ENVIRONMENTAL PROTECTION

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EXXON COMPANY, U.S.A.

P.O. BOX 4032 • CONCORD, CALIFORNIA 94524-4032
MARKETING DEPARTMENT • ENVIRONMENTAL ENGINEERING

DARIN L. ROUSE
SENIOR ENGINEER

(925) 246-8768
(925) 246-8798 FAX

- Input parameters are in both feet and cm. - convert all into metrics
- GW parameters were not input. use defaults nos if none available or use common #s for Merritt Sand.
- units must be provided unless its a ratio/fraction.
- use soil conc from 2-3.5' depth only from vadose zone.

230518

April 14, 2000

Ms. Eva Chu
Alameda County Department of Environmental Health
Hazardous Materials Division
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

RE: EXXON RAS #7-0104/1725 Park Street, Alameda, California

Dear Ms. Chu:

Attached for your review and comment is a report entitled *Risk-Based Corrective Action Analysis and Site Specific Target Levels* for the above referenced site. This report was prepared by Delta Environmental Consultants, Inc. of Rancho Cordova, California.

If you have any questions or comments, please contact me at (925) 246-8768.

Sincerely,

Darin L. Rouse
Senior Engineer

DLR/tjm

attachment: Delta's *Quarterly Soil Vapor Extraction System Status Report, Second Quarter 1999,* dated April 7, 2000.

cc: w/o attachment
Mr. Steven W. Meeks, P.E. - Delta Environmental Consultants, Inc.

RECYCLED

RISK-BASED CORRECTIVE ACTION ANALYSIS AND SITE SPECIFIC TARGET LEVELS

EXXON STATION NO. 7-0104
1725 PARK STREET
ALAMEDA, CALIFORNIA
DELTA PROJECT NO. D094-832

April 7, 2000

Prepared By

DELTA ENVIRONMENTAL CONSULTANTS, INC.
3164 Gold Camp Drive, Suite 200
Rancho Cordova, California 95670
(916) 638-2085

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Rancho Cordova, CA 95670-6021
U.S.A.
916/638-2085
FAX: 916/638-8385

April 7, 2000

Mr. Darin L. Rouse
ExxonMobil Corporation
2300 Clayton Road, Suite 1250
Concord, California 94520

Subject: *Risk-Based Corrective Action*
Analysis and Site Specific Target Levels
Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California
Delta Project No. D094-832

Dear Mr. Rouse:

Please find enclosed the Delta *Risk-Based Corrective Action Analysis and Site Specific Target Levels* for the subject site. This report presents a risk-based analysis for the necessity of corrective actions at the site and establishes site-specific target levels to obtain through corrective actions.

Delta recommends that a copy of this report be forwarded to the following:

Ms. Eva Chu
Alameda County Department of Environmental Health Hazardous Material Division
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

Mr. Richard Hiett
Regional Water Quality Control Board,
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94612

If you have questions or comments regarding this report, please contact me at (916) 638-2765.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

Steven W. Meeks, P.E.
Project Manager

SWM (RPT001.832.doc)
Enclosures

RISK-BASED CORRECTIVE ACTION
ANALYSIS AND SITE SPECIFIC TARGET LEVELS
EXXON SERVICE STATION NO. 7-0104
1725 PARK STREET
ALAMEDA, CALIFORNIA
DELTA PROJECT NO. D094-832

1.0 INTRODUCTION

1.1 Purpose

Delta Environmental Consultants, Inc. (Delta) has been authorized by ExxonMobil Corporation (Exxon) to review investigative work conducted at Exxon Service Station No. 7-0104, located at 1725 Park Street, Alameda, California (Figure 1) and to evaluate if residual concentrations of petroleum hydrocarbons in the subsurface are present at levels which would be considered detrimental to human health. The site evaluation was performed utilizing, guidance from the *Standard Guide for Risk-Based Corrective Action Applied to Petroleum Release Sites* (ASTM E 1739 - 91) and *Tier 2 Guidance Manual for Risk-Based Corrective Action* (Conner, et al., 1995).

2.0 BACKGROUND INFORMATION

2.1 Site Description

The site is located at the southwest corner of the intersection of Park Street and Eagle Avenue. The site is at an approximate elevation of 17 feet above mean sea level with the surrounding topography being relatively flat. Surrounding the site is a commercial district, and some residential homes. A USGS topographic map with the site centered on the map is presented in Figure 1.

The site is currently operated as a retail gasoline service station with one building, two multi-pump fuel dispenser islands, and three underground storage tanks (USTs). To the northeast across Eagle Avenue is currently a used car dealership (formerly Chevron Station No. 9-4463) to the southwest is an automotive repair facility (German Auto Service), vacant building, and an active Shell Station. To the west and northwest are residential homes. Located to the east across the intersection of Park Street and Eagle Avenue is a automotive repair facility which was a former service station and southeast is also a automotive repair facility which was a former service station. Figure 2 shows the site vicinity.

Photographs of the sites property boundaries, the sites building, and utility vaults have been taken. The site photos with descriptions are included in Appendix A.

A site map is presented in Figure 3. The following information is provided in the site map:

- Site property lines
- UST locations
- Building on site
- Adjacent properties
- Existing monitoring wells
- Utility vaults
- Street names

2.2 Site History

Petroleum hydrocarbon contaminants related to the operation of product storage and dispensing systems at the site was first reported in 1988 during the an initial site investigation performed by Harding Lawson Associates (HLA). The assessment included the drilling of six soil borings, which were constructed as MW-1 through MW-6. In 1990, HLA drilled an additional seven shallow soil borings and one deep boring, completing the deep boring as MW-7 on site. HLA subsequently drilled additional soil borings in 1991 and constructed five ground water extraction wells EW-1 through EW-5 on-site.

In September 1992, HLA performed a records review to evaluate the potential of off-site sources contributing to dissolved hydrocarbons in ground water near the site. HLA concluded that additional sources of petroleum hydrocarbons were present from the gasoline services stations near the site (HLA October 30, 1992).

In December 1992, Harding Lawson began construction of a ground water treatment system at the site and began operation of the system in February 1993. Additional monitoring wells MW-8 through MW-10 were installed offsite by RESNA Industries, Inc. in May 1993 to further assess the extent of dissolved petroleum hydrocarbons in ground water. In November 1993 RESNA Industries, Inc. drilled four soil borings onsite; two of the borings were completed as air sparge wells (SW-1 and SM-1). During August 1995, Delta installed off-site monitoring wells MW-11 and MW-12.

Quarterly ground water monitoring has been performed at the site since the installation of the wells. Monitoring wells MW-1, MW-2, MW-4, MW-5, MW-7 were reduced to semi-annually in 1997, and monitoring wells MW-3, MW-8, MW-9, MW-12, and EW-1 through EW-5 have been discontinued. The discontinuation and reduction of sampling frequency was proposed in Alameda County Environmental Health Services (ACEHS) letter dated November 1, 1996. Additionally, monitoring well MW-10 located in Eagle Avenue was destroyed during closure activities associated with the former Chevron Service Station (9-4463) located adjacent to the site.

2.3 Regional Geology and Hydrogeology

The site is on the eastern edge of the San Francisco Bay on the island of Alameda. Sediments in the area of the site generally consist of fill comprised of gravelly clay and clayey gravel that extends to approximately 5 feet below grade. The fill is underlain by the Quaternary age Merrit Sand and Posey Formations that extend to 30 to 40 feet below grade. These formations consist of sand, silt, silty and clayey sand, and sandy clay. These formations are underlain by the San Antonio Formation, consisting of silty clay with thin lenses of fine gravel. The silty clay extends to 120 feet below grade and serves as a confining layer for the overlying aquifer. The San Antonio Formation overlies the Alameda Formation, which is a 10 to 200-feet thick water bearing unit. The depth of this formation is unknown. (RESNA August 16, 1994).

2.4 Site Geology

Based on review of boring logs the subsurface materials encountered at the site consist of primarily silty sand, sandy gravel, sand, and clayey sand. From surface grade to approximately 1 foot below grade is a layer of sandy gravel with some silty sand. Beneath this layer is a layer of clayey sand to 10 to 15 feet which is underlain by silty sand, sand, and sand with some clay to the total depth explored of 41 feet bsg.

2.5 Site Hydrogeology

Depth to ground water data has been collected since June 1988 and measurements indicate a range from approximately 3 to 8 feet below surface grade (bsg). First encountered water has been reported at

approximately 6 to 7 feet below grade. The water bearing unit at the site consist of predominately clayey sand, silty sand, and sand.

3.0 SENSITIVE RECEPTORS

3.1 Surface Water Bodies

The nearest surface water body is the Brooklyn Basin Tidal Canal located approximately 1,100 feet north of the site (Figure 1).

3.2 Local Water Supply

East Bay Municipal Utility District (EBMUD) provides the local water supply. The majority of the water supply originates in the Mokelumne River watershed in the Sierra Nevada Mountains, which is collected in Pardee Reservoir. The remainder is supplied by local reservoirs composed of Upper San Leandro (U.S.L.), San Pablo, Lafayette, Briones, and Chabot reservoirs. The water is treated at Ornida and U.S.L. water treatment plants prior to distribution. The supplier's sources are approximately 86 miles east of the site. The water treatment plants are approximately 15 and 25 miles northeast of the site.

3.3 Water Well Search

A Delta representative visited the California Department of Water Resources (DWR) to conduct a water well search for the site. The records indicate that numerous water wells may exist within a 2,000 foot radius of the subject site. The site locations of the wells are plotted on Figure 5 using descriptions recorded on the well drillers logs provided by the DWR. Information obtained from DWR records regarding the water wells are summarized in Table 3.

3.3.1 Municipal Water Wells

Based on a review of available DWR records and a reconnaissance of the site vicinity, there are no municipal water supply wells present within 2,000 feet of the site. Delta confirmed this by telephone with the EBMUD in December 1999.

3.3.2 Private Water Wells

Based on a review of available DWR records, numerous private ground water monitoring wells are present within 2,000 feet of the site. No domestic water wells were identified by review of the DWR records. The information provided by DWR records for each well is summarized in Table 3.

3.4 Utilities and Vaults

Electricity, water, and telephone services are delivered by subsurface conduit lines that enter the front of the service station building at the southeast corner. On-site subsurface electric lines supply power to area lighting on the site property. Both water and storm-sewer pipes are located beneath both Park Street and Eagle Avenue.

During the site visits conducted by Delta in December 1999, numerous utility vaults were observed at the site. Photographs of these vaults are presented in Appendix A, as photographs 9 through 19. Photograph 16 depicts a storm sewer manhole cover in the intersection of Eagle Avenue and Park Street located to the east of the site. Photographs 9 through 12 depict utility vault boxes along Eagle Avenue the "east" property boundary. Photographs 13 through 15 depict utility vault boxes along Park Street the "south" property boundary. Utility vault boxes located across Eagle Avenue from the site in front of the former Chevron Station No. 9-4463 are depicted in photographs 17 through 19.

3.5 Basements and Tunnels

There are numerous residential buildings with basements in the vicinity of the site. The three closest buildings with basements are approximately 20-feet northwest of the site, 100-feet northwest of the site, and 200-feet north of the site. The locations of theses building in relation to the site are illustrated in Figure 2. No tunnels or subways were located during this investigation.

3.6 Aquifer Information

The water bearing material beneath the site has not been classified as a potential source of drinking water. Subsurface [redacted]ated within a sand to silty sand unit.

4.0 SOURCE AREA CHARACTERIZATION

4.1 Soil Sampling

Selected soil samples collected from borings advanced at the site have been analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8020, total purgeable petroleum hydrocarbons (TPPH) as gasoline by EPA Method 8015 Modified. Soil samples collected from borings for monitoring wells MW-11 and MW-12 were additionally analyzed for methyl tertiary butyl ether (MTBE) by EPA method 8020. Soil samples collected during the product line and dispenser island upgrades were analyzed for BTEX and TPPH as gasoline by previous mentioned methods. Analytical results for these soil samples are summarized in Table 1.

4.2 Distribution of Petroleum Hydrocarbons in Soil

Soil impacted with petroleum hydrocarbon constituents appears to be limited to with the area surrounding the UST's and product distribution lines. The source has been identified as the former UST's, which were removed from the site in 1989, and a secondary source consisting of the product distribution lines which were upgraded in 1997. Based on the soil analytical results collected to date the site has been adequately assessed. Cumulative soil sample analytical results are summarized in Table 1.

The highest concentration of benzene was reported at 7.6 milligrams per kilogram (mg/kg) in the soil sample identified as SM-1 collected at a depth of 7-feet bsg. The highest concentrations of toluene, ethylbenzene, and total xylenes were reported at concentrations of 32 mg/kg, 37 mg/kg, and 150 mg/kg, respectively in the soil sample identified as MW-2 collected at 5-feet bsg. Concentrations of MTBE have not been reported above the laboratory's detection limit (0.0025 mg/kg).

4.3 Ground Water Sampling

Quarterly ground water sampling has been conducted at the site since June 1988. Ground water samples have been analyzed for BTEX using EPA Method 8020 and TPPH as gasoline using EPA Method 8015 Modified. Ground water samples collected since August 1995 have been analyzed for methyl tertiary butyl ether (MTBE) by either EPA Method 8020 or EPA Method 8260. In 1997, monitoring wells

MW-1, MW-2, MW-4, MW-5, MW-7 were reduced to semi-annually sampling, and monitoring wells MW-3, MW-8, MW-9, MW-12, and EW-1 through EW-5 were discontinued.

4.4 Distribution of Petroleum Hydrocarbons in Ground Water

The lateral extent of BTEX, TPPH as gasoline, and MTBE has been adequately assessed in ground water beneath the site. Laboratory analysis on ground water samples collected from off site monitoring wells MW-8, MW-9, MW-10 (before being destroyed), and MW-12 have generally reported non-detect concentrations for all analytes. Cumulative ground water analytical results collected by Delta are presented in Table 2.

The highest concentration of benzene was reported in the ground water sample collected from MW-2 at 10,000 micrograms per liter (µg/L) on July 26, 1996. The highest concentration of toluene was reported in the ground water sample collected from MW-11 at 6,400 µg/l on January 13, 1999. The highest concentration of ethylbenzene was reported in the ground water sample collected from MW-11 at 2,370 µg/L on July 9, 1999. The highest concentration of total xylenes was reported in the ground water sample collected from MW-11 at 12,700 µg/l on July 9, 1999. The highest concentration of TPPH as gasoline was reported in the ground water sample collected from MW-11 at 59,400 µg/L on April 28, 1999. The highest concentration of MTBE by EPA Method 8020 was reported in the ground water sample collected from MW-7 at 360,000 µg/l on April 24, 1996.

Graphs illustrating ground water elevations and concentrations of benzene, MTBE, and TPH as gasoline over time for monitoring well MW-1, MW-2, MW-4 through MW-11 are included in Appendix B. The concentrations of BTEX, TPH as gasoline, and MTBE in ground water samples collected from the site have shown a general decrease or stabilization with time.

4.5 Ground Water Level Measurements, Flow Direction, and Hydraulic Gradient

Depth to ground water beneath the site has been measured since June 1988. Ground water level data collected by Delta are summarized in Table 2. The inferred direction of ground water flow during non-pumping conditions beneath the site has historically been toward the northeast with a hydraulic gradient

of approximately 0.018. A ground water elevation contour map using the October 25, 1999 (fourth quarter 1999 monitoring data) is illustrated in Figure 6.

5.0 RISK-BASED CORRECTIVE ACTION

A risk-based corrective action (RBCA) analysis of the site was conducted using investigative results collected to date. This analysis was performed to assess if existing petroleum hydrocarbon impacted soil and ground water underlying the subject site warrants further corrective action. This analysis has been prepared using the *Guidance Manual for RBCA Tool Kit for Chemical Releases (*Guidance Manual*)* (Conner, et al., 1998). The Guidance Manual is designed to complete all the calculations required for Tiers 1 and 2 of the RBCA planning process, as defined in ASTM PS-104, *Standard Provisional Guide for Risk-Based Corrective Action (ASTM, 1998)*. Using the Guidance Manual, baseline risk levels and/or cleanup standards for soil and ground water remediation are calculated based on site specific information input by Delta.

Soil and ground water data collected on and offsite was used for the RBCA evaluation. All soil samples collected within the interpreted source area were considered in assessing a representative source concentration for each BTEX and MTBE constituent in soil for the RBCA analysis. Analytical results for the source area soil samples are summarized in Table 4. The ground water analytical results for BTEX and MTBE from MW-1, MW-2, and MW-4 through MW-11 collected between July 1997 and July 1999 were considered in assessing a representative source concentration in ground water for the RBCA analysis. Samples with increased laboratory limits of detection were assigned a value equal to one-half the detection limit concentration in the calculation of the representative source area concentrations. As requested by Alameda County Environmental Health Department (ACHD), a value equivalent to 95 percent of the upper confidence limit (UCL) on the arithmetic mean concentration of the source area soil and ground water samples were used as a representative source concentration in the Tier 2 analysis. The calculated maximum, mean, and UCL representative concentration for soil are summarized in Table 4 and ground water is summarized in Table 6. SSTL values for benzene have been modified using the California correction factor of 0.29. This was accomplished by manually revising the slope factor for benzene in the Guidance Manual's chemical database (Appendix D) from 0.029 to 0.1.

Should use std concentration ~~state~~ in the vadose zone, ie use the 2.5' - 3.5' depth samples

6.0 BACKGROUND OF PRIMARY SOURCES

6.1 Potential Primary Sources

The USTs and product piping have been identified as primary sources at this site. The UST's at the site were replaced in 1989, and the product distribution lines and dispensers were upgraded in June 1997.

6.2 Potential Chemicals of Concern

The potential chemicals of concern (COCs) associated with the primary sources are BTEX and MTBE. Appendix C provides chemical characteristics of these compounds (Conner, et al., 1998).

7.0 SECONDARY SOURCES

7.1 Surface Soil Exposure Direct Ingestion and Dermal Contact

Based on the depth of the product piping and soil samples collected beneath the product piping, combined with the fact that the site is paved, the potential for residual soil, less than 3 feet in depth, to be impacted with BTEX or MTBE constituents is minimal. Therefore, this potential source pathway was not evaluated further.

7.2 Affected Subsurface Soil Greater than 3 Feet in Depth

The lateral and vertical extent of BTEX impacted soil present at the site is addressed in Section 4.2. Soil sample analytical results are summarized in Table 1. The soil sample locations are presented on Figures 3 and 4.

The area in the vicinity of the UST basin, fuel dispensers and product piping as shown in Figure 3 is inferred to be the source area for the RBCA evaluation. The vertical extent of the impacted soil has been characterized to extend to a depth of approximately 10-feet bsg. All soil samples collected at the site were considered in assessing a representative source concentration for each constituent, and MTBE in soil for the RBCA analysis. Analytical results for the source area soil samples are summarized in Table 4. Samples with increased laboratory limits of detection were assigned a value equal to one-half the detection limit concentration in the calculation of the representative source area concentration. A value equivalent to 95 percent of the upper confidence limit (UCL) on the arithmetic mean concentration

of the source area soil samples was used as a representative source concentration in the Tier 2 analysis. The calculated maximum, mean, and UCL representative concentration for soil are summarized in Table 4. SSTL values for benzene have been modified using the California correction factor of 0.29; this was accomplished by manually revising the slope factor for benzene in the Guidance Manual's chemical database (Appendix D) from 0.029 to 0.1.

7.2.1 Volatilization and Particulates to Outdoor Air Inhalation

7.2.1.1 Affected Soils-Volatilization to Ambient Outdoor Air (Tier 2)

The *Guidance Manual* model (Conner, et al., 1998) was used to establish SSTLs for the vapors to ambient outdoor air pathways. Potential complete exposure pathways included inhalation of vapors from ambient air for future site visitors, a construction worker at the site, the neighboring property located 20-feet northwest of the site, and the neighboring property located 100-feet northwest of the site. The model results computed a soil SSTL onsite for benzene of 15 mg/kg; for toluene of greater than 740 mg/kg; ethylbenzene of greater than 630 mg/kg; total xylenes of greater than 500 mg/kg, and for MTBE of 8,300 mg/kg. The model results computed a soil SSTL for the construction worker for benzene of 31 mg/kg; toluene of greater than 740 mg/kg; ethylbenzene of greater than 630 mg/kg; total xylenes of greater than 500 mg/kg, and for MTBE of 8,300 mg/kg. The model results computed a soil SSTL for the two neighboring properties for benzene of 18 mg/kg; for toluene of greater than 740 mg/kg; ethylbenzene of greater than 630 mg/kg; total xylenes of greater than 500 mg/kg, and for MTBE of 8,300 mg/kg. Representative source concentrations were computed by the model for benzene at 1.2 mg/kg, toluene at 3.6 mg/kg, ethylbenzene at 5.3 mg/kg, total xylenes at 19 mg/kg, and MTBE at 0.0013. All are below the Tier 2 SSTL's for this exposure pathway. The SSTL modeling results are provided in Appendix D and are summarized in Table 5. Additionally, the site is currently paved and is anticipated to remain paved in the future, further reducing the potential of volatilization and atmospheric dispersion.

7.2.2 Volatilization and Indoor Space Accumulation

7.2.2.1 [illegible]

Currently one commercial building exists on-site, and is anticipated to remain on-site. The Guidance Manual model (Conner, et al., 1998) was used to estimate SSTLs for vapors to an enclosed space

pathway and is summarized in Appendix D. The model calculated a soil SSTL for benzene of 0.068 mg/kg; toluene of 80 mg/kg; ethylbenzene of 300 mg/kg; total xylenes of greater than 500 mg/kg, and MTBE of greater than 600 mg/kg. Representative source concentrations were computed by the model for benzene at 1.2 mg/kg, toluene at 3.6 mg/kg, ethylbenzene at 5.3 mg/kg, total xylenes at 19 mg/kg, and MTBE at 0.0013 mg/kg. All are below the SSTL for this exposure pathway with the exception of benzene. Benzene exceeded the SSTL by a factor of 18. To pass the cumulative risk factor benzene concentrations would have to be reduced from the representative source concentration of 1.2 mg/kg to below 0.068 mg/kg. The SSTL modeling results are provided in Appendix D, and are summarized in Table 5.

The Guidance Manual model is conservative because it assumes vapor is in equilibrium with soils, no decay or natural attenuation of COCs, and an infinite source. The model also assumes that a building is placed directly above the impacted soils. In addition, the site is currently paved and is anticipated to remain paved in the future.

7.2.3 Ground Water Exposure

7.2.3.1 Affected Ground Water, Potable Water Use (Tier 2)

Since ground water has already been documented to have been impacted by a petroleum hydrocarbon release at the site, and the primary sources (USTs and product distribution piping) were removed and replaced with double-walled fiberglass components. The USTs were removed in 1989 and product lines and dispensers were removed in June 1997. The site and vicinity's potable water is not from ground water and is derived from the EBMUD, this pathway was not considered further.

7.2.3.2 Affected Soil Leaching to Ground Water Ingestion (Tier 2)

Since ground water has already been documented to have been impacted by a petroleum hydrocarbon release at the site, and the primary sources (USTs and product distribution piping) were removed and replaced with double-walled fiberglass components. The USTs were removed in 1989 and product lines and dispensers were removed in June 1997. The site and vicinity's potable water is not from ground water and is derived from the EBMUD, this pathway was not considered further.

7.3 Dissolved Ground Water Plume

Twenty ground water monitoring wells (MW-1 through MW-9, MW-11, and MW-12, EW-1 through EW-5, SM-1, SW-1, VW-1, and VW-2) currently exist at the site. The locations of the monitoring wells are illustrated in Figure 3. The average depth to water in the wells in the vicinity of the source area over the last four monitoring events is 5.77 feet bsg. The lateral extent of BTEX and MTBE impacted ground water and water level elevation data associated with the site is discussed in sections 4.4 and 4.5 of this report.

The 95 percent UCL of the mean BTEX and MTBE concentration reported during the last five sampling events in monitoring wells MW-1, MW-2, MW-4 through MW-11 were used as the representative source area concentrations in the Tier 2 analysis. Analytical results for the source area ground water samples and the calculated maximum, mean, and 95 percent UCL, BTEX and MTBE concentrations are summarized in Table 6.

7.3.1 Affected Ground Water-Volatilization to Ambient Outdoor Air

7.3.1.1 Air, Inhalation of Vapor (Tier 2)

The Guidance Manual model (Conner, et al., 1998) was used to establish SSTLs for the vapors to ambient outdoor air pathway. Potential complete exposure pathways included inhalation of vapors from ambient air for future site visitors, the neighboring residential property located 20-feet northwest of the site, and the neighboring residential property located 100-feet northwest of the site. For the potential exposure pathways the model calculated a ground water SSTL of 5.2 milligrams per liter (mg/L) or 5,200 µg/L for benzene. The representative source concentration for benzene of 1.5 mg/L (1,500 µg/L) is below the calculated SSTL. Representative source concentrations for toluene, ethylbenzene, total xylenes, and MTBE are also below the SSTL's for these exposure pathways. The SSTL modeling results are provided in Appendix D and are summarized in Table 7.

7.3.2 Affected Ground Water-Volatilization to Enclosed Space

7.3.2.1 Air, Inhalation of Vapor (Tier 2)

Currently one commercial building exists on-site. The building is anticipated to remain on-site. To present no petroleum hydrocarbon vapors have been reported in the building. The Guidance Manual model (Conner, et al., 1998) was used to estimate SSTLs for this exposure pathway. For the potential exposure pathways the model calculated a ground water SSTL for benzene of 0.069 mg/L or 69 µg/L, for toluene of 76 mg/L or 76,000 µg/L, for ethylbenzene of greater than 170 mg/L or 170,000 µg/L, for total xylenes of greater than 200 mg/l or 200,000 µg/L, and for MTBE 3,300 mg/L or 3,300,000 µg/L. All chemicals of concern are below the SSTL for this exposure pathway with the exception of benzene. Benzene exceeded the SSTL by a factor of 22. To pass the cumulative risk factor benzene concentrations would have to be reduced from 1.5 mg/L to below 0.069 mg/L. The SSTL modeling results are provided in Appendix D and are summarized in Table 7.

7.3.3 Ground Water Transport and Ingestion

Ground water flow is to the northeast with an average gradient (computed from the last five monitoring events) of approximately 0.018. Based on the last five sampling events ground water monitoring wells MW-8, MW-9, MW-10 (before destruction), and MW-12 have been below laboratory detection limits for BTEX, MTBE, and TPPH as gasoline or have had slight concentrations. The ground water plume has stabilized and is not migrating off site. No drinking water wells are located on the subject property. DWR records indicate that no domestic or municipal water wells are located within a 2,000-foot radius of the site. No drinking water wells are expected to be installed at the site in the future. Monitoring wells MW-8, MW-9, and MW-10 located off site have been below laboratory detection limits or have had slight concentrations of target analytes. Based on this information this exposure pathway was not evaluated further.

7.3.3.1 Ground Water, Potable Water Use (Tier 2)

The site and surrounding properties obtain drinking water from the local water supply, which is provided by EBMUD. The majority of the water supply originates in the Mokelumne River watershed in the Sierra Nevada Mountains, which is collected in Pardee Reservoir. No drinking water wells are located

on the subject property. DWR records indicate that no domestic or municipal water wells are located within a 2,000-foot radius of the site. No drinking water wells are expected to be installed at the site in the future. Based on this information this exposure pathway was not evaluated further.

7.3.3.2 Surface Water, Recreational Use / Sensitive Habitat (Tier 2)

The nearest surface water body is the Brooklyn Basin Tidal Canal located approximately 1,100 feet north of the site and hydraulically cross-gradient of the site. Monitoring wells MW-8, MW-9, and MW-10 located offsite have been below the laboratory's detection limit or have had slight concentrations of target analytes. Based on this information, this pathway was not further evaluated.

7.4 Free-Phase Liquid Plume

Free-phase COCs have been observed at the site for one monitoring even conducted on February 5, 1993. A free-phase thickness of 0.01-feet was observed in monitoring well MW-5. However, since this event, no free-phase COCs have been observed at the site, and therefore were not considered further in the RBCA evaluation.

8.0 CONCLUSIONS/RECOMMENDATIONS

Based on the information available to Delta to date, the following conclusions are presented:

- The primary source of petroleum hydrocarbons was removed when the tanks and piping were removed and upgraded.
- The ground water sample analytical results for monitoring wells MW-8, MW-9, MW-10 (before being destroyed), and MW-12 indicate that the hydrocarbon plume associated with the UST basin and pump island area is stabilized and is not migrating off site.
- The ground water sample analytical results for monitoring well MW-11 and the ground water flow direction for the site indicates petroleum hydrocarbon constituents in MW-11 are emanating from an up-gradient source.
- The RBCA analysis indicates that with the exception of benzene the site does not pose a significant threat to human health based on information available to date, current land use at the site and

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USEPA, 1992, Dermal Exposure Assessment: Principles and Applications, Interim Report, EPA / 600 / 8-91 / 011B.

USEPA, 1994, How to Evaluate Alternative Clean Up Technologies for Underground Storage Tank Sites-A Guide for Corrective Action Plan Reviewers, EPA 510-B-94-003, Chapter IX.

surrounding area, current use of ground water in the area, and conditions related to petroleum hydrocarbons beneath the site.

- Delta recommends that the proposed air sparging well AS-2 (Figure 2) be installed and the existing AS/SVE and ground water treatment system continue to operate in an effort to reduce concentrations of benzene in the soil and ground water to the SSTLs as generated by the RBCA modeling program.
- Delta further recommends that once the soil and ground water benzene concentrations have reached their respective SSTLs, the remediation system is shut off, and the site is issued a "No Further Action" status.

9.0 LIMITATIONS AND SIGNATURES

The interpretations contained in this report represent our professional opinions, and are based, in part, on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

If you have any questions regarding this project, please contact Steven Meeks at (916) 536-2613.

DELTA ENVIRONMENTAL CONSULTANTS, INC.

J. William Speth
Staff Geologist

4/7/00
Date

REVIEWED BY:

Steven W. Meeks, P.E.
California Registered Civil Engineer
No. C057461

4/7/00
Date

TABLE 1

CUMMULATIVE SOIL SAMPLE LABORATORY ANALYTICAL RESULTS

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Sample ID	Date Collected	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	TPH as gasoline (mg/kg)	TPH as diesel (mg/kg)	MTBE (mg/kg)
MW-1	06/02/88	10.0	0.0670	<0.025	0.150	0.370	11.0	NA	NA
MW-2	06/02/88	5.0	<2.0	32.0	25.0	150.0	1,400	NA	NA
MW-3	06/02/88	5.0	<0.500	<0.500	<0.500	2.4	74	NA	NA
MW-4	01/09/89	5.0	0.017	0.002	0.007	0.012	0.6	NA	NA
MW-5	01/09/89	4.5	0.055	0.007	0.066	0.240	2.0	NA	NA
MW-6	01/09/89	5.0	3.7	0.970	23.0	94.0	490	NA	NA
MW-7	01/04/89	5.5	1.7	3.2	10.0	29.0	600	NA	NA
SB-1	03/19/90	2.2	0.0062	<0.0025	0.016	0.0092	1.8	NA	NA
	03/19/90	4.5	1.3	1.3	1.4	4.9	260	NA	NA
	03/19/90	5.0	6.9	23.0	32.,0	14.0	2,600	NA	NA
SB-2	03/19/90	2.5	0.013	0.018	0.10	0.54	1.3	NA	NA
	03/19/90	4.0	1.2	3.7	2.1	1.3	230	NA	NA
SB-3	03/19/90	3.0	0.0068	0.047	0.011	0.230	1.8	NA	NA
	03/19/90	5.0	4.6	12.0	3.2	44.0	540	NA	NA
SB-4	03/19/90	4.0	<0.0025	<0.0025	0.0053	0.018	<1.0	NA	NA
	03/19/90	5.0	<0.0025	<0.0025	<0.0025	<0.0025	<1.0	NA	NA
SB-5	03/19/90	2.5	0.028	0.006	0.0065	0.016	<1.0	NA	NA
	03/19/90	4.5	0.150	0.080	0.016	0.069	<1.0	NA	NA
	03/19/90	5.5	1.3	6.5	4.0	24.0	260	NA	NA
SB-6	03/19/90	2.5	1.1	1.2	1.7	6.7	140	NA	NA
	03/19/90	5.0	0.065	0.020	0.019	0.060	1.6	NA	NA
SB-7	03/19/90	3.0	0.260	1.4	1.2	4.7	240	NA	NA
	03/19/90	6.0	0.055	0.0041	0.012	0.011	<1.0	NA	NA
MW-8/SB-8	05/05/93	5.5	<0.005	<0.005	<0.005	<0.005	<1.0	<5.0	NA
MW-9/SB-9	05/05/93	6.0	<0.005	<0.005	<0.005	<0.005	<1.0	<5.0	NA
MW-10/SB-10	05/05/93	6.0	<0.005	<0.005	<0.005	<0.005	<1.0	<5.0	NA
S-5-B11/SW-1	11/93	5.0	0.061	<0.005	0.018	<0.005	<1.0	NA	NA
S-9-B11/SW-1	11/93	9.0	0.054	0.0075	0.020	0.029	<1.0	NA	NA
S-11-B11/SW-1	11/93	11.0	<0.005	<0.005	<0.005	<0.005	<1.0	NA	NA
S-14$^1/_2$-B11/SW-1	11/93	14.5	<0.005	<0.005	<0.005	<0.005	<1.0	NA	NA
S-19$^1/_2$-B11/SW-1	11/93	19.5	<0.005	<0.005	<0.005	<0.005	<1.0	NA	NA

TABLE 1

CUMMULATIVE SOIL SAMPLE LABORATORY ANALYTICAL RESULTS

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Sample ID	Date Collected	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	TPH as gasoline (mg/kg)	TPH as diesel (mg/kg)	MTBE (mg/kg)
S-5-B13/SM-1	11/93	5.0	0.170	<0.005	0.060	0.0073	1,400	NA	NA
S-9-B13/SM-1	11/93	7.0	7.6	10.0	37.0	98.0	1,800	NA	NA
S-10-B11/SM-1	11/93	10.0	0.077	0.031	0.085	0.270	2.90	NA	NA
S-12$^1/_2$-B11/SM-1	11/93	12.5	<0.005	<0.005	<0.005	<0.005	<1.0	NA	NA
S-15$^1/_2$-B11/SM-1	11/93	15.5	<0.005	<0.005	<0.005	<0.005	<1.0	NA	NA
S-20-B13/SM-1	11/93	20.0	<0.005	<0.005	<0.005	0.0079	<1.0	NA	NA
DI-1-3.5	06/25/97	3.5	0.023	0.050	0.076	0.45	21	NA	NA
DI-2-3.5	06/25/97	3.5	<0.05	0.051	0.083	0.52	30	NA	NA
DI-3-3.5	06/25/97	3.5	<0.005	<0.005	<0.005	0.012	<1.0	NA	NA
DI-4-3.5	06/25/97	3.5	0.30	<0.12	2.1	0.81	160	NA	NA
PL-1-3.5	06/25/97	3.5	0.22	0.042	0.19	0.32	15	NA	NA
PL-2-3.5	06/25/97	3.5	3.2	2.2	7.7	66	1,200	NA	NA
PL-3-3.5	06/25/97	3.5	1.1	0.22	0.37	0.82	96	NA	NA
MW-11-6.5	08/23/95	6.5	<0.005	<0.005	<0.005	0.024	<1.0	NA	<0.0025
MW-11-11.5	08/23/95	11.5	0.26	<0.005	0.021	0.16	2.0	NA	<0.0025
MW-12-6.5	08/23/95	6.5	<0.005	<0.005	<0.005	<0.005	<1.0	NA	<0.0025

mg/kg = Milligrams per kilogram.
TPH = Total petroleum hydrocarbons.
MTBE = Methyl tertiary butyl ether.
NA = Not Analyzed.

Note: Resource RESNA.

