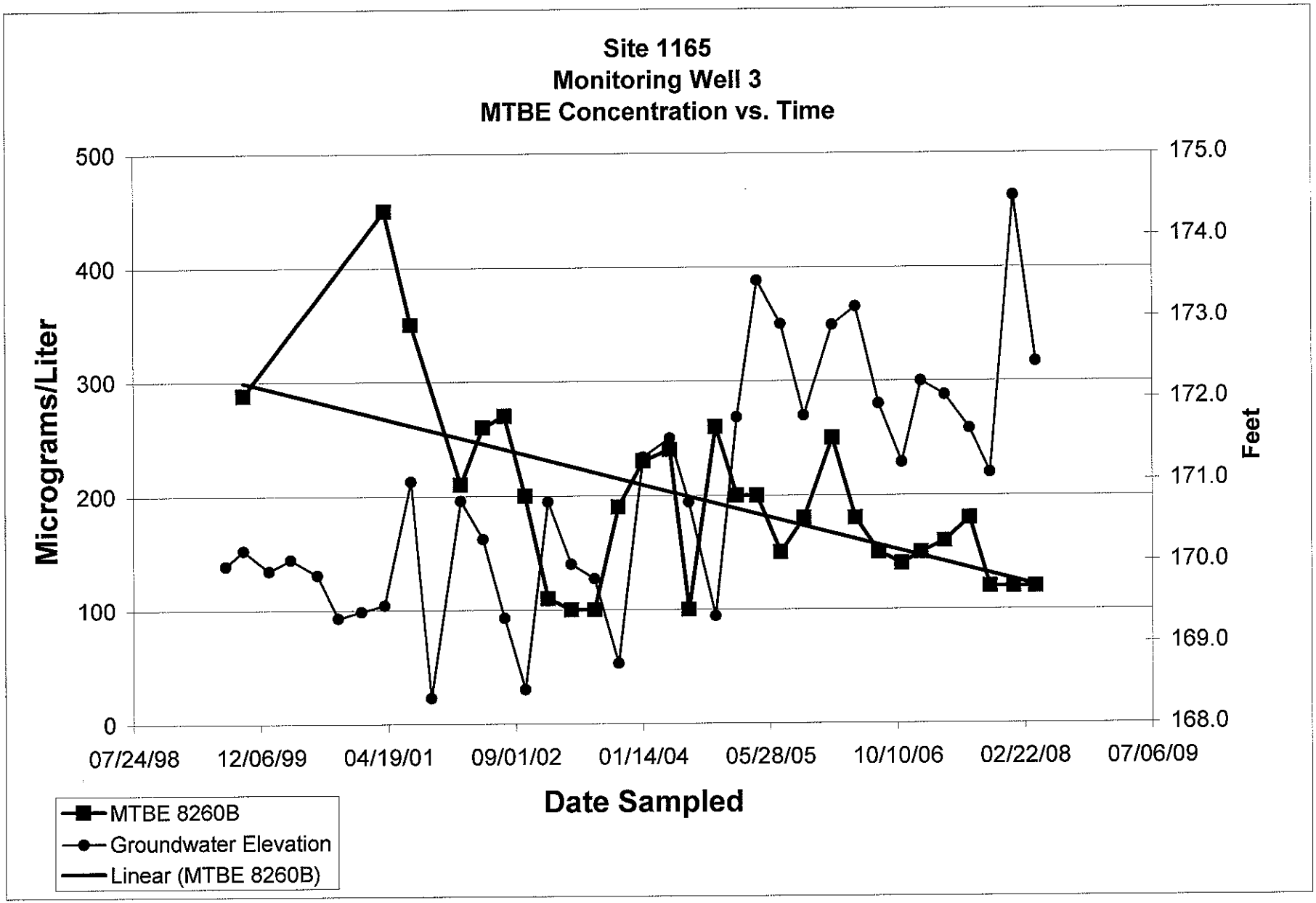

Site 1156
Monitoring Well 2
TPHg Concentration vs. Time
Migrograms/Liter
25000
20000
15000
10000
5000
0
171.0
170.5
170.0
169.5
169.0
168.5
168.0
167.5
167.0
166.5
166.0
165.5
Feet
07/20/99
12/01/00
04/15/02
08/28/03
01/09/05
05/24/06
10/06/07
Sampling Date
TPHg
Grondwater Elevation
Linear (TPHg)

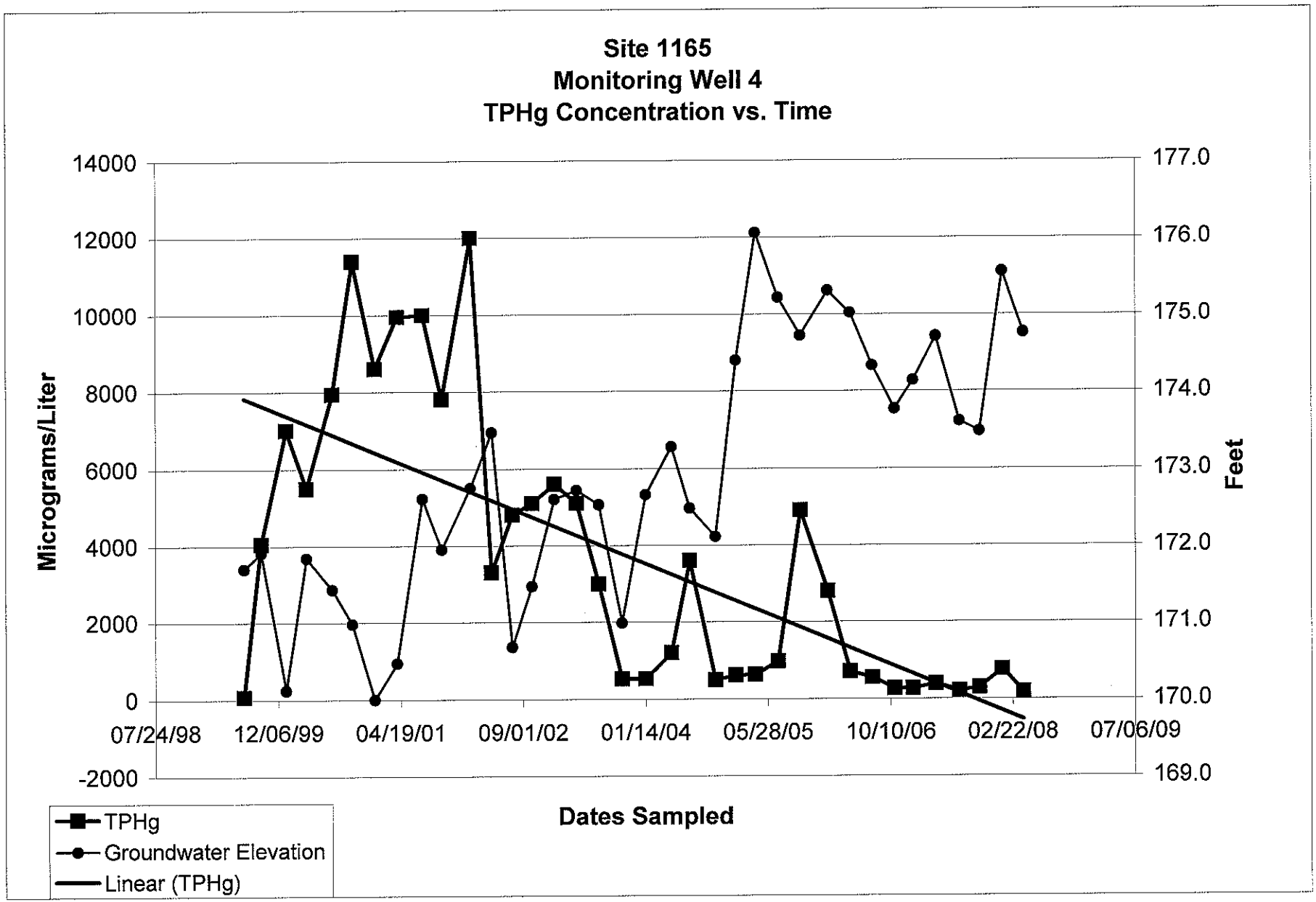

Site 1156
Monitoring Well 2
Benzene Concentration vs. Time
Migrograms/Liter
Feet
Sampling Date
140
120
100
80
60
40
20
0
-20
171.0
170.5
170.0
169.5
169.0
168.5
168.0
167.5
167.0
166.5
166.0
165.5
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Benzene
Groundwater Elevation
Linear (Benzene)

