REMEDIAL ACTION PLAN

San Leandro Crossings (Focus Area)
San Leandro, California

Submitted to:

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The information contained in this document entitled *Remedial Action Plan* prepared for the Focus Area of the San Leandro Crossings Site in the vicinity of the San Leandro Bay Area Rapid Transit station, San Leandro, California, dated January 11, 2010, has received appropriate technical review.

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1.0 INTRODUCTION, SCOPE AND OBJECTIVES

This Remedial Action Plan (RAP) has been prepared at the request of the San Francisco Regional Water Quality Control Board (RWQCB) in anticipation of the development of a parcel of land in San Leandro, California adjacent to the San Leandro BART station, referred to as the Site. The Site consists of a 5.27-acre wedge-shaped vacant dirt and grass lot located at 1333 Martinez Street in San Leandro and currently owned by Westlake Development Partners, LLC (Westlake). Development plans call for the Site to be developed in two phases. Phase II is not scheduled to begin for several years. Consequently this RAP covers only the Phase I development portion of the Site, referred to subsequently as the Focus Area. The Focus Area is approximately 3 acres. The Site and Focus Area boundaries are illustrated on Figure 1.

The Phase I development will result in a mixed land use with a significant portion of the development occupied with residential units. The project will include affordable housing units in multi-unit structures. No single family homes will be included in the development. Parking will be provided in a combination of on-grade and above-grade parking structures.

The objectives of the remedial actions proposed in this RAP for the Focus Area are to protect future residents' health by preventing direct contact with total petroleum hydrocarbon (TPH) impacted soils, prohibiting access to contaminated groundwater, and prohibiting the construction of occupied spaces in a portion of the Focus Area where tetrachlorethylene (PCE) was detected in a soil gas sample above RWQCB's Environmental Screening Levels (ESLs).

2.0 ENVIRONMENTAL SETTING

Prior to 1989, the entire Site, including the Focus Area was used for cannery operations (most recently by Del Monte) for approximately 90 years. The Focus Area has been vacant since 1989. The Focus Area is in a mixed industrial and residential zone in San Leandro, California. The nearest school is less than ¼ mile to the east. Residential and commercial zoned areas are both located within approximately ¼ mile of the Site. Surface streets surround the property on three sides while the Union Pacific Railroad tracks border the Focus Area to the west.

Land uses surrounding the Focus Area include the following:

- To the north: approximately 2.25 acres of vacant land and a parking lot and mixed use office building further north.
- To the east: San Leandro BART station and parking lot.
- To the west: Union Pacific Rail Road tracks with office buildings and parking lots further west.
- To the south and southwest: a sausage company offices and production facility.

Based on the 1993 San Leandro quadrangle topographic map, the Focus Area is situated at an elevation of approximately 45 feet above mean sea level (MSL). Surface elevation declines slightly towards the west, but the Focus Area is principally flat.

The Focus Area and general vicinity are underlain by Quaternary sediments identified as Yolo silt loam, characterized as having moderate infiltration rates and moderate drainage. Soils such as these are generally found on floodplains.

During Phase II Environmental Site Assessment (ESA) subsurface investigations conducted at the Site (described further in Section 3.0) shallow soils were described as reddish yellow to dark greenish gray sands and clays. Lenses of gravelly sands were present at the water table, at approximately 25 to 30 feet below ground surface (ft bgs). A cross section of soils at the Site is presented in Figure 2. The line of cross section is illustrated on Figure 1.

Depth to groundwater has been measured at the Site between 25 and 28 feet below ground surface (ft bgs).

The Focus Area is found in an area of San Leandro which is surrounded by other sites where releases of petroleum and solvent contamination have been or are under investigation. Iris Environmental inventoried available groundwater data for surrounding sites by conducting file reviews in February 2009 at local and State agencies, including the City of San Leandro Environmental Services, the Department of Toxic Substances Control (DTSC) online document resource ENVIROSTOR, the RWQCB, and the RWQCB's online document resource Geotracker. A general inventory of surrounding site groundwater contamination was compiled and is presented on Figure 3. Groundwater flow directions reported at the various site investigations are shown on Figure 3 as well and indicate a regional groundwater flow direction to the west or southwest towards San Francisco Bay. Figure 3 provides a general understanding of background groundwater quality for the area and illustrates that local off-Site groundwater for the area routinely contains detections of petroleum hydrocarbons and volatile organic compounds (VOCs) not believed to be originating from the Site. The ambient quality of groundwater in the area is important when considering the significance of chemical detections found in the Focus Area.

3.0 ENVIRONMENTAL CONCERNS

Environmental conditions at the Site have been investigated through multiple phases of study. As noted above and illustrated on Figure 1, the Focus Area comprises only the southern portion of the Site. The investigations and reports referenced in this section were originally designed to examine the Site as a whole. As a result of the phasing of the construction schedule for the development as a whole, this RAP's scope is limited to the Focus Area and principally presents data from sample locations that are within the Focus Area. A Phase I ESA, titled *Phase I Environmental Site Assessment Report, 1333 Martinez Street, San Leandro, California* was completed to ASTM (E1527-05) standards on October 21, 2008, and has been provided to the RWQCB and uploaded to the Geotracker website. An initial Phase II subsurface investigation and two subsequent step-out Phase II sampling events were completed for the Site. *Phase II Environmental Site Assessment, San Leandro Crossings, Western Parcel,* dated April 9, 2009, presents the methodology and results for the first investigation of the Site, *Step-out Sampling, San Leandro Crossings, Western Parcel,* dated April 9, 2009, presents the methodology and results for the second investigation of the Site, and *Supplemental Groundwater Sampling, San Leandro Crossings, Western Parcel,* dated January 11, 2010 presents the methodology and results for the third investigation of the Site. The second and third investigations at the Site were focused on step-out sampling around two boring locations that had elevated concentrations of TPHs. Reports associated with these studies have been provided to the RWQCB and uploaded to the Geotracker website.

3.1 Past Land Use

According to the Phase I ESA, the Site was initially developed in 1889 with an iron and steel piping facility. As indicated by Sanborn maps, beginning in 1911, the Focus Area is developed with various cannery processing facilities. These operations may have included use of a crude oil storage tank and tar furnace within the 1899 to 1911 time period in the northern part of the Focus Area. The 1928 Sanborn map depicts a Junior Monarchs Haypress Works facility in the southern portion of the Focus Area. The 1950 Sanborn map also depicts a Wooden Tank Factory in the southern portion of the Focus Area. Del Monte (cannery) is depicted as the only occupant of the Site, including the Focus Area, in the 1968 Sanborn map. The 1968 Sanborn map also depicts an area labeled "waste pit" along the western boundary of the Focus Area. The waste pit

appears to have been associated with a fruit storage area, featured an attached "hopper", and may have been a fruit-waste pit. The 1982 aerial photograph depicts the Focus Area as still being utilized for cannery operations. The 1993 aerial photograph depicts the entire Focus Area as vacant land, with the cannery operations no longer present. Based on the information reviewed, the Focus Area has remained vacant land since that time. Figure 4 presents the Focus Area with historic locations of major facilities during the longest period of use, when it was operated as a canning facility by Calpak/Del Monte from sometime before 1928 through 1989.

3.1.1 Areas of Potential Concern

Based on historical uses of the Site, including the Focus Area, no specific Areas of Potential Concern (AOPCs) were identified in the Phase I ESA; however the Site's long use extending back to the late 1800s suggested that the Site should be screened as a whole. Therefore, a general grid-pattern for subsurface investigation of the Site was set out and followed for sampling during the Phase II ESA investigations. Locations sampled during the Phase II ESA of the Site are presented on Figure 1.

3.1.2 Chemicals of Potential Concern

Prior to Phase II sampling, the historical uses of the Site, combined with the intended use of the Focus Area for residential purposes, guided selection of specific Chemicals of Potential Concern (COPCs) for soil, groundwater, and soil gas all to be addressed in Phase II subsurface investigations. COPCs identified in soil include the following:

- Asbestos, which may have originated from the historical demolition of buildings which may have been constructed with asbestos-containing materials,
- Polycyclic aromatic hydrocarbons (PAHs) which may have originated from cooking operations at the former cannery on the Site,
- TPH diesel (TPHd) and TPH motor oil (TPHmo) which may be associated with the Site's long site use and a history of cannery operations, and

- Metals. The proposed development may generate excess soil that may need to be exported from the Site. The metals analyses in soil were conducted to understand if Site soils would have constraints for off-site disposal.

COPCs in groundwater include VOCs, TPH gasoline (TPHg), TPHd, TPHmo, benzene, toluene, ethylbenzen and xylene (BTEX), and MTBE, due to the presence of the regional groundwater contamination as discussed in Section 2.0 and shown on Figure 3. Based on the potential presence of VOCs in groundwater, VOCs in soil gas also presented a potential concern at the Site.

3.2 Summary of Chemical Data Collected in the Focus Area

The Phase II ESA completed at the Site included sampling of soil gas, soil, and groundwater. The Phase II ESA sampling and analysis plan was developed based on the AOPCs and COPCs identified in Section 3.1.1 and 3.1.2. Chemical detections were compared to environmental screening levels (ESLs) where available. The ESLs used for this initial screening and presented in the attached tables and figures were those for shallow soils in a residential land use scenario where groundwater is a current or potential source of drinking water as published in California Regional Water Quality Control Board document *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008).

Table 1 presents a summary of sampling and analytical testing for the entire Site. Sample locations WP-1, WP-2, WP-3, WP3-S1 and WP3-S2 are located outside of the Focus Area and are not addressed directly in this RAP, except with regard to VOCs in groundwater and soil gas, where the broader dataset is useful in understanding the significance of detections in the Focus Area. Tables 2 through 8 present chemical test results for the entire Site. All chemicals with detections above ESLs, or with laboratory detection limits (LDLs) above ESLs are included in these tables. LDLs above ESLs do not indicate that a particular chemical was actually present in the sample, only that its absence could not be completely confirmed down to the level of the ESL. Including chemicals where the LDL exceeds the ESL in the tables of this report is a very conservative approach, intended to facilitate the health risk assessment of the Site in the absence of further sampling. However, since there is no history of use of any of the chemicals whose LDLs exceed ESLs in the Focus Area or at the Site in general, and since no positive detections of

these chemicals were recorded, these chemicals are not included in the attached detection figures or considered Chemicals of Concern (COCs). Similarly, detections of chemicals at sample locations outside of the Focus Area are not used in the determination of COCs. Detections of chemicals which exceed ESLs are in bold in the attached tables. Figures 5 through 10 present detections of chemicals in samples collected in the Focus Area. Figures 5, 9 and 10 also include detections from the northern portion of the Site, outside the Focus Area, as these figures are useful in understanding the likely relationship between soil gas and groundwater in the Focus Area. Detections which exceed ESLs are highlighted. The following is an overview of the results of the Phase II investigation in the Focus Area. All chemicals with detections in any media above their respective ESLs are considered COCs and are addressed further in Section 4.0.

3.2.1 Soil Gas

As shown on Table 2 and Figure 5, VOCs or petroleum related compounds were detected at generally low levels and detections were all below ESLs except for one chemical, tetrachloroethylene (PCE), at one location, WP-7. PCE was detected in sample WP-7-5.0 and a duplicate from the same location at a maximum concentration of 500 $\mu g/m^3$. This concentration slightly exceeds the cancer-based ESL for PCE of 410 $\mu g/m^3$, by a mere 1.2 times. The general lack of detections of VOCs in the Focus Area and at the broader Site corroborate the findings of the Phase I ESA that there was no history of use of these chemicals at the Site. While the source of the detection at WP-7 has not been definitively determined it appears to be limited in scope and magnitude as groundwater at the same location is not impacted and PCE was not detected in soil gas at the nearest soil gas sample location, WP-6.

Chemicals of Concern and Areas of Concern

In response to the exceedance of its ESL at soil gas sampling location WP-7, PCE has been considered a COC for soil gas and the area around WP-7 is considered an Area of Concern (AOC) for vapor intrusion in the Focus Area, as shown in Figure 11. COCs and AOCs are addressed further in Section 4.0.

3.2.2 Soil

As shown in Table 1, soils in the Focus Area were extensively sampled in both the initial Phase II ESA sampling event and the Step-out sampling event. A total of fifty-nine soil samples were

collected from the 12 sampling locations in the Focus Area. Samples were analyzed for metals, asbestos, TPHg, TPHd, TPHmo, BTEX and PAHs.

Arsenic, PAHs, and TPHs were detected above their respective ESLs in samples collected from the Focus Area. Detections and ESLs are presented on Figures 6 through 8, respectively. However, with the exception of petroleum hydrocarbons, concentrations of all chemicals analyzed for in soil were generally low and likely representative of background levels as discussed below.

For compounds such as arsenic where risk-based screening levels are frequently below background levels, Cal/EPA recommends that a statistical background evaluation be performed to determine whether arsenic concentrations at the Site are representative of background levels (Cal/EPA, 1997). Such a statistical evaluation for arsenic was conducted for Site soils. Details of the arsenic background determination analysis for the Site are presented in Appendix A. The results of analysis indicate that the levels of arsenic present in the Focus Area soils are representative of background levels.

A similar evaluation was performed for PAHs. Three of six samples analyzed for PAHs contained levels of PAHs at detectable concentrations. Individual PAH detections are included on Figure 7. Benzo(a)pyrene equivalents for each sample were also calculated and are discussed below. Of the three samples (22 micrograms per kilogram (µg/kg) benzo(a)pyrene equivalents at 3 feet bgs at WP5-S1, 55 µg/kg benzo(a)pyrene equivalents at 0.5 feet bgs at WP-4, and 57 µg/kg benzo(a)pyrene equivalents at 5 feet bgs at WP5-S1), benzo(a)pyrene equivalents in two were slightly above the ESL of 38 µg/kg. However, the mean concentration of benzo(a)pyrene equivalents at the Site of 18 µg/kg is well below the ESL. Furthermore, note that PAHs, ubiquitous in the environment, arise from both naturally-occurring as well as anthropogenic (i.e., man-made) sources, and residential risk-based screening levels for PAHs are often below background levels. A Northern California CPAH background study, *Background Levels of Polycylic Aromatic Hydrocarbons in Northern California Surface Soils* completed in June 2002 by ENVIRON *et al.*, concluded that the 95 percentile of the Northern California CPAH background dataset is 900 µg/kg. The maximum concentration of benzo(a)pyrene equivalents of 57 µg/kg is considerably below the 95 percentile of the Northern California CPAH background

study dataset. Therefore, the CPAH concentrations in soils in the Focus Area are likely representative of background levels.

The maximum concentrations for TPHd (8,900 milligrams per kilogram (mg/kg)), TPHmo (4,500 mg/kg), and TPHg (190 mg/kg) exceed their ESLs of 83 mg/kg, 370 mg/kg, and 83 mg/kg, respectively (Figure 8). Note however that five of the samples that exceeded ESLs for TPHd and TPHmo, and all of the samples that exceeded the ESL for TPHg were collected from saturated soils at a depth of 25 feet bgs and are therefore not considered representative of soil concentrations at those locations. The remaining samples which exceeded ESLs for TPHd and TPHmo were collected from only 3 of the 12 locations sampled in the Focus Area. As shown on Figure 8, boring locations WP-5, WP5-S1, and WP5-S3 are the only locations where unsaturated soil samples had detections which exceeded ESLs for TPHs. The results of the soil samples collected in the Focus Area indicate there was likely a historical release of petroleum hydrocarbons near sample location WP-5. The extent of this area of TPH contamination is well defined by the relatively low concentrations of TPHs in adjacent sample locations WP5-S7, WP5-S4, WP5-S8, and WP5-S2.