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-1	09/12/94	17.35	7.11	10.24	200	1.9	210	6.6	1,600[a]	NA	NA	No LPH or sheen
	10/01/94		7.44	9.91	200	<0.5	160	6.6	1,400[a]	NA	NA	No LPH or sheen
	01/13/95		5.13	12.22	410[b]	17	280[b]	89	2,100[a]	NA	NA	No LPH or sheen
	04/27/95		6.57	10.78	460	41	340	270	4,700	NA	NA	No LPH or sheen
	08/03/95		7.46	9.89	140	<5.0	160	9.9	1,900	30	NA	No LPH or sheen
	10/17/95		7.67	9.68	6.2	<0.5	13	0.75	280	5.5	NA	No LPH or sheen
	01/24/96		6.52	10.83	21	1.4	38	3.1	740	440	NA	No LPH or sheen
	04/24/96		5.95	11.40	200	110	1,000	740	7,800	250	NA	No LPH or sheen
	07/26/96		7.60	9.75	8.0	0.99	26	1.0	620	23	NA	No LPH or sheen
	10/30/96		8.06	9.29	14	2.9	85	3.5	700	33	NA	No LPH or sheen
	01/31/97		5.12	12.23	420	33	1,400	480	7,600	<200	NA	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		7.54	9.81	10	<0.5	<0.5	<0.5	580	12	NA	No LPH or sheen
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		4.48	12.87	110	2.8	170	14	820	<2.5[c]	NA	No LPH or sheen
	04/14/98		4.69	12.66	NS	NS	NS	NS	NS	NS	NS	Not Measured
	07/30/98		6.19	11.16	210	<5.0	550	<5.0	2,700	41	NA	No LPH or sheen
	10/19/98		6.72	10.63	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		6.52	10.83	8.0	<0.5	<0.5	<0.5	491	9.78	NA	No LPH or sheen
	04/28/99		5.37	11.98	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/09/99		6.39	10.96	114	8.07	184	0.644	1,030	10.6	NA	No LPH or sheen
	10/25/99		6.68	10.67	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/21/00		6.20	11.15	<1.0	<1.0	<1.0	<1.0	<50	5.1	NA	No LPH or sheen

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-2	09/12/94	16.67	6.71	9.96	4,400	120	1,700	2,100	31,000[a]	NA	NA	No LPH or sheen
	10/01/94		7.22	9.45	4,500	250	1,800	2,400	45,000[a]	NA	NA	No LPH or sheen
	01/13/95		4.46	12.22	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/27/95		6.92	9.75	7,000	840	2,400	3,400	44,000	NA	NA	No LPH or sheen
	08/03/95		6.96	9.71	4,600	170	1,600	1,100	30,000	37,000	NA	No LPH or sheen
	10/17/95		7.83	8.84	5,400	190	2,000	1,500	45,000	14,000	NA	No LPH or sheen
	01/24/96		6.45	10.22	5,000	810	2,200	2,200	30,000	4,100	NA	No LPH or sheen
	04/24/96		6.00	10.67	8,700	410	2,200	2,000	34,000	22,000	NA	No LPH or sheen
	07/26/96		7.14	9.53	10,000	<200	1,800	760	40,000	18,000	NA	No LPH or sheen
	10/30/96		6.95	9.72	9,100	<250	2,400	730	43,000	18,000	NA	No LPH or sheen
	01/31/97		5.07	11.60	2,400	630	1,500	3,300	28,000	8,000[c]	NA	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		7.34	9.33	2,900	82	1,500	530	18,000	2,600	NA	No LPH or sheen
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		4.46	12.21	5,600	410	1,500	720	29,000	28,000[c]	NA	No LPH or sheen
	04/14/98		4.48	12.19	NS	NS	NS	NS	NS	NS	NS	Not Measured
	07/30/98		6.01	10.66	7,500	<200	1,300	280	24,000	6,300	NA	No LPH or sheen
	10/19/98		6.35	10.32	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		6.54	10.13	4,750	211	1,760	45.3	18,400	2,200	NA	No LPH or sheen
	04/28/99		5.54	11.13	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/09/99		6.45	10.22	4,270	80.1	1,300	339	14,100	3,410	NA	No LPH or sheen
	10/25/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Inaccessible
	01/21/00		NM	NC	NS	NS	NS	NS	NS	NS	NS	Inaccessible
	02/11/00		NM	NC	<1.0	<1.0	<1.0	<1.0	<50	15	NA	No LPH or sheen

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-3	09/12/94	17.11	6.58	10.53	580	8	340	100	3,100[a]	NA	NA	No LPH or sheen
	10/01/94		6.85	10.26	640	11	230	130	3,800[a]	NA	NA	No LPH or sheen
	01/13/95		5.27	11.84	690	24	210	130	3,800[a]	NA	NA	No LPH or sheen
	04/27/95		6.05	11.06	940	35	810	530	7,500	NA	NA	No LPH or sheen
	08/03/95		6.71	10.40	380	<5.0	140	45	1,900	24	NA	No LPH or sheen
	10/17/95		7.46	9.65	950	29	230	190	6,100	<5.0	NA	No LPH or sheen
	01/24/96		5.83	11.28	730	15	190	110	3,000	<100	NA	No LPH or sheen
	04/24/96		5.38	11.73	1,200	130	1,000	1,400	11,000	<100	NA	No LPH or sheen
	07/26/96		6.80	10.31	800	16	24	56	2,500	250	NA	No LPH or sheen
	10/30/96		7.20	9.91	1,300	28	170	180	5,200	2,900	NA	No LPH or sheen
	01/31/97		4.31	12.80	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		4.03	13.08	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/14/98		3.80	13.31	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/30/98		5.84	11.27	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	10/19/98		6.25	10.86	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		6.14	10.97	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/28/99		4.95	12.16	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/09/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/25/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/21/00		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-4	09/12/94	17.34	6.80	10.54	900	57	310	490	5,200[a]	NA	NA	No LPH or sheen
	10/01/94		7.09	10.25	1,200	66	360	380	9,100[a]	NA	NA	No LPH or sheen
	01/13/95		4.66	12.68	1,300	200	550	1,000	25,000[a]	NA	NA	No LPH or sheen
	04/27/95		5.54	11.80	650	130	350	590	5,900	NA	NA	No LPH or sheen
	08/03/95		6.92	10.42	1,000	<12	170	140	4,200	5,700	NA	No LPH or sheen
	10/17/95		7.50	9.84	1,300	30	360	380	6,900	1,700	NA	No LPH or sheen
	01/24/96		5.81	11.53	1,900	46	290	330	6,300	830	NA	No LPH or sheen
	04/24/96		5.44	11.90	1,800	<20	190	130	5,000	1,600	NA	No LPH or sheen
	07/26/96		7.03	10.31	1,700	<25	340	280	9,100	1,200	NA	No LPH or sheen
	10/30/96		7.57	9.77	1,100	35	420	300	5,300	1,500	NA	No LPH or sheen
	01/31/97		4.22	13.12	1,200	28	490	130	6,500	40,000	NA	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		7.56	9.78	1,100	120	470	720	10,000	11,000	NA	No LPH or sheen
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		3.70	13.64	450	6.8	220	73	1,700	4,900[c]	NA	No LPH or sheen
	04/14/98		3.81	13.53	NS	NS	NS	NS	NS	NS	NS	Not Measured
	07/30/98		5.96	11.38	680	<10	220	56	2,900	2,800	NA	No LPH or sheen
	10/19/98		6.51	10.83	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		6.24	11.10	146	<10	60.9	16.2	2,140	1,800	NA	No LPH or sheen
	04/28/99		4.80	12.54	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/09/99		6.04	11.30	322	<2.5	76.1	<2.5	1,300	1,310	NA	No LPH or sheen
	10/25/99		6.51	10.83	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/21/00		5.75	11.59	410	3.70	40	14.4	2,200	1,000	NA	No LPH or sheen

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-5	09/12/94	16.71	7.12	9.59	2,300	17	320	230	10,000[a]	NA	NA	No LPH or sheen
	10/01/94		7.06	9.65	2,300	19	220	200	11,000[a]	NA	NA	Sheen
	01/13/95		4.85	11.88	NS	NS	NS	NS	NS	NS	NS	LPH thickness of 0.02'
	04/27/95		6.51	10.20	2,200	72	540	350	14,000	NA	NA	No LPH or sheen
	08/03/95		7.24	9.47	2,100	<100	210	<100	<10,000	39,000	NA	No LPH or sheen
	10/17/95		7.80	8.91	1,800	14	240	170	13,000	38,000	NA	No LPH or sheen
	01/24/96		6.66	10.05	2,400	79	340	190	10,000	20,000	NA	No LPH or sheen
	04/24/96		5.80	10.91	3,700	120	520	170	13,000	33,000	NA	No LPH or sheen
	07/26/96		7.67	9.04	3,400	53	280	76	15,000	140,000	NA	No LPH or sheen
	10/30/96		7.77	8.94	2,600	76	260	150	10,000	110,000[a]	NA	No LPH or sheen
	01/31/97		4.90	11.81	2,400	66	430	140	10,000	34,000[c]	NA	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		7.65	9.06	1,400	120	190	120	9,800	36,000/ 52,000[c]	NA	No LPH or sheen
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		3.95	12.76	1,500	34	73	57	6,500	15,000[c]	NA	No LPH or sheen
	04/14/98		4.30	12.41	NS	NS	NS	NS	NS	NS	NS	Not Measured
	07/30/98		5.86	10.85	1,700	26	110	66	8,300	4,300	NA	No LPH or sheen
	10/19/98		6.20	10.51	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		6.37	10.34	1,240	11.1	<10	<10	4,780	3,650	NA	No LPH or sheen
	04/28/99		5.25	11.46	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/09/99		6.08	10.63	1,780	18.6	45	<5.0	4,360	2,360	NA	No LPH or sheen
	10/25/99		6.46	10.25	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/21/00		5.79	10.92	720	4.7	25	11.3	2,600	3,100	NA	No LPH or sheen

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-6	09/12/94	17.56	6.88	10.68	150	4.4	170	85	1,500[a]	NA	NA	No LPH or sheen
	10/01/94		7.15	10.41	120	<0.5	99	38	87[a]	NA	NA	No LPH or sheen
	01/13/95		4.80	12.76	710	220	780	1,100	9,900[a]	NA	NA	No LPH or sheen
	04/27/95		6.14	11.42	340	40	460	320	3,900	NA	NA	No LPH or sheen
	08/03/95		6.83	10.73	89	<2.5	110	63	1,100	65	NA	No LPH or sheen
	10/17/95		7.66	9.90	410	74	850	110	8,500	<5.0	NA	No LPH or sheen
	01/24/96		5.86	11.70	560	1,500	2,200	7,500	31,000	<5.0	NA	No LPH or sheen
	04/24/96		5.39	12.17	460	570	1,400	3,300	15,000	280	NA	No LPH or sheen
	07/26/96		6.97	10.59	270	660	1,600	5,500	27,000	1,300	NA	No LPH or sheen
	10/30/96		7.45	10.11	490	440	1,800	6,200	28,000	900	NA	No LPH or sheen
	01/31/97		4.30	13.26	190	1,000	380	1,400	7,000	770	NA	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		7.57	9.99	200	<50	300	860	6,800	1,100	NA	No LPH or sheen
	10/08/97		7.48	10.08	870	7,300	2,600	12,000	51,000	580	700[c]	No LPH or sheen
	01/28/98		3.74	13.82	650	2,300	900	2,700	15,000	2,400[c]	NA	No LPH or sheen
	04/14/98		3.92	13.64	850	3,300	1,200	4,300	25,000	2,100[c]	NA	No LPH or sheen
	07/30/98		6.09	11.47	270	65	500	630	5,900	910	NA	No LPH or sheen
	10/19/98		6.56	11.00	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		6.35	11.21	204	107	297	304	3,150	422	NA	No LPH or sheen
	04/28/99		4.89	12.67	1,270	980	1,100	3,320	15,300	436[c]	436[c]	No LPH or sheen
	07/09/99		6.07	11.49	121	9.95	160	4.69	1,140	439	NA	No LPH or sheen
	10/25/99		6.11	11.45	590	<10	22	12.1	2,200	3,400	NA	No LPH or sheen
	01/21/00		5.86	11.70	95	15	94	74	1,300	1,000	NA	No LPH or sheen

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-7	09/12/94	17.12	6.43	10.69	490	50	280	70	6,000[a]	NA	NA	No LPH or sheen
	10/01/94		6.71	10.41	940	670	310	160	8,900[a]	NA	NA	No LPH or sheen
	01/13/95		4.29	12.83	590	780	970	4,200	20,000[a]	NA	NA	No LPH or sheen
	04/27/95		5.00	12.12	410	32	410	230	8,800	NA	NA	No LPH or sheen
	08/03/95		6.53	10.59	390	<50	290	<50	4,900	17,000	NA	No LPH or sheen
	10/17/95		7.23	9.89	530	26	240	25	6,700	17,000	NA	No LPH or sheen
	01/24/96		5.26	11.86	2,000	390	350	230	9,300	60,000	NA	No LPH or sheen
	04/24/96		5.06	12.06	2,400	850	150	130	9,000	360,000	NA	No LPH or sheen
	07/26/96		6.62	10.50	530	25	60	46	4,800	86,000	NA	No LPH or sheen
	10/30/96		7.09	10.03	180	9.8	58	38	3,400	28,000	NA	No LPH or sheen
	01/31/97		3.65	13.47	300	18	48	37	3,800	45,000	NA	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		7.44	9.68	70	<25	<25	<25	3,500	18,000	NA	No LPH or sheen
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		3.06	14.06	1.0	<0.5	<0.5	0.67	100	250[c]	NA	No LPH or sheen
	04/14/98		3.10	14.02	NS	NS	NS	NS	NS	NS	NS	Not Measured
	07/30/98		5.78	11.34	1.4	<0.5	<0.5	<0.5	100	670	NA	No LPH or sheen
	10/19/98		6.25	10.87	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		5.98	11.14	<2.5	<2.5	<2.5	<2.5	273	530	NA	No LPH or sheen
	04/28/99		4.32	12.80	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/09/99		5.67	11.45	3.79	7.10	1.19	8.65	139	860	NA	No LPH or sheen
	10/25/99		6.23	10.89	<1.0	<1.0	<1.0	<1.0	<50	<1.0	NA	No LPH or sheen
	01/21/00		5.41	11.71	10	2.5	<1.0	2.5	410	500	NA	No LPH or sheen

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-8	09/12/94	16.33	6.42	9.91	<0.5	<0.5	<0.5	<0.5	<50[a]	NA	NA	No LPH or sheen
	10/01/94		6.62	9.71	<0.5	<0.5	<0.5	<0.5	<50[a]	NA	NA	No LPH or sheen
	01/13/95		5.25	11.08	<0.5	<0.5	<0.5	<0.5	<50[a]	NA	NA	No LPH or sheen
	04/27/95		6.00	10.33	<0.5	<0.5	<0.5	<0.5	<50	NA	NA	No LPH or sheen
	08/03/95		6.28	10.05	<0.5	<0.5	<0.5	<0.5	<50	<2.5	NA	No LPH or sheen
	10/17/95		6.93	9.40	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	01/24/96		5.71	10.62	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	04/24/96		5.52	10.81	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	07/26/96		6.27	10.06	<0.5	<0.5	<0.5	<0.5	<50	230	NA	No LPH or sheen
	10/30/96		6.69	9.64	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	01/31/97		5.18	11.15	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		5.11	11.22	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/14/98		5.02	11.31	<0.5	<0.5	<0.5	<0.5	<50	<2.5	NA	No LPH or sheen
	07/30/98		5.84	10.49	<0.5	<0.5	<0.5	<0.5	<50	6.6	NA	No LPH or sheen
	10/19/98		6.07	10.26	<0.5	<0.5	<0.5	<0.5	<50	<2.5	NA	No LPH or sheen
	01/13/99		5.59	10.74	<0.5	<0.5	<0.5	<0.5	<50	<2.0	NA	No LPH or sheen
	04/28/99		5.38	10.95	<0.5	<0.5	<0.5	<0.5	<50	<0.5[c]	ND	No LPH or sheen
	07/09/99		5.71	10.62	<0.5	<0.5	<0.5	<0.5	<50	3.01	NA	No LPH or sheen
	10/25/99		6.15	10.18	<1.0	<1.0	<1.0	<1.0	<50	<1.0	NA	No LPH or sheen
	01/21/00		6.51	9.82	<1.0	<1.0	<1.0	<1.0	<50	<1.0	NA	No LPH or sheen

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-9	09/12/94	15.62	6.84	8.78	<0.5	<0.5	<0.5	<0.5	<50[a]	NA	NA	No LPH or sheen
	10/01/94		6.97	8.65	<0.5	<0.5	<0.5	<0.5	<50[a]	NA	NA	No LPH or sheen
	01/13/95		6.18	9.44	<0.5	<0.5	<0.5	<0.5	<50[a]	NA	NA	No LPH or sheen
	04/27/95		6.58	9.04	<0.5	<0.5	<0.5	<0.5	<50	NA	NA	No LPH or sheen
	08/03/95		6.72	8.90	<0.5	<0.5	<0.5	<0.5	<50	<2.5	NA	No LPH or sheen
	10/17/95		7.09	8.53	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	01/24/96		6.46	9.16	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	04/24/96		6.43	9.19	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	07/26/96		6.80	8.82	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	10/30/96		6.94	8.68	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	01/31/97		6.10	9.52	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		5.66	9.96	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/14/98		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not Measured
	07/30/98		6.17	9.45	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	10/19/98		6.40	9.22	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		6.28	9.34	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/28/99		5.87	9.75	<0.5	<0.5	<0.5	<0.5	<50	<0.5[c]	ND	No LPH or sheen
	07/09/99		6.24	9.38	<0.5	<0.5	<0.5	<0.5	<50	<2.0	NA	No LPH or sheen
	10/25/99		6.67	8.95	<1.0	<1.0	<1.0	<1.0	<50	<1.0	NA	No LPH or sheen
	01/21/00		6.93	8.69	<1.0	<1.0	<1.0	<1.0	<50	<1.0	NA	No LPH or sheen

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-10	09/12/94	16.79	7.04	9.75	<0.5	<0.5	1.6	<0.5	71[a]	NA	NA	No LPH or sheen
	10/01/94		7.30	9.49	1.1	<0.5	2.8	0.73	330[a]	NA	NA	No LPH or sheen
	01/13/95		6.04	10.75	<0.5	<0.5	<0.5	<0.5	90[a]	NA	NA	No LPH or sheen
	04/27/95		6.66	10.13	<0.5	<0.5	5.4	1.3	140	NA	NA	No LPH or sheen
	08/03/95		7.23	9.56	<0.5	<0.5	<0.5	<0.5	150	<2.5	NA	No LPH or sheen
	10/17/95		7.93	8.86	<0.5	<0.5	<0.5	<0.5	<50	95	NA	No LPH or sheen
	01/24/96		6.43	10.36	1.6	0.52	62	28	760	24	NA	No LPH or sheen
	04/24/96		6.42	10.37	<0.5	<0.5	7.1	<0.5	110	6.8	NA	No LPH or sheen
	07/26/96		7.47	9.32	<0.5	<0.5	12	0.86	140	<5.0	NA	No LPH or sheen
	10/30/96		7.88	8.91	<0.5	<0.5	<0.5	<0.5	<50	5.6	NA	No LPH or sheen
	01/31/97		5.88	10.91	<0.5	<0.5	<0.5	<0.5	<50	10	NA	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		7.32	9.47	<0.5	<0.5	<0.5	<0.5	<50	<2.5	NA	No LPH or sheen
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured

Well destroyed on November 12, 1997

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-11	10/17/95	18.04	7.72	10.32	3,800	150	950	4,500	34,000	890	NA	No LPH or sheen
	01/24/96		5.97	12.07	3,800	1,200	2,100	9,800	44,000	<500	NA	No LPH or sheen
	04/24/96		5.84	12.20	2,900	1,400	1,700	8,300	34,000	720	NA	No LPH or sheen
	07/26/96		6.98	11.06	4,600	4,200	950	9,500	39,000	800	NA	No LPH or sheen
	10/30/96		7.54	10.50	4,200	3,600	2,100	9,600	53,000	990	NA	No LPH or sheen
	01/31/97		5.00	13.04	170	2,500	940	4,300	23,000	310[c]	NA	No LPH or sheen
	04/10/97		NM	NC	1,200	440	970	6,400	29,000	200	NA	No LPH or sheen
	07/10/97		7.30	10.74	1,700	870	1,900	12,000	42,000	690	NA	No LPH or sheen
	10/08/97		7.62	10.42	1,700	2,500	1,400	9,900	42,000	1,100	1,300[c]	No LPH or sheen
	01/28/98		4.77	13.27	2,400	3,500	1,700	7,900	35,000	6,800[c]	NA	No LPH or sheen
	04/14/98		4.68	13.36	1,700	250	500	2,000	15,000	1,200[c]	NA	No LPH or sheen
	07/30/98		6.33	11.71	1,600	560	1,000	4,300	24,000	1,700	NA	No LPH or sheen
	10/19/98		6.65	11.39	1,200	2,500	920	4,900	29,000	1,700	NA	No LPH or sheen
	01/13/99		6.42	11.62	2,210	6,440	2,030	10,600	50,900	1,920	NA	No LPH or sheen
	04/28/99		5.30	12.74	3,790	4,260	1,790	2,970	59,400	2,390[c]	2,390[c]	No LPH or sheen
	07/09/99		6.22	11.82	5,890	5,340	2,370	12,700	51,500	4,630	NA	No LPH or sheen
	10/25/99		6.77	11.27	3,900	5,800	2,300	12,300	51,000	1,700	NA	No LPH or sheen
	01/21/00		6.47	11.57	2,300	4,600	2,100	11,600	56,000	1,100	NA	No LPH or sheen

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
MW-12	10/17/95	16.30	6.38	9.92	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	01/24/96		4.86	11.44	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	04/24/96		4.46	11.84	<0.5	0.68	<0.5	0.72	<50	<5.0	NA	No LPH or sheen
	07/26/96		5.90	10.40	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	10/30/96		6.56	9.74	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	01/31/97		4.57	11.73	<0.5	<0.5	<0.5	<0.5	<50	<5.0	NA	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		3.90	12.40	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/14/98		3.67	12.63	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/30/98		5.00	11.30	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	10/19/98		NM	NC	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		5.19	11.11	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/28/99		4.53	11.77	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/09/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/25/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/21/00		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
EW-1	09/12/94	16.22	6.13	10.09	40	<0.5	10	5.4	400[a]	NA	NA	No LPH or sheen
	10/01/94		7.63	8.59	<0.5	4.4	30	11	3,400[a]	NA	NA	No LPH or sheen
	01/13/95		11.46	4.76	40	<0.5	12	16	680[a]	NA	NA	No LPH or sheen
	04/27/95		15.47	0.75	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	08/03/95		13.85	2.37	2.7	<1.2	<1.2	<1.2	<125	590	NA	No LPH or sheen
	10/17/95		8.05	8.17	220	<0.5	160	36	3,600	400	NA	No LPH or sheen
	01/24/96		11.07	5.15	4.3	<0.5	1.3	0.53	64	260	NA	No LPH or sheen
	04/24/96		6.20	10.02	130	2.3	35	2.1	740	3,000	NA	No LPH or sheen
	07/26/96		13.93	2.29	<0.5	<0.5	<0.5	<0.5	<50	960	NA	No LPH or sheen
	10/30/96		13.74	2.48	0.52	<0.5	<0.5	<0.5	<50	5,300	NA	No LPH or sheen
	01/31/97		8.40	7.82	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		3.35	12.87	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/14/98		3.52	12.70	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/30/98		5.48	10.74	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	10/19/98		5.77	10.45	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		5.49	10.73	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/28/99		4.31	11.91	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/09/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/25/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/21/00		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
EW-2	09/12/94	16.05	6.09	9.96	2,000	79	180	290	8,800[a]	NA	NA	No LPH or sheen
	10/01/94		7.32	8.73	1,400	6.7	700	310	9,500[a]	NA	NA	No LPH or sheen
	01/13/95		14.38	1.67	930	270	21	280	5,700[a]	NA	NA	No LPH or sheen
	04/27/95		15.23	0.82	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	08/03/95		7.19	8.86	170	27	36	64	830	1,600	NA	No LPH or sheen
	10/17/95		18.97	-2.92	<0.5	<0.5	<0.5	5.1	180	3,600	NA	No LPH or sheen
	01/24/96		20.32	-4.27	290	82	14	170	1,700	6,400	NA	No LPH or sheen
	04/24/96		9.46	6.59	670	200	110	490	3,500	7,300	NA	No LPH or sheen
	07/26/96		16.50	-0.45	250	56	10	220	1,400	14,000	NA	No LPH or sheen
	10/30/96		20.30	-4.25	200	44	8.8	190	1,500	13,000	NA	No LPH or sheen
	01/31/97		19.21	-3.16	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		3.35	12.70	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/14/98		3.45	12.60	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/30/98		11.50	4.55	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	10/19/98		5.67	10.38	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		9.57	6.48	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/28/99		10.15	5.90	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/09/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/25/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/21/00		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
EW-3	09/12/94	16.02	6.12	9.96	44	5.9	12	31	300[a]	NA	NA	No LPH or sheen
	10/01/94		10.52	5.50	12	0.42	1.7	3.7	140[a]	NA	NA	No LPH or sheen
	01/13/95		18.13	-2.11	4.6	7.6	1.2	6.6	230[a]	NA	NA	No LPH or sheen
	04/27/95		23.07	-7.05	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	08/03/95		22.90	-6.88	<2.0	<2.0	<2.0	<2.0	<200	1,400	NA	No LPH or sheen
	10/17/95		22.87	-6.85	4.4	<0.5	<0.5	<0.5	74	2,400	NA	No LPH or sheen
	01/24/96		20.97	-4.95	16	<0.5	<0.5	<0.5	120	2,300	NA	No LPH or sheen
	04/24/96		18.10	-2.08	34	3.7	8.9	11	180	3,800	NA	No LPH or sheen
	07/26/96		13.14	2.88	45	0.7	<0.5	2.1	180	2,000	NA	No LPH or sheen
	10/30/96		9.24	6.78	60	8.2	<0.5	100	660	2,800	NA	No LPH or sheen
	01/31/97		11.10	4.92	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		3.42	12.60	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/14/98		3.50	12.52	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/30/98		18.57	-2.55	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	10/19/98		5.65	10.37	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		13.85	2.17	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/28/99		4.52	11.50	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/09/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/25/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/21/00		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
EW-4	09/12/94	16.61	5.69	10.92	1,700	12	210	77	4,000[a]	NA	NA	No LPH or sheen
	10/01/94		7.90	8.71	100	1.5	15	11	460[a]	NA	NA	No LPH or sheen
	01/13/95		11.36	5.25	89	8.8	1.6	82	520[a]	NA	NA	No LPH or sheen
	04/27/95		16.30	0.31	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	08/03/95		6.45	10.16	3,100	1,100	2,000	8,200	42,000	17,000	NA	No LPH or sheen
	10/17/95		15.89	0.72	6.3	<0.5	<0.5	<0.5	92	2,500	NA	No LPH or sheen
	01/24/96		6.03	10.58	79	2.5	2.9	10	220	9,200	NA	No LPH or sheen
	04/24/96		4.97	11.64	49	36	69	1,100	4,600	860	NA	No LPH or sheen
	07/26/96		6.54	10.07	610	6.2	200	300	2,900	15,000	NA	No LPH or sheen
	10/30/96		6.53	10.08	68	11	<2.5	71	550	3,400	NA	No LPH or sheen
	01/31/97		3.98	12.63	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		3.22	13.39	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/14/98		3.20	13.41	NS	NS	NS	NS	NS	NS	NS	No LPH or sheeen
	07/30/98		4.89	11.72	NS	NS	NS	NS	NS	NS	NS	No LPH or sheeen
	10/19/98		5.16	11.45	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		5.57	11.04	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/28/99		4.27	12.34	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/09/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/25/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/21/00		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
EW-5	09/12/94	16.51	6.30	10.21	26	1.7	11	12	180[a]	NA	NA	No LPH or sheen
	10/01/94		11.83	4.68	16	0.92	5.7	8.5	130[a]	NA	NA	No LPH or sheen
	01/13/95		12.54	3.97	0.6	0.8	0.6	2.9	130[a]	NA	NA	No LPH or sheen
	04/27/95		13.11	3.40	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	08/03/95		11.99	4.52	<0.5	<0.5	<0.5	<0.5	70	210	NA	No LPH or sheen
	10/17/95		13.43	3.08	1.5	<0.5	<0.5	3.0	78	50	NA	No LPH or sheen
	01/24/96		9.72	6.79	280	66	22	370	2,500	350	NA	No LPH or sheen
	04/24/96		8.13	8.38	690	240	380	1,300	6,400	400	NA	No LPH or sheen
	07/26/96		10.00	6.51	82	2.5	2.4	100	850	84	NA	No LPH or sheen
	10/30/96		9.82	6.69	110	5.1	2.2	120	1,200	68	NA	No LPH or sheen
	01/31/97		9.00	7.51	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	07/10/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/08/97		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/28/98		3.54	12.97	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/14/98		3.65	12.86	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/30/98		7.63	8.88	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	10/19/98		5.75	10.76	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	01/13/99		7.03	9.48	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	04/28/99		8.80	7.71	NS	NS	NS	NS	NS	NS	NS	No LPH or sheen
	07/09/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	10/25/99		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured
	01/21/00		NM	NC	NS	NS	NS	NS	NS	NS	NS	Not measured

TABLE 2

GROUND WATER MONITORING DATA

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Monitoring Well	Date	Reference Elevation (feet)	Depth to Water (feet)	Ground Water Elevation (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	TPPH as gasoline (µg/L)	MTBE (µg/L)	Oxygenate Compounds (µg/L)	Comments
Trip Blank	10/25/99	N/A	N/A	N/A	<1.0	<1.0	<1.0	<1.0	<50	<1.0	NA	
	01/21/00	N/A	N/A	N/A	<1.0	<1.0	<1.0	<1.0	<50	<1.0	NA	

a = Total volatile hydrocarbons by DHS /LUFT Manual Method.

b = Results obtained from a 1:10 dilution analyzed on January 17, 1995.

c = Methyl tertiary butyl ether by EPA Method 8260 (GC/MS).

Reference elevation = Elevation surveyed relative mean sea level.

Depth to ground water = Measured from notch/mark on north edge of well casing.

Ground water elevation = adjusted ground water elevations, based on the specific gravity of gasoline as 0.80.

Total purgeable petroleum hydrocarbons by EPA Method 8015 Modified or DHS LUFT Method or total petroleum hydrocarbons (TPH) by EPA Method 8015 Modified.

MTBE = Methyl tertiary butyl ether by EPA Method 8015 Modified except as otherwise noted.

Oxygenate compounds = Ethanol, t-butanol, MTBE, di-isopropyl ether, ethyl-t-butyl ether, and t-amyl methyl by EPA Method 8260.

mg/L = Micrograms per liter.

LPH = Liquid-phase petroleum hydrocarbons.

NS = Not sampled.

NA = Not analyzed.

N/A = Not applicable.

NM = Not measured.

NC = Not calculated.

TABLE 3

INVENTORY OF WATER WELLS WITHIN 2,000 FEET OF SITE

Exxon Station No. 7-0104
1725 Park Street
Alameda, California

Site Map Location	DWR Well I.D.	Well Location	Date Drilled	Well Type	Total Depth (ft)	Screened Interval(s) (ft)	Sanitary Seal?	Notes
1	2S/3W-7-F1	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
2	2S/3W-7-F2	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
3	2S/3W-7-F3	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
4	2S/3W-7-F4	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
5	2S/3W-7-F5	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
6	2S/3W-7-F6	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
7	2S/3W-7-F7	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
8	2S/3W-7-F8	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
9	2S/3W-7-F9	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
10	2S/3W-7-F10	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
11	2S/3W-7-F11	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
12	2S/3W-7-F12	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
13	2S/3W-7-F13	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
14	2S/3W-7-F14	333 23rd Avenue	Sep-85	MW	24	5-15	Yes	
15	2S/3W-7-J1	3600 Alameda Avenue	Unk	MW	Unk	Unk	Unk	
16	2S/3W-7-J2	3600 Alameda Avenue	Unk	MW	Unk	Unk	Unk	
17	2S/3W-7-J3	3600 Alameda Avenue	Unk	MW	Unk	Unk	Unk	
18	2S/3W-7-J4	3600 Alameda Avenue	Unk	MW	Unk	Unk	Unk	
CNL = Could not locate due to insufficient record information.								

MW = Monitoring Well; Irr =Irrigation well; Mun = Municipal
Dom = Domestic Well; Test = Test Well; P = Private; Unk = Unknown

TABLE 3

INVENTORY OF WATER WELLS WITHIN 2,000 FEET OF SITE
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

Site Map Location	DWR Well I.D.	Well Location	Date Drilled	Well Type	Total Depth (ft)	Screened Interval(s) (ft)	Sanitary Seal?	Notes
19	2S/3W-7-J5	3600 Alameda Avenue	Unk	MW	Unk	Unk	Unk	
20	2S/3W-7-J6	3600 Alameda Avenue	Unk	MW	Unk	Unk	Unk	
21	2S/3W-7-J7	3600 Alameda Avenue	Unk	MW	Unk	Unk	Unk	
22	2S/3W-7-J8	3600 Alameda Avenue	Unk	MW	Unk	Unk	Unk	
23	2S/3W-7-J9	3600 Alameda Avenue	Unk	MW	Unk	Unk	Unk	
24	2S/3W-7-K1	2691 Blanding Avenue	Jun-88	MW	24	5.5-24	Yes	
25	2S/3W-7-K2	2691 Blanding Avenue	Jun-88	MW	24	5.5-24	Yes	
26	2S/3W-7-K3	2691 Blanding Avenue	Jun-88	MW	24	5.5-24	Yes	
27	2S/4W-12-R1	2200 Central Avenue	Unk	Irr	325	253-295	Unk	
28	2S/4W-12R6	2200 Central Avenue	June-92	MW	15	7-15	Yes	Destroyed
29	2S/4W-12R7	2200 Central Avenue	June-92	MW	15	7-15	Yes	Destroyed
30	2S/4W-12-R8	2200 Central Avenue	June-92	MW	15	7-15	Yes	Destroyed
31	2S/3W -7-E3	2199 Clement Avenue	Sep-89	MW	15	5-15	Yes	
32	2S/3W -7-E4	2199 Clement Avenue	Sep-89	MW	15	5-15	Yes	
33	2S/3W -7-E5	2199 Clement Avenue	Sep-89	MW	15	5-15	Yes	
34	2S/3W -7-E6	2199 Clement Avenue	Sep-89	MW	15	5-15	Yes	
35	2S/3W -7-E7	2199 Clement Avenue	Sep-89	MW	15	5-15	Yes	
36	2S/3W -7-E8	2199 Clement Avenue	Sep-89	MW	15	5-15	Yes	
CNL = Could not locate due to insufficient record information.								