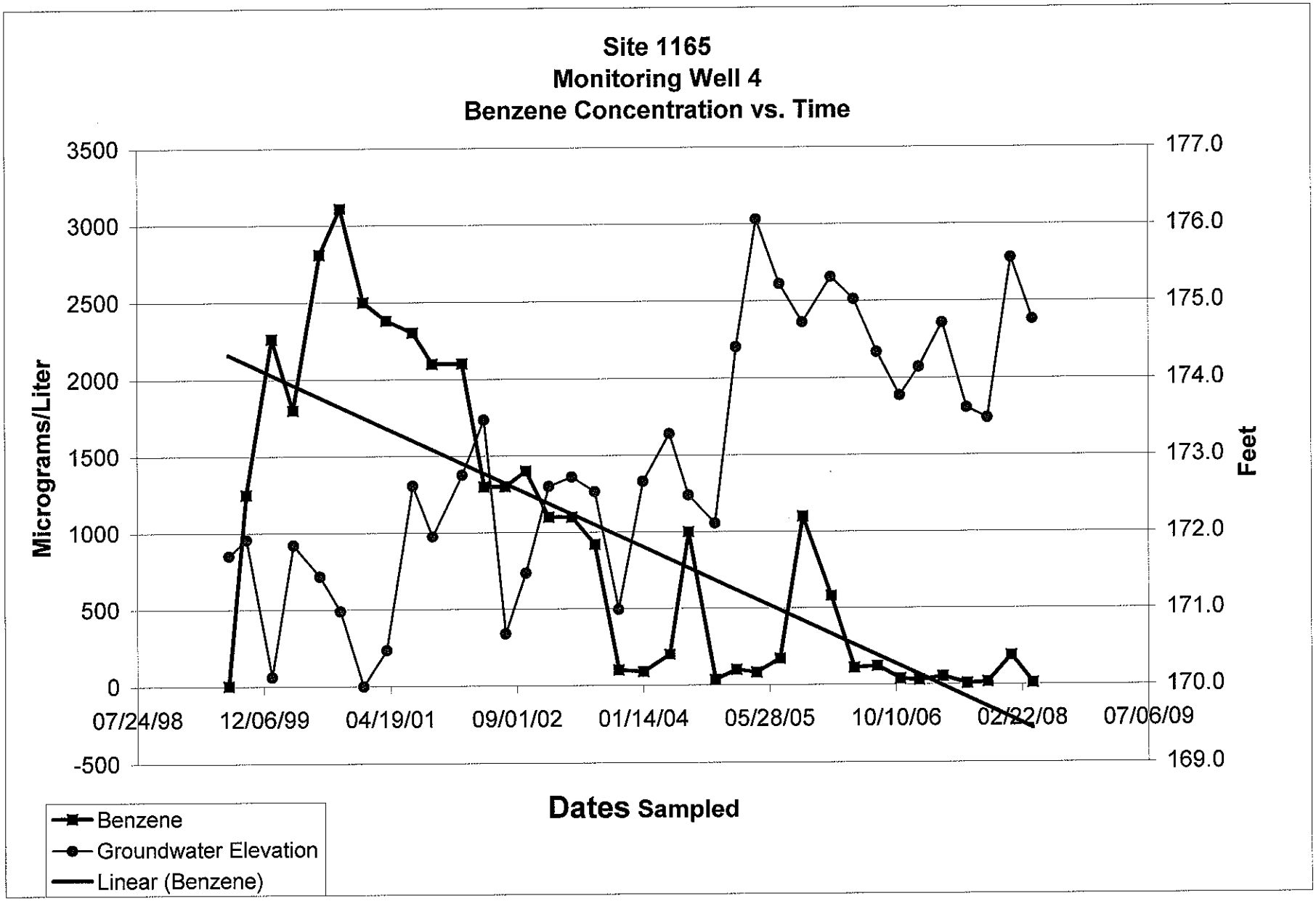

Site 1156
Monitoring Well 2
MTBE Concentration vs. Time
Migrograms/Liter
60000
50000
40000
30000
20000
10000
0
-10000
171.0
170.5
170.0
169.5
169.0
168.5
168.0
167.5
167.0
166.5
166.0
165.5
Feet
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Sampling Date
MTBE 8260B
Groundwater Elevation
Linear (MTBE 8260B)

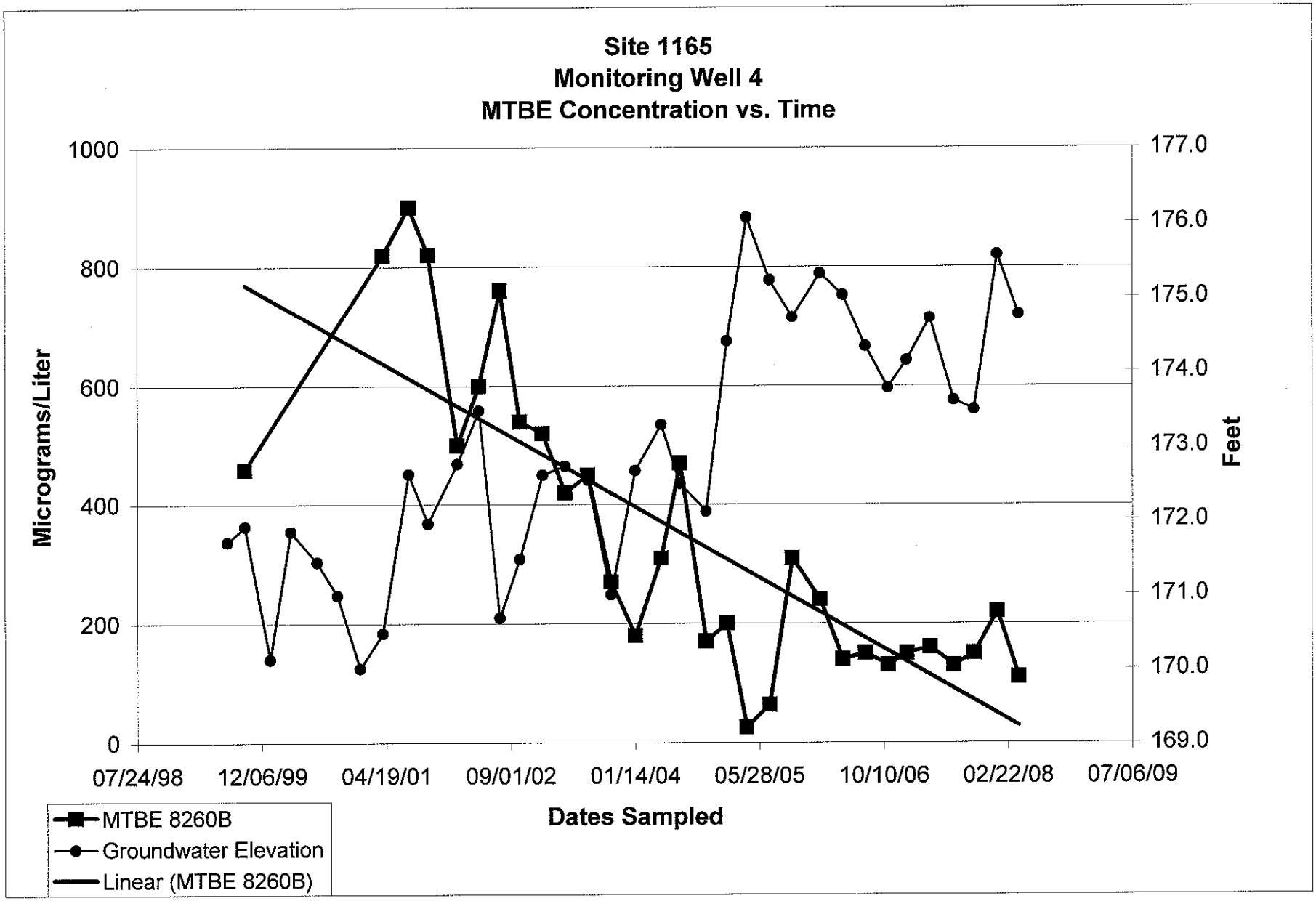

Site 1165
Monitoring Well 3
TPHg Concentration vs. Time
Micrograms/Liter
40000
35000
30000
25000
20000
15000
10000
5000
0
175.0
174.0
173.0
172.0
171.0
170.0
169.0
168.0
Feet
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
TPHg
Groundwater Elevation
Linear (TPHg)

