ProLogis
Taylor Way Property

Remedial Investigation

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FINAL

GEOLOGIST CERTIFICATION

The geological and hydrogeological facts and conclusions within this document were prepared by or under my responsible charge and that to my knowledge and belief this document was prepared in accordance with the requirements of Chapter 18.220 RCW.

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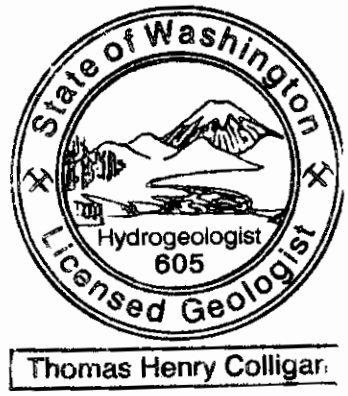

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List of Abbreviations and Acronyms

Acronym/Abbreviation	Definition
AO	Agreed Order
bgs	Below ground surface
COCs	Contaminants of concern
Ecology	Washington State Department of Ecology
FS	Feasibility study
MTBE	Methyl tert-butyl ether
MTCA	Model Toxics Control Act
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PCP	Pentachlorophenol
PCOCs	Potential chemicals of concern
ppb	Parts per billion
PSC	Philip Services Corporation
PID	Photoionization detector
PQL	Practical Quantitation Limit
QC	Quality control
RI	Remedial investigation
RPD	Relative percent difference
SSL	Soil screening levels
SVOCs	Semi-volatile organic compounds
TOC	Total organic carbon
TPAH	Total polycyclic aromatic hydrocarbons
TPH	Total petroleum hydrocarbons
TPH-Dx	Diesel and oil range hydrocarbons
TPH-G	Gasoline range hydrocarbons
USEPA	U.S. Environmental Protection Agency
UST	Underground storage tank
VOC	Volatile organic compound

1.0 Introduction

This document presents the Remedial Investigation (RI) for the Taylor Way Property owned by ProLogis Development Services, Incorporated (Prologis) located at 2000 Taylor Way in Tacoma, Washington (ProLogis Site; Figure 1.1). This work was undertaken as a consequence of a letter, dated August 29, 2001, from the Washington State Department of Ecology (Ecology) to ProLogis suggesting that part of the Site may have been used as a "historic industrial landfill" (Graber 2001). The letter further indicated that wastes deposited into the landfill may have included "lime solvent sludge, wood waste, auto fluff, and slag deposits" and that further investigation into site conditions was necessary. In May 2004, ProLogis entered into an Agreed Order (AO) with Ecology for the purposes of conducting a RI/FS to define contamination related to the uncertain fill history at the Site and establish environmental conditions at the border between the ProLogis Site and the adjoining CleanCare Site. The RI activities were performed consistent with the Ecology-approved Work Plan submitted in December 2004 (Floyd|Snider 2004). The Feasibility Study for the Site was prepared as a separate document.

1.1 OBJECTIVES

The main objectives of the RI were to define the nature and extent of potential contaminants of concern (PCOCs) in the fill material (upper 5 to 10 feet) and shallow and intermediate groundwater, identify groundwater flow directions, and establish if groundwater contamination at the CleanCare Site has migrated onto the ProLogis Site.

1.2 PUBLIC PARTICIPATION

Under the terms of the AO, a public participation plan was prepared and executed by Ecology. The plan explained the RI/FS activities to be conducted at the Site and provided the public with the opportunity to learn about the ProLogis Site and provide comment and input on the final cleanup action as required under WAC 173-340-600 of the Model Toxics Control Act (MTCA). No significant public comment was received.

2.0 Background

2.1 PROPERTY DESCRIPTION

The ProLogis Site is approximately 10 acres in size and is located at 2000 Taylor Way, between the Hylebos Waterway to the north and the Blair Waterway to the south, in Tacoma, Washington. The topography of the ProLogis Site is generally level, sloping gently to the southwest. The property is currently undeveloped and mostly unpaved. An elevated mound of surcharge soil (used for compacting site soils in preparation of development) is located at the southeastern corner of the ProLogis Site, close to a detention pond that receives stormwater runoff originating from the adjacent Safeway distribution center.

The ProLogis Site is bordered by Philip Services Corporation (PSC) and the now-closed CleanCare facility to the west; the Safeway distribution facility to the east; Glacier Packaging to the south; and Taylor Way to the north. The Buffelen Woodworking Corporation (Buffelen) facility is located across Taylor Way.

2.2 SITE HISTORY

The following paragraphs summarize the history of the ProLogis Site. A more detailed site history is presented in the RI/FS Work Plan (Floyd|Snider 2004). The ProLogis Site originally consisted of undisturbed tideflats that were filled in the 1920s as part of the industrialization of the Tacoma Tideflats. By 1936, the northeastern corner of the ProLogis Site was already developed with several manufacturing buildings, one of which was physically connected to the larger Buffelen facility (located across Taylor Way) via an elevated conveyor structure. The southern portion of the ProLogis Site remained undeveloped tidal marsh. Buffelen owned the combined ProLogis/Safeway properties until 1965 when it was sold to the Mutual Fir Column Company (Mutual Fir), a wood products manufacturing company. Mutual Fir was in operation at the property between approximately 1947 and 1974, and perhaps earlier.

An expansion of Mutual Fir's manufacturing capacity occurred at the ProLogis Site in the 1940s and again in the early 1960s, which added additional buildings and brought a rail spur onto the ProLogis Site from Taylor Way. By the late 1960s, the last remnant of the original tidal marsh located in the southern portion of the ProLogis Site was replaced by a large ponded area as a consequence of filling adjacent properties and isolation of the marsh waters. By 1974, however, the pond had been filled as it is no longer visible in historical aerial photos from this period.

The ProLogis Site was used for warehousing during the 1970s through the late 1990s. AOL Express, a subsidiary of Carr-Gottstein Foods, bought the ProLogis Site in the early 1980s. AOL Express used the combined Safeway/ProLogis property to warehouse prepackaged products (e.g., groceries, household products, and clothing) for short-term storage prior to shipment to Alaska until 1998, when the property was purchased by ProLogis. ProLogis subdivided the property and developed the distribution facility on the eastern 8.5 acres and leased that facility back to AOL Express. In April of 1999, Carr-Gottstein Foods was acquired by Safeway, which purchased the building and 8.5-acre eastern parcel. Development plans were drawn up for the remainder of the property (the western 10-acre parcel that is now the formal ProLogis Site), but

development never occurred apart from a stormwater detention pond built to support the Safeway distribution facility.

2.3 FILL HISTORY

Filling and grading was conducted to initially develop the ProLogis Site on the pre-existing marsh lands as early as the 1920s. The filling adjacent to Taylor Way likely raised the original grade of the ProLogis Site several feet to match the elevation of Taylor Way. Wood debris and sawdust were likely generated on-site during the time period the facility was used for woodworking. It is also likely that some of this debris was used as fill in various locations on-site, including atop the original tidal marsh lands.

The southern portion of the Site remained a tidal marsh and as filling progressed in the area, an enclosed pond formed that extended onto the CleanCare and PSC sites. The pond was physically separated from the northern, developed portion of the ProLogis Site by an embankment topped by a rail spur.

The eventual filling of the large marsh pond was possibly associated with the Don Oline Landfill, which primarily operated on the adjacent PSC and CleanCare sites (PSC 2002). The Don Oline Landfill may have accepted various industrial wastes, including: lime sludge waste from the Hooker Chemical & Plastics Plant, waste lime from Domtar, and demolition debris and auto fluff from General Metals (Tacoma-Pierce County Health Department 2001). The lime sludge waste and auto fluff are considered to be associated with chemical contaminants including chlorinated solvents, petroleum hydrocarbons, and heavy metals. It was speculated by Ecology that some of these industrial wastes deposited in the Don Oline Landfill extended onto a portion of the southern area of the ProLogis Site. If so, this filling probably occurred sometime around 1969, when historical photographs indicate that the pond on the ProLogis Site was still unfilled. However, it could have been as late as 1985 when the CleanCare facility was fully established.

The CleanCare facility appears to have been developed in the 1960s on a portion of the former tidal marsh. Filling appears to have continued throughout most of the 1970s. By 1979, tanks are first visible and are confined to the western portion of the CleanCare facility. In a 1982 photograph filling activities are still evident, but appear to be limited to the undeveloped eastern portion of CleanCare. It is possible that the 1982 filling may have extended onto the ProLogis Site, but overall, the fill area appears to be primarily confined to CleanCare.

2.4 PREVIOUS INVESTIGATIONS

The ProLogis Site has been the subject of several prior environmental investigations. In 1989, when the ProLogis Site and the adjacent Safeway property were owned by AOL Express, Dames & Moore conducted a U.S. Environmental Protection Agency (USEPA) Region X Commencement Bay Superfund Site contamination assessment (Dames & Moore 1990). A review of facility records was performed as well as interviews with on-site employees, including an engineer with prior on-site design experience. This investigation identified several areas of concern based on historical and current facility operations. In 1990, a follow up Phase II Site Assessment was performed (Dames & Moore 1990). The scope of work to perform the site assessment included drilling seven soil borings and installing four monitoring wells. A total of 10

soil samples were sent off-site for laboratory analysis for total petroleum hydrocarbons (TPH), metals, semi-volatile organic compounds (SVOCs), and volatile organic compounds (VOCs). Eighteen soil samples were screened on-site for VOCs using a portable gas chromatograph. Based on the results of the Phase II Site Assessment, Dames & Moore concluded that the property was not contaminated by compounds on the USEPA Target Compound List. However, petroleum contamination (associated with a former underground storage tank [UST] near a building in the northern part of the ProLogis Site) was encountered in some soil and groundwater samples.

Boring logs and geologic cross sections from the ProLogis Site in the Dames & Moore Phase II Site Assessment do not specifically indicate that lime sludge waste or auto fluff were encountered (Dames & Moore 1990). Chlorinated solvents were not detected in soil samples from these locations or in any other Phase II sample. Additionally, heavy metal concentrations in soil and groundwater reflected area background concentrations. The location of borings and wells along with all analytical results from soil and groundwater samples analyzed during the Dames & Moore Phase II investigation are presented in the RI/FS Work Plan (Floyd|Snider 2004).

Following this Phase II Site Assessment, petroleum-impacted soils in the area of the former UST were remediated in two phases and additional groundwater monitoring wells were installed to characterize groundwater conditions around the release area (Dames & Moore 1996). In a letter dated June 27, 2000 Ecology issued a No Further Action specifically for the UST release area (Smith 2000).

3.0 Remedial Investigation

3.1 REMEDIAL INVESTIGATION OBJECTIVES AND DATA GAPS

3.1.1 Objectives

The objectives of the RI were to define the nature and extent of contaminants of potential concern in the fill material (upper 5 to 10 feet) and shallow and intermediate groundwater, identify contaminants of concern (COCs) for the ProLogis Site based on concentrations of contaminants that exceed screening levels[1], and develop a conceptual site model that presents potential exposure pathways for COCs.

3.1.2 Data Gaps

RI activities were performed to define the nature and extent of COCs in fill soil and groundwater at the ProLogis Site. It was Ecology's belief that previous investigations had not adequately characterized fill conditions or site-wide shallow and intermediate groundwater quality. PCOCs for soil and groundwater that were evaluated during the RI include those associated with historical filling of the ProLogis Site and those associated with the adjacent CleanCare facility (specifically, petroleum hydrocarbons, benzene, tetrachloroethene, trichloroethene, polycyclic aromatic hydrocarbon [PAH] compounds, arsenic, and lead).

3.2 PHASED REMEDIAL INVESTIGATION APPROACH

The RI at the ProLogis Site was conducted in two phases. Phase I of the RI assessed the quality of site fill soil by analyzing samples taken from test pit excavations and collecting and analyzing groundwater screening samples collected by direct-push probe (Geoprobe). Phase II evaluated side-wide groundwater conditions by installing and sampling permanent groundwater monitoring wells three times. The analytical results from Phase I of the RI were considered when determining the location and number of groundwater wells.

3.2.1 Phase I Field Investigation

3.2.1.1 Test Pit Sampling

Specific locations for test pits were based on historical site uses, with a focus on the southern and western areas of the ProLogis Site, where the most recent filling activities occurred. A total of 41 test pits were dug. The number and location of each test pit is shown in Figure 3.1. In general, test pits were dug to a depth of 3 to 5 feet, or until the shallow aquifer was encountered and seepage of groundwater prevented further digging. Test pit soils were examined and

[1] Screening levels developed for the PSC site were used for this report. Ecology has commented that because the PSC facility is only one of the properties located on the footprint of the former Don Oline landfill, any determinations regarding the applicable soil and groundwater screening levels included in PSC's final RI report should be considered preliminary screening levels for this site.

screened for the presence of staining, sheens, odors, and other anthropogenic materials including: metal fragments, auto fluff, sludge-like materials, woody debris, etc. An additional nine test pits were dug in the vicinity of TP-4 to better define the limits of a whitish paste-like material encountered in the upper foot in this test pit. Site photographs are included in Appendix A on CD-ROM. The presence of sheen was determined by mixing small amounts of soil with water to visually identify iridescence. Exposed soil intervals were also screened using a photoioniziation detector (PID). In a deviation from the work plan, ProLogis dug eight test pits in the surcharge pile in July 2006 to better characterize the surcharge pile with respect to the amount of debris present in the surcharge that could potentially impact reuse of the soil. Additionally, samples were collected to better characterize the petroleum hydrocarbon distribution across the surcharge pile.

A total of 42 soil samples were analyzed for selected combinations of the following PCOCs:

- TPH-G
- TPH-Dx (diesel and oil range hydrocarbons)
- SVOCs
- VOCs
- Metals (arsenic, barium, cadmium, chromium, copper, mercury, lead, nickel, and zinc)
- Polychlorinated biphenyls (PCBs)

Soil samples for SVOC, metals, PCB, and TPH-Dx analyses were placed in a 4-ounce jar. In a minor deviation from the Work Plan, soil samples were collected for TPH-G and VOC analyses using a Core N' One™ handle and soil capsules, rather than 40-ml VOA vials. Both methods, however, are acceptable as detailed in USEPA Method 5035A. Upon collection, all samples were labeled, placed in a chilled cooler, and transported to the analytical laboratory under chain-of-custody.

3.2.1.2 Direct-push Probe Sampling

Groundwater screening samples were collected from both the shallow and intermediate aquifers using direct-push technology (Geoprobe) in May 2005. The collection of groundwater samples was attempted from the shallow and intermediate aquifer at 13 locations, mutually chosen with Ecology based on a review of the test pit soil data.

The intermediate aquifer was encountered at all sampling locations and all 13 samples were successfully collected. Only 12 of 13 samples in the shallow aquifer were able to be collected as the shallow aquifer was absent at one location (GP-11). The groundwater screening samples were collected using a retractable probe that was continuously pushed to the target zone for sampling. A peristaltic pump equipped with single-use disposable polyethylene tubing was used to develop and purge the temporary well point until the turbidity of the groundwater was substantially reduced or remained constant.

Following development and purging, the peristaltic pump was used to obtain unfiltered groundwater samples. Groundwater samples were analyzed for the following constituent groups known to be mobile in groundwater and not significantly affected by turbidity:

- VOCs (including methyl tert-butyl ether [MTBE])
- TPH-G

3.2.2 Phase II Field Investigation

The Phase II field investigation consisted of installing 10 permanent groundwater monitoring wells and four piezometers (0.75-inch diameter). In addition to the Work Plan, piezometers were installed at the request of Ecology to define site-wide groundwater flow directions. They also provided additional groundwater screening data in the area of the ProLogis Site where contamination was not identified in soil during the Phase I field investigation, but where groundwater data was lacking.

3.2.2.1 Well and Piezometer Installation

Based on the analytical results from the Phase I field investigation activities, five shallow and five intermediate groundwater monitoring wells were installed in July 2005. The following wells were located based on soil detections: Wells PMW-1A/1B were located near TP-1 where a detection of heavy oil TPH was noted in TP-1. Wells PMW-2A/2B were located near TP-16 where PCP was detected in soil. Wells PMW-4A/4B and PMW-5A/5B were located where the whitish paste was observed. The remaining well locations were based on ascertaining groundwater quality across the entire Site. Two shallow and two intermediate piezometers were also installed along the eastern boundary of the ProLogis Site to better characterize groundwater flow direction. At each location, a well/piezometer pair was installed, specifically, a shallow aquifer "A" well/piezometer and an intermediate aquifer "B" well/piezometer. The total depth of the shallow wells/piezometers was approximately 7 to 10 feet below ground surface (bgs), with the exception of the well located atop the surcharge pile that was installed deeper to account for the thickness of the overlying soil surcharge pile (Section 2.1). The length of the screened interval in both wells and piezometers was 5 feet, and all well screens were placed across the uppermost saturated zone of the shallow aquifer. Wells and piezometers were completed with aboveground protective steel monuments and locking caps.

As agreed upon and discussed with Ecology following Phase I of the RI, soil samples were not collected and analyzed during well installation, given that the soil at the ProLogis Site had already been sufficiently characterized by the test pit excavations and analytical results from the test pit soil samples.

3.2.2.2 Well Sampling and Elevation Survey

In accordance with the Work Plan, groundwater samples were collected during three quarterly sampling events; September 2005, December 2005, and March 2006. An additional round of groundwater elevations were collected in January 2006 to verify certain well elevations and depth to groundwater measurements observed in the shallow aquifer during the December 2005 event. Groundwater elevations at the ProLogis Site were provided to PSC to allow them to

better define the area-wide groundwater flow of the shallow and intermediate aquifers. Copies of the PSC area-wide flow maps for September 2005, December/January 2005/06, and March 2006 is included in Appendix B.

Water levels were also measured on the CleanCare property during each sampling event in pairs at three wells: CCW-5B/C, CCW-6B/C, and CCW-7B/C. In a deviation from the work plan, groundwater samples were collected from the CleanCare wells listed above during the September 2005 and March 2006 sampling events to evaluate the impacts from groundwater contamination at CleanCare to the ProLogis Site. The groundwater elevations measured during the three sampling events and the additional January 2006 event are summarized in Table 3.1.

Unfiltered groundwater samples were obtained using a peristaltic pump with dedicated polyethylene tubing using low-flow guidelines (generally purging at less than 1 liter per minute). The field parameters of pH, conductivity, dissolved oxygen, temperature, and turbidity were measured in a flow-through cell during purging and monitored for stabilization. The summary of field parameters is shown in Table 3.2.

Following purging, groundwater well samples were collected and analyzed for:

- VOCs (including MTBE)
- TPH-G
- TPH-Dx
- SVOCs
- Metals (arsenic, barium, cadmium, chromium, copper, mercury, lead, nickel, and zinc)

Groundwater samples were not analyzed for PCBs because they were not detected in any test pit soil samples and were therefore not retained as COCs for groundwater. At the request of Ecology, groundwater samples from shallow aquifer piezometers PP1A and PP2A were analyzed for SVOCs during one sampling event to confirm the absence of contamination along the eastern boundary of the ProLogis Site.

3.2.3 Data Quality Assessment

Quality control (QC) of the data was achieved with standard field documentation forms and collection and analysis of duplicate samples at a 5-percent frequency of collection. An aqueous decontamination blank was collected during soil sampling. Additional QC samples, including trip blanks and field duplicates, were collected during each groundwater sampling event. Duplicate sample results were consistent with the associated sample results and accurately represented the field conditions. For the laboratory, QC was achieved with standard USEPA analytical methodologies, including analysis of the required method blanks, lab duplicates, matrix spikes and matrix spike duplicates, and laboratory QC samples. The laboratory analytical data is provided in Appendix C.

A basic Level 1 data validation was conducted on all laboratory data. All of the laboratory data was reviewed for quality assurance, including confirming that the holding and extraction times

were met and duplicate and matrix spike analysis percent recovery and relative percent difference (RPD) values were within acceptable QC limits. For the organic analysis, this also involved checking that the surrogate recoveries were within acceptable QC limits. One soil sample, TWP05-15-02 was not analyzed for VOCs within the required holding time specified by USEPA Method 8260B. It was analyzed 2 days past the holding time of 14 days. As such, the non-detect VOC results for that sample are UJ qualified, indicating that the compounds were not detected, but that the associated quantitation is an estimate because the QC criteria were not met. Apart from the holding time exceedance in this one soil sample there were not any QC qualifiers added and the entire analytical data set was judged to be acceptable for the intended data quality objectives specified in the Work Plan.

3.3 REMEDIAL INVESTIGATION FINDINGS

The following sections describe the relevant findings of the RI based on a review of exploration logs, soil and groundwater analytical results, and groundwater elevation data.

3.3.1 Site Geology

The site geology is consistent with the Tacoma Tideflats, which is characterized by several feet of recent fill, overlying a silty to clayey woody layer that defines the surface of the pre-existing tidal marsh. The silty/woody layer grades to a loose fine to medium dark gray sand layer with increasing silt content with increasing depth. Details of these units are presented in the following sections.

3.3.1.1 Surface Fill Layer

The surface fill layer at the ProLogis Site consists of either sandy gravel or gravelly sand with intermixed debris. The surface fill layer thickness was observed to vary from approximately 3 to 8 feet in thickness throughout the ProLogis Site, except in the surcharge pile area where the surcharge and underlying fill is about 12 feet in combined thickness. Test pit and soil boring logs are provided in Appendix D. Well and piezometer construction logs are provided in Appendix E.

The following surface fill types were noted:

- Dredge fill consisting of sand, sandy silt, and silty sand. Dredge soils are characterized by the presence of shell fragments which were observed in multiple test pits.
- Recent construction fill consisting of sandy gravel was likely used to fill to grade certain parts of the ProLogis Site prior to construction and in places underlain by a geotextile fabric.
- Debris found intermixed or in between soil-rich layers consisting of concrete rubble, waste lumber, glass, metal or brick fragments, plastic, etc. The debris was probably generated during general site regrading and possibly past demolition of the pre-existing buildings.

- Wood wastes (e.g., wood chips, sawdust, crushed or chipped lumber), such as those assorted with log sort yards or wood manufacturing facilities. Several test pits contained appreciable thickness of wood waste.
- Paste-like waste that was initially found at Test Pit TP-4 just under the ground surface. Additional test pits were dug in this area to define the extent of the paste-like material, which was found to be fairly limited—only occurring within an approximately 10,000-square-foot semi-circular area extending to the property line with CleanCare. This fill type consists of up to 2 feet of whitish-gray clayey material with embedded gravel to cobble sized whiter, more brittle nodules. This paste-like material was found in one other location, at Well PWM-4B in two layers between 6 and 8.5 feet bgs. This well is located within the surcharge pile. The presence of this material at this depth indicates it is present both within and near the base of the surcharge pile. The paste-like material was not found in any of the surcharge pile explorations.

3.3.1.2 Marsh Silt Layer

Underlying the surface fill layer is a native silt layer, gray to brown in color, with varying amounts of clay, sand, and woody organic material (roots or wood fibers). The silt layer was observed to have a thickness of 1 to 5 feet.

3.3.1.3 Native Sand Layer

The native sand layer underlies the marsh silt layer. The sand is generally fine to medium-grained with minor gravel, loose, dark gray in color with red and white flecks. The soil borings or well and piezometer installations did not reach the bottom of the native sand layer.

3.3.2 Hydrogeology

The hydrogeologic conditions at the ProLogis Site represent those found throughout the Commencement Bay Tideflats. The near surface hydrogeologic layers are identified as follows:

- Shallow (fill) Aquifer
- Upper Aquitard
- Intermediate Aquifer

3.3.2.1 Shallow Fill Aquifer

The shallow fill aquifer at the property is unconfined and exists solely in the fill soil at the ProLogis Site. Its thickness varied between 1 to 5 feet, and in some places was absent. Water levels in the shallow aquifer fluctuate considerably in response to seasonal variations in precipitation. These characteristics are typically associated with "perched" aquifers. This aquifer is not tidally influenced (PSC 2002). This shallow aquifer is equivalent to the designated A and B Zones at the CleanCare Site.

3.3.2.2 Upper Aquitard

The shallow fill aquifer is separated from the intermediate aquifer by the native silt layer. This silt layer forms an aquitard due to its high clay/silt content. The upper aquitard was found in all five exploration locations where intermediate wells were installed.

3.3.2.3 Intermediate Aquifer

The intermediate aquifer exists in the native sand layer which underlies the marsh silt layer as described above. According to the PSC RI, this aquifer is subject to tidal influence by the Hylebos and Blair Waterways (PSC 2005). This aquifer is equivalent to the designated C Zone at the CleanCare Site.

3.3.3 Groundwater Flow

Groundwater flow at the ProLogis Site was evaluated in both the shallow and intermediate aquifers during each of the three groundwater sampling events. Additionally, groundwater elevations were measured in January 2006 during the confirmation of surveyed monitoring well elevations. Figures 3.2 through 3.7 display the contoured piezometric surface for each aquifer during each of the three sampling events. The flow directions for each aquifer are discussed in the following paragraphs.

3.3.3.1 Shallow Aquifer

The piezometric surfaces for all three events indicate a consistent northeasterly groundwater flow pattern. Groundwater elevations are highest in wells located along the western side of the ProLogis Site (i.e., those bordering CleanCare), and lowest in wells in the middle portion of the Site. The flow direction is in accordance with the topographical gradient of the ProLogis Site. The lowest elevations occurred in Wells PMW-2A and PMW-3A. This causes the contours to form a "trough" in this area. The reasons for the low groundwater elevations in these wells are not clear, but may be related to the thinness, irregularity, and variation of fill found in the shallow aquifer that can result in localized areas in the aquifer of poor hydraulic communication, and therefore, inconsistent water elevations compared to other portions of the ProLogis Site.

Regardless of this localized condition, the CleanCare Site is clearly upgradient of the ProLogis Site. Variations in the specific groundwater surface elevations due to seasonal fluctuations were observed during the three sampling events, but these fluctuations were not significant enough to alter the overall flow pattern for the shallow aquifer. The PSC area wide flow maps (refer to Appendix B) indicate the high point, or divide, of the shallow aquifer lies within the PSC site upgradient of ProLogis.

3.3.3.2 Intermediate Aquifer

The flow direction of the intermediate aquifer across the ProLogis Site is generally to the south or southwest (i.e., toward the CleanCare Site). The PSC area wide flow maps indicate that the ProLogis Site is the area wide high point, with southerly flow from ProLogis to CleanCare or Glacier Packaging. The piezometric gradient, however, is much flatter in this aquifer as

compared to the shallow aquifer, indicating slower groundwater flow velocities. The low point or "trough" observed in the shallow aquifer was not observed in the intermediate aquifer, indicating that the fill aquifer in the area of the "trough" is not causing abnormally large recharge rates. Slightly more variation in the specific direction of flow was noted across the three events, but a consistent southerly-southeasterly trend is apparent. When comparing the piezometric surface in adjacent well pairs, the elevation of the groundwater surface in the shallow aquifer surface was always higher as compared to the intermediate aquifer, typically in the range of 3 to 5 feet higher, indicating downward recharge.

3.3.4 Analytical Results

3.3.4.1 Test Pit Soil Sampling

Analytical results for the soil samples collected from test pit locations are summarized in Tables 3.3 through 3.6 and presented on Figures 3.8 through 3.11. Tables 3.7 and 3.8 contains a list of the individual VOC and SVOC analytes and the lab reporting limits for each analyte. A total of 41 test pits were sampled. Concentrations of detected analytes were compared to the soil screening levels (SSL) presented in Table 8-7 of the Final PSC RI Report (PSC 2005) and reproduced in Appendix F. Analytes that exceeded SSL criteria were retained as COCs for groundwater sampling. Results are as follows:

- **PCBs.** There was not any detections of PCBs in any of the three samples analyzed, therefore PCBs were not retained as COCs.
- **VOCs.** One of 33 samples showed several VOC detections of analytes typically found in gasoline but analyte concentrations were much less than their individual SSLs. Importantly, VOCs were not detected in any of the whitish paste samples collected near TP-4 (four individual samples of the paste were analyzed: TWP05-4-02, 41-01, 42-01, and 46-01), indicating this whitish paste is not lime solvent sludge.
- **TPH.** Several sample results showed detections of TPH-G, and TPH-Dx. Heavy oil range hydrocarbons (TPH-oil) were detected at the highest concentrations with lesser amounts of diesel range hydrocarbons and also no gasoline range TPH. Most of the heavy oil range hydrocarbons were found in the surcharge soil, which displayed a hydrocarbon odor. However, the single sample (1 of 32) that exceeded the SSL was not from the surcharge pile but from TP-1 in which TPH-oil was detected at 2,300 mg/kg, a concentration that slightly exceeded the SSL of 2,000 mg/kg. TPH-oil was retained as a COC.
- **SVOCs.** Several sample results showed detections of various PAH compounds, including some carcinogenic PAH at concentrations that did exceed the SSLs. It is likely that in at least some samples, the cPAH detections are associated with the normal composition of heavy oil range TPH. Pentachlorophenol (PCP) was the only other SVOC detected, but only in one sample (and its duplicate) from Test Pit TP-16 at a concentration that exceeded the SSL. cPAH and PCP were retained as a COC.
- **Metals.** A total of eight metals were detected at concentrations that exceeded the PSC SSLs. Metals exceedances were typically limited to the eastern and south-east portions of the ProLogis Site. The metals that exceeded the SSLs included: arsenic,

barium, cadmium, chromium, copper, lead, mercury, and zinc. The highest concentration of arsenic, chromium, and mercury were associated with the sample TWP05-04-02 of paste-like fill material (consistent with descriptions of gypsum-based lime waste as described in the PSC RI report [PSC 2005]). However, the sample collected below the paste also had concentrations of metals exceeding SSLs, including copper, lead, and zinc. These eight metals were retained as COCs.

In a deviation from the work plan, a soil sample was collected from the TP-4 area following the discovery of elevated metals in the initial test pit sample containing the paste-like waste. The sample was collected from the upper foot of material containing nodules of paste and analyzed for TCLP metals. The results of the metal analyses passed all TCLP criteria, indicating this material classifies as solid waste, not hazardous waste. Results are included in Appendix C.

3.3.4.2 Direct-push Probe Groundwater Sampling

Groundwater samples were collected from the shallow and intermediate aquifers using a direct-push probe (Geoprobe) with the objective of determining the extent of contamination by soluble contaminants (TPH-G and VOCs) and to assess locations for monitoring well installation. Unfiltered water samples were collected from both aquifers at 13 locations and analyzed for TPH-G and VOCs, except for location GP-11, where a sample was not collected from the shallow aquifer, as it was not encountered at that location.

While detections were reported in 3 of 12 samples from the shallow aquifer and 3 of 13 from the intermediate aquifer, in only one sample (GP-13A) did the concentrations of analytes exceed the PSC groundwater screening levels (GWSLs) which are .shown in Table 8-12 (refer to Appendix F) of the Final PSC RI Report approved of by Ecology (PSC 2005). These analytes were TPH-G and benzene. The location of GP-13A is at the upgradient property boundary immediately adjacent to the CleanCare Site. Analytical results are presented in Table 3.9 and in Figure 3.12.

3.3.4.3 Well and Piezometer Groundwater Sampling

Locations for permanent wells were jointly agreed to by Ecology and ProLogis following review of the soil and direct-push probe data. Five locations were selected for permanent well pairs. Wells with the "A" designation are screened across the shallow aquifer and wells with the "B" designation are screened in the intermediate aquifer. Two locations were selected for piezometer pairs. The primary purpose of the piezometers was to better define site-wide groundwater flow direction. A secondary purpose was to allow a one-time sample of groundwater to be collected from the two shallow piezometers for SVOC analysis.

Analytical results of the groundwater sampling are presented in Tables 3.10 through 3.13 and also shown on Figures 3.13 through 3.16. Findings for the three rounds of sampling are as follows:

- **VOCs.** Very few VOCs were detected. The most common VOCs detected in site groundwater were toluene and isopropyltoluene; however, none of the detected VOCs exceeded GWSLs. In the CleanCare wells, benzene and dichlorobenzene exceeded GWSLs.

- **TPH.** There were occasional detections of TPH-G in groundwater. All concentrations were substantially less than GWSLs. TPH-Dx and TPH-oil were not detected in any ProLogis Site groundwater sample. Two samples from CleanCare wells screened in the shallow aquifer showed detections of TPH-G and TPH-D at levels greater than GWSLs.
- **SVOCs.** Several sample results showed detections of various PAH compounds including 3,4-methylphenol, bis(2-ethylhexyl)phthalate (BEHP), and PCP. The concentrations of PCP and BEHP exceeded the GWSLs. The SVOC detections primarily occurred in the first round of sampling (September 2005). Subsequent sampling did not confirm the presence of PCP in groundwater. BEHP was not detected in the first round of sampling and, with the exception of one sample collected from Well PMW-4b, the BEHP detected in subsequent sampling rounds was at concentrations less than the GWSLs. BEHP was also detected in the laboratory blank. The earlier detections of PCP were possibly due to sample turbidity cross-contamination that was resolved by subsequent well sampling. At the CleanCare Site, various PAH compounds were detected primarily in samples from two shallow aquifer wells, CCW-5B and CCW-7B. Only one compound, 1,4-dichlorobenzene, also detected in the VOC analysis, was detected in one well (CCW-7B) at concentrations greater than GWSLs.
- **Metals.** A number of metals were detected; however, only arsenic and lead concentrations exceeded GWSLs. Lead was detected at a concentration greater than the GWSL at one location (PMW-2a) only during the first round of sampling (September 2005). An elevated concentration of zinc was also noted. Subsequent sample results from this well for lead and zinc were substantially less, indicating that turbidity due to insufficient well development were likely the cause of the initial detection. The maximum concentration of arsenic in the shallow aquifer, excluding the first sampling round, was 13 parts per billion (ppb), and for the intermediate aquifer, was 21 ppb. These concentrations, while greater than GWSLs, are within the range of background that Ecology considers normal in the Tacoma area. In the CleanCare wells, arsenic was the only metal detected at concentrations greater than GWSLs.

3.4 CONCEPTUAL SITE MODEL

The conceptual model for this site is summarized in the following paragraphs. The ProLogis Site was subjected to various filling operations since it was first developed in the 1930s. Most of the filling subsequent to initial site development occurred in the southern half of the facility, which was originally a tidal marsh that was eventually fully filled. A limited amount of fill material (e.g., the whitish paste-like material discovered at Test Pit TP-4, refer to Section 3.3.1.1) may have originated from filling activities occurring primarily off-site at the adjacent Don Oline Landfill. Other fill material, such as brick, wood debris, or sawdust likely originated from on-site wood processing activities or demolition of former buildings. In places, some of this fill material contains hazardous substances at concentrations greater than SSLs. Except for two locations where detected concentrations of TPH-oil (at Test Pit TP-1) and PCP (at Test Pit TP-16) slightly exceeded SSLs, all of the SSL exceedances were based on metal detections in samples collected from the southern half of the ProLogis Site, with the highest concentrations found in samples both of and below the whitish-paste like material.

Groundwater sampling results indicate several VOCs, SVOCs, TPH, and metals in both the shallow and intermediate aquifer at both the ProLogis Site and CleanCare. However, only a limited number of compounds were detected at concentrations exceeding GWSLs. In shallow aquifer wells along the northeastern boundary of CleanCare, TPH-G, TPH-Dx, and benzene were detected at concentrations greater than GWSLs. Similar impacts were not observed in downgradient ProLogis Site wells, indicating that the contamination at CleanCare is not significantly impacting the ProLogis Site. Detected concentrations of SVOCs and metals during the first round of groundwater sampling (September 2005) were elevated due to high turbidity, which may be explained by insufficient well development. However, SVOCs and metals (excluding arsenic) were generally not detected at concentrations greater than GWSLs, during the second and third rounds of groundwater sampling. Regarding arsenic, the detected concentrations were similar to what Ecology considers within the range of normal background concentrations found in the Tacoma area.

Pathways to exposure at the Site are similar to what was evaluated for the PSC site, given the past and likely future industrial nature of the ProLogis Site. That is, worker exposure to soil and contaminated groundwater and the ecological pathway (primarily soil leaching to groundwater that discharges off-site to marine waters) are the main pathways of exposure for the contaminants detected at the ProLogis Site.

Table 3.14 displays all of the COCs for this Site based on the results of the RI sampling. COCs that were retained if detected in a soil or groundwater sample at concentrations greater than screening levels. COCs were not eliminated based on limited occurrence, or suspected turbidity impacts, or consideration of background concentrations. The Feasibility Study will further evaluate these COCs, select the final list of COCs, derive applicable cleanup levels, and evaluate remedial actions.

Table 3.15 lists the COCs found exceeding SSLs in the CleanCare wells that were sampled as part of this RI. Except for arsenic, none of these compounds were COCs in groundwater at the ProLogis Site.

4.0 References

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ProLogis
Taylor Way Property

Remedial Investigation

Tables

FINAL

Table 3.1
Groundwater Elevations from Monitoring Well Sampling Events

Site	Monitoring Well	Date and Time	PVC Elevation[1,2] (feet)	Depth to Water[3] (feet)	Groundwater Elevation (feet)
September 2005					
ProLogis	PMW-1A	9/23/2005 9:12	14.62	7.99	6.63
	PMW-1B	9/23/2005 9:14	15.05	13.04	2.01
	PMW-2A	9/23/2005 9:05	12.73	9.30	3.43
	PMW-2B	9/23/2005 9:00	12.56	10.47	2.09
	PMW-3A	9/23/2005 9:32	11.57	9.07	2.5
	PMW-3B	9/23/2005 9:38	11.60	9.57	2.03
	PMW-4A	9/23/2005 9:47	18.88	15.06	3.82
	PMW-4B	9/23/2005 9:51	19.44	17.74	1.7
	PMW-5A	9/23/2005 9:24	16.00	9.36	6.64
	PMW-5B	9/23/2005 9:20	15.77	13.77	2
	PP-1A	9/23/2005 10:05	12.03	8.70	3.33
	PP-1B	9/23/2005 10:07	12.11	11.20	0.91
	PP-2A	9/23/2005 10:01	13.13	9.75	3.38
	PP-2B	9/23/2005 9:59	13.41	11.58	1.83
CleanCare	CCW-5B	9/23/2005 11:23	12.62	5.84	6.78
	CCW-5C	9/23/2005 10:25	12.4	10.57	1.83
	CCW-6B	9/23/2005 14:36	12.31	5.42	6.89
	CCW-6C	9/23/2005 14:59	12.13	10.32	1.81
	CCW-7B	9/23/2005 12:56	11.91	5.10	6.81
	CCW-7C	9/23/2005 12:36	12.06	10.3	1.76
December 2005					
ProLogis	PMW-1A	12/12/2005 13:10	14.62	7.05	7.57
	PMW-1B	12/12/2005 13:11	15.05	12.13	2.92
	PMW-2A	12/12/2005 11:49	12.73	8.00	4.73
	PMW-2B	12/12/2005 11:47	12.56	9.54	3.02
	PMW-3A	12/12/2005 9:08	11.57	7.21	4.36

Site	Monitoring Well	Date and Time	PVC Elevation[1,2] (feet)	Depth to Water[3] (feet)	Groundwater Elevation (feet)
December 2005 (cont'd)					
ProLogis (cont'd)	PMW-3B	12/12/2005 9:30	11.60	8.60	3
	PMW-4A	12/12/2005 10:48	18.88	12.42	6.46
	PMW-4B	12/12/2005 10:47	19.44	16.99	2.45
	PMW-5A	12/12/2005 8:33	16.00	8.4	7.60
	PMW-5B	12/12/2005 13:51	15.77	13.47	2.30
	PP-1A	12/12/2005 10:22	12.03	5.29	6.74
	PP-1B	12/12/2005 10:23	12.11	9.19	2.92
	PP-2A	12/12/2005 10:42	13.13	7.07	6.06
	PP-2B	12/12/2005 10:40	13.41	10.6	2.81
CleanCare	CCW-5B	12/9/2005 9:50	12.62	5	7.62
	CCW-5C	12/9/2005 9:53	12.4	9.95	2.45
	CCW-6B	12/9/2005 9:56	12.31	4.45	7.86
	CCW-6C	12/9/2005 9:58	12.13	9.62	2.51
	CCW-7B	12/9/2005 10:04	11.91	4.09	7.82
	CCW-7C	12/9/2005 10:06	12.06	9.72	2.34
January 2006 Groundwater Elevation Survey					
ProLogis	PMW-1A	1/30/2006 13:23	14.62	4.71	9.91
	PMW-1B	1/30/2006 13:24	15.05	10.33	4.72
	PMW-2A	1/30/2006 13:26	12.73	4.82	7.91
	PMW-2B	1/30/2006 13:28	12.56	7.6	4.96
	PMW-3A	1/30/2006 13:30	11.57	5.29	6.28
	PMW-3B	1/30/2006 13:31	11.60	7.68	3.92
	PMW-4A	1/30/2006 13:34	18.88	10.46	8.42
	PMW-4B	1/30/2006 13:33	19.44	15.2	4.24
	PMW-5A	1/30/2006 13:21	16.00	6.16	9.84
	PMW-5B	1/30/2006 13:18	15.77	12.07	3.7
	PP-1A	1/30/2006 13:46	12.03	3.30	8.73
	PP-1B	1/30/2006 13:47	12.11	7.26	4.85

Site	Monitoring Well	Date and Time	PVC Elevation[1,2] (feet)	Depth to Water[3] (feet)	Groundwater Elevation (feet)
January 2006 Groundwater Elevation Survey (cont'd)					
ProLogis (cont'd)	PP-2A	1/30/2006 13:40	13.13	4.70	8.43
	PP-2B	*Piezometer PVC broken, no measurement collected.*			
March 2006					
ProLogis	PMW-1A	3/20/2006 8:14	14.62	5.57	9.05
	PMW-1B	3/20/2006 8:15	15.05	11.31	3.74
	PMW-2A	3/20/2006 8:17	12.73	6.70	6.03
	PMW-2B	3/20/2006 8:18	12.56	8.72	3.84
	PMW-3A	3/20/2006 8:21	11.57	6.78	4.79
	PMW-3B	3/20/2006 8:22	11.60	7.82	3.78
	PMW-4A	3/20/2006 8:39	18.88	12.19	6.69
	PMW-4B	3/20/2006 8:37	19.44	16.22	3.22
	PMW-5A	3/20/2006 8:11	16.00	7.02	8.98
	PMW-5B	3/20/2006 8:09	15.77	12.21	3.56
	PP-1A	3/20/2006 8:29	12.03	6.51	5.52
	PP-1B	3/20/2006 8:26	12.11	8.56	3.55
	PP-2A	3/20/2006 8:32	13.13	6.86	6.27
	PP-2B	*Piezometer PVC broken; no measurement collected.*			
CleanCare	CCW-5B	3/20/2006 12:31	12.62	3.41	9.21
	CCW-5C	3/20/2006 12:32	12.4	8.89	3.51
	CCW-6B	3/20/2006 11:35	12.31	3.07	9.24
	CCW-6C	3/20/2006 11:36	12.13	8.91	3.22
	CCW-7B	3/20/2006 11:00	11.91	2.75	9.16
	CCW-7C	3/20/2006 10:31	12.06	8.7	3.36

Notes:
1 Vertical Datum NGVD 29. Reference Benchmark: City of Tacoma Benchmark.
2 CleanCare well elevations provided by PSC.
3 Depth to Water: from top of PVC.
PSC Philip Services Corporation.

Table 3.2
Field Parameters for Groundwater

Sampling Date	Sample ID	pH	Conductivity (µs/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)
ProLogis Monitoring Wells					
9/23/2005	PMW-1A	7.41	1.72	7	3.81
	PMW-1B	7.72	2.03	27	3.65
	PMW-2A	7.12	1.83	2	3.46
	PMW-2B	6.89	1.66	5	3.28
	PMW-3A	6.83	0.793	6	4.28
	PMW-3B	6.75	0.96	6	5.6
	PMW-4A	7.19	1.65	10	Unstable DO Probe
	PMW-4B	7.26	0.846	290	Unstable DO Probe
	PMW-5A	6.85	2.01	13	3.95
	PMW-5B	6.75	3.18	67	3.92
12/12/2005	PMW-1A	5.95	1.03	2.6	Unstable DO Probe
	PMW-1B	6.21	1.6	11.2	2.54
	PMW-2A	6.37	0.9	29.3	0.8
	PMW-2B	6.25	1.04	0.6	4
	PMW-3A	6.12	0.95	1	1.3
	PMW-3B	6.31	0.95	165	0.75
	PMW-4A	6.31	1.89	375	0.94
	PMW-4B	7.02	2.45	269	0.83
	PMW-5A	5.93	1.55	8.5	0.94
	PMW-5B	5.58	2.29	150	2.67
3/20/2006	PMW-1A	6.09	1.54	201	1.8
	PMW-1B	6.36	2.17	55.6	1.9
	PMW-2A	6.7	1.37	85.6	1.7
	PMW-2B	6.67	1.52	96	3.4
	PMW-3A	6.62	0.556	9.7	2.5
	PMW-3B	6.62	0.726	52	1.6
	PMW-4A	6.73	1.87	310	2.1

Sampling Date	Sample ID	pH	Conductivity (µs/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)
ProLogis Monitoring Wells (cont'd)					
3/20/2006 (cont'd)	PMW-4B	7.78	2.29	5.5	2.7
	PMW-5A	6.24	1.23	25.1	2
	PMW-5B	6.31	3.01	83.7	1.8
CleanCare Monitoring Wells					
9/23/2005	CCW-5B	6.29	1.52	4	3.85
	CCW-5C	6.15	2.02	390	4.79
	CCW-6B	6.28	1.07	5	4.6
	CCW-6C	6.4	4.59	29	4.73
	CCW-7B	7.12	0.902	2	4.2
	CCW-7C	6.23	1.97	65	4.35
12/9/2005	CCW-5B	NS	NS	NS	NS
	CCW-5C	NS	NS	NS	NS
	CCW-6B	NS	NS	NS	NS
	CCW-6C	NS	NS	NS	NS
	CCW-7B	NS	NS	NS	NS
	CCW-7C	NS	NS	NS	NS
3/20/2006	CCW-5B	6.16	0.95	130	1.4
	CCW-5C	6.27	2.12	46.7	1.2
	CCW-6B	6.18	1.12	45.7	1.4
	CCW-6C	6.3	5.12	102	1.1
	CCW-7B	6.1	0.826	55.3	2.9
	CCW-7C	6.66	1.8	0.1	2.9

Notes:
DO Dissolved oxygen
NS Not sampled
NTU Nephelometric turbidity unit

Table 3.3
Detected Semi-volatile Organic Compounds for Soil[1]—January 2005 (mg/kg)

Sample ID	Naphthalene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthylene	Acenaphthene	Dibenzofuran	Fluorene	Phenanthrene	Carbazole	Anthracene	Fluoranthene	Pyrene	2,4,6-Trichlorophenol	2,3,4,6-Tetrachlorophenol	Pentachlorophenol	bis(2-Ethylhexyl)phthalate	Benzo(a)anthracene[2]	Chrysene[2]	Benzo(b)fluoranthene[2]	Benzo(k)fluoranthene[2]	Benzo(a)pyrene[2]	Indeno(1,2,3-cd)pyrene[2]	Dibenzo(a,h)anthracene[2]	Benzo(g,h,i)perylene	Total Carcinogenic PAHs[5]
TWP05-01-01	0.8 U	0.8 U	0.8 U	**0.88**	0.8 U	0.8 U	**0.8**	**0.9**	0.8 U	**0.98**	**7.0**	**13**	0.8 U	2 U	4 U	1 U	**3.6**	**5.5**	**3.0**	**3.3**	**4.6**	**2.0**	0.8 U	**2.6**	**22.4**
TWP05-02-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-03-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	**0.2**	0.1 U	**0.2**	**0.2**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.7**
TWP05-04-01	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	1.8 U	3.5 U	0.9 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
TWP05-04-02	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	1.0 U	2.0 U	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
TWP05-05-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-06-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-SB7-03	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-SB8-02	**14.0**	**2.7**	**5.0**	0.2 U	**5.7**	**3.9**	**5.8**	**18**	**2.5**	**3.0**	**8.4**	**5.9**	0.2 U	0.5 U	1 U	0.3 U	**1.5**	**1.6**	**0.9**	**0.7**	**0.8**	**0.3**	0.2 U	**0.3**	**5.9**
TWP05-09-01	0.3 U	0.3 U	0.3 U	0.3 U	**1.4**	**0.6**	**1.3**	**7.1**	**1.0**	**2.0**	**6.4**	**5.8**	0.3 U	0.8 U	1.5 U	0.4 U	**2.7**	**3.1**	**1.9**	**2.2**	**2.7**	**1.1**	**0.7**	**1.1**	**14.4**
TWP05-10-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.2**	0.1 U	0.1 U	**0.2**	**0.3**	0.1 U	0.3 U	0.5 U	0.1 U	**0.1**	**0.2**	**0.1**	**0.1**	**0.1**	0.1 U	0.1 U	0.1 U	**0.6**
TWP05-11-01	0.3 U	0.3 U	0.3 U	0.3 U	**0.4**	0.3 U	**0.4**	**2.6**	0.3 U	**0.7**	**2.5**	**2.5**	0.3 U	0.8 U	1.5 U	**0.4**	**1.2**	**1.4**	**0.8**	**0.8**	**1.1**	**0.5**	0.3 U	**0.6**	**6.0**
TWP05-11-02	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.8 U	1.5 U	0.4 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
TWP05-12-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-13-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.2**	0.1 U	0.1 U	**0.2**	**0.18**	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	**0.1**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.4**
TWP05-14-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-15-02	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-16-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.17**	**0.6**	**11**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-16-500[3]	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**0.23**	**0.8**	**11**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-17-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-17-02	0.1 U	**0.2**	**0.3**	0.1 U	**0.4**	**0.2**	**0.2**	**0.4**	0.1 U	0.1 U	**0.3**	**0.2**	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-18-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-19-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-20-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-21-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-21-500[3]	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
TWP05-22-01	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.3 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
PSC Screening Level	*86*	*NC*	*27.7*	*452*	*70.3*	*41.4*	*433*	*64.5*	*16.9*	*6,730*	*88.9*	*822*	*NC*	*NC*	*3.3*	*22.3*	*5.14*	*5.14*	*5.14*	*5.14*	*5.14*	*5.14*	*5.14*	*115,000*	*5.14*

Notes:

1 U.S Environmental Protection Agency Method 8270.
2 Carcinogenic PAH.
3 Duplicate sample.
4 TWP05-23-01 and TWP05-24-01 were not analyzed for SVOCs as there was insufficient sample volume. SVOCs were not analyzed for in TP samples used to delineate the extent of potential paste-like waste; TP-41 through TP-49.
5 Total cPAH was calculated by summing the concentrations of seven individual carcinogenic PAH compounds (only if any were detected) using ½ the reporting limit for non-detects.
NC No PSC screening level available for this analyte.
NT Not tested for this analyte.
PAH Polycyclic aromatic hydrocarbon.
PSC Philip Services Corporation.
U Analyte was not detected at the given reporting limit.
Bold Analyte was detected at concentration shown.
Shaded Result exceeded PSC soil screening levels (PSC 2005, Table 8-7).

