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OMEGA CHEMICAL SUPERFUND SITE
WHITTIER, CALIFORNIA

PHASE I GROUNDWATER CHARACTERIZATION STUDY

WESTON
MANAGERS DESIGNERS/CONSULTANTS

OMEGA CHEMICAL SUPERFUND SITE
WHITTIER, CALIFORNIA

PHASE I GROUNDWATER CHARACTERIZATION STUDY

Contract No.: DACA45-98-D-0004
Task Order No.: 0009

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Prepared for:

U.S. Environmental Protection Agency
Region IX

Prepared by:

Roy F. Weston, Inc.
Suite 1000
14724 Ventura Boulevard
Sherman Oaks, CA 91403-3501

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Approved by:

Carol Yuge, Project Manager — Date
Roy F. Weston, Inc.

Approved by: 3/29/02

Frank Monahan, P.E., Quality Assurance/Quality Control — Date
Roy. F. Weston, Inc.

Approved by:

Nancy Riveland-Har, Project Officer — Date
U.S. Environmental Protection Agency, Region IX

Approved by:

Vance Fong, Quality Assurance Manager — Date
U.S. Environmental Protection Agency, Region IX

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SECTION 1

INTRODUCTION

This technical memorandum summarizes the results of the Phase I groundwater characterization investigations performed by Roy F. Weston, Inc. (WESTON®) conducted in the summer and fall of 2001 at the Omega Chemical National Priorities List (NPL) site located in Whittier, California. The groundwater investigations were conducted in support of the remedial investigations (RI) of groundwater at Operable Unit Number 2 (OU-02) of the Omega Chemical Superfund site. The purpose of this technical memorandum is to document the results of groundwater sampling and lithologic exploration and to provide the rationale for siting of monitoring wells in the OU-02 area.

This document is a deliverable under Work Assignment No. 0009 and the U.S. Army Corp of Engineers (Corps) Rapid Response Contract with WESTON, No. DACA45-98-D-0004, in support of the U.S. Environmental Protection Agency (EPA) for the OU-02 Groundwater Remedial Investigation/Feasibility Study at the Omega Chemical Superfund Site.

1.1 OBJECTIVES AND SCOPE

The specific objectives of the groundwater investigation include:

- Determine the nature and extent of groundwater contamination in areas downgradient of the Omega Chemical Superfund site
- Attempt to identify other potential sources of groundwater contamination.

The data collected from this field investigation will assist EPA in selecting a remedy to eliminate, reduce, or control risks to human health and the environment. The overall goal is to develop sufficient data necessary to support the selection of an approach for site remediation and then to use the resulting data in a well-supported Record of Decision.

The investigations documented in the technical memorandum were conducted in general accordance with the Field Sampling Plan (FSP) (WESTON, 2001) and Quality Assurance Project Plan (QAPP) WESTON, 2001). Exceptions or variants to those procedures are described herein.

The specific scope of the Phase I groundwater characterization studies include the following:

- Conduct 30 CPT explorations
- Collect groundwater samples at 80 locations
- Laboratory analysis of groundwater samples for volatile organic compounds (VOCs)

SECTION 2

BACKGROUND

Background information was obtained from historical documents prepared by regulatory agencies and the Omega Chemical Site PRP Organized Group (OPOG) and their consultants.

2.1 SITE LOCATION AND DESCRIPTION

The Omega Chemical facility is located at 12504 and 12512 East Whittier Boulevard in Whittier, Los Angeles County, California. The city of Whittier is located 12 miles southeast of the city of Los Angeles. Approximately 85,000 people reside in the city of Whittier (www.whittierch.org). The city of Santa Fe Springs is located southwest of the facility and the community of Los Nietos is included within Santa Fe Springs. Unincorporated County of Los Angeles land is present to the northwest as well as farther west beyond Santa Fe Springs. The Omega Chemical Superfund site is divided into two operable units (OUs): OU-01 and OU-02. OU-01 includes the Omega Chemical facility property and extends a short distance west-southwest to Putnam Street. The OU-02 study area comprises the area and extending approximately 1.75 miles to the southwest. A site location map and site features map are presented in **Figures 1** and **2**, respectively.

The facility operated as a RCRA solvent and refrigerant recycling and treatment facility, handling primarily chlorinated hydrocarbons and chlorofluorocarbons from approximately 1976 to 1991. Drums and bulk loads of waste solvents and chemicals from various industrial activities were processed to form commercial products. Chemical, thermal and physical treatment processes were believed to have been used to recycle the waste materials.

2.2 TOPOGRAPHY

The Omega Chemical facility is situated near the base of the gentle La Habra piedmont slope descending from the southwestern flank of the Puente Hills, at an elevation of approximately 220 feet above mean sea level (MSL). The piedmont slope descends toward the southwest at approximately 2.5 percent to a point approximately 2,800 feet southwest of the Omega Chemical facility. There, the ground surface flattens into a broad basin or plain, at an elevation of approximately 150 to 155 feet MSL. At the southwest end of the study area, the ground surface ascends a low rise at the northwest end of the Santa Fe Springs plain, at an approximate elevation of 160 feet MSL.

A small, channelized drainage, the Sorenson Avenue Drain, flows across the basin toward the southeast from a point near the intersection of Dice Road and Slauson Avenue. This channel bends toward the south beyond the limits of the study area to become La Canada Verde Creek, which cuts through a low gap between the Coyote Hills to the east and the Santa Fe Springs plain to the west.

2.3 REGIONAL GEOLOGICAL AND HYDROGEOLOGICAL SETTING

The site is located in the Montebello Forebay area of the Coastal Plain of Los Angeles County (CDWR, 1961). The Coastal Plain is bounded on the west and south by the Pacific Ocean and by mountainous uplifts on the north, east and southeast. The Coastal Plain is underlain by an extensive groundwater basin in Los Angeles and Orange Counties.

The known water-bearing sediments in the Whittier area extend to a minimum depth of 1,000 feet below the ground surface. The identified geologic units include Recent alluvium, the upper Pleistocene Lakewood Formation and the lower Pleistocene San Pedro Formation. **Figure 3** shows a generalized stratigraphic column of water bearing sediments in the Whittier area.

Based on the geologic map provided in CDWR (1961) the uppermost unit in the vicinity of Omega Chemical site consists of the so-called "Bellflower aquiclude." The Bellflower aquiclude comprises all the fine-grained sediments that extend from the ground surface down to the first aquifer. The Bellflower aquiclude consists primarily of clay and sandy clay to silt, and ranges from 20 to more than 40 feet in thickness in the area. CDWR (1961) includes the Bellflower aquiclude in both the recent alluvium and the upper part of the Lakewood Formation. In the Whittier area, the Bellflower aquiclude is assigned mainly to the Lakewood Formation. Within the basin in the northern part of Santa Fe Springs, the Bellflower aquiclude appears to correlate with Recent alluvium. Water-bearing zones locally occurring within the Bellflower aquiclude are referred to collectively and informally as the Semiperched aquifer.

In addition to the fine-grained Bellflower aquiclude, the Recent alluvium also includes a coarse-grained unit known as the Gaspur aquifer. Based on aquifer maps contained in CDWR (1961), the Gaspur aquifer occurs in an embayment within the western approximately one-half of the study area. The south side of the embayment is constrained by the uplifted Santa Fe Springs plain, which is associated with the Santa Fe Springs anticline located south of the study area. In the Whittier area, the Gaspur aquifer typically consists of sand and gravel with a little interbedded clay, and ranges in thickness from approximately 30 to 60 feet. Cross-sections in CDWR (1961) suggest that the Gaspur aquifer is locally in contact with the Bellflower aquiclude and with other aquifers along an erosional unconformity, which forms a steep surface at the edge of the Gaspur deposit.

The Lakewood Formation consists of non-marine deposits of Late Pleistocene age and attains a maximum thickness of 70 feet. The Gage aquifer is the major water-bearing member and comprises the basal lithologic unit of the Lakewood Formation. It consists of about 20 to 40 feet of sand with some interbedded clay. Based on previous investigation at the Omega Chemical site, the Gage aquifer appears to be absent beneath the site proper. A sand interval observed in explorations a short distance southwest of the site is believed to correlate with the Gage aquifer (England and Hargis, 1996). The Gage aquifer appears to extend east of the projected location of the Omega Chemical site on the published, generalized cross-section of the area (CDWR, 1961, Section B-B'), which is aligned east-west approximately 2.5 miles south of the site. The explorations conducted thus far suggest the Gage is present west of the Omega Chemical site; and pinches out or disappears towards the east. The Gage aquifer does not appear to be an

important source of drinking water in the Whittier area, because of elevated TDS concentrations that have been observed during previous sampling, and it further appears that none of the local water supply wells have been completed in this aquifer. Aquifer maps in CDWR (1961) depict the Gage aquifer being absent in a tongue that trends west-southwest from a point approximately 3,000 feet west of the Omega Chemical facility. The Gage may have been eroded away in that area in connection with deposition of the Gaspur sediments.

Underlying the Lakewood Formation are primarily marine sand and gravels with interbedded clay, assigned to the San Pedro Formation. The San Pedro Formation reaches a maximum thickness of 850 feet and extends to a depth of about 920 feet. The San Pedro Formation unconformably underlies the Lakewood Formation. This unit has been folded somewhat sharply and exposed in the nearby Puente Hills. The San Pedro Formation has been subdivided into five named aquifers separated by clay members. A fine-grained layer is also typically present at the top of the sequence, although in localized areas, the uppermost San Pedro Formation aquifer may be merged with the overlying aquifer, and one or more of the five aquifers may also be merged.

The five aquifers defined within the San Pedro Formation include, from top to bottom, the Hollydale, the Jefferson, the Lynwood, the Silverado, and the Sunnyside. The upper two aquifers are less extensive than the others and appear to be absent immediately beneath the Omega Chemical facility. Aquifer maps in CDWR indicate the Hollydale aquifer is present within the western and southwestern one-half of the study area.

The San Pedro aquifers consist of varying amounts of sand and gravel with some interbedded clay. The thickness of the aquifers increases with depth. The shallow Hollydale aquifer ranges from 10 to 25 feet in thickness, whereas the deepest Sunnyside aquifer ranges from 200 to 300 feet in thickness. The base of the Sunnyside aquifer reaches a maximum depth of about 1,000 feet below the ground surface.

The Pliocene and Miocene sediments and sedimentary bedrock below the San Pedro Formation generally contain saline water in the area, but locally contain freshwater.

The geologic structure in the area includes a homocline that underlies the La Habra piedmont slope, the northwest-trending La Habra syncline underlying the alluvial basin, and the west-northwest- trending Santa Fe Springs anticline, which is situated beneath the slightly uplifted Santa Fe Springs plain.

The La Habra syncline is located between the Puente Hills on the north and the Santa Fe Springs/Coyote Hills uplift on the south. The La Habra syncline ends towards the east against the East Coyote anticline, and fades out toward the northwest at an apparent subsurface saddle. The La Habra syncline affects the San Pedro formation and Lakewood formation sediments, and has surface expression as the axis of the basin.

The Santa Fe Springs anticline consists of a broad dome, and has folded both the San Pedro and Lakewood formation sediments. Shallow aquifers thin across the crest of the anticline, but groundwater movement is not otherwise believed to be affected.

2.4 SITE GEOLOGY AND HYDROGEOLOGY

The geology of the Omega Chemical site has been explored with soil borings and Cone Penetration Test (CPT) explorations. The location of historical borings in the vicinity of the site is shown in **Figure 4**. The site is underlain by low permeability silty and clayey soils to a depth of at least 120 feet. No significant water producing sand units have been found directly beneath the Omega site in any of the explorations. A sand unit, which may correlate with the Gage aquifer, has been encountered downgradient of the site.

The hydraulic conductivity of the upper silty unit was estimated from step-drawdown tests conducted in monitoring well OW-2 and a slug test at well OW-1. The hydraulic conductivity in this area was found to range from 0.6 to 1.6 feet per day.

Groundwater beneath the Omega Chemical site occurs at approximately 70 feet bgs. Locally, groundwater flow appears to be generally toward the southwest. CDM (1999) reported a local direction of groundwater flow toward the southwest with a hydraulic gradient of 0.009 ft/ft. Total dissolved solids (TDS) concentrations of greater than 3,000 mg/L were reported in shallowest groundwater samples by CDM (1999).

Based on a review of England-Hargis (1996), there are 6 water supply wells within 1.5 miles of the site **(Figure 4)**. The nearest well (02S/11W30-R3, AKA Santa Fe Springs Well No. 1) is located 1.3 miles to the west-southwest of the former Omega Chemical facility. The well is screened at 200 to 288 feet bgs and 300 to 900 feet bgs. TCE (0.7 µg/L) and chloroform (1.3 µg/l) were detected in water samples from the well in October 1994. The Los Nietos water supply well (02S/11W30-Q5) is located about 1.5 miles west-southwest of the site. This well is screened from 152 to 370 feet bgs. PCE and TCE were detected at unspecified concentrations in 1986-90. The remaining wells are no longer operating, are used for irrigation, or no data was available.

2.5 PREVIOUS SITE INVESTIGATIONS

A series of soil gas, soil and groundwater investigations have been performed at the Omega Chemical site by a variety of consultants beginning in 1985. A removal action was completed at the Omega site in September 1995, during which more than 3,000 drums, as well as other containers and debris, were removed from the site. In addition, both structural and process equipment surfaces were decontaminated.

Subsequent to the removal action, EPA entered into a Consent Decree with a number of potentially responsible parties collectively referred to as the Omega Chemical Site PRP Organized Group (OPOG) on 28 February 2001. The Statement of Work of the Consent Decree required OPOG to design and implement a groundwater containment and mass removal treatment system in the Phase 1a Area, which corresponds to OU-01. OPOG was further directed to conduct a vadose zone Remedial Investigation/Feasibility Study (RI/FS) for contaminant releases on, at or emanating from the Omega Chemical Property, and to install three "sentinel" groundwater monitoring wells and sample quarterly for one year at locations

downgradient of the Phase 1a Area and upgradient of water supply well 2S/11W-30R3 (also known as Santa Fe Springs Well No. 1).

OPOG began additional investigation activities in November 1995. A summary of the investigation results is provided below. Data from the investigations are presented in reports and memorandums by England & Hargis (1996a, 1996b and 1996d), a report by C_2REM (1997), and reports by Camp Dresser & McKee (1999, 2001a and 2001b).

- Shallow soil and soil-gas sampling at the Omega facility indicated that halogenated VOCs were present in site soils. The primary contaminants detected include tetrachloroethene (PCE), trichlorofluoromethane (Freon 11), and trichlorotrifluoroethane (Freon 113). PCE concentrations in soil ranged to 510 mg/kg. Soil samples from deeper intervals collected during installation of a groundwater monitoring well (OW-1) on the Omega site also contained PCE, Freon 11, and Freon 113, as well as trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), 1,2-dichloroethane (1,2-DCA), and 1,1,1-trichloroethane (1,1,1-TCA).
- Three phases of direct push groundwater sampling were conducted at the Omega site, in the immediate vicinity, and downgradient. The farthest sampling location was approximately 1 mile west-southwest of Omega. Concentrations of PCE and Freon 113 as high as 86,000 μg/L and 7,500 μg/L, respectively, were detected in groundwater beneath and a short distance downgradient of the Omega site. Lower concentrations of PCE in the 9 μg/L to 580 μg/L range were detected in upgradient locations as well as farther downgradient from Omega.
- Eight groundwater monitoring wells were installed in four phases from 1995 to 2001. Well OW-1 is located on the southwest side of the Omega facility property and has a total depth of 80 feet. OW-1B is a deeper well (120 feet total depth) located at the Terra Pave facility immediately adjacent to the southwest of Omega. Wells OW-2 and OW-3 are located on Putnam Street and both are 80 feet in depth. OW-4A and OW-4B are located along Washington Blvd a short distance to the southwest. OW-4A is 70 feet in depth while OW-4B has a total depth of 122 feet. OW-6 is located southwest of OW-4A/4B and is 58 feet in total depth. OW-5 is located farther downgradient to the west-southwest and is 50 feet in depth. The highest concentrations of contaminants have been detected at OW-1, with PCE ranging to 86,000 μg/L and Freon 113 to 1,400 μg/L. PCE concentrations at OW-2 and OW-3 have ranged from 620μg/L to 2,100 μg/L, and PCE concentrations at OW-4A range to 1,300 μg/L. The most recent PCE results for the deeper wells OW-1B and OW-4B are 29 μg/L and 1.2 μg/L, respectively. Respective concentrations of PCE reported for wells OW-6 and OW-5 are 24 μg/L and 150 μg/L.

SECTION 3

FIELD INVESTIGATION METHODOLOGY

The field investigation documented in this memorandum consisted of the following general tasks:

- CPT Explorations
- Groundwater Sampling
- Laboratory Analysis of Groundwater Samples
- Surveying

The Phase I field investigations were conducted between August and November 2001. The field investigation was conducted in three general parts summarized below.

Part 1 (15-22 August 2001)

- Completion of 21 CPT explorations (PP001, -002, -006, -010, -011, -013, -015, -017, -020, -022, -023, -029, -033, -034, -038, -039, -040, -041, -042, -046, and -052.).
- Collection of 52 push-probe groundwater samples (PP001 through PP056). Originally proposed locations PP005, PP027, PP028, PP029, and PP031 were omitted or relocated, primarily due to their locations being outside the contaminant plume as defined during the investigation. PP005 was omitted due to data being available from other nearby sample locations. PP027 was relocated and assigned a new identification (PP075). PP028 was omitted due to utility conflicts.
- GPS surveying of push-probe locations.

Part 2 (4 September 2001)

- Completion of two CPT explorations (PP057 and PP059
- Collection of six push-probe groundwater samples (PP057 through PP062)

Part 3 (29 October to 2 November 2001)

- Completion of seven CPT explorations. (PP063, PP065, PP066, PP069, PP070, PP074, and PP081)
- Collection of 23 push-probe groundwater samples (PP063 through PP085)
- GPS surveying of remaining push-probe locations

This section presented a summary of the field efforts by task, including the number and location of samples and sampling and analytical procedures. All work was conducted in general accordance with the FSP (WESTON, 2001a) and QAPP (WESTON, 2001b) submitted to and approved by USACE and EPA.

Approximately 100 groundwater sampling locations and 25 CPT locations were planned. Forty (40) provisional locations were initially selected to provide coverage in accessible areas downgradient (west-southwest) of the Omega site, with 500 to 1,000 feet separation between sample points. As the contamination plume was followed, provisional locations determined to be beyond the limits of the contiguous plume (i.e., at or below concentrations of 5 µg/L) were omitted. The area to be explored was originally intended to extend approximately 7,000 feet from Omega, to the vicinity of public supply well 2S/11W-30R3 (Santa Fe Springs Well No. 1). However, persistent detections across the southern part of the planned area of exploration prompted establishment of additional sampling points to the south. Other sample locations were added to better define plume boundaries and clarify observed concentration trends and variances. The plume could not be completely defined on the south to concentrations below approximately 50 µg/L. The presence of railroad right-of-way and large private tracts in the area where the southern plume boundary was anticipated to occur precluded access for sampling along this margin of the plume.

3.1 CPT EXPLORATIONS

Thirty (30) CPT explorations were completed at the locations shown in **Figure 5**. The exploration locations are labeled using a prefix that incorporates the type of exploration ("PP" for push-probe exploration). The prefix is followed by a sequential number (i.e., PP001). The CPT borings were completed at depths ranging from 35 to 107 feet bgs. A summary of the CPT sample depths is provided in **Table 1**. The CPT records are presented in **Appendix A**.

The CPT explorations were completed using equipment owned and operated by Gregg In-Situ, Inc. of Signal Hill, California. The CPT equipment uses an electronic cone penetrometer apparatus attached at the tip of a string of steel rods. The rods are advanced using a truck-mounted CPT rig. The weight of the truck is brought to bear on the rod and cone tip, driving the cone tip through the subsurface soils. As the rod is advanced, the cone sensor transmits physical parameters to be recorded and interpreted by an on-board computer including tip resistance or cone bearing, sleeve friction, and dynamic pore pressure, at 5 cm intervals. The on-board computer plots the key parameters and generates an interpreted stratigraphic log for the borings. Lithologic interpretations are based on relationships between these three parameters, especially the sleeve friction to cone bearing ratio, which provides the friction ratio. Soil classification using CPT data was based on empirical correlations documented in Robertson and Campanella (1989). Logs providing the results of the automated CPT logging and the corresponding lithologic interpretations were provided by Gregg In-Situ, Inc.

All direct push borings were abandoned by backfilling with grout made with water, Portland cement and approximately 5 percent bentonite gel, using a support truck dedicated for that purpose. A hollow rod or PVC pipe was placed back into the hole for use as a tremie pipe. The grout was pumped through the tremie pipe, filling the boring from the bottom up. The tremie pipe was withdrawn in stages as the boring filled, to avoid either free-fall of grout into water, or grouting of the tremie pipe in the hole. Once the grout reached the surface, it was allowed to settle for approximately one hour or more. The hole was topped off to within approximately six

inches of the surface, and rapid-set concrete or asphalt cold patch was used for surface repair, to match the existing surface.

3.2 GROUNDWATER SAMPLING PROCEDURES

Eighty-one (81) groundwater samples were collected from 80 locations shown in **Figure 6**. No water samples were collected at 5 locations (PP042, PP070a, PP070b, PP076a, PP076b) either due to refusal before the water table was encountered or the formation would not produce a water sample. Groundwater samples were collected using a temporary PVC well screen. Groundwater samples were collected at depths ranging from 33 to 99 feet bgs. The groundwater sample depths are summarized in **Table 1**.

The FSP specified that groundwater sampling would be accomplished using either a HydroPunch device, or with temporary well screens. The latter method was employed during this sampling effort to ensure recovery of sufficient sample volume. This sampling method employs a section of one-inch diameter temporary PVC well screen. The drive head was fitted with a sacrificial cone tip and a five-foot (typically) section of 0.010-inch slotted well screen, and advanced to the desired sampling depth or to refusal. Where fine-grained lithologies predominated and groundwater yield was poor, a second or third five-foot section of screen was added, to increase the possibility of intercepting a yielding layer. The cone tip was disengaged and the rod was withdrawn to within approximately one foot of the top of screen. This exposed the boring sidewall adjacent to the screen, while higher intervals were sealed off by the hollow rod. The sample depth was recorded at the approximate midpoint of the exposed screen interval.

A decontaminated, stainless steel bailer or new, disposable acrylic bailer was carefully lowered to the midpoint of the screened interval so as to minimize disturbance of the sample and possible loss of volatiles. Once filled, the bailer was smoothly and rapidly retrieved to the surface. The sample was decanted from the bailer into sample containers.

For sampling during Part 1, when an on-site mobile laboratory was used for analysis, the water was placed into unpreserved 40-mil vials. Subsequently, analysis was performed in off-site laboratories, and samples were collected in vials preserved with hydrochloric acid. At least three sample containers were filled. The sample vials were filled to a protruding meniscus and the lids were snugly attached. The vials were inverted and lightly tapped to check for bubbles; if none were observed larger than 2 mm in diameter, the bottle was deemed acceptable for submission to the laboratory. A photoionizing detector (PID) was used to screen the top of the hollow rod for organic vapors. The readings are summarized in **Table 1**.

The water samples were labeled, placed in resealable plastic bags, and placed on ice in a chilled cooler. The Part 1 samples were delivered to the on-site field laboratory and logged on a chain-of-custody form at the laboratory. Part 2 and 3 samples were carefully packed in ice and shipped to off-site analytical laboratories, accompanied by chain-of-custody documentation.

Before abandoning the sample boring, the depth to water was sounded using an electronic water level indicator. Where CPTs were advanced, a pore pressure dissipation (PPD) test was

conducted to measure the groundwater pressure head and estimate the groundwater depth relative to the penetration depth in lieu of sounding. The results of the pore pressure dissipation tests are provided in **Appendix A**. The recorded depth to water measurements from the soundings or PPD estimates are summarized in **Table 1**.

3.3 FIELD AND LABORATORY ANALYSIS

A total of 100 samples were submitted for laboratory analysis, including 81 groundwater field samples, eight duplicate groundwater samples, six VOC trip blanks and five equipment rinsate blanks. Nomenclature for identification of samples followed the scheme described in the FSP. Sample names included three components separated by a dash (-) that correspond to media code/sampling period, station identification, and sample depth or type, as described below:

- The media code/period included "GW" for groundwater and three digits for the quarter and year sampled (example: GW301, signifying groundwater sampled during the third quarter of 2001).
- The station identifier included "PP" for push-probe and a three digit unique number for each location (example: PP083).
- The final four digit sequence includes a first digit indicating the sample type (0 for the primary field sample, 1 for field duplicate, 2 for VOC trip blank, and 4 for equipment rinsate blank), and three digits indicating depth for field samples and duplicates or a sequential number for the other quality assurance/quality control (QA/QC) samples (examples: 0080 signifies primary field sample from 80 feet bgs; 1080 signifies the associated duplicate sample from 80 feet bgs; 4002 signifies the second equipment rinsate blank prepared for the sampling event).

Duplicate samples were collected sequentially following the respective primary field samples, at a frequency of 10 percent of field samples. The VOC trip blanks were prepared in the field by filling sample bottles with deionized water, which were stored with the field samples and submitted with each cooler of samples shipped to off-site laboratories. Rinsate blanks were prepared by pouring deionized water in and through decontaminated or new sampling equipment and collecting the rinsate in the sample containers. Rinsate blanks were collected at a frequency of 5 percent of field samples.

The water samples were analyzed using a combination of an EPA-ESAT Field Analytical Support Project (FASP) laboratory and off-site EPA Region IX-affiliated contract laboratories. The water samples collected in August 2001 were analyzed by the on-site FASP laboratory. The water samples collected 4 September 2001 were analyzed by the EPA Region IX laboratory in Richmond, California. Water samples collected in October and November 2001 were analyzed by the off-site EMAX Laboratory in Torrance, California. The water samples were analyzed for VOCs by EPA Method 8260B. Compounds reported in the analyses include tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-DCE), 1,1-dichloroethene (1,1-DCE), trichlorofluoromethane (Freon 11) and trichlorotrifluoroethane (Freon 113) A summary of the groundwater analytical data is presented in **Table 2**. The groundwater chemistry data is

provided in Appendix C. A statistical summary of chemical constituents in groundwater is provided in **Table 3**.

3.4 SURVEYING

All push-probe locations were surveyed using common vertical and horizontal data. The push-probe locations were recorded using global positioning system (GPS) techniques, employing Pathfinder Pro XR and Pro XRS GPS instruments. The GPS survey data is provided in **Table 4**. The ground surface elevations for PP001 through PP062 were surveyed by WESTON during the same period the borings were advanced between 15 August 2001 and 4 September 2001. The ground surface elevations for PP063 through PP085 were surveyed by WESTON following the third phase of borings advanced between 29 October 2001 and 2 November 2001. Horizontal locations were recorded in California State Plane coordinates with a horizontal accuracy of plus or minus one to two meters and ground surface elevation accuracy of plus or minus three to six meters. For construction of cross section profiles, normalized elevations interpolated from USGS topographic contours were assigned to the sample points, due to the variability in the elevation values obtained with the GPS.

SECTION 4

RESULTS OF FIELD INVESTIGATIONS

This section summarizes the results of the Phase I field investigations completed between August and November 2001.

4.1 SUBSURFACE EXPLORATIONS

Subsurface geological conditions were explored by advancing 30 CPT borings at the locations shown in **Figure 5**. The CPT explorations were completed between August and November 2001. The CPTs were completed to depths ranging from 35.10 to 107.28 feet bgs (below ground surface). In addition to the CPT explorations completed for this study, data from historical explorations including 17 CPT borings, five monitoring wells and two water supply wells were available for interpretation of subsurface conditions.

CPT data gathered in the field consisted of cone tip resistance, resistance encountered on the friction sleeve of the cone, and measured pore pressure at the tip of the cone. Empirical relationships between CPT parameters are documented in Robertson and Campanella (1989). The CPT records and lithological interpretations based on that data are included in **Appendix A**.

Five general hydrogeologic units (A through E) were encountered during the investigation. The units were distinguished based on consistent lithology, stratigraphic position, occurrence, and hydrogeologic properties.

Unit A

- Unit A is the uppermost geologic unit consisting primarily of sand and silty sand. Unit A occurs between an elevation of approximately 140 to 160 feet (MSL) with thickness of 0 to 11 feet. Eleven of the RI CPT explorations encountered Unit A. Unit A is present in the southwestern approximately one-half of the study area, but is absent in the vicinity of Omega Chemical facility. Unit A may correlate with the semiperched aquifer as described in CDWR (1961), although it does not contain water where encountered.

Unit B

- Unit B consists primarily of silt and clay with localized, minor interbeds of sand and appears to correspond to the "Bellflower aquiclude" of CWDR (1961). Unit B occurs between an elevation ranging from 120 to 207 feet (MSL) with an observed thickness of from 4 to 100 feet. All of the RI CPT explorations encountered unit B. Unit B is thickest in the vicinity of the Omega Chemical site and thins to the southwest. Unit B appears to merge with Unit D (see below) where Unit C (below) pinches out in the vicinity of the Omega Chemical facility at an elevation of approximately 120 feet MSL.

Unit C

- Unit C consists of sand, silty sand, cemented sand and gravelly sand, with some silt interbeds. This unit may correspond with the Recent Gaspur and/or the upper Pleistocene Gage aquifer described in CDWR (1961). Unit C was encountered between an elevation of approximately 74 to 153 feet (MSL). Twenty-three (23) of the RI CPT explorations encountered unit C. Unit C is not present in the immediate vicinity of the Omega Chemical facility. The unit first appears approximately 180 feet west-southwest of the Omega Chemical site in monitoring well OW-3 at an elevation of approximately 145 feet (top of unit elevation), with a thickness of about ten feet. The unit thickens to the southwest, and may reach a thickness of approximately 75 feet. The base of this unit was not well defined in the majority of the CPT borings that encountered Unit C.

Unit D

- Unit D consists predominantly of silt and clay with localized clayey gravels, particularly in the western part of the study area. The unit was encountered in borings between an elevation from 66 to 120 feet (MSL), and with an observed thickness ranging from approximately 4 to 72 feet. Unit D appears to merge with Unit B in the vicinity of the Omega Chemical site at an approximate elevation of 120 feet above MSL. Twelve (12) of the 30 RI CPT explorations encountered unit D. Unit D appears to thin to the southwest. Unit D may correlate with the lower part of the Bellflower aquiclude, a fine-grained interval associated with the Gage aquifer, and/or an aquiclude at the top of the lower Pleistocene San Pedro formation.

Unit E

- Unit E consists predominantly of sand, silty sand, and gravelly sand interbedded with poorly graded gravels, occurring in the southwestern end of the study area. Unit E was encountered at an elevation of 28 to 83 feet MSL with a maximum observed thickness of 53 feet. The unit was first observed approximately 1.25 miles southwest of the Omega Chemical site at an elevation of 83 feet. Six (6) of the RI CPT explorations encountered Unit E. The potential correlation of Unit E within the regional stratigraphic sequence is uncertain, due to the small number of locations where it was observed. Further, only one of the six CPT explorations (PP063) that encountered Unit E penetrated through it. The material encountered stratigraphically below Unit E consisted mainly of interbedded silts and sands. Subsequent review of lithology observed in the monitoring wells may clarify the stratigraphic relationship of Unit E.

The lateral and vertical relationship between the primary hydrogeologic units is presented in the geologic profiles **Figures 7** through **10**. The profiles were interpreted from the CPT logs and logs for existing wells including Omega Chemical monitoring wells OMW-1, -1B, -2, -3, -4A, -4B, -5, and –6; and from production wells 2S/11W-30R3 (AKA Santa Fe Springs No. 1) and 2S/11W-30Q5.

4.2 GROUNDWATER SAMPLING AND ANALYTICAL RESULTS

This section discusses the nature and extent of groundwater contamination in the study area based on the results of the Phase I groundwater sampling. Individual constituents are discussed which are considered most illustrative of the nature and extent of contamination in groundwater. **Table 3** presents a summary of the constituents detected in groundwater. VOCs detected in groundwater samples primarily include chlorinated hydrocarbons and Freon compounds.

4.2.1 Chlorinated Hydrocarbons

The primary chlorinated hydrocarbons detected in groundwater include the following five compounds:

- Tetrachloroethene (PCE)
- Trichloroethene (TCE)
- 1,1-dichloroethene (1,1-DCE)
- Cis-1,2-dichloroethene (cis-DCE)
- Chloroform

Six other chlorinated compounds were detected in fewer locations and in lower concentrations:

- 1,2-dichloroethane (1,2-DCA)
- 1,1-dichloroethane (1,1-DCA)
- 1,1,1-trichloroethane (1,1,1-TCA)
- Trans-1,2-dichloroethene (trans-DCE)
- 1,2-dichloropropane
- Vinyl chloride
- Methylene chloride
- Carbon tetrachloride

Occurrence of these compounds in the study area is discussed below. The percentage of samples in which the compounds were detected is included to demonstrate the relative importance of each compound within the study area.

PCE was detected in 76 out of 81 (94%) groundwater samples, at concentrations ranging from less than 1 to 4,500 µg/L. The highest concentration was detected in the sample from PP024, which is located just south of well OW-5. PCE appears to be one of the primary chlorinated compounds that were released to soil and groundwater at the Omega Chemical site (CDM, 2001). Concentrations of PCE as high as 86,000 µg/L have been detected in groundwater samples from OW-1, which is screened at approximately 62 to 78 feet bgs beneath the Omega Chemical site (CDM, 2001). Concentrations of PCE detected in soil at the Omega Chemical facility range to 1,300 mg/kg.

PCE is commonly used as dry cleaning solvent, chemical feedstock and metals degreaser. PCE can undergo stepwise, reductive dechlorination under anaerobic conditions to produce TCE, cis-DCE and vinyl chloride (Pankow and Cherry, 1996).

TCE was detected in 70 out of 81 (86%) groundwater samples, at concentrations ranging from less than 1 to 1,300 µg/L. Relatively low concentrations of TCE, as compared to PCE, were detected in soil beneath the Omega Chemical site (CDM, 2001). TCE concentrations in groundwater at OW-1 are in the 1,300 to 3,400 µg/L range.

TCE is primarily used as a metal part cleaner. TCE is also a degradation product of PCE (Pankow and Cherry, 1996)

Cis-DCE was detected in 27 out of 81 (33%) groundwater samples, at concentrations ranging from less than 1 to 1,400 µg/L. Cis-DCE is a degradation product of PCE and TCE (Pankow and Cherry, 1996).

1,1-DCE was detected in 53 out of 81 (65%) groundwater samples, at concentrations ranging from less than 1 to 2,900 µg/L. Concentrations of 1,1-DCE have been detected in soil and groundwater beneath the Omega Chemical site (CDM, 2001). The maximum soil concentration of 1,1-DCE detected was 60 mg/kg. 1,1-DCE concentrations as high as 3,600 µg/L have been detected in OW-1. 1,1-DCE is used a chemical feedstock (Montgomery, 1996).

Chloroform was detected in 30 of 81 (38%) groundwater samples, at concentrations ranging from 0.26 to 1,100 µg/L. The highest concentration was detected in the sample from PP024, which is the same location that the highest concentration of PCE was detected. Chloroform has been detected in soil and groundwater samples from the Omega Chemical site. The highest historical chloroform concentration detected in groundwater was collected from H-6 at a concentration of 22,000 µg/L.

Chloroform has been shown to decay by reductive dechlorination to form methylene chloride. Chloroform is used in the manufacture of fluorocarbon refrigerants, as an industrial solvent for natural products, pesticide, cleaning agent and in fire extinguishers (Montgomery, 1996; Pankow and Cherry, 1996).

1,1,1-TCA has been detected in soil and groundwater samples at the Omega Chemical site. The highest groundwater concentration (12,000 µg/L) was detected at OW-1. 1,1,1-TCA was detected in two groundwater sample collected during this study at concentrations of 0.9 and 250 µg/L, respectively. 1,1,1-TCA can undergo reductive dehalogenation producing 1,1-DCA, cis-DCE, trans-DCE, chloroethane and vinyl chloride.

Methylene chloride is another compound that has been detected in soil and groundwater samples from the Omega Chemical site. Methylene chloride was only detected in one (0.8 µg/L) of the groundwater samples collected for this study.

1,1-DCA, 1,2-DCA, carbon tetrachloride, and trans-DCE were detected in 11 percent or fewer of the samples analyzed and detected at concentrations in the range of 0.26 to 250 µg/L. Vinyl chloride, and 1,2-dichloropropane were detected in only one sample, at concentrations of 5.2 and 21 µg/L, respectively.

Chemical distribution maps have been prepared to illustrate the distribution of the most important chlorinated solvents in the groundwater. The maps were prepared using new and

historical data. The chemical distribution maps for selected chlorinated solvents are presented in **Figures 11 through 18**. In addition to the maps covering the overall study area, the distribution maps include larger scale maps for selected constituents that cover the immediate vicinity of the Omega Chemical facility.

Based on the data from this investigation as well as historical data, the highest concentrations for PCE, TCE and 1,1-DCE generally occur in the vicinity of the Omega Chemical site, and a plume containing these chemicals extends for at least 7,500 feet southwest of the site. The chlorinated solvent plumes are up to 4,000 feet in width across the central portion of the plumes. The chlorinated hydrocarbon plume is fairly well correlated in the sense that observed concentrations generally exhibit consistent progression between sample points, and the primary constituents are similarly distributed.

In the case of PCE, the majority of the plume is characterized by concentrations in the 100 µg/L range, with concentrations decreasing relatively sharply along its northwestern edge, and decreasing across a broader zone on its south side. The core of the plume a short distance downgradient from the Omega site exhibits concentrations exceeding 1,000 µg/L. An area of lower concentrations (below 100 µg/L) is present in the southwest-central part of the plume. This feature may indicate preferential migration around that area, dilution associated with localized upward hydraulic gradients, or effects of remediation at other sites in that area.

The observed distribution pattern of PCE, TCE and 1,1-DCE concentrations in groundwater is consistent with the presence of a major source area at the Omega Chemical site. PCE is the major chemical constituent that is also found in soil beneath the Omega Chemical site. 1,1-DCE, TCE and cis-DCE are present in lesser concentrations in soil at the Omega Chemical site. The elevated concentrations of TCE and cis-DCE in the groundwater beneath and downgradient of the Omega Chemical facility relative to the concentrations found in on-site soil suggest that the occurrence of TCE and cis-DCE in the groundwater may reflect degradation of PCE. PCE will undergo stepwise, reductive dechlorination under the appropriate conditions to produce TCE, cis-DCE and vinyl chloride. The occurrence of distinct, mappable plumes of PCE, TCE and cis-DCE suggest that these processes may be occurring in the groundwater.

The chlorinated hydrocarbon plume is well defined along its northwestern edge by concentrations approaching 5 µg/L or less. However, the southeastern edge of the plume is not as well defined away from the vicinity of the Omega Chemical facility. Concentrations in the 50 µg/L range were detected along the southeastern side of the plume. However, due to difficulty in obtaining access along the area where concentrations approaching 5 µg/L are anticipated to occur, the southeastern plume margin could not be defined to that level.

As many as five other potential source areas of chlorinated compounds in groundwater were identified during the investigation.

- A separate source of TCE appears to be present north of Baldwin Place as indicated by the occurrence of TCE in one sample (PP048) at an elevated concentration of 900 µg/L. Lack of sample recoveries precluded defining the limits of the TCE contamination at attempted sample locations north of Baldwin Place.

- A potential source of PCE to the northwest or west of Omega is suggested by results for PP078 and PP006, where respective concentrations of 2,100 µg/L and 1,100 µg/L were detected. With the exception of well OW-2, PCE concentrations found between this area and the Omega site do not approach 1,000 µg/L.
- The highest concentration of PCE observed during this investigation (4,500 µg/L at PP024) was detected at a location on Byron Road south of Rivera Road, some 2,600 feet west-southwest of the Omega site. Lower PCE concentrations in the 1,000 µg/L range that have been found between this sample point and Omega suggest that an additional source to the east of Byron Road may be contributing to the PCE plume. This same sample also contained the highest concentration of chloroform that was detected (1,100 µg/L).
- There appears to be small plume of PCE in the vicinity of Rivera Road near Secura Way defined by samples from push-probes H-17 and PP067. Concentrations ranging from 71 to 580 µg/L were found in an area otherwise characterized by results in the 2 to 17 µg/L range.
- An additional source(s) of PCE and other chemicals was identified in the vicinity of PP058 in the southwest part of the study area near the intersection of Los Nietos Road and Dice Road. The PCE concentration detected at PP058 was 3,300 µg/L, whereas samples to the north and northeast of PP058 yielded results for PCE in the 100 to 200 µg/L range. The southwestern extent of the plume associated with this apparent additional source has not been fully defined. However, results for samples at two locations beyond PP058 (PP065 and PP066) did indicate lower concentrations in that direction.

The EPA will be investigating these apparent additional source areas to identify other potentially responsible parties (PRPs).

4.2.2 Freons

Both trichlorofluoromethane (Freon 11) and trichlorotrifluoroethane (Freon 113) were detected in groundwater samples. Freon 11 was detected in 47 out of 82 (57%) groundwater samples, at concentrations ranging from less than 1 to 800 µg/L. Freon 113 was detected in 54 out of 82 (66%) groundwater samples, at concentrations ranging from less than 1 to 2,300 µg/L. Freons, also known as fluorocarbons, were used as aerosol propellant, refrigerants, solvents, and as chemical feedstocks. Production of these fluorocarbons has been banned and the use of these chemicals greatly restricted in the United States.

The areal distribution and concentrations of Freon 11 and Freon 113 are presented in **Figures 19** through **22**. Two of these maps are larger scale versions covering the immediate vicinity of the Omega Chemical facility. Freon 11 and 113 are present in soil and groundwater beneath the Omega Chemical site. The highest groundwater concentrations of Freon 11 and Freon 113 occur downgradient of the former Omega Chemical property. The Freon plume is similar in distribution to the chlorinated hydrocarbon plume, although the Freon plume is slightly less extensive.

The Freon plumes are well defined by groundwater samples with detected concentrations less than 2 µg/L on the north, west and south sides. As noted for the chlorinated solvent plume,

localized, elevated concentrations of Freon 11 and Freon 113 at sample PP058 near Los Nietos Road and Dice Road indicate the presence of an additional source in that area. The Freon 11 plume around PP058 is separated from the main plume that extends downgradient from the Omega facility by an area exhibiting non-detectable results.

SECTION 5

RECOMMENDATIONS

A major goal of the Phase I groundwater investigation was to establish locations for the installation of monitoring wells. The field sampling plan (WESTON, 2001) specifies the installation of up to 20 monitoring wells, after the general extent of groundwater contamination have been determined. The monitoring wells will be used to supplement the existing monitoring well network installed by the Omega Chemical PRP Group.

Monitoring wells will be used for long term monitoring and risk assessment of the groundwater chemical plumes. The primary purpose of groundwater monitoring is to develop a record of contaminant concentrations over a period of time. The wells will be sampled for water quality as specified under a groundwater-monitoring program. This data may be used to evaluate plume movement or change and the variability of contaminant concentrations. The wells will also be used to collect water level data for determination of groundwater flow direction in support of the Remedial Investigation (RI) for OU-02.

The results of this investigation provide sufficient basis to establish a preliminary groundwater monitoring network. WESTON recommends the installation of 15 monitoring wells. Additional wells may be added in the future to address any data gaps or the approach may be modified to evaluate particular subsurface conditions that may be encountered. The locations of the wells proposed for OU-02 are shown in **Figure 23**. Eleven (11) wells (MW01A though MW11) would be relatively shallow wells screened below the water table, at depths similar to those explored during the Phase I investigation. The screened depths of the shallow wells are expected to range from approximately 40 to 70 feet bgs. Four deeper wells will be installed (MW01B, MW04B, MW08B, MW09B). These wells are expected to be screened in deeper water bearing zones at depths ranging from approximately 100 to 120 feet bgs. The screened interval on all wells is anticipated to be ten feet. The monitoring well installation protocols and procedures are provided in the Field Sampling Plan (WESTON, 2001a).

The proposed RI monitoring well locations were/have been selected according to the criteria listed below:

1. The deeper wells will be located away from the highest concentration parts of the plume, in order to help mitigate the potential of cross-contamination between different water bearing zones during well installation.
2. Two shallow wells will be installed downgradient from the Omega Chemical site generally along the proximal, higher-concentration portion of the plume (MW02 and MW05) to evaluate the most elevated concentrations found during the Phase I sampling.
3. Three shallow wells and two deeper wells (MW04A, MW04B, MW08A, MW08B, and MW10) will be installed farther downgradient along secondary plume axes, where concentrations are lower.

4. Two shallow wells and one deeper well (MW01A, MW01B, and MW06) will be installed along the north margin of the plume. In addition to monitoring the northwestern boundary, MW06 will serve to monitor the apparent additional source area near Rivera Road and Secura Way.
5. One shallow and deep well pair (MW09A and MW09B) will be installed to monitor groundwater conditions upgradient of municipal water supply well 2S/11W-30R3. This location also provides coverage near the northwestern margin of the plume.
6. Three shallow wells (MW03, MW07 and MW11) will be installed near the southeastern margin of the plume. The southern portion of this plume boundary has not been defined to concentrations of 5 μg/L or less. However, this line of wells will provide data along the area where concentrations decline to relatively low levels.

During the process of finalizing this report, 18 monitoring wells have been installed. The locations of the wells are generally as proposed above. However, screened intervals were modified to address observed field conditions in some cases, and additional wells were added to evaluate different water bearing zones in two locations (MW04 and MW08). The approximate locations where the new monitoring wells have been sited are shown on **Figure 24**.