Chemicals of Concern and Areas of Concern

Due to the exceedance of their respective ESLs at locations WP-5, WP5-S1 and WP5-S3, TPHd and TPHmo are considered COCs and the area around WP-5 and WP-S3, bounded by the sample locations listed above, is considered an AOC for direct contact of soils in the Focus Area, as shown in Figure 11. COCs and AOCs are addressed further in Section 4.0.

3.2.3 Groundwater

As shown on Tables 7 and 8 and Figures 9 and 10, four chemicals, TPHg, TPHd, TPHmo, and MTBE were detected in the Focus Area in groundwater at concentrations exceeding their respective ESLs. MTBE was detected in sample WP-6 at a concentration of 16 micrograms per liter (µg/l), exceeding its ESL of 5.0 µg/l. This concentration is similar to concentrations measured at other sites in the vicinity (Figure 3). There is no history of use of MTBE at the Site. It is assumed concentrations of MTBE in the Focus Area represent ambient groundwater concentrations for the vicinity.

Detected concentrations of TPHg and TPHd exceeded the ESLs at three sample locations (WP-5, WP-6, and SGW-1, and detected concentrations of TPHmo exceeded the ESL at two sample locations (WP-5 and SGW-1). The highest concentrations were detected in the vicinity of the co-located boring locations WP-5 and SGW-1 (Figure 10) where contaminated soils are also located. It is likely that the historic release of TPHs that led to the contamination of soils at WP-5 has also contributed to the elevated levels of TPHs detected in groundwater at that location. However, the lack of significantly elevated levels of TPHs at the downgradient off-Site sample locations SGW-2 and SGW-3 indicate that the TPH contamination evident at location WP-5 is limited and is not migrating off-Site to any appreciable extent.

The other location in the Focus Area where TPHs were detected in groundwater above ESLs, WP-6, had no TPHs detected above ESLs in any of the 3 soil samples collected from that same location. None of the Phase I information or any other information for operations on-Site suggests that there is an origin of TPH on-Site in this area. As illustrated in Figure 3, several up-gradient sites have detections of TPHg, TPHd and MTBE in similar concentrations to those detected at WP-6. It is possible that the TPHs detected in groundwater at location WP-6 are from an off-Site source.

Chemicals of Concern and Areas of Concern

The exceedance of their respective ESLs at locations WP-5, WP5-S1 and WP-6 account for TPHd, TPHmo, TPHg and MTBE being considered as COCs in groundwater. The entire Focus Area is considered an AOC for groundwater.

4.0 REMEDIAL APPROACH

The selection of an appropriate remedial approach for the Focus Area necessitates that potential receptors be determined and exposure pathways for the COCs to those receptors be defined. The nature of the development plans for the Focus Area, described in Section 1.0, indicates that the potential receptors are the future residents of the proposed development. Construction worker exposure was also considered, but since no chemicals were detected in the Focus Area above the respective direct exposure ESLs for construction workers (based on a target hazard index of 1), construction workers are not considered to be at risk as receptors.

The exposure pathways for the COCs defined in Section 3.2 are dependent on the media in which they are present. The exposure pathways present in the Focus Area, with their associated media and COCs, are:

- Vapor Intrusion to Indoor Air (PCE in soil gas) near sampling location WP-7,
- Direct Exposure to Contaminated Soils (TPHd and TPHmo in soil) near sampling location WP-5, and
- Ingestion of Groundwater (TPHg, TPHd, TPHmo and MTBE in groundwater)

Where elevated concentrations of COCs pose a potential risk for future residential occupants in the Focus Area a combination of institutional controls and engineering controls are proposed to minimize the risk, as illustrated below. Generally speaking, a combination of engineering controls and institutional controls will be used to limit receptors exposure to contaminated soils, while institutional controls will be used to limit receptors exposure to contaminated groundwater and soil gas. The institutional and engineering controls outlined below are sufficient to attain the remedial action objectives (RAOs) for the Focus Area.

RAOs are medium-specific goals designed for protecting human health and the environment. RAOs typically include both an exposure pathway and a contaminant concentration in a given media because the protection can be achieved either by limiting or eliminating the pathway or by reducing contaminant concentrations. To develop the RAOs for the Focus Area, concentrations and detection limits for soil gas, soil, and groundwater samples were compared to ESLs for

residential scenarios where groundwater is a current or potential source of drinking water to identify locations where detected chemicals exceeded ESLs (Section 3.2). For certain chemicals where detections exceeded ESLs (arsenic, benzo(a)pyrene equivalents) statistical analyses were performed that determined that the detected concentrations likely represented ambient conditions. These chemicals are not addressed in the RAOs. The screening identified the chemicals presented in the preceding bulleted list of exposure pathways.

This RAP presents remedial strategies which address each of these COCs and the AOCs identified in Section 3.2 in the context of the proposed future residential use of the Focus Area. RAOs for the Focus Area consist of reducing the risk of human exposure to the COCs listed previously to an extent consistent with ESLs. This objective is achievable by either excavating and eliminating COCs in soil above the ESLs or reducing the potential for human exposure, or a combination of both. The institutional and engineering controls outlined below detail how the RAOs for the Site will be achieved.

4.1 Engineering Controls

Engineering controls are proposed to help limit potential receptor's direct contact with contaminated soils in the WP-5 AOC. In order to maintain compatibility with the proposed development of the Focus Area the remedial action recommended for the WP-5 AOC is a combination of excavation and capping. Prior to selecting a combination of excavation and capping as part of the remedial action for this zone of contaminated soils (in combination with Institutional Controls), relative costs for excavation and off-Site disposal of all impacted soil were also considered. Since the concrete cap would be constructed as part of the development plan for the Focus Area in either scenario, the primary cost differences between the two remedial scenarios is represented by the additional cost for transport and disposal of the impacted soils from the entire zone of impacted soils and the additional import of off-Site fill

If TPH soils at and around WP-5 were to be excavated (from the fence line to boring WP5-S3 as shown on Figure 11) to ten feet bgs to protect future users of the Site from direct contact with these soils without the use of any on-Site capping or institutional control protections, this would generate some 2000 tons of soil. Off-site transportation and disposal of these soils would cost approximately $80,000 at $40 per ton (assuming soils qualify as non-Hazardous). An additional

$40,000 worth of imported fill would also be required (at an estimate $20 per ton). This approach for management of TPH impacted soils around WP-5 would cost $120,000 just for soil disposal and fill import costs, excluding excavation, shoring and engineering oversight costs.

If direct contact with TPH impacted soils near WP-5 were managed by excavating to a depth of five feet between the fence line and the edge of the large concrete cap that is to be installed at the Site as shown on Figure 11, only 320 tons of soil would need to be generated all of which could be contained beneath the concrete cap. A Land Use Covenant (LUC) would be placed on the Site to note where these soils were placed and to prohibit future soil excavations near WP-5 without appropriate safety precautions. The cost to bring in off-Site fill in the second scenario would be less than $10,000.

Both soil management scenarios could satisfy soil RAOs. The substantial additional soil disposal and fill import costs associated with the first soil management scenario without providing additional protection to future users of the Site precludes it from further consideration.

The area proposed for soil excavation between the fence line and the concrete cap that is to be installed at the Site is illustrated on Figure 11 and discussed further below.

4.1.1 Mobilization

Prior to mobilizing for the excavation and capping, RWQCB will be notified at least seven days prior to commencing field work. In preparation of the fieldwork, Iris Environmental will:

- Notify Underground Service Alert (USA),
- Fulfill required Cal-OSHA and Air Management District notifications,
- Obtain a grading permit from the local agency, if necessary,
- Mobilize equipment, tools, and personnel to Site,
- Review the Site-specific Health and Safety Plan (HASP) and be prepared to follow all safety procedures while in the field.

4.1.2 Excavation

The proposed remedial action for the western portion of the contaminated zone near boring WP-5 is excavation. The excavation work will be performed in accordance with a Site-specific HASP and will be performed under the supervision of a California Registered Professional Engineer or Geologist. The outline of the proposed excavation is shown as a cross hatched area on Figure 11 near boring WP-5. The lateral extent of the proposed excavation is approximately 48 feet by 24 feet, extending vertically to 5 ft bgs. This depth was specified to preclude direct contact by future residents. The excavation will generally maintain a one-to-one slope ratio along the sidewalls except where vehicle access requires otherwise for safety.

The actual lateral extent of the final excavation will be driven by several factors. To the northwest and southeast, the excavation will initially extend to remove visibly oily soils. The western extent of the excavation will be defined by the property boundary, and the eastern extent of the excavation will be defined by the placement of a concrete cap as shown on Figure 11 and discussed below.

Once the initial excavation is completed, verification soil samples will be collected from the sidewalls of the excavation to the northwest and southeast. Soil samples will be collected from the backhoe bucket or from within the excavation consistent with worker health and safety limitations. Samples will be collected at depths ranging between 2.0 and 5.0 feet bgs. Actual excavation activities would continue laterally to the northwest and southeast until sidewall confirmation samples indicate that TPHd and TPHmo ESLs for direct contact of 110 mg/kg and 370 mg/kg respectively have been acheived. Sampling intervals will be approximately every 10 feet on the north and south walls. A minimum of four confirmation samples will be collected and analyzed. To the southwest, the extent of the proposed excavation would at a maximum extend to the property line and to the northeast to the boundary of the concrete cap.

The excavation is not proposed to extend off-Site to the southwest across the property line for several practical reasons, principally that the immediately adjacent property is the Union Pacific Railroad, which operates an active railroad line in that location. The railroad right-of-way is fenced and provides limited access to any potential receptors. Additionally, the COCs (TPHd and TPHmo) in the WP-5 location are of relatively low physical toxicity and have a tendency to

biodegrade over time. Finally, it is apparent from the groundwater samples at SGW-2 and SGW3 that contamination in the vicinity of WP-5 does not appear to be impacting off-Site groundwater. To the northeast, excavation will extend to the proposed cap location.

All verification samples collected from the excavation wall will be analyzed on a 24-hour turn-around time. Verification soil samples will be analyzed for TPHd and TPHmo using USEPA Method 8015 modified. Analyses will be completed by a California certified laboratory.

Excavated soils will be relocated to the portion of the Site that is proposed to be capped with concrete. There they will be used to fill topographic lows prior to capping. The location where excavated soils are placed and the boundaries of the cap will be surveyed and recorded. Dust suppression procedures will be followed during excavation and transportation activities.

4.1.3 Backfill

Once the excavation is complete, as determined by verification sample results, a warning barrier will be placed at the bottom of the excavation to prevent any future excavation related contact, and the excavation area will be backfilled with imported fill. Backfill material will be placed in lifts, moisture-conditioned to near optimum moisture content, and compacted to at least 95% relative compaction. Soils imported for backfill will be from Steven's Creek Quarry in Cupertino, California, or another facility approved by the RWQCB. Soils from this source undergo regular analytical testing by the facility to ensure that they are clean and suitable for use. Copies of analytical testing reports are provided by the facility and will be provided to the RWQCB upon request for approval prior to placement on Site. Details of the excavation, sampling and backfill procedures will be included in a Remedial Soil Excavation and Capping Report to be submitted to the RWQCB.

4.1.4 Capping

TPH-contaminated soils in the vicinity of WP-5 not excavated will be capped with approximately 5 inches of concrete. Based on current development plans for the Focus Area, the cap will extend far beyond the area of contaminated soils around WP-5 and cover an area of approximately 44,000 square feet (Figure 11). The location of the cap and impacted soils underneath it will be surveyed and recorded. The cap will also serve as the foundation slab for the mixed use development and be maintained and inspected accordingly.

4.1.5 Health and Safety Plan

A Site-specific HASP for the work proposed will be prepared prior to implementation of the RAP. Remedial activities will be performed in accordance with the Site-specific HASP.

4.1.6 Impacts to the Community

Protocols outlined below and in the Site-specific HASP will mitigate impacts such as dust, noise, and odor resulting from completing the remedial action proposed in this RAP. The RAP will be implemented concurrently with the proposed development of the Site. The concrete cap particularly, will be constructed as part of the parking and foundation of the residential multi-unit housing proposed for the Site. The only RAP-independent impacts will be from the remedial excavation. Those impacts are listed below.

Dust

Dust control measures will be employed at all times during remedial activities to minimize the impacts of dust to on-site workers, contractors, and nearby populations. These measures will include: watering down the excavation and grading area, covering all trucks transporting soil to and from the Focus Area, and covering all soil stockpiles.

Noise

Nearby residents may notice noise when large equipment is brought to and from the Focus Area. It is possible that the nearest residences or businesses may hear the construction equipment used to dig the excavation. The use of heavy equipment is expected to last two to three weeks. All work will be completed during normal weekday business hours.

Traffic

When the soil is being excavated and backfilled there will be some increased truck traffic on Martinez Street, but all trucks will be staged off the road to avoid any traffic problems. As this street is not a through street, the project is not expected to impact traffic.

Odor

Exhaust from the construction equipment used to excavate, backfill, and cap the project area, as well as from the trucks transporting soil to the Site, is expected to be the only noticeable odor produced by the remedial actions. Air monitoring for volatile organic compounds (VOCs) in the

immediate vicinity of the excavation will be conducted utilizing a Photoionization Detector (PID).

Project Duration

The duration of remedial activities, from set up through final cleanup and inspection of the excavation, is expected to last no longer than three weeks. All work will be conducted during normal weekday business hours. The concrete cap is scheduled to be completed within five months of the anticipated start date of mid-February 2010.

4.1.7 Reporting

A Remedial Soil Excavation and Capping Report, presenting results of fieldwork and analytical sampling, and documenting excavation and placement of TPH impacted soils at the Focus Area as proposed in this RAP, will be submitted to the RWQCB. It is anticipated that the report will be submitted within approximately four to six weeks after completion of the concrete cap.

Following the successful implementation of the proposed soil excavation and confirmation soil sampling activities, and final completion of the concrete caps at the Site, a request for an NFA letter for the Site will be made to the RQWCB.

4.1.8 Schedule

The remediation activities described in the RAP are proposed to be enacted concurrently with proposed development at Focus Area. Development activities are currently scheduled to begin in February 2010. It is anticipated that excavation will require approximately two to three weeks of work in the field. As described above, a report documenting the excavation field activities and completion of the cap will be prepared and submitted to the RWQCB approximately four to six weeks following the completion of the capping, which is currently anticipated by July 2010.

The anticipated schedule is as follows:

- January 2010: Submit RAP to RWQCB.
- Obtain RWQCB preliminary approval letter of RAP, pending public comment. Make public notification of remedial action.

- Excavation/remedial activities, capping, backfilling/Site restoration. Approximately two to three weeks for excavation, five months for completion of capping.

Submittal of Remedial Soil Excavation and Capping Report to RWQCB with a request for certification that the RAP is complete and no further action is required. This request should be completed approximately four to six weeks after the cap is complete or in September 2010 on the current construction schedule.