Table 3.4
Detected Volatile Organic Compounds for Soil[1]—January 2005 (µg/kg)

Sample ID	m,p-Xylene	o-Xylene	Total Xylenes	1,2,4-Trimethyl-benzene	sec-Butylbenzene
TWP05-01-01	20 U	10 U	20 U	10 U	10 U
TWP05-02-01	20 U	10 U	20 U	10 U	10 U
TWP05-03-01	20 U	10 U	20 U	10 U	10 U
TWP05-04-01	20 U	10 U	20 U	10 U	10 U
TWP05-04-02	20 U	10 U	20 U	10 U	10 U
TWP05-05-01	20 U	10 U	20 U	10 U	10 U
TWP05-06-01	20 U	10 U	20 U	10 U	10 U
TWP05-SB7-03	20 U	10 U	20 U	10 U	10 U
TWP05-SB8-02	**20**	**11**	**31**	**17**	**12**
TWP05-09-01	20 U	10 U	20 U	10 U	10 U
TWP05-10-01	20 U	10 U	20 U	10 U	10 U
TWP05-11-01	20 U	10 U	20 U	10 U	10 U
TWP05-11-02	20 U	10 U	20 U	10 U	10 U
TWP05-12-01	20 U	10 U	20 U	10 U	10 U
TWP05-13-01	20 U	10 U	20 U	10 U	10 U
TWP05-14-01	20 U	10 U	20 U	10 U	10 U
TWP05-15-02	20 UJ	10 UJ	20 UJ	10 UJ	10 UJ
TWP05-16-01	20 U	10 U	20 U	10 U	10 U
TWP05-16-500[2]	20 U	10 U	20 U	10 U	10 U
TWP05-17-01	20 U	10 U	20 U	10 U	10 U
TWP05-17-02	20 U	10 U	20 U	10 U	10 U
TWP05-18-01	20 U	10 U	20 U	10 U	10 U
TWP05-19-01	20 U	10 U	20 U	10 U	10 U
TWP05-20-01	20 U	10 U	20 U	10 U	10 U
TWP05-21-01	20 U	10 U	20 U	10 U	10 U
TWP05-21-500[2]	20 U	10 U	20 U	10 U	10 U
TWP05-22-01	20 U	10 U	20 U	10 U	10 U
TWP05-23-01	20 U	10 U	20 U	10 U	10 U
TWP05-24-01	20 U	10 U	20 U	10 U	10 U
TWP05-041-01	20 U	10 U	20 U	10 U	10 U
TWP05-042-01	20 U	10 U	20 U	10 U	10 U
TWP05-046-01	20 U	10 U	20 U	10 U	10 U
TWP05-049-01	20 U	10 U	20 U	10 U	10 U
PSC Screening Level[3]	*151*	*151*	*151*	*305*	*17.4*

Notes:
1 USEPA Method 8260.
2 Duplicate sample.
3 PSC soil screening levels (PSC 2005, Table 8-7).
PSC Philip Services Corporation.
U Analyte was undetected at the given reporting limit.
UJ Analyte was not detected at a concentration equal to or greater than the estimated reporting limit.
Bold Analyte detected at concentration shown.

Table 3.5
Total Petroleum Hydrocarbons for Soil—January 2005 (mg/kg)

Sample ID	TPH-G[1]	TPH-D[2]	TPH-Oil[2]
TWP05-01-01	3 U	**650**	**2300**
TWP05-02-01	3 U	25 U	**73**
TWP05-03-01	3 U	25 U	**280**
TWP05-04-01	3 U	25 U	**1700**
TWP05-04-02	3 U	25 U	50 U
TWP05-05-01	3 U	25 U	50 U
TWP05-06-01	3 U	25 U	50 U
TWP05-SB7-03	3 U	25 U	50 U
TWP05-SB8-02	3 U	**93**	**100**
TWP05-09-01	3 U	**89**	**260**
TWP05-10-01	3 U	**44**	**100**
TWP05-11-01	3 U	**81**	**230**
TWP05-11-02	3 U	**1400**	**1900**
TWP05-12-01	3 U	25 U	50 U
TWP05-13-01	3 U	**54**	**220**
TWP05-14-01	3 U	25 U	50 U
TWP05-15-02	3 U	25 U	50 U
TWP05-16-01	**15**	**36**	50 U
TWP05-16-500[3]	**19**	**31**	50 U
TWP05-17-01	3 U	25 U	50 U
TWP05-17-02	3 U	25 U	50 U
TWP05-18-01	3 U	25 U	50 U
TWP05-19-01	3 U	25 U	50 U
TWP05-20-01	3 U	**40**	50 U
TWP05-21-01	3 U	25 U	50 U
TWP05-21-500[3]	3 U	25 U	50 U
TWP05-22-01	3 U	25 U	50 U
TWP05-23-01	3 U	**380**	**780**
TWP05-24-01	3 U	**190**	**460**
FS-TP-1	NA	310	800
FS-TP-2	NA	340	1,200
FS-TP-3	NA	310	1,300
FS-TP-4	NA	410	1,100
FS-TP-5	NA	230	960
FS-TP-6	NA	270	910
FS-TP-7	NA	400	1,300

Sample ID	TPH-G[1]	TPH-D[2]	TPH-Oil[2]
FS-TP-8	NA	440	1,600
PSC Screening Level	*30/100[1]*	*2,000*	*2,000*

Notes:
1 Analysis by NWTPH-G.
2 Analysis by NWTPH-Dx.
3 Duplicate sample.
4 PSC Screening Level (MTCA Method A CUL) for gasoline with/without benzene.
PSC Philip Services Corporation.
U Analyte was not detected at the given reporting limit.
Bold Analyte was detected at concentration shown.
Shade Result exceeded PSC soil screening levels (PSC 2005, Table 8-7).

Table 3.6
Metals Analytes for Soil[1]—January 2005 (mg/kg)

Sample ID	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
TWP05-01-01	NT	NT	NT	NT	NT	NT	NT	NT	NT
TWP05-02-01	6.6	160	7.5	61	43	41	0.27	10	160
TWP05-03-01	NT	NT	NT	NT	NT	NT	NT	NT	NT
TWP05-04-01[2]	21	180	1.7	21	150	520	0.04	17	300
TWP05-04-02[2]	130	82	7.1	100	28	62	10	7.6	140
TWP05-05-01	4.3 U	42	0.53 U	17	20	31	0.07	30	53
TWP05-06-01	12	25	0.30 U	9.2	18	3.1	0.06	30	35
TWP05-SB7-03	9.7	26	0.41 U	11	14	3.2 U	0.02 U	19	22
TWP05-SB8-02	13	120	0.61 U	32	46	70	0.08	24	120
TWP05-09-01	25	85	0.98	16	53	77	0.13	20	170
TWP05-10-01	4.0 U	76	0.50 U	12	41	78	0.22	14	120
TWP05-11-01	25	94	0.65 U	18	93	120	0.19	30	290
TWP05-11-02	3.9	31	0.45 U	6.2	21	8.7	0.02 U	10	49
TWP05-12-01	2.2 U	28	0.28 U	6.8	12	2.2 U	0.02 U	14	15
TWP05-13-01	4.3	51	0.47 U	10	30	22	0.04	14	63
TWP05-14-01	3.4 U	35	0.42 U	12	17	3.4 U	0.03	23	47
TWP05-15-02	4.0 U	33	0.5 U	12	14	4.0 U	0.02 U	22	29
TWP05-16-01	12	330	0.53 U	13	10	150	0.26	20	570
TWP05-16-500[3]	4.1 U	300	1.3	11	9.3	220	0.39	15	610
TWP05-17-01	4.6 U	210	0.57 U	9.1	11	4.6 U	0.02 U	3.7	14

Sample ID	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
TWP05-17-02	**5.3**	**190**	0.63 U	**12**	**17**	5.0 U	0.02 U	**10**	**21**
TWP05-18-01	4.9 U	**5.5**	0.61 U	**9.9**	**11**	4.9 U	0.02 U	2.4 U	**16**
TWP05-19-01	4.2 U	**48**	0.52 U	**15**	**15**	4.2 U	**0.03**	**22**	**29**
TWP05-20-01	2.5 U	**21**	0.31 U	**4.6**	**6.7**	2.5 U	0.02 U	**9.4**	**9.6**
TWP05-21-01	3.2 U	**7.8**	0.39 U	**4.7**	**8.9**	3.2 U	**0.03**	**3.5**	**18**
TWP05-21-500[3]	3.2 U	**12**	0.41 U	**5.6**	**11**	4.8 U	**0.03**	**4.4**	**21**
TWP05-22-01	**7.6**	**61**	0.57 U	**14**	**15**	4.5 U	0.02 U	**29**	**28**
TWP05-23-01	**25**	**100**	**1.1**	**26**	**140**	**190**	**0.14**	**41**	**530**
TWP05-24-01	**17**	**93**	**1.3**	**26**	**130**	**150**	**0.24**	**40**	**370**
TWP05-041-01[2]	**23**	**53**	**7.1**	**42**	**23**	**58**	**0.48**	**10**	**130**
TWP05-042-01[2]	**11**	**57**	**7.8**	**71**	**19**	**35**	**0.61**	**4.3**	**51**
PSC Screening Level	*7.3*	*102*	*5.52*	*48.2*	*36.4*	*24*	*2.09*	*48.2*	*101*

Notes:

1 All metals analyzed by USEPA Method 6010B, except mercury (USEPA Method 7471).
2 Indicates samples from test pits where the potential paste-like waste was observed.
3 Duplicate sample.
NT Sample not tested for this analyte as there was insufficient sample for metal analysis.
PSC Philip Services Corporation.
U Analyte was undetected at the given reporting limit.
Bold Analyte was detected at concentration shown.
Shade Result exceeded PSC soil screening levels (PSC 2005, Table 8-7).

Table 3.7
USEPA Method 8270 (Semi-volatile Organic Carbon Analysis)—Analyte Reporting Limits for Soil and Water

Analyte	Soil (ug/kg)	Water (ug/L)
1,2,4-TRICHLOROBENZENE	100	2
1,2-DICHLOROBENZENE	100	2
1,3-DICHLOROBENZENE	100	2
1,4-DICHLOROBENZENE	100	2
1-METHYLNAPHTHALENE	100	2
2,3,4,6-TETRACHLOROPHENOL	250	2
2,4,5-TRICHLOROPHENOL	100	2
2,4,6-TRICHLOROPHENOL	100	2
2,4-DICHLOROPHENOL	100	2
2,4-DIMETHYLPHENOL	100	2
2,4-DINITROPHENOL	500	10
2,4-DINITROTOLUENE	250	2
2,6-DICHLOROPHENOL	100	2
2,6-DINITROTOLUENE	250	2
2-CHLORONAPHTHANLENE	100	2
2-CHLOROPHENOL	100	2
2-METHYLNAPHTHALENE	100	2
2-METHYLPHENOL	100	2
2-NITROANILINE	250	2
2-NITROPHENOL	250	2
3,3'-DICHLOROBENZIDINE	100	2
3,4-METHYLPHENOL	NA	2
3-NITROANILINE	250	5
4,6-DINITRO-2-METHYLPHENOL	500	2
4-BROMOPHENYL-PHENYLETHER	100	2
4-CHLORO-3-METHYLPHENOL	100	2
4-CHLOROANILINE	100	2
4-CHLOROPHENYL-PHENYLETHER	100	2
4-METHYLPHENOL	100	NA

Analyte	Soil (ug/kg)	Water (ug/L)
4-NITROANILINE	250	2
4-NITROPHENOL	500	2
ACENAPHTHENE	100	2
ACENAPHTHYLENE	100	2
ANILINE	100	2
ANTHRACENE	100	2
AZOBENZENE	100	2
BENZO[A]ANTHRACENE	100	2
BENZO[A]PYRENE	100	2
BENZO[B]FLUORANTHENE	100	2
BENZO[G,H,I]PERYLENE	100	2
BENZO[K]FLUORANTHENE	100	2
BENZOIC ACID	1000	20
BENZYL ALCOHOL	100	2
BIS(2-CHLOROETHOXY)METHANE	100	2
BIS(2-CHLOROETHYL)ETHER	100	2
BIS(2-CHLOROISOPROPYL)ETHER	100	2
BIS(2-ETHYLHEXYL)PHTHALATE	130	2
BUTYLBENZYLPHTHALATE	100	2
CARBAZOLE	100	2
CHRYSENE	100	2
DIBENZ[A,H]ANTHRACENE	100	2
DIBENZOFURAN	100	2
DIETHYLPHTHALATE	100	2
DIMETHYLPHTHALATE	100	2
DI-N-BUTYLPHTHALATE	130	2
DI-N-OCTYLPHTHALATE	100	2
FLUORANTHENE	100	2
FLUORENE	100	2
HEXACHLOROBENZENE	100	2
HEXACHLOROBUTADIENE	100	2
HEXACHLOROCYCLOPENTADIENE	500	2

Analyte	Soil (ug/kg)	Water (ug/L)
HEXACHLOROETHANE	100	2
INDENO[1,2,3-CD]PYRENE	100	2
ISOPHORONE	100	2
NAPHTHALENE	100	2
NITROBENZENE	100	2
N-NITROSODIMETHYLAMINE	100	2
N-NITROSO-DI-N-PROPYLAMINE	100	2
N-NITROSODIPHENYLAMINE	100	2
PENTACHLOROPHENOL	500	5
PHENANTHRENE	100	2
PHENOL	100	2
PYRENE	100	2
PYRIDINE	100	2

Notes:
NA Not applicable.

Table 3.8
USEPA Method 8260 (Volatile Organic Carbon Analysis)—Analyte Reporting Limits for Soil and Water

Analyte	Soil (ug/kg)	Water (ug/L)
1,1,1,2-TETRACHLOROETHANE	10	2
1,1,1-TRICHLOROETHANE	10	2
1,1,2,2-TETRACHLOROETHANE	10	2
1,1,2-TRICHLOROETHANE	10	2
1,1-DICHLOROETHANE	10	2
1,1-DICHLOROETHENE	10	2
1,1-DICHLOROPROPENE	10	2
1,2,3-TRICHLOROBENZENE	10	2
1,2,3-TRICHLOROPROPANE	10	2
1,2,4-TRICHLOROBENZENE	10	2
1,2,4-TRIMETHYLBENZENE	10	2
1,2-DIBROMO 3-CHLOROPROPANE	50	10
1,2-DIBROMOETHANE	5	2
1,2-DICHLOROBENZENE	10	2
1,2-DICHLOROETHANE	10	2
1,2-DICHLOROPROPANE	10	2
1,3 DICHLOROBENZENE	10	2
1,3,5-TRIMETHYLBENZENE	10	2
1,3-DICHLOROPROPANE	10	2
1,4-DICHLOROBENZENE	10	2
2,2-DICHLOROPROPANE	10	2
2-BUTANONE	50	10
2-CHLOROTOLUENE	10	2
2-HEXANONE	50	10
4-CHLOROTOLUENE	10	2
4-METHYL-2-PENTANONE	50	10
ACETONE	50	25
ACRYLONITRILE	50	10
BENZENE	10	2

Analyte	Soil (ug/kg)	Water (ug/L)
BROMOBENZENE	10	2
BROMOCHLOROMETHANE	10	2
BROMODICHLOROMETHANE	10	2
BROMOFORM	10	2
BROMOMETHANE	10	2
CARBON TETRACHLORIDE	10	2
CHLOROBENZENE	10	2
CHLOROETHANE	10	2
CHLOROFORM	10	2
CHLOROMETHANE	10	2
CIS-1,2-DICHLOROETHENE	10	2
CIS-1,3-DICHLOROPROPENE	10	2
DIBROMOCHLOROMETHANE	10	2
DIBROMOMETHANE	10	2
DICHLORODIFLUOROMETHANE	10	2
ETHYLBENZENE	10	2
HEXACHLOROBUTADIENE	10	2
ISOPROPYLBENZENE	10	2
M+P XYLENE	20	4
METHYL T-BUTYL ETHER	10	2
METHYLENE CHLORIDE	20	5
NAPHTHALENE	10	2
N-BUTYLBENZENE	10	2
N-PROPYL BENZENE	10	2
O-XYLENE	10	2
P-ISOPROPYLTOLUENE	10	2
S-BUTYL BENZENE	10	2
STYRENE	10	2
T-BUTYL BENZENE	10	2
TETRACHLOROETHYLENE	10	2
TOLUENE	10	2
TRANS-1,2-DICHLOROETHENE	10	2

Analyte	Soil (ug/kg)	Water (ug/L)
TRANS-1,3-DICHLOROPROPENE	10	2
TRICHLOROETHENE	10	2
TRICHLOROFLUOROMETHANE	10	2
VINYL CHLORIDE	10	2

Table 3.9
Direct Push-probe Groundwater Screening Results for Volatile Organic Compounds[1] and TPH-G[2]—May 2005 (µg/L)

Sample ID	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	1,2,4-Trimethylbenzene	Isopropylbenzene	N-Propylbenzene	P-Isopropyltoluene	Naphthalene	TPH-G
TWP05-GP-1A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-1B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-2A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-2B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-3A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-3B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-4A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	**520**
TWP05-GP-4B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	**95**
TWP05-GP-5A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-5B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-6A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-6B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-7A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-7B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-8A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U

Sample ID	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	1,2,4-Trimethylbenzene	Isopropylbenzene	N-Propylbenzene	P-Isopropyltoluene	Naphthalene	TPH–G
TWP05-GP-8B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-9A	**5**	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-9B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-10A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-10B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-11B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	**270**
TWP05-GP-12A	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-12B	2 U	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
TWP05-GP-13A	**58**	**20**	**110**	**12**	**10**	**54**	**17**	**45**	**2**	**13**	**1,400**
TWP05-GP-13B	**7**	2 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	50 U
PSC Screening Levels	*22.7*	*2,130*	*887*	*266,000*	*266,000*	*3,870*	*8,000*	*737*	*4,520*	*3,093*	*800/1,000*[3]

Notes:

1 U.S. Environmental Protection Agency Method 8260.
2 NWTPH-G.
3 PSC Screening Level (MTCA Method A CUL) for gasoline with/without benzene.
PSC Philip Services Corporation.
TPH-G Gasoline range hydrocarbons.
U Analyte was not detected at the given reporting limit.
Bold Analyte was detected at concentration shown.
Shade Exceedance of PSC proposed groundwater screening levels (PSC 2005, Table 8-12).

Table 3.10
Detected Semi-volatile Organic Compounds for Groundwater[1] (µg/L)

Sampling Event	Sample ID	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	3,4 Methylphenol	Pentachlorophenol	Benzoic Acid	Naphthalene	2-Methylnaphthalene	1-Methylnaphthalene	Acenaphthene	Dibenzofuran	Fluorene	Phenanthrene	Fluoranthene	Carbazole	Bis(2-ethylhexyl)phthalate
September 2005	***ProLogis Monitoring Wells***																
	TWP-MW-1A	2 U	2 U	2 U	**62**	**13**	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-1B	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2A	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2B	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3A	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3B	2 U	2 U	2 U	2 U	**12**	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4A	2 U	2 U	2 U	**520**	5 U	**35**	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4B[3]	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	TWP-MW-5A	2 U	2 U	2 U	**250**	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-5B	2 U	2 U	2 U	**220**	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	PP-1A	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	PP-2A	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	CleanCare Monitoring Wells																
	CCW-5B	2 U	2 U	2 U	2 U	5 U	20 U	**12**	**7**	**12**	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	CCW-5C	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	CCW-6B	**2**	2 U	2 U	2 U	5 U	20 U	**10**	2 U	2 U	**4**	2 U	2 U	2 U	2 U	2 U	2 U
	CCW-6C	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	CCW-7B	**18**	**6**	**16**	2 U	5 U	20 U	**260**	**13**	**40**	**31**	**18**	**21**	**7**	2 U	**11**	2 U
	CCW-7C	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
December 2005	***ProLogis Monitoring Wells***																
	TWP-MW-1A	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-1B	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2A	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2B	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3A	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3B	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4A	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4B	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**11**
	TWP-MW-5A	2 U	2 U	2 U	2 U	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-5B	2 U	2 U	2 U	**73**	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	PP-1A	2 U	2 U	2 U	**50**	5 U	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	PP-2A	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT

Table 3.11
Detected Volatile Organic Compounds for Groundwater[1] (µg/L)

Sampling Event	Sample ID	Benzene	Toluene	Acetone	Ethylbenzene	m,p-Xylene	o-Xylene	Total Xylenes	Chlorobenzene	1,2,4-Trimethylbenzene	Isopropylbenzene	N-Propylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Nbutylbenzene	P-Isopropyltoluene	Naphthalene
September 2005	***ProLogis Monitoring Wells***																	
	TWP-MW-1A	2 U	**12**	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**13**	2 U
	TWP-MW-1B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4B	2 U	**3**	**30**	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**21**	2 U
	TWP-MW-5A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2	2 U
	TWP-MW-5B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**21**	2 U
	CleanCare Monitoring Wells																	
	CCW-5B	**110**	**26**	25 U	**55**	**22**	**25**	**47**	**13**	**28**	**7**	**15**	2 U	2 U	2 U	**11**	2 U	**33**
	CCW-5C	2 U	2 U	25 U	2 U	4 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	CCW-6B	**74**	**6**	25 U	**27**	**4**	**5**	**9**	**27**	**2**	2 U	2 U	3	2 U	**2**	**3**	2 U	**25**
	CCW-6C	2 U	**3**	25 U	2 U	4 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	CCW-7B	**130**	**34**	25 U	**110**	**33**	**40**	**73**	**130**	**68**	**7**	**12**	**27**	**9**	**21**	**9**	**3**	**610**
	CCW-7C	2 U	2 U	25 U	2 U	4 U	2 U	4 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
December 2005	***ProLogis Monitoring Wells***																	
	TWP-MW-1A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**3**	2 U
	TWP-MW-1B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**16**	2 U
	TWP-MW-5A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-5B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**8**	2 U

Sampling Event	Sample ID	Benzene	Toluene	Acetone	Ethylbenzene	m,p-Xylene	o-Xylene	Total Xylenes	Chlorobenzene	1,2,4-Trimethylbenzene	Isopropylbenzene	N-Propylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Nbutylbenzene	P-Isopropyltoluene	Naphthalene
March 2006	***ProLogis Monitoring Wells***																	
	TWP-MW-1A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-1B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-2B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-3B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-4B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-5A	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	TWP-MW-5B	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**7**	2 U
	CleanCare Monitoring Wells																	
	CCW-5B	**75**	**19**	25 U	**94**	**15**	**15**	**30**	**6**	**29**	**11**	**25**	2 U	2 U	2 U	**11**	2 U	**15**
	CCW-5C	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	CCW-6B	**65**	**2**	25 U	**12**	4 U	**2**	**2**	**8**	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	**3**
	CCW-6C	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
	CCW-7B	**120**	**61**	25 U	**160**	**33**	**54**	**87**	**91**	**110**	**8**	**14**	**20**	**7**	**15**	**8**	2 U	**550**
	CCW-7C	2 U	2 U	25 U	2 U	4 U	2 U	6 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
PSC Screening Levels		*22.7*	*2,130*	*426,000*	*887*	*266,000*	*266,000*	*266,000*	*5,030*	*3,870*	*8,000*	*737*	*4,200*	*110*	*10*	*190*	*4,520*	*3,093*

Notes:

1 USEPA Method 8260.
PSC Philip Services Corporation.
U Analyte was not detected at the given reporting limit.
Bold Analyte was detected at concentration shown.
Shade Exceedance of PSC groundwater screening levels (PSC2005, Table 8-12).

Table 3.12
Total Petroleum Hydrocarbon Analytical Results for Groundwater (µg/L)

Sampling Event	Sample ID	TPH-G[1]	TPH-D[2]	TPH-Oil[2]
September 2005	***ProLogis Monitoring Wells***			
	TWP-MW-1A	50 U	130 U	250 U
	TWP-MW-1B	50 U	130 U	250 U
	TWP-MW-2A	50 U	130 U	250 U
	TWP-MW-2B	50 U	130 U	250 U
	TWP-MW-3A	50 U	130 U	250 U
	TWP-MW-3B	50 U	130 U	250 U
	TWP-MW-4A	50 U	130 U	250 U
	TWP-MW-4B	50 U	130 U	250 U
	TWP-MW-5A	50 U	130 U	250 U
	TWP-MW-5B	50 U	130 U	250 U
	CleanCare Monitoring Wells			
	CCW-5B	**1,100**	**330**	250 U
	CCW-5C	50 U	130 U	250 U
	CCW-6B	**250**	130 U	250 U
	CCW-6C	50 U	130 U	250 U
	CCW-7B	**1,700**	**680**	250 U
	CCW-7C	50 U	130 U	250 U
December 2005	***ProLogis Monitoring Wells***			
	TWP-MW-1A	**66**	130 U	250 U
	TWP-MW-1B	50 U	130 U	250 U
	TWP-MW-2A	50 U	130 U	250 U
	TWP-MW-2B	50 U	130 U	250 U
	TWP-MW-3A	50 U	130 U	250 U
	TWP-MW-3B	50 U	130 U	250 U
	TWP-MW-4A	**110**	130 U	250 U
	TWP-MW-4B	**110**	130 U	250 U
	TWP-MW-5A	50 U	130 U	250 U
	TWP-MW-5B	50 U	130 U	250 U
March 2006	***ProLogis Monitoring Wells***			
	TWP-MW-1A	**55**	130 U	250 U
	TWP-MW-1B	50 U	130 U	250 U
	TWP-MW-2A	50 U	130 U	250 U
	TWP-MW-2B	50 U	130 U	250 U
	TWP-MW-3A	50 U	130 U	250 U
	TWP-MW-3B	50 U	130 U	250 U
	TWP-MW-4A	50 U	130 U	250 U
	TWP-MW-4B	50 U	130 U	250 U
	TWP-MW-5A	50 U	130 U	250 U
	TWP-MW-5B	50 U	130 U	250 U

Sampling Event	Sample ID	TPH-G[1]	TPH-D[2]	TPH-Oil[2]
March 2006 (cont'd)	***CleanCare Monitoring Wells***			
	CCW-5B	**1,000**	250 U	250 U
	CCW-5C	50 U	130 U	250 U
	CCW-6B	**100**	130 U	250 U
	CCW-6C	50 U	130 U	250 U
	CCW-7B	**1,600**	**560**	250 U
	CCW-7C	50 U	130 U	250 U
PSC Screening Levels		*800/1,000[3]*	*500*	*500*

Notes:

1 NWTPH-G.
2 NWTPH-D.
3 PSC Screening Level (MTCA Method A CUL) for gasoline with/without benzene.
PSC Philip Services Corporation.
U Analyte was not detected at the given reporting limit.
Bold Analyte was detected at concentration shown.
Shade Exceedance of PSC groundwater screening levels (PSC2005, Table 8-12).

Table 3.13
Detected Metals in Groundwater[1] (µg/L)

Sampling Event	Sample ID	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
September 2005	***ProLogis Monitoring Wells***									
	TWP-MW-1A	5 U	**540**	5 U	7 U	5 U	3 U	**0.4**	20 U	10 U
	TWP-MW-1B	**21**	**30**	5 U	7 U	5 U	3 U	**0.4**	20 U	10 U
	TWP-MW-2A	5 U	**260**	5 U	7 U	5 U	**96**	**0.4**	20 U	**110**
	TWP-MW-2B	5 U	**270**	5 U	**10**	**6**	**14**	**0.3**	20 U	**30**
	TWP-MW-3A	**27**	20 U	5 U	7 U	5 U	3 U	**0.2**	**50**	10 U
	TWP-MW-3B	**17**	**30**	5 U	7 U	5 U	3 U	**0.3**	20 U	10 U
	TWP-MW-4A	5 U	**70**	5 U	**7**	5 U	3 U	**0.3**	20 U	10 U
	TWP-MW-4B[2]	NT	NT	NT	NT	NT	NT	NT	NT	NT
	TWP-MW-5A	5 U	**130**	5 U	7 U	5 U	**6**	**0.3**	20 U	10 U
	TWP-MW-5B	5 U	20 U	5 U	**7**	5 U	3 U	**0.2**	20 U	10 U
	CleanCare Monitoring Wells									
	CCW-5B	**630**	**90**	**16**	7 U	5 U	3 U	**0.4**	**30**	**10**
	CCW-5C	5 U	**30**	5 U	7 U	5 U	3 U	**0.5**	**20**	10 U
	CCW-6B	5 U	**60**	5 U	7 U	5 U	**5**	**0.5**	20 U	10 U
	CCW-6C	5 U	20 U	5 U	**210**	5 U	**7**	**0.2**	**30**	10 U
	CCW-7B	5 U	**120**	5 U	7 U	5 U	3 U	**0.6**	20 U	10 U
	CCW-7C	5 U	20 U	5 U	7 U	5 U	3 U	**0.8**	20 U	10 U
December 2005	***ProLogis Monitoring Wells***									
	TWP-MW-1A	5 U	**500**	5 U	7 U	5 U	**3**	**0.3**	20 U	10 U
	TWP-MW-1B	**18**	**50**	5 U	7 U	5 U	3 U	**0.3**	20 U	10 U
	TWP-MW-2A	5 U	**13**	5 U	7 U	5 U	**6**	**0.3**	20 U	10 U
	TWP-MW-2B	5 U	**210**	5 U	7 U	5 U	3 U	**0.2**	20 U	10 U
	TWP-MW-3A	**6**	20 U	5 U	7 U	5 U	3 U	**0.3**	20 U	10 U
	TWP-MW-3B	5 U	**30**	5 U	7 U	5 U	3 U	**0.2**	20 U	10 U
	TWP-MW-4A	5 U	**80**	5 U	7 U	5 U	3 U	**0.3**	20 U	10 U
	TWP-MW-4B	5 U	**20**	5 U	**11**	5 U	**4**	**0.5**	20 U	10 U
	TWP-MW-5A	5 U	**60**	5 U	7 U	5 U	3 U	**0.3**	20 U	10 U
	TWP-MW-5B	5 U	20 U	5 U	7 U	5 U	**4**	**0.4**	20 U	10 U

Sampling Event	Sample ID	Arsenic	Barium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
March 2006	***ProLogis Monitoring Wells***									
	TWP-MW-1A	**9**	**550**	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	TWP-MW-1B	**10**	**30**	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	TWP-MW-2A	**7**	**70**	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	TWP-MW-2B	5 U	**160**	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	TWP-MW-3A	**11**	**20**	5 U	7 U	5 U	3 U	0.2 U	**30**	10 U
	TWP-MW-3B	**21**	20 U	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	TWP-MW-4A	**13**	**70**	5 U	7 U	5 U	**5**	0.2 U	20 U	10 U
	TWP-MW-4B	5 U	20 U	5 U	7 U	**7**	**3**	0.2 U	20 U	**10**
	TWP-MW-5A	**9**	**80**	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	TWP-MW-5B	5 U	20 U	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	CleanCare Monitoring Wells									
	CCW-5B	**37**	**60**	5 U	7 U	5 U	**15**	0.2 U	20 U	**10**
	CCW-5C	**7**	**20**	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	CCW-6B	**19**	**70**	5 U	7 U	5 U	**16**	0.2 U	20 U	**30**
	CCW-6C	**8**	20 U	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	CCW-7B	**9**	**80**	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
	CCW-7C	5 U	20 U	5 U	7 U	5 U	3 U	0.2 U	20 U	10 U
PSC Screening Levels		*5*	*105000*	*20.3*	*486*	*2660*	*15*	*80.4*	*1100*	*16500*

Notes:

1 All metals analyzed U.S. Environmental Protection Agency (USEPA) Method 6010B, except mercury (USEPA Method 7471).
2 Insufficient sample volume due to lack of well recharge.
NT Sample not tested for this analyte.
PSC Philip Services Corporation.
U Analyte was not detected at the given reporting limit.
Bold Analyte was detected at concentration shown.
Shade Result exceeded PSC groundwater screening levels (PSC 2005, Table 8-12).

Table 3.14
Potential Contaminants of Concern and Screening Levels

Matrix	Analyte	Maximum Detection at ProLogis	PSC Screening Levels[1]	Basis for Screening Levels
Soil (mg/kg)	Arsenic	130	7.3	Natural Background
	Barium	330	102	Protection Ecological Receptors
	Cadmium	7.8	5.52	Protection of Groundwater
	Copper	150	36.4	Natural Background
	Chromium	100	48.2	Natural Background
	Lead	520	24	Natural Background
	Mercury	10	2.09	Protection of Groundwater
	Zinc	610	101	Protection of Groundwater
	TPH–Oil	2,300	2,000	MTCA Method A Industrial
	Pentachlorophenol	11	3.3	PQL
	cPAH	22.4	5.14	Protection of Human Health
Groundwater (µg/L)	Arsenic	27	5	Protection of Surface Water
	Benzene	58[2]	5	Protection of Surface Water
	Bis(2-ethylhexyl)phthalate	11	10	PQL
	Lead	96	15	Protection of Surface Water
	Pentachlorophenol	13	5	PQL

Notes:

1 Screening levels taken from the Philip Services Corporation Final RI Report, 2005.
2 Approximate concentration. Sample taken via Geoprobe.
cPAH Carcinogenic polycyclic aromatic hydrocarbons.
MTCA Model Toxics Control Act.
PQL Practical Quantitation Limit.
PSC Philip Services Corporation.
TPH Total petroleum hydrocarbons.

Table 3.15
Primary Contaminants of Concern Found in the CleanCare Wells

Matrix	Analyte	Maximum Detection (ppb)	PSC Screening Levels[1]	Basis for Screening Levels
Groundwater (µg/L)	Arsenic[2]	630	5	Natural Background
	Benzene[2]	130	22.7	Protection of Groundwater
	1,4-Dichlorobenzene[2]	21	10	PQL
	TPH-G[2]	1,700	800	MTCA Method A
	TPH-D[2]	680	500	MTCA Method A

Notes:
1 Screening levels taken from the Philip Services Corporation Final RI Report, 2005.
2 Indicates this compound is also a contaminant of concern on the PSC site.
MTCA Model Toxics Control Act.
PSC Philip Services Corporation.
PQL Practical Quantitation Limit.
TPH Total petroleum hydrocarbons.

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Remedial Investigation

Figures

FINAL

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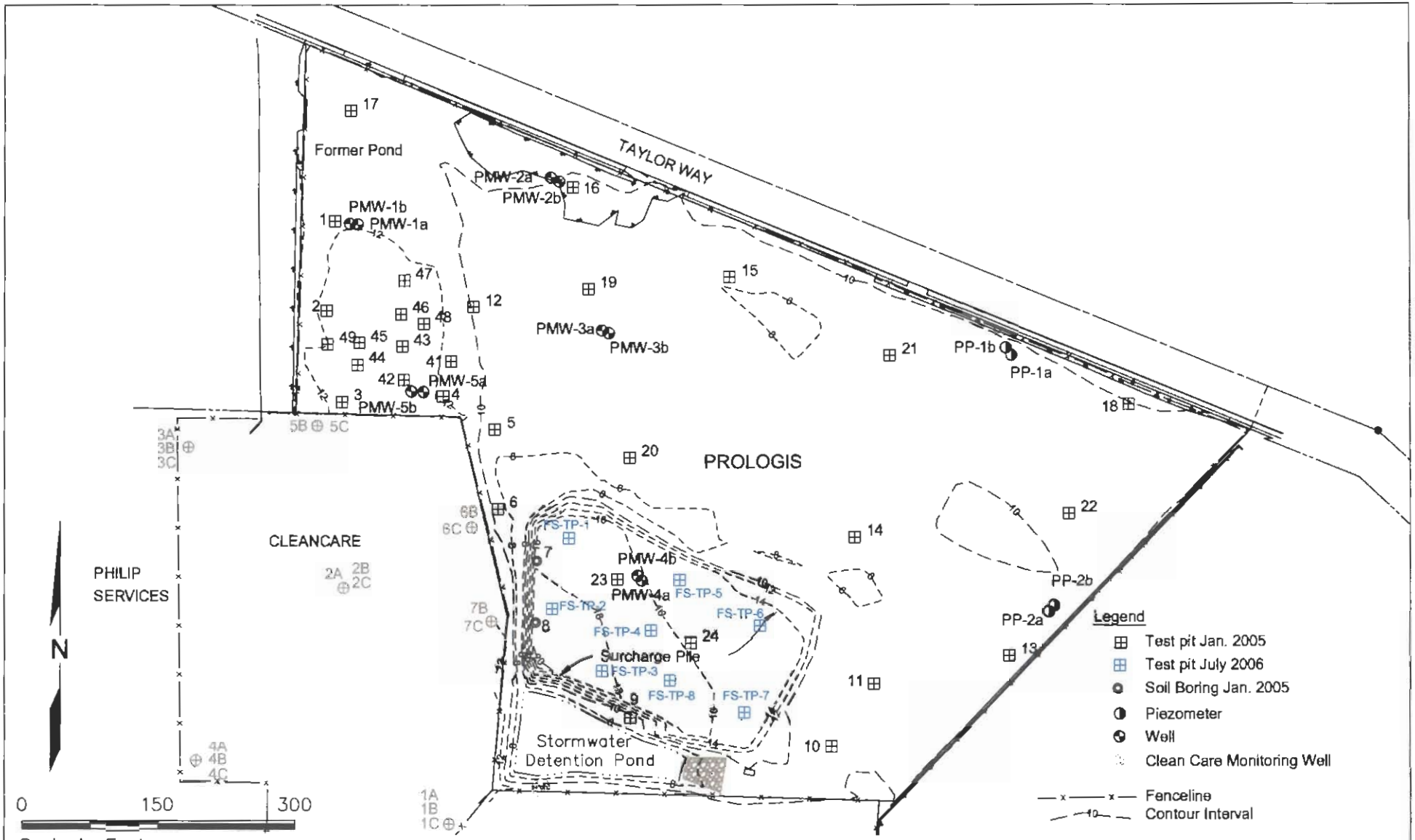
ProLogis Taylor Way Property
Remedial Investigation
Tacoma, Washington

Figure 1.1
Vicinity Map

DATE: 6/2/2008 8:58:27 AM
MXD NAME: \\Sam\Data\projects\PROLOG-TWP\GIS and Spreadsheets\RI-FS\RI Figure 1.1 - Vicinity Map.mxd



Note: Basemap taken from 2005 Site Survey by Dowl Engineers.

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Figure 3.1
Site Map with Monitoring Well and Soil Exploration Locations

DATE: 09/28/06 2:00pm
DWG NAME: G:\project\Clients\Floyd and Snider\Taylor Way\RemedialInvestigation\Figures\layRem001 (Fig 3_1).dwg

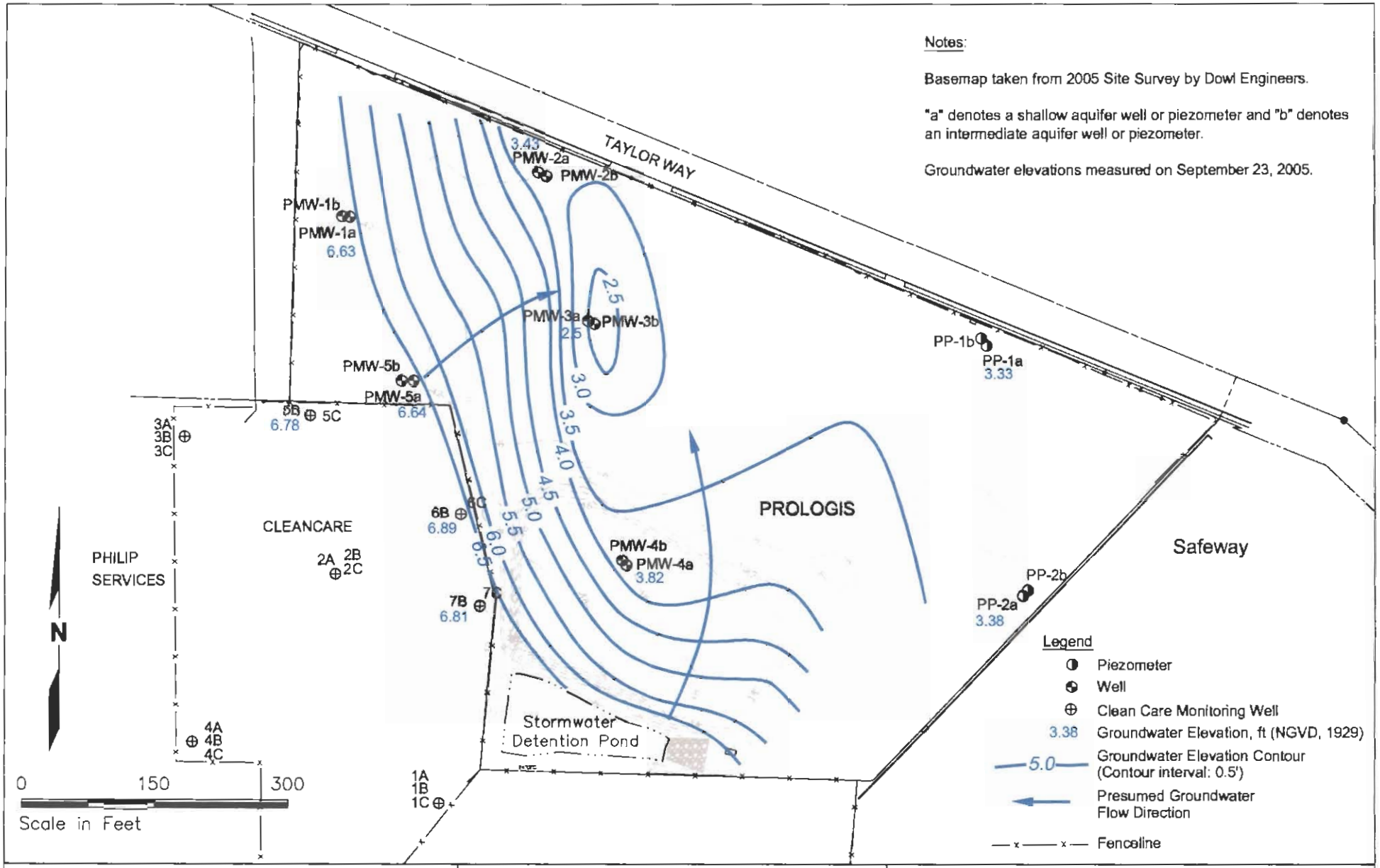

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Figure 3.2
Groundwater Elevation Map
Shallow Aquifer, September 2005

DATE: 08/15/06 10:05am
DWG NAME: I:\project\Clients\Floyd and Snider\TaylorWay\Remedialinvestigation\Figures\layout002 (Fig 3_2).dwg

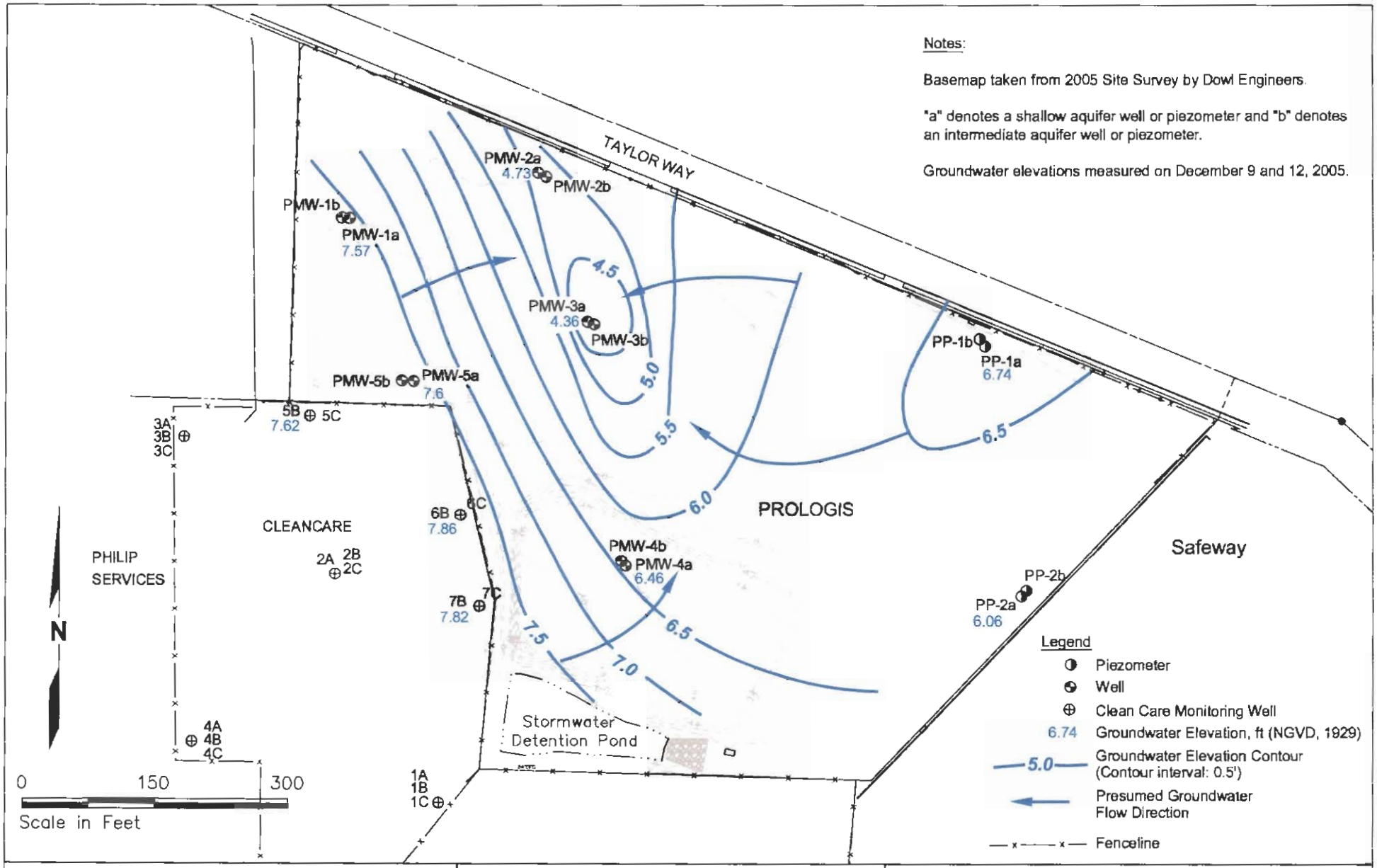

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Figure 3.3
Groundwater Elevation Map
Shallow Aquifer, December 2005

DATE: 08/18/08 10:08am
DWG NAME: G:\project\Clients\Floyd and Snider\TaylorWay\RemedialInvestigationFigures\tayRem003 (Fig 3_3).dwg

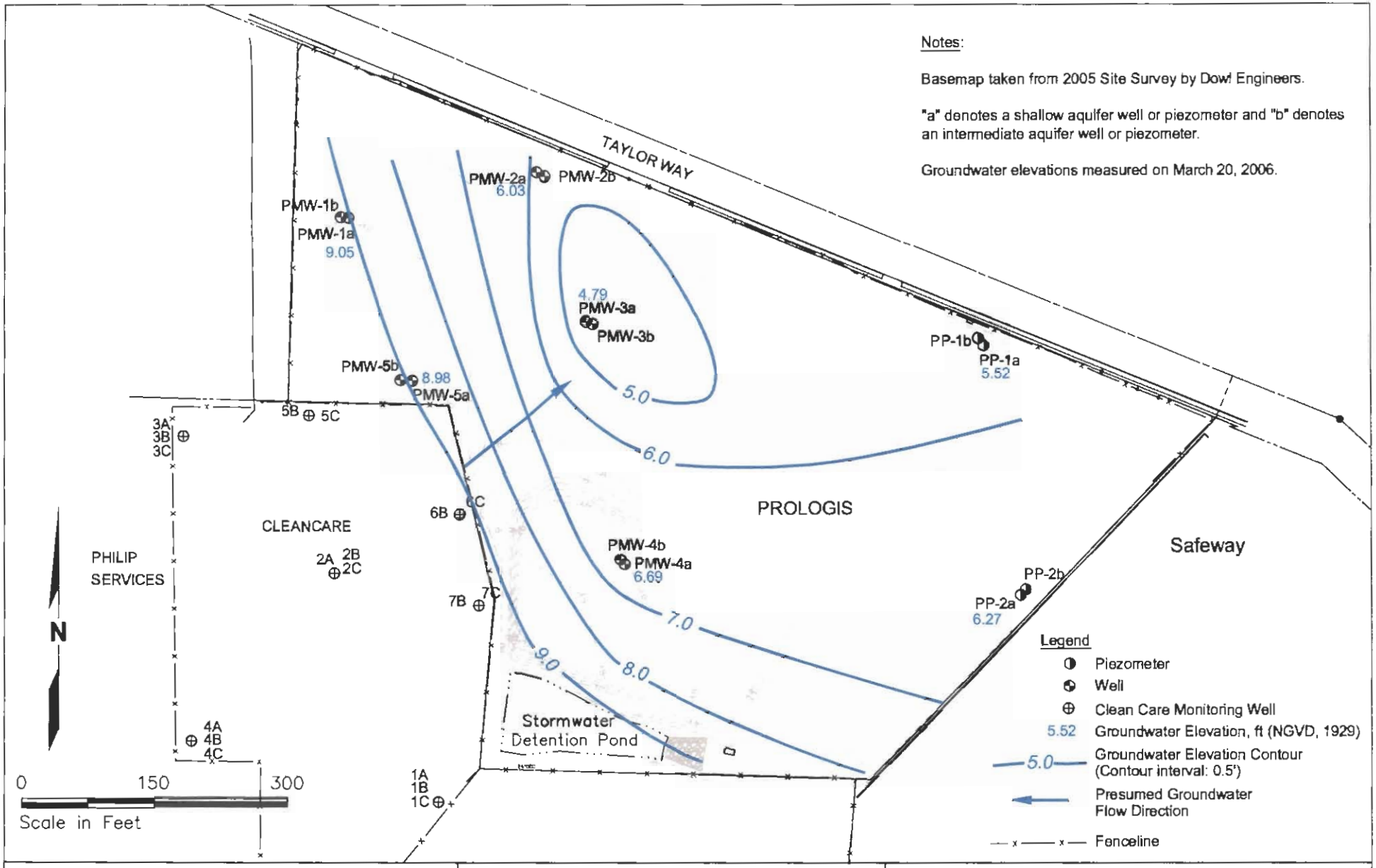

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Figure 3.4
Groundwater Elevation Map
Shallow Aquifer, March 2006