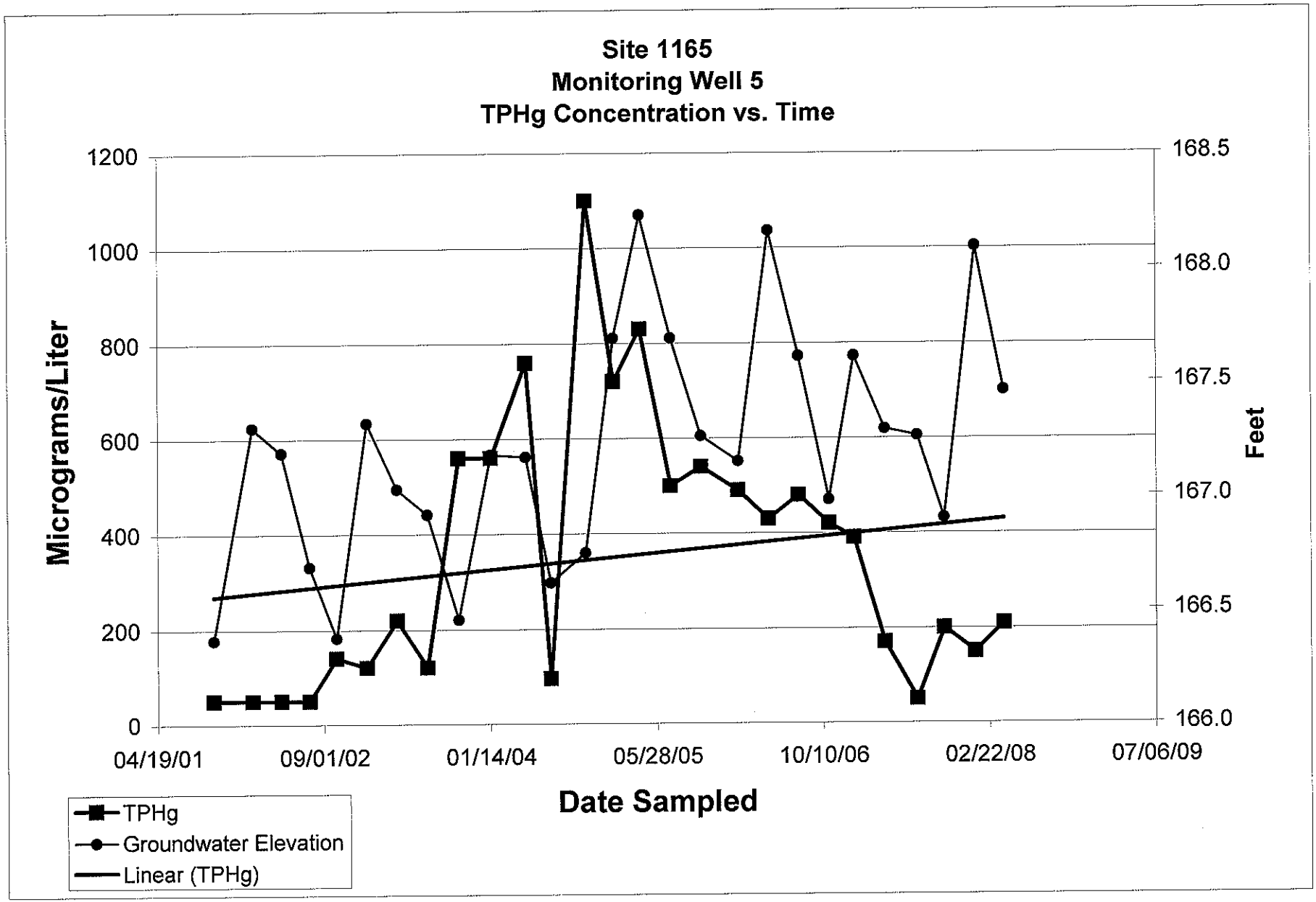

Site 1156
Monitoring Well 3
Benzene Concentration vs. Time
Micrograms/Liter
3000
2500
2000
1500
1000
500
0
-500
175.0
174.0
173.0
172.0
171.0
170.0
169.0
168.0
Feet
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
Benzene
Groundwater Elevation
Linear (Benzene)

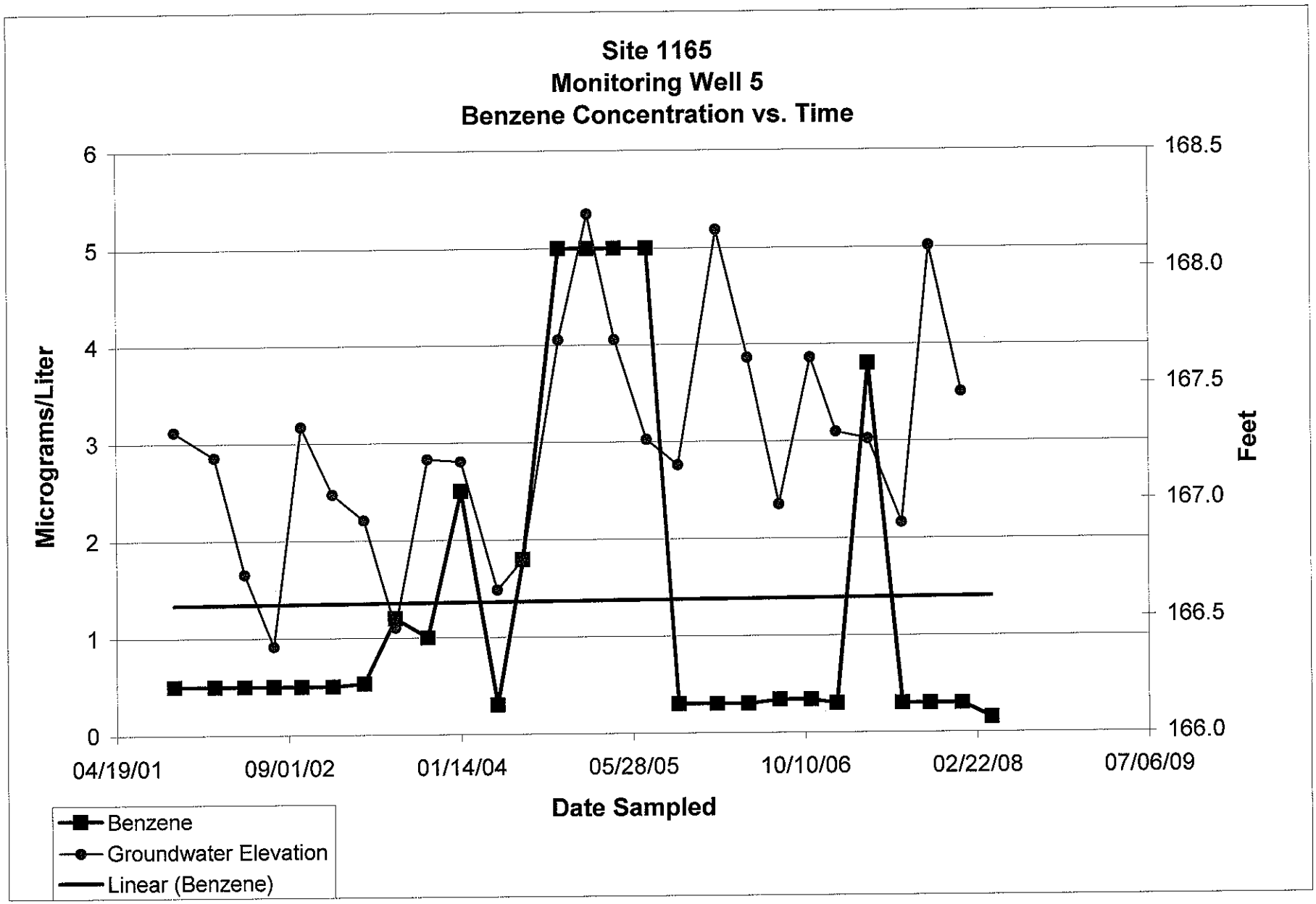

Site 1165
Monitoring Well 3
MTBE Concentration vs. Time
Micrograms/Liter
500
400
300
200
100
0
175.0
174.0
173.0
172.0
171.0
170.0
169.0
168.0
Feet
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
MTBE 8260B
Groundwater Elevation
Linear (MTBE 8260B)