4.2 Institutional Controls

Institutional controls will be implemented to limit potential receptors' exposure to contaminated soil gas in the WP-7 AOC, soil in the WP-5 AOC, and groundwater across the Site. Because the LUC will document the placement of TPH impacted soils at the Focus Area, it is anticipated that the LUC will be submitted within approximately four to six weeks after completion of the concrete cap.

4.2.1 Soil Gas

As noted in Section 3.2.1, PCE detected in soil gas slightly exceeded its ESL at one location, WP-7. This was the sole ESL soil gas exceedance at the Site. Figure 11 illustrates the location of the AOC created by the elevated level of PCE in soil gas detected at this location. The maximum lateral extent of this zone of elevated PCE in the Focus Area is delineated by the non-detection at location WP-6. Development plans for the Focus Area do not include construction of residential or commercial units in this region of the Focus Area. The area may be used for parking in the future. A deed restriction will be recorded for the WP-7 AOC that prohibits the construction of on-grade residential and commercial units (i.e. any building that would be occupied) in the WP-7 AOC without further investigation or remedial action. Future use of the WP-7 AOC for parking would not be subject to these restrictions.

4.2.2 Soil

Engineering controls as described in Section 4.1 will be enacted to reduce the direct exposure pathway for the COCs in the WP-5 AOC. Additionally, to ensure the safety of future residents, a LUC will be recorded that prohibits digging below 5 ft bgs in the excavated zone, and notes the presence and location of TPH impacted soils under the cap and requires continued placement and maintenance of the concrete cap above them.

4.2.3 Groundwater

As noted in Section 3.2.3, several chemicals detected in groundwater exceed ESLs for groundwater as a drinking water resource. Development plans for the Focus Area do not include utilizing groundwater from the Site in any fashion, including as drinking water. A LUC for the entire Focus Area will be recorded that prohibits the use of groundwater at the Site.

5.0 Construction Response Plan

Where construction activities in the Focus Area disturb subsurface soils, the following protocols should be observed.

5.1 Identification and Analysis of Unknown Environmental Conditions

5.1.1 Identification and Stockpiling of Unknown Environmental Conditions

During periods in which excavation and mass grading occur anywhere at the Site, including in the Focus Area, the general contractor should continually evaluate the character of excavated soil and excavated sidewall to check for visible (or odorous) signs of soil contamination. Such assessments typically utilize several measures as indicators for the presence of contamination:

- Oily, shiny, or chemical-saturated soil;
- Soil with chemical or hydrocarbon-like odor;
- Significantly discolored soil that reasonably indicates the presence of contamination;
- Underground structures such as tanks, vaults, or sumps.

Once such an unexpected environmental condition has been identified by general contractor personnel, the RWQCB and San Leandro Environmental Service Division will be notified and the following steps will be undertaken:

1. Excavation and mass grading activities in the area (an approximate 25 foot buffer zone around discovery) suspected to contain contaminated soil will be stopped.

2. Soils that have been recently excavated and/or relocated from the vicinity should be located and visually assessed in the manner outlined above. If the recently excavated or relocated soils show signs of contamination, they should also be treated as a region of suspected contamination.

3. The region(s) of suspected contaminated soil should be cordoned off with yellow CAUTION tape to prevent unauthorized Site personnel from accessing the area. If

unidentified and/or irritant odors (including nuisance odors) are present, working areas immediately downwind of suspected contaminated soils should be relocated.

4. If the contaminated soils are adjacent to, or nearby, storm drain inlets, drainage ditches, creeks, or surface water bodies, temporary storm water retention controls, such as jute rolls or sorbent booms, should be placed between soils and aquatic receptors.

5. To the degree safe and practicable, suspected contaminated soils should be covered with visqueen plastic. Relocated soil stockpiles should be placed on top of visqueen plastic.

6. Prior to, or concurrent with, interim actions, the appropriate notifications will be made to the developer via telephone.

7. Regulatory oversight will be obtained to proceed with soil sampling and waste handling as appropriate.

5.1.2 Agency Notification

The RWQCB contact for this project is:

Ms. Marcia Liao
1515 Clay Street, Suite 1400
Oakland, CA 94612
(510) 622-2377

The San Leandro Environmental Service Division contact is:

Mr. John Camp
San Leandro Environmental Services
835 E 14th St.
San Leandro, CA 94577
(510) 577-3401

TABLE 1 - SUMMARY OF SAMPLING AND ANALYTICAL TESTING
BUILD San Leandro Crossing
San Leandro, California

Sample Location	Sample Depths (1)	Soil Gas Analyses	Soil Analyses					Groundwater Analyses (10)	
		VOCs (2)	Metals (3)	Asbestos (4)	TPH-d/mo(5)	TPH-g, BTEX (6)	PAHs (7)	VOCs (8)	TPH-g/d/mo, BTEX, MTBE (9)
Phase II Sampling (December 2008)									
WP-1	0.5		X	X			X		
	3		X	X	X		X		
	5	X			X				
	10				X				
	26							X	X
WP-2	0.5		X	X					
	3		X	X	X				
	5	X			X				
	10				X				
	26							X	X
WP-3	0.5		X	X					
	3		X	X	X				
	5	X			X				
	10				X				
	26							X	X
WP-4	0.5		X	X			X		
	3		X	X	X		X		
	5	X			X				
	10				X				
	26							X	X
WP-5	0.5		X	X					
	3		X	X	X				
	5	X			X				
	10				X				
	26							X	X
WP-6	0.5		X	X					
	3		X	X	X				
	5	X			X				
	10				X				
	26							X	X
WP-7	0.5		X	X			X		
	3		X	X	X		X		
	5	X*			X				
	10				X				
	15	X							
	26							X	X
Step-out Soil Sampling (February 2009)									
WP3-S1	3				X				
	5				X	X			
WP3-S2	3				X				
	5				X	X			
WP5-S1	3				X		X		
	5				X *	X	X		
	15				X *	X			
	20				X *				
	25				X	X			
WP5-S2	5				X	X			
	10				X				
	15				X	X			
	20				X				
	25				X	X			
WP5-S3	5				X	X			
	10				X				
	15				X	X			
	20				X				
	25				X	X			

TABLE 1 - SUMMARY OF SAMPLING AND ANALYTICAL TESTING
BUILD San Leandro Crossing
San Leandro, California

Sample Location	Sample Depths [1]	Soil Gas Analyses	Soil Analyses					Groundwater Analyses [10]	
		VOCs [2]	Metals [3]	Asbestos [4]	TPH-d/mo[5]	TPH-g, BTEX [6]	PAHs [7]	VOCs [8]	TPH-g/d/mo, BTEX, MTBE [9]
WP5-S4	5				X	X			
	10				X				
	15				X	X			
	20				X				
	25				X	X			
WP5-S5	5				X	X			
	10				X				
	15				X	X			
	20				X				
	25				X	X			
WP5-S6	5				X	X			
	10				X				
	15				X	X			
	20				X				
	25				X	X			
WP5-S7	5				X	X			
	10				X				
	15				X	X			
	20				X				
	25				X	X			
WP5-S8	5				X	X			
	10				X				
	15				X	X			
	20				X				
	25				X	X			
Supplemental Groundwater Sampling (October 2009)									
SGW-1	27							X	X*
SGW-2	27							X	X*
SGW-3	27							X	X*

Notes:

(1) Sample depths indicated in approximate feet below ground surface (ft bgs).

(2) "VOCs" indicates volatile organic compounds by USEPA Method 8260B in a mobile laboratory. 10% of samples (designated with *) were also analyzed for VOCs by USEPA Method TO-15 as a quality control measure.

(3) "Metals" indicates Priority Pollutant metals by USEPA Methods 6010B and 7471A.

(4) "Asbestos" indicates asbestos by Polarized Light Microscopy (PLM) using USEPA Method 600/R-93-116 and 9310.

(5) "TPH-d/mo" indicates total petroleum hydrocarbons in the diesel and motor oil ranges by USEPA Method 8015. "*" indicates samples were analyzed both with and without the silica-gel cleanup method.

(6) "TPH-g, BTEX" indicates total petroleum hydrocarbons in the gasoline ranges by USEPA Method 8015B, and benzene, toluene, ethylbenzene, and xylenes by USEPA Method 8021B.

(7) "PAHs" indicates polynuclear aromatic hydrocarbons by USEPA Method 8270 - SIM.

(8) "VOCs" indicates volatile organic compounds by USEPA Method 8260B.

(9) "TPH-g/d/mo, BTEX and MTBE" indicates total petroleum hydrocarbons in the diesel and motor oil ranges by USEPA Method 8015 and total petroleum hydrocarbons in the gasoline range, benzene, toluene, ethylbenzene and xylenes (BTEX), and methyl-tert-butyl-ether (MTBE) by USEPA Method 8021. Samples marked with an * were not analyzed for BTEX and MTBE.

(10) Grab Groundwater samples were collected at first depth encountered.

"X" indicates sample was collected and analyzed for the analyses listed.

TABLE 2: SOIL GAS CHEMICAL TEST RESULTS – VOLATILE ORGANIC COMPOUNDS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP-1	WP-2	WP-3	WP-4	WP-5	WP-6	WP-7/WP-7-Dup	WP-7
DATE		12/5/08	12/5/08	12/5/08	12/5/08	12/5/08	12/5/08	12/5/08	12/5/08
MATRIX		Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas	Soil Gas
METHOD (1)		8260B	8260B	8260B	8260B	8260B	8260B	8260B/TO-15	8260B
DEPTH (2)	ESL	5.0	5.0	5.0	5.0	5.0	5.0	5.0	15.0
UNITS (3)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)	($\mu g/m^3$)
1,2-dibromo-3-chloropropane	1.3E+00	< 8	< 8	< 8	< 8	< 8	< 8	< 8 / --	< 8
1,2-Dibromoethane	4.1E+00	< 8	< 8	< 8	< 8	< 8	< 8	< 8 / 8.8	< 8
Tetrachloroethene (PCE)	4.1E+02	< 8	257	< 8	< 8	< 8	< 8	**431 / 500**	83

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals and method detection limits in exceedance of ESLs are **bolded**.

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< = Analyte was not detected at a level above the detection limit noted.

(1) 8206B indicates volatile organic compounds by USEPA Method 8260B, TO-15 indicates volatile organic chemicals by USEPA Method TO-15.

(2) Sample collected from the depth noted in feet below ground surface.

(3) $\mu g/m^3$ = micrograms per cubic meter, mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 3: SOIL CHEMICAL TEST RESULTS – TOTAL PETROLEUM HYDROCARBONS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP-1	WP-1	WP-1	WP-2	WP-2	WP-2	WP-3	WP-3	WP-3	WP-4	WP-4	WP-4	WP-5	WP-5
DATE		12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B
DEPTH (2)	ESL	3.0	5.0	10.0	2.5	5.0	10.0	3.0	5.0	10.0	3.0	5.0	10.0	3.0	5.0
UNITS (3)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline C7-C12	8.3E+01	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diesel C10-C24	8.3E+01	1.5 Y	<1	2.1 Y	<0.99	1.1 Y	1.5 Y	**2100 Y**	18 Y	1.3 Y	<1	<1	1.1 Y	**8900**	**8700**
Motor Oil C24-C36	3.7E+02	<5	<5	<5	<5	<5	<5	**5100**	81	<5	5.2 Y	<5	<5	**4500**	**4300**

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

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-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

Y= Sample exhibits chromatographic pattern which does not resemble standard.

* = Indicates concentration of analyte in sample prior to silica gel cleanup. Post cleanup concentration is also reported.

(1) 8015B indicates total petroleum hydrocarbons by USEPA Method 8015B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 3: SOIL CHEMICAL TEST RESULTS – TOTAL PETROLEUM HYDROCARBONS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP-5	WP-6	WP-6	WP-6	WP-7	WP-7	WP-7	WP3-S1	WP3-S1	WP3-S2	WP3-S2
DATE		12/8/08	12/6/08	12/6/08	12/6/08	12/6/08	12/6/08	12/6/08	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B
DEPTH (2)	ESL	10.0	3.0	5.0	10.0	3.0	5.0	9.5	3.0	5.0	3.0	5.0
UNITS (3)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline C7-C12	8.3E+01	--	--	--	--	--	--	--	--	<0.95	--	<1.1
Diesel C10-C24	8.3E+01	**2400**	<1	1.5 Y	<1	<1	<1	<0.99	1.5 Y	<0.99	<0.99	**740 Y**
Motor Oil C24-C36	3.7E+02	**1200**	<5	<5	<5	<5	<5	<5	8.7	<5.0	<5.0	**2500**

Notes:

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-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

Y= Sample exhibits chromatographic pattern which does not resemble standard.

* = Indicates concentration of analyte in sample prior to silica gel cleanup. Post cleanup concentration is also reported.

(1) 8015B indicates total petroleum hydrocarbons by USEPA Method 8015B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 3: SOIL CHEMICAL TEST RESULTS – TOTAL PETROLEUM HYDROCARBONS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S1	WP5-S1	WP5-S1	WP5-S1	WP5-S1	WP5-S2	WP5-S2	WP5-S2
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B
DEPTH (2)	ESL	3.0	5.0	15.0	20.0	25.0	5.0	10.0	15.0
UNITS (3)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline C7-C12	8.3E+01	--	7.7 Y	1.6 Y	--	**190 Y**	<0.94	--	<1.0
Diesel C10-C24	8.3E+01	**480 Y**	**3600*/3100**	**380*/360**	**730*/590**	**5400**	2.5 Y	1.3 Y	1.5 Y
Motor Oil C24-C36	3.7E+02	**1200**	**1700*/1500**	180*/190	340*/290	**2700**	<5.0	<5.0	<5.0

Notes:

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-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

Y= Sample exhibits chromatographic pattern which does not resemble standard.

* = Indicates concentration of analyte in sample prior to silica gel cleanup. Post cleanup concentration is also reported.

(1) 8015B indicates total petroleum hydrocarbons by USEPA Method 8015B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 3: SOIL CHEMICAL TEST RESULTS – TOTAL PETROLEUM HYDROCARBONS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S2	WP5-S2	WP5-S3	WP5-S3	WP5-S3	WP5-S3	WP5-S3	WP5-S4
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B
DEPTH (2)	ESL	20.0	25.0	5.0	10.0	15.0	20.0	25.0	5.0
UNITS (3)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline C7-C12	8.3E+01	--	<1.0	3.4 Y	--	53 Y	--	**92 Y**	<1.1
Diesel C10-C24	8.3E+01	<1.0	<1.0	**6900**	**1700**	**2100**	**2100**	**3800**	1.0 Y
Motor Oil C24-C36	3.7E+02	<5.0	<5.0	**4100**	**1100**	**1300**	**1300**	**2100**	<5.0

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

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< = Analyte was not detected at a level above the detection limit noted.

Y= Sample exhibits chromatographic pattern which does not resemble standard.

* = Indicates concentration of analyte in sample prior to silica gel cleanup. Post cleanup concentration is also reported.