DATE: 06/10/08 10:07am
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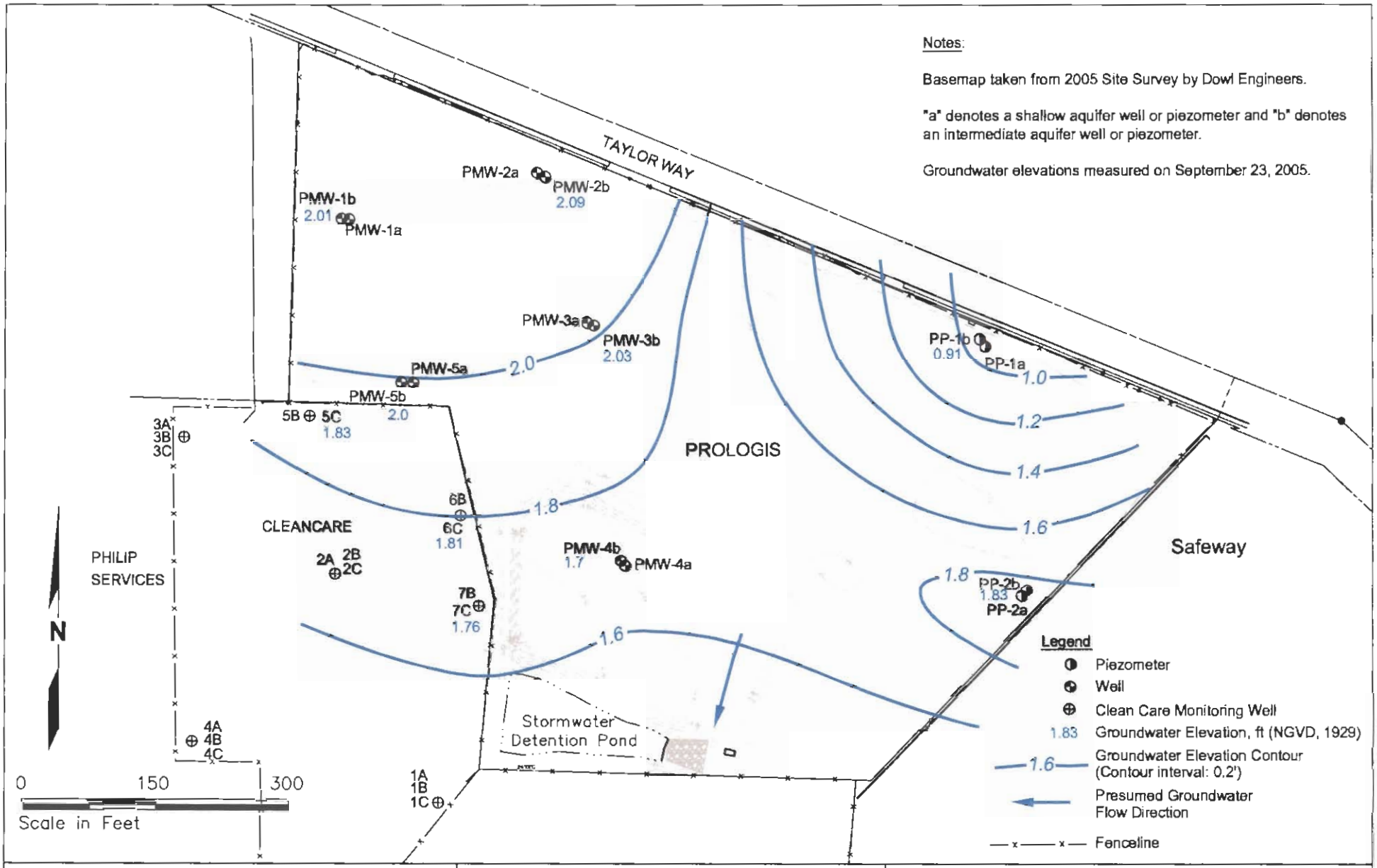

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Figure 3.5
Groundwater Elevation Map
Intermediate Aquifer, September 2005

DATE: 08/18/08 10:08am
DWG NAME: G:\project\Clients\Floyd and Snider\TaylorWay\RemedialInvestigationFigures\taylorRem005 (Fig 3_5).dwg

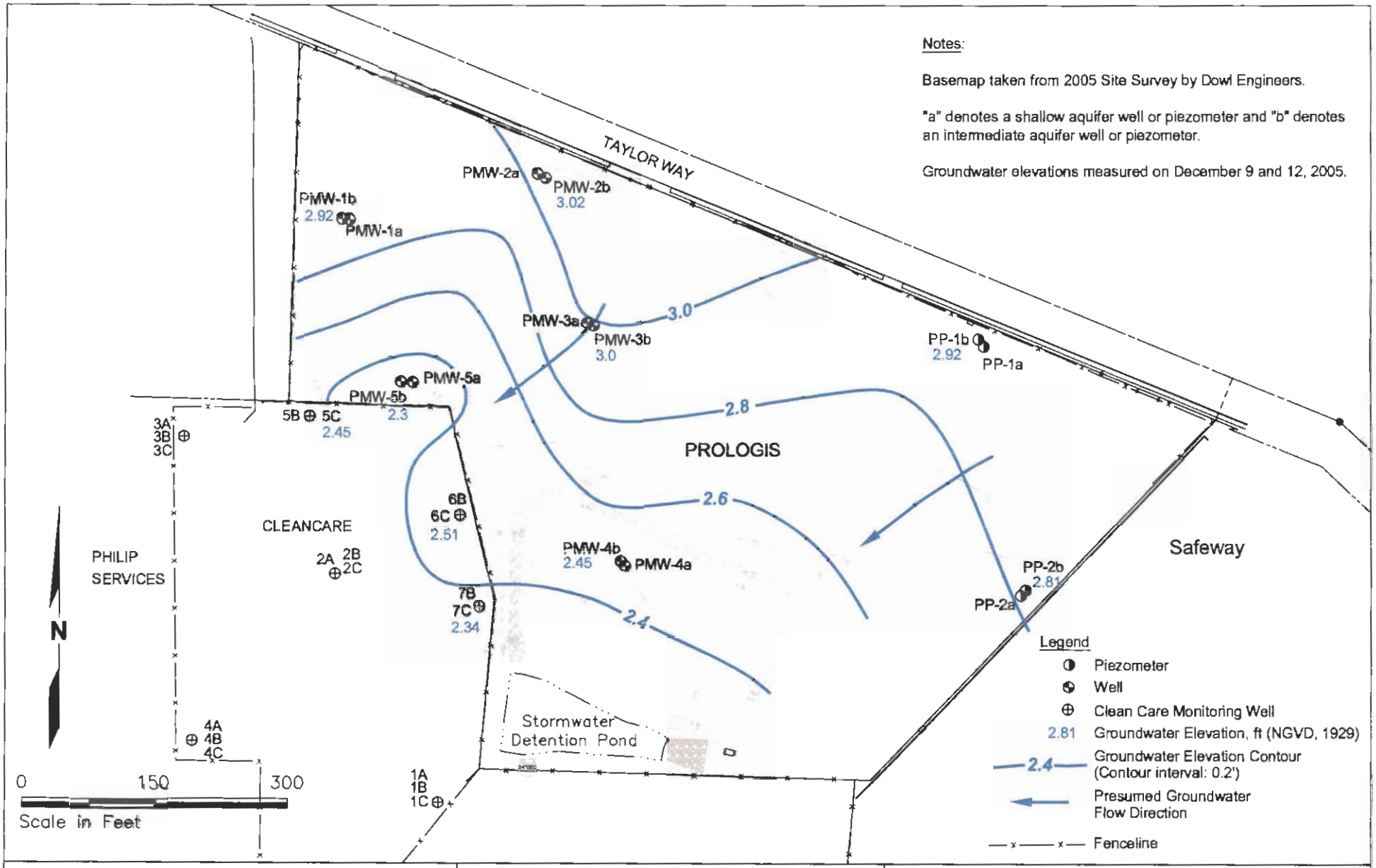

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Figure 3.6
Groundwater Elevation Map
Intermediate Aquifer, December 2005

DATE: 06/18/08 10:12am
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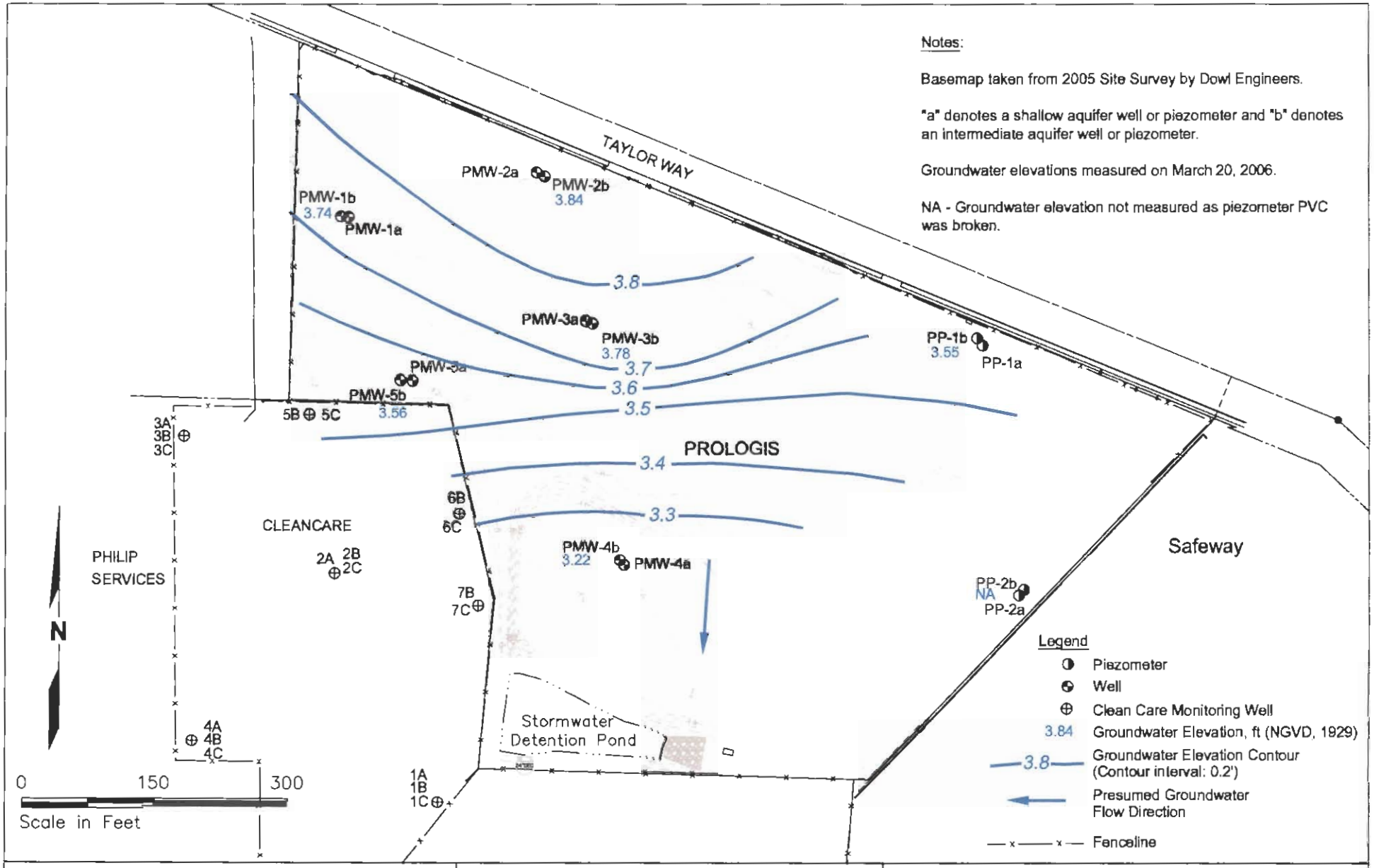

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Figure 3.7
Groundwater Elevation Map
Intermediate Aquifer, March 2006

DATE: 08/30/06 10:41am
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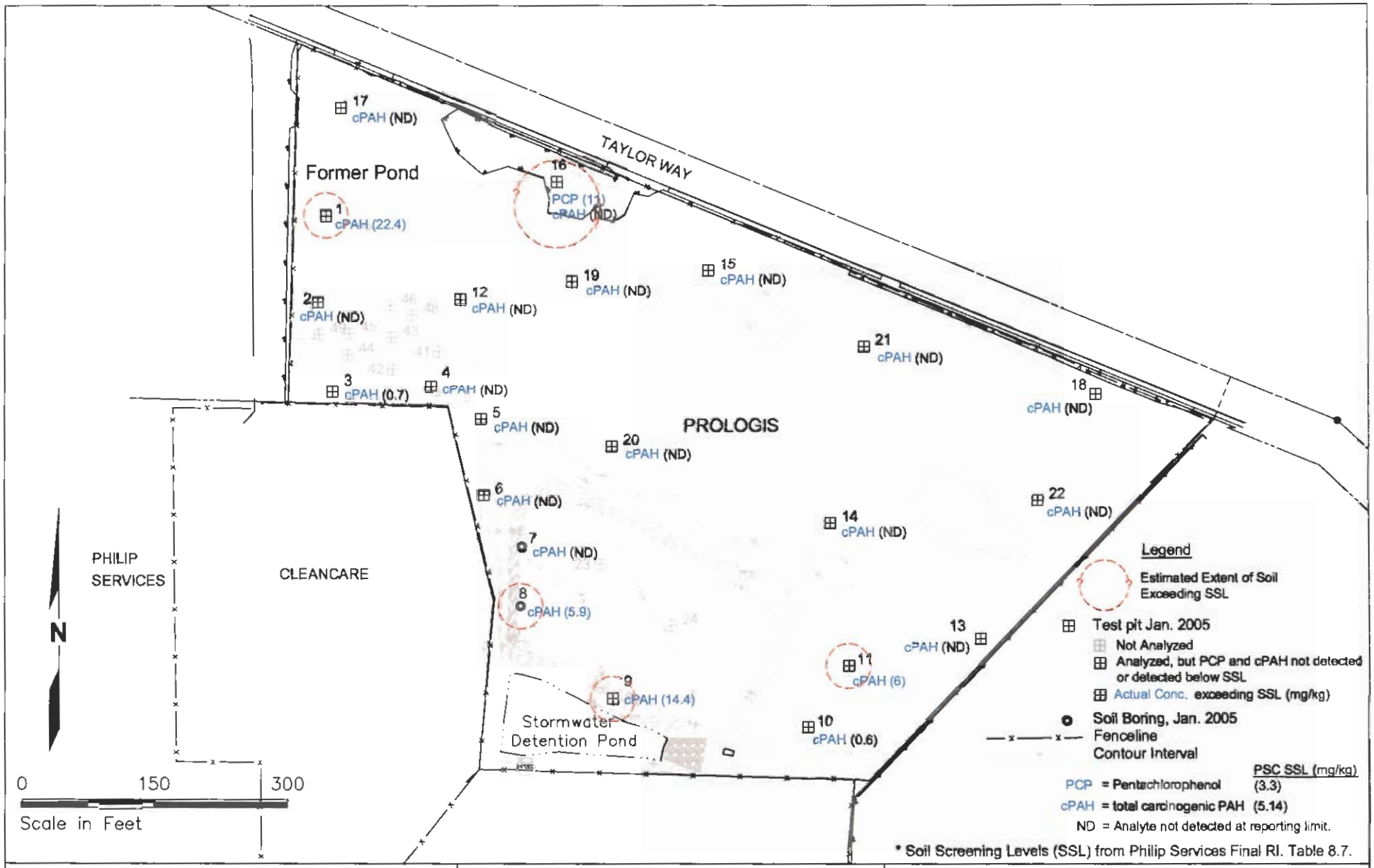

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Remedial Investigation
Tacoma, Washington

Figure 3.8
Results of SVOC Analysis for Soil

DATE: 09/28/06 10:40am
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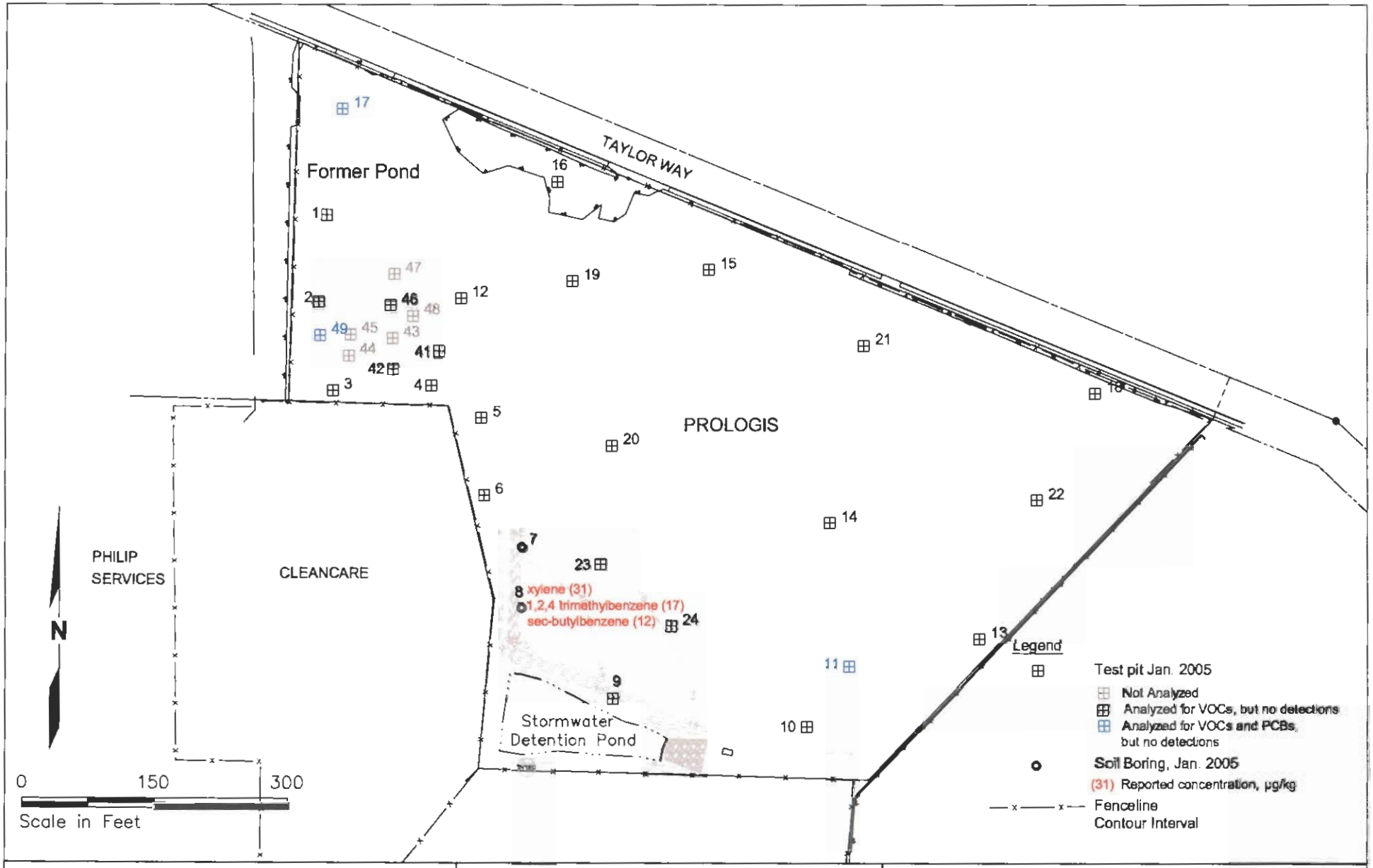

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Figure 3.9
Summary of VOC and PCB Analyses in Soil

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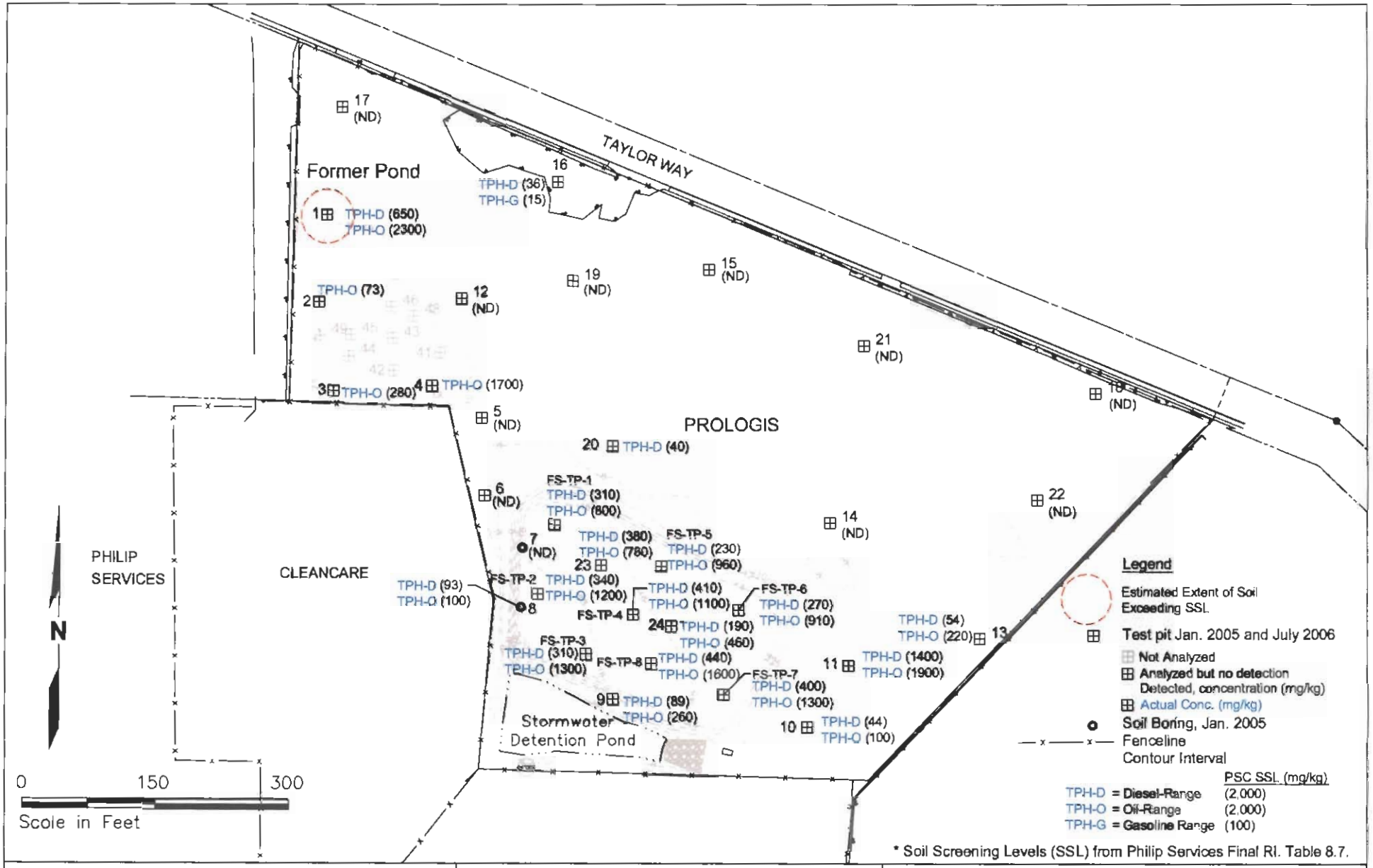

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Figure 3.10
Summary of TPH Analyses in Soil

DATE: 09/26/08
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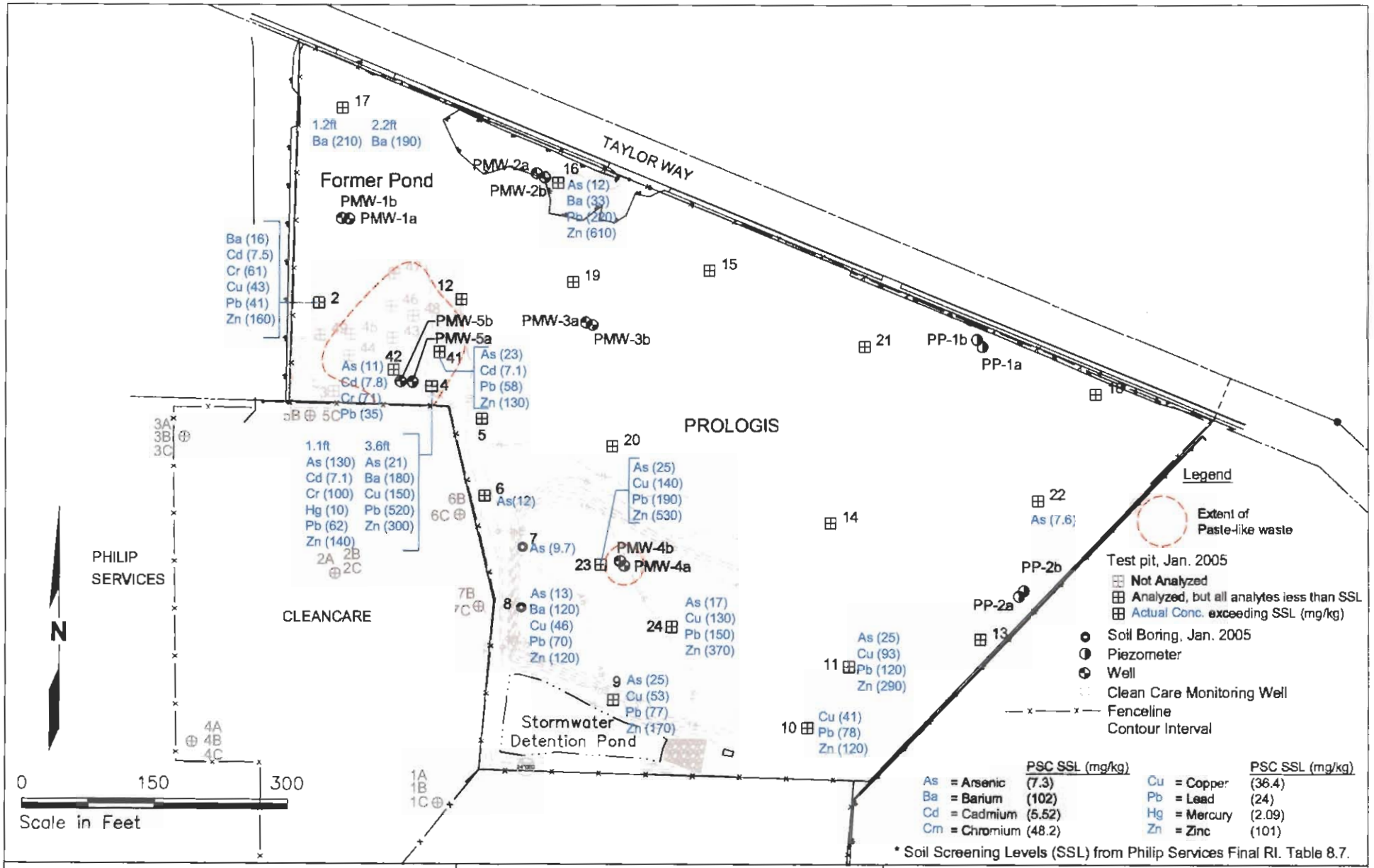

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Figure 3.11

Metals Exceeding Soil Screening Levels

DATE: 09/26/08 11:15am
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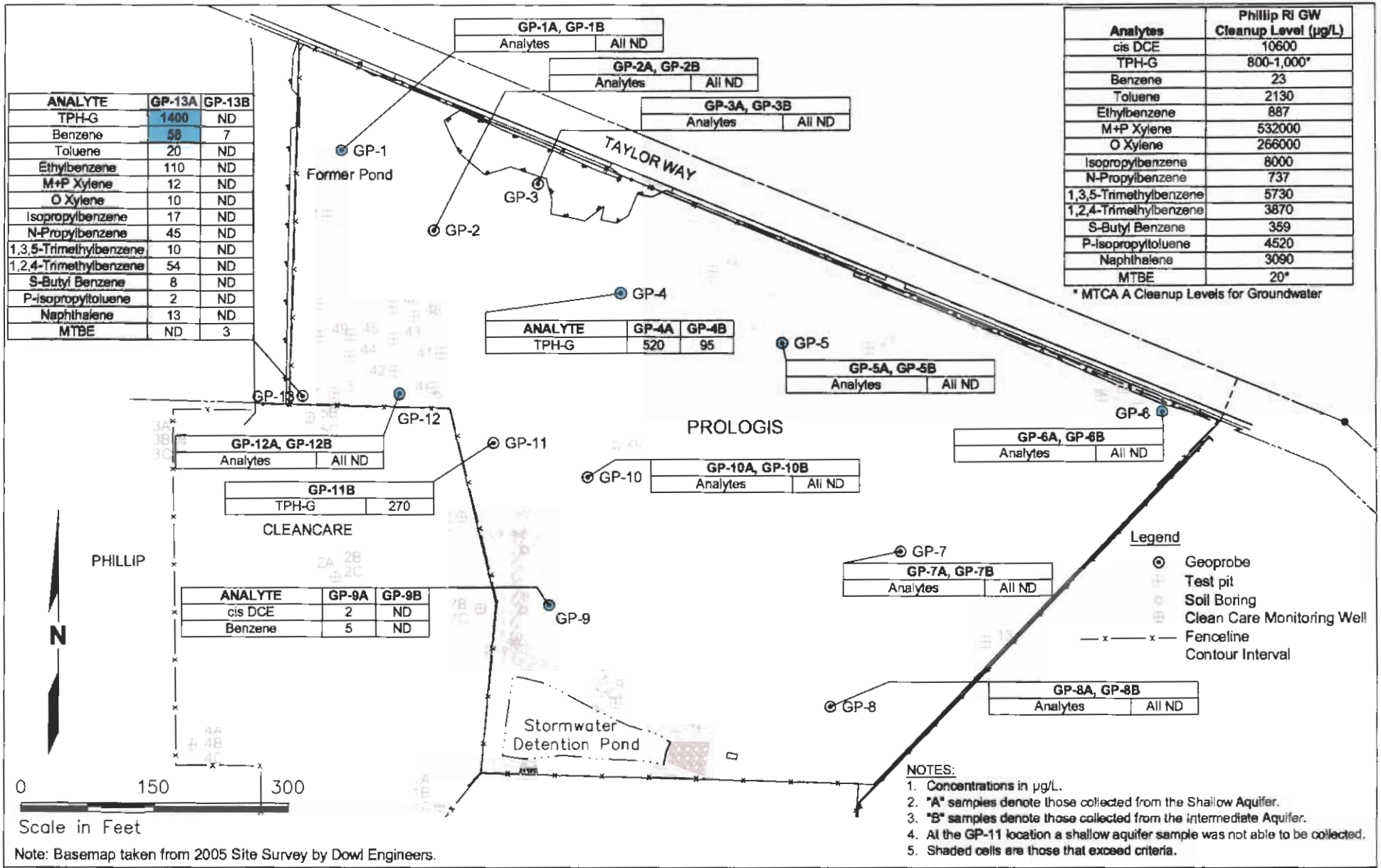

ANALYTE	GP-13A	GP-13B
TPH-G	1400	ND
Benzene	58	7
Toluene	20	ND
Ethylbenzene	110	ND
M+P Xylene	12	ND
O Xylene	10	ND
Isopropylbenzene	17	ND
N-Propylbenzene	45	ND
1,3,5-Trimethylbenzene	10	ND
1,2,4-Trimethylbenzene	54	ND
S-Butyl Benzene	8	ND
P-isopropyltoluene	2	ND
Naphthalene	13	ND
MTBE	ND	3

ANALYTE	GP-4A	GP-4B
TPH-G	520	95

ANALYTE	GP-9A	GP-9B
cis DCE	2	ND
Benzene	5	ND

Analytes	Phillip RI GW Cleanup Level (µg/L)
cis DCE	10600
TPH-G	800-1,000*
Benzene	23
Toluene	2130
Ethylbenzene	887
M+P Xylene	532000
O Xylene	266000
Isopropylbenzene	8000
N-Propylbenzene	737
1,3,5-Trimethylbenzene	5730
1,2,4-Trimethylbenzene	3870
S-Butyl Benzene	359
P-Isopropyltoluene	4520
Naphthalene	3090
MTBE	20*

* MTCA A Cleanup Levels for Groundwater

NOTES:
1. Concentrations in µg/L.
2. "A" samples denote those collected from the Shallow Aquifer.
3. "B" samples denote those collected from the Intermediate Aquifer.
4. At the GP-11 location a shallow aquifer sample was not able to be collected.
5. Shaded cells are those that exceed criteria.

Note: Basemap taken from 2005 Site Survey by Dowl Engineers.

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Figure 3.12
VOC and TPH-G Results for Geoprobe Groundwater Samples

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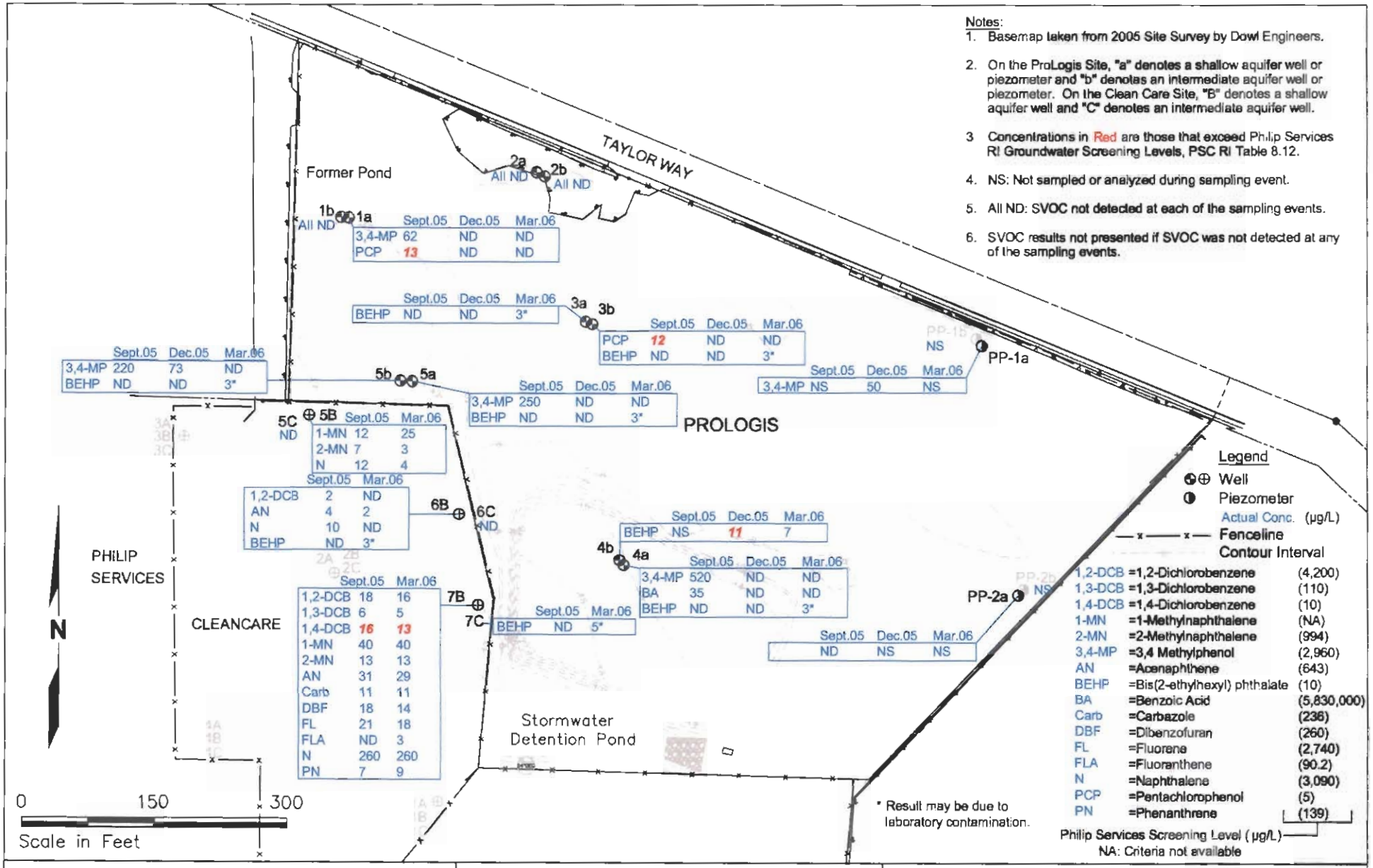

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Figure 3.13

SVOC Results for Groundwater

DATE: 06/18/08 10:28am
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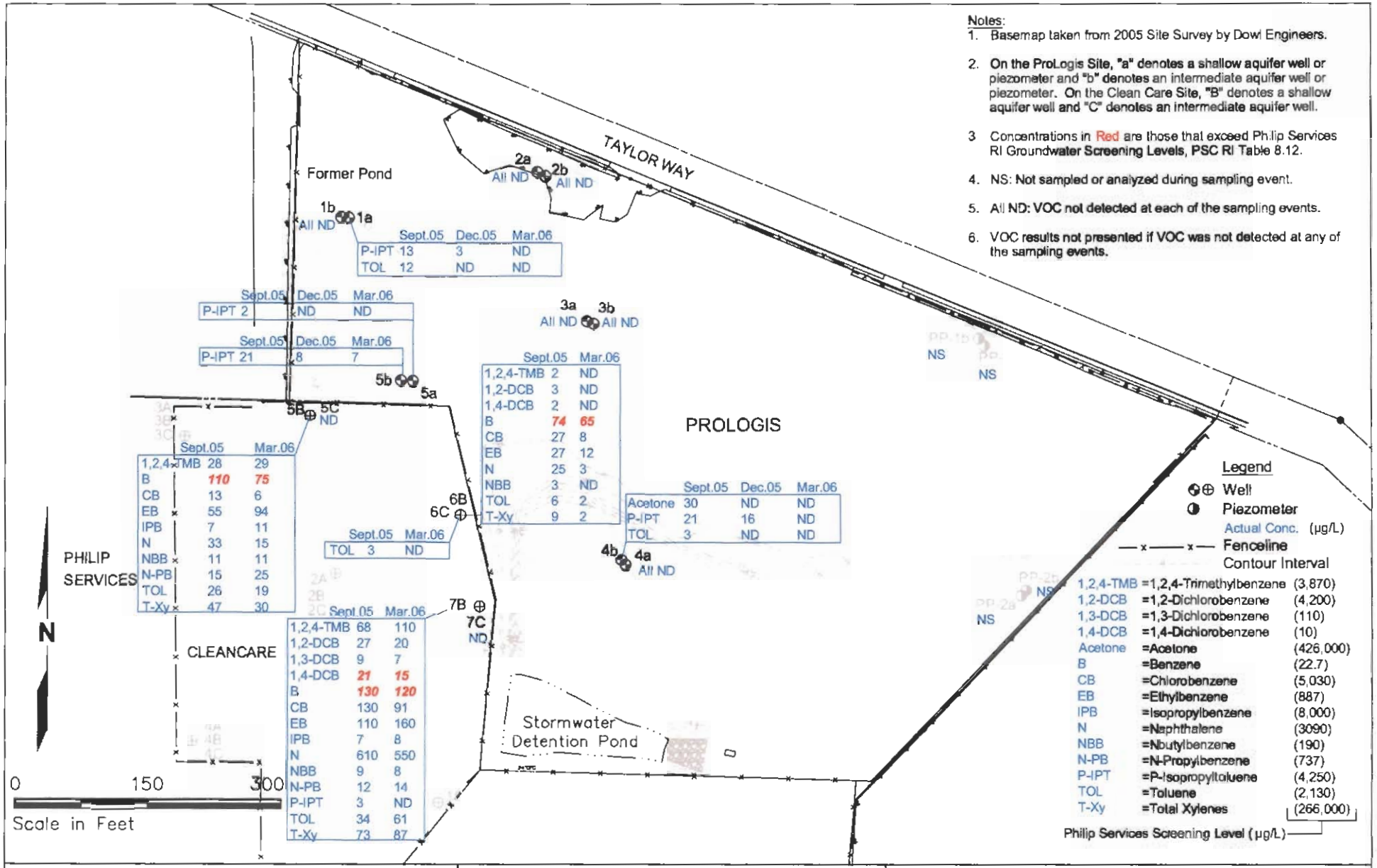

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Figure 3.14

VOC Results for Groundwater

DATE: 06/19/06 10:29am
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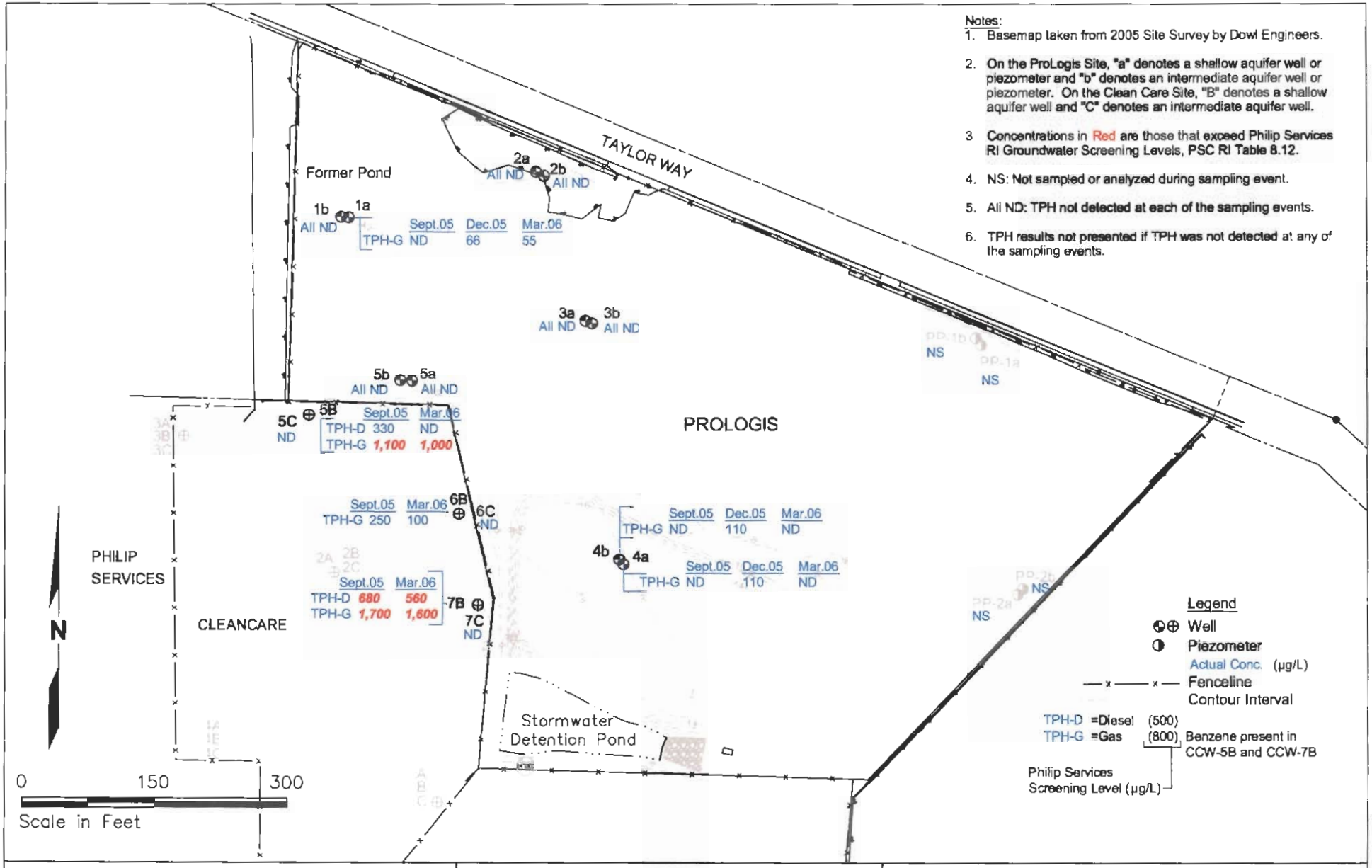

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Figure 3.15

TPH Results for Groundwater

DATE: 06/19/06 10:30am
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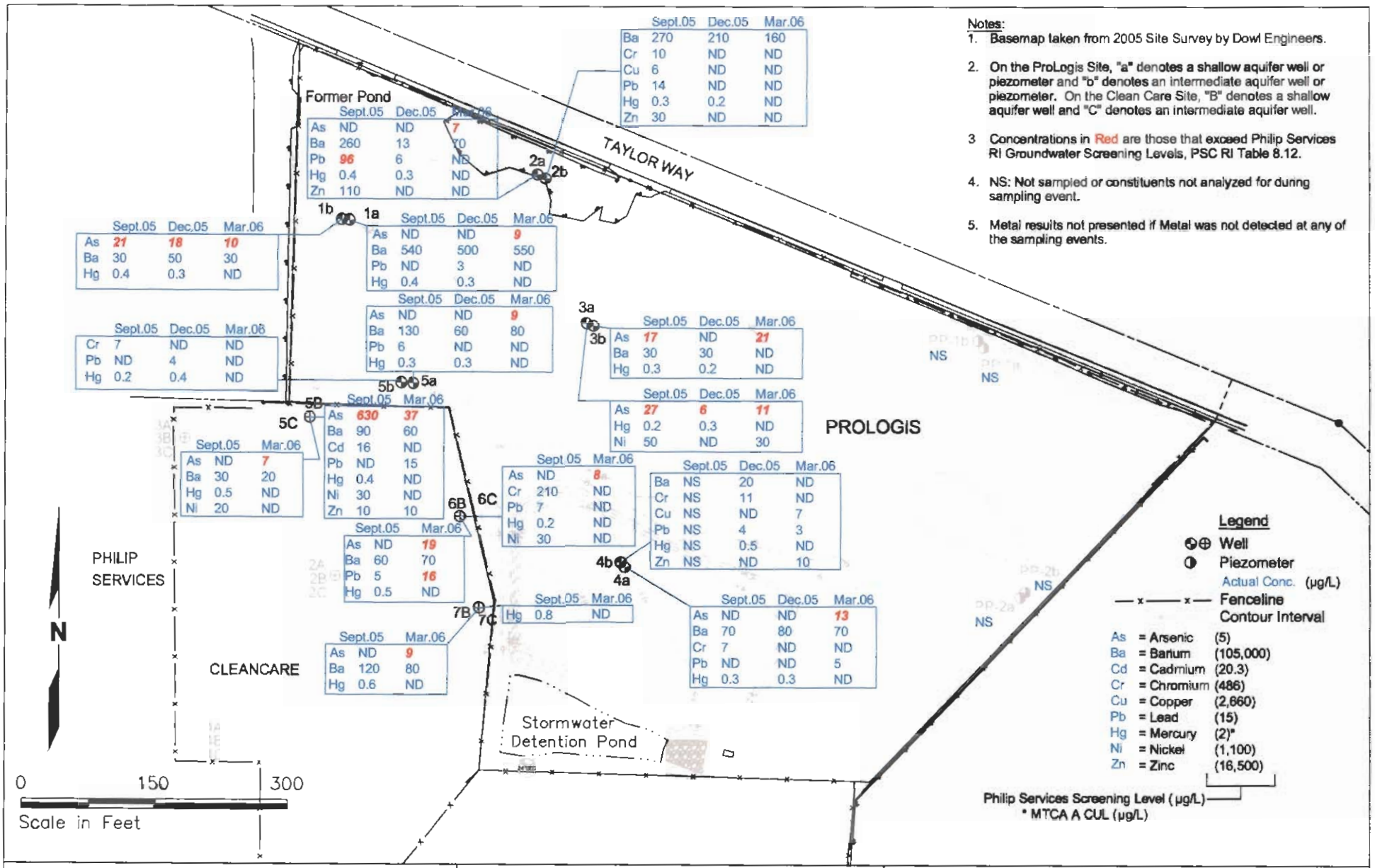