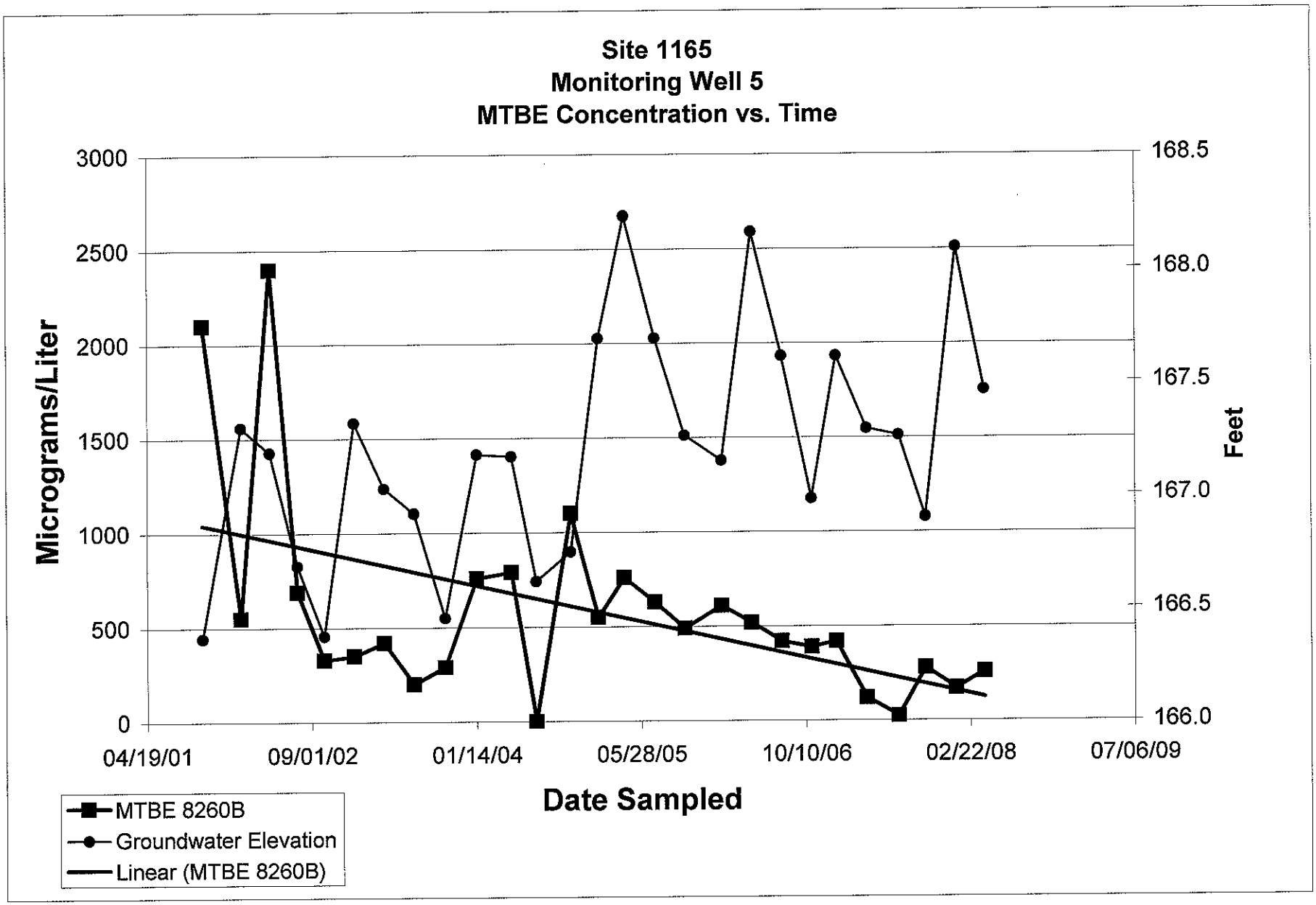

Site 1165
Monitoring Well 4
TPHg Concentration vs. Time
Micrograms/Liter
Feet
14000
12000
10000
8000
6000
4000
2000
0
-2000
177.0
176.0
175.0
174.0
173.0
172.0
171.0
170.0
169.0
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Dates Sampled
TPHg
Groundwater Elevation
Linear (TPHg)

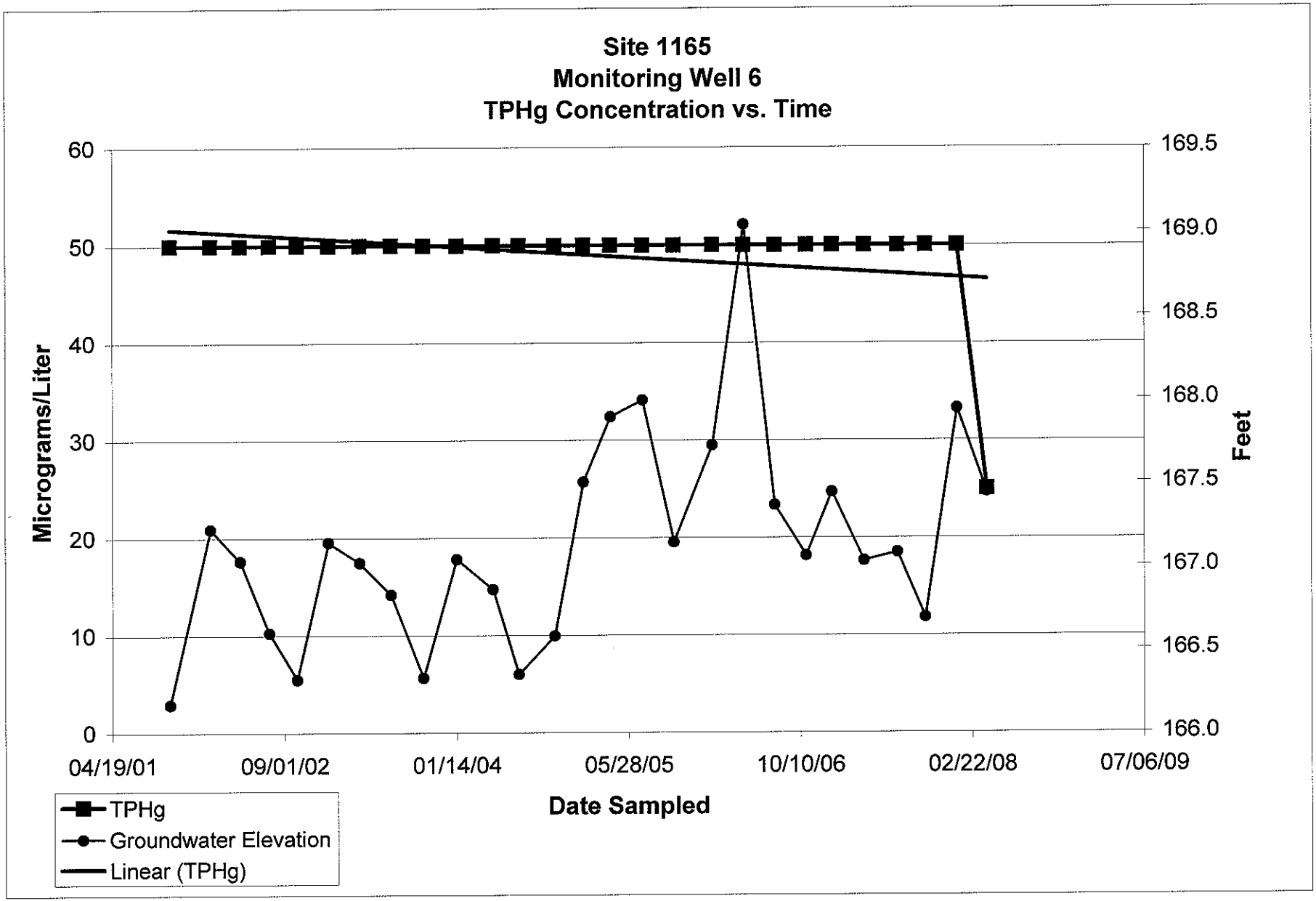

Site 1165
Monitoring Well 4
Benzene Concentration vs. Time
Micrograms/Liter
3500
3000
2500
2000
1500
1000
500
0
-500
177.0
176.0
175.0
174.0
173.0
172.0
171.0
170.0
169.0
Feet
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Dates Sampled
Benzene
Groundwater Elevation
Linear (Benzene)