SECTION 6

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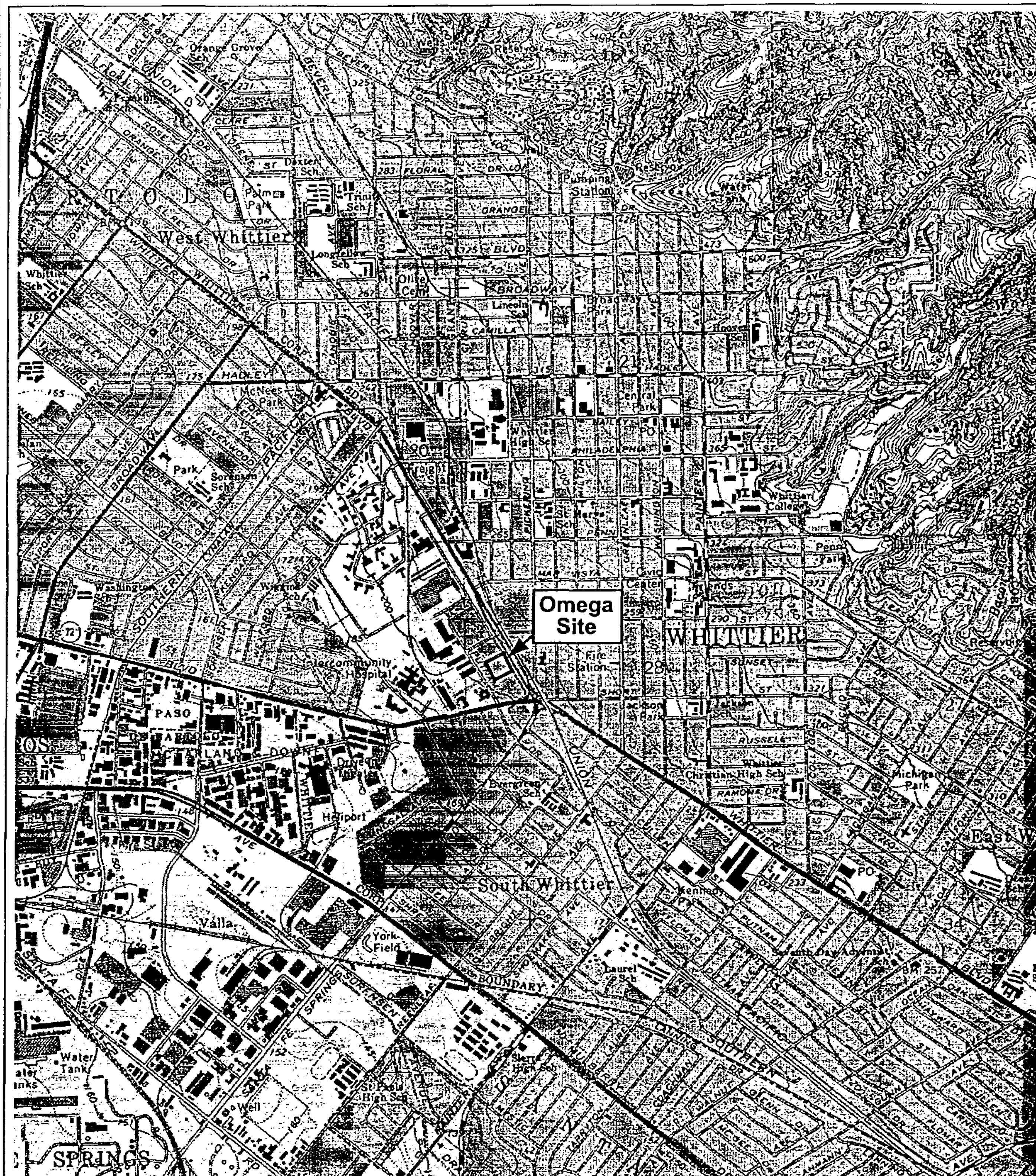
FIGURES



Site Location Map
Omega Superfund Site

N

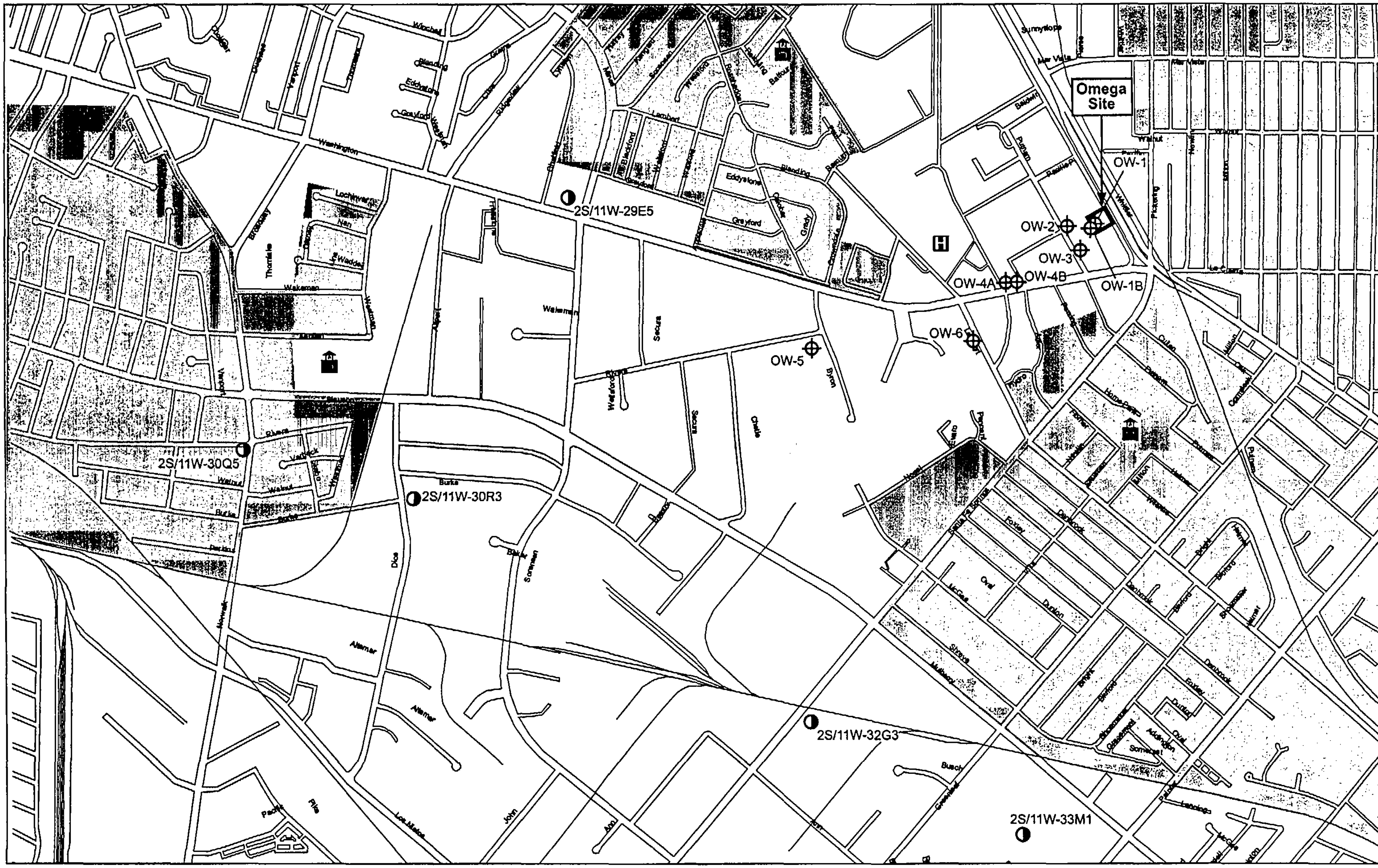
0 1200 2400

Scale in Feet

WESTON
MANAGER DESIGNER /CONSULTANTS

Figure
1

02-0079 Fig1.ai



0 600 1200
Scale in Feet

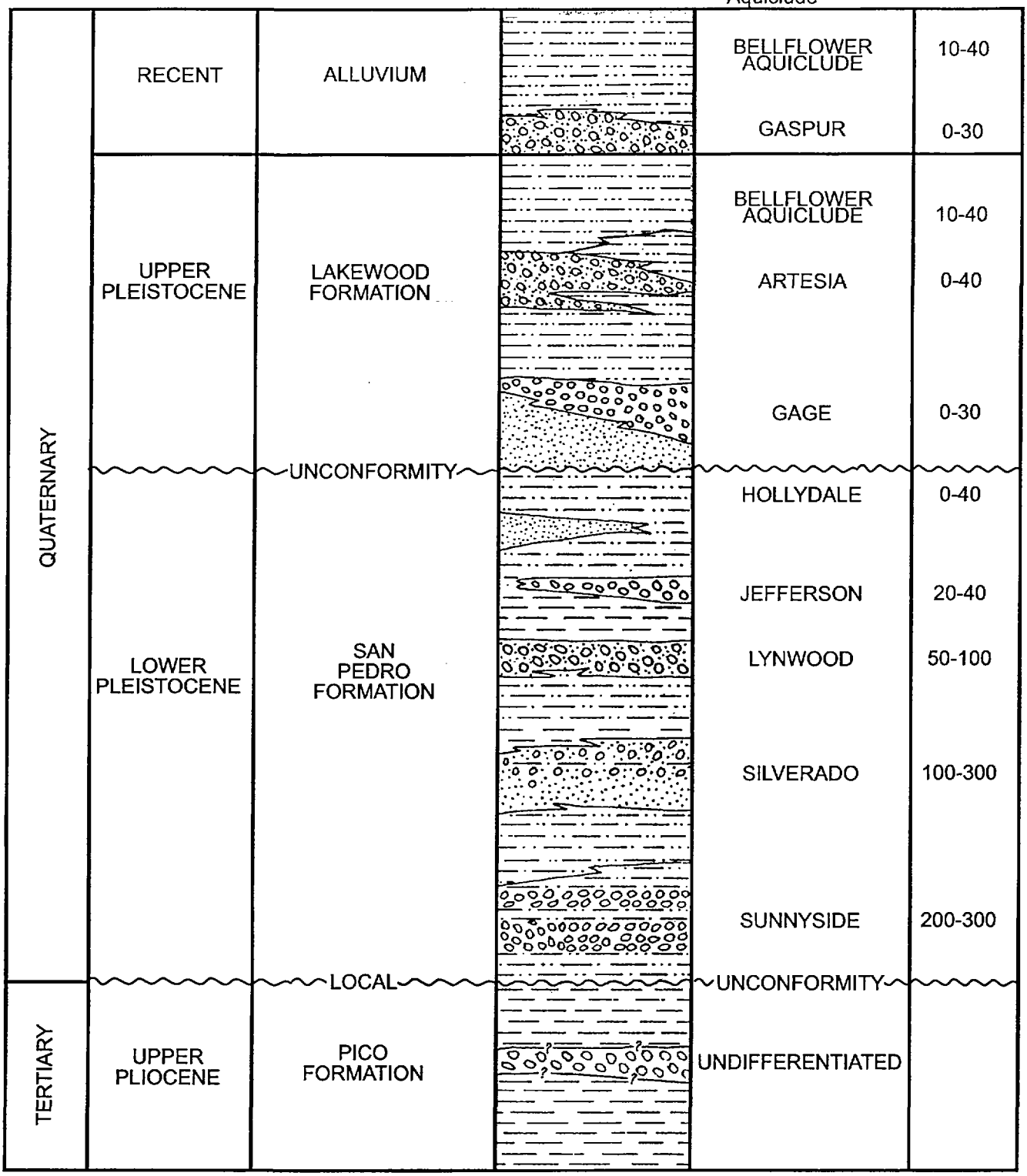
WESTON
MANAGERS DESIGNERS/CONSULTANTS

- Existing Monitoring Wells and Number
- Production Wells and Number
- Omega Site
- Primarily Residential Areas
- Hospital
- School

Site Features Map
Omega Superfund Site

Figure
2

02-0079 Fig2.ai



Generalized Stratigraphic Column
Whittier Area (Based on data from CDW 1961)
Omega Superfund Site

WESTON
MANAGER DESIGNER /CONSULTANTS

Figure
3

02-0079 Fig3.ai

0 450 900

Scale in Feet

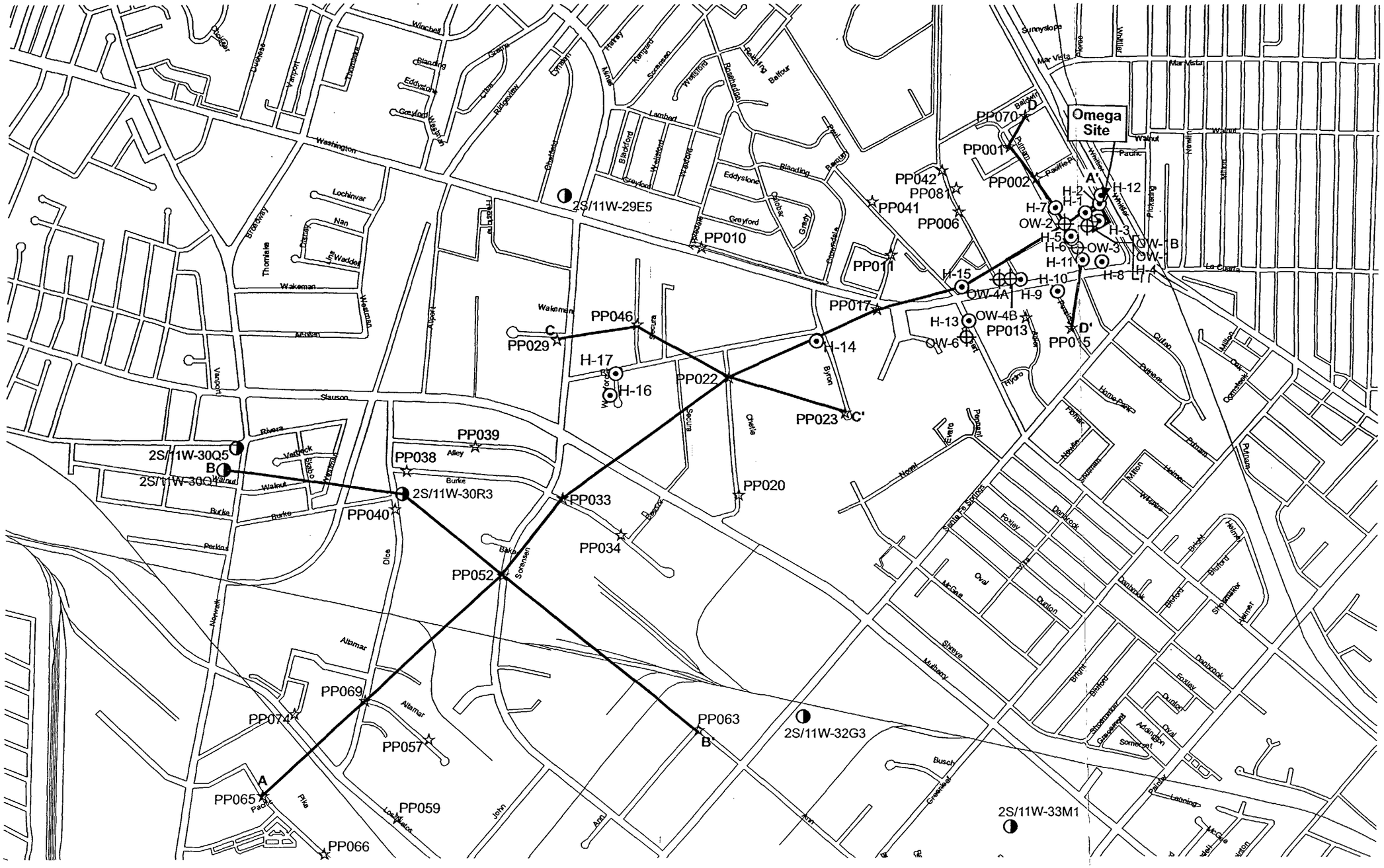
- Existing Monitoring Wells and Number
- Production Wells and Number
- Historical Groundwater Sampling locations

WESTON MANAGERS DESIGNERS/CONSULTANTS

Historical Groundwater Sampling Locations
Omega Superfund Site

Figure
4

02-0132 Fig4.ai


Omega Site
PP070
PP001
PP002
PP042
PP081
PP041
PP006
PP010
PP011
PP017
PP013
PP015
PP046
PP029
PP022
PP023
PP039
PP038
PP040
PP033
PP020
PP034
PP052
PP069
PP074
PP057
PP065
PP059
PP066
PP063
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H-15
H-16
H-17
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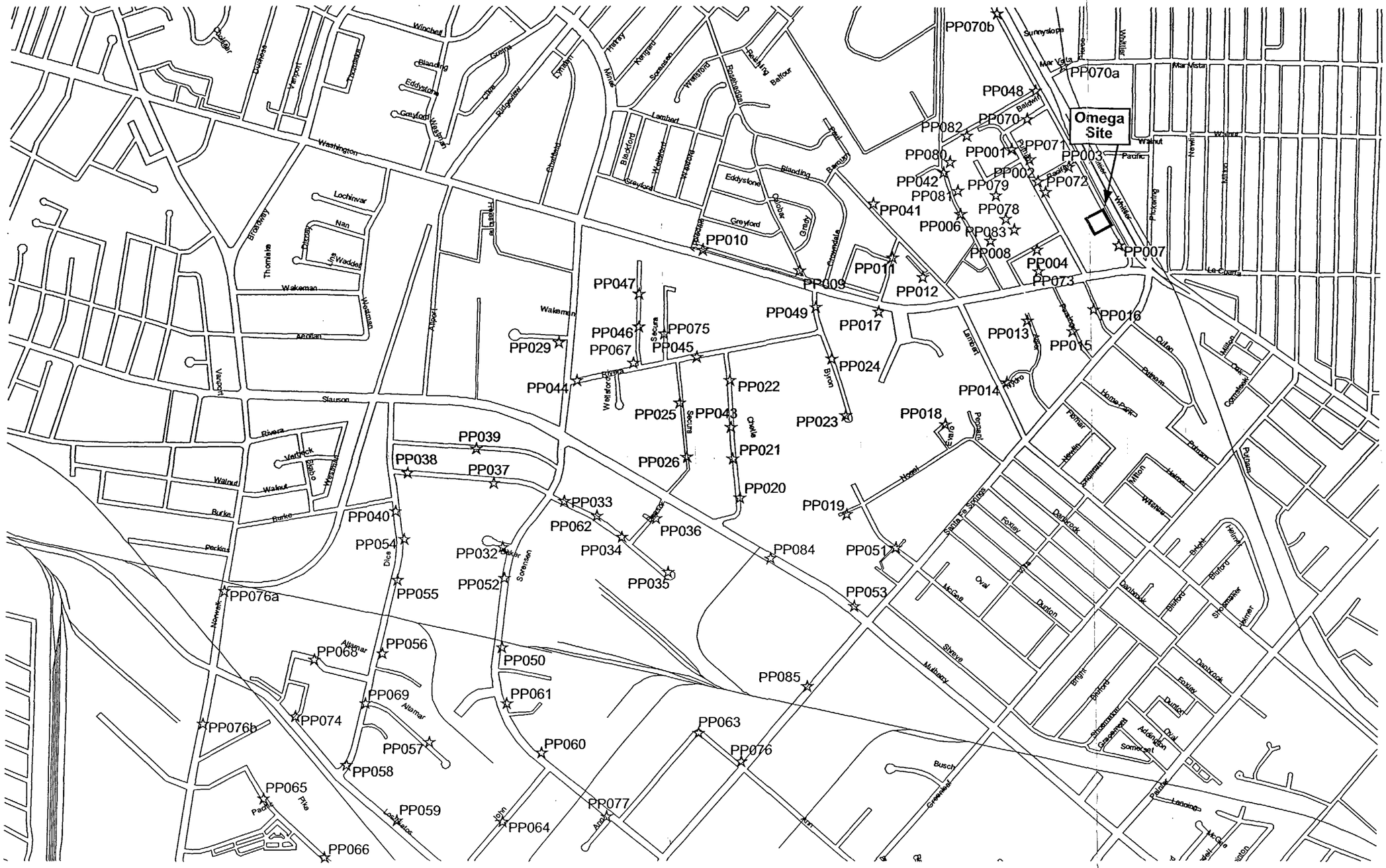
OW-2
OW-3
OW-4A
OW-4B
OW-6
A
A'
B
B'
C
C'
D
D'
Washington
Lambert
Eddystone
Greyford
Blanding
Wakeman
Slauson
Rivera
Burke
Alamar
Pacific
Walnut
Sunnyslope
Mar Vista
Pickering
Pitman
Foxley
Dunton
Sixteve
Mulberry
Busch
Greenleaf
Somerset
Adrington
Dudley
Oral
Bright
Bickford
Shoemaker
Deadwood
Leadings
McGee
Helmer
Olympic
Cloverdale
Bedford
Watford
Wrexford
Rosehedge
Balfour
Kingard
Scarsen
Wrexford
Cimarron
Ridgeway
Washington
Lochinvar
Nan
Waddell
Thomleis
Broadway
Vanport
Vanpoint
Dickness
Vanpoint
Vanpoint
Vanpoint



0 450 900

Scale in Feet

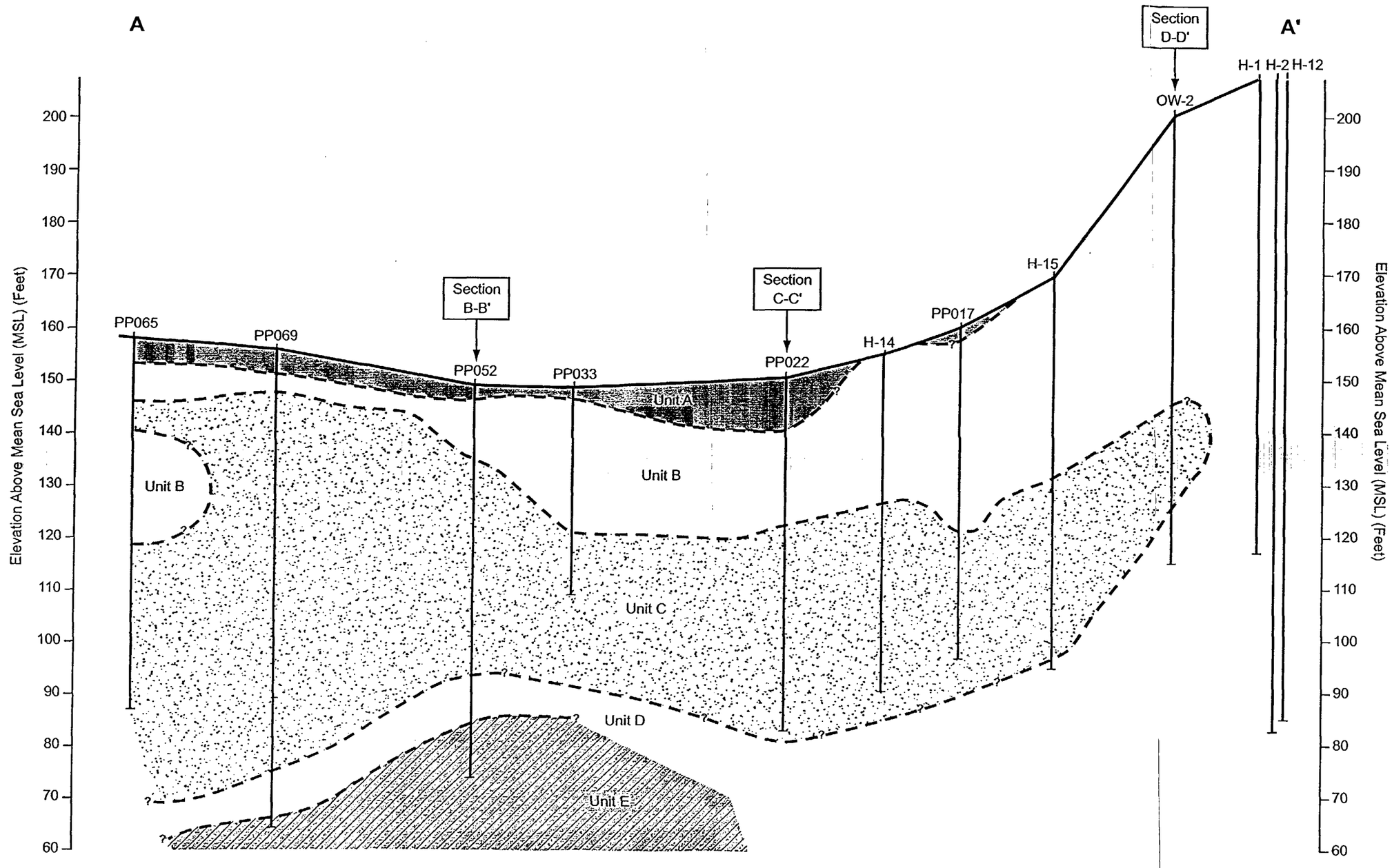
☆ Pushprobe Location and Number

WESTON MANAGERS DESIGNERS/CONSULTANTS

RI Groundwater Sampling Locations
Omega Superfund Site

Figure
6

02-0132 Fig6.ai



Horizontal Scale 1"=900'
Vertical Scale 1"=20'

WESTON MANAGERS DESIGNERS/CONSULTANTS

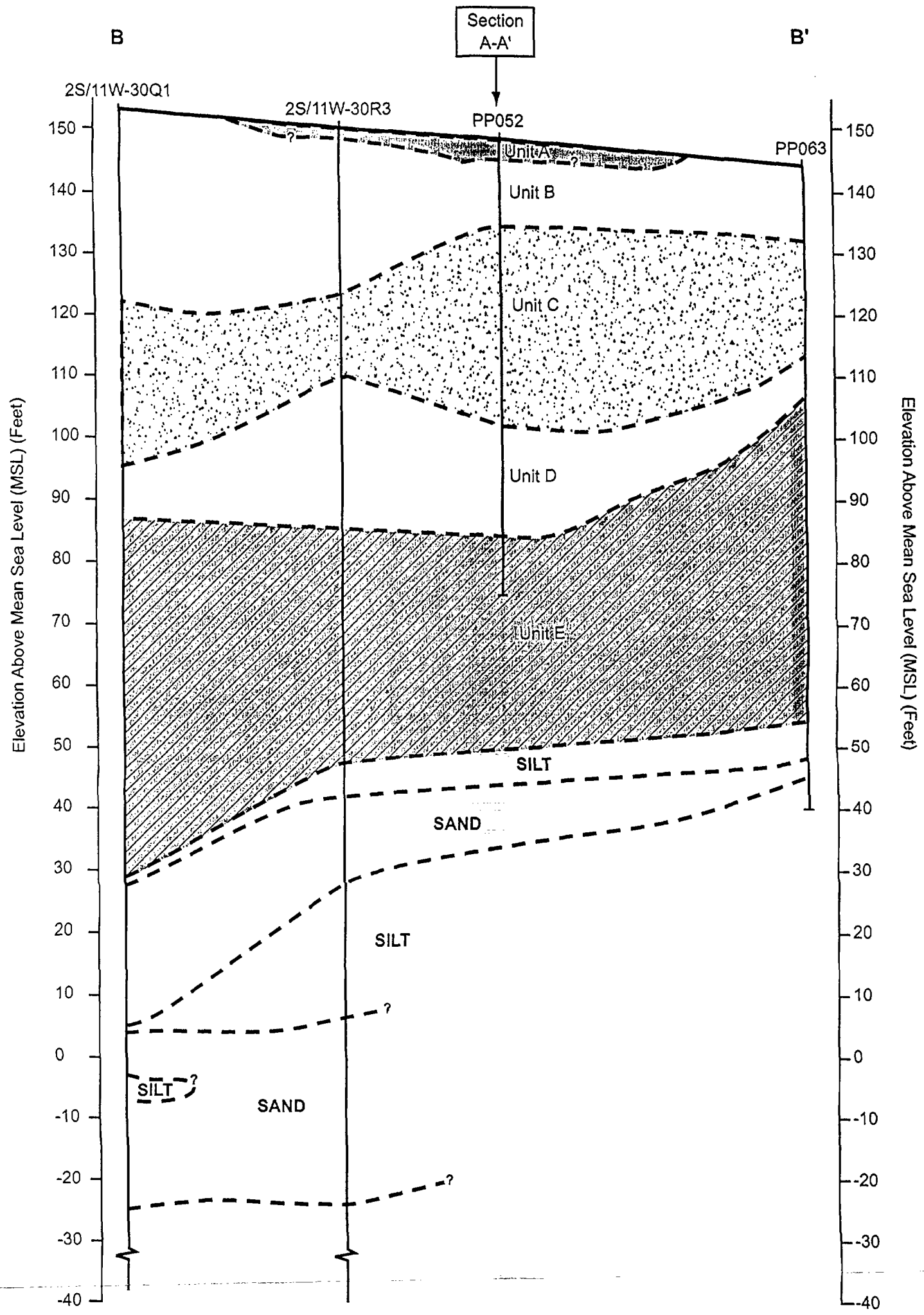
- Unit A - Primarily Sand and Silty Sand
- Unit B - Primarily Silt and Clay with Interbeds of Sand
- Unit C - Primarily Sand, Silty Sand, and Gravelly Sand
- Unit D - Primarily Silt and Clay
- Unit E - Primarily Sand, Silty Sand, and Gravelly Sand

- Interpreted Boundary Between Hydrogeologic Units
- PP065 Exploration Name and Location

Hydrogeologic Cross-section A-A'
Omega Superfund Site

Figure
7

02-0132 Fig7.ai



Horizontal Scale 1"=900'
Vertical Scale 1"=20'

WESTON MANAGERS DESIGNERS/CONSULTANTS

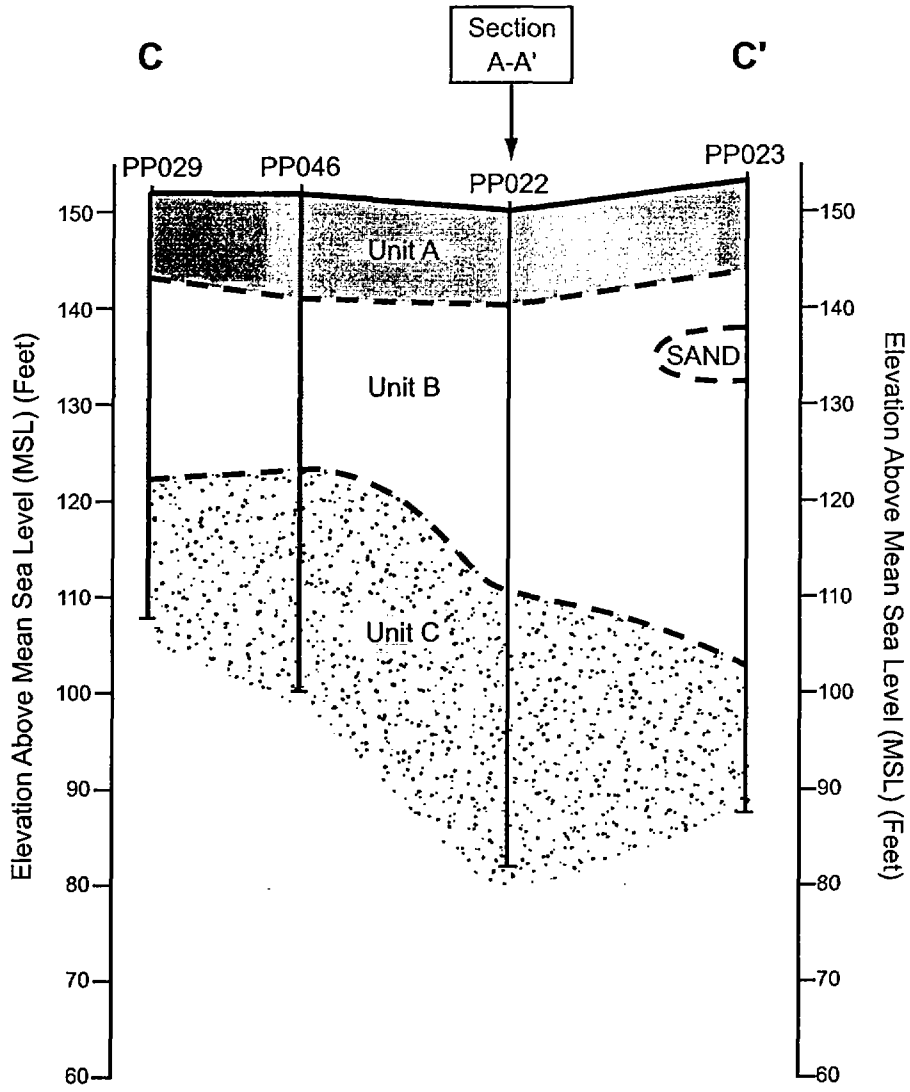
Unit A - Primarily Sand and Silty Sand
Unit B - Primarily Silt and Clay with Interbeds of Sand
Unit C - Primarily Sand, Silty Sand, and Gravelly Sand
Unit D - Primarily Silt and Clay
Unit E - Primarily Sand, Silty Sand, and Gravelly Sand
Interpreted Boundary Between Hydrogeologic Units

PP063 Exploration Name and Location

Hydrogeologic Cross-section B-B'
Omega Superfund Site

Figure 8

02-0132 Fig8.ai



Hydrogeologic Cross-section C-C'
Omega Superfund Site

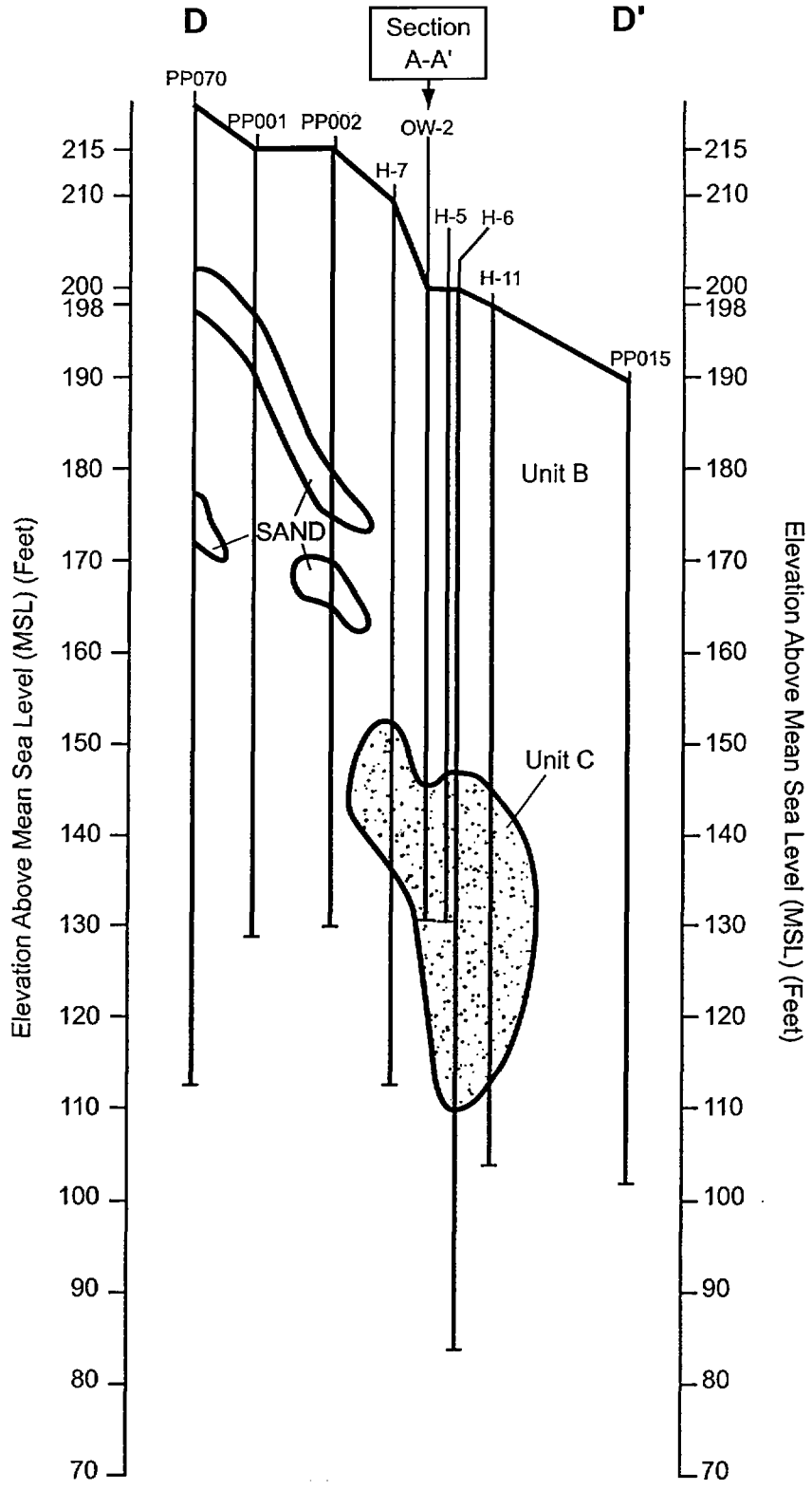
Horizontal Scale 1"=900'
Vertical Scale 1"=20'

Unit A - Primarily Sand and Silty Sand
Unit B - Primarily Silt and Clay with Interbeds of Sand
Unit C - Primarily Sand, Silty Sand, and Gravelly Sand
Interpreted Boundary Between Hydrogeologic Units
PP029 Exploration Name and Location

WESTON MANAGERS DESIGNERS/CONSULTANTS

Figure 9

02-0079 Fig9.ai



Hydrogeologic Cross-section D-D'
Omega Superfund Site

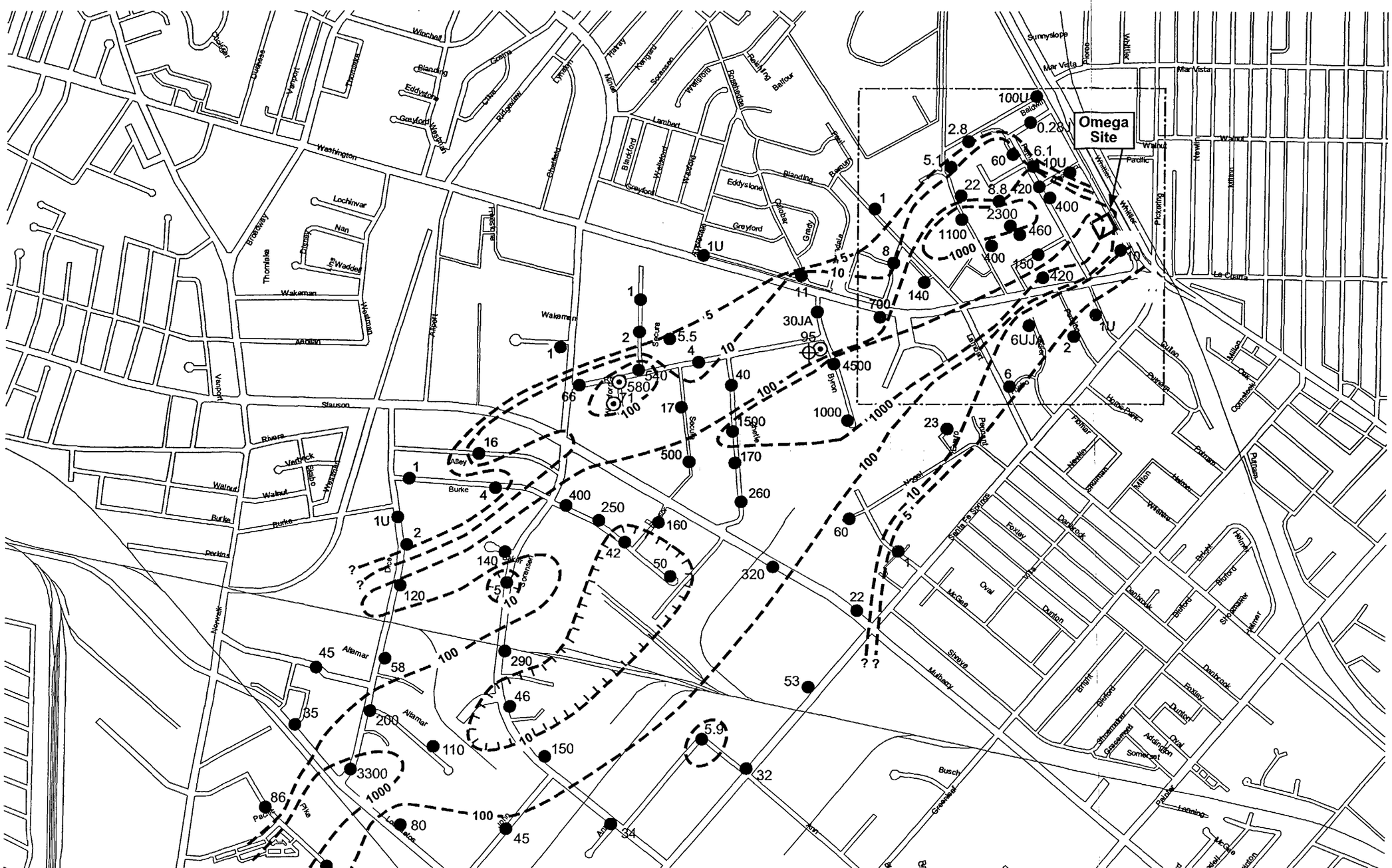
Horizontal Scale 1"=900'
Vertical Scale 1"=20'

Unit B - Primarily Silt and Clay with Interbeds of Sand
Unit C - Primarily Sand, Silty Sand, and Gravelly Sand
Unit D - Primarily Silt and Clay
Interpreted Boundary Between Hydrogeologic Units
PP070 Exploration Name and Location

WESTON MANAGERS DESIGNERS/CONSULTANTS

Figure 10

02-0132 Fig10.ai



Note: PCE concentrations in µg/L

0 450 900

Scale in Feet

WESTON
MANAGERS DESIGNERS/CONSULTANTS

— 10 — PCE Isoconcentration

● CPT Location and PCE Concentration

⊙ Historical CPT Location and PCE Concentration

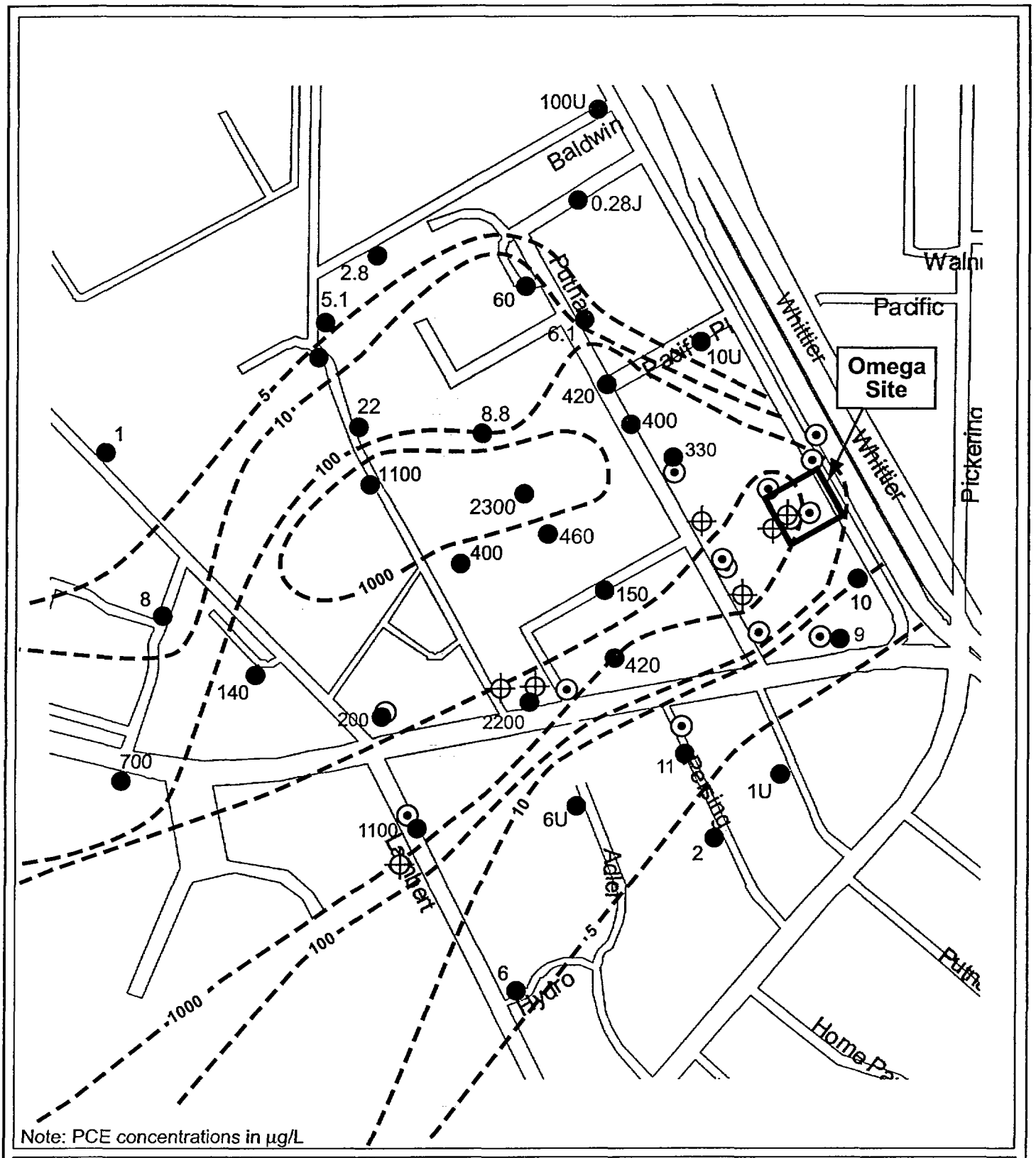
⊕ Existing Monitoring Wells and PCE Concentration

⬚ Expanded Area Shown in Figure 12

Groundwater PCE Concentrations
Omega Superfund Site

Figure
11

02-0132 Fig11.ai



Groundwater PCE Concentrations—Omega Vicinity
Omega Superfund Site

N

0 200 400

Scale in Feet

— 10 — PCE Isoconcentrations

● CPT Location and PCE Concentrations

⊙ Historical CPT Location and PCE Concentrations

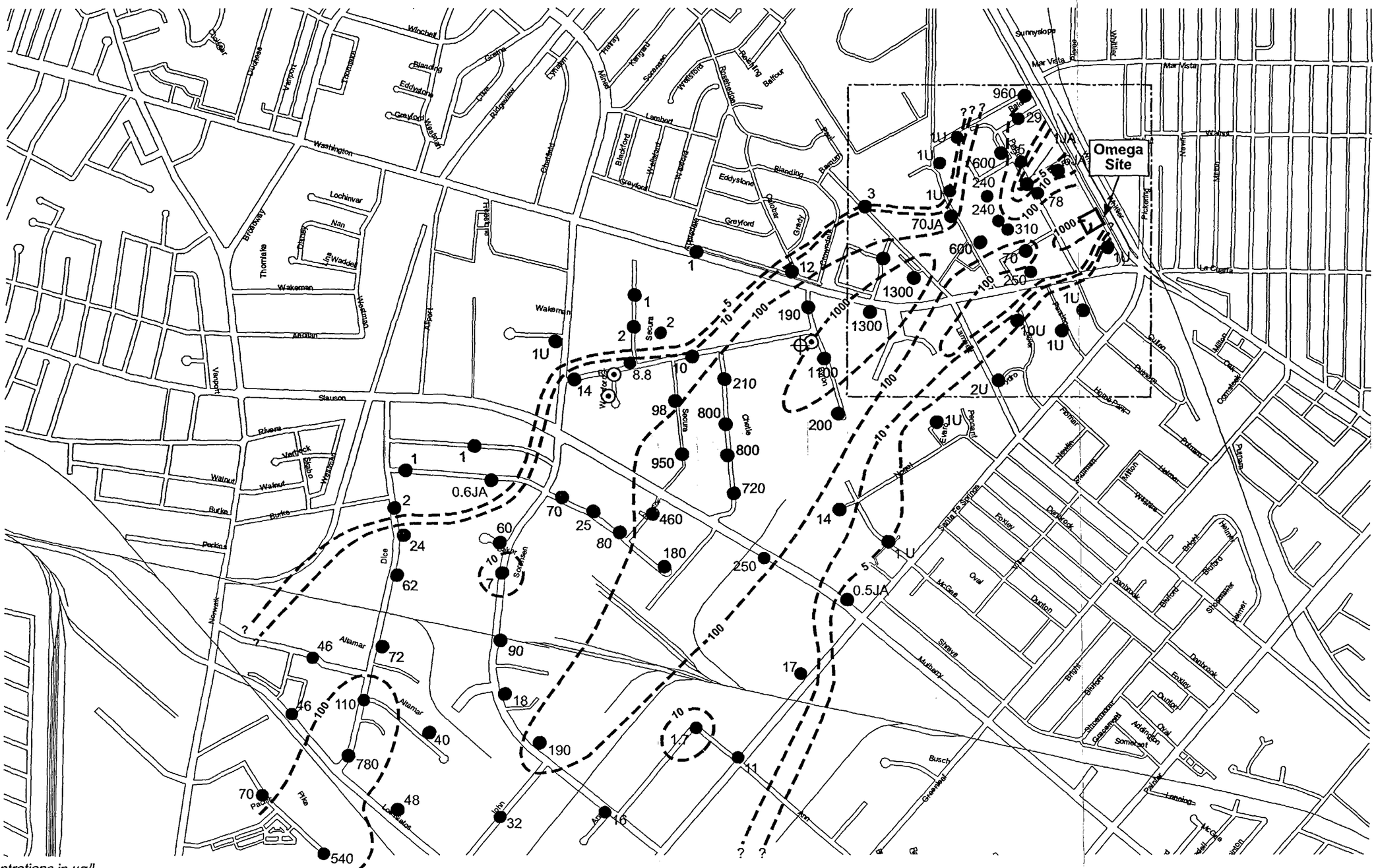
⊕ Existing Monitoring Wells and PCE Concentrations