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Figure 3.16

Metals Results for Groundwater

DATE: 06/18/08 10:31am
DWG NAME: G:\project\Clients\Floyd and Snider\TaylorWay\RemedialInvestigationFigures\toyRem016 (Fig 3_16).dwg

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Appendix A
Site Photos on CD-ROM

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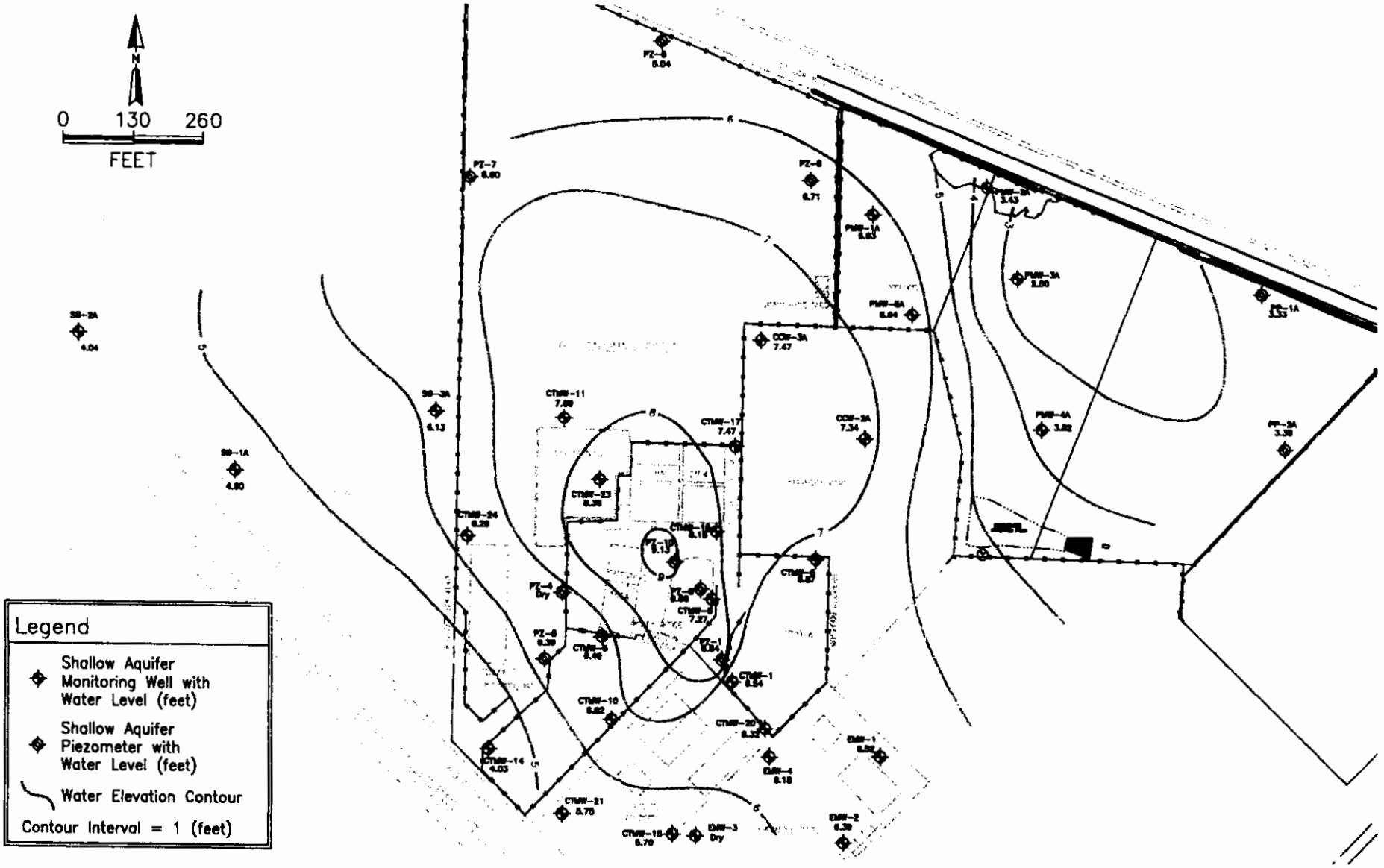
Appendix B
Philip Services Corporation
Groundwater Elevation Figures

FINAL



PSC

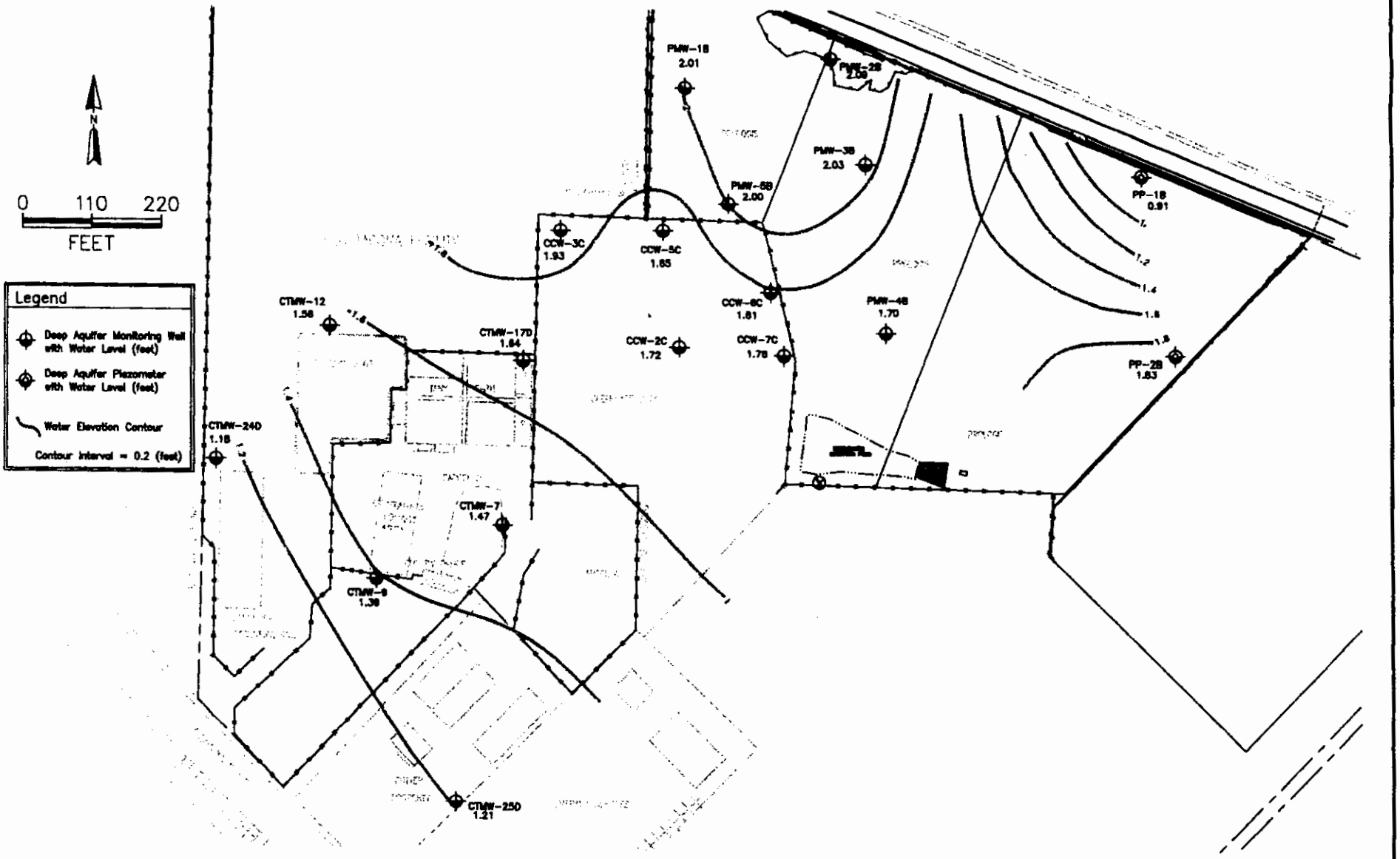
TITLE:

Groundwater Elevations

Shallow Aquifer, September 23, 2005

PSC Facility

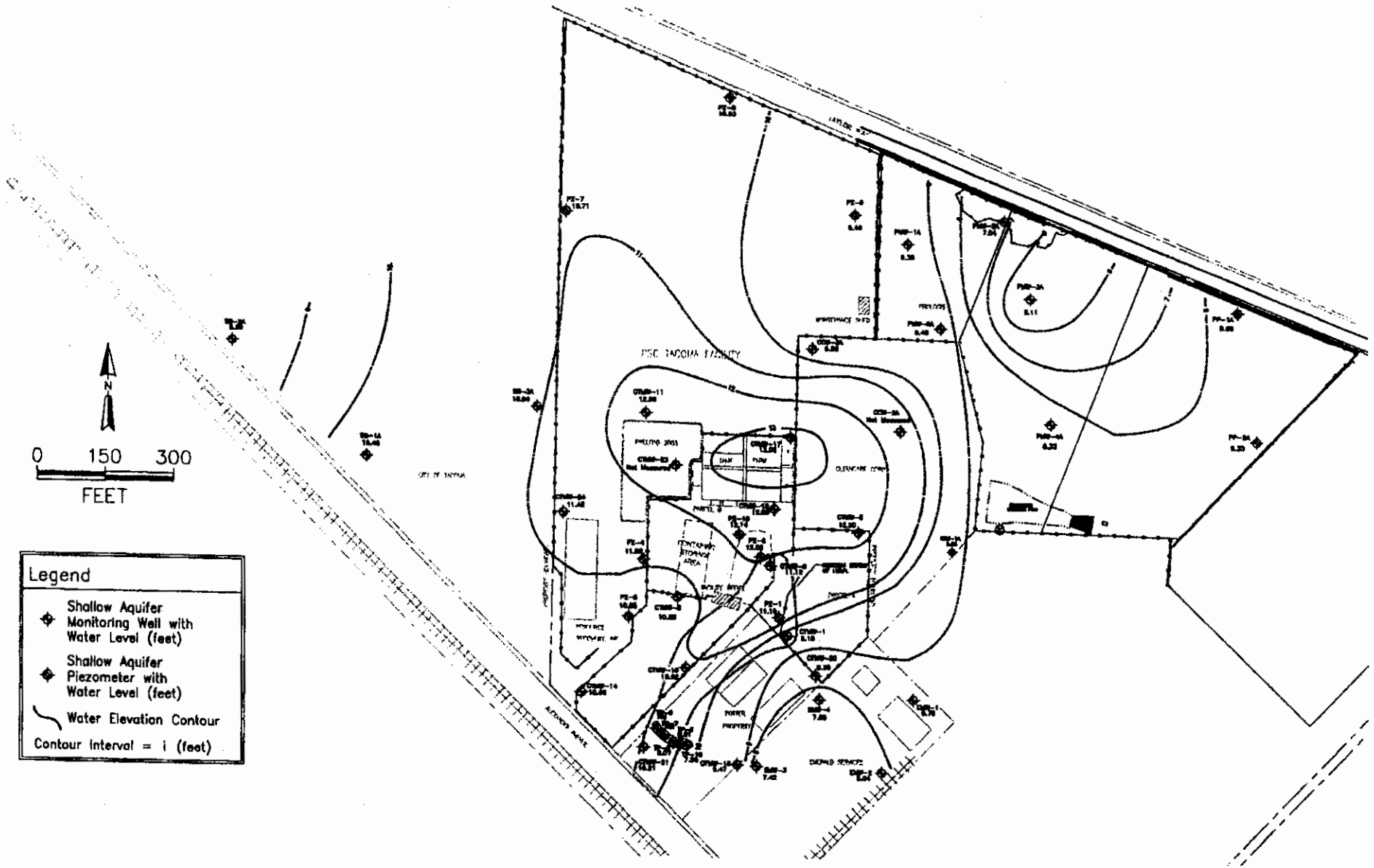
DWN: dtb	DES.:	PROJECT NO.: 3Q05
CHKD:	APPD:	FIGURE NO.: 1
DATE: 1/4/06	REV.: 1	



PSC

TITLE:
Groundwater Elevations
Deep Aquifer, September 23, 2005
PSC Tacoma Facility

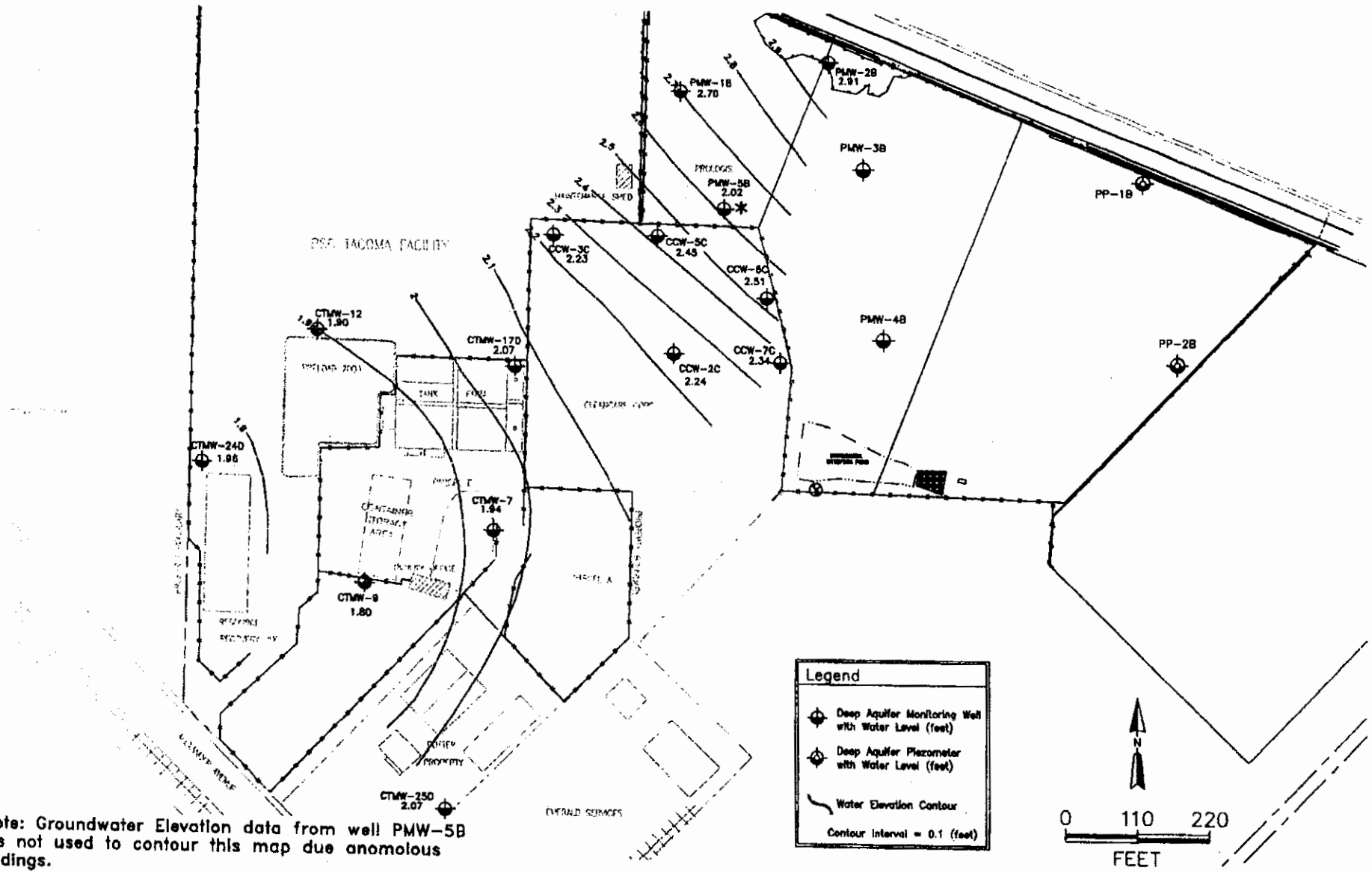
DWN: dtb	DES.:	PROJECT NO.: 3Q05	
CHKD:	APPD:		
DATE: 1/5/06	REV.:	FIGURE NO.: 3	



PSC

TITLE:
Groundwater Elevations
Shallow Aquifer, January 6, 2006
PSC Tacoma Facility

DWN: dtb	DES.:	PROJECT NO.: 4005	
CHKD:	APPD:		
DATE: 4/14/06	REV.: 2	FIGURE NO.: 1	

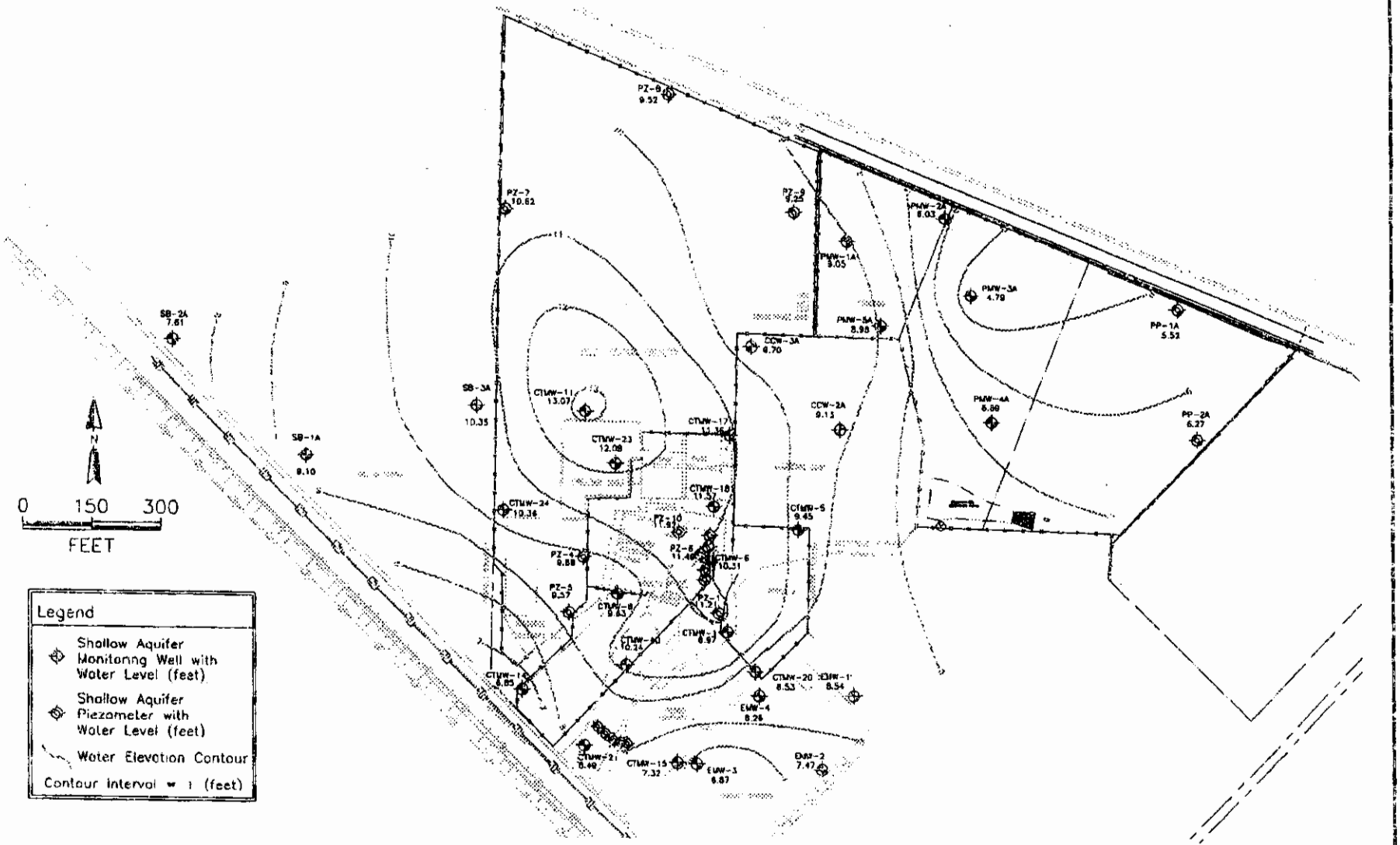


*Note: Groundwater Elevation data from well PMW-5B was not used to contour this map due anomolous readings.

PSC

TITLE:
Groundwater Elevations
Deep Aquifer, December 9, 2005
PSC Tacoma Facility

DWN: dtb	DES.:	PROJECT NO.: 4005	
CHKD:	APPD:		
DATE: 3/16/06	REV.:	FIGURE NO.: 3	



PSC

TITLE:
Groundwater Elevations
Shallow Aquifer, March 20, 2006
PSC Tacoma Facility

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CHKD:	APPD:		
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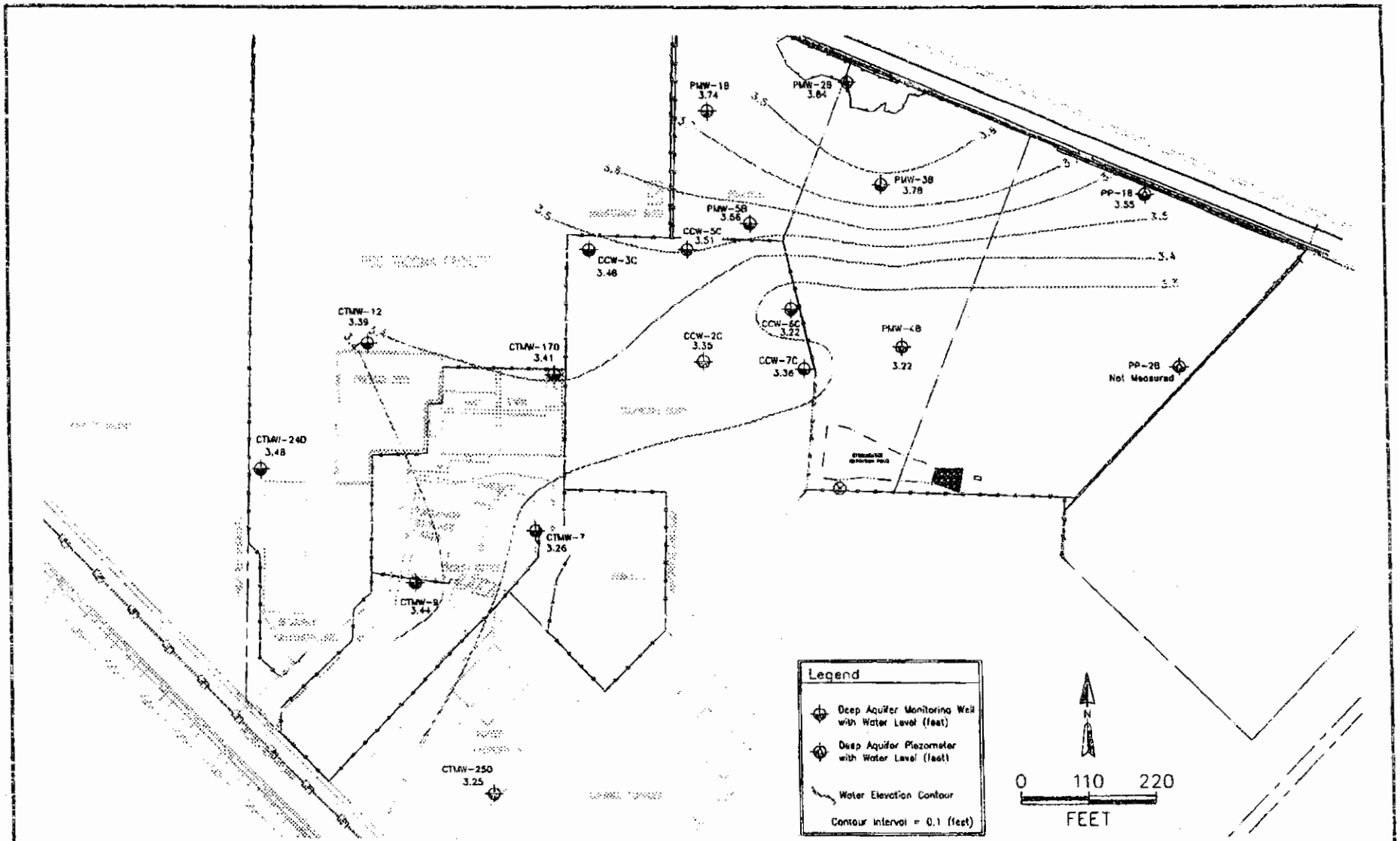

PSC

TITLE:
Groundwater Elevations
Deep Aquifer, March 20, 2006
PSC Tacoma Facility

DWN:	DES.:	PROJECT NO.:
dtb		1006
CHKD:	APPD:	FIGURE NO.:
DATE: 6/29/06	REV.:	3

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Appendix C
Laboratory Reports on CD-ROM

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Appendix D
Test Pit Logs and Soil Boring Logs

FINAL

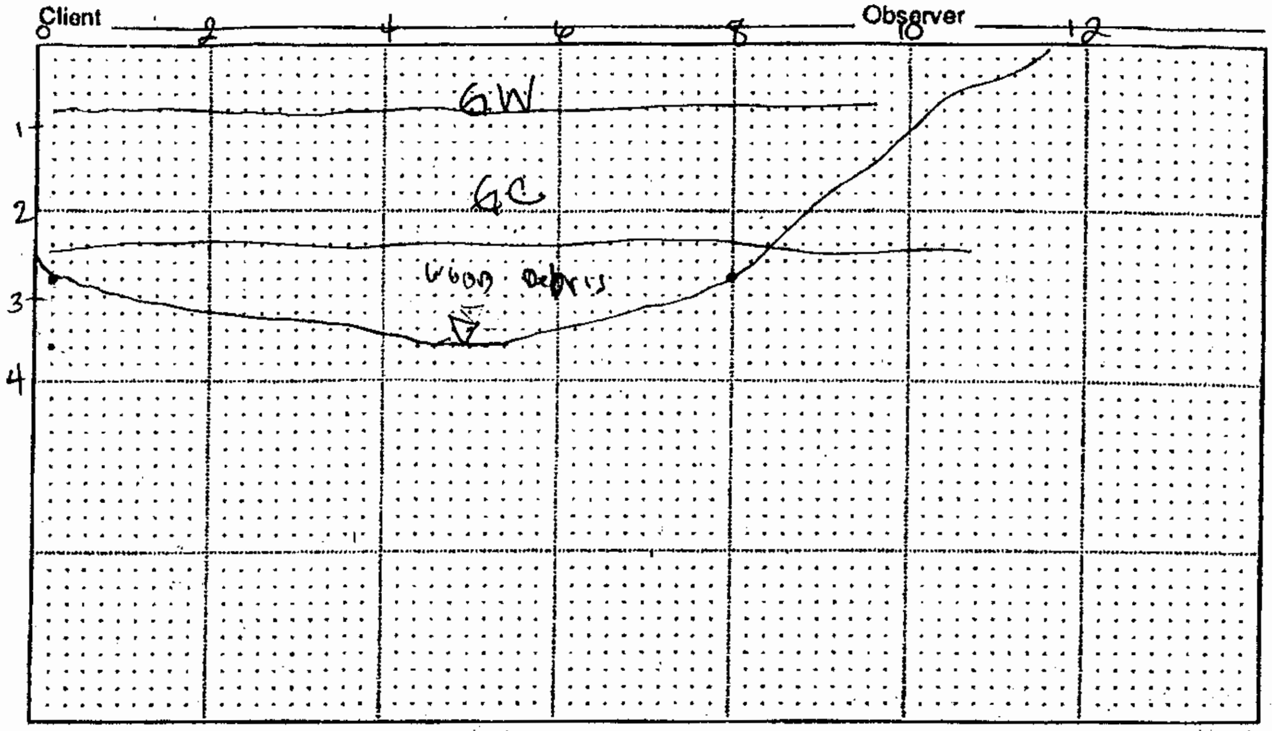
Log of Test Pit

TEST PIT NO. TP-1

(Approx. Elev. ______ ft.)

Project ______________________ Project No. Pr0109-TWP.T5

Client ______________________ Observer ______



Comments/Field Notes: H_2S odor, possibly reduced, @ 0.3 ft bgs geotextile fabric
PID reading = 0.0 ppm Photos 3 & 4

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistencey, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Sheen ~~Other~~ Tests
0-0.9	GW	LT BROWN; Dark Gray-top; SANDY GRAVEL, WELL Graded; moist; well graded gravel w/ sand			No sheen
0.9-2.3	GC	LT GRAY; clayey gravel w/ sand, plastic, cobbles-5-10% rounded; wood/lumber fragments; charcoal			No sheen
2.3-3.8		Dark GRAY; Gravelly organic Soil; brick, wood, no [illegible] moist, rounded cobbles, lumber & wood debris [illegible]			No sheen
		↳ piece of rubber hose			
		↳ Dig deeper (3.8 ft) slight sheen, no odor could be due to organics	TWP05-01-04 3.4-3.6 ft 11:55	1 4oz jar - 3 voa capsules	Slight sheen @ water table

- Test Pit completed to 3.8 ft. on (date) 1/24/05 11:28
- No ground water seepage encountered

or • (Describe/Quantity) ABUNDANT ground water seepage encountered at 3.7 ft.

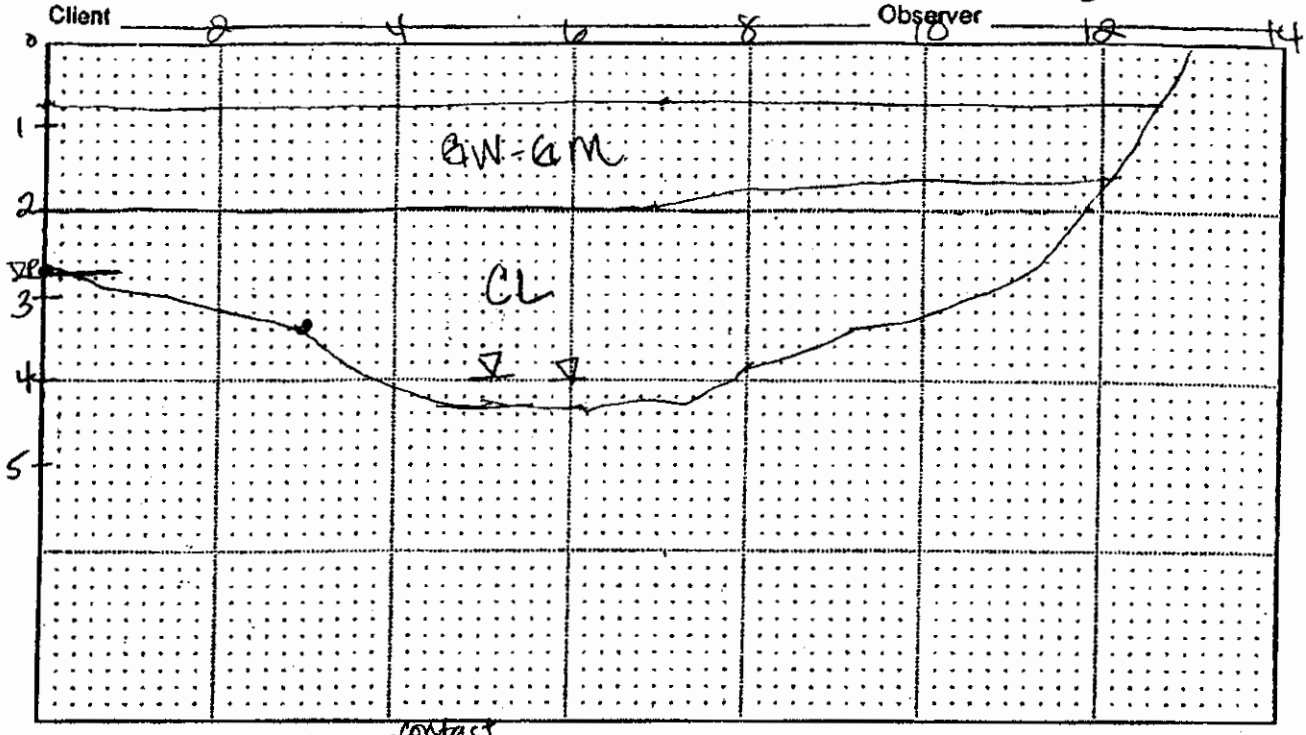
Log of Test Pit

TEST PIT NO. TP-2

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TWP.T5

Client _____ Observer _____



Comments/Field Notes: At 3ft, contact, hit w/ caving tube, groundwater @ 2.6ft, seepage, water w/ suds : sheen, decayed or wet wood odor

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.7		LT Brown; sandy SANDY GRAVEL; moist; non-plastic			No sheen
0.7 @ 2.6	GW-GM	DK grey; roots, piece of cable, scraps metal w/ sawdust, fill @ contact caving tube → well graded gravel w/ silt			No sheen
2.6-4.2	CL	dark grey; light brown; CL, clayey, wood fragments, gypsum? → clayey gravel w/ sand → @ water table wood debris/fragments	TWP05-02-01-28ft bgs 12:46	14oz jar 2 ziplocs	No sheen

- Test Pit completed to 4.2 ft. on (date) 1/24/05 12:51
- No ground water seepage encountered

or • (Describe/Quantity) Abundant ground water seepage encountered at 4.0 ft.

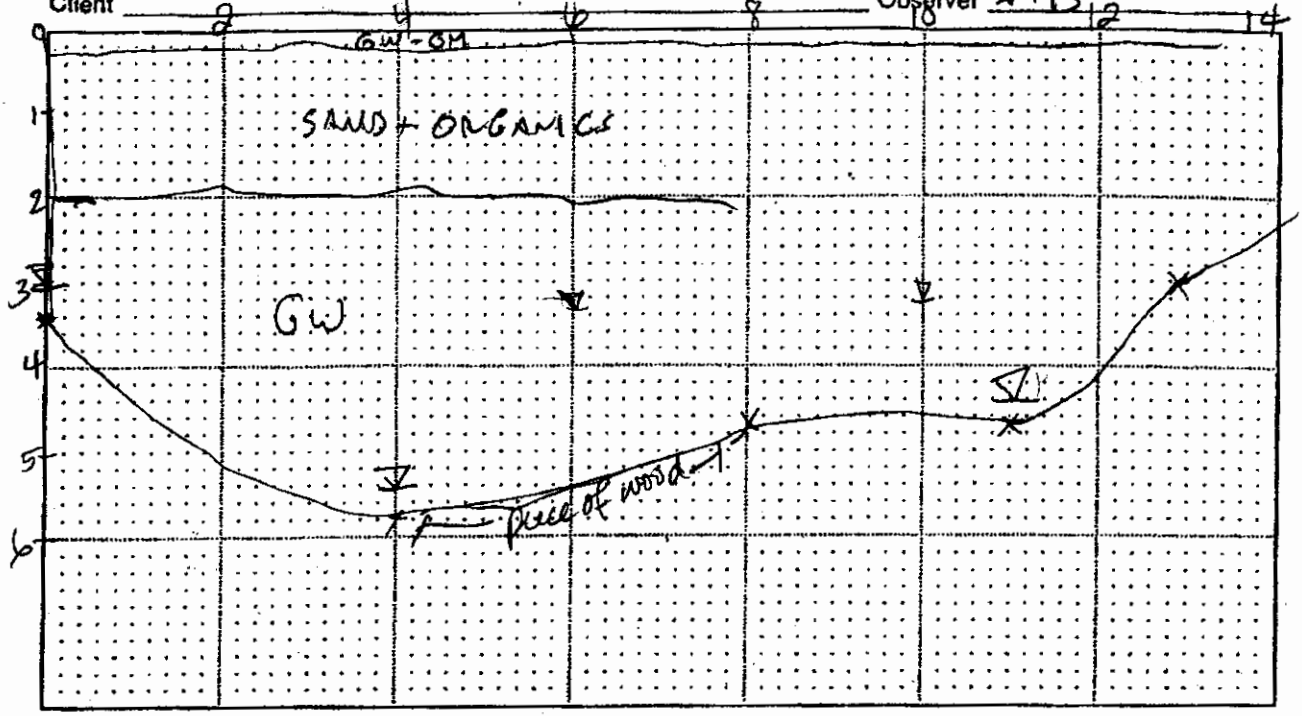
Log of Test Pit

TEST PIT NO. TP-3

(Approx. Elev. _____ ft.)

Project _____ Project No. Prologis-TWP. TS

Client _____ Observer JMS



Comments/Field Notes: FACING NW;
PID reading - 0 ppm

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Sieve Moisture Content,%	Other Tests
0-0.2	GW-GM	LT BRN; SANDY GRAVEL; MOIST - FILL TR ROOTS		NO	
		SANDY ORGANIC SOIL			
0.2-	SM	DK BRN; POORLY GRADED FINE SAND; MOIST		NO	
2.8	SP or G	TR PLASTIC + METAL STRAPPING,	1.0@		
		AL, GLASS, ROOTS; Possible	1330		
		pockets of white GYPSUM.	3-CAPS		
>2.0	GW	LT OLIVE GRAY; GRAVELLY SAND	1-40 JAR		
		w/ 5% WOOD FRAGMENTS + POCKETS			
		OF WOOD CHIPS (SAWDUST?) + COBBLES.			
		MOIST - WET			

- Test Pit completed to 5.8 ft. on (date) 1/24/05 @ 13:30
- No ground water seepage encountered
- (Describe/Quantity) abundant ground water seepage encountered at 5.5 ft.

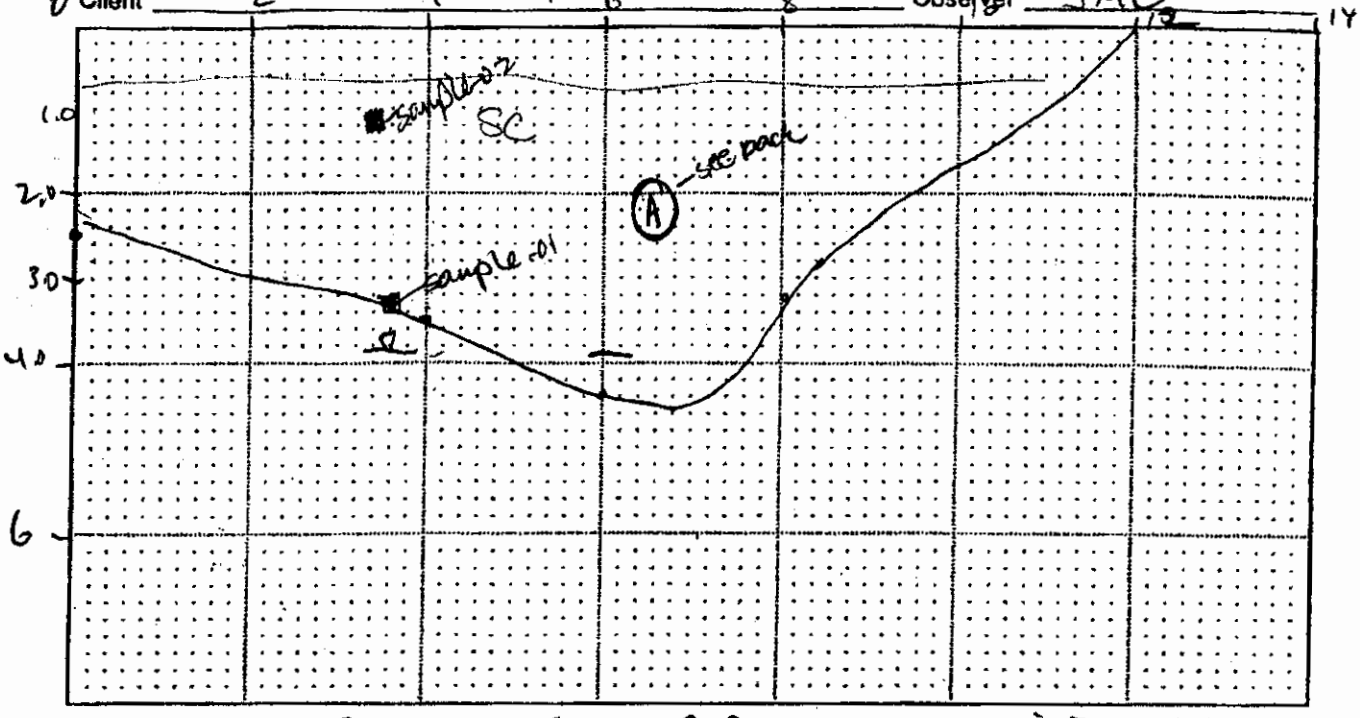
Log of Test Pit

TEST PIT NO. TP-4

(Approx. Elev. _____ ft.)

Project _____ Project No. _____

Client _____ Observer JML



Comments/Field Notes: FACING SE: PID reads 0.0 in TOP P.T.

1/25/05: went back to pit to collect sample of light gray layer w/ white gypsum as possible like solvent sludge.

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.6		Light Brown; moist; Gravelly sand, poorly graded, roots trace cobbles (F-M)			
0.6-2.9	SC	Light, gry, sand w/ clay poorly graded, medium plasticity, moist, fill, plastic, roots, trace gravel, metal	- Clayey Sand w 20% gravel size white gypsum TWP05-0402-15:55	14oz 3 Cups.	NO sheen
2.9-		Debris, wood, cobbles, Fm sand, plastic	roots		No sheen
		↳ gravelly sandy wood debris, lumber			
		- ground table suds, no sheen	TWP05-04-01 3.6 ft 14:15	1 402 jar 3 VOA vials	

- Test Pit completed to 4.4 ft. on (date) 1/24/04 14:10
- No ground water seepage encountered

or • (Describe/Quantity) ABUNDANT ground water seepage encountered at 3.8 ft.

TP-4

(A) Layer Description

White specs ≈ 10% - 15%
Color: Gray varies from N-4 to N-7
light to dark

⇒ Intermixed w/ sand w/ <5% silt, gray clay lumps
N-4 to N-5
↳ w/ white specs above

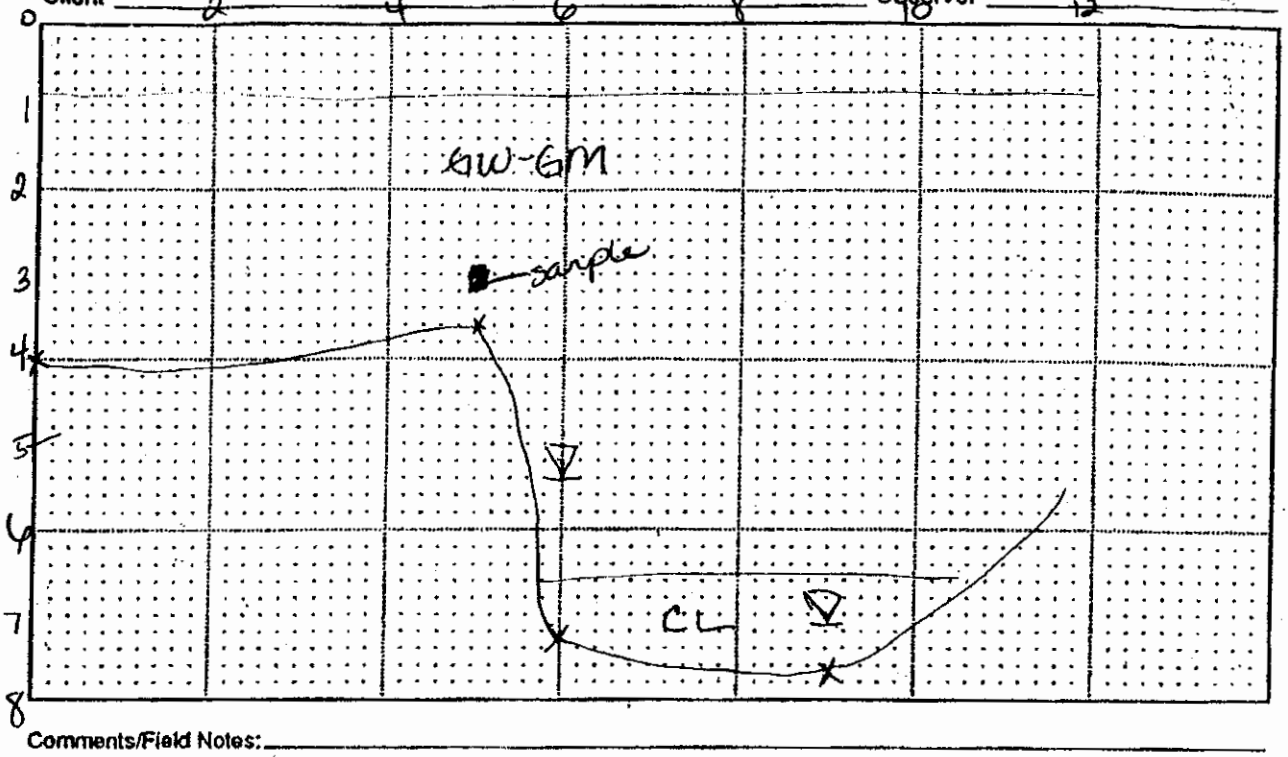
Log of Test Pit

TEST PIT NO. TP-5

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TWP.TS

Client _____ Observer _____



Comments/Field Notes: _____

PID readings = Ø

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.9		Lt Brown, SAND & gravel, well graded moist			No sheen
0.9-6.6	GW-GM	Dark grayish brown, well graded, gravel up to pieces of rock, moist, 5-10% bricks silt	TWP05-05-01 3H bgs 16:15		No sheen
		fragments, metal, plastic			
6.6-	CH	Gray high plasticity clay, lean clay, thinly	moist		
		bedded, pale brown soft, decayed wood, peat			
		1 to bedding → NATIVE,			
		- no sheen or suds in groundwater			
		table. Just earthy odor - clean.			

- Test Pit completed to 7.6 ft. on (date) 1/24/05 15:32
- No ground water seepage encountered

or • (Describe/Quantity) Seepage ground water seepage encountered at 7 ft.

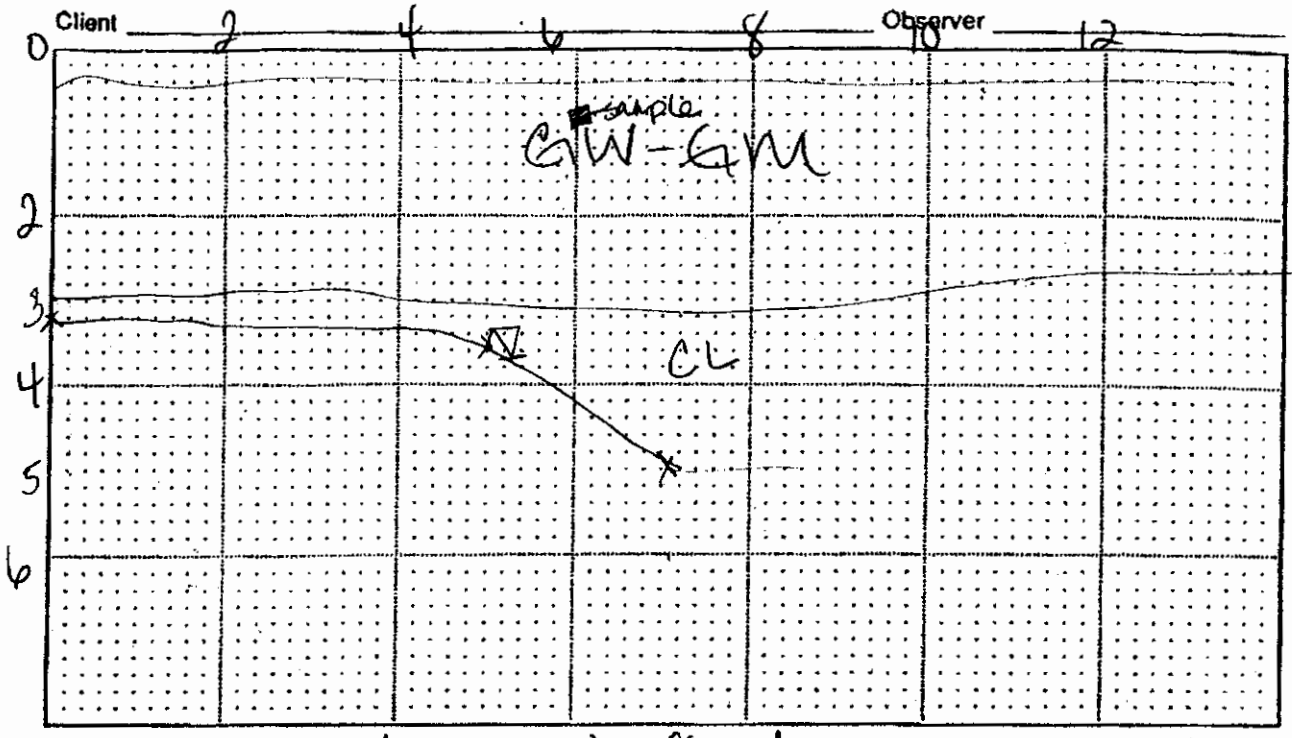
Log of Test Pit

TEST PIT NO. TP6

(Approx. Elev. _____ ft.)

Project _____ Project No. _____

Client _____ Observer _____



Comments/Field Notes: Grnd around pit soft, wet

PID reading = 0 ppm

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.2	~~Grass~~ GW-GM	Dark brown, sandy gravel w/ silt, well graded, moist			No sheen
0.2-1.6 (1.6-2.3)	~~Brn~~ GW-GM	Dark green/gray, sandy gravel silt cobbles - trace, moist - to wet	TWP05-06-01 1ft bgs @ 15:55		No sheen
		- no odors, just earthy odor			
2.8-m	CL	Gray high plasticity 10% ~~black~~ brown fibers peat in it lean clay, moist, soft			No sheen

- Test Pit completed to 4.7 ft. on (date) 1/24/05 15:55
- No ground water seepage encountered

or • (Describe/Quantity) abundant seepage ground water seepage encountered at 1 ft. ft.