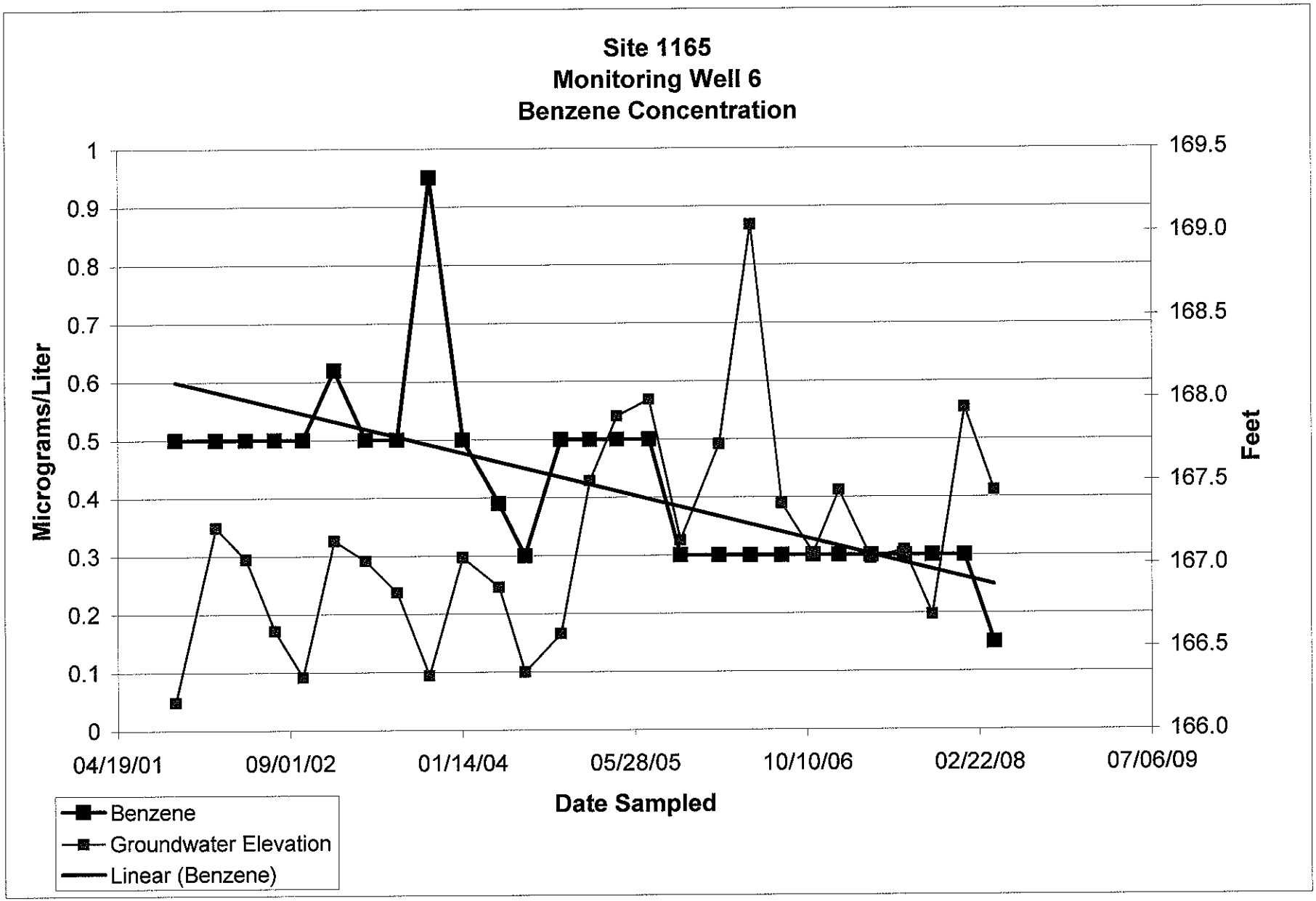

Site 1165
Monitoring Well 4
MTBE Concentration vs. Time
Micrograms/Liter
Feet
1000
800
600
400
200
0
177.0
176.0
175.0
174.0
173.0
172.0
171.0
170.0
169.0
07/24/98
12/06/99
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Dates Sampled
MTBE 8260B
Groundwater Elevation
Linear (MTBE 8260B)

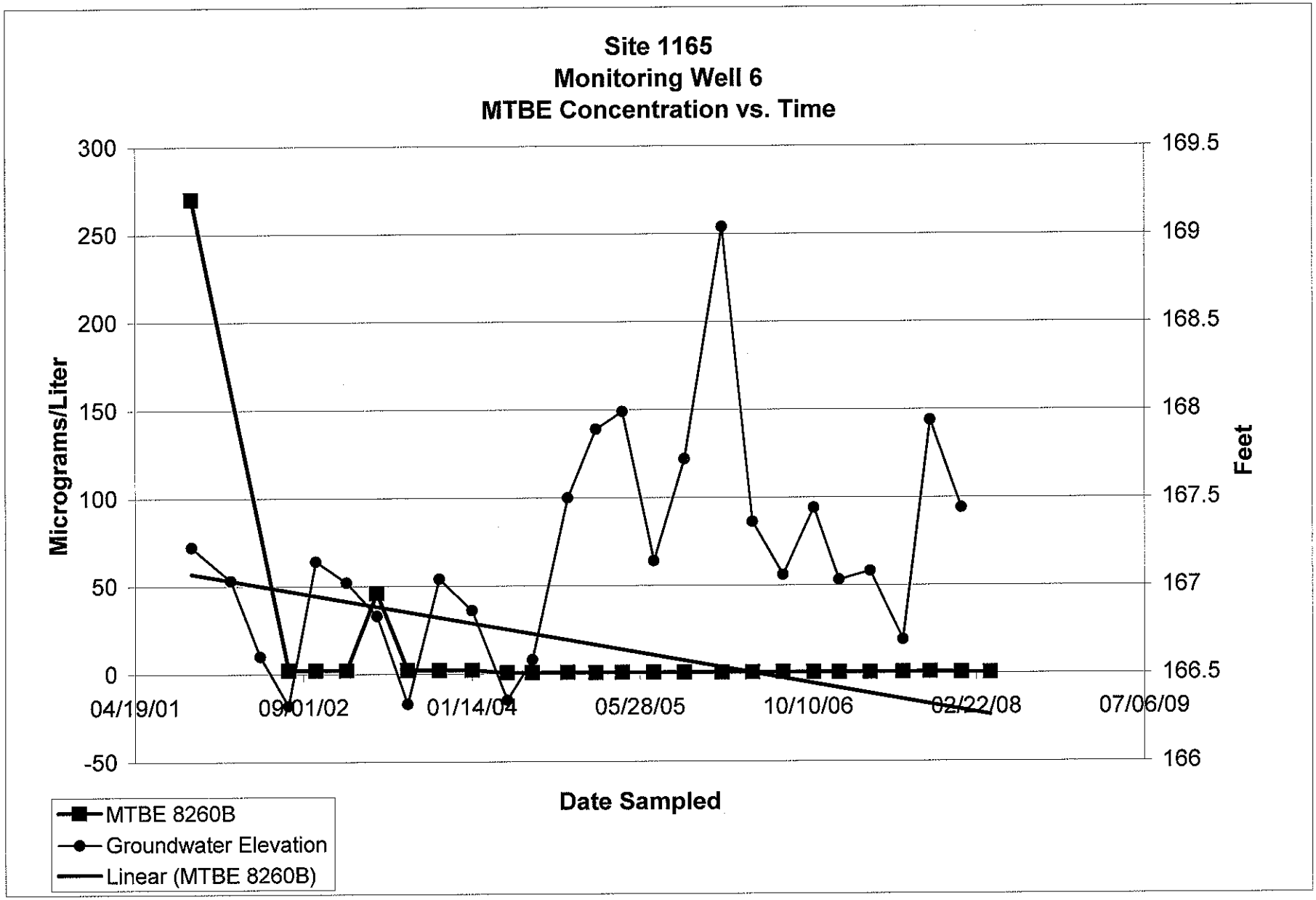

Site 1165
Monitoring Well 5
TPHg Concentration vs. Time
Micrograms/Liter
Feet
1200
1000
800
600
400
200
0
168.5
168.0
167.5
167.0
166.5
166.0
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
TPHg
Groundwater Elevation
Linear (TPHg)