MW = Monitoring Well; Irr =Irrigation well; Mun = Municipal
Dom = Domestic Well; Test = Test Well; P = Private; Unk = Unknown

TABLE 3

INVENTORY OF WATER WELLS WITHIN 2,000 FEET OF SITE

Exxon Station No. 7-0104
1725 Park Street
Alameda, California

Site Map Location	DWR Well I.D.	Well Location	Date Drilled	Well Type	Total Depth (ft)	Screened Interval(s) (ft)	Sanitary Seal?	Notes
37	2S/3W -7-E9	2199 Clement Avenue	Sep-89	MW	15	5-15	Yes	
38	2S/3W-7-L16	2199 Clement Avenue	Nov-89	Test	13	3-13	Yes	
39	2S/3W-7-N26	2235 Clement Avenue	Dec-91	MW	20	5-20	Yes	
40	2S/3W-7-N27	2235 Clement Avenue	Dec-91	MW	20	5-20	Yes	
41	2S/3W-7-N31	2235 Clement Avenue	Dec-91	MW	20	5-20	Yes	
42	2S/3W-7-N32	2235 Clement Avenue	Dec-91	MW	20	5-20	Yes	
43	2S/3W-7-N33	2235 Clement Avenue	Dec-91	MW	20	5-20	Yes	
44	2S/3W-7-M1	2307 Clement Avenue	Apr-77	Inds	70	30-71	Yes	
45	2S/3W-7-M2	2307 Clement Avenue	Apr-77	Inds	82	40-80	Yes	
46	2S/3W-7-M2	2307 Clement Avenue	Apr-77	Inds	82	40-80	Yes	
47	2S/3W-7-P1	2623 Eagle Avenue	Jun-76	Irr	120	95-120	Yes	
48	2S/3W-7-K4	2915 Ford Street	Dec-90	MW	16.5	11-16	Yes	
49	2S/3W-7-K5	2915 Ford Street	Dec-90	MW	16.5	11-16	Yes	
50	2S/3W-7-K6	2915 Ford Street	Dec-90	MW	18.5	13-18	Yes	
51	2S/3W-7-M1	880 Fruitvale Avnue	October-90	MW	29.5	9.5-29.5	Yes	
52	2S/3W-7-M2	880 Fruitvale Avnue	October-90	MW	29.5	9.5-29.5	Yes	
53	2S/3W-7-P2	2538 Lincoln Avenue	Aug-78	Irr	17	9-17	Yes	
54	2S/3W-7-N2	1555 Oak Street	Jun-86	MW	18	6-18	Yes	

CNL = Could not locate due to insufficient record information.

MW = Monitoring Well; Irr =Irrigation well; Mun = Municipal
Dom = Domestic Well; Test = Test Well; P = Private; Unk = Unknown

TABLE 3

INVENTORY OF WATER WELLS WITHIN 2,000 FEET OF SITE
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

Site Map Location	DWR Well I.D.	Well Location	Date Drilled	Well Type	Total Depth (ft)	Screened Interval(s) (ft)	Sanitary Seal?	Notes
55	2S/3W-7-M3	1849 Oak Street	Jun-89	MW	16	6-16	Yes	
56	2S/3W-7-M4	1849 Oak Street	Jun-89	MW	16	6-16	Yes	
57	2S/3W-7-M5	1849 Oak Street	Jun-89	MW	16	6-16	Yes	
58	2S/3W-12-J1	2139 Pacific Avenue	August-77	Irr	28.5	10-28.5	Yes	
59	2S/3W-7-N30	1541 Park Street	Apr-93	MW	30	10-30	Yes	
60	2S/3W-7-N5	1541 Park Street	Feb-88	MW	25	8-25	Yes	
61	2S/3W-7-N6	1541 Park Street	Feb-88	MW	25	8-25	Yes	
62	2S/3W-7-N7	1541 Park Street	Feb-88	MW	25	8-25	Yes	
63	2S/W-7-N14	1541 Park Street	May-90	MW	15	5-15	Yes	
64	2S/W-7-N15	1541 Park Street	May-90	MW	15	5-15	Yes	
65	2S/W-7-N16	1541 Park Street	May-90	MW	15	5-15	Yes	
66	2S/W-7-N17	1541 Park Street	May-90	MW	16	6-16	Yes	
67	2S/4W-7-N7	1700 Park Street	May-90	MW	15	5-15	Yes	
68	2S/4W-7-N14	1700 Park Street	May-90	MW	15	5-15	Yes	
69	2S/4W-7-N15	1700 Park Street	May-90	MW	15	5-15	Yes	
70	2S/4W-7-N16	1700 Park Street	May-90	MW	15	5-15	Yes	
71	2S/4W-12-N22	1700 Park Street	June-91	MW	20	5-20	Yes	
72	2S/4W-7-N23	1700 Park Street	June-91	MW	20	5-20	Yes	
CNL = Could not locate due to insufficient record information.								

MW = Monitoring Well; Irr =Irrigation well; Mun = Municipal
Dom = Domestic Well; Test = Test Well; P = Private; Unk = Unknown

TABLE 3

INVENTORY OF WATER WELLS WITHIN 2,000 FEET OF SITE

Exxon Station No. 7-0104
1725 Park Street
Alameda, California

Site Map Location	DWR Well I.D.	Well Location	Date Drilled	Well Type	Total Depth (ft)	Screened Interval(s) (ft)	Sanitary Seal?	Notes
73	2S/4W-7-N24	1700 Park Street	June-91	MW	20	5-20	Yes	
74	2S/4W-7-N25	1700 Park Street	June-91	MW	20	5-20	Yes	
75	2S/3W-7-L3	1825 Park Street	Feb-85	MW	17	5-17	Yes	
76	2S/3W-7-L4	1825 Park Street	Feb-85	MW	15	5-14	Yes	
77	2S/3W-7-L5	1825 Park Street	Feb-85	MW	14	4-14	Yes	
78	2S/3W-7-L6	1825 Park Street	Feb-85	MW	14	4-14	Yes	
79	2S/3W-7-L7	1825 Park Street	Feb-85	MW	14	4-14	Yes	
80	2S/3W-7-L20	1911 Park Street	Dec-92	MW	20	5-20	Yes	
81	2S/3W-7-N19	2244 Santa Clara Avenue	Aug-91	MW	20	4.5-20	Yes	
82	2S/3W-7-N20	2244 Santa Clara Avenue	Aug-91	MW	20	4.5-20	Yes	
83	2S/3W-7-N21	2244 Santa Clara Avenue	Aug-91	MW	20	4.5-20	Yes	
84	2S/3W-7-N3	2263 Santa Clara Avenue	Jun-86	MW	15	5-15	Yes	
85	2S/3W-7-N4	2263 Santa Clara Avenue	Jun-86	MW	15	5-15	Yes	
86	2S/3W-7-N31	2301 Santa Clara Avenue	Sep-93	MW	25	7-25	Yes	
87	2S/3W-7-N32	2301 Santa Clara Avenue	Sep-93	MW	25	7-25	Yes	
88	2S/3W-7-N33	2301 Santa Clara Avenue	Sep-93	MW	25	7-25	Yes	
89	2S/3W-7-N34	2301 Santa Clara Avenue	Sep-93	MW	25	7-25	Yes	
CNL = Could not locate due to insufficient record information.								

MW = Monitoring Well; Irr =Irrigation well; Mun = Municipal
Dom = Domestic Well; Test = Test Well; P = Private; Unk = Unknown

TABLE 3

INVENTORY OF WATER WELLS WITHIN 2,000 FEET OF SITE

Exxon Station No. 7-0104
1725 Park Street
Alameda, California

Site Map Location	DWR Well I.D.	Well Location	Date Drilled	Well Type	Total Depth (ft)	Screened Interval(s) (ft)	Sanitary Seal?	Notes
90	2S/3W-7-Q8	1708 Versailles Avenue	Jul-88	Irr	24	10-22	Unk	
91	2S/3W-7-Q1	1819 Versailles Avenue	Apr-78	Irr	24	10-22	Unk	
92	2S/3W-7-Q2	2001 Versailles Avenue	Oct-84	MW	30	13-28	Yes	
93	2S/3W-7-Q3	2001 Versailles Avenue	Oct-84	MW	30	13-28	Yes	
94	2S/3W-7-Q4	2001 Versailles Avenue	Oct-84	MW	30	13-28	Yes	
95	2S/3W-7-Q5	2001 Versailles Avenue	Oct-84	MW	30	13-28	Yes	
96	2S/3W-7-Q6	2001 Versailles Avenue	Oct-84	MW	30	13-28	Yes	
97	2S/3W-7-Q7	2001 Versailles Avenue	Oct-84	MW	30	13-28	Yes	
98	2S/3W-7-J1	Former Fruitvale Power House	May-10	Dom	277	117-124/155-157/169-173		
99	2S/3W-7-J2	Former Fruitvale Power House	May-11	Dom	180	116-125/158-159/170-175	Yes	
100	2S/3W-7-M6	Corner of Park Street and Clement Avenue	Apr-93	MW	15	3-15	Yes	
101	2S/3W-12-J2	Pacific Avenue 429-feet east of Willow	June-76	Test	120	95-120	Yes	

CNL = Could not locate due to insufficient record information.

MW = Monitoring Well; Irr =Irrigation well; Mun = Municipal
Dom = Domestic Well; Test = Test Well; P = Private; Unk = Unknown

TABLE 4

SOURCE AREA SOIL ANALYTICAL SUMMARY

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)
MW-1	06/02/88	10.0	0.0670	0.0125	0.150	0.370	NA
MW-2	06/02/88	5.0	1.0	32	25	150	NA
MW-3	06/02/88	5.0	0.25	0.25	0.25	2.4	NA
MW-4	01/09/89	5.0	0.017	0.002	0.007	0.012	NA
MW-5	01/09/89	4.5	0.055	0.007	0.066	0.240	NA
MW-6	01/09/89	5.0	3.7	0.970	23	94	NA
MW-7	01/09/89	5.5	1.7	3.2	10	29	NA
SB-1	03/19/90	2.2	0.0062	0.00125	0.016	0.0092	NA
SB-1	03/19/90	4.5	1.3	1.3	1.4	4.9	NA
SB-1	03/19/90	5.0	6.9	23	3.2	14	NA
SB-2	03/19/90	2.5	0.013	0.018	0.10	0.54	NA
SB-2	03/19/90	4.0	1.2	3.7	2.1	1.3	NA
SB-3	03/19/90	3.0	0.0068	0.047	0.011	0.230	NA
SB-3	03/19/90	5.0	4.6	12	3.2	44	NA
SB-4	03/19/90	4.0	0.00125	0.00125	0.0053	0.018	NA
SB-4	03/19/90	5.0	0.00125	0.00125	0.00125	0.00125	NA
SB-5	03/19/90	2.5	0.028	0.006	0.0065	0.016	NA
SB-5	03/19/90	4.5	0.150	0.080	0.016	0.069	NA
SB-5	03/19/90	5.5	1.3	6.5	4	24	NA
SB-6	03/19/90	2.5	1.1	1.2	1.7	6.7	NA
SB-6	03/19/90	5.0	0.065	0.020	0.019	0.060	NA
SB-7	03/19/90	3.0	0.260	1.4	1.2	4.7	NA
SB-7	03/19/90	6.0	0.055	0.0041	0.012	0.011	NA
MW-8	05/05/93	5.5	<0.005	<0.005	<0.005	<0.005	NA
MW-9	05/05/93	6.0	<0.005	<0.005	<0.005	<0.005	NA
MW-10	05/05/93	6.0	<0.005	<0.005	<0.005	<0.005	NA
MW-11	08/23/95	6.5	<0.005	<0.005	<0.005	0.024	<0.0025
	08/23/95	11.5	0.26	<0.005	0.021	0.16	<0.0025
MW-12	08/23/95	6.5	<0.005	<0.005	<0.005	<0.005	<0.0025

TABLE 4

SOURCE AREA SOIL ANALYTICAL SUMMARY

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Sample ID	Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)
DI-1	06/25/97	3.5	0.023	0.050	0.076	0.45	NA
DI-2	06/25/97	3.5	0.025	0.051	0.083	0.52	NA
DI-3	06/25/97	3.5	<0.005	<0.005	<0.005	0.012	NA
DI-4	06/25/97	3.5	0.30	0.06	2.1	0.81	NA
PL-1	06/25/97	3.5	0.22	0.042	0.19	0.32	NA
PL-2	06/25/97	3.5	3.2	2.2	7.7	66	NA
PL-3	06/25/97	3.5	1.1	0.22	0.37	0.82	NA
SW-1	11/93	5	0.061	<0.005	0.018	<0.005	NA
SW-1	11/93	9	0.054	0.0075	0.020	0.029	NA
SW-1	11/93	11	<0.005	<0.005	<0.005	<0.005	NA
SW-1	11/93	14.5	<0.005	<0.005	<0.005	<0.005	NA
SW-1	11/93	19.5	<0.005	<0.005	<0.005	<0.005	NA
SM-1	11/93	5	0.170	<0.005	0.060	0.0073	NA
SM-1	11/93	7	7.6	10	37	98	NA
SM-1	11/93	10	0.077	0.031	0.085	0.270	NA
SM-1	11/93	12.5	<0.005	<0.005	<0.005	<0.005	NA
SM-1	11/93	15.5	<0.005	<0.005	<0.005	<0.005	NA
SM-1	11/93	20.0	<0.005	<0.005	<0.005	0.0079	NA
	Maximum		7.6	32	37	150	0.0
47 Samples	Mean[a]		0.79	2.1	3.2	12	0.0013
	UCL[b]		0.12	3.6	5.3	19	0.0013

a = Assuming lognormal distribution.

b = UCL = 95 percent upper confidence limit on the mean concentration.

mg/kg = Milligrams per kilogram.

MTBE = Methyl tertiary butyl ether.

TABLE 5

SOIL RISK-BASED SCREENING LEVEL AND SITE SPECIFIC TARGET LEVEL SUMMARY

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Chemical of Concern	Exposure Pathway	Representative Concentrations (mg/kg)	SSTL (mg/kg)	SSTL Exceed?	CRF
Benzene	Volatilization to indoor air (commercial)	7.6[a]/1.2[b]	0.068	Yes	18
	Volatilization to outdoor air (commercial)		15	No	NA
	Volatilization to outdoor air (costruction worker)		31	No	NA
	Volatilization to outdoor air (residential-1)		18	No	NA
	Volatilization to outdoor air (residential-2)		18	No	NA
Toluene	Volatilization to indoor air (commercial)	32[a]/3.6[b]	80	No	NA
	Volatilization to outdoor air (commercial)		>740	No	NA
	Volatilization to outdoor air (costruction worker)		>740	No	NA
	Volatilization to outdoor air (residential-1)		>740	No	NA
	Volatilization to outdoor air (residential-2)		>740	No	NA
Ethylbenzene	Volatilization to indoor air (commercial)	37[a]/5.3[b]	300	No	NA
	Volatilization to outdoor air (commercial)		>630	No	NA
	Volatilization to outdoor air (costruction worker)		>630	No	NA
	Volatilization to outdoor air (residential-1)		>630	No	NA
	Volatilization to outdoor air (residential-2)		>630	No	NA
Total Xylenes	Volatilization to indoor air (commercial)	150[a]/19[b]	>500	No	NA
	Volatilization to outdoor air (commercial)		>500	No	NA
	Volatilization to outdoor air (costruction worker)		>500	No	NA
	Volatilization to outdoor air (residential-1)		>500	No	NA
	Volatilization to outdoor air (residential-2)		>500	No	NA
MTBE	Volatilization to indoor air (commercial)	0.0[c]/0.0013[b]	600	No	NA
	Volatilization to outdoor air (commercial)		>8,300	No	NA
	Volatilization to outdoor air (costruction worker)		>8,300	No	NA
	Volatilization to outdoor air (residential-1)		>8,300	No	NA
	Volatilization to outdoor air (residential-2)		>8,300	No	NA

a = Maximum representative source are concentrations.

b = 95 percent upper confidence limit representative source area concentration.

c = MTBE below laboratory detection limit of 0.0025 mg/kg.

CRF = Constituent reducation factor.

SSTL = Site specific target level.

mg/kg = Milligrams per kilogram.

NA = Not Applicable.

TABLE 6

SOURCE AREA GROUND WATER ANALYTICAL SUMMARY

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Sample ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
MW-1	07/10/97	0.010	<0.0005	<0.0005	<0.0005	0.012
	01/28/98	0.110	0.0028	0.170	0.014	<2.5
	07/30/98	0.210	0.0025	0.550	0.0025	0.041
	01/13/99	0.008	<0.0005	<0.0005	<0.0005	0.0978
	07/09/99	0.114	0.00807	0.184	0.000644	0.0106
MW-2	07/10/97	2.90	0.082	1.50	0.530	2.60
	01/28/98	5.60	0.410	1.50	0.720	28.00
	07/30/98	7.50	0.100	1.30	0.280	6.30
	01/13/99	4.750	0.211	1.760	0.0453	2.20
	07/09/99	4.270	0.0801	1.30	0.339	3.410
MW-4	07/10/97	1.10	0.120	0.470	0.720	11.00
	01/28/98	0.450	0.0068	0.220	0.073	4.90
	07/30/98	0.680	0.005	0.220	0.056	2.80
	01/13/99	0.146	0.005	0.0609	0.0162	1.80
	07/09/99	0.322	0.00125	0.0761	0.00125	1.31
MW-5	07/10/97	1.40	0.120	0.190	0.120	52.00
	01/28/98	1.50	0.034	0.075	0.057	15.00
	07/30/98	1.70	0.026	0.110	0.066	4.30
	01/13/99	1.24	0.0111	0.005	0.005	3.65
	07/09/99	1.78	0.0186	0.045	0.00125	2.36
MW-6	01/28/98	0.650	2.30	0.900	2.70	2.40
	07/30/98	0.270	0.065	0.500	0.630	0.910
	01/13/99	0.204	0.107	0.297	0.304	0.422
	07/09/99	0.121	0.00995	0.160	0.00469	0.439
	10/25/99	0.590	0.005	0.022	0.0121	3.40
MW-7	07/10/97	0.070	0.0125	0.0125	0.0125	18.00
	01/28/98	0.001	<0.0005	<0.0005	0.00067	0.250
	07/30/98	0.0014	<0.0005	<0.0005	<0.0005	0.670
	01/13/99	0.00125	0.00125	0.00125	0.00125	0.530
	07/09/99	0.00379	0.00710	0.00119	0.00865	0.860

TABLE 6

SOURCE AREA GROUND WATER ANALYTICAL SUMMARY

Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

Sample ID	Date	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)
MW-8	04/14/98	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025
	07/30/98	<0.0005	<0.0005	<0.0005	<0.0005	0.0066
	01/13/99	<0.0005	<0.0005	<0.0005	<0.0005	<0.002
	07/09/99	<0.0005	<0.0005	<0.0005	<0.0005	0.00301
	10/25/99	0.0005	0.0005	0.0005	0.0005	0.0005
MW-9	07/26/96	<0.0005	<0.0005	<0.0005	<0.0005	0.0025
	10/30/96	<0.0005	<0.0005	<0.0005	<0.0005	0.0025
	04/28/99	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	07/09/99	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002
	10/25/99	0.0005	0.0005	0.0005	0.0005	0.0005
MW-10	04/24/96	<0.0005	<0.0005	0.0071	<0.0005	0.0068
	07/26/96	<0.0005	<0.0005	0.012	0.00086	0.0025
	10/30/96	<0.0005	<0.0005	<0.0005	<0.0005	0.0056
	01/31/97	<0.0005	<0.0005	<0.0005	<0.0005	0.010
	07/10/97	<0.0005	<0.0005	<0.0005	<0.0005	<0.0025
MW-11	01/28/98	2.40	3.50	1.70	7.90	6.80
	07/30/98	1.60	0.560	1.00	4.30	1.70
	01/13/99	2.21	6.44	2.03	10.60	1.92
	07/09/99	5.89	5.34	2.37	12.70	4.63
	10/25/99	3.90	5.80	2.30	12.30	1.70
	Maximum	7.5	6.4	2.4	13	52
50 Samples	Mean[a]	1.1	0.51	0.42	1.1	3.8
	UCL[b]	1.5	0.86	0.58	1.8	5.8

a = Assuming lognormal distribution.

b = UCL = 95 percent upper confidence limit on the mean concentration.

mg/L = Milligrams per liter.

MTBE = Methyl tertiary butyl ether.

TABLE 7

GROUND WATER RISK-BASED LEVEL AND SITE SPECIFIC TARGET LEVEL SUMMARY

Exxon Service Station No. 7-0104
1725 Park Street
Alamed, California

Chemical of Concern	Exposure Pathway	Representative Concentrations (mg/L)	SSTL (mg/L)	Exceed?	CRF
Benzene	Volatilization to indoor air (commercial)	7.5[a]/1.5[b]	0.069	Yes	22
	Volatilization to outdoor air (commercial)		5.2	No	NA
	Volatilization to outdoor air (residential-1)		5.2	No	NA
	Volatilization to outdoor air (residential-2)		5.2	No	NA
Toluene	Volatilization to indoor air (commercial)	6.4[a]/0.86[b]	76	No	NA
	Volatilization to outdoor air (commercial)		>520	No	NA
	Volatilization to outdoor air (residential-1)		>520	No	NA
	Volatilization to outdoor air (residential-2)		>520	No	NA
Ethylbenzene	Volatilization to indoor air (commercial)	2.4[a]/0.58[b]	>170	No	NA
	Volatilization to outdoor air (commercial)		>170	No	NA
	Volatilization to outdoor air (residential-1)		>170	No	NA
	Volatilization to outdoor air (residential-2)		>170	No	NA
Total Xylenes	Volatilization to indoor air (commercial)	13[a]/1.8[b]	>200	No	NA
	Volatilization to outdoor air (commercial)		>200	No	NA
	Volatilization to outdoor air (residential-1)		>200	No	NA
	Volatilization to outdoor air (residential-2)		>200	No	NA
MTBE	Volatilization to indoor air (commercial)	52[a]/5.8[b]	3,300	No	NA
	Volatilization to outdoor air (commercial)		37,000	No	NA
	Volatilization to outdoor air (residential-1)		37,000	No	NA
	Volatilization to outdoor air (residential-2)		37,000	No	NA

a = Maximum representative source are concentrations.

b = 95 percent upper confidence limit representative source area concentration.

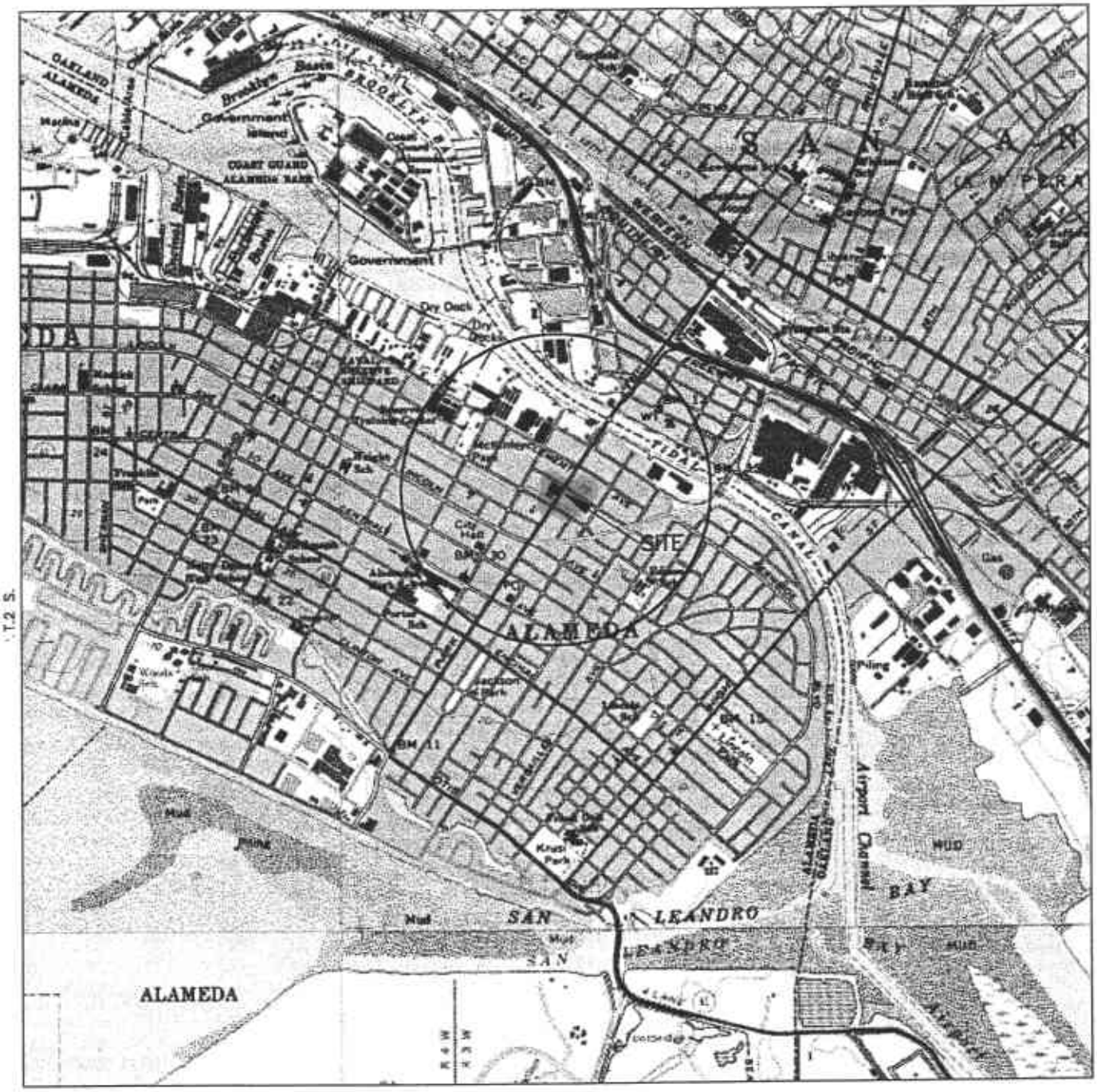
CRF = Constituent reduction factor.

SSTL = Site specific target level.

mg/L = Milligrams per Liter.

NA = Not Applicable.

MTBE = Methyl tertiary butyl ether.



GENERAL NOTES:
BASE MAP FROM U.S.G.S.
OAKLAND WEST, OAKLAND EAST,
HUNTERS POINT, SAN LEANDRO, CA.
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1980

North

QUADRANGLE LOCATION

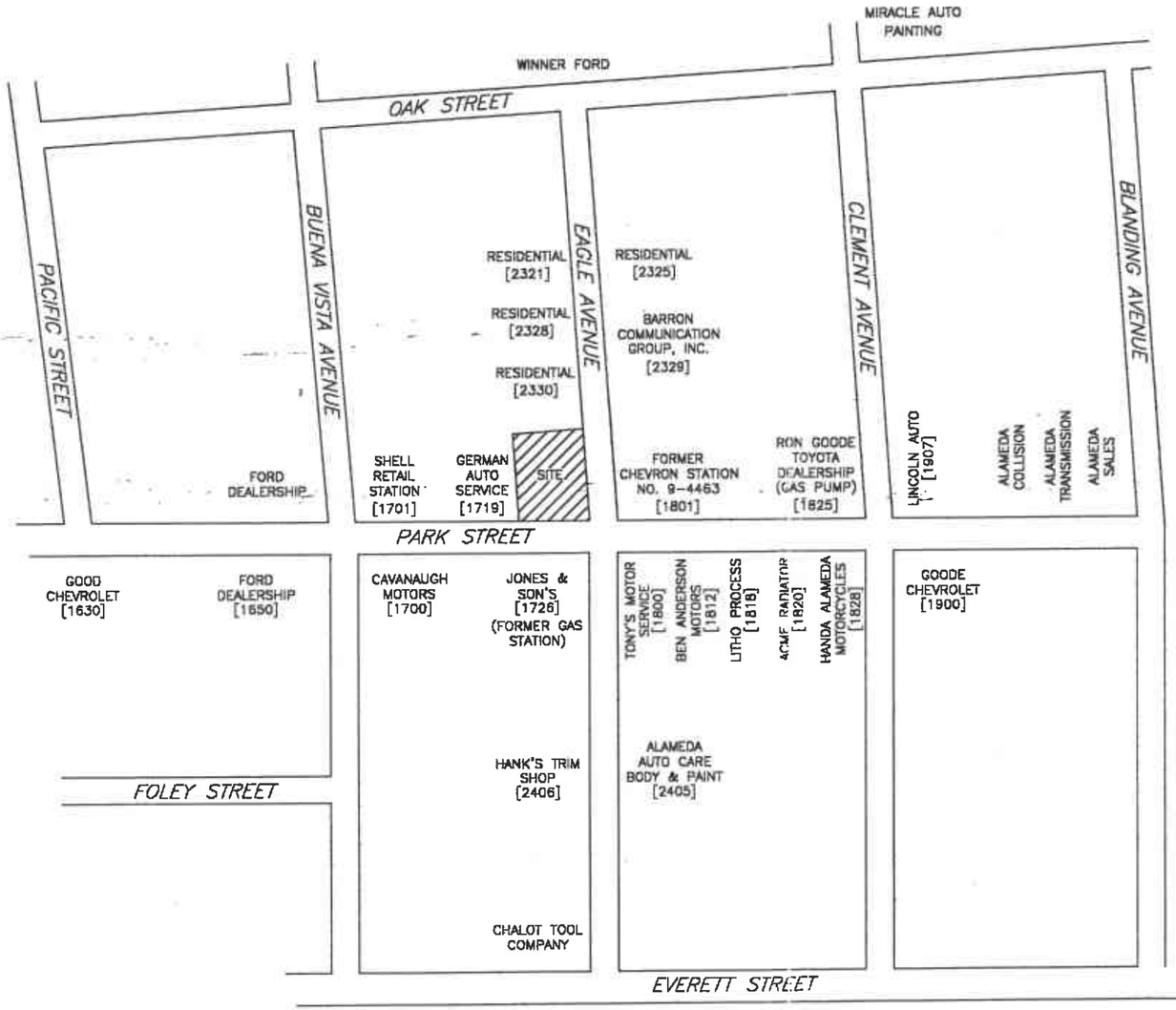
0 2000 FT

SCALE 1:24,000

FIGURE 1
SITE LOCATION MAP
EXXON STATION NO. 7-0104
1725 PARK STREET
ALAMEDA, CA.

PROJECT NO. D094-832	DRAWN BY M.L. 1/12/00
FILE NO. 94-832-1A	PREPARED BY JWS
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.



NOTE:

BASE MAP ADAPTED FROM RESNA FIGURE. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

FIGURE 2

SITE VICINITY MAP

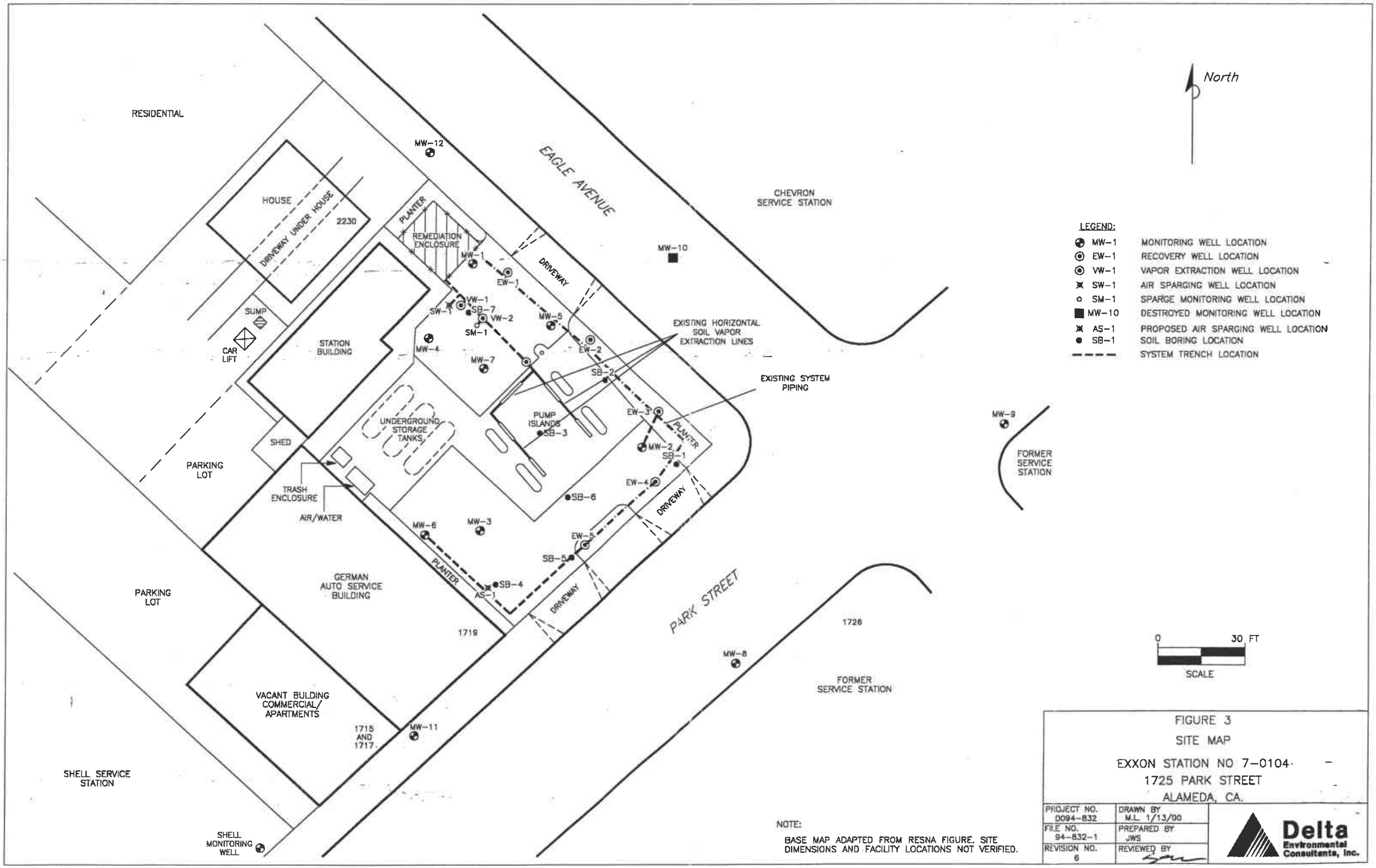
EXXON STATION NO 7-0104

1725 PARK STREET

ALAMEDA, CA.

PROJECT NO. 0094-832	DRAWN BY M.L. 1/13/00
FILE NO. 94-832-7	PREPARED BY JWS
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.



NOTE:

BASE MAP ADAPTED FROM RESNA FIGURE. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

FIGURE 3

SITE MAP

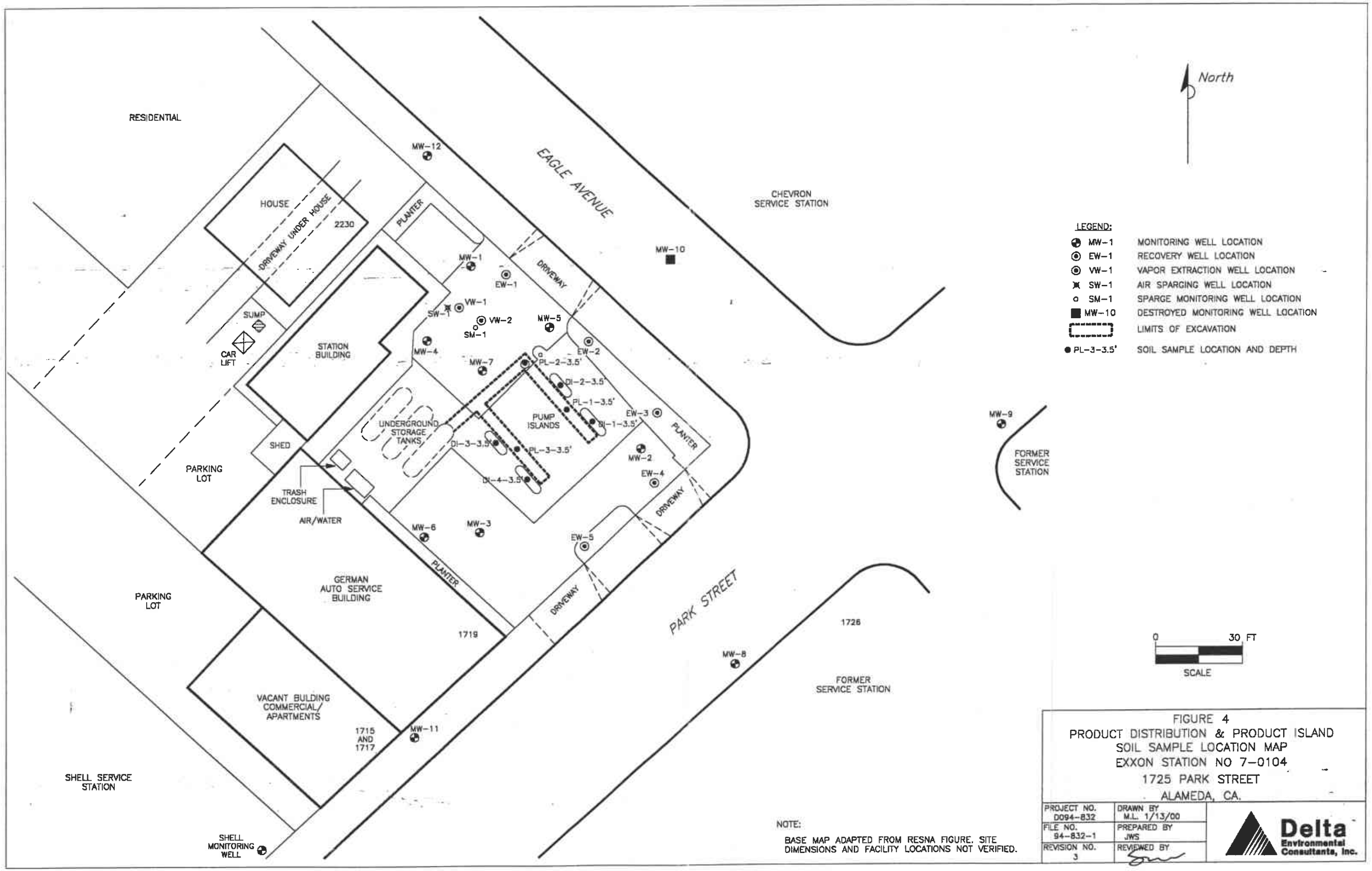
EXXON STATION NO 7-0104

1725 PARK STREET

ALAMEDA, CA.