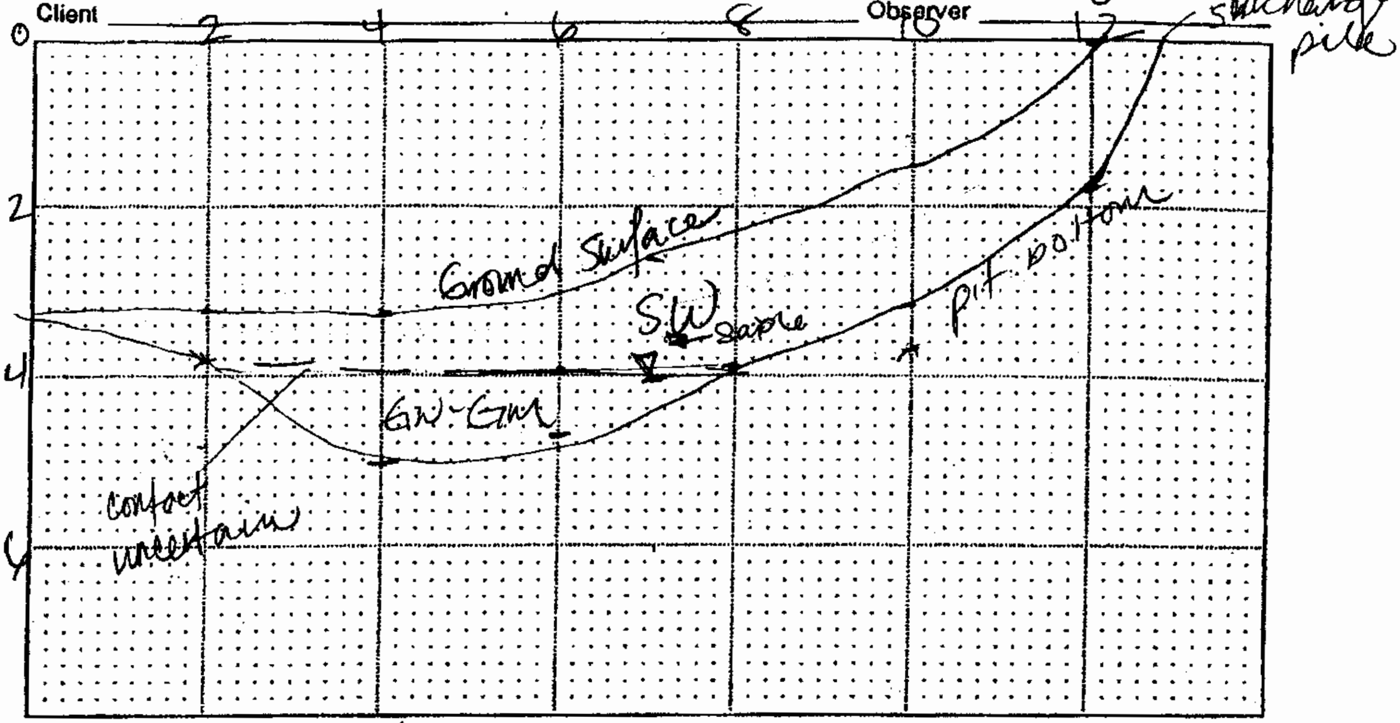
onward on west end near 0 on x axis

Log of Test Pit

TEST PIT NO. TP-9
(Approx. Elev. ______ ft.)

Project ______ Project No. Prolog-TWP.TS

Client ______ Observer ______



Comments/Field Notes: Side of surcharge pile w/ log pieces, scrap metal, concrete, PID = Ø ppm

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistencey, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-4	SW	Sand, well graded w/ 15-20% gravel dark brown & 5% concrete rubble, brick	TP05-09-1 3.6 ft	~1 4oz	NO sheen
		moist, roots, rounded cobbles & angular	9:06	2 caps	
4-	GW-GM	Gravel w/ < 5% silt, sand, 10% white fine to coarse sand Dark gray			
		facies			

- Test Pit completed to 5.0 ft. on (date) 1/20/05 8:54
- No ground water seepage encountered

or - (Describe/Quantity) moderate ground water seepage encountered at 4.0 ft.

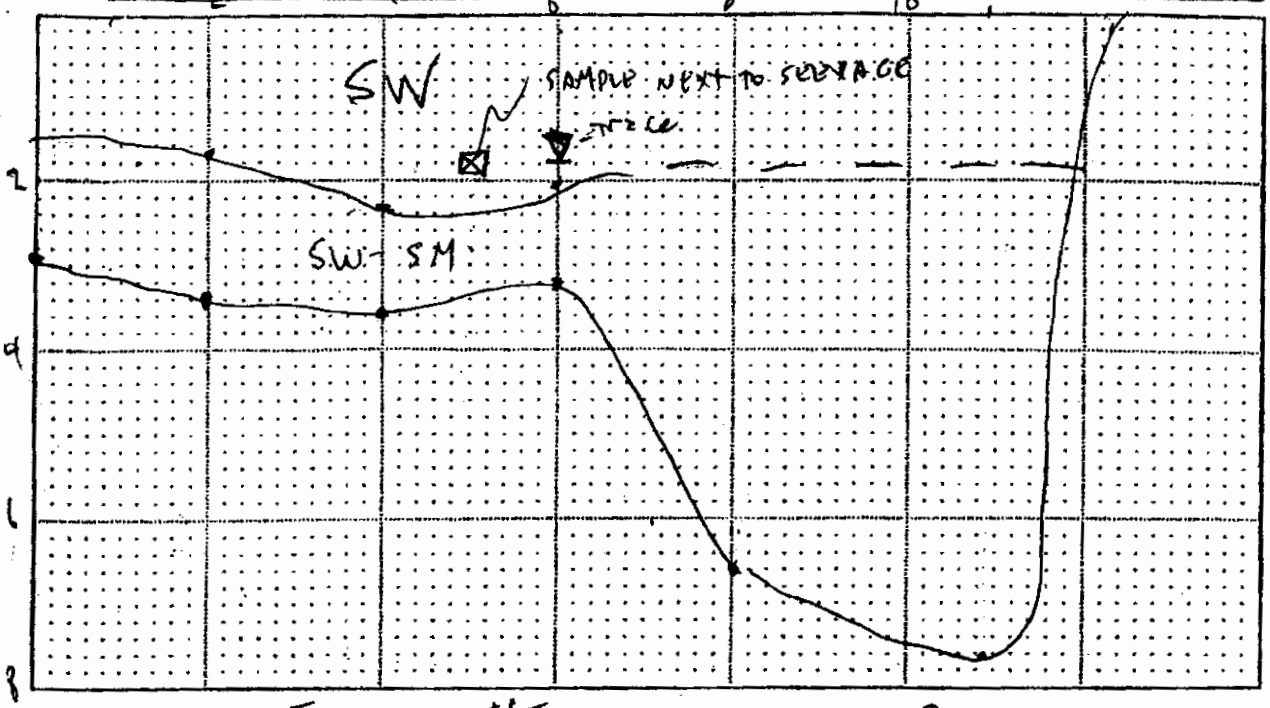
Log of Test Pit

TEST PIT NO. TP-10

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TWP 15

Client _____ Observer JMS



Comments/Field Notes: FACING NE. PID = 0

PID reading = 0 ppm

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-	SW	LT BRN; Poorly Grad SAND (f-m), < 5%			
~2.0		root hairs, tr wood fibers; < 10% LT			NO
		BRN SILT (clay) LUMPS; < 15 DNSE + ANG	TWDOS-10-01 8:30 @8ft	1 Jar 3 Caps	SHEEN
		GV, MOIST; TR brick frags, metal pieces,			No petrol odor
		GLASS, METAL SCRAPS, FLOOR TILE			
		(5-6)			
~2.0-	SW-SM	DK GRY; Poorly GRD SAND w/ 20%			
		ANG + SUB GV, TR Cobbles. LOW PLASTICITY			NO SHEEN
		10% FINES (SILTY), MOIST - WET; WOOD			NO Petrol
		FRAGS, PLASTIC, LUMBER (Debris 3-4')			odor
		→ WELL GRADED SAND w/ SILT + GRAVEL			

- Test Pit completed to 7.6 ft. on (date) 1/26/05 8:09
- No ground water seepage encountered
- (Describe/Quantity) @ TRACE ground water seepage encountered at 1.8 ft.

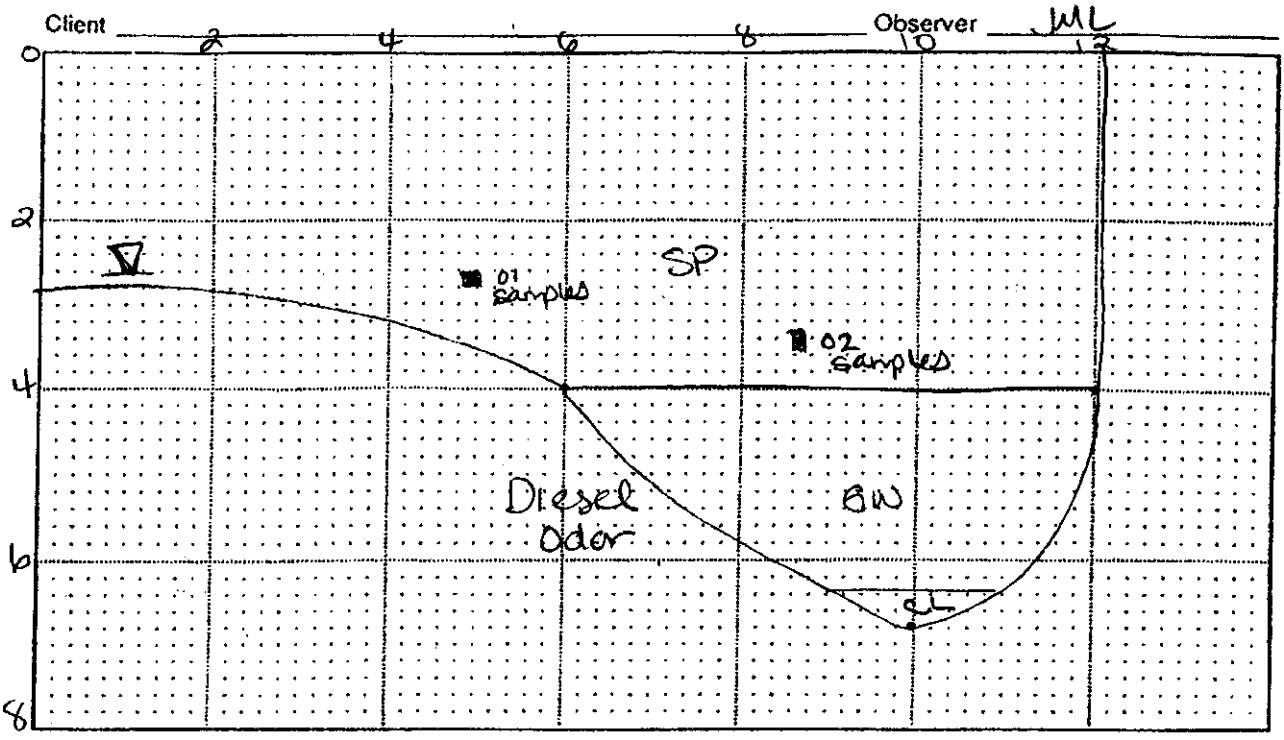
Log of Test Pit

TEST PIT NO. TP-11

(Approx. Elev. _____ ft.)

Project _____ Project No. _____

Client _____ Observer ML



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-4.0	SP	Dk BrNW; poorly graded sand, <5% fines >15% gravel, moist to wet, roots in upper part, brick fragments, creosote treated wood, lumber	TWP05-11-01 2.5ft 16:10	1403 jar 3 cans	No sheen
4.0-6.2	BW	Greenish gray; gravel; well graded sand w/ cobbles @ 3.5ft odor-fuel, loose, wet, dense sheen @ water collecting @ 5ft, not @ water @ 3ft. Geotextile memb,	TWP05-11-02 3.5ft 16:25 waste pile	1403 3 cans	Sheen @ 3.5 ft
6.2 –	CL	Native, dark yellowish brown; medium plasticity; clay black; brown, black relief, thinnly bedded w/ plant material			

- Test Pit completed to 6.9 ft. on (date) 1/25/05 16:00
- No ground water seepage encountered

or - (Describe/Quantity) moderate ground water seepage encountered at 3.0 ft.

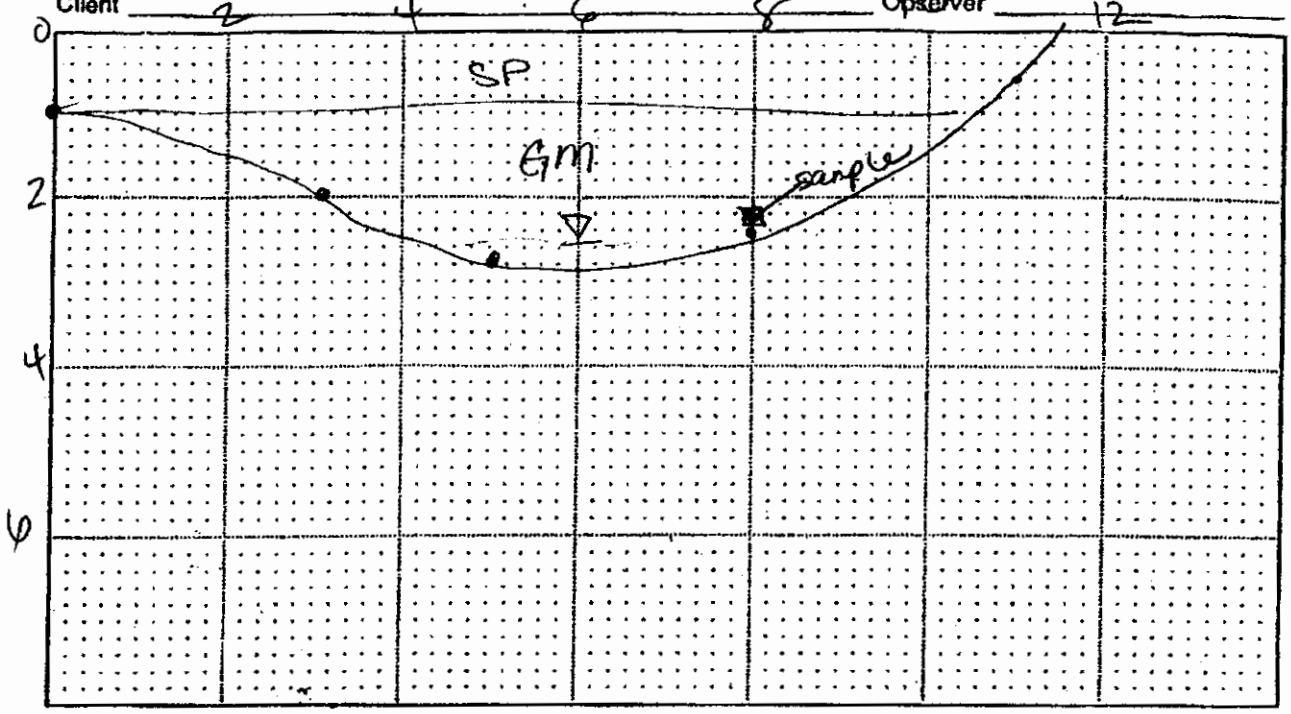
Log of Test Pit

TEST PIT NO. TP-12

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TWP.TS

Client _____ Observer _____



Comments/Field Notes: Slight sheen on groundwater

PID = 0.1 ppm

Faint petroleum/oil odor.

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-1	SP	DARK BROWN moist DRY; poorly graded sand w/ gravel			
1-	GM	GREEN moist-wet GRAY; well graded gravel, sand silt	TWP05-12-01-1403 13:23 2.2 ft	3 tabs	No sheen

- Test Pit completed to 5.0 ft. on (date) 1/26/05 13:15
- No ground water seepage encountered

or • (Describe/Quantity) Abundant ground water seepage encountered at 2.4 ft.

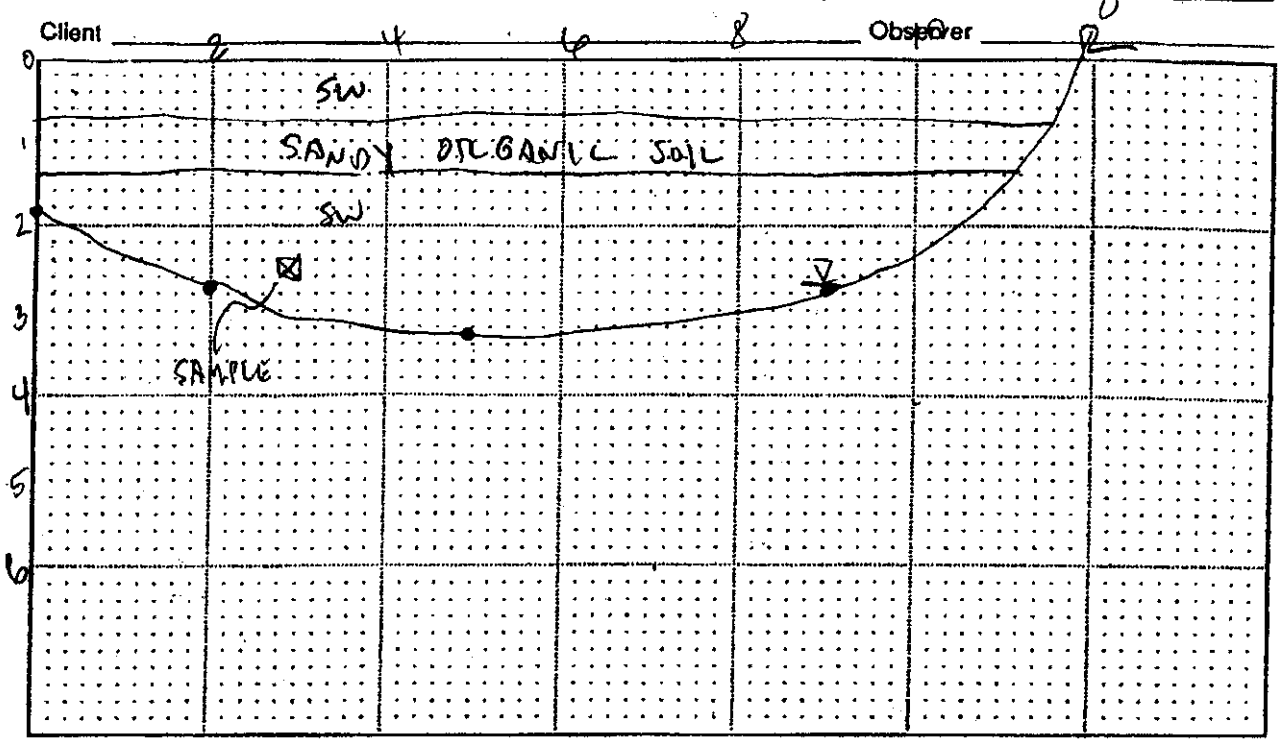
Log of Test Pit

TEST PIT NO. TP-13

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TUOP.T5

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.7	SW	DK BRN; WELL GRADED SAND W/ GV, ~5% FINES TR WOOD FIBERS & ROOTS, MOIST, FAINTLY ORG			NO SHEEN
		ROOTS			
0.7-1.6	1.6	DK BRN; SANDY ORGANIC SOIL; F-M SAND; ~30% COARSE, ~15% CLAY MOIST			
1.6		ROOTS, LARGE WOOD DEBRIS, LUMBER			NO SHEEN
		RND GV & ANG GV;			
>1.6	SW	~~BRN~~ GRAY; WELL GRADED SAND W/ GV	TUOP5-TP13-01-1403 15:30	3 GMS	
		<5% FINES; TR WOOD FRAGMENTS;			
		A FEW % - WOOD DEBRIS (LUMBER) REBAR, PLASTIC TARP,			
		MOIST - WET			

- Test Pit completed to 3.3 ft. on (date) 1/25/05 14:37
- No ground water seepage encountered

or • (Describe/Quantity) abundant seepage ground water seepage encountered at 2.6 ft.

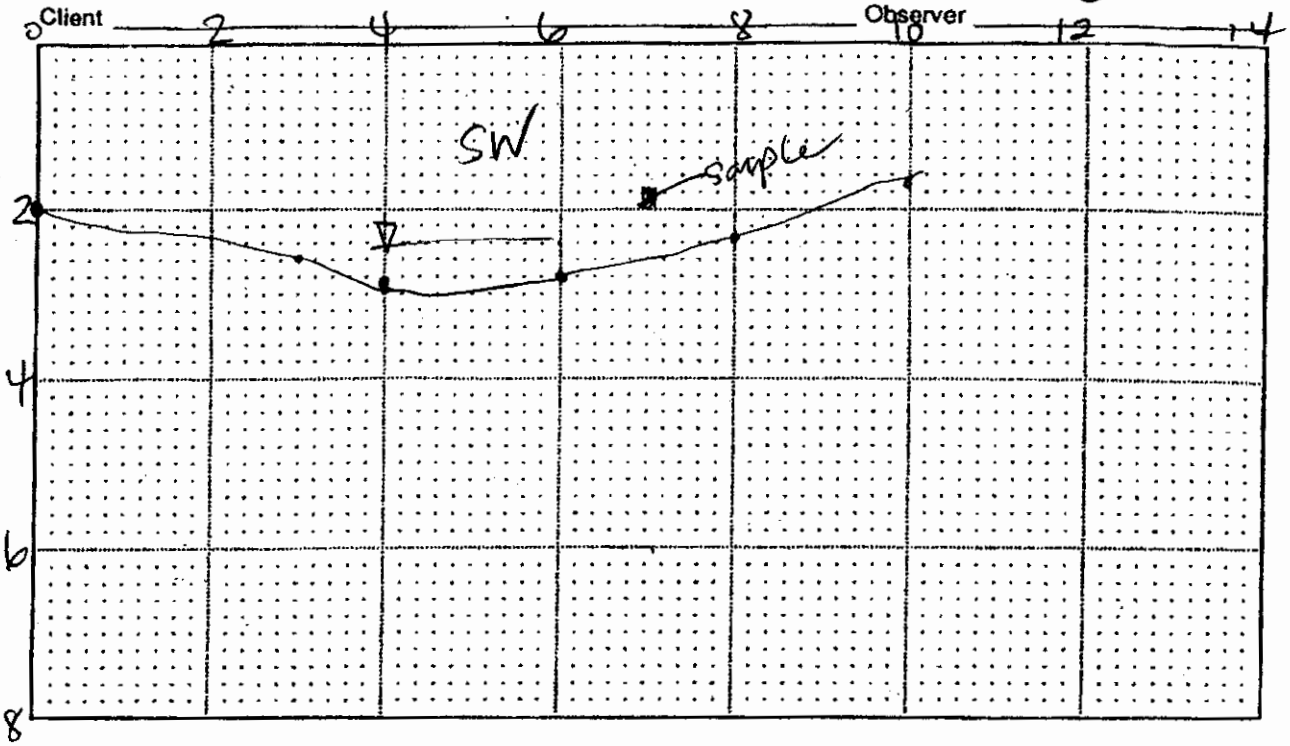
Log of Test Pit

TEST PIT NO. TP-14

(Approx. Elev. _____ ft.)

Project _____ Project No. Proj-TWP

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-2.9	SW	LT BRN, GRY, rounded, poorly graded sand (FILL)			
		light gravel, <10% sands, moist-wet			
		Concrete rubble, cobbles - 30%	TWP05-14-01 1.8 ft bgs 10:35	1 402 3 cups	- No sheen
		trace wood, no odor, no sheen			
		on water, trace roots			

- Test Pit completed to 2.9 ft. on (date) 1/26/05 10:32
- No ground water seepage encountered
- (Describe/Quantity) moderately-fast ground water seepage encountered at ~2 ft.

Seepage @ 1.4 →

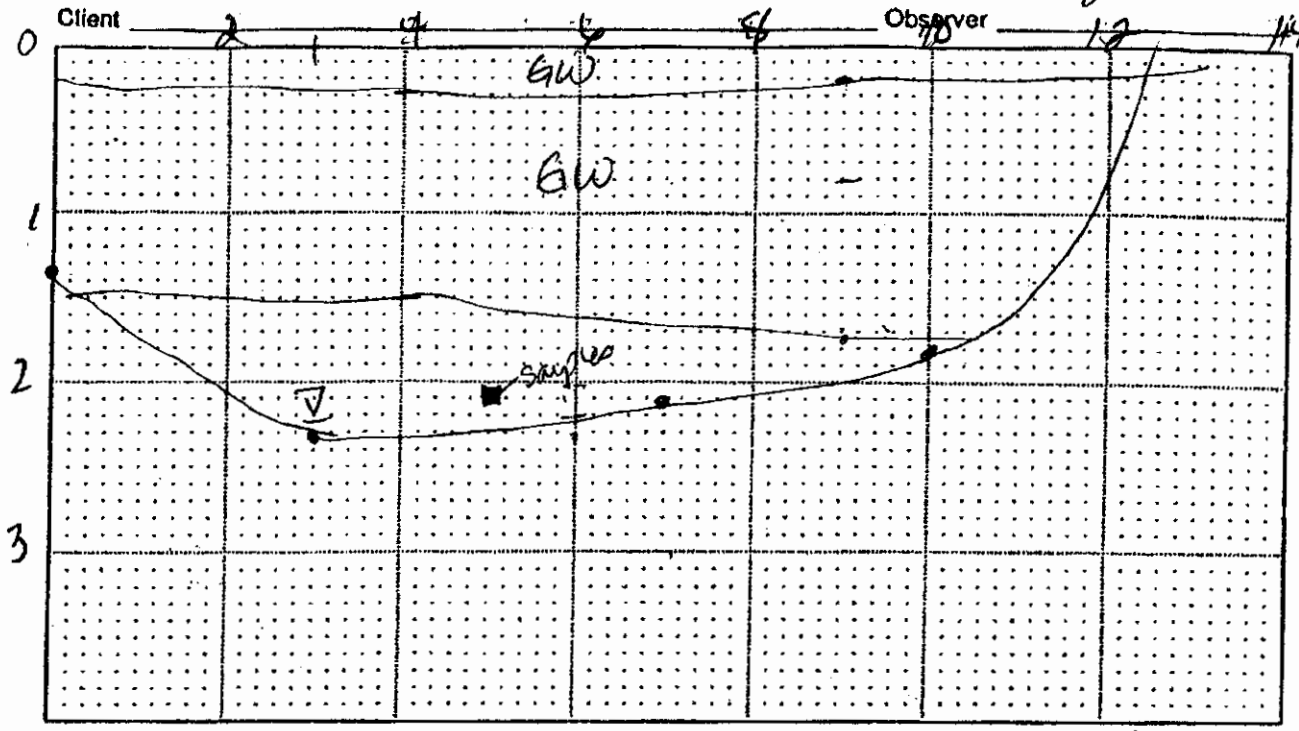
Log of Test Pit

TEST PIT NO. TP-15-moved

(Approx. Elev. _____ ft.)

Project _____ Project No. Alaska

Client _____ Observer _____



Comments/Field Notes: Relocated TP-15 ~15 ft N; due to high water table @ 2ft

Suds, no sheen. Earthy odor, no TPH odor.
on water

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.3	GW	LT Brown, gravel, well graded w/ sand <5% moist			No sheen
0.3-1.8	GW	gray gravel w/ <5% sand, well graded moist	TWP05-15-01 1.4ft bgs 11:50	1403 - 3 cap.	NO sheen
1.6		...ag			
1.6-		Dk Brown organic matter w/ brick fragments, PT moist-wet			No sheen
			TWP05-15-02-1403 11:50	- 3 cap 3 VOAs	

- Test Pit completed to 2.3 ft. on (date) 1/25/05 11:29 am
- No ground water seepage encountered
- or • (Describe/Quantity) abundant ground water seepage encountered at 2.2 ft.

272-8527 → 206 277-05275 819-7180

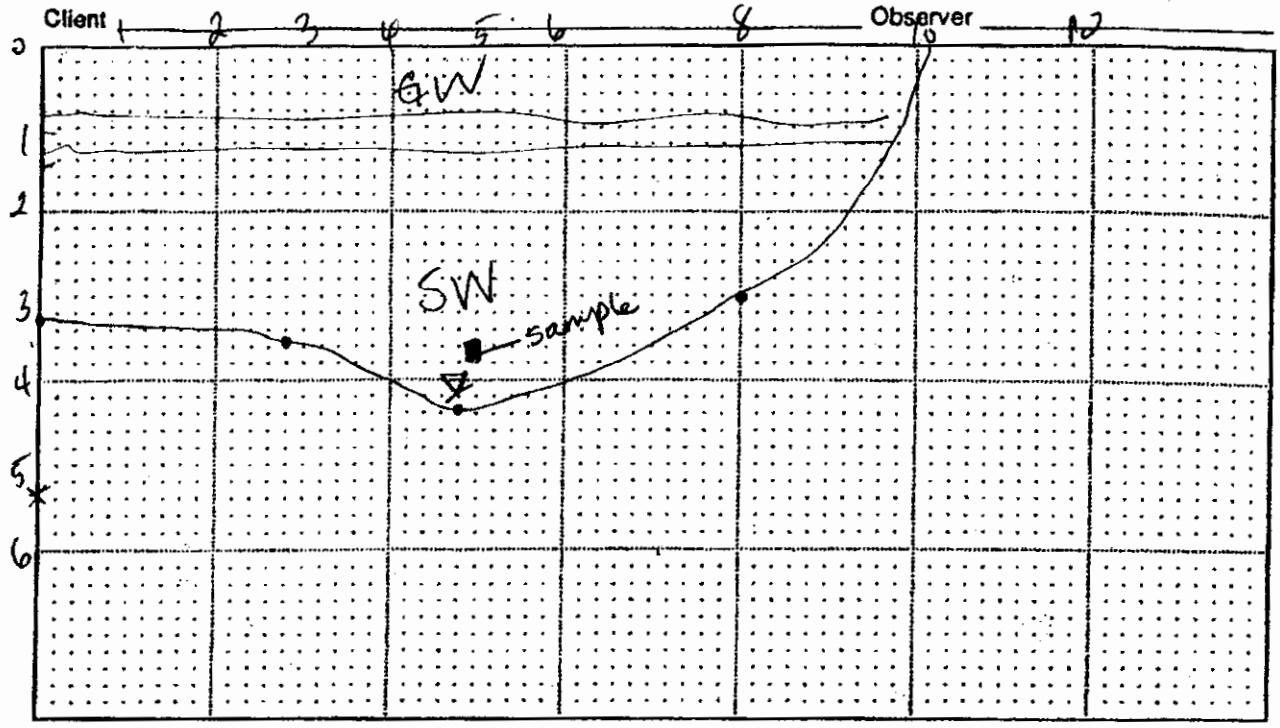
Log of Test Pit

TEST PIT NO. TP-16

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TWP.T5

Client _____ Observer _____



Comments/Field Notes:

PID reading = 0

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.2		Asphaltic concrete pavement			
0.2-0.7	GW	Light brown sandy gravel, well graded gravel w/ sand, moist non plastic			NO sheen
		↳ no debris			
0.7-1.2		↳ well graded gravel w/ sand trace wood, moist, non plastic			NO sheen
1.2-1.3		Dk brown ~ saw dust, organic, soil horizon with paw, moist - dry			NO sheen
1.3-	SW	brown, poorly graded, deposits of 50-70% brick fragments fine medium, dry	TWP05-16-01 @ 3.5 ft	1403 = 3 cups	NO sheen
		↳ gravel w/ sand	TWP05 grab-500-1 @ 3.5 ft	1403 = 3 cups	
			10:00		

- Test Pit completed to 4.0 ft. on (date) 1/29/05 8:57 am
- No ground water seepage encountered

or • (Describe/Quantity) abundant ground water seepage encountered at 4.1 ft.

trace sheen on water

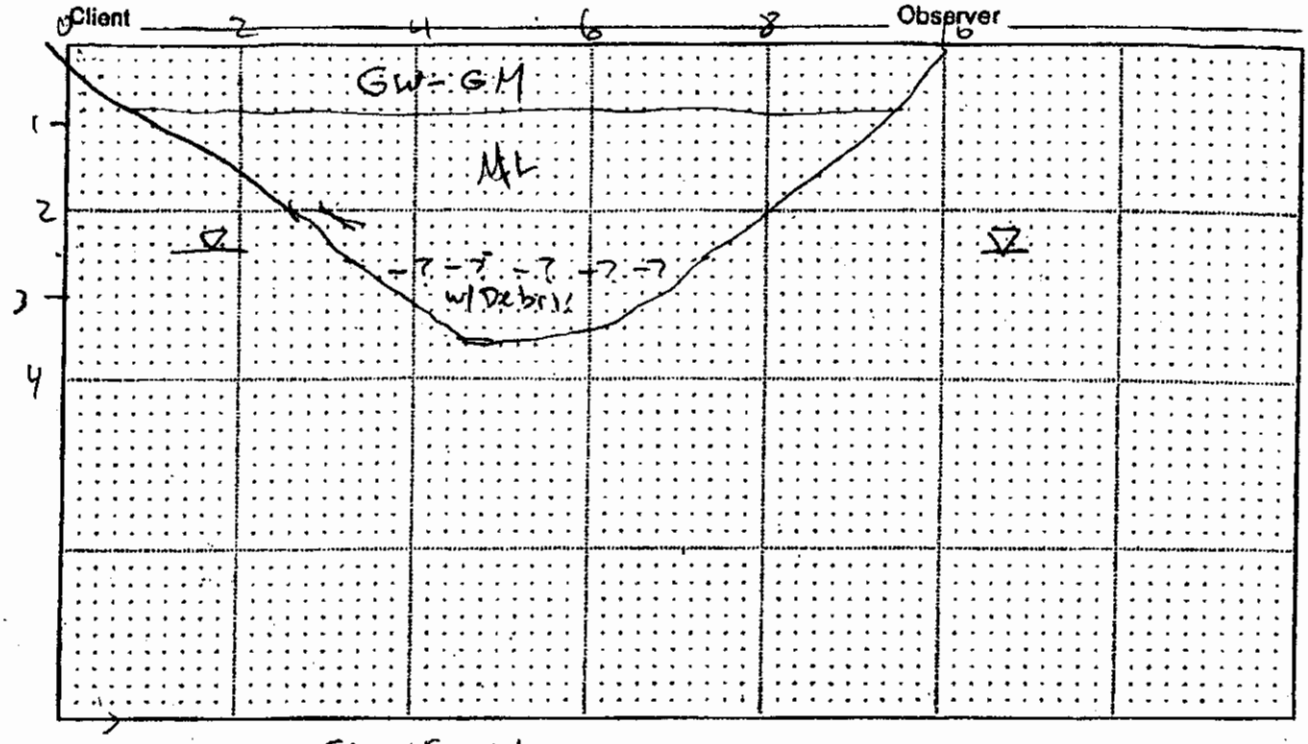
Log of Test Pit

TEST PIT NO. TP-17

(Approx. Elev. _____ ft.)

Project _____ Project No. PROJOG-TWP.TS

Client _____ Observer _____



Comments/Field Notes: FACING NW

PID read 0.0. Creosote odor; water table has traces of sheen & suds

Photos 1 & 2

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	PID Moisture Content,%	SHEEN PID Other Tests
0-0.8	GW-GM	LT BRN; well GRADED GRVL w/ SI + SA; cobble SLIGHTLY OXIDIZED; WET; FILL			No sheen, no odor
0.8-2.5	ML	LT GRY; CL; LEAN CLAY; DRY; 5-10% rounded cobble FILL; soft siltstone, shale w/ gravel	TWP05-17-01 1.2-1.8 ft bgs 10:55	3 VOC capsules -8403 jar -3 VOA vials	No sheen, no odor
2.5-?	?	FILL contains brick fragments; creosote treated timber debris gravel, cobble	TWP05-17-02 2.3-2.4 ft bgs 10:55	1 4oz jar -3 VOC tapsules	

- Test Pit completed to 3.5 ft. on (date) 1/24/05 10:25
- No ground water seepage encountered

or • (Describe/Quantity) ABUNDANT ground water seepage encountered at 2.5 ft.

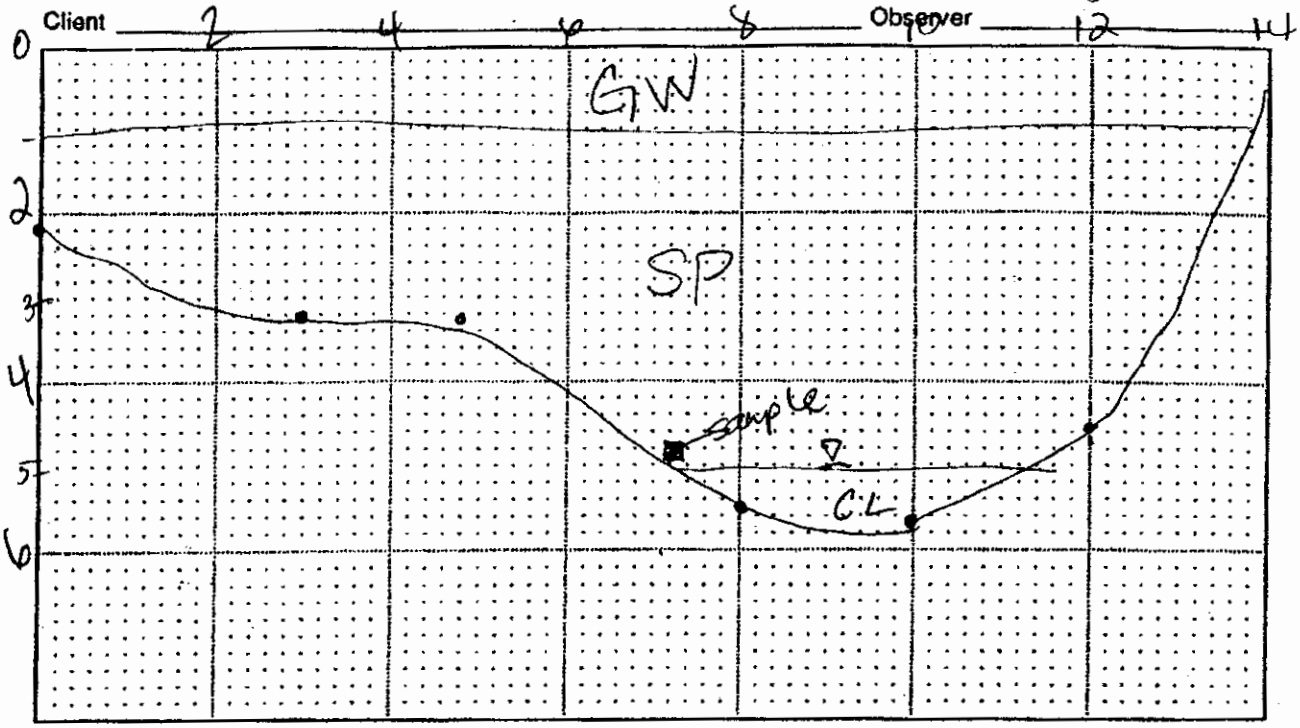
Log of Test Pit

TEST PIT NO. TP-18

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TWP. 75

Client _____ Observer _____



Comments/Field Notes: No odors

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-1	GW	Brown, [illegible] moist, roots			No sheen
1-4.5	SP	Brown, poorly graded sand, trace gravel, coarse, brick, glass pebbles, moist	TP0105-18-01 - 1403 4.3 (HNu) - 3 caps. 14:17		" "
4.5-	CL	Gray, medium plasticity, <30% coarse lean clay, trace roots, moist, soft			" "
		At water table hit PVC water pipe ⊥ to trajectory also hit copper water pipe - old (1ft deep)			

- Test Pit completed to 5.7 ft. on (date) 1/25/05 14:00
- No ground water seepage encountered
- (Describe/Quantity) Moderate ground water seepage encountered at 4.5 ft.

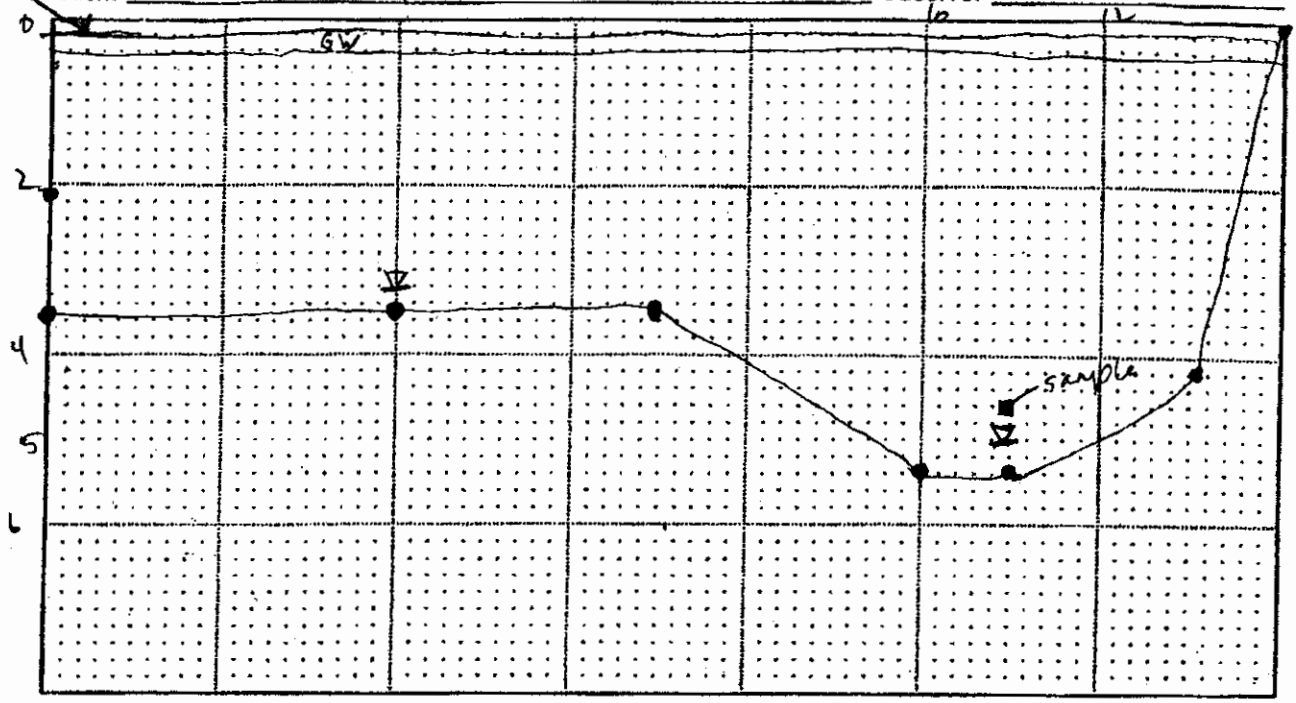
Log of Test Pit

TEST PIT NO. TP-19

(Approx. Elev. _____ ft.)

Project _____ Project No. Prologis - TWP TS

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-.2		Asphaltic concrete			
.2-.4	GW	light brown; well graded gravel with sand 5% fines moist			no screen
>.4		dark olive gray; sand (F-M) with gravel (rounded) & brick abundant woody debris +2" moist to wet	TWPOS-19-0 5.3 ft bgs 10:38	- 1 cup 3 cups	

- Test Pit completed to 5.5 ft. on (date) 1/25/05 10:05 am
- No ground water seepage encountered

or • (Describe/Quantity) moderate ground water seepage encountered at 5.0 ft.

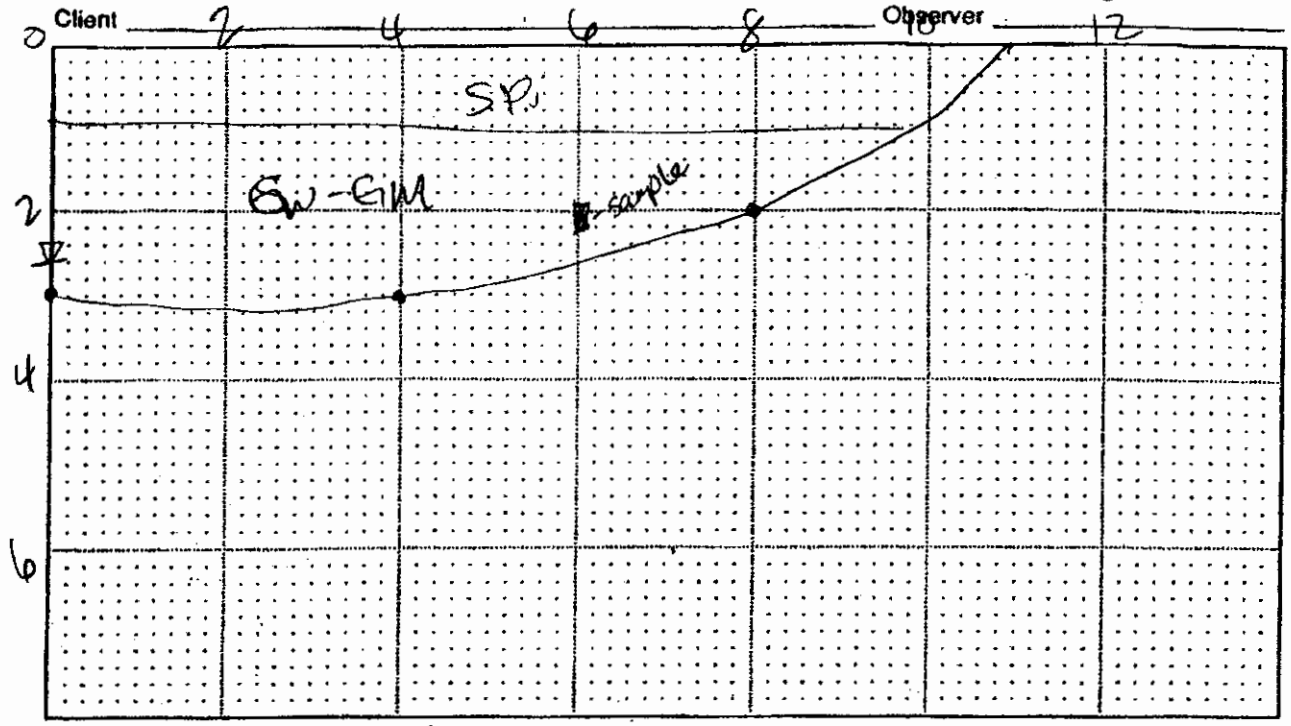
Log of Test Pit

TEST PIT NO. TP-20

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TWP.15

Client _____ Observer _____



Comments/Field Notes: PID = Ø ppm

Small sheen on water, waste pile, petroleum smell

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-1	SW	Brown, poorly graded sand (F-m) w/ gravel - 15% moist, roots			No sheen
1-1.2		Black asphalt, concrete			
1.2	GW-GM	Gravel fairly well graded, 15% sand, 2-5% fines, petroleum odor - tiny oil drops (10% silt)	TWP05-20-01 12:07	14.05 - 3.0%	NO sheen
		Rinsate Blank ←	TWP05-20-02 12:10	1 1/2L plastic 1 1L amber	

- Test Pit completed to 3.0 ft. on (date) 1/26/05 11:55
- No ground water seepage encountered

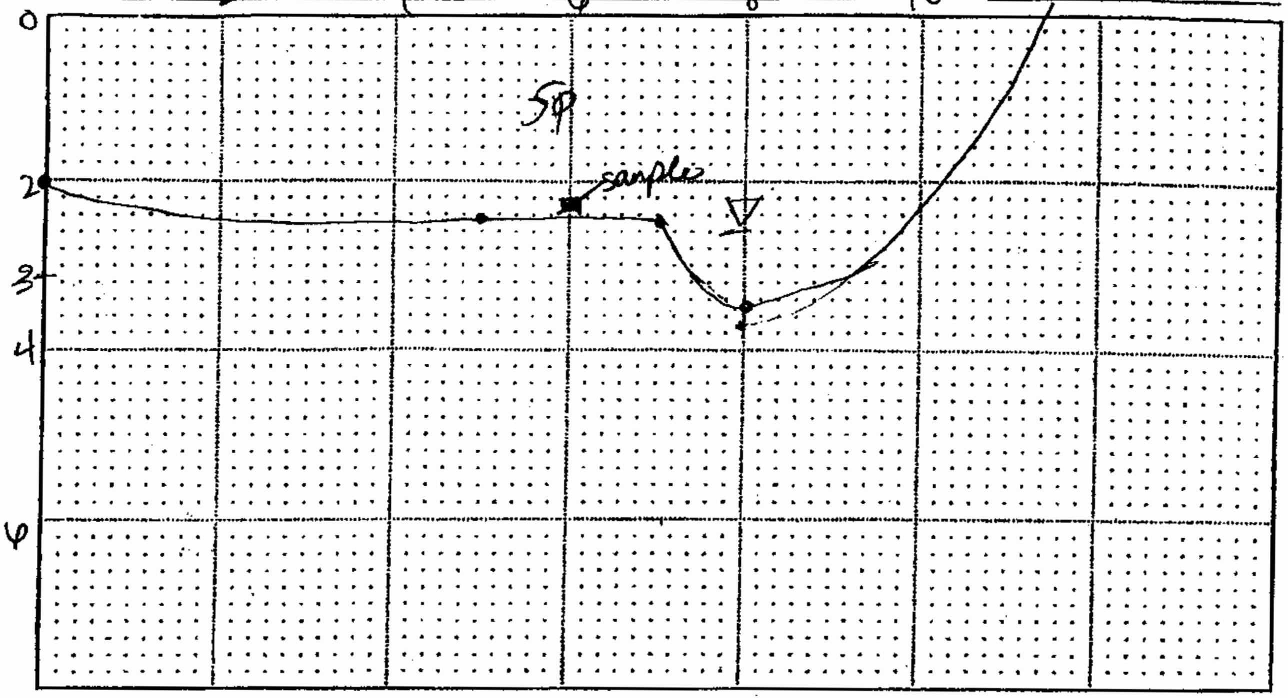
or • (Describe/Quantity) abundant ground water seepage encountered at 2.2 ft.