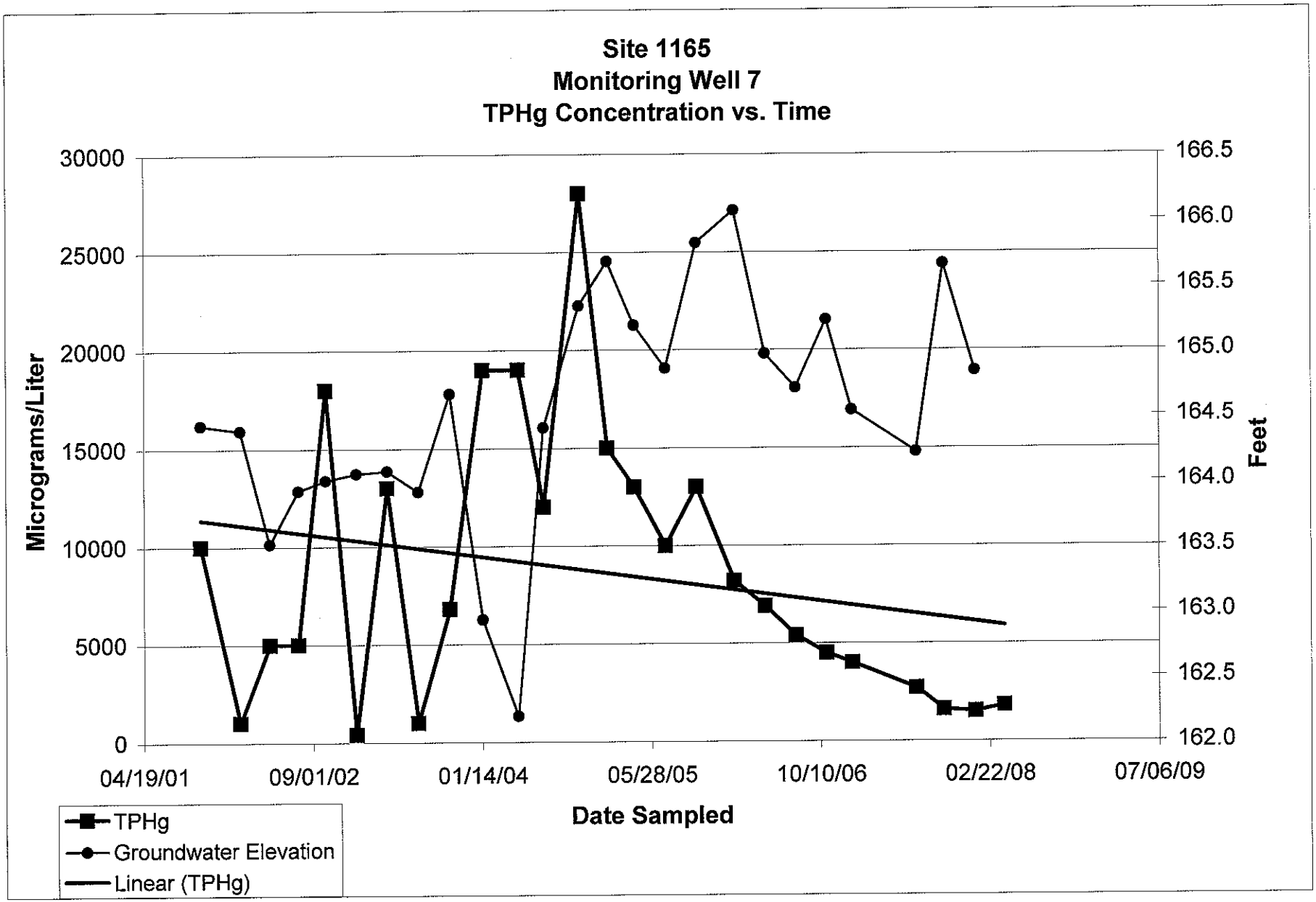

Site 1165
Monitoring Well 5
Benzene Concentration vs. Time
Micrograms/Liter
Feet
0
1
2
3
4
5
6
166.0
166.5
167.0
167.5
168.0
168.5
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
Benzene
Groundwater Elevation
Linear (Benzene)

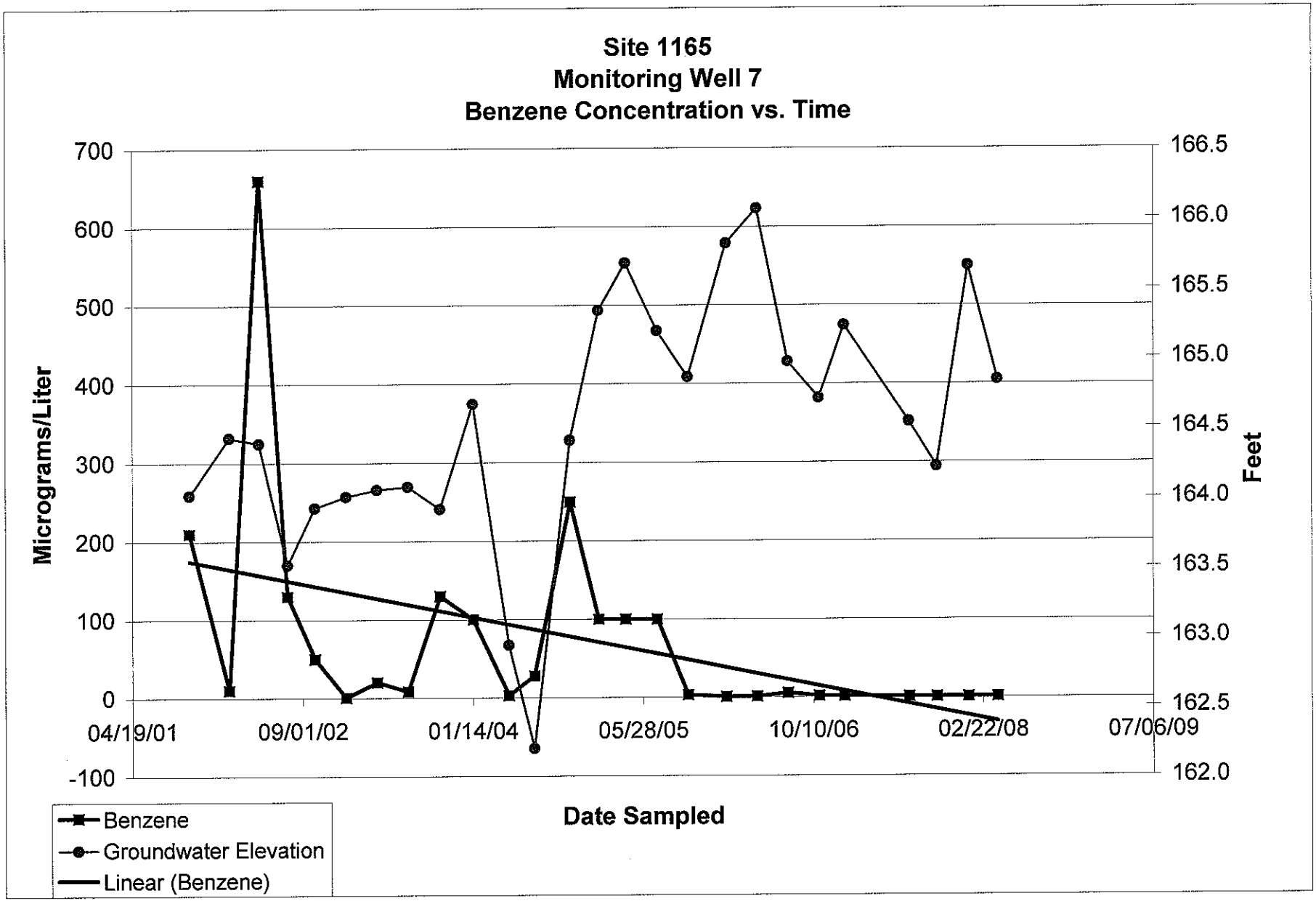

Site 1165
Monitoring Well 5
MTBE Concentration vs. Time
Micrograms/Liter
3000
2500
2000
1500
1000
500
0
Feet
168.5
168.0
167.5
167.0
166.5
166.0
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
MTBE 8260B
Groundwater Elevation
Linear (MTBE 8260B)