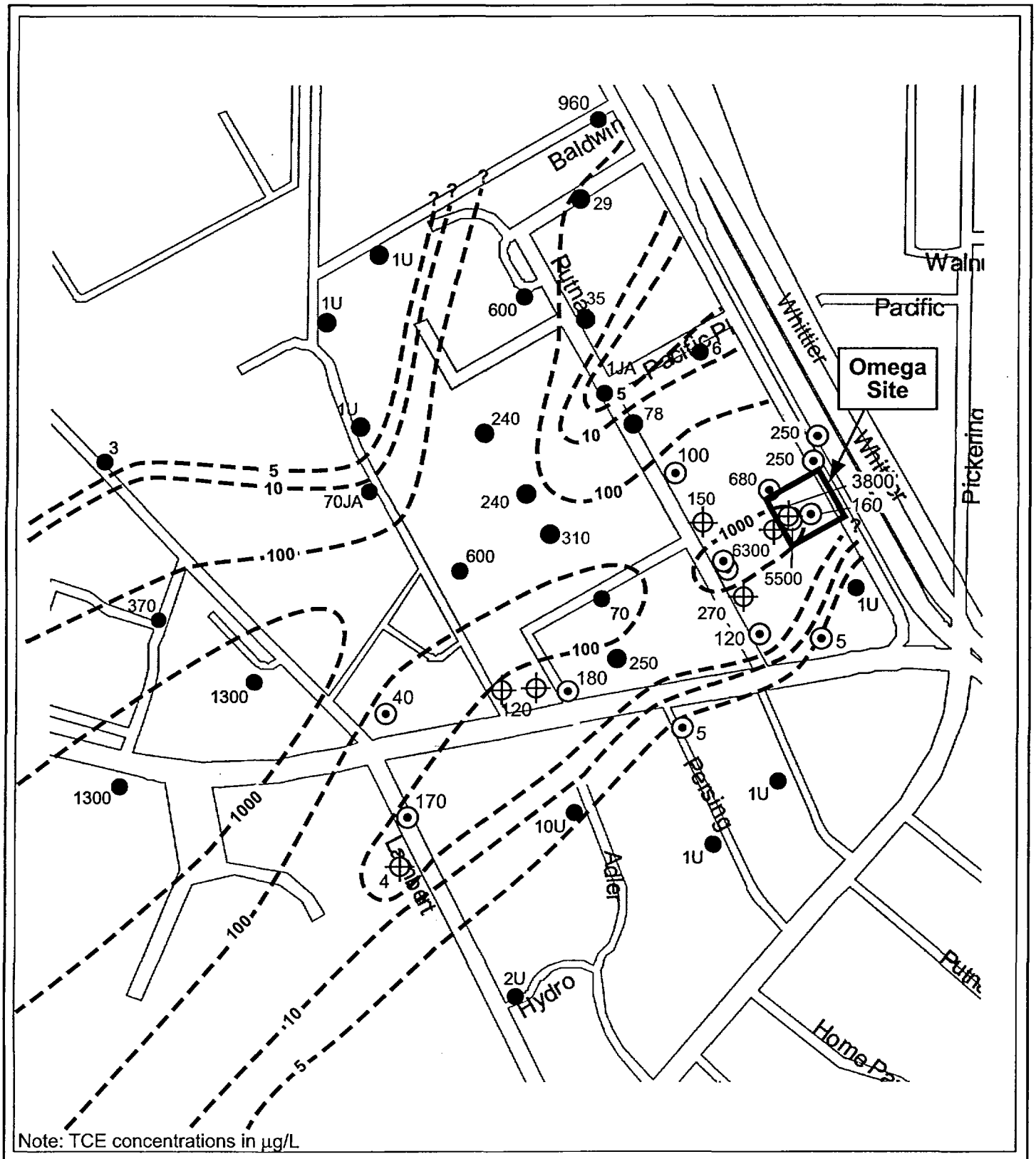
▭ Omega Site

WESTON MANAGER DESIGNER /CONSULTANTS

Figure **12**

02-0132 Fig12.ai


Omega Site
Washington
Stauson
Wakeman
Airport
Sunnyslope
Mar Vista
Lochinvar
Nan
Thornlake
Breakway
Rivera
Walnut
Burke
Perkins
Altamar
Dice
Norwalk
Pile
Secura
Cheile
Sorensen
Baker
Lambert
Blandford
Eddystone
Greyford
Blackford
Hallsford
Rosebaldie
Balfour
Rexford
Wallford
Kingard
Sockeson
Hickey
Almas
Lyman
Ridgeway
Grace
Ulva
Chandler
Wesdyke
Winchell
Dockser
Duchess
Venport
Thomwood
Wadell
Arbilan
Vertleck
Sabio
Wheeler
Pacific
Lockridge
John
Arno
Santa Fe Springs
Foxley
Darlwook
Oval
McGee
Dunton
Shrove
Mulberry
Busch
Greenleaf
Bright
Bilford
Shoemaker
Grassmere
Addington
Somerset
Danbrook
Hamer
Helen
Milton
Pickering
Winter
Wallac
Nelson
Walnut
Le Cierra
Sutton
Putnam
Hobart Park
Homer
Neville
Spaulding
Weston
Helmont
Birkhill
Bilford
Shoemaker
Hamer
Danbrook
Foxley
Dunton
Oval
Addington
Somerset
Pickering
Lanning
McGee
Dunton
Cortelyou
Oak
Milton
Putnam
Pennard
Vista
Hoover
Rivera
Sabio
Wheeler
Vertleck
Walnut
Burke
Perkins
Altamar
Dice
Norwalk
Pile
Pacific
Lockridge
John
Arno
Secura
Cheile
Sorensen
Baker
Lambert
Blandford
Eddystone
Greyford
Blackford
Hallsford
Rosebaldie
Balfour
Rexford
Wallford
Kingard
Sockeson
Hickey
Almas
Lyman
Ridgeway
Grace
Ulva
Chandler
Wesdyke
Winchell
Dockser
Duchess
Venport
Thomwood
Wadell
Arbilan
Lochinvar
Nan
Thornlake
Breakway
Rivera



Note: TCE concentrations in µg/L

Groundwater TCE Concentrations—Omega Vicinity
Omega Superfund Site

N

0 200 400

Scale in Feet

— 10 — TCE Isoconcentration

● CPT Location and TCE Concentration

⊙ Historical CPT Location and TCE Concentration

⊕ Existing Monitoring Wells and TCE Concentration

▭ Omega Site

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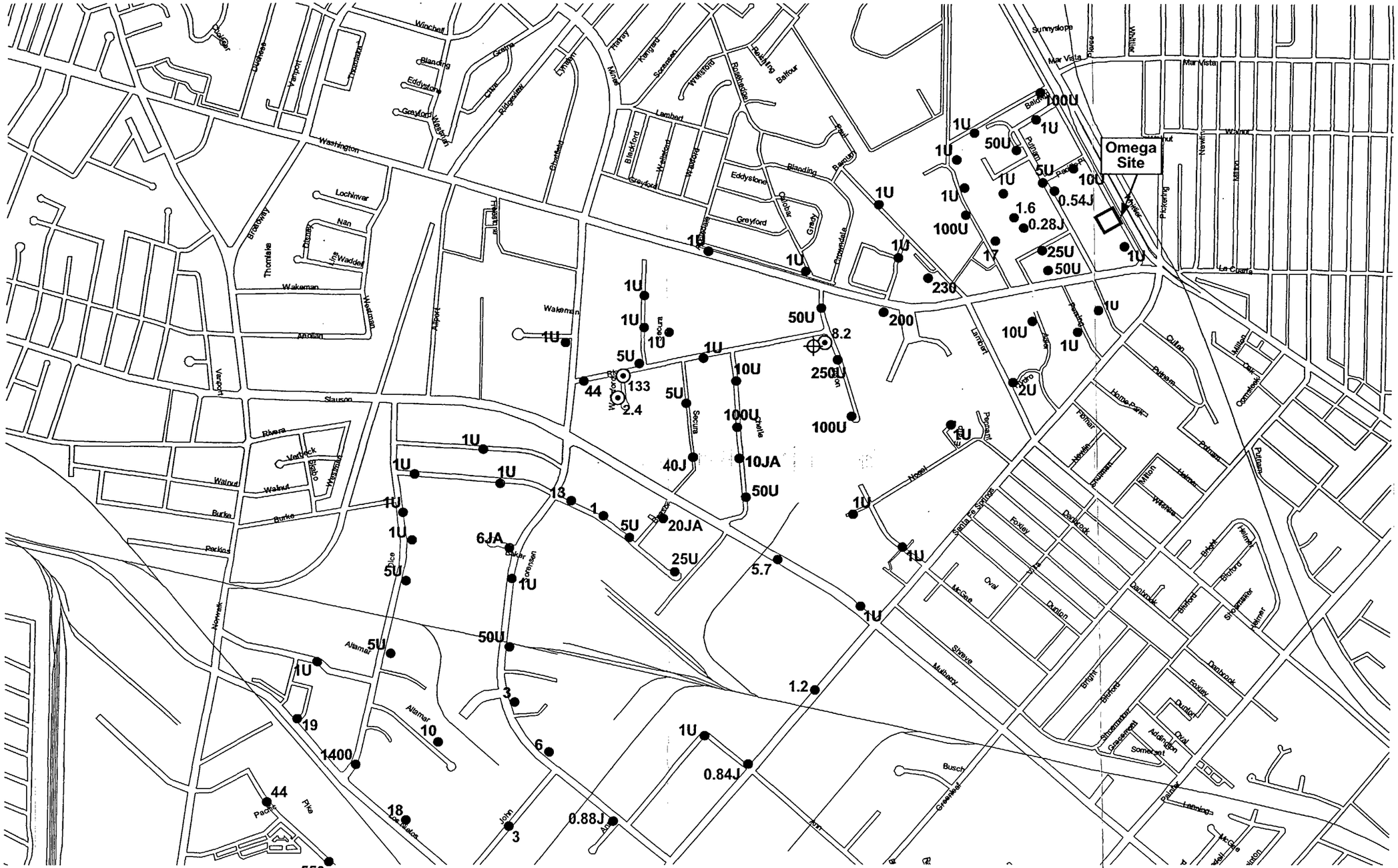
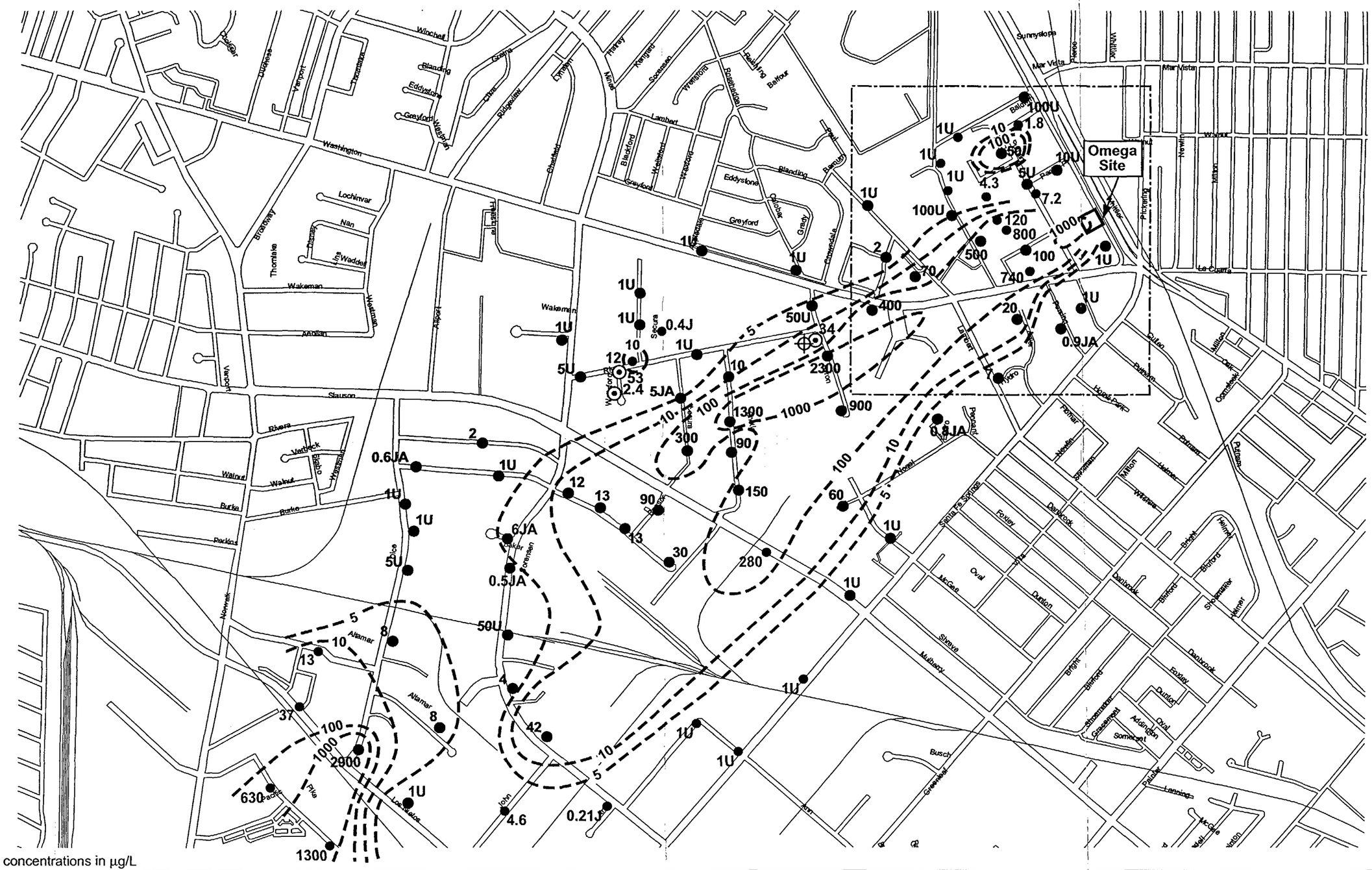
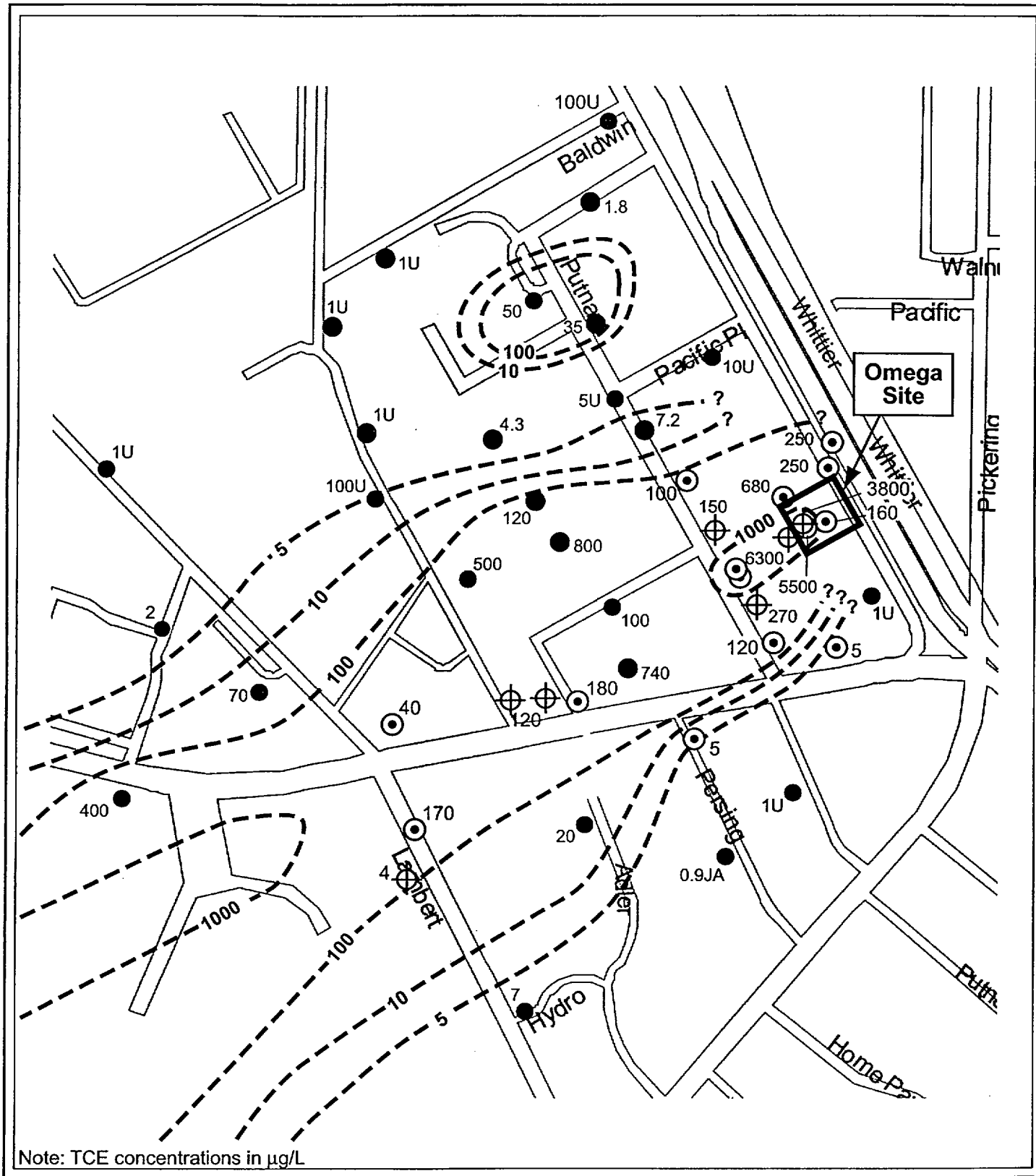
Figure **14**

01-0370 Fig14.ai


Omega Site
Washington
Lochinvar
Nan
Wakeman
Slauson
Rivera
Walnut
Burke
Parkins
Norwalk
Alamar
Pike
Packer
Lambert
Greyford
Eddystone
Blanding
Mar Vista
Sunnyslope
Pickering
Putnam
Foxley
Dankook
Bright
Stiford
Shroomer
Dunlop
Oval
McGee
Shreve
Mulberry
Busch
Greenleaf
Ann
Somerset
Adrington
Leaming
Santa Fe Springs
Hume Park
Pomar
Henderson
Swanson
Milton
Watseka
Helmer
Cullen
Oakmont
Cair
Walton
Nevin
Walnut
Newell
Pickering
Kalton
Pleasant
Balfour
Rosebaden
Wrightwood
Scott
Kingard
Harvey
Minor
Lyndon
Ridgeway
Chadfield
Blackford
Washington
Thomas
Thomas Pl
Airport
Wakeman
Westman
Vanport
Vanderbilt
Rivera
Walnut
Burke
Parkins
Norwalk
Alamar
Pike
Packer
Lambert
Greyford
Eddystone
Blanding
Bancroft
Crowndale
Gracy
Oldham
Woodson
Secura
Cheile
Pennant
Nobel
Santa Fe Springs
Foxley
Dankook
Oval
McGee
Dunlop
Shreve
Mulberry
Busch
Greenleaf
Ann
Somerset
Adrington
Leaming
Bright
Stiford
Shroomer
Helmer
Dankook
Foxley
Dunlop
Oval
Pomar
Henderson
Swanson
Milton
Watseka
Helmer
Bright
Stiford
Shroomer
Helmer
Dankook
Foxley
Dunlop
Oval
Somerset
Adrington
Leaming
Cullen
Putnam
Home Park
Pomar
Henderson
Swanson
Milton
Watseka
Helmer
Bright
Stiford
Shroomer
Helmer
Dankook
Foxley
Dunlop
Oval
McGee
Shreve
Mulberry
Busch
Greenleaf
Ann
Somerset
Adrington
Leaming
Cair
Oakmont
Walton
Nevin
Newell
Walnut
Kalton
Pickering
Putnam


Omega Site
Washington
Wakeman
Stauson
Rivera
Walnut
Burke
Packing
Norwalk
Altamar
Pike
Lockwood
Sunnyslope
Mar Vista
Pickering
Hoyt Park
Santa Fe Springs
Foxley
Oval
Dunton
McGee
Shreve
Mulberry
Busch
Greenleaf
Somerset
Addington
Leaning
Bright
Blanford
Deanbrook
Milton
Helmer
Wilshire
Sherman
Venice
Fisher
Nevin
Pickford
Olympic
Pershing
Bundy
Barrington
Sepulveda
Lambert
Blackford
Greyford
Eddystone
Blanding
Winchell
Lochinvar
Nan
Thornlake
Broadway
Vineyard
Vanport
Duchess
Dolphin
Ridgeway
Cynthia
Nimes
Kingsley
Sawtelle
Westbrook
Rosecrans
Barfour
Beloit
Walgrove
Sawtelle
Allport
Secura
Wakeman
Vineyard
Vanbuck
Sabio
Walnut
Burke
Packing
Norwalk
Altamar
Pike
Lockwood
John
Forrester
Fisher
Nevin
Pennant



Groundwater 1,1-DCE Concentrations—Omega Vicinity
Omega Superfund Site

0 200 400
Scale in Feet

— 10 — 1,1-DCE Isoconcentration
● CPT Location and 1,1-DCE Concentration
⊙ Historical CPT Location and 1,1-DCE Concentration
⊕ Existing Monitoring Wells and 1,1-DCE Concentration
▭ Omega Site

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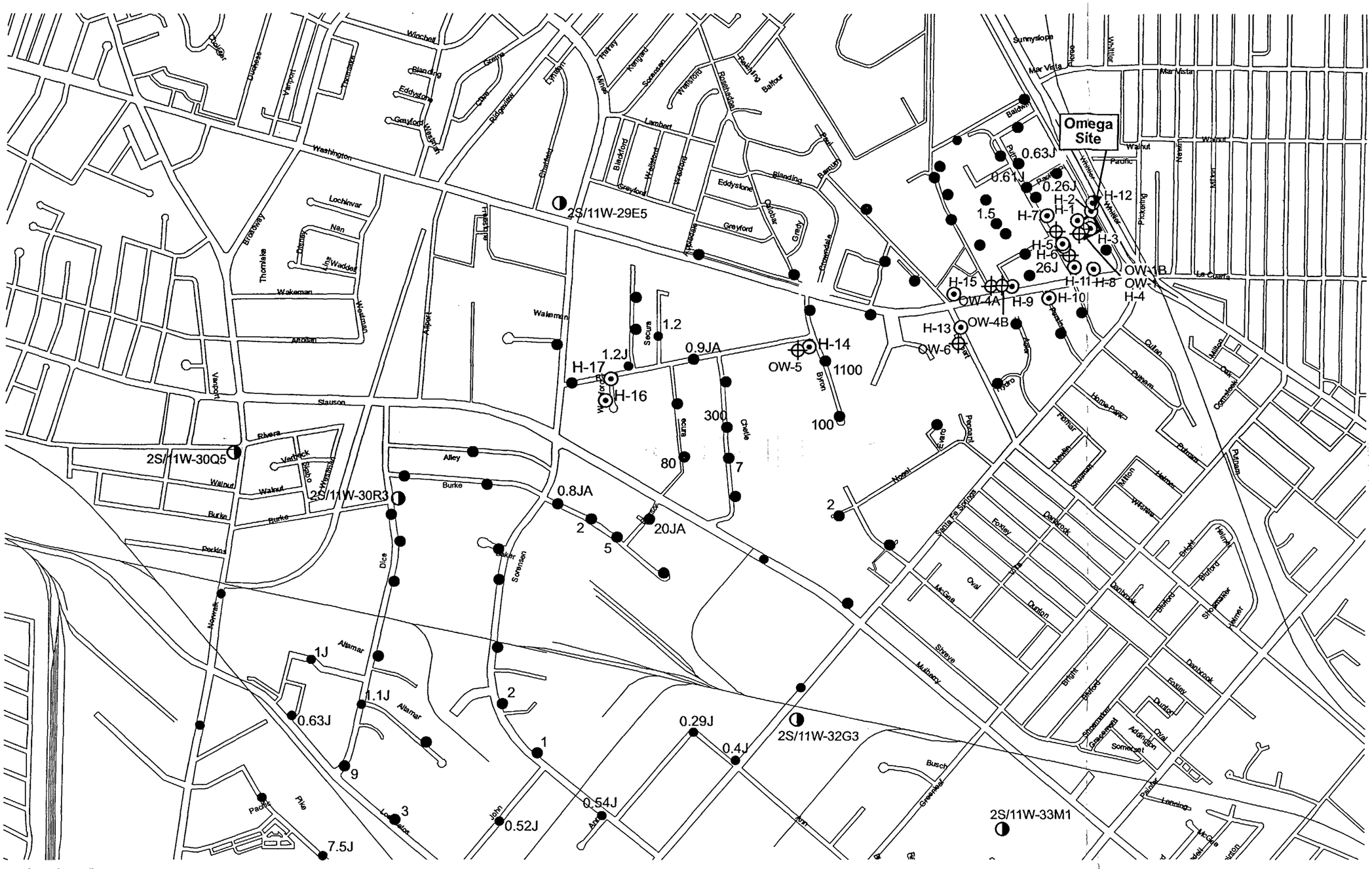
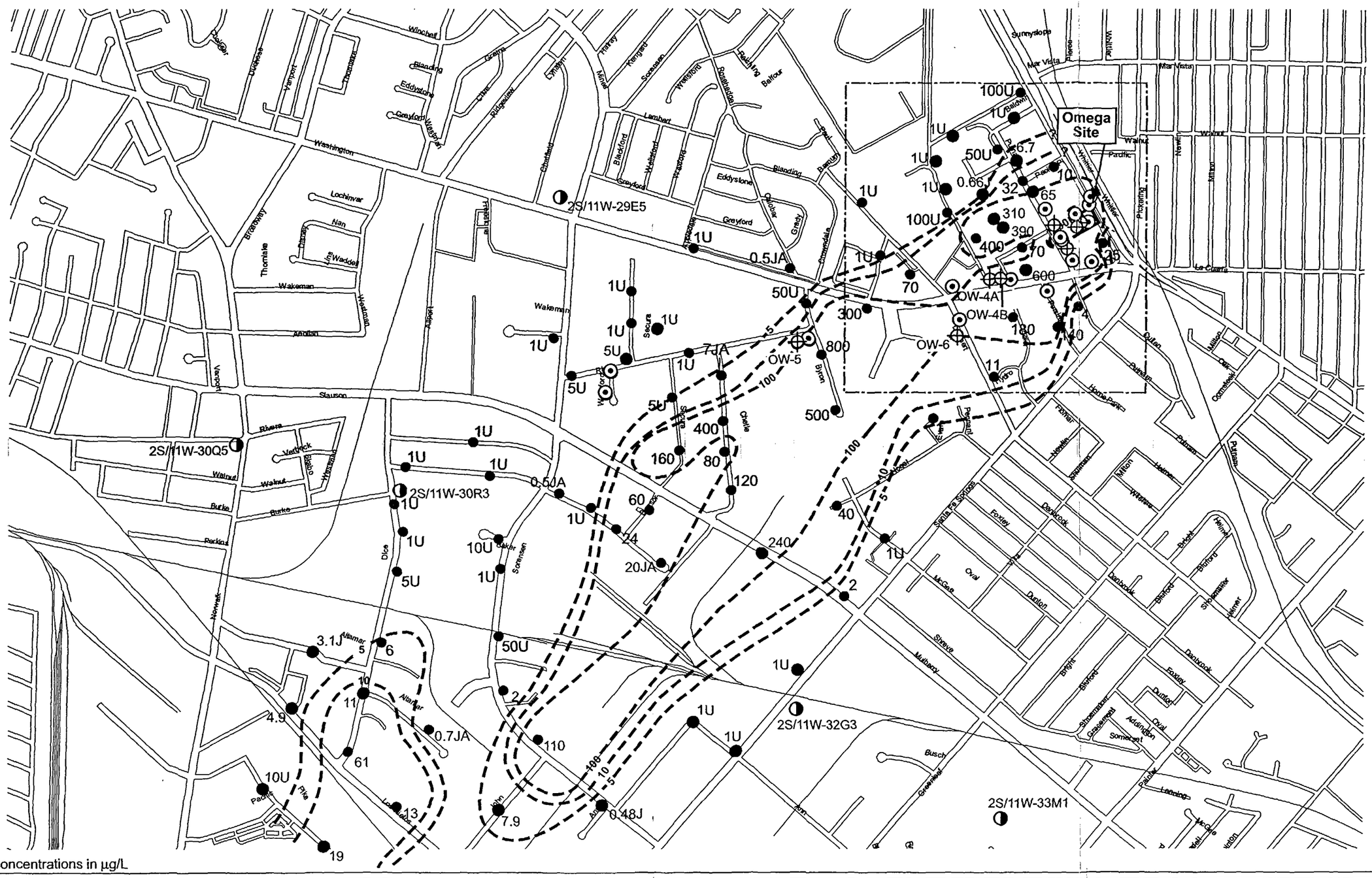
Figure 17

02-0132 Fig17.ai


Omega Site
2S/11W-29E5
2S/11W-30Q5
2S/11W-30R3
2S/11W-32G3
2S/11W-33M1
H-1
H-2
H-3
H-4
H-5
H-6
H-7
H-8
H-9
H-10
H-11
H-12
H-13
H-14
H-15
H-16
H-17
OW-1
OW-1B
OW-4A
OW-4B
OW-5
OW-6
0.63J
0.61J
0.26J
1.5
26J
1.2
1.2J
0.9JA
1100
100
300
80
7
2
0.8JA
20JA
5
1J
1.1J
0.63J
9
3
7.5J
0.52J
0.54J
0.29J
0.4J
Washington
Wakeman
Stauson
Rivera
Walnut
Burke
Alley
Dice
Altamar
Pike
Pacific
Mar Vista
Sunnyslope
Lambert
Greyford
Eddystone
Blanding
Grady
Crowdale
Secura
Charlie
Byron
Busch
Greenfield
Shreve
Mulberry
Foxley
Oval
McGee
Durfee
Danbrook
Bright
Bluford
Somerset
Addington
Pulman
Milton
Pickering
Whitsett
Newlin
Walnut
La Cuesta
Sierra Madre
Santa Fe Springs
Evaro
Pepper
Hydro
Asia
Pomar
Hollywood
Cullen
Dunham
Home Park
Helmer
Wheeler
Enfield
Hermosa
Stoneman
Gracemont
Landing
Monroe
Vanport
Thomlake
Broadway
Lochnivar
Nan
Wadden
Hoskins
Airport
Frederick
Tropicale
Rosedale
Reading
Balfour
Kingard
Scenson
Wingfield
Holbrook
Bleckford
Shorthill
Ridgeview
Chico
Grape
Winchell
Blanding
Eddystone
Greyford
Westport
Dunkirk
Ouisess
Dunker
Sunnyslope
Pierce
Vosburg
Baldwin
Pulin
Paul
Whitsett
Pickering
Newlin
Milton
Walnut
Pacific
Pulman
Cullen
Dunham
Home Park
Pomar
Newlin
Stoneman
Milton
Helmer
Wheeler
Enfield
Hermosa
Bluford
Stoneman
Helmer
Danbrook
Foxley
Durfee
Oval
Addington
Somerset
Gracemont
Bright
Bluford
Danbrook
Foxley
Durfee
Oval
McGee
Shreve
Mulberry
Busch
Greenfield
Paulin
Landing
Sorensen
Baker
John
Arno
Locust



Note: Freon 11 concentrations in µg/L

0 450 900
Scale in Feet

— 10 — Freon 11 Isoconcentration
● CPT Location and Freon 11 Concentration
⊙ Historical CPT Location and Freon 11 Concentration
⊕ Existing Monitoring Wells and Freon 11 Concentration
⬚ Expanded Area Shown in Figure 20

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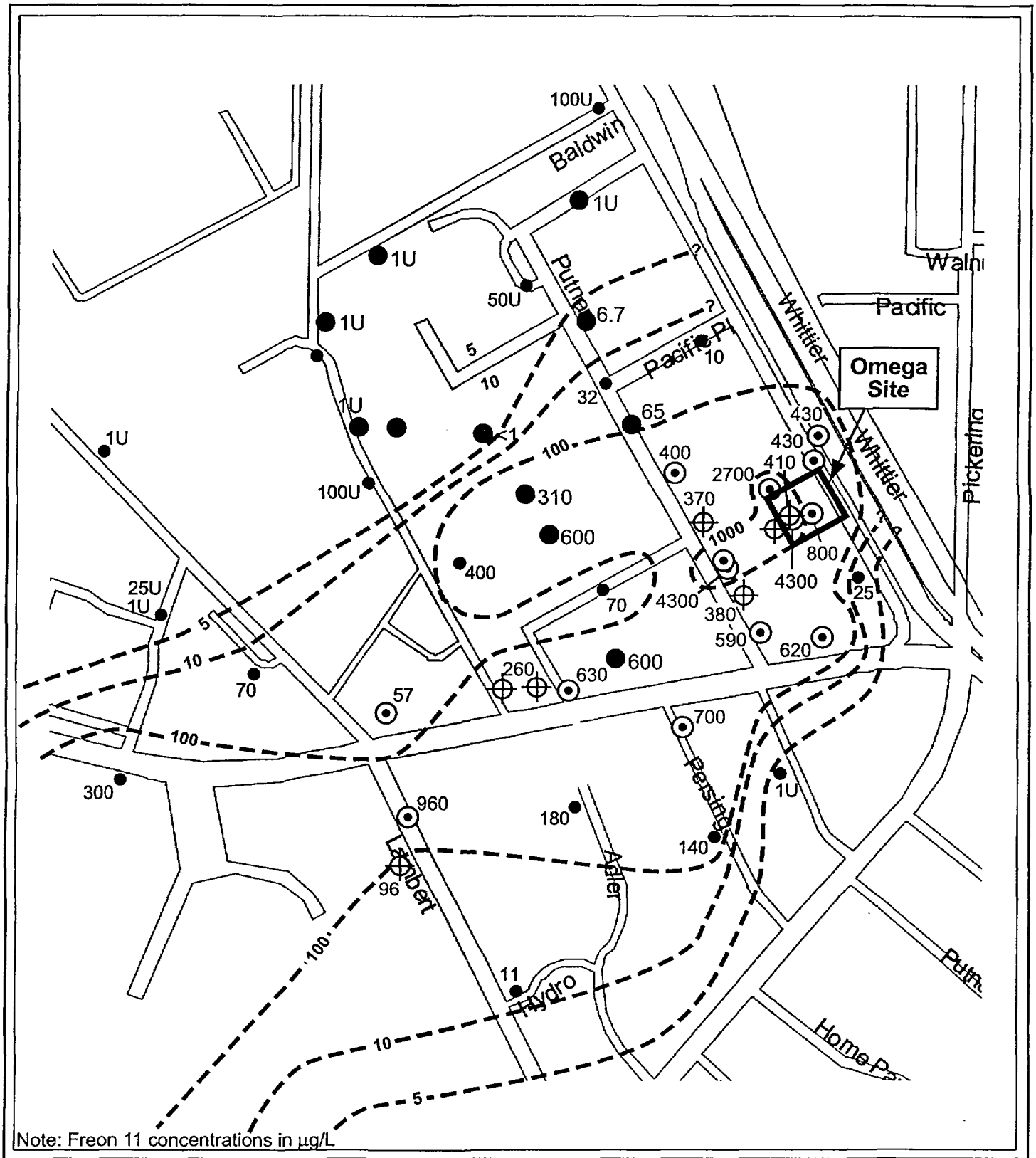
Groundwater Freon 11 Concentrations
Omega Superfund Site

Figure
19

02-0132 Fig19.ai



Note: Freon 11 concentrations in µg/L

Groundwater Freon 11 Concentrations—Omega Vicinity
Omega Superfund Site

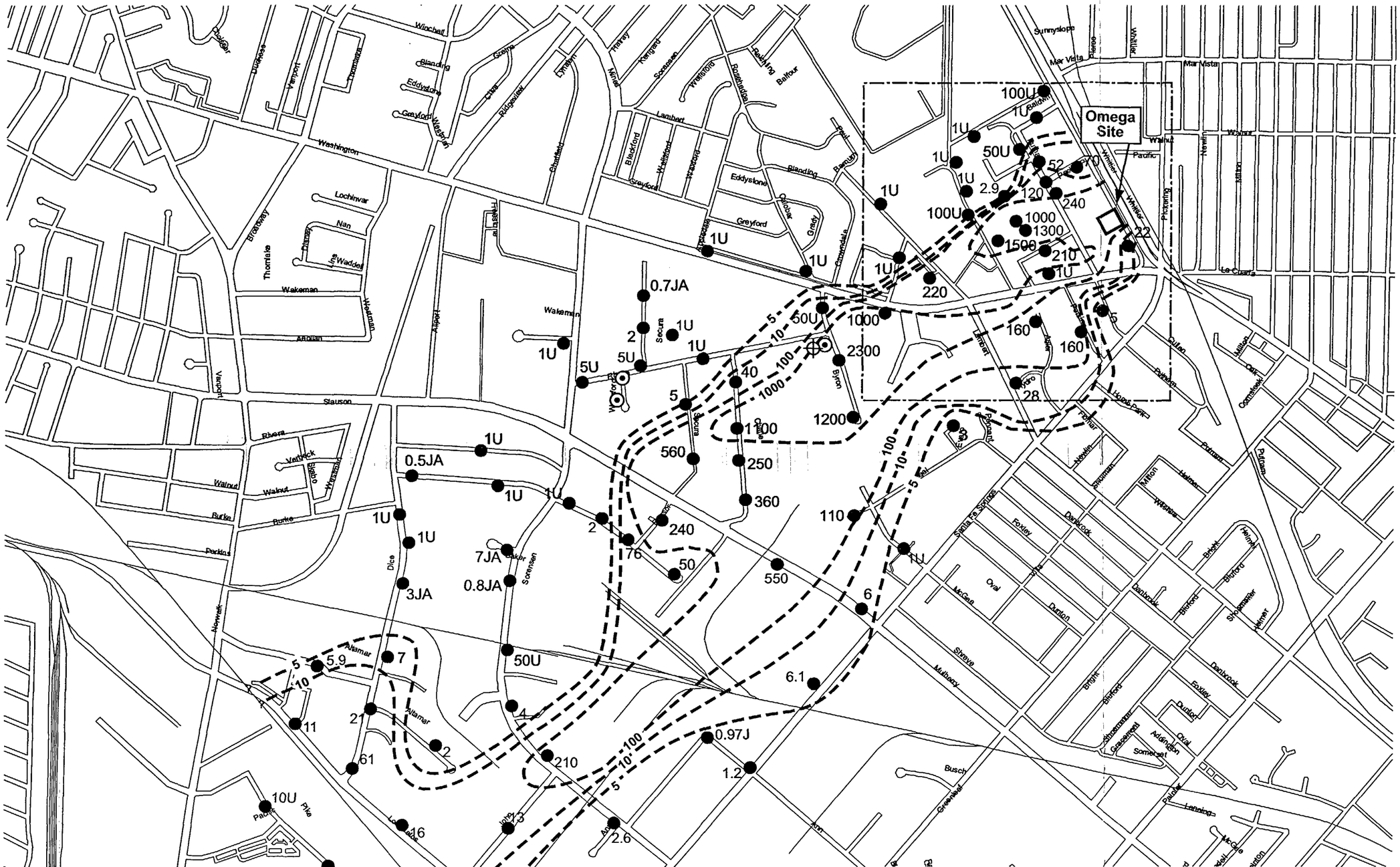
0 200 400
Scale in Feet

- 10 — Freon 11 Isoconcentrations
- ● CPT Location and Freon 11 Concentrations
- ⊙ Historical CPT Location and Freon 11 Concentration
- ⊕ Existing Monitoring Wells and Freon 11 Concentration
- ▭ Omega Site

WESTON MANAGER DESIGNER CONSULTANTS

Figure 20

02-0132 Fig20.ai



Note: Freon 113 concentrations in µg/L

0 450 900

Scale in Feet

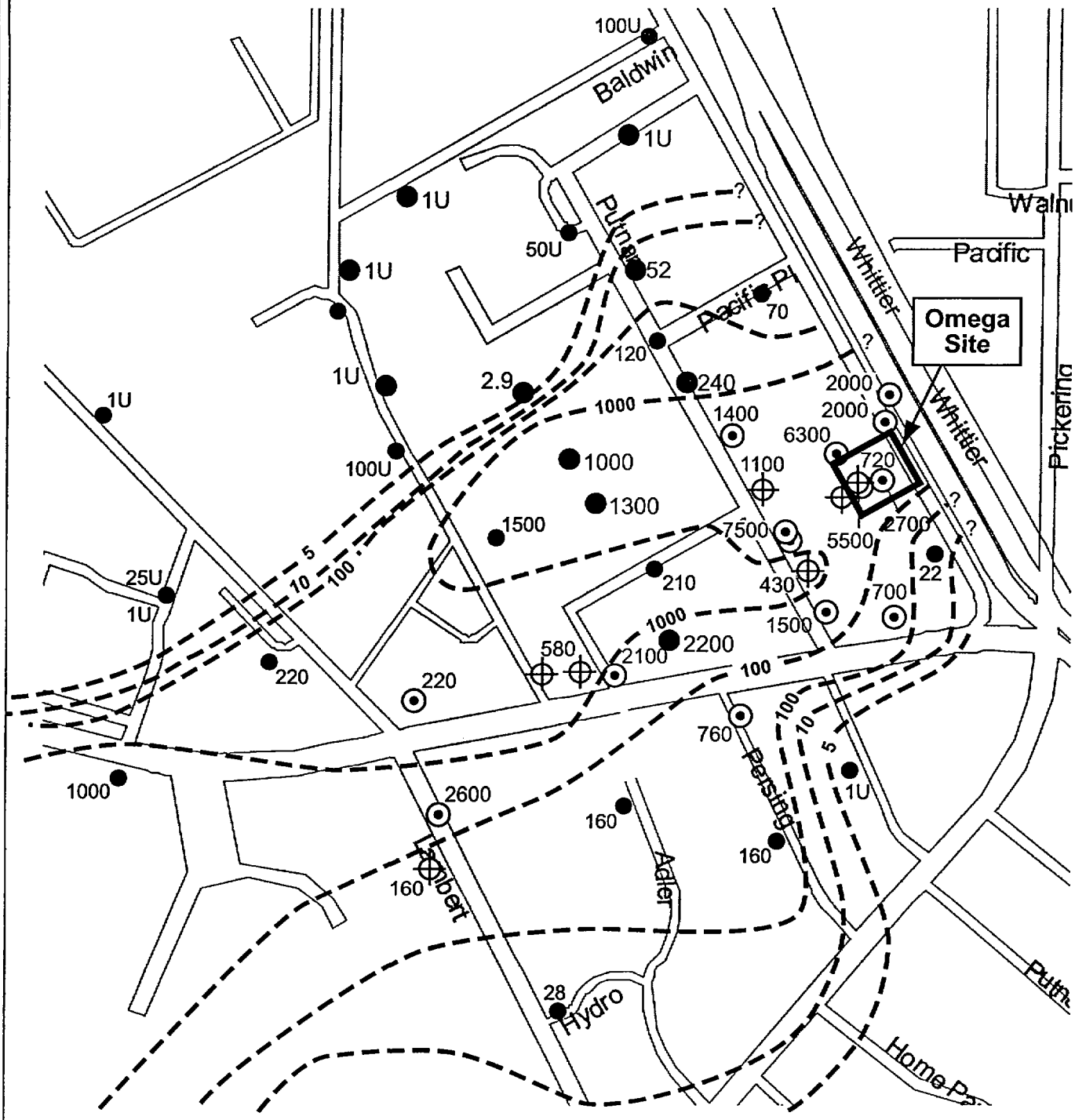
WESTON MANAGERS DESIGNERS/CONSULTANTS

- 10 — Freon 113 Isoconcentration
- ● CPT Location and Freon 113 Concentration
- ⊙ Historical CPT Location and Freon 113 Concentration
- ⊕ Existing Monitoring Wells and Freon 113 Concentration
- ⬚ Expanded Area Shown in Figure 22

Groundwater Freon 113 Concentrations
Omega Superfund Site

Figure **21**

02-0132 Fig21.ai



Groundwater Freon 113 Concentrations—Omega Vicinity
Omega Superfund Site

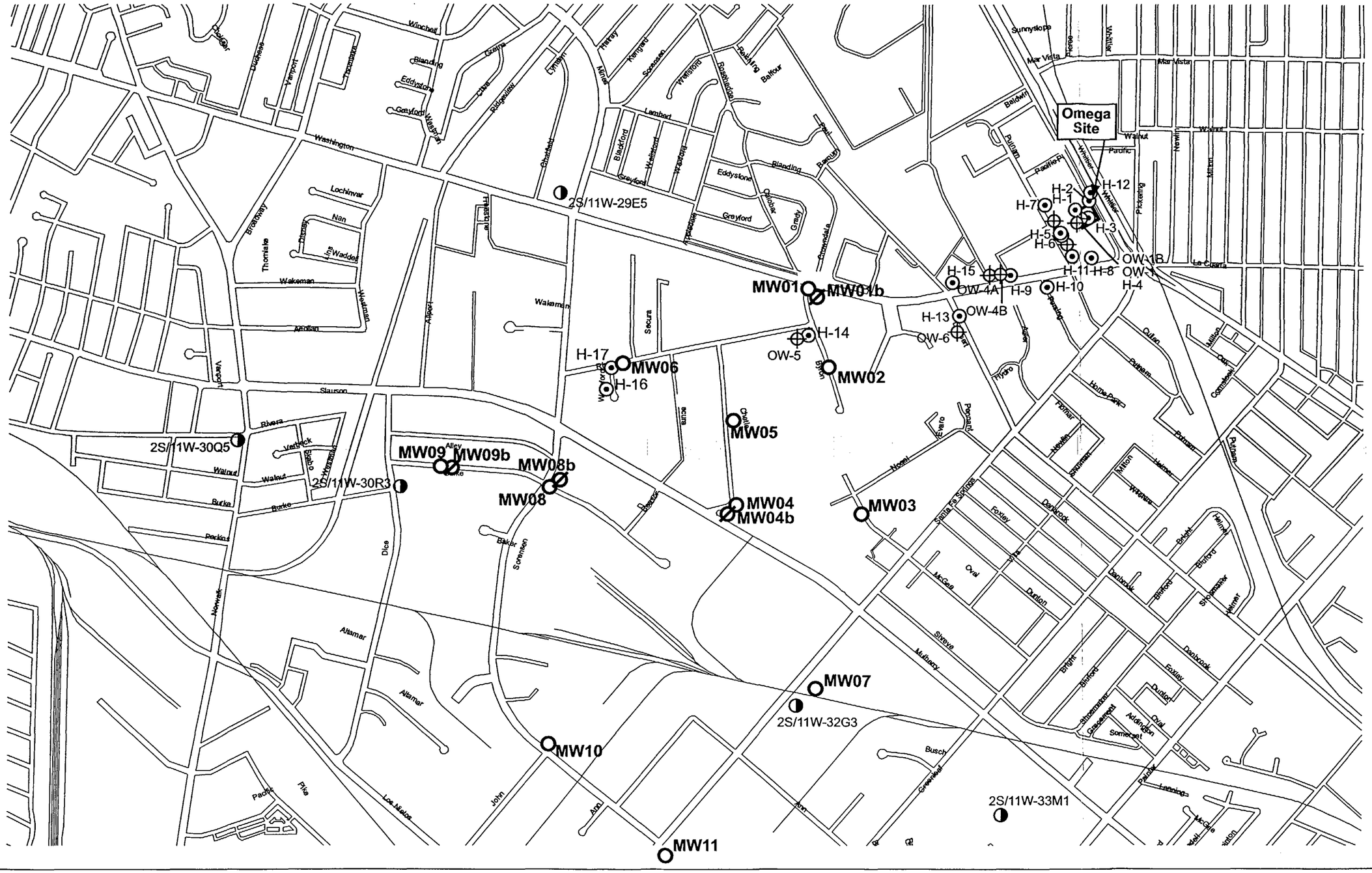
0 200 400
Scale in Feet

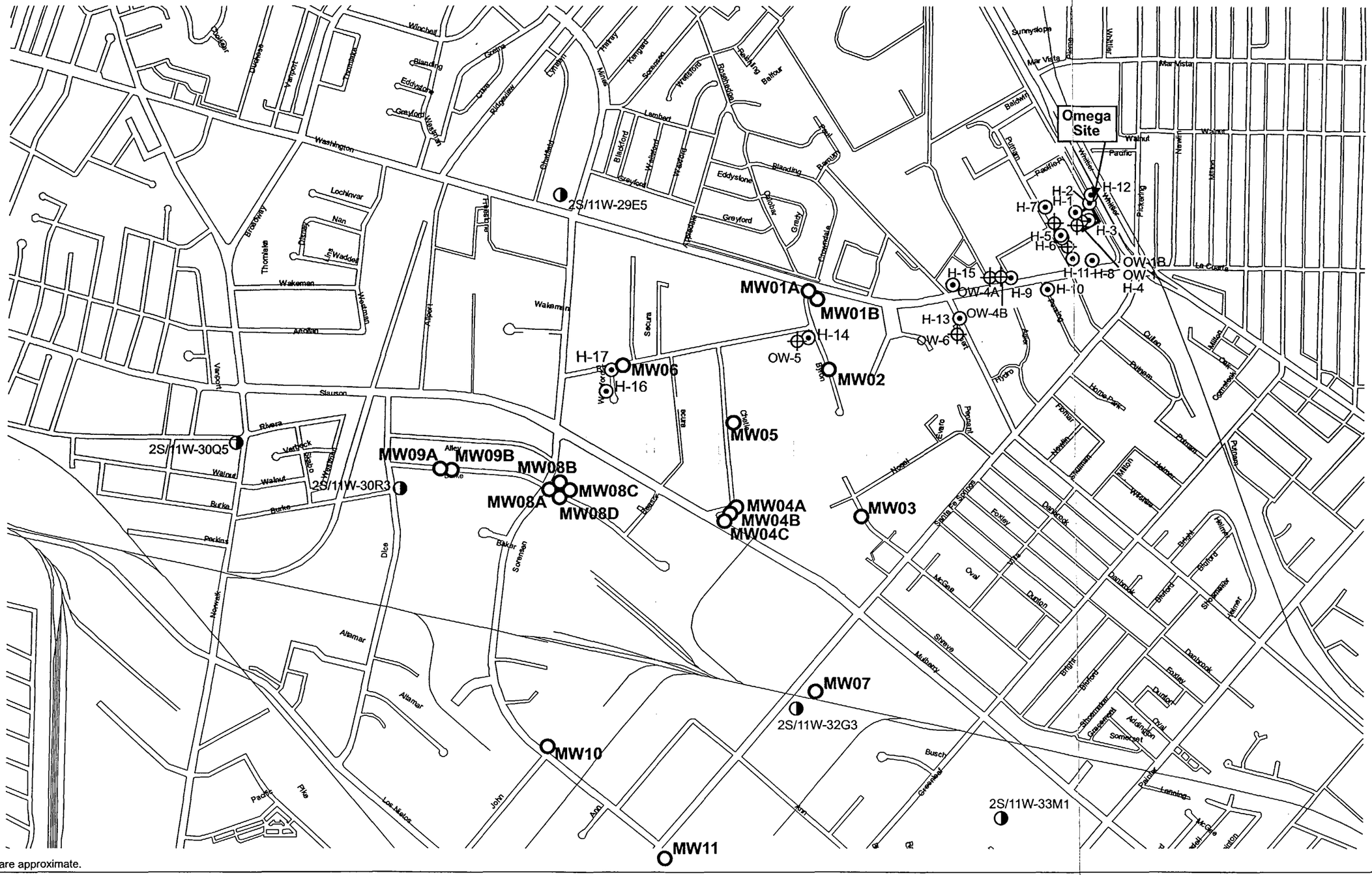
10 Freon 113 Isoconcentrations
CPT Location and Freon 113 Concentrations
Historical CPT Location and Freon 113 Concentration
Existing Monitoring Wells and Freon 113 Concentration
Omega Site

WESTON MANAGER DESIGNER /CONSULTANTS

Figure 22

02-0132 Fig22.ai


Omega Site
MW01
MW01b
MW02
MW03
MW04
MW04b
MW05
MW06
MW07
MW08
MW08b
MW09
MW09b
MW10
MW11
H-1
H-2
H-3
H-4
H-5
H-6
H-7
H-8
H-9
H-10
H-11
H-12
H-13
H-14
H-15
H-16
H-17
OW-1
OW-1B
OW-4A
OW-4B
OW-5
OW-6
2S/11W-29E5
2S/11W-30Q5
2S/11W-30R3
2S/11W-32G3
2S/11W-33M1
Washington
Wakeman
Slauson
Burke
Walnut
Pacific
Altamar
Mar Vista
Sunnyslope
Blanding
Eddystone
Greyford
Lambert
Foxley
Dunton
Oval
Streve
Mulbacy
Busch
Greenleaf
Somerset
Adrington
Bluford
Deabrook
Pickering
Newlin
Hilton
Pullman
Home Park
Cutler
Dice
Norwalk
Los Malos
John
Ann
Sorenson
Baker
Secura
Alpert
Vermont
Thomlake
Lochinvar
Nan
Wadden
Rivera
Vertrick
Bobo
Packing
Aerolian
Westmont
Ridgeway
Chadbourne
Lindley
Mines
Harvey
Kingard
Scanlon
Wrightwood
Rosebaden
Balfour
Paul
Pandun
Crownsdale
Grady
Colchester
Wrightwood
Wheelock
Grace
Ellis
Hoxel
Pennard
Santa Fe Springs
Pickering
Newlin
Hilton
Pullman
Home Park
Cutler
Dorothy
Comstock
Bright
Helmer
Showalter
Deabrook
Foxley
Dunton
Oval
Adrington
Somerset
Greenleaf
Labeing
McGee
Pacific
Walnut
Wilmer
Wilkie
Pickering
Newlin
Hilton
La Cuarta
Baldwin
Pacific
Plackie Pl
Pullman
Cutler
Hydro
Secura
Bjion
Pennard
Foxley
Dunton
Oval
Deabrook
Bluford
Bright
Helmer
Showalter
Somerset
Adrington
Labeing
McGee
Busch
Greenleaf
Mulbacy
Streve
Oval
Foxley
Dunton
Deabrook
Bluford
Bright
Helmer
Showalter
Somerset
Adrington
Labeing
McGee
Pacific
Walnut
Wilmer
Wilkie
Pickering
Newlin
Hilton
Pullman
Home Park
Cutler
Dorothy
Comstock
Bright
Helmer
Showalter
Deabrook
Foxley
Dunton
Oval
Adrington
Somerset
Greenleaf
Labeing
McGee
Pacific
Pike
Los Malos
John
Ann
Dice
Norwalk
Altamar
Altamar
Sorenson
Baker
Secura
Alpert
Vermont
Thomlake
Lochinvar
Nan
Wadden
Rivera
Vertrick
Bobo
Packing
Aerolian
Westmont
Ridgeway
Chadbourne
Lindley
Mines
Harvey
Kingard
Scanlon
Wrightwood
Rosebaden
Balfour
Paul
Pandun
Crownsdale
Grady
Colchester
Wrightwood
Wheelock
Grace
Ellis
Hoxel
Pennard
Santa Fe Springs
Pickering
Newlin
Hilton
Pullman
Home Park
Cutler
Dorothy
Comstock
Bright
Helmer
Showalter
Deabrook
Foxley
Dunton
Oval
Adrington
Somerset
Greenleaf
Labeing
McGee
Pacific
Walnut
Wilmer
Wilkie
Pickering
Newlin
Hilton
La Cuarta
Baldwin
Pacific
Plackie Pl
Pullman
Cutler
Hydro
Secura
Bjion
Pennard
Foxley
Dunton
Oval
Deabrook
Bluford
Bright
Helmer
Showalter
Somerset
Adrington
Labeing
McGee
Busch
Greenleaf
Mulbacy
Streve
Oval
Foxley
Dunton
Deabrook
Bluford
Bright
Helmer
Showalter
Somerset
Adrington



Note: Well Locations are approximate.