Log of Test Pit

TEST PIT NO. TP-21
(Approx. Elev. ________ ft.)

Project ____________________ Project No. Prolog-TWP.T5

Client ____________________ Observer ____________



Comments/Field Notes: ____________________

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistencey, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-2.8	SP	Dark brown, sand f-m, poorly graded, trace brick fragments rounded gravel - fill <5%	TWP05-21-01 2.2 ft bgs 13:01	-1 4oz -3 caps	No sheen
		~~Poorly graded sand~~			
		→ Poorly graded sand.	TWP05-21-500 2.2 ft bgs 13:01	-4oz -3 caps	

- Test Pit completed to 2.8 ft. on (date) 1/25/05 12:57
- No ground water seepage encountered

or • (Describe/Quantity) abundant ground water seepage encountered at 2.2 ft.

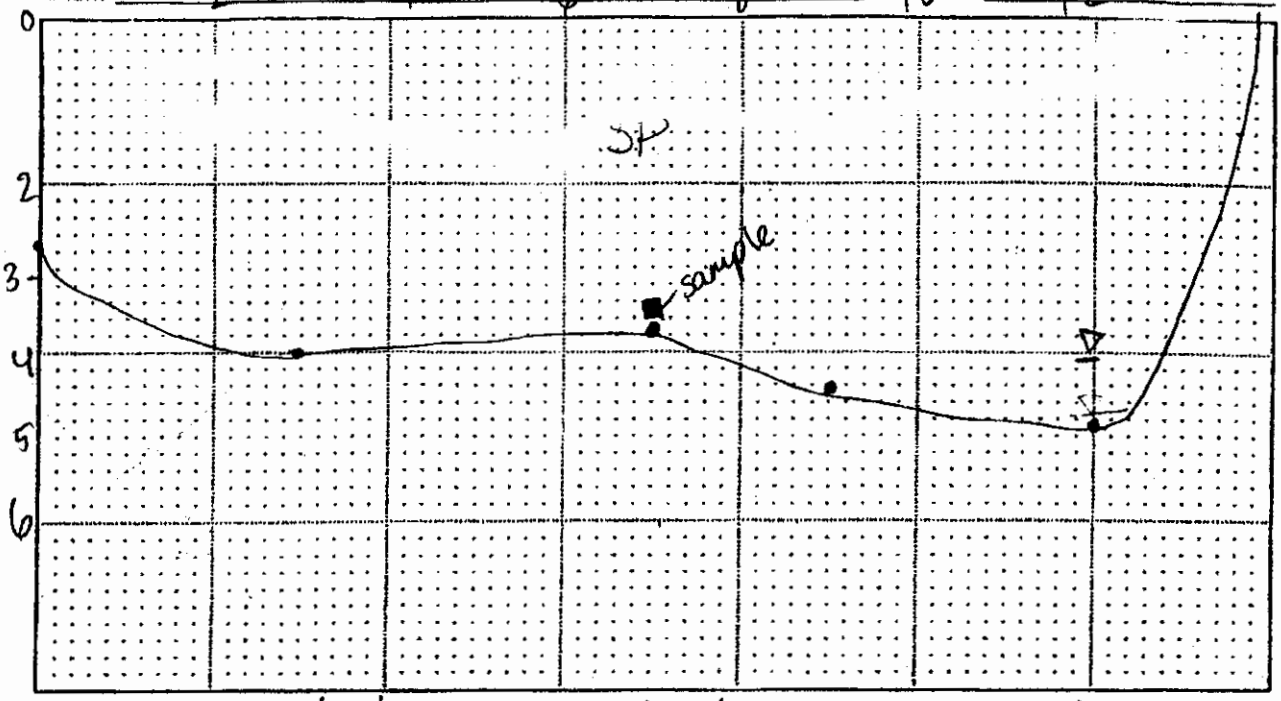
Log of Test Pit

TEST PIT NO. TP-22

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TWP

Client _____ Observer _____



Comments/Field Notes: No sheen on water table, no TPH odor

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-4.6	SP	Lt Brown, clean sand, poorly grade sand 5% gravel, poorly graded sand (F-M)	-TWP05-22-01 13:38	3.8	No sheen
4.5-▽		At water table turns gray- same descrip. as above w/ wood debris "lumber", metal conduit @ 4ft			
		-n			

- Test Pit completed to 4.6 ft. on (date) 1/25/05 @ 13:28
- No ground water seepage encountered
- or • (Describe/Quantity) abundant ground water seepage encountered at 3.9 ft.

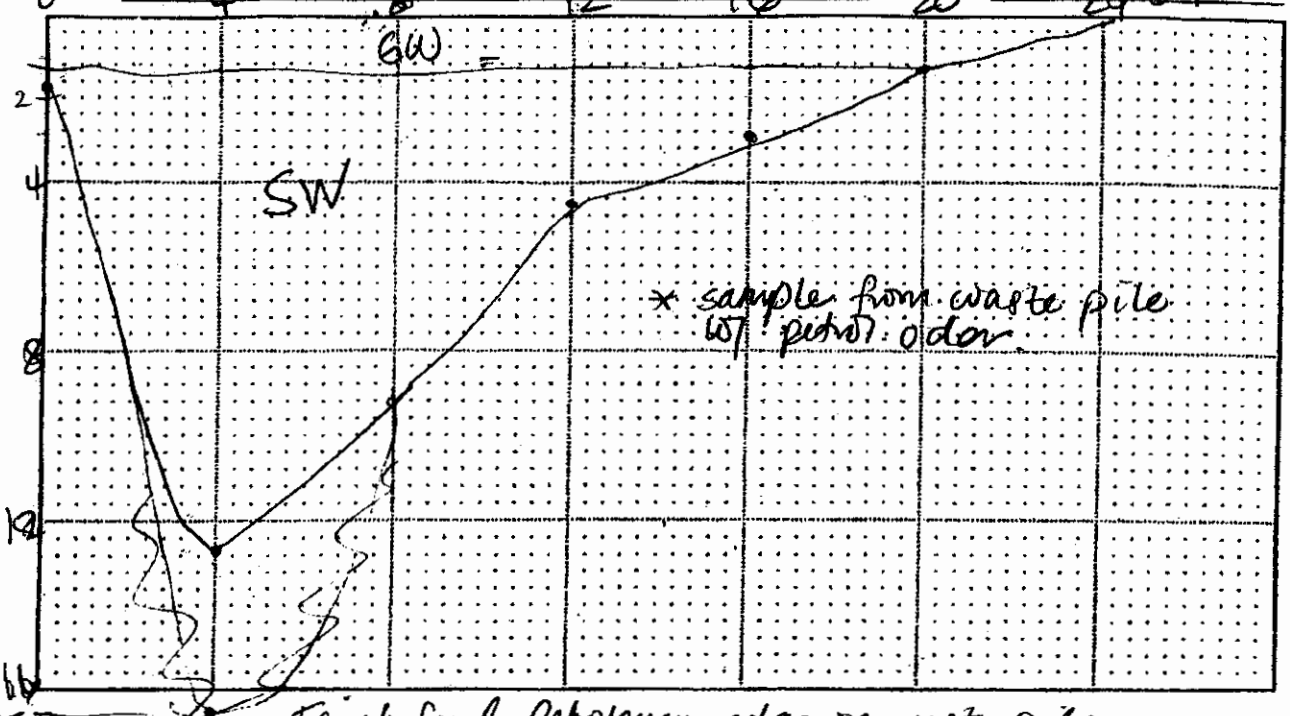
Log of Test Pit

TEST PIT NO. TP-23

(Approx. Elev. _____ ft.)

Project _____ Project No. PWOG - TWP

Client _____ Observer surcharge pile NE



Comments/Field Notes: Faint fuel, Petroleum oder on waste pile (possible)

PID = 0.1 ppm

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-10	GW	DK BRN GRAVEL, >15% sand, well graded, moist brick frag, <5% pieces of wood, fine roots			No sheen
1.0-	SW	DK BRN GRAY; well graded sand w/ gravel pieces concrete, metal, brick <5%, wood <1%, wire, moist 2%			
		- Sample waste pile	TWPOS-23-01-1.0 9:41	3 oz jar	
		(odor persists as soil aerates)			

- Test Pit completed to 12.5 ft. on (date) 1/26/05 9:26
- No ground water seepage encountered

or • (Describe/Quantity) SLOW ground water seepage encountered at 12.5 ft.

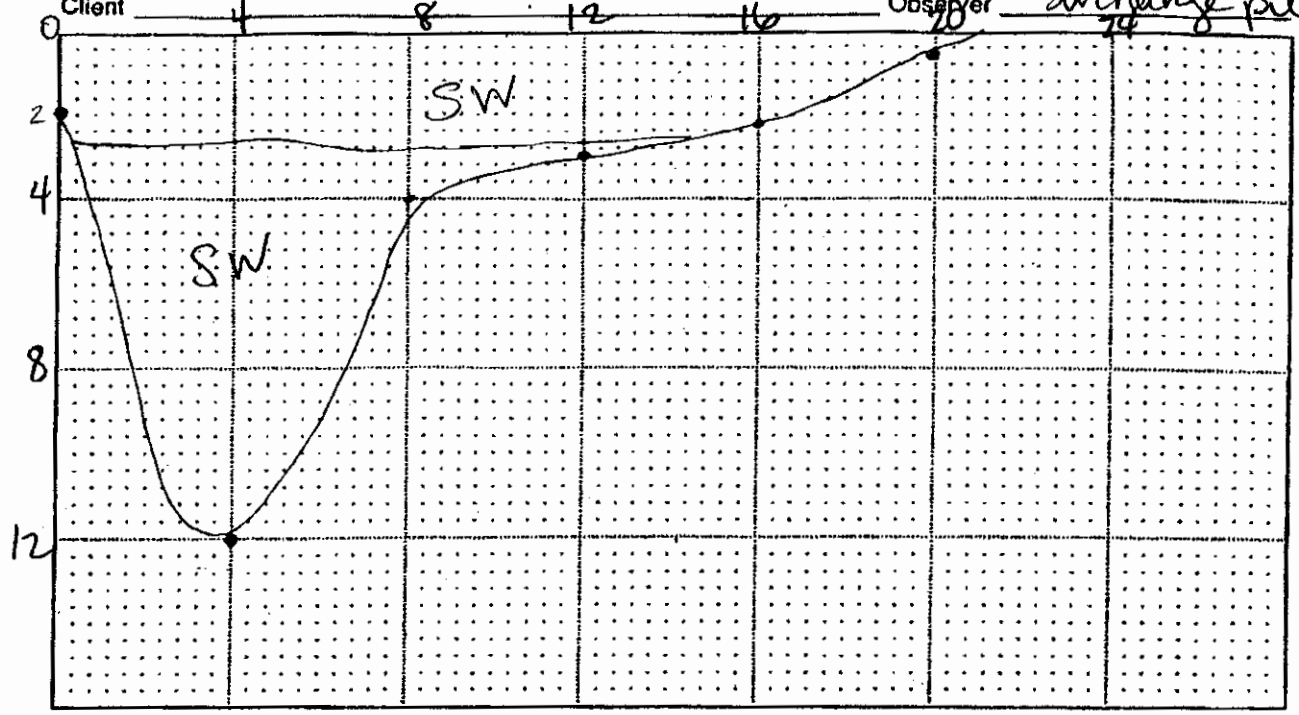
Log of Test Pit

TEST PIT NO. TP-24

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TWP

Client _____ Observer surcharge pile



Comments/Field Notes:

PID reading = 0.1 ppm in waste pile hole, no reading in pit

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-2.5	SW	DK BRN; SAND 15-20% gravel, <5% fines, well graded MOIST, NO odor, metal staples, bricks, wood roots, leather, wire ~ 2-5% waste			No sheen
2.5-	SW	DK BRN GRY; SW, cobbles, same as above, moist DKGRY stains, banded, brick, metal, plastic			No sheen
	⇒	sampling from waste pile, area of odor	TWP05-24-01-1403 10.00 (lower layer	3 cpm	NO sheen

- Test Pit completed to 12 ft. on (date) 1/26/05 9:54 AM
- No ground water seepage encountered
- (Describe/Quantity) slow - trace ground water seepage encountered at 6.0 ft.

or

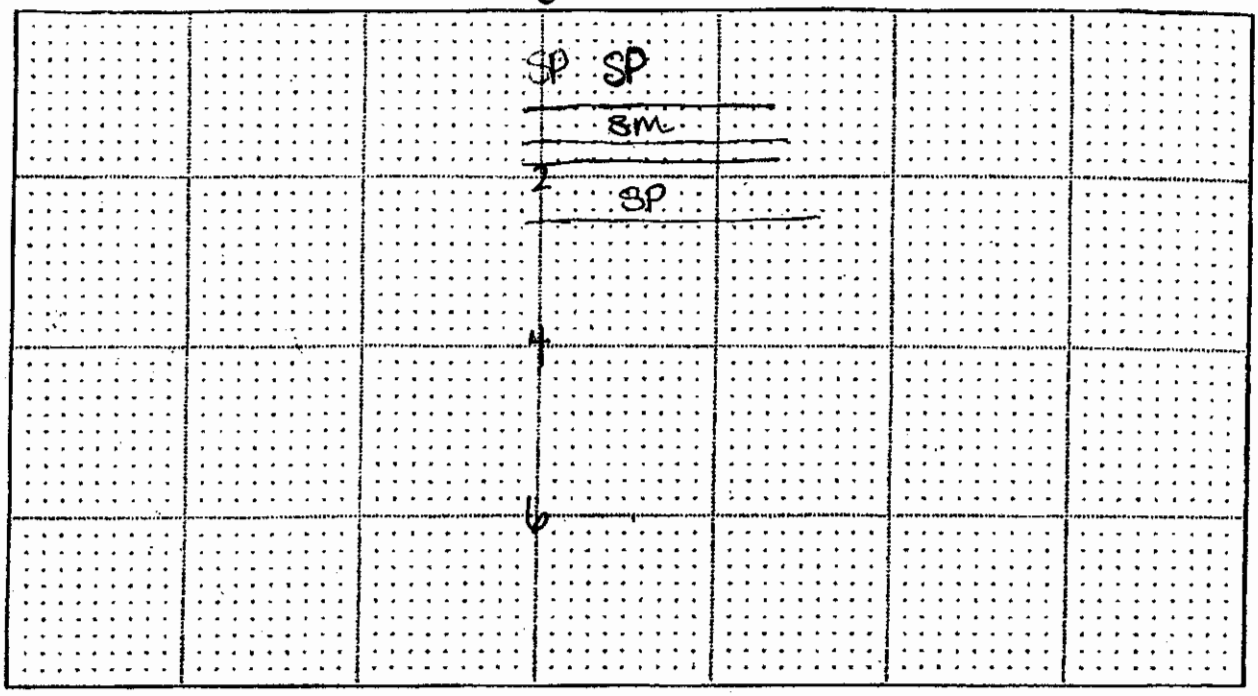
Log of Test Pit

TEST PIT NO. TP-041

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog - TWP. 15

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-1.2	SP	LT BRN, moist, poorly graded sand w/ gravel			
1.2-1.6	SM	very DK BRN; organics; silty fine sand (SM) 10% wood fibers spongy, gritty feel			
1.6-1.8		DK GRY, moist 60% + 40% white angular fine sand to fine gravel size, clay lumps & clay, sand text	TWP05-041-01 1.4-1.6		
		also same lumps but dk gray	1.6-1.8	- 1403	
1.8-2.1	SP	Woody debris, very dk brn sand w/ gravel		- 3 cups	
				- 4oz - observation	

• Test Pit completed to _____ ft. on (date) 1/20/05 @ 3:55

⊙ No ground water seepage encountered

or • (Describe/Quantity) NONE ground water seepage encountered at _____ ft.

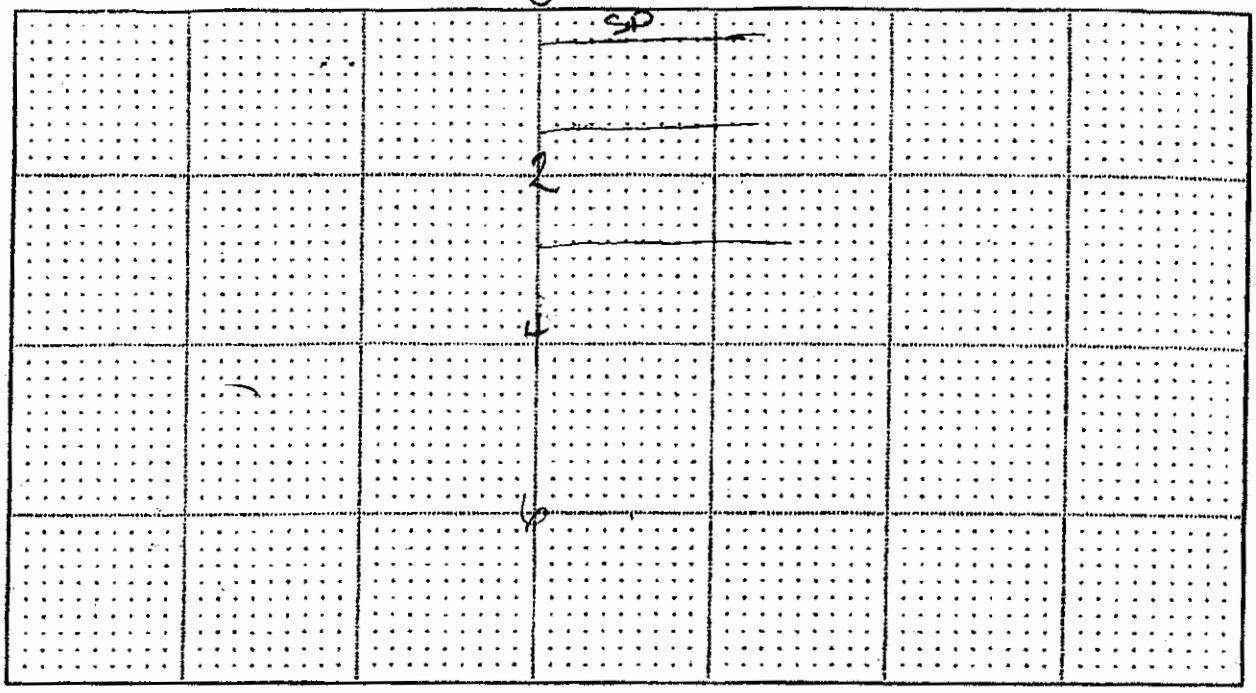
Log of Test Pit

TEST PIT NO. TP-042

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog - TWP. 15

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.5	SP	LT BRW, poorly graded sand w/ gravel			No Sheen
0.5-1.6		10-15% by vol. white angular clay lumps, grad to dk gray N5, N4 clay lumps, sand-20-60% (FILL) (SP)	TWP042-01 14:29 1-1.6ft		1403 3 Caps
1.6-2.7					1403 observation
		- no sheen or groundwater			

- Test Pit completed to 2.7 ft. on (date) 1/20/05 14:24
- No ground water seepage encountered

or • (Describe/Quantity) Moderate ground water seepage encountered at 2.9 ft.

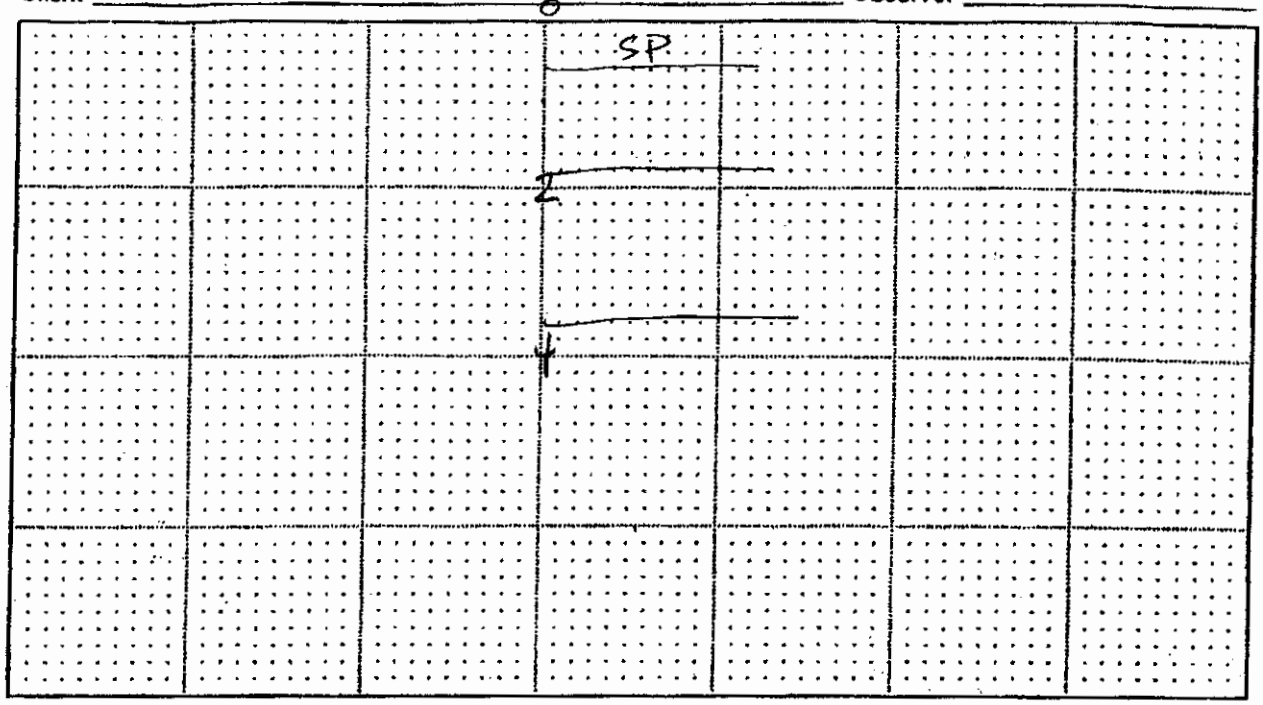
Log of Test Pit

TEST PIT NO. TP-043

(Approx. Elev. _____ ft.)

Project _____ Project No. Prolog-TOP

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.5	SP	LT BRN			
0.5-1.8		30-40% white lumps, up to cobble size N-4, N-5 gray w/ small chunks, white - sand ~20-30% in gray matrix, gravel			
			— 2 bag for observation		
1.8-3.6		Black, woody debris - lumber, gravel, cobbles clay, sand	↳ 1 white, 1 gray		
		chunks of native @ bottom.			

• Test Pit completed to 3.6 ft. on (date) 1/26/05 14:38

(•) No ground water seepage encountered

or • (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

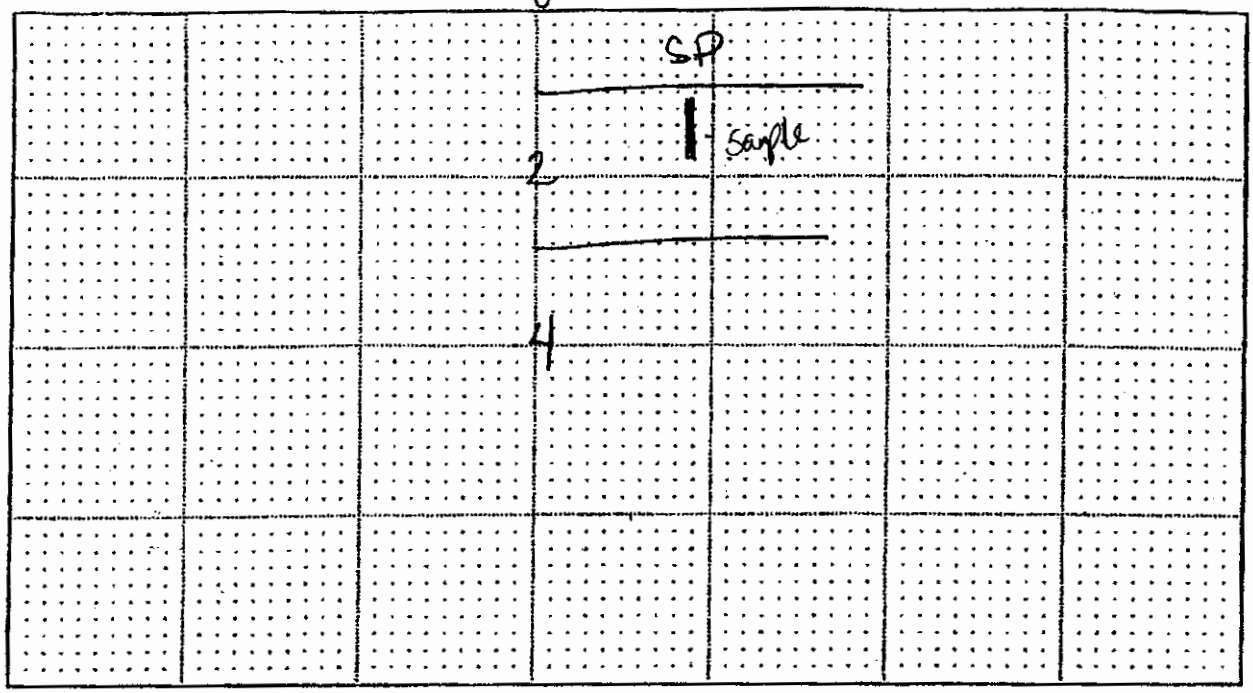
Log of Test Pit

TEST PIT NO. TP-044

(Approx. Elev. _____ ft.)

Project _____ Project No. Prologis-TWP

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-1	SP	LT BRN			
1-2.8		GRAY, WHITE pumps w/ depth, fines 5-10% sand increases	- 1403 for observation 2ft BG		
2.8-3.7		Wood debris			

- Test Pit completed to 3.7 ft. on (date) 1/26/05 12:42
- No ground water seepage encountered
- (Describe/Quantity) abundant ground water seepage encountered at 3.2 ft.

or

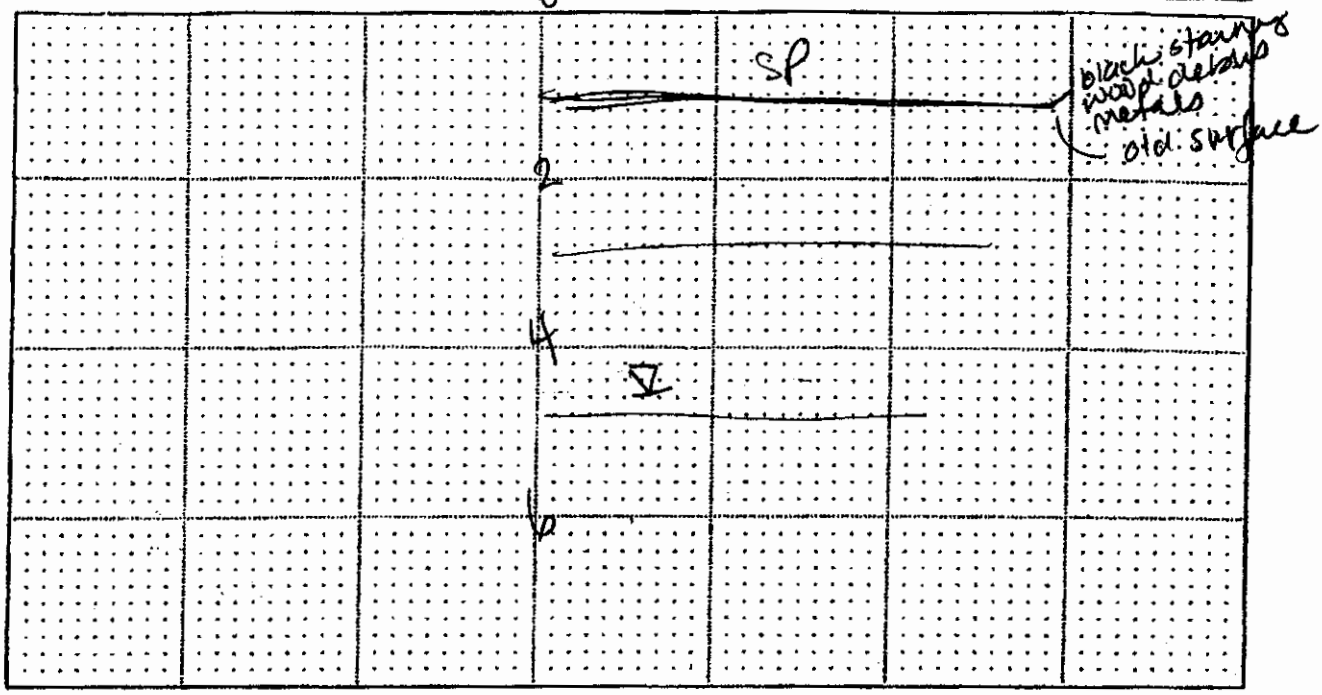
Log of Test Pit

TEST PIT NO. TP-045

(Approx. Elev. _____ ft.)

Project _____ Project No. Prologis-TLOP

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-1	SP	LT BRN			
1-2.9		gray 10% white clumps, up to cobble size 2% black stains			
			-1 4oz observation		
2.9-4.9		very dark, BRN GRAY, wood debris			

- Test Pit completed to 4.9 ft. on (date) 1/26/05 14:48
- No ground water seepage encountered
- or • (Describe/Quantity) SLOW ground water seepage encountered at 3.4 ft.

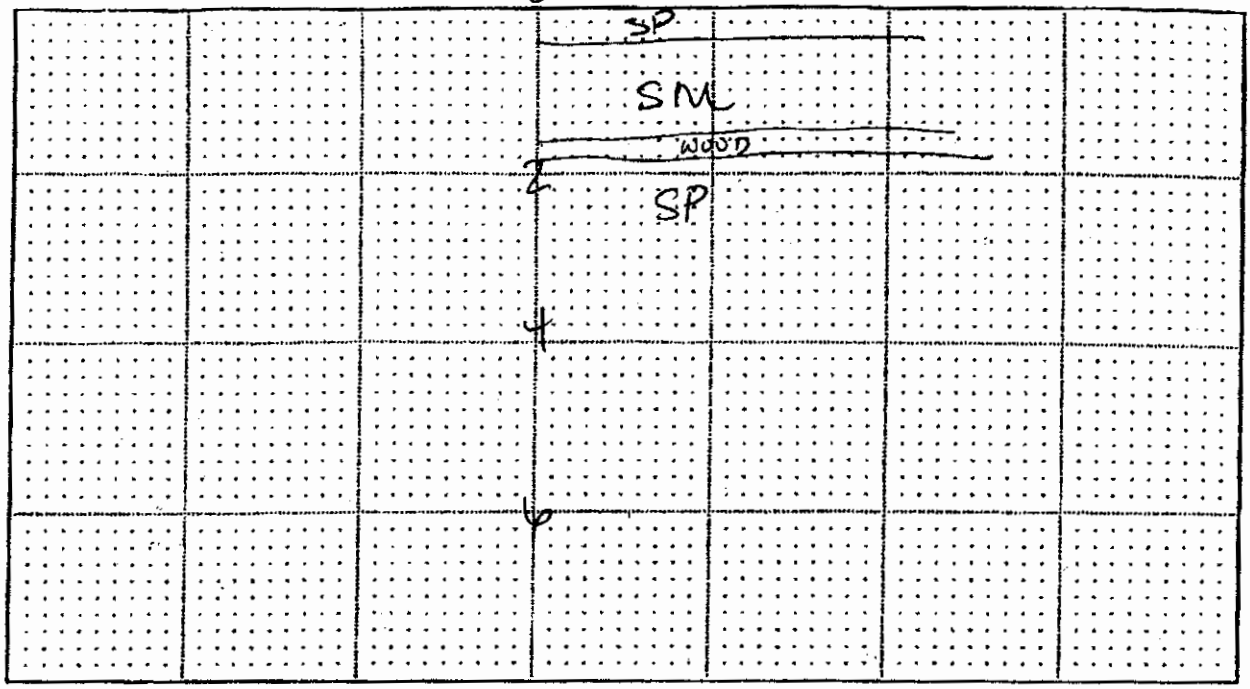
Log of Test Pit

TEST PIT NO. TP-046

(Approx. Elev. _____ ft.)

Project _____ Project No. Prologis - Twp

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.4	SP	LT BROWN - same as others			
0.4-1.8	SM	LT GRAY (N-6); silty sand (10%), gravel coarse (5-20%) lt gray, almost white clasts	-1	4oz observation	
1.8-1.9		WOODY debris, plywood	-3	cps (rocs)	
1.9-3.9	SP	DK GRAY (N-4); FM sand, lumps of med. GRAY pink gray angular (angular)	15:05		

- Test Pit completed to 3.9 ft. on (date) 1/26/05 14:55
- No ground water seepage encountered
- (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

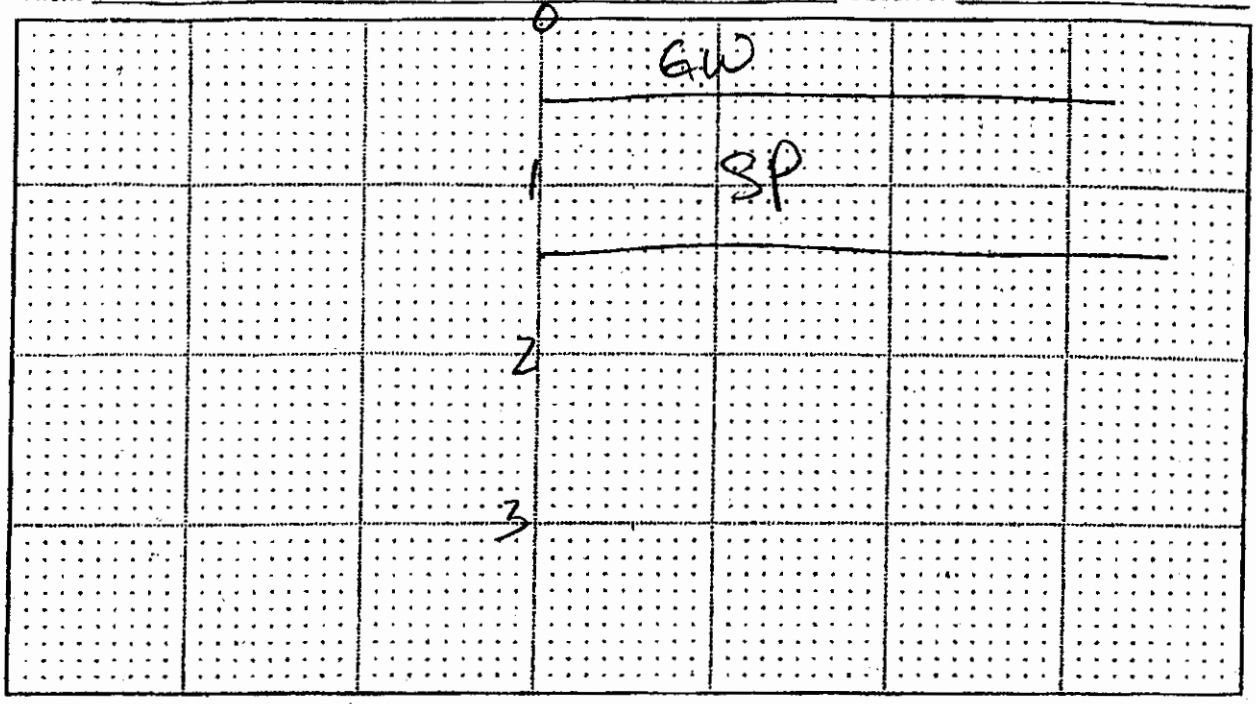
Log of Test Pit

TEST PIT NO. TP-047

(Approx. Elev. _____ ft.)

Project _____ Project No. Dragus-TMP

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.5	GW	Lighter pale brown gray - same txt but wet well graded gravel w sand T gravel			
0.5-1.4	SP (wet)	Gray N-4, N-5 same, are wet more sandy w/ >15% gravel T sample		- 1402 observe temp	
1.4-1.6		Black wood fibers			
1.6-2.2		Gray sand ~~Not Full~~			

Test Pit completed to 2.2 ft. on (date) 1/26/05 15:17

(•) No ground water seepage encountered

or ( ) (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

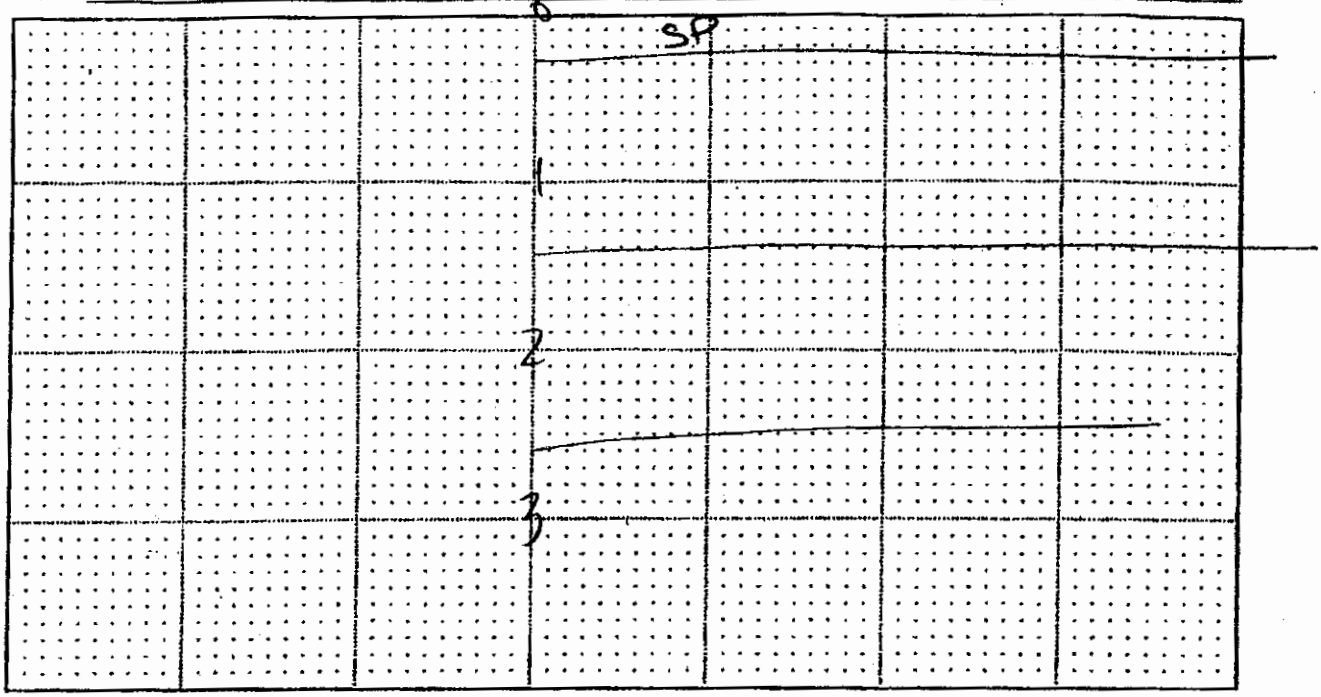
Log of Test Pit

TEST PIT NO. TP-048

(Approx. Elev. _____ ft.)

Project _____ Project No. Prologis - TWP

Client _____ Observer _____



Comments/Field Notes: _____

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.3	SP	LT BRN - same as other			
0.3-1.4		BRN, grey lumps (LT BRN) -	1 to 2 15:14	observation	
1.4-2.0		DK GRY - lumps of native			

• Test Pit completed to 2.0 ft. on (date) 1/20/05 15:14

• No ground water seepage encountered

or • (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

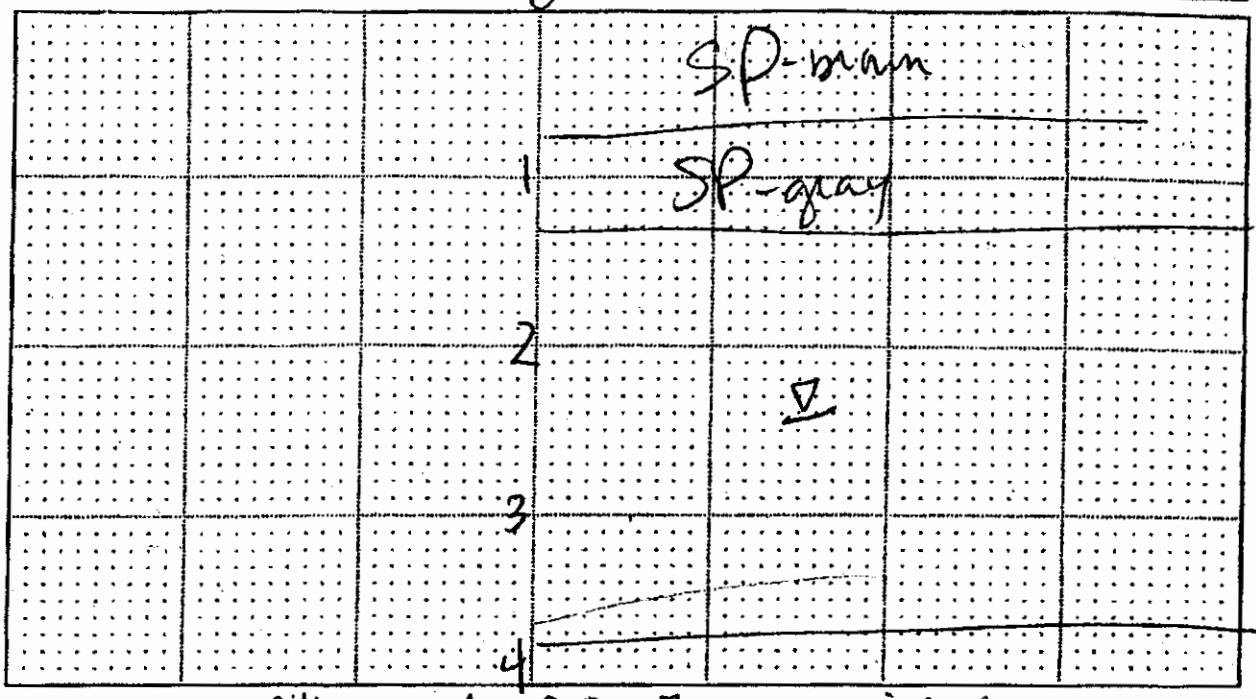
Log of Test Pit

TEST PIT NO. TP-049

(Approx. Elev. _____ ft.)

Project _____ Project No. Prologis-TWP

Client _____ Observer _____



Comments/Field Notes: Oily smell, PID = 0 ppm, slight sheen on water (sheen) diesel/petrol. - large pieces scrap metal, back hoe operator reports seeing taillight sheen

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-0.7	SP	LT BRWN, sand			
0.7-1.2	SP	gray w/ gravel like above, no white clay clumps			
—		geotextile rem.			
1.2-3.8		DK gray-olive, debris consisted of wood (2"-30"), plastic metal	-TWP05-049-01 -1 403 (PCBs) -3 caps 15:25 2.3ft		sheen

- Test Pit completed to _____ ft. on (date) 1/26/05 15:25
- No ground water seepage encountered

or - (Describe/Quantity) moderate ground water seepage encountered at 2.3 ft.

Log of Soil Boring SB-7

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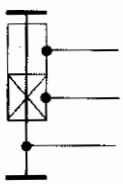
Floyd Snider
Boring SB-7 Date January 28, 2005 Sheet 1 of 1
Job Prologis Job No. PROLOG-TWP
Logged By John LaManna Weather Cloudy, 40 Degrees
Drilled By Holt Drilling, Sean Grittner
Drill Type/Method LA-10 Track Mounted
Sampling Method 4-in HSA
Bottom of Boring 19 Feet ATD Water Level Depth 16 Feet
Ground Surface Elevation X
Obs. Well Install. Yes [X] No

SAMPLE ID	12 Penetration Resistance	DEPTH From	DEPTH To	SAMPLE RECOVERY (FT)	USCS Symbol	DESCRIPTION: color, texture, moisture, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.
						SURFACE OF SURCHARGE PILE
						Cuttings, dark gray rounded gravel with sand, driller reports slow drilling. Cuttings appear oily with petroleum hydrocarbon odor.
TWP05-SB7-01	50	10.0	11.5		GM	Very dense, dark gray to light brown GRAVEL with sand, 15% silt, and wood debris (brown decaying roots). Moist. Faint petroleum odor. No sheen. (FILL)
TWP05-SB7-02	61	12.0	13.5		GW	Very dense, dark gray, angular GRAVEL with sand. Moist. No odor. No sheen. (FILL)
TWP05-SB7-03	12	15.0	16.5		GM	Medium dense, dark gray, GRAVEL with sand. Rounded well graded, silty gravel with sand and wood fiber. Moist to wet. (FILL)
	0	17.5	19.0		CL	Dark brown, clay, plastic with decaying, black wood fibers. NATIVE



▽ Groundwater Observed At Time of Drilling

Inferred Contact

Observed Contact

Log of Soil Boring SB-8

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Floyd Snider
Boring SB-8 Date January 27, 2005 Sheet 1 of 1
Job Prologis Job No. PROLOG-
Logged By John LaManna Weather Cloudy, Rainy, Breezy, 45 Degrees
Drilled By Holt Drilling, Sean Grittner
Drill Type/Method LA-10 Track Mounted
Sampling Method 4-in HSA
Bottom of Boring 19.4 Feet ATD Water Level Depth 18.25 Feet
Ground Surface Elevation X
Obs. Well Install. Yes [X] No

SAMPLE ID	12" Penetration Resistance	DEPTH from	DEPTH to	SAMPLE RECOVERY (FT)	USCS Symbol	DESCRIPTION: color, texture, moisture, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.
						ATOP SURCHARGE PILE
						Cuttings, dark gray rounded GRAVEL. Petroleum odor. Easy drilling with cobbles.
	23	10.0	11.5		GM	Medium dense, dark brown, gravel with sand. Roots, wood debris. Moist. (FILL)
TWP05-SB8-01	11	12.5	14.0			Medium dense, dark brown, GRAVEL with sand. Roots, wood debris. Moist. Well graded. No sheen. (FILL)
TWP05-SB8-02	15	15.0	16.5		GM	Dark brown, gravel >15% fines. Silty GRAVEL with sand and wood debris, plastic sheeting. Moist. Asphalt odor. No sheen. (FILL)
TWP05-SB8-03	3	17.5	19.4		ML-CL	Soft to medium stiff, dark brown, silt with roots, plant material, non-plastic. Moist. Poorly graded. NATIVE

Recovery
Subsample for Analysis
Driven Interval
▽ Groundwater Observed At Time of Drilling
Inferred Contact
Observed Contact

Clarification Write-up on Test Pit Logs

FS-TP1

Comments/Field Notes: Photo 0-7/ stockpile, Photo 2 same, Photo 3 0-10'. 1 comp sample collected from 4-10' stockpile.

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
0-2	Light brown, dry gravelly sand with 25% med size cobbles			
2-4	Brown, dry gravelly sand 15% med-size cobbles, 1 large (2 ft) piece of concrete, Shovel blade, light brief petro odor, 1 % wood debris			
4-7	Dark brown, dry med grained sand with 10% med size gravel, organic odor			
7-9	Dark brown, dry med-size sand with 10% med. gravel, light mixed wood debris, wood includes 1 small piece of plywood			
9-10	Cable, 3-wire metal cable in hole. Light odor, organic/burnt odor, brief			

FS-TP2

Comments/Field Notes: Photo 1 0-4 stockpile, wood debris in bottom 4' has creosote sheen odor. 1 sample collected from 4-8'

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
0-2	Light brown, sand with 15-20% small to med. Gravel, loose			
2-4	Dark brown med grained sand with 10% small to med gravel. 1 small piece of wire, piece of glass at 3.5-4, light brief petro odor , dissipates quickly			
4-6	Dark brown dry med sand 5% small wood debris, organic odor, concrete pieces noted at 5'			

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
6-8	Dry, dark sand with small gravel, light wood debris and concrete. Concrete came out small chunks larger pieces remain at bottom, unable to go further			

FS-TP3

Comments/Field Notes: 2'-4' woody debris layer, scattered bricks in upper 5' Photo 1 0-7.5 SP, Photo 2 0-9.5 SP

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
0-2	Lt gray loose med. grained sand with 10-20% med sized gravel, occasional brick chunk found at 2'			
2-7.5	Dark to med brown med size sands with 10-20% small to med size gravel. +5% med size cobble, light odor light wood debris ~ about 50% of wood debris contains creosote odor wood debris is all less than 1 foot long			
7.5-9.5	Getting into concrete, rubble med-size wood debris concrete is > 2', light concrete begins at 5', concrete med size			

FS-TP4

Comments/Field Notes: Photo 1 0-8.0, Photo 2 0-9.0, Sample collected 3-10.0 composite. 4 grabs

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
0-2	Lt brown loose med grained sand with 15-20% small to med cobbles			
2-3	Dark brown dry med brown sand with small to med gravel			

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
3.0-4.0	Med size pieces (~1.0) of concrete, 20% wood debris with creosote odor (50%), 1 large layer of concrete at 3.0' (~8' thick, extent unknown)			
4.0-10	Dark brown small to med. grained sand, dry with 10% small to med gravel ~5%. Bricks, metal, wire etc. Slight odor. Roots. Small med size bits of concrete. % debris increases as 8' to 15%			No sheen

FS-TP5

Comments/Field Notes: Photo 1 0-5, Photo 2-7. Light spots of sheen on water in hole.

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
0-2	Light brown loose, dry, med sand with 15% small to med cobbles			
2-6	Med to dark brown, fine to med grained sand with 10-15% small to med gravel <5%, brick wood glass, pipe at 3.5', 4' small to med sized pieces of concrete, light odor, no sheen			No sheen
6-7	Dark brown med sand, moist 15-20%, small to med gravel			
7	GW encountered, unable to dig further			

FS-TP6

Comments/Field Notes: Light diesel/creosote odor from spoil pile. Lonnie notes it is becoming harder with depth and gravel. Not due to concrete though. Photo 1 0-10'.