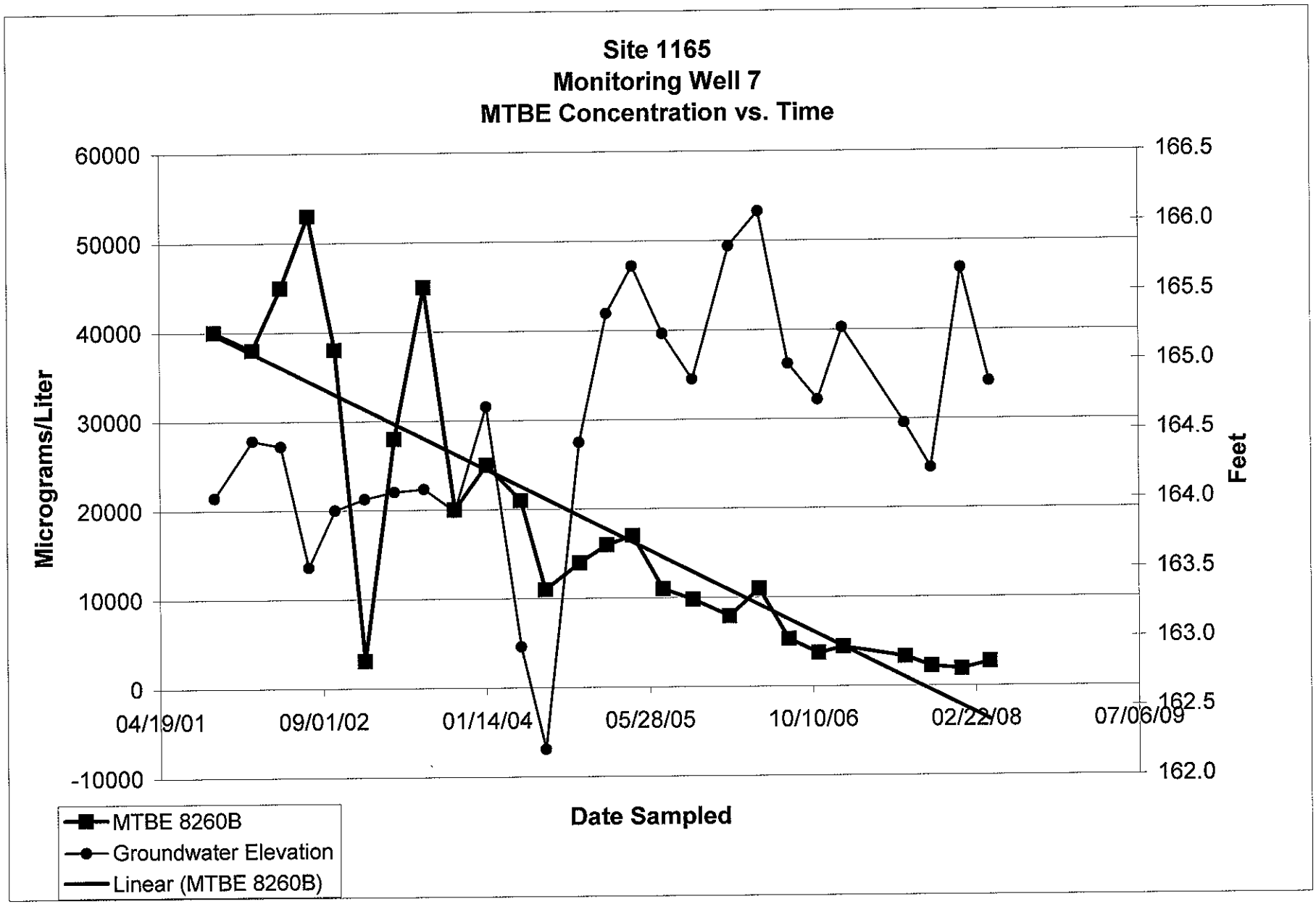

Site 1165
Monitoring Well 6
TPHg Concentration vs. Time
Micrograms/Liter
Feet
60
50
40
30
20
10
0
169.5
169.0
168.5
168.0
167.5
167.0
166.5
166.0
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
TPHg
Groundwater Elevation
Linear (TPHg)

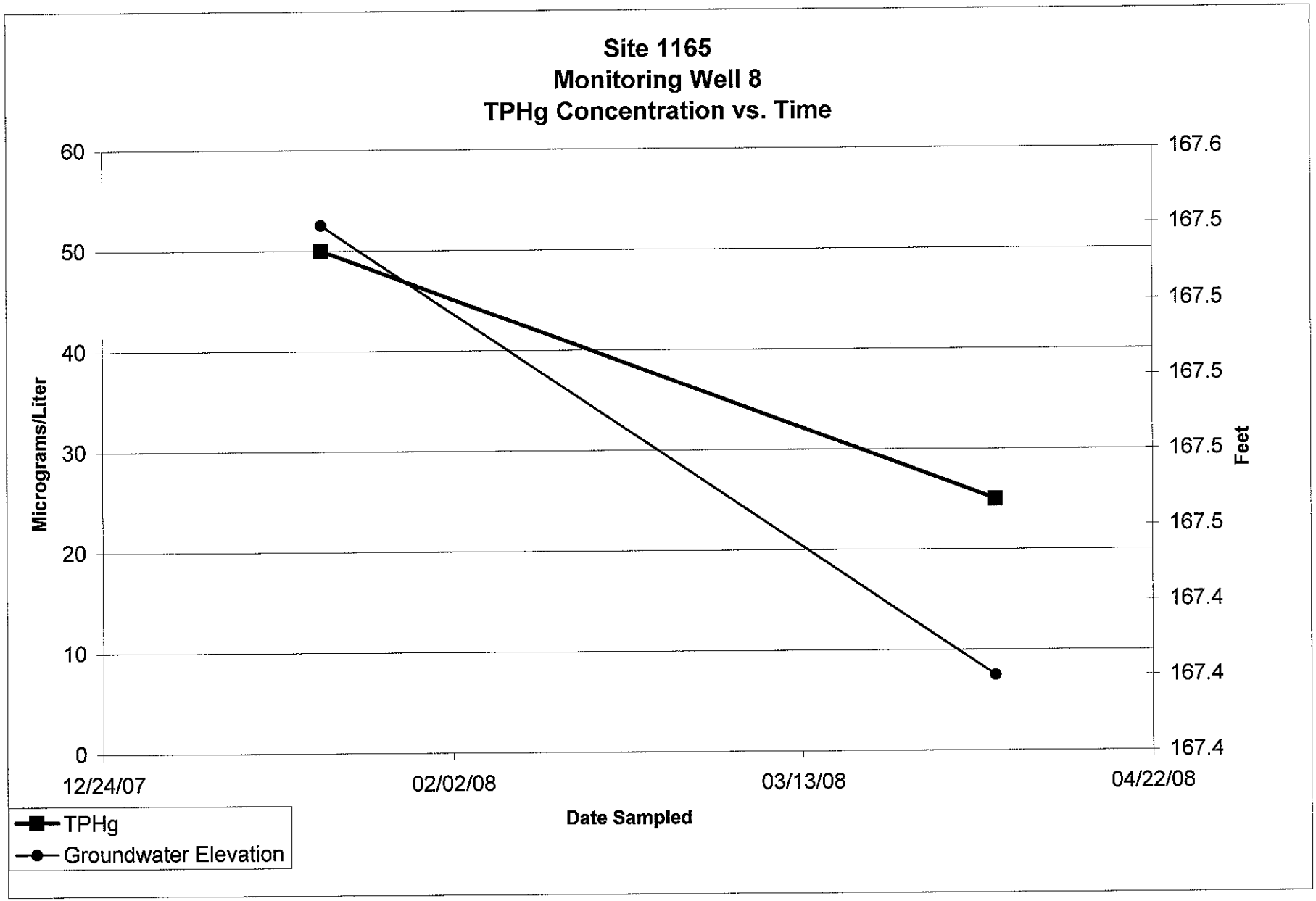

Site 1165
Monitoring Well 6
Benzene Concentration
Micrograms/Liter
Feet
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
169.5
169.0
168.5
168.0
167.5
167.0
166.5
166.0
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
Benzene
Groundwater Elevation
Linear (Benzene)

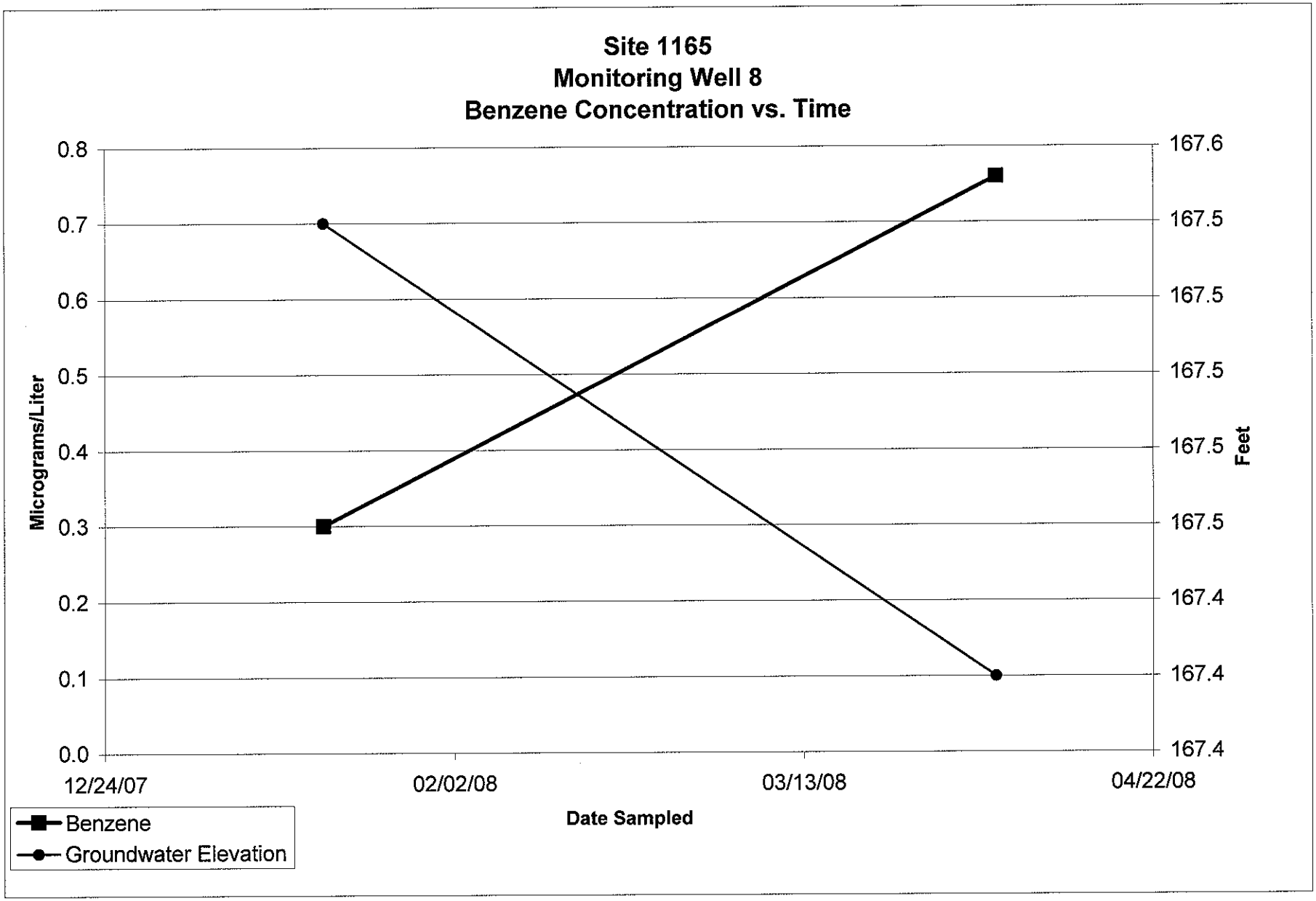

Site 1165
Monitoring Well 6
MTBE Concentration vs. Time
Micrograms/Liter
Feet
300
250
200
150
100
50
0
-50
169.5
169
168.5
168
167.5
167
166.5
166
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
MTBE 8260B
Groundwater Elevation
Linear (MTBE 8260B)