0 450 900
Scale in Feet

Existing Monitoring Wells and Number
Production Wells and Number
New Monitoring Wells and Number

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OU-02 Monitoring Well Locations
Omega Superfund Site

Figure
24

02-0132 Fig24.ai

TABLES

Table 1—Summary of Push-Probe Exploration Data

Boring ID	Date of Completion	Surface Elevation (ft MSL)	Boring Depth (ft bgs)	CPT Data	Water Sample	Water Sample Depth (ft bgs)	PID (ppm)	Water Level (ft bgs)
PP001	8/16/2001	214.6	86	CPT-1	Yes	84	—	—
PP002	8/15/2001	224.3	85	CPT-2	Yes	84	—	71
PP003	8/17/2001	217.2	94	No	Yes	94	—	92
PP004	8/22/2001	191.6	88	No	Yes	86	—	86
PP006	8/16/2001	181.2	81	CPT-6	Yes	72	0	62
PP007	8/15/2001	207.9	83	No	Yes	81	—	68
PP008	8/16/2001	210.3	72	No	Yes	70	—	60
PP009	8/18/2001	147.8	49	No	Yes	47	0	36
PP010	8/18/2001	147.0	47	CPT-10	Yes	45	0.8	28
PP011	8/16/2001	166.2	74	CPT-11	Yes	59	—	52
PP011	8/16/2001	166.2	74	CPT-11	Yes	72	—	52
PP012	8/16/2001	165.1	65	No	Yes	63	—	45
PP013	8/16/2001	176.9	58	CPT-13	Yes	56	0	45
PP014	8/21/2001	174.6	54	No	Yes	52	0.2	44
PP015	8/15/2001	188.1	88	CPT-15	Yes	84	0	61
PP016	8/16/2001	194.5	82	No	Yes	80	—	81
PP017	8/18/2001	160.1	63	CPT-17	Yes	56	0.2	40
PP018	8/20/2001	154.3	60	No	Yes	58	0.2	40
PP019	8/20/2001	148.1	60	No	Yes	58	0.8	48
PP020	8/17/2001	165.2	75	CPT-20	Yes	50	0	50
PP020	8/17/2001	165.2	75	CPT-20	Yes	73	0	50
PP021	8/17/2001	168.2	60	No	Yes	58	0.5	33
PP022	8/17/2001	168.3	68	CPT-22	Yes	58	0	30
PP023	8/17/2001	138.1	64	CPT-23	Yes	63	0.5	30
PP024	8/17/2001	150.5	60	No	Yes	58	1.2	28
PP025	8/17/2001	147.6	52	No	Yes	50	—	25
PP026	8/17/2001	171.0	43	No	Yes	41	—	24
PP029	8/21/2001	142.6	47	CPT-29	Yes	45	0.2	25
PP032	8/21/2001	144.3	64	No	Yes	62	0.5	40
PP033	8/20/2001	138.3	40	CPT-33	Yes	38	0.8	34
PP034	8/20/2001	137.3	36	CPT-34	Yes	33	0.8	28
PP035	8/21/2001	142.9	38	No	Yes	36	0.2	28
PP036	8/20/2001	149.9	54	No	Yes	52	4.5	28
PP037	8/20/2001	145.4	45	No	Yes	43	0.2	26
PP038	8/21/2001	146.8	75	CPT-38	Yes	73	0.2	64
PP039	8/20/2001	139.9	35	CPT-39	Yes	33	—	22
PP040	8/21/2001	148.9	64	CPT-40	Yes	62	0.5	46
PP041	8/18/2001	173.3	72	CPT-41	Yes	65	0.2	54
PP042	8/20/2001	193.9	63	CPT-42	No	—	—	53
PP043	8/22/2001	148.8	53	No	Yes	51	—	36
PP044	8/22/2001	145.5	53	No	Yes	51	0.5	24
PP045	8/21/2001	144.6	54	No	Yes	52	—	27
PP046	8/22/2001	114.1	52	CPT-46	Yes	47	1.1	26
PP047	8/22/2001	157.0	50	No	Yes	48	0.5	28
PP048	8/22/2001	226.8	101	No	Yes	99	0.5	98
PP049	8/23/2001	151.4	65	No	Yes	63	0.8	45
PP050	8/23/2001	146.5	75	No	Yes	72	—	36

Table 1—Summary of Push-Probe Exploration Data

Boring ID	Date of Completion	Surface Elevation (ft MSL)	Boring Depth (ft bgs)	CPT Data	Water Sample	Water Sample Depth (ft bgs)	PID (ppm)	Water Level (ft bgs)
PP051	8/23/2001	135.3	57	No	Yes	55	0.2	43
PP052	8/23/2001	137.6	74	CPT-52	Yes	55	—	27
PP053	8/23/2001	137.0	51	No	Yes	49	0	25
PP054	8/23/2001	148.5	64	No	Yes	54	0	46
PP055	8/23/2001	158.6	67	No	Yes	65	0	45
PP056	8/23/2001	167.2	60	No	Yes	58	0.2	—
PP057	9/4/2001	153.2	70	CPT-57	Yes	62	0	47
PP058	9/4/2001	154.7	66	No	Yes	64	0	55
PP059	9/4/2001	158.6	94	CPT-59	Yes	63	0	59
PP060	9/4/2001	145.7	67	No	Yes	65	2	32
PP061	9/4/2001	142.9	67	No	Yes	65	0	59
PP062	9/4/2001	144.6	40	No	Yes	38	0	24
PP063	10/29/2001	141.3	103	CPT-63	Yes	59	0	23
PP064	10/29/2001	153.3	63	No	Yes	61	0	52
PP065	10/29/2001	158.0	71	CPT-65	Yes	69	218	61
PP066	10/29/2001	159.5	67	CPT-66	Yes	65	0.4	50
PP067	10/30/2001	158.9	48	No	Yes	46	0	25
PP068	10/30/2001	151.0	60	No	Yes	58	0	47
PP069	10/30/2001	140.6	90	CPT-69	Yes	60	0	52
PP070a	10/30/2001	223.4	80	No	No	—	—	—
PP070b	10/30/2001	241.1	87	No	No	—	—	—
PP070c	10/30/2001	234.0	107	CPT-70	Yes	93	0	84
PP071	10/30/2001	210.5	86	No	Yes	84	0	69
PP072	10/30/2001	208.7	90	No	Yes	88	0	73
PP073	10/31/2001	188.9	92	No	Yes	87	0	55
PP074	10/31/2001	152.1	87	CPT-74	Yes	60	0	60
PP075	10/31/2001	155.0	50	No	Yes	48	0	37
PP076a	10/31/2001	144.6	38	No	No	—	—	—
PP076b	10/31/2001	152.9	40	No	No	—	—	—
PP076	11/1/2001	161.7	59	No	Yes	56	0	32
PP077	11/1/2001	152.6	65	No	Yes	60	0	32
PP078	11/1/2001	195.8	83	No	Yes	81	0	75
PP079	11/1/2001	217.1	90	No	Yes	88	0	84
PP080	11/1/2001	199.7	81	No	Yes	71	0	—
PP081	11/1/2001	192.5	82	CPT-81	Yes	71	0	68
PP082	11/1/2001	222.9	90	No	Yes	80	0	90
PP083	11/2/2001	193.7	90	No	Yes	82	0	67
PP084	11/2/2001	132.9	55	No	Yes	47	0	26
PP085	11/2/2001	144.9	44	No	Yes	38	0	21

Notes:
A: Value is less than quantitation limit.
J: The amount detected is an estimated value.
U: This compound was analyzed for, but not detected.

Table 2—Summary of Groundwater Analytical Data—PCE, TCE, 1,1-DCE, cis-DCE, Freon 11, Freon 113

Boring Number	Sample ID	Sample Date	Sample Depth (ft bgs)	PCE Tetrachloroethene (µg/L)	TCE Trichloroethene (µg/L)	1,1-DCE 1,1-Dichloroethene (µg/L)	cis-DCE cis-1,2-Dichloroethene (µg/L)	Freon 11 Trichlorofluoromethane (µg/L)	Freon 113 Chlorofluorocarbon-113 (µg/L)
PP001	GW301-PP001-0084	8/16/2001	84	60	600	50	50 U	50 U	50 U
PP002	GW301-PP002-0084	8/15/2001	84	420	1 JA	5 U	5 U	32	120
PP003	GW301-PP003-0094	8/17/2001	94	10 U	6 JA	10 U	10 U	10	70
PP004	GW301-PP004-0086	8/22/2001	86	150	70	100	25 U	70	210
PP006	GW301-PP006-0070	8/16/2001	70	1100	70 JA	100 U	100 U	100 U	100 U
PP007	GW301-PP007-0081	8/15/2001	81	10	1 U	1 U	1 U	25	22
PP008	GW301-PP008-0070	8/16/2001	70	400	600	500	17	400	1500
PP009	GW301-PP009-0047	8/18/2001	47	11	12	1 U	1 U	0.5 JA	1 U
PP010	GW301-PP010-0045	8/18/2001	45	1 U	1	1 U	1 U	1 U	1 U
PP011	GW301-PP011-0059	8/16/2001	59	8	23	2	1 U	1 U	1 U
PP011	GW301-PP011-0072	8/16/2001	72	40	370	40	25 U	25 U	25 U
PP012	GW301-PP012-0063	8/16/2001	63	140	1300	70	230	70	220
PP013	GW301-PP013-0056	8/16/2001	56	6 UJA	10 U	20	10U	180	160
PP014	GW301-PP014-0052	8/21/2001	52	6	2 U	7	2 U	11	28
PP015	GW301-PP015-0084	8/15/2001	84	2	1 U	0.9 JA	1 U	140	160
PP016	GW301-PP016-0080	8/16/2001	80	1 U	1 U	1 U	1 U	4	5
PP017	GW301-PP017-0056	8/18/2001	56	700	1300	400	200	300	1000
PP018	GW301-PP018-0058	8/20/2001	58	23	1 U	0.8 JA	1 U	1	3
PP019	GW301-PP019-0058	8/20/2001	58	60	14	60	1 U	40	110
PP020	GW301-PP020-0050	8/17/2001	50	260	720	150	50 U	120	360
PP020	GW301-PP020-0073	8/17/2001	73	160	410	60	25 U	100	250
PP021	GW301-PP021-0058	8/17/2001	58	170	800	90	10 JA	80	250
PP022	GW301-PP022-0058	8/17/2001	58	40	210	10	10 U	7 JA	40
PP023	GW301-PP023-0063	8/17/2001	63	1000	200	900	100 U	500	1200
PP024	GW301-PP024-0058	8/17/2001	58	4500	1100	2300	250 U	800	2300
PP025	GW301-PP025-0050	8/17/2001	50	17	98	5 JA	5 U	5 U	5
PP026	GW301-PP026-0041	8/17/2001	41	500	950	300	40J	160	560
PP029	GW301-PP029-0045	8/21/2001	45	1	1 U	1 U	1 U	1 U	1 U
PP032	GW301-PP032-0062	8/21/2001	62	140	60	6 JA	6 JA	10 U	7 JA
PP033	AW301-PP033-0038	8/20/2001	38	400	70	12	13	1U	1U
PP034	GW301-PP034-0033	8/20/2001	33	42	80	13	5 U	24	76
PP035	GW301-PP035-0036	8/21/2001	36	50	180	30	25U	20 JA	50
PP036	GW301-PP036-0052	8/20/2001	52	160	460	90	20 JA	60	240
PP037	GW301-PP037-0043	8/20/2001	43	4	0.6 JA	1 U	1 U	1 U	1 U
PP038	GW301-PP038-0073	8/21/2001	73	1	1	0.6 JA	1 U	1 U	0.5 JA
PP039	GW301-PP039-0033	8/20/2001	33	16	1	2	1 U	1 U	1 U
PP040	GW301-PP040-0062	8/21/2001	62	1 U	2	1 U	1 U	1 U	1 U

Table 2—Summary of Groundwater Analytical Data—PCE, TCE, 1,1-DCE, cis-DCE, Freon 11, Freon 113

Boring Number	Sample ID	Sample Date	Sample Depth (ft bgs)	PCE Tetrachloroethene (µg/L)	TCE Trichloroethene (µg/L)	1,1-DCE 1,1-Dichloroethene (µg/L)	cis-DCE cis-1,2-Dichloroethene (µg/L)	Freon 11 Trichlorofluoromethane (µg/L)	Freon 113 Chlorofluorocarbon-113 (µg/L)
PP041	GW301-PP041-0065	8/18/2001	65	1	3	1 U	1 U	1 U	1 U
PP043	GW301-PP043-0051	8/22/2001	51	1500	800	1300	100 U	400	1100
PP044	GW301-PP044-0051	8/22/2001	51	66	14	5 U	44	5 U	5 U
PP045	GW301-PP045-0052	8/21/2001	52	4	10	1 U	1 U	1 U	1 U
PP046	GW301-PP046-0047	8/22/2001	47	2	2	1 U	1 U	1 U	2
PP047	GW301-PP047-0048	8/22/2001	48	1	1	1U	1U	1U	0.7JA
PP048	GW301-PP048-0099	8/22/2001	99	100 U	960	100 U	100 U	100 U	100 U
PP049	GW301-PP049-0065	8/23/2001	65	30 JA	190	50 U	50 U	50 U	50 U
PP050	GW301-PP050-0072	8/23/2001	72	290	90	50 U	50 U	50 U	50 U
PP051	GW301-PP051-0055	8/23/2001	55	1	1 U	1 U	1 U	1 U	1 U
PP052	GW301-PP052-0055	8/23/2001	55	5	7	0.5 JA	1 U	1 U	0.8 JA
PP053	GW301-PP053-0049	8/23/2001	49	22	0.5 JA	1 U	1 U	2	6
PP054	GW301-PP054-0062	8/23/2001	62	2	24	1 U	1 U	1 U	1 U
PP055	GW301-PP055-0065	8/23/2001	65	120	62	5U	5 U	5 U	3 JA
PP056	GW301-PP056-0058	8/23/2001	58	58	72	8	5 U	6	7
PP057	GW301-PP057-0062	9/4/2001	62	110	40	8	10	0.7JA	2
PP058	GW301-PP058-0064	9/4/2001	64	3300	780	2900	1400	61	61
PP059	GW301-PP059-0063	9/4/2001	63	80	48	10	18	13	16
PP060	GW301-PP060-0065	9/4/2001	65	150	190	42	6	110	210
PP061	GW301-PP061-0065	9/4/2001	65	46	18	4	3	2	4
PP062	GW301-PP062-0038	9/4/2001	38	250	25	13	1	0.5 JA	2
PP063	GW401-PP063-0059	10/29/2001	59	5.9	1.7	1 U	1 U	1 U	0.97 J
PP064	GW401-PP064-0061	10/29/2001	61	45	32	4.6	3	7.9	13
PP065	GW401-PP065-0069	10/29/2001	69	86	70 J	630	44	10 U	10 U
PP066	GW401-PP066-0065	10/29/2001	65	850	540	1300	550	19	17
PP067	GW401-PP067-0046	10/30/2001	46	540	8.8	12	1 U	5 U	5 U
PP068	GW401-PP068-0058	10/30/2001	58	45	46	13	1 U	3.1 J	5.9
PP069	GW401-PP069-0060	10/30/2001	60	200	110	380	340	11	21
PP070	GW401-PP070-0093	10/30/2001	93	0.28 J	29	1.8	5 U	1 U	1 U
PP071	GW401-PP071-0084	10/30/2001	84	6.1	35	5.4	5 U	6.7	52
PP072	GW401-PP072-0088	10/30/2001	88	400	78	7.2	0.54 J	65	240
PP073	GW401-PP073-0087	10/31/2001	87	420	250	740	50 U	600	2200
PP074	GW401-PP074-0072	10/31/2001	72	35	46	37	19	4.9	11
PP075	GW401-PP075-0048	10/31/2001	48	5.5	2	0.4 J	1 U	1 U	1 U
PP076	GW401-PP076-0056	11/1/2001	56	32	11	1 U	.84 J	1 U	1.2
PP077	GW401-PP077-0060	11/1/2001	60	34	16	.21 J	.88 J	.48 J	2.6
PP078	GW401-PP078-0081	11/1/2001	81	2300	240	120	1.6	310	1000

Table 2—Summary of Groundwater Analytical Data—PCE, TCE, 1,1-DCE, cis-DCE, Freon 11, Freon 113

Boring Number	Sample ID	Sample Date	Sample Depth (ft bgs)	PCE Tetrachloroethene (µg/L)	TCE Trichloroethene (µg/L)	1,1-DCE 1,1-Dichloroethene (µg/L)	cis-DCE cis-1,2-Dichloroethene (µg/L)	Freon 11 Trichlorofluoromethane (µg/L)	Freon 113 Chlorofluorocarbon-113 (µg/L)
PP079	GW401-PP079-0088	11/1/2001	88	8.8	240	4.3	1 U	.66 J	2.9
PP080	GW401-PP080-0071	11/1/2001	71	5.1	1 U	1 U	1 U	1 U	1 U
PP081	GW401-PP081-0071	11/1/2001	71	22	1 U	1 U	1 U	1 U	1 U
PP082	GW401-PP082-0080	11/1/2001	80	2.8	1U	1 U	1 U	1 U	1 U
PP083	GW401-PP083-0082	11/2/2001	82	460	310	800	.28 J	390	1300
PP084	GW401-PP084-0047	11/2/2001	47	320	250	280	5.7	240	550
PP085	GW401-PP085-0038	11/2/2001	38	53	17	1 U	1.2	1 U	6.1

Notes:
A: Value is less than quantitation limit.
J: The amount detected is an estimated value.
U: This compound was analyzed for, but not detected.

Table 3—Statistical Summary of Detected Groundwater Analytical Data

	Mean (µg/L)	Median (µg/L)	Std (µg/L)	GeoMean (µg/L)	Minimun Detected Conc. (µg/L)	Maximun Detected Conc. (µg/L)	Number Detections	Number Samples	% Detected
Freon 11	117.6	28.5	181.2	25.1	0.48	800	46	81	56.8
Freon 113	287.0	40	534.3	36.2	0.5	2300	55	80	68.8
TCE	219.7	66	331.5	47.0	0.5	1300	70	81	86.4
PCE	296.2	48	708.2	45.5	0.28	4500	76	81	93.8
cis-DCE	110.6	10	287.5	11.6	0.28	1400	27	81	33.3
trans-DCE	3.8	1.4	5.7	1.7	0.3	15	6	78	7.7
1,1-DCE	261.1	20	566.2	27.7	0.21	2900	53	81	65.4
1,1-DCA	57.6	5.8	88.1	9.5	0.5	240	10	78	12.8
1,2-DCA	30.6	0.5	49.1	2.6	0.22	110	11	78	14.1
1,1,1-TCA	125.5	125.5	--	15.0	0.9	250	2	58	3.4
CTC	0.6	0.6	--	0.5	0.26	0.99	2	78	2.6
MC	0.8	0.8	--	0.8	0.8	0.8	1	58	1.7
VC	5.2	5.2	--	5.2	5.2	5.2	1	78	1.3
Acetone	42.6	16.8	58.9	20.5	6.9	130	4	20	20.0
Chloroform	55.8	1.4	205.5	3.0	0.26	1100	30	78	38.5
1,2-DCP	21.0	21	--	21.0	21	21	1	37	2.7
1,2,4-TMB	17.0	17	--	17.0	17	17	1	20	5.0
1,3,5-TMB	3.4	3.4	--	3.4	3.4	3.4	1	20	5.0
n-BB	5.2	5.2	--	5.2	5.2	5.2	1	20	5.0
sec-BB	4.2	4.2	--	4.2	4.2	4.2	1	20	5.0
CB	0.7	0.7	--	0.7	0.7	0.7	1	78	1.3
BFB	116.3	116.5	4.8	116.2	102	124	20	20	100
Benzene	0.5	0.4	0.3	0.4	0.24	0.75	3	78	3.8
Toluene	1.5	1	1.4	0.9	0.28	4.2	10	78	12.8

Notes:
Freon 21: Dichloroflouromethane
Freon 11: Trichlorofluoromethane
Freon 113: Trichlorotrifluoroethane
TCE: Trichloroethene
cis-DCE: cis-1,2-Dichloroethene
trans-DCE: trans-1,2-Dichloroethene
1,1-DCE: 1,1-Dichloroethene
1,1-DCA: 1,1-Dichloroethane
1,2-DCA: 1,2-Dichloroethane
1,1,1-TCA: 1,1,1-Trichloroethane
1,1,2-TCA: 1,1,2 Trichlorethane
1,2-DCP: 1,2-Dichloropropane
2,2-DCP: 2,2 Dichloropropane
1,2,4-TMB: 1,2,4-Trimethylbenzene
1,3,5-TMB: 1,3,5-Trimethylbenzene
n-BB: n-Butylbenzene
sec-BB: sec-Butylbenzene
CB: Chlorobenzene
BFB: Bromoflorobenzene
CTC: Carbon tetrachloride
MC: Methylene chloride
VC: Vinyl chloride

Table 4—Summary of GPS Survey Data
Ground Surface Coordinates

Boring ID	CA State Plane, NAD 83, Zone 6-0406		UTM Coordinates, NAD-83, Zone 11		Surface Elevation (ft) (NGVD-83)
	Easting (feet)	Northing (feet)	X-COORD	Y-COORD	
PP001	6017004.375	2301813.733	403329.424	3759485.806	214.6
PP002	6017258.040	2301503.281	403407.380	3759391.753	224.3
PP003	6017554.960	2301633.738	403497.573	3759432.139	217.2
PP004	6017248.180	2300852.455	403405.769	3759193.425	191.6
PP006	6016512.297	2301195.488	403180.810	3759296.372	181.2
PP007	6018044.686	2300884.116	403648.398	3759204.777	207.9
PP008	6016797.094	2300943.243	403268.128	3759220.122	210.3
PP009	6014967.904	2300661.035	402711.374	3759130.218	147.8
PP010	6014034.820	2300862.879	402426.630	3759189.724	147.0
PP011	6015856.574	2300784.337	402981.890	3759169.691	166.2
PP011	6015856.574	2300784.337	403070.781	3759112.049	166.2
PP012	6016146.963	2300593.123	403379.621	3758984.768	165.1
PP013	6017157.558	2300168.302	403323.471	3758805.406	176.9
PP014	6016969.156	2299580.978	403512.789	3758954.458	174.6
PP015	6017593.883	2300065.762	403574.938	3759016.420	188.1
PP016	6017799.269	2300267.672	402941.721	3759010.319	194.5
PP017	6015721.078	2300262.247	403141.666	3758680.330	160.1
PP018	6016369.637	2299174.704	402855.889	3758416.341	154.3
PP019	6015425.707	2298314.951	402540.615	3758464.726	148.1
PP020	6014392.178	2298481.006	402520.592	3758579.352	165.2
PP020	6014392.178	2298481.006	402509.951	3758808.909	165.2
PP021	6014329.112	2298857.636	402849.852	3758705.444	168.2
PP022	6014299.482	2299611.225	402807.365	3758871.933	168.3
PP023	6015412.560	2299263.847	402364.826	3758743.960	138.1
PP024	6015276.967	2299811.198	402386.785	3758583.003	150.5
PP025	6013821.722	2299401.425	402007.831	3758921.588	147.6
PP026	6013890.077	2298872.704	401846.969	3758317.739	171.0
PP029	6012654.257	2299992.579	402028.395	3758454.995	142.6
PP032	6012112.436	2298014.624	402199.054	3758347.748	144.3
PP033	6012710.988	2298460.877	402334.283	3758245.110	138.3
PP034	6013268.573	2298104.989	402298.408	3758403.613	137.3
PP035	6013709.989	2297765.041	401818.825	3758506.681	142.9
PP036	6013595.911	2298286.033	401567.314	3758534.458	149.9
PP037	6012024.429	2298635.328	401768.582	3758607.756	145.4
PP038	6011199.679	2298732.280	401534.226	3758421.156	146.8
PP039	6011861.875	2298968.184	402926.194	3759326.394	139.9
PP040	6011088.485	2298361.217	403128.855	3759417.631	148.9
PP041	6015677.405	2301299.881	402514.428	3758672.195	173.3
PP042	6016344.590	2301594.623	402062.991	3758809.474	193.9
PP043	6014311.023	2299162.464	402414.259	3758877.219	148.8
PP044	6012832.694	2299623.382	402239.673	3758967.382	145.5
PP045	6013987.020	2299837.607	402240.283	3759061.847	144.6
PP046	6013416.153	2300137.521	403398.962	3759655.078	114.1
PP047	6013420.334	2300447.516	402759.339	3759023.772	157.0
PP048	6017236.482	2302367.639	401848.508	3758024.584	226.8
PP049	6015122.857	2300310.601	402999.328	3758319.073	151.4
PP050	6012110.727	2297052.534	401853.831	3758226.953	146.5
PP051	6015894.192	2297992.436	402878.513	3758143.463	135.3

Table 4—Summary of GPS Survey Data
Ground Surface Coordinates

Boring ID	CA State Plane, NAD 83, Zone 6-0406		UTM Coordinates, NAD-83, Zone 11		Surface Elevation (ft) (NGVD-83)
	Easting (feet)	Northing (feet)	X-COORD	Y-COORD	
PP052	6012132.862	2297716.529	401561.109	3758339.717	137.6
PP053	6015493.660	2297418.918	401543.409	3758219.296	137.0
PP054	6011174.828	2298093.338	401499.108	3758004.550	148.5
PP055	6011113.967	2297698.558	401635.928	3758407.661	158.6
PP056	6010963.633	2296994.842	401397.642	3757678.407	167.2
PP057	6011421.931	2296139.309	401545.962	3757515.252	153.2
PP058	6010623.133	2295926.873	401966.945	3757717.126	154.7
PP059	6011106.117	2295388.026	401863.150	3757861.657	158.6
PP060	6012492.316	2296040.815	402123.318	3758411.084	145.7
PP061	6012155.022	2296517.517			142.9
PP062	6013021.486	2298314.586			145
	CA State Plane, NAD 83, Zone 5-0405		UTM Coordinates, NAD-83, Zone 11		SurfaceElevation (ft) (NGVD-83)
	Easting (feet)	Northing (feet)	X-COORD	Y-COORD	
PPO-063	6544565.965	1806252.594	402391.995	3757742.879	141.3
PPO-064	6542922.736	1805544.867	401889.212	3757532.114	153.3
PPO-065	6540546.752	1805633.754	401165.525	3757566.246	158.0
PPO-066	6540970.055	1805230.588	401293.307	3757442.148	159.5
PPO-067	6543968.046	1809812.627	402220.376	3758829.378	158.9
PPO-068	6541077.120	1806991.342	401331.153	3757978.324	151.0
PPO-069	6541506.392	1806515.048	401460.537	3757831.925	140.6
PPO-070	6547742.151	1812274.558	403377.637	3759568.313	223.4
PPO-070A	6548153.265	1812742.074	403504.289	3759709.542	241.1
PPO-070B	6547490.699	1813109.801	403303.501	3759823.554	234.0
PPO-071	6547746.868	1811765.270	403377.562	3759413.122	210.5
PPO-072	6547926.742	1811465.428	403431.478	3759321.227	208.7
PPO-073	6547878.366	1810815.655	403414.809	3759123.388	188.9
PPO-074	6540964.012	1806253.859	401294.501	3757753.951	152.1
PPO-075	6544286.752	1810138.487	402318.452	3758927.720	155.0
PPO-076	6544990.361	1806143.008	402520.981	3757708.230	144.6
PPO-076A	6540074.306	1807670.230	401027.614	3758188.153	152.9
PPO-076B	6539899.147	1806482.397	400970.720	3757826.745	161.7
PPO-077	6543741.678	1805676.646	402139.130	3757569.837	152.6
PPO-078	6547515.560	1811255.271	403305.569	3759258.414	195.8
PPO-079	6547498.895	1811538.223	403301.332	3759344.678	217.1
PPO-080	6546972.391	1811806.669	403141.706	3759428.035	199.7
PPO-081	6547017.951	1811625.880	403155.051	3759372.814	192.5
PPO-082	6547127.186	1812016.644	403189.494	3759491.554	222.9
PPO-083	6547625.031	1811158.190	403338.636	3759228.509	193.7
PPO-084	6545564.656	1807963.067	402701.366	3758261.088	132.9
PPO-085	6545846.040	1806738.881	402783.470	3757887.250	144.9

Notes:
CA State Plane, NAD 83, Zone 6—0406, U.S. survey feet.
CA State Plane, NAD 83, Zone 5—0405, U.S. survey feet.
UTM Coordinates, NAD 83, Zone 11, meters.

APPENDIX A

CPT BORING LOGS

APPENDIX

PRESENTATION OF CONE PENETRATION TEST DATA

OMEGA

WHITTIER, CALIFORNIA

Prepared for:

R.F. WESTON
Sherman Oaks, California

Prepared by:

GREGG IN SITU, INC.
Signal Hill, California
01-225sh

Prepared on:

September 5, 2001

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- Computer Diskette with ASCII Files

PRESENTATION OF CONE PENETRATION TEST DATA

1.0 INTRODUCTION

This report presents the results of a Cone Penetration Testing (CPT) and in situ groundwater sampling program carried out at the Omega site located in Whittier, CA. The work was performed on August 15th, 16th, 17th, 20th, through 22nd, and September 4th, 2001. The scope of work was performed as directed by R.F. Weston personnel.

2.0 FIELD EQUIPMENT & PROCEDURES

The Cone Penetration Tests (CPT) were carried out by GREGG IN SITU, INC. of Signal Hill, CA using an integrated electronic cone system. The CPT soundings were performed in accordance with ASTM standards (D 5778-95). A 20 ton capacity cone was used for all of the soundings (figure 1). This cone has a tip area of 15 sq.cm. and friction sleeve area of 225 sq.cm. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85.

The cones used during the program recorded the following parameters at 5 cm depth intervals:

- Tip Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (U)

The above parameters were printed simultaneously on a printer and stored on a computer diskette for future analysis and reference.

The pore water pressure element was located directly behind the cone tip. The pore water pressure element was 5.0 mm thick and consisted of porous plastic. Each of the elements were saturated in silicon oil under vacuum pressure prior to penetration. Pore pressure dissipations were recorded at 5 second intervals when appropriate during pauses in the penetration.

A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

The cones were pushed using GREGG IN SITU's CPT rig, having a down pressure capacity of approximately 25 tons. 23 CPT soundings were performed. The penetration tests were carried to depths of approximately 34 to 93 feet below ground surface. Test locations were determined in the field by R. F. Weston personnel.

In situ groundwater samples (GWS) were taken at 58 Locations. Groundwater samples were collected using a Hydropunch® type groundwater sampling system (figure 2). The groundwater sampler operates by pushing 1.75 inch diameter hollow rods with a retrievable or disposable tip. A stainless steel or PVC filter screen is attached to the tip. At the desired sampling depth, the rods are retracted exposing the filter screen and allowing for groundwater infiltration. A small diameter bailer is then used to collect groundwater samples through the hollow rod.

The CPT/GWS holes were grouted using our support rig. The grouting procedure consists of pushing a hollow CPT rod with a "knock out" plug back down the hole to the test hole termination depth. Grout is then pumped under pressure as the tremie pipe is pulled from the hole.

3.0 CONE PENETRATION TEST DATA & INTERPRETATION

The cone penetration test data is presented in graphical form. Penetration depths are referenced to existing ground surface. This data includes CPT logs of measured soil parameters and a computer tabulation of interpreted soil types along with additional geotechnical parameters and pore pressure dissipation data.

The stratigraphic interpretation is based on relationships between cone bearing (qc), sleeve friction (fs), and penetration pore pressure (U). The friction ratio (Rf), which is sleeve friction divided by cone bearing, is a calculated parameter which is used to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone bearing and generate large excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little in the way of excess pore water pressures.

Pore Pressure Dissipation Tests (PPDT's) were taken at various intervals in order to measure hydrostatic water pressures and approximate depth to groundwater table. In addition, the PPDT data can be used to estimate the horizontal permeability (k_h) of the soil. The correlation to permeability is based on the time required for 50 percent of the measured dynamic pore pressure to dissipate (t_{50}). The PPDT correlation figure (figure 3) is provided in the Appendix.

The interpretation of soils encountered on this project was carried out using recent correlations developed by Robertson et al, 1988. It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and U.

In these situations, experience and judgement and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type. The soil classification chart (figure 3) used to interpret soil types based on qc and Rf is provided in the Appendix.

We hope the information presented is sufficient for your purposes. We recommend that all data be carefully reviewed by qualified personnel to verify the data and make appropriate recommendations. If you have any questions, please do not hesitate to contact our office at (562) 427-6899.

Sincerely,
GREGG IN SITU, INC.

Brian Savela
Operations Manager

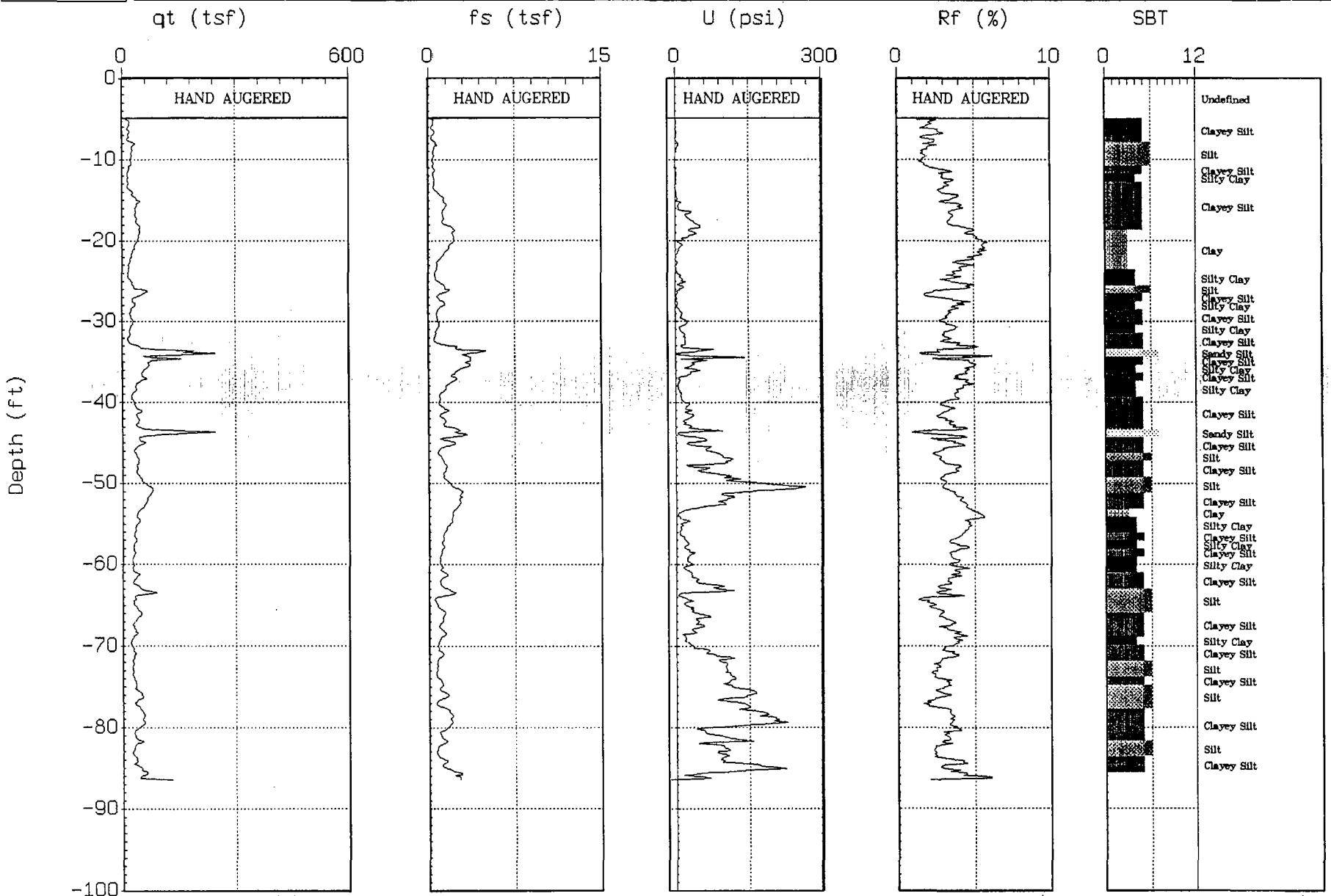
3.1 CPT PLOTS

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-1

Geologist : B. CLARK
Date : 08:16:01 13:24



Max. Depth: 86.45 (ft)

Depth Inc.: 0.164 (ft)

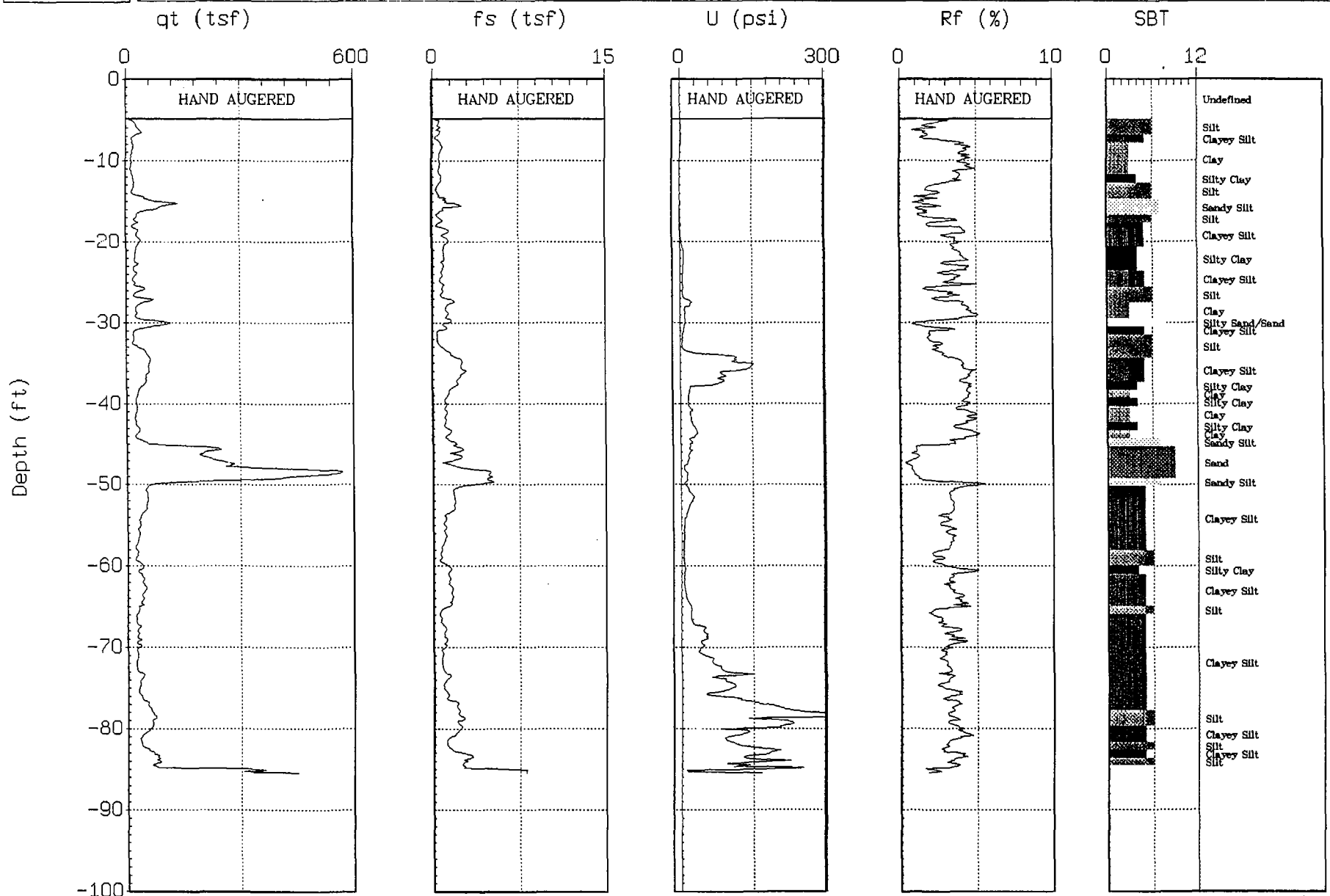
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-2

Geologist : B. CLARK
Date : 08:15:01 23:33



Max. Depth: 85.46 (ft)

Depth Inc.: 0.164 (ft)

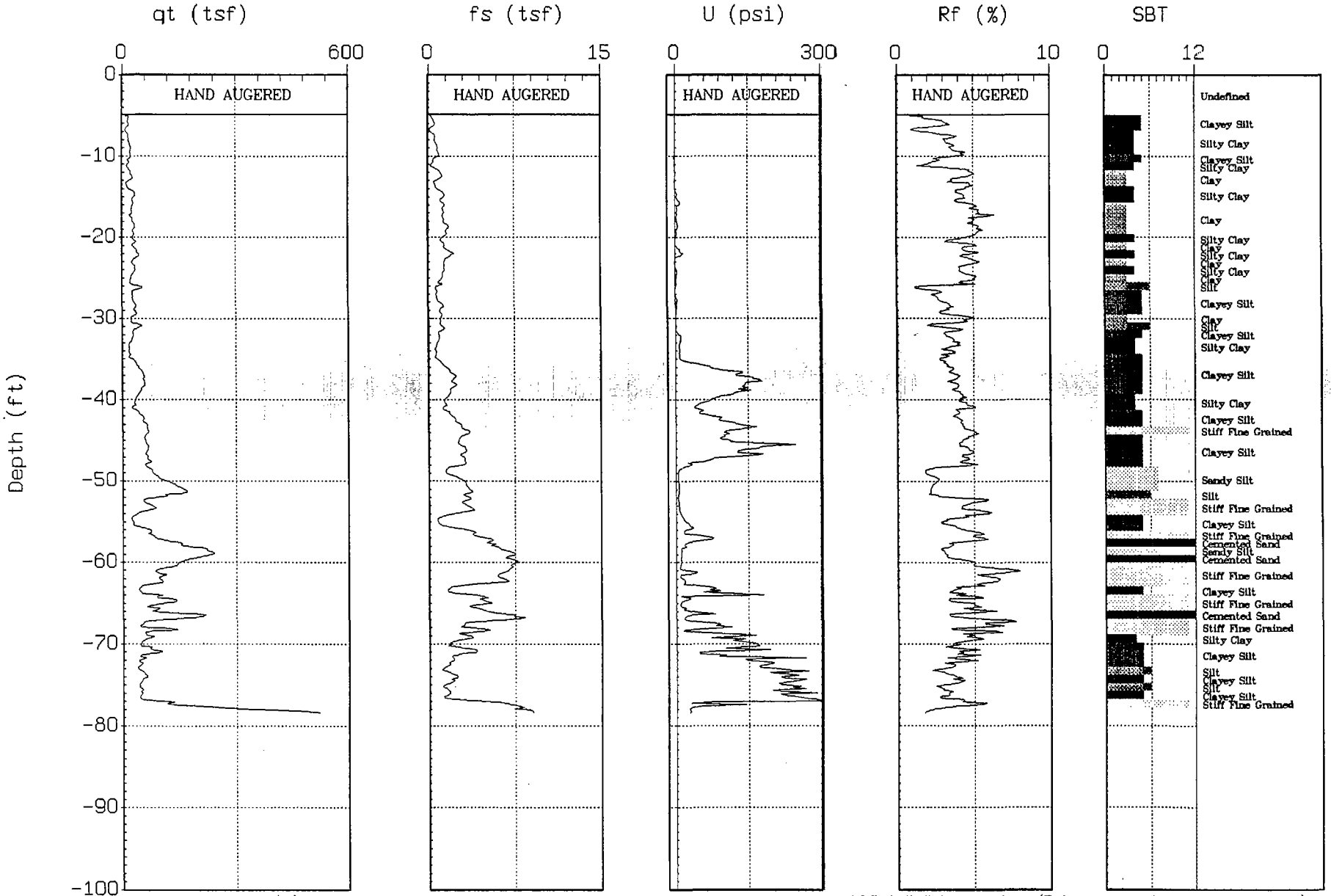
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-6