PROJECT NO. 0094-832	DRAWN BY M.L. 1/13/00
FILE NO. 94-832-1	PREPARED BY JWS
REVISION NO. 6	REVIEWED BY

Delta Environmental Consultants, Inc.



NOTE:

BASE MAP ADAPTED FROM RESNA FIGURE. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

FIGURE 4
PRODUCT DISTRIBUTION & PRODUCT ISLAND SOIL SAMPLE LOCATION MAP
EXXON STATION NO 7-0104
1725 PARK STREET
ALAMEDA, CA.

PROJECT NO. 0094-832	DRAWN BY M.L. 1/13/00
FILE NO. 94-832-1	PREPARED BY JWS
REVISION NO. 3	REVIEWED BY

Delta Environmental Consultants, Inc.

GENERAL NOTES:
BASE MAP FROM U.S.G.S.
OAKLAND WEST, OAKLAND EAST,
HUNTERS POINT, SAN LEANDRO, CA.
7.5 MINUTE TOPOGRAPHIC
PHOTOREVISED 1980

North

LEGEND:
① WATER WELL LOCATION

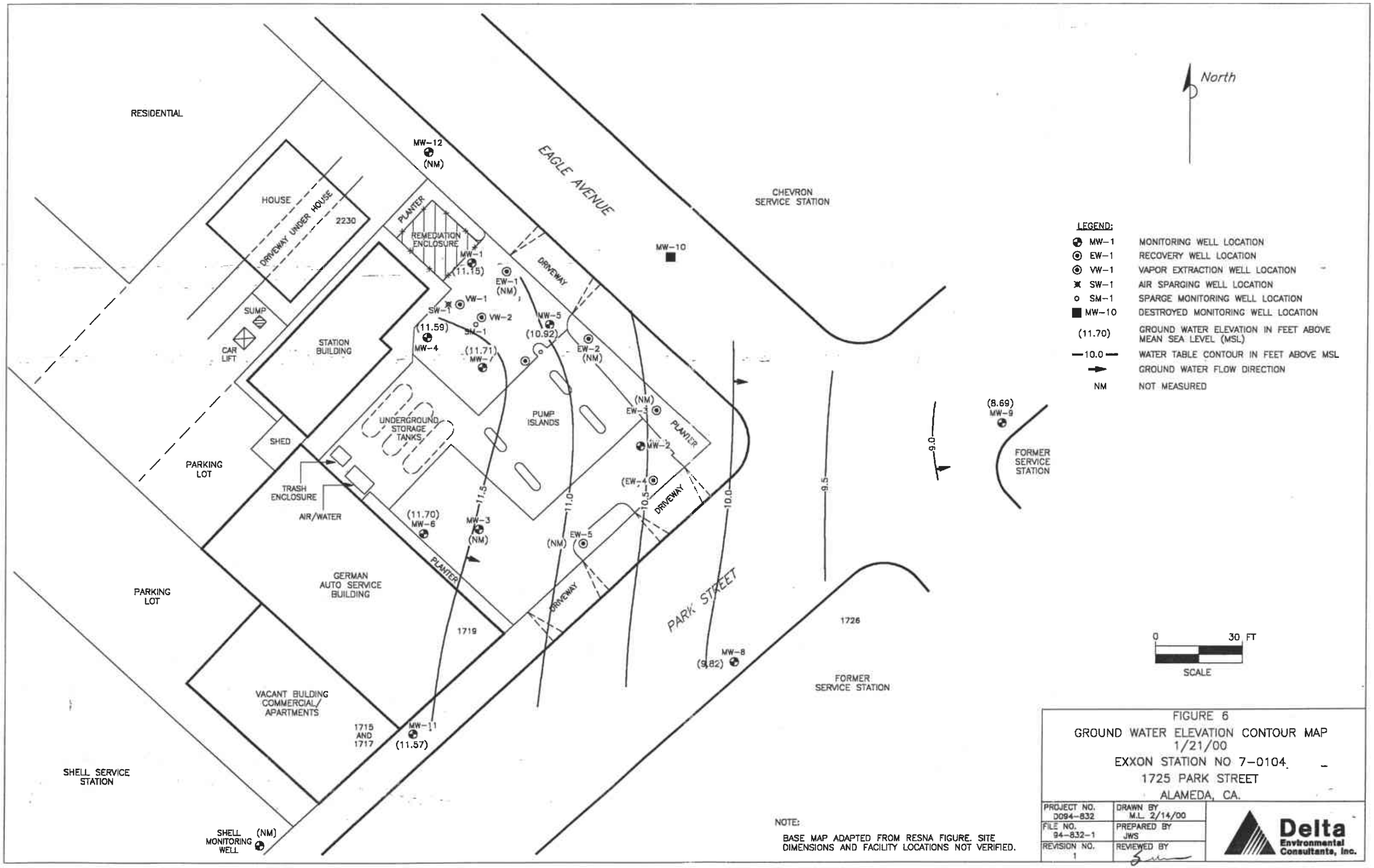
QUADRANGLE LOCATION

0 1000 FT
SCALE

FIGURE 5
WATER WELL LOCATION MAP
WITHIN A 2,000 FOOT RADIUS OF SITE
EXXON STATION NO. 7-0104
1725 PARK STREET
ALAMEDA, CA.

PROJECT NO. 0094-832	DRAWN BY M.L. 1/12/00
FILE NO. 94-832-1A	PREPARED BY JWS
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.



NOTE:

BASE MAP ADAPTED FROM RESNA FIGURE. SITE DIMENSIONS AND FACILITY LOCATIONS NOT VERIFIED.

FIGURE 6
GROUND WATER ELEVATION CONTOUR MAP
1/21/00
EXXON STATION NO 7-0104
1725 PARK STREET
ALAMEDA, CA.

PROJECT NO. D094-832	DRAWN BY M.L. 2/14/00
FILE NO. 94-832-1	PREPARED BY JWS
REVISION NO. 1	REVIEWED BY

Delta Environmental Consultants, Inc.

APPENDIX A

Sensitive Receptor survey Site Photographs

Sensitive Receptor Survey
Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

1. Southwest corner facing east along property boundary

2. Southwest corner facing north along property boundary

Sensitive Receptor Survey
Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

3. Southwest corner facing north along property boundary

4. Northeast corner facing west along property boundary

Sensitive Receptor Survey
Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

5. Front half of station building facing west

6. Residence with basement located at 2329 Eagle Avenue, approximately 200 feet north of site.

Sensitive Receptor Survey
Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

7. Residence with basement located at 2329 Eagle Avenue, approximately 20 feet north of site

8. Residence with basement located at 2328 Eagle Avenue, approximately 100 feet north of site.

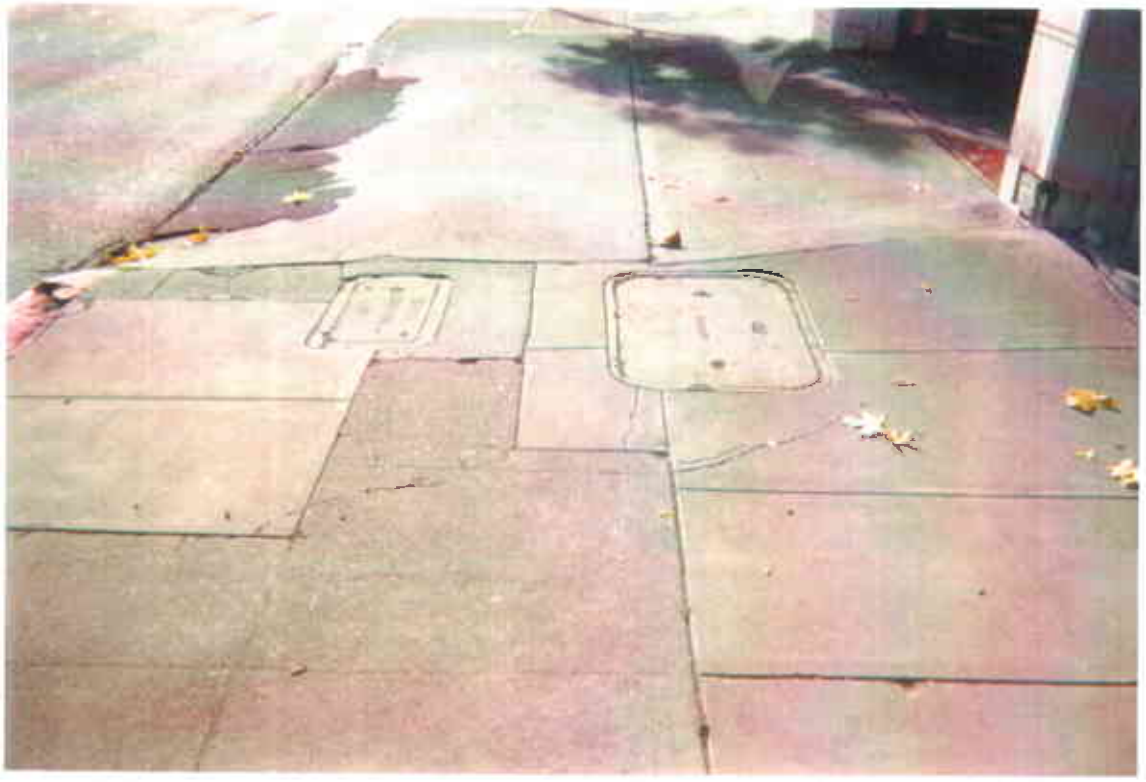
Sensitive Receptor Survey
Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

9. Water meter vault box along east property boundary

10. Water meter vault box along east property boundary

11. Unknown utility vault box located at southeast corner of site.

12. Electrical utility box located along south property boundary



13. Electrical and street light utility boxes located at southwest corner of site

14. PG&E and Pacific Bell vault boxes located near southwest corner of site.

Sensitive Receptor Survey
Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

15. Water meter vault box located in sidewalk in front of 1719 Park Street, approximately 35 feet southwest of site.

16. Sewer man hole cover in intersection of Eagle Avenue and Park Street, approximately 40 feet east of site.

17. Water valve and gas valve vault box's located in Eagle Avenue, approximately 60 feet northeast of site.

18. Two electrical and one unknown utility vault box located near the southeast corner of the property located at 1601 Park Street (Former Chevron No. 9-4463).

Sensitive Receptor Survey
Exxon Service Station No. 7-0104
1725 Park Street
Alameda, California

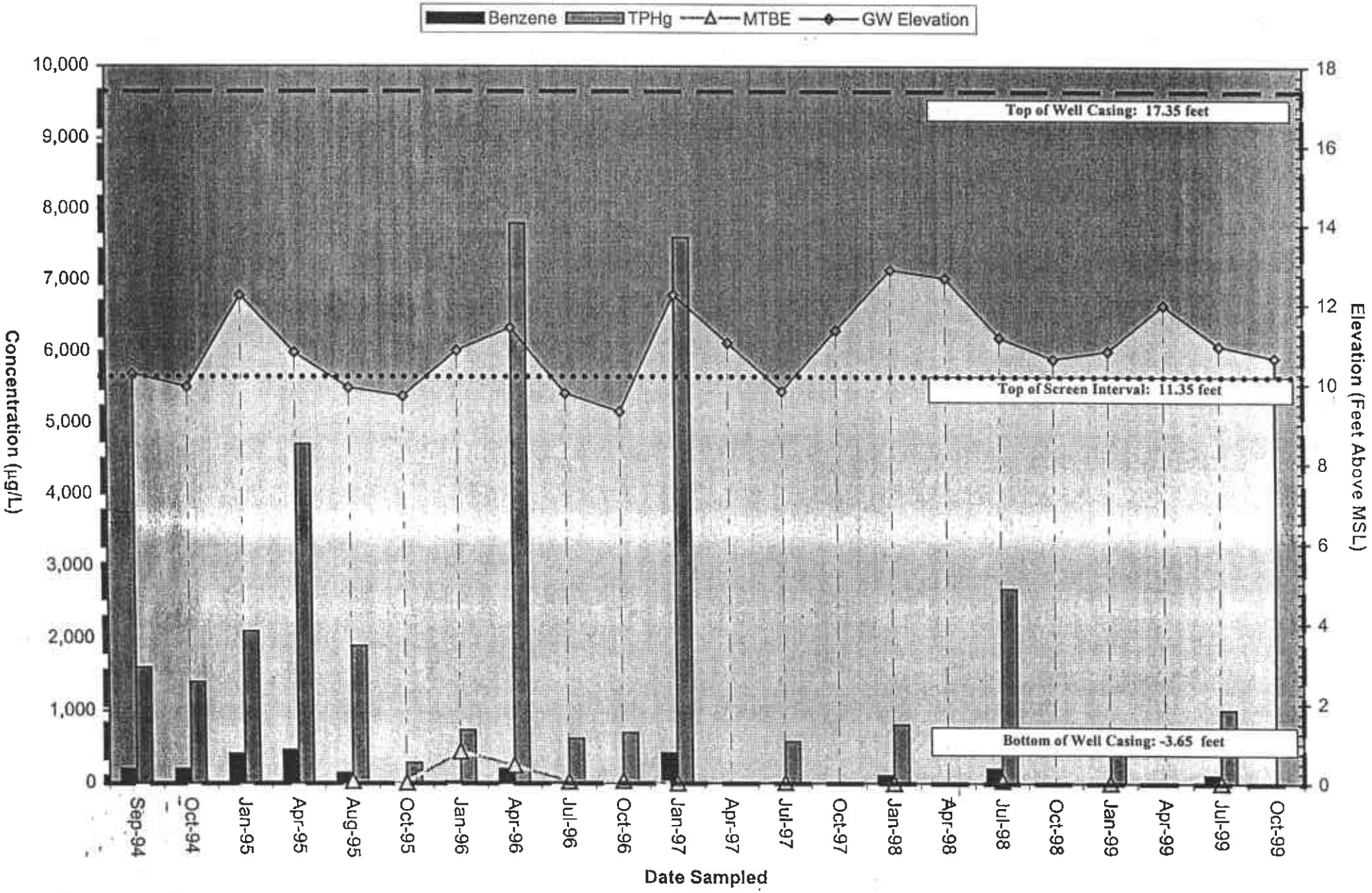
19. Water meter vault box located along south property boundary of 1601 Park Street (Former Chevron No. 9-4463).

APPENDIX B

Graphs of Ground Water Elevations, TPH as Gasoline, TEPH as diesel, Benzene, and MTBE Concentrations versus Time

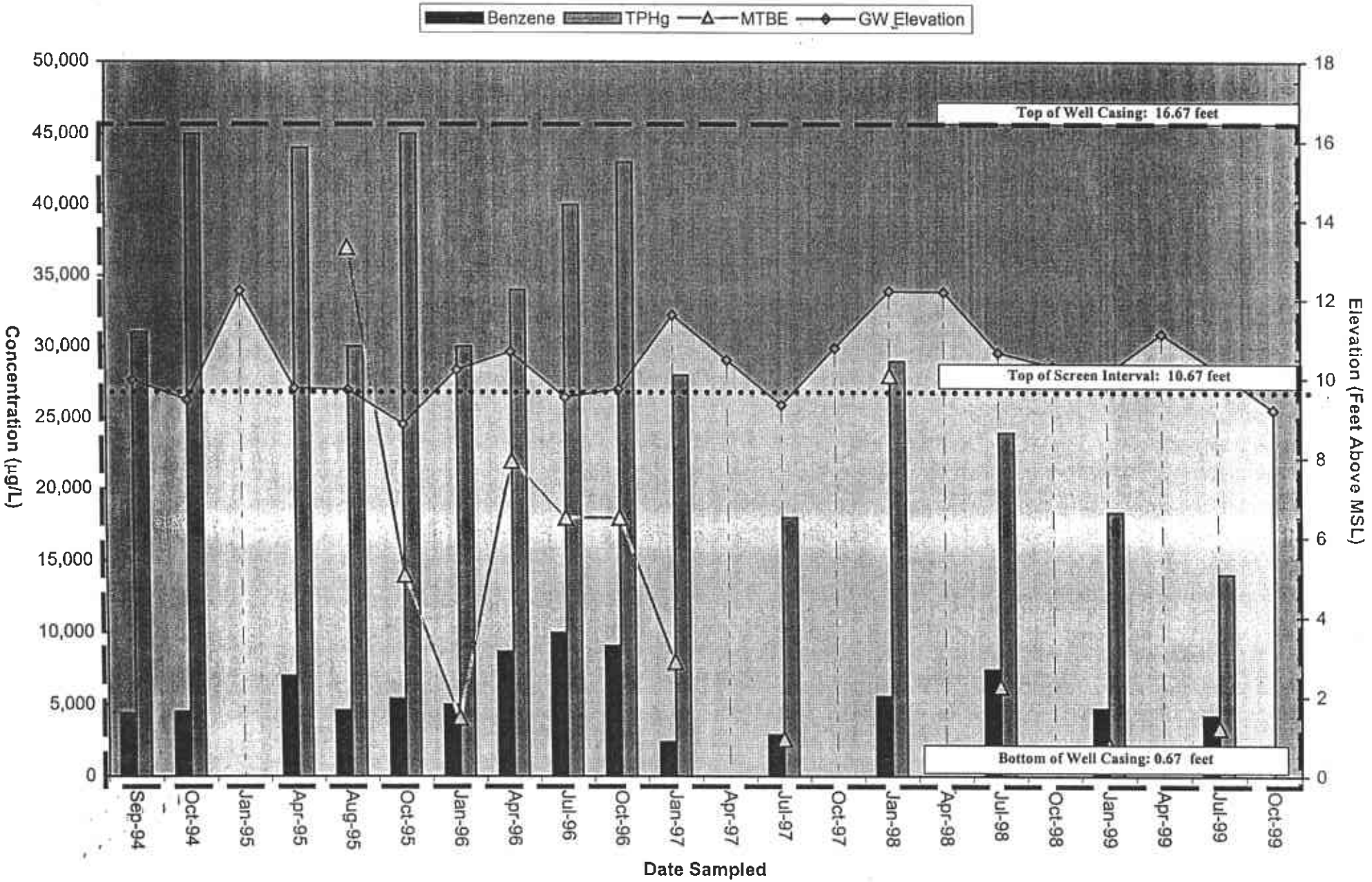
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-1



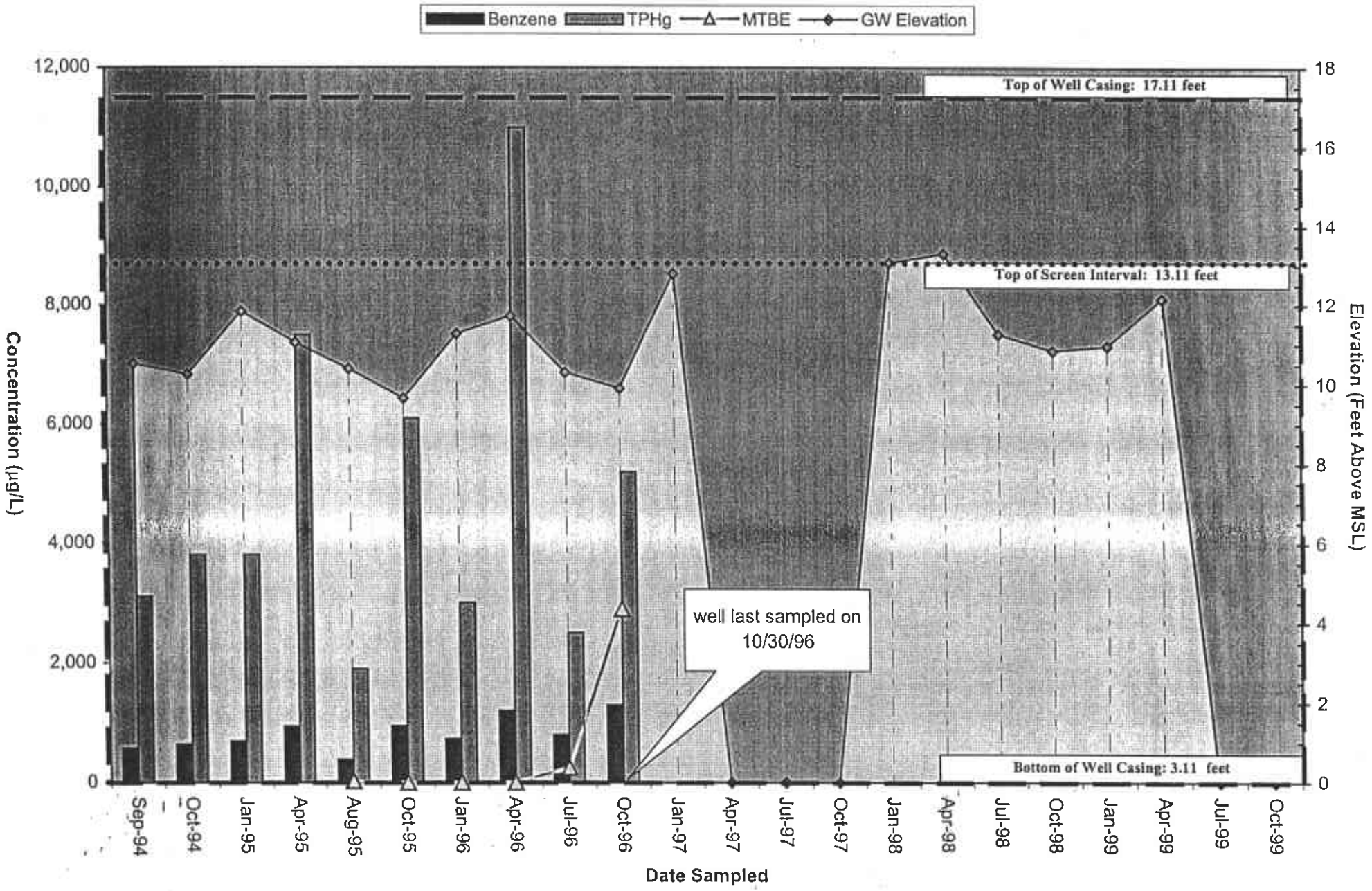
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-2



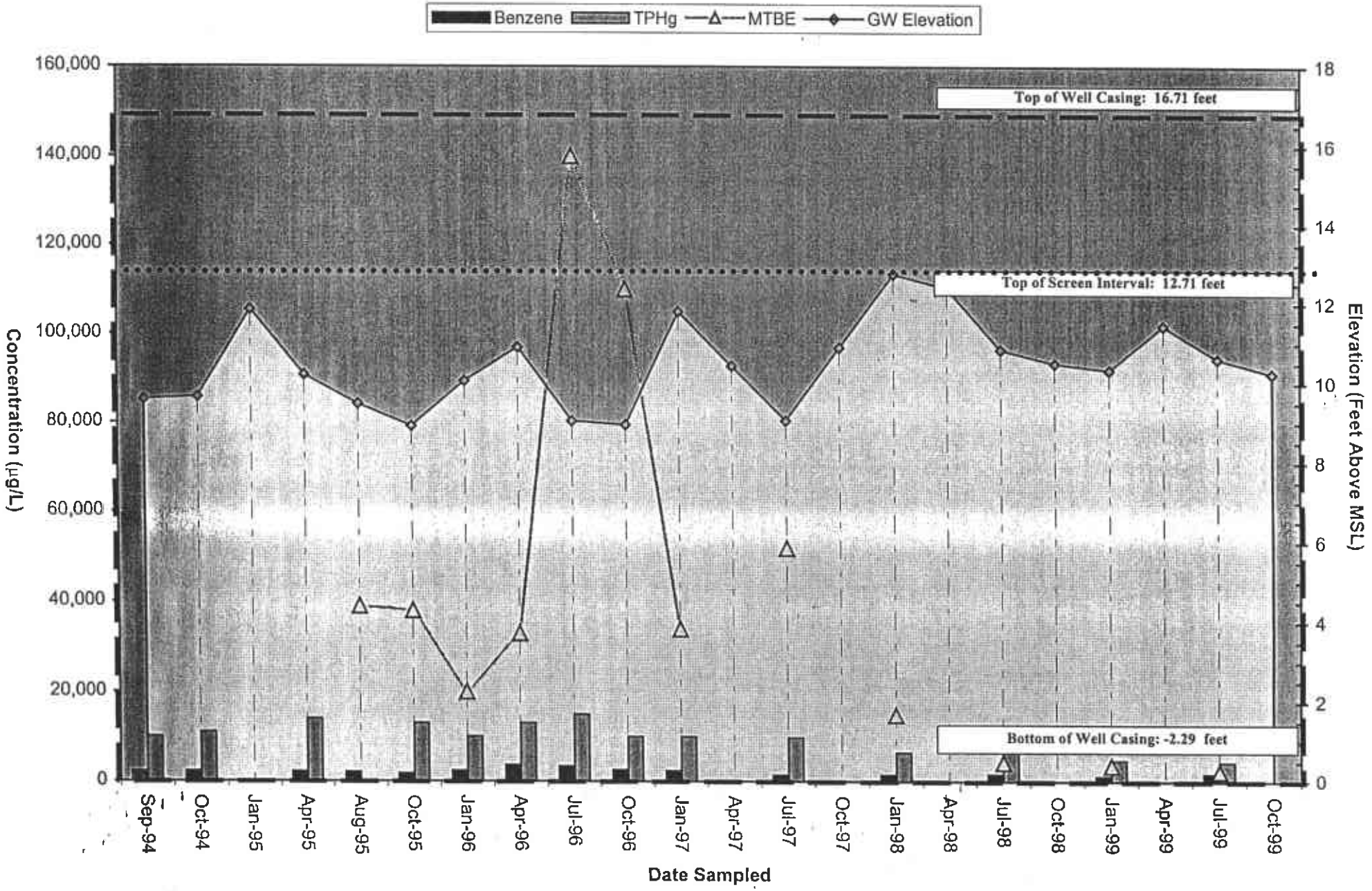
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-3



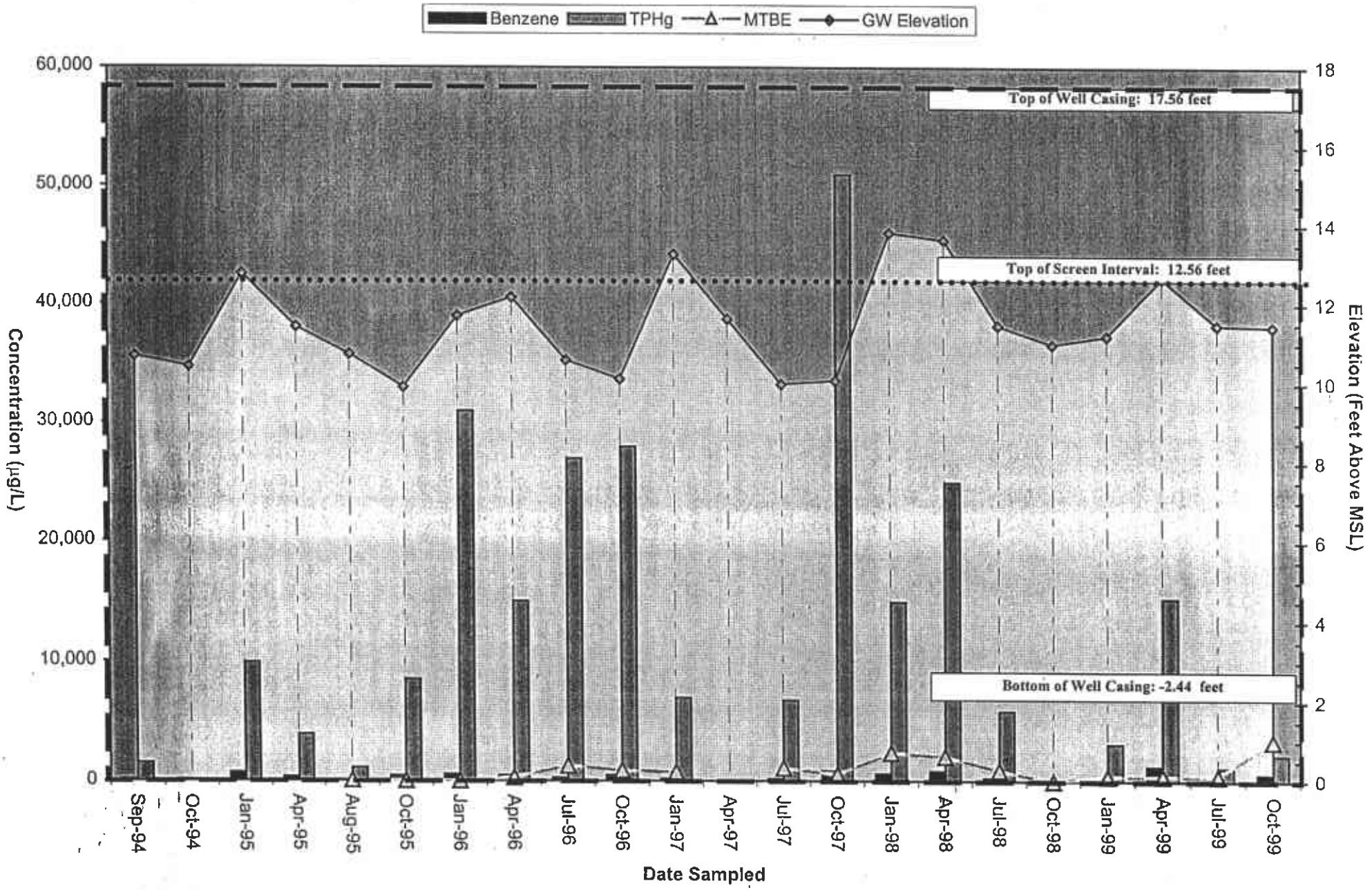
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-5



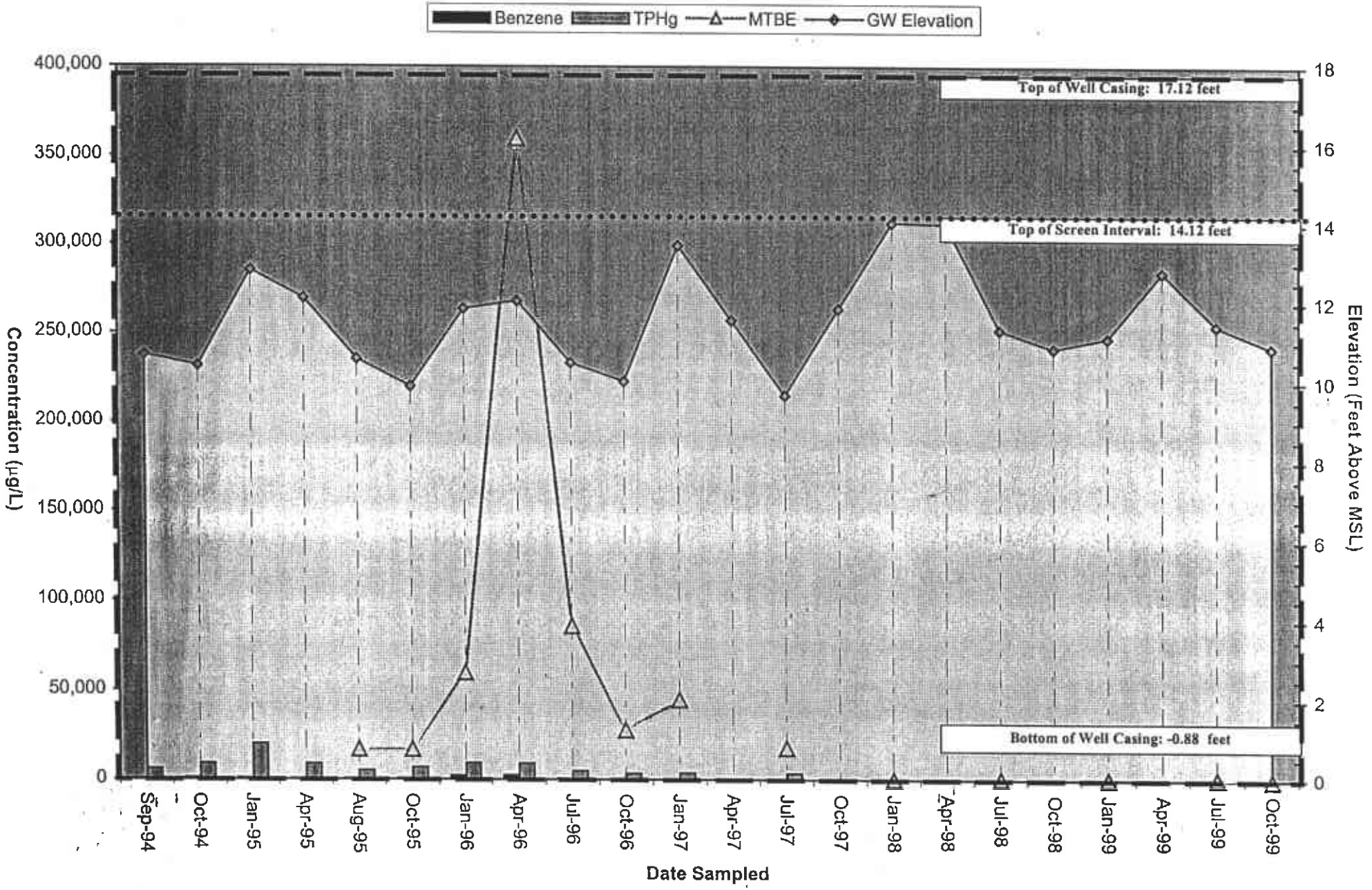
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-6