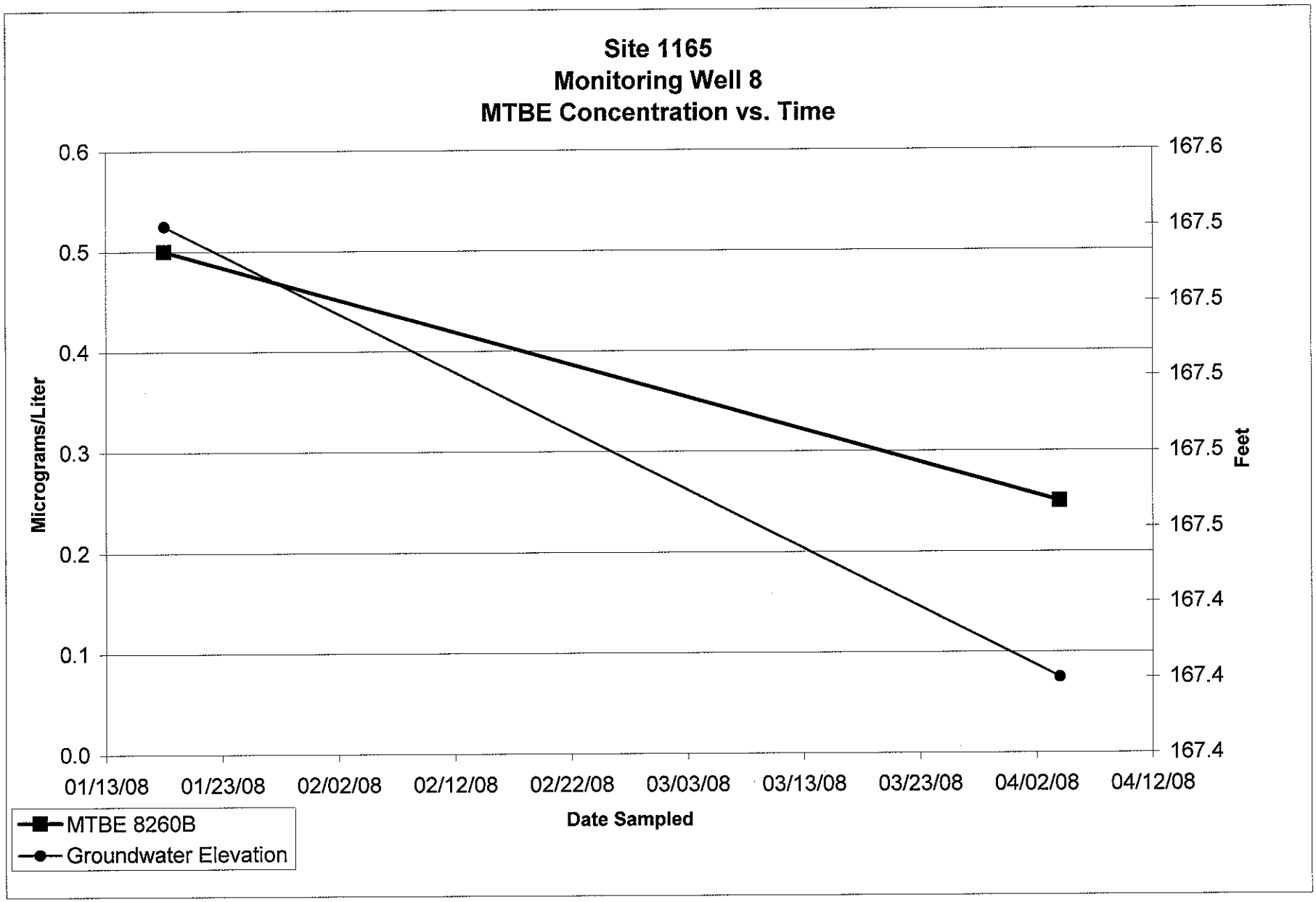

Site 1165
Monitoring Well 7
TPHg Concentration vs. Time
Micrograms/Liter
30000
25000
20000
15000
10000
5000
0
166.5
166.0
165.5
165.0
164.5
164.0
163.5
163.0
162.5
162.0
Feet
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
TPHg
Groundwater Elevation
Linear (TPHg)


Site 1165
Monitoring Well 7
Benzene Concentration vs. Time
Micrograms/Liter
700
600
500
400
300
200
100
0
-100
166.5
166.0
165.5
165.0
164.5
164.0
163.5
163.0
162.5
162.0
Feet
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
Benzene
Groundwater Elevation
Linear (Benzene)


Site 1165
Monitoring Well 7
MTBE Concentration vs. Time
60000
50000
40000
30000
20000
10000
0
-10000
Micrograms/Liter
166.5
166.0
165.5
165.0
164.5
164.0
163.5
163.0
162.5
162.0
Feet
04/19/01
09/01/02
01/14/04
05/28/05
10/10/06
02/22/08
07/06/09
Date Sampled
MTBE 8260B
Groundwater Elevation
Linear (MTBE 8260B)


Site 1165
Monitoring Well 8
TPHg Concentration vs. Time
Micrograms/Liter
60
50
40
30
20
10
0
167.6
167.5
167.5
167.5
167.5
167.5
167.4
167.4
167.4
Feet
12/24/07
02/02/08
03/13/08
04/22/08
Date Sampled
TPHg
Groundwater Elevation


Site 1165
Monitoring Well 8
Benzene Concentration vs. Time
Micrograms/Liter
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Feet
167.6
167.5
167.5
167.5
167.5
167.5
167.4
167.4
167.4
12/24/07
02/02/08
03/13/08
04/22/08
Date Sampled
Benzene
Groundwater Elevation


Site 1165
Monitoring Well 8
MTBE Concentration vs. Time
Micrograms/Liter
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Feet
167.6
167.5
167.5
167.5
167.5
167.5
167.4
167.4
167.4
01/13/08
01/23/08
02/02/08
02/12/08
02/22/08
03/03/08
03/13/08
03/23/08
04/02/08
04/12/08
Date Sampled
MTBE 8260B
Groundwater Elevation

Attachment F

Mass Calculations

76 Station 1156

4276 MacArthur Blvd, Oakland

Volume Calculations and Mass Calculations Soil

Soil Data	plumes	Area of impact (feet^2)	Thickness of Soil (feet)	Volume (ft^3)	Density (grams/cm^3)	TPH-G Average (mg/Kg)	mass (lbs)
at 6 to 11 feet bgs	1	16848	5	48859.2	1.3	2092	8,284

Volume Calculations and Mass Calculations for Groundwater

Water Data	plumes	Area of impact (feet^2)	Thickness of Layer (feet)	Liters		TPH-G Average (ug/L)	mass (lbs)
at 16 to 23 feet bgs	1	22272	7	4,408,092		11277.5	109.50

Water Data	plumes	Area of impact (feet^2)	Thickness of Layer (feet)	Liters		Benzene Average (ug/L)	mass (lbs)
at 16 to 23 feet bgs	1	3104	7	614,346		2713.33	3.67

Water Data	plumes	Area of impact (feet^2)	Thickness of Layer (feet)	Liters		MtBE Average (ug/L)	mass (lbs)
at 16 to 23 feet bgs	1	8352	7	1,653,035		1017.00	3.70

total contaminant mass in groundwater (lbs)	**116.87**
total contaminant mass in soil (lbs)	**8,284**

notes:
Soil concentrations based on 1998 data and 2007 site investigation
Volume of soil is based on area of concern * depth of region of concern * porosity of region
No Calc. for benzene and MtBE due to low levels of both in soil
Liters to feet^3 is 28.2744 liters per feet^3
core material: porosity of sand and clay is 0.58, density of clay is 1.3 grams/cm^3
mass= volume *(1728 in^3/ft^3) *(16.38 cm^3/in^3) *concentration* (1kg/10^6 mg)* density* (1 lb/454 grams)