Geologist : B. CLARK
Date : 08:16:01 22:13



Max. Depth: 78.41 (ft)

Depth Inc.: 0.164 (ft)

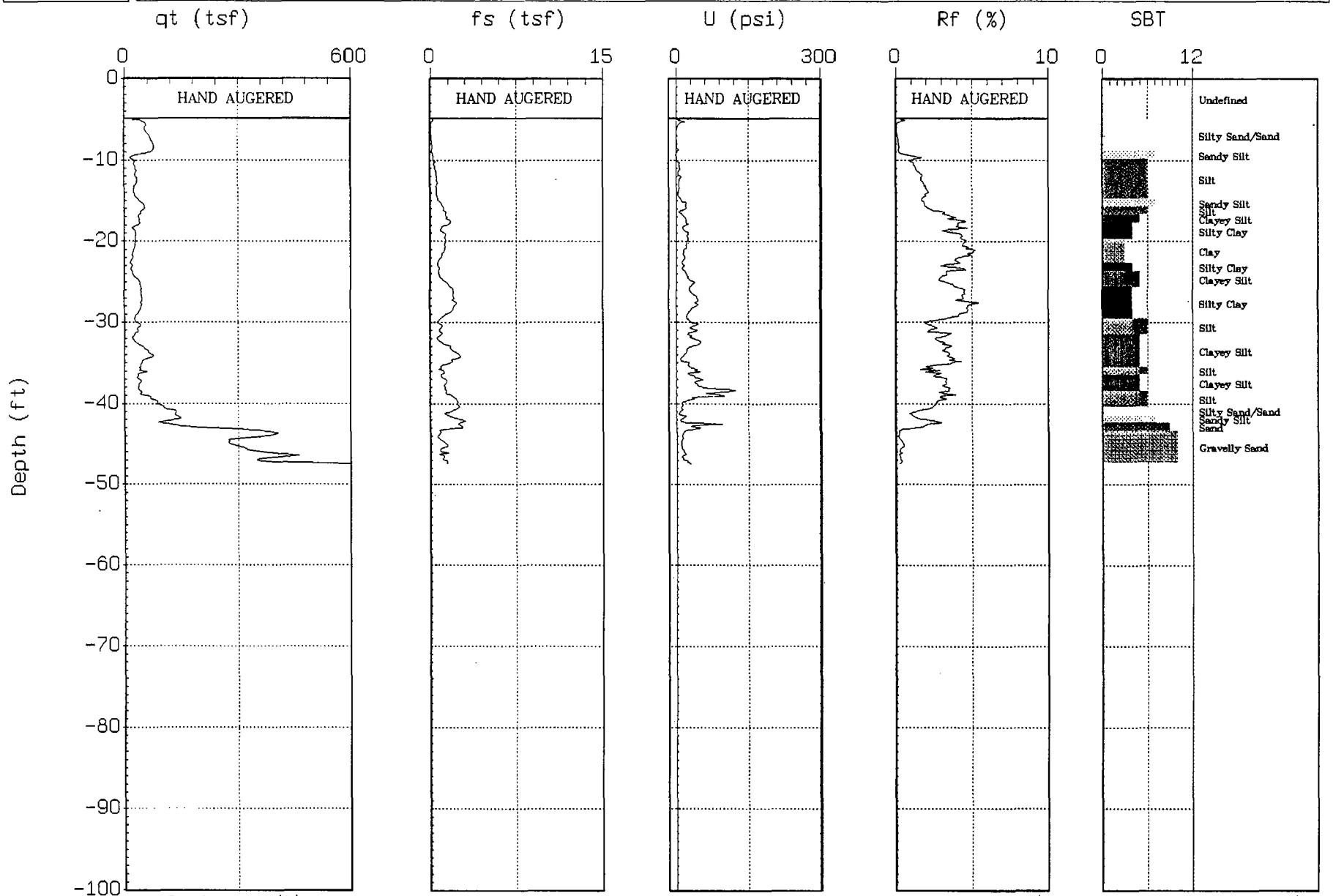
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-10

Geologist : B. CLARK
Date : 08:18:01 11:30



Max. Depth: 47.41 (ft)

Depth Inc.: 0.164 (ft)

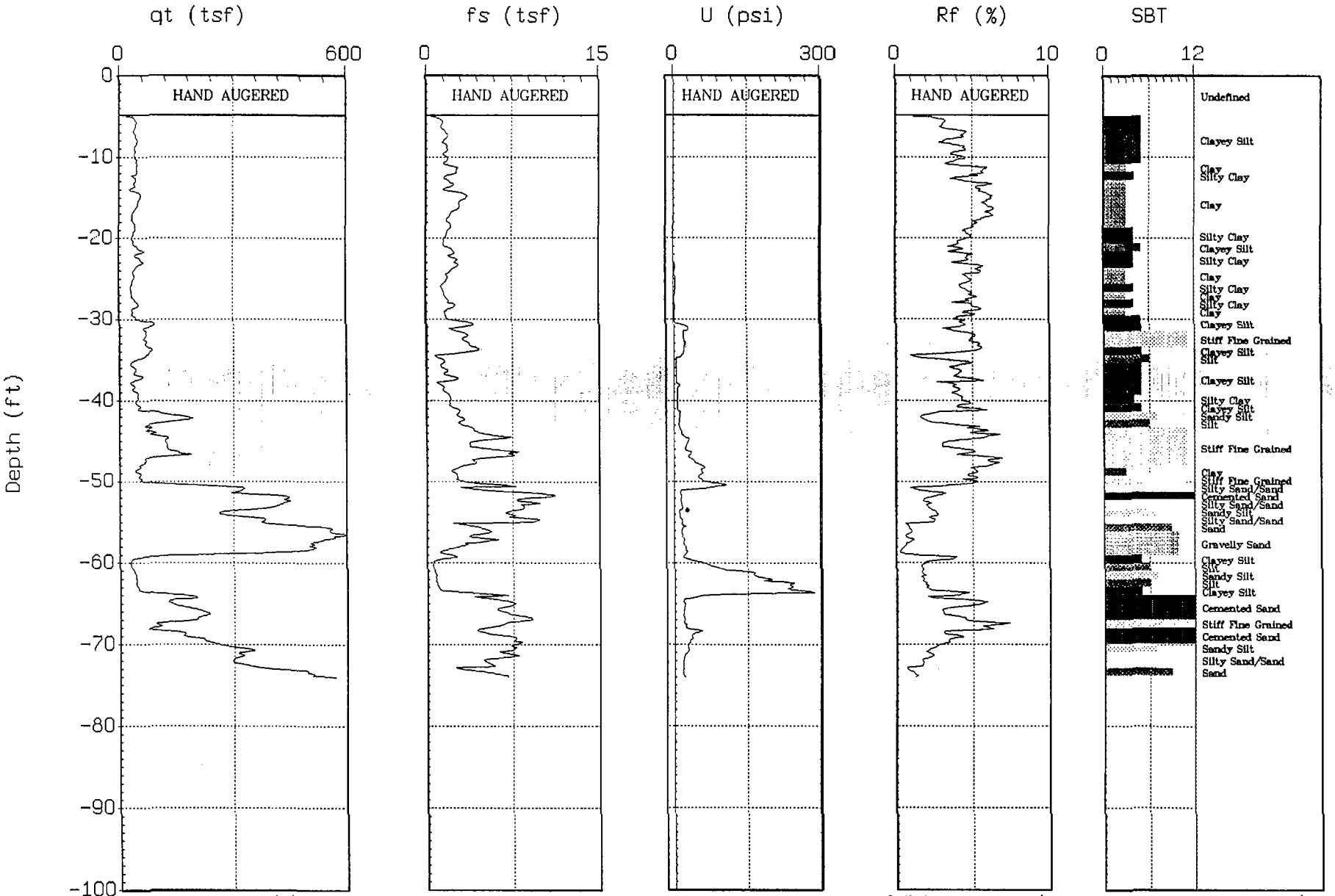
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-11

Geologist : B. CLARK
Date : 08:17:01 01:29



Max. Depth: 73.98 (ft)

Depth Inc.: 0.164 (ft)

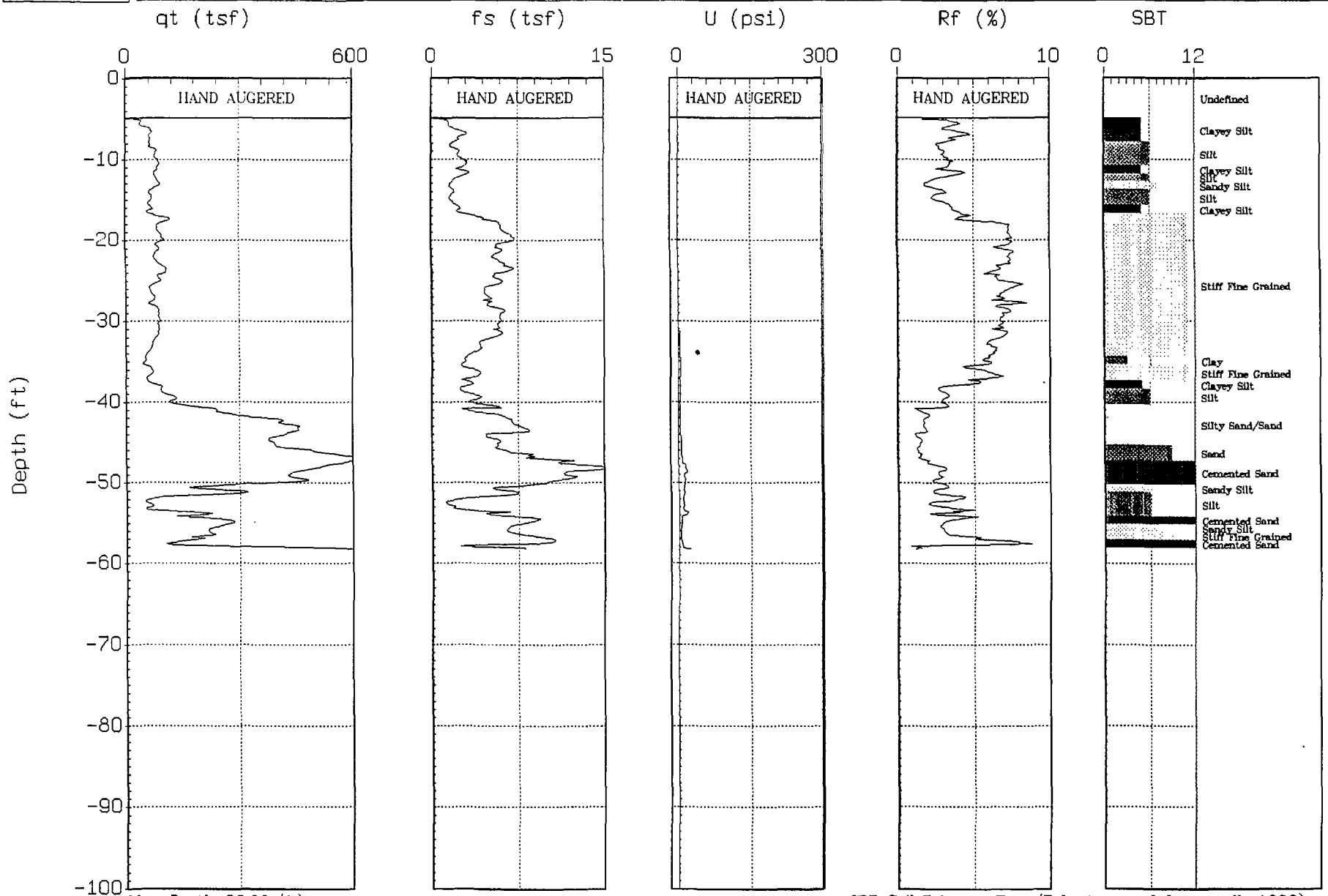
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-~~8~~ 13

Geologist : B. CLARK
Date : 08:17:01 03:14



Max. Depth: 58.23 (ft)

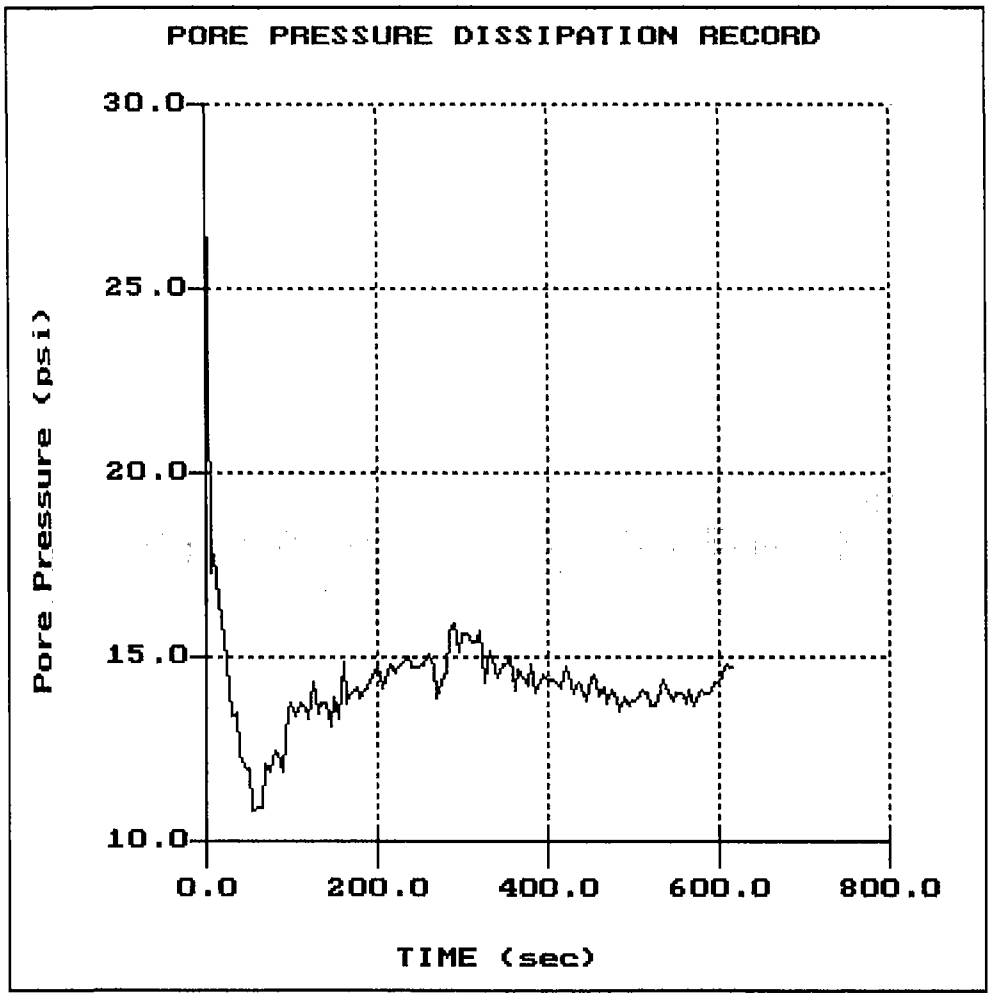
Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

R.F. WESTON

Site: OMEGA
Location: CPT-59

Geologist: B. CLARK
Date: 09:04:01 22:54

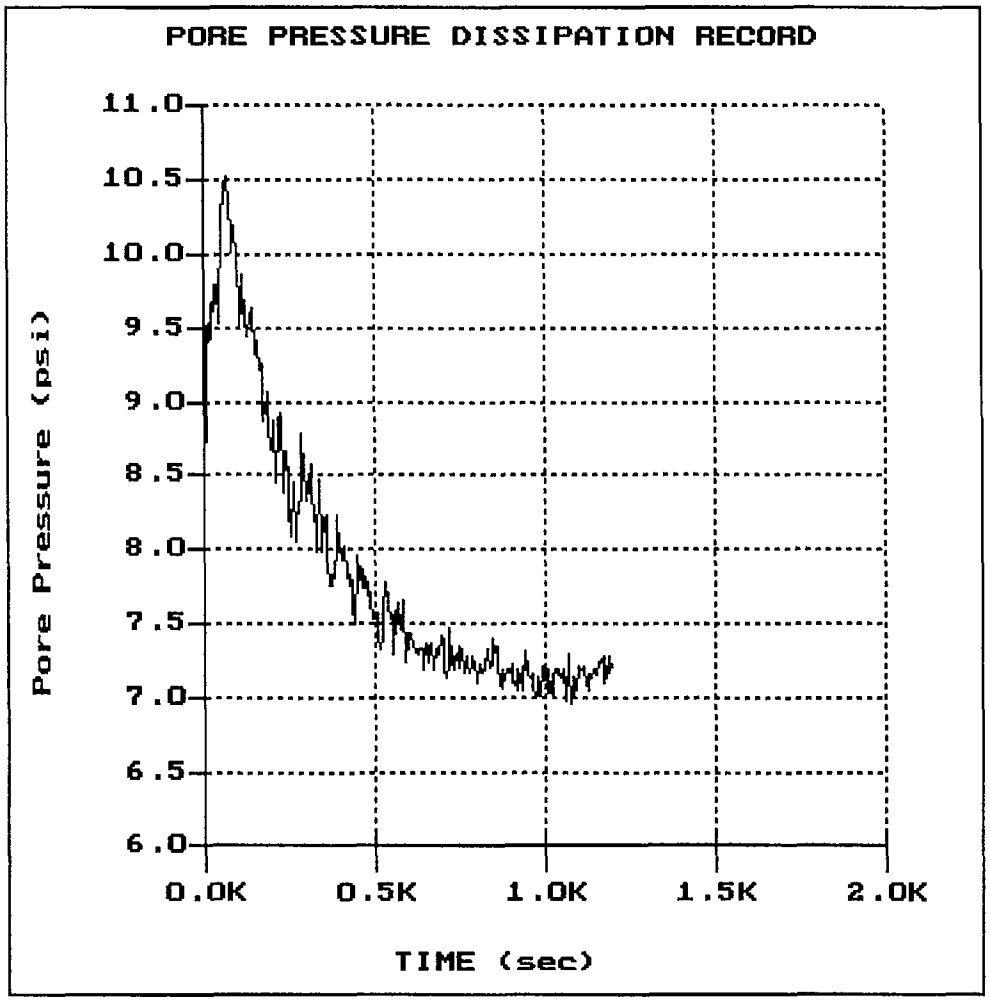


File: 225C59.PPC
Depth (m): 28.50
(ft): 93.50
Duration : 615.0s
U-min: 10.86 55.0s
U-max: 29.44 0.0s

R.F. WESTON

Site: OMEGA
Location: CPT-57

Geologist: B. CLARK
Date: 09:04:01 20:23

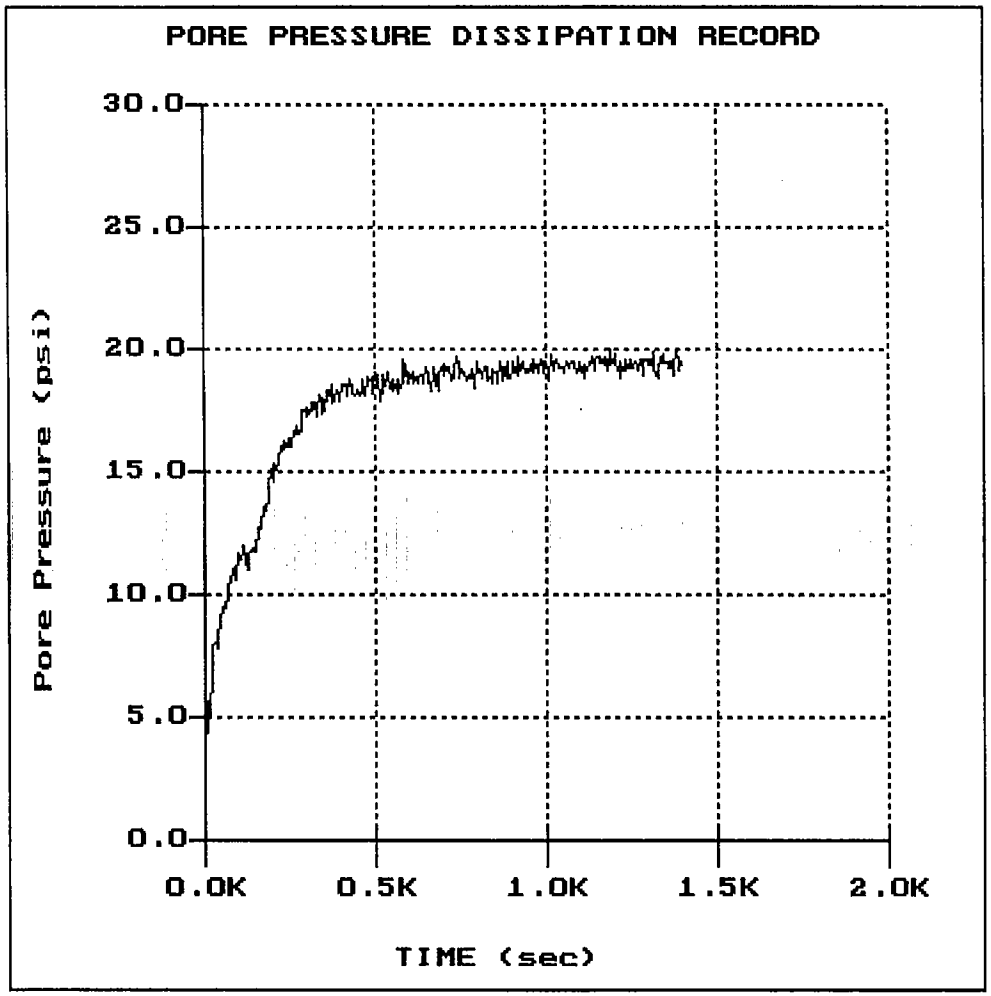


File: 225C57.PPC
Depth (m): 19.35
(ft): 63.48
Duration : 1195.0s
U-min: 6.96 1075.0s
U-max: 10.52 65.0s

R.F. WESTON

Site: OMEGA
Location: CPT-52

Geologist: B. CLARK
Date: 08:23:01 22:06

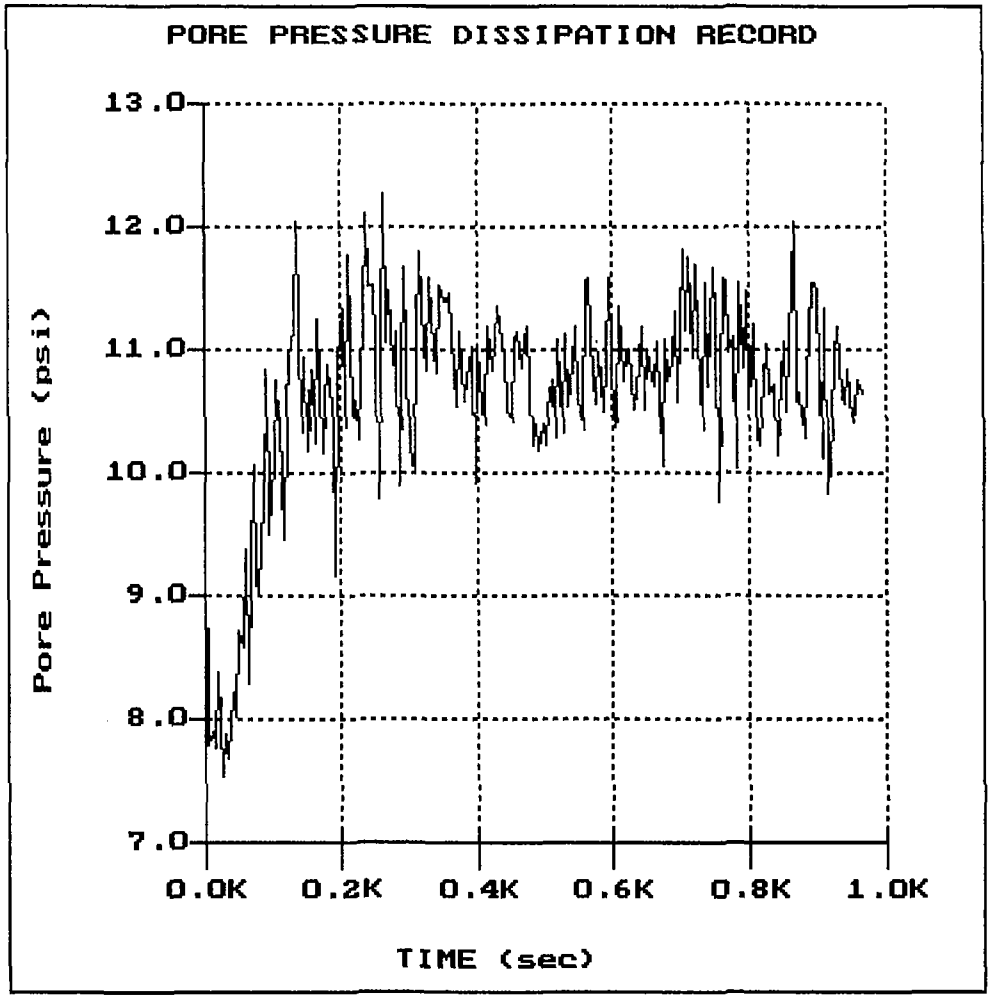


File: 225C52.PPC
Depth (m): 22.60
(ft): 74.15
Duration : 1395.0s
U-min: 3.48 0.0s
U-max: 20.02 1185.0s

R.F. WESTON

Site: OMEGA
Location: CPT-46

Geologist: B. CLARK
Date: 08:22:01 22:22

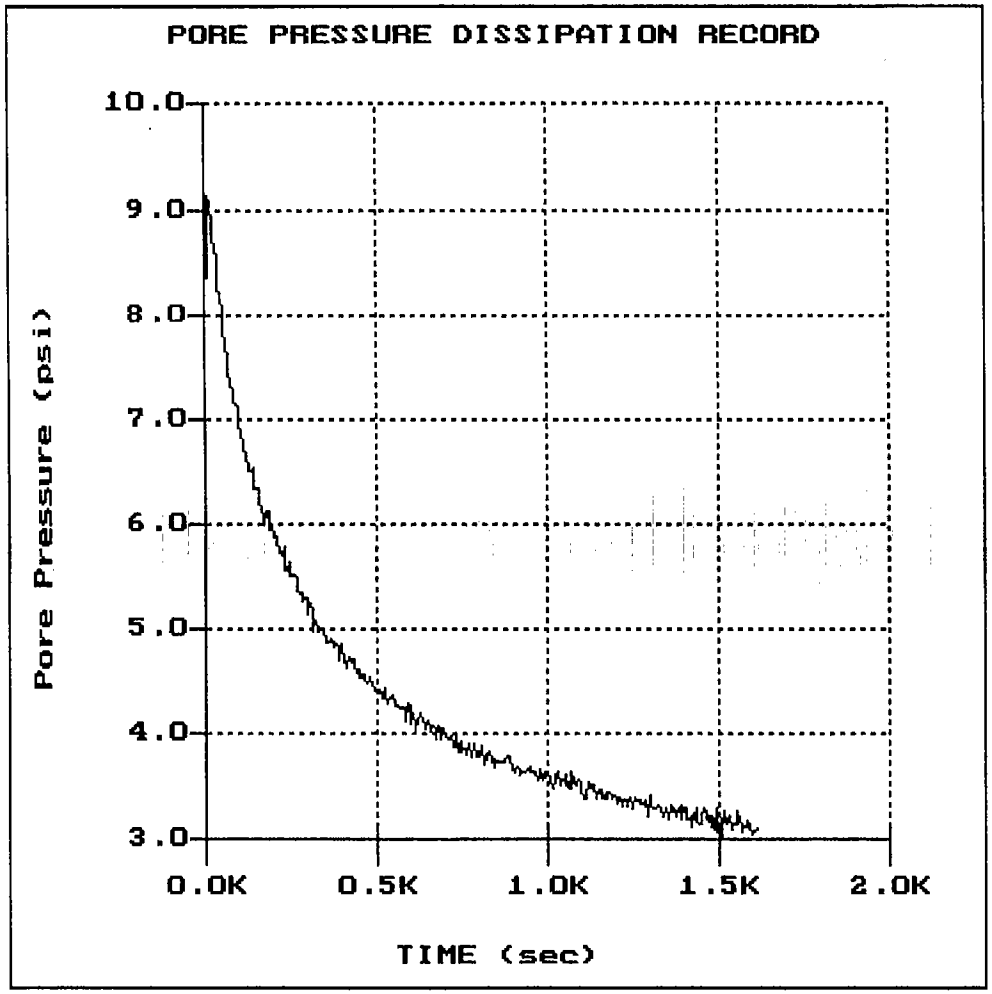


File: 225C46.PPC
Depth (m): 15.85
(ft): 52.00
Duration : 965.0s
U-min: 7.55 25.0s
U-max: 12.27 260.0s

R.F. WESTON

Site: OMEGA
Location: CPT-42

Geologist: B. CLARK
Date: 08:20:01 19:45

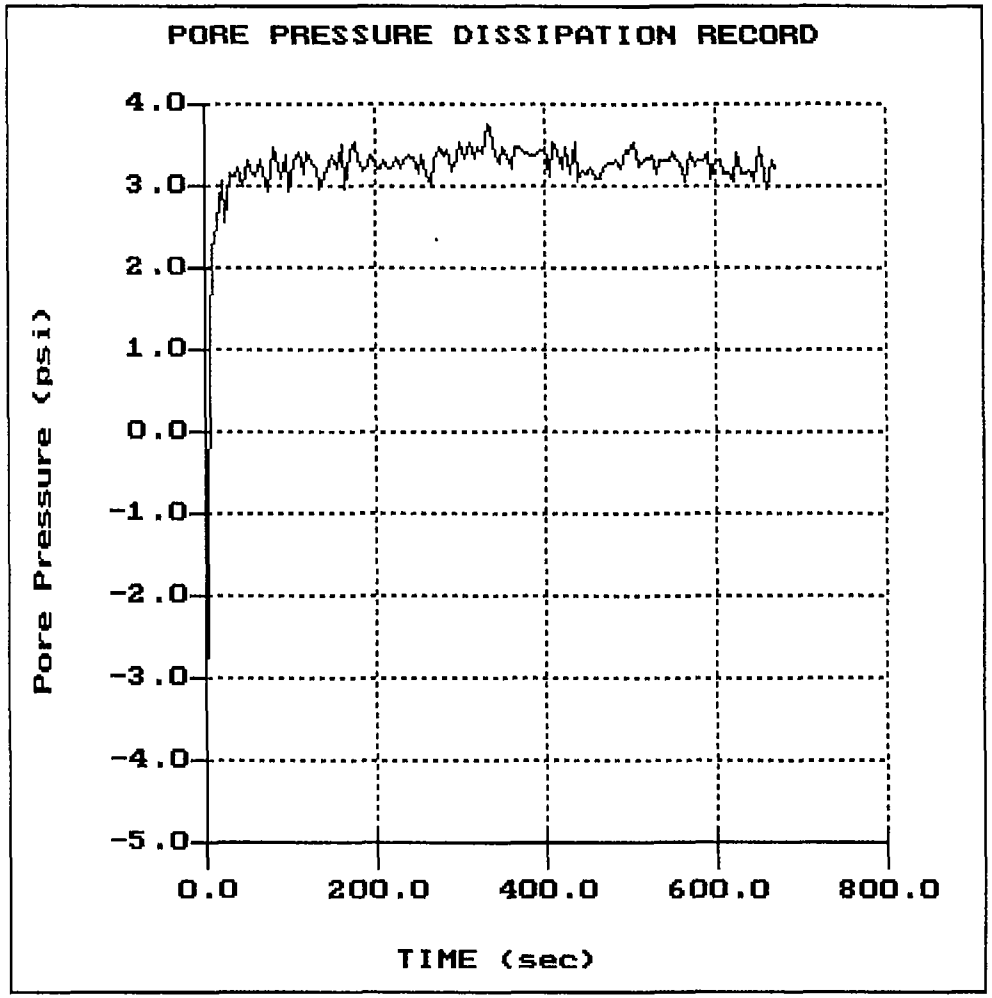


File: 225C42.PPC
Depth (m): 18.30
(ft): 60.04
Duration : 1610.0s
U-min: 3.03 1510.0s
U-max: 9.13 10.0s

R.F. WESTON

Site: OMEGA
Location: CPT-41

Geologist: B. CLARK
Date: 08:18:01 14:06

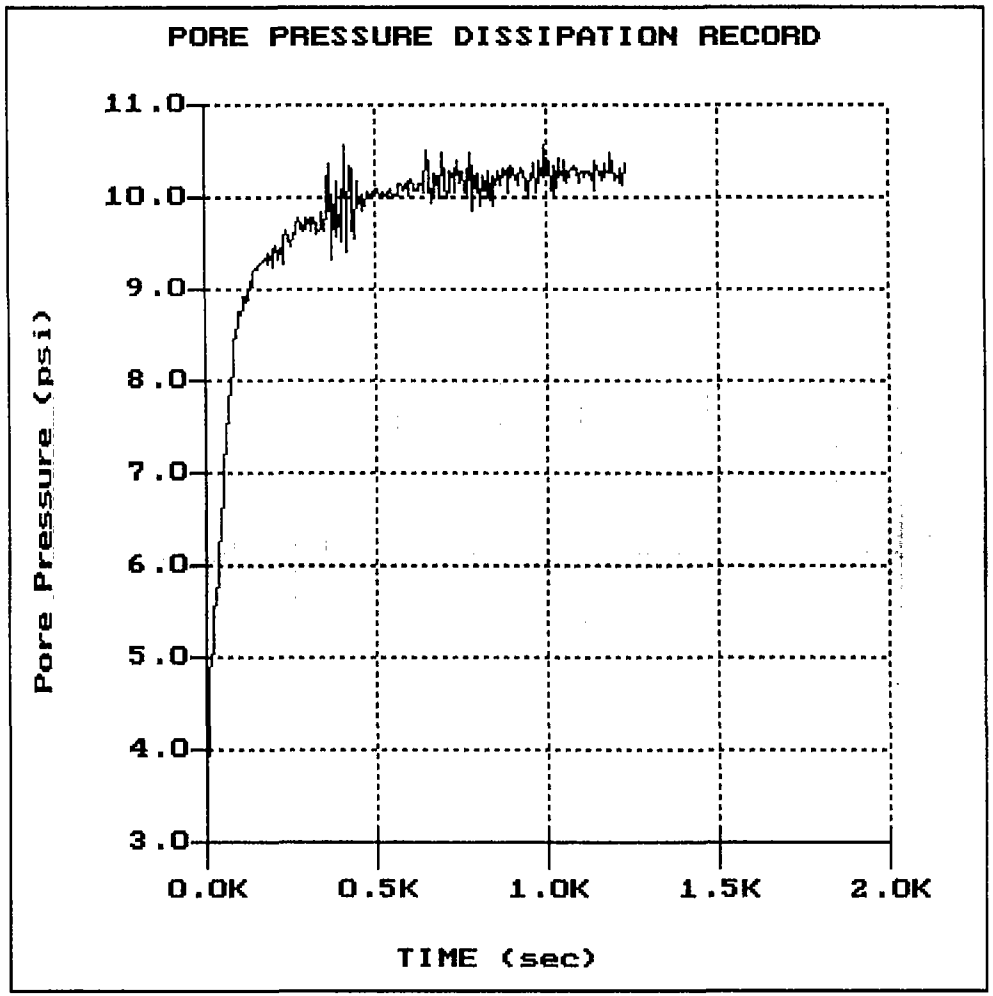


File: 225C41.PPC
Depth (m): 18.65
(ft): 61.19
Duration : 670.0s
U-min: -4.07 0.0s
U-max: 3.76 330.0s

R.F. WESTON

Site: OMEGA
Location: CPT-40

Geologist: B. CLARK
Date: 08:21:01 22:15

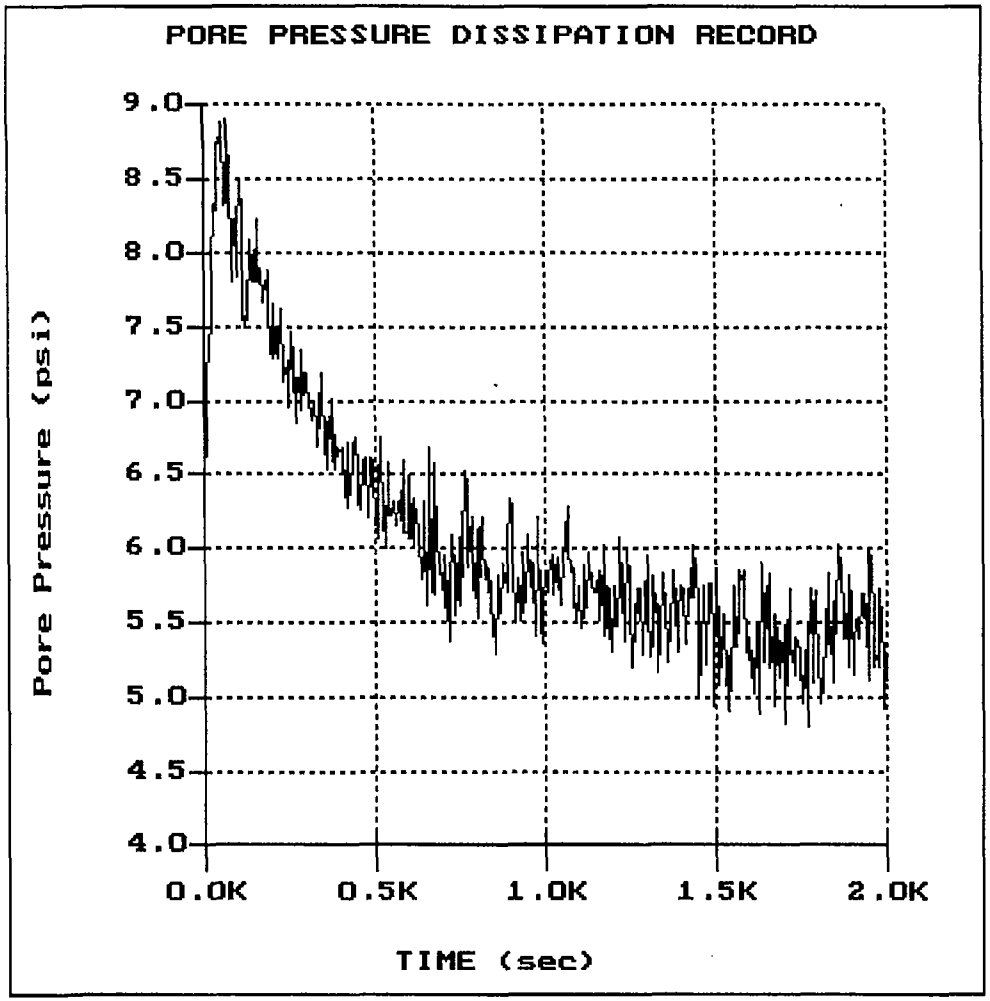


File: 225C40.PPC
Depth (m): 19.55
(ft): 64.14
Duration : 1230.0s
U-min: 3.95 5.0s
U-max: 10.56 995.0s

R.F. WESTON

Site: OMEGA
Location: CPT-39

Geologist: B. CLARK
Date: 08:21:01 03:06

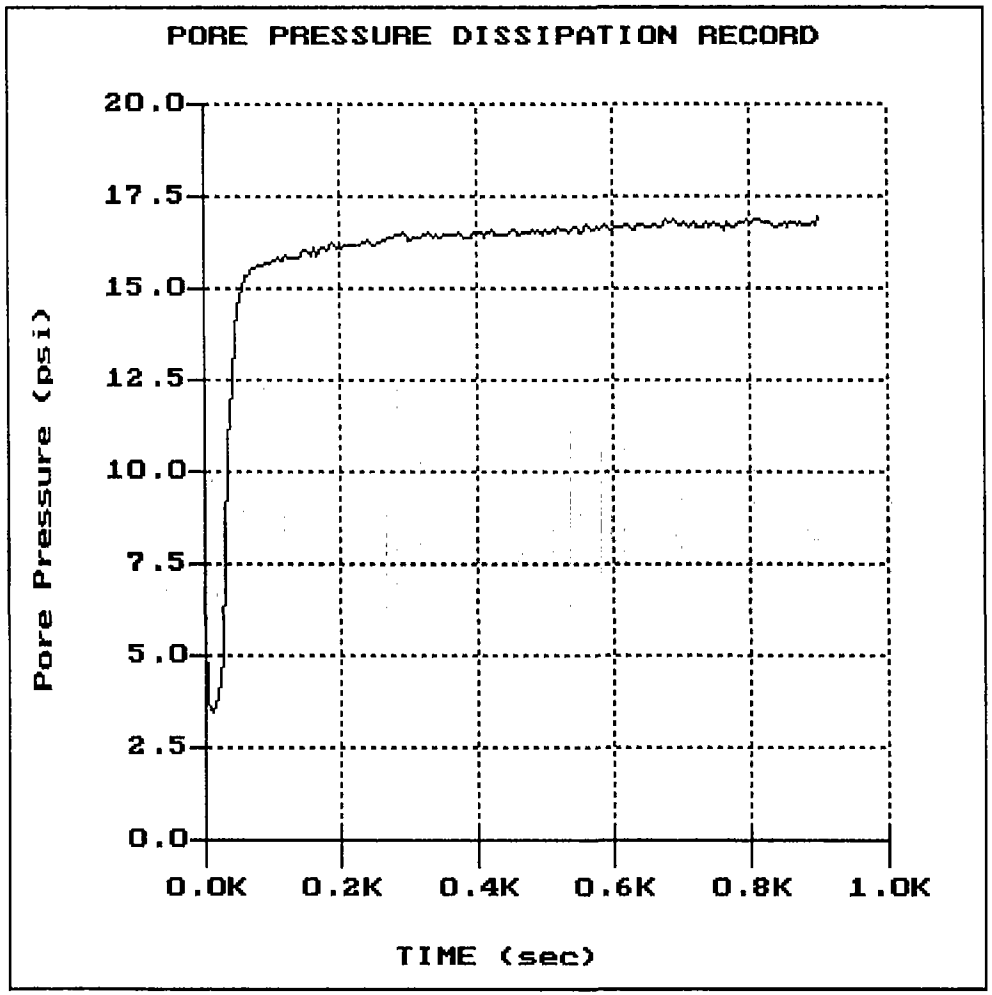


File: 225C39.PPC
Depth (m): 10.70
(ft): 35.10
Duration : 2000.0s
U-min: 4.80 1765.0s
U-max: 8.89 65.0s

R.F. WESTON

Site: OMEGA
Location: CPT-38

Geologist: B. CLARK
Date: 08:21:01 20:58

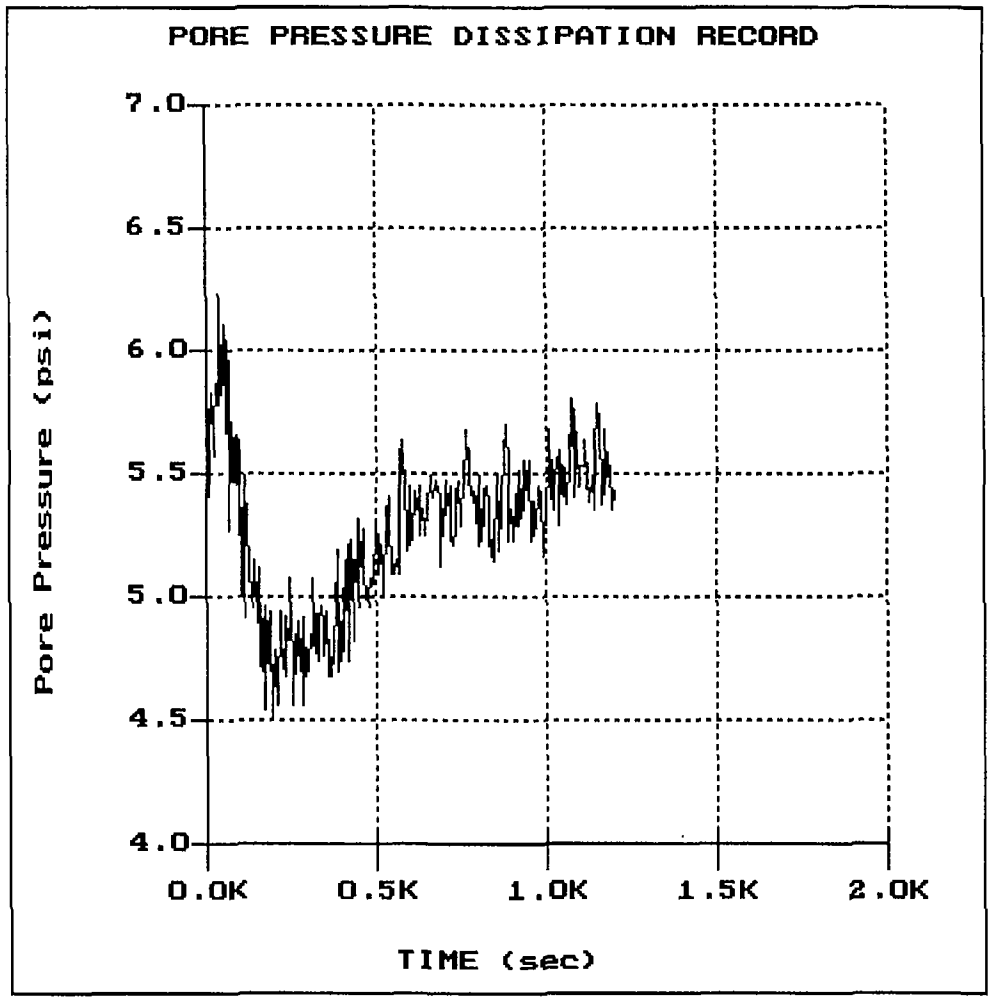


File: 225C38.PPC
Depth (m): 22.30
(ft): 73.16
Duration : 900.0s
U-min: 3.46 10.0s
U-max: 16.93 900.0s

R.F. WESTON

Site: OMEGA
Location: CPT-33

Geologist: B. CLARK
Date: 08:21:01 01:23

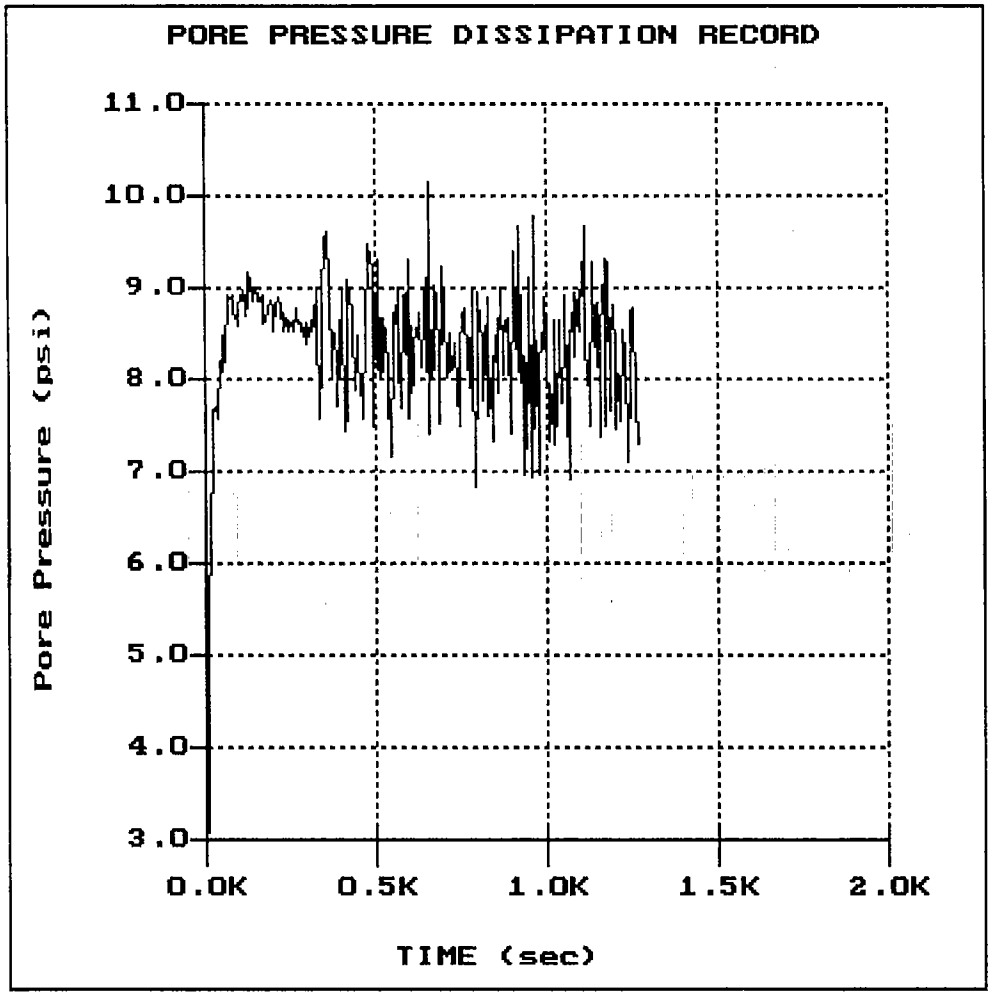


File: 225C33.PPC
Depth (m): 12.20
(ft): 40.03
Duration : 1200.0s
U-min: 4.50 195.0s
U-max: 6.23 40.0s