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
0-2	Lt. brown loose dry, med sand with 10-15? Small to med size cobbles			

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
2-10'	Med to dk brown med grained sand with 10-15% small to med sized gravel <5% brick wood debris metal small concrete light odor small metal odor most prevalent in gravel near wood. At 8' material becomes moist. 2" pipe at 8', more like tow bar slow trickle in hole from side			No sheen

FS-TP7

Comments/Field Notes: This TP is a lot more gravelly and looser. At 9.5' concrete and wood made us unable to go further.

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
0-1.5	Light grey, dry, loose sand with small to med. gravel at 1.5 one large log 4' long 0.5' diameter and wire found			
1.5-3	Gray, loose dry sand with 20-30% med size cobbles 5-10% to med. wood debris			
3-9.5	Dark brown, slightly moist med grained sand with small to med gravel. Slight odor large 2'+ piece of concrete found at 5'. At 7' 20-25% mixed concrete cobbles < 5% to 8'. 8' mixed small to med concrete and wood debris ~ 20%.			

FS-TP8

Comments/Field Notes: Loose material, wood debris contains plywood, no odors. Photo 1 0-9'

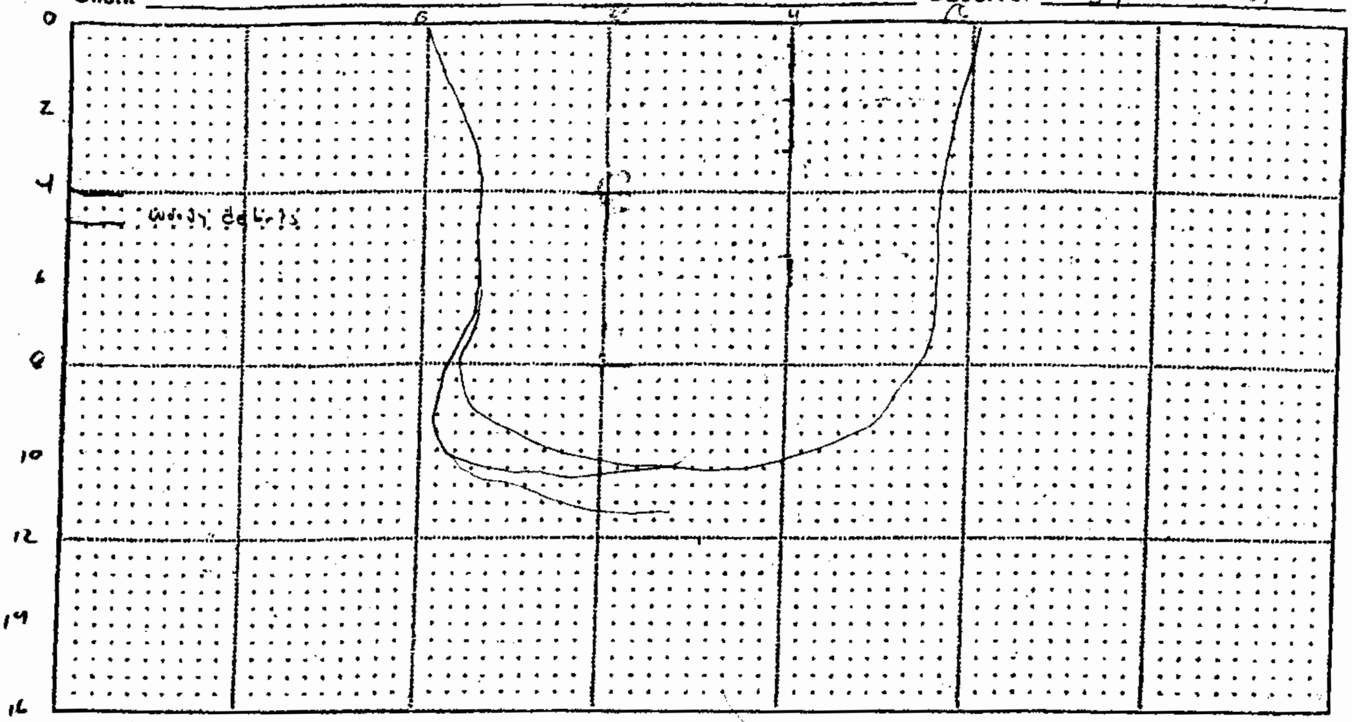
Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
0-4'	Gray, dry, loose sand with med size gravel ~10% small size concrete chunks and 1 large piece 2'+ at 2', ~20% gravel and loose, ~10% concrete from 2.5'			

Depth (ft)	Description	Sample Depth	Moisture Content %	Other Tests
4-9	Med to dark brown med. grained sand with 15-20% small to med size gravel. At 7' med wood debris and med sized concrete. 4-8' concrete mixed in and med to large cobbles. Large area of concrete at 9', unable to go deeper.			

Log of Test Pit

TEST PIT NO. FS-TP1
(Approx. Elev. ______ ft.)

Project PROLOC. TUP   Project No. ______
Client ______   Observer SB / Lonnie digger



Comments/Field Notes: Photo 1 0-7' stockpile, Photo 2 same, Photo 3 0-10'
1 comp. sample collected from 4-10' stockpile

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistencey, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-2		light Brown, dry, gravelly sand with 25% med			
		size ~~gravel~~ cobbles			
2-4		Brown, dry gravelly sand 15% med. size			
		cobbles, 1 large (2') piece of concrete,			
		shovel blade, light petro odor			
		1% wood debris			
4-7'		dk. brown, dry, med. ~~size~~ grained sand with 10%.			
		med. size gravel, organic odor			
7-9		dk. brown, dry med. size sand with 10%			
		med. gravel light mixed wood debris			
		wood includes 1 pencil size plywood			
9'-10'		Cable, 3-wire metal cable in hole, light odor			
		light odor organic/burnt ~~petro~~ odor, brief			

- Test Pit completed to ______ ft. on (date) 7-12-06 0511
- No ground water seepage encountered

or • (Describe/Quantity) ______ ground water seepage encountered at ______ ft.

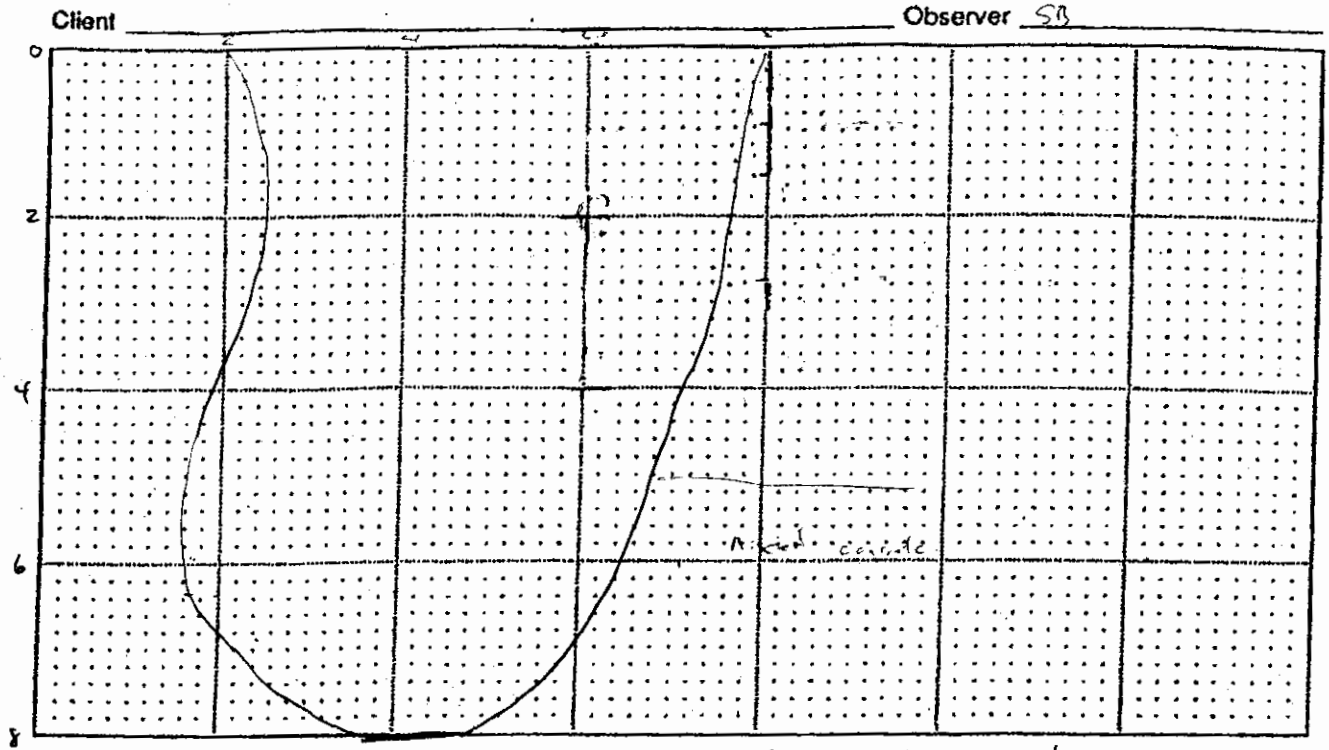
Log of Test Pit

TEST PIT NO. FS-TP2

(Approx. Elev. _____ ft.)

Project Pro-Logis Project No. _____

Client _____ Observer SB



Comments/Field Notes: Phot. 1 0-4' stockpile, wood debris in bottom 4' has concrete debris + odor. 1 sample collected from 4-8'

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-2		light brown, sand with 15-20% small to med. gravel, loose			
2-4		dk. brown, med. grained sand with 10% small to med. gravel, 1 small piece of wire piece of glass at 3.5-4 light brn. petr. odor, discrete sm. chks,			
4-6		dk. brown dry, med. sand 5% small wood debris, organic odor, concrete pieces void at 5'			
6-8		Dry, dk brn sand w/ small gravel, light wood debris + concrete, concrete seams or small chunks, larger pieces remain at bottom, unable to go further			

- Test Pit completed to 8 ft. on (date) 7.12.06 @ 945
- No ground water seepage encountered
- (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

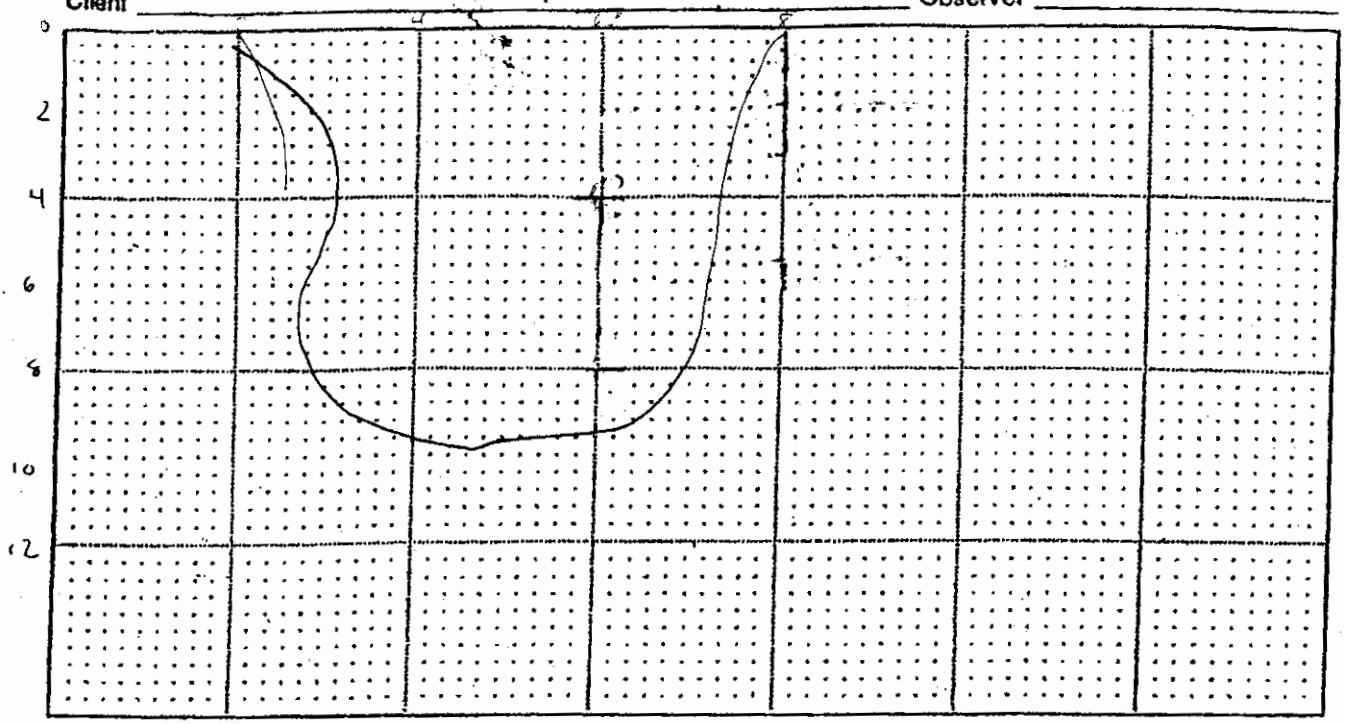
Log of Test Pit

TEST PIT NO. FS TP3

(Approx. Elev. _____ ft.)

Project _____ Project No. _____

Client _____ Observer _____



Comments/Field Notes: 3'-4' wood debris layer, scattered bricks in upper 5'

Phot 1 0-7.5 SP Phot 2 0-7.5 SP

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-2.		Lt. gray loose med grained sand with 10-20%			
		med sized gravel, occasional brick			
		chunk found at 2'			
2'-7.5'		dk. brown to red brown med. size sands			
		with 10-20% small to med. size gravel			
		+5% med. size cobble, light odor light			
		wood debris ~ about 50% of wood debris			
		contain creosote odor wood debris is			
		all less than 1' long			
7.5'-		Ceiling lots concrete rubble med. size wood			
9.5		debris concrete is >2'			
		- light concrete begins at 5' -			
		concrete med. size			

- Test Pit completed to 9.5' ft. on (date) 1020
- No ground water seepage encountered
- (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

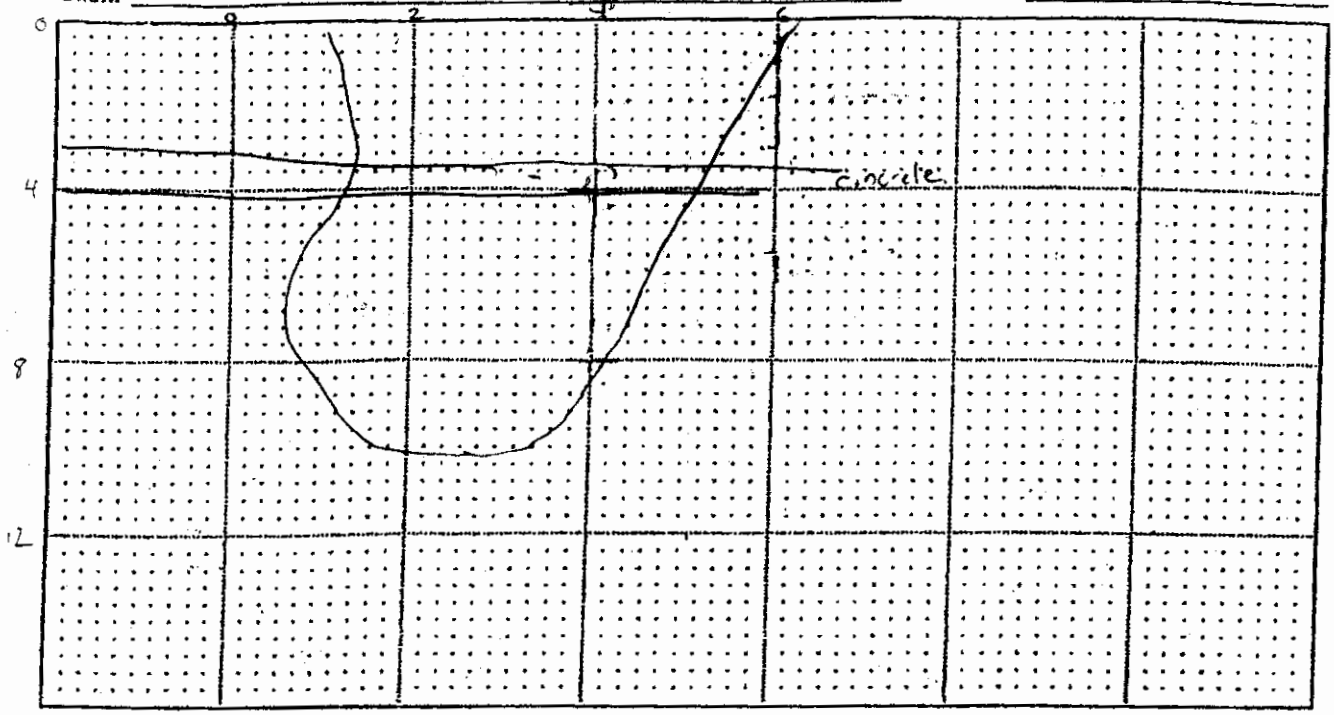
Log of Test Pit

TEST PIT NO. FS-TP4

(Approx. Elev. _____ ft.)

Project ~~TMP~~ PRO. Logs Project No. _____

Client _____ Observer SB



Comments/Field Notes: Photo 1 0-8.0, Photo 2 0-9.0

Sample collected 3-10.0' composite, 4 grabs

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-2.0		Lt. brown, loose med. grained sand with 15-20% small & med. cobbles			
2.0-3.0		Dk. brown-dry, mod brown-sat. with small & med gravel			
3.0-4.0		Med. size pieces (~1.0') of concrete, 20% wood debris with creosote odor (50%)			
		1 large piece of concrete at 3.0' (~8' thick, extends unknown)			
4.0-10		Dk. brown, small to med. grained sand, dry with 10% small to med. gravel 5% bricks, metal, wire etc. slight odor, roots, small & med size bits of concrete			no sheen
		% debris increases as bevel 8' L. to 15%			

- Test Pit completed to _____ ft. on (date) 7.12.06
- No ground water seepage encountered ✓

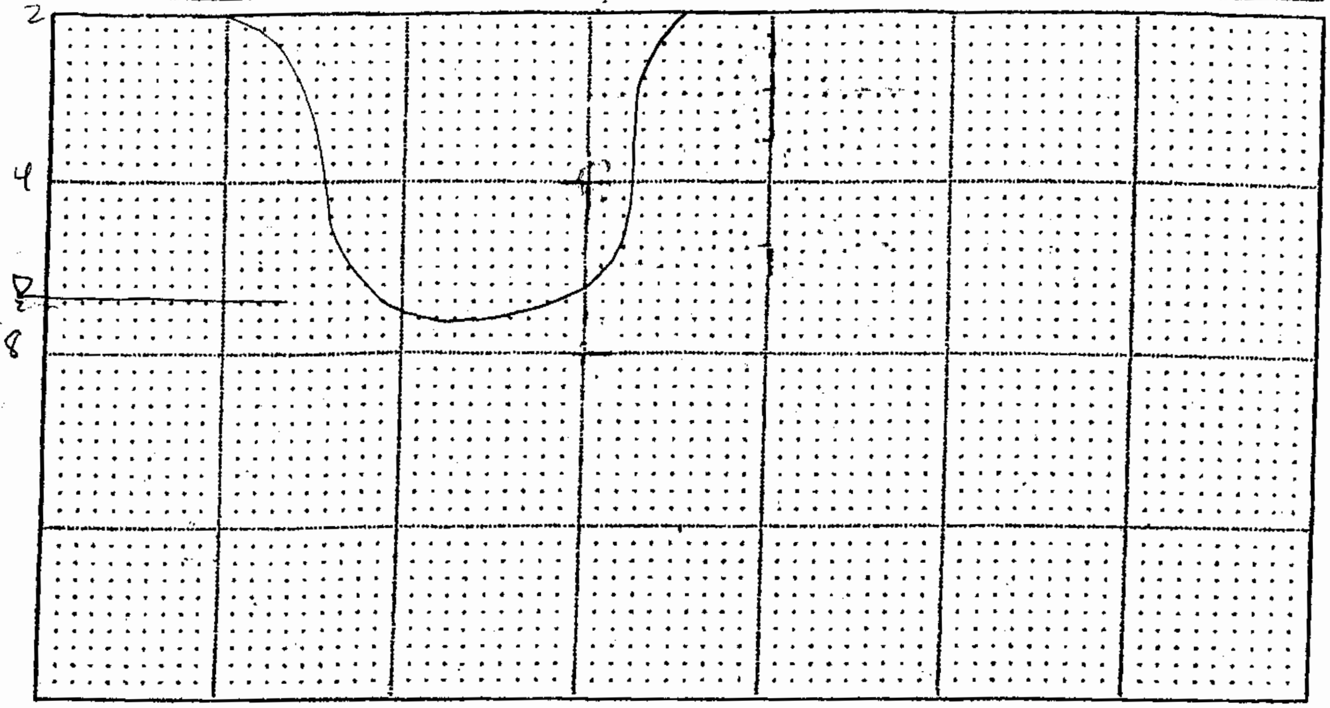
or • (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

Log of Test Pit

TEST PIT NO. FS TP-5
(Approx. Elev. ______ ft.)

Project ______ Project No. ______

Client ______ Observer ______



Comments/Field Notes: [illegible]
[illegible]

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistencey, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-2.		light brown, loose, dry, med. sand with			
		15% small to med. cobbles			
2-6		med. to dk. brown fine to med. grained sand			
		with 10-15% small to med. gravel <5%			
		brick, wood, glass, pipe at 3.5'			no sheen
		4' small to med. sized pieces of concrete			
		light odor, no sheen			
		groundwater at 7' bgs			
6-7		dk. brown med sand, moist, 15-20%			
		small to med. gravel			
7		GW encountered, unable to dig further			

- Test Pit completed to ______ ft. on (date) ______
- ~~No ground water seepage encountered~~

or • (Describe/Quantity) 7' [illegible] ground water seepage encountered at ______ ft.

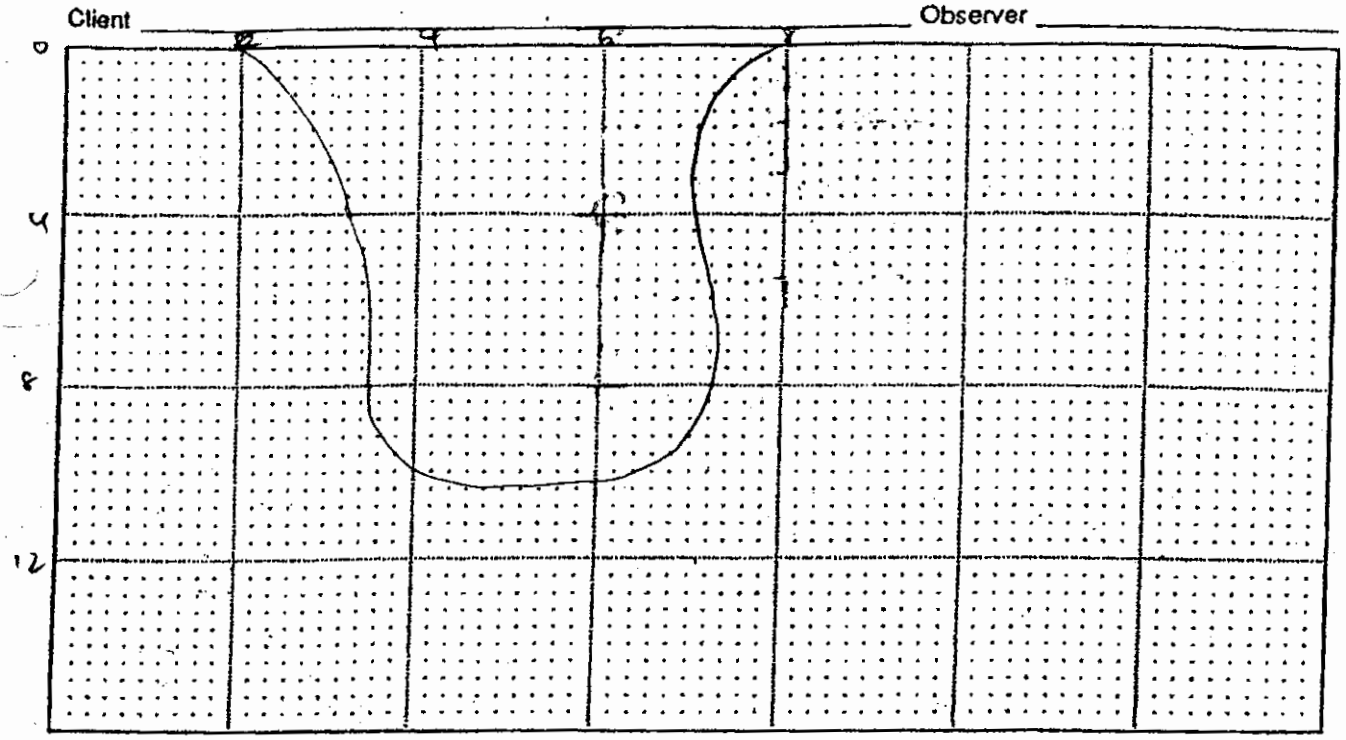
Log of Test Pit

TEST PIT NO. ES-TP6

(Approx. Elev. _____ ft.)

Project _____ Project No. _____

Client _____ Observer _____



Comments/Field Notes: Lots diesel/creosote odor from spoil pile

Lower odor is becoming harder with depth and gravel not due to concrete though. PID 1 0-10'

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-2.		lt. brown, loose dry, med sand with			
		10-15% small to med size cobbl.			
2-10.		med. to dk. brown med. grained sand			
		with 10-15% small, med. sized			
		gravel <5% burnt wood debris			
		metal, small concrete, light odor,			
		small metal - odor most prevalent			
		gravel + near coal			
		At 8' material becomes moist.			
		2" Pipe at 8', more like tow bar			
		steel, cable in bdr. at 8' from side			

- Test Pit completed to 10 ft. on (date) 11/93
- No ground water seepage encountered

or • (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

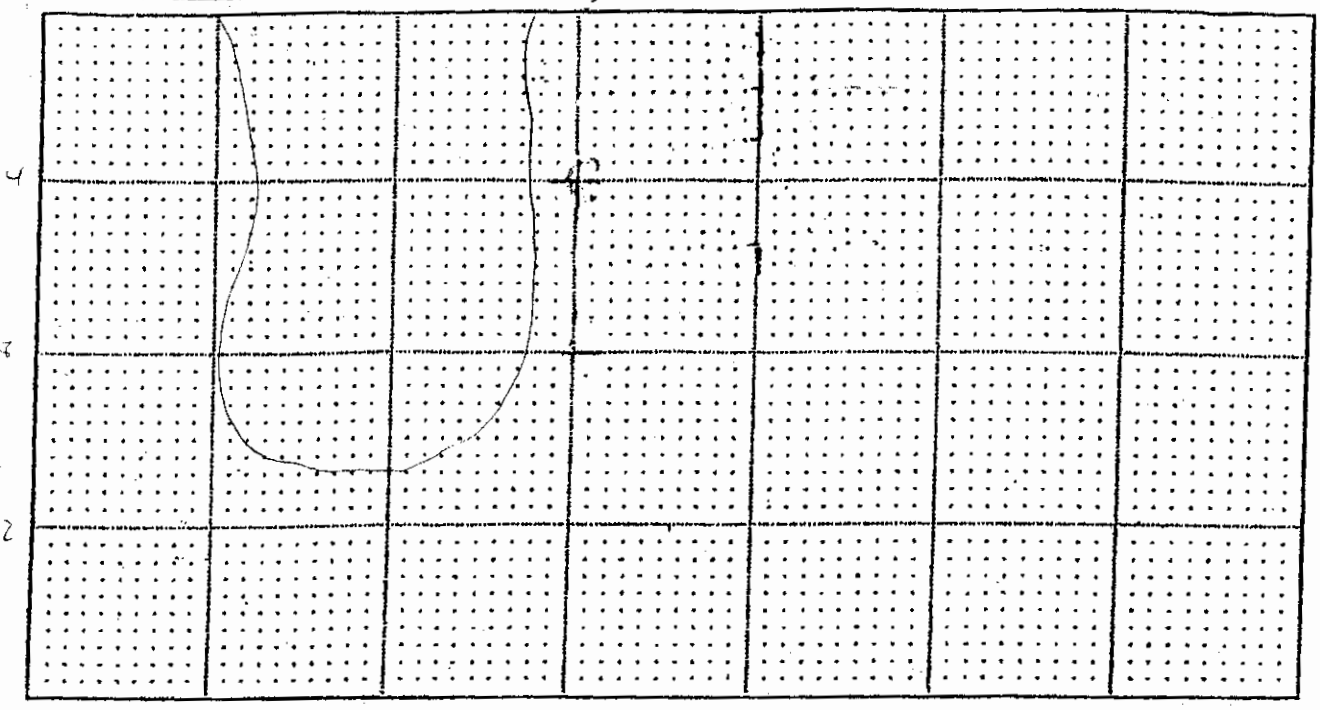
Log of Test Pit

TEST PIT NO. FS TP 7

(Approx. Elev. _____ ft.)

Project _____ Project No. _____

Client _____ Observer _____



Comments/Field Notes: this TP is a lot more gravelly and loose

At 9.5' concrete + wood debris made it unable to go further

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-1.5'		light grey, dry, loose sand with small			
		rock, gravel, and 1-5 cm loose log			
		4' long 0.5' ø wood piece found.			
1.5-3		grey, loose dry sand with 20-30% med-			
		size cobbles & 5-10% small wood			
		debris			
3-9.5		dk brown slightly moist med grained sand			
		with small rock and gravel, slight odor			
		large 2'x piece of concrete found at 5'			
		at 7' 20-25% mixed concrete + cobbles			
		<5% to 9'			
		8' mixed small wood concrete + wood debris			
		9.5'			

- Test Pit completed to 9.5' ft. on (date) _____
- No ground water seepage encountered
- (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

Log of Test Pit

TEST PIT NO. FS TP8

(Approx. Elev. _____ ft.)

Project _____ Project No. _____

Client _____ Observer _____

Comments/Field Notes: Loose soil, wood debris, rebar, plywood, ice cubes

PH: 1 0-5'

Depth (ft.)	USCS Symbol	Description color, modifier, predominant size class, with modifiers (density/consistency, moisture) (Geologic Unit)	Sample No./ Depth	Moisture Content,%	Other Tests
0-4		Grey/dark brown SAND with med. size gravel			
		~10% small med. size concrete chunks			
		1 large piece 2'+ at 2'			
		~20% gravel + loose ~10% concrete			
		from 2-5'			
4-9'		Med. to dk. brown med. grained sand			
		with 15-20% small to med size			
		gravel.			
		At 7' med. brown debris med. sized			
		concrete			
		4-8' concrete mixed in and red brick			
		loose rubble			
		Large piece concrete at 9' - could not go			

- Test Pit completed to _____ ft. on (date) _____
- No ground water seepage encountered
- (Describe/Quantity) _____ ground water seepage encountered at _____ ft.

ProLogis
Taylor Way Property

Remedial Investigation

Appendix E
Well and Piezometer Construction Logs

FINAL

Log of Soil Boring and Well Construction PMW-1A

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Floyd Snider
Boring PMW-1A Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Stephen Bentsen Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method None
Bottom of Boring 7' ATD Water Level Depth
Obs. Well Install. [X] Yes [ ] No
Ground Surface Elevation -

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY		USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
					0			Steel Casing; Well Seal
					1		Well installed 7' from PMW-1B. No samples collected, see Log PMW-1B for description of soil types.	Bentonite Chips; Concrete Grout
					2			
					3			
					4			
					5			Sand
					6			
					7		Bottom of Boring at 7'	
					8			
					9			
					10			
					11			
					12			
					13			
					14			
					15			
					16			
					17			
					18			
					19			
					20			

Recovery
Subsample for Analysis
Driven Interval

▽ Groundwater Observed At Time of Drilling

/ Inferred Contact

— Observed Contact

Log of Soil Boring and Well Construction PMW-1B

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Floyd Snider
Boring PMW-1B Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Stephen Bentsen Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method Split Spoon
Bottom of Boring 19' ATD Water Level Depth 5.5'
Ground Surface Elevation --

Obs. Well Install. [X] Yes [ ] No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
						Dry Gravel	Steel Casing; Well Seal
					SP	Light gray gravelly SAND (FILL)	Concrete Grout
	17					Woody debris and chips, dark, slightly moist, (FILL)	
	50 for 6"					Poor recovery.	
	11/12/18				▽		Bentonite Chips
	9/2/2				PT		
	2/2/2						
	4/8/9						
					PT-CL	Clay layer underlain by peaty woody fibers.	2" PVC Casing
	14/9/4						
	4/5/6				SP		
	9/9/9					Grey to dark grey, poorly sorted fine silty SAND with minor woody fibers and clay lenses. Wet.	Sand
						Bottom of Boring at 19'	

Recovery
Subsample for Analysis
Driven Interval

▽ Groundwater Observed At Time of Drilling

/ Inferred Contact

— Observed Contact

Log of Soil Boring and Well Construction PMW-2A

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Floyd Snider
Boring PMW-2A Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Stephen Bentsen Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method None
Bottom of Boring 7' ATD Water Level Depth
Ground Surface Elevation –

Obs. Well Install. [X] Yes [ ] No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
						Well installed 7' from PMW-2B. No samples collected, see Log PMW-2B for description of soil types.	Steel Casing; Well Seal; Bentonite Chips; Concrete Grout; Sand
						Bottom of Boring at 7'	

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Recovery
Subsample for Analysis
Driven Interval

▽ Groundwater Observed At Time of Drilling

/ Inferred Contact
— Observed Contact

Log of Soil Boring and Well Construction PMW-2B

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Floyd Snider
Boring PMW-2B Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Stephen Bentsen Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method Split Spoon
Bottom of Boring 16' ATD Water Level Depth 4.5', 10'
Obs. Well Install. [X] Yes [ ] No Ground Surface Elevation --

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
						ASPHALT	Steel Casing; Well Seal
	11/11/11				GP	Sandy gravel. (FILL)	Concrete Grout
	7/2/10						Bentonite Chips
	7/11/10				PT	Woody debris, dry. FILL	
	2/2/4						
	5/7/7				SP	Dark gray, silty SAND, dry to wet.	2" PVC Casing; Sand
	12/12/24						
						Bottom of Boring at 16'	

Recovery
Subsample for Analysis
Driven Interval
Groundwater Observed At Time of Drilling
Inferred Contact
Observed Contact

Log of Soil Boring and Well Construction PMW-3A

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Floyd Snider
Boring PMW-3A Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Stephen Bentsen Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method None
Bottom of Boring 7' ATD Water Level Depth
Ground Surface Elevation –

Obs. Well Install. [X] Yes [ ] No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY		USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
					0			Steel Casing; Well Seal
					1		Well installed 7' from PMW-3B. No samples collected, see Log PMW-3B for description of soil types.	Bentonite Chips; Concrete Grout
					2			
					3			
					4			
					5			Sand
					6			
					7		Bottom of Boring at 7'	
					8			
					9			
					10			
					11			
					12			
					13			
					14			
					15			
					16			
					17			
					18			
					19			
					20			

Recovery
Subsample for Analysis
Driven Interval

▽ Groundwater Observed At Time of Drilling

/ Inferred Contact

— Observed Contact

Log of Soil Boring and Well Construction PMW-3B

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Floyd Snider
Boring PMW-3B Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Stephen Bentsen Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method Split Spoon
Bottom of Boring 18' ATD Water Level Depth 4.5', 9'
Obs. Well Install. [X] Yes [ ] No
Ground Surface Elevation –

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.
						ASPHALT
					GP	Brown sandy GRAVEL. (FILL) Dry
	6/9/1					
	3/3/4					Wood debris with gravel
	19/20/24				SM	Silty SAND lense
	7/14/18				CL	Silty Clay
	5/7/11				SP	Dark grey SAND with some wood debris, wet.
	7/7/4					
	12/14/17					
	17/17/17					
						Bottom of Boring at 18'

WELL CONSTRUCTION
Steel Casing
Well Seal
Concrete Grout
Bentonite Chips
2" PVC Casing
Sand

Recovery
Subsample for Analysis
Driven Interval
Groundwater Observed At Time of Drilling
Inferred Contact
Observed Contact

Log of Soil Boring and Well Construction PMW-4A

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Floyd Snider
Boring PMW-4A Date 7/26/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Stephen Bentsen Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method None
Bottom of Boring 17' ATD Water Level Depth
Ground Surface Elevation –

Obs. Well Install. ~~Yes~~ No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY		USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
					0			Steel Casing; Well Seal
					1		Well installed 7' from PMW-4B. No samples collected, see Log PMW-4B for description of soil types.	Concrete Grout
					2			
					3			
					4			
					5			Bentonite Chips
					6			
					7			
					8			
					9			
					10			
					11			
					12			
					13			
					14			
					15			Sand
					16			
					17		Bottom of Boring at 17'	
					18			
					19			
					20			

Recovery
Subsample for Analysis
Driven Interval

▽ Groundwater Observed At Time of Drilling

/ Inferred Contact

—— Observed Contact

Log of Soil Boring and Well Construction PMW-4B

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Floyd Snider
Boring PMW-4B Date 7/26/05 Sheet 1 of 2
Job PROLOGIS-TWP Job No. 06000
Logged By Stephen Bentsen Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method Split Spoon
Bottom of Boring 30' ATD Water Level Depth 12'
Obs. Well Install. [X] Yes [ ] No
Ground Surface Elevation --

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture, MAJOR CONSTITUENT, NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.
						Brush Surface
					GP to SP	Light grey sandy gravel to dark brown SAND, moist. (Surcharge Pile Fill)
	15/7/9					
	22/ 50 for 6"					
	22/24/20					6 to 6.5' - White paste-like material.
	16/23/30				SP	Brown sand with wood fiber, moist. Zone of broken brick. 8 to 8.5' - White paste-like material
	60 for 6"				ML to SP	Dark brown sand to sandy SILT with gravel and occasional brick. (FILL)
	38/ 50 for 6"					
	36/ 50 for 6"					
	50 for 6"					
	27/9/3				PT	Large decaying wood debris, native?
	3/3/3					
	2/2/4				CL	Olive-grey clay with some plant or wood fibers.
	4/5/5					

WELL CONSTRUCTION
Steel Casing
Well Seal
Concrete Grout
Bentonite Chips
2" PVC Casing

Recovery
Subsample for Analysis
Driven Interval
▽ Groundwater Observed At Time of Drilling
Inferred Contact
Observed Contact

Log of Soil Boring and Well Construction PMW-4B

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Floyd Snider
Boring PMW-4B Date 7/26/05 Sheet 2 of 2
Job PROLOGIS-TWP Job No. 06000
Logged By Stephen Bentsen Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method Split Spoon
Bottom of Boring 30' ATD Water Level Depth 12'
Ground Surface Elevation –

Obs. Well Install. [X] Yes [ ] No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
	2/2/4				CL-ML	Grades sandier.	Bentonite Chips; 2" PVC Casing
	6/6/6						
	4/7/12				SM	Grey silty SAND, moist to wet.	Sand
	14/20/23						
	17/20/28						
						Bottom of Boring at 30'	

20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

Recovery
Subsample for Analysis
Driven Interval

▽ Groundwater Observed At Time of Drilling

/ Inferred Contact
— Observed Contact

Log of Soil Boring and Well Construction PMW-5A

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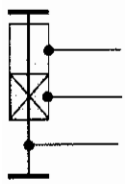
Floyd Snider
Boring PMW-5A Date 7/26/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By J. Satterberg Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method None
Bottom of Boring 9.5' ATD Water Level Depth
Ground Surface Elevation –

Obs. Well Install. [X] Yes [ ] No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
						Well installed 7' from PMW-5B. No samples collected, see Log PMW-5B for description of soil types.	Steel Casing; Well Seal; Bentonite Chips; Concrete Grout; Sand
						Bottom of Boring at 9.5'	



Recovery
Subsample for Analysis
Driven Interval

▽ Groundwater Observed At Time of Drilling

/ Inferred Contact

— Observed Contact

Log of Soil Boring and Well Construction PMW-5B

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Floyd Snider
Boring PMW-5B Date 7/26/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By J. Satterberg Weather Sunny, 70's
Drilled By Cascade Drilling - Steve
Drill Type/Method 6" Hollow Stem Auger
Sampling Method Split Spoon
Bottom of Boring 19' ATD Water Level Depth 5.5'
Obs. Well Install. [X] Yes [ ] No
Ground Surface Elevation ~

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT, NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.
						Gravel Surface
					GP	Sandy GRAVEL, FILL
						Wood chips and debris, with layer of grey/white paste material from 1.5 to 3'. (FILL)
	7/10/10					
	50 for 6"					
	50 for 6"					
	50 for 6"					
	2/4/2				CL	Olive-grey CLAY with wood fibers, dry to moist.
	½/4					
	1/3/3					
	12/20/23				SP	Dark grey fine SAND, wet.
						Bottom of Boring at 19'

WELL CONSTRUCTION
Steel Casing
Well Seal
Concrete Grout
Bentonite Chips
2" PVC Casing
Sand

Recovery
Subsample for Analysis
Driven Interval
▽ Groundwater Observed At Time of Drilling
Inferred Contact
Observed Contact

Log of Soil Boring and Piezomter Construction PP-1a

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Floyd Snider
Boring PP-1a Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Jessie Satterberg Weather 70 Degrees
Drilled By Cascade Drilling - Jay
Drill Type/Method GeoProbe
Sampling Method Direct Push - Power Probe 9630
Bottom of Boring 7 Ft. ATD Water Level Depth 5 Ft
Ground Surface Elevation
Obs. Well Install. [X] Yes [ ] No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
						SAND surface, dry	Steel Casing; Well Seal
						No sample until 5'	Bentonite Chips; 3/4" PVC Casing
							# 2/12 Sand
							3/4" Schedule 40 PVC 10 Slot Screen with Pre-packed Sand (#2/12)
					SM	Silty Sand and Clay with wood fibers, organic odor.	
						Bottom of boring at 7 ft.	

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Recovery
Subsample for Analysis
Driven Interval

▽ Groundwater Observed At Time of Drilling

/ Inferred Contact

— Observed Contact

Log of Soil Boring and Piezometer Construction PP-1b

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Floyd Snider
Boring PP-1b Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Jessie Satterberg Weather 70 Degrees
Drilled By Cascade Drilling - Jay
Drill Type/Method GeoProbe
Sampling Method Direct Push - Power Probe 9630
Bottom of Boring 16 Ft. ATD Water Level Depth 10 Ft
Ground Surface Elevation

Obs. Well Install. [X] Yes [ ] No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.
						Dry Sand
						No sample until 10'
					CL	Gray silty CLAY, poorly graded, wet.
					SP	Dark gray to black SAND, wet.
						Bottom of boring at 16 ft.

WELL CONSTRUCTION
Steel Casing
Well Seal
3/4" PVC Casing
Bentonite Chips
2/12 Sand
3/4" Schedule 40 PVC 10 Slot Screen with Pre-packed Sand (#2/12)

Recovery
Subsample for Analysis
Driven Interval
▽ Groundwater Observed At Time of Drilling
Inferred Contact
Observed Contact

Log of Soil Boring and Piezometer Construction PP-2a

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Floyd Snider
Boring PP-2a Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Jessie Satterberg Weather Sunny, 75 Degrees
Drilled By Cascade Drilling - Jay
Drill Type/Method GeoProbe
Sampling Method Direct Push - Power Probe 9630
Bottom of Boring 8 Ft. ATD Water Level Depth 6 Ft
Ground Surface Elevation
Obs. Well Install. [X] Yes [ ] No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.	WELL CONSTRUCTION
						Gravel, rock, concrete debris.	Steel Casing; Well Seal; 3/4" PVC Casing; Bentonite Chips
						No sample until 5'	# 2/12 Sand
						Black moist SAND with 1-2" wood debris.	3/4" Schedule 40 PVC 10 Slot Screen with Pre-packed Sand (#2/12)
					SP / CL	Dark gray to black CLAY with wood fibers.	
						Bottom of boring at 8 ft.	

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Recovery
Subsample for Analysis
Driven Interval

▽ Groundwater Observed At Time of Drilling

/ Inferred Contact

— Observed Contact

Log of Soil Boring and Piezomter Construction PP-2b

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Floyd Snider
Boring PP-2b Date 7/25/05 Sheet 1 of 1
Job PROLOGIS-TWP Job No. 06000
Logged By Jessie Satterberg Weather 70 Degrees
Drilled By Cascade Drilling - Jay
Drill Type/Method GeoProbe
Sampling Method Direct Push - Power Probe 9630
Bottom of Boring 17 Ft. ATD Water Level Depth 10 Ft
Ground Surface Elevation

Obs. Well Install. ~~Yes~~ No

SAMPLE ID	Blow Count N/12"	RECOVERY From	RECOVERY To	GRAPHIC RECOVERY	USCS Symbol	DESCRIPTION: color, texture, moisture MAJOR CONSTITUENT. NON-SOIL SUBSTANCES: Odor, staining, sheen, scrap, slag, etc.
						Gravel, cobble size rocks.
						No sample until 10'
						Black to gray SAND, wet.
					SP	
						Bottom of boring at 17 ft.

WELL CONSTRUCTION
Steel Casing
Well Seal
3/4" PVC Casing
Bentonite Chips
2/12 Sand
3/4" Schedule 40 PVC 10 Slot Screen with Pre-packed Sand (#2/12)

Recovery
Subsample for Analysis
Driven Interval
Groundwater Observed At Time of Drilling
Inferred Contact
Observed Contact

ProLogis
Taylor Way Property

Remedial Investigation

Appendix F
Philip Services Corporation Final Comprehensive Remedial Investigation Report (2005) Screening Level Tables 8-7 and 8-12

FINAL

Table 8-7
Selection of Soil Screening Levels
PSC Tacoma Facility

Compound	CAS Number	Screening Levels Protective of: Human Health: Ingestion[1] Carcinogen	Ingestion[1] Non-carcinogen	Inhalation of Particulates[2] Carcinogen	Inhalation of Particulates[2] Non-carcinogen	Dermal Contact[3] Carcinogen	Dermal Contact[3] Non-carcinogen	Protection of Groundwater[4]	Ecological Receptors: Ecological Indicator Concentration[5]	Ecologically-based Soil Screening Level[6]	Natural Background[7]	PQLs[8]	Soil Screening Level (mg/kg)	Basis
Volatile Organic Compounds (VOCs)														
1,1,1-Trichloroethane	71-55-6	—	3.15E+06	—	1.91E+09	—	2.88E+08	2.70E+03	—	7.47E+04	—	5.00E-03	2.70E+03	Protection of groundwater
1,1,2-Trichloroethane	79-00-5	2.30E+03	1.40E+04	4.41E+05	—	2.11E+05	1.28E+06	1.41E-01	—	—	—	5.00E-03	1.41E-01	Protection of groundwater
1,1,2-Trichlorotrifluoro-ethane	76-13-1	—	1.05E+08	—	5.64E+10	—	9.60E+09	1.54E+06	—	—	—	—	1.54E+06	Protection of groundwater
1,1-Dichloroethane	75-34-3	—	3.50E+05	—	9.40E+08	—	3.20E+07	6.53E+02	—	—	—	5.00E-03	6.53E+02	Protection of groundwater
1,1-Dichloroethene	75-35-4	2.19E+02	3.15E+04	1.41E+05	—	2.00E+04	2.88E+06	3.58E-02	—	3.99E+03	—	5.00E-03	3.58E-02	Protection of groundwater
1,1-Dichloropropene	563-58-6	7.29E+02	1.05E+05	1.76E+06	3.76E+07	4.00E+03	1.60E+05	2.90E-02	—	—	—	—	2.90E-02	Protection of groundwater
1,2,4-Trimethylbenzene	95-63-6	—	—	—	1.12E+07	—	2.67E+05	3.05E+02	—	—	—	—	3.05E+02	Protection of groundwater
1,2-Dichlorobenzene	95-50-1	—	3.15E+05	—	3.76E+08	—	4.80E+05	4.92E+01	—	—	—	6.60E-01	4.92E+01	Protection of groundwater
1,2-Dichloroethane	107-06-2	1.44E+03	—	2.71E+05	—	1.32E+04	—	2.87E-01	—	1.37E+02	—	5.00E-03	2.87E-01	Protection of groundwater
1,2-Dichloroethene	540-59-0	1.44E+03	—	—	—	—	2.88E+06	4.79E+01	—	3.25E+03	—	5.00E-03	4.79E+01	Protection of groundwater
1,2-Dichloropropane	78-87-5	1.93E+03	—	—	7.52E+06	—	3.63E+05	1.19E-01	—	—	—	5.00E-03	1.19E-01	Protection of groundwater
1,3,5-Trimethylbenzene	108-67-8	—	—	—	1.12E+07	—	2.67E+05	1.20E+02	—	—	—	—	1.20E+02	Protection of groundwater
1,3-Dichlorobenzene	541-73-1	—	—	—	5.92E+06	—	4.80E+03	1.29E+00	—	—	—	6.60E-01	1.29E+00	Protection of groundwater
1,4-Dichlorobenzene	106-46-7	5.47E+03	—	—	1.50E+09	8.33E+03	—	1.65E-01	—	—	—	6.60E-01	6.60E-01	Practical quantitation limit
2-Butanone	78-93-3	—	2.10E+06	—	1.88E+09	—	3.20E+06	5.81E+03	—	2.35E+05	—	1.00E-02	5.81E+03	Protection of groundwater
2-Hexanone	591-78-6	—	—	—	1.88E+09	—	3.20E+06	1.58E+05	—	—	—	5.00E+01	1.58E+05	Protection of groundwater
2-Methylpentane	107-83-5	—	—	—	NA	—	—	—	—	—	—	—	—	NA
3-Methylpentane	96-14-0	—	—	—	NA	—	—	—	—	—	—	—	—	NA
4-Methyl-2-pentanone	108-10-1	—	2.80E+05	—	1.32E+08	—	4.27E+05	1.43E+03	—	3.32E+03	—	1.00E-02	1.43E+03	Protection of groundwater
Acetone	67-64-1	—	3.50E+05	—	6.58E+08	—	3.20E+07	1.71E+03	—	1.33E+03	—	1.00E-02	1.33E+03	Protection of ecological receptors
Benzene	71-43-2	2.39E+03	1.05E+04	9.04E+05	1.12E+07	2.18E+05	9.60E+05	1.28E-01	—	1.90E+03	—	5.00E-03	1.28E-01	Protection of groundwater
Bromodichloromethane	75-27-4	2.12E+03	7.00E+04	—	—	3.23E+03	1.07E+05	1.45E-01	—	—	—	5.00E-03	1.45E-01	Protection of groundwater
Bromomethane	74-83-9		4.90E+03	—	9.21E+06	—	4.48E+05	4.50E+00	—	—	—	—	4.50E+00	Protection of groundwater
Carbon disulfide	75-15-0	—	3.50E+05	—	1.32E+09	—	3.20E+07	3.13E+02	—	—	—	1.00E-01	3.13E+02	Protection of groundwater
Carbon tetrachloride	56-23-5	1.01E+03	2.45E+03	4.70E+05	—	9.23E+04	2.24E+05	4.60E-02	—	—	—	5.00E-03	4.60E-02	Protection of groundwater
Chlorobenzene	108-90-7	—	7.00E+04	—	3.29E+07	—	1.07E+05	4.40E+01	—	—	—	5.00E-03	4.40E+01	Protection of groundwater
Chloroethane	75-00-3	—	—	8.51E+06	1.91E+10	4.14E+06	1.28E+08	3.29E+02	—	—	—	1.00E+01	3.29E+02	Protection of groundwater
Chloroform	67-66-3	2.15E+04	3.50E+04	3.07E+05	5.66E+05	1.97E+06	3.20E+06	1.51E+00	—	2.00E+03	—	5.00E-03	1.51E+00	Protection of groundwater
Chloromethane	74-87-3	1.01E+04	—	3.92E+06	1.69E+08	9.23E+05	—	8.52E-01	—	—	—	1.00E-02	8.52E-01	Protection of groundwater
cis-1,2-Dichloroethene	156-59-2	—	3.50E+04	—	6.58E+07	—	3.20E+06	5.32E+01	—	3.25E+03	—	5.00E-03	5.32E+01	Protection of groundwater
Dibromochloromethane	124-48-1	1.56E+03	7.00E+04	—	—	1.43E+05	6.40E+06	1.09E-01	—	—	—	5.00E-03	1.09E-01	Protection of groundwater
Ethylbenzene	100-41-4	—	3.50E+05	—	1.88E+10	—	5.33E+05	7.66E+00	—	—	—	5.00E-03	7.66E+00	Protection of groundwater
Isopropylbenzene	98-82-8	—	3.50E+05	—	7.52E+08	—	5.33E+05	7.49E+02	—	—	—	—	7.49E+02	Protection of groundwater
m,p-Xylene	1330-20-7	—	7.00E+06	—	1.32E+09	—	1.07E+07	2.25E+03	—	1.51E+02	—	5.00E-03	1.51E+02	Protection of ecological receptors
Methylene chloride	75-09-2	1.75E+04	2.10E+05	1.50E+07	5.64E+09	1.60E+06	1.92E+07	4.18E+00	—	7.79E+02	—	5.00E-03	4.18E+00	Protection of groundwater
m-Xylene	108-38-3	—	7.00E+06	—	1.32E+09	—	1.07E+07	2.25E+03	—	1.51E+02	—	5.00E-03	1.51E+02	Protection of ecological receptors
n-Butylbenzene	104-51-8	—	—	—	6.58E+07	—	5.33E+04	1.17E+01	—	—	—	—	1.17E+01	Protection of groundwater
n-Propylbenzene	103-65-1	—	—	—	6.58E+07	—	5.33E+04	4.54E+01	—	—	—	—	4.54E+01	Protection of groundwater
o-Xylene	95-47-6	—	7.00E+06	—	1.32E+09	—	1.07E+07	2.45E+03	—	1.51E+02	—	5.00E-03	1.51E+02	Protection of ecological receptors
p-Isopropyltoluene	99-87-6	—	—	—	7.52E+08	—	5.33E+05	4.23E+02	—	—	—	—	4.23E+02	Protection of groundwater
p-Xylene	106-42-3	—	7.00E+06	—	1.32E+09	—	1.07E+07	2.25E+03	—	1.51E+02	—	5.00E-03	1.51E+02	Protection of ecological receptors
sec-Butylbenzene	135-98-8	—	—	—	6.58E+07	—	5.33E+04	1.74E+01	—	—	—	—	1.74E+01	Protection of groundwater
Styrene	100-42-5	4.38E+03	7.00E+05	1.23E+07	1.88E+09	6.67E+03	1.07E+06	1.84E+01	—	—	—	5.00E-03	1.84E+01	Protection of groundwater
Tetrachloroethene	127-18-4	2.57E+03	3.50E+04	1.23E+07	7.24E+08	3.92E+03	5.33E+04	5.30E-02	—	—	—	3.00E-04	5.30E-02	Protection of groundwater
Toluene	108-88-3	—	7.00E+05	—	7.52E+08	—	1.07E+06	1.55E+01	—	1.87E+03	—	5.00E-03	1.55E+01	Protection of groundwater
trans-1,2-Dichloroethene	156-60-5	—	7.00E+04	—	1.32E+08	—	6.40E+06	1.16E+02	—	—	—	5.00E-03	1.16E+02	Protection of groundwater
trans-1,3-Dichloropropene	10061-02-6	7.29E+02	1.05E+05	1.76E+06	3.76E+07	2.40E+05	9.60E+06	1.09E-01	—	—	—	5.00E-03	1.09E-01	Protection of groundwater
Trichloroethene	79-01-6	1.19E+04	—	1.45E+06	3.95E+07	1.09E+06	—	3.68E-01	—	5.03E+01	—	1.00E-03	3.68E-01	Protection of groundwater
Trichlorofluoromethane	75-69-4	—	1.05E+06	—	1.32E+09	—	9.60E+07	2.52E+03	—	—	—	—	2.52E+03	Protection of groundwater
Vinyl acetate	108-05-4	—	3.50E+06	—	3.75E+08	—	3.20E+08	7.46E+03	—	—	—	5.00E+01	7.46E+03	Protection of groundwater
Vinyl chloride	75-01-4	8.75E+01	1.05E+04	8.01E+05	1.88E+08	8.00E+03	9.60E+05	6.30E-02	—	2.26E+01	—	2.00E-02	6.30E-02	Protection of groundwater
Xylene (total)	1330-20-7	—	7.00E+06	—	1.32E+09	—	1.07E+07	2.25E+03	—	1.51E+02	—	5.00E-03	1.51E+02	Protection of ecological receptors
Semi-Volatile Organic Compounds (SVOCs)														
2-Methylnaphthalene	91-57-6	—	—	—	5.64E+06	—	2.00E+04	2.77E+01	—	—	—	—	2.77E+01	Protection of groundwater
2-Methylphenol	95-48-7	—	1.75E+05	—	—	—	5.00E+04	1.94E+02	—	3.79E+04	—	6.60E-01	1.94E+02	Protection of groundwater
2,4-Dimethyl-phenol	105-67-9	—	7.00E+04	—	—	—	2.00E+04	4.52E+00	—	—	—	6.60E-01	4.52E+00	Protection of groundwater
2,4-Dinitro-phenol	51-28-5	—	7.00E+03	—	—	—	2.00E+03	1.38E+01	—	—	—	3.30E+00	1.38E+01	Protection of groundwater
2,4-Dinitrotoluene	121-14-2	—	7.00E+03	—	—	—	2.00E+03	8.06E+00	—	—	—	6.60E-01	8.06E+00	Protection of groundwater
2,6-Dinitrotoluene	606-20-2	—	3.50E+03	—	—	—	1.00E+03	2.29E+01	—	—	—	6.60E-01	2.29E+01	Protection of groundwater
2-Chloronaphthalene	91-58-7	—	—	—	5.26E+08	—	8.00E+04	1.79E+02	—	—	—	6.60E-01	1.79E+02	Protection of groundwater
2-Chlorophenol	95-57-8	—	1.75E+04	—	—	—	5.00E+03	1.14E+00	—	—	—	6.60E-01	1.14E+00	Protection of groundwater
2-Nitroaniline	88-74-4	—	—	—	—	—	5.70E+01	9.13E-01	—	—	—	3.30E+00	3.30E+00	Practical quantitation limit
3,3'-Dichlorobenzidine	91-94-1	2.92E+02		—	—	8.33E+01	—	3.70E-01	—	—	—	—	3.70E-01	Protection of groundwater
3-Methylphenol	108-39-4	—	1.75E+05	—	—	—	5.00E+04	2.07E+02	—	—	—	6.60E-01	2.07E+02	Protection of groundwater
4-Bromophenyl phenyl ether	101-55-3	—	—	—	—	—	—	—	—	—	—	6.60E-01	—	NA

Table 8-12 (Continued)
Selection of Groundwater Screening Levels
PSC Tacoma Facility

Compound	CAS Number	Screening Levels Protective of Human Health					Screening Levels Protective of Surface Water						Median Bkgnd	PQL[7]	Groundwater Screening Levels	Basis
		Indoor Air[1]	Dermal[2]		Ingestion[3]		Method B Surface Water[4]		Ambient Water Quality Criteria[5,6]							
									Freshwater		Marine					
			Carc.	Non-Carc.	Carc.	Non-Carc.	Carc.	Non-Carc.	acute	chronic	acute	chronic				
Semi-Volatile Organic Compounds (SVOCs) (Continued)																
2-Chloronaphthalene	91-58-7	NOC	—	6.55E+03	—	3.41E+05	—	1.03E+03	—	—	—	—	—	1.00E+01	1.03E+03	Protection of Surface Water
2-Chlorophenol	95-57-8	2.61E+05	—	1.61E+03	—	2.13E+04	—	9.67E+01	—	—	—	—	—	1.00E+01	9.67E+01	Protection of Surface Water
2-Nitroaniline	88-74-4	—	—	2.10E+02	—	2.43E+02	—	3.60E+03	—	—	—	—	—	5.00E+01	2.10E+02	Protection of On-Site Groundwater Exposure
3,3'-Dichlorobenzidine	91-94-1	NOC	2.09E+03	—	1.42E+04	—	4.62E-02	—	—	—	—	—	—	2.00E+01	2.00E+01	Practical Quantitation Limits
3-Methylphenol	108-39-4	NOC	—	3.55E+04	—	2.13E+05	—	4.42E+06	—	—	—	—	—	1.00E+01	3.55E+04	Protection of On-Site Groundwater Exposure
4-Bromophenyl phenyl ether	101-55-3	—	—	—	—	—	—	—	—	—	—	—	—	1.00E+01	—	
4-Chloroaniline	106-47-8	NOC	—	6.73E+03	—	1.70E+04	—	4.67E+05	—	—	—	—	—	—	6.73E+03	Protection of On-Site Groundwater Exposure
4-Chloro-3-methylphenol	59-50-7	—	—	—	—	—	—	—	—	—	—	—	—	2.00E+01	2.00E+01	PQL
4-Methylphenol	106-44-5	NOC	—	2.96E+03	—	2.13E+04	—	2.37E+05	—	—	—	—	—	1.00E+01	2.96E+03	Protection of On-Site Groundwater Exposure
4-Nitrophenol	100-02-7	—	—	1.52E+04	—	3.41E+04	—	9.46E+05	—	—	—	—	—	—	1.52E+04	Protection of On-Site Groundwater Exposure
Acenaphthene	83-32-9	NOC	—	4.82E+03	—	2.56E+05	—	6.43E+02	—	—	—	—	—	1.00E+01	6.43E+02	Protection of Surface Water
Acenaphthylene	208-96-8	NOC	—	4.53E+03	—	2.56E+05	—	1.49E+05	—	—	—	—	—	1.00E+01	4.53E+03	Protection of On-Site Groundwater Exposure
Aniline	62-53-3	3.45E+06	1.40E+06	—	1.12E+06	—	6.89E+04	—	—	—	—	—	—	1.00E+01	6.89E+04	Protection of Surface Water
Anthracene	120-12-7	NOC	—	1.42E+04	—	1.28E+06	—	2.59E+04	—	—	—	—	—	—	1.42E+04	Protection of On-Site Groundwater Exposure
Azobenzene	103-33-3	—	1.91E+03	—	5.81E+04	—	4.58E+01	—	—	—	—	—	—	3.30E+02	3.30E+02	Practical Quantitation Limits
Benzo(a)anthracene	56-55-3	NOC	2.70E+00	—	8.75E+02	—	2.96E-02	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Benzo(a)pyrene	50-32-8	NOC	1.82E+00	—	8.75E+02	—	2.96E-02	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Benzo(b)fluoranthene	205-99-2	NOC	1.82E+00	—	8.75E+02	—	2.96E-02	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Benzo(ghi)perylene	191-24-2	—	—	7.39E+02	—	1.28E+06	—	9.46E+06	—	—	—	—	—	1.00E+01	7.39E+02	Protection of On-Site Groundwater Exposure
Benzo(k)fluoranthene	207-08-9	NOC	5.44E-01	—	8.75E+02	—	2.96E-02	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Benzoic acid	65-85-0	NOC	—	5.83E+06	—	1.70E+07	—	2.70E+08	—	—	—	—	—	5.00E+01	5.83E+03	Protection of On-Site Groundwater Exposure
Benzyl alcohol	100-51-6	—	—	1.27E+06	—	1.28E+06	—	2.84E+08	—	—	—	—	—	2.00E+01	1.27E+05	Protection of On-Site Groundwater Exposure
Bis(2-chloro-ethoxy) methane	111-91-1	—	—	—	—	—	—	—	—	—	—	—	—	1.00E+01	1.00E+01	PQL
Bis(2-chloroisopropyl)ether	39638-32-9	—	—	3.64E+04	—	1.70E+05	—	4.20E+04	—	—	—	—	—	1.00E+01	3.64E+04	Protection of On-Site Groundwater Exposure
bis(2-Ethylhexyl) phthalate	117-81-7	NOC	1.51E+05	2.81E+04	4.56E+05	8.52E+04	3.56E+00	3.99E+02	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Butyl benzyl phthalate	85-68-7	NOC	—	1.20E+05	—	8.52E+05	—	1.25E+03	—	—	—	—	—	1.00E+01	1.25E+03	Protection of Surface Water
Carbazole	86-74-8	NOC	1.00E+04	—	3.19E+05	—	2.36E+02	—	—	—	—	—	—	1.00E+01	2.36E+02	Protection of Surface Water
Chrysene	218-01-9	NOC	2.70E+00	—	8.75E+02	—	2.96E-02	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Dibenzo(a,h)anthracene	53-70-3	NOC	8.10E-01	—	8.75E+02	—	2.96E-02	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Dibenzofuran	132-64-9	NOC	—	2.60E+02	—	1.70E+04	—	4.00E+03	—	—	—	—	—	1.00E+01	2.60E+02	Protection of On-Site Groundwater Exposure
Diethylphthalate	84-66-2	NOC	—	1.77E+06	—	3.41E+06	—	2.84E+04	—	—	—	—	—	1.00E+01	2.84E+04	Protection of Surface Water
Dimethylphthalate	131-11-3	NOC	—	6.65E+06	—	4.26E+06	—	7.20E+04	—	—	—	—	—	1.00E+01	7.20E+04	Protection of Surface Water
Di-n-butyl phthalate	84-74-2	NOC	—	3.23E+04	—	4.26E+05	—	2.91E+03	—	—	—	—	—	4.00E+00	2.91E+03	Protection of Surface Water
Di-n-octyl phthalate	117-84-0	NOC	—	7.92E+00	—	8.52E+04	—	2.01E+03	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Fluoranthene	206-44-0	NOC	—	7.53E+02	—	1.70E+05	—	9.02E+01	—	—	—	—	—	1.00E+01	9.02E+01	Protection of Surface Water
Fluorene	86-73-7	NOC	—	2.74E+03	—	1.70E+05	—	3.46E+03	—	—	—	—	—	1.00E+01	2.74E+03	Protection of On-Site Groundwater Exposure
Hexachlorobutadiene	87-68-3	NOC	1.71E+03	1.77E+01	8.19E+04	8.52E+02	2.99E+01	1.87E+02	—	—	—	—	—	1.00E+01	1.77E+01	Protection of On-Site Groundwater Exposure
Indeno(1,2,3-cd)pyrene	193-39-5	NOC	1.15E+00	—	8.75E+02	—	2.96E-02	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Isophorone	78-59-1	NOC	3.82E+06	4.84E+05	6.72E+06	8.52E+05	1.56E+03	1.18E+05	—	—	—	—	—	1.00E+01	1.56E+03	Protection of Surface Water
Methylcyclopentane	96-37-7	NOC	—	—	—	—	—	—	—	—	—	—	—	—	—	NA
Naphthalene	91-20-3	NOC	—	3.09E+03	—	8.52E+04	—	4.94E+03	—	—	—	—	—	1.00E+01	3.09E+03	Protection of On-Site Groundwater Exposure
N-Nitrosodiphenylamine	86-30-6	NOC	9.05E+04	—	1.30E+06	—	9.73E+00	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Nitrobenzene	98-95-3	4.23E+05	—	8.30E+02	—	2.13E+03	—	4.49E+02	—	—	—	—	—	1.00E+01	4.49E+02	Protection of Surface Water
N-Nitroso-di-n-propylamine	621-64-7	1.98E+04	8.75E+02	—	9.13E+02	—	8.19E-01	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
o-Nitrophenol	88-75-5	—	—	1.86E+04	—	3.41E+04	—	1.90E+05	—	—	—	—	—	1.00E+01	1.86E+04	Protection of On-Site Groundwater Exposure
Pentachloropehnol	87-86-5	NOC	2.05E+02	4.91E+02	5.32E+04	1.28E+05	4.91E+00	7.07E+03	—	—	1.30E+01	7.90E+00	—	5.00E+01	5.00E+01	Practical Quantitation Limits
Phenanthrene	85-01-8	1.39E+02	—	1.18E+04	—	1.28E+06	—	8.77E+05	—	—	—	—	—	1.00E+01	1.39E+02	Protection of On-Site Groundwater Exposure
Phenol	108-95-2	NOC	—	7.89E+05	—	2.56E+06	—	1.11E+06	—	—	—	—	—	1.00E+01	7.89E+05	Protection of On-Site Groundwater Exposure
Pyrene	129-00-0	NOC	—	6.03E+02	—	1.28E+05	—	2.59E+03	—	—	—	—	—	1.00E+01	6.03E+02	Protection of On-Site Groundwater Exposure

Table 8-7 (Continued)
Selection of Soil Screening Levels
PSC Tacoma Facility

Compound	CAS Number	Screening Levels Protective of: Human Health: Ingestion[1] Carcinogen	Ingestion[1] Non-carcinogen	Inhalation of Particulates[2] Carcinogen	Inhalation of Particulates[2] Non-carcinogen	Dermal Contact[3] Carcinogen	Dermal Contact[3] Non-carcinogen	Protection of Groundwater[4]	Ecological Receptors: Ecological Indicator Concentration[5]	Ecologically-based Soil Screening Level[6]	Natural Background[7]	PQLs[8]	Soil Screening Level (mg/kg)	Basis
Semi-Volatile Organic Compounds (SVOCs) (Continued)														
4-Chloroaniline	106-47-8	—	1.40E+04	—	—	—	6.40E+03	3.58E+01	—	—	—	3.30E-01	3.58E+01	Protection of groundwater
4-Chloro-3-methylphenol	59-50-7	—	—	—	—	—	—	—	—	—	—	2.40E-01	—	NA
4-Methylphenol	106-44-5	—	1.75E+04	—	—	—	5.00E+03	1.57E+01	—	—	—	6.60E-01	1.57E+01	Protection of groundwater
4-Nitrophenol	100-02-7	—	—	—	5.26E+07	—	8.00E+03	7.79E+01	—	—	—	3.30E+00	7.79E+01	Protection of groundwater
Acenaphthene	83-32-9	—	2.10E+05	—	—	—	6.00E+04	7.03E+01	—	—	—	6.60E-01	7.03E+01	Protection of groundwater
Acenaphthylene	208-96-8	—	—	—	—	—	6.00E+04	4.52E+02	—	—	—	6.60E-01	4.52E+02	Protection of groundwater
Aniline	62-53-3	2.30E+04	—	—	1.88E+06	6.58E+03	—	4.01E+02	—	—	—	6.60E-01	4.01E+02	Protection of groundwater
Anthracene	120-12-7	—	1.05E+06	—	—	—	3.00E+05	6.73E+03	—	—	—	6.60E-01	6.73E+03	Protection of groundwater
Azobenzene	103-33-3	1.19E+03	—	2.24E+08	—	3.41E+02	—	1.02E+01	—	—	—	3.30E-01	1.02E+01	Protection of groundwater
Benzo(a)anthracene	56-55-3	1.80E+01	—	—	—	5.14E+00	—	7.15E+01	—	—	—	6.60E-01	5.14E+00	Protection of human heath
Benzo(a)pyrene	50-32-8	1.80E+01	—	4.05E+03	—	5.14E+00	—	1.94E+02	1.20E+01	7.18E+01	—	6.60E-01	5.14E+00	Protection of human heath
Benzo(b)fluoranthene	205-99-2	1.80E+01	—	—	—	5.14E+00	—	2.46E+02	—	—	—	6.60E-01	5.14E+00	Protection of human heath
Benzo(ghi)perylene	191-24-2	—	—	—	—	—	3.00E+05	1.15E+05	—	—	—	6.60E-01	1.15E+05	Protection of groundwater
Benzo(k)fluoranthene	207-08-9	1.80E+01	—	—	—	5.14E+00	—	2.46E+02	—	—	—	3.30E+00	2.34E+04	Protection of groundwater
Benzoic acid	65-85-0	—	1.40E+07	—	—	—	2.13E+07	2.34E+04	—	—	—	1.30E+00	5.45E+03	Protection of groundwater
Benzyl alcohol	100-51-6	—	—	—	—	—	3.00E+05	5.45E+03	—	—	—	6.60E-01	—	NA
Bis(2-chloro-ethoxy) methane	111-91-1	—	—	—	—	—	—	—	—	—	—	6.60E-01	1.90E+02	Protection of groundwater
Bis(2-chloroisopropyl)ether	39638-32-9	—	—	—	—	—	4.00E+04	1.90E+02	—	—	—	6.60E-01	2.23E+01	Protection of groundwater
bis(2-Ethylhexyl) phthalate	117-81-7	9.38E+03	7.00E+04	—	—	2.68E+03	2.00E+04	2.23E+01	—	1.32E+03	—	6.60E-01	3.49E+02	Protection of groundwater
Butyl benzyl phthalate	85-68-7	—	7.00E+05	—	—	—	2.00E+05	3.49E+02	—	—	—	3.30E-01	1.69E+01	Protection of groundwater
Carbazole	86-74-8	6.56E+03	—	—	—	1.88E+03	—	1.69E+01	—	—	—	6.60E-01	5.14E+00	Protection of human heath
Chrysene	218-01-9	1.80E+01	—	—	—	5.14E+00	—	7.96E+01	—	—	—	6.60E-01	5.14E+00	Protection of human heath
Dibenzo(a,h)anthracene	53-70-3	1.80E+01	—	—	—	5.14E+00	—	3.58E+02	—	—	—	3.30E-01	4.14E+01	Protection of groundwater
Dibenzofuran	132-64-9	—	—	—	2.63E+07	—	4.00E+03	4.14E+01	—	—	—	6.60E-01	1.60E+02	Protection of groundwater
Diethylphthalate	84-66-2	—	2.80E+06	—	5.26E+09	—	8.00E+05	1.60E+02	—	3.30E+05	—	6.60E-01	3.49E+02	Prptection of groundwater
Dimethylphthalate	131-11-3	—	3.50E+06	—	—	—	1.00E+06	3.49E+02	—	—	—	1.70E+00	1.70E+00	Practical quantitation limit
Di-n-butyl phthalate	84-74-2	—	3.50E+05	—	—	—	1.00E+05	1.03E+02	—	8.65E-01	—	6.60E-01	1.66E+04	Protection of groundwater
Di-n-octyl phthalate	117-84-0	—	7.00E+04	—	—	—	2.00E+04	1.66E+04	—	—	—	6.60E-01	8.89E+01	Protection of groundwater
Fluoranthene	206-44-0	—	1.40E+05	—	—	—	4.00E+04	8.89E+01	—	—	—	6.60E-01	4.33E+02	Protection of groundwater
Fluorene	86-73-7	—	1.40E+05	—	—	—	4.00E+04	4.33E+02	—	—	—	6.60E-01	2.00E+02	Protection of human heath
Hexachlorobutadiene	87-68-3	1.68E+03	7.00E+02	3.21E+05	—	4.81E+02	2.00E+02	4.47E+02	—	—	—	6.60E-01	5.14E+00	Protection of human heath
Indeno(1,2,3-cd)pyrene	193-39-5	1.80E+01	—	—	—	5.14E+00	—	6.94E+02	—	—	—	6.60E-01	7.69E+00	Protection of groundwater
Isophorone	78-59-1	1.38E+05	7.00E+05	—	—	3.95E+04	2.00E+05	7.69E+00	—	—	—	—	—	NA
Methylcyclopentane	96-37-7	—	—	—	—	—	—	—	—	—	—	6.60E-01	8.60E+01	Protection of groundwater
Naphthalene	91-20-3	—	7.00E+04	—	5.64E+06	—	2.00E+04	8.60E+01	—	—	—	6.60E-01	6.60E-01	Practical quantitation limit
N-Nitrosodiphenylamine	86-30-6	2.68E+04	—	—	—	7.65E+03	—	2.98E-01	—	—	—	6.60E-01	2.86E+00	Protection of groundwater
Nitrobenzene	98-95-3	—	1.75E+03	—	1.12E+06	—	5.00E+02	2.86E+00	—	—	—	1.30E+00	1.30E+00	Practical quantitation limit
N-Nitroso-di-n-propylamine	621-64-7	1.88E+01	—	—	—	5.36E+00	—	4.48E-02	—	—	—	6.60E-01	9.76E+01	Protection of groundwater
o-Nitrophenol	88-75-5	—	—	—	5.26E+07	—	8.00E+03	9.76E+01	—	—	—	3.30E+00	3.30E+00	Practical quantitation limit
Pentachlorophenol	87-86-5	1.09E+03	1.05E+05	—	—	3.13E+02	3.00E+04	7.92E-01	4.50E+00	3.19E+01	—	6.60E-01	6.45E+01	Protection of groundwater
Phenanthrene	85-01-8	—	—	—	—	—	3.00E+05	6.45E+01	—	—	—	6.60E-01	3.61E+03	Protection of groundwater
Phenol	108-95-2	—	2.10E+06	—	—	—	6.00E+05	3.61E+03	—	—	—	6.60E-01	8.22E+02	Protection of groundwater
Pyrene	129-00-0	—	1.05E+05	—	—	—	3.00E+04	8.22E+02	—	—	—			
Pesticides, Polychlorinated Biphenyls and Herbicides														
4,4'-DDD	72-54-8	5.47E+02	—	—	—	1.56E+02	—	9.20E-02	7.50E-01	—	—	7.00E-03	9.20E-02	Protection of groundwater
4,4'-DDT	50-29-3	3.86E+02	1.75E+03	7.27E+04	—	1.10E+02	—	1.36E+00	7.50E-01	1.92E-02	—	8.00E-03	1.92E-02	Protection of ecological receptors
Aldrin	309-00-2	7.72E+00	1.05E+02	—	—	—	3.00E+01	3.91E-02	1.00E-01	2.66E+01	—	3.00E-03	3.91E-02	Protection of groundwater
alpha-BHC	319-84-6	2.08E+01	—	3.92E+03	—	5.95E+00	—	1.52E-02	6.00E+00	4.42E+00	—	2.00E-03	1.52E-02	Protection of groundwater
alpha-Chlordane	5103-71-9	—	—	7.05E+04	1.32E+06	1.07E+02	5.00E+02	3.37E-01	2.70E+00	1.73E+01	—	1.00E-02	3.37E-01	Protection of groundwater
Arodor-1248	12672-29-6	—	—	1.23E+04	—	1.88E+01	—	1.14E+01	—	2.57E+00	—	4.40E-02	2.57E+00	Protection of ecological receptors
delta-BHC	319-86-8	—	—	1.37E+04	—	2.08E+01	—	6.90E-02	6.00E+00	4.42E+00	—	6.00E-03	6.90E-02	Protection of groundwater
Dieldrin	60-57-1	8.20E+00	1.75E+02	1.53E+03	—	2.34E+00	5.00E+01	1.03E-02	7.00E-02	6.15E-01	—	1.00E-03	1.03E-02	Protection of groundwater
Endosulfan I	115-29-7	—	2.10E+04	—	—	—	6.00E+03	4.48E-03	—	2.00E+01	—	9.00E-03	9.00E-03	Practical quantitation limit
Endosulfan II	33213-65-9	—	2.10E+04	—	—	—	6.00E+03	1.09E+02	—	2.00E+01	—	3.00E-03	2.00E+01	Protection of ecological receptors
Endosulfan sulfate	1031-07-8	—	—	—	—	—	6.00E+03	1.30E+03	—	2.00E+01	—	3.00E-03	2.00E+01	Protection of ecological receptors
Endrin	72-20-8	—	1.05E+03	—	—	—	3.00E+02	1.32E-02	2.00E-01	7.69E-02	—	4.00E-03	1.32E-02	Protection of groundwater
Endrin ketone	53494-70-5	—	—	—	—	—	3.00E+02	4.31E-02	—	7.69E-02	—	—	4.31E-02	Protection of groundwater
gamma-BHC (Lindane)	58-89-9	1.01E+02	1.05E+03	—	—	2.88E+01	3.00E+02	1.19E-03	6.00E+00	4.42E+00	—	3.00E-03	3.00E-03	Practical quantitation limit
gamma-Chlordane	5103-74-2	—	—	7.05E+04	1.32E+06	1.07E+02	5.00E+02	3.37E-01	2.70E+00	1.73E+01	—	1.00E-02	3.37E-01	Protection of groundwater
Heptachlor	76-44-8	2.92E+01	1.75E+03	5.42E+03	—	8.33E+00	5.00E+02	8.99E-02	4.00E-01	1.73E+01	—	2.00E-03	8.99E-02	Protection of groundwater
Heptachlor epoxide	1024-57-3	1.44E+01	4.55E+01	2.71E+03	—	4.12E+00	1.30E+01	1.33E+00	4.00E-01	1.73E+01	—	5.60E-02	4.00E-01	Protection of ecological receptors
PCB-1242	53469-21-9	—	—	1.23E+04	—	1.88E+01	—	2.64E-03	—	3.26E+00	—	4.40E-02	4.40E-02	Practical quantitation limit
PCB-1254	11097-69-1	—	7.00E+01	1.23E+04	1.32E+05	1.88E+01	2.00E+01	8.04E+00	6.50E-01	1.43E+00	—	8.80E-02	6.50E-01	Protection of ecological receptors
PCB-1260	11096-82-5	—	—	1.23E+04	—	1.88E+01	—	3.75E-02	6.50E-01	—	—	8.80E-02	8.80E-02	Practical quantitation limit
TotalPolychlorinatedBiphenyls	1336-36-3	—	—	1.23E+04	1.32E+05	1.88E+01	2.00E+01	1.85E+00	6.50E-01	—	—	8.80E-02	6.50E-01	Protection of ecological receptors

Table 8-7 (Continued)
Selection of Soil Screening Levels
PSC Tacoma Facility

Compound	CAS Number	Screening Levels Protective of: Human Health: Ingestion[1] Carcinogen	Ingestion[1] Non-carcinogen	Inhalation of Particulates[2] Carcinogen	Inhalation of Particulates[2] Non-carcinogen	Dermal Contact[3] Carcinogen	Dermal Contact[3] Non-carcinogen	Protection of Groundwater[4]	Ecological Receptors: Ecological Indicator Concentration[5]	Ecologically-based Soil Screening Level[6]	Natural Background[7]	PQLs[8]	Soil Screening Level (mg/kg)	Basis
Metals														
Antimony	7440-36-0	—	1.40E+03	—	—	—	1.60E+03	9.37E+02	—	9.00E+00	—	1.50E+00	9.00E+00	Protection of ecological receptors
Arsenic	7440-38-2	8.75E+01	1.05E+03	1.64E+03	9.87E+10	1.00E+02	1.20E+03	1.17E+01	7.00E+00	9.07E+00	7.30E+00	5.00E-01	7.30E+00	Natural background
Barium	7440-39-3	—	2.45E+05	—	6.58E+05	—	2.80E+05	8.62E+04	1.02E+02	7.14E+02	—	—	1.02E+02	Protection of ecological receptors
Beryllium	7440-41-7	—	7.00E+03	2.94E+03	3.75E+04	—	8.00E+03	4.31E+03	—	8.79E+01	6.00E-01	1.50E-01	8.79E+01	Protection of ecological receptors
Cadmium	7440-43-9	—	3.50E+03	3.92E+03	—	—	2.00E+03	5.52E+00	1.40E+01	1.28E+02	8.00E-01	2.00E+00	5.52E+00	Protection of groundwater
Chromium	7440-47-3	—	1.05E+04	5.88E+05	1.50E+04	—	1.20E+04	2.20E+02	6.70E+01	7.98E+00	4.82E+01	5.00E-01	4.82E+01	Natural background
Copper	7440-50-8	—	1.30E+05	—	—	—	1.48E+05	4.44E+00	2.17E+02	3.74E+02	3.64E+01	5.00E-01	3.64E+01	Natural background
Cyanide	57-12-5	—	7.00E+04	—	—	—	8.00E+04	1.01E+01	—	8.58E+03	—	—	1.01E+01	Protection of groundwater
Lead	7439-92-1	—	—	—	—	—	—	2.00E+03	1.18E+02	3.07E+01	2.40E+01	5.00E-01	2.40E+01	Natural background
Manganese	7439-96-5	—	4.90E+05	—	9.40E+04	—	5.60E+05	1.77E+06	1.50E+03	7.93E+03	1.15E+03	—	1.50E+03	Protection of ecological receptors
Mercury	7439-97-6	—	1.05E+03	—	5.64E+05	—	1.20E+03	2.09E+00	5.50E+00	3.56E+00	7.00E-02	2.00E-03	2.09E+00	Protection of groundwater
Nickel	7440-02-0	—	7.00E+04	—	—	—	8.00E+04	1.30E+01	9.80E+02	6.16E+02	4.82E+01	7.50E+00	4.82E+01	Natural background
Selenium	7782-49-2	—	1.75E+04	—	—	—	2.00E+04	2.08E+00	3.00E-01	3.98E+00	—	7.50E-01	7.50E-01	Practical quantitation limit
Silver	7440-22-4	—	1.75E+04	—	—	—	2.00E+04	4.41E+00	—	—	—	1.00E-01	4.41E+00	Protection of groundwater
Thallium	7440-28-0	—	2.45E+02	—	—	—	2.80E+02	2.23E+00	—	1.00E+00	—	—	1.00E+00	Protection of ecological receptors
Sulfide	18496-25-8	—	—	—	—	—	—	—	—	—	—	—	—	NA
Zinc	7440-66-6	—	1.05E+06	—	—	—	1.20E+06	1.01E+02	3.60E+02	1.15E+02	8.51E+01	3.00E-02	1.01E+02	Protection of groundwater
Total Petroleum Hydrocarbons														
Gasoline Range (w/Benzene)		—	—	—	—	—	3.00E+01	—	—	—	—	—	3.00E+01	MTCA Method A Industrial
Gasoline Range (w/o Benzene)		—	—	—	—	—	1.00E+02	—	—	—	—	—	1.00E+02	MTCA Method A Industrial
Diesel Range		—	—	—	—	—	2.00E+03	—	—	—	—	—	2.00E+03	MTCA Method A Industrial
Heavy Oils		—	—	—	—	—	2.00E+03	—	—	—	—	—	2.00E+03	MTCA Method A Industrial
Mineral Oil		—	—	—	—	—	4.00E+03	—	—	—	—	—	4.00E+03	MTCA Method A Industrial

[1]Based on standard Method C Industrial Soil Cleanup Levels (WAC 173-340-745[5][b])
[2]Based on EPA 1996 - Soil Screening Levels Technical Guidance (Publication 9355.4-23) and EPA 1997 - Exposure Factors Handbook (EPA/600/P-95/002Fa)
[3]Based on site-specific exposure factors according to WAC 173-340-745(5)(c)(iii)
[4]Calculated using fixed parameter three-phase partition model (WAC 173-340-747[4])
[5]Based on terrestrial ecological evaluation procedures for industrial properties (WAC 173-340-7493[3] - Table 749-3)
[6]Based on site-specific terrestrial ecological evaluation procedures (WAC 173-340-7493[4])
[7]Ecology 1994 - Natural Background Soil Metals Concentrations in Washington State. Publication No. 94-115.
[8]Ecology 1993 - Implementation Memo No. 3, PQLs as Cleanup Standards

Table 8-12
Selection of Groundwater Screening Levels
PSC Tacoma Facility

Compound	CAS Number	Screening Levels Protective of Human Health					Screening Levels Protective of Surface Water						Median Bkgnd	PQL[7]	Groundwater Screening Levels	Basis
			Dermal[2]		Ingestion[3]		Method B Surface Water[4]		Ambient Water Quality Criteria[5,6] Freshwater		Marine					
		Indoor Air[1]	Carc.	Non-Carc.	Carc.	Non-Carc.	Carc.	Non-Carc.	acute	chronic	acute	chronic				
Volatile Organic Compounds (VOCs)																
1,1,1-Trichloroethane	71-55-6	3.41E+05	—	5.64E+05	—	3.83E+06	—	4.17E+05	—	—	—	—	—	5.00E+00	3.41E+05	Protection of On-Site Groundwater Exposure
1,1,2-Trichloroethane	79-00-5	1.12E+04	3.34E+04	5.07E+03	1.12E+05	1.70E+04	2.53E+01	2.30E+03	—	—	—	—	—	5.00E+00	2.53E+01	Protection of Surface Water
1,1,2-Trichlorotrifluoro-ethane	76-13-1	NOC	—	3.49E+07	—	1.28E+08	—	3.30E+08	—	—	—	—	—	—	3.49E+07	Protection of On-Site Groundwater Exposure
1,1-Dichloroethane	75-34-3	4.94E+05	—	1.20E+05	—	4.26E+05	—	7.28E+07	—	—	—	—	—	5.00E+00	1.20E+05	Protection of On-Site Groundwater Exposure
1,1-Dichloroethene	75-35-4	1.12E+02	1.66E+03	5.99E+03	1.06E+04	3.83E+04	1.93E+00	4.17E+03	—	—	—	—	—	5.00E+00	5.00E+00	Practical Quantitation Limits
1,1-Dichloropropene	563-58-6	3.00E+00	5.81E+04	5.81E+04	1.28E+05	1.28E+05	6.76E+03	4.06E+06	—	—	—	—	—	5.00E+00	5.00E+00	Practical Quantitation Limits
1,2,4-Trimethylbenzene	95-63-6	NOC	—	3.87E+03	—	2.13E+05	—	3.58E+05	—	—	—	—	—	—	3.87E+03	Protection of On-Site Groundwater Exposure
1,2-Dichlorobenzene	95-50-1	NOC	—	1.57E+04	—	3.83E+05	—	4.20E+03	—	—	—	—	—	1.00E+01	4.20E+03	Protection of Surface Water
1,2-Dichloroethane	107-06-2	5.58E+03	3.31E+04	—	7.02E+04	—	5.94E+01	—	—	—	—	—	—	—	5.94E+01	Protection of Surface Water
1,2-Dichloroethene	540-59-0	4.77E+04	—	9.58E+03	—	3.83E+04	—	—	—	—	—	—	—	5.00E+00	9.58E+03	Protection of On-Site Groundwater Exposure
1,2-Dichloropropane	78-87-5	8.23E+03	—	7.24E+04	—	2.90E+05	2.32E+01	1.57E+07	—	—	—	—	—	5.00E+00	2.32E+01	Protection of Surface Water
1,3,5-Trimethylbenzene	108-67-8	NOC	—	5.73E+03	—	2.13E+05	—	3.58E+05	—	—	—	—	—	—	5.73E+03	Protection of On-Site Groundwater Exposure
1,3-Dichlorobenzene	541-73-1	NOC	—	1.10E+02	—	3.83E+03	—	9.46E+03	—	—	—	—	—	1.00E+01	1.10E+02	Protection of On-Site Groundwater Exposure
1,4-Dichlorobenzene	106-46-7	NOC	1.07E+04	—	2.66E+05	—	4.86E+00	—	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
2-Butanone	78-93-3	3.35E+06	—	1.42E+06	—	2.56E+06	—	5.68E+08	—	—	—	—	—	0.00E+00	1.42E+06	Protection of On-Site Groundwater Exposure
2-Hexanone	591-78-6	NOC	—	1.96E+06	—	2.56E+06	—	8.11E+07	—	—	—	—	—	5.00E+01	1.96E+06	Protection of On-Site Groundwater Exposure
2-Methylpentane	107-83-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NA
3-Methylpentane	96-14-0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	NA
4-Methyl-2-pentanone	108-10-1	NOC	—	2.14E+05	—	3.41E+05	—	1.26E+07	—	—	—	—	—	—	2.14E+05	Protection of On-Site Groundwater Exposure
Acetone	67-64-1	2.87E+07	—	1.87E+06	—	4.26E+05	—	9.46E+08	—	—	—	—	—	1.00E+01	4.26E+05	Protection of On-Site Groundwater Exposure
Benzene	71-43-2	3.80E+03	1.38E+04	1.52E+03	1.16E+05	1.28E+04	2.27E+01	1.50E+03	—	—	—	—	—	5.00E+00	2.27E+01	Protection of Surface Water
Bromodichloromethane	75-27-4	7.05E+03	4.44E+04	3.67E+04	1.03E+05	8.52E+04	2.79E+01	1.38E+04	—	—	—	—	—	5.00E+00	2.79E+01	Protection of Surface Water
Bromomethane	74-83-9	3.88E+03	—	4.26E+03	—	5.96E+03	—	9.68E+02	—	—	—	—	—	—	9.68E+02	Protection of Surface Water
Carbon disulfide	75-15-0	1.09E+05	—	4.44E+04	—	4.26E+05	—	1.58E+06	—	—	—	—	—	1.00E+02	4.44E+04	Protection of On-Site Groundwater Exposure
Carbon tetrachloride	56-23-5	3.86E+02	5.58E+03	3.39E+02	4.91E+04	2.98E+03	2.66E+00	9.68E+01	—	—	—	—	—	5.00E+00	5.00E+00	Practical Quantitation Limits
Chlorobenzene	108-90-7	3.56E+04	—	5.19E+03	—	8.52E+04	—	5.03E+03	—	—	—	—	—	5.00E+00	5.03E+03	Protection of Surface Water
Chloroethane	75-00-3	6.49E+04	6.88E+05	5.32E+05	2.20E+06	1.70E+06	3.26E+05	1.51E+08	—	—	—	—	—	1.00E+01	6.49E+04	Protection of On-Site Groundwater Exposure
Chloroform	67-66-3	1.73E+03	2.94E+05	1.20E+04	1.05E+06	4.26E+04	2.83E+02	6.91E+03	—	—	—	—	—	5.00E+00	2.83E+02	Protection of Surface Water
Chloromethane	74-87-3	4.60E+05	2.92E+05	—	4.91E+05	—	1.33E+02	—	—	—	—	—	—	1.00E+01	1.33E+02	Protection of Surface Water
cis-1,2-Dichloroethene	156-59-2	4.77E+04	—	1.06E+04	—	4.26E+04	—	4.30E+05	—	—	—	—	—	5.00E+00	1.06E+04	Protection of On-Site Groundwater Exposure
Dibromochloromethane	124-48-1	8.33E+03	4.87E+04	5.46E+04	7.60E+04	8.52E+04	2.06E+01	1.38E+04	—	—	—	—	—	5.00E+00	2.06E+01	Protection of Surface Water
Ethylbenzene	100-41-4	NOC	—	8.87E+02	—	4.26E+05	—	6.91E+03	—	—	—	—	—	5.00E+00	8.87E+02	Protection of On-Site Groundwater Exposure
Isopropylbenzene	98-82-8	NOC	—	8.00E+03	—	4.26E+05	—	2.67E+06	—	—	—	—	—	—	8.00E+03	Protection of On-Site Groundwater Exposure
m,p-Xylene	1330-20-7	NOC	—	2.66E+05	—	8.52E+06	—	9.46E+07	—	—	—	—	—	5.00E+00	2.66E+05	Protection of On-Site Groundwater Exposure
Methylene chloride	75-09-2	1.32E+05	4.73E+05	1.42E+05	8.52E+05	2.56E+05	9.60E+02	1.73E+05	—	—	—	—	—	5.00E+00	9.60E+02	Protection of Surface Water
m-Xylene	108-38-3	NOC	—	2.66E+05	—	8.52E+06	—	9.46E+07	—	—	—	—	—	5.00E+00	2.66E+05	Protection of On-Site Groundwater Exposure
n-Butylbenzene	104-51-8	NOC	—	1.90E+02	—	4.26E+04	—	3.25E+04	—	—	—	—	—	—	1.90E+02	Protection of On-Site Groundwater Exposure
n-Propylbenzene	103-65-1	NOC	—	7.37E+02	—	4.26E+04	—	2.49E+05	—	—	—	—	—	—	7.37E+02	Protection of On-Site Groundwater Exposure
o-Xylene	95-47-6	NOC	—	2.66E+05	—	8.52E+06	—	9.46E+07	—	—	—	—	—	5.00E+00	2.66E+05	Protection of On-Site Groundwater Exposure
p-Isopropyltoluene	99-87-6	NOC	—	4.52E+03	—	4.26E+05	—	3.31E+05	—	—	—	—	—	—	4.52E+03	Protection of On-Site Groundwater Exposure
p-Xylene	106-42-3	NOC	—	2.66E+05	—	8.52E+06	—	9.46E+07	—	—	—	—	—	5.00E+00	2.66E+05	Protection of On-Site Groundwater Exposure
sec-Butylbenzene	135-98-8	NOC	—	3.59E+02	—	4.26E+04	—	3.25E+04	—	—	—	—	—	—	3.59E+02	Protection of On-Site Groundwater Exposure
Styrene	100-42-5	NOC	8.19E+02	3.28E+03	2.13E+05	8.52E+05	5.84E+03	1.40E+07	—	—	—	—	—	5.00E+00	8.19E+02	Protection of On-Site Groundwater Exposure
Tetrachloroethene	127-18-4	1.96E+04	6.52E+03	2.22E+03	1.25E+05	4.26E+04	4.15E+00	8.47E+02	—	—	—	—	—	5.00E+00	5.00E+00	Practical Quantitation Limits
Toluene	108-88-3	3.65E+05	—	2.13E+03	—	8.52E+05	—	4.85E+04	—	—	—	—	—	5.00E+00	2.13E+03	Protection of On-Site Groundwater Exposure
trans-1,2-Dichloroethene	156-60-5	4.19E+04	—	2.13E+04	—	8.52E+04	—	3.28E+04	—	—	—	—	—	5.00E+00	2.13E+04	Protection of On-Site Groundwater Exposure
Trichloroethene	79-01-6	1.04E+04	9.07E+04	—	5.81E+05	—	5.56E+01	—	—	—	—	—	—	5.00E+00	5.56E+01	Protection of Surface Water
Trichlorofluoromethane	75-69-4	1.79E+05	—	1.86E+05	—	1.28E+06	—	5.79E+06	—	—	—	—	—	—	1.79E+05	Protection of On-Site Groundwater Exposure
Vinyl acetate	108-05-4	1.80E+06	—	7.02E+06	—	4.26E+06	—	4.73E+08	—	—	—	—	—	5.00E+01	1.80E+05	Protection of On-Site Groundwater Exposure
Vinyl chloride	75-01-4	1.02E+03	1.46E+03	4.38E+03	4.26E+03	1.28E+04	3.69E+00	6.65E+03	—	—	—	—	—	1.00E+01	1.00E+01	Practical Quantitation Limits
Xylene (total)	1330-20-7	NOC	—	2.66E+05	—	8.52E+06	—	9.46E+07	—	—	—	—	—	5.00E+00	2.66E+05	Protection of On-Site Groundwater Exposure
Semi-Volatile Organic Compounds (SVOCs)																
2-Methylnaphthalene	91-57-6	NOC	—	9.94E+02	—	8.52E+04	—	3.07E+03	—	—	—	—	—	1.00E+01	9.94E+02	Protection of On-Site Groundwater Exposure
2-Methylphenol	95-48-7	NOC	—	3.33E+04	—	2.13E+05	—	2.37E+06	—	—	—	—	—	1.00E+01	3.33E+04	Protection of On-Site Groundwater Exposure
2,4-Dimethyl-phenol	105-67-9	NOC	—	1.42E+04	—	8.52E+04	—	5.53E+02	—	—	—	—	—	1.00E+01	5.53E+02	Protection of Surface Water
2,4-Dinitro-phenol	51-28-5	NOC	—	1.18E+04	—	8.52E+03	—	3.46E+03	—	—	—	—	—	—	3.46E+03	Protection of Surface Water
2,4-Dinitrotoluene	121-14-2	NOC	—	5.60E+03	—	8.52E+03	—	1.36E+03	—	—	—	—	—	1.00E+01	1.36E+03	Protection of Surface Water
2,6-Dinitrotoluene	606-20-2	NOC	—	4.26E+03	—	4.26E+03	—	4.50E+04	—	—	—	—	—	1.00E+01	4.26E+03	Protection of On-Site Groundwater Exposure