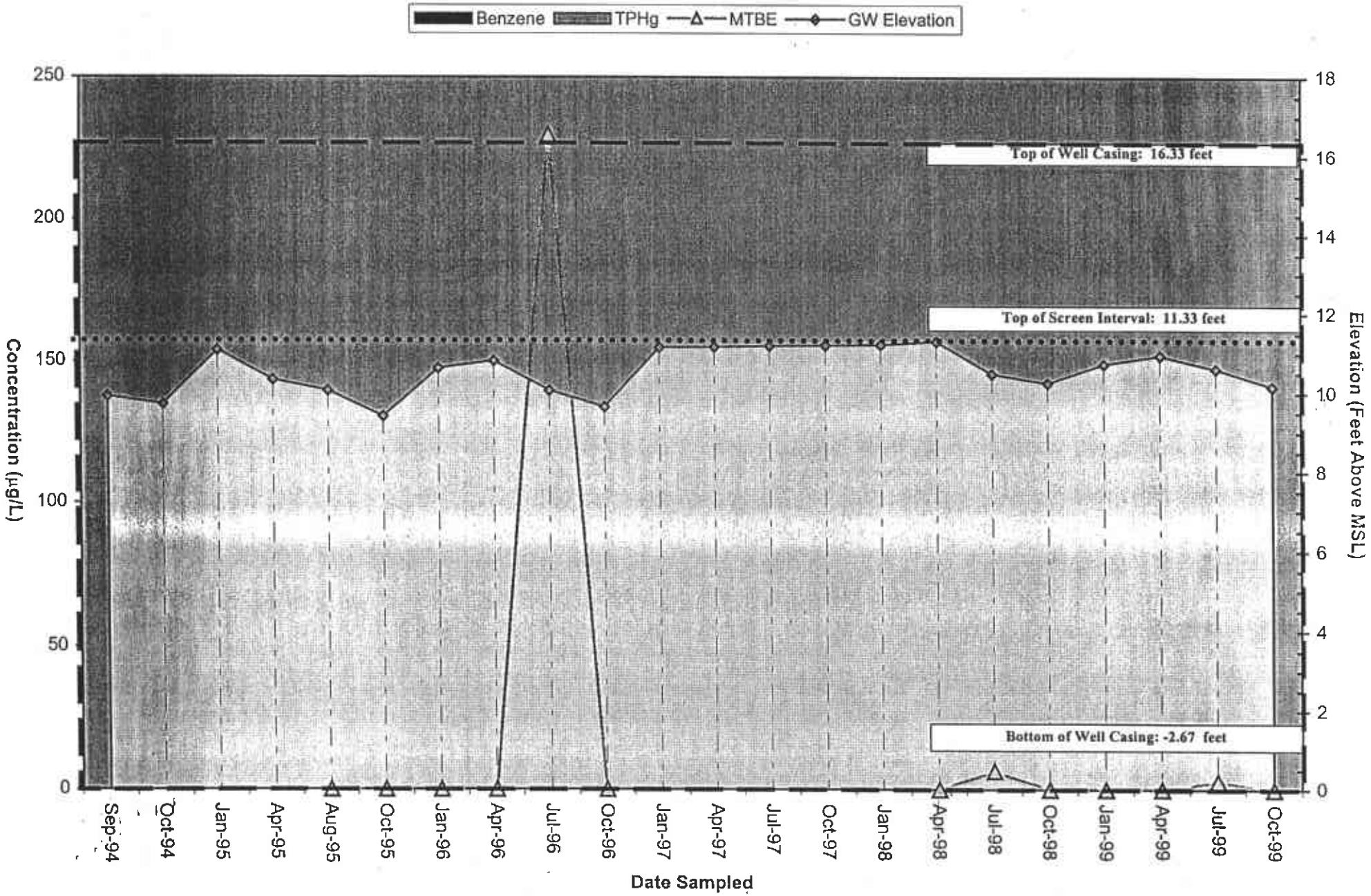
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-7



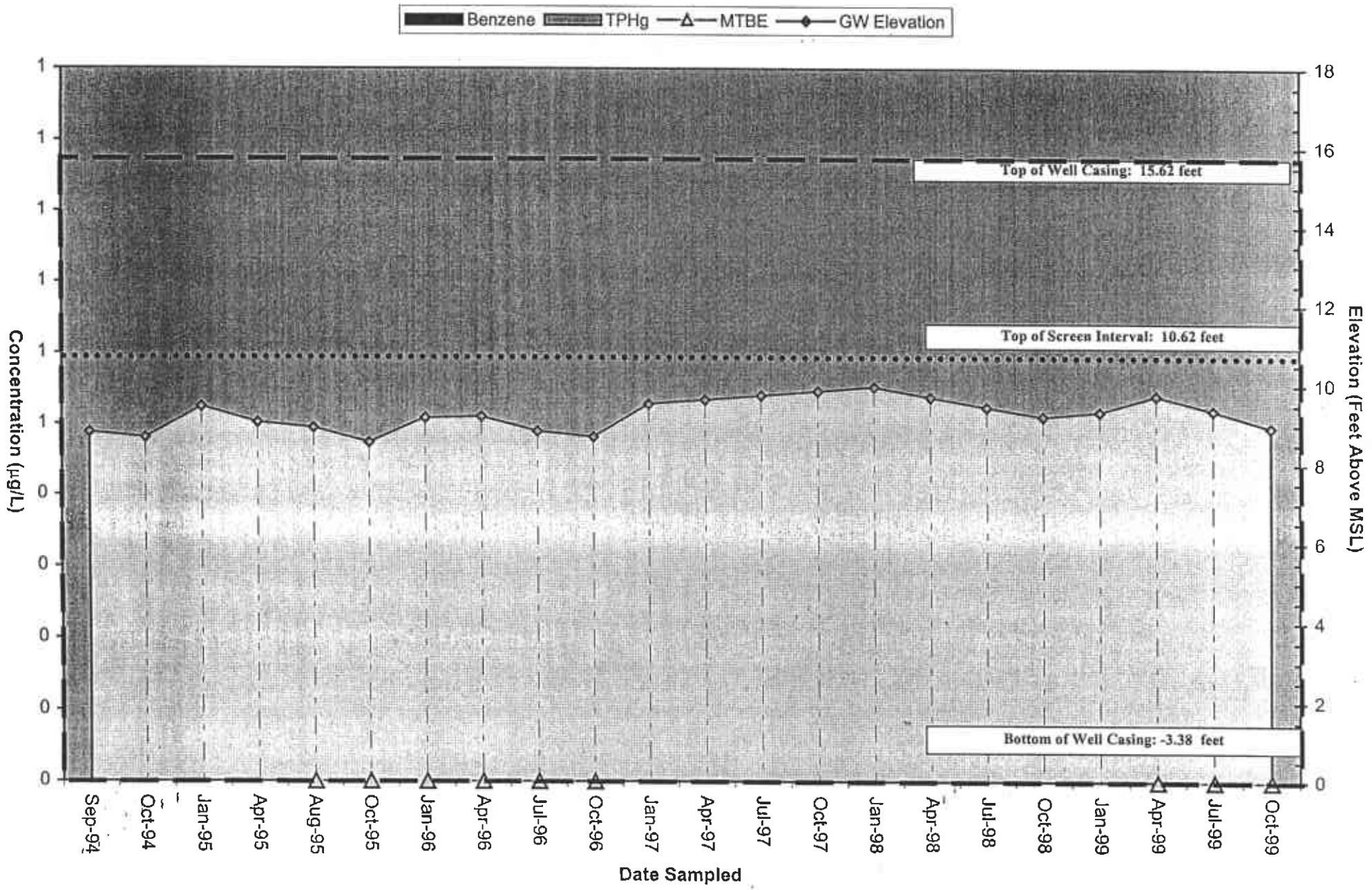
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-8



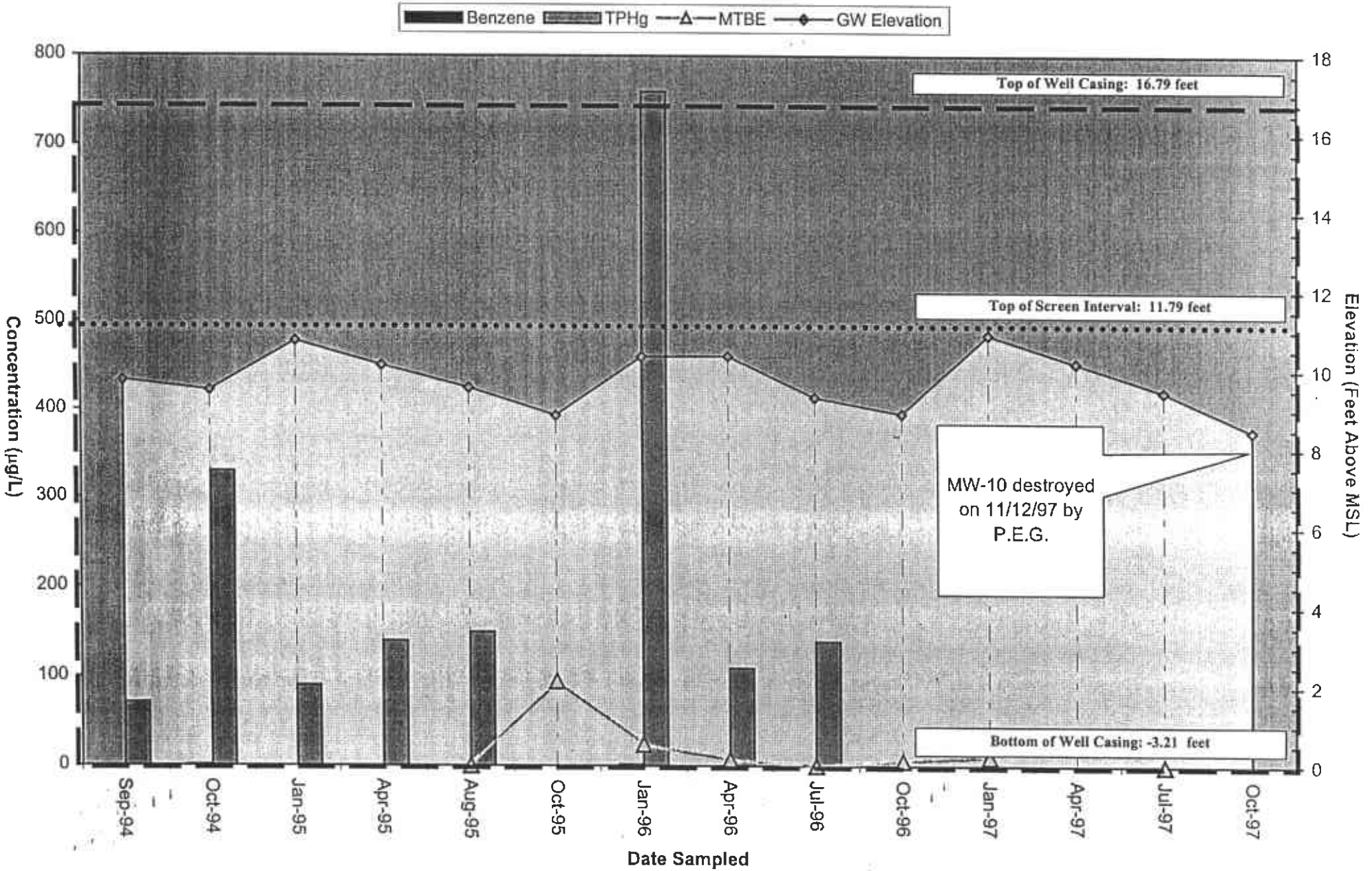
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-9



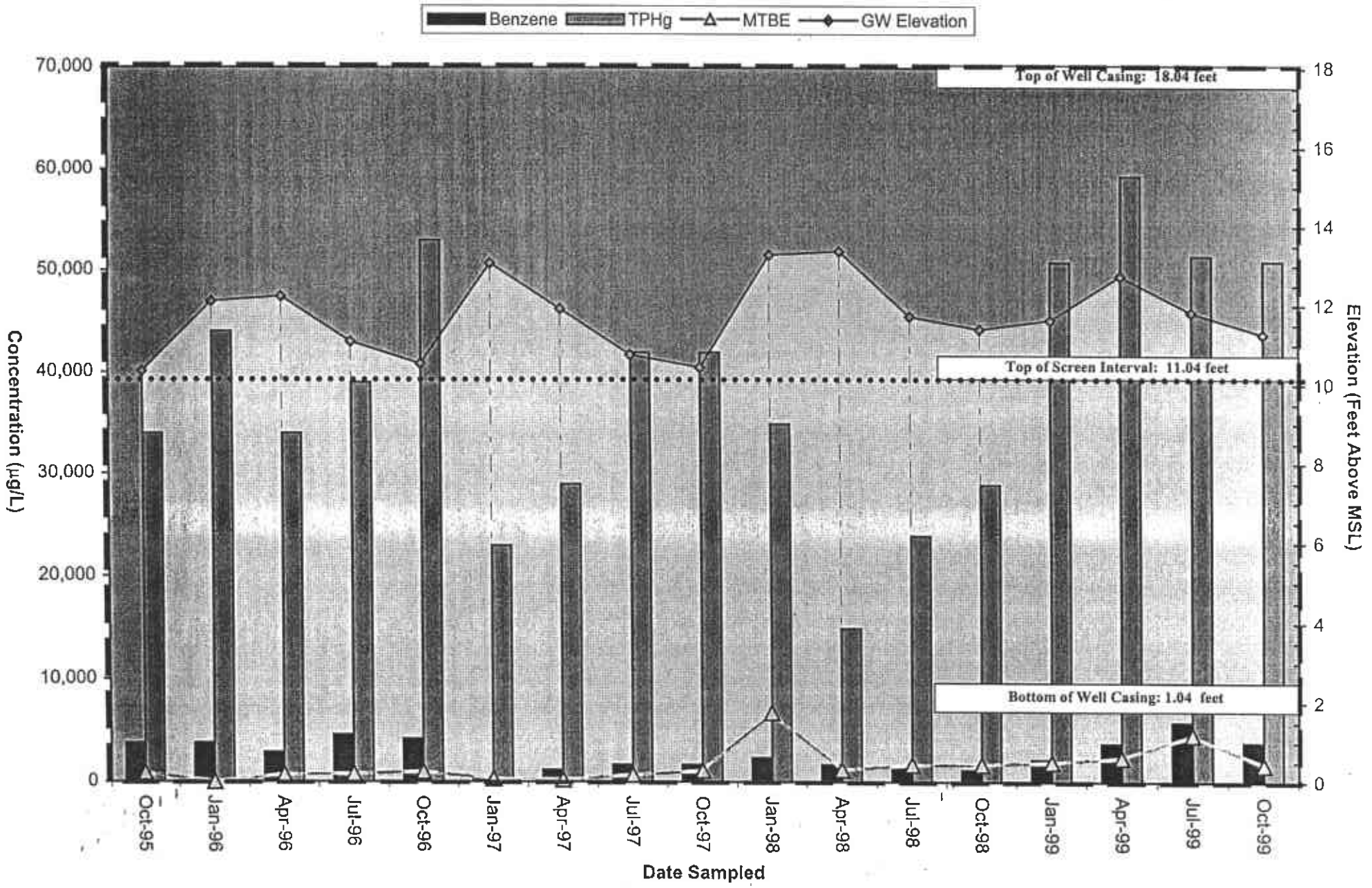
Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-10



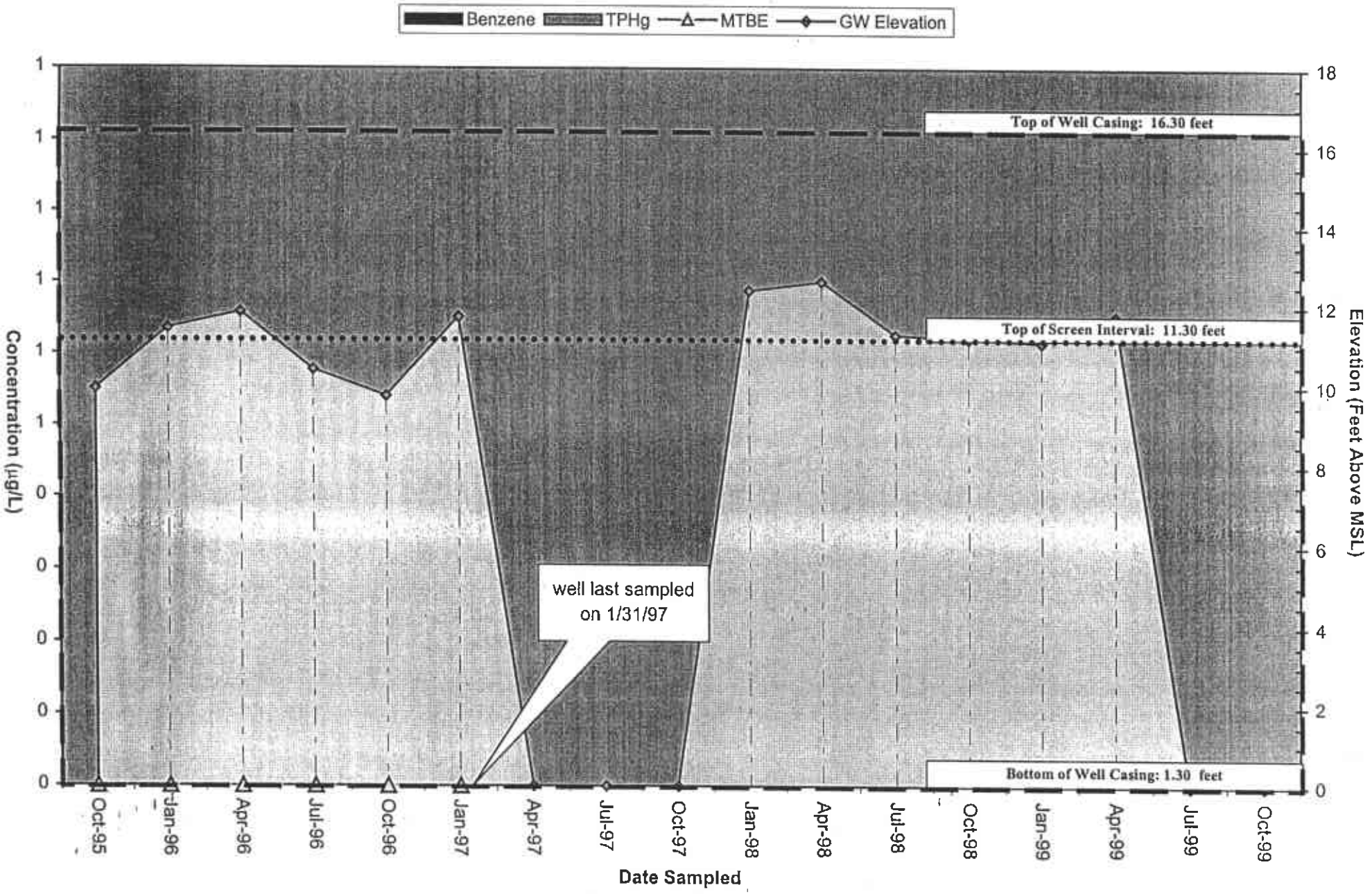
Exxon Station No. 7-0104
1725 Park Street
Alameda California

MW-11



Exxon Station No. 7-0104
1725 Park Street
Alameda, California

MW-12



APPENDIX C

Properties of Chemicals of Concern

CHEMICAL DATA FOR SELECTED COCs

Physical Property Data

Constituent	CAS Number	type	Molecular Weight (g/mole) MW	ref	Diffusion Coefficients in air (cm2/s) Dair	ref	Diffusion Coefficients in water (cm2/s) Dwat	ref	log (Koc) or log(Kd) (@ 20 - 25 C) log(L/kg) partition		ref	Henry's Law Constant (@ 20 - 25 C) (atm-m3) mol	(unitless)	ref	Vapor Pressure (@ 20 - 25 C) (mm Hg)	ref	Solubility (@ 20 - 25 C) (mg/L)	ref	acid pKa	base pKb	ref
Benzene*	71-43-2	A	78.1	PS	8.80E-02	PS	9.80E-06	PS	1.77	Koc	PS	5.55E-03	2.29E-01	PS	9.52E+01	PS	1.75E+03	PS	-	-	-
Toluene*	108-88-3	A	92.4	5	8.50E-02	A	9.40E-06	A	2.13	Koc	A	6.30E-03	2.60E-01	A	3.00E+01	4	5.15E+02	29	-	-	-
Ethylbenzene*	100-41-4	A	106.2	PS	7.50E-02	PS	7.80E-06	PS	2.56	Koc	PS	7.88E-03	3.25E-01	PS	1.00E+01	PS	1.69E+02	PS	-	-	-
Xylene (mixed isomers)*	1330-20-7	A	106.2	5	7.20E-02	A	8.50E-06	A	2.38	Koc	A	7.03E-03	2.90E-01	A	7.00E+00	4	1.98E+02	5	-	-	-
Methyl t-Butyl ether*	1634-04-4	O	88.146	5	7.92E-02	6	9.41E-05	7	1.08	Koc	A	5.77E-04	2.38E-02	-	2.49E+02	-	4.80E+04	A	-	-	-

* = Chemical with user-specified data

Site Name: Exxon Station No. 7-0104

Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00

Job ID: D094-832

CHEMICAL DATA FOR SELECTED COCs

Toxicity Data

Constituent	Reference Dose (mg/kg/day) Oral RfD_oral	ref	Reference Dose (mg/kg/day) Dermal RfD_dermal	ref	Reference Conc. (mg/m3) Inhalation RfC_inhal	ref	Slope Factors 1/(mg/kg/day) Oral SF_oral	ref	Slope Factors 1/(mg/kg/day) Dermal SF_dermal	ref	Unit Risk Factor 1/(µg/m3) Inhalation URF_inhal	ref	EPA Weight of Evidence	Is Constituent Carcinogenic ?
Benzene*	3.00E-03	R	-	-	5.95E-03	R	1.00E-01	PS	2.99E-02	TX	8.29E-06	PS	A	TRUE
Toluene*	2.00E-01	-	1.60E-01	0.16	4.00E-01	-	-	-	-	-	-	-	D	FALSE
Ethylbenzene*	1.00E-01	PS	9.70E-02	0.1	1.00E+00	PS	-	-	-	-	-	-	D	FALSE
Xylene (mixed isomers)*	2.00E+00	-	1.84E+00	1.84	7.00E+00	A	-	-	-	-	-	-	D	FALSE
Methyl t-Butyl ether*	1.00E-02	31	8.00E-03	0.01	3.00E+00	R	-	-	-	-	-	-	-	FALSE

* = Chemical with user-specified

Site Name: Exxon Station No. 7

Site Location: 1725 Park Str

Miscellaneous Chemical Data

Constituent	Maximum Contaminant Level MCL (mg/L)	ref	Time-Weighted Average Workplace Criteria TWA (mg/m3)	ref	Aquatic Life Prot. Criteria AQL (mg/L)	ref	Bioconcentration Factor (L-wat/kg-fish)
Benzene*	1.00E-03	52 FR 25690	3.25E+00	-	-	-	12.6
Toluene*	4.20E-02	52 FR 25690	1.47E+02	ACGIH	-	-	70
Ethylbenzene*	2.90E-02	52 FR 25690	4.35E+02	-	-	-	1
Xylene (mixed isomers)*	1.70E-02	52 FR 25690	4.34E+02	ACGIH	-	-	1
Methyl t-Butyl ether*	5.00E-03	52 FR 25690	8.00E+01	NIOSH	-	-	1

* = Chemical with user-specified

Site Name: Exxon Station No. 7

Site Location: 1725 Park Str

CHEMICAL DATA FOR SELECTED COCs

Miscellaneous Chemical Data

Constituent	Dermal Relative Absorp. Factor (unitless)	Water Dermal Permeability Data: Dermal Permeability Coeff. (cm/hr)	Lag time for Dermal Exposure (hr)	Critical Exposure Time (hr)	Relative Contr of Derm Perm Coeff (unitless)	Water/Skin Derm Adsorp Factor (cm/event)	ref	Detection Limits: Groundwater (mg/L)	ref	Soil (mg/kg)	ref	Half Life (First-Order Decay) (days): Saturated	Unsaturated	ref
Benzene*	0.5	0.021	0.26	0.63	0.013	7.3E-2	D	0.002	S	0.005	S	720	720	H
Toluene*	0.5	0.045	0.32	0.77	0.054	1.6E-1	D	0.002	S	0.005	S	28	28	H
Ethylbenzene*	0.5	0.074	0.39	1.3	0.14	2.7E-1	D	0.002	S	0.005	S	228	228	H
Xylene (mixed isomers)*	0.5	0.08	0.39	1.4	0.16	2.9E-1	D	0.005	S	0.005	S	360	360	H
Methyl t-Butyl ether*	0.5	-	-	-	-	-	-	-	-	-	-	360	180	H

* = Chemical with user-specified

Site Name: Exxon Station No. 7

Site Location: 1725 Park Str

RBCA SITE ASSESSMENT

Chemical-Specific Tier 2 Cleanup Summary

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants Job ID: D094-832
Date Completed: 3-Jan-00

Constituent: Benzene* **CAS No.: 71-43-2**

Site-Specific Target Level (SSTL) Concentrations

		On-site	Off-site1	Off-site2
Groundwater Ingestion				
Receptor Type / Distance (ft)		None	None	None
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Soil Leaching to Groundwater Ingestion				
Receptor Type / Distance (ft)		None	None	None
$SSTL_s$ (mg/kg)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Surface Soil Ingestion and Dermal Contact				
Receptor Type / Distance (ft)		None	No Off-site Receptors	
$SSTL_{ss}$ (mg/kg)	THQ = 1e+0	NA		
	TR = 1e-6	NA		
Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	Residential / 100
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	8.7E+0	8.7E-3	8.7E-3
	TR = 1e-6	4.9E-1	4.9E-4	4.9E-4
Soil Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Com./Constr. / 0	Residential / 20	Residential / 100
$SSTL_s$ (mg/kg)	THQ = 1e+0	3.1E+1	3.1E+2	3.1E+2
	TR = 1e-6	1.5E+1	1.8E+1	1.8E+1
Groundwater Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	Residential / 100
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	9.2E+1	9.2E+1	9.2E+1
	TR = 1e-6	5.2E+0	5.2E+0	5.2E+0
Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	8.7E+0		
	TR = 1e-6	4.9E-1		
Soil Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_s$ (mg/kg)	THQ = 1e+0	1.2E+0		
	TR = 1e-6	6.8E-2		
Groundwater Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	1.2E+0		
	TR = 1e-6	6.9E-2		

	Units	Residential	Commercial	Construction
Cross-Media Transfer Factors				
VF_{ss}	(kg-soil/L-air)	1.3E-5	1.6E-5	3.9E-4
VF_{samb}	(kg-soil/L-air)	2.8E-5	3.3E-5	8.3E-4
VF_{wamb}	(L-wat/L-air)	9.4E-5	9.4E-5	9.4E-5
VF_{ssap}	(kg-soil/L-air)	NA	7.3E-3	NA
VF_{wsap}	(L-wat/L-air)	NA	7.2E-3	NA
LF	(kg-soil/L-wat)	NA		NA

	Units	On-Site	Off-Site1	Off-Site2
Lateral Transport Factors				
DAFgw	(-)	NA	NA	NA
DAFs/gw	(-)	NA	NA	NA

Chemical Parameters

	Units	Value	Reference
Physical Properties			
MW	(g/mol)	7.8E+1	PS
Sol	(mg/L)	1.8E+3	PS
P_{vap}	(mmHg)	9.5E+1	PS
H_{atm}	(atm-m^3/mol)	5.6E-3	PS
pK_a	(log[mol/mol])	-	-
pK_b	(log[mol/mol])	-	-
$\log(K_{oc})$	(log[L/kg])	1.8E+0	PS
D_{air}	(cm^2/sec)	8.8E-2	PS
D_{wat}	(cm^2/sec)	9.8E-6	PS
Toxicity Data			
Wt of Evd.		A	
SF_o	(1/[mg/kg/day])	1.0E-1	PS
SF_d	(1/[mg/kg/day])	1.0E-1	PS
URF_i	(1/[$\mu g/m^3$])	8.3E-6	PS
RfD_o	(mg/kg/day)	3.0E-3	R
RfD_d	(mg/kg/day)	-	-
RfC_i	(mg/m^3)	8.0E-3	R
Dermal Exposure Parameters			
RAF_d	(mg/mg)	5.0E-1	D
K_p	(cm/hr)	2.1E-2	
tau_d	(hr/event)	2.6E-1	
t_{cnt}	(hr)	6.3E-1	
B	(-)	1.3E-2	
Regulatory Standards			
MCL	(mg/L)	1.0E-3	*
TWA	(mg/m^3)	3.3E+0	-
AQL	(mg/L)	-	-
Miscellaneous Parameters			
ADL_{gw}	(mg/L)	2.0E-3	S
ADL_s	(mg/kg)	5.0E-3	S
$t_{1/2,sat}$	(d)	7.2E+2	H
$t_{1/2,unsat}$	(d)	7.2E+2	H

* MCL ref = 52 FR 25690

	Units	Value	
Derived Parameters			
H	(L-wat/L-air)	2.3E-1	
K_{sw}	(L-wat/kg-soil)	1.5E+0	
C_{sat}	(mg/kg-soil)	1.2E+3	
$C_{sat,vap}$	($\mu g/m^3$-air)	4.0E+5	
$D_{eff,s}$	(cm^2/sec)	1.3E-2	
$D_{eff,crk}$	(cm^2/sec)	6.9E-3	
$D_{eff,cap}$	(cm^2/sec)	2.2E-5	
$D_{eff,ws}$	(cm^2/sec)	7.3E-4	
R_{sat}	(-)		
R_{unsat}	(-)	1.4E+1	
Z	(cm/event)	7.3E-2	

Notes: 1) NA = Not applicable; NC = Not calculated.

2) Definitions and references presented on page 6 of 6.

RBCA SITE ASSESSMENT

Chemical-Specific Tier 2 Cleanup Summary

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants Job ID: D094-832
Date Completed: 3-Jan-00

Constituent: Toluene* **CAS No.: 108-88-3**

Site-Specific Target Level (SSTL) Concentrations

		On-site	Off-site1	Off-site2
Groundwater Ingestion				
Receptor Type / Distance (ft)		None	None	None
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Soil Leaching to Groundwater Ingestion				
Receptor Type / Distance (ft)		None	None	None
$SSTL_s$ (mg/kg)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Surface Soil Ingestion and Dermal Contact				
Receptor Type / Distance (ft)		None	No Off-site Receptors	
$SSTL_{ss}$ (mg/kg)	THQ = 1e+0	NA		
	TR = 1e-6	NA		
Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	Residential / 100
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	5.8E+2	5.8E-1	5.8E-1
	TR = 1e-6	NC	NC	NC
Soil Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Com./Constr. / 0	Residential / 20	Residential / 100
$SSTL_s$ (mg/kg)	THQ = 1e+0	>7.4E+2	>7.4E+2	>7.4E+2
	TR = 1e-6	NC	NC	NC
Groundwater Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	Residential / 100
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	>5.2E+2	>5.2E+2	>5.2E+2
	TR = 1e-6	NC	NC	NC
Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	5.8E+2		
	TR = 1e-6	NC		
Soil Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_s$ (mg/kg)	THQ = 1e+0	8.0E+1		
	TR = 1e-6	NC		
Groundwater Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	7.6E+1		
	TR = 1e-6	NC		

	Units	Residential	Commercial	Construction
Cross-Media Transfer Factors				
VF_{ss}	(kg-soil/L-air)	1.3E-5	1.6E-5	3.9E-4
VF_{samb}	(kg-soil/L-air)	2.8E-5	3.3E-5	8.3E-4
VF_{wamb}	(L-wat/L-air)	9.8E-5	9.8E-5	9.8E-5
VF_{ssp}	(kg-soil/L-air)	NA	7.3E-3	NA
VF_{wssp}	(L-wat/L-air)	NA	7.7E-3	NA
LF	(kg-soil/L-wat)	NA		NA

	Units	On-Site	Off-Site1	Off-Site2
Lateral Transport Factors				
DAFgw	(-)	NA	NA	NA
DAFs/gw	(-)	NA	NA	NA

Chemical Parameters

	Units	Value	Reference
Physical Properties			
MW	(g/mol)	9.2E+1	5
Sol	(mg/L)	5.2E+2	29
P_{vap}	(mmHg)	3.0E+1	4
H_{atm}	(atm-m^3/mol)	6.3E-3	A
pK_a	(log[mol/mol])	-	-
pK_b	(log[mol/mol])	-	-
$\log(K_{oc})$	(log[L/kg])	2.1E+0	A
D_{air}	(cm^2/sec)	8.5E-2	A
D_{wat}	(cm^2/sec)	9.4E-6	A
Toxicity Data			
Wt of Evd.		D	
SF_o	(1/[mg/kg/day])	-	-
SF_d	(1/[mg/kg/day])	-	-
URF_i	(1/[$\mu g/m^3$])	-	-
RfD_o	(mg/kg/day)	2.0E-1	-
RfD_d	(mg/kg/day)	1.6E-1	0.16
RfC_i	(mg/m^3)	4.0E-1	-
Dermal Exposure Parameters			
RAF_d	(mg/mg)	5.0E-1	D
K_p	(cm/hr)	4.5E-2	
tau_d	(hr/event)	3.2E-1	
t_{crit}	(hr)	7.7E-1	
B	(-)	5.4E-2	
Regulatory Standards			
MCL	(mg/L)	4.2E-2	*
TWA	(mg/m^3)	1.5E+2	ACGIH
AQL	(mg/L)	-	-
Miscellaneous Parameters			
ADL_{gw}	(mg/L)	2.0E-3	S
ADL_s	(mg/kg)	5.0E-3	S
$t_{1/2,sat}$	(d)	2.8E+1	H
$t_{1/2,unsat}$	(d)	2.8E+1	H

* MCL ref = 52 FR 25690

	Units	Value	
Derived Parameters			
H	(L-wat/L-air)	2.6E-1	
K_{gw}	(L-wat/kg-soil)	6.9E-1	
C_{sat}	(mg/kg-soil)	7.4E+2	
$C_{sat,vap}$	($\mu g/m^3$-air)	1.5E+5	
$D_{eff,s}$	(cm^2/sec)	1.3E-2	
$D_{eff,crk}$	(cm^2/sec)	6.6E-3	
$D_{eff,cap}$	(cm^2/sec)	2.0E-5	
$D_{eff,ws}$	(cm^2/sec)	6.7E-4	
R_{sat}	(-)		
R_{unsat}	(-)	3.0E+1	–
Z	(cm/event)	1.6E-1	–

Notes: 1) NA = Not applicable; NC = Not calculated.
2) Definitions and references presented on page 6 of 6.