R.F. WESTON

Site: OMEGA
Location: CPT-29

Geologist: B. CLARK
Date: 08:22:01 01:21

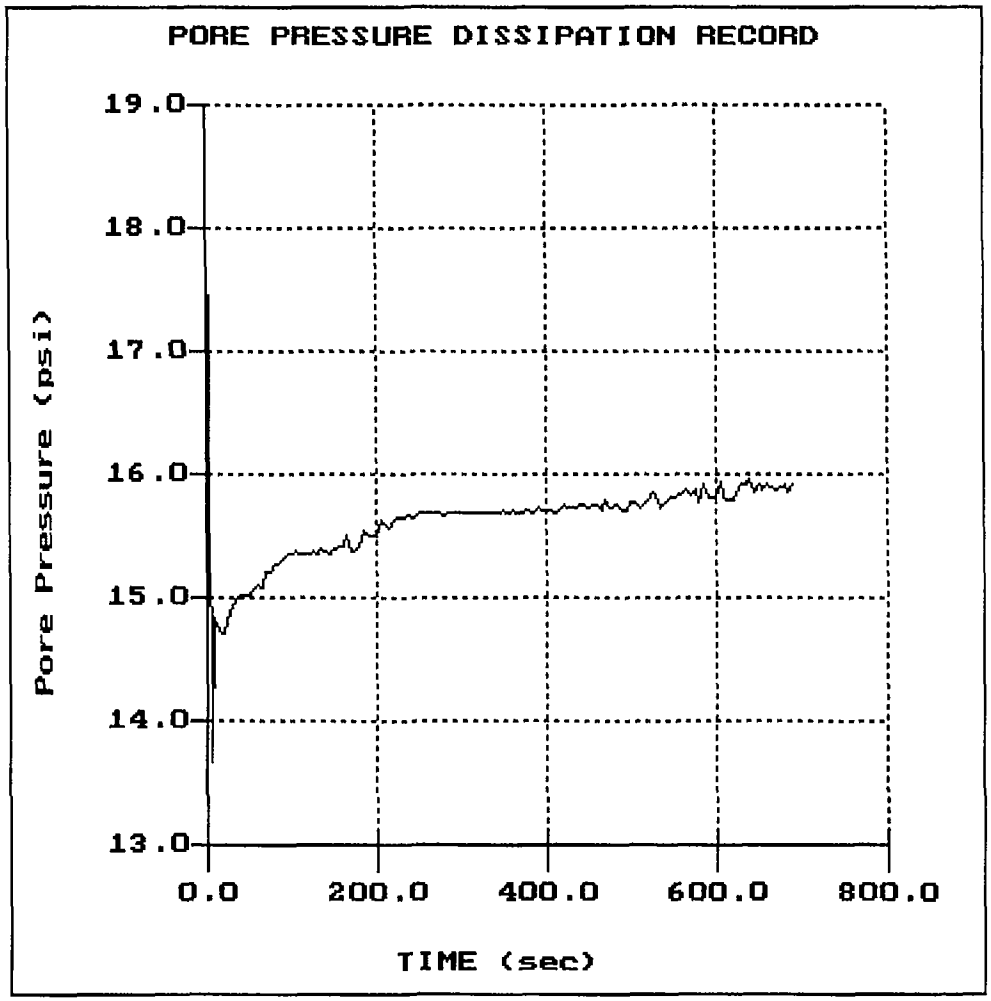


File: 225C29.PPC
Depth (m): 13.50
(ft): 44.29
Duration : 1265.0s
U-min: 3.07 5.0s
U-max: 10.15 655.0s

R.F. WESTON

Site: OMEGA
Location: CPT-23

Geologist: B. CLARK
Date: 08:17:01 20:59

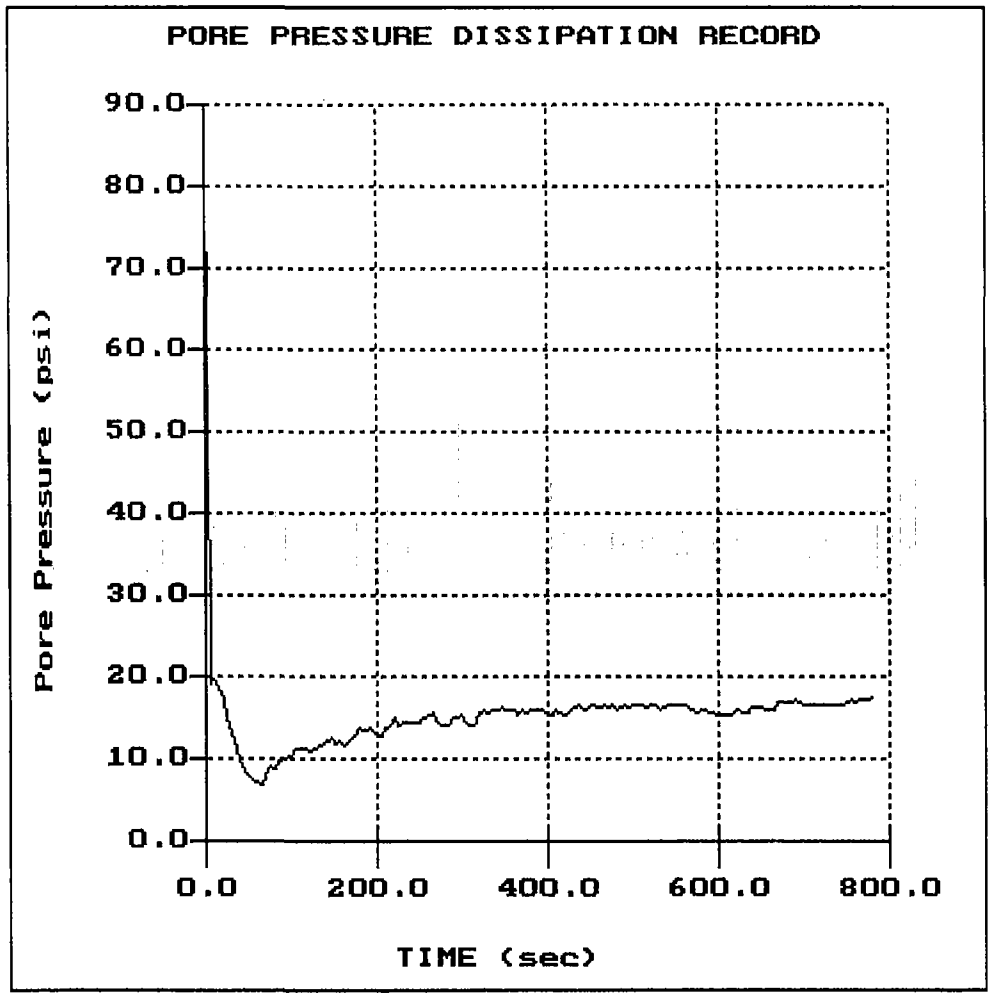


File: 225C23.PPC
Depth (m): 19.70
(ft): 64.63
Duration : 690.0s
U-min: 13.67 5.0s
U-max: 18.72 0.0s

R.F. WESTON

Site: OMEGA
Location: CPT-22

Geologist: B. CLARK
Date: 08:18:01 00:02

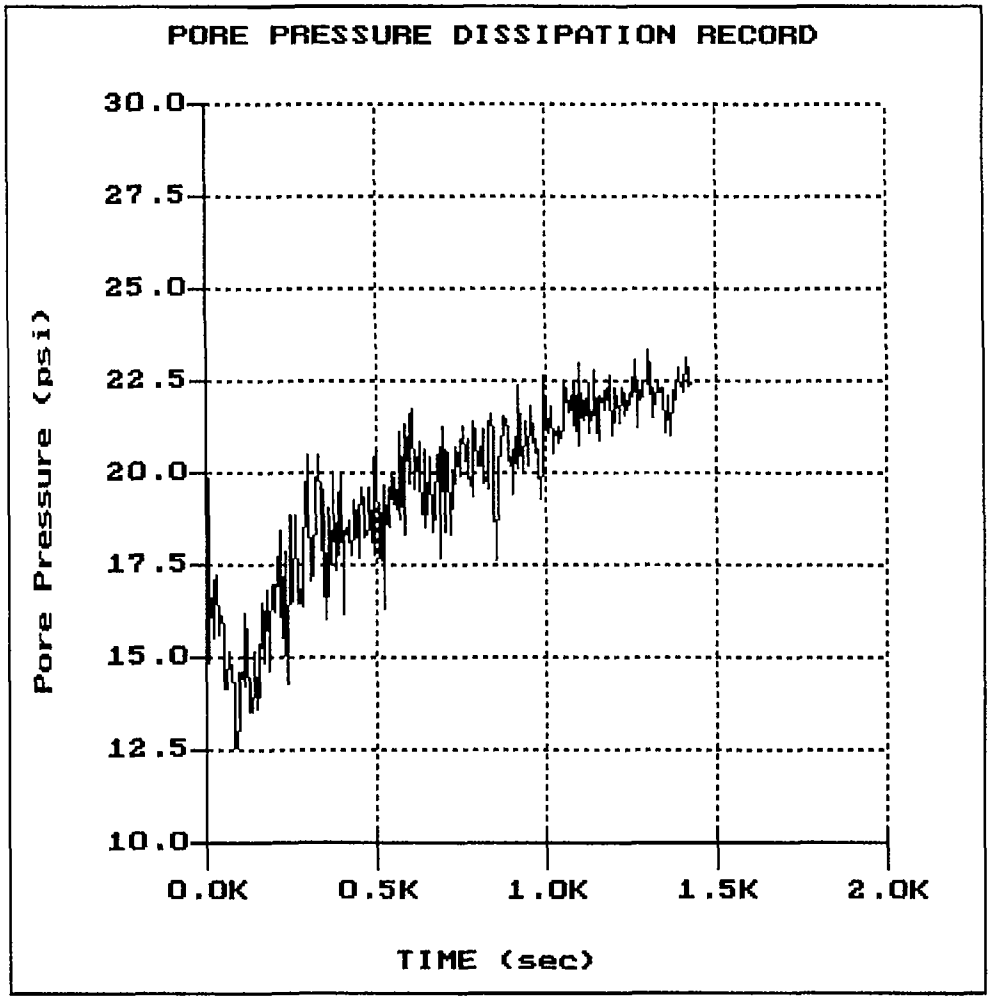


File: 225C22.PPC
Depth (m): 20.75
(ft): 68.08
Duration : 780.0s
U-min: 6.92 65.0s
U-max: 89.60 0.0s

R.F. WESTON

Site: OMEGA
Location: CPT-20

Geologist: B. CLARK
Date: 08:18:01 01:10

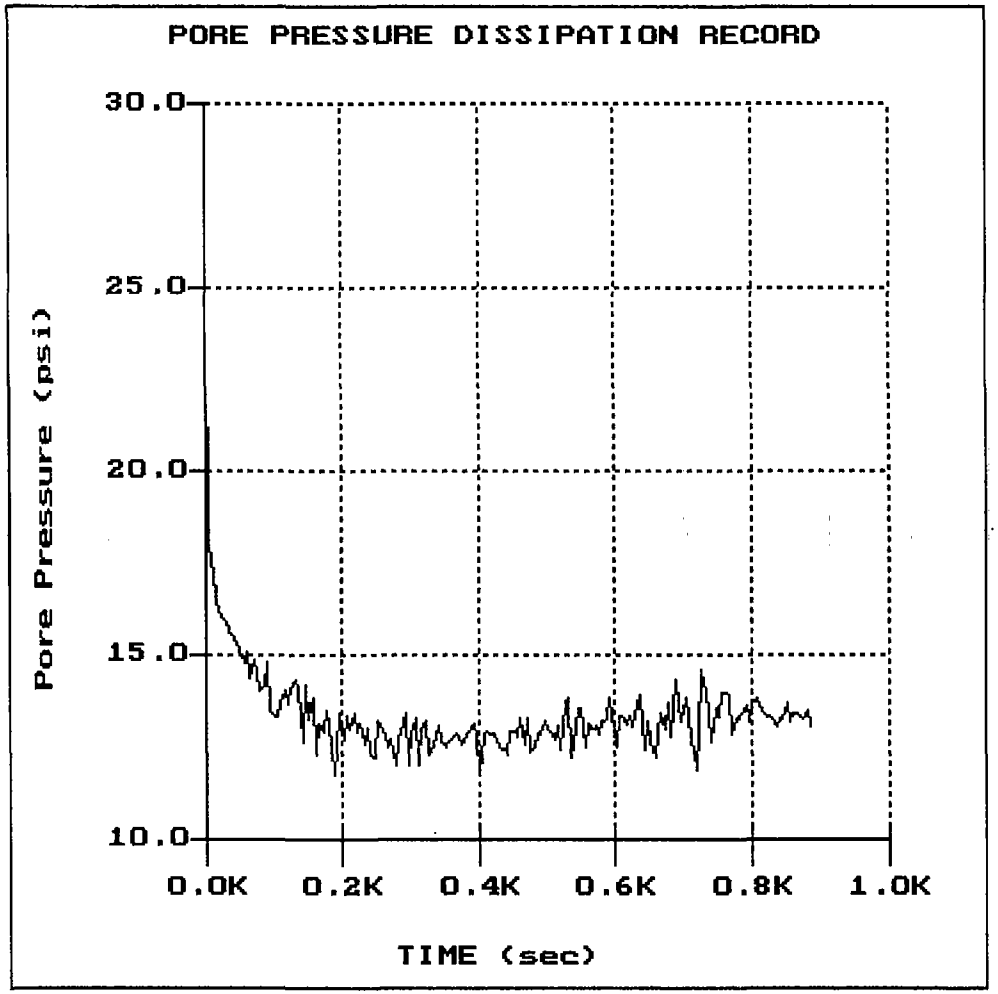


File: 225C20.PPC
Depth (m): 23.05
(ft): 75.62
Duration : 1425.0s
U-min: 12.59 90.0s
U-max: 24.92 0.0s

R.F. WESTON

Site: OMEGA
Location: CPT-15

Geologist: B. CLARK
Date: 08:16:01 03:05

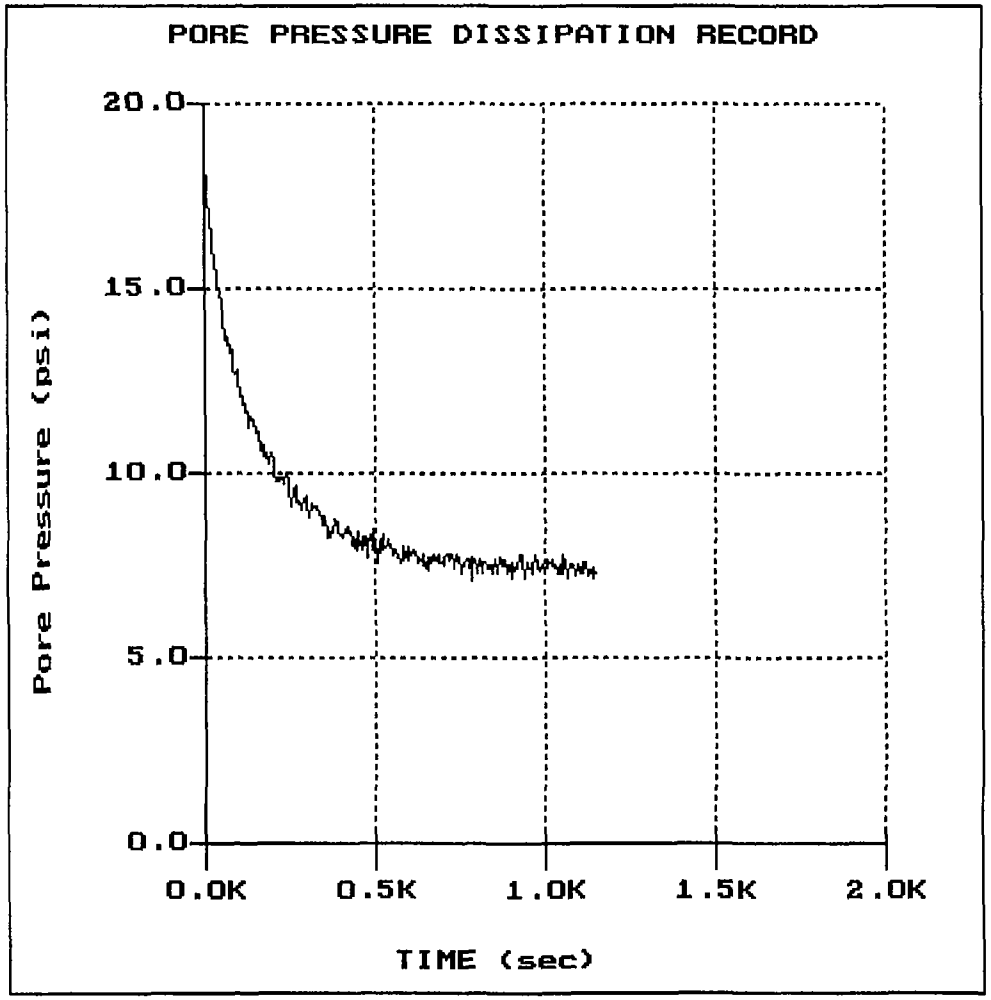


File: 225C15.PPC
Depth (m): 26.95
(ft): 88.42
Duration : 885.0s
U-min: 11.74 185.0s
U-max: 24.41 0.0s

R.F. WESTON

Site: OMEGA
Location: CPT-~~9~~ 13

Geologist: B. CLARK
Date: 08:17:01 03:14

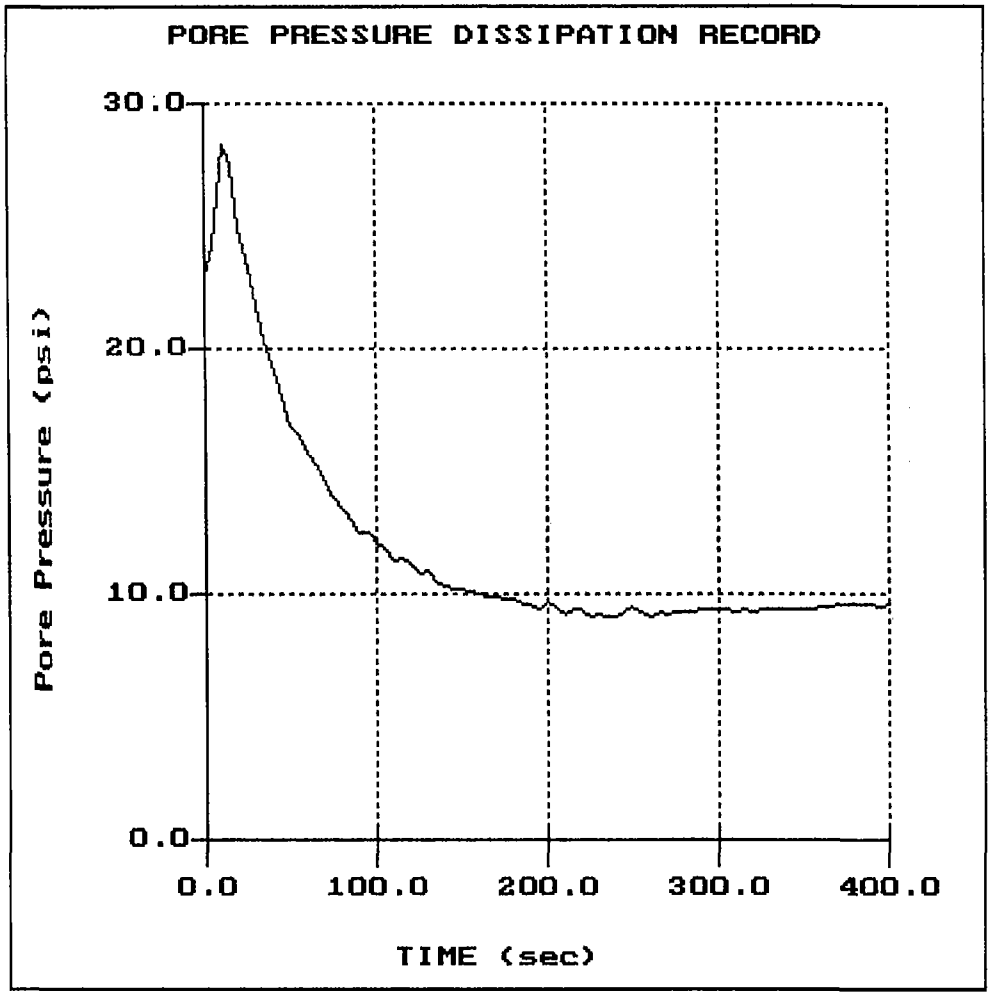


File: 225C09.PPC
Depth (m): 17.75
(ft): 58.23
Duration : 1150.0s
U-min: 7.06 780.0s
U-max: 18.39 0.0s

R.F. WESTON

Site: OMEGA
Location: CPT-11

Geologist: B. CLARK
Date: 08:17:01 01:29

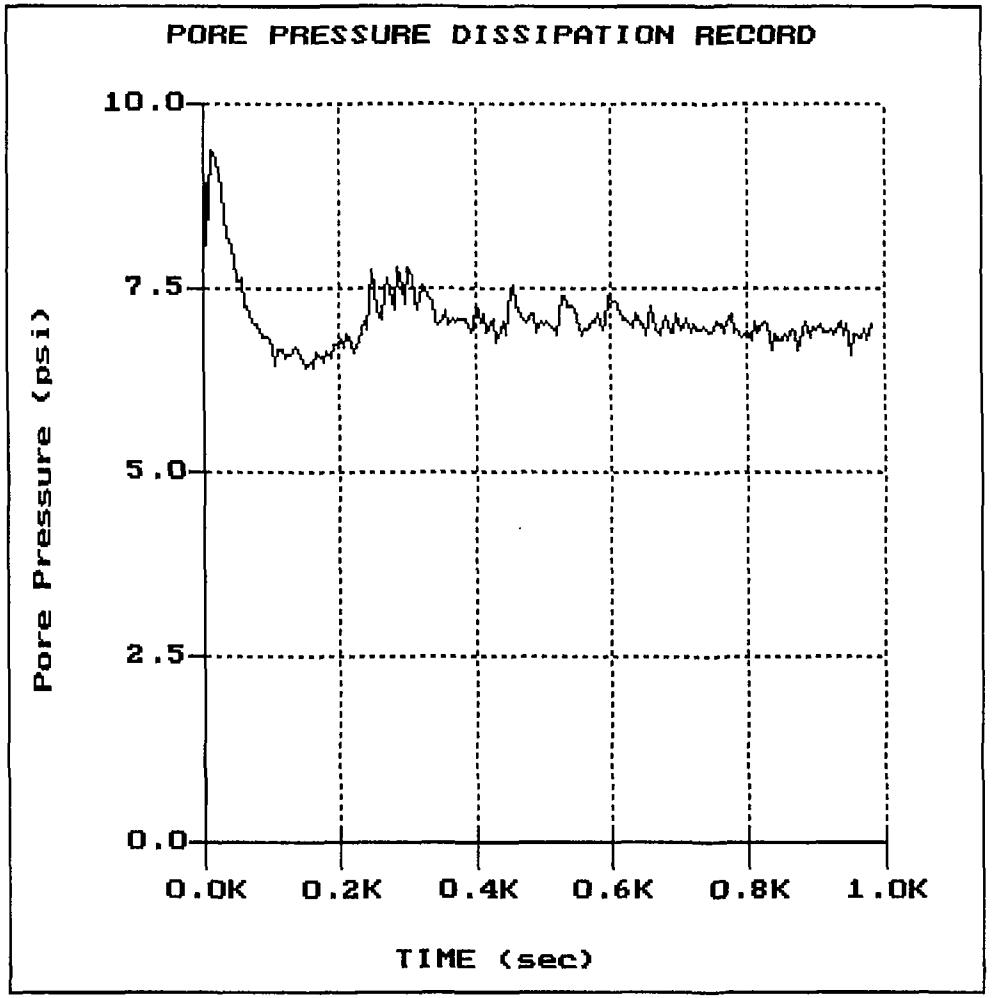


File: 225C11.PPC
Depth (m): 22.55
(ft): 73.98
Duration : 400.0s
U-min: 9.03 260.0s
U-max: 28.36 10.0s

R.F. WESTON

Site: OMEGA
Location: CPT-10

Geologist: B. CLARK
Date: 08:18:01 11:30

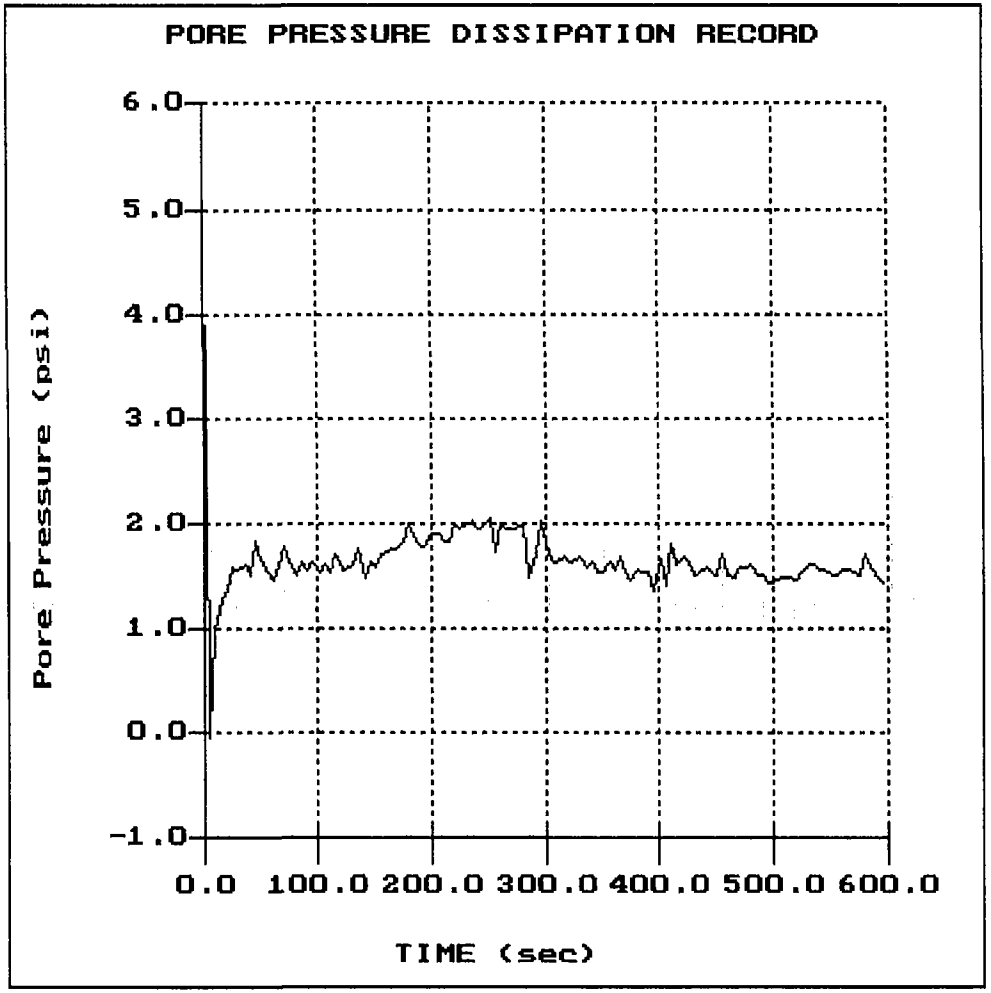


File: 225C10.PPC
Depth (m): 13.50
(ft): 44.29
Duration : 980.0s
U-min: 6.41 150.0s
U-max: 9.75 0.0s

R.F. WESTON

Site: OMEGA
Location: CPT-1

Geologist: B. CLARK
Date: 08:16:01 13:24



File: 225C01.PPC
Depth (m): 26.35
(ft): 86.45
Duration : 595.0s
U-min: -0.06 5.0s
U-max: 5.19 0.0s

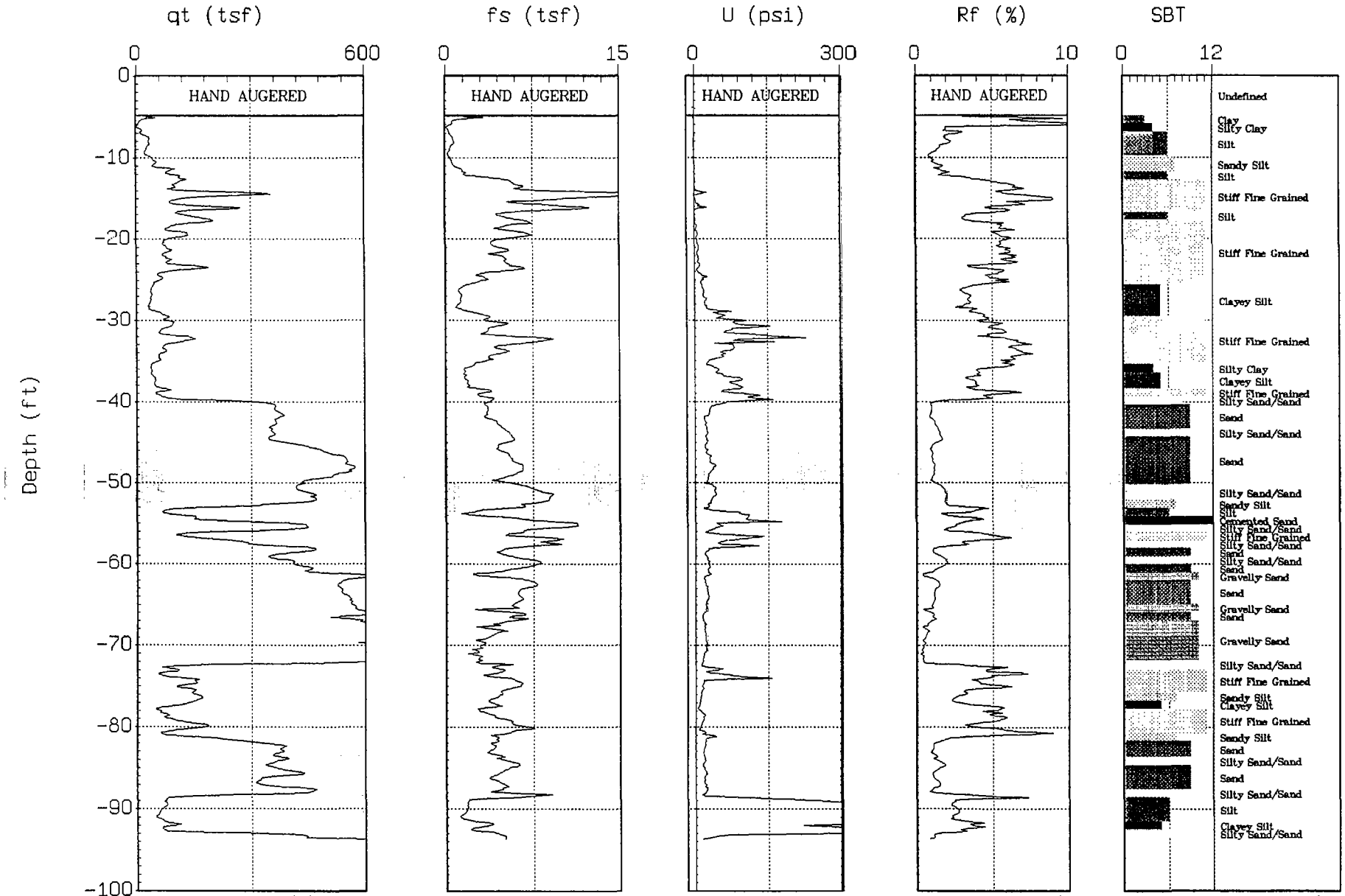
3.2 PORE PRESSURE DISSIPATION PLOTS

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-59

Geologist : B. CLARK
Date : 09:04:01 22:54



Max. Depth: 93.67 (ft)

Depth Inc.: 0.164 (ft)

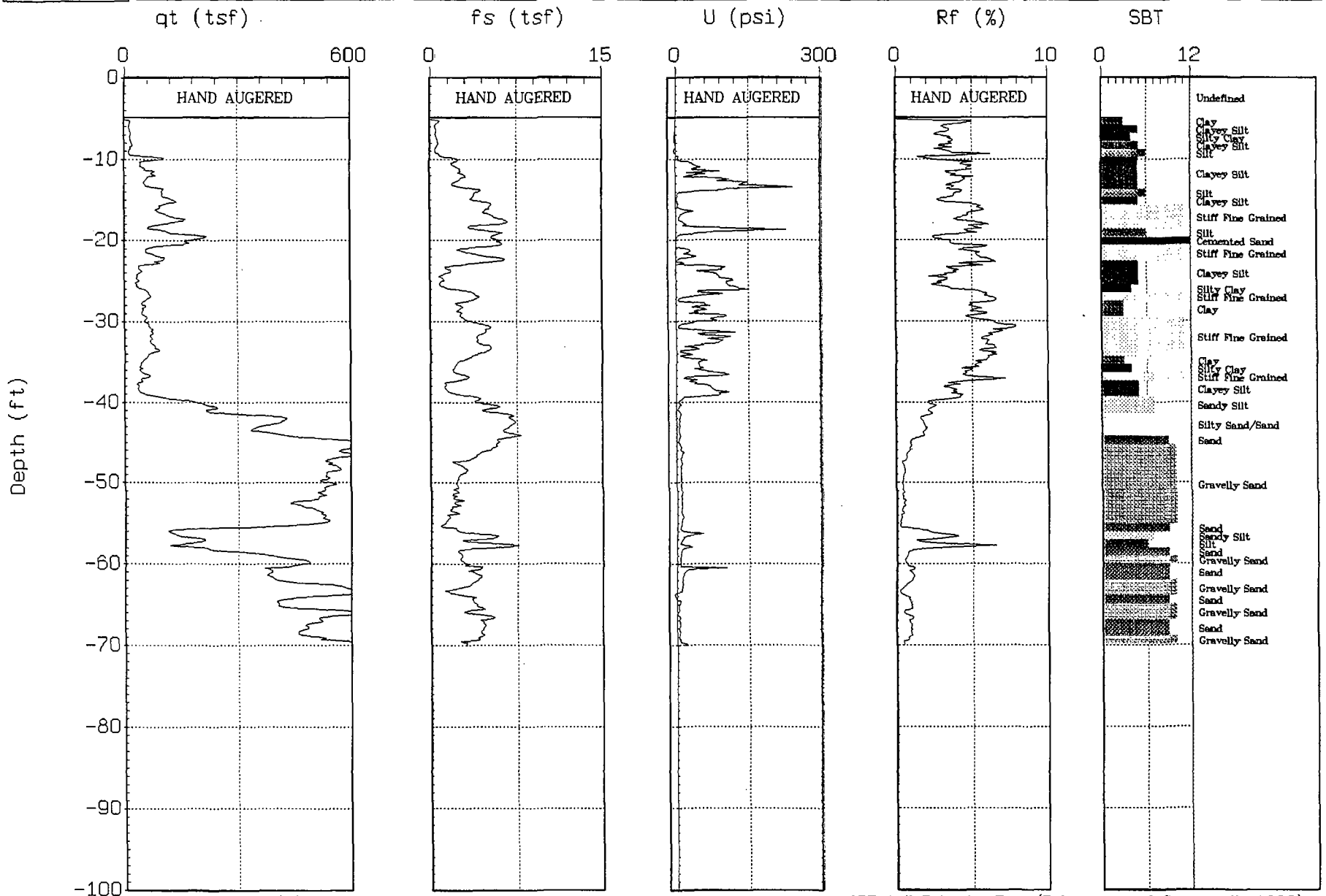
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-57

Geologist : B. CLARK
Date : 09:04:01 20:23

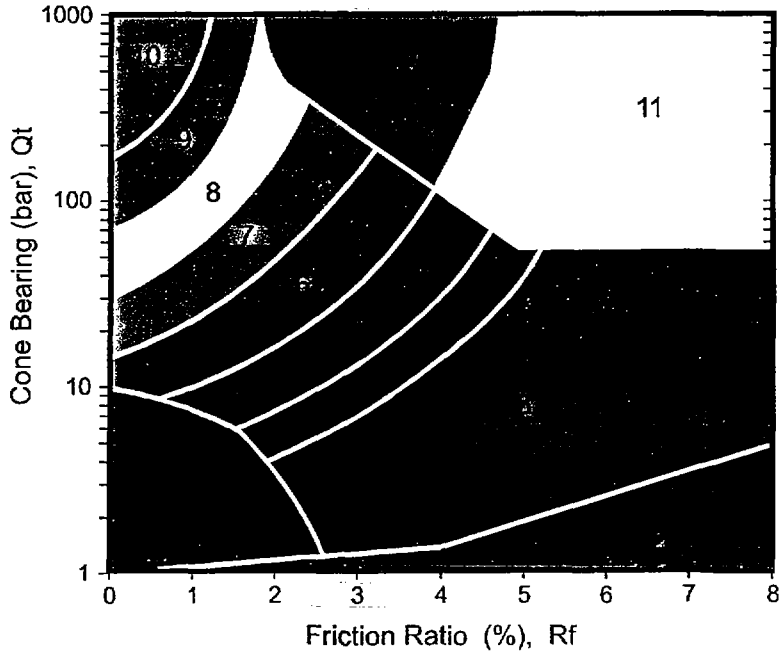


Max. Depth: 70.05 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

SOIL CLASSIFICATION CHART



Zone	Q_t / N	Soil Behaviour Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

* overconsolidated or cemented

After Robertson and Campenella

Figure 4

REFERENCES

Robertson, P.K. and Campanella, R.G. and Wightman, A., 1983 "SPT-CPT Correlations", Journal of the Geotechnical Division, ASCE, Vol. 109, No. GT11, Nov., pp. 1449-1460.

Robertson, P.K. and Wride C.E., 1998 "Evaluating Cyclic Liquefaction Potential Using The Cone Penetration Test", Journal of Geotechnical Division, Mar. 1998, pp. 442-459.

Robertson, P.K. and Campanella, R.G., Gillespie, D. and Greig, J., 1986, "Use of Piezometer Cone Data", Proceedings of In Situ 86, ASCE Specialty Conference, Blacksburg, Virginia.

Robertson, P.K. and Campanella, R.G., 1988, "Guidelines for Use, Interpretation and Application of the CPT and CPTU", UBC, Soil Mechanics Series No. 105, Civil Eng. Dept., Vancouver, B.C., V6T 1W5, Canada.

Robertson, P.K., Campanella, R.G., Gillespie, D. and Rice, A., 1986, "Seismic CPT to Measure In Situ Shear Wave Velocity", Journal of Geotechnical Engineering, ASCE, Vol. 112, No. 8, pp. 791-803.

GROUNDWATER SAMPLER (HYDROPUNCH)

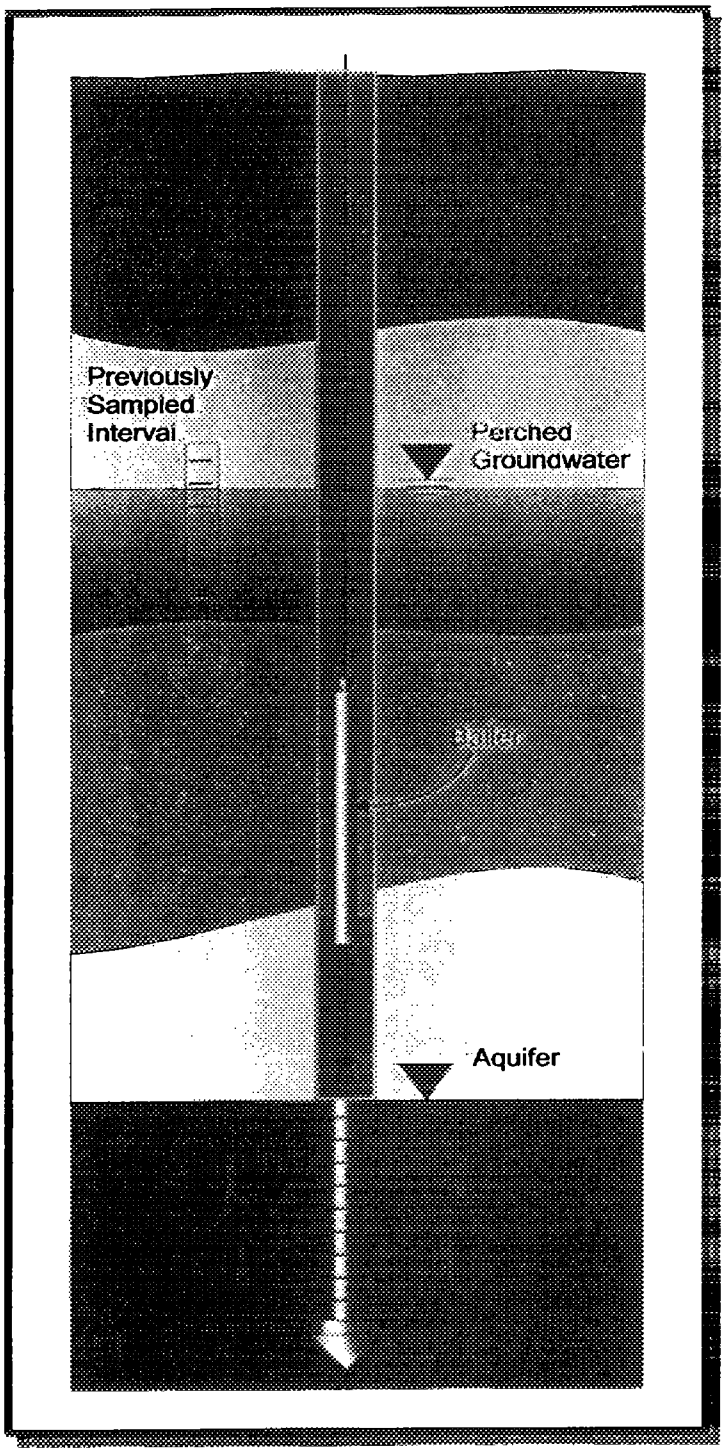
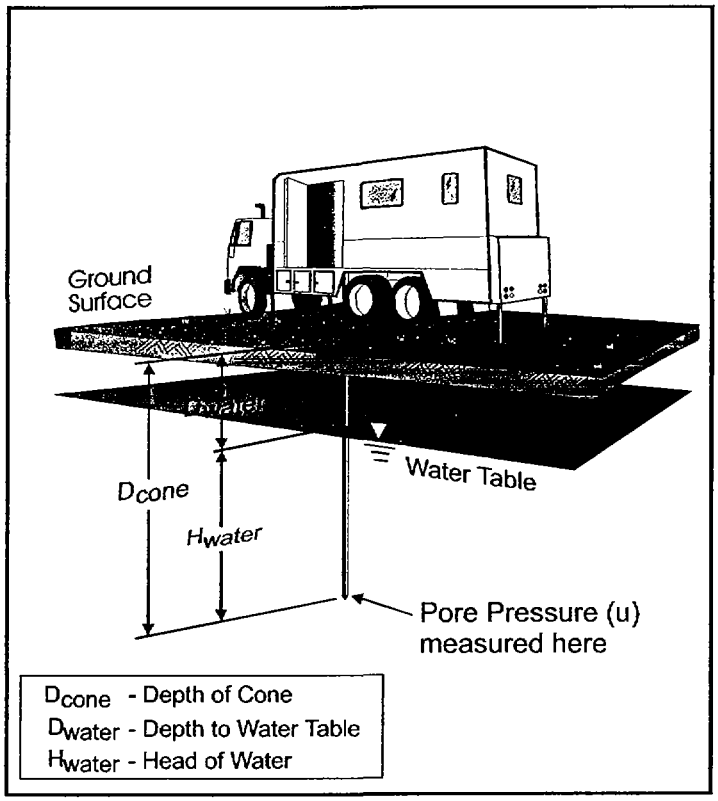
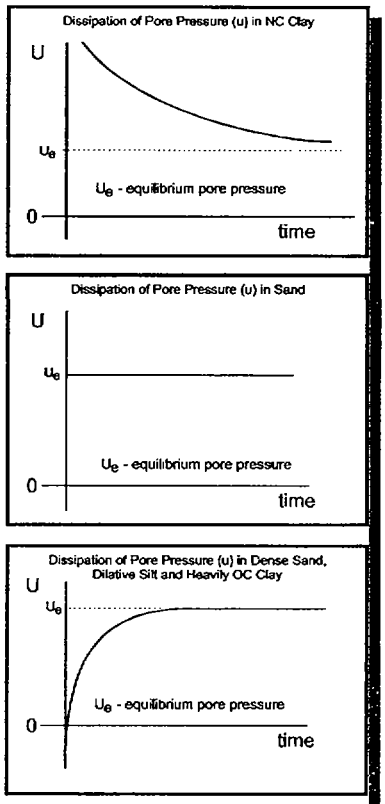


Figure 2

PPDT CORRELATION





Water Table Calculation

$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

Useful Conversion Factors:
1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