(1) 8015B indicates total petroleum hydrocarbons by USEPA Method 8015B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 3: SOIL CHEMICAL TEST RESULTS – TOTAL PETROLEUM HYDROCARBONS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S4	WP5-S4	WP5-S4	WP5-S4	WP5-S5	WP5-S5	WP5-S5	WP5-S5
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B
DEPTH (2)	ESL	10.0	15.0	20.0	25.0	5.0	10.0	15.0	20.0
UNITS (3)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline C7-C12	8.3E+01	--	<1.0	--	<0.97	<1.1	--	<0.92	--
Diesel C10-C24	8.3E+01	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0 Y
Motor Oil C24-C36	3.7E+02	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

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* = Indicates concentration of analyte in sample prior to silica gel cleanup. Post cleanup concentration is also reported.

(1) 8015B indicates total petroleum hydrocarbons by USEPA Method 8015B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 3: SOIL CHEMICAL TEST RESULTS – TOTAL PETROLEUM HYDROCARBONS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S5	WP5-S6	WP5-S6	WP5-S6	WP5-S6	WP5-S6	WP5-S7	WP5-S7
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B
DEPTH (2)	ESL	25.0	5.0	10.0	15.0	20.0	25.0	5.0	10.0
UNITS (3)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline C7-C12	8.3E+01	<0.93	<0.96	--	<1.0	--	<1.0	<0.96	--
Diesel C10-C24	8.3E+01	<1.0	<1.0	<1.0	<1.0	1.2 Y	<0.99	<1.0	2.3 Y
Motor Oil C24-C36	3.7E+02	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)

-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

Y= Sample exhibits chromatographic pattern which does not resemble standard.

* = Indicates concentration of analyte in sample prior to silica gel cleanup. Post cleanup concentration is also reported.

(1) 8015B indicates total petroleum hydrocarbons by USEPA Method 8015B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 3: SOIL CHEMICAL TEST RESULTS – TOTAL PETROLEUM HYDROCARBONS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S7	WP5-S7	WP5-S7	WP5-S8	WP5-S8	WP5-S8	WP5-S8	WP5-S8
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8015B	8015B	8015B	8015B	8015B	8015B	8015B	8015B
DEPTH (2)	ESL	15.0	20.0	25.0	5.0	10.0	15.0	20.0	25.0
UNITS (3)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Gasoline C7-C12	8.3E+01	<0.94	--	29 Y	<0.96	--	<1.0	--	<1.0
Diesel C10-C24	8.3E+01	<1.0	<1.0	**2900**	<1.0	1.0 Y	<1.0	<1.0	**840**
Motor Oil C24-C36	3.7E+02	<5.0	<5.0	**1300**	<5.0	<5.0	<5.0	<5.0	**490**

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)

-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

Y= Sample exhibits chromatographic pattern which does not resemble standard.

* = Indicates concentration of analyte in sample prior to silica gel cleanup. Post cleanup concentration is also reported.

(1) 8015B indicates total petroleum hydrocarbons by USEPA Method 8015B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 4: SOIL CHEMICAL TEST RESULTS – BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES (BTEX)
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP3-S1	WP3-S1	WP3-S2	WP3-S2	WP5-S1	WP5-S1	WP5-S1	WP5-S1
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8021	8021	8021	8021	8021	8021	8021	8021
DEPTH (2)	ESL	3.0	5.0	3.0	5.0	3.0	5.0	15.0	20.0
UNITS (3)	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Benzene	4.4E+01	--	<4.8	--	<5.3	--	<5.4	<5.0	--

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)

-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

(1) 8021B indicates BTEX by USEPA Method 8021B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 4: SOIL CHEMICAL TEST RESULTS – BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES (BTEX)
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S1	WP5-S2	WP5-S2	WP5-S2	WP5-S2	WP5-S2	WP5-S3	WP5-S3
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8021	8021	8021	8021	8021	8021	8021	8021
DEPTH (2)	ESL	25.0	5.0	10.0	15.0	20.0	25.0	5.0	10.0
UNITS (3)	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Benzene	4.4E+01	<100	<5.2	--	<5.1	--	<4.7	<4.6	--

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)

-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

(1) 8021B indicates BTEX by USEPA Method 8021B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 4: SOIL CHEMICAL TEST RESULTS – BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES (BTEX)
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S3	WP5-S3	WP5-S3	WP5-S4	WP5-S4	WP5-S4	WP5-S4	WP5-S4
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8021	8021	8021	8021	8021	8021	8021	8021
DEPTH (2)	ESL	15.0	20.0	25.0	5.0	10.0	15.0	20.0	25.0
UNITS (3)	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Benzene	4.4E+01	<4.9	--	<100	<5.4	--	<5.1	--	<4.9

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)

-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

(1) 8021B indicates BTEX by USEPA Method 8021B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 4: SOIL CHEMICAL TEST RESULTS – BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES (BTEX)
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S5	WP5-S5	WP5-S5	WP5-S5	WP5-S5	WP5-S6	WP5-S6	WP5-S6
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8021	8021	8021	8021	8021	8021	8021	8021
DEPTH (2)	ESL	5.0	10.0	15.0	20.0	25.0	5.0	10.0	15.0
UNITS (3)	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Benzene	4.4E+01	<5.3	--	<4.6	--	<4.7	<4.8	--	<5.1

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)

-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

(1) 8021B indicates BTEX by USEPA Method 8021B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 4: SOIL CHEMICAL TEST RESULTS – BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES (BTEX)
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S6	WP5-S6	WP5-S7	WP5-S7	WP5-S7	WP5-S7	WP5-S7	WP5-S8
DATE		2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8021	8021	8021	8021	8021	8021	8021	8021
DEPTH (2)	ESL	20.0	25.0	5.0	10.0	15.0	20.0	25.0	5.0
UNITS (3)	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Benzene	4.4E+01	--	<5.2	<4.8	--	<4.7	--	<50	<4.8

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)

-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

(1) 8021B indicates BTEX by USEPA Method 8021B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 4: SOIL CHEMICAL TEST RESULTS – BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES (BTEX)
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP5-S8	WP5-S8	WP5-S8	WP5-S8
DATE		2/18/09	2/18/09	2/18/09	2/18/09
MATRIX		Soil	Soil	Soil	Soil
METHOD (1)		8021	8021	8021	8021
DEPTH (2)	ESL	10.0	15.0	20.0	25.0
UNITS (3)	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Benzene	4.4E+01	--	<5.2	--	<5.2

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)

-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

(1) 8021B indicates BTEX by USEPA Method 8021B.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 5: SOIL CHEMICAL TEST RESULTS – POLYNUCLEAR AROMATIC HYDROCARBONS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP-1	WP-1	WP-4	WP-4	WP-7	WP-7	WP5-S1	WP5-S1
DATE		12/8/08	12/8/08	12/8/08	12/8/08	12/6/08	12/6/08	2/18/09	12/8/08
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		8270C	8270C	8270C	8270C	8270C	8270C	8270C	8270C
DEPTH (2)	ESL	0.5	3.0	0.5	3.0	0.5	3.0	3.0	5.0
UNITS (3)	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Benzo(a)pyrene	3.8E+01	<5	<5	**40**	<5	<5	<5	<25	<50
B(a)P Equivalents	3.8E+01	4.4	4.4	**55**	4.4	4.4	4.4	22	**57**

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinki published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Grc* (Interim Final November 2007, Revised May 2008)

< = Analyte was not detected at a level above the detection limit noted.

B(a)P Equivalents = benzo(a)pyrene equivalents calculated according to Cal/EPA (1994) guidance.

(1) 8270C indicates semivolatile organics by USEPA 8270C-SIM low level.

(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.

(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 6: SOIL CHEMICAL TEST RESULTS – METALS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP-1	WP-1	WP-2	WP-2	WP-3	WP-3
DATE		12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/8/08
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		6010B/7471A	6010B/7471A	6010B/7471A	6010B/7471A	6010B/7471A	6010B/7471A
DEPTH (2)	ESL	0.5	3.0	0.5	2.5	0.5	3.0
UNITS (3)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	3.9E-01	**2.1**	**4.4**	**2.5**	**2.3**	**4.3**	**4.9**

Notes:
Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.
Detections of chemicals in exceedance of ESLs are **bolded**.
ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)
(1) 6010B/7471A indicates Priority Pollutant Metals by USEPA 6010B/7471A.
(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.
(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 6: SOIL CHEMICAL TEST RESULTS – METALS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP-4	WP-4	WP-5	WP-5	WP-6	WP-6
DATE		12/8/08	12/8/08	12/8/08	12/8/08	12/6/08	12/6/08
MATRIX		Soil	Soil	Soil	Soil	Soil	Soil
METHOD (1)		6010B/7471A	6010B/7471A	6010B/7471A	6010B/7471A	6010B/7471A	6010B/7471A
DEPTH (2)	ESL	0.5	3.0	0.5	3.0	0.5	3.0
UNITS (3)	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Arsenic	3.9E-01	**1.2**	**3.9**	**2.9**	**3**	**6.8**	**3.4**

Notes:
Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.
Detections of chemicals in exceedance of ESLs are **bolded**.
ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)
(1) 6010B/7471A indicates Priority Pollutant Metals by USEPA 6010B/7471A.
(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.
(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 6: SOIL CHEMICAL TEST RESULTS – METALS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP-7	WP-7
DATE		12/6/08	12/6/08
MATRIX		Soil	Soil
METHOD (1)		6010B/7471A	6010B/7471A
DEPTH (2)	ESL	0.5	3.0
UNITS (3)	mg/kg	mg/kg	mg/kg
Arsenic	3.9E-01	**3.4**	**3.2**

Notes:
Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.
Detections of chemicals in exceedance of ESLs are **bolded**.
ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)
(1) 6010B/7471A indicates Priority Pollutant Metals by USEPA 6010B/7471A.
(2) Sample collected in a 6-inch interval beginning at the depth noted in feet below ground surface.
(3) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 7: GROUNDWATER CHEMICAL TEST RESULTS – VOLATILE ORGANIC COMPOUNDS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP-1	WP-2/WP-2-Dup	WP-3	WP-4	WP-5	WP-6	WP-7	SGW-1	SGW-2	SGW-3
DATE		12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/6/08	12/6/08	10/6/09	10/6/09	10/6/09
MATRIX		Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
METHOD (1)	ESL	8260B	8260B	8260B	8260B	8260B	8260B	8260B	8015B	8015B	8015B
UNITS (2)	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
1,1,1,2-Tetrachloroethane	1.3E+00	<2.5	<2.5 / <2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
1,1,2,2-Tetrachloroethane	1.0E+00	<2.5	<2.5 / <2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
1,2-Dibromo-3-Chloropropane	2.0E-01	<10	<10 / <10	<10	<10	<10	<10	<10	<10	<10	<10
1,2-Dibromoethane	5.0E-02	<2.5	<2.5 / <2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
1,2-Dichloroethane	5.0E-01	<2.5	<2.5 / <2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Benzene	1.0E+00	<2.5	<2.5 / <2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Carbon Tetrachloride	5.0E-01	<2.5	<2.5 / <2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Hexachlorobutadiene	4.5E-01	<10	<10 / <10	<10	<10	<10	<10	<10	<10	<10	<10
Methylene Chloride	5.0E+00	<50	<50 / <50	<50	<50	<50	<50	<50	<50	<50	<50
Tetrachloroethene	5.0E+00	**5.9**	**38 / 30**	3.6	4.1	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Vinyl Chloride	5.0E-01	<2.5	<2.5 / <2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008)

< = Analyte was not detected at a level above the detection limit noted.

(1) 8206B indicates volatile organic compounds by USEPA Method 8260B

(2) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.

TABLE 8: GROUNDWATER CHEMICAL TEST RESULTS – TOTAL PETROLEUM HYDROCARBONS
BUILD San Leandro Crossing
San Leandro, California

SAMPLE ID		WP-1	WP-2/WP-2-DUP	WP-3	WP-4	WP-5	WP-6	WP-7	SGW-1	SGW-2	SGW-3
DATE		12/8/08	12/8/08	12/8/08	12/8/08	12/8/08	12/6/08	12/6/08	10/6/09	10/6/09	10/6/09
MATRIX		Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
METHOD (1)	ESL	8015B/8021B	8015B/8021B	8015B/8021B	8015B/8021B	8015B/8021B	8015B/8021B	8015B/8021B	8015B	8015B	8015B
UNITS (2)	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l	µg/l
Diesel C10-C24	1.0E+02	<50	<50 / <50	<50	<50	**21000**	**480 Y**	<50	**2000 Y**	<50	85
Motor Oil C24-C36	1.0E+02	<300	<300 / <300	<300	<300	**11000**	<300	<300	**1200**	<300	<300
Gasoline C7-C12	1.0E+02	<50	<50 / <50	<50	<50	**2800 Y**	**920**	<50	**680 Y**	<50	<50
MTBE	5.0E+00	<2	2.2 / 2.2	<2	<2	<2	**16 C**	<2	--	--	--

Notes:

Only analytes where either a chemical detection or the method detection limit exceeded ESLs are show.

Detections of chemicals in exceedance of ESLs are **bolded**.

ESL = Environmental Screening Level for residential land use shallow soils where groundwater is a current or potential source of drinking water, published in California Regional Water Control Boards *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater* (Interim Final November 2007, Revised May 2008).

-- = Sample not analyzed for constituent indicated.

< = Analyte was not detected at a level above the detection limit noted.

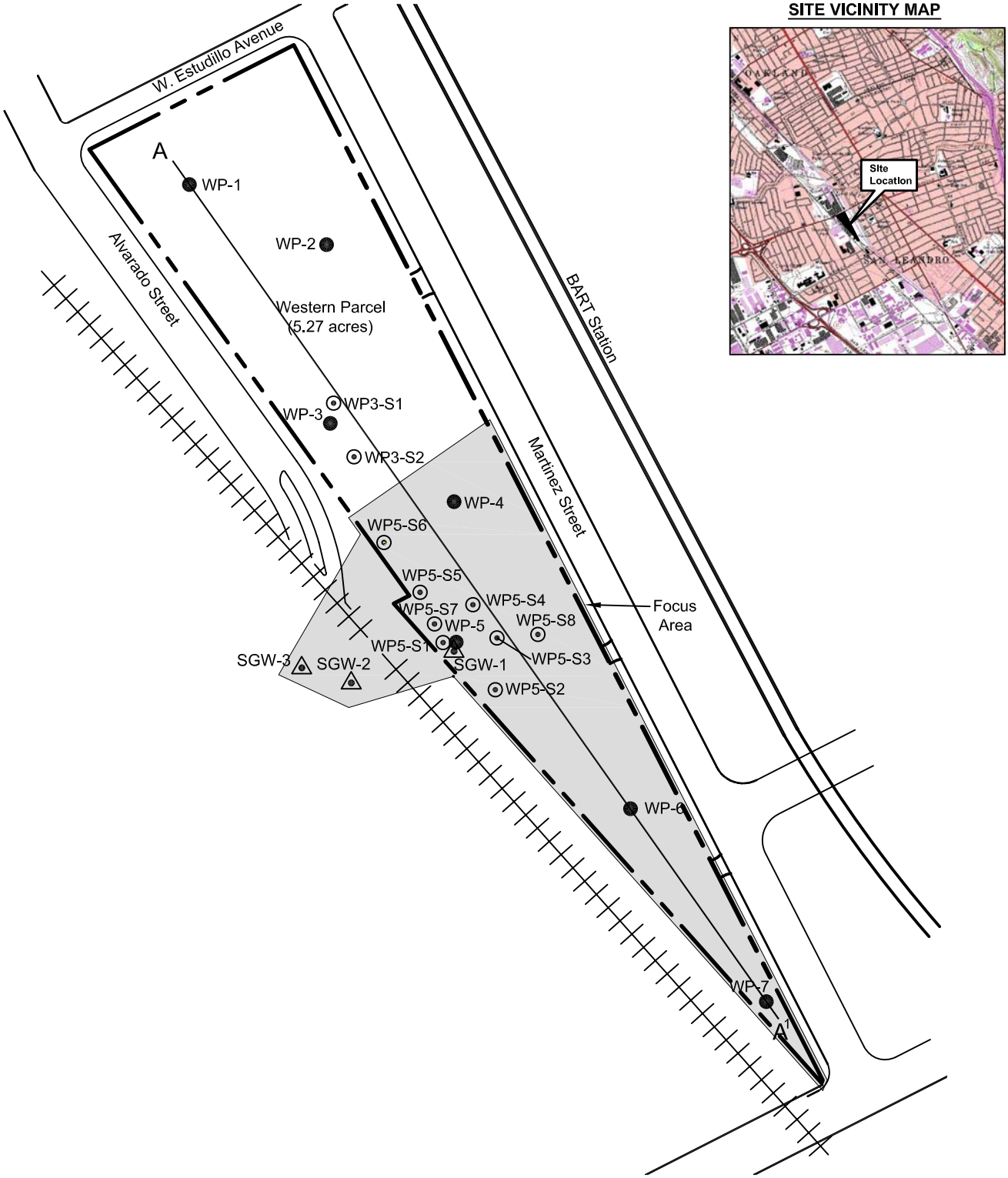
Y= Sample exhibits chromatographic pattern which does not resemble standard.

C = Presence confirmed, but RPD between columns exceeds 40%.

(1) 8015B indicates total petroleum hydrocarbons by USEPA Method 8015B.

8021B indicates MTBE compounds by USEPA Method 8021B.

(2) mg/kg = milligrams per kilogram, µg/kg = micrograms per kilogram, µg/l = micrograms per liter.



EXPLANATION

- February 2009 step-out sample locations
- December 2008 sample locations
- October 2009 sample location
- A — A' Cross Section Line

N

0 180
SCALE IN FEET
(APPROXIMATE)

Map Source: Development plans are based on the Master Plan provided by Keystone Development Group, LLC

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Site Vicinity and Focus Area
San Leandro Crossing
San Leandro, California

Figure
1

Drafter: EC | Date: 01/11/10 | Contract Number: 08-616-B

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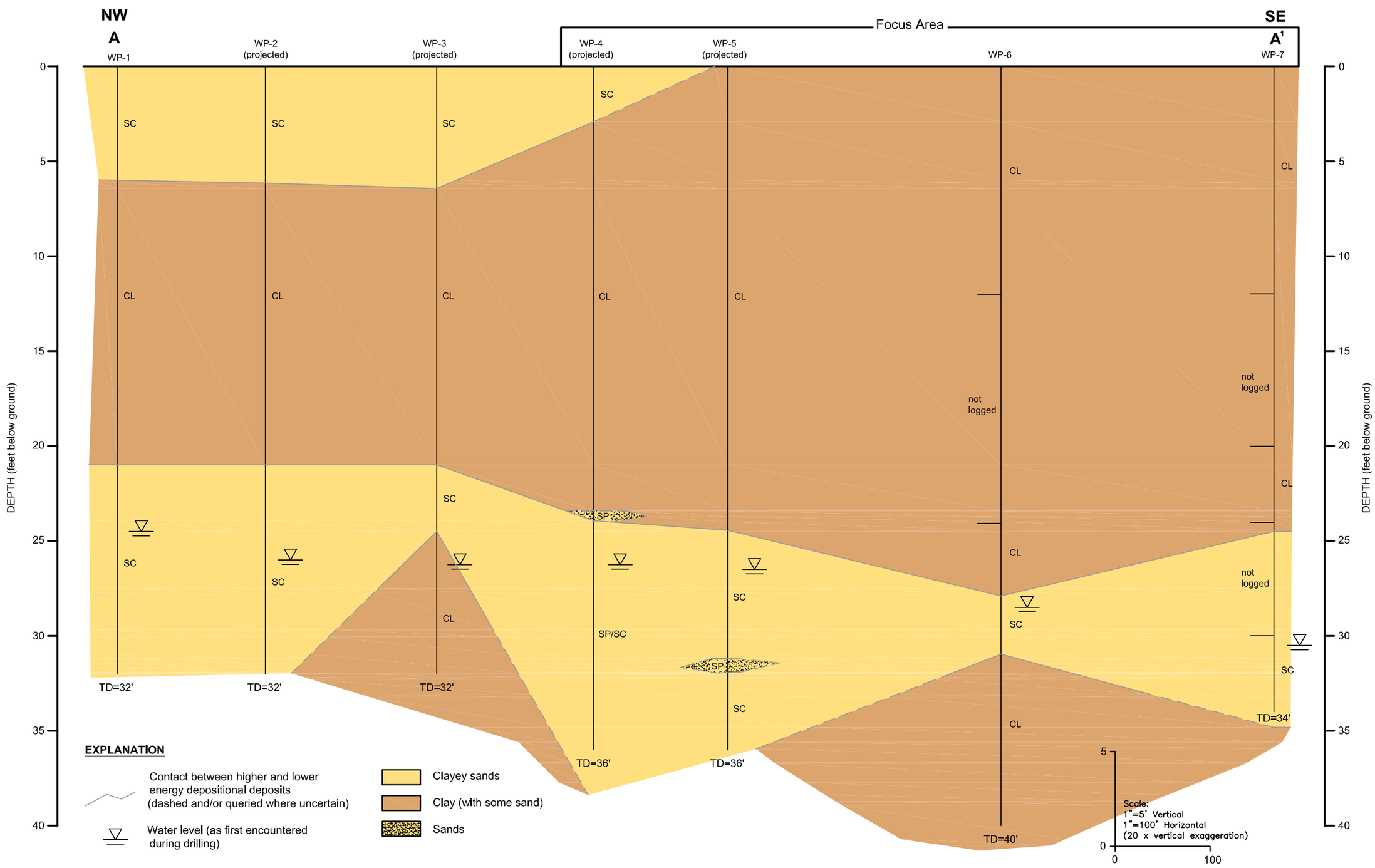

IRIS ENVIRONMENTAL
2361 Campus Drive, Suite 250
Irvine, California 92612
(949)724-8900

Geologic Cross Section A-A
San Leandro Crossing
San Leandro, California

Figure
2

Drafter: EC

Date: 01/08/10

Contract Number: 08-616B

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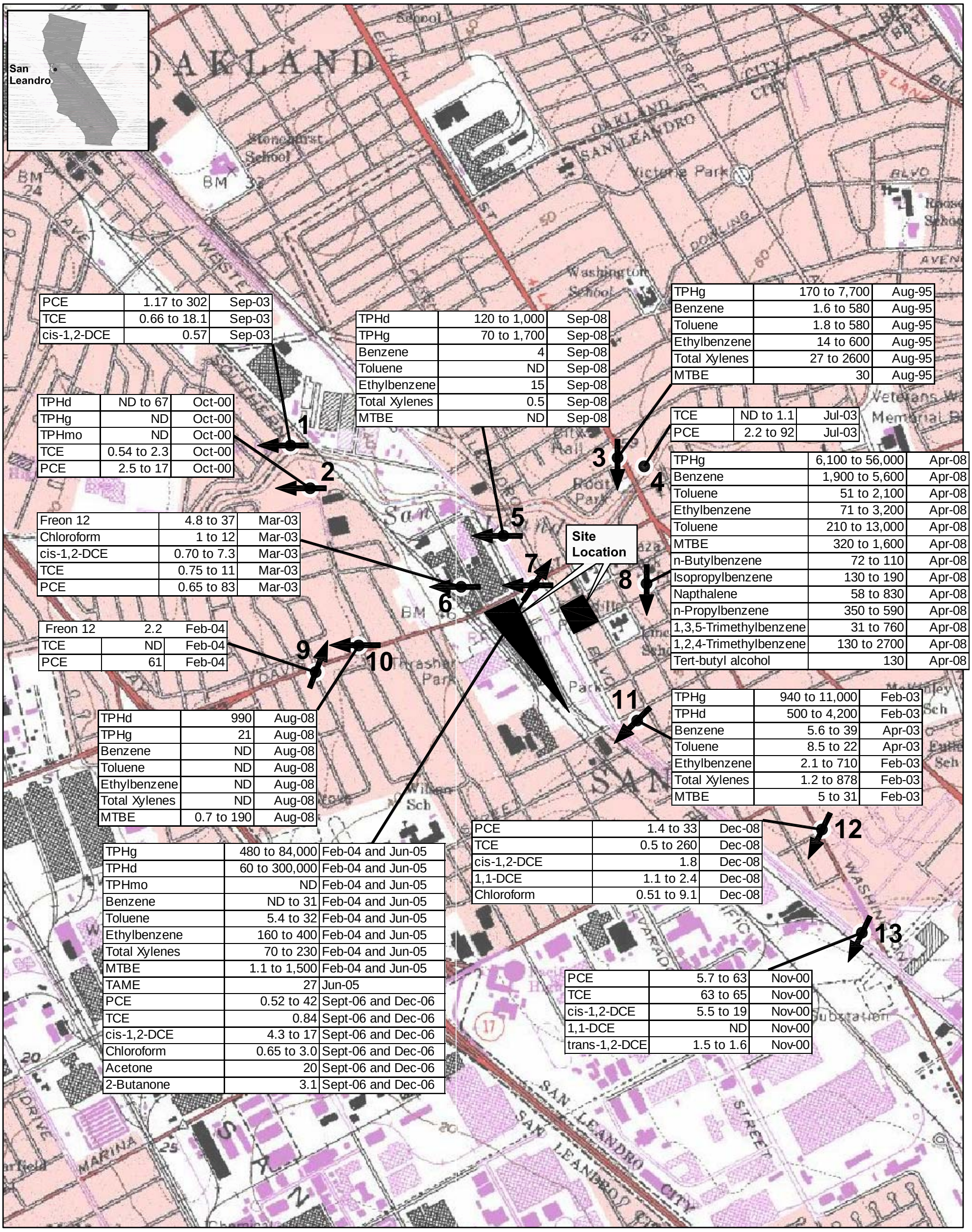

PCE	1.17 to 302	Sep-03
TCE	0.66 to 18.1	Sep-03
cis-1,2-DCE	0.57	Sep-03

TPHd	120 to 1,000	Sep-08
TPHg	70 to 1,700	Sep-08
Benzene	4	Sep-08
Toluene	ND	Sep-08
Ethylbenzene	15	Sep-08
Total Xylenes	0.5	Sep-08
MTBE	ND	Sep-08

TPHg	170 to 7,700	Aug-95
Benzene	1.6 to 580	Aug-95
Toluene	1.8 to 580	Aug-95
Ethylbenzene	14 to 600	Aug-95
Total Xylenes	27 to 2600	Aug-95
MTBE	30	Aug-95

TPHd	ND to 67	Oct-00
TPHg	ND	Oct-00
TPHmo	ND	Oct-00
TCE	0.54 to 2.3	Oct-00
PCE	2.5 to 17	Oct-00

TCE	ND to 1.1	Jul-03
PCE	2.2 to 92	Jul-03

TPHg	6,100 to 56,000	Apr-08
Benzene	1,900 to 5,600	Apr-08
Toluene	51 to 2,100	Apr-08
Ethylbenzene	71 to 3,200	Apr-08
Toluene	210 to 13,000	Apr-08
MTBE	320 to 1,600	Apr-08
n-Butylbenzene	72 to 110	Apr-08
Isopropylbenzene	130 to 190	Apr-08
Napthalene	58 to 830	Apr-08
n-Propylbenzene	350 to 590	Apr-08
1,3,5-Trimethylbenzene	31 to 760	Apr-08
1,2,4-Trimethylbenzene	130 to 2700	Apr-08
Tert-butyl alcohol	130	Apr-08

Freon 12	4.8 to 37	Mar-03
Chloroform	1 to 12	Mar-03
cis-1,2-DCE	0.70 to 7.3	Mar-03
TCE	0.75 to 11	Mar-03
PCE	0.65 to 83	Mar-03

Freon 12	2.2	Feb-04
TCE	ND	Feb-04
PCE	61	Feb-04

TPHg	940 to 11,000	Feb-03
TPHd	500 to 4,200	Feb-03
Benzene	5.6 to 39	Apr-03
Toluene	8.5 to 22	Apr-03
Ethylbenzene	2.1 to 710	Feb-03
Total Xylenes	1.2 to 878	Feb-03
MTBE	5 to 31	Feb-03

TPHd	990	Aug-08
TPHg	21	Aug-08
Benzene	ND	Aug-08
Toluene	ND	Aug-08
Ethylbenzene	ND	Aug-08
Total Xylenes	ND	Aug-08
MTBE	0.7 to 190	Aug-08

PCE	1.4 to 33	Dec-08
TCE	0.5 to 260	Dec-08
cis-1,2-DCE	1.8	Dec-08
1,1-DCE	1.1 to 2.4	Dec-08
Chloroform	0.51 to 9.1	Dec-08

TPHg	480 to 84,000	Feb-04 and Jun-05
TPHd	60 to 300,000	Feb-04 and Jun-05
TPHmo	ND	Feb-04 and Jun-05
Benzene	ND to 31	Feb-04 and Jun-05
Toluene	5.4 to 32	Feb-04 and Jun-05
Ethylbenzene	160 to 400	Feb-04 and Jun-05
Total Xylenes	70 to 230	Feb-04 and Jun-05
MTBE	1.1 to 1,500	Feb-04 and Jun-05
TAME	27	Jun-05
PCE	0.52 to 42	Sept-06 and Dec-06
TCE	0.84	Sept-06 and Dec-06
cis-1,2-DCE	4.3 to 17	Sept-06 and Dec-06
Chloroform	0.65 to 3.0	Sept-06 and Dec-06
Acetone	20	Sept-06 and Dec-06
2-Butanone	3.1	Sept-06 and Dec-06

PCE	5.7 to 63	Nov-00
TCE	63 to 65	Nov-00
cis-1,2-DCE	5.5 to 19	Nov-00
1,1-DCE	ND	Nov-00
trans-1,2-DCE	1.5 to 1.6	Nov-00

EXPLANATION:

● Approximate groundwater monitoring location

Approximate groundwater flow direction

Chemical detected

Range of concentrations detected in micrograms per liter (µg/L)

TPHg	6,100 to 56,000	Apr-08
Benzene	1,900 to 5,600	Apr-08

Date of groundwater sampling

N

0 1000

SCALE IN FEET

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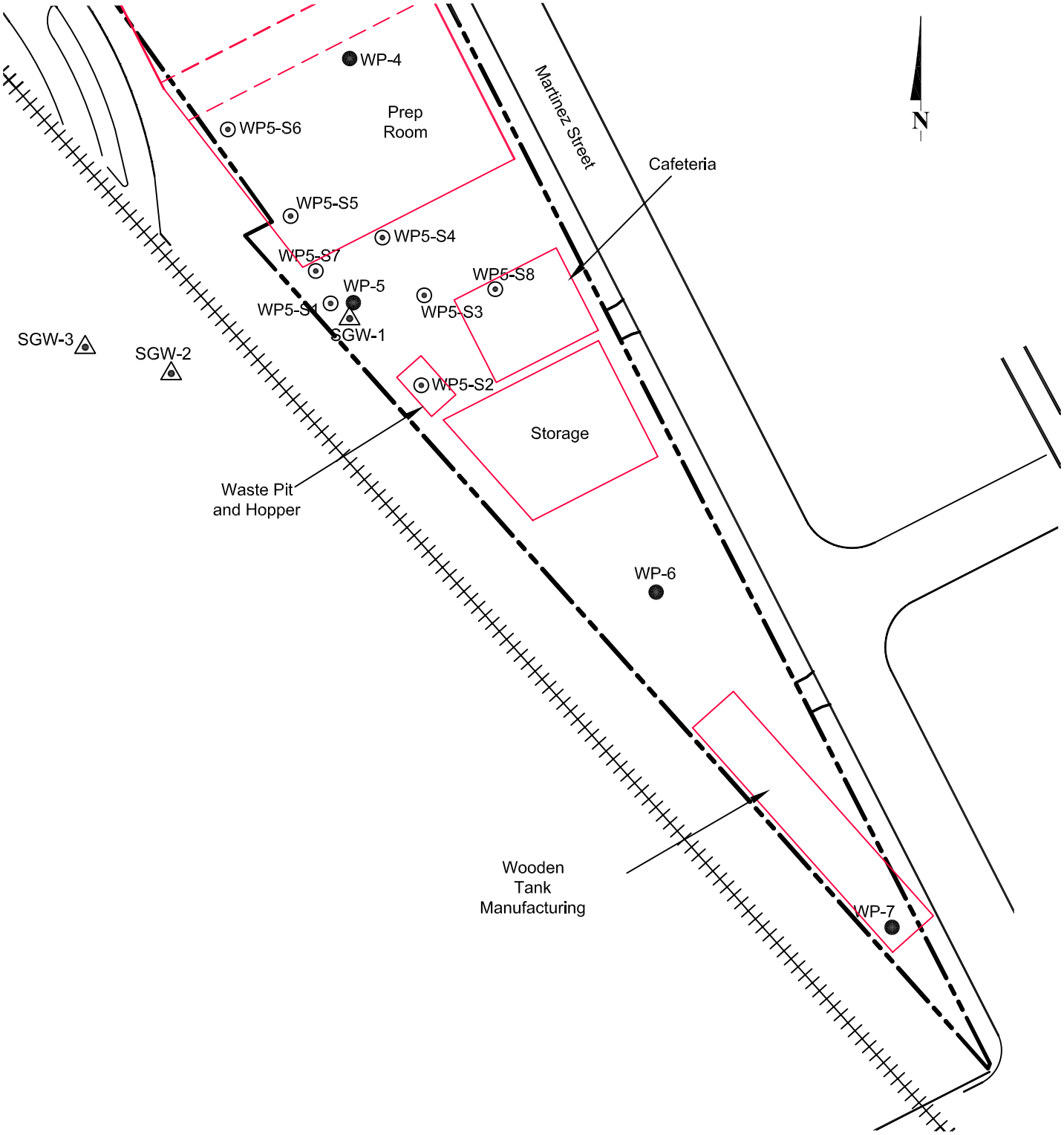
Regional Groundwater Contamination
San Leandro Crossing
San Leandro, California

Figure
3

Drafter: EC Date: 01/08/10 Contract Number: 08-616-B

I:\CAD\08\08-616-B\surrounding sites.dwg



EXPLANATION

- October 2009 sample location
- February 2009 step-out sample locations
- December 2008 sample locations
- Site layout during Calpak/Del Monte occupation (pre 1928 through 1989, identified in WP Phase I ESA)

0 100

SCALE IN FEET
(APPROXIMATE)

Map Source: Development plans are based on the Master Plan provided by Keystone Development Group, LLC

IRIS ENVIRONMENTAL
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Focus Area Historic Land Use
San Leandro Crossing
San Leandro, California

Figure
4

Drafter: EC | Date: 01/08/10 | Contract Number: 08-616-B

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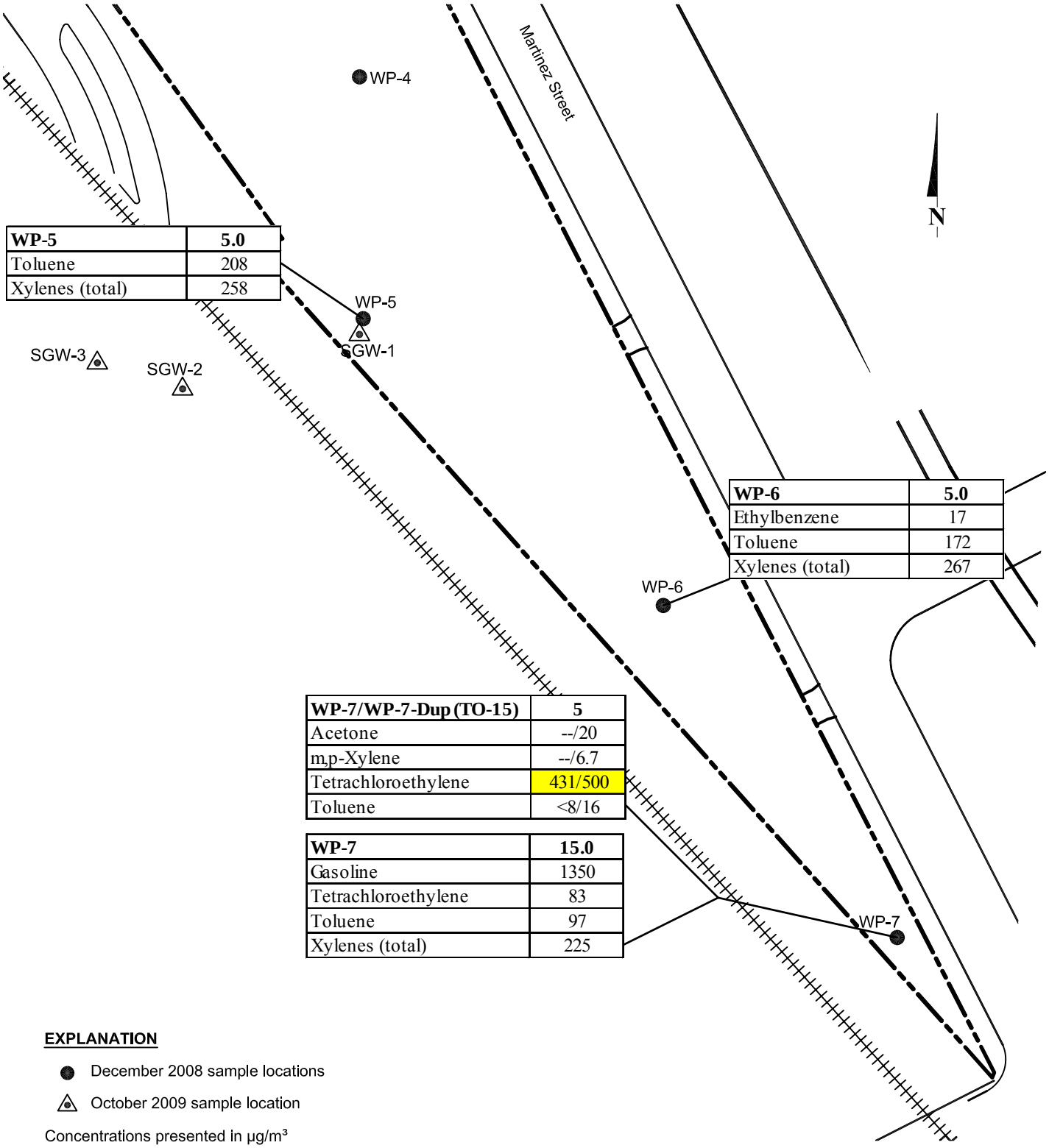

WP-5	5.0
Toluene	208
Xylenes (total)	258

WP-6	5.0
Ethylbenzene	17
Toluene	172
Xylenes (total)	267

WP-7/WP-7-Dup (TO-15)	5
Acetone	--/20
m,p-Xylene	--/6.7
Tetrachloroethylene	431/500
Toluene	<8/16

WP-7	15.0
Gasoline	1350
Tetrachloroethylene	83
Toluene	97
Xylenes (total)	225

EXPLANATION

- December 2008 sample locations
- October 2009 sample location

Concentrations presented in µg/m³

Sample designation — Feet below ground surface

WP-2	5
Tetrachloroethylene	257

Highlighted boxes indicate detection exceeds applicable ESL

	ESL
Tetrachloroethylene	410

0 100
SCALE IN FEET (APPROXIMATE)

Map Source: Development plans are based on the Master Plan provided by Keystone Development Group, LLC

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Volatile Organic Compounds Detected in Soil Gas
San Leandro Crossing (Focus Area)
San Leandro, California

Figure **5**

Drafter: EC | Date: 01/08/10 | Contract Number: 08-616-B

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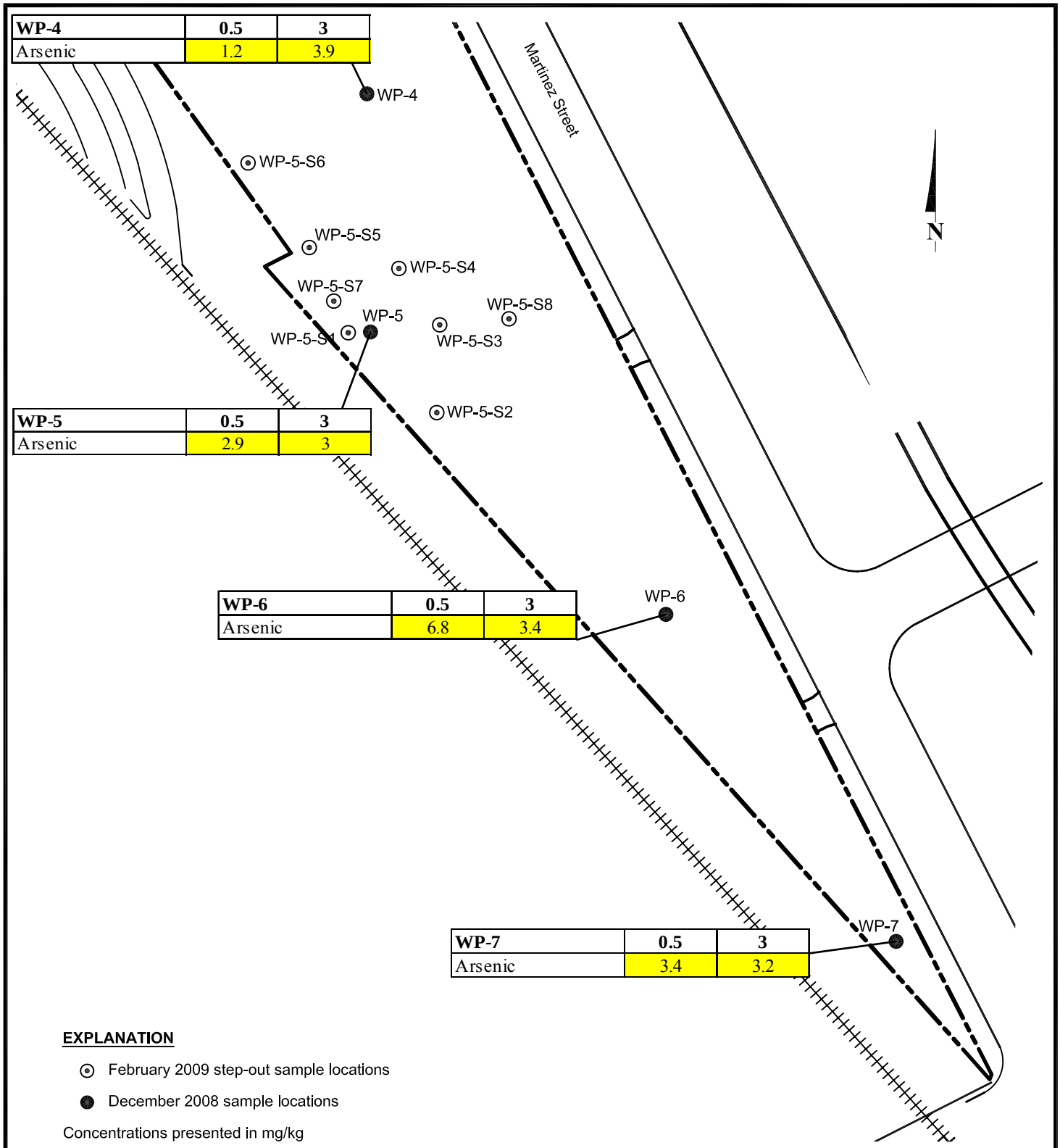

WP-4	0.5	3
Arsenic	1.2	3.9

WP-5	0.5	3
Arsenic	2.9	3

WP-6	0.5	3
Arsenic	6.8	3.4

WP-7	0.5	3
Arsenic	3.4	3.2

EXPLANATION

- February 2009 step-out sample locations
- December 2008 sample locations

Concentrations presented in mg/kg

Sample designation

Feet below ground surface

WP-7	0.5	3
Arsenic	3.4	3.2

Highlighted boxes indicate detection exceeds applicable CHHSL or ESL

	ESL
Arsenic	0.39

0 100

SCALE IN FEET (APPROXIMATE)

Map Source: Development plans are based on the Master Plan provided by Keystone Development Group, LLC

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Metals Detected in Soil Above ESL's
San Leandro Crossing (Focus Area)
San Leandro, California

Figure
6

Drafter: EC | Date: 01/11/10 | Contract Number: 08-616-B

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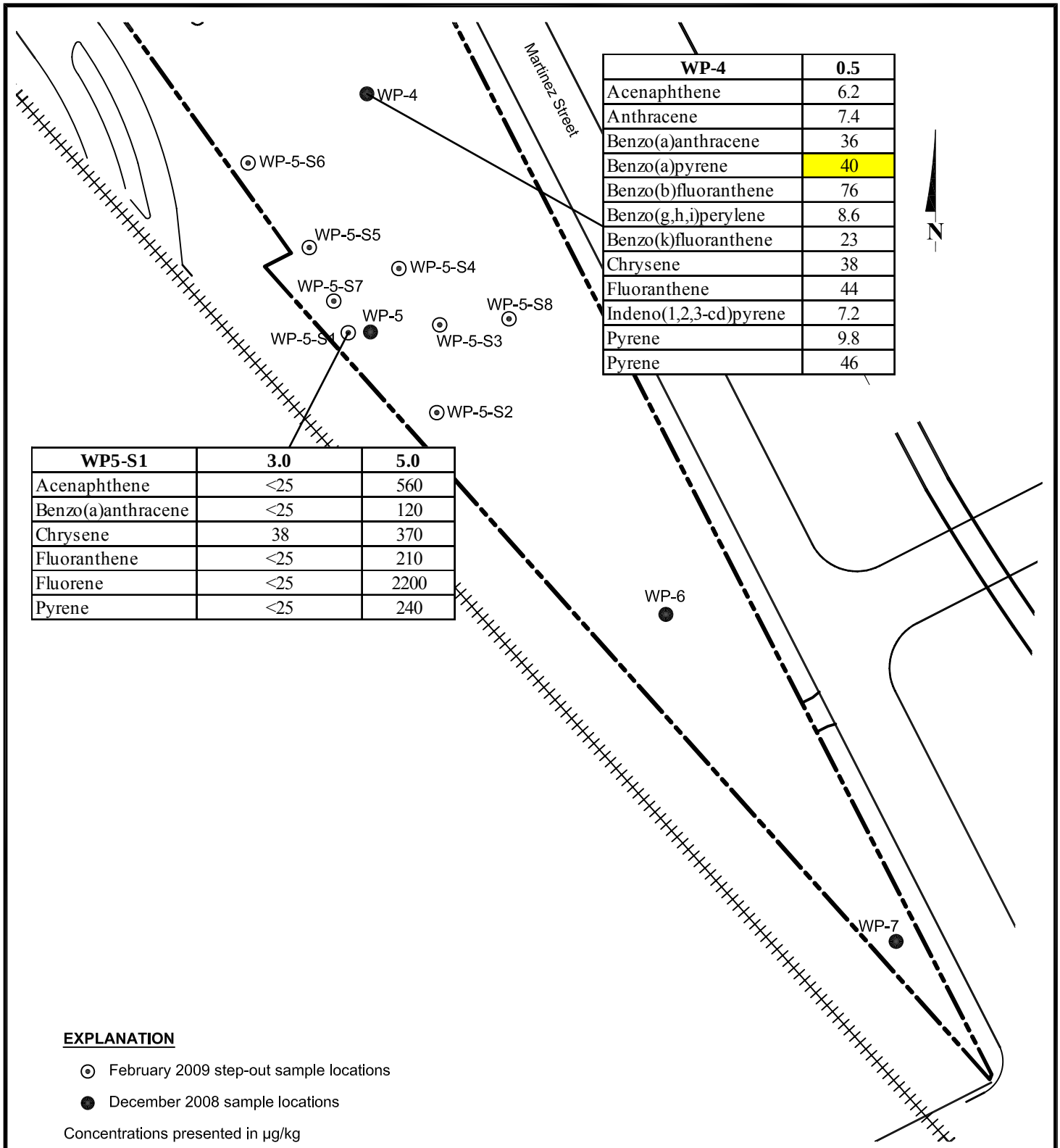

WP-4	0.5
Acenaphthene	6.2
Anthracene	7.4
Benzo(a)anthracene	36
Benzo(a)pyrene	40
Benzo(b)fluoranthene	76
Benzo(g,h,i)perylene	8.6
Benzo(k)fluoranthene	23
Chrysene	38
Fluoranthene	44
Indeno(1,2,3-cd)pyrene	7.2
Pyrene	9.8
Pyrene	46

WP5-S1	3.0	5.0
Acenaphthene	<25	560
Benzo(a)anthracene	<25	120
Chrysene	38	370
Fluoranthene	<25	210
Fluorene	<25	2200
Pyrene	<25	240

EXPLANATION

⊙ February 2009 step-out sample locations

● December 2008 sample locations

Concentrations presented in µg/kg

Sample designation
Feet below ground surface

WP5-S1	3.0
Chrysene	**38**

Highlighted boxes indicate detection exceeds applicable ESL

	ESL
Benzo(a)pyrene	38

0 100
SCALE IN FEET
(APPROXIMATE)

Map Source: Development plans are based on the Master Plan provided by Keystone Development Group, LLC

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Polynuclear Aromatic Hydrocarbons Detected in Soil
San Leandro Crossing (Focus Area)
San Leandro, California

Figure
7

Drafter: EC | Date: 01/11/10 | Contract Number: 08-616-B

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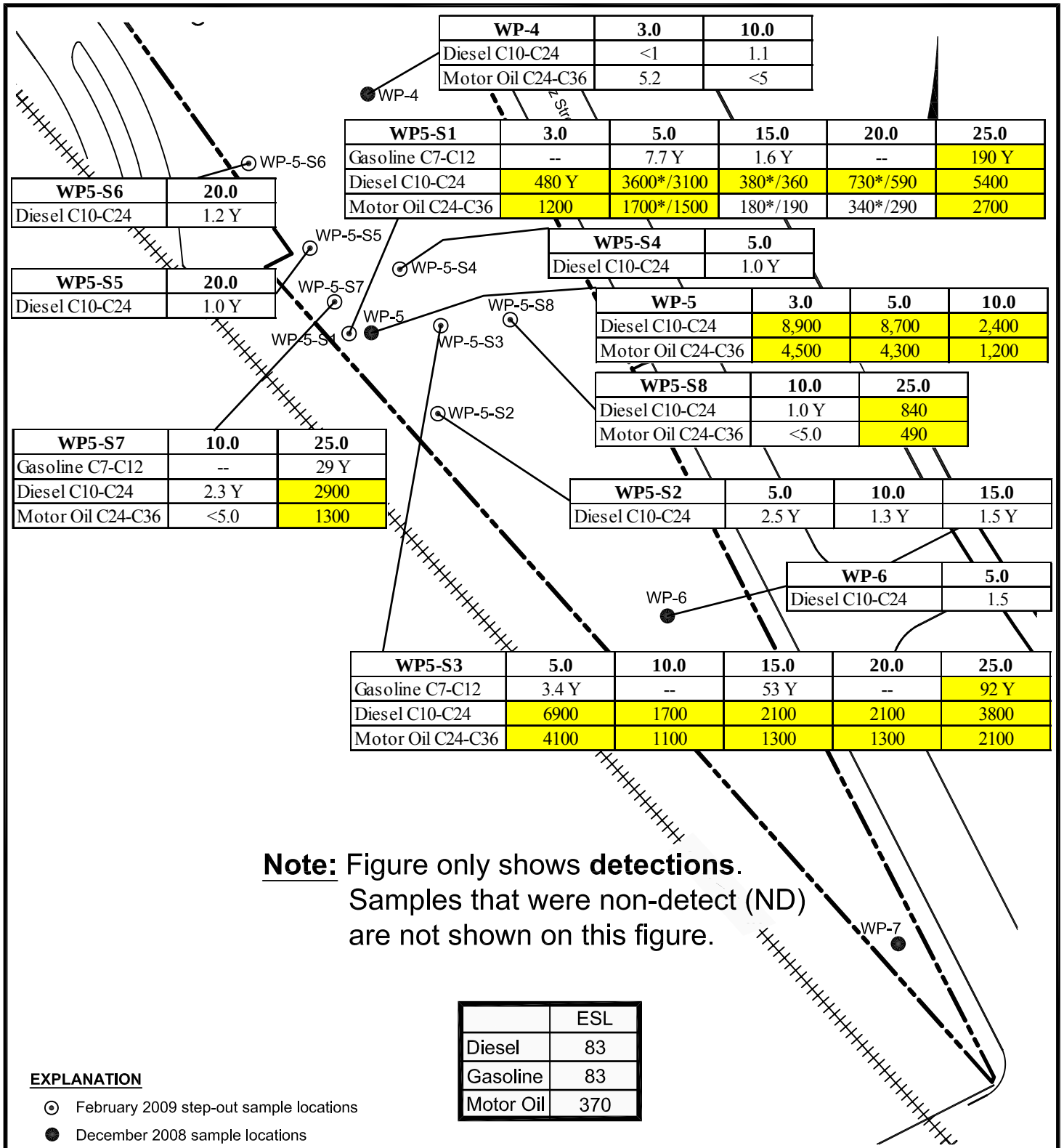

WP-4	3.0	10.0
Diesel C10-C24	<1	1.1
Motor Oil C24-C36	5.2	<5

WP5-S1	3.0	5.0	15.0	20.0	25.0
Gasoline C7-C12	--	7.7 Y	1.6 Y	--	190 Y
Diesel C10-C24	480 Y	3600*/3100	380*/360	730*/590	5400
Motor Oil C24-C36	1200	1700*/1500	180*/190	340*/290	2700

WP5-S6	20.0
Diesel C10-C24	1.2 Y

WP5-S5	20.0
Diesel C10-C24	1.0 Y

WP5-S4	5.0
Diesel C10-C24	1.0 Y

WP-5	3.0	5.0	10.0
Diesel C10-C24	8,900	8,700	2,400
Motor Oil C24-C36	4,500	4,300	1,200

WP5-S8	10.0	25.0
Diesel C10-C24	1.0 Y	840
Motor Oil C24-C36	<5.0	490

WP5-S7	10.0	25.0
Gasoline C7-C12	--	29 Y
Diesel C10-C24	2.3 Y	2900
Motor Oil C24-C36	<5.0	1300

WP5-S2	5.0	10.0	15.0
Diesel C10-C24	2.5 Y	1.3 Y	1.5 Y

WP-6	5.0
Diesel C10-C24	1.5

WP5-S3	5.0	10.0	15.0	20.0	25.0
Gasoline C7-C12	3.4 Y	--	53 Y	--	92 Y
Diesel C10-C24	6900	1700	2100	2100	3800
Motor Oil C24-C36	4100	1100	1300	1300	2100

Note: Figure only shows **detections**. Samples that were non-detect (ND) are not shown on this figure.

	ESL
Diesel	83
Gasoline	83
Motor Oil	370

EXPLANATION

- ⊙ February 2009 step-out sample locations
- ● December 2008 sample locations
- * Indicates concentration before silica gel cleanup
- -- Indicates sample not analyzed
- Y Indicates sample exhibits chromotographic pattern which does not resemble standard

Concentrations presented in mg/kg

Sample designation

Feet below ground surface

WP5-S8	10.0	25.0
Diesel C10-C24	1.0 Y	840
Motor Oil C24-C36	<5.0	490

Highlighted boxes indicate detection exceeds applicable ESL

0 100

SCALE IN FEET (APPROXIMATE)

Map Source: Development plans are based on the Master Plan provided by Keystone Development Group, LLC

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Total Petroleum Hydrocarbons Detected in Soil
San Leandro Crossing (Focus Area)
San Leandro, California

Figure **8**

Drafter: EC | Date: 01/11/10 | Contract Number: 08-616-B

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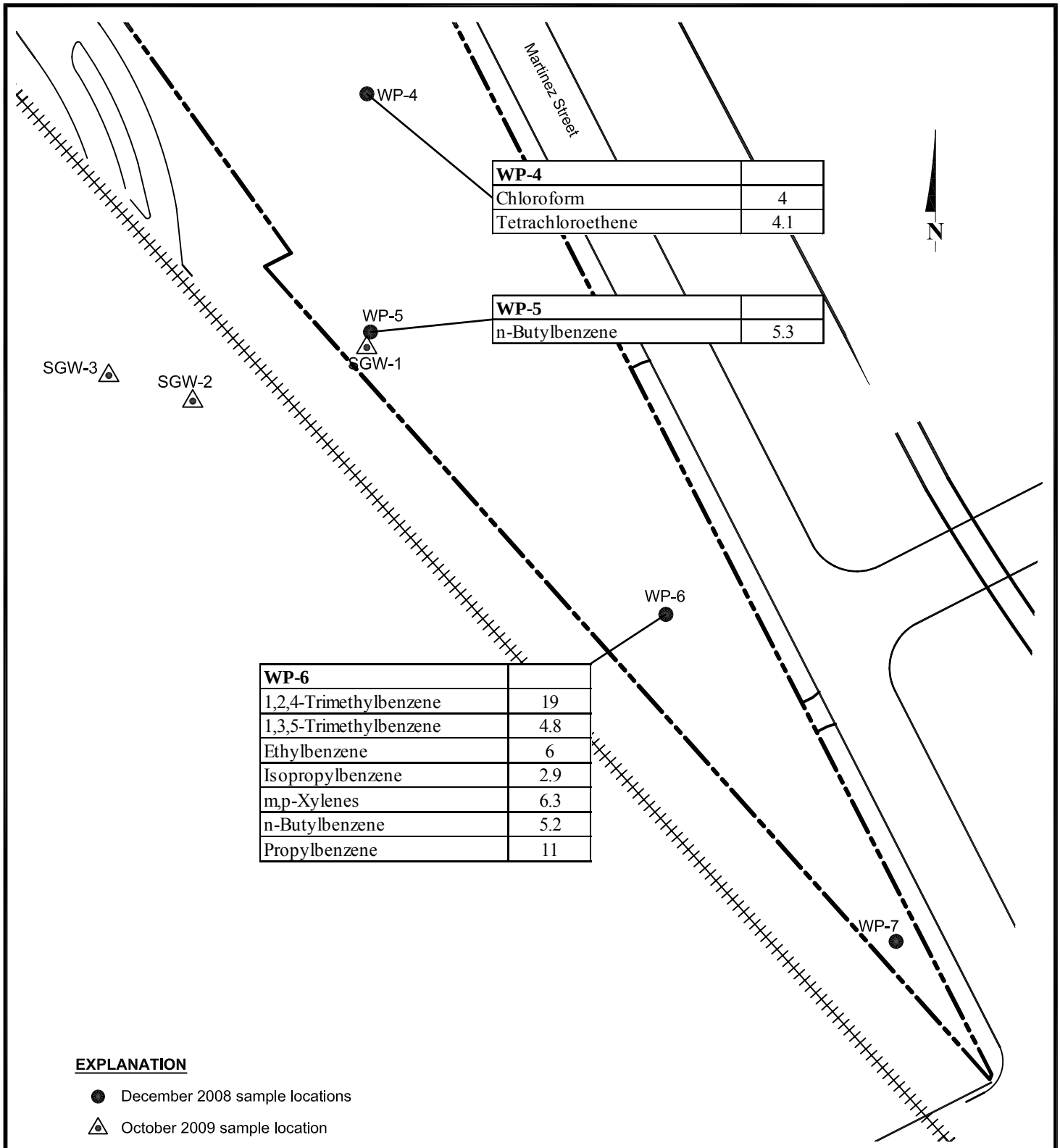

WP-4	
Chloroform	4
Tetrachloroethene	4.1

WP-5	
n-Butylbenzene	5.3

WP-6	
1,2,4-Trimethylbenzene	19
1,3,5-Trimethylbenzene	4.8
Ethylbenzene	6
Isopropylbenzene	2.9
m,p-Xylenes	6.3
n-Butylbenzene	5.2
Propylbenzene	11

EXPLANATION

- December 2008 sample locations
- October 2009 sample location

Concentrations presented in µg/L

Sample designation

WP-5	
n-Butylbenzene	5.3

ESL
None Exceeded

Map Source: Development plans are based on the Master Plan provided by Keystone Development Group, LLC

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Volatile Organic Compounds Detected in Groundwater
San Leandro Crossing (Focus Area)
San Leandro, California