RBCA SITE ASSESSMENT — Chemical-Specific Tier 2 Cleanup Summary

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants Job ID: D094-832
Date Completed: 3-Jan-00

Constituent: Ethylbenzene* **CAS No.: 100-41-4**

Site-Specific Target Level (SSTL) Concentrations

		On-site	Off-site1	Off-site2
Groundwater Ingestion				
Receptor Type / Distance (ft)		None	**None**	**None**
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Soil Leaching to Groundwater Ingestion				
Receptor Type / Distance (ft)		None	None	None
$SSTL_s$ (mg/kg)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Surface Soil Ingestion and Dermal Contact				
Receptor Type / Distance (ft)		None	No Off-site Receptors	
$SSTL_{ss}$ (mg/kg)	THQ = 1e+0	NA		
	TR = 1e-6	NA		
Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	Residential / 100
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	1.5E+3	1.5E+0	1.5E+0
	TR = 1e-6	NC	NC	NC
Soil Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Com./Constr. / 0	Residential / 20	Residential / 100
$SSTL_s$ (mg/kg)	THQ = 1e+0	>6.3E+2	>6.3E+2	>6.3E+2
	TR = 1e-6	NC	NC	NC
Groundwater Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	**Residential / 100**
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	>1.7E+2	>1.7E+2	>1.7E+2
	TR = 1e-6	NC	NC	NC
Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	1.5E+3		
	TR = 1e-6	NC		
Soil Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_s$ (mg/kg)	THQ = 1e+0	3.0E+2		
	TR = 1e-6	NC		
Groundwater Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	>1.7E+2		
	TR = 1e-6	NC		

	Units	**Residential**	Commercial	Construction
Cross-Media Transfer Factors				
VF_{ss}	(kg-soil/L-air)	1.3E-5	1.6E-5	3.9E-4
VF_{samb}	(kg-soil/L-air)	2.8E-5	3.3E-5	8.3E-4
VF_{wamb}	(L-wat/L-air)	9.8E-5	9.8E-5	9.8E-5
VF_{ssep}	(kg-soil/L-air)	NA	4.8E-3	NA
VF_{wsep}	(L-wat/L-air)	NA	8.0E-3	NA
LF	(kg-soil/L-wat)	NA		NA

	Units	On-Site	Off-Site1	Off-Site2
Lateral Transport Factors				
DAFgw	(-)	NA	NA	NA
DAFs/gw	(-)	NA	NA	NA

Chemical Parameters

	Units	Value	Reference
Physical Properties			
MW	(g/mol)	1.1E+2	PS
Sol	(mg/L)	1.7E+2	PS
P_{vap}	(mmHg)	1.0E+1	PS
H_{atm}	(atm-m^3/mol)	7.9E-3	PS
pK_a	(log[mol/mol])	-	-
pK_b	(log[mol/mol])	-	-
$\log(K_{oc})$	(log[L/kg])	2.6E+0	PS
D_{air}	(cm^2/sec)	7.5E-2	PS
D_{wat}	(cm^2/sec)	7.8E-6	PS
Toxicity Data			
Wt of Evd.		D	
SF_o	(1/[mg/kg/day])	-	-
SF_d	(1/[mg/kg/day])	-	-
URF_i	(1/[$\mu g/m^3$])	-	-
RfD_o	(mg/kg/day)	1.0E-1	PS
RfD_d	(mg/kg/day)	9.7E-2	0.097
RfC_i	(mg/m^3)	1.0E+0	PS
Dermal Exposure Parameters			
RAF_d	(mg/mg)	5.0E-1	D
K_p	(cm/hr)	7.4E-2	
tau_d	(hr/event)	3.9E-1	
t_{crit}	(hr)	1.3E+0	
B	(-)	1.4E-1	
Regulatory Standards			
MCL	(mg/L)	2.9E-2	*
TWA	(mg/m^3)	4.4E+2	-
AQL	(mg/L)	-	-
Miscellaneous Parameters			
ADL_{gw}	(mg/L)	2.0E-3	S
ADL_s	(mg/kg)	5.0E-3	S
$t_{1/2,sat}$	(d)	2.3E+2	H
$t_{1/2,unsat}$	(d)	2.3E+2	H

* MCL ref = 52 FR 25690

	Units	Value
Derived Parameters		
H	(L-wat/L-air)	3.2E-1
K_{sw}	(L-wat/kg-soil)	2.7E-1
C_{sat}	(mg/kg-soil)	6.3E+2
$C_{sat,vap}$	($\mu g/m^3$-air)	5.8E+4
$D_{eff,s}$	(cm^2/sec)	1.1E-2
$D_{eff,crk}$	(cm^2/sec)	5.9E-3
$D_{eff,cap}$	(cm^2/sec)	1.6E-5
$D_{eff,ws}$	(cm^2/sec)	5.3E-4
R_{sat}	(-)	
R_{unsat}	(-)	7.8E+1
Z	(cm/event)	2.7E-1

Notes: 1) NA = Not applicable; NC = Not calculated.

2) Definitions and references presented on page 6 of 6.

RBCA SITE ASSESSMENT

Chemical-Specific Tier 2 Cleanup Summary

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants Job ID: D094-832
Date Completed: 3-Jan-00

Constituent: Xylene (mixed isomers)* **CAS No.: 1330-20-7**

Site-Specific Target Level (SSTL) Concentrations

		On-site	Off-site1	Off-site2
Groundwater Ingestion				
Receptor Type / Distance (ft)		None	None	None
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Soil Leaching to Groundwater Ingestion				
Receptor Type / Distance (ft)		None	None	None
$SSTL_s$ (mg/kg)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Surface Soil Ingestion and Dermal Contact				
Receptor Type / Distance (ft)		None	No Off-site Receptors	
$SSTL_{as}$ (mg/kg)	THQ = 1e+0	NA		
	TR = 1e-6	NA		
Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	Residential / 100
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	1.0E+4	1.0E+1	1.0E+1
	TR = 1e-6	NC	NC	NC
Soil Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Com./Constr. / 0	Residential / 20	Residential / 100
$SSTL_s$ (mg/kg)	THQ = 1e+0	>5.0E+2	>5.0E+2	>5.0E+2
	TR = 1e-6	NC	NC	NC
Groundwater Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	Residential / 100
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	>2.0E+2	>2.0E+2	>2.0E+2
	TR = 1e-6	NC	NC	NC
Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	1.0E+4		
	TR = 1e-6	NC		
Soil Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_s$ (mg/kg)	THQ = 1e+0	>5.0E+2		
	TR = 1e-6	NC		
Groundwater Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	>2.0E+2		
	TR = 1e-6	NC		

Chemical Parameters

	Units	Value	Reference
Physical Properties			
MW	(g/mol)	1.1E+2	5
Sol	(mg/L)	2.0E+2	5
P_{vap}	(mmHg)	7.0E+0	4
H_{alm}	(atm-m^3/mol)	7.0E-3	A
pK_a	(log[mol/mol])	-	-
pK_b	(log[mol/mol])	-	-
$\log(K_{oc})$	(log[L/kg])	2.4E+0	A
D_{air}	(cm^2/sec)	7.2E-2	A
D_{wat}	(cm^2/sec)	8.5E-6	A
Toxicity Data			
Wt of Evd		D	
SF_o	(1/[mg/kg/day])	-	-
SF_d	(1/[mg/kg/day])	-	-
URF_i	(1/[$\mu g/m^3$])	-	-
RfD_o	(mg/kg/day)	2.0E+0	-
RfD_d	(mg/kg/day)	1.8E+0	1.84
RfC_i	(mg/m^3)	7.0E+0	A
Dermal Exposure Parameters			
RAF_d	(mg/mg)	5.0E-1	D
K_p	(cm/hr)	8.0E-2	
tau_d	(hr/event)	3.9E-1	
t_{crit}	(hr)	1.4E+0	
B	(-)	1.6E-1	
Regulatory Standards			
MCL	(mg/L)	1.7E-2	*
TWA	(mg/m^3)	4.3E+2	ACGIH
AQL	(mg/L)	-	-
Miscellaneous Parameters			
ADL_{gw}	(mg/L)	5.0E-3	S
ADL_s	(mg/kg)	5.0E-3	S
$t_{1/2,sat}$	(d)	3.6E+2	H
$t_{1/2,unsat}$	(d)	3.6E+2	H

* MCL ref = 52 FR 25690

	Units	Residential	Commercial	Construction
Cross-Media Transfer Factors				
VF_{ss}	(kg-soil/L-air)	1.3E-5	1.6E-5	3.9E-4
VF_{samb}	(kg-soil/L-air)	2.8E-5	3.3E-5	8.3E-4
VF_{wamb}	(L-wat/L-air)	9.1E-5	9.1E-5	9.1E-5
VF_{sesp}	(kg-soil/L-air)	NA	6.1E-3	NA
VF_{wesp}	(L-wat/L-air)	NA	7.2E-3	NA
LF	(kg-soil/L-wat)	NA		NA

	Units	On-Site	Off-Site1	Off-Site2
Lateral Transport Factors				
DAFgw	(-)	NA	NA	NA
DAFs/gw	(-)	NA	NA	NA

	Units	Value
Derived Parameters		
H	(L-wat/L-air)	2.9E-1
K_{sw}	(L-wat/kg-soil)	4.0E-1
C_{sat}	(mg/kg-soil)	5.0E+2
$C_{sat,vap}$	($\mu g/m^3$-air)	4.0E+4
$D_{eff,s}$	(cm^2/sec)	1.1E-2
$D_{eff,crk}$	(cm^2/sec)	5.6E-3
$D_{eff,cap}$	(cm^2/sec)	1.7E-5
$D_{eff,ws}$	(cm^2/sec)	5.5E-4
R_{sat}	(-)	
R_{unsat}	(-)	5.2E+1
Z	(cm/event)	2.9E-1

Notes: 1) NA = Not applicable; NC = Not calculated.
2) Definitions and references presented on page 6 of 6.

RBCA SITE ASSESSMENT | **Chemical-Specific Tier 2 Cleanup Summary**

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants Job ID: D094-832
Date Completed: 3-Jan-00

Constituent: Methyl t-Butyl ether* **CAS No.: 1634-04-4**

Site-Specific Target Level (SSTL) Concentrations

		On-site	Off-site1	Off-site2
Groundwater Ingestion				
Receptor Type / Distance (ft)		None	None	None
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Soil Leaching to Groundwater Ingestion				
Receptor Type / Distance (ft)		None	None	None
$SSTL_s$ (mg/kg)	THQ = 1e+0	NA	NA	NA
	TR = 1e-6	NA	NA	NA
Surface Soil Ingestion and Dermal Contact				
Receptor Type / Distance (ft)		None	No Off-site Receptors	
$SSTL_{ss}$ (mg/kg)	THQ = 1e+0	NA		
	TR = 1e-6	NA		
Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	Residential / 100
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	4.4E+3	4.4E+0	4.4E+0
	TR = 1e-6	NC	NC	NC
Soil Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Com./Constr. / 0	Residential / 20	Residential / 100
$SSTL_s$ (mg/kg)	THQ = 1e+0	>8.3E+3	>8.3E+3	>8.3E+3
	TR = 1e-6	NC	NC	NC
Groundwater Volatilization to Outdoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	Residential / 20	Residential / 100
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	3.7E+4	3.7E+4	3.7E+4
	TR = 1e-6	NC	NC	NC
Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$RBEL_{air}$ ($\mu g/m^3$)	THQ = 1e+0	4.4E+3		
	TR = 1e-6	NC		
Soil Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_s$ (mg/kg)	THQ = 1e+0	6.0E+2		
	TR = 1e-6	NC		
Groundwater Volatilization to Indoor Air Inhalation				
Receptor Type / Distance (ft)		Commercial / 0	No Off-site Receptors	
$SSTL_{gw}$ (mg/L)	THQ = 1e+0	3.3E+3		
	TR = 1e-6	NC		

	Units	Residential	Commercial	Construction
Cross-Media Transfer Factors				
VF_{ss}	(kg-soil/L-air)	1.3E-5	1.6E-5	3.9E-4
VF_{samb}	(kg-soil/L-air)	2.8E-5	3.3E-5	8.3E-4
VF_{wamb}	(L-wat/L-air)	1.2E-4	1.2E-4	1.2E-4
VF_{ssep}	(kg-soil/L-air)	NA	7.3E-3	NA
VF_{wsep}	(L-wat/L-air)	NA	1.3E-3	NA
LF	(kg-soil/L-wat)	NA		NA

	Units	On-Site	Off-Site1	Off-Site2
Lateral Transport Factors				
DAFgw	(-)	NA	NA	NA
DAFs/gw	(-)	NA	NA	NA

Chemical Parameters

	Units	Value	Reference
Physical Properties			
MW	(g/mol)	8.8E+1	5
Sol	(mg/L)	4.8E+4	A
P_{vap}	(mmHg)	2.5E+2	-
H_{atm}	(atm-m^3/mol)	5.8E-4	-
pK_a	(log[mol/mol])	-	-
pK_b	(log[mol/mol])	-	-
log(K_{oc})	(log[L/kg])	1.1E+0	A
D_{air}	(cm^2/sec)	7.9E-2	6
D_{wat}	(cm^2/sec)	9.4E-5	7
Toxicity Data			
Wt of Evd.		-	
SF_o	(1/[mg/kg/day])	-	-
SF_d	(1/[mg/kg/day])	-	-
URF_i	(1/[$\mu g/m^3$])	-	-
RfD_o	(mg/kg/day)	1.0E-2	31
RfD_d	(mg/kg/day)	8.0E-3	0.008
RfC_i	(mg/m^3)	3.0E+0	R
Dermal Exposure Parameters			
RAF_d	(mg/mg)	5.0E-1	-
K_p	(cm/hr)	-	
tau_d	(hr/event)	-	
t_{crit}	(hr)	-	
B	(-)	-	
Regulatory Standards			
MCL	(mg/L)	5.0E-3	*
TWA	(mg/m^3)	6.0E+1	NIOSH
AQL	(mg/L)	-	-
Miscellaneous Parameters			
ADL_{gw}	(mg/L)	-	-
ADL_s	(mg/kg)	-	-
$t_{1/2,sat}$	(d)	3.6E+2	H
$t_{1/2,unsat}$	(d)	1.8E+2	H

* MCL ref = 52 FR 25690

	Units	Value
Derived Parameters		
H	(L-wat/L-air)	2.4E-2
K_{sw}	(L-wat/kg-soil)	5.8E+0
C_{sat}	(mg/kg-soil)	8.3E+3
$C_{sat,vap}$	($\mu g/m^3$-air)	1.2E+6
$D_{eff,a}$	(cm^2/sec)	1.2E-2
$D_{eff,crk}$	(cm^2/sec)	6.2E-3
$D_{eff,cap}$	(cm^2/sec)	8.6E-4
$D_{eff,ws}$	(cm^2/sec)	8.6E-3
R_{sat}	(-)	
R_{unsat}	(-)	3.6E+0
Z	(cm/event)	-

Notes: 1) NA = Not applicable; NC = Not calculated.

2) Definitions and references presented on page 6 of 6.

RBCA SITE ASSESSMENT

Chemical-Specific Tier 2 Cleanup Summary

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants, Inc.
Date Completed: 3-Jan-00

Definitions

Site-Specific Target Level Concentrations	
SSTLgw	Site-specific target level for groundwater (mg/L)
SSTLs	Site-specific target level for soil (mg/kg)
RBELair	Risk-based exposure limit for air (µg/m3)
THQ	Target hazard quotient
TR	Target risk

Cross-Media Transfer Factors	
VF_{os}	Volatilization factor, surface soil to outdoor air (kg-soil/L-air)
VF_{samb}	Volatilization factor, subsurface soil to outdoor air (kg-soil/L-air)
VF_{wamb}	Volatilization factor, groundwater to outdoor air (L-wat/L-air)
VF_{ssesp}	Volatilization factor, subsurface soil to indoor air (kg-soil/L-air)
VF_{wesp}	Volatilization factor, groundwater to indoor air (L-wat/L-air)
LF	Leaching factor, soil to groundwater (kg-soil/L-wat)

Cross-Media Transfer Factors	
DAF_{gw}	Dilution-attenuation factor, groundwater (-)
DAF_{sigw}	Dilution-attenuation factor, soil leaching to groundwater (-)

Physical Properties	
MW	Molecular weight (g/mol)
Sol	Aqueous solubility limit (mg/L)
P_{vap}	Vapor pressure (mmHg)
H_{atm}	Henry's Law constant (atm-m^3/mol)
pK_a	Acid ionization constant (log[mol/mol])
pK_b	Base ionization constant (log[mol/mol])
K_{oc}	Organic carbon/Water partition coefficient (L/kg)
K_d	Soil/Water distribution coeffient (L/kg)
D_{air}	Molecular diffusion coeffient in air (cm^2/sec)
D_{wat}	Molecular diffusion coeffient in water (cm^2/sec)

Toxicity Data	
Wt of Evd.	Weight of evidence
SF_o	Oral slope factor for carcinogens (1/[mg/kg/day])
SF_d	Dermal slope factor for carcinogens (1/[mg/kg/day])
URF_i	Inhalation unit risk facor for carcinogens (1/[µg/m^3])
RfD_o	Oral reference dose (mg/kg/day)
RfD_d	Dermal reference dose (mg/kg/day)
RfC_i	Inhalation reference concentration (mg/m^3)

Dermal Exposure Parameters	
RAF_d	Dermal relative absorption factor (mg/mg)
K_p	Dermal permeability coeff. (cm/hr)
tau_e	Lag time for dermal exposure (hr/event)
t_{cm}	Critical exposure time (hr)
B	Relative contribution of permeability coeff. (-)

Regulatory Standards	
MCL	Maximum contaminant level for drinking water protection (mg/L)
TWA	Time-weighted average workplace air criterion (mg/m^3)
AQL	Aquatic life protection criterion (mg/L)

Miscellaneous Parameters	
ADL_{gw}	Analytical detection limit in groundwater (mg/L)
ADL_s	Analytical detection limit in soil (mg/kg)
$t_{1/2,sat}$	Half life, saturated zone (d)
$t_{1/2,unsat}$	Half life, unsaturated zone (d)

Derived Parameters	
H	Dimensionless Henry's Law contant (L-wat/L-air)
K_{ps}	Soil to pore-water partitioning factor (L-wat/kg-soil)
C_{sat}	Saturated residual conc. in vadose zone soils (mg/kg-soil)
$C_{sat,vap}$	Saturated concentration in vapors (mg/m3-air)
$D_{eff,s}$	Effective diffusion coeff. in vadose zone soils (cm^2/sec)
$D_{eff,crk}$	Effective diffusion coeff. in foundation cracks (cm^2/sec)
$D_{eff,cap}$	Effective diffusion coeff. in capillary zone (cm^2/sec)
$D_{eff,ws}$	Effective diffusion coeff., water table to ground surface (cm^2/sec)
R_{sat}	Retardation factor, saturated zone (-)
R_{unsat}	Retardation factor, unsaturated zone (-)
Z	Water to skin dermal absorption factor (cm/event)

Chemical Parameter References

PS	Standard Provisional Guide for Risk-Based Corrective Action, ASTM PS 104-98.
A	Emergency Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites.
D	USEPA, Dermal Exposure Assessment: Principles and Applications, ORD, EPA/600/8-91/011B.
H	Howard, Handbook of Environmental Degradation Rates, Lewis Publishers, Chelsea, MI, 1989
R	EPA Region III Risk Based Concentration Table, EPA Region 3, March 7, 1995.
S	USEPA, Test Methods for Evaluating Solid Waste, SW-846, Third Edition, OSWER, November 1986.
T	TPH Criteria Working Group, 1996.
TX	TNRCC Risk-Based Corrective Action for Leaking Storage Tank Sites, January 1994.
3	based on Kow from (2) and DiToro, D. M., 1985,"A Particle Interaction Model of Reversible Organic Chemical Sorption", Chemosphere, 14(10), 1503-1538. log(Koc) = 0.00028 + 0.883 log(Kow)
4	USEPA, 1989. Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF) - USEPA, OAQPS, Air Emission Models, (EPA-450/3-87-026).
5	Verschueren, Karel, 1983. Handbook of Environmental data on organic Chemicals, Second Ed., (Van nostrand Reinhold Company Inc., New York), ISBN: 0-442-28802-9.
6	Calculated diffusivity using the method of Fuller, Schettler, and Giddings from (9).
7	Calculated diffusivity using the method of Hayduk and Laudie and the reference from (9).
8	Calculated using Kenaga ang Goring Kow/solubility regression equation reference (9) and Kow data from (2). log(S, mg/l) = -0.922 log(Kow) + 4.184
9	Handbook of Chemical Property Estimation Methods, 1982, W.J. Lyman, (McGraw-Hill, New York), ISBN -0-07-039175-0.
10	Calculated from (PvPatm)/(solubility/mol wt).
11	Back calculated from solubility, Note (8) and (3).
12	Aldrich Chemical Catalog, 1991.
13	Calculated using Modified Watson Correlation from (9) and normal boiling point.
14	USEPA, 1979. Water Related Environmental Fate of 129 Priority Pollutants, Vol.1, USEPA, OWOPS,(EPA-4404-79-029a).
15	The Agrochemicals Handbook, (The Royal Society of Chemistry, The University, Nottingham, England), ISBN 0-85186-406-8.
16	Vapor pressure specified at elevated temperature, adjustments to 25C using methods presented by (9).
17	Wauchope, R. D., T. M. Butler, A. G. Hornsby, P. W. M. Augustijn-Beckers, and J.P. Burt, 1992. "The SCS/ARS/CES Pesticide Properties Database for Environmental Decision Making", Reviews of Environmental Contamination and Toxicology, vol 123, 1-155.
18	Farm Chemicals Handbook 91, C. Sine, ed., (Meister Publishing Company, Willoughby, Ohio).
19	Structure and Nomenclature Search System, (Version 7.007.03) December, 1992.
20	From Syracuse Research Corporation Calculated Value from pcchem-pcgems, 1988, ref no. 255436 in Envirofate database, Accession no. 105543.
23	NIOSH, 1990. Pocket Guide to Chemical Hazards, (U. S. Dept. of Health & Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health).
24	Buchter, B. et al., 1989. Correlation of Freundlich Kd and N retention Parameters with Soils and Elements, Soil Science, 148, 370-379.
25	USEPA, 1993. AirSuperfund National Technical Guidance Study series: Estimation of Air Impacts for Thermal Desorption Units Used at Superfund Sites, US Environmental Protection Agency, Office of Air Quality Planning and Standards, EPA-451/R-93-005.
26	NTIS Accession No. PB93-215630, April 1993.
27	Based on salt solubilities in Table 3-120, R. H. Perry and D. W. Green, " Perry's Chemical Engineering Handbook" Sixth Edition, (McGraw-Hill, New York), 1873.
28	Based on salt solubilities in Table of Physical Constants for Inorganic Compounds, Weast, R. C., CRC Handbook of Chemistry and Physics, 67th edition, (CRC Press, Inc., Boca Raton), 1987.
29	Montgomery and Welkom, "Groundwater Chemicals Desk Reference", Lewis Publishers, Chelsea, MI, 1990.
30	USEPA, 1996. Soil Screening Guidance: Technical Background Doc., (EPA/540/R-95/128)
31	TNRCC Risk Reduction Rule Implementation, July 23, 1998. (update to Reference "TX")
32	USEPA, Method 8270C, Revision 3, "Semivolatile Organic Compounds by GC/MS", December 1996.
33	40 CFR 131.36, July 1, 1997
34	40 CFR 141.23, July 1, 1997
35	USEPA, Manual for the Certification of Laboratories Analyzing Drinking Water, EPA 815-B-97-001, March 1997
36	Calculated using Chiou et al. equation reported in (9); S (µmol/L) from (15).
37	Calculated using Chiou et al. equation reported in (9); S (µmol/L) from (23).
38	Calculated using Chiou et al. equation reported in (9); S (µmol/L) from (4).

APPENDIX D

Tier 2 - Soil and Groundwater - Modeling Results and Input Parameters

RBCA SITE ASSESSMENT

Input Parameter Summary

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants, Inc.
Date Completed: 3-Jan-00

Job ID: D094-832

Exposure Parameters		Residential			Commercial/Industrial	
		Adult	(1-6yrs)	(1-16 yrs)	Chronic	Construc.
AT_c	Averaging time for carcinogens (yr)	70				
AT_n	Averaging time for non-carcinogens (yr)	30			25	1
BW	Body weight (kg)	70	15	35	70	
ED	Exposure duration (yr)	30	6	16	25	1
τ	Averaging time for vapor flux (yr)	30			25	1
EF	Exposure frequency (days/yr)	350			250	180
EF_D	Exposure frequency for dermal exposure	350			250	
IR_w	Ingestion rate of water (L/day)	2			1	
IR_s	Ingestion rate of soil (mg/day)	100	200		50	100
SA	Skin surface area (dermal) (cm^2)	5800		2023	5800	5800
M	Soil to skin adherence factor	1				
ET_{swim}	Swimming exposure time (hr/event)	3				
EV_{swim}	Swimming event frequency (events/yr)	12	12	12		
IR_{swim}	Water ingestion while swimming (L/hr)	0.05	0.5			
SA_{swim}	Skin surface area for swimming (cm^2)	23000		8100		
IR_{fish}	Ingestion rate of fish (kg/yr)	0.025				
F_{fish}	Contaminated fish fraction (unitless)	1				

Complete Exposure Pathways and Receptors	On-site	Off-site 1	Off-site 2
Groundwater:			
Groundwater Ingestion	None	None	None
Soil Leaching to Groundwater Ingestion	None	None	None
Applicable Surface Water Exposure Routes:			
Swimming			NA
Fish Consumption			NA
Aquatic Life Protection			NA
Soil:			
Direct Ingestion and Dermal Contact	None		
Outdoor Air:			
Particulates from Surface Soils	None	None	None
Volatilization from Soils	Com./Constr.	Residential	Residential
Volatilization from Groundwater	Commercial	Residential	Residential
Indoor Air:			
Volatilization from Subsurface Soils	Commercial	NA	NA
Volatilization from Groundwater	Commercial	NA	NA

Receptor Distance from Source Media	On-site	Off-site 1	Off-site 2	(Units)
Groundwater receptor	NA	NA	NA	(ft)
Soil leaching to groundwater receptor	NA	NA	NA	(ft)
Outdoor air inhalation receptor	0	20	100	(ft)

Target Health Risk Values		Individual	Cumulative
TR_{ca}	Target Risk (class A&B carcinogens)	1.0E-5	1.0E-5
TR_c	Target Risk (class C carcinogens)	1.0E-5	
THQ	Target Hazard Quotient (non-carcinogenic risk)	1.0E+0	1.0E+0

Modeling Options	
RBCA tier	Tier 2
Outdoor air volatilization model	Surface & subsurface models
Indoor air volatilization model	Johnson & Ettinger model
Soil leaching model	NA
Use soil attenuation model (SAM) for leachate?	NA
Air dilution factor	3-D Gaussian dispersion
Groundwater dilution-attenuation factor	NA

NOTE: NA = Not applicable

Surface Parameters		General	Construction	(Units)
A	Source zone area	1.2E+4	1.2E+4	(ft^2)
W	Length of source-zone area parallel to wind	1.3E+2	1.3E+2	(ft)
W_{gw}	Length of source-zone area parallel to GW flow	NA		(ft)
U_{air}	Ambient air velocity in mixing zone	7.4E+0		(ft/s)
δ_{air}	Air mixing zone height	6.6E+0		(ft)
P_a	Areal particulate emission rate	NA		(g/cm^2/s)
L_{ss}	Thickness of affected surface soils	5.8E+0		(ft)

Surface Soil Column Parameters		Value			(Units)
h_{cap}	Capillary zone thickness	1.6E-1			(ft)
h_v	Vadose zone thickness	5.6E+0			(ft)
ρ_s	Soil bulk density	1.7E+0			(g/cm^3)
f_{oc}	Fraction organic carbon	1.0E-2			(-)
θ_T	Soil total porosity	4.1E-1			(-)
K_{vs}	Vertical hydraulic conductivity	1.0E+4			(ft/yr)
k_v	Vapor permeability	1.1E-11			(ft^2)
L_{gw}	Depth to groundwater	5.8E+0			(ft)
L_s	Depth to top of affected soils	2.2E+0			(ft)
L_{base}	Depth to base of affected soils	9.8E+0			(ft)
L_{subs}	Thickness of affected soils	7.6E+0			(ft)
pH	Soil/groundwater pH	6.8E+0			(-)
		capillary	vadose	foundation	
θ_w	Volumetric water content	0.369	0.08	0.12	(-)
θ_a	Volumetric air content	0.041	0.33	0.26	(-)

Building Parameters		Residential	Commercial	(Units)
L_b	Building volume/area ratio	NA	9.84E+0	(ft)
A_b	Foundation area	NA	2.56E+3	(cm^2)
X_{crk}	Foundation perimeter	NA	2.04E+2	(ft)
ER	Building air exchange rate	NA	2.30E-4	(1/s)
L_{crk}	Foundation thickness	NA	4.92E-1	(ft)
Z_{crk}	Depth to bottom of foundation slab	NA	4.92E-1	(ft)
η	Foundation crack fraction	NA	1.00E-2	(-)
dP	Indoor/outdoor differential pressure	NA	0.00E+0	(psi)
Q_s	Convective air flow through slab	NA	0.00E+0	(ft^3/s)

Groundwater Parameters		Value	(Units)
δ_{gw}	Groundwater mixing zone depth	NA	(ft)
I	Net groundwater infiltration rate	NA	(in/yr)
U_{gw}	Groundwater Darcy velocity	NA	(ft/yr)
V_{gw}	Groundwater seepage velocity	NA	(ft/yr)
K_s	Saturated hydraulic conductivity	NA	(ft/yr)
I	Groundwater gradient	NA	(-)
S_w	Width of groundwater source zone	NA	(ft)
S_d	Depth of groundwater source zone	NA	(ft)
θ_{eff}	Effective porosity in water-bearing unit	NA	(-)
f_{oc-eff}	Fraction organic carbon in water-bearing unit	NA	(-)
pH_{eff}	Groundwater pH	NA	(-)
	Biodegradation considered?	NA	

Transport Parameters		Off-site 1	Off-site 2	Off-site 1	Off-site 2	(Units)
	Lateral Groundwater Transport	Groundwater Ingestion		Soil Leaching to GW		
α_x	Longitudinal dispersivity	NA	NA	NA	NA	(ft)
α_y	Transverse dispersivity	NA	NA	NA	NA	(ft)
α_z	Vertical dispersivity	NA	NA	NA	NA	(ft)
	Lateral Outdoor Air Transport	Soil to Outdoor Air Inhal.		GW to Outdoor Air Inhal.		
σ_y	Transverse dispersion coefficient	2.5E+0	1.1E+1	2.5E+0	1.1E+1	(ft)
σ_z	Vertical dispersion coefficient	1.7E+0	7.6E+0	1.7E+0	7.6E+0	(ft)
ADF	Air dispersion factor	1.0E+0	1.0E+0	1.0E+0	1.0E+0	(-)

Surface Water Parameters		Off-site 2	(Units)
Q_{sw}	Surface water flowrate	NA	(ft^3/s)
W_{gw}	Width of GW plume at SW discharge	NA	(ft)
δ_{gw}	Thickness of GW plume at SW discharge	NA	(ft)
DF_{sw}	Groundwater-to-surface water dilution factor	NA	(-)

User-Specified Custom Chemical Database

Chemical Name Benzene
CAS No. 71-43-2 Type A

Physical Properties

	Value	Reference
Molecular weight (g/mol)	78.1	PS
Solubility @ 20-25°C (mg/L)	1750	PS
Vapor pressure @ 20-25°C (mmHg)	95.2	PS
Henry's Law constant @ 20°C (○ *(atm-m³/mol)* ◉ unitless (-))	0.22888633	PS
	2	
Ionization/dissociation constants (pH units):		
acid pKa -	base pKb -	
Sorption coefficient (log L/kg) (◉ log Koc ○ log Kd)	1.77	PS
	1	
Diffusion coefficient in air (cm^2/s)	0.088	PS
Diffusion coefficient in water (cm^2/s)	0.0000098	PS

Miscellaneous Parameters

Analytical Detection Limits: 6

Groundwater (mg/L) 0.002 S — Soil (mg/kg) 0.005 S

First-Order Decay Half Lives (days):

Saturated 720 — Unsaturated 720 H

Bioconcentration Factor (-) 12.6

Toxicity Data

	Value	Reference
EPA weight of evidence ☑ Carcinogen	A	
Oral slope factor (1/[mg/kg/day])	0.1	PS
Dermal slope factor (1/[mg/kg/day])	0.1	PS
Inhalation unit risk factor (1/[µg/m³])	8.2857E-06	PS
Oral reference dose (mg/kg/day)	0.003	R
Dermal reference dose (mg/kg/day)	-	
Inhalation reference conc. (mg/m³)	0.00595	R

Dermal Exposure

Dermal relative adsorption factor (-)	0.5	D
Dermal permeability coefficient (cm/hr)	0.021	
Lag time for dermal exposure (hr)	0.26	
Critical dermal exposure time (hr)	0.63	
Relative contribution of perm. coeff. (-)	0.013	

Regulatory Standards

Groundwater MCL (mg/L)	0.001	2 FR 25690
Air PEL/TWA (mg/m³)	3.25	
Aquatic life prot. criterion (mg/L)	-	

Commands and Options

Update Database | Close | Refs. | Restore Values | Print Sheet | Help

User-Specified Custom Chemical Database

Chemical Name Toluene
CAS No. 108-88-3 Type A

Physical Properties

	Value	Reference
Molecular weight (g/mol)	92.4	5
Solubility @ 20-25°C (mg/L)	515	29
Vapor pressure @ 20-25°C (mmHg)	30	4
Henry's Law constant @ 20°C (○ *(atm-m³/mol)* ◉ unitless (-))	0.26	A
		2
Ionization/dissociation constants (pH units):		
acid pKa -	base pKb -	
Sorption coefficient (log L/kg) (◉ log Koc ○ log Kd)	2.13	A
		1
Diffusion coefficient in air (cm^2/s)	0.085	A
Diffusion coefficient in water (cm^2/s)	0.0000094	A

Miscellaneous Parameters

Analytical Detection Limits: 6

Groundwater (mg/L)	0.002 S	Soil (mg/kg)	0.005 S

First-Order Decay Half Lives (days):

Saturated	28	Unsaturated	28 H
Bioconcentration Factor (-)			70

Toxicity Data

	Value	Reference
EPA weight of evidence ☐ Carcinogen	D	
Oral slope factor (1/[mg/kg/day])	-	
Dermal slope factor (1/[mg/kg/day])	-	
Inhalation unit risk factor (1/[µg/m³])	-	
Oral reference dose (mg/kg/day)	0.2	
Dermal reference dose (mg/kg/day)	0.16	
Inhalation reference conc. (mg/m^3)	0.4	

Dermal Exposure

Dermal relative adsorption factor (-)	0.5	D
Dermal permeability coefficient (cm/hr)	0.045	
Lag time for dermal exposure (hr)	0.32	
Critical dermal exposure time (hr)	0.77	
Relative contribution of perm. coeff. (-)	0.054	

Regulatory Standards

Groundwater MCL (mg/L)	0.042	2 FR 25690
Air PEL/TWA (mg/m^3)	147	ACGIH
Aquatic life prot. criterion (mg/L)	-	

Commands and Options

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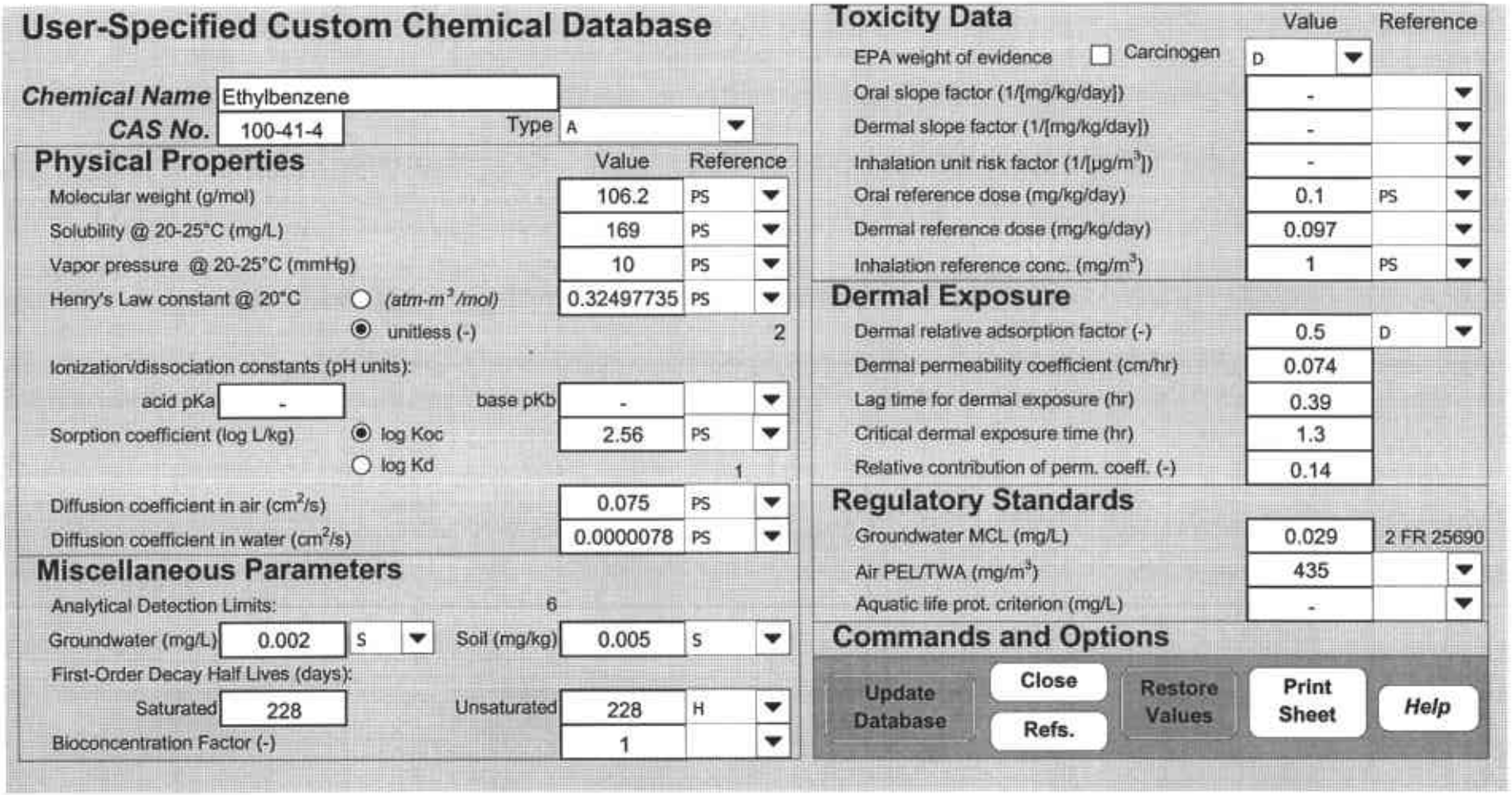

User-Specified Custom Chemical Database

Chemical Name Ethylbenzene
CAS No. 100-41-4 Type A

Physical Properties

		Value	Reference
Molecular weight (g/mol)		106.2	PS
Solubility @ 20-25°C (mg/L)		169	PS
Vapor pressure @ 20-25°C (mmHg)		10	PS
Henry's Law constant @ 20°C	○ (atm-m³/mol)	0.32497735	PS
	◉ unitless (-)		2
Ionization/dissociation constants (pH units):			
acid pKa -	base pKb	-	
Sorption coefficient (log L/kg)	◉ log Koc	2.56	PS
	○ log Kd		1
Diffusion coefficient in air (cm²/s)		0.075	PS
Diffusion coefficient in water (cm²/s)		0.0000078	PS

Miscellaneous Parameters

Analytical Detection Limits: 6

Groundwater (mg/L) 0.002 S — Soil (mg/kg) 0.005 S

First-Order Decay Half Lives (days):

Saturated 228 — Unsaturated 228 H

Bioconcentration Factor (-) 1

Toxicity Data

		Value	Reference
EPA weight of evidence	☐ Carcinogen	D	
Oral slope factor (1/[mg/kg/day])		-	
Dermal slope factor (1/[mg/kg/day])		-	
Inhalation unit risk factor (1/[µg/m³])		-	
Oral reference dose (mg/kg/day)		0.1	PS
Dermal reference dose (mg/kg/day)		0.097	
Inhalation reference conc. (mg/m³)		1	PS

Dermal Exposure

Dermal relative adsorption factor (-)	0.5	D
Dermal permeability coefficient (cm/hr)	0.074	
Lag time for dermal exposure (hr)	0.39	
Critical dermal exposure time (hr)	1.3	
Relative contribution of perm. coeff. (-)	0.14	

Regulatory Standards

Groundwater MCL (mg/L)	0.029	2 FR 25690
Air PEL/TWA (mg/m³)	435	
Aquatic life prot. criterion (mg/L)	-	

Commands and Options

Update Database | Close | Refs. | Restore Values | Print Sheet | Help

User-Specified Custom Chemical Database

Chemical Name Xylene (mixed isomers)
CAS No. 1330-20-7 Type A

Physical Properties

		Value	Reference
Molecular weight (g/mol)		106.2	5
Solubility @ 20-25°C (mg/L)		198	5
Vapor pressure @ 20-25°C (mmHg)		7	4
Henry's Law constant @ 20°C	○ *(atm-m³/mol)*	0.29	A
	◉ unitless (-)		2
Ionization/dissociation constants (pH units):			
acid pKa -	base pKb	-	
Sorption coefficient (log L/kg)	◉ log Koc	2.38	A
	○ log Kd		1
Diffusion coefficient in air (cm^2/s)		0.072	A
Diffusion coefficient in water (cm^2/s)		0.0000085	A

Miscellaneous Parameters

Analytical Detection Limits: 6

Groundwater (mg/L)	0.005 S	Soil (mg/kg)	0.005 S
First-Order Decay Half Lives (days):			
Saturated	360	Unsaturated	360 H
Bioconcentration Factor (-)			1

Toxicity Data

	Value	Reference
EPA weight of evidence ☐ Carcinogen	D	
Oral slope factor (1/[mg/kg/day])	-	
Dermal slope factor (1/[mg/kg/day])	-	
Inhalation unit risk factor (1/[µg/m³])	-	
Oral reference dose (mg/kg/day)	2	
Dermal reference dose (mg/kg/day)	1.84	
Inhalation reference conc. (mg/m³)	7	A

Dermal Exposure

Dermal relative adsorption factor (-)	0.5	D
Dermal permeability coefficient (cm/hr)	0.08	
Lag time for dermal exposure (hr)	0.39	
Critical dermal exposure time (hr)	1.4	
Relative contribution of perm. coeff. (-)	0.16	

Regulatory Standards

Groundwater MCL (mg/L)	0.017	2 FR 25690
Air PEL/TWA (mg/m³)	434	ACGIH
Aquatic life prot. criterion (mg/L)	-	

Commands and Options

Update Database | Close | Refs. | Restore Values | Print Sheet | *Help*

User-Specified Custom Chemical Database

Chemical Name Methyl t-Butyl ether

CAS No. 1634-04-4 Type O

Physical Properties

	Value	Reference
Molecular weight (g/mol)	88.146	5
Solubility @ 20-25°C (mg/L)	48000	A
Vapor pressure @ 20-25°C (mmHg)	249	
Henry's Law constant @ 20°C (○ *(atm-m³/mol)* ◉ unitless (-))	0.02379593	2
Ionization/dissociation constants (pH units):		
acid pKa -	base pKb -	
Sorption coefficient (log L/kg) (◉ log Koc ○ log Kd)	1.08	A
Diffusion coefficient in air (cm²/s)	0.07919474	6
Diffusion coefficient in water (cm²/s)	9.4107E-05	7

Miscellaneous Parameters

Analytical Detection Limits: #N/A

Groundwater (mg/L) - Soil (mg/kg) -

First-Order Decay Half Lives (days):

Saturated 360 Unsaturated 180 H

Bioconcentration Factor (-) 1

Toxicity Data

	Value	Reference
EPA weight of evidence ☐ Carcinogen		
Oral slope factor (1/[mg/kg/day])	-	
Dermal slope factor (1/[mg/kg/day])	-	
Inhalation unit risk factor (1/[µg/m³])	-	
Oral reference dose (mg/kg/day)	0.01	31
Dermal reference dose (mg/kg/day)	0.008	
Inhalation reference conc. (mg/m³)	2.9995	R

Dermal Exposure

Dermal relative adsorption factor (-)	0.5
Dermal permeability coefficient (cm/hr)	-
Lag time for dermal exposure (hr)	-
Critical dermal exposure time (hr)	-
Relative contribution of perm. coeff. (-)	-

Regulatory Standards

Groundwater MCL (mg/L)	0.005	2 FR 25890
Air PEL/TWA (mg/m³)	60	NIOSH
Aquatic life prot. criterion (mg/L)	-	

Commands and Options

Update Database | Close | Refs. | Restore Values | Print Sheet | *Help*

Commands and Options

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Site Name: Exxon Station No. 7-0104 Job ID: D094-832
Location: 1725 Park Street Alameda, California Date: 3-Jan-00
Compl. By: Delta Environmental Consultants, Inc.

Groundwater Source Zone Concentration Calculator

UCL Percentile: 95%

Paste Defaults | Mean Option

Constituent	Detection Limit (mg/L)	No. of Samples	No. of Detects	Estimated Distribution of Data	Max. Conc. (mg/L)	Mean Conc. (mg/L)	UCL on Mean (mg/L)
Benzene*	5.0E-3	50	37	Lognormal	7.5E+0	1.1E+0	1.5E+0
Toluene*	5.0E-3	50	33	Lognormal	6.4E+0	5.1E-1	8.6E-1
Ethylbenzene*	5.0E-3	50	35	Lognormal	2.4E+0	4.2E-1	5.8E-1
Xylene (mixed isomers)*	5.0E-3	50	35	Lognormal	1.3E+1	1.1E+0	1.8E+0
Methyl t-Butyl ether*	2.5E-3	50	45	Lognormal	5.2E+1	3.8E+0	5.8E+0

* = Chemical with user-specified data

Enter Analytical Data from Groundwater Source Zone (up to 50 Data Points)

Analytical Data

	1	2	3	4	5	6	7	8	9	10	11	12	13
ID	MW-1	MW-1	MW-1	MW-1	MW-1	MW-2	MW-2	MW-2	MW-2	MW-2	MW-4	MW-4	MW-4
Date	10-Jul-97	28-Jan-98	30-Jul-98	13-Jan-99	9-Jul-99	10-Jul-97	28-Jan-98	30-Jul-98	13-Jan-99	9-Jul-99	10-Jul-97	28-Jan-98	30-Jul-98
	(mg/L)	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
	1.00E-2	1.10E-1	2.10E-1	8.00E-3	1.14E-1	2.90E+0	5.60E+0	7.50E+0	4.75E+0	4.27E+0	1.10E+0	4.50E-1	6.80E-1
	nd	2.80E-3	2.50E-3	nd	8.07E-3	8.20E-2	4.10E-1	1.00E-1	2.11E-1	8.01E-2	1.20E-1	6.80E-3	5.00E-3
	nd	1.70E-1	5.50E-1	nd	1.84E-1	1.50E+0	1.50E+0	1.30E+0	1.76E+0	1.30E+0	4.70E-1	2.20E-1	2.20E-1
	nd	1.40E-2	2.50E-3	nd	6.44E-4	5.30E-1	7.20E-1	2.80E-1	4.53E-2	3.39E-1	7.20E-1	7.30E-2	5.60E-2
	1.20E-2	2.50E+0	4.10E-2	9.78E-2	1.06E-2	2.60E+0	2.80E+1	6.30E+0	2.20E+0	3.41E+0	1.10E+1	4.90E+0	2.80E+0

Analytical Data

14	15	16	17	18	19	20	21	22	23	24	25	26
MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-5	MW-6	MW-6	MW-6	MW-6	MW-6	MW-7
13-Jan-99	9-Jul-99	10-Jul-97	28-Jan-98	30-Jul-98	13-Jan-99	9-Jul-99	28-Jan-98	30-Jul-98	13-Jan-99	9-Jul-99	25-Oct-99	10-Jul-97
(mg/L)	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
1.46E-1	3.22E-1	1.40E+0	1.50E+0	1.70E+0	1.24E+0	1.78E+0	6.50E-1	2.70E-1	2.04E-1	1.21E-1	5.90E-1	7.00E-2
5.00E-3	1.25E-3	1.20E-1	3.40E-2	2.60E-2	1.10E-2	1.86E-2	2.30E+0	6.50E-2	1.07E-1	9.95E-3	5.00E-3	1.25E-2
6.09E-2	7.61E-2	1.90E-1	7.50E-2	1.10E-1	5.00E-3	4.50E-2	9.00E-1	5.00E-1	2.97E-1	1.60E-1	2.20E-2	1.25E-2
1.62E-2	1.25E-3	1.20E-1	5.70E-2	6.60E-2	5.00E-3	1.25E-3	2.70E+0	6.30E-1	3.04E-1	4.69E-3	1.21E-2	1.25E-2
1.80E+0	1.31E+0	5.20E+1	1.50E+1	4.30E+0	3.65E+0	2.36E+0	2.40E+0	9.10E-1	4.22E-1	4.39E-1	3.40E+0	1.80E+1

Analytical Data

27	28	29	30	31	32	33	34	35	36	37	38	39
MW-7	MW-7	MW-7	MW-7	MW-8	MW-8	MW-8	MW-8	MW-8	MW-9	MW-9	MW-9	MW-9
28-Jan-98	30-Jul-98	13-Jan-99	9-Jul-99	14-Apr-98	30-Jul-98	13-Jan-99	9-Jul-99	25-Oct-99	26-Jul-96	30-Oct-96	28-Apr-99	9-Jul-99
(mg/L)	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
1.00E-3	1.40E-3	1.25E-3	3.79E-3	nd	nd	nd	nd	5.00E-3	nd	nd	nd	nd
nd	nd	1.25E-3	7.10E-3	nd	nd	nd	nd	5.00E-3	nd	nd	nd	nd
nd	nd	1.25E-3	1.19E-3	nd	nd	nd	nd	5.00E-3	nd	nd	nd	nd
6.70E-4	nd	1.25E-3	8.65E-3	nd	nd	nd	nd	5.00E-3	nd	nd	nd	nd
2.50E-1	6.70E-1	5.30E-1	8.60E-1	nd	6.60E-3	nd	3.01E-3	5.00E-3	2.50E-3	2.50E-3	nd	nd

40	41	42	43	44	45	46	47	48	49	50
MW-9	MW-10	MW-10	MW-10	MW-10	MW-10	MW-11	MW-11	MW-11	MW-11	MW-11
25-Oct-99	24-Apr-96	26-Jul-96	30-Oct-96	31-Jan-97	10-Jul-97	28-Jan-98	30-Jul-98	13-Jan-99	9-Jul-99	25-Oct-99
(mg/L)	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*	*(mg/L)*
5.00E-3	nd	nd	nd	nd	nd	2.40E+0	1.60E+0	2.21E+0	5.89E+0	3.90E+0
5.00E-3	nd	nd	nd	nd	nd	3.50E+0	5.60E-1	6.44E+0	5.34E+0	5.80E+0
5.00E-3	7.10E-3	1.20E-2	nd	nd	nd	1.70E+0	1.00E+0	2.03E+0	2.37E+0	2.30E+0
5.00E-3	nd	6.80E-4	nd	nd	nd	7.90E+0	4.30E+0	1.06E+1	1.27E+1	1.23E+1
5.00E-3	6.80E-3	2.50E-3	5.60E-3	1.00E-2	nd	6.80E+0	1.70E+0	1.92E+0	4.63E+0	1.70E+0

Commands and Options

Return | Print Sheet | *Help*

Site Name: Exxon Station No. 7-0104 Job ID: D094-832
Location: 1725 Park Street Alameda, Californi Date: 3-Jan-00
Compl. By: Delta Environmental Consultants, Inc.

Soil Source Zone Concentration Calculator

UCL Percentile: 95%

Paste Defaults | Mean Option

Constituent	Detection Limit (mg/kg)	No. of Samples	No. of Detects	Estimated Distribution of Data	Max. Conc. (mg/kg)	Mean Conc. (mg/kg)	UCL on Mean (mg/kg)
Benzene*	5.0E-3	47	35	Lognormal	7.6E+0	7.9E-1	1.2E+0
Toluene*	5.0E-3	47	32	Lognormal	3.2E+1	2.1E+0	3.6E+0
Ethylbenzene*	5.0E-3	47	35	Lognormal	3.7E+1	3.2E+0	5.3E+0
Xylene (mixed isomers)*	5.0E-3	47	37	Lognormal	1.5E+2	1.2E+1	1.9E+1
Methyl t-Butyl ether*	2.5E-3	3	0	Normal	0.0E+0	1.3E-3	1.3E-3

* = Chemical with user-specified data

Enter Analytical Data from Soil Source Zone (up to 50 Data Points)

Analytical Data

	1	2	3	4	5	6	7	8	9	10	11	12	13
ID	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	SB-1-2.2	SB-1-4.5	SB-1-5	SB-2-2.5	SB-2-4	SB-3-3
Date	2-Jun-88	2-Jun-88	2-Jun-88	9-Jan-89	9-Jan-89	9-Jan-89	9-Jan-89	19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90
	(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*
	6.70E-2	1.00E+0	2.50E-1	1.70E-2	5.50E-2	3.70E+0	1.70E+0	6.20E-3	1.30E+0	6.90E+0	1.30E-2	1.20E+0	6.80E-3
	1.25E-2	3.20E+1	2.50E-1	2.00E-3	7.00E-3	9.70E-1	3.20E+0	1.25E-3	1.30E+0	2.30E+1	1.80E-2	3.70E+0	4.70E-2
	1.50E-1	2.50E+1	2.50E-1	7.00E-3	6.60E-2	2.30E+1	1.00E+1	1.60E-2	1.40E+0	3.20E+1	1.00E-1	2.10E+0	1.10E-2
	3.70E-1	1.50E+2	2.40E+0	1.20E-2	2.40E-1	9.40E+1	2.90E+1	9.20E-3	4.90E+0	1.40E+1	5.40E-1	1.30E+0	2.30E-1

Analytical Data

14	15	16	17	18	19	20	21	22	23	24	25	26
SB-3-5	SB-4-4	SB-4-5	SB-5-2.5	SB-5-4.5	SB-5-5.5	SB-6-2.5	SB-6-5	SB-7-3	SB-7-6	MW-8-5.5	MW-9-6	MW-10-6
19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90	19-Mar-90	5-May-93	5-May-93	5-May-93
(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*
4.60E+0	1.25E-3	1.25E-3	2.80E-2	1.50E-1	1.30E+0	1.10E+0	6.50E-2	2.60E-1	5.50E-2	nd	nd	nd
1.20E+1	1.25E-3	1.25E-3	6.00E-3	8.00E-2	6.50E+0	1.20E+0	2.00E-2	1.40E+0	4.10E-3	nd	nd	nd
3.20E+0	5.30E-3	1.25E-3	6.50E-3	1.60E-2	4.00E+0	1.70E+0	1.90E-2	1.20E+0	1.20E-2	nd	nd	nd
4.40E+1	1.80E-2	1.25E-3	1.60E-2	6.90E-2	2.40E+1	6.70E+0	6.00E-2	4.70E+0	1.10E-2	nd	nd	nd

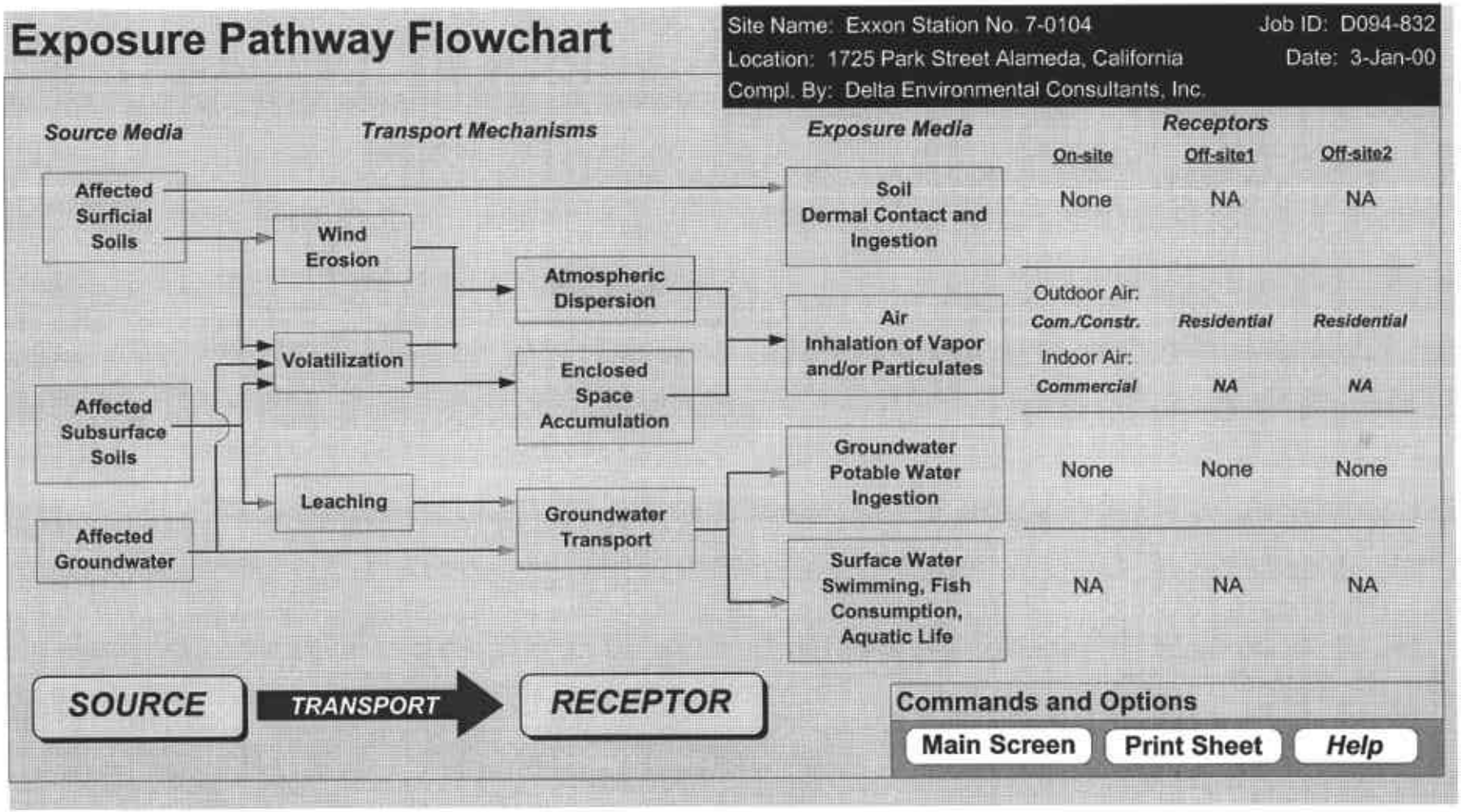
Analytical Data

27	28	29	30	31	32	33	34	35	36	37	38	39
MW-11-6.5	W-11-11.	MW-12-6.5	DI-1-3.5	DI-2-3.5	DI-3-3.5	DI-4-3.5	PL-1-3.5	PL-2-3.5	PL-3-3.5	SW-1-5	SW-1-9	SW-1-11
23-Aug-95	23-Aug-95	23-Aug-95	25-Jun-97	25-Jun-97	25-Jun-97	25-Jun-97	25-Jun-97	25-Jun-97	25-Jun-97	1-Nov-93	1-Nov-93	1-Nov-93
(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*
nd	2.60E-1	nd	2.30E-2	2.50E-2	nd	3.00E-1	2.20E-1	3.20E+0	1.10E+0	6.10E-2	5.40E-2	nd
nd	nd	nd	5.00E-2	5.10E-2	nd	6.00E-2	4.20E-2	2.20E+0	2.20E-1	nd	7.50E-2	nd
nd	2.10E-2	nd	7.60E-2	8.30E-2	nd	2.10E+0	1.90E-1	7.70E+0	3.70E-1	1.80E-2	2.00E-2	nd
2.40E-2	1.60E-1	nd	4.50E-1	5.20E-1	1.20E-2	8.10E-1	3.20E-1	6.60E+1	8.20E-1	nd	2.90E-2	nd
nd	nd	nd										

40	41	42	43	44	45	46	47	48	49	50
SW-1-14.5	SW-1-19.5	SM-1-5	SM-1-7	SM-1-10	SM-1-12.5	SM-1-15.5	SM-1-20			
1-Nov-93	1-Nov-93	1-Nov-93	1-Nov-93	1-Nov-93	1-Nov-93	1-Nov-93	1-Nov-93			
(mg/kg)	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*	*(mg/kg)*
nd	nd	1.70E-1	7.60E+0	7.70E-2	nd	nd	nd			
nd	nd	nd	1.00E+1	3.10E-2	nd	nd	nd			
nd	nd	6.00E-2	3.70E+1	8.50E-2	nd	nd	nd			
nd	nd	7.30E-3	9.80E+1	2.70E-1	nd	nd	7.90E-3			

Exposure Pathway Flowchart

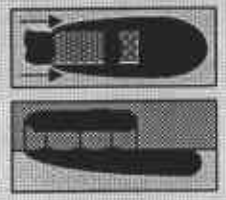
Site Name: Exxon Station No. 7-0104 Job ID: D094-832
Location: 1725 Park Street Alameda, California Date: 3-Jan-00
Compl. By: Delta Environmental Consultants, Inc.



Exposure Pathway Identification

Site Name: Exxon Station No. 7-0104
Location: 1725 Park Street Alameda, California
Compl. By: Delta Environmental Consultants, Inc.
Job ID: D094-832 Date: 3-Jan-00

1. Groundwater Exposure



Groundwater Ingestion/ Surface Water Impact

Receptor	None	None	None
Type:	On-site	Off-site1	Off-site2

Source Media:

- [ ] Affected Groundwater
- [ ] Affected Soils Leaching to Groundwater

Distance to GW receptors

	On-site	Off-site1	Off-site2	
Affected Groundwater	0	0	0	(ft)
Affected Soils Leaching to Groundwater	0	0	0	(ft)

GW Discharge to Surface Water Exposure

- [ ] Swimming
- [ ] Fish Consumption
- [ ] Aquatic Life Protection

Enter ALP Criteria

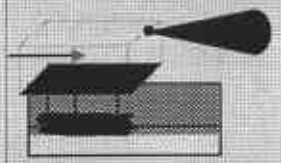
2. Surface Soil Exposure

Direct Ingestion and Dermal Contact

Receptor	None	No off-site receptors
Type:	On-site	

Construction Worker ☐

3. Air Exposure

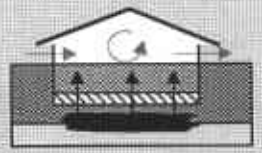


Volatilization and Particulates to Outdoor Air Inhalation

Receptor	Com.	Res.	Res.	
Type:	On-site	Off-site1	Off-site2	
	0	20	100	(ft)

Construction worker ☑

- [x] Affected Soils--Volatilization to Ambient Outdoor Air
- [x] Affected Groundwater--Volatilization to Ambient Outdoor Air
- [ ] Affected Surface Soils--Particulates to Ambient Outdoor Air



Volatilization to Indoor Air Inhalation

Receptor	Com.	No off-site receptors
Type:	On-site	

- [x] Affected Soils--Volatilization to Enclosed Space
- [x] Affected Groundwater--Volatilization to Enclosed Space

4. Commands and Options

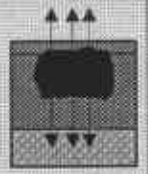
Main Screen | Print Sheet | Set Units | Help

Exposure Factors & Target Risks | Exposure Flowchart

Transport Modeling Options

Site Name: Exxon Station No. 7-0104 | Job ID: D094-832
Location: 1725 Park Street Alameda, California | Date: 3-Jan-00
Compl. By: Delta Environmental Consultants, Inc.

1. Vertical Transport, Surface Soil Column



Outdoor Air Volatilization Factors ?

- ○ Surface soil volatilization model only
- ◉ Combination surface soil/Johnson & Ettinger models
  Thickness of surface soil zone: 5.777 *(ft)*
- ○ User-specified VF from other model — Enter VF Values

Indoor Air Volatilization Factors ?

- ◉ Johnson & Ettinger model
- ○ User-specified VF from other model — Enter VF Values

Soil-to-Groundwater Leaching Factor

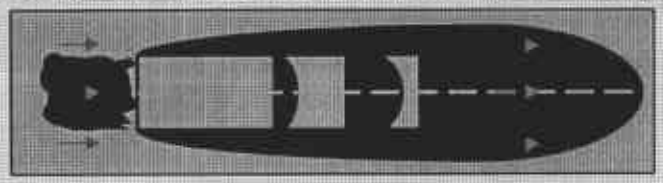
- ○ ASTM Model ?
  - ☐ Apply Soil Attenuation Model (SAM)
  - ☐ Allow first-order biodecay — Enter Decay Rates
- ○ User-specified LF from other model — Enter LF Values

2. Lateral Air Dispersion Factor

?

	Off-site 1	Off-site 2	
◉ 3-D Gaussian dispersion model			
○ User-Specified ADF	1.00E+0	1.00E+0	*(-)*

3. Groundwater Dilution Attenuation Factor



Calculate DAF using Domenico Model ?

- ○ Domenico equation with dispersion only (no biodegradation)
- ○ Domenico equation first-order decay — Enter Decay Rates
- ○ Modified Domenico equation using electron acceptor superposition — Enter Site Data

Enter Directly — Biodegradation Capacity: NC *(mg/L)*

— or —

User-Specified DAF Values

- ○ DAF values from other model or site data — Enter DAF Values

n o

4. Commands and Options

Main Screen | **Print Sheet** | ***Help***

Site-Specific Soil Parameters

Site Name: Exxon Station No. 7-0104 | Job ID: D094-832
Location: 1725 Park Street Alameda, California | Date: 3-Jan-00
Compl. By: Delta Environmental Consultants, Inc.

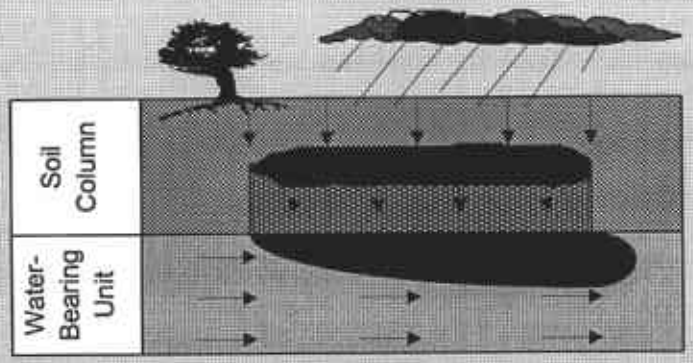
1. Soil Source Zone Characteristics

Hydrogeology

	General Case	Construction	
Depth to water-bearing unit		5.777	(ft)
Capillary zone thickness		0.164041995	(ft)
Soil column thickness		5.612958005	(ft)

Affected Soil Zone

Depth to top of affected soils		2.2	(ft)
Depth to base of affected soils		9.842519685	(ft)
Affected soil area	12250	12250	(ft^2)
Length of affected soil parallel to assumed wind direction	125	125	(ft)
Length of affected soil parallel to assumed GW flow direction			(ft)



2. Surface Soil Column

Vadose Zone | Capillary Fringe

Predominant USCS Soil Type

SW/SP: Sand

or Enter Directly

Total porosity	0.41		(-)
Volumetric water content	0.08	0.369	(-)
Volumetric air content	0.33	0.041	(-)
Dry bulk density	1.7		(kg/L)
Vertical hydraulic conductivity	1.0E+4		(ft/yr)
Vapor permeability	1.1E-11		(ft^2)
Capillary zone thickness	1.6E-1		(ft)

Net Rainfall Infiltration

Net infiltration estimate		(in/yr)
or NA		
Average annual precipitation		(in/yr)

Partitioning Parameters

Fraction organic carbon	0.01	(-)
Soil/water pH	6.8	(-)

3. Commands and Options

Main Screen | Use Default Values | Print Sheet
Set Units | | Help

Site-Specific Groundwater Parameters

Site Name: Exxon Station No. 7-0104 Job ID: D094-832
Location: 1725 Park Street Alameda, California Date: 3-Jan-00
Compl. By: Delta Environmental Consultants, Inc.

1. Water-Bearing Unit

Hydrogeology

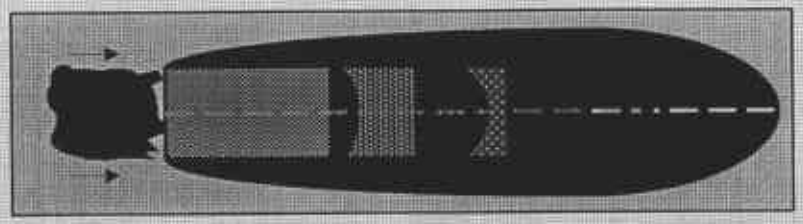
Groundwater Darcy velocity		(ft/yr)
Groundwater seepage velocity		(ft/yr)
or NA ↑ or		
Hydraulic conductivity		(ft/yr)
Hydraulic gradient		(-)
Effective porosity		(-)

Sorption

Fraction organic carbon--saturated zone		(-)
Groundwater pH		(-)

2. Groundwater Source Zone

Groundwater plume width at source	147.6377953	(ft)
Plume (mixing zone) thickness at source		(ft)
or NA ↑ or		
Saturated thickness		(ft)
Length of source zone		(ft)



3. Groundwater Dispersion

Model:

	GW Ingestion		Soil Leaching to GW		
	Off-site 1	Off-site 2	Off-site 1	Off-site 2	
Distance to GW receptors	0	0	0	0	(ft)
or NA ↓ or ↓ ↓ or ↓					
Longitudinal dispersivity					(ft)
Transverse dispersivity					(ft)
Vertical dispersivity					(ft)

4. Groundwater Discharge to Surface Water

	Off-site 2	
Distance to GW/SW disharge point	NA	(ft)
Plume width at GW/SW discharge	0	(ft)
Plume thickness at GW/SW discharge	0	(ft)
Surface water flowrate at GW/SW discharge	0.0E+0	(ft^3/s)

5. Commands and Options

Main Screen | Use Default Values | Print Sheet
Set Units | | *Help*

Site-Specific Air Parameters

Site Name: Exxon Station No. 7-0104 Job ID: D094-832
Location: 1725 Park Street Alameda, California Date: 3-Jan-00
Compl. By: Delta Environmental Consultants, Inc.