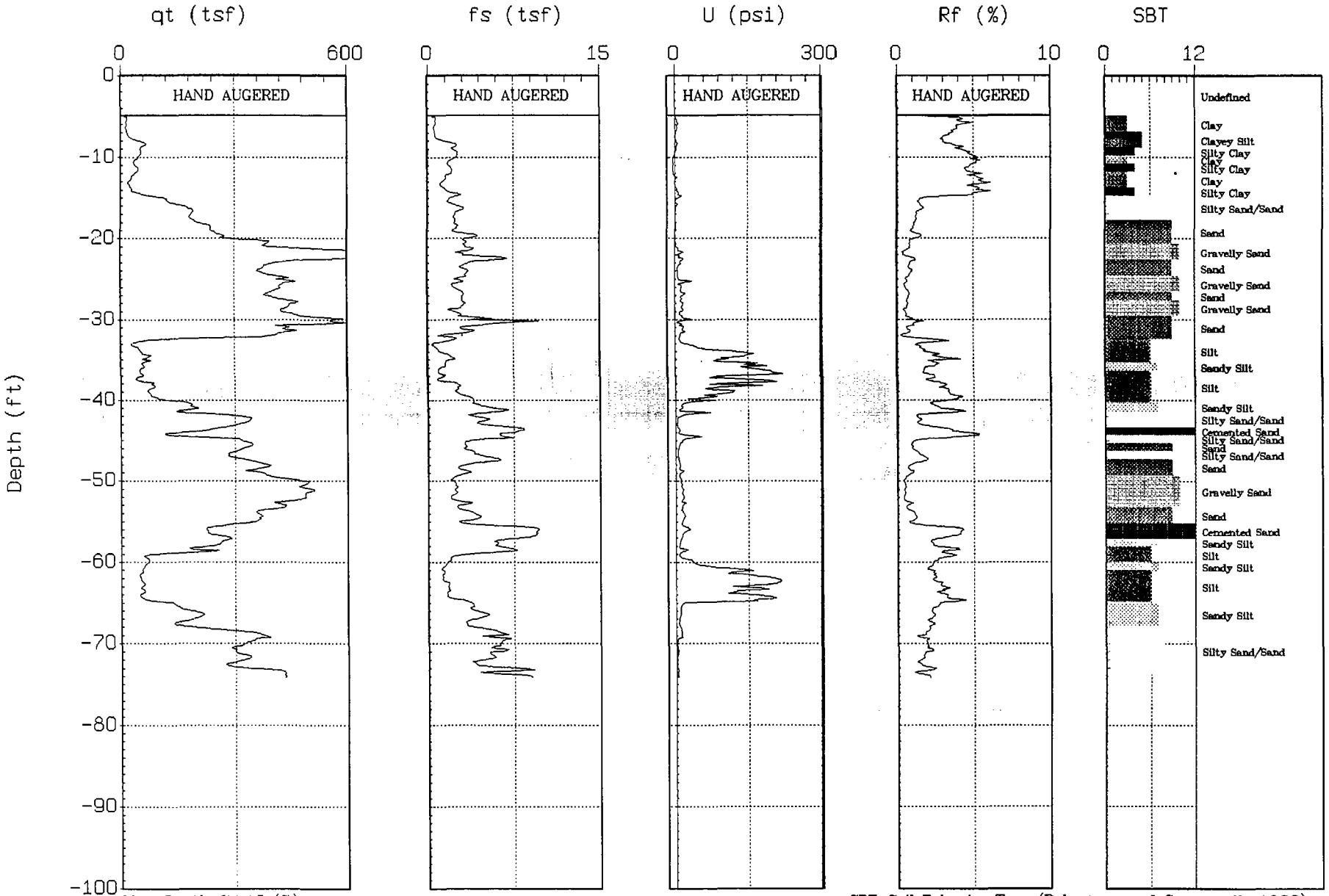
Figure 3

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-52

Geologist : B. CLARK
Date : 08:23:01 22:06



Max. Depth: 74.15 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

ELECTRICAL PIEZOCONE

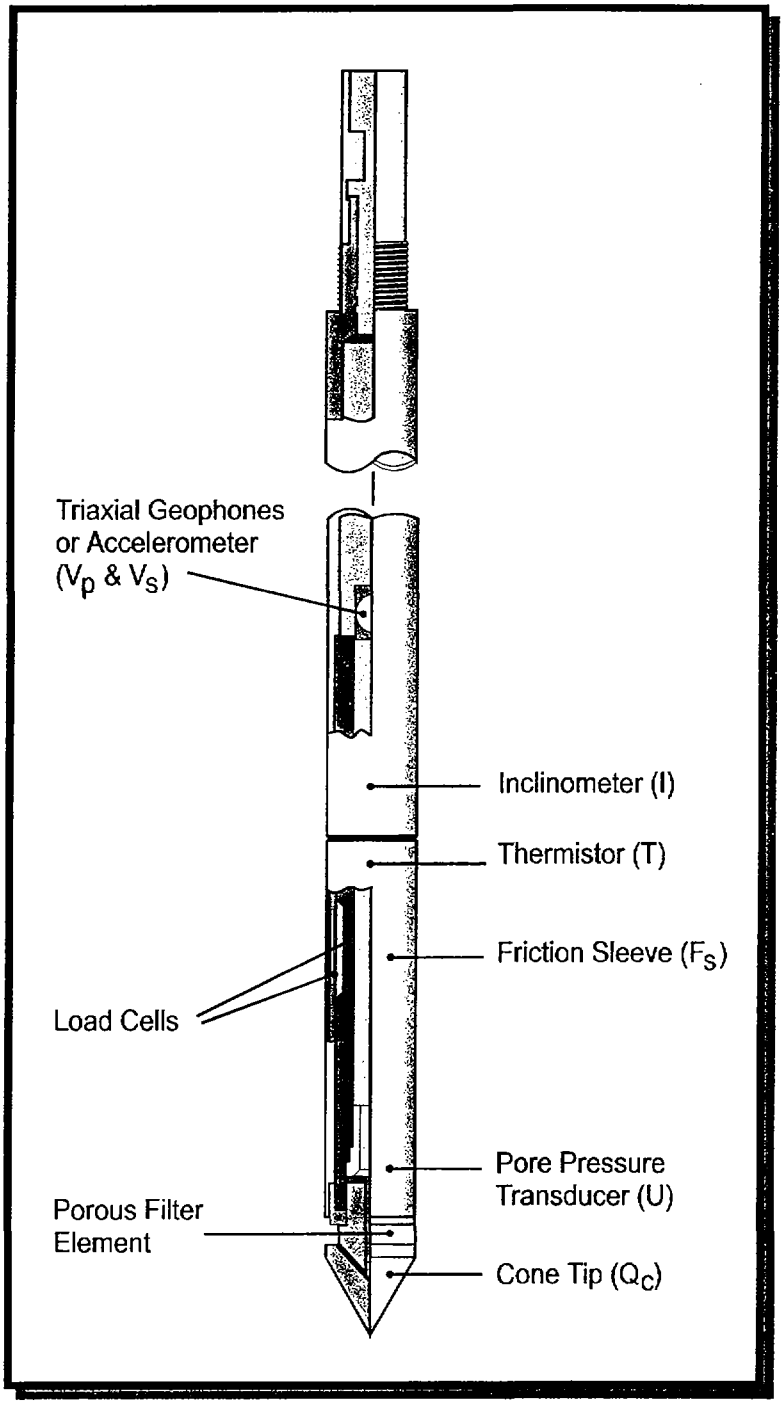


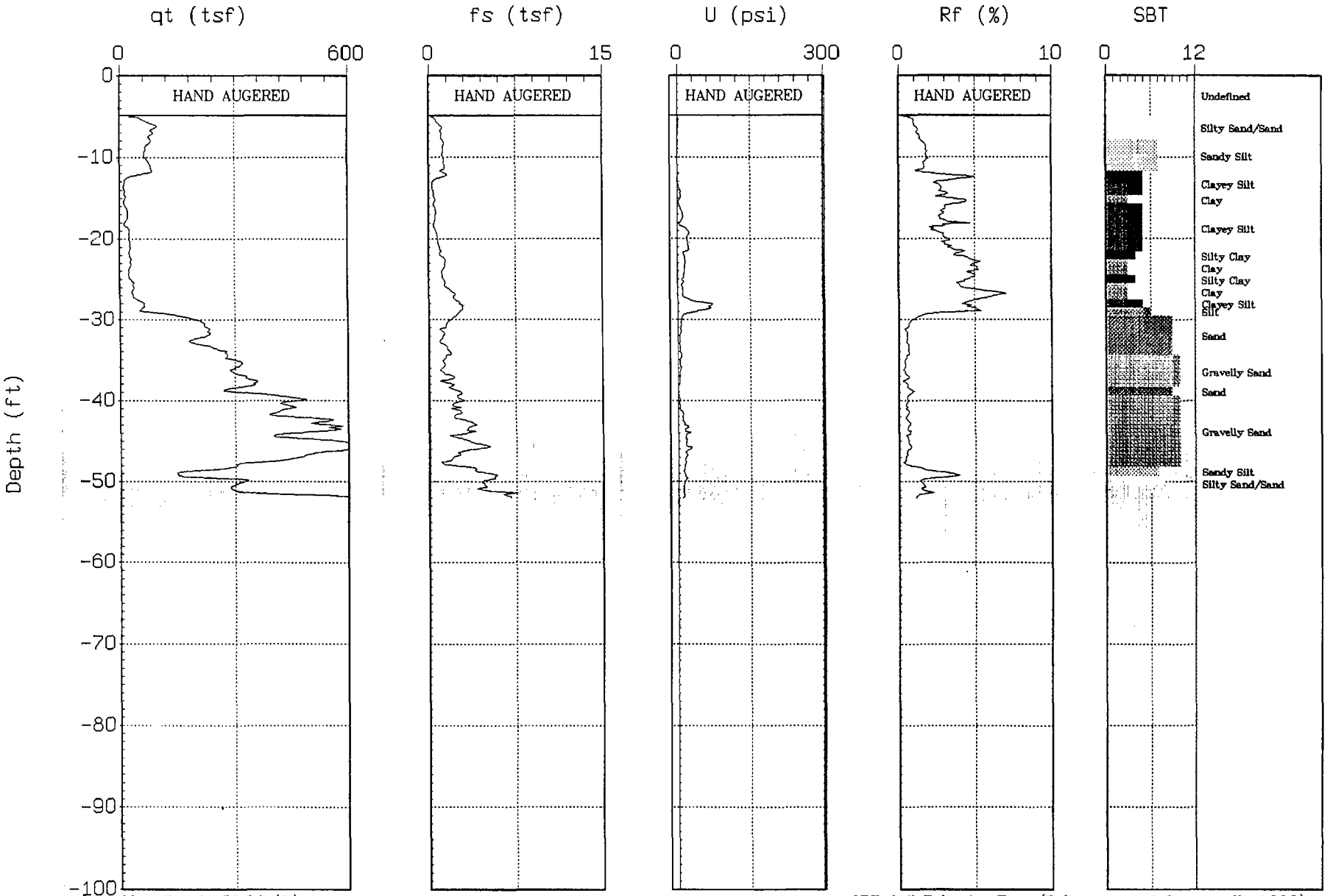
Figure 1

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-46

Geologist : B. CLARK
Date : 08:22:01 22:22



Max. Depth: 52.00 (ft)

Depth Inc.: 0.164 (ft)

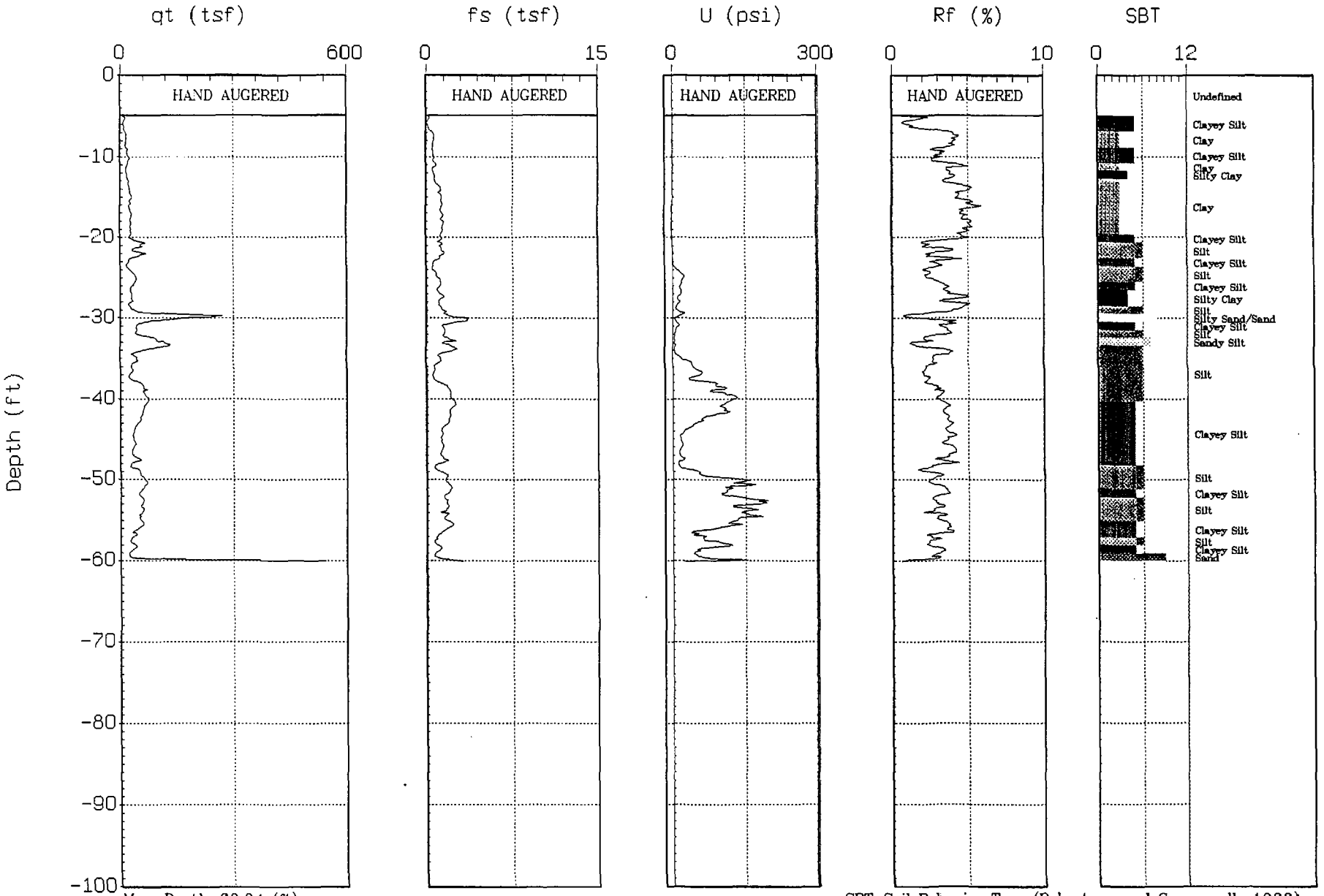
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-42

Geologist : B. CLARK
Date : 08:20:01 19:45



Max. Depth: 60.04 (ft)

Depth Inc.: 0.164 (ft)

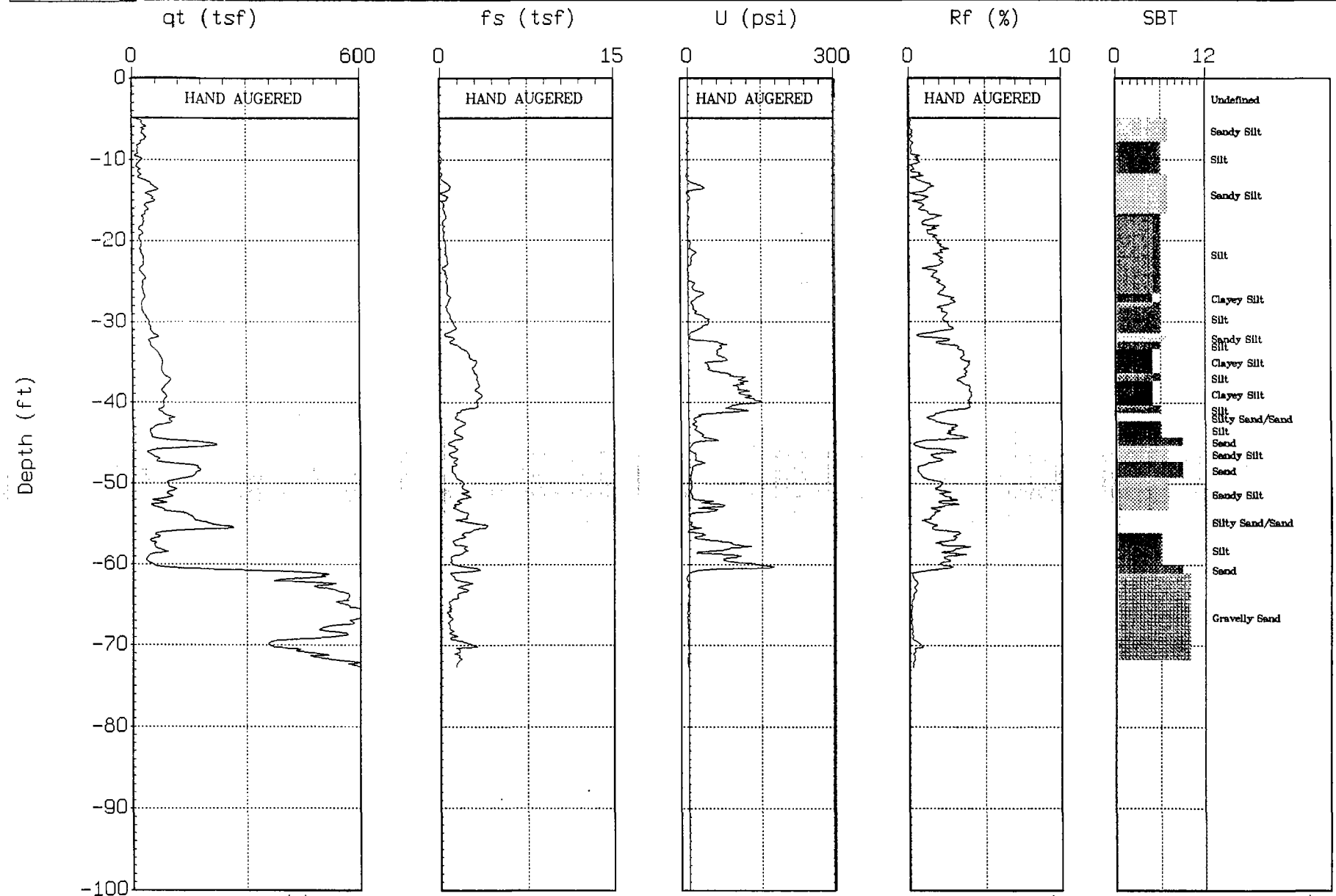
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-41

Geologist : B. CLARK
Date : 08:18:01 14:06



Max. Depth: 72.67 (ft)

Depth Inc.: 0.164 (ft)

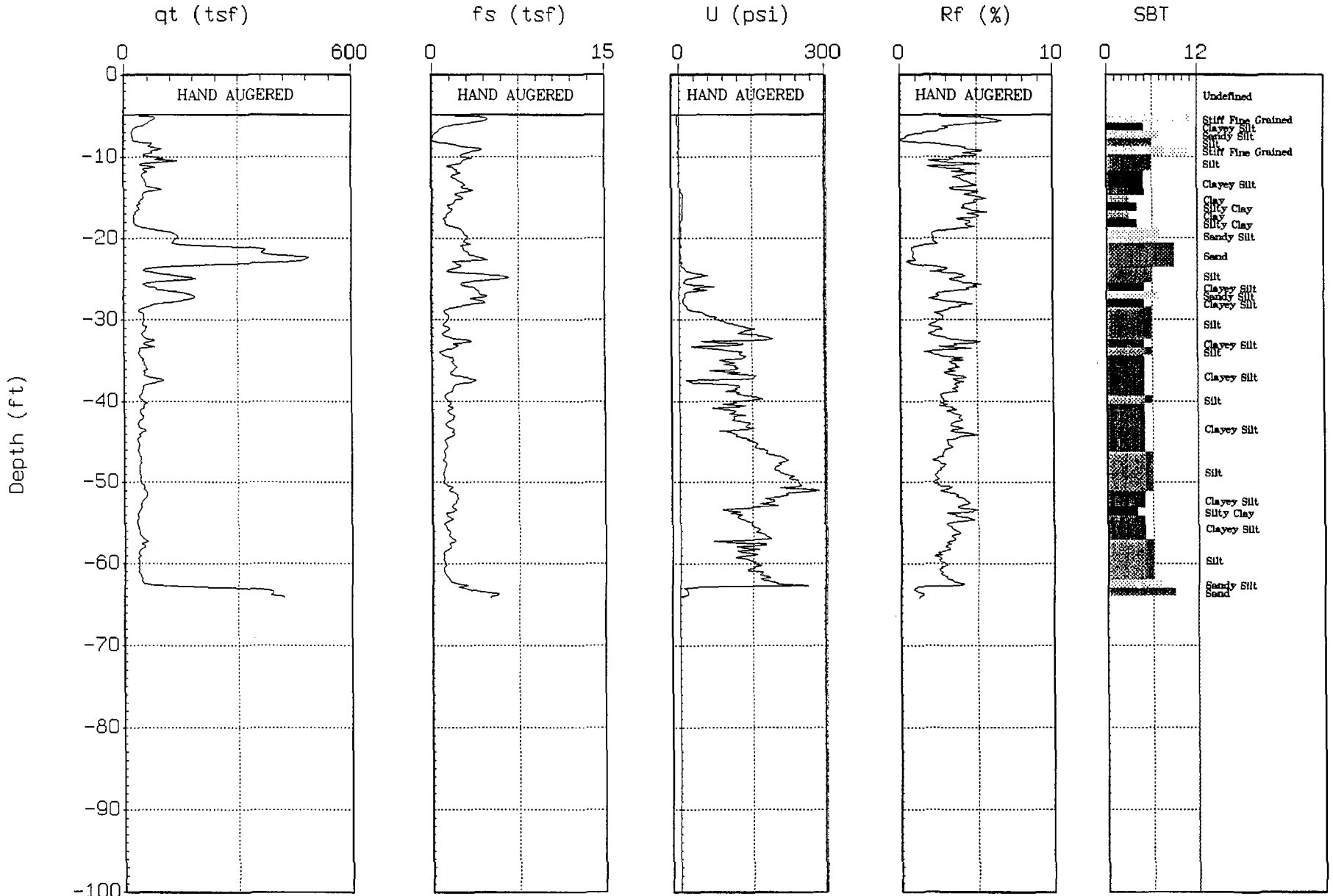
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-40

Geologist : B. CLARK
Date : 08:21:01 22:15



Max. Depth: 64.14 (ft)

Depth Inc.: 0.164 (ft)

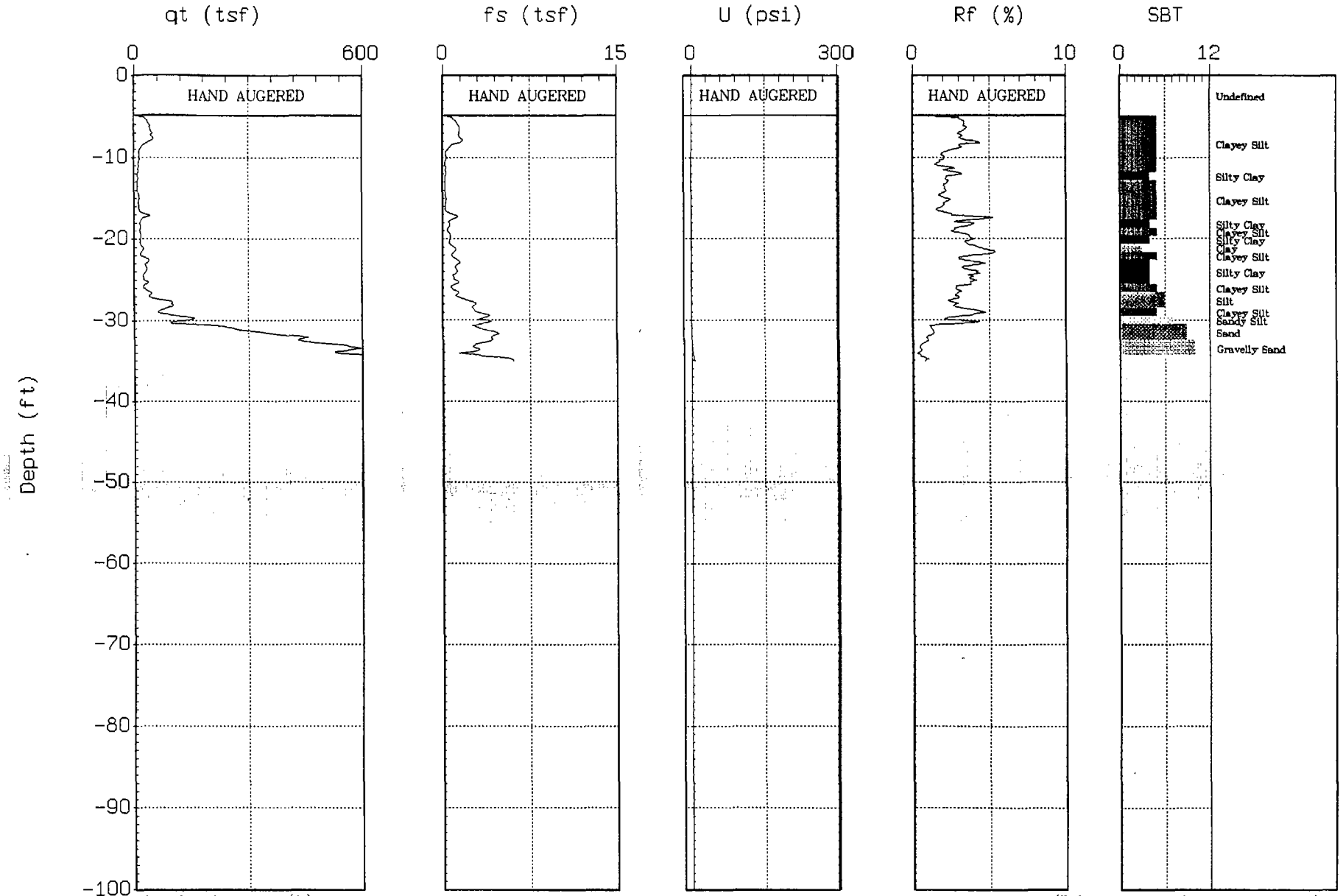
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-39

Geologist : B. CLARK
Date : 08:21:01 03:06



Max. Depth: 35.10 (ft)

Depth Inc.: 0.164 (ft)

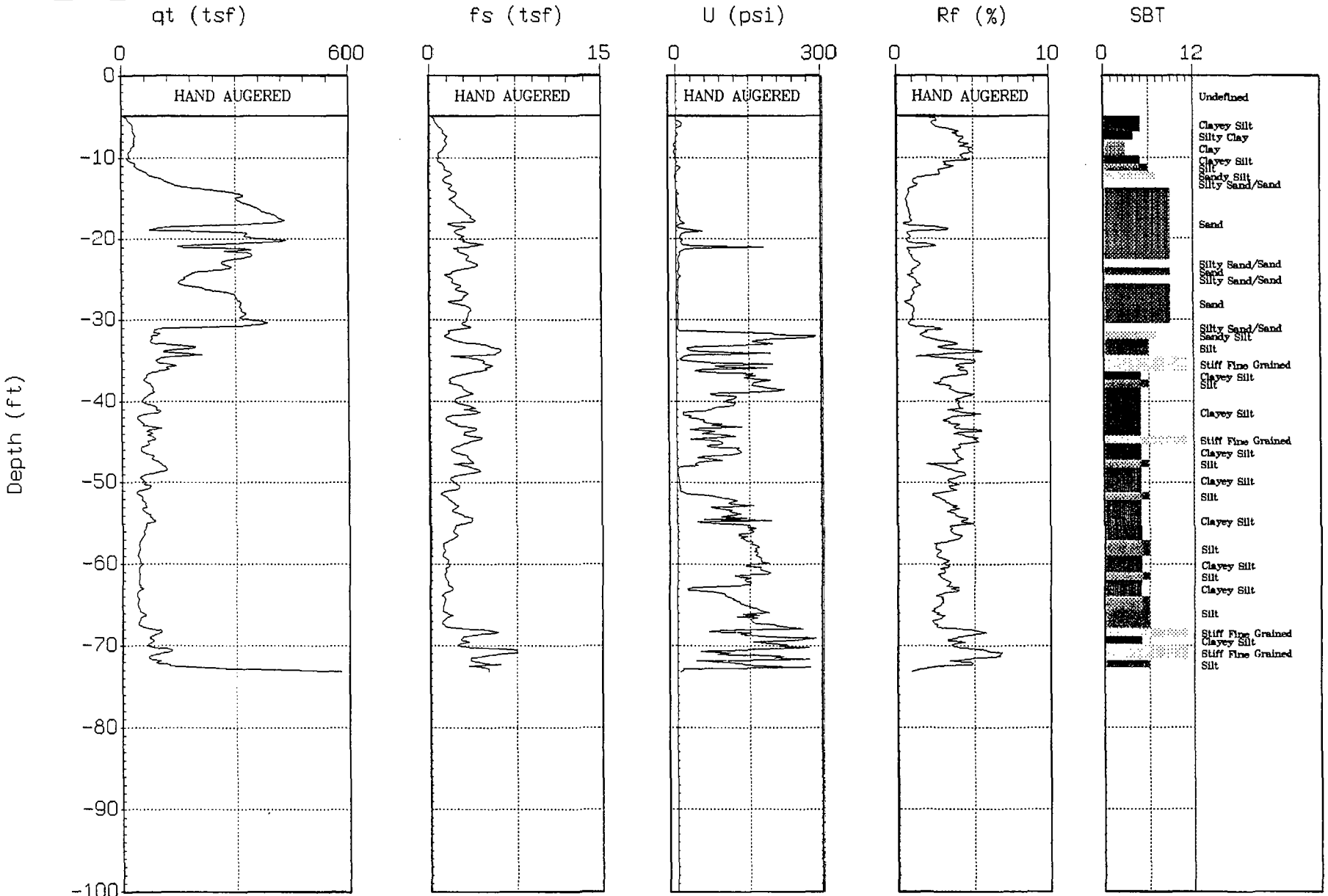
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-38

Geologist : B. CLARK
Date : 08:21:01 20:58



Max. Depth: 73.16 (ft)

Depth Inc.: 0.164 (ft)

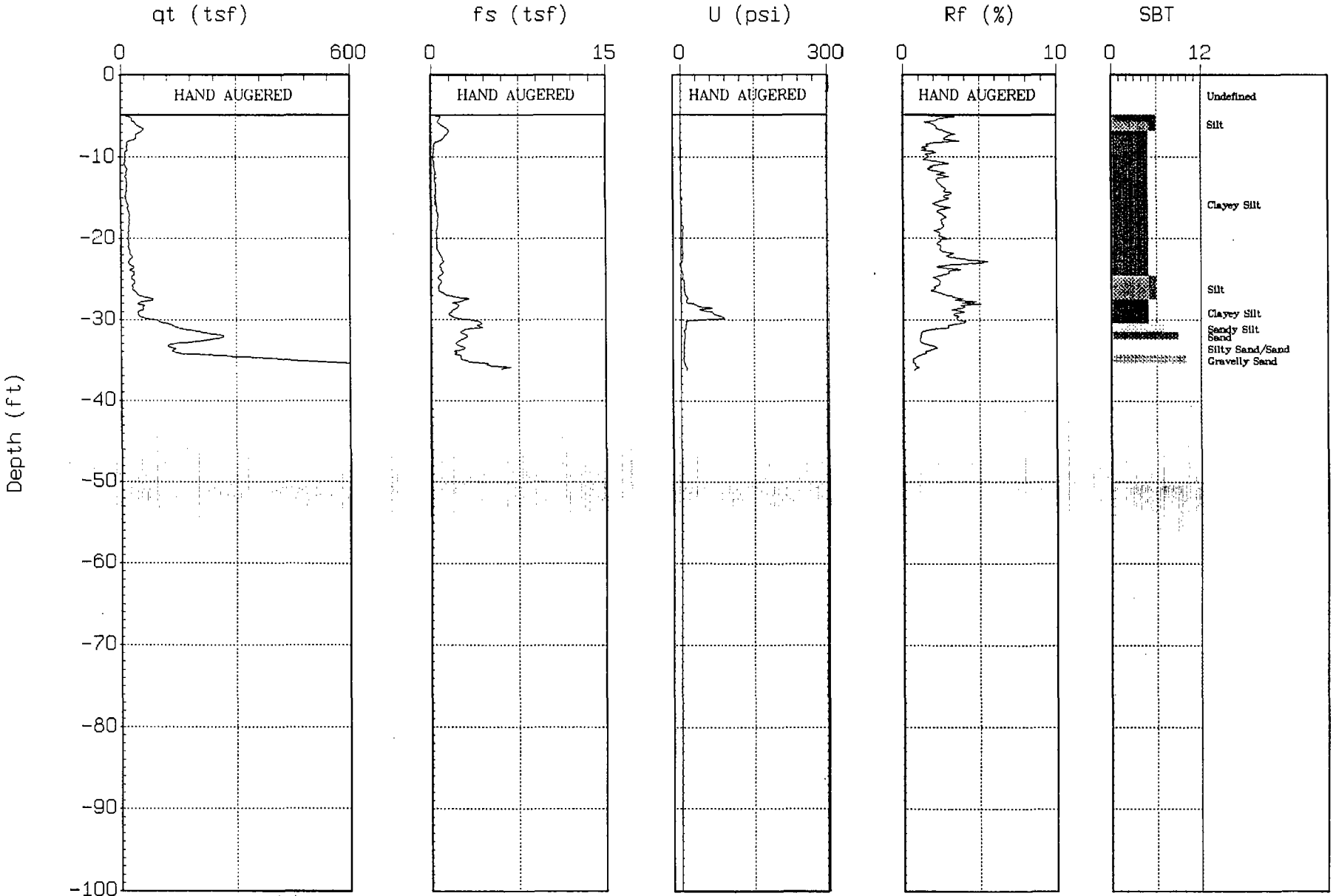
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-34

Geologist : B. CLARK
Date : 08:21:01 00:32



Max. Depth: 36.25 (ft)

Depth Inc.: 0.164 (ft)

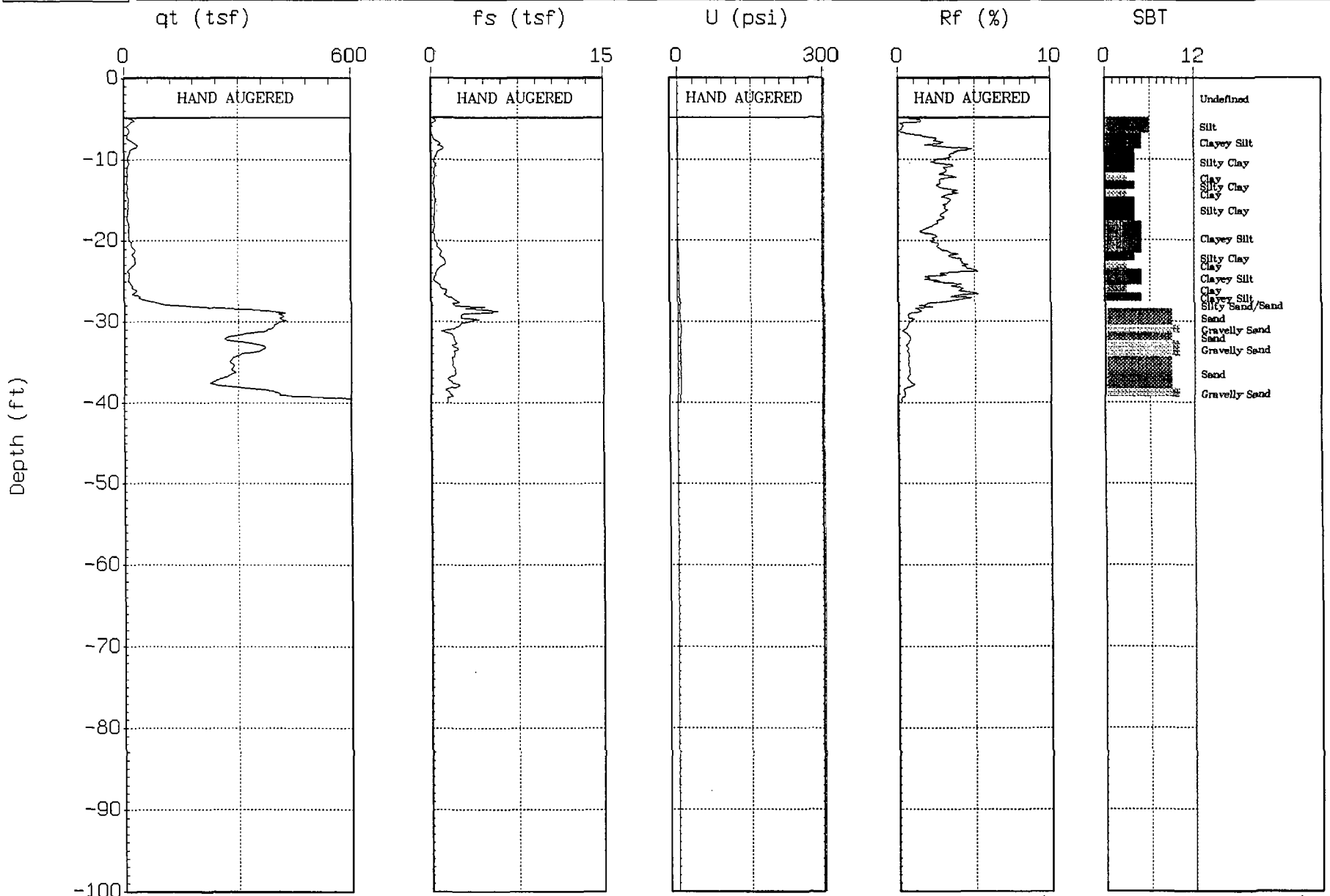
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-33

Geologist : B. CLARK
Date : 08:21:01 01:23



Max. Depth: 40.03 (ft)

Depth Inc.: 0.164 (ft)

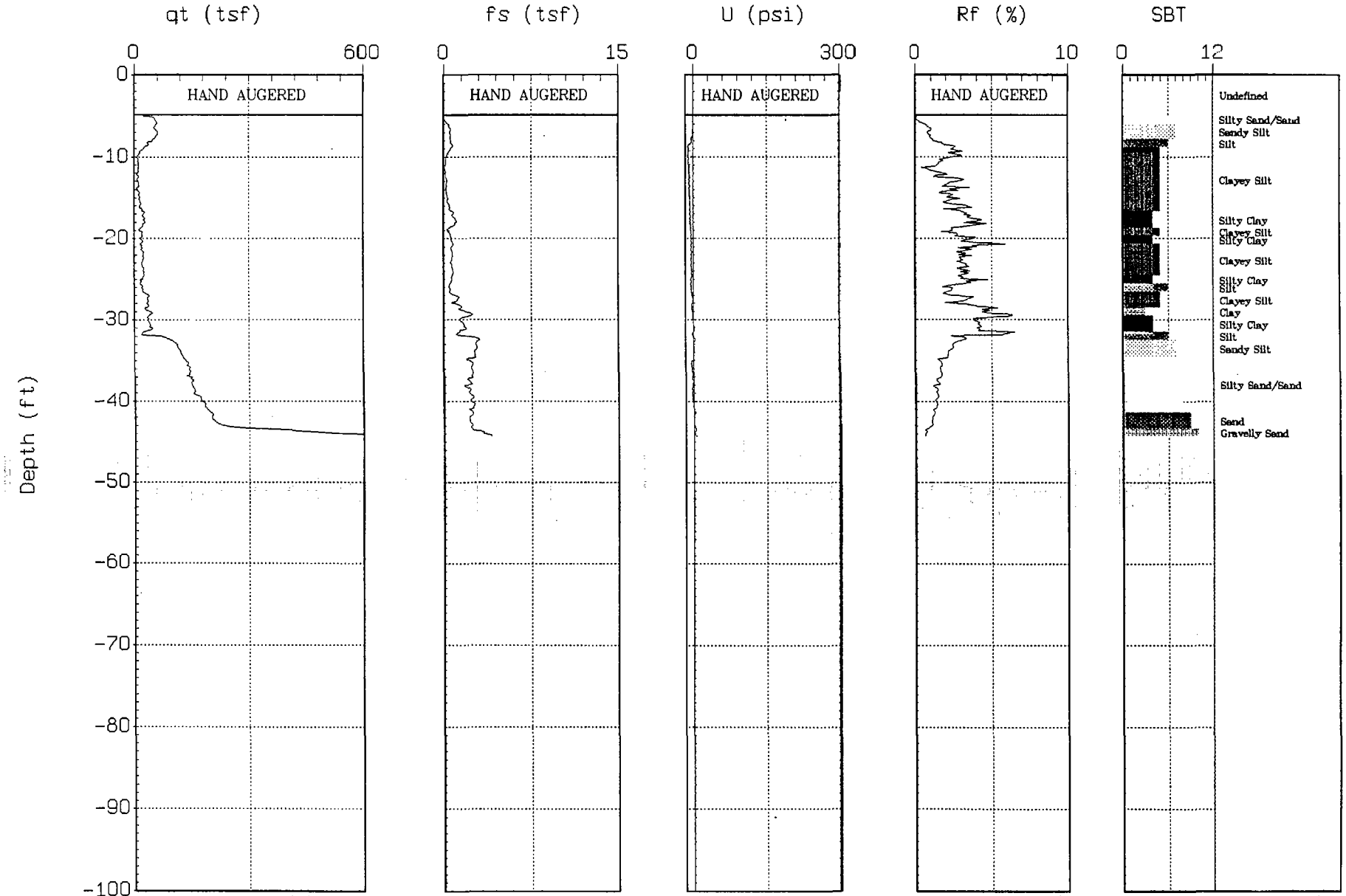
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-29

Geologist : B. CLARK
Date : 08:22:01 01:21



Max. Depth: 44.29 (ft)

Depth Inc.: 0.164 (ft)

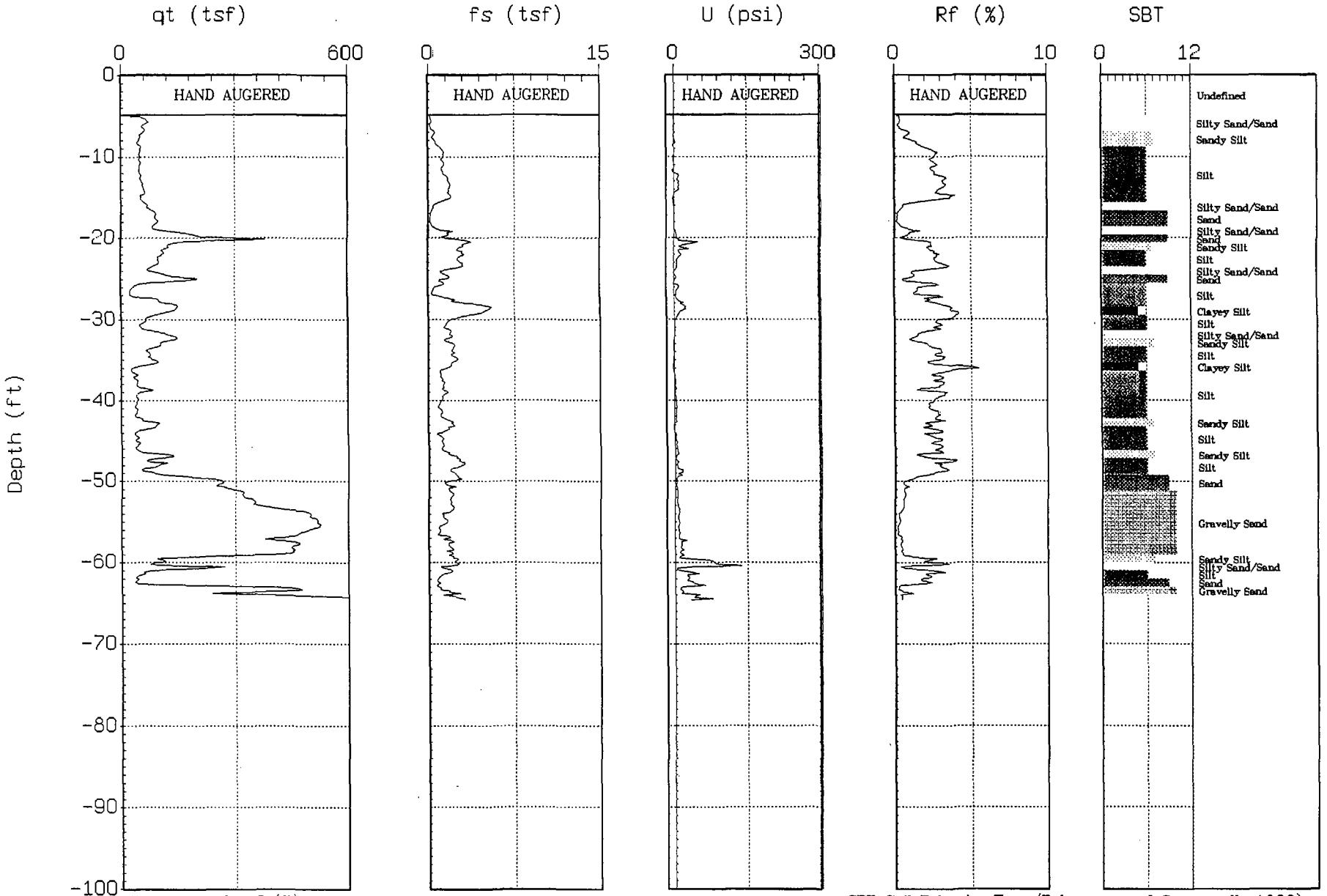
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-23

Geologist : B. CLARK
Date : 08:17:01 20:59



Max. Depth: 64.63 (ft)

Depth Inc.: 0.164 (ft)

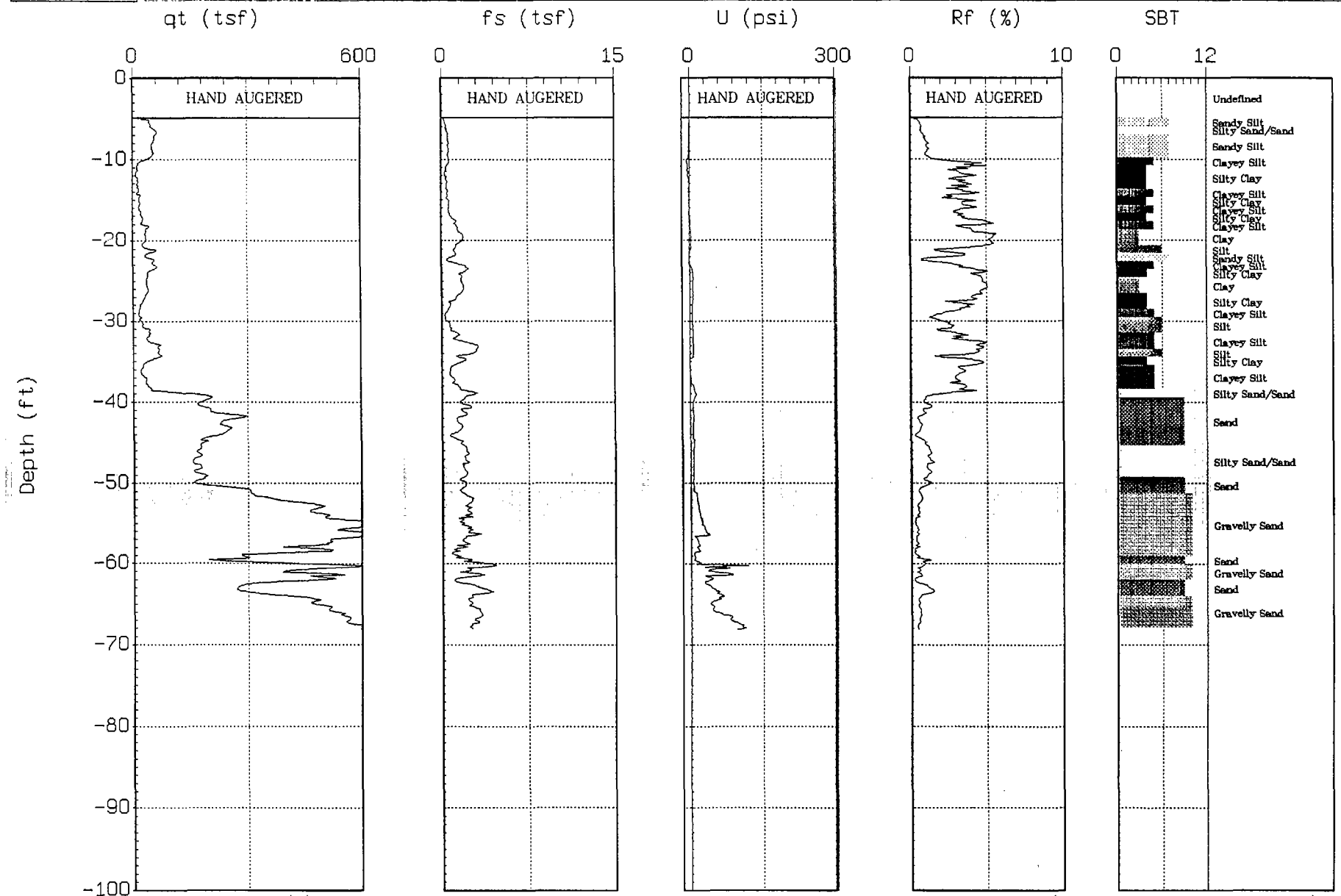
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-22

Geologist : B. CLARK
Date : 08:18:01 00:02



Max. Depth: 68.08 (ft)

Depth Inc.: 0.164 (ft)

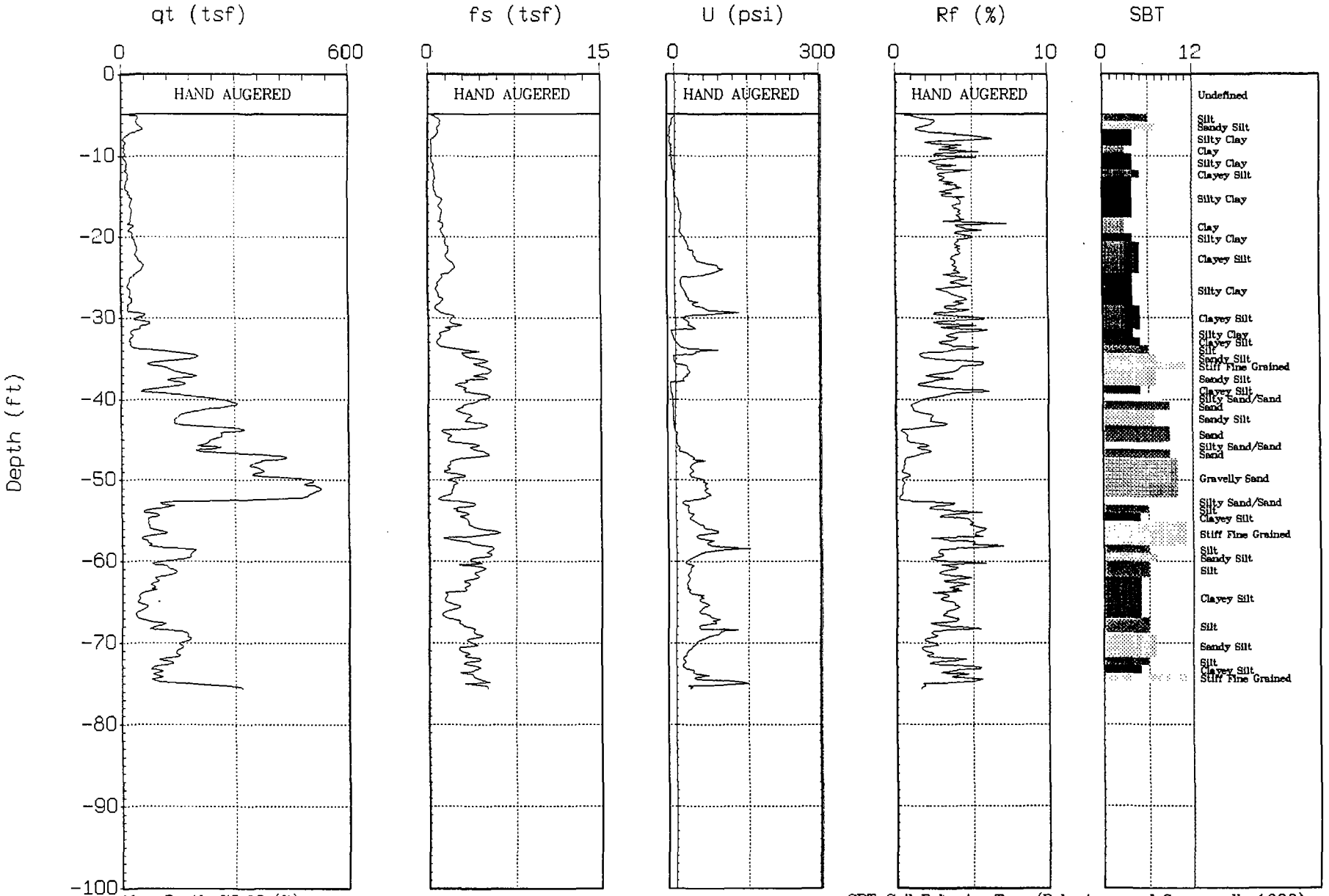
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-20