Figure
9

Drafter: EC | Date: 01/11/10 | Contract Number: 08-616-B

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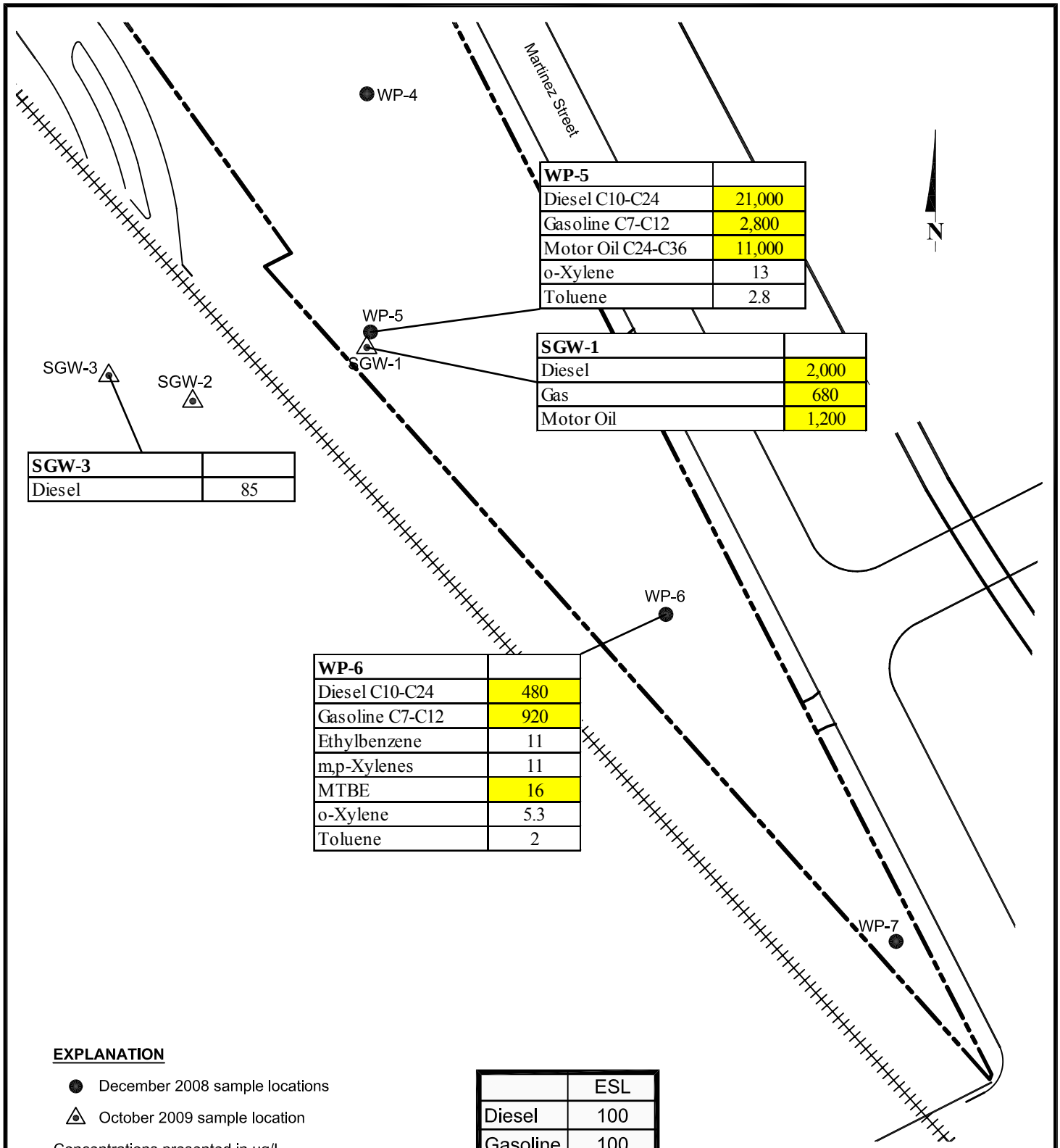

WP-5	
Diesel C10-C24	21,000
Gasoline C7-C12	2,800
Motor Oil C24-C36	11,000
o-Xylene	13
Toluene	2.8

SGW-1	
Diesel	2,000
Gas	680
Motor Oil	1,200

SGW-3	
Diesel	85

WP-6	
Diesel C10-C24	480
Gasoline C7-C12	920
Ethylbenzene	11
m,p-Xylenes	11
MTBE	16
o-Xylene	5.3
Toluene	2

EXPLANATION

- December 2008 sample locations
- October 2009 sample location

Concentrations presented in µg/L

Sample designation

WP-2/WP-2-Dup	
MTBE	2.2/2.2

Highlighted boxes indicate detection exceeds applicable ESL

	ESL
Diesel	100
Gasoline	100
MTBE	5.0
Motor Oil	100

Map Source: Development plans are based on the Master Plan provided by Keystone Development Group, LLC

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1438 Webster Street, Suite 302
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Total Petroleum Hydrocarbons Detected in Groundwater
San Leandro Crossing (Focus Area)
San Leandro, California

Figure
10

Drafter: EC | Date: 01/08/10 | Contract Number: 08-616-B

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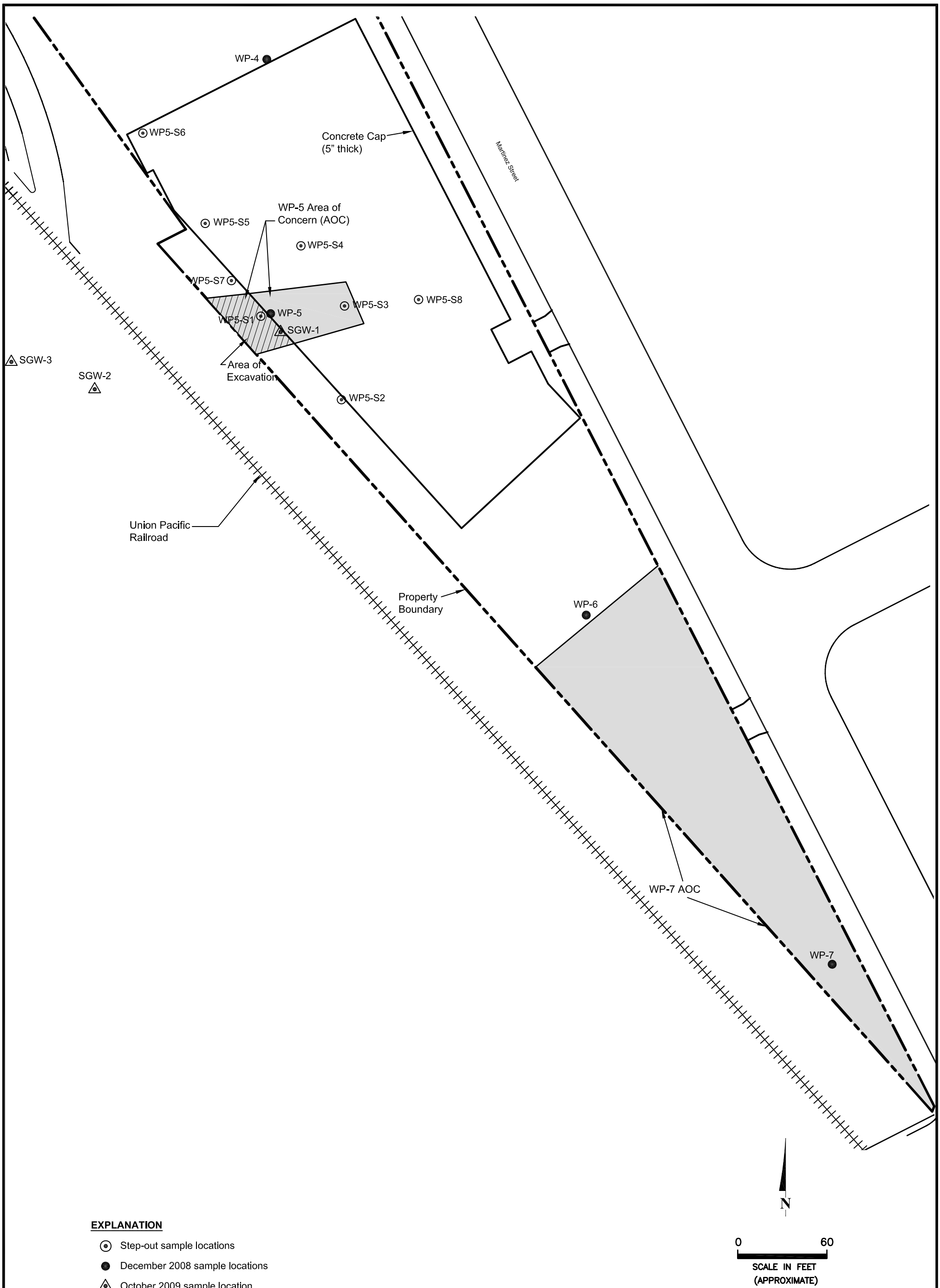

EXPLANATION

- Step-out sample locations
- December 2008 sample locations
- October 2009 sample location

Map Source: Development plans are based on the Master Plan provided by Keystone Development Group, LLC

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Areas of Concern and Proposed Remediation
San Leandro Crossing
San Leandro, California

Figure
11

Drafter: EC | Date: 01/11/10 | Contract Number: 08-616-B

I:\CAD\08\08-616-B\western prop remediation.dwg

APPENDIX A

EVALUATION OF BACKGROUND CONCENTRATIONS FOR ARSENIC

Introduction

As noted in the main text, all inorganic chemicals detected in soil were below their respective residential ESLs, with the exception of arsenic. Detected concentrations of arsenic, as summarized in Table 6, were above the residential ESLss of 0.39 mg/kg in all soil samples where arsenic was detected. As noted in Section 3.2.2 arsenic was detected in soils at concentrations that are appear to be consistent with background levels. For compounds such as arsenic where risk-based screening levels are below background levels, a statistical background evaluation may be performed in accordance with Cal/EPA guidance (1997) to determine whether arsenic concentrations at the Site are representative of background levels.

A Site-wide background comparison for arsenic was conducted following the approach put forth by CalEPA (1997) for inorganic chemicals. This approach evaluates whether the data distributions reflect single normal or lognormal populations, or contain multiple populations that would indicate contamination in addition to ambient levels. CalEPA recommends a "weight-of-evidence" approach where three indicators of background exceedance are considered. The three indicators include: (1) the degree to which the site data distributions are fit by a normal or lognormal distribution; (2) a graphical assessment (probability plot against the normal or lognormal distribution) to identify breaks or nonlinearity indicative of more than a single population; and (3) the skewness of the data as indicated by the coefficient of variation (CV = standard deviation/average) and the data range (order of magnitude difference between the maximum and minimum concentrations). The arsenic data set includes all samples that were collected at the Site. The statistical evaluations of these data are presented below.

Evaluation of Background Concentrations for Arsenic

Data Distributions

The distribution of the aresnic data sets were tested using Shapiro-Wilk's W-test and Lilliefors test to evaluate whether the data population was normally distributed (Gilbert 1987). The results of the Shapiro-Wilk's W-test and Lilliefors test are provided in Exhibit A. At the 95% confidence level, the data population tested normal (i.e. the probability value was greater than 0.05). Thus, the arsenic data set was assumed to be normally distributed for the purpose of plotting the cumulative probability discussed below.

Graphical Assessment

As recommended by DTSC guidance (1997), cumulative probability plots represent a useful tool that can be used to determine whether multiple data populations are present. Consistent with DTSC guidance, a cumulative probability plot for the normally distributed population of arsenic was prepared (Exhibit B). A visual review of the cumulative probability plot indicates that multiple populations of data are not readily apparent (i.e. there is no apparent break or change in slope in the plot lines indicating the presence of multiple distinct populations [DTSC 1997]) and leads us to conclude that one data population is present.

Summary Statistics

As noted in DTSC guidance (1997), typically, data drawn from just one population will display a range of detected values of no more than 2 orders of magnitude and a CV no greater than 1. Based on these criteria, the range of concentrations in soil and the coefficient of variation (for the non-transformed data sets; presented in Exhibit C) suggest that the data set for arsenic is representative of one population (i.e. naturally occurring background concentrations).

In summary, based on the graphical assessment and summary statistics detailed above, it appears that the concentrations arsenic detected at the Site are representative of background concentrations.

References

Cal/EPA. 1997. *Selecting Inorganic Constituents as Chemicals of Potential Concern at Risk Assessment at Hazardous Waste Sites and Permitted Facilities*. Department of Toxic Substances Control. February.

Gilbert, R.O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. New York: Van Nostrand Reinhold.

EXHIBIT A: NORMALITY TEST - ARSENIC DATA
San Leandro Crossing
San Leandro, California

Column Name: [WP_Arsenic]
Sample Size = 14
Number of Missings = 0
Data Mean = 3.4500
Standard Deviation = 1.3822

Shapiro-Wilk Normality Test:
Shapiro-Wilk's W = 0.9528
Probability = 0.5726

Lilliefors Normality Test:
DIF = 0.1573
Probability = 0.5000

StatMost Report Created by IRIS

EXHIBIT B: GRAPHICAL ASSESSMENT - ARSENIC DATA
San Leandro Crossing
San Leandro, California

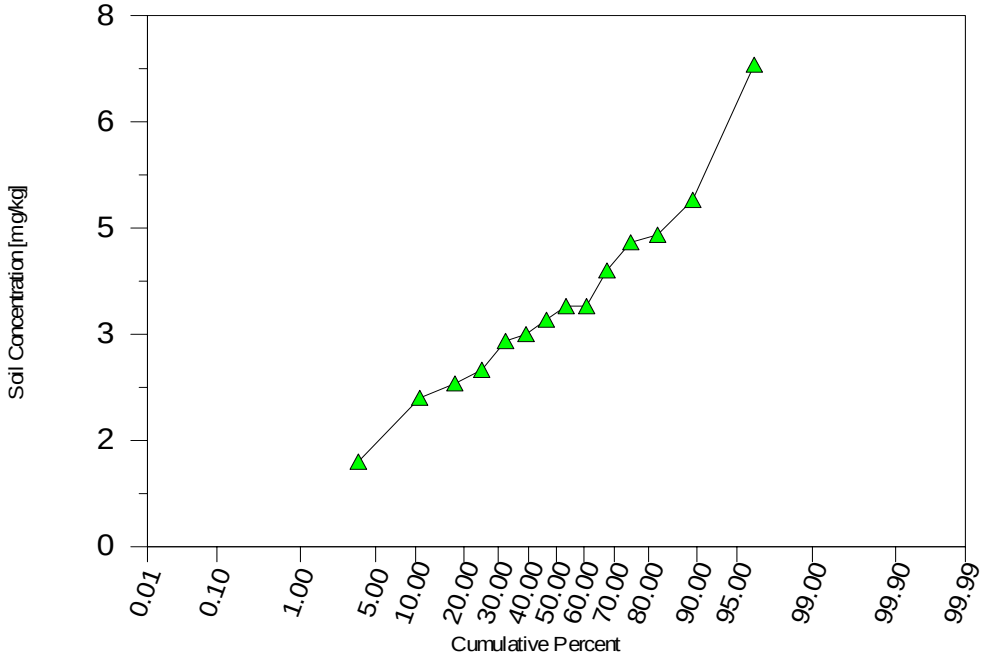

EXHIBIT C: DESCRIPTIVE STATISTICS - ARSENIC DATA
San Leandro Crossing
San Leandro, California

Descriptive Statistic	Arsenic
Sample Size (n)	14
Mean (μ)	3.5
Median	3.3
Standard Deviation	1.4
Standard Error of the Mean[1]	0.37
Minimum Concentration	1.2
Maximum Concentration	6.8
Lower Quartile (Q1)	2.5
Upper Quartile (Q3)	4.3
Coefficient of Variation	0.40
Range - Order of Magnitude Difference	0.75

Notes:
mg/kg = milligrams per kilogram.
[1] The standard error of the mean = standard deviation / $\sqrt{n}$