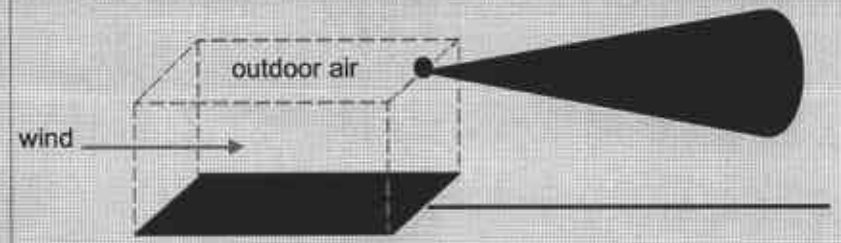
1. Outdoor Air Pathway

Dispersion in Air

	Off-site 1	Off-site 2	
Distance to offsite air receptor	20	100	(ft)
or Enter Directly	↓ or	↓	
Horizontal dispersivity	2.48	11.26	(ft)
Vertical dispersivity	1.71	7.61	(ft)

Air Source Zone

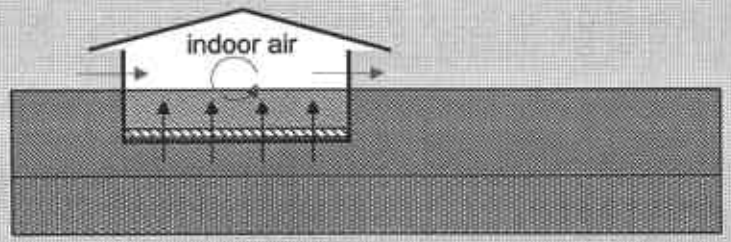
Air mixing zone height	6.56167979	(ft)
Ambient air velocity in mixing zone	7.381889764	(ft/s)
Areal particulate emission flux	6.9E-14	(g/cm^2/s)



2. Indoor Air Pathway

Building Parameters

	Residential	Commercial	
Building volume/area ratio	6.56168	9.84252	(ft)
Foundation area	753.474	2555	(ft^2)
Foundation perimeter	111.549	204	(ft)
Building air exchange rate	1.4E-4	2.3E-4	(1/s)
Depth to bottom of foundation slab	0.49213	0.49213	(ft)
Convective air flow through cracks	0.0E+0	0.0E+0	(ft^3/s)
Foundation thickness	0.492125984		(ft)
Foundation crack fraction	0.01		(-)
Volumetric water content of cracks	0.12		(-)
Volumetric air content of cracks	0.26		(-)
Indoor/Outdoor differential pressure	0		(psi)



3. Commands and Options

Main Screen | Use Default Values | Print Sheet
Set Units | | *Help*

RBCA SITE ASSESSMENT | User-Specified COC Data

REPRESENTATIVE COC CONCENTRATIONS IN SOURCE MEDIA

CONSTITUENT	Representative COC Concentration			
	Groundwater		Soils (2.2 - 9.8 ft)	
	value (mg/L)	note	value (mg/kg)	note
Benzene*	1.5E+0		1.2E+0	
Toluene*	8.6E-1		3.6E+0	
Ethylbenzene*	5.8E-1		5.3E+0	
Xylene (mixed isomers)*	1.8E+0		1.9E+1	
Methyl t-Butyl ether*	5.8E+0		1.3E-3	

*** = Chemical with user-specified data**

Site Name: Exxon Station No. 7-0104

Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00

Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS ■ (CHECKED IF PATHWAY IS ACTIVE)

SURFACE SOILS (2.2 - 5.8 ft):

VAPOR INHALATION

	1) Source Medium	2) NAF Value (m^3/kg) Receptor				3) Exposure Medium Outdoor Air: POE Conc. (mg/m^3) (1) / (2)			
		On-site (0 ft)		Off-site 1 (20 ft)	Off-site 2 (100 ft)	On-site (0 ft)		Off-site 1 (20 ft)	Off-site 2 (100 ft)
Constituents of Concern	Soil Conc. (mg/kg)	Commercial	Construction Worker	Residential	Residential	Commercial	Construction Worker	Residential	Residential
Benzene*	1.2E+0	6.4E+4	2.6E+3	7.7E+4	7.7E+4	1.9E-5	4.7E-4	1.6E-5	1.6E-5
Toluene*	3.6E+0	6.4E+4	2.6E+3	7.7E+4	7.7E+4	5.6E-5	1.4E-3	4.6E-5	4.6E-5
Ethylbenzene*	5.3E+0	6.4E+4	2.6E+3	7.7E+4	7.7E+4	8.3E-5	2.1E-3	6.9E-5	6.9E-5
Xylene (mixed isomers)*	1.9E+1	6.4E+4	2.6E+3	7.7E+4	7.7E+4	3.0E-4	7.4E-3	2.5E-4	2.5E-4
Methyl t-Butyl ether*	1.3E-3	6.4E+4	2.6E+3	7.7E+4	7.7E+4	2.0E-8	4.9E-7	1.6E-8	1.6E-8

NOTE: NAF = Natural attenuation factor POE = Point of exposure

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
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RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS

SURFACE SOILS (2.2 - 5.8 ft):

VAPOR INHALATION (cont'd)

Constituents of Concern	4) Exposure Multiplier (EFxED)/(ATx365) (unitless)				5) Average Inhalation Exposure Concentration (mg/m^3) (3) X (4)			
	On-site (0 ft)		Off-site 1 (20 ft)	Off-site 2 (100 ft)	On-site (0 ft)		Off-site 1 (20 ft)	Off-site 2 (100 ft)
	Commercial	Construction Worker	Residential	Residential	Commercial	Construction Worker	Residential	Residential
Benzene*	2.4E-1	7.0E-3	4.1E-1	4.1E-1	4.6E-6	3.3E-6	6.4E-6	6.4E-6
Toluene*	6.8E-1	4.9E-1	9.6E-1	9.6E-1	3.8E-5	6.9E-4	4.5E-5	4.5E-5
Ethylbenzene*	6.8E-1	4.9E-1	9.6E-1	9.6E-1	5.7E-5	1.0E-3	6.6E-5	6.6E-5
Xylene (mixed isomers)*	6.8E-1	4.9E-1	9.6E-1	9.6E-1	2.0E-4	3.7E-3	2.4E-4	2.4E-4
Methyl t-Butyl ether*	6.8E-1	4.9E-1	9.6E-1	9.6E-1	1.3E-8	2.4E-7	1.6E-8	1.6E-8

* = Chemical with user-specified data

NOTE: AT = Averaging time (days) EF = Exposure frequency (days/yr) ED = Exposure duration (yr)

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
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RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS ■ (CHECKED IF PATHWAY IS ACTIVE)

SUBSURFACE SOILS (5.8 - 9.8 ft):

VAPOR INHALATION

Constituents of Concern	1) Source Medium	2) NAF Value (m^3/kg) Receptor			3) Exposure Medium Outdoor Air: POE Conc. (mg/m^3) (1) / (2)		
	Soil Conc. (mg/kg)	On-site (0 ft) Commercial	Off-site 1 (20 ft) Residential	Off-site 2 (100 ft) Residential	On-site (0 ft) Commercial	Off-site 1 (20 ft) Residential	Off-site 2 (100 ft) Residential
Benzene*	1.2E+0	3.0E+4	3.6E+4	3.6E+4	4.0E-5	3.3E-5	3.3E-5
Toluene*	3.6E+0	3.0E+4	3.6E+4	3.6E+4	1.2E-4	9.9E-5	9.9E-5
Ethylbenzene*	5.3E+0	3.0E+4	3.6E+4	3.6E+4	1.8E-4	1.5E-4	1.5E-4
Xylene (mixed isomers)*	1.9E+1	3.0E+4	3.6E+4	3.6E+4	6.3E-4	5.3E-4	5.3E-4
Methyl t-Butyl ether*	1.3E-3	3.0E+4	3.6E+4	3.6E+4	4.2E-8	3.5E-8	3.5E-8

NOTE: NAF = Natural attenuation factor POE = Point of exposure

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS

SUBSURFACE SOILS (5.8 - 9.8 ft):

VAPOR INHALATION (cont'd)

Constituents of Concern	4) Exposure Multiplier (EFxED)/(ATx365) (unitless)			5) Average Inhalation Exposure Concentration (mg/m^3) (3) X (4)		
	On-site (0 ft) Commercial	Off-site 1 (20 ft) Residential	Off-site 2 (100 ft) Residential	On-site (0 ft) Commercial	Off-site 1 (20 ft) Residential	Off-site 2 (100 ft) Residential
Benzene*	2.4E-1	4.1E-1	4.1E-1	9.8E-6	1.4E-5	1.4E-5
Toluene*	6.8E-1	9.6E-1	9.6E-1	8.2E-5	9.5E-5	9.5E-5
Ethylbenzene*	6.8E-1	9.6E-1	9.6E-1	1.2E-4	1.4E-4	1.4E-4
Xylene (mixed isomers)*	6.8E-1	9.6E-1	9.6E-1	4.3E-4	5.1E-4	5.1E-4
Methyl t-Butyl ether*	6.8E-1	9.6E-1	9.6E-1	2.9E-8	3.3E-8	3.3E-8

NOTE: AT = Averaging time (days) EF = Exposure frequency (days/yr) ED = Exposure duration (yr)

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS ■ (CHECKED IF PATHWAY IS ACTIVE)

GROUNDWATER: VAPOR INHALATION

Exposure Concentration

Constituents of Concern	1) Source Medium	2) NAF Value (m^3/L) Receptor			3) Exposure Medium Outdoor Air: POE Conc. (mg/m^3) (1) / (2)		
	Groundwater Conc. (mg/L)	On-site (0 ft) Commercial	Off-site 1 (20 ft) Residential	Off-site 2 (100 ft) Residential	On-site (0 ft) Commercial	Off-site 1 (20 ft) Residential	Off-site 2 (100 ft) Residential
Benzene*	1.5E+0	1.1E+4	1.1E+4	1.1E+4	1.4E-4	1.4E-4	1.4E-4
Toluene*	8.6E-1	1.0E+4	1.0E+4	1.0E+4	8.5E-5	8.5E-5	8.5E-5
Ethylbenzene*	5.8E-1	1.0E+4	1.0E+4	1.0E+4	5.7E-5	5.7E-5	5.7E-5
Xylene (mixed isomers)*	1.8E+0	1.1E+4	1.1E+4	1.1E+4	1.7E-4	1.7E-4	1.7E-4
Methyl t-Butyl ether*	5.8E+0	8.6E+3	8.6E+3	8.6E+3	6.8E-4	6.8E-4	6.8E-4

NOTE: NAF = Natural attenuation factor POE = Point of exposure

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS

GROUNDWATER: VAPOR INHALATION (cont'd)

Constituents of Concern	4) Exposure Multiplier (EFxED)/(ATx365) (unitless)			5) Average Inhalation Exposure Concentration (mg/m^3) (3) X (4)		
	On-site (0 ft) Commercial	Off-site 1 (20 ft) Residential	Off-site 2 (100 ft) Residential	On-site (0 ft) Commercial	Off-site 1 (20 ft) Residential	Off-site 2 (100 ft) Residential
Benzene*	2.4E-1	4.1E-1	4.1E-1	3.5E-5	5.8E-5	5.8E-5
Toluene*	6.8E-1	9.6E-1	9.6E-1	5.8E-5	8.1E-5	8.1E-5
Ethylbenzene*	6.8E-1	9.6E-1	9.6E-1	3.9E-5	5.5E-5	5.5E-5
Xylene (mixed isomers)*	6.8E-1	9.6E-1	9.6E-1	1.1E-4	1.6E-4	1.6E-4
Methyl t-Butyl ether*	6.8E-1	9.6E-1	9.6E-1	4.7E-4	6.5E-4	6.5E-4

NOTE: AT = Averaging time (days) EF = Exposure frequency (days/yr) ED = Exposure duration (yr)

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS

TOTAL PATHWAY EXPOSURE (mg/m^3)

(Sum average expsosure concentrations from soil and groundwater routes.)

Constituents of Concern	On-site (0 ft) Commercial	On-site (0 ft) Construction Worker	Off-site 1 (20 ft) Residential	Off-site 2 (100 ft) Residential
Benzene*	4.9E-5	3.3E-6	7.8E-5	7.8E-5
Toluene*	1.8E-4	6.9E-4	2.2E-4	2.2E-4
Ethylbenzene*	2.2E-4	1.0E-3	2.6E-4	2.6E-4
Xylene (mixed isomers)*	7.5E-4	3.7E-3	9.0E-4	9.0E-4
Methyl t-Butyl ether*	4.7E-4	2.4E-7	6.5E-4	6.5E-4

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 PATHWAY RISK CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS ■ **(CHECKED IF PATHWAYS ARE ACTIVE)**

CARCINOGENIC RISK

Constituents of Concern	(1) EPA Carcinogenic Classification	(2) Total Carcinogenic Exposure (mg/m^3)				(3) Inhalation Unit Risk Factor (µg/m^3)^-1	(4) Individual COC Risk (2) x (3) x 1000			
		On-site (0 ft)		Off-site 1 (20 ft)	Off-site 2 (100 ft)		On-site (0 ft)		Off-site 1 (20 ft)	Off-site 2 (100 ft)
		Commercial	Construction Worker	Residential	Residential		Commercial	Construction Worker	Residential	Residential
Benzene*	A	4.9E-5	3.3E-6	7.8E-5	7.8E-5	8.3E-6	4.1E-7	2.7E-8	6.5E-7	6.5E-7
Toluene*	D									
Ethylbenzene*	D									
Xylene (mixed isomers)*	D									
Methyl t-Butyl ether*	-									
Total Pathway Carcinogenic Risk =							**4.1E-7**	**2.7E-8**	**6.5E-7**	**6.5E-7**

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants, Inc.
Date Completed: 3-Jan-00

Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 PATHWAY RISK CALCULATION

OUTDOOR AIR EXPOSURE PATHWAYS ■ (CHECKED IF PATHWAYS ARE ACTIVE)

TOXIC EFFECTS

Constituents of Concern	(5) Total Toxicant Exposure (mg/m^3) On-site (0 ft) Commercial	(5) Total Toxicant Exposure (mg/m^3) On-site (0 ft) Construction Worker	(5) Total Toxicant Exposure (mg/m^3) Off-site 1 (20 ft) Residential	(5) Total Toxicant Exposure (mg/m^3) Off-site 2 (100 ft) Residential	(6) Inhalation Reference Conc. (mg/m^3)	(7) Individual COC Hazard Quotient (5) / (6) On-site (0 ft) Commercial	(7) Individual COC Hazard Quotient (5) / (6) On-site (0 ft) Construction Worker	(7) Individual COC Hazard Quotient (5) / (6) Off-site 1 (20 ft) Residential	(7) Individual COC Hazard Quotient (5) / (6) Off-site 2 (100 ft) Residential
Benzene*	1.4E-4	2.3E-4	1.8E-4	1.8E-4	6.0E-3	2.3E-2	3.9E-2	3.1E-2	3.1E-2
Toluene*	1.8E-4	6.9E-4	2.2E-4	2.2E-4	4.0E-1	4.4E-4	1.7E-3	5.5E-4	5.5E-4
Ethylbenzene*	2.2E-4	1.0E-3	2.6E-4	2.6E-4	1.0E+0	2.2E-4	1.0E-3	2.6E-4	2.6E-4
Xylene (mixed isomers)*	7.5E-4	3.7E-3	9.0E-4	9.0E-4	7.0E+0	1.1E-4	5.2E-4	1.3E-4	1.3E-4
Methyl t-Butyl ether*	4.7E-4	2.4E-7	6.5E-4	6.5E-4	3.0E+0	1.6E-4	8.0E-8	2.2E-4	2.2E-4
Total Pathway Hazard Index =						**2.4E-2**	**4.2E-2**	**3.2E-2**	**3.2E-2**

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants, Inc.
Date Completed: 3-Jan-00

Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

INDOOR AIR EXPOSURE PATHWAYS ■ **(CHECKED IF PATHWAY IS ACTIVE)**

SOILS (2.2 - 9.8 ft): VAPOR INTRUSION INTO ON-SITE BUILDINGS

Constituents of Concern	1) Source Medium Soil Conc. (mg/kg)	2) NAF Value (m^3/kg) Receptor Commercial	3) Exposure Medium Indoor Air: POE Conc. (mg/m^3) (1) / (2) Commercial	4) Exposure Multiplier (EFxED)/(ATx365) (unitless) Commercial	5) Average Inhalation Exposure Concentration (mg/m^3) (3) X (4) Commercial
Benzene*	1.2E+0	1.4E+2	8.7E-3	2.4E-1	2.1E-3
Toluene*	3.6E+0	1.4E+2	2.6E-2	6.8E-1	1.8E-2
Ethylbenzene*	5.3E+0	2.1E+2	2.5E-2	6.8E-1	1.7E-2
Xylene (mixed isomers)*	1.9E+1	1.6E+2	1.2E-1	6.8E-1	8.0E-2
Methyl t-Butyl ether*	1.3E-3	1.4E+2	9.1E-6	6.8E-1	6.2E-6

* = Chemical with user-specified data

NOTE: AT = Averaging time (days) EF = Exposure frequency (days/yr) ED = Exposure duration (yr) NAF = Natural attenuation factor POE = Point of exposure

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

INDOOR AIR EXPOSURE PATHWAYS ■ (CHECKED IF PATHWAY IS ACTIVE)

GROUNDWATER: VAPOR INTRUSION INTO ON-SITE BUILDINGS

Exposure Concentration

Constituents of Concern	1) Source Medium Groundwater Conc. (mg/L)	2) NAF Value (m^3/L) Receptor Commercial	3) Exposure Medium Indoor Air: POE Conc. (mg/m^3) (1) / (2) Commercial	4) Exposure Multiplier (EFxED)/(ATx365) (unitless) Commercial	5) Average Inhalation Exposure Concentration (mg/m^3) (3) X (4) Commercial
Benzene*	1.5E+0	1.4E+2	1.1E-2	2.4E-1	2.6E-3
Toluene*	8.6E-1	1.3E+2	6.6E-3	6.8E-1	4.5E-3
Ethylbenzene*	5.8E-1	1.2E+2	4.7E-3	6.8E-1	3.2E-3
Xylene (mixed isomers)*	1.8E+0	1.4E+2	1.3E-2	6.8E-1	8.9E-3
Methyl t-Butyl ether*	5.8E+0	7.6E+2	7.7E-3	6.8E-1	5.3E-3

NOTE: AT = Averaging time (days) EF = Exposure frequency (days/yr) ED = Exposure duration (yr) NAF = Natural attenuation factor POE = Point of exposure

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 EXPOSURE CONCENTRATION AND INTAKE CALCULATION

INDOOR AIR EXPOSURE PATHWAYS

Constituents of Concern	TOTAL PATHWAY EXPOSURE (mg/m^3) *(Sum average expsosure concentrations from soil and groundwater routes.)* Commercial
Benzene*	4.8E-3
Toluene*	2.2E-2
Ethylbenzene*	2.1E-2
Xylene (mixed isomers)*	8.9E-2
Methyl t-Butyl ether*	5.3E-3

Site Name: Exxon Station No. 7-0104 Date Completed: 3-Jan-00
Site Location: 1725 Park Street Alameda, Californ Job ID: D094-832
Completed By: Delta Environmental Consultants, Inc.

RBCA SITE ASSESSMENT

TIER 2 PATHWAY RISK CALCULATION

INDOOR AIR EXPOSURE PATHWAYS ■ **(CHECKED IF PATHWAYS ARE ACTIVE)**

Constituents of Concern	(1) EPA Carcinogenic Classification	(2) Total Carcinogenic Exposure (mg/m^3) Commercial	(3) Inhalation Unit Risk Factor (µg/m^3)^-1	(4) Individual COC Risk (2) x (3) x 1000 Commercial
		CARCINOGENIC RISK		
Benzene*	A	4.8E-3	8.3E-6	4.0E-5
Toluene*	D			
Ethylbenzene*	D			
Xylene (mixed isomers)*	D			
Methyl t-Butyl ether*	-			

Total Pathway Carcinogenic Risk = **4.0E-5**

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
Job ID: D094-832

RBCA SITE ASSESSMENT

TIER 2 PATHWAY RISK CALCULATION

INDOOR AIR EXPOSURE PATHWAYS ■ (CHECKED IF PATHWAYS ARE ACTIVE)

Constituents of Concern	(5) Total Toxicant Exposure (mg/m^3) Commercial	(6) Inhalation Reference Concentration (mg/m^3)	(7) Individual COC Hazard Quotient (5) / (6) Commercial
	TOXIC EFFECTS		
Benzene*	1.3E-2	6.0E-3	2.2E+0
Toluene*	2.2E-2	4.0E-1	5.6E-2
Ethylbenzene*	2.1E-2	1.0E+0	2.1E-2
Xylene (mixed isomers)*	8.9E-2	7.0E+0	1.3E-2
Methyl t-Butyl ether*	5.3E-3	3.0E+0	1.8E-3

Total Pathway Hazard Index = **2.3E+0**

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California
Completed By: Delta Environmental Consultants, Inc.

Date Completed: 3-Jan-00
Job ID: D094-832

RBCA SITE ASSESSMENT | **Baseline Risk Summary-All Pathways**

Site Name: Exxon Station No. 7-0104
Site Location: 1725 Park Street Alameda, California

Completed By: Delta Environmental Consultants, Inc.
Date Completed: 3-Jan-00

TIER 2 BASELINE RISK SUMMARY TABLE

	BASELINE CARCINOGENIC RISK					BASELINE TOXIC EFFECTS				
	Individual COC Risk		Cumulative COC Risk		Risk Limit(s) Exceeded?	Hazard Quotient		Hazard Index		Toxicity Limit(s) Exceeded?
EXPOSURE PATHWAY	Maximum Value	Target Risk	Total Value	Target Risk		Maximum Value	Applicable Limit	Total Value	Applicable Limit	
OUTDOOR AIR EXPOSURE PATHWAYS										
Complete:	6.5E-7	1.0E-6	6.5E-7	1.0E-5	☐	3.9E-2	1.0E+0	4.2E-2	1.0E+0	☐
INDOOR AIR EXPOSURE PATHWAYS										
Complete:	4.0E-5	1.0E-6	4.0E-5	1.0E-5	■	2.2E+0	1.0E+0	2.3E+0	1.0E+0	■
SOIL EXPOSURE PATHWAYS										
Complete:	NA	NA	NA	NA	☐	NA	NA	NA	NA	☐
GROUNDWATER EXPOSURE PATHWAYS										
Complete:	NA	NA	NA	NA	☐	NA	NA	NA	NA	☐
SURFACE WATER EXPOSURE PATHWAYS										
Complete:	NA	NA	NA	NA	☐	NA	NA	NA	NA	☐
CRITICAL EXPOSURE PATHWAY (Maximum Values From Complete Pathways)										
	4.0E-5	***1.0E-6***	***4.0E-5***	***1.0E-5***	■	***2.2E+0***	***1.0E+0***	***2.3E+0***	***1.0E+0***	■
	Indoor Air		***Indoor Air***			***Indoor Air***		***Indoor Air***		

RBCA SITE ASSESSMENT

Site Name: Exxon Station No. 7-0104 | Completed By: Delta Environmental Consultants, Inc. | Job ID: D094-832

Site Location: 1725 Park Street Alameda, California | Date Completed: 3-Jan-00

GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-6

Target Risk (Class C) 1.0E-5

Target Hazard Quotient 1.0E+0

Groundwater DAF Option:

SSTL Results For Complete Exposure Pathways ("X" if Complete)

				Groundwater Ingestion / Discharge to Surface Water			X	GW Vol. to Indoor Air	X	Groundwater Volatilization to Outdoor Air			Applicable SSTL	SSTL Exceeded ?	Required CRF
CONSTITUENTS OF CONCERN		Representative Concentration		On-site (0 ft)	Off-site 1 (0 ft)	Off-site 2 (0 ft)		On-site (0 ft)		On-site (0 ft)	Off-site 1 (20 ft)	Off-site 2 (100 ft)			Only if "yes" left
CAS No.	Name	(mg/L)		None	None	None		Commercial		Commercial	Residential	Residential	(mg/L)	"■" if yes	
71-43-2	Benzene*	1.5E+0		NA	NA	NA		6.9E-2		5.2E+0	5.2E+0	5.2E+0	6.9E-2	■	2.2E+1
108-88-3	Toluene*	8.6E-1		NA	NA	NA		7.6E+1		>5.2E+2	>5.2E+2	>5.2E+2	7.6E+1	□	<1
100-41-4	Ethylbenzene*	5.8E-1		NA	NA	NA		>1.7E+2		>1.7E+2	>1.7E+2	>1.7E+2	>1.7E+2	□	NA
1330-20-7	Xylene (mixed isomers)*	1.8E+0		NA	NA	NA		>2.0E+2		>2.0E+2	>2.0E+2	>2.0E+2	>2.0E+2	□	NA
1634-04-4	Methyl t-Butyl ether*	5.8E+0		NA	NA	NA		3.3E+3		3.7E+4	3.7E+4	3.7E+4	3.3E+3	□	<1

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent solubility value. NA = Not applicable. NC = Not calculated.

RBCA SITE ASSESSMENT

Site Name: Exxon Station No. 7-0104 | Completed By: Delta Environmental Consultants, Inc. | Job ID: D094-832

Site Location: 1725 Park Street Alameda, California | Date Completed: 3-Jan-00

SOIL (2.2 - 9.8 ft) SSTL VALUES

Target Risk (Class A & B): 1.0E-6
Target Risk (Class C): 1.0E-5
Target Hazard Quotient: 1.0E+0

Groundwater DAF Option:

SSTL Results For Complete Exposure Pathways ("X" If Complete)

				Soil Leaching to Groundwater Ingestion / Discharge to Surface Water			X	Soil Vol. to Indoor Air	X	Soil Volatilization to Outdoor Air					Surface Soil Inhalation, Ingestion,Dermal Contact		Applicable SSTL	SSTL Exceeded ?	Required CRF
CONSTITUENTS OF CONCERN		Representative Concentration	On-site (0 ft)	Off-site 1 (0 ft)	Off-site 2 (0 ft)	On-site (0 ft)			On-site (0 ft)		Off-site 1 (20 ft)	Off-site 2 (100 ft)	On-site (0 ft)			Only if "yes" left
CAS No.	Name	(mg/kg)	None	None	None	Commercial	Commercial	Construction Worker	Residential	Residential	None	Construction Worker	(mg/kg)	"■" if yes	
71-43-2	Benzene*	1.2E+0	NA	NA	NA	6.8E-2	1.5E+1	3.1E+1	1.8E+1	1.8E+1	NA	NA	6.8E-2	■	1.6E+1
108-88-3	Toluene*	3.6E+0	NA	NA	NA	8.0E+1	>7.4E+2	>7.4E+2	>7.4E+2	>7.4E+2	NA	NA	8.0E+1	☐	<1
100-41-4	Ethylbenzene*	5.3E+0	NA	NA	NA	3.0E+2	>6.3E+2	>6.3E+2	>6.3E+2	>6.3E+2	NA	NA	3.0E+2	☐	<1
1330-20-7	Xylene (mixed isomers)*	1.9E+1	NA	NA	NA	>5.0E+2	>5.0E+2	>5.0E+2	>5.0E+2	>5.0E+2	NA	NA	>5.0E+2	☐	NA
1634-04-4	Methyl t-Butyl ether*	1.3E-3	NA	NA	NA	6.0E+2	>8.3E+3	>8.3E+3	>8.3E+3	>8.3E+3	NA	NA	6.0E+2	☐	<1

* = Chemical with user-specified data

">" indicates risk-based target concentration greater than constituent residual saturation value. NA = Not applicable. NC = Not calculated.

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RBCA SITE ASSESSMENT | **Cumulative Risk Worksheet**

Site Name: Exxon Station No. 7-0104 — Completed By: Delta Environmental Consultants, Job ID: D094-832

Site Location: 1725 Park Street Alameda, California — Date Completed: 3-Jan-00

CUMULATIVE RISK WORKSHEET

CONSTITUENTS OF CONCERN		Representative Concentration		Proposed CRF		Resultant Target Concentration	
CAS No.	Name	Soil (mg/kg)	Groundwater (mg/L)	Soil	GW	Soil (mg/kg)	Groundwater (mg/L)
71-43-2	Benzene*	1.2E+0	1.5E+0	1.8E+1	2.2E+1	6.8E-2	6.9E-2
108-88-3	Toluene*	3.6E+0	8.6E-1	<1	<1	3.6E+0	8.6E-1
100-41-4	Ethylbenzene*	5.3E+0	5.8E-1	<1	NA	5.3E+0	5.8E-1
1330-20-7	Xylene (mixed isomers)*	1.9E+1	1.8E+0	NA	NA	1.9E+1	1.8E+0
1634-04-4	Methyl t-Butyl ether*	1.3E-3	5.8E+0	<1	<1	1.3E-3	5.8E+0

Cumulative Values:

RBCA SITE ASSESSMENT | **Cumulative Risk Worksheet**

Site Name: Exxon Station No. 7-0104 Site Name: Exxon Station No. 7-0104 Completed By: Delta Environmental Consultants, Inc. Job ID: D094-832

Site Location: 1725 Park Street Alameda, California Site Location: 1725 Park Street Alameda, California Date Completed: 3-Jan-00

CUMULATIVE RISK WORKSHEET

Cumulative Target Risk: 1.0E-5 Target Hazard Index: 1.0E+0

ON-SITE RECEPTORS

CONSTITUENTS OF CONCERN		Outdoor Air Exposure: Commercial Target Risk: 1.0E-6 / 1.0E-5	Outdoor Air Exposure: Commercial Target HQ: 1.0E+0	Indoor Air Exposure: Commercial Target Risk: 1.0E-6 / 1.0E-5	Indoor Air Exposure: Commercial Target HQ: 1.0E+0	Soil Exposure: None Target Risk: 1.0E-6 / 1.0E-5	Soil Exposure: None Target HQ: 1.0E+0	Groundwater Exposure: None Target Risk: 1.0E-6 / 1.0E-5	Groundwater Exposure: None Target HQ: 1.0E+0
CAS No.	Name	Carcinogenic Risk	Hazard Quotient	Carcinogenic Risk	Hazard Quotient	Carcinogenic Risk	Hazard Quotient	Carcinogenic Risk	Hazard Quotient
71-43-2	Benzene*	2.0E-8	1.1E-3	2.0E-6	1.1E-1				
108-88-3	Toluene*		4.4E-4		5.6E-2				
100-41-4	Ethylbenzene*		2.2E-4		2.1E-2				
1330-20-7	Xylene (mixed isomers)*		1.1E-4		1.3E-2				
1634-04-4	Methyl t-Butyl ether*		1.6E-4		1.8E-3				
Cumulative Values:		2.0E-8	2.1E-3	2.0E-6	2.0E-1	0.0E+0	0.0E+0	0.0E+0	0.0E+0

■ Indicates risk level exceeding target risk

RBCA SITE ASSESSMENT | **Cumulative Risk Worksheet**

Site Name: Exxon Station No. 7-0104 Site Name: Exxon Station No. 7-0104 Completed By: Delta Environmental Consultants, Inc. Job ID: D094-832

Site Location: 1725 Park Street Alameda, California Site Location: 1725 Park Street Alameda, California Date Completed: 3-Jan-00

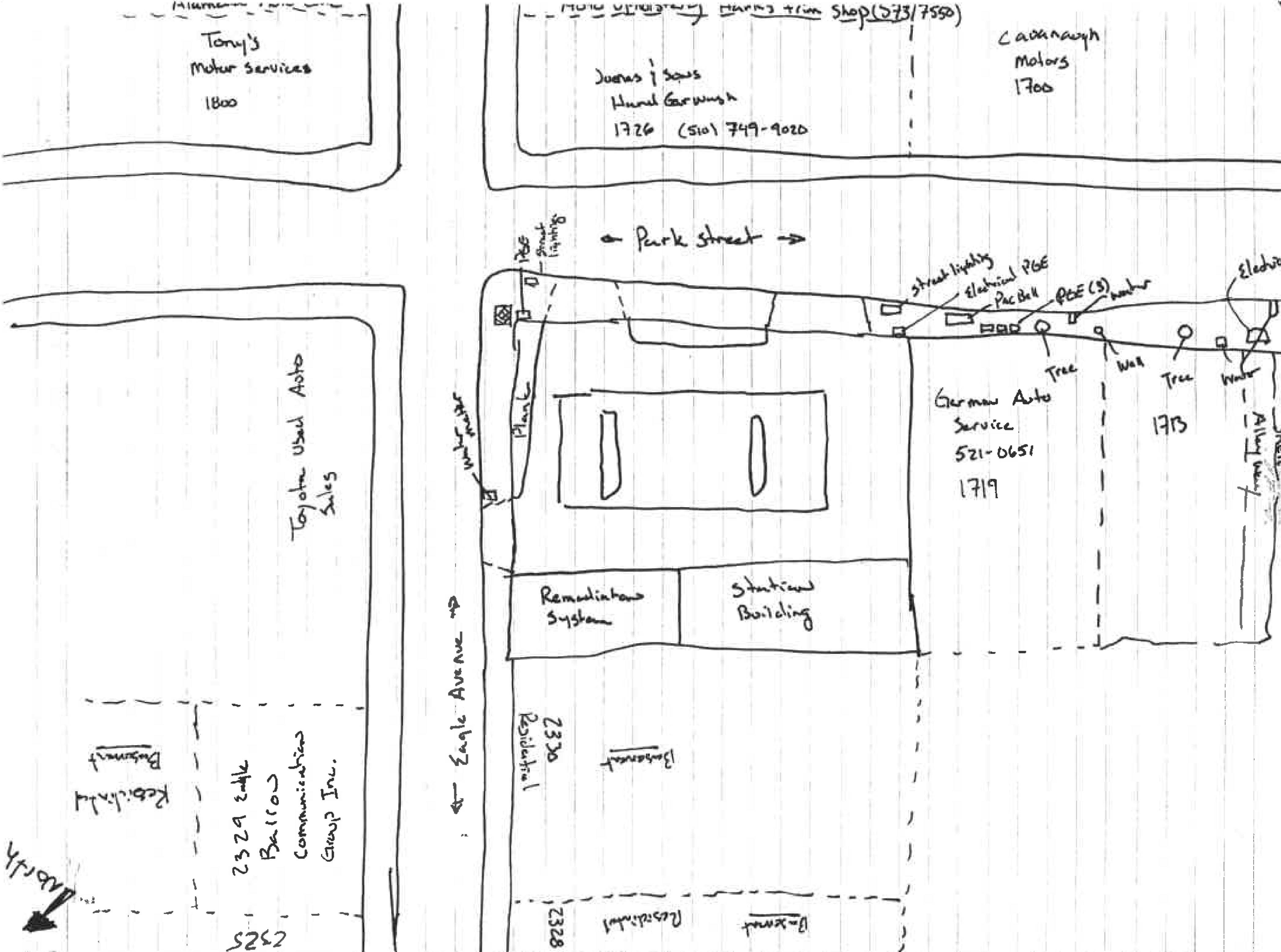
CUMULATIVE RISK WORKSHEET

Cumulative Target Risk: 1.0E-5 Target Hazard Index: 1.0E+0

OFF-SITE RECEPTORS

CONSTITUENTS OF CONCERN		Outdoor Air Exposure: Residential (20 ft) Target Risk: 1.0E-6 / 1.0E-5	Outdoor Air Exposure: Residential (20 ft) Target HQ: 1.0E+0	Outdoor Air Exposure: Residential (100 ft) Target Risk: 1.0E-6 / 1.0E-5	Outdoor Air Exposure: Residential (100 ft) Target HQ: 1.0E+0	Groundwater Exposure: None Target Risk: 1.0E-6 / 1.0E-5	Groundwater Exposure: None Target HQ: 1.0E+0	Groundwater Exposure: None Target Risk: 1.0E-6 / 1.0E-5	Groundwater Exposure: None Target HQ: 1.0E+0
CAS No.	Name	Carcinogenic Risk	Hazard Quotient	Carcinogenic Risk	Hazard Quotient	Carcinogenic Risk	Hazard Quotient	Carcinogenic Risk	Hazard Quotient
71-43-2	Benzene*	3.1E-8	1.5E-3	3.1E-8	1.5E-3				
108-88-3	Toluene*		5.5E-4		5.5E-4				
100-41-4	Ethylbenzene*		2.6E-4		2.6E-4				
1330-20-7	Xylene (mixed isomers)*		1.3E-4		1.3E-4				
1634-04-4	Methyl t-Butyl ether*		2.2E-4		2.2E-4				
	Cumulative Values:	**3.1E-8**	**2.6E-3**	**3.1E-8**	**2.6E-3**	**0.0E+0**	**0.0E+0**	**0.0E+0**	**0.0E+0**

■ Indicates risk level exceeding target risk



Tony's
Motor Services
1800
Juanas & Sons
Hand Carwash
1726 (510) 749-9020
Hanks Trim Shop (573/7550)
Cavanaugh
Motors
1700
Park street
street lighting
PGE
Street lighting
Electrical PGE
Pac Bell
PGE (3)
water
Tree
Well
Tree
Water
German Auto
Service
521-0651
1719
1713
Alley Way
Shell
Planter
water meter
Toyota Used Auto
Sales
Remediation
System
Station
Building
Eagle Avenue
2330
Residential
Basement
2329 Eagle
Barros
Communication
Group Inc.
Residential
Basement
2328
Residential
Basement
2325
North

Pictures of 7-0164 SIRS 12-7-99

South Property Boundry facing East from S/W corner
West property Boundry facing North from S/W corner
East property Boundry facing North from S/E corner Park & Eagle
North property Boundry facing West from N/E corner
Front of station facing West from Eagle Avenue
House w/ Basement 2329 Eagle Ave ~200 ft N of site (N/E)
" " ~20 ft N of Sit
" " 2328 Eagle Ave ~100' N of site
Water Vault Box in front of residence on Eagle Ave facing West
" " " in front of station on Eagle Ave facing South
Unknown Vault Box at intersection of Eagle & Park St SE corner facing South
Electrical Vault Box " " " " " " "
Electrical and Street lighting Vault Boxes along Park Street at S/W corner of site facing West.
Telephone and Electrical Vault Boxes along Park Street in front of 1719 facing West.
Water Valve Box along Park street at 1719 facing South
Sewer Manhole in middle of Intersection of Park St & Eagle Ave facing East S/E.
Water Vale Box and Gas Vale Box in Eagle Ave facing West.
Street lighting, Unknown, Electrical Vault Boxes near corner of Park & Eagle across Eagle facing West.
Water Meter Vault Box for Toyota used cars access Eagle Ave facing South.