Geologist : B. CLARK
Date : 08:18:01 01:10



Max. Depth: 75.62 (ft)

Depth Inc.: 0.164 (ft)

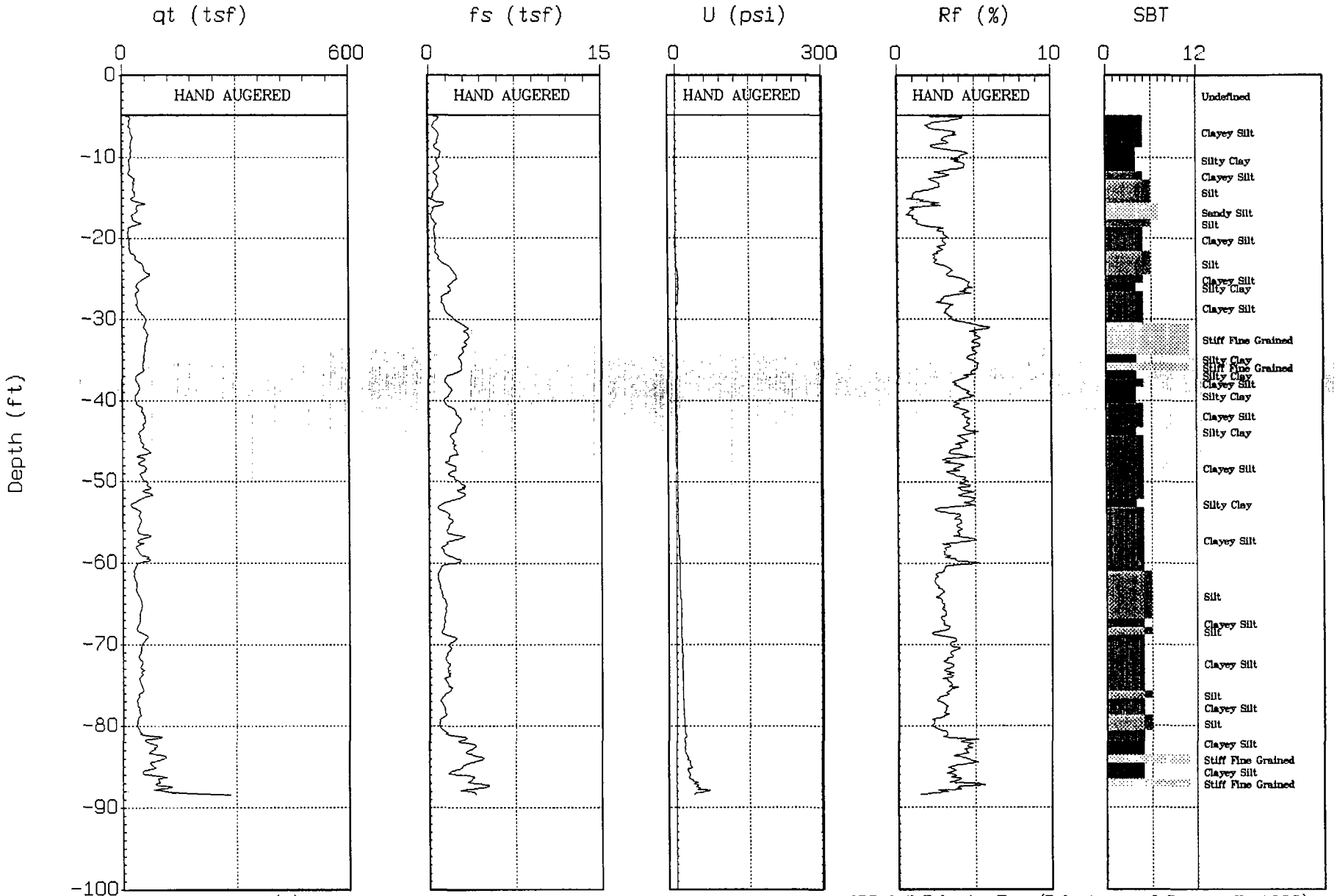
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-15

Geologist : B. CLARK
Date : 08:16:01 03:05



Max. Depth: 88.42 (ft)

Depth Inc.: 0.164 (ft)

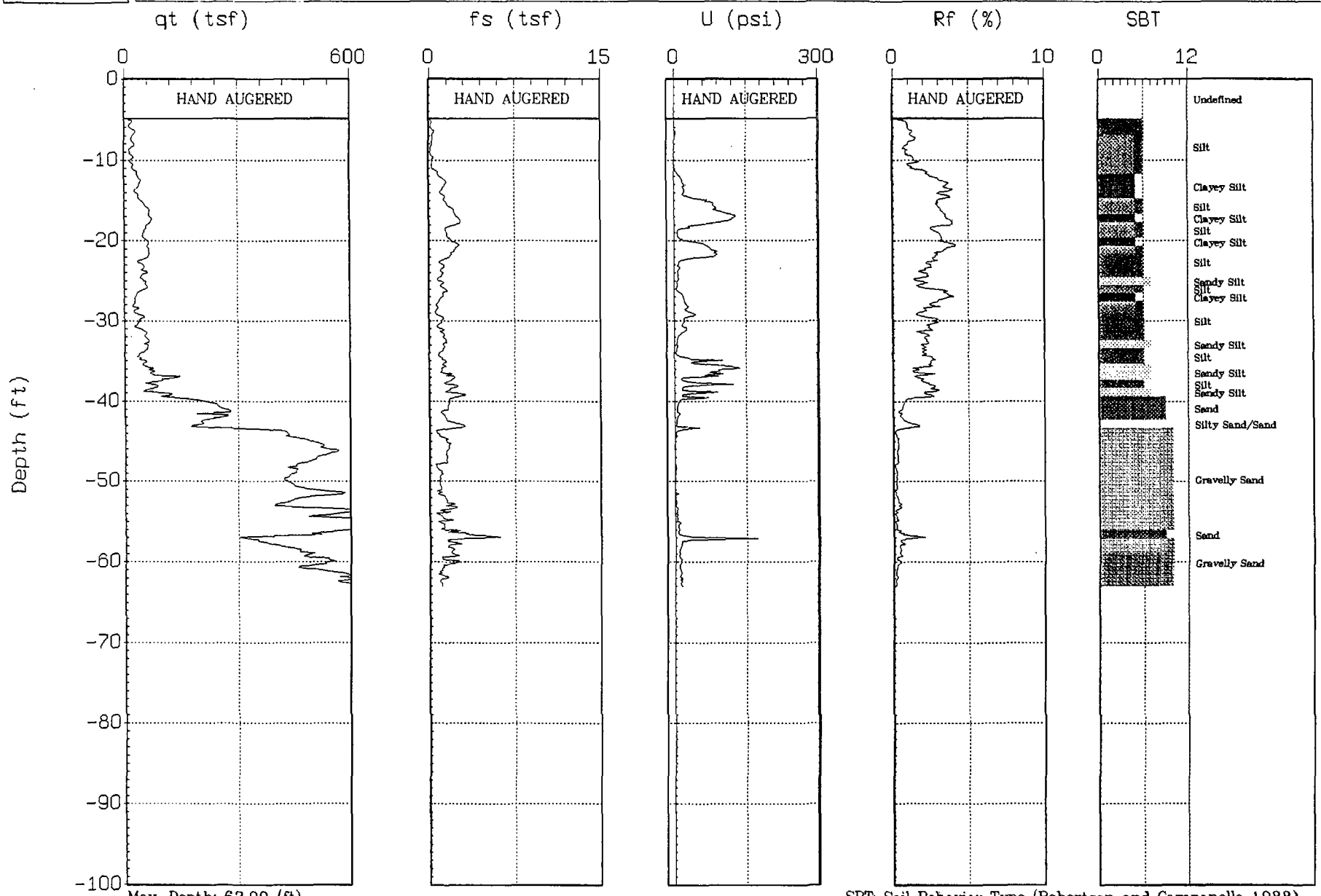
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA
Location : CPT-17

Geologist : B. CLARK
Date : 08:18:01 09:14



Max. Depth: 62.99 (ft)

Depth Inc.: 0.164 (ft)

SBT: Soil Behavior Type (Robertson and Campanella 1988)

PRESENTATION OF CONE PENETRATION TEST DATA

OMEGA

WHITTIER, CALIFORNIA

Prepared for:

R.F. WESTON
Sherman Oaks, California

Prepared by:

GREGG IN SITU, INC.
Signal Hill, California
01-296sh

Prepared on:

November 12, 2001

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- References

ATTACHMENTS

- Computer Diskette with ASCII Files

PRESENTATION OF CONE PENETRATION TEST DATA

1.0 INTRODUCTION

This report presents the results of a Cone Penetration Testing (CPT) and in situ groundwater sampling program carried out at the Omega site located in Whittier, CA. The work was performed on October 29th, through November 1st, 2001. The scope of work was performed as directed by R.F. Weston personnel.

2.0 FIELD EQUIPMENT & PROCEDURES

The Cone Penetration Tests (CPT) were carried out by GREGG IN SITU, INC. of Signal Hill, CA using an integrated electronic cone system. The CPT soundings were performed in accordance with ASTM standards (D 5778-95). A 20 ton capacity cone was used for all of the soundings (figure 1). This cone has a tip area of 15 sq.cm. and friction sleeve area of 225 sq.cm. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85.

The cones used during the program recorded the following parameters at 5 cm depth intervals:

- Tip Resistance (qc)
- Sleeve Friction (fs)
- Dynamic Pore Pressure (U)

The above parameters were printed simultaneously on a printer and stored on a computer diskette for future analysis and reference.

The pore water pressure element was located directly behind the cone tip. The pore water pressure element was 5.0 mm thick and consisted of porous plastic. Each of the elements were saturated in silicon oil under vacuum pressure prior to penetration. Pore pressure dissipations were recorded at 5 second intervals when appropriate during pauses in the penetration.

A complete set of baseline readings was taken prior to each sounding to determine temperature shifts and any zero load offsets. Monitoring base line readings ensures that the cone electronics are operating properly.

The cones were pushed using GREGG IN SITU's CPT rig, having a down pressure capacity of approximately 25 tons. 8 CPT soundings were performed. The penetration tests were carried to depths of approximately 62 to 107 feet below ground surface. Test locations were determined in the field by R. F. Weston personnel.

In situ groundwater samples (GWS) were taken at 22 Locations. Groundwater samples were collected using a Hydropunch® type groundwater sampling system (figure 2). The groundwater sampler operates by pushing 1.75 inch diameter hollow rods with a retrievable or disposable tip. A stainless steel or PVC filter screen is attached to the tip. At the desired sampling depth, the rods are retracted exposing the filter screen and allowing for groundwater infiltration. A small diameter bailer is then used to collect groundwater samples through the hollow rod.

The CPT/GWS holes were grouted using our support rig. The grouting procedure consists of pushing a hollow CPT rod with a "knock out" plug back down the hole to the test hole termination depth. Grout is then pumped under pressure as the tremie pipe is pulled from the hole.

3.0 CONE PENETRATION TEST DATA & INTERPRETATION

The cone penetration test data is presented in graphical form. Penetration depths are referenced to existing ground surface. This data includes CPT logs of measured soil parameters and a computer tabulation of interpreted soil types along with additional geotechnical parameters and pore pressure dissipation data.

The stratigraphic interpretation is based on relationships between cone bearing (qc), sleeve friction (fs), and penetration pore pressure (U). The friction ratio (Rf), which is sleeve friction divided by cone bearing, is a calculated parameter which is used to infer soil behavior type. Generally, cohesive soils (clays) have high friction ratios, low cone bearing and generate large excess pore water pressures. Cohesionless soils (sands) have lower friction ratios, high cone bearing and generate little in the way of excess pore water pressures.

Pore Pressure Dissipation Tests (PPDT's) were taken at various intervals in order to measure hydrostatic water pressures and approximate depth to groundwater table. In addition, the PPDT data can be used to estimate the horizontal permeability (k_h) of the soil. The correlation to permeability is based on the time required for 50 percent of the measured dynamic pore pressure to dissipate (t_{50}). The PPDT correlation figure (figure 3) is provided in the Appendix.

The interpretation of soils encountered on this project was carried out using recent correlations developed by Robertson et al, 1988. It should be noted that it is not always possible to clearly identify a soil type based on qc, fs and U.

In these situations, experience and judgement and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type. The soil classification chart (figure 3) used to interpret soil types based on qc and Rf is provided in the Appendix.

We hope the information presented is sufficient for your purposes. We recommend that all data be carefully reviewed by qualified personnel to verify the data and make appropriate recommendations. If you have any questions, please do not hesitate to contact our office at (562) 427-6899.

Sincerely,
GREGG IN SITU, INC.

Brian Savela
Operations Manager

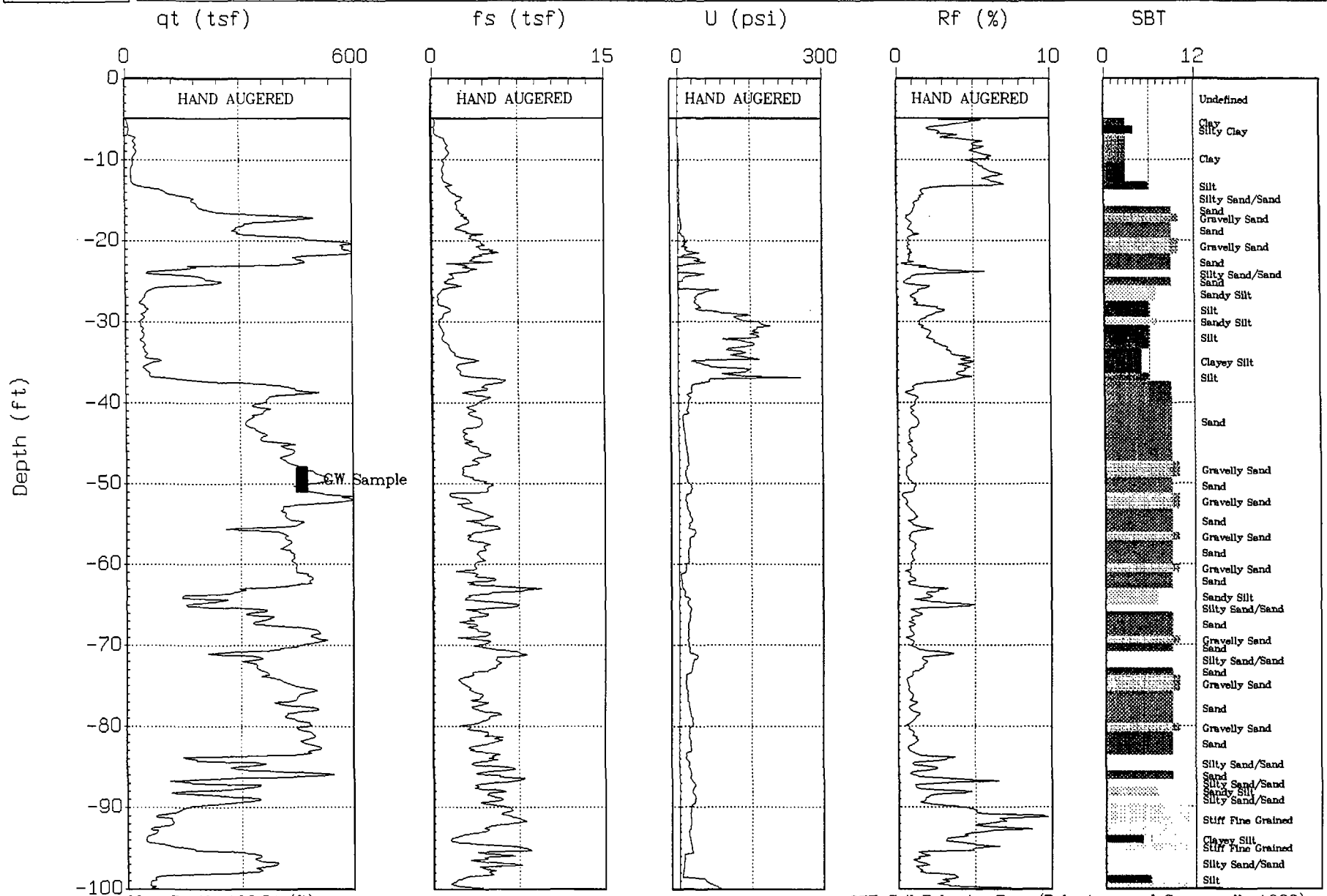
3.1 CPT PLOTS

GREGG

R.F. WESTON

Site : OMEGA CHEMICAL
Location : CPT-63

Geologist : B. CLARKE
Date : 10:29:01 08:48



Max. Depth: 103.51 (ft)

Depth Inc.: 0.164 (ft)

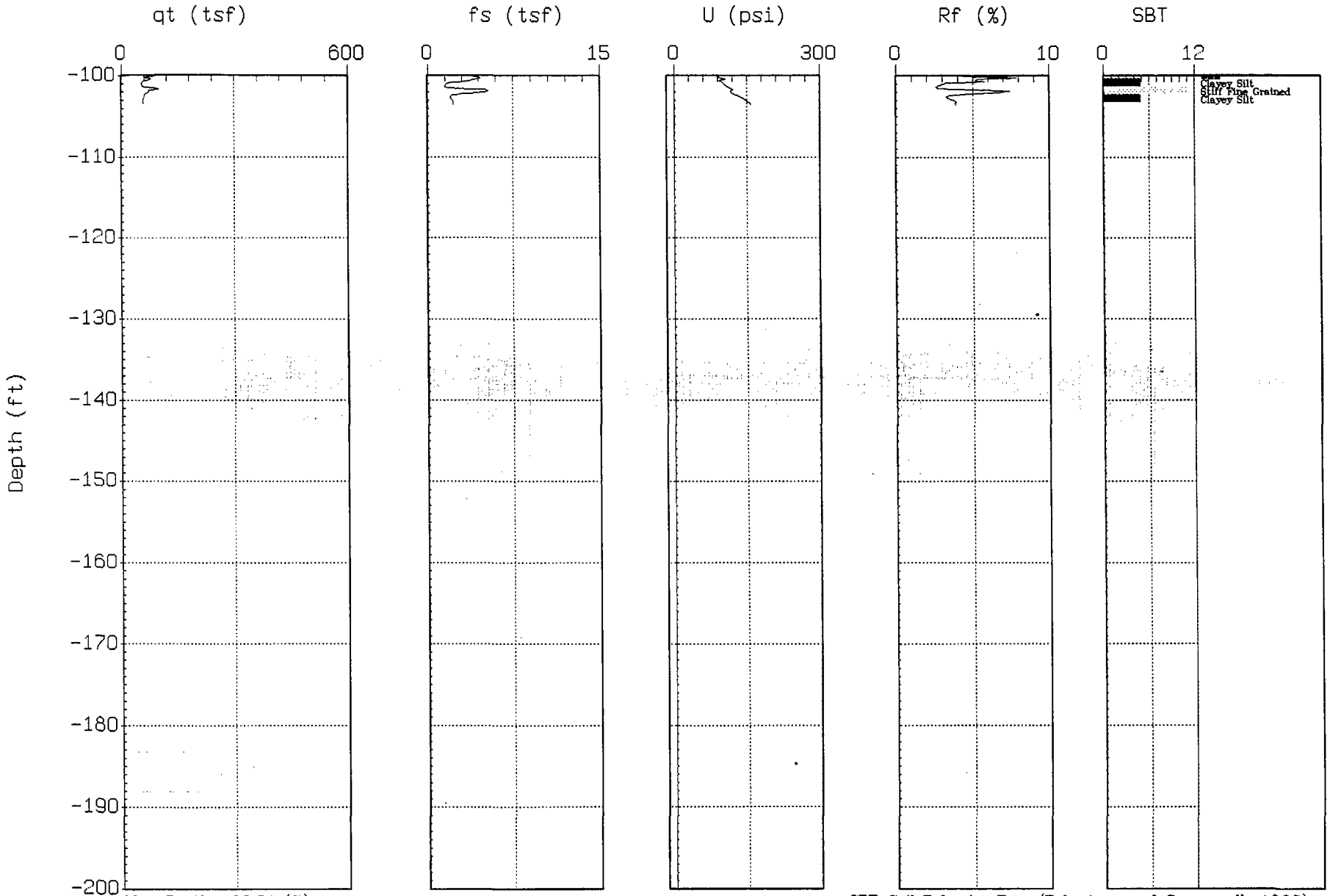
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA CHEMICAL
Location : CPT-63

Geologist : B. CLARKE
Date : 10:29:01 08:48



Max. Depth: 103.51 (ft)

Depth Inc.: 0.164 (ft)

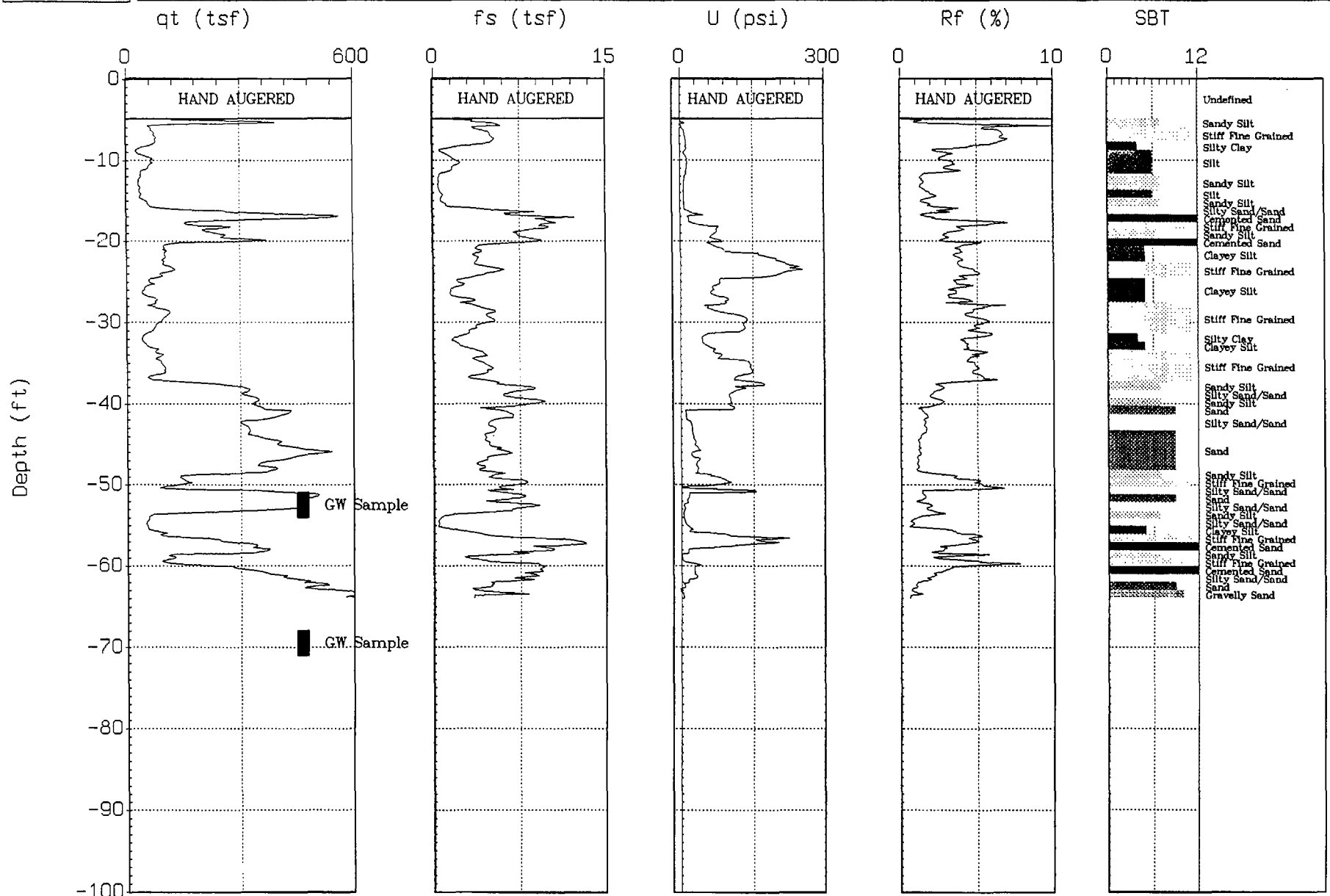
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA CHEMICAL
Location : CPT-65

Geologist : B. CLARKE
Date : 10:29:01 11:54



Max. Depth: 63.98 (ft)

Depth Inc.: 0.164 (ft)

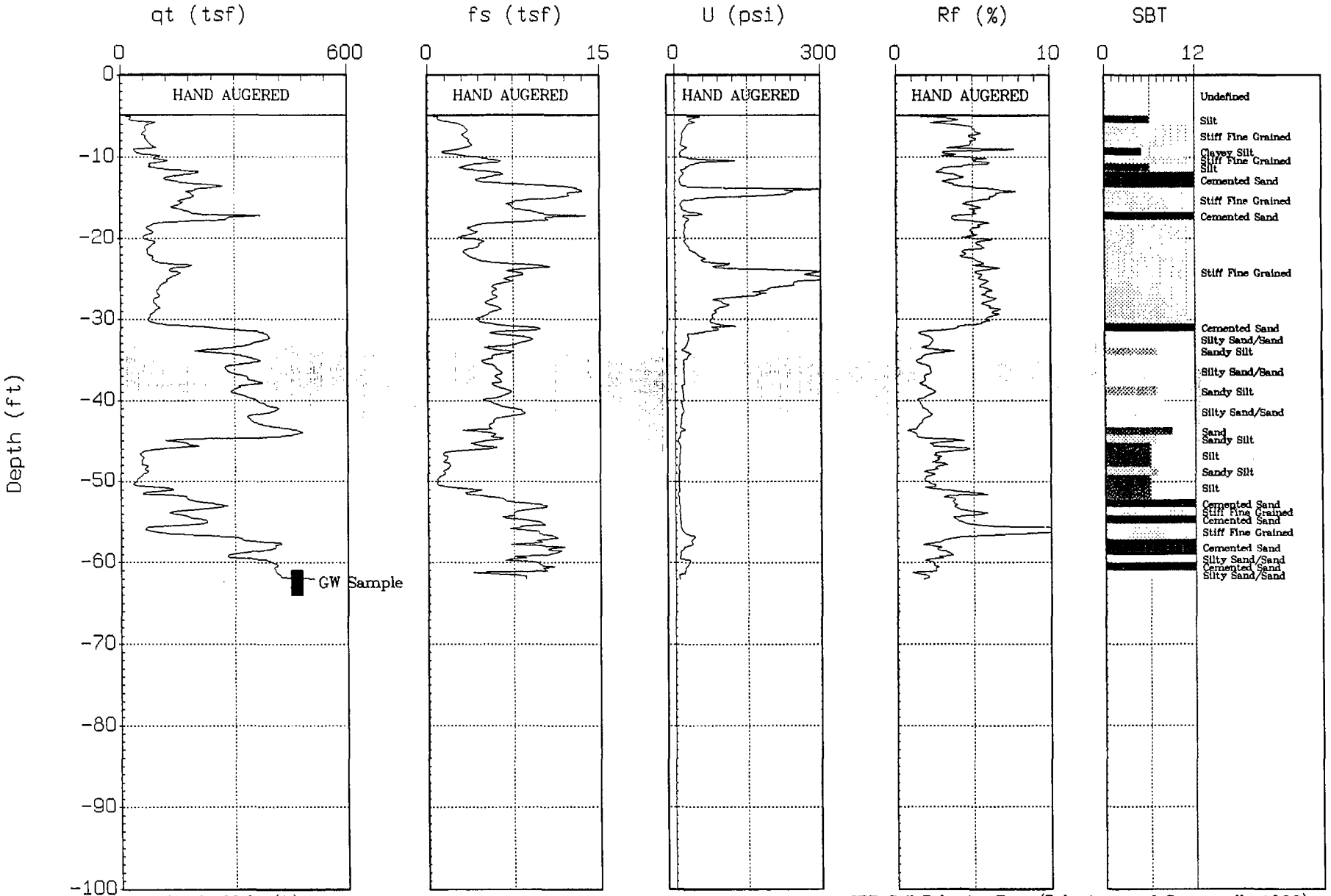
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA CHEMICAL
Location : CPT-66

Geologist : B. CLARKE
Date : 10:29:01 13:44



Max. Depth: 62.01 (ft)

Depth Inc.: 0.164 (ft)

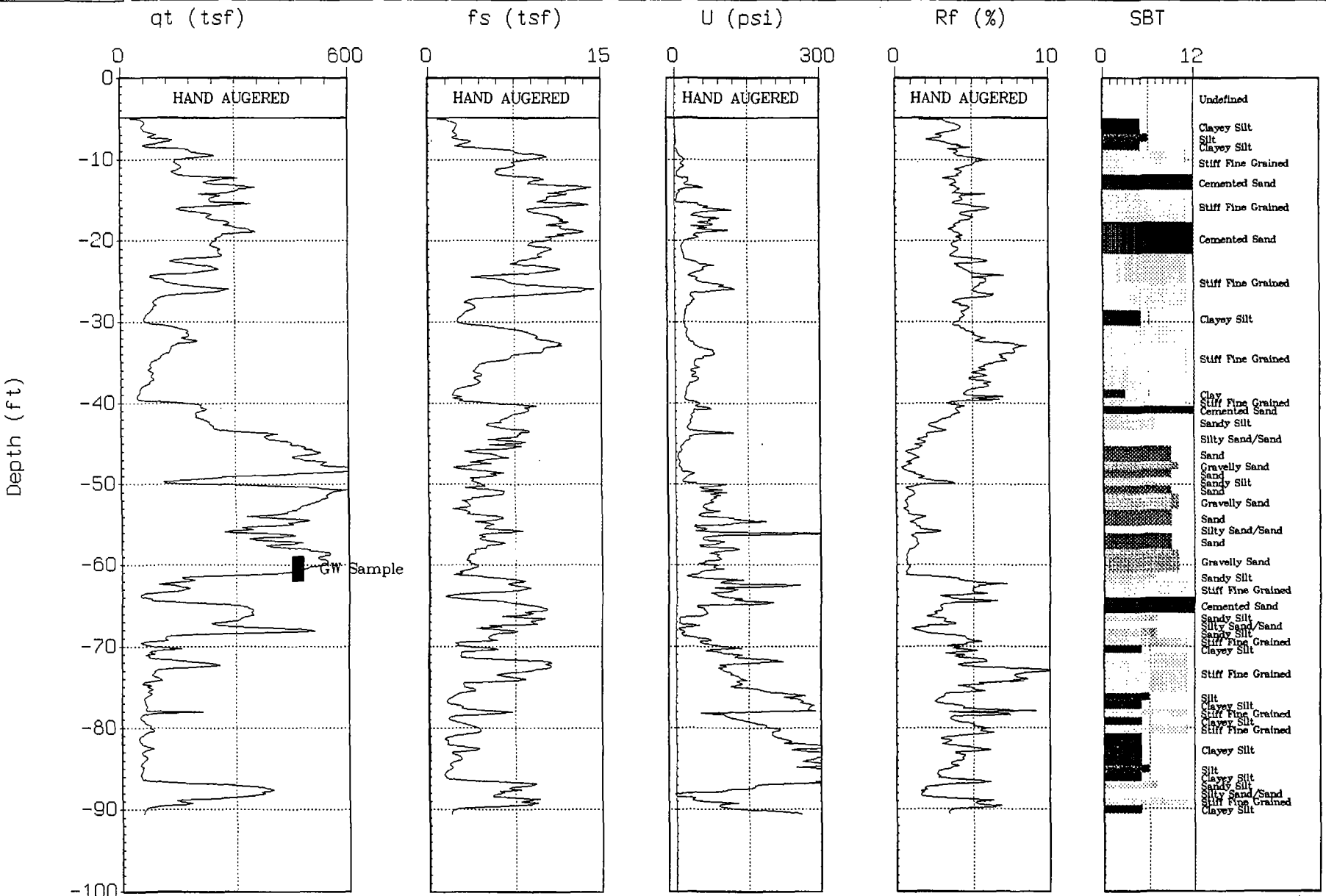
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA CHEMICAL
Location : CPT-69

Geologist : B. CLARKE
Date : 10:30:01 09:29



Max. Depth: 90.55 (ft)

Depth Inc.: 0.164 (ft)

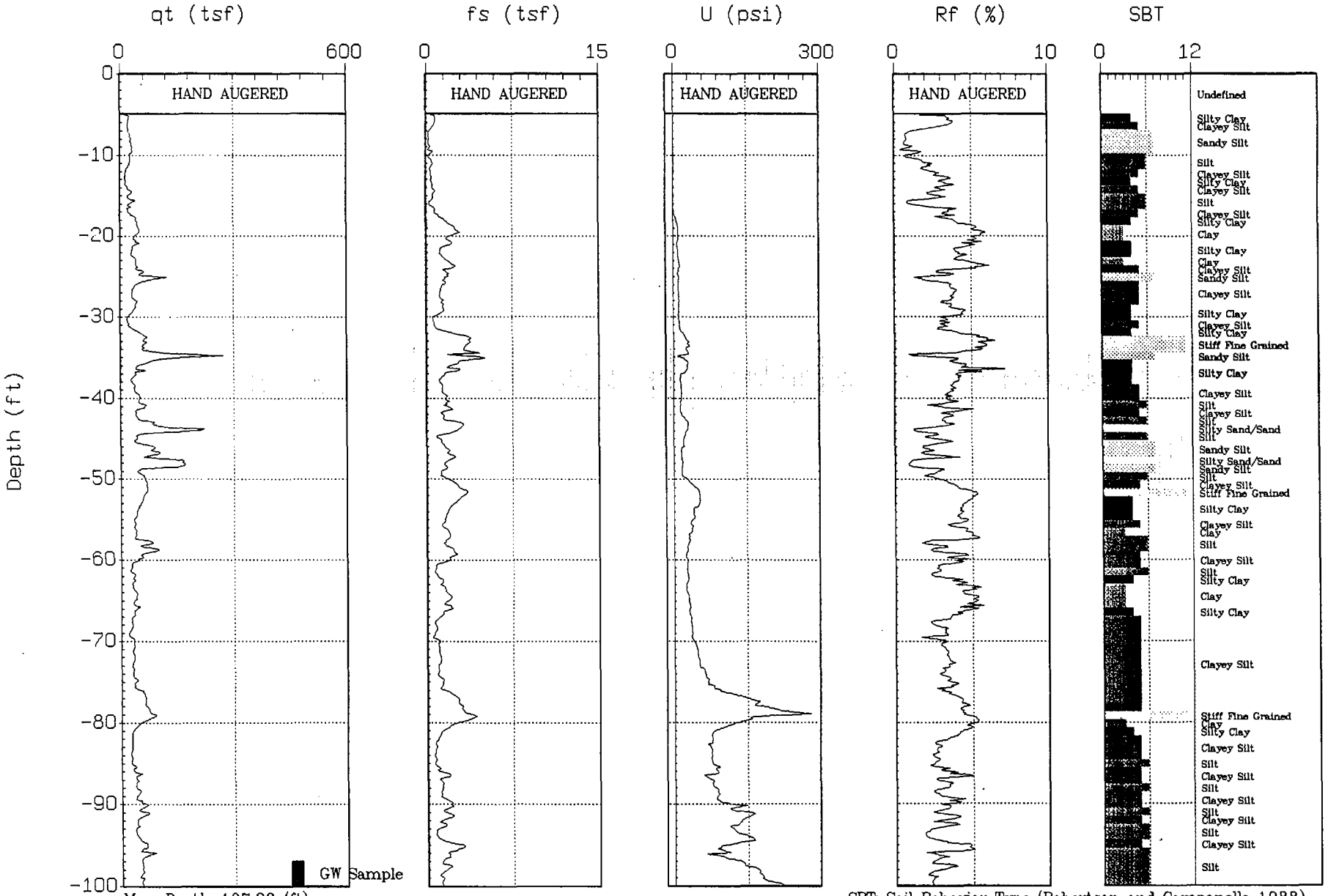
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA CHEMICAL
Location : CPT-~~71~~ 70

Geologist : B. CLARKE
Date : 10:30:01 13:31



Max. Depth: 107.28 (ft)

Depth Inc.: 0.164 (ft)

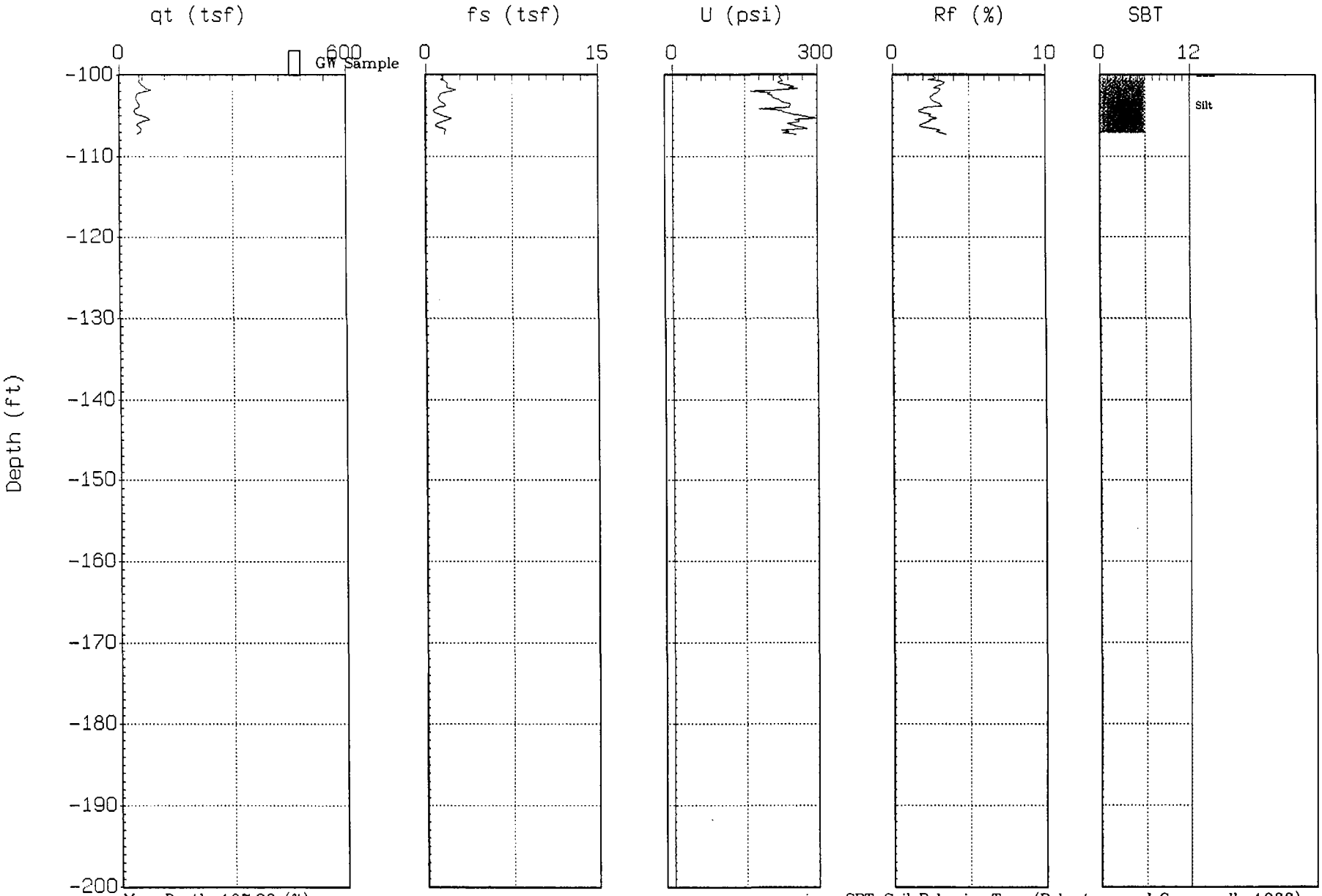
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA CHEMICAL
Location : CPT-~~7~~10

Geologist : B. CLARKE
Date : 10:30:01 13:31



Max. Depth: 107.28 (ft)

Depth Inc.: 0.164 (ft)

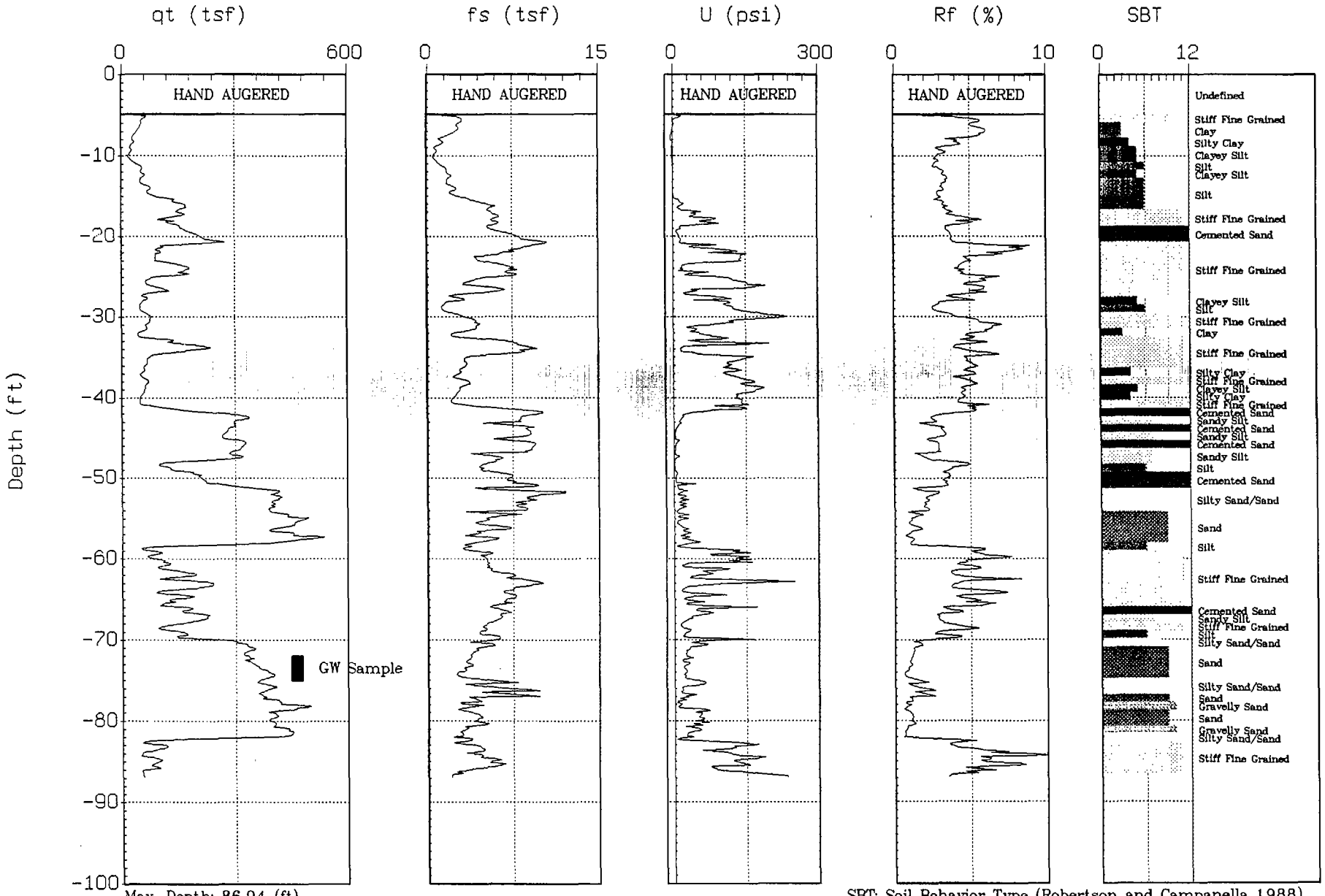
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA CHEMICAL
Location : CPT-74

Geologist : B. CLARKE
Date : 10:31:01 09:02



Max. Depth: 86.94 (ft)

Depth Inc.: 0.164 (ft)

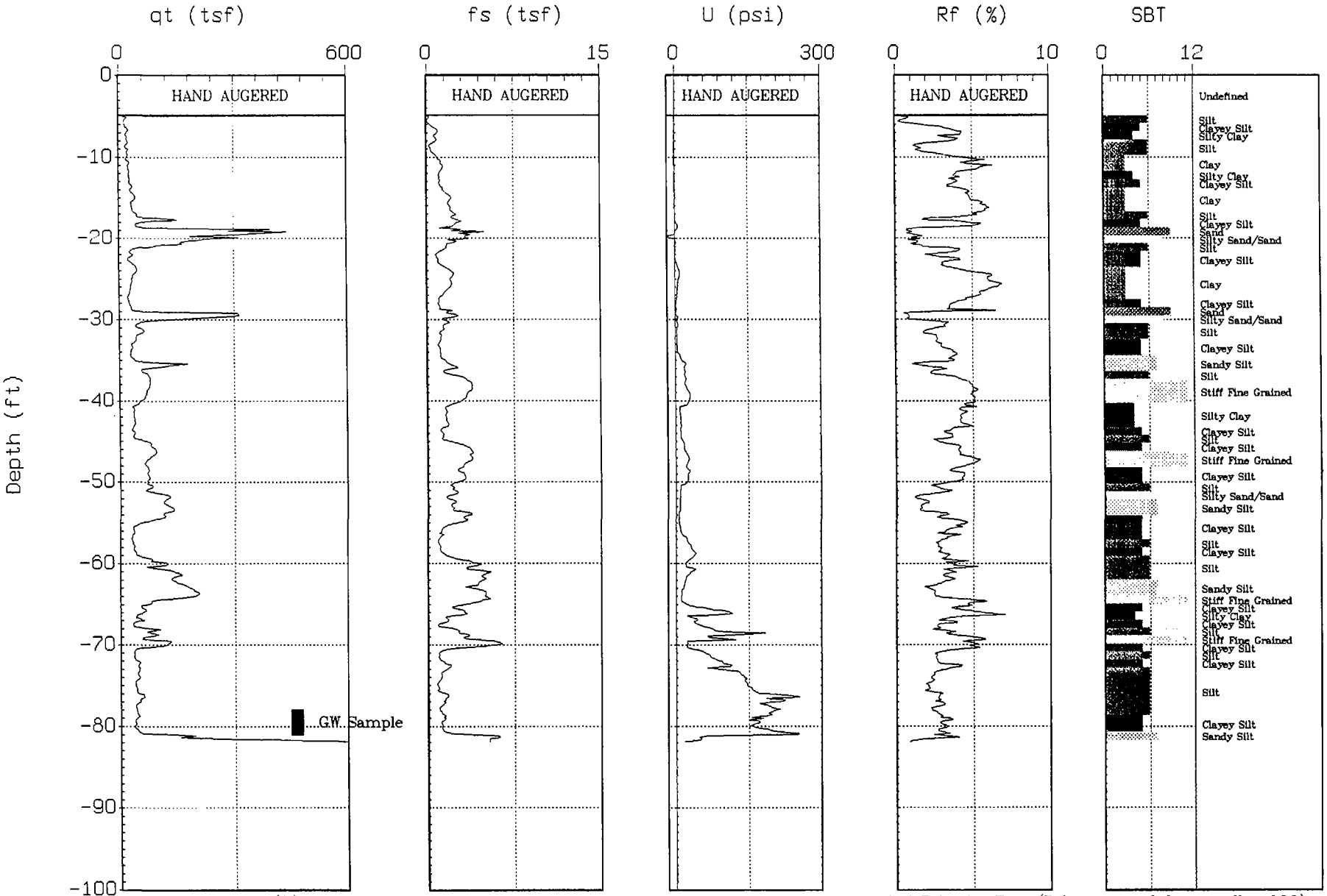
SBT: Soil Behavior Type (Robertson and Campanella 1988)

GREGG

R.F. WESTON

Site : OMEGA CHEMICAL
Location : CPT-~~83~~ 1

Geologist : B. