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SITE CONCEPTUAL MODEL GREYHOUND LINES TERMINAL 2103 SAN PABLO AVENUE OAKLAND, CALIFORNIA 94608

Green Star Environmental Report No. 09-1379

Report Prepared For:

Greyhound Lines, Inc. 350 N St. Paul Street, MS0084 Dallas, Texas 75201

Trent Ripley Senior Project Manager Leonard C. Albright, R.E.M. Principal

Principal

August 12, 2009

Report Prepared By:

Green Star Environmental 354 McDonnell Street, Suite 9 Lewisville, TX 75057

### Greyhound Lines, Inc. 2103 San Pablo Avenue Oakland, California

Having reviewed the attached Site Conceptual Model, being familiar with the project to which it relates, and understanding the guidelines of the San Francisco Bay Regional Water Quality Control Board and the Oakland Urban Land Redevelopment Program, I hereby certify that the attached Site Conceptual Model, dated August 12, 2009, has been prepared and the related activities were conducted in accordance with the required standards.

DATE

Hamid Khorzani, P.G. Vice President / Geologist CoreProbe International, Inc. 5075 Walnut Grove Avenue San Gabriel, CA 91776

### Greyhound Lines, Inc. 2103 San Pablo Avenue Oakland, California

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

August 14, 2009 DATE

June Weirich, P.G. Environmental Department Manager

Greyhound Lines, Inc. 350 N St. Paul St Stop 84 Dallas, TX 75201-4240

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#### 1.0 INTRODUCTION

Green Star Environmental (Green Star) has been retained by Greyhound Lines, Inc. (Greyhound) to manage environmental issues related to the Greyhound Terminal located at 2103 San Pablo Avenue, Oakland, California ("Site"; Fuel Leak Case No. RO0000074 and Geotracker Global ID T0600100666). At the request of Alameda County Environmental Health (ACEH) in their letter dated June 20, 2008, this Site Conceptual Model (SCM) outlines details related to the project.

#### 1.1 Background Information

The Site has been developed as a bus terminal since 1929. Six, out-of-service underground storage tanks (USTs) were removed from the Site in April 1990. The USTs were reportedly out of use for at least two decades prior to their removal. Subsurface investigations between 1989 and 1997 indicated that petroleum hydrocarbon impacts, including phase-separated hydrocarbons (PSH), were present in soils and groundwater at the Site. The groundwater gradient at the Site has historically been a radial pattern from the west-southwest to the northwest. Recent groundwater data is presented in Section 3.1. Table 1 presents a summary of previous reports related to the Site. Tables 2b and 3b present cumulative summaries of groundwater gauging and analytical data, respectively, while Table 4 presents a cumulative summary of soil analytical results. A USGS Topographic/Site Location Map is presented as Figure 1. Site details are illustrated in Figure 2a.

On April 8, 2009, the well network was surveyed to mean sea level (msl) elevation and latitude and longitude using the North American Vertical Datum 1988 (NAVD88) and North American Datum 1983 (NAD83) coordinate systems by a California licensed surveyor.

#### 1.2 Remediation Activities

In March 1991, approximately 714 tons of stockpiled, tankhold-related soils were removed from the Site and treated via solidification/stabilization processes at Gibson Oil Refinery in Bakersfield, California. It was reported by a previous consultant that soils treated by Gibson were typically utilized as road base material. This indicates that the excavated tankpit was backfilled with imported fill and not the existing, contaminated stockpiles. Green Star submitted a Workplan dated November 11, 2008 in an effort to address ACEH's request to confirm current soil impacts near the former source area.

A groundwater remediation system was operated from 1992 to 1997 to recover phase-separated hydrocarbons (PSH) and dissolved-phase impacts in groundwater utilizing, total fluids recovery pumps in four, four-inch diameter wells (ES-1, ES-5, BC-1 and ES-2). The recovered fluids were treated with an oil/water separator and activated carbon absorption columns prior to the permitted discharge to the sanitary sewer. Data indicate that the system was effective as PSH greater than 0.1-foot has not been detected since 1995.

### 1.3 Land Use Category

The Site has been developed as a bus terminal since 1929 and as such is a commercial property. The Site is zoned by the City of Oakland as an area of Central Business Service Commercial/Downtown Residential Open Space Combining zones (C-51/S-17). Due to recent, expensive remodeling upgrades performed to the facility at the Site, it is unlikely that the Site will be utilized in the near or even relatively distant future for any purpose other than bus terminal operations.

Adjacent properties with the highest potential to be impacted by petroleum hydrocarbons related to the former source at the Site are Castro Street and Interstate Highway I-980. A commercial property and Brush Street are located adjacent to and downgradient of I-980. Beyond Brush Street is a mixed use neighborhood of commercial and residential properties. The nearest sensitive property downgradient of the Site is a day care center which is located in the mixed use neighborhood northwest of Brush Street. The day care center is located approximately 485 feet northwest the Site. The results of an area survey are presented in Section 4.3.

#### 2.0 PHYSICAL SETTING

#### 2.1 Geology and Hydrogeology

According to the United States Geological Survey¹ (USGS) and the San Francisco Bay Regional Water Quality Control Board² (RWQCB), the Site is located in the San Francisco Basin west of the Hayward Fault. More specifically, the Site is located in the Santa Clara Valley groundwater basin and the East Bay Plain sub-basin. The Site is underlain by unconsolidated Quaternary-aged sediments generally associated with beach and dune formations. In this area, the Quaternary deposits at the surface are mapped as the Merritt Sands which can be up to 60 feet thick. The Quaternary-aged sediments are assumed to be located on the Cretaceous and Jurassic-aged Franciscan bedrock complex which is approximately 450 ft below mean seal level (msl) in the area of the Site. Other unconsolidated sediments, which may include the early Pleistoceneaged Santa Clara formation, are present between the Merritt Sands and the Franciscan bedrock, but these sediments do not appear to be well understood at this time. A USGS cross-section of Oakland area northeast past the Hayward fault is presented as Appendix D.

Soils encountered at the Site during subsurface investigations have generally included horizons of clays near the surface which are underlain by sandy soils with some intervals of interbedded silts. An unspecified fill material has been indicated to be present near the surface in several borings. The Site is covered by improved surfaces (concrete or asphalt) which are generally underlain by the clayey soils to approximately 12 to 16 feet below surface grade (bsg). The clayey soils appear to correspond with the Clear Lake-Urban complex of clayey soils described to be present at the Site by the Alameda County Soil Survey<sup>3</sup>. Although the Urban-Baywood complex of sandy soils is also indicated by the soil survey to be present at the northern portion of the Site, no borings have been advanced in this area. Groundwater has been measured to range from depths of approximately 12 to 22 feet bsg (approximately 3.6 to 9.7 feet msl) and is generally present within a horizon of sandy soils (Tables 3a and 3b). Cross-sections illustrating the subsurface at the Site to approximately ten feet below msl are presented as Figures 7 and 8 and boring logs are present as Appendix C.

Lake Merritt is the nearest surface water body at approximately 0.50-mile east-southeast from the Site. The Oakland Inner Harbor is located approximately 1.1 miles south-southwest of the Site.

Groundwater in the area is utilized for very limited amounts of irrigation, industrial and potable purposes, but shallow groundwater (less than 50 feet bgs) use in the area is most typically for household irrigation purposes<sup>4</sup>. The RWQCB lists the East Bay Plain groundwater sub-basin as having existing beneficial uses of groundwater in the form of municipal, industrial and agricultural<sup>2</sup>. The RWQCB indicates that the area had a high-density of historic water wells set in the Merritt Sand (greater than five per square mile),

but that many of the wells were contaminated by septic fields or saltwater intrusion. The results of a water well search for the Site and vicinity are presented in Section 4.1.

The City of Oakland obtains its municipal and drinking water from the East Bay Municipal Utility District (EBMUD). EBMUD obtains the vast majority of water for the system from the surface water collected from a watershed of the Sierra Nevada Mountain Range that is stored at the Pardee Reservoir, located approximately 80 miles east-northeast of the Site, with a small percentage of the system water coming from local precipitation runoff stored in area reservoirs.

#### 2.2 Nearby Environmental Projects

A review of ACEH's Local Oversight Program (LOP) on-line database as well as the water well search data detailed in Section 4.1 indicate that several properties in the area of the Site are sources of environmental impacts to soil and groundwater in relation to USTs. Four of these LOP facilities are near the Site. Two are located adjacent and up to crossgradient to the Site (south-southeast), City Center Project Parcel T12 and Sinclair Paint Site. Two are located downgradient of the Site (west-northwest to northnorthwest; Figure 9), Peerless Stages (2021 Brush Street; approximately 438 feet west-northwest) and Herrington-Olsen Photo (769 22<sup>nd</sup> Street; approximately 676 feet northwest). Minimal project data are available on the LOP website for the two upgradient projects. The data related to the downgradient projects indicate that both projects had soil and groundwater impacts of petroleum hydrocarbons and that both projects have been closed.

The nearest downgradient project to the Site, Peerless Stages (Fuel Leak Case RO-0000407) is located approximately 460 feet west-northwest of the Site (Figure 9). The project was closed in February 2002 after the removal of two USTs, an excavation of impacted soils and the completion of nine groundwater monitoring events between 1999 and 2001. In their closure letter dated February 15, 2002, ACEH states that 240 ppm TPH-d and 4.0 ppm MTBE remains in soils and 1.20 ppm TPH-d and 1.50 ppm MTBE remains in groundwater at the Site. Residential properties are located immediately downgradient of the impacts and the extent and magnitude of the impacts beneath the residential properties were not evaluated.

The other downgradient project, Herrington-Olsen Photo (Fuel Leak Case STID #3919), is located approximately 645 feet north-northwest of the Site (Figure 9). The project was closed in February 9, 2001 after a UST was removed in 1993, some impacted soils were removed, and eleven groundwater events were conducted between 1994 and 1999. In their closure letter dated February 20, 2001, ACEH states that 5 ppm benzene and 1,600 ppm TPH-g remains in soils and 2.6 ppm benzene, 25.0 ppm TPH-g, and 6.4 TPH-d remains in groundwater at the Site.

### 3.0 IMPACT DISTRIBUTION

#### 3.1 Groundwater Impacts

Recent groundwater monitoring events were conducted in September 2008 and April 2009. Data from the recent events indicate that dissolved-phase hydrocarbons remain in groundwater at and downgradient of the former tankpit at the Site (west-southwest to west-northwest), but PSH greater than 0.1-foot has not been detected since 1995. Castro Street and right-of-ways as well as Interstate Highway I-980 extend 395 feet west-northwest of the Site.

In April 2009, PSH was not detected during gauging activities and groundwater elevations in the wells ranged from 9.10 feet msl in well ES-8 to 9.67 feet msl in well ES-6. The groundwater flow direction was radial from the west-southwest to the northwest while the calculated hydraulic gradient was 0.0042 ft/ft. The groundwater gradient on April 8, 2009 is presented as Figure 3. Cumulative graphs of groundwater elevations and PSH thicknesses are presented as Appendix B.

Analytical results from the April 2009 groundwater event indicated concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX), total petroleum hydrocarbonsgasoline, diesel, and oil ranges (TPH-g, TPH-d, and TPH-o, respectively), naphthalene, tert-amyl methyl ether (TAME), diisopropyl ether (DIPE), 1,2-dichloroethane (EDC), 1,2-dibromoethane (EDB) were detected. Of the detected constituents, benzene, toluene and naphthalene exceeded the Risk Based Screening Level (RBSL) established for each constituent by the City of Oakland. Benzene exceeded its RBSL of 0.001 mg/L in eight wells (BC-1, BC-2, ES-1, ES-2, ES-3, ES-4, ES-5, and ES-8). Toluene exceeded its RBSL of 0.150 mg/L in well ES-5. Naphthalene exceeded its RBSL of 0.020 mg/L in three wells (ES-1, ES-3, and ES-5). As RBSLs have not been established for TPH, California Environmental Protection Agency (Cal/EPA) Environmental Screening Levels (ESLs) were utilized for comparison purposes. TPH-g and TPH-d were detected above their ESL of 0.100 mg/L in seven wells (BC-1, ES-1, ES-2, ES-3, ES-4, ES-5, and ES-8). No other detected analyte exceeded an established RBSL or ESL, as applicable.

It should be noted that well MW-1 at the Peerless Stages (Fuel Leak Case RO-0000407) LOP facility detailed in Section 2.2 is present downgradient of groundwater impacts related to the Site (approximately 455 feet west-northwest of the Site). Well MW-1 was utilized as an upgradient well for the Peerless Stages project and screened appropriately to detect groundwater impacts related to the Site, but contained only sporadic, low concentrations of dissolved-phase petroleum hydrocarbons.

Dissolved-phase benzene in groundwater is illustrated as Figure 4. Concentrations of dissolved-phase TPH-g and TPH-d in groundwater are illustrated as Figures 5 and 6, respectively. Concentrations in BC-3 were not utilized for contouring as the well completion details for BC-3 are unknown and the well screen does not appear to intercept the impacted zone. Table 2a presents a summary of groundwater gauging data from the April 2009 event while Table 2b presents a cumulative summary of groundwater gauging data. Table 3a presents a summary of groundwater analytical data from the April 2009 event while Table 3b presents a cumulative summary of groundwater analytical data. Appendix A presents cumulative graphs of groundwater elevations and PSH thickness while Appendix B presents cumulative graphs of dissolved-phase BTEX and TPH constituent concentrations.

The groundwater data indicates that remedial efforts were successful in removing enough source material that significant off-site migration of petroleum hydrocarbons in groundwater has not occurred. The vast majority of impacted groundwater with significant concentrations of petroleum hydrocarbons remains on-site.

#### 3.2 Soil Impacts

It does not appear that release determination soil sampling was conducted at the time of the removal of the former USTs. However, soil data does exist from several borings advanced in the area of the former tankpit both before and after the USTs were removed. Table 4 presents a cumulative summary of soil analytical results. Based on the available soil data, the soil impacts appear to have been limited to the immediate area of the tankpit as impacts were only present above laboratory detection limits in soil

samples collected from the borings for wells BC-1, BC-2, BC-3, ES-1, ES-2 and ES-5. These borings are present either within or immediately outside the perimeter of the former tankpit. Green Star submitted a Workplan dated November 11, 2008 in an effort to address ACEH's request to confirm current soil impacts near the former source area. Cross-sections illustrating the subsurface at the Site to approximately ten feet below msl are presented as Figures 7 and 8.

#### 4.0 RECEPTOR SURVEY

#### 4.1 Water Well Search

Green Star requested data related to water wells present within at least 0.5-mile of the Site from known regulatory data sources: Alameda County Public Works Agency (ACPWA) and State of California Department of Water Resources (DWR). Both agencies requested the related files remain confidential; therefore, the reviewed data is not included in this report. The records indicated that the vast majority of water wells in the area of the Site are utilized for environmental purposes: monitoring or remediation. A few of the wells were listed for irrigation or domestic use, but none were listed as public supply wells. The non-environmental wells are all located at least 0.4-mile from the Site and none were listed as being downgradient from the Site. No listed well appears to be impacted by or be present in a location that could be impacted in the future by petroleum hydrocarbons related to the Site.

#### 4.2 Area Survey

A walking survey of the Site's area was conducted in order to identify unknown, potential receptors or sensitive property uses (residences, water wells, schools, parks, etc.; Figure 9). The survey included an area within at least 500 feet of the Site's property boundary. The area is developed as a dense urban landscape with the majority of the survey area's developments being commercial operations or multi-family residences. No indication of the presence of water wells was observed during the survey. No residences are present within 500 feet downgradient of the Site. Other than residences at upgradient properties, only two sensitive properties were observed. Begin Plaza Park is present just northeast of the Site in an up- to cross-gradient location relative to groundwater impacts at the Site. 4C's Child Development Center (4C's) is located approximately 485 feet downgradient of the Site, across Castro Street, I-980 and Brush Street. It should be noted that 4C's is adjacent to the Peerless Stages project site (ACEH LOP facility) and approximately 50 feet from known impacts at Herrington-Olsen Photography (ACEH LOP facility). Impacts related to the Site do not appear to threaten sensitive properties or other potential receptors.

#### 4.3 Vapor Survey

A vapor survey of subsurface conduits at the Site, mainly near the impacted area, was conducted in April 2009. The Site and surrounding streets and right-of-ways were evaluated for the existence of conduits that could allow vapors related to petroleum hydrocarbon impacts at the Site to migrate to the surface or building interiors. Once identified, the atmosphere inside the conduits was screened for VOCs using a photo-ionization detector (PID). The conduits identified included: various manways (sewer, natural gas, water), storm drains, and floor drains. No VOCs were measured in the conduits' atmospheres. The locations of the identified conduits and related measurements are illustrated as Figure 10.

#### 4.4 Utility/Conduit Survey

A survey of subsurface utilities in the vicinity of the impacts at the Site was conducted in order to evaluate the potential for the utilities or related trenches to intercept the impacts or impacted groundwater. Groundwater impacts from the Site extend under Castro Street. Four subsurface utility lines are located under Castro Street: a 24-inch outside diameter (OD) sanitary sewer, an 8-inch inside diameter (ID) gas line, a 12-inch OD storm sewer and an 8-inch ID water line (Figure 2b). None of the utilities under Castro Street intercept the water table. The base of the 24-inch sanitary sewer is closest to the groundwater table at approximately 11.7 feet above msl while groundwater has been present in monitoring well ES-8 at elevations ranging from 5.48 to 9.1 feet above msl. Several utility lines are located on-site near the source area, but the on-site lines are very near the surface and do not intercept or approach the water table. Furthermore, direct measurements of accessible near surface atmospheres in accessible lines indicated that measurable concentrations of petroleum hydrocarbons were not present (Section 4.2).

#### **5.0 CLEANUP GOALS**

As RBSLs have been established by the City of Oakland and the RWQCB states that RBSLs may be used in lieu of ESLs at Oakland sites<sup>5</sup>, Tier 1 RBSLs will be utilized as cleanup standards. The Site has been utilized as a bus terminal since 1929 and no indication of a residential property being impacted by petroleum hydrocarbons related to the former USTs at the Site has been observed; therefore, commercial RBSLs will be utilized. Furthermore, as the vast majority of the groundwater impacts remain on-site as evidenced by relatively low concentrations of impacts in the well ES-8 (40 feet downgradient of the former tankpit) and no indication of actual use of impacted groundwater at off-site properties exists, RBSLs related to the groundwater ingestion pathway are not appropriate for the project. Tables 3a and 4 present Tier 1 RBSLs and ESLs (TPH) for groundwater and soil, respectively, relative to the appropriate data sets.

#### 6.0 DATA GAPS

Apparent data gaps include the current status of soil impacts near the source area and the lack of downgradient delineation of groundwater impacts beyond well ES-8. Green Star submitted a Workplan dated November 11, 2008 in an effort to address ACEH's request to confirm current soil impacts near the former source area. There do not appear to be any suitable locations for drilling downgradient of ES-8 until west of I-980 near Brush Street, which is approximately 350 feet west-northwest of well ES-8. As such, additional downgradient delineation does not appear to be warranted.

#### 7.0 SUMMARY AND CONCLUSIONS

This Site Conceptual Model documents the details regarding the Site, surrounding areas, and related environmental project data related to a former UST system. The following is a summary of the report.

- The Site has been developed as a bus terminal since 1929. Six, out-of-service USTs were removed from the Site in April 1990. The USTs were reportedly out of use for at least two decades prior to their removal. Subsurface investigations between 1989 and 1997 indicated that petroleum hydrocarbon impacts, including PSH, were present in soils and groundwater at the Site. The groundwater gradient at the Site has historically ranged in a radial pattern from the west-southwest to the northwest. A remediation system was operated from 1992 to 1997 to recover PSH and dissolved-phase impacts in groundwater utilizing, total fluids recovery pumps in four, four-inch diameter wells (ES-1, ES-5, BC-1 and ES-2). Data indicate that the system was effective as PSH greater than 0.1-foot has not been detected since 1995.
- Groundwater monitoring events were conducted in September 2008 and April 2009. Data from these events indicate that dissolved-phase petroleum hydrocarbons remain in groundwater at and downgradient of the former tankpit at the Site (west-southwest to west-northwest), but PSH was not detected. In April 2009, the groundwater flow direction was radial from the west-southwest to the northwest while the calculated hydraulic gradient was 0.0042 ft/ft. Of the detected constituents, benzene, toluene and naphthalene exceeded the RBSL established for each constituent by the City of Oakland. The groundwater data indicates that remedial efforts were successful in removing enough source materials that significant off-site migration of petroleum hydrocarbons in groundwater has not occurred. The vast majority of impacted groundwater with significant concentrations of petroleum hydrocarbons remains on-site.

Based on the available soil data, the soil impacts appear to have been limited to the immediate area of the tankpit as impacts were only present above laboratory detection limits in soil samples collected from the borings for wells BC-1, BC-2, BC-3, ES-1, ES-2 and ES-5. These borings are present either within or immediately outside the perimeter of the former tankpit. Green Star submitted a Workplan dated November 11, 2008 in an effort to address ACEH's request to confirm current soil impacts near the former source area.

- The Site has been developed as a bus terminal since 1929 and as such is a commercial property. The Site is zoned by the City of Oakland as an area of Central Business Service Commercial/Downtown Residential Open Space Combining zones (C-51/S-17). It is unlikely that the Site will be utilized in the near or even relatively distant future for any purpose other than bus terminal operations.
- Adjacent properties with the highest potential to be impacted by petroleum hydrocarbons related to the former source at the Site are Castro Street and Interstate Highway I-980 which extend 395 feet west-northwest of the Site. A commercial property and Brush Street are located adjacent to and downgradient of I-980. Beyond Brush Street is a mixed use neighborhood of commercial and residential properties. The nearest sensitive property downgradient of the Site is a day care center which is located in the mixed use neighborhood northwest of Brush Street. The day care center is located approximately 485 feet northwest the Site.

- The Site is underlain by unconsolidated Quaternary-aged sediments generally associated with beach and dune formations. In this area, the Quaternary deposits at the surface are mapped as the Merritt Sands which can be up to 60 feet thick. The Quaternary-aged sediments are assumed to be located on the Cretaceous and Jurassic-aged Franciscan bedrock complex which is approximately 450 ft below msl in the area of the Site. Groundwater in the area is utilized for very limited amounts of irrigation, industrial and potable purposes, but shallow groundwater (less than 50 feet bgs) use in the area is most typically for household irrigation purposes. The City of Oakland obtains its municipal and drinking water from the EBMUD.
- Two nearby environmental projects with similar released constituents are located downto cross-gradient of the Site. One of the projects is adjacent to the day care center described above.
- A Receptor Survey consisting of a water well search, a walking area survey, a vapor survey and utility/conduit survey did not indicate any receptors in the impacted area related to the Site are likely to be impacted by the released petroleum hydrocarbons.
- As RBSLs have been established by the City of Oakland and the RWQCB states that RBSLs may be used in lieu of ESLs at Oakland sites, Tier 1 RBSLs for commercial properties will be utilized as cleanup standards. Furthermore, as the vast majority of the groundwater impacts remain on-site as evidenced by relatively low concentrations of impacts in the well ES-8 (40 feet downgradient of the former tankpit) and no indication of actual use of impacted groundwater at off-site properties exists, RBSLs related to the groundwater ingestion pathway are not appropriate for the project.
- Apparent data gaps include the current status of soil impacts near the source area and the lack of downgradient delineation of groundwater impacts beyond well ES-8. Green Star submitted a Workplan dated November 11, 2008 in an effort to address ACEH's request to confirm current soil impacts near the former source area. There do not appear to be any suitable locations for drilling downgradient of ES-8 until west of I-980 near Brush Street, which is approximately 350 feet west-northwest of well ES-8. As such, additional downgradient delineation does not appear to be warranted.

#### 8.0 QUALIFICATIONS

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This warranty is in lieu of all other warranties either expressed or implied. This company is not responsible for the independent conclusions, opinions or recommendations made by others based on the records review, site inspection, field exploration, and laboratory test data presented in this report.

It should be noted that all environmental assessments are inherently limited because they are developed from limited research and site investigation. Subsurface conditions investigated as part of these kinds of investigations may differ from conditions observed on the surface or indicated in written reports. It is also important to note that the conditions observed at the project site and surrounding properties are limited to the day of the site visit and may change with the passage of time.

#### 9.0 REFERENCES

- 1. USGS (2000), Geologic map and map database of the Oakland metropolitan area, Alameda, Contra Costa, and San Francisco Counties, California.
- 2. California Regional Water Quality Control Board, San Francisco Bay Region (January 2007), San Francisco Bay Basin (Region 2), Water Quality Control Plan (Basin Plan).
- 3. USDA Soil Conservation Service (March 1981), Soil Survey of Alameda County, California, Western Part.
- 4. California Regional Water Quality Control Board, San Francisco Bay Region, Groundwater Committee (June 1999), East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Costs Counties, CA.
- 5. California Regional Water Quality Control Board, San Francisco Bay Region (Interim Final, Revised May 2008), Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater.

### LIST OF TABLES

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TABLE 2a	Summary of Groundwater Level Measurements (April 2009)
TABLE 2b	Cumulative Summary of Groundwater Level Measurements
TABLE 3a	Summary of Groundwater Analytical Results (April 2009)
TABLE 3b	Cumulative Summary of Groundwater Analytical Results
TABLE 4	Cumulative Summary of Soil Analytical Results

Reference	Document	I	1		
#	Date	Туре	Title	Author	Description
1	6/22/1989	Report	Phase I Investigation	Brown and Caldwell	Report determined that six USTs were present at the Site. Based on analytical testing of residual liquids in the USTs and soil samples, the USTs appeared to contain diesel, gasoline and water and at least some release has occurred to the subsurface. Groundwater was encountered at approximately 22 ft bgs but was not sampled. Wells BC-1, BC-2, and BC-3 were found to be installed by 1992, but were not documented by this report.
2	7/21/1989	Letter	Report of Soil Contamination	Greyhound Lines, Vernon Sorgee PE	Reported release of diesel and/or gasoline from six, out of service USTs.
3	1/27/1992	Report	Preliminary Site Investigation Report	Engineering-Science, Inc.	The six USTs were reportedly unused for approximately 20 years. The six USTs were removed after the 1989 investigation. In November 1991, Engineering-Science, Inc. installed five monitoring wells (ES-1 through ES-5) and performed groundwater monitoring and a storm drain inspection. PSH was detected in wells BC-1 and ES-5. In soil, TPH-d was detected in only one sample from ES-5 while TEX was present samples from ES-1, ES-2, and ES-5. In groundwater, BTEX was present in ES-1, ES-2, ES-3 and ES-5 while TPH-d was present only in ES-5. Wells BC-1, BC-2 and BC-3 were not sampled. No evidence of impacts were observed in the inspected storm drains.
4	7/13/1992	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Monthly monitoring report of water levels and PSH. PSH was detected in four of the monitoring wells.
5	8/5/1992	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells. Quarterly groundwater sampling was performed.
6	8/19/1992	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in four of the monitoring wells.
7	10/1/1992	Letter	Hydrocarbon Recovery System Installation/ Monitoring	Engineering-Science, Inc.	Summarizes the proposed remediation system that is to be installed. Documents system monitoring and groundwater monitoring procedures which include monthly and quarterly reports.
8	10/6/1992	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in four of the monitoring wells.
9	11/11/1992	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in four of the monitoring wells. Quarterly groundwater sampling was performed.
10	12/15/1992	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in four of the monitoring wells. The hydrocarbon recovery system was installed in November 1992.
11	12/15/1992	Report	Tank Closure Documentation	Engineering-Science, Inc.	The six USTs were removed in April 1990. As no documentation of the tank removal was available on the San Francisco Bay Region of the California RWQCB's fuel leak list, this report was created to document the removal. The report contains tank disposal records, records of soil disposal, analytical results of samples collected during the tank/soil removal, laboratory reports including quality control/quality assurances, and chain-of-custody documentation in order to provide the proper tank closure documentation requested by ACEH. No release determination samples were collected as part of the removal operation.

				2.22.2	
Reference #	Document Date	Туре	Title	Author	Description
12	12/18/1992	Report	Hydrocarbon Recovery System Installation	Engineering-Science, Inc.	A remediation system was installed in November 1992 to recover PSH utilizing pneumatic, total fluids pumps in four, four-inch ID diameter recovery wells (30 ft. deep; ES-1, ES-5, BC-1 and ES-2). The recovered fluids were treated with an oil/water separator and activated carbon absorption columns prior to discharge to the sanitary sewer. Weekly system maintenance checks were performed during the initial start-up and first eight weeks of operation.
13	1/11/1993	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.
14	1/31/1993	Report	Quarterly Status Report	Engineering-Science, Inc.	Quarterly monitoring report. PSH was detected in four of the wells. Quarterly groundwater sampling was performed.
15	3/8/1993	Report	Quarterly Status Report	Engineering-Science, Inc.	Continued quarterly monitoring report. PSH was detected in three of the wells. Quarterly groundwater sampling was performed.
16	3/8/1993	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.
17	4/2/1993	Report	Supplemental Site Assessment Investigation Work Plan	Engineering-Science, Inc.	A workplan was created to further define the lateral and vertical extent of soil and groundwater contamination. Specific remedial actions for mitigating the contamination will also be assessed. Proposed work includes installation of six to eight soil borings which will be converted to groundwater monitoring wells.
18	4/13/1993	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.
19	5/11/1993	Report	Quarterly Status Report	Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected in three of the monitoring wells. Quarterly groundwater sampling was performed.
20	6/15/1993	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.
21	7/29/1993	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.
22	8/12/1993	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in two of the monitoring wells.
23	8/30/1993	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in two of the monitoring wells.
24	10/1/1993	Report	Preliminary Risk Evaluation	Engineering-Science, Inc.	The risk assessment includes an evaluation of potential contaminant exposure pathways, existing contaminant levels and distribution, chemical characteristics, and site-specific factors such as soil permeability, and local land and water uses. For this assessment, the site was divided into two regions: the former Tank Pit area (source area) and the region surrounding the source area (perimeter). Concentrations of contaminants in groundwater within the source area exceed criteria derived to protect both human health and the environment. None of the chemicals detected in the groundwater within the perimeter were found to exceed the criteria used, indicating that the recovery system is preventing migration of contaminants from the source area. Concentrations of BTEX in soils did not exceed calculated risk-based preliminary remediation goals in either the source area or the perimeter sample locations. TPH was detected in soils in the source area, but risk-based PRGs could not be derived for these contaminants because USEPA-derived toxicity values are not available. It was concluded that a more detailed quantitative risk assessment was not needed.
25	10/15/1993	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.

Reference #	Document Date	Туре	Title	Author	Description
26	11/16/1993	Report	Quarterly Status Report	Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected in four of the monitoring wells. Quarterly groundwater sampling was performed.
27	11/18/1993	Report	Supplemental Site Assessment	Engineering-Science, Inc.	Documented the installation of six soil borings/wells (ES-6 through ES-11) and groundwater monitoring event. No impacts were detected in the soil samples. ES-11 was the only newly installed monitoring well with detectable concentrations of BTEX. While PSH was not detected, the continued operation of the groundwater recovery system on-site and continued groundwater monitoring was recommended. Groundwater impacts were limited to wells near the former USTs and ES-11.
28	12/15/1993	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.
29	1/13/1994	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.
30	2/26/1994	Report	Quarterly Status Report	Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected in three of the monitoring wells. Quarterly groundwater sampling was performed.
31	3/18/1994	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.
32	4/11/1994	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in four of the monitoring wells.
33	5/18/1994	Report	Quarterly Status Report	Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected in four of the monitoring wells. Quarterly groundwater sampling was performed.
34	6/1/1994	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in four of the monitoring wells.
35	7/8/1994	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in three of the monitoring wells.
36	9/1/1994	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in four of the monitoring wells.
37	9/7/1994	Report	Quarterly Status Report	Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was not recorded due to equipment theft. Quarterly groundwater sampling was performed.
38	9/28/1994	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in four of the monitoring wells.
39	10/31/1994	Report	Quarterly Status Report	Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected in one of the monitoring wells. Quarterly groundwater sampling was performed.
40	12/15/1994	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected in two of the monitoring wells. The last report in which PSH was detected greater than 0.1-foot.

Reference #	Document Date	Туре	Title	Author	Description
41	1/23/1995	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected at less than 0.1-foot in one of the monitoring wells.
42	2/14/1995	Report	Quarterly Status Report	Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was not detected in any of the monitoring wells. Quarterly groundwater sampling was performed.
43	2/23/1995	Letter	Monthly Monitoring Report	Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected at less than 0.1-foot in two of the monitoring wells.
44	3/23/1995	Letter	Monthly Monitoring Report	Parsons Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected at less than 0.1-foot in one of the monitoring wells.
45	5/19/1995	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected at less than 0.1-foot in one of the monitoring wells. Quarterly groundwater sampling was performed.
46	7/6/1995	Letter	Monthly Monitoring Report	Parsons Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected at less than 0.1-foot in three of the monitoring wells.
47	7/7/1995	Letter	Monthly Monitoring Report	Parsons Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected at less than 0.1-foot in one of the monitoring wells.
48	8/8/1995	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected at less than 0.1-foot in one of the monitoring wells. Quarterly groundwater sampling was performed.
49	9/25/1995	Letter	Monthly Monitoring Report	Parsons Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected at less than 0.1-foot in two of the monitoring wells.
50	10/17/1995	Letter	Monthly Monitoring Report	Parsons Engineering-Science, Inc.	Continued monthly monitoring report. PSH was detected at less than 0.1-foot in one of the monitoring wells.
51	12/5/1995	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected at less than 0.1-foot in one of the monitoring wells. Quarterly groundwater sampling was performed.
52	2/26/1996	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected at less than 0.1-foot in one of the monitoring wells. Quarterly groundwater sampling was performed.
53	5/2/1996	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was not detected in any of the monitoring wells. Quarterly groundwater sampling was performed.
54	8/9/1996	Report	Quarterly Status Report		Continued quarterly groundwater monitoring report. PSH was not detected in any of the monitoring wells. Quarterly groundwater sampling was performed.
55	11/26/1996	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was not detected in any of the monitoring wells. Quarterly groundwater sampling was performed.
56	2/18/1997	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was not detected in any of the monitoring wells. Quarterly groundwater sampling was performed.
57	5/23/1997	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was not detected in any of the monitoring wells. Quarterly groundwater sampling was performed.
58	9/15/1997	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was not detected in any of the monitoring wells. Quarterly groundwater sampling was performed. Product had not been recovered since September 1994 and to date 1,015 gallons of free product had been recovered. In addition, 82,610 gallons of groundwater had been treated and discharged to the sanitary sewer.

Reference #	Document Date	Туре	Title	Author	Description
59	11/25/1997	Report	Quarterly Status Report	Parsons Engineering-Science, Inc.	Continued quarterly groundwater monitoring report. PSH was detected at less than 0.1-foot in one of the monitoring wells. Quarterly groundwater sampling was performed. The recovery system was deactivated in January 1997.
60	6/14/2000	Report	Case Closure Checklist, Leaking Underground Storage Tank Program	Central Valley Regional Water Quality Control Board	Case closure checklist, site location map, water well driller's reports, analytical summary (monitoring wells: 07/08/92-10/07/97), site plan, soil analytical data map, groundwater analytical data map.
61	6/15/2000	Report	Risk Management Plan	Parsons Engineering Science, Inc.	Includes stipulations and restrictions that must be followed in order to comply with all requirements of the Risk Management Plan as specified by the ACEH, CASE closure checklist, site location map, analytical summary (monitoring wells: 07/08/92-10/07/97), site plan, soil analytical data map, and groundwater analytical data map.
62	6/15/2000	Report	Final Closure Request	Parsons Engineering Science, Inc.	Reviews site history and existing conditions (in 12/97, the groundwater monitoring program was terminated with ACEH and RWQCB's approval). Requested No Further Action (NFA) as: none of the 384 wells located in Section 26 are used for municipal water supply, Lake Merrit is located approximately 1,700 feet east of the site and is the nearest surface water body, regional groundwater flow is to the south southwest, no soil remediation was required at the site, a total fluid recovery system was used between 01/93 through 02/97 to remove PSH discovered in four onsite wells (ES-1, ES-2, ES-5, and BC-1), PSH was completely removed and dissolved constituents were reduced to levels of diminishing returns, factors limiting potential adverse impacts include the limited horizontal and vertical extent of the dissolved hydrocarbon plume and the removal of PSH from the vicinity of of the former UST locations, and absence of potable drinking wells or reservoirs within a one-mile radius. Conclusions from the Preliminary Risk Evaluation and Tier II Benzene assessment indicated the lack of any significant health or environmental threats to current or future users of the site under currentuse conditions. It was recommended that a NFA status be granted for the site with a deed restriction and Risk Management Plan in place.
63	11/12/2008	Report	Groundwater Monitoring Report	Green Star Environmental	A groundwater monitoring event was performed in September 2008 utilizing 13 wells. PSH was not detected. Benzene, toluene, and naphthalene exceeded City of Oakland RBSLs. TPH-g and TPH-d exceeded Cal EPA ESLs. The majority of the groundwater impacts remained on-site.

ACEH = Alameda County Environmental Health

RWQCB = Regional Water Quality Control Board

Well No.	Date	Screened Interval (ft bgs)	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
BC-1	04/08/09	unknown	24.41		14.95		29.55	9.46
BC-2 <sup>2</sup>	04/08/09	unknown	24.37		16.34		19.91	na
BC-3 <sup>2</sup>	04/08/09	unknown	24.42		14.93		20.15	na
ES-1	04/08/09	10.5-30.5	24.11		14.75		30.15	9.36
ES-2	04/08/09	10.5-30.5	24.66		15.25		31.15	9.41
ES-3	04/08/09	15-35	24.93		15.65		31.55	9.28
ES-4	04/08/09	10.5-30.5	23.93		14.46		29.95	9.47
ES-5	04/08/09	10.5-30.5	24.08		14.75		30.13	9.33
ES-6	04/08/09	15-35	27.06		17.39		35.00	9.67
ES-7	04/08/09	15-35	25.66		16.52		31.29	9.14
ES-8	04/08/09	15-35	24.74		15.64		28.80	9.10
ES-9	04/08/09	15-35	23.33		14.14		34.97	9.19
ES-10 <sup>3</sup>	04/08/09	15-35	nm	nm	nm	nm	nm	nm
ES-11	04/08/09	15-35	24.08		14.59		35.05	9.49

nm = not measured

na = not applicable

-- = none detected

BMP = below measuring point

Note: 1) On April 8, 2009, the well network was surveyed according to the North American Datum, 1983 (NAD 83) coordinate system.

2) Well casings are not vertical.

3) Monitoring well ES-10 has been paved over and is not accessible.

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
BC-1	07/07/92	24.41	19.55	20.66	1.11	nm	4.65
BC-1	08/04/92	24.41	18.47	20.90	2.43	nm	5.48
3C-1	08/31/92	24.41	18.68	21.02	2.34	nm	5.29
3C-1	10/06/92	24.41	18.82	21.14	2.32	nm	5.15
3C-1	11/06/92	24.41	18.24	20.69	2.45	nm	5.70
3C-1		24.41					
	01/07/93		19.60	21.76	2.16	nm	4.40
3C-1	04/06/93	24.41		18.26		nm	6.15
3C-1	07/03/93	24.41	19.05	19.15	0.10	nm	5.34
3C-1	08/04/93	24.41	19.30	19.40	0.10	nm	5.09
3C-1	09/01/93	24.41	19.23	19.32	0.09	nm	5.16
3C-1	10/07/93	24.41	19.25	19.43	0.18	nm	5.13
3C-1	11/02/93	24.41	19.42	19.61	0.19	nm	4.95
3C-1	12/06/93	24.41	19.31	19.53	0.22	nm	5.06
3C-1	01/05/94	24.41	19.25	19.42	0.17	nm	5.13
3C-1	02/02/94	24.41	19.30	19.50	0.20	nm	5.07
3C-1	03/02/94	24.41	18.40	18.60	0.20	nm	5.97
3C-1	04/07/94	24.41	18.10	18.20	0.10	nm	6.29
		24.41					
3C-1	05/05/94		18.65	18.84	0.19	nm	5.72
BC-1	06/07/94	24.41	18.25	18.52	0.27	nm	6.11
3C-1	07/13/94	24.41		18.70		nm	5.71
3C-1	08/03/94	24.41		18.40		nm	6.01
3C-1	09/14/94	24.41	18.72	18.73	0.01	nm	5.69
3C-1	10/06/94	24.41		18.58		nm	5.83
3C-1	11/02/94	24.41	18.81	18.82	0.01	nm	5.60
3C-1	12/07/94	24.41	17.93	17.94	0.01	nm	6.48
3C-1	01/13/95	24.41		18.58		nm	5.83
3C-1	02/14/95	24.41	16.76	16.80	0.04	nm	7.64
3C-1	03/07/95	24.41		17.08		nm	7.33
3C-1	04/11/95	24.41		16.55		nm	7.86
3C-1 3C-1	05/09/95	24.41	16.99	17.00	0.01		7.42
						nm	
3C-1	06/09/95	24.41	17.38	17.39	0.01	nm	7.03
3C-1	07/06/95	24.41		17.64		nm	6.77
3C-1	08/10/95	24.41		17.89		nm	6.52
3C-1	09/07/95	24.41		17.96		nm	6.45
BC-1	10/03/95	24.41		18.23		nm	6.18
BC-1	10/05/95	24.41		18.23		nm	6.18
BC-1	11/02/95	24.41		18.02		nm	6.39
BC-1	12/07/95	24.41		18.64		nm	5.77
BC-1	01/03/96	24.41		18.36		nm	6.05
BC-1	02/06/96	24.41		17.43		nm	6.98
BC-1	03/12/96	24.41		16.85			7.56
						nm	
BC-1	05/07/96	24.41		17.45		nm	6.96
BC-1	06/05/96	24.41		17.46		nm	6.95
BC-1	09/05/96	24.41		18.16		nm	6.25
BC-1	10/08/96	24.41		18.40		nm	6.01
BC-1	11/08/96	24.41		18.57		nm	5.84
3C-1	12/13/96	24.41		18.24		nm	6.17
3C-1	01/16/97	24.41		17.19		nm	7.22
BC-1	02/14/97	24.41		16.88		nm	7.53
3C-1	03/07/97	24.41		17.31		nm	7.10
3C-1	04/17/97	24.41		17.92		nm	6.49
3C-1 3C-1	07/15/97	24.41		18.61		nm	5.80
	10/07/97	24.41		18.72			5.69
3C-1 3C-1						nm 20.55	
	09/24/08	24.41		16.68		29.55	7.73
3C-1	04/08/09	24.41		14.95		29.55	9.46
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3C-2 <sup>2</sup>	07/07/92	24.37		16.89		nm	7.48
3C-2 <sup>2</sup>	08/04/92	24.37		18.46		nm	5.91
3C-2 <sup>2</sup>							
	08/31/92	24.37		18.89		nm	5.48
3C-2 <sup>2</sup>	10/06/92	24.37		18.50		nm	5.87
3C-2 <sup>2</sup>	11/06/92	24.37		15.98		nm	8.39
3C-2 <sup>2</sup>	01/07/93	24.37		13.50		nm	10.87
3C-2 <sup>2</sup>	04/06/93	24.37		15.20		nm	9.17
3C-2 <sup>2</sup>	07/03/93	24.37		17.75		nm	6.62
3C-2 <sup>2</sup>	08/04/93	24.37		18.10		nm	6.27
3C-2 <sup>2</sup>	09/01/93	24.37		18.48		nm	5.89
3C-2 <sup>2</sup>	10/07/93	24.37		19.02		nm	5.35
3C-2 <sup>2</sup>	11/02/93	24.37		18.76		nm	5.61
3C-2 <sup>2</sup>							
	12/06/93	24.37		18.87		nm	5.50
3C-2 <sup>2</sup>	01/05/94	24.37		16.76		nm	7.61

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
BC-2 <sup>2</sup>	02/02/94	24.37		16.42		nm	7.95
BC-2 <sup>2</sup>	05/05/94	24.37		17.30		nm	7.07
BC-2 <sup>2</sup>	06/07/94	24.37		17.70		nm	6.67
BC-2 <sup>2</sup>	07/13/94	24.37		17.10		nm	7.27
BC-2 <sup>2</sup>	08/03/94	24.37		18.36		nm	6.01
BC-2 <sup>2</sup>	09/14/94	24.37		17.04		nm	7.33
BC-2 <sup>2</sup>	01/13/95	24.37		12.80		nm	11.57
BC-2 <sup>2</sup>	02/14/95	24.37		15.11		nm	9.26
BC-2 <sup>2</sup>	03/07/95	24.37		16.21		nm	8.16
BC-2 <sup>2</sup>	04/11/95	24.37		15.56		nm	8.81
BC-2 <sup>2</sup>	05/09/95	24.37		15.81		nm	8.56
BC-2 <sup>2</sup>	06/09/95	24.37		16.88		nm	7.49
BC-2 <sup>2</sup>	07/06/95	24.37		16.88		nm	7.49
BC-2 <sup>2</sup>	08/10/95	24.37		17.55		nm	6.82
BC-2 <sup>2</sup>	09/07/95	24.37		18.03		nm	6.34
BC-2 <sup>2</sup>	10/03/95	24.37		18.24		nm	6.13
BC-2 <sup>2</sup>	10/05/95	24.37		18.24		nm	6.13
BC-2 <sup>2</sup>	11/02/95	24.37		18.36		nm	6.01
BC-2 <sup>2</sup>	01/03/96	24.37		17.86		nm	6.51
BC-2 <sup>2</sup>	02/06/96	24.37		16.31		nm	8.06
BC-2 <sup>2</sup>	03/12/96	24.37		16.50		nm	7.87
BC-2 <sup>2</sup>	04/09/96	24.37		16.90		nm	7.47
BC-2 <sup>2</sup>	05/07/96	24.37		17.20		nm	7.17
BC-2 <sup>2</sup>	06/05/96	24.37		17.10		nm	7.27
BC-2 <sup>2</sup>	07/09/96	24.37		17.70		nm	6.67
BC-2 <sup>2</sup>	10/08/96	24.37		18.40		nm	5.97
BC-2 <sup>2</sup>	11/08/96	24.37		18.30		nm	6.07
BC-2 <sup>2</sup>	12/13/96	24.37		16.80		nm	7.57
BC-2 <sup>2</sup>	01/16/97	24.37		16.40		nm	7.97
BC-2 <sup>2</sup>	02/14/97	24.37		16.30		nm	8.07
BC-2 <sup>2</sup>	03/07/97	24.37		17.00		nm	7.37
BC-2 <sup>2</sup>	04/17/97	24.37		17.70		nm	6.67
BC-2 <sup>2</sup>	07/15/97	24.37		18.50		nm	5.87
BC-2 <sup>2</sup>	10/07/97	24.37		18.69		nm	5.68
BC-2 <sup>2</sup>	09/24/08	24.37		16.82		19.90	
BC-2 <sup>2</sup>	04/08/09	24.37		16.34		19.91	na
50-2	0 11 001 00	24.07		10.54		10.01	110
BC-3 <sup>2</sup>	07/07/92	24.42		16.68		nm	7.74
BC-3 <sup>2</sup>	08/04/92	24.42		19.24		nm	5.18
BC-3 <sup>2</sup>	08/31/92	24.42		19.10		nm	5.32
BC-3 <sup>2</sup>	10/06/92	24.42		18.93		nm	5.49
BC-3 <sup>2</sup>	11/06/92	24.42		16.81		nm	7.61
BC-3 <sup>2</sup>	01/07/93	24.42		16.55		nm	7.87
BC-3 <sup>2</sup>	04/06/93	24.42		15.44		nm	8.98
BC-3 <sup>2</sup>	07/03/93	24.42		16.81		nm	7.61
BC-3 <sup>2</sup>	08/04/93	24.42		18.82		nm	5.60
BC-3 <sup>2</sup>	09/01/93	24.42		18.40		nm	6.02
BC-3 <sup>2</sup>	10/07/93	24.42		18.58		nm	5.84
BC-3 <sup>2</sup>	11/02/93	24.42		18.53		nm	5.89
BC-3 <sup>2</sup>	12/06/93	24.42		18.67		nm	5.75
BC-3 <sup>2</sup>	01/05/94	24.42		17.51		nm	6.91
BC-3 <sup>2</sup>	02/02/94	24.42		16.40		nm	8.02
BC-3 <sup>2</sup>	03/02/94	24.42		15.00		nm	9.42
BC-3 <sup>2</sup>	04/07/94	24.42		17.70		nm	6.72
BC-3 <sup>2</sup>	05/05/94	24.42		17.70		nm	6.52
BC-3 <sup>2</sup>	06/07/94	24.42 24.42		17.34			7.08
BC-3 <sup>2</sup>	07/13/94			18.10		nm	
		24.42		18.10		nm	6.32
BC-3 <sup>2</sup>	08/03/94	24.42				nm	6.06
BC-3 <sup>2</sup>	09/14/94	24.42		18.31		nm	6.11
BC-3 <sup>2</sup>	10/06/94	24.42		18.58		nm	5.84
BC-3 <sup>2</sup>	11/02/94	24.42		18.61	-	nm	5.81
BC-3 <sup>2</sup>	12/07/94	24.42		16.29		nm	8.13
BC-3 <sup>2</sup>	01/13/95	24.42		15.40		nm	9.02

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
BC-3 <sup>2</sup>	02/14/95	24.42		15.86		nm	8.56
BC-3 <sup>2</sup>	03/07/95	24.42		16.21		nm	8.21
BC-3 <sup>2</sup>	04/11/95	24.42		15.08		nm	9.34
BC-3 <sup>2</sup>	05/09/95	24.42		16.92		nm	7.50
BC-3 <sup>2</sup>	06/09/95	24.42		16.90		nm	7.52
BC-3 <sup>2</sup>	07/06/95	24.42		16.87		nm	7.55
BC-3 <sup>2</sup>	08/10/95	24.42		17.54		nm	6.88
BC-3 <sup>2</sup>	09/07/95	24.42		17.80		nm	6.62
BC-3 <sup>2</sup>	10/03/95			17.95			6.47
	10/05/95	24.42		17.95		nm	
BC-3 <sup>2</sup>		24.42				nm	6.47
BC-3 <sup>2</sup>	11/02/95	24.42		18.33		nm	6.09
BC-3 <sup>2</sup>	01/03/96	24.42		17.55		nm	6.87
BC-3 <sup>2</sup>	02/06/96	24.42		17.15		nm	7.27
BC-3 <sup>2</sup>	03/12/96	24.42		16.50		nm	7.92
BC-3 <sup>2</sup>	04/09/96	24.42		16.60		nm	7.82
BC-3 <sup>2</sup>	05/07/96	24.42		16.90		nm	7.52
BC-3 <sup>2</sup>	06/05/96	24.42		17.00		nm	7.42
BC-3 <sup>2</sup>	07/09/96	24.42		17.40		nm	7.02
BC-3 <sup>2</sup>	10/08/96			18.10			6.32
		24.42		18.20		nm	
BC-3 <sup>2</sup>	11/08/96	24.42				nm	6.22
BC-3 <sup>2</sup>	12/13/96	24.42		17.60		nm	6.82
BC-3 <sup>2</sup>	09/24/08	24.42		17.01		20.11	
BC-3 <sup>2</sup>	04/08/09	24.42		14.93	-	20.15	na
ES-1	01/16/97	24.11		16.79		nm	7.32
ES-1	02/14/97	24.11		16.53		nm	7.58
ES-1	03/07/97	24.11		17.01		nm	7.10
ES-1	04/17/97	24.11		18.13		nm	5.98
ES-1	07/15/97	24.11		18.44		nm	5.67
ES-1	10/07/97	24.11	18.36	18.37	0.01	nm	5.75
ES-1	09/24/08	24.11		16.46		30.13	7.65
ES-1	04/08/09	24.11		14.75		30.15	9.36
ES-2	06/16/92	24.66	18.63	18.64	0.01	nm	6.03
ES-2	07/07/92	24.66		19.62		nm	5.04
ES-2	08/04/92	24.66	19.17	19.76	0.59	nm	5.38
ES-2	08/31/92	24.66	19.29	19.90	0.61	nm	5.25
ES-2	10/06/92	24.66	19.41	20.00	0.59	nm	5.14
ES-2	11/06/92	24.66	18.84	19.44	0.60	nm	5.71
ES-2	01/07/93	24.66	20.05	20.40	0.35	nm	4.54
ES-2 ES-2	04/06/93	24.66 24.66	18.20	18.31	0.11	nm	6.44
ES-2	07/03/93	24.66	19.31 19.15	19.32 19.18	0.01 0.03	nm nm	5.35 5.50
ES-2	08/04/93 09/01/93	24.66	19.15	19.16	0.03	nm	5.14
ES-2	10/07/93	24.66	19.57	19.60	0.03	nm	5.08
ES-2	11/02/93	24.66	19.60	19.61	0.03	nm	5.06
ES-2	12/06/93	24.66	19.71	19.74	0.03	nm	4.94
ES-2	01/05/94	24.66	19.57	19.61	0.04	nm	5.08
ES-2	02/02/94	24.66	19.20	19.25	0.05	nm	5.45
ES-2	03/02/94	24.66	19.00	19.50	0.50	nm	5.57
ES-2	04/07/94	24.66	19.10	19.19	0.09	nm	5.54
ES-2	05/05/94	24.66	18.77	18.79	0.02	nm	5.89
ES-2	06/07/94	24.66		18.61		nm	6.05
ES-2	07/13/94	24.66		18.78		nm	5.88
ES-2	08/03/94	24.66		18.72		nm	5.94
ES-2	09/14/94	24.66	19.10	19.14	0.04	nm	5.55
ES-2	10/06/94	24.66		18.86		nm	5.80
ES-2	11/02/94	24.66	18.97	19.91	0.94	nm	5.51
ES-2	12/07/94	24.66		18.14		nm	6.52
ES-2	01/13/95	24.66		18.86		nm	5.80
ES-2	02/14/95	24.66		16.92		nm	7.74
ES-2	03/07/95	24.66		17.25		nm	7.41
ES-2	04/11/95	24.66		16.71		nm	7.95
ES-2	05/09/95	24.66 24.66	 17.60	17.15	 0.01	nm	7.51
ES-2 ES-2	06/09/95	24.66	17.60 17.78	17.61 17.70	0.01	nm	7.06
ES-2 ES-2	07/06/95	24.66	17.78	17.79 18.10	0.01 0.01	nm nm	6.88 6.57
ES-2 ES-2	08/10/95 09/07/95	24.66	18.09 	18.10 18.29	0.01	nm nm	6.37
ES-2	10/03/95	24.66	 18.45	18.48	0.03	nm	6.20
_0-2	10/03/95	24.66	18.45 18.45	18.48	0.03	nm	6.20

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
ES-2	11/02/95	24.66	18.62	18.65	0.03	nm	6.03
ES-2	12/07/95	24.66	18.85	18.90	0.05	nm	5.80
ES-2	01/03/96	24.66	18.54	18.55	0.01	nm	6.12
ES-2	02/06/96	24.66		17.60		nm	7.06
ES-2	03/12/96	24.66		17.08		nm	7.58
ES-2	04/09/96	24.66		17.18		nm	7.48
ES-2	05/07/96	24.66		17.66		nm	7.00
ES-2	06/05/96	24.66		17.66		nm	7.00
ES-2	07/09/96	24.66		18.02		nm	6.64
ES-2	09/05/96	24.66		18.39		nm	6.27
ES-2	10/08/96	24.66		18.61		nm	6.05
ES-2	11/08/96	24.66		18.78			5.88
						nm	
ES-2	12/13/96	24.66		18.43		nm	6.23
ES-2	01/16/97	24.66		17.57		nm	7.09
ES-2	02/14/97	24.66		17.08		nm	7.58
ES-2	03/07/97	24.66		17.56		nm	7.10
ES-2	04/17/97	24.66		18.11		nm	6.55
ES-2	07/15/97	24.66		18.97		nm	5.69
ES-2		24.66					
	10/07/97			18.87		nm	5.79
ES-2	09/24/08	24.66		16.96		30.19	7.70
ES-2	04/08/09	24.66		15.25		31.15	9.41
ES-3	06/16/92	24.93		19.41	-	nm	5.52
ES-3	07/07/92	24.93		19.52		nm	5.41
ES-3	08/04/92	24.93		19.68		nm	5.25
ES-3	08/31/92	24.93		19.80		nm	5.13
ES-3	10/06/92	24.93		19.96		nm	4.97
ES-3	11/06/92	24.93	18.84	19.84	1.00	nm	5.90
		24.93					
ES-3	01/07/93			19.20		nm	5.73
ES-3	04/06/93	24.93		15.92		nm	9.01
ES-3	07/03/93	24.93		18.12		nm	6.81
ES-3	08/04/93	24.93		19.18		nm	5.75
ES-3	09/01/93	24.93		19.36		nm	5.57
ES-3	10/07/93	24.93		19.62		nm	5.31
ES-3	11/02/93	24.93		19.70			5.23
						nm	
ES-3	12/06/93	24.93		19.68		nm	5.25
ES-3	01/05/94	24.93		19.52		nm	5.41
ES-3	02/02/94	24.93		19.30		nm	5.63
ES-3	03/02/94	24.93		18.68		nm	6.25
ES-3	04/07/94	24.93		19.00		nm	5.93
ES-3	05/05/94	24.93		18.78		nm	6.15
ES-3		24.93		18.90			6.03
	06/07/94					nm	
ES-3	07/13/94	24.93		18.71		nm	6.22
ES-3	08/03/94	24.93		19.03		nm	5.90
ES-3	09/14/94	24.93		19.84		nm	5.09
ES-3	10/06/94	24.93		19.24		nm	5.69
ES-3	11/02/94	24.93		19.37		nm	5.56
ES-3	12/07/94	24.93		18.44		nm	6.49
ES-3	01/13/95	24.93	_			nm	7.58
				17.35			
ES-3	02/14/95	24.93		17.22		nm	7.71
ES-3	03/07/95	24.93		17.52		nm	7.41
ES-3	04/11/95	24.93		16.95		nm	7.98
ES-3	05/09/95	24.93	17.34	17.39	0.05	nm	7.58
ES-3	06/09/95	24.93		17.87		nm	7.06
ES-3	07/06/95	24.93		18.07		nm	6.86
ES-3	08/10/95	24.93	_	18.40		nm	6.53
ES-3	09/07/95	24.93		18.59		nm	6.34
ES-3	10/03/95	24.93		18.76		nm	6.17
ES-3	10/05/95	24.93		18.76		nm	6.17
ES-3	11/02/95	24.93		18.96		nm	5.97
ES-3	12/07/95	24.93		19.19		nm	5.74
ES-3	01/03/96	24.93		17.55		nm	7.38
ES-3	02/06/96	24.93		17.86		nm	7.07
ES-3	03/12/96	24.93		17.35		nm	7.58
ES-3	04/09/96	24.93		17.65		nm	7.28
ES-3	05/07/96	24.93		17.94		nm	6.99
ES-3	06/05/96	24.93		17.94		nm	6.99
ES-3	07/09/96	24.93		18.33		nm	6.60
					-		
ES-3	09/05/96	24.93		18.63		nm	6.30
ES-3	10/08/96	24.93		18.98		nm	5.95
ES-3	11/08/96	24.93		19.16		nm	5.77
ES-3	12/13/96	24.93		18.81		nm	6.12
ES-3	01/16/97	24.93		17.72		nm	7.21
	01/10/01	_ 1.00	ı	11.14	1 1		1.4.

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
ES-3	03/07/97	24.93		17.90		nm	7.03
ES-3	04/17/97	24.93		18.42		nm	6.51
ES-3	07/15/97	24.93		19.01		nm	5.92
ES-3	10/07/97	24.93		19.18		nm	5.75
ES-3	09/24/08	24.93		17.38		31.44	7.55
ES-3	04/08/09	24.93		15.65		31.55	9.28
ES-4	06/16/92	23.93	18.63	18.98	0.35	nm	5.23
ES-4	07/07/92	23.93		18.51		nm	5.42
ES-4	08/04/92	23.93		18.66		nm	5.27
ES-4	08/31/92	23.93		18.79		nm	5.14
ES-4	10/06/92	23.93		18.92		nm	5.01
ES-4	11/06/92	23.93	<del></del>	18.94		nm	4.99
ES-4	01/07/93	23.93		18.76		nm	5.17
ES-4	04/06/93	23.93	<del></del>	17.26		nm	6.67
ES-4	07/03/93	23.93		18.08		nm	5.85
ES-4	08/04/93	23.93		18.16		nm	5.77
ES-4	09/01/93	23.93		18.46		nm	5.47
ES-4	10/07/93	23.93		18.62		nm	5.31
ES-4	11/02/93	23.93		18.74		nm	5.19
ES-4	12/06/93	23.93		18.74			5.19
ES-4 ES-4		23.93				nm	
	01/05/94			18.55		nm	5.38
ES-4	02/02/94	23.93		18.42		nm	5.51
ES-4	03/02/94	23.93		17.86		nm	6.07
ES-4	04/07/94	23.93		18.80		nm	5.13
ES-4	05/05/94	23.93		17.86		nm	6.07
ES-4	06/07/94	23.93		17.94		nm	5.99
ES-4	07/13/94	23.93		18.13		nm	5.80
ES-4	08/03/94	23.93		17.94		nm	5.99
ES-4	09/14/94	23.93		18.18		nm	5.75
ES-4	10/06/94	23.93		18.25		nm	5.68
ES-4	11/02/94	23.93		18.35		nm	5.58
ES-4	12/07/94	23.93		17.56		nm	6.37
ES-4	01/13/95	23.93	<del></del>	16.77		nm	7.16
ES-4	02/14/95	23.93	<del></del>	16.37		nm	7.56
ES-4	03/07/95	23.93		16.66		nm	7.27
ES-4	04/11/95	23.93		16.14		nm	7.79
ES-4	05/09/95	23.93		16.57		nm	7.36
ES-4	06/09/95	23.93		17.02		nm	6.91
ES-4	07/06/95	23.93	<u></u>	17.19		nm	6.74
ES-4	08/10/95	23.93	<u></u>	17.84		nm	6.09
ES-4	09/07/95	23.93		17.68		nm	6.25
ES-4	10/03/95	23.93	 	17.84		nm	6.09
ES-4		23.93	<del></del>				6.09
ES-4	10/05/95	23.93		17.84		nm	5.91
ES-4	11/02/95	23.93		18.02		nm	5.70
ES-4	12/07/95	23.93		18.23		nm	
	01/03/96			17.87		nm	6.06
ES-4	02/06/96	23.93		17.02		nm	6.91
ES-4	03/12/96	23.93		16.54		nm	7.39
ES-4	04/09/96	23.93		16.76		nm	7.17
ES-4	05/07/96	23.93		16.17		nm	7.76
ES-4	06/05/96	23.93		17.05		nm	6.88
ES-4	07/09/96	23.93		17.37		nm	6.56
ES-4	09/05/96	23.93		17.74		nm	6.19
ES-4	10/08/96	23.93		17.97		nm	5.96
ES-4	11/08/96	23.93		18.13		nm	5.80
ES-4	12/13/96	23.93		17.83		nm	6.10
ES-4	01/16/97	23.93		16.92		nm	7.01
ES-4	02/14/97	23.93		16.56		nm	7.37
ES-4	03/07/97	23.93		16.95		nm	6.98
ES-4	04/17/97	23.93		17.45		nm	6.48
ES-4	07/15/97	23.93		18.05		nm	5.88
ES-4	10/07/97	23.93		18.23		nm	5.70
ES-4	09/24/08	23.93		16.20		29.94	7.73
ES-4	04/08/09	23.93		14.46		29.95	9.47
ES-5	06/16/92	24.08	18.40	20.40	2.00	nm	5.30
ES-5	07/07/92	24.08	10.40	20.40	2.00	nm	3.85
		24.08			2.27		5.49
ES-5	08/04/92		18.16	20.43		nm	
ES-5	08/31/92	24.08	18.24	20.80	2.56	nm	5.35
ES-5	10/06/92	24.08	18.24	21.37	3.13	nm	5.25
ES-5	11/06/92	24.08	17.60	20.92	3.32	nm	5.85
ES-5	01/05/93	24.08	18.42	19.75	1.33	nm	5.41

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
ES-5	01/07/93	24.08	19.35	22.00	2.65	nm	4.23
ES-5	04/06/93	24.08		17.28		nm	6.80
ES-5	07/03/93	24.08		19.50		nm	4.58
ES-5	08/04/93	24.08		18.61		nm	5.47
ES-5	09/01/93	24.08	18.79	18.80	0.01	nm	5.29
ES-5	10/07/93	24.08	18.65	19.33	0.68	nm	5.30
ES-5	11/02/93	24.08	18.91	19.45	0.54	nm	5.07
ES-5	12/06/93	24.08	18.78	19.25	0.47	nm	5.21
ES-5		24.08					
	02/02/94		18.18	19.98	1.80	nm	5.56
ES-5	03/02/94	24.08	18.07	18.30	0.23	nm	5.97
ES-5	04/07/94	24.08	18.37	18.38	0.01	nm	5.71
ES-5	05/05/94	24.08	18.24	18.26	0.02	nm	5.84
ES-5	06/07/94	24.08	18.26	18.27	0.01	nm	5.82
ES-5	07/13/94	24.08		18.30		nm	5.78
ES-5	08/03/94	24.08		17.90		nm	6.18
ES-5	09/14/94	24.08	18.41	18.42	0.01	nm	5.67
ES-5	10/06/94	24.08		18.23		nm	5.85
ES-5	11/02/94	24.08		18.47		nm	5.61
ES-5	12/07/94	24.08		17.45			6.63
ES-5 ES-5	01/13/95			18.23		nm nm	
		24.08				nm	5.85
ES-5	02/14/95	24.08		16.45		nm	7.63
ES-5	03/07/95	24.08		16.53		nm	7.55
ES-5	04/11/95	24.08		16.00		nm	8.08
ES-5	05/09/95	24.08		16.45		nm	7.63
ES-5	06/09/95	24.08		16.90		nm	7.18
ES-5	07/06/95	24.08		17.09		nm	6.99
ES-5	08/10/95	24.08		17.44		nm	6.64
ES-5	09/07/95	24.08		17.61		nm	6.47
ES-5	10/03/95	24.08		18.74			
						nm	5.34
ES-5	10/05/95	24.08		18.74	-	nm	5.34
ES-5	11/02/95	24.08		17.98		nm	6.10
ES-5	12/07/95	24.08	18.21	18.22	0.01	nm	5.87
ES-5	01/03/96	24.08		17.89		nm	6.19
ES-5	02/06/96	24.08		16.76		nm	7.32
ES-5	03/12/96	24.08		16.36		nm	7.72
ES-5	04/09/96	24.08		16.70		nm	7.38
ES-5	05/07/96	24.08		16.95		nm	7.13
ES-5	06/05/96	24.08	<u></u>	16.95		nm	7.13
	07/09/96	24.08		17.34			
ES-5						nm	6.74
ES-5	01/16/97	24.08		16.68	-	nm	7.40
ES-5	02/14/97	24.08		16.43		nm	7.65
ES-5	03/07/97	24.08		16.90		nm	7.18
ES-5	04/17/97	24.08		17.41		nm	6.67
ES-5	07/15/97	24.08		18.29		nm	5.79
ES-5	10/07/97	24.08		18.48		nm	5.60
ES-5	0924/08	24.08		16.49		30.06	7.59
ES-5	04/08/09	24.08		14.75	_	30.13	9.33
LO-3	04/00/09	21.00		14.75	_	50.15	3.33
FC 6	01/05/93	27.06		21.76			F 30
ES-6 ES-6	09/01/93					nm	5.30
		27.06		21.94		nm	5.12
ES-6	10/07/93	27.06		21.81		nm	5.25
ES-6	11/02/93	27.06		21.91		nm	5.15
ES-6	12/06/93	27.06		21.90		nm	5.16
ES-6	02/02/94	27.06		21.74		nm	5.32
ES-6	03/02/94	27.06		21.10		nm	5.96
ES-6	04/07/94	27.06		21.30		nm	5.76
ES-6	05/05/94	27.06		21.16		nm	5.90
ES-6	06/07/94	27.06	 	21.02		nm	6.04
ES-6	07/13/94	27.06		21.40			5.66
			<b></b>			nm	
ES-6	08/03/94	27.06		21.58		nm	5.48
ES-6	09/14/94	27.06		21.52		nm	5.54
ES-6	10/06/94	27.06		21.58		nm	5.48
ES-6	11/02/94	27.06		21.64		nm	5.42
ES-6	12/07/94	27.06		20.94		nm	6.12
ES-6	01/13/95	27.06		20.25		nm	6.81
ES-6	02/14/95	27.06		19.82		nm	7.24
ES-6	03/07/95	27.06		20.06		nm	7.00
		27.06					
ES-6	04/11/95			19.56		nm	7.50
ES-6	05/09/95	27.06	nd <sup>4</sup>	nd <sup>4</sup>	nd <sup>4</sup>	nm	nd <sup>4</sup>
ES-6	06/09/95	27.06		20.37		nm	6.69
ES-6	07/06/95	27.06		20.55		nm	6.51
ES-6	08/10/95	27.06		20.81		nm	6.25

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
ES-6	09/07/95	27.06		20.94		nm	6.12
ES-6	10/03/95	27.06		21.14		nm	5.92
ES-6	10/05/95	27.06		21.14		nm	5.92
ES-6	11/02/95	27.06		21.31		nm	5.75
ES-6	12/07/95	27.06		21.48		nm	5.58
ES-6	01/03/96	27.06		21.24		nm	5.82
ES-6	02/06/96	27.06		20.52		nm	6.54
ES-6	03/12/96	27.06		19.85		nm	7.21
ES-6	04/09/96	27.06		20.14	-	nm	6.92
ES-6	05/07/96	27.06		20.42		nm	6.64
ES-6	06/05/96	27.06		20.41		nm	6.65
ES-6	07/09/96	27.06 27.06		20.74		nm	6.32
ES-6	10/08/96	27.06		21.23		nm	5.83
ES-6	11/08/96	27.06		21.44		nm	5.62
ES-6 ES-6	12/13/96	27.06		21.19		nm	5.87 6.91
ES-6	01/16/97	27.06		20.15		nm	7.14
ES-6	02/14/97	27.06		19.92		nm	
	03/07/97	27.06		20.31		nm	6.75
ES-6 ES-6	04/17/97			20.78		nm	6.28
ES-6	07/15/97	27.06 27.06		21.32		nm	5.74 5.58
ES-6	10/07/97	27.06 27.06		21.48		nm	
	09/24/08			19.02 17.39		34.98	8.04
ES-6	04/08/09	27.06		17.39		35.00	9.67
ES-7	01/05/93	25.66		19.90		nm	5.76
ES-7	09/01/93	25.66		19.71		nm	5.95
ES-7	10/07/93	25.66		19.99		nm	5.67
ES-7	11/02/93	25.66		20.12		nm	5.54
ES-7	12/06/93	25.66		20.15		nm	5.51
ES-7	02/02/94	25.66		19.79		nm	5.87
ES-7	03/02/94	25.66		19.14		nm	6.52
ES-7	04/07/94	25.66		19.44		nm	6.22
ES-7	05/05/94	25.66		19.30		nm	6.36
ES-7	06/07/94	25.66		19.33		nm	6.33
ES-7	07/13/94	25.66		19.11		nm	6.55
ES-7	08/03/94	25.66		19.40		nm	6.26
ES-7	09/14/94	25.66		19.64		nm	6.02
ES-7	10/06/94	25.66		19.73		nm	5.93
ES-7	11/02/94	25.66		19.79		nm	5.87
ES-7	12/07/94	25.66		19.89		nm	5.77
ES-7	01/13/95	25.66		18.11		nm	7.55
ES-7	02/14/95	25.66		17.63		nm	8.03
ES-7	03/07/95	25.66		17.92		nm	7.74
ES-7	04/11/95	25.66		17.35		nm	8.31
ES-7	05/09/95	25.66		17.79		nm	7.87
ES-7	06/09/95	25.66		18.29		nm	7.37
ES-7	07/06/95	25.66		18.46		nm	7.20
ES-7	08/10/95	25.66		18.77		nm	6.89
ES-7	09/07/95	25.66		18.98		nm	6.68
ES-7	10/03/95	25.66		19.15		nm	6.51
ES-7	10/05/95	25.66		19.15		nm	6.51
ES-7	11/02/95	25.66		19.36		nm	6.30
ES-7	12/07/95	25.66		19.57		nm	6.09
ES-7	01/03/96	25.66		19.29		nm	6.37
ES-7	02/06/96	25.66		18.41		nm	7.25
ES-7	03/12/96	25.66		17.76		nm	7.90
ES-7	04/09/96	25.66		18.05		nm	7.61
ES-7	05/07/96	25.66		18.36		nm	7.30
ES-7	06/05/96	25.66		18.36		nm	7.30
ES-7	07/09/96	25.66		18.72		nm	6.94
ES-7	09/05/96	25.66		19.12		nm	6.54
ES-7	10/08/96	25.66		19.37		nm	6.29
ES-7	11/08/96	25.66		19.56		nm	6.10
ES-7	12/13/96	25.66		19.28		nm	6.38
ES-7	01/16/97	25.66		18.19		nm	7.47
ES-7	02/14/97	25.66		17.88		nm	7.78
ES-7	03/07/97	25.66		18.30		nm	7.36
ES-7	04/17/97	25.66		18.81		nm	6.85
ES-7	09/24/08	25.66		18.20		31.28	7.46
ES-7	04/08/09	25.66		16.52		31.29	9.14

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
ES-8	09/01/93	24.74		18.88		nm	5.86
ES-8	10/07/93	24.74		19.13		nm	5.61
ES-8	11/02/93	24.74		19.26		nm	5.48
ES-8	12/06/93	24.74		19.24		nm	5.50
ES-8	01/05/94	24.74		19.10		nm	5.64
ES-8	02/02/94	24.74		19.08		nm	5.66
ES-8	03/02/94	24.74		18.28		nm	6.46
ES-8	04/07/94	24.74		18.44		nm	6.30
ES-8	05/05/94	24.74		18.26		nm	6.48
ES-8	06/07/94	24.74		18.32		nm	6.42
ES-8	07/13/94	24.74		18.50		nm	6.24
ES-8	08/03/94	24.74		18.42		nm	6.32
ES-8	09/14/94	24.74		18.50		nm	6.24
ES-8	10/06/94	24.74		18.76		nm	5.98
ES-8	11/02/94	24.74		18.76		nm	5.98
ES-8		24.74					
	12/07/94			18.00		nm	6.74
ES-8	01/13/95	24.74		16.83		nm	7.91
ES-8	02/14/95	24.74		16.67		nm	8.07
ES-8	03/07/95	24.74		16.99		nm	7.75
ES-8	04/11/95	24.74		16.41		nm	8.33
ES-8	05/09/95	24.74		16.92		nm	7.82
ES-8	06/09/95	24.74		17.35		nm	7.39
ES-8	07/06/95	24.74		17.56		nm	7.18
ES-8	08/10/95	24.74		17.89		nm	6.85
ES-8	09/07/95	24.74		18.09		nm	6.65
ES-8	10/03/95	24.74		18.27		nm	6.47
ES-8	10/05/95	24.74		18.27		nm	6.47
ES-8	11/02/95	24.74		18.51		nm	6.23
ES-8	12/07/95	24.74		18.72		nm	6.02
ES-8	01/03/96	24.74		18.36		nm	6.38
ES-8	02/06/96	24.74		17.07		nm	7.67
ES-8	03/12/96	24.74		16.79		nm	7.95
ES-8		24.74		17.10			7.64
	04/09/96	24.74				nm	
ES-8	05/07/96			17.34		nm	7.40
ES-8	06/05/96	24.74		17.36		nm	7.38
ES-8	07/09/96	24.74		17.71		nm	7.03
ES-8	09/05/96	24.74		18.13		nm	6.61
ES-8	10/08/96	24.74		18.44		nm	6.30
ES-8	11/08/96	24.74		18.61		nm	6.13
ES-8	12/13/96	24.74		18.32		nm	6.42
ES-8	01/16/97	24.74		17.22		nm	7.52
ES-8	02/14/97	24.74		16.94		nm	7.80
ES-8	03/07/97	24.74		17.36		nm	7.38
ES-8	09/24/08	24.74		17.35		28.94	7.39
ES-8	04/08/09	24.74		15.64		28.80	9.10
ES-9	09/01/93	23.33		19.74		nm	3.59
ES-9	10/07/93	23.33		17.90		nm	5.43
ES-9	12/06/93	23.33		18.00		nm	5.33
ES-9	01/05/94	23.33		17.80		nm	5.53
ES-9	02/02/94	23.33		17.02		nm	6.31
ES-9	03/02/94	23.33		17.02		nm	6.21
_S-9 ES-9	03/02/94	23.33		17.12		nm	6.09
ES-9		23.33			-		6.29
	05/05/94			17.04		nm	
ES-9	06/07/94	23.33		17.06		nm	6.27
ES-9	07/13/94	23.33		17.40		nm	5.93
ES-9	08/03/94	23.33		17.10		nm	6.23
ES-9	09/14/94	23.33		17.09		nm	6.24
ES-9	10/06/94	23.33		17.46		nm	5.87
ES-9	11/02/94	23.33		17.55		nm	5.78
ES-9	12/07/94	23.33		16.79		nm	6.54
ES-9	01/13/95	23.33		15.80		nm	7.53
ES-9	02/14/95	23.33		15.49		nm	7.84
ES-9	03/07/95	23.33		15.79		nm	7.54
S-9	04/11/95	23.33		15.23		nm	8.10
ES-9	05/09/95	23.33		15.72		nm	7.61
ES-9	06/09/95	23.33		16.13		nm	7.20
ES-9	07/06/95	23.33		16.34			6.99
ES-9						nm nm	
	08/10/95	23.33		16.67		nm	6.66
S-9	09/07/95	23.33		16.87		nm	6.46
ES-9	10/03/95	23.33		17.09	i	nm	6.24

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
ES-9	10/05/95	23.33		17.09		nm	6.24
ES-9	11/02/95	23.33		17.30		nm	6.03
ES-9	12/07/95	23.33		17.48		nm	5.85
ES-9	01/03/96	23.33		17.12		nm	6.21
ES-9	02/06/96	23.33		16.00		nm	7.33
ES-9		23.33					7.70
	03/12/96			15.63		nm	
ES-9	04/09/96	23.33		15.92	-	nm	7.41
ES-9	05/07/96	23.33		16.17		nm	7.16
ES-9	06/05/96	23.33		16.19		nm	7.14
ES-9	07/09/96	23.33		16.52		nm	6.81
ES-9	09/05/96	23.33		16.92		nm	6.41
ES-9	10/08/96	23.33		17.19		nm	6.14
ES-9	11/08/96	23.33		17.37		nm	5.96
ES-9	12/13/96	23.33		17.09			6.24
					-	nm	
ES-9	01/16/97	23.33		15.99		nm	7.34
ES-9	02/14/97	23.33		15.71		nm	7.62
ES-9	03/07/97	23.33		16.12		nm	7.21
ES-9	04/17/97	23.33		16.66		nm	6.67
ES-9	09/24/08	23.33	<del></del>	15.88		34.91	7.45
ES-9	04/08/09	23.33		14.14		34.97	9.19
L3-9	04/06/09	23.33		14.14		54.97	5.19
ES-10	09/01/93	95.24		18.04		nm	77.20
ES-10	10/07/93	95.24		17.40		nm	77.84
ES-10	11/02/93	95.24		17.46		nm	77.78
ES-10	12/06/93	95.24		17.44		nm	77.80
ES-10	01/05/94	95.24		17.27	_		77.97
					-	nm	
ES-10	02/02/94	95.24		17.25		nm	77.99
ES-10	03/02/94	95.24		16.61		nm	78.63
ES-10	04/07/94	95.24		16.74		nm	78.50
ES-10	05/05/94	95.24		16.55		nm	78.69
ES-10	06/07/94	95.24		17.50		nm	77.74
ES-10	07/13/94	95.24		16.10		nm	79.14
ES-10	08/03/94	95.24		16.20		nm	79.04
ES-10							
	09/14/94	95.24		16.48	-	nm	78.76
ES-10	10/06/94	95.24		16.96		nm	78.28
ES-10	11/02/94	95.24		17.05		nm	78.19
ES-10	12/07/94	95.24		16.29		nm	78.95
ES-10	01/13/95	95.24		15.42		nm	79.82
ES-10	02/14/95	95.24		15.05		nm	80.19
ES-10	03/07/95	95.24		15.34		nm	79.90
ES-10	04/11/95	95.24		14.82		nm	80.42
ES-10	05/09/95	95.24		15.26	-	nm	79.98
ES-10	06/09/95	95.24		15.70		nm	79.54
ES-10	07/06/95	95.24		15.89		nm	79.35
ES-10	08/10/95	95.24		16.21		nm	79.03
ES-10	09/07/95	95.24		16.42		nm	78.82
ES-10	10/03/95	95.24	<del></del>	16.59		nm	78.65
ES-10	10/05/95	95.24		16.59		nm	78.65
ES-10 ES-10		95.24		16.77		nm	78.47
	11/02/95						
ES-10	12/07/95	95.24		16.97		nm	78.27
ES-10	01/03/96	95.24		16.61		nm	78.63
ES-10	02/06/96	95.24		15.71		nm	79.53
ES-10	03/12/96	95.24		17.35		nm	77.89
ES-10	04/09/96	95.24		15.44		nm	79.80
ES-10	05/07/96	95.24		15.75		nm	79.49
ES-10	06/05/96	95.24	 	17.75			77.49
						nm	
ES-10	07/09/96	95.24		18.04		nm	77.20
ES-10	09/05/96	95.24		16.45		nm	78.79
ES-10	10/08/96	95.24		16.70		nm	78.54
ES-10	11/08/96	95.24		16.87		nm	78.37
ES-10	12/13/96	95.24		16.55		nm	78.69
ES-10	01/16/97	95.24		15.49		nm	79.75
ES-10	02/14/97	95.24		15.23	-	nm	80.01
ES-10	03/07/97	95.24		15.67		nm	79.57
ES-10	04/17/97	95.24		16.18		nm	79.06
ES-10 <sup>3</sup>	09/24/08	<del></del>	nm	nm	nm	nm	nm

Well No.	Date	Elevation to Top of Casing (feet MSL) <sup>1</sup>	Depth to Phase- Separated Liquid (feet BMP)	Depth to Water (feet BMP)	Product Thickness (feet)	Depth to Bottom (feet BMP)	Groundwater Elevation (feet MSL)
ES-11	09/01/93	24.08		18.74		nm	5.34
ES-11	10/07/93	24.08		18.90		nm	5.18
ES-11	11/02/93	24.08		19.00		nm	5.08
ES-11	12/06/93	24.08		19.02		nm	5.06
ES-11	01/05/94	24.08		18.86		nm	5.22
ES-11	02/02/94	24.08		18.74		nm	5.34
ES-11	03/02/94	24.08		18.14		nm	5.94
ES-11	04/07/94	24.08		18.38		nm	5.70
ES-11	05/05/94	24.08		18.15		nm	5.93
ES-11	06/07/94	24.08		18.28		nm	5.80
ES-11	07/13/94	24.08		18.60		nm	5.48
ES-11	08/03/94	24.08		18.18		nm	5.90
ES-11	09/14/94	24.08	<del></del>	18.47		nm	5.61
ES-11	10/06/94	24.08		18.55		nm	5.53
ES-11	11/02/94	24.08		18.64		nm	5.44
ES-11	12/07/94	24.08		17.49		nm	6.59
ES-11	01/13/95	24.08		17.49		nm	6.92
ES-11	02/14/95	24.08		16.76		nm	7.32
ES-11	03/07/95	24.08		17.04		nm	7.04
ES-11	03/07/95	24.08		16.54		nm	7.54
ES-11	05/09/95	24.08					7.13
-		24.08		16.95		nm	
ES-11 ES-11	06/09/95			17.34		nm	6.74
ES-11 ES-11	07/06/95	24.08		17.54		nm	6.54
-	08/10/95	24.08		17.85		nm	6.23
ES-11	09/07/95	24.08		18.03		nm	6.05
ES-11	10/03/95	24.08		18.20		nm	5.88
ES-11	10/05/95	24.08		18.20		nm	5.88
ES-11	11/02/95	24.08		18.38		nm	5.70
ES-11	12/07/95	24.08		18.59		nm	5.49
ES-11	01/03/96	24.08		18.21		nm	5.87
ES-11	02/06/96	24.08		17.45		nm	6.63
ES-11	03/12/96	24.08		16.83		nm	7.25
ES-11	04/09/96	24.08		17.13		nm	6.95
ES-11	05/07/96	24.08		17.42		nm	6.66
ES-11	06/05/96	24.08		17.42		nm	6.66
ES-11	07/09/96	24.08		17.71		nm	6.37
ES-11	09/05/96	24.08		18.07		nm	6.01
ES-11	10/08/96	24.08		18.29		nm	5.79
ES-11	11/08/96	24.08		18.45		nm	5.63
ES-11	12/13/96	24.08		18.09		nm	5.99
ES-11	01/16/97	24.08		17.10		nm	6.98
ES-11	02/14/97	24.08		16.90		nm	7.18
ES-11	03/07/97	24.08		17.30		nm	6.78
ES-11	04/17/97	24.08		17.80		nm	6.28
ES-11	09/24/08	24.08		16.29		35.00	7.79
ES-11	04/08/09	24.08		14.59		35.05	9.49

e detected BM P = Below Measuring Point

Note: 1) On April 8, 2009, the well network was surveyed according to the North American Datum, 1983 (NAD 83) coordinate system.
2) Well casings are not vertical.

3) Monitoring well ES-10 has been paved over and is not accessible.

4) Data not entered due to apparent typographical error in previous consultant's findings.

## Table 3a - Summary of Groundwater Analytical Results (April 2009) Greyhound Lines, Inc. 2103 San Pablo Avenue Oakland, Alameda County, California Green Star Project No. 09-1379

Sample ID	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	Naphthalene	MTBE	ЕТВЕ	TAME	DIPE	EDC	EDB	ТВА	Ethanol	TPH-g	TPH-d	ТРН-о
BC-1 BC-2	04/09/09 04/09/09	<b>0.130</b>	0.020 ns	0.017 ns	0.033 ns	0.200 ns	0.006 ns	<0.0003	<0.00014	0.00058 J	0.074 ns	<0.00023	<b>0.00027 J</b>	<0.017	<0.074	3.70 ns	<b>2.10</b>	<0.033
BC-3	04/09/09	0.006	0.0008 J	0.0008 J	0.0012 J	0.009	0.005	<0.0003		0.00052 J	0.00043 J	<0.00023	<0.00017	<0.017	<0.074	0.018 J	<0.024	0.880
ES-1	04/09/09	0.260	0.029	0.027	0.049	0.365	0.025	<0.0003	<0.00014	<0.00014	0.066	0.00047 J	0.00037 J	<0.017	<0.074	3.60	2.40	<0.036
ES-2	04/09/09	0.690	0.059	0.027 J	0.072	0.848	0.008 J	<0.0032	<0.0014	0.0056 J	0.110	<0.0023	<0.0017	<0.170	<0.740	7.50	2.20	<0.038
ES-3	04/09/09	0.340	0.091	0.180	0.372	0.983	0.083	<0.0016	<0.00071	<0.00068	0.096	<0.0011	<0.00086	<0.084	<0.370	9.70	2.60	<0.032
ES-4	04/09/09	0.008	0.0008 J	0.0016 J	0.0025 J	0.013	0.0007 J	<0.0003	<0.00014	0.00054 J	0.020	<0.00023	<0.00017	<0.017	<0.074	0.520	0.640	<0.034
ES-5	04/09/09	0.590	0.150	0.230	0.248	1.22	0.100	<0.0032	<0.0014	0.0059 J	0.030 J	<0.0023	<0.0017	<0.170	<0.740	10.0	3.70	<0.033
ES-6	04/08/09	<0.0001	<0.0002	<0.0001	<0.0001	BDL	<0.0001	<0.0003	<0.00014	0.00055 J	0.00093 J	<0.00023	<0.00017	<0.017	<0.074	<0.016	<0.022	0.170
ES-7	04/08/09	<0.0001	<0.0002	<0.0001	<0.0001	BDL	<0.0001	<0.0003	<0.00014	0.00053 J	<0.00015	<0.00023	<0.00017	<0.017	<0.074	<0.016	<0.023	0.690
ES-8	04/08/09	0.015	0.0014 J	0.002 J	0.0027 J	0.021	0.0003 J	<0.0003	<0.00014	<0.00014	0.056	<0.00023	<0.00017	<0.017	<0.074	2.30	1.60	<0.033
ES-9	04/08/09	<0.0001	<0.0002	<0.0001	<0.0001	BDL	<0.0001	<0.0003	<0.00014	0.00055 J	0.00056 J	<0.00023	<0.00017	<0.017	<0.074	<0.016	<0.023	0.210
ES-10	04/09/09	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne
ES-11	04/09/09	0.0025 J	0.0009 J	0.0017 J	0.0030 J	0.008	0.0011 J	<0.0003	<0.00014	0.00052 J	0.00025 J	<0.00023	<0.00017	<0.017	<0.074	<0.016	<0.025	0.200
City of Oakland Urban Land Redevelopment (ULR) Tier 1 Risk Based Screening Levels (RBSLs)		0.001	0.150	0.700	1.80	ne	0.020	0.013	ne	ne	ne	0.0005	0.00005	ne	ne	ne	ne	ne
City of Oaklan RBSLs (Merrit		0.001	0.150	0.700	1.80	ne	0.020	0.013	ne	ne	ne	0.0005	0.00005	ne	ne	ne	ne	ne
San Francisco Environmenta Levels (ESLs)	l Screening	0.001	0.040	0.030	0.020	ne	0.017	0.005	ne	ne	ne	0.0005	0.00005	0.012	ne	0.100	0.100	ne

Analytical test results are reported in milligrams per liter (mg/L).

J = reported result is between the MDL and PQL

Sample ID	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	Naphthalene	MTBE	ETBE	TAME	DIPE	EDC	EDB	ТВА	Ethanol	TPH-d	TPH-g	TPH-o	Total PAHs
				, , , , , , , , , , , , ,	,							<del>                                     </del>							
BC-1	04/17/97	0.160	0.072	0.035	0.093	0.360	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.640	0.200	nt	nt
	07/15/97	0.520	0.130	0.170	0.290	1.11	nt	0.100	nt	nt	nt	nt	nt	nt	nt	95.0	11.0	nt	0.203
	10/07/97	0.310	0.600	0.370	1.90	3.18	nt	BDL	nt	nt	nt	nt	nt	nt	nt	484	31.0	nt	4.34
	09/25/08	0.220	0.022	0.032	0.038	0.312	0.016	<0.00031	<0.00014	0.00026 J	0.082	<0.00024	0.00039 J	<0.006	<0.074	2.00	3.70	<0.290	nt
	04/09/09	0.130	0.020	0.017	0.033	0.200	0.006	<0.0003	<0.00014	0.00058 J	0.074	<0.00023	0.00027 J	<0.017	<0.074	3.70	2.10	<0.033	nt
BC-2	07/08/92	BDL	BDL	BDL	0.008	0.008	nt	nt	nt	nt	nt	nt	nt	nt	nt	2.10	nt	nt	nt
	10/06/92	BDL	0.001	0.001	0.007	0.009	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/07/93	BDL	0.001	0.002	0.010	0.012	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	04/06/93	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.130	BDL	nt	nt
	07/23/93	0.001	0.002	0.002	0.008	0.013	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.500	<0.500	nt	BDL
	10/07/93	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	1.40	nt	nt	nt
	01/05/94	nt -+	nt	nt 	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt -+	nt -+	nt -+	nt -+	nt 	nt
	04/07/94 07/13/94	nt nt	nt	nt nt	nt	nt nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt
	10/06/94	nt nt	nt nt	nt nt	nt nt	nt nt	nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt
	01/13/95	BDL	BDL	BDL	BDL	BDL	nt nt	nt	nt	nt	nt	nt	nt	nt	nt	1.10	BDL	nt	nt
	04/11/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/06/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.290	BDL	nt	nt
	10/05/95	0.001	BDL	BDL	0.001	0.002	nt	nt	nt	nt	nt	nt	nt	nt	nt	1.50	BDL	nt	nt
	04/17/97	BDL	BDL	BDL	BDL	BDL	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.050	BDL	nt	nt
	07/15/97	BDL	BDL	BDL	BDL	BDL	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.680	BDL	nt	BDL
	10/07/97	BDL	BDL	BDL	BDL	BDL	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.920	BDL	nt	BDL
	09/24/08	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	04/09/09	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
BC-3	07/08/92	BDL	0.003	BDL	0.006	0.009	nt	nt	nt	nt	nt	nt	nt	nt	nt	3.90	nt	nt	nt
	10/06/92	BDL	0.002	0.001	0.002	0.004	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.800	nt	nt	nt
	01/07/93	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	04/06/93	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.120	BDL	nt	nt
	07/23/93	0.003	0.004	0.002	0.008	0.018	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt*	BDL	nt	nt
	10/07/93	BDL	BDL	0.0001	0.002	0.003	nt	nt	nt	nt	nt	nt	nt	nt	nt	1.40	nt	nt	nt
	01/05/94	BDL	BDL	BDL	0.002	0.002	nt	nt	nt	nt	nt	nt	nt	nt	nt	1.80	BDL	nt	nt
	04/07/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.850	BDL	nt	nt
	07/13/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.200	BDL	nt	nt
	10/06/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.820	BDL	nt	nt
	01/13/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.890	BDL	nt	nt
	04/11/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/06/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.380	BDL	nt	nt
	10/05/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/17/97	BDL BDL	BDL	BDL BDL	BDL	BDL	nt -t	BDL	nt	nt	nt -+	nt	nt -+	nt	nt -+	BDL	BDL	nt 	nt
	07/15/97 10/07/97	BDL	BDL BDL	0.002	BDL 0.002	BDL 0.003	nt nt	BDL BDL	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	0.490 1.34	BDL 0.051	nt nt	BDL BDL
	09/25/08	<0.0004	0.0006 J	0.002 0.0006 J	<0.002	0.003	<0.0003	<0.00031	<0.00014	0.0007 J	<0.00036	<0.00024	<0.00031	<0.006	<0.074	<0.021	<0.084	1.30	nt
	04/09/09	0.006	0.0008 J	0.0008 J	0.0012 J	0.0012	0.005	<0.00031	<0.00014	0.0007 J	0.00030 0.00043 J	<0.00024	<0.00031	<0.017	<0.074	0.018 J	<0.024	0.880	nt
ES-1	11/19/91	0.130	0.043	0.010	0.091	0.274	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	04/17/97	0.110	0.018	0.007	0.045	0.180	nt	BDL	nt	nt	nt	nt	nt	nt	nt	BDL	1.00	nt	nt
	07/16/97	0.076	0.008	0.011	0.025	0.120	nt	BDL	nt	nt	nt	nt	nt	nt	nt	1.20	0.960	nt	0.014
	10/07/97	0.049	0.034	0.011	0.023	0.100	nt	0.014	nt	nt	nt	nt	nt	nt	nt	2.77	1.70	nt	0.010
	09/25/08	0.140	0.009	0.014	0.016	0.179	0.011	<0.00031	<0.00014	<0.00026	0.130	0.00049 J	<0.00031	<0.006	<0.074	2.50	2.90	<0.290	nt
	04/09/09	0.260	0.029	0.027	0.049	0.365	0.025	<0.00032	<0.00014	<0.00014	0.066	0.00047 J	0.00037 J	<0.017	<0.074	3.60	2.40	<0.036	nt

				1			1		_	1					1				
Sample ID	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	Naphthalene	MTBE	ETBE	TAME	DIPE	EDC	EDB	ТВА	Ethanol	TPH-d	TPH-g	TPH-o	Total PAHs
ES-2	11/19/91	0.390	0.096	0.078	0.310	0.874	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	04/17/97	0.340	0.110	0.110	0.240	0.800	nt	BDL	nt	nt	nt	nt	nt	nt	nt	1.80	3.80	nt	nt
	07/15/97	0.190	0.140	0.073	0.250	0.653	nt	0.081	nt	nt	nt	nt	nt	nt	nt	16.0	3.70	nt	0.194
	10/07/97	0.190	0.046	0.046	0.070	0.352	nt	BDL	nt	nt	nt	nt	nt	nt	nt	8.04	7.20	nt	0.993
	09/25/08	0.700	0.053	0.029	0.084	0.866	0.010	<0.00031	<0.00014	0.00041 J	0.100	0.00038 J	<0.00031	<0.006	<0.074	1.50	6.00	nt	<0.290
	04/09/09	0.690	0.059	0.027 J	0.072	0.848	0.008 J	<0.0032	<0.0014	0.0056 J	0.110	<0.0023	<0.0017	<0.170	<0.740	7.50	2.20	<0.038	nt
ES-3	11/19/91	0.061	0.016	0.014	0.033	0.124	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	07/08/92	0.051	0.021	0.048	0.034	0.157	nt	nt	nt	nt	nt	nt	nt	nt	nt	1.30	nt	nt	nt
	10/06/92 01/07/93	0.093 0.052	0.018 0.049	BDL 0.100	0.011 0.250	0.122 0.451	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	BDL BDL	nt nt	nt nt	nt nt
	04/06/93	0.052	BDL	0.100	0.230	0.451	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.510	4.50	nt	nt
	07/23/93	0.033	0.006	0.007	0.075	0.198	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.600	1.50	nt	nt
	10/07/93	0.002	0.001	BDL	0.002	0.005	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/05/94	0.013	0.002	0.007	0.005	0.027	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.530	nt	nt
	04/07/94	0.010	0.009	0.026	0.034	0.079	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.910	0.850	nt	nt
	07/13/94	0.002	0.001	0.001	0.003	0.007	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.280	0.370	nt	nt
	10/06/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	01/13/95	0.019	0.015	0.072	0.088	0.194	nt	nt	nt	nt	nt	nt	nt	nt	nt	1.10	1.60	nt	nt
	04/11/95	0.020	0.007	0.036	0.022	0.085	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.390	0.940	nt	nt
	07/06/95	0.006	BDL	0.007	BDL	0.013	nt	nt	nt	nt	nt	nt	nt	nt	nt	1.20	0.240	nt	nt
	10/05/95	0.002	0.002	BDL	BDL	0.004	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.110	BDL	nt	nt
	01/05/96	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/09/96	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.120	nt	nt	nt
	07/09/96	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/08/96	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	01/16/97	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.051	nt	nt
	04/17/97	BDL	BDL	BDL	BDL	BDL	nt -t	BDL	nt -+	nt -+	nt 	nt	nt -+	nt	nt	0.120	BDL	nt 	nt
	07/15/97 10/07/97	BDL BDL	BDL BDL	BDL BDL	BDL BDL	BDL BDL	nt nt	BDL BDL	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	nt nt	0.170 0.205	BDL BDL	nt nt	BDL BDL
	09/24/08	0.230	0.017	0.023	0.048	0.318	0.028	<0.00031	<0.00014	0.00028 J	0.110	0.00078 J	<0.00031	<0.006	<0.074	1.40	3.00	<0.290	nt
	04/09/09	0.340	0.091	0.180	0.372	0.983	0.083	<0.0016	<0.00071	<0.00068	0.096	<0.0011	<0.00086	<0.084	<0.370	9.70	2.60	<0.032	nt
ES-4	11/19/91	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	07/08/92	0.031	0.006	BDL	0.003	0.039	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	10/06/92	0.100	0.008	BDL	0.008	0.116	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/07/93	0.030	0.007	0.008	0.016	0.060	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	04/06/93	0.033	0.002	0.002	0.005	0.042	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.360	nt	nt
	07/23/93	0.024	0.001	0.001	0.008	0.034	nt	nt	nt	nt	nt	nt	nt	nt	nt	<0.500	<0.500	nt	nt
	10/07/93	0.008	BDL	BDL	0.002	0.010	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/05/94	0.015	0.001	0.0004	0.003	0.019	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.130	nt	nt
	04/07/94	0.011	BDL	BDL	BDL	0.011	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.170	nt	nt
	07/13/94	0.009	BDL	BDL	0.001	0.010	nt	nt	nt	nt	nt	nt	nt	nt .	nt	BDL	0.130	nt	nt
	10/06/94	0.018	BDL	0.002	0.003	0.023	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.100	nt	nt
	01/13/95 04/11/95	0.012 0.039	BDL 0.004	BDL 0.012	0.002 0.024	0.014	nt	nt	nt -+	nt nt	nt	nt nt	nt nt	nt -+	nt -+	BDL BDL	0.150 0.180	nt	nt
	07/06/95	0.039	0.004	0.012	0.024	0.079 0.197	nt nt	nt nt	nt nt	nt nt	nt nt	nt	nt	nt nt	nt nt	0.160	0.180	nt nt	nt nt
	10/05/95	0.100	0.016	0.026	0.084	0.197	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.170	1.20	nt	nt
	01/05/96	0.034	BDL	0.005	0.004	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.120	nt	nt
	04/09/96	0.057	0.003	0.003	0.004	0.096	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	07/09/96	0.043	0.005	0.021	0.017	0.086	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.220	nt	nt
	10/08/96	0.110	0.004	0.042	0.039	0.195	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.860	nt	nt
	01/16/97	0.005	BDL	BDL	0.001	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.059	nt	nt
	04/17/97	0.087	0.011	0.049	0.024	0.171	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.100	BDL	nt	nt
	07/15/97	0.110	0.011	0.042	0.040	0.203	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.370	0.920	nt	0.0
	10/07/97	0.011	BDL	0.028	0.023	0.016	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.101	0.120	nt	0.024
	09/25/08	<0.0004	<0.0003	<0.0003	<0.0003	BDL	<0.0003	<0.00031	<0.00014	0.0007 J	0.007 J	<0.00024	<0.00031	<0.006	<0.074	0.091	0.069	nt	<0.029
	04/09/09	0.008	0.0008 J	0.0016 J	0.0025 J	0.013	0.0007 J	<0.0003	<0.00014	0.00054 J	0.020	<0.00023	<0.00017	<0.017	<0.074	0.520	0.640	<0.034	nt

									1	1		1	I	I	1	1	1	1	ı
Sample ID	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	Naphthalene	MTBE	ETBE	TAME	DIPE	EDC	EDB	TBA	Ethanol	TPH-d	TPH-g	TPH-o	Total PAHs
ES-5	11/19/91	2.10	3.90	0.840	6.00	12.8	nt	nt	nt	nt	nt	nt	nt	nt	nt	950	nt	nt	nt
	04/17/97	0.590	1.20	0.180	1.00	2.97	nt	BDL	nt	nt	nt	nt	nt	nt	nt	1.60	2.40	nt	nt
	07/16/97	0.810	1.80	0.430	1.80	9.68	nt	0.350	nt	nt	nt	nt	nt	nt	nt	15.0	27.0	nt	216
	10/07/97	0.260	0.470	0.160	0.590	1.48	nt	BDL	nt	nt	nt	nt	nt	nt	nt	6.51	15.0	nt	0.424
	09/25/08	0.970	0.190	0.400	0.350	1.91	0.180	<0.00031	<0.00014	<0.00026	0.150	0.00057 J	<0.00031	<0.006	<0.074	1.90	12.0	<0.290	nt
	04/09/09	0.590	0.150	0.230	0.248	1.22	0.100	<0.0032	<0.0014	0.0059 J	0.030 J	<0.0023	<0.0017	<0.170	<0.740	10.0	3.70	<0.033	nt
ES-6	07/23/93	<0.0003	<0.0003	<0.0003	<0.0006	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	<0.500	<0.500	nt	nt
	10/07/93	0.001	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/05/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/07/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.160	nt	nt
	07/13/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/06/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	01/13/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/11/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/06/95	BDL	BDL	BDL	0.002	0.002	nt -t	nt -+	nt	nt -t	nt -t	nt	nt -+	nt -+	nt	BDL	BDL	nt	nt -+
	10/05/95 01/05/96	BDL BDL	BDL BDL	BDL BDL	BDL BDL	BDL BDL	nt nt	nt -t	nt -+	nt nt	nt nt	nt	nt -+	nt -+	nt	BDL BDL	BDL BDL	nt nt	nt
	04/09/96	BDL	BDL	BDL	BDL	BDL	nt	nt nt	nt nt	nt	nt	nt nt	nt nt	nt nt	nt nt	0.220	nt	nt	nt nt
	07/09/96	BDL	BDL	BDL	BDL	BDL				nt		nt				BDL	BDL		
	10/08/96	BDL	BDL	BDL	BDL	BDL	nt nt	nt nt	nt nt	nt	nt nt	nt	nt nt	nt nt	nt nt	BDL	BDL	nt nt	nt nt
	01/16/97	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/17/97	BDL	BDL	BDL	BDL	BDL	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.120	BDL	nt	nt
	07/15/97	BDL	BDL	BDL	BDL	BDL	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.120	BDL	nt	BDL
	10/07/97	BDL	BDL	BDL	BDL	BDL	nt	BDL	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	BDL
	09/24/08	<0.0004	<0.0003	<0.0003	<0.0003	BDL	0.0005 J	<0.00031	<0.00014	0.00065 J	0.003 J	<0.00024	<0.00031	<0.006	<0.074	0.068	<0.017	<0.290	nt
	04/08/09	<0.0004	<0.0002	<0.0001	<0.0001	BDL	<0.0001	<0.0003	<0.00014	0.00055 J	0.00093 J	<0.00024	<0.00017	<0.017	<0.074	<0.016	<0.022	0.170	nt
	04/00/03	40.0001	-0.000 <u>2</u>	10.0001	10.0001	DDL	10.0001	40.0000	10.00014	0.000330	0.000330	10.00020	10.00011	-0.017	10.074	40.010	10.022	0.170	
ES-7	07/23/93	<0.0003	<0.0003	< 0.0003	<0.0006	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	<0.500	<0.500	nt	nt
	10/07/93	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/05/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/07/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.100	0.110	nt	nt
	07/13/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/06/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	01/13/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/11/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/06/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/05/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/09/96	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/17/97	BDL	BDL	BDL	BDL	BDL	nt	BDL	nt	nt	nt	nt	nt	nt	nt	0.060	BDL	nt	nt
	09/24/08	<0.0004	<0.0003	<0.0003	<0.0003	BDL	< 0.0003	<0.00031	<0.00014	0.00066 J	<0.00036	<0.00024	<0.00031	<0.006	<0.074	<0.002	<0.017	0.150	nt
	04/08/09	<0.0001	<0.0002	<0.0001	<0.0001	BDL	<0.0001	<0.0003	<0.00014	0.00053 J	<0.00015	<0.00023	<0.00017	<0.017	<0.074	<0.016	<0.023	0.690	nt
ES-8	07/23/93	<0.0003	<0.0003	<0.0003	<0.0006	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	<0.500	<0.500	nt	nt
	10/07/93	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/05/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/07/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/13/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt
	10/06/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	01/13/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/11/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/06/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/05/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/09/96	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	09/24/08	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	04/08/09	0.015	0.0014 J	0.002 J	0.0027 J	0.021	0.0003 J	<0.0003	<0.00014	<0.00014	0.056	<0.00023	<0.00017	<0.017	<0.074	2.30	1.60	< 0.033	nt

Sample ID	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	Naphthalene	MTBE	ETBE	TAME	DIPE	EDC	EDB	ТВА	Ethanol	TPH-d	TPH-g	TPH-o	Total PAHs
ES-9	07/23/93	<0.0003	<0.0003	<0.0003	<0.0006	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	<0.500	<0.500	nt	nt
	10/07/93	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/05/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/07/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/13/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/06/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	01/13/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	1.10	BDL	nt	nt
	04/11/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/06/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/05/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	09/24/08	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
	04/08/09	<0.0001	<0.0002	<0.0001	<0.0001	BDL	<0.0001	<0.0003	<0.00014	0.00055 J	0.00056 J	<0.00023	<0.00017	<0.017	<0.074	<0.016	<0.023	0.210	nt
ES-10	07/23/93	<0.0003	<0.0003	<0.0003	<0.0006	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	<0.500	<0.500	nt	nt
	10/07/93	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/05/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/07/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt .	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/13/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt .	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/06/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	01/13/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/11/95	BDL	BDL	BDL	BDL	BDL	nt	nt -t	nt	nt	nt	nt -+	nt -+	nt 	nt	BDL	BDL	nt	nt
	07/06/95 10/05/95	BDL BDL	BDL	BDL BDL	BDL BDL	BDL BDL	nt 	nt -t	nt -+	nt	nt	nt 	nt -+	nt	nt -+	BDL	BDL	nt -+	nt
	10/05/95 09/24/08	dne	BDL dne	dne	dne	dne	nt dne	nt dne	nt dne	nt dne	nt dne	nt dne	nt dne	nt dne	nt dne	BDL dne	BDL dne	nt dne	nt dne
	04/09/09	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne	dne
	04/03/03	une	une	une	une	une	ulle	une	une	une	une	une	une	une	une	une	une	une	une
ES-11	07/23/93	<0.0003	0.001	<0.0003	0.001	0.002	nt	nt	nt	nt	nt	nt	nt	nt	nt	<0.500	<0.500	nt	nt
	10/07/93	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/05/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/07/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	0.350	BDL	nt	nt
	07/13/94	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/06/94	BDL	BDL	BDL	BDL	BDL	nt	BDL	nt	nt	nt	nt	nt	nt	nt	BDL	nt	nt	nt
	01/13/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/11/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	0.170	nt	nt
	07/06/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	10/05/95	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	07/09/96	BDL	BDL	BDL	BDL	BDL	nt	nt	nt	nt	nt	nt	nt	nt	nt	BDL	BDL	nt	nt
	04/17/97	BDL 40,0004	BDL 40,0000	BDL	BDL	BDL	nt	BDL 40,00004	nt	nt	nt	nt	nt	nt -0.000	nt	BDL	BDL <0.017	nt -0.000	nt
	09/25/08 04/09/09	<0.0004 <b>0.0025 J</b>	<0.0003 0.0009 J	<0.0003 <b>0.0017 J</b>	<0.0003 0.0030 J	BDL 0.008	<0.0003 0.0011 J	<0.00031 <0.0003	<0.00014 <0.00014	0.00067 J 0.00052 J	<0.00036 0.00025 J	<0.00024 <0.00023	<0.00031 <0.00017	<0.006 <0.017	<0.074 <0.074	<b>0.028 J</b> <0.016	<0.017	<0.029 <b>0.200</b>	nt nt
City of Oaklan																			
Works Agency Based Screen (RBSLs)	y Risk	0.001	0.150	0.700	1.80	ne	0.020	0.013	ne	ne	ne	0.0005	0.00005	ne	ne	ne	ne	ne	ne
San Francisco RWQCB Envir Screening Lev	ronmental	0.001	0.040	0.030	0.020	ne	0.017	0.005	ne	ne	ne	0.0005	0.00005	0.012	ne	0.100	0.100	ne	ne

Analytical test results are reported in milligrams per liter (mg/L).

Bolded results indicate detected concentrations exceeded laboratory detection limits.

does not exist ne = not established <, BDL = below laboratory detection limits J = reported result is between the MDL and PQL nt = not tested for that constituent ns = not sampled dne = does not exist

Notes (per previous reports):
1) BTEX analyzed by EPA Method 8020
2) TPH-d analyzed by EPA Method 3550/8015 Modified
3) TPH-g analyzed by EPA Method 8015M
\* Sample not analyzed due to broken sample bottle during shipment

#### Table 4 - Cumulative Summary of Soil Analytical Results Greyhound Lines, Inc. 2103 San Pablo Avenue Oakland, Alameda County, California Green Star Project No. 09-1379

Sample ID	Depth in feet BGS	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Total BTEX	MTBE	TPH-g	TPH-d	TPH	TFH
Subsurface Investigation Samples (Conducted by a Previous Contultant)												
BC-1 BC-1	16-16.5 25-25.5	07/08/89 07/08/89	nr <10.0	<b>1.78</b> <0.001	37.5 0.027	1.13 0.008	40.4 0.035	nt nt	nt nt	nt nt	nr nr	<b>3,060</b> <10.0
BC-2 BC-2	16-16.5 25-25.5	07/08/89 07/08/89	nr <10.0	4.00 0.090	2.00 0.402	49.5 0.154	55.5 0.646	nt nt	nt nt	nt nt	nr nr	<b>4,260</b> <10.0
BC-3 BC-3	16-16.5 25-25.5	07/08/89 07/08/89	nr <10.0	<b>2.24</b> <0.001	28.9 0.008	<b>1.03</b> <0.001	<b>32.2</b> 0.008	nt nt	nt nt	nt nt	nr nr	<b>1,850</b> <10.0
ES-1	16-18	11/11/91	<1.00	3.00	3.40	22.0	28.4	nt	nt	<2.50	nt	nt
ES-2	16-18	11/12/91	<2.00	27.0	28.0	150	205	nt	nt	<2.50	nt	nt
ES-3	16-18	11/12/91	<0.001	<0.002	<0.002	<0.004	BDL	nt	nt	<2.50	nt	nt
ES-4	16-18	11/13/91	<0.001	<0.002	<0.002	<0.004	BDL	nt	nt	BDL	nt	nt
ES-5	16-18	11/14/91	<0.001	0.080	0.065	0.330	0.475	nt	nt	160	nt	nt
ES-6	15-16.5	07/23/93	<0.005	<0.005	<0.005	<0.015	BDL	nt	<10.0	<10.0	nt	nt
ES-7	20-21.5	07/20/93	<0.005	<0.005	<0.005	<0.015	BDL	nt	<10.0	<10.0	nt	nt
ES-8	20-21.5	07/20/93	<0.005	<0.005	<0.005	<0.015	BDL	nt	<10.0	<10.0	nt	nt
ES-9	15-16.5	07/21/93	<0.005	<0.005	<0.005	<0.015	BDL	nt	<10.0	<10.0	nt	nt
ES-10	20-21.5	07/21/93	<0.005	<0.005	<0.005	<0.015	BDL	nt	<10.0	<10.0	nt	nt
ES-11	20-21.5	07/21/93	<0.005	<0.005	<0.005	<0.015	BDL	nt	<10.0	<10.0	nt	nt

Analytical test results are reported in milligrams per Kilogram (mg/Kg).

<, BDL = below laboratory detection limits

nt = not tested for that constituent

nr = Interpretation of results not possible as reported by previous consultant.

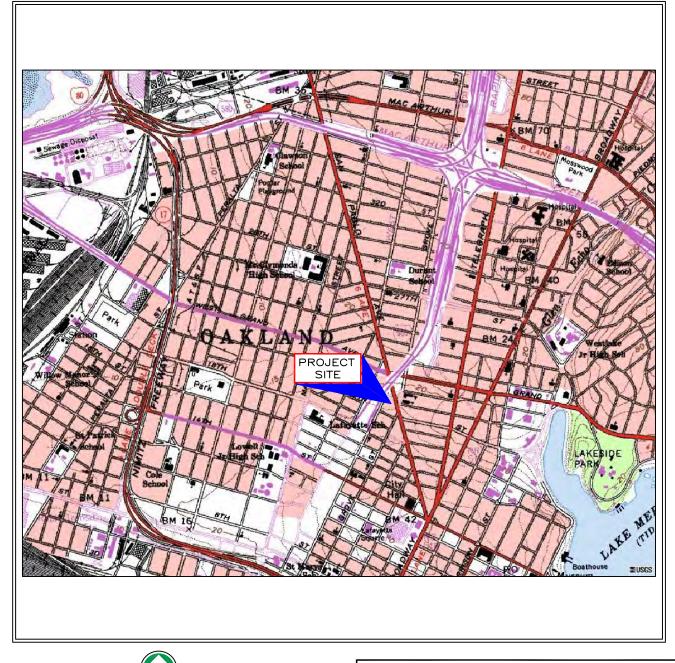
### **LIST OF FIGURES**

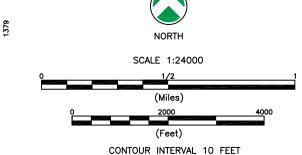
FIGURE 1	Site Location Map/USGS Topographic Map
FIGURE 2a	Site Plan
FIGURE 2b	Tankpit Area with Proposed Boring Locations
FIGURE 3	Groundwater Gradient (April 8, 2009)
FIGURE 4	Dissolved-Phase Benzene in Groundwater (April 8, 2009)
FIGURE 5	Dissolved-Phase TPH-g in Groundwater (April 8, 2009)
FIGURE 6	Dissolved-Phase TPH-d in Groundwater (April 8, 2009)
FIGURE 7	Cross-Section (A-A')
FIGURE 8	Cross-Section (B-B')
FIGURE 9	Receptor Survey Map and Nearby Environmental Projects
FIGURE 10	Vapor Survey Map

# OAKLAND WEST QUADRANGLE OAKLAND, CALIFORNIA

LAT=37° 48' 40" N LONG=122° 16' 24" W

1996



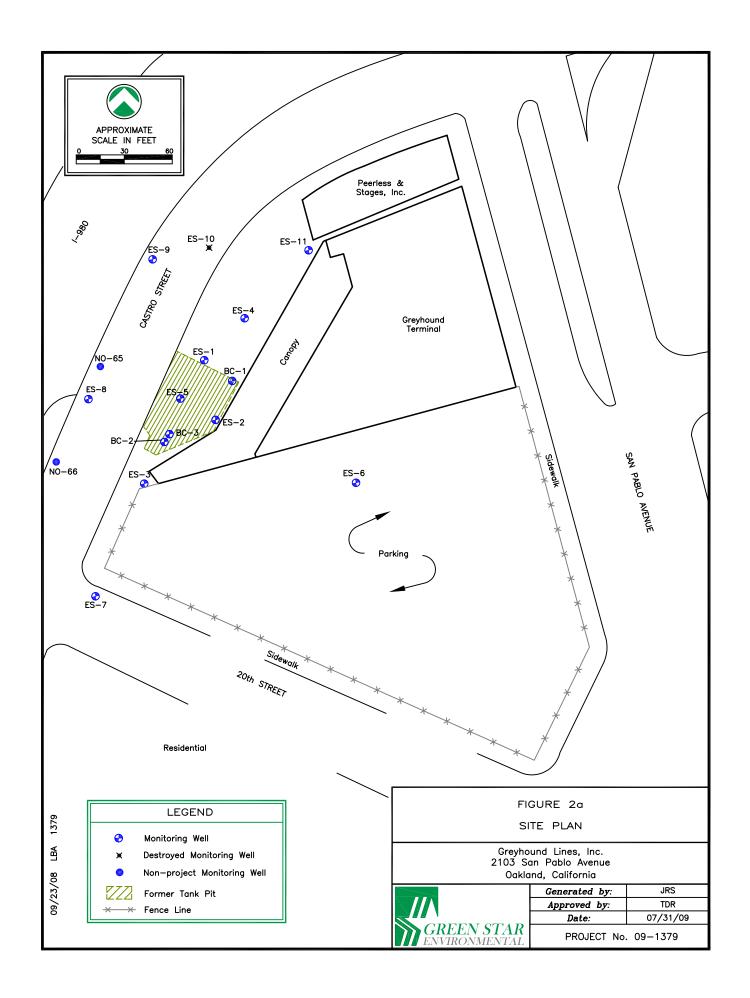


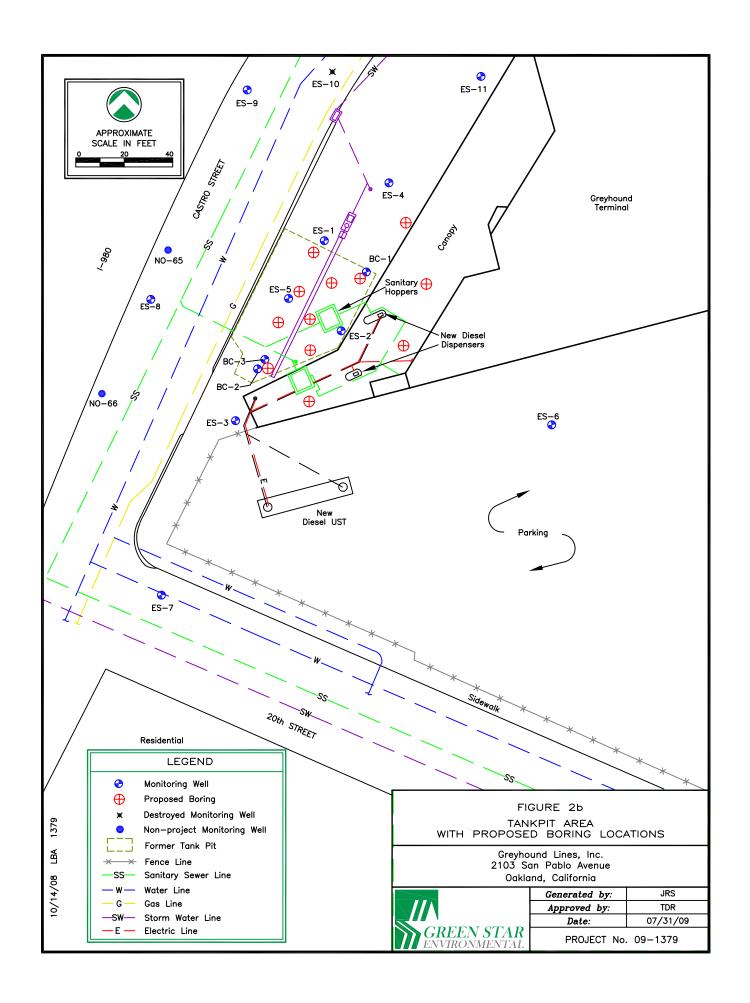
## FIGURE 1 SITE LOCATION/USGS TOPOGRAPHIC MAP

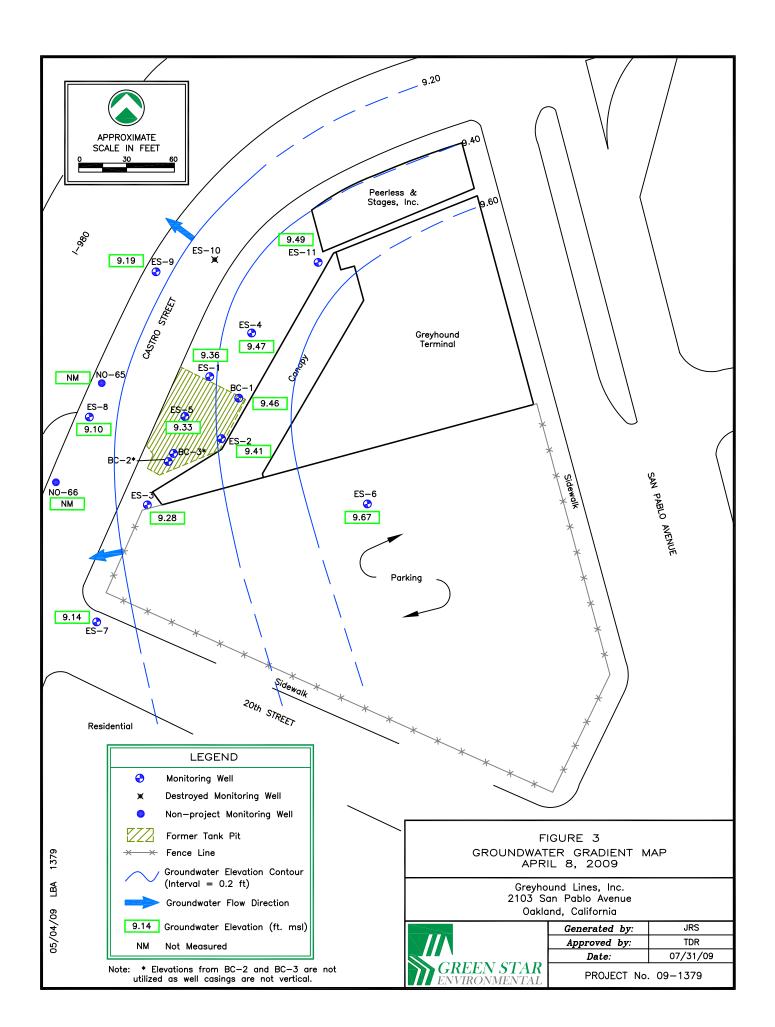
Greyhound Lines, Inc. 2103 San Pablo Avenue Oakland, California

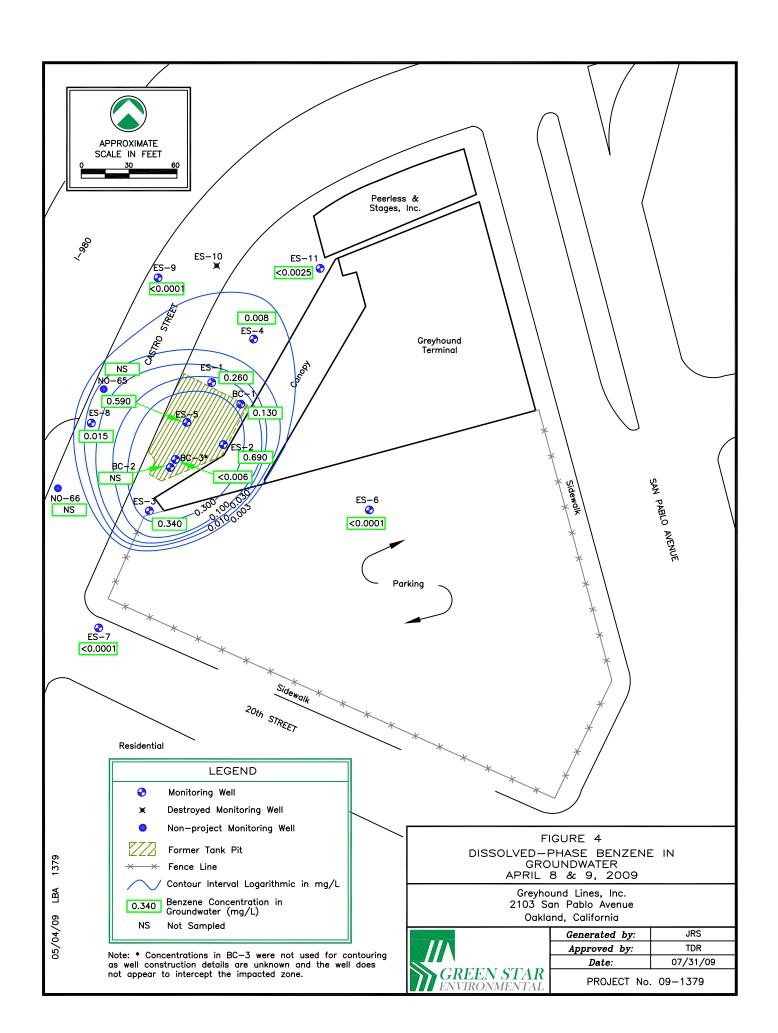


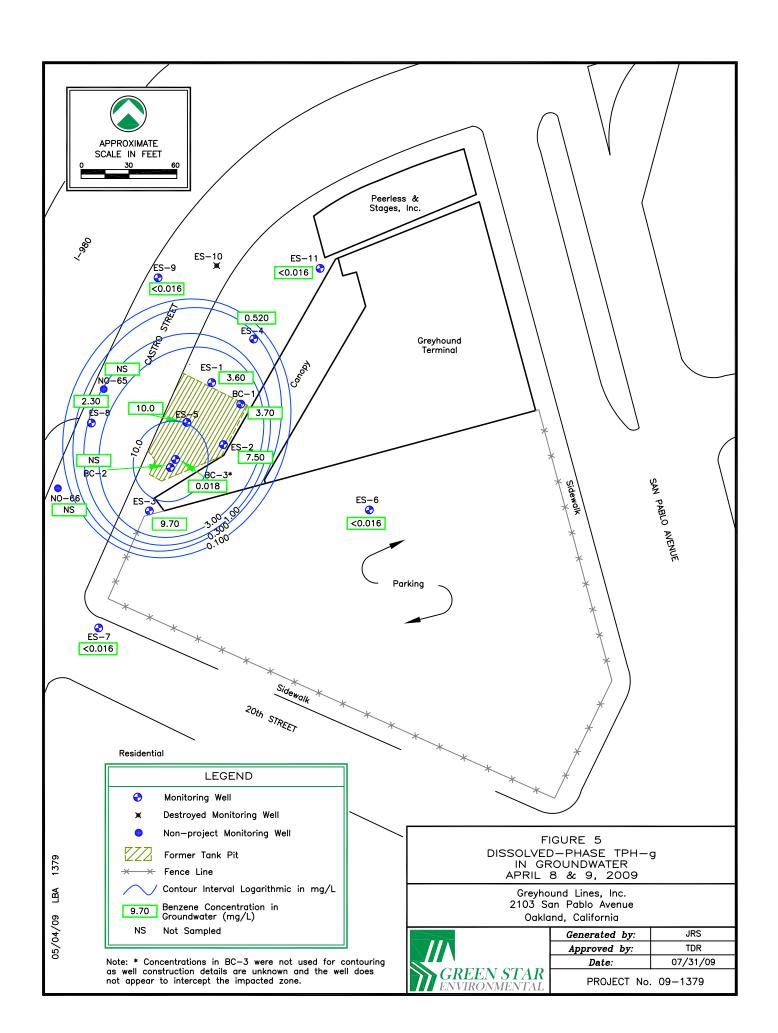
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Approved by:	TDR				
Date:	05/04/09				
PROJECT No	. 09–1379				

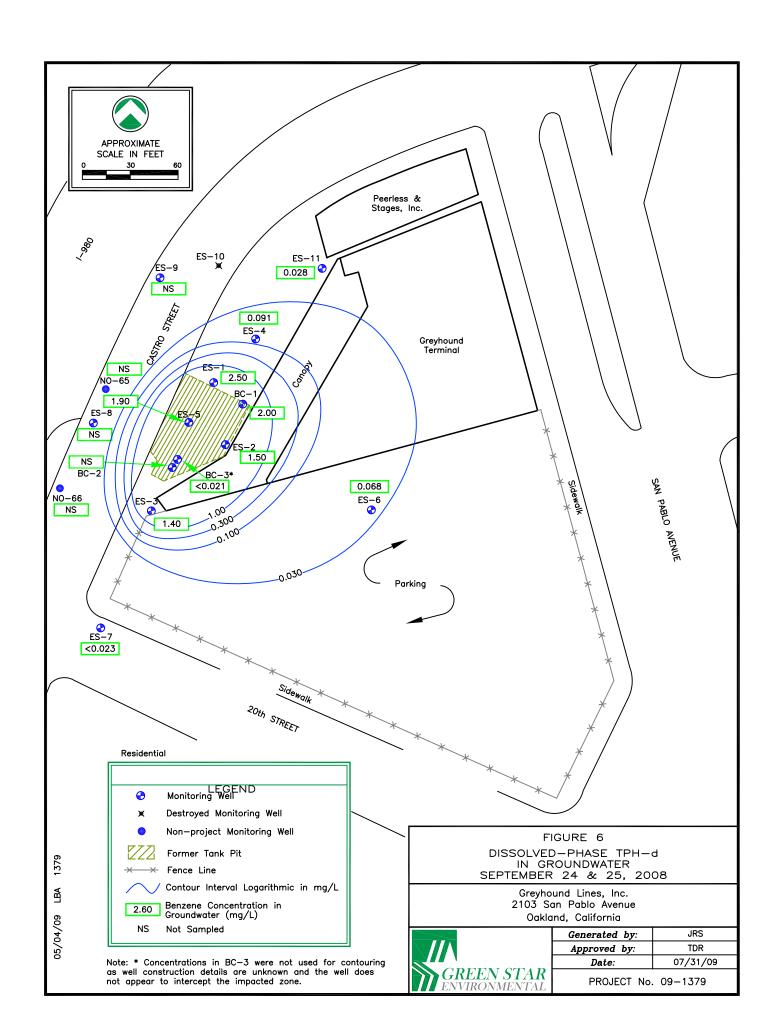


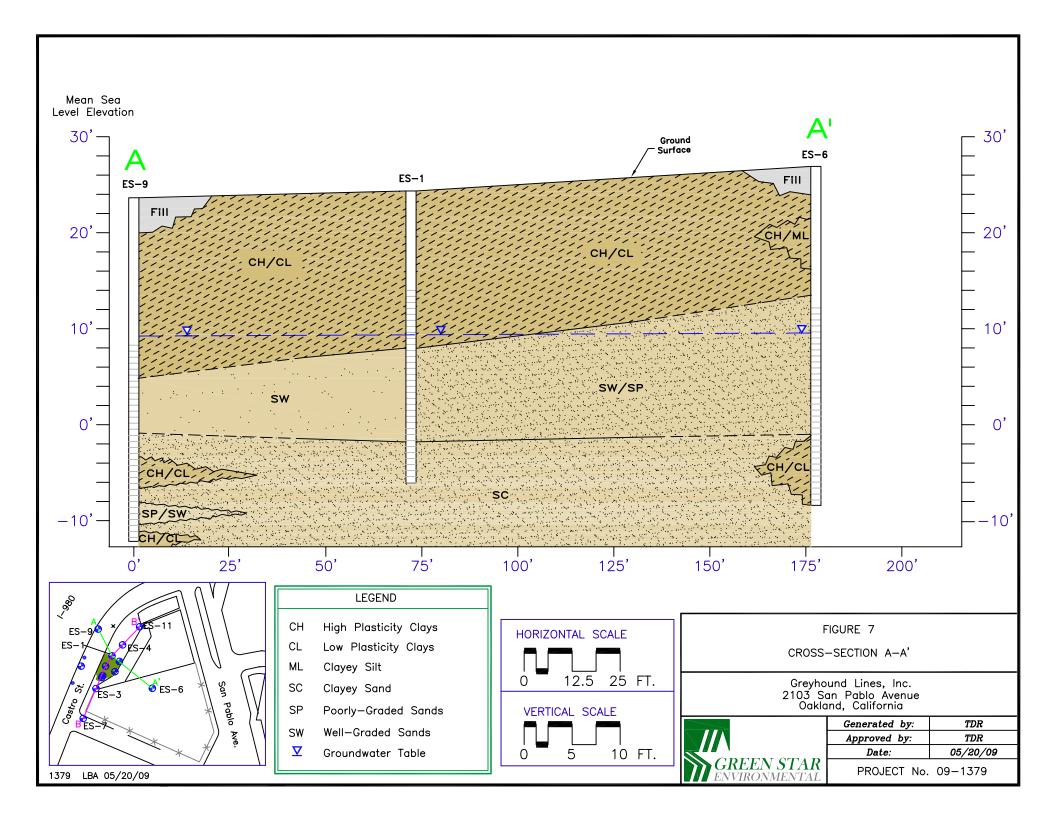


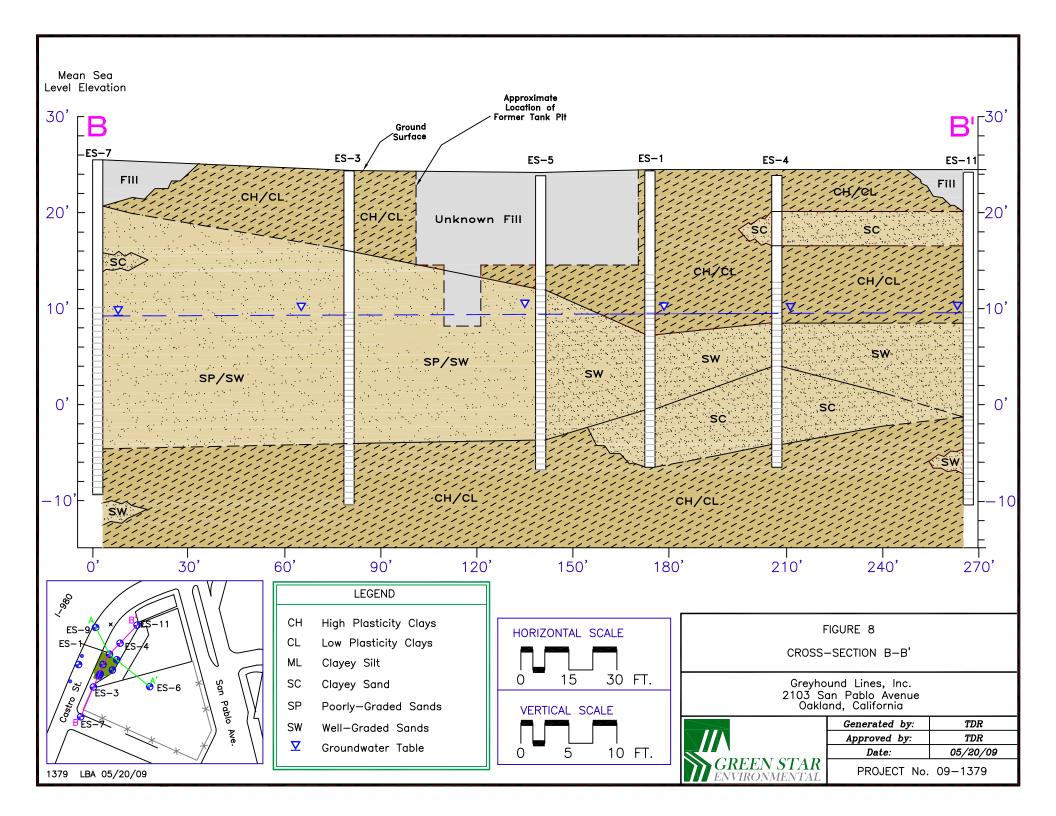


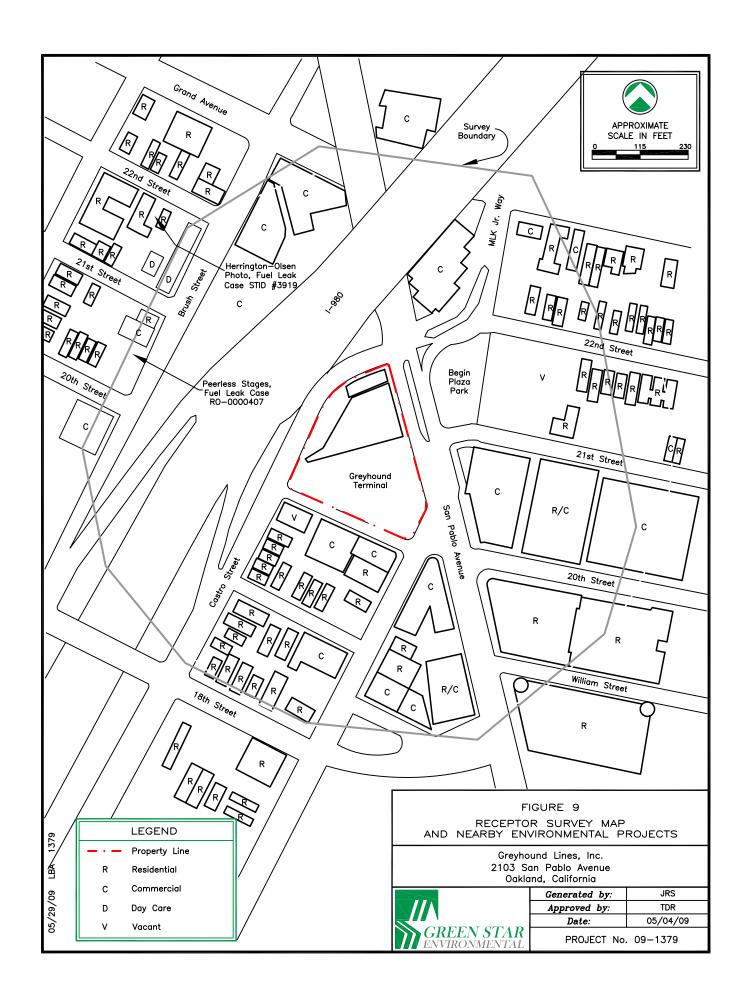


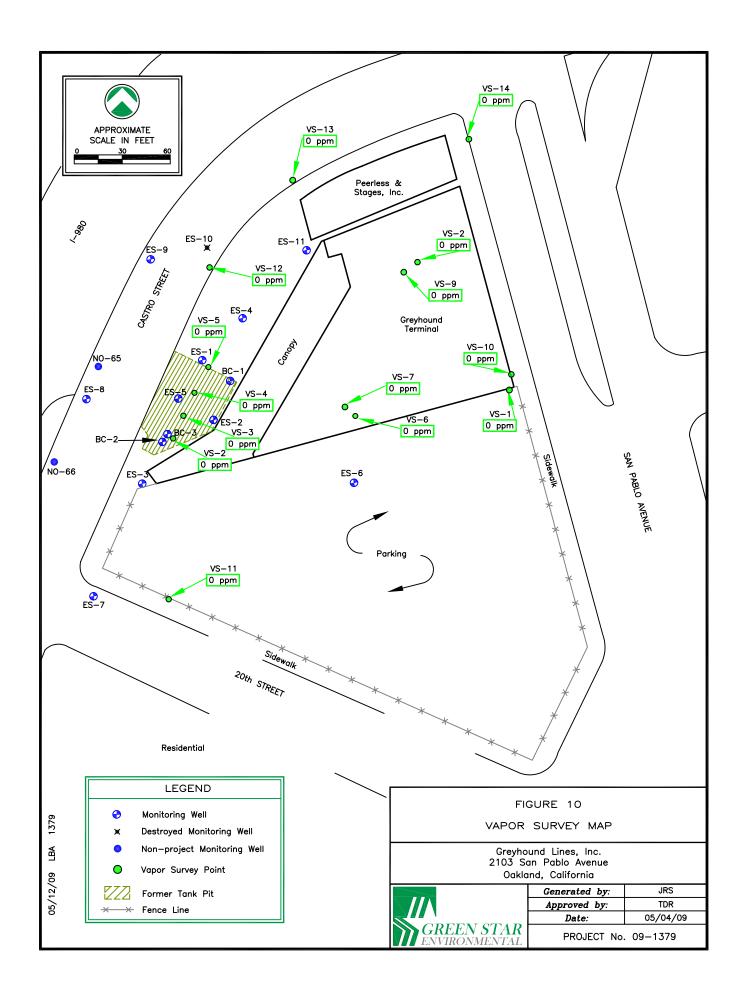






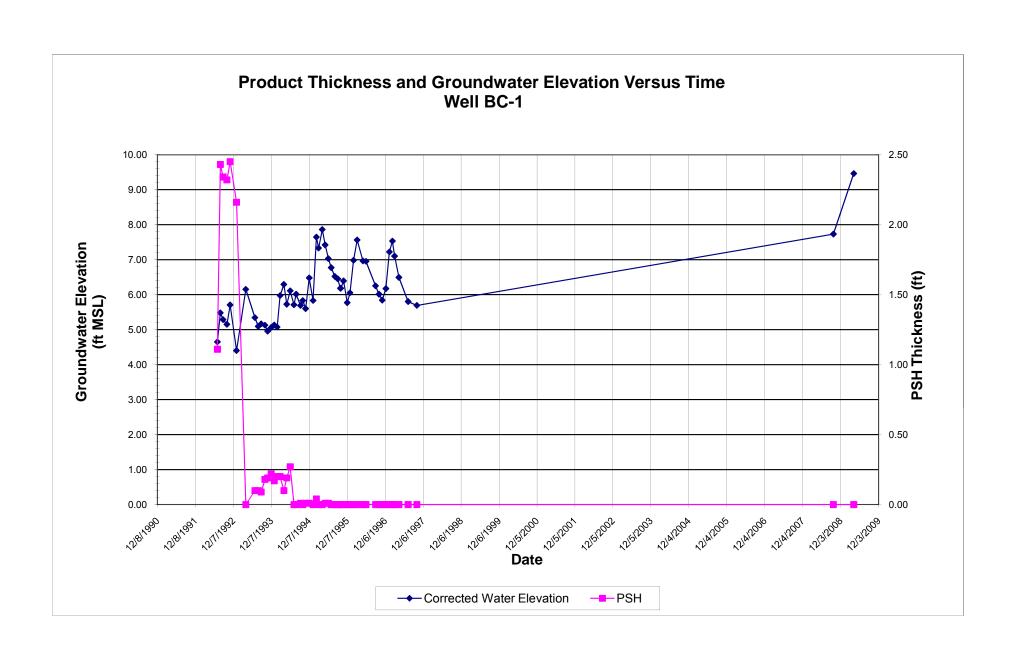


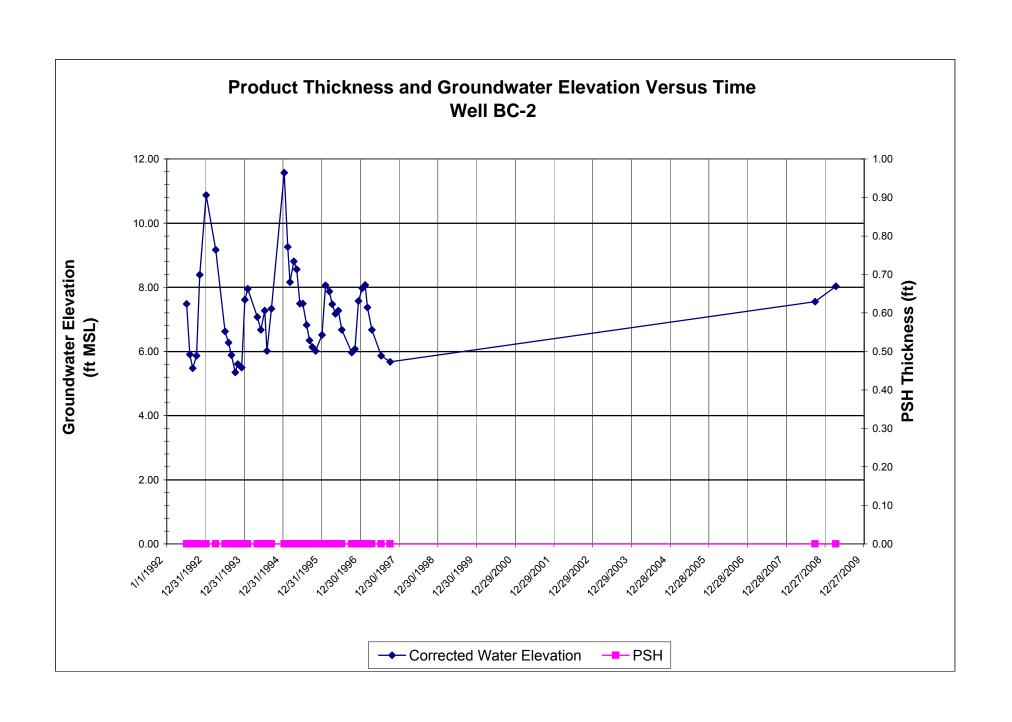


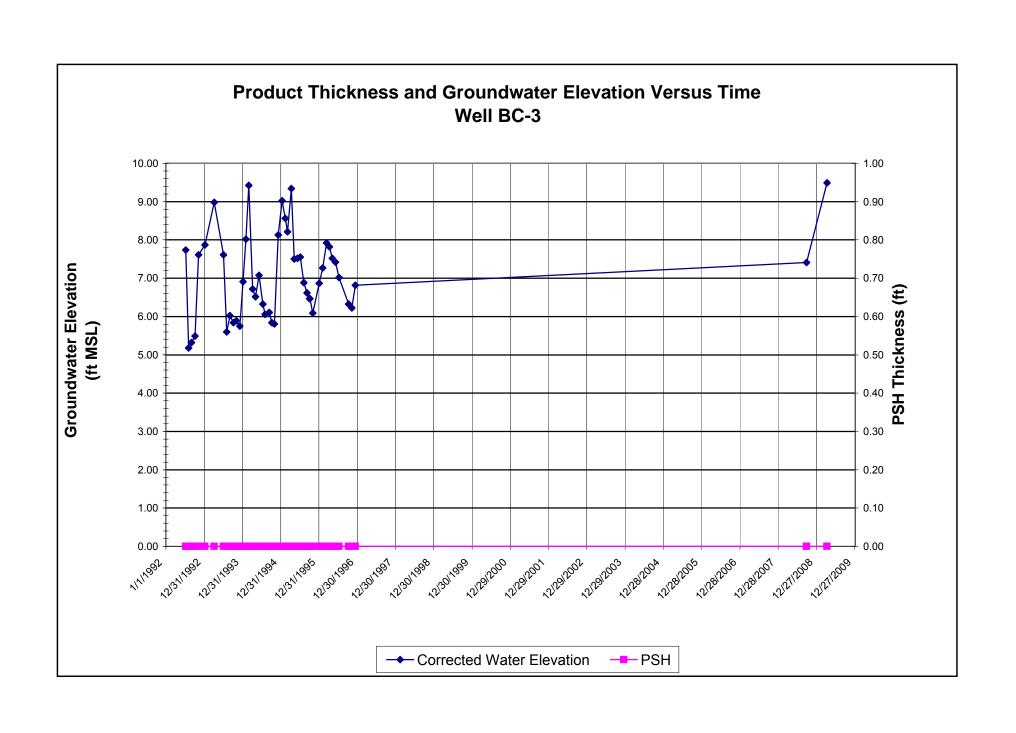


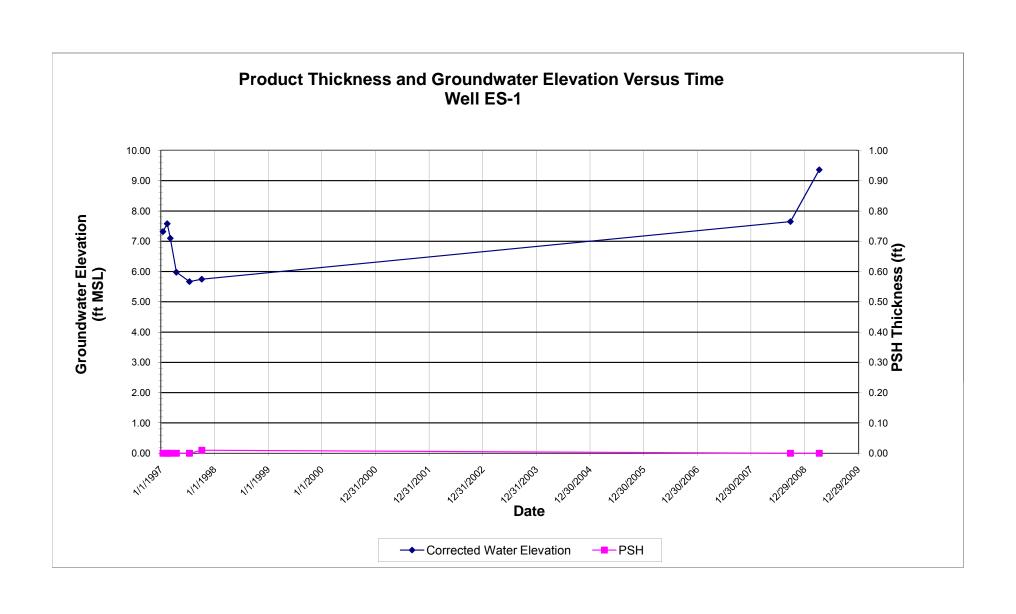
### **APPENDIX A**

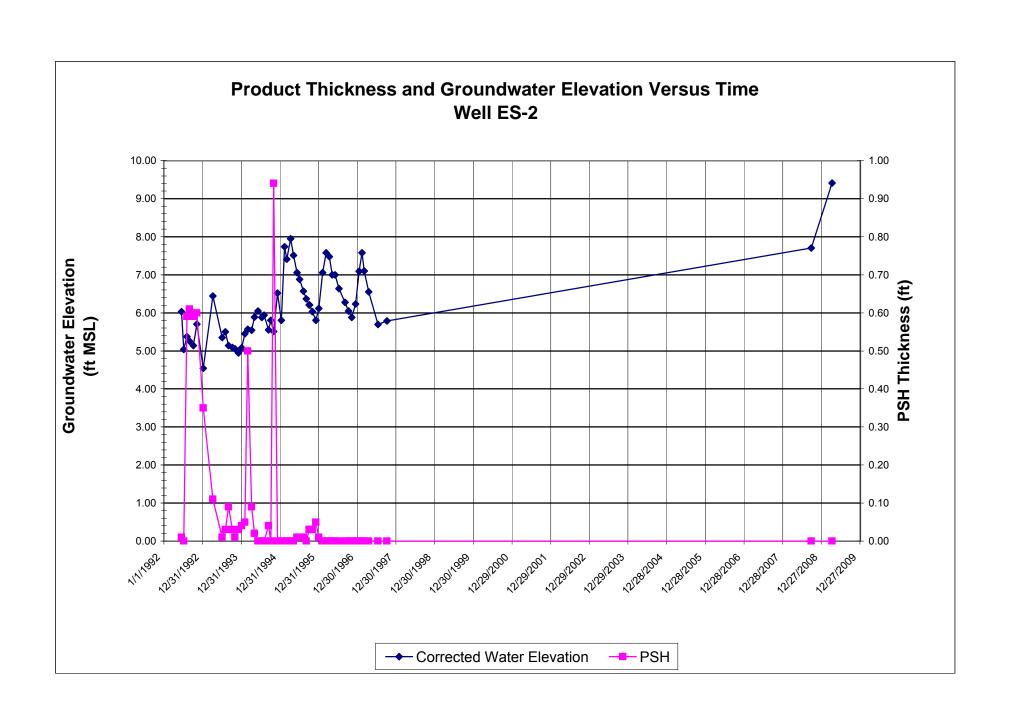
**PSH Thickness and Groundwater Elevation Graphs** 

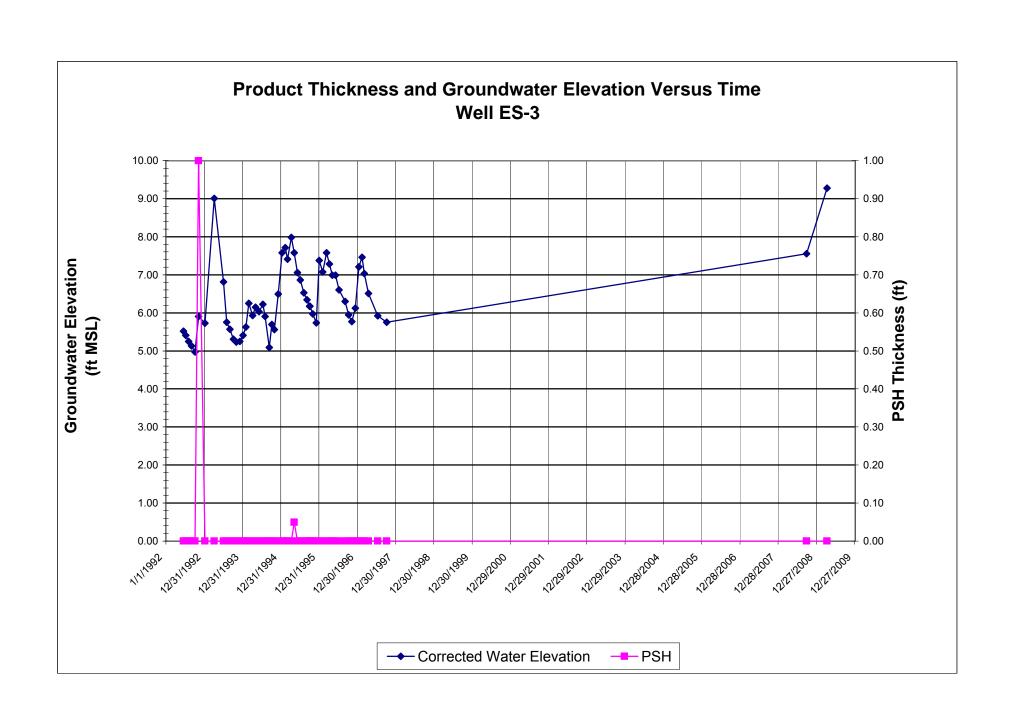


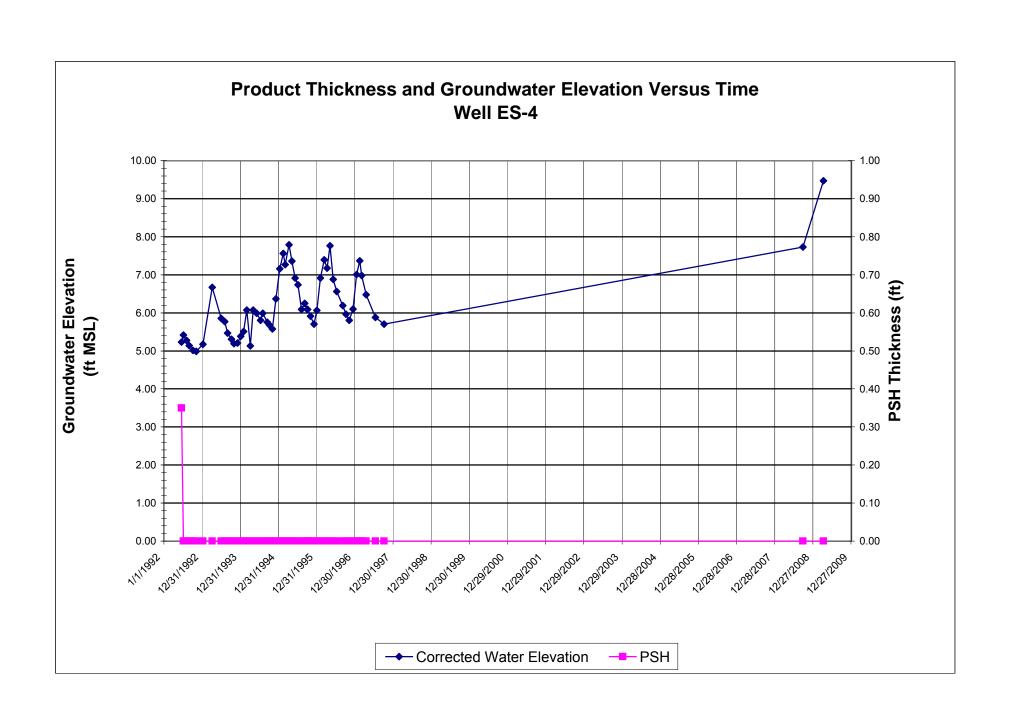


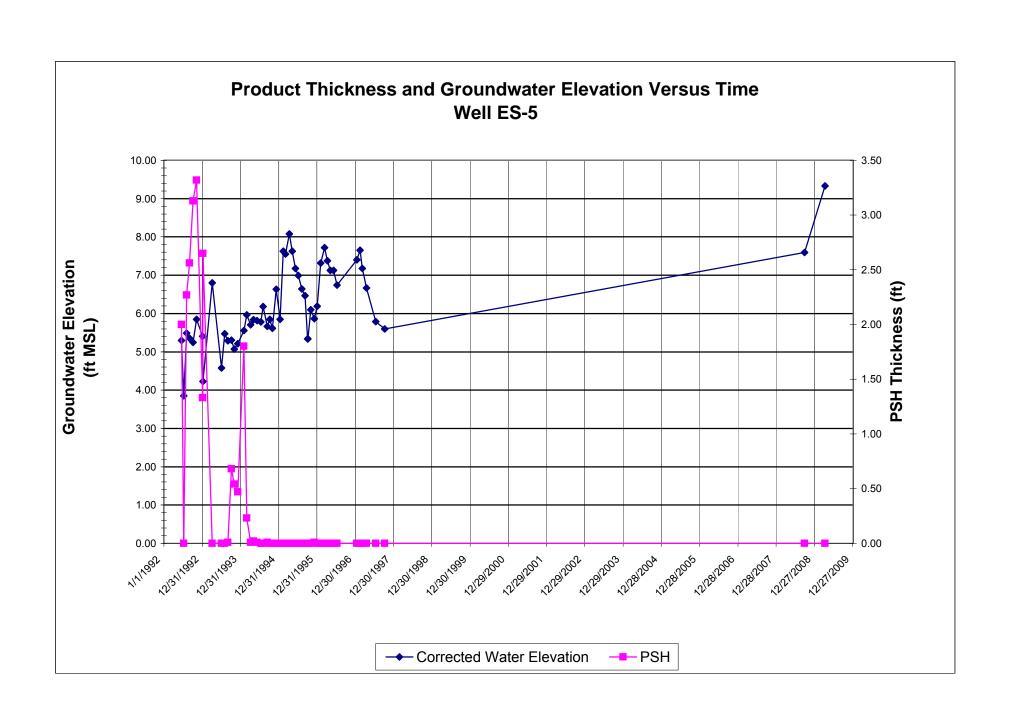


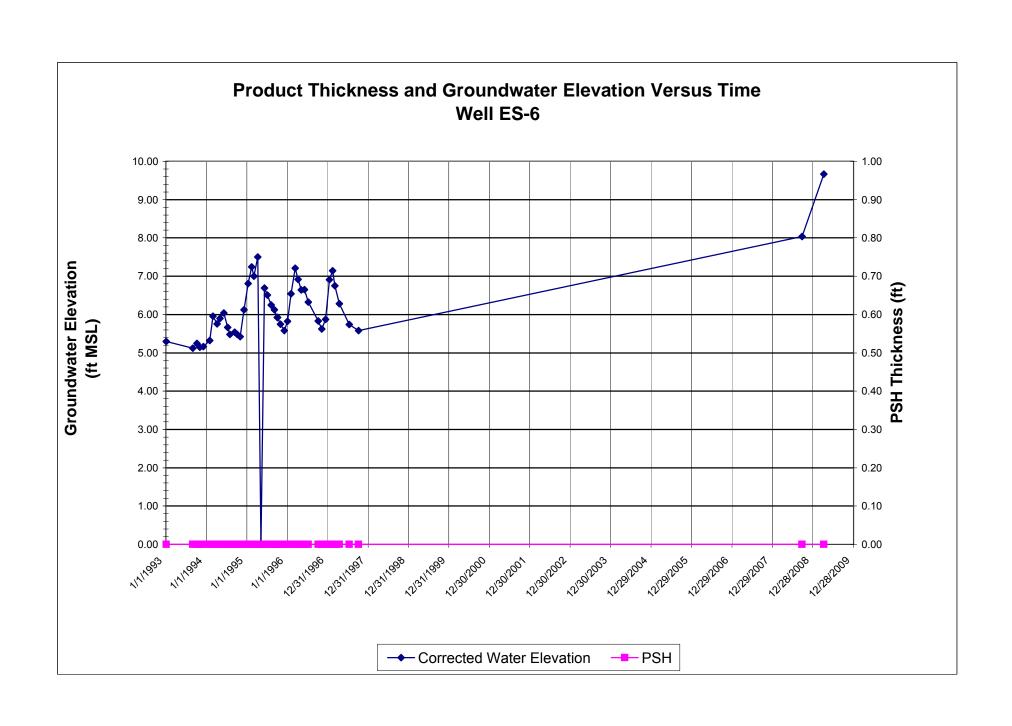


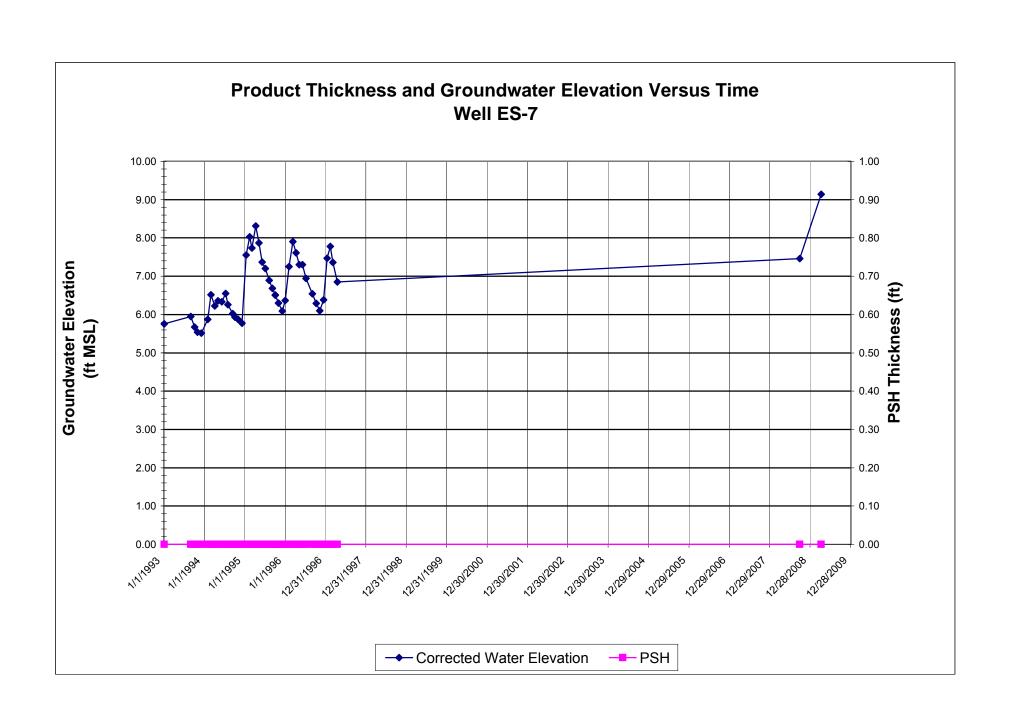


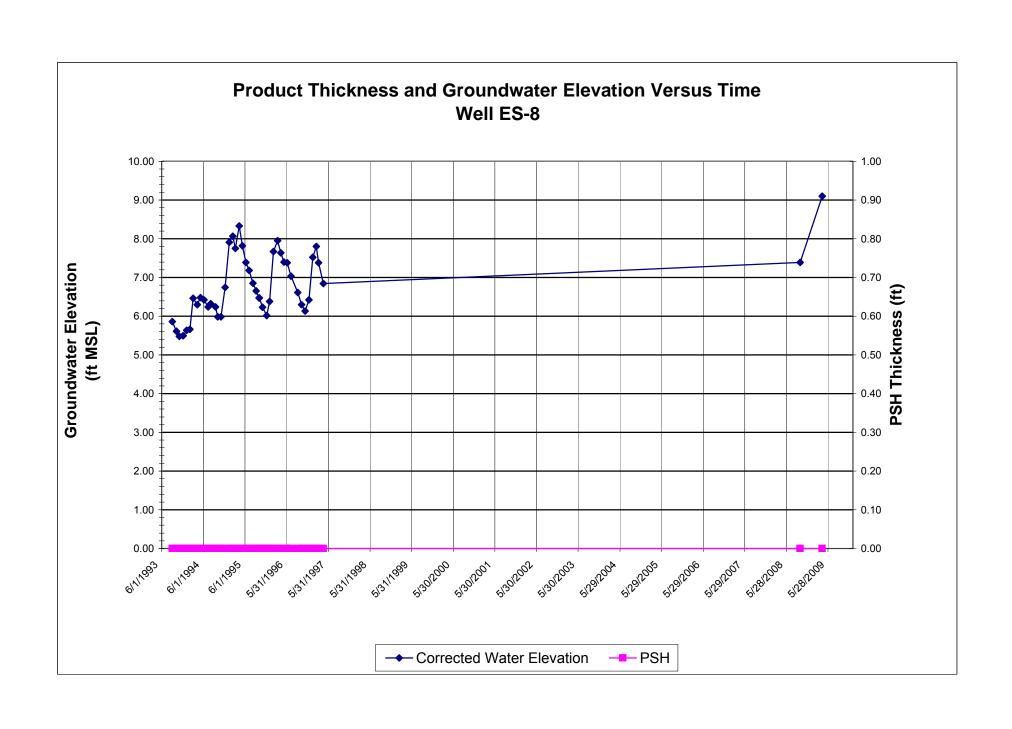


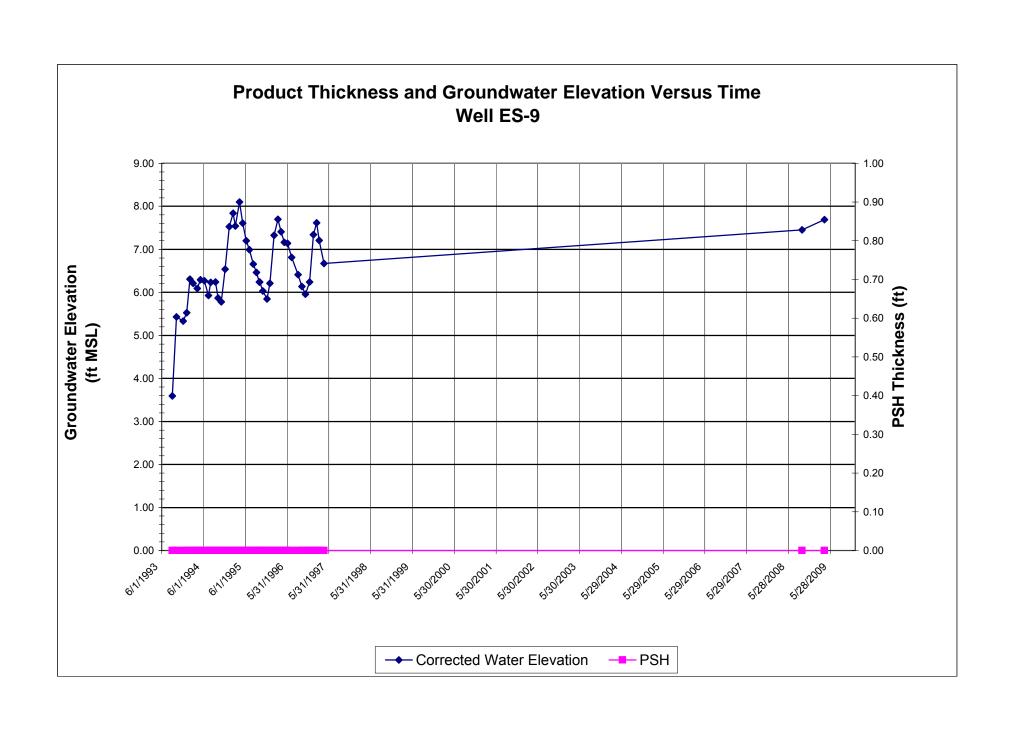


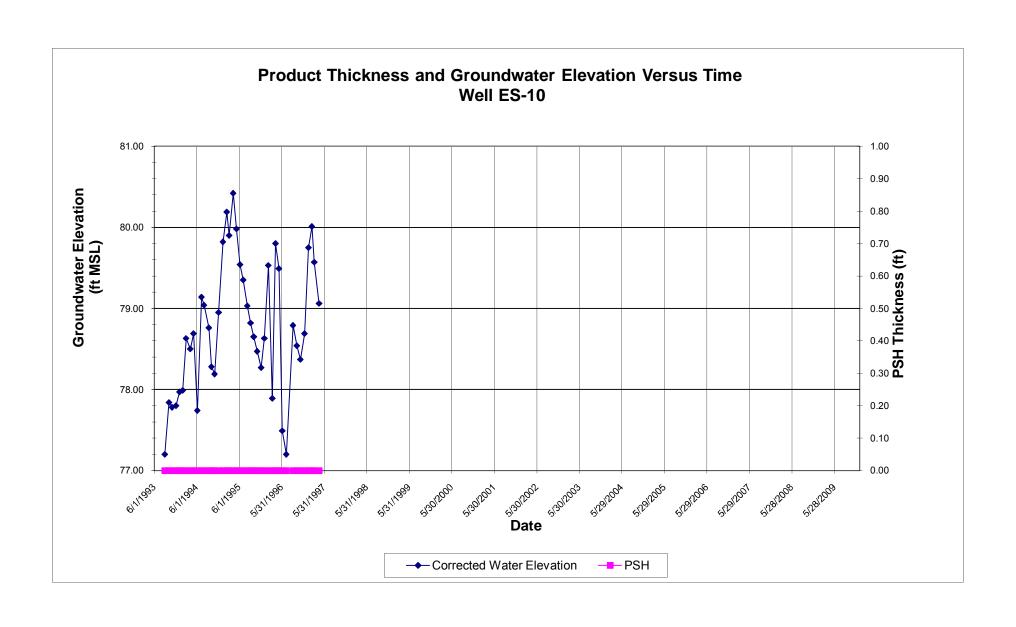


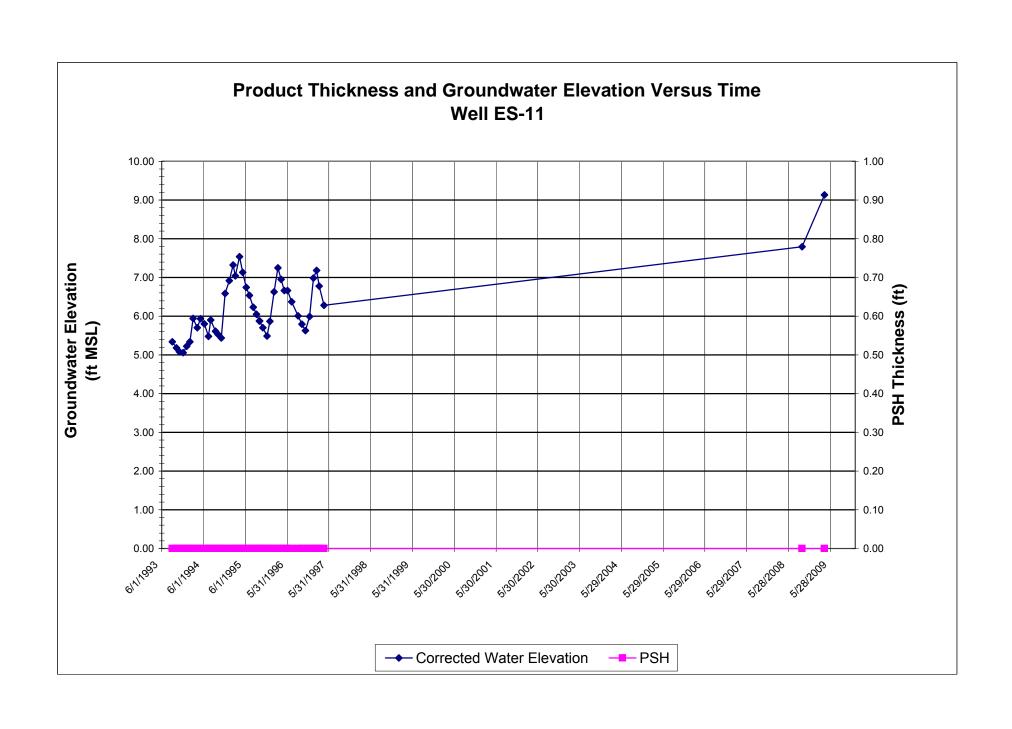






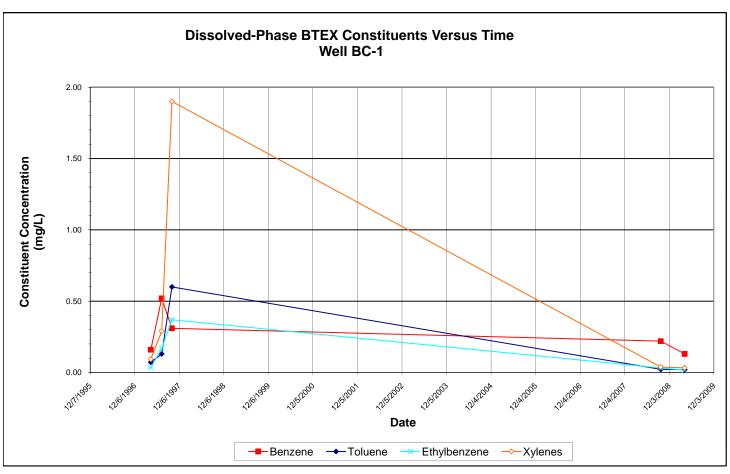


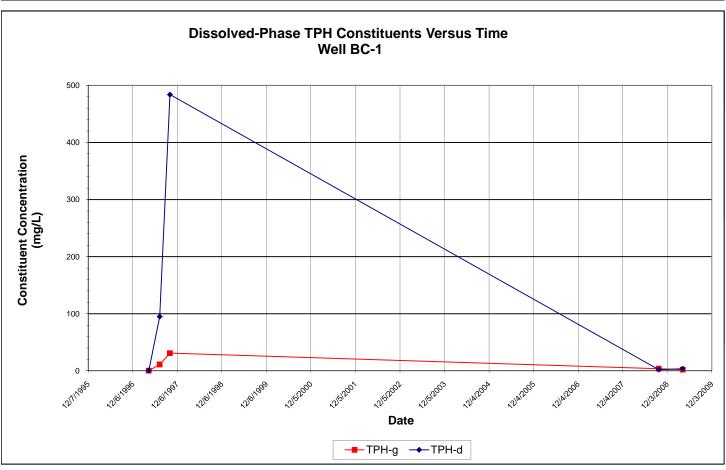


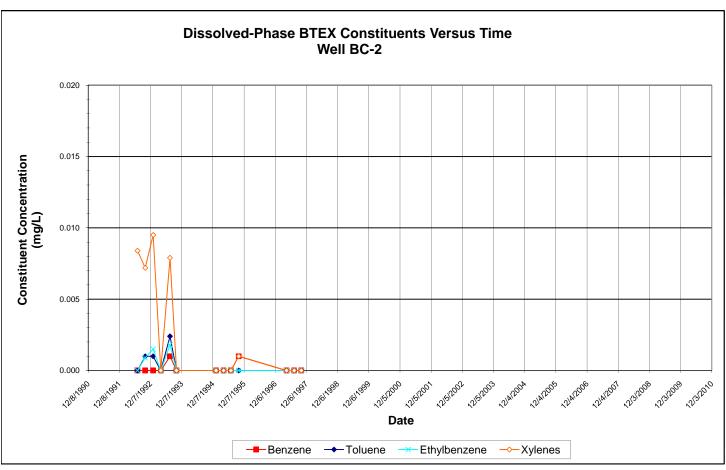


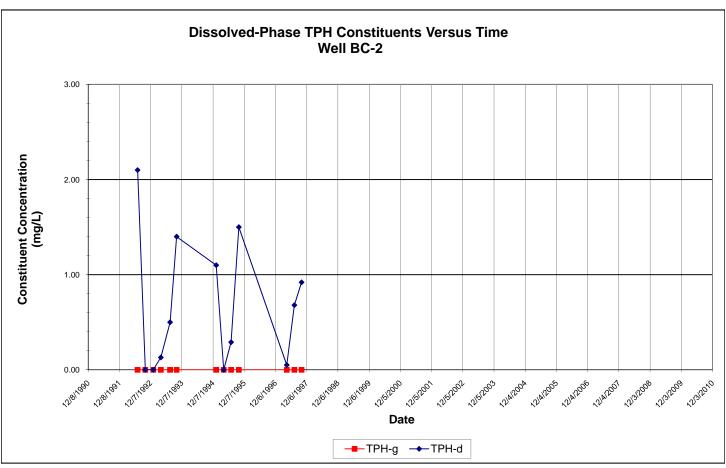
#### **APPENDIX B**

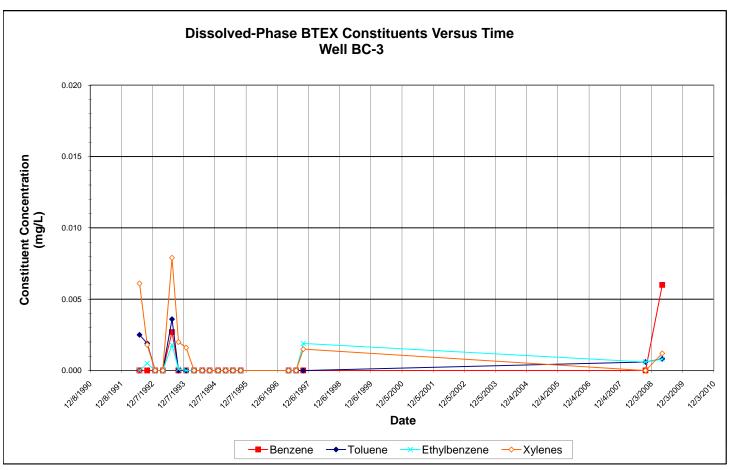
**Dissolved-Phase BTEX and TPH Constituent Graphs** 

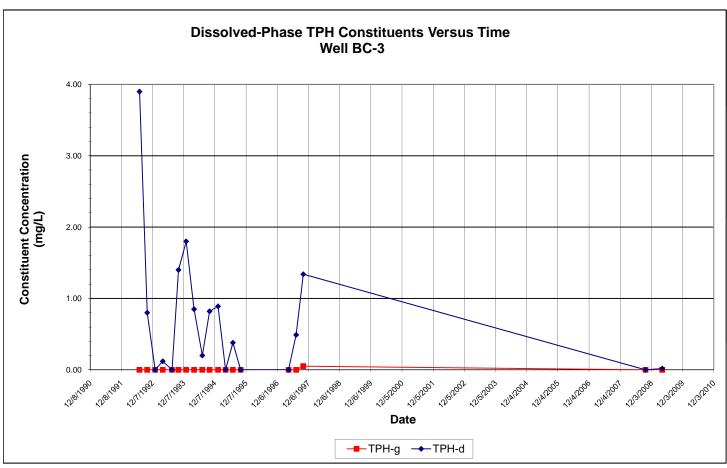


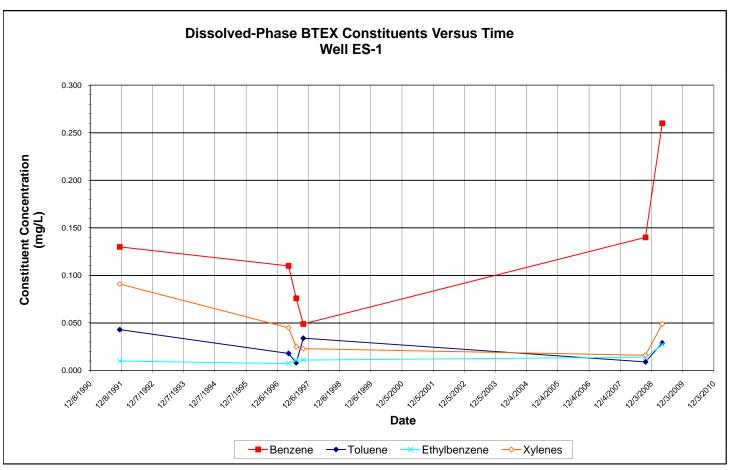




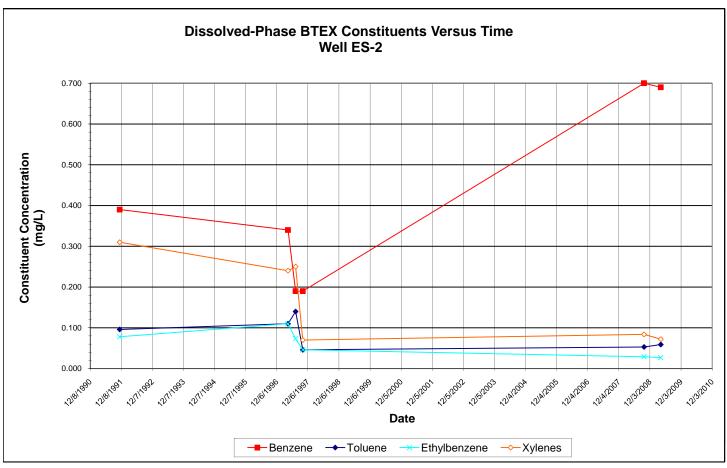


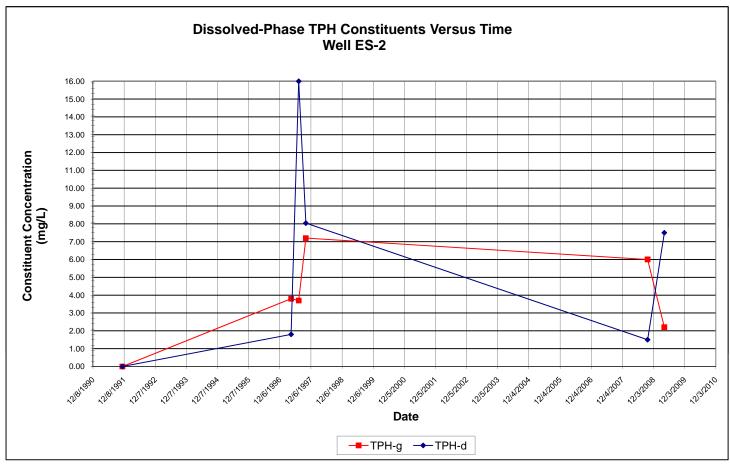


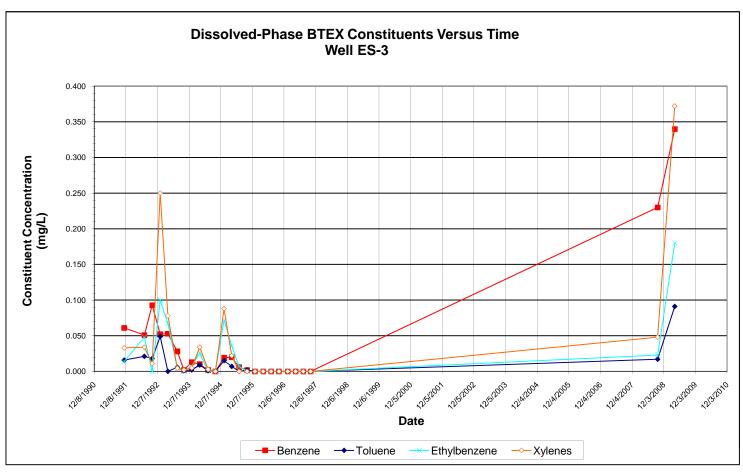


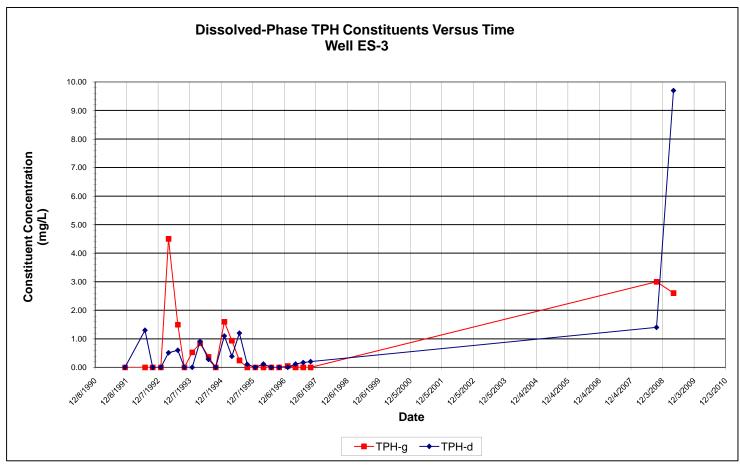


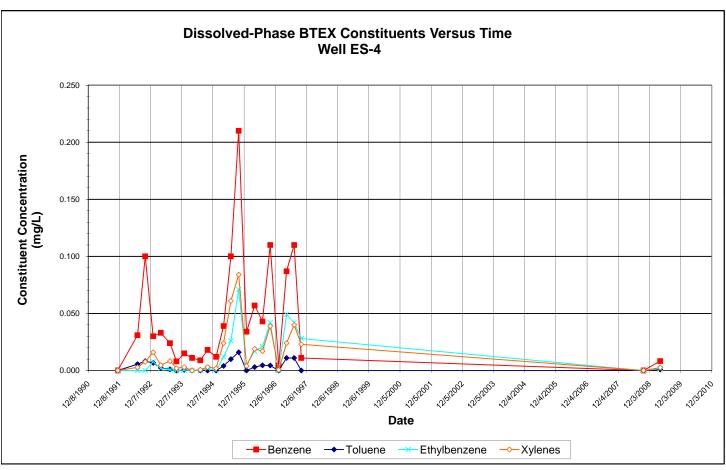


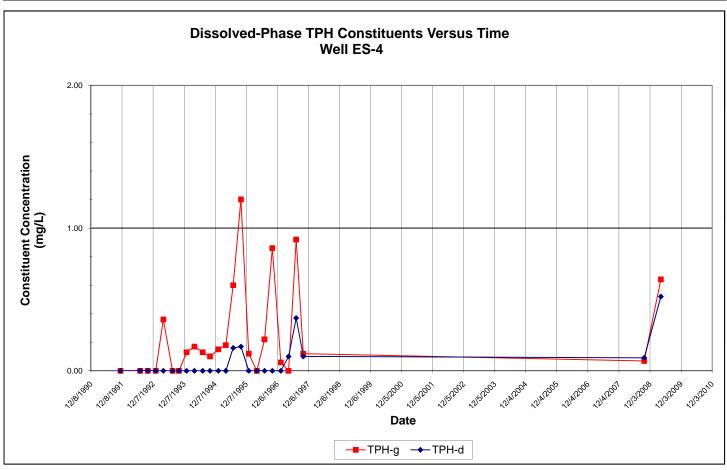


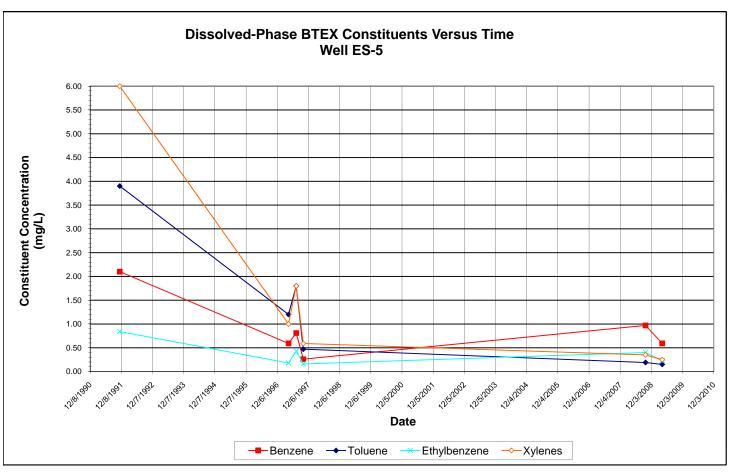


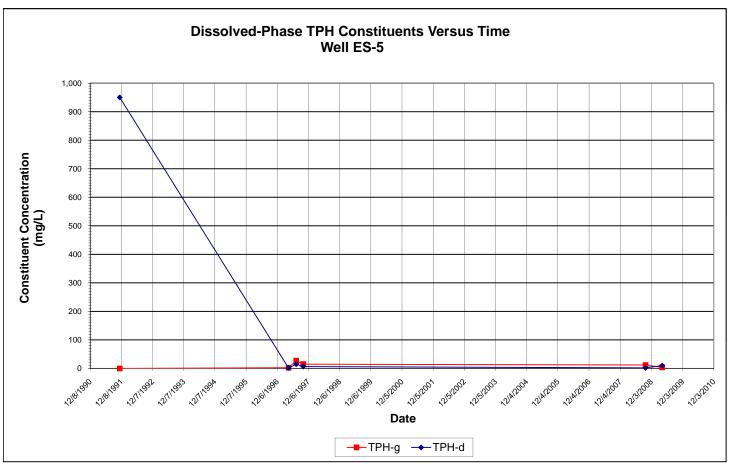


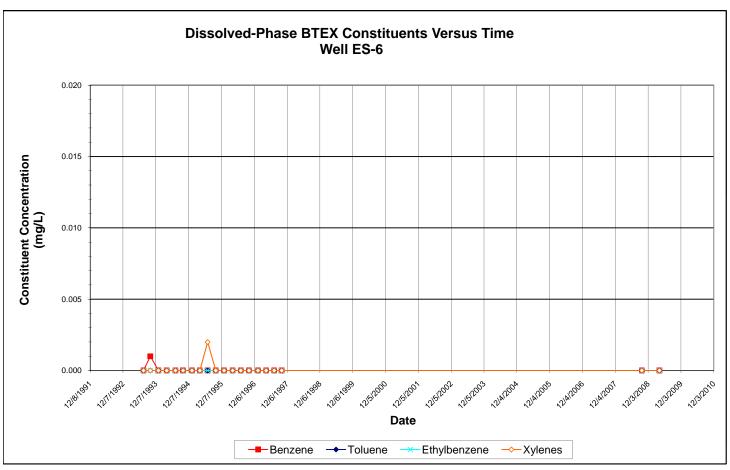


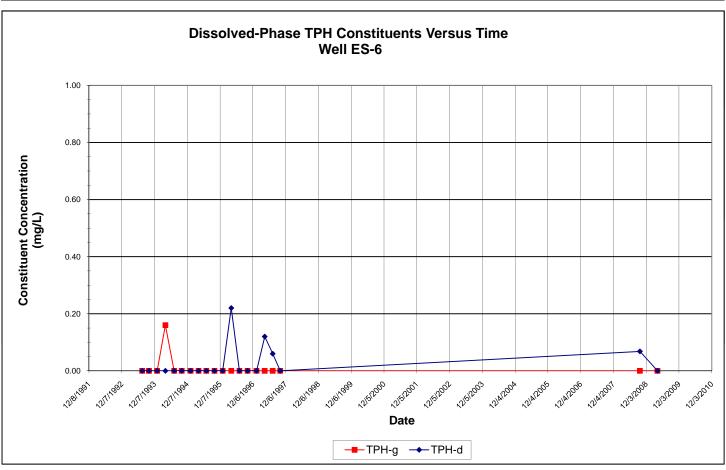


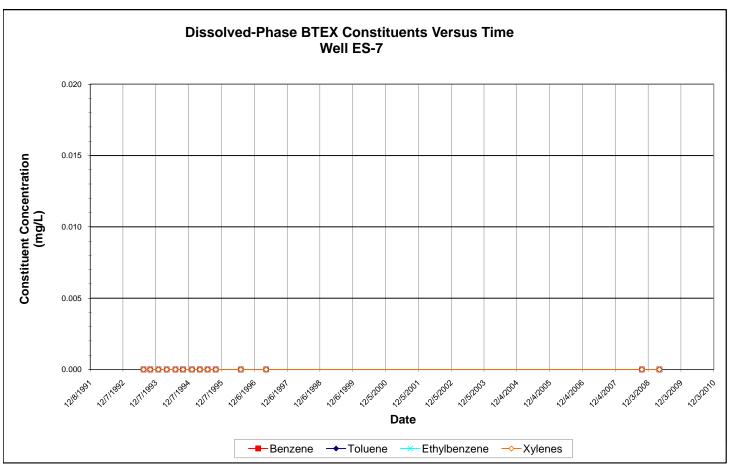


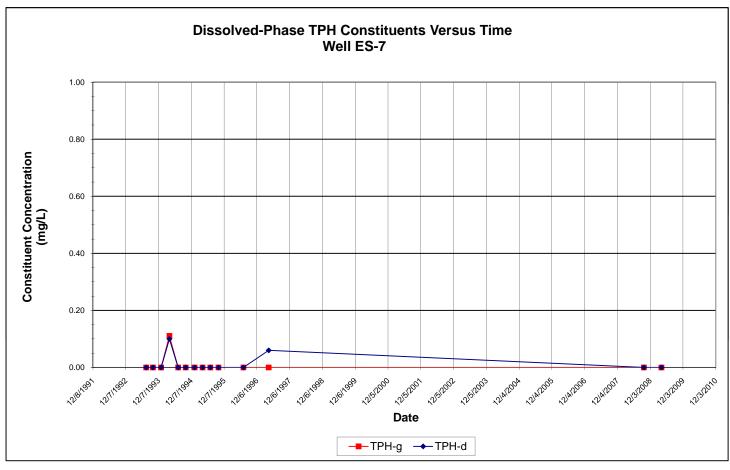


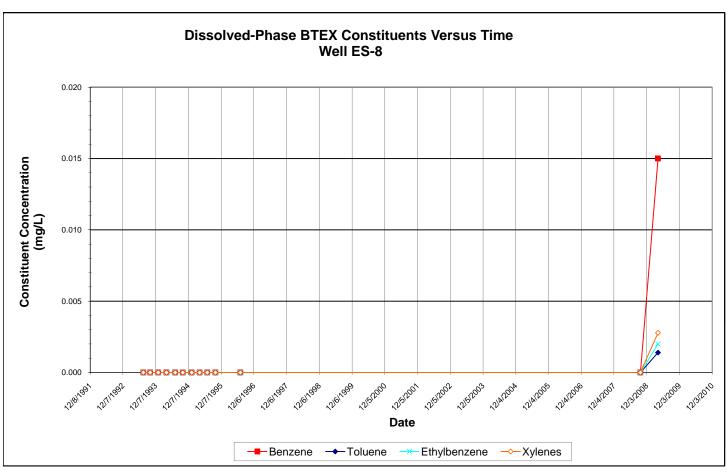


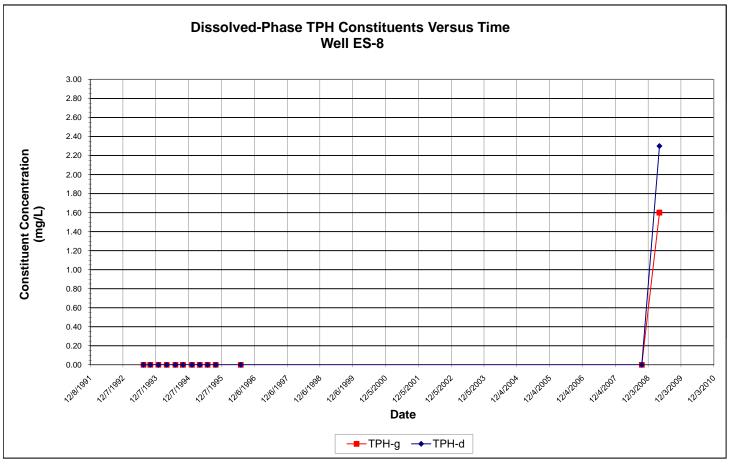


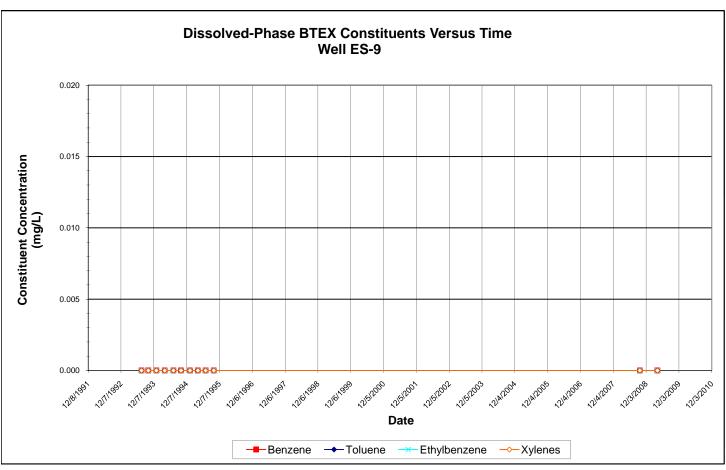


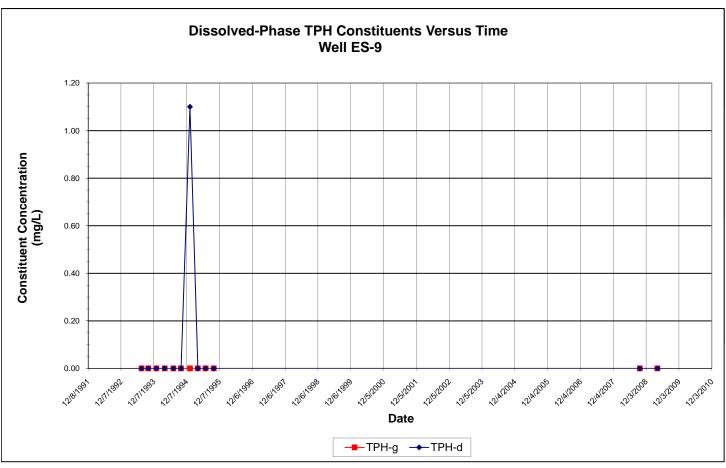


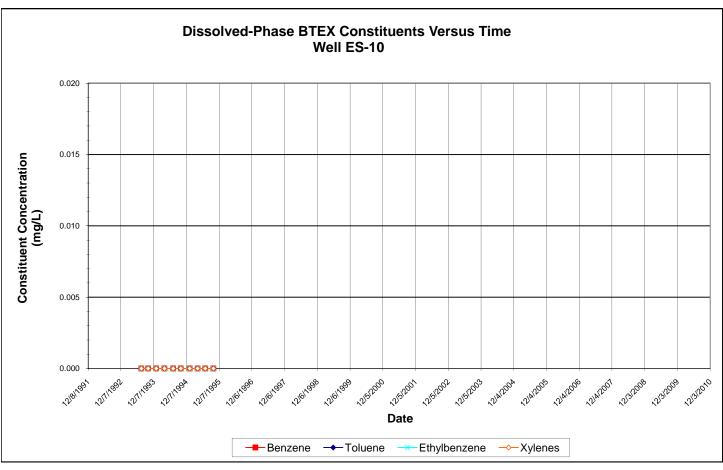


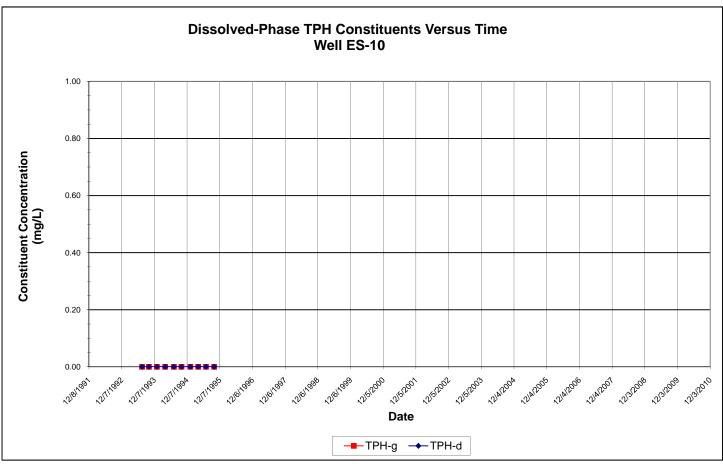


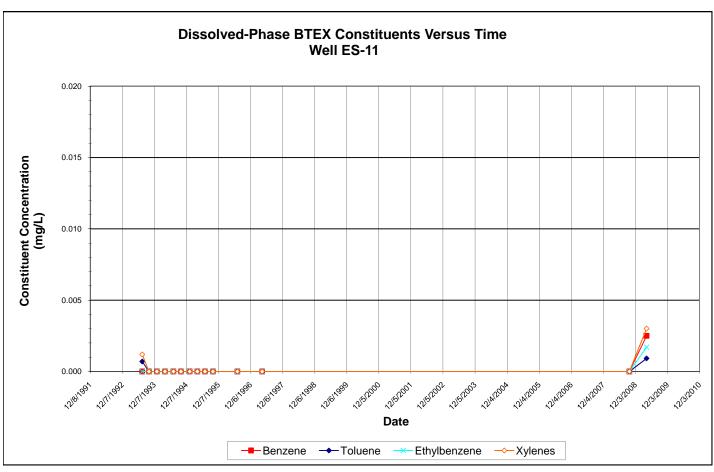


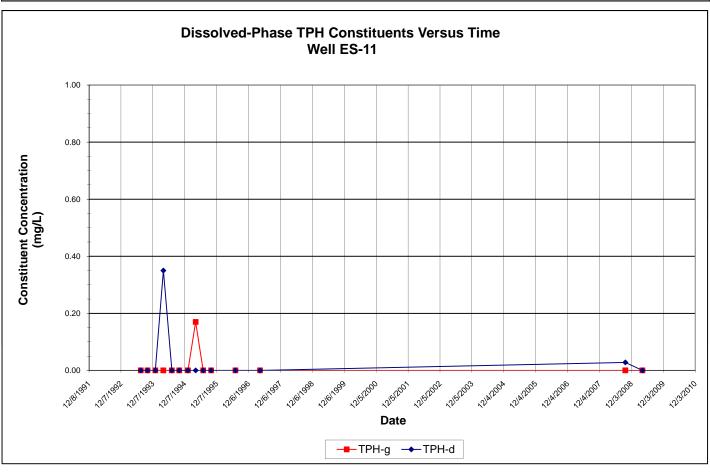












## **APPENDIX C**

**Boring Logs and Well Construction Diagrams** 

CLIENT: GREYHOUND LINES, INC.

2103 SAN PABLO AVENUE,

LOCATION: \_

OAKLAND, CALIFORNIA

COMPLETION DATE: 11 November 1991

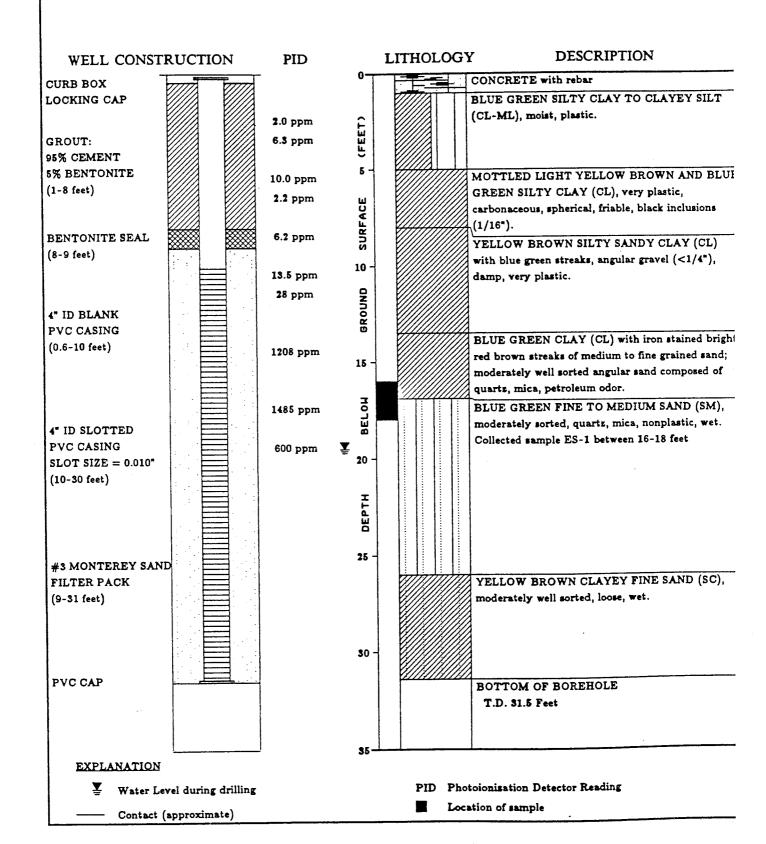
GEOLOGIST: H. PIETROPAOLI

TEST HOLE NUMBER: ES-1

DRILLER: AQUA SCIENCE ENGINEERS

DRILLING METHOD: HOLLOW-STEM AUGER

HOLE DIAMETER: 10.5-INCHES



TEST HOLE NUMBER: \_\_\_\_ CLIENT: \_\_\_ GREYHOUND LINES, INC. 2103 SAN PABLO AVENUE, OAKLAND, CALIFORNIA DRILLER: AQUA SCIENCE ENGINEERS LOCATION: \_\_\_ DRILLING METHOD: HOLLOW-STEM AUGER COMPLETION DATE: 14 November 1991 GEOLOGIST: H. PIETROPAOLI HOLE DIAMETER: 10.5-INCHES LITHOLOGY DESCRIPTION WELL CONSTRUCTION PID CONCRETE with rebar. CURB BOX LOCKING CAP 0 ppm Drain Rock Fill MOTTLED DARK BROWN AND YELLOW SILTY GROUT: 95% CEMENT MEDIUM SANDY CLAY (CL), backfill material, 5 **5% BENTONITE** damp. (1-8 feet) SURFACE LIGHT GREEN GRAY SILTY CLAY (CL), grading BENTONITE SEAL to a blue green silty to fine sand clay, plastic, damp, (8-9 feet) 10 moderately stiff, slight petroleum odor. 65 ppm 121.4 ppm BLUE GREEN CLAYEY FINE TO MEDIUM SAND 4" ID BLANK PVC CASING (SM), damp, to moist, loose, angular quartz grains with high sphericity, petroleum odor. (0.6-10 feet) 950 ppm 15 Collected sample ES-5 between 15-17 feet. 2320 ppm 1885 ppm 20 4" ID SLOTTED PVC CASING SLOT SIZE = 0.010" (10-30 feet) 25 **#3 MONTEREY SAND** FILTER PACK (9-31 feet) BLUE GRAY SILTY CLAY (CL), wet, plastic, soft to moderately stiff. 30 PVC CAP **BOTTOM OF BOREHOLE** T.D. 31.5 Feet EXPLANATION ¥ Water Level during drilling PID Photoionization Detector Reading Location of sample Contact (approximate)

Contractor: Spectrum Exp.	ENGINEERING-SCIENCE	C5 /
Driller:	DRILLING RECORD	BORING NO 65-6
Inspector: TSP/LAB	DIVILENTO RECORD	Sheet / of 2 Location: Cast & Blda
Rig Type: CME 55	PROJECTNAME over college to the coll	
Drilling Method: 6.25" HSA	PROJECT NAME GLI- Oakland Terminal PROJECT NO SY356.06	in Brking lot
WATER LEVEL MEASUREMENTS	Weather Clar Julian	Plot Plan
MP		B1008
DTW from MP	Date/Time Start 7-19-93//+30 Date/Time Finish 7-19-93//800	\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Time	Date/Time Finish 7-19-93/1800	7 65 4
Date		
Photovac Sample Sample % SPT		West
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	FIELD IDENTIFICATION OF MATERIAL	CONSTRUCTION COMMENTS
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16 28		6. \ \ \ 35 \ \ \ /5
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		8 -
<del></del>   19	20.0'-21.5'	9
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PT - STANDARD PENETRATION TEST CAL		
S - SPLIT SPOON A - AUGER CUTTINGS		

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Conservations Section Exp.  Drille Drille Shore (True St)  PROJECT NAME GIT- OAKland Terminal Project No. 87356.06  WATER LEVEN MEASUREMENTS  WIP  CIN Man LE  Date Times Since 1. 10 Date Times Since 7-19-93 / 1430.  Date Times Finish  Date T				
DRILLING RECORD  Inspector JSP/LAB  Ris type CIME SS  PROJECT NAME GIL- Cakland Terminal  PROJECT NO. 87356.06  PROJECT NAME GIL- Cakland Terminal  PROJECT NO. 87356.06  PROJECT NAME GIL- Cakland Terminal  Date Time Stand January  Date Time Stand January  Date Time Finish  Da	Contractor: Spectrum Exp.	ENGINEEDING SCIENCE	PODING NO	RSJa
INFORMATION OF AST PROJECT NAME OF OAK AND	<del></del>			<u>00.00</u>
RETURN AND CASE PROJECT NAME GLI- OAK AND TERMINE LOCATION CASE PROJECT NO SY356.06  WATER LEVEL MASUREMENTS  MP  WEATHER LEVEL MASUREMENTS  MP  DATE From Single Inspect In Description Finish  DATE OF THE DISCRIPTION OF MATERIAL  CONTINUETON  CONTINUET		DRILLING RECORD	Sheet	of $\supseteq$
RESTRICT MEANS 6.25" HSA PROJECT NAME GILT - DARLANG TERMINAL PROJECT NO SYSTEM OF PROJECT NO			Location: Can	A & BAVO
BRITTON MENDER 6.23" HOA PROTECT NO SY356.06  WATER LEVEL MEASUREMENTS  MP DATE THE STATE JOHN JOHN JOHN JOHN JOHN JOHN JOHN JOHN	Rig Type: (MES)	PROJECT NAME CLI- Oakland Terminal		0 0 1
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Date/Time Stars 7-19-93/1433		IS Weather Clar (Larm	Plot Plan Blog	11
Date/Time Finish    Date/Time Finish   Date/Time Fi	MP			
Date/Time Finish    Date/Time Finish   Date/Time Fi	DTW (rom MP	Date/Time Sing 7-19-93 /1431	1-23-1	. 12
Rustice   Do Correct   PRED IDENTIFICATION OF MATERIAL   CONTRICTION COMMENTS	Time		Ψ σ σ	12
Rustice   Do Correct   PRED IDENTIFICATION OF MATERIAL   CONTRICTION COMMENTS	Time	Date/Time Finish		2
10   10   10   10   10   10   10   10				1
December   December   Description of MATERIAL   CONSTRUCTION COMMENTS	Photovac Sample Sample % SP		WEIT.	
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23  24  250'-26.5'  27 predium matter Sonol.  26 -  27  28  29  300'-31.5'  29  300 b mid. Sonol. matter Sanol.  31  40  32  33  34  35  36  7  26'30 0' fried matter Sanol.  DD 36'30 0' fried matter Sanol.			٠, ١٠-	
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33 34 35 7 350 36.0' fred mattled Saral.  DD 35 100 10 36.0' - 36.5' Blue ney Clay.  There angular coarse Saral.  1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		-		
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	SPT - STANDARD PENETRATION TEST C	AL = CALIBRATION BZ = BREATHING ZONE SUMMARY		

Contractor:Spectrum Exp.	ENGY IDEDING CORD YOU	
	ENGINEERING-SCIENCE	BORING NO. ES-7
Oriller	DRILLING RECORD	Sheet / of 2
nspector_TSP/LAB		Location:
Rig Type: <u>CME 55</u>	PROJECT NAME GLI- Oakland Terminal	
Orilling Method: 6.25" HSA	PROJECT NO. SY356.06	
VATER LEVEL MEASUREMENTS	Weather Clian Warm	Discourse de la constant de la const
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ate		2 N
botovac Sample Sample % SPT		WELL OF ST. EL
eading I.D. Depths Recovery	FIELD IDENTIFICATION OF MATERIAL	Church Et
	FIELD IDENTIFICATION OF MATERIAL  0-2" Rephase Surjace  2"-10" Concrete  10"-5" Fiel material.	COMMENTS COMMENTS
	2"-10" Concate	pomente
	10"-5' Fiel material	
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	5-6.5 Brown fine Jana.	
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10 4	10-11.5 Brown - 4 mg pm Doug	
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19	Time to Med. Grottled Sand. Web.	

Contractor:Spectrum Exp.	ENGINEERING-SCIENCE	boring no. $\mathcal{E}$	5-7
Driller.	DRILLING RECORD	Sheet 2	من of
Inspector: 1ST/LAB		Location: Comes	y Zothand
Rig Type: CME 55	PROJECT NAME GLI- Oakland Terminal	Contra Street	4 Stuff
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	TROJECTIO.	& Siel	
WATER LEVEL MEASUREMENTS	Weather Clay, Warm	Plot Plan	5-1
MP			20 ^
DTW from MP	Date/Time Start 7/ 20 93 / 0730		
Time	Date/Time Finish 7-20 93 / 1200	Castra	
	Date/Time Finish 7 3 3 1.3 7 7233	N	
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Photovac Sample Sample % SPT		WELL	
Reading I.D. Depths Recovery	FIELD IDENTIFICATION OF MATERIAL	CONSTRUCTION C	OMMENTS
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	[5w]  300'-305' Fine to med. Mettled S  305'31.5' Shey Clay little Sand.  Clay in damp HorCl]		
20	[2,4]		
	- to mid. Mattled	Rid -	
	- 30.0 - 30.5 Fine		
$\frac{1}{2}$	- 315 they Clay little	0 ,   -	
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35 /2	The med Sand.	5	Lotton
0.0 17	35'-36' Clay little sand. Horch] 36'-36' Fine to med. Sand. Wil.	9	Botton Will 35'
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SPT - STANDARD PENETRATION TEST C	AL = CALIBRATION BZ = BREATHING ZONE SUMMARY		
SS = SPLIT SPOON A = AUGER CUTTING	S C = CORED BH = BOREHOLE		

Contractor Spectrum Fun		
Contractor: Spectrum Exp. Driller:	ENGINEERING-SCIENCE	
Inspector JSP/Ling	DRILLING RECORD	BORING NO. ES-8
Rig Type: CIME 55		Sheet / of 2
Delli City E 55	PROJECT NAME GLI- Oakland Terminal	Location: West of Site
Drilling Method: 6.25" HSA	PROJECT NO. SY356.06	_ in Street (Costre)
WATER LEVEL MEASUREMENTS	Wester OD a 4	(Costre)
MP	Weather Clean liann	
DTW from MP		Plot Plan
Time	Date/Time Start 7-20-93/1300  Date/Time Finish 7-20-93/1/630	
Date	Date/Time Finish 7 - 20 - 9.3 / 1/0.20	-     /
Photovaci Sample S	-9/1000	- BESB
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Reading ID. Depths Recovery	FIELD IDENTIFICATION OF MATTER	WELL
	FIELD IDENTIFICATION OF MATERIAL	CONSTRUCTION CONTRUCTION
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T-1 +	3	5000 PACK
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+   -   -		
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16 125 5	ey-brown in Calon. Trace & 13.	.
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ANDARD PENETRATION TEST CAL - CALIBRA	4.5 Fine to Med. Institut Sand Wells	

Contractor: Spectrum Exp.	ENGINEERING-SCIENCE	BORING NO.	ESA
Driller:	DRILLING RECORD		
Inspector: JSP/LMB	- MEEN O RECORD	Sheet 2	of <u>2</u>
Rig Type: CME55	PROJECT NAME GLI- Oakland Terminal	Location: We	T & Suco
Drilling Method: 6.25" HSA	PROJECT NO. SY356.06	in Casha	Seret _
WATER LEVEL MEASUREMENTS	Weather Clar Warm		y :
MP MP	weather they they	Plot Plan	1
DTW from MP	7/2/62 / 12-5	4	1 -1
	Date/Time Start 7/20/9.3 / 1300		SIF
Time	Date/Time Finish 7/20/93 / 1(e30)	\$ES B	1000
Date		$  \varphi^{\omega}  $	
Photovac Sample Sample % SPT		WETT.	
Reading I.D. Depths Recovery	FIELD IDENTIFICATION OF MATERIAL	CONSTRUCTION	COMMENTS
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<del>   -   -   -   -   -   -   -   -  </del>	25-25.75 Sand 25.75-26.5 morded Clay Little Sand Wet or CL]		
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	20- 31' Clay trace of Sand. HorCL!		
$\frac{1}{2}$	30-31' Clay trace of Sand. HorCL] 31-31.5 Medium Sand		
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<del></del>	35'-36' Gredien Sand 36'-36.5' Grey Clay, Some Siet.		
$\sqrt{35}$   35   10	They Clay, Some Seet.	.'	<u></u>
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SPT - STANDARD PENETRATION TEST CAL -	CALIBRATION BZ - BREATHING ZONE SUMMARY		
SS - SPLIT SPOON A - AUGER CUTTINGS			

Contractor: Spectrum Exp.  Driller: Inspector: JSP // LA/3 Rig Type: CME SS  Drilling Method: 6.25" HSA  WATER LEVEL MEASUREMENTS	ENGINEERING-SCIENCE DRILLING RECORD  PROJECT NAME GLI- Oakland Terminal PROJECT NO. SY356.06  Weather Clas, Warm	BORING NO. 55-9  Sheet of 2  Location: Lower & Sixo  Merch & ES-9  Plot Plan ES-9  Six 1
MP DTW from MP Time Date Photovac Sample Sample % SPT	Date/Time Start 7-21-93/0800 Date/Time Finish 7-21-93/10:30	Carling & ES-8
Reading   I.D.   Depths   Recovery	FIELD IDENTIFICATION OF MATERIAL  0-1' Gispholt  1'-5' First prolemal	CONSTRUCTION COMMENTS Chico By Concrete Cop
3 4 7	5-6,5' Brown Clay Medium	3 Sivery 1 to 11.2 ft
5.9 — 80 10 6 14 7	5-6.5 Brown clay . Medium Sand throughout clay sample chairl Frace of Black Colored Specks. (possible repairle discolard spas).	6
9		9
5.3 - 9 13	10-11.6 Brewn Colonol Clay.  predum Sand throughout  span Sample. In oist.	Butrull Seal 11.2 to 13/1
13	1546.5 Brown fine to medium	Esand Pack
6.1 1820 15 90 30 16 31	15416.5 Brown fine to medium mattled Soud mclay. most. or CL]	/5 to 35 f
	1501	
9	20-21.5' Brown fine to Med. mattled	lord. was:

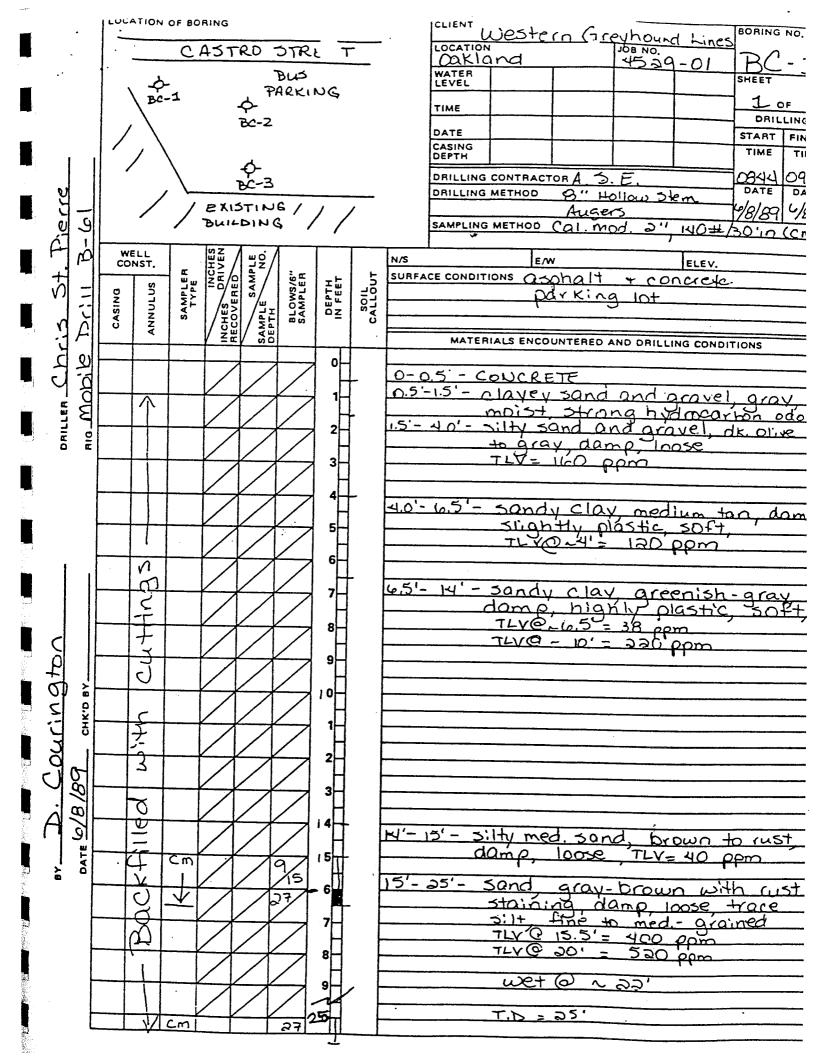
Contrac	ctor:SI	ectr	um Exp	p •	ENGINEERING-SCIENCE	BORING NO.	55-9
Driller:	:				DRILLING RECORD		of _2
Inspect	1	SP/1	MB				P A SITE,
		MÉ	55		PROJECT NAME GLI- Oakland Terminal	morely of	65-2
Drilling			.25" 1	HSA	PROJECTIVO SY356.06	770000	<u>C5</u> Z),
			ASUREN		Weather las Warm	Di Di Di	
MP	I	CE ME	ASUREN	MENTS	weather 1000000	Plot Plan ES-9	1/5/
	<del></del>				Date/Time Start 7 - 21 - 93 / 0800	1	1/17
DTW from	m MP						1/1/72
Time					Date/Time Finish $7-21-93/10:30$	\$E5-8	
Date Photovac	Sample	Sample	70	SPT		WEIT MET	
Reading		Depths	Recovery		FIELD IDENTIFICATION OF MATERIAL	1	1
in in its and		ССРИВ	Redoven	21	20'-215' Brewn hime to Medium	CONSTRUCTION	COMMENTS
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				17	25 255 mested Sand. [SW]		
53		25-	750)	1/2	20 de 21 51 De marte Delay.	5 - ;	
رين		_	1011	10	25.5 20.5 Bruin (1		
-		26_	<del> </del>	10	25'35.5' Mottled Sand. [Sw] 25.5'-265' Brewn mottled Clay. Trace of Sand. Will. HOLL]	6	
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			<del> </del>	10	30-31 Brown to Blue oney		
- C		30-	1000	18/	30-31' Brown to Blue/oney mound Clay Horce ] 31-31.5' Areduin mattled Son	0 ( ''.	
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		-	<del>                                     </del>	1/2	25! 25.5' Brown fine to med Dans		
2.1		35-	100	16	10 30.50 D Clay with	51/-/	Bettom
3.4		_	100	15	33.5 - 30.5 Brown Cond		Bithon of well 35/2
		36_		13	trave of Samo, CH or CL)	6	1 1
			<del> </del>	-	35'-35.5' Brown fine to med Sono 35.5-36.5' Brown Clay with track of Sound. [H or CL]	'	
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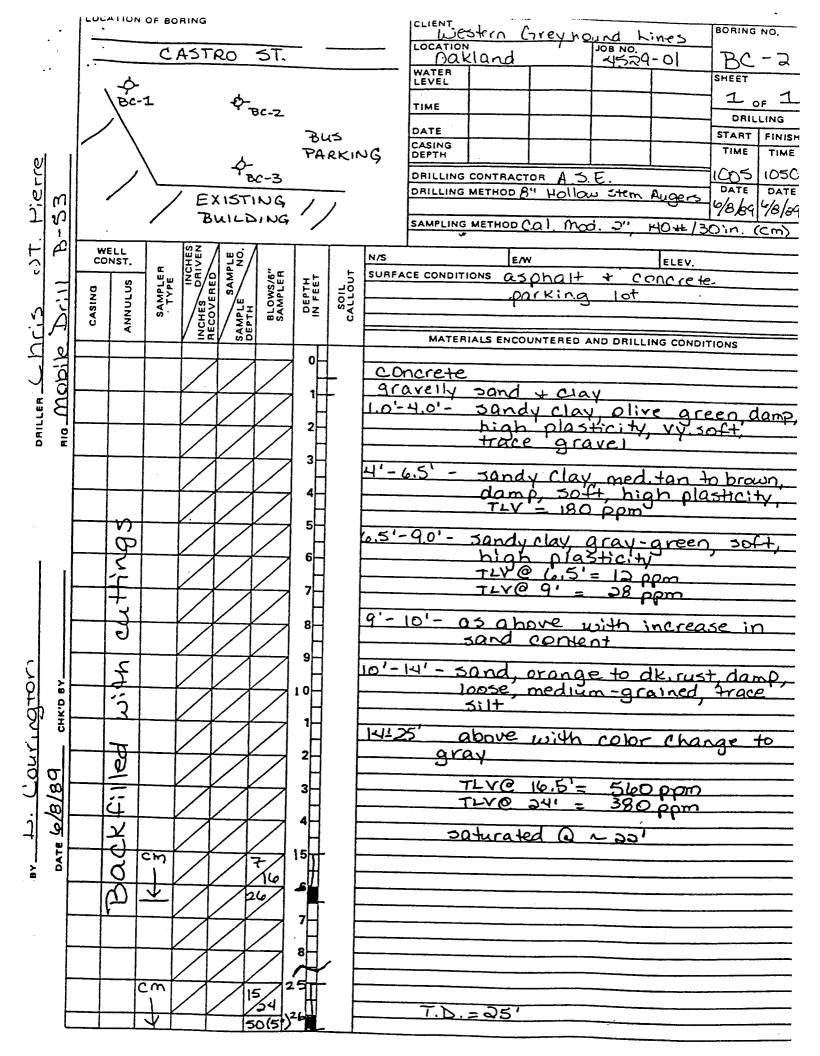
Contractor: Spectrum Exp.  Driller: Inspector: TSP/LAB	ENGINEERING-SCIENCE DRILLING RECORD	BORING NO. ES-10 Sheet of
Rig Type: CME 55	PROJECT NAME GLI- Oakland Terminal	Location: West of Sixo adjacent to west
Drilling Method: 6.25" HSA	PROJECT NO. SY356.06	Side & Sile
WATER LEVEL MEASUREMENTS MP	Weather Clian Warm	Plot Plan
DTW from MP	Date/Time Start 7-2193/1100	Costruit ESTO
Time	Date/Time Start 7-2193/1100 Date/Time Finish 7-31-93/1400	<b>( ( ( ( ( ( ( ( ( (</b>
Photovac Sample Sample % SPT		well well
Reading I.D. Depths Recovery	FIELD IDENTIFICATION OF MATERIAL	CONSTRUCTION COMMENTS 32
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5 4	5-6.5 Brown clay with blue	
00 - 5 70 10	· Colored moteling and Some	5
6 73	5-6.5' Brown clay with blue Colored moteling and Some Sand. Damp- Hor CL]	6
7		7
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9-1-1	- 1 /a - Day in such stime	9
10 3	10-11.5 Brown clay with Some medium Sand. No bene Colored mottling. Damp to	0
0.0 - 100 6	medium Sand Damo to	
11-15	maral. [CH or CL]	
12	meres: [ch or]	Butout p Sent 12 to 13.4
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SPT - STANDARD PENETRATION TEST CAL SS - SPLIT SPOON A - AUGER CUTTINGS	CALIBRATION BZ - BREATHING ZONE SUMMARY	

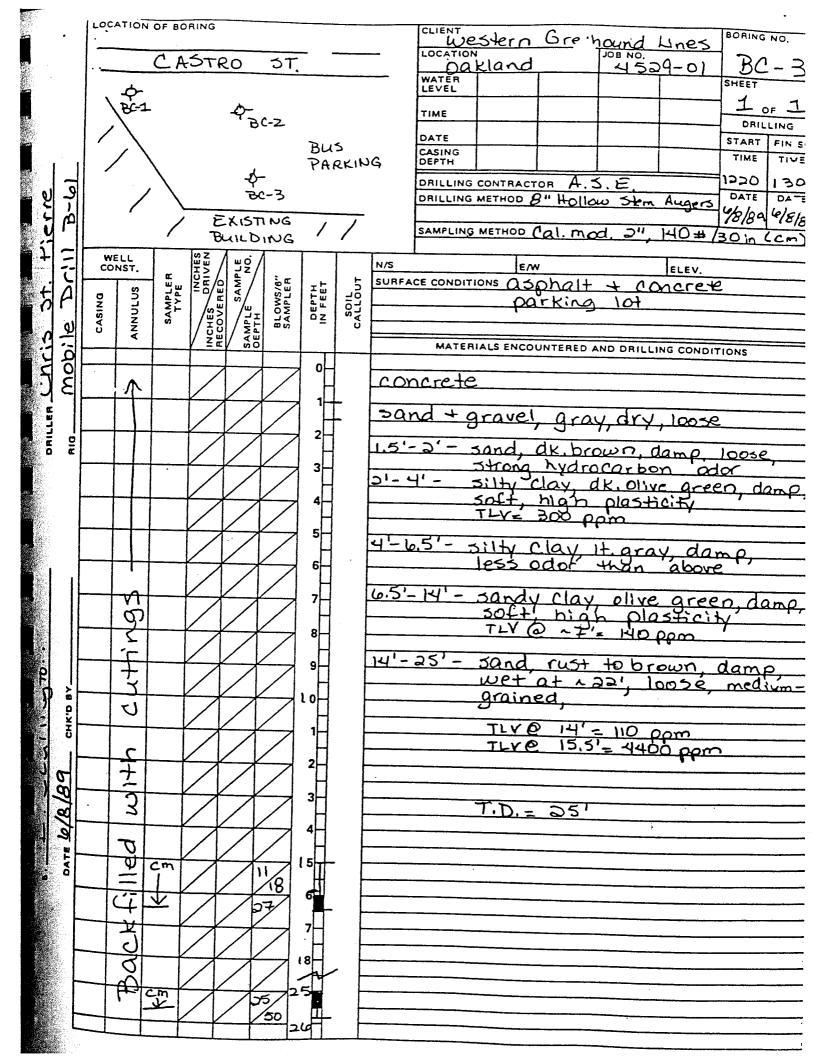
Contractor:Spectrum Exp.	ENGINEERING-SCIENCE	BORING NO. ES-10
Inspector: JSP/LAB	DRILLING RECORD	Sheet 2 of 2 Location: adjacent Ko
Rig Type: CMF 53	Physical News Colonia Colonia Terminal	1 vest side & Site.
Drilling Method: 0.25" (ISA	PROJECT NAME <u>CLI+ Oakland Terminal</u> PROJECT NO. SY356.06	and such of the
WATER LEVEL MEASURE TENTS	Weather Clar, Warm	Por Plan
MP		Costa SHO
DEW from MP	Date: Fime Start 7-21-93/1100	Street 4 Site
Time	Date: Time Start 7-21-93/1100 Date: Time Finish 7-21-93 /1400	
Photovasi Sample Sample " SiT		#ELL 9
Reading 1D Depths Recovery	EII LD IDENTIFICATION OF MATERIAL	COMMENTS COMMENTS
19	20-21-5 Fine- Med. Sand.  prettled Sand. Wet.	
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25 2	25-25.5 Fine-Mid Sand . Wet	
00 - 100 5	75,5'- HOS' Breun Sandy Clay.	
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	25'-25.5' Fine-Mid Soud. Wet. 25.5'-26.5' Brewn Soudy Clay. maist, OFCL]	
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	la caracter of the control of the	
$\frac{1}{00} = \frac{30}{100} = \frac{4}{19}$	30-30.5 Dry/out	0 -
OO  =  a   OO   iq	30.5-31.5 Fine - med.	
31-15	30-30.5' Shey/brown Clay. 30.5-31.5' Fine-med. milled Jond. In visk.	1
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SPT + STANDARD PENETRADION TENT CA	L - CALCHATION BZ - BREATHING ZONE SUMMARY	10
SE SPLIT SPOON A AUGER CUTTINGS		•

Contractor(Spactrum Ex).  Driller	ENGINEERING-SCIENCE DRILLING RECORD	BORING NO. ES-11 Sheet / of 2
Inspector: JSP/LAB	DRILLING RECORD	
		Location: noth end &
Rig Type: CME 55	PROJECT NAME GLI- Oakland Terminal	Farking ana along
Driffing Method: 0.25" (18A	PLOJECT NO. SY356.06	site property line
WATER LEVEL MEASUREMENTS	We is Clear, Warm	Plod Plyn
MP		3 Property ES-11 BADS
	7 21 62 / 1500	Property ES-11 Blds
DIW tron MP	Des Time Finish 7-21-93/1500	E / W
lact	Des Time Finish 7-21-93 / 1825	10/5-10/
Due		ES-10 Canup
Photosac Sample Sample " SIT		WELL
Renting 1D Depths Relivery	EUL O HOUNTHITC ATTON OF MATTERIAL	CONSTRUCTION CONTROL
IS WINDS IN THE INC.	EIFLD IDENTIFICATION OF MATERIAL	CONSTRUCTION COMMENTS
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	-	slumy
3	-	13   Seury
		1+011.750
	5-6.5' Brown clay and med. Sand. Damp.	
5	5-60 Dunn cray 5-41	
0.0 - 100 15	1 sand Domp.	
1 /5	Janos.	
6-1-1		
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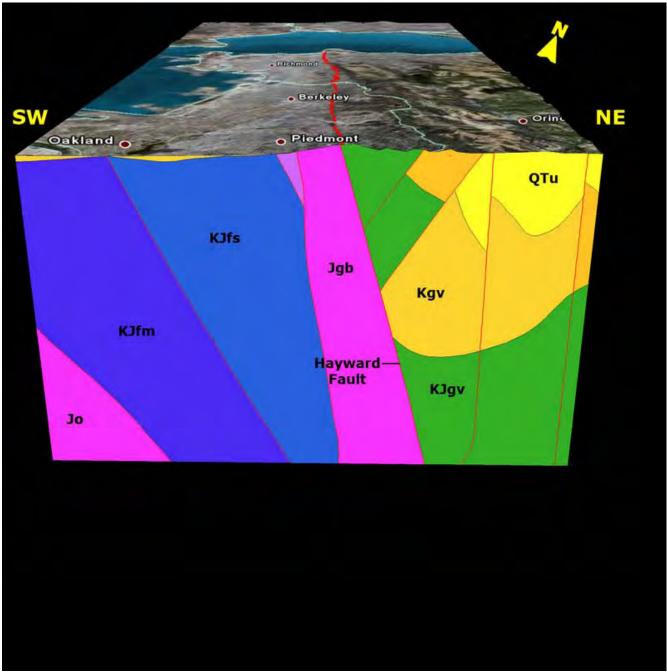




## **APPENDIX D**

**USGS Cross-Section of San Leandro Area** 

## ≥ USGS



San Leandro area (cross section between Hayward and Oakland) Click here to open a legend of geology units.

San Leandro area (cross section between Hayward and Oakland). The cross section cuts through the East Bay Hills (on the right) and the East Bay alluvial plain next to San Francisco Bay south of Oakland (on the left). By comparison to the Mission Peak area, the Hayward Fault in the San Leandro area has a nearly vertical profile. East of the Hayward Fault, a structural basin preserves a thick accumulation of Great Valley Sequence. West of the fault, the San Leandro Gabbro (Jgb) is a large intrusive igneous body that has unique physical properties compared to the Franciscan rocks (mostly volcanic and sedimentary rocks) or the Great Valley Sequence (sedimentary rocks). Gabbro has physical properties more like granitic rocks—being both harder and more brittle than sedimentary rocks. Geologists suggest that that where the Hayward Fault is in contact with the gabbro, it may be more prone to producing higher magnitude earthquakes than in surrounding areas.

For more information about geologic names and words in the legend, see <u>glossary</u> definitions (including <u>Coast Range Ophiolite</u>, <u>Franciscan Formation</u>, <u>Great Valley Sequence</u>, <u>geologic time scale</u>, <u>gabbro</u>, <u>serpentinite</u>, <u>alluvium</u>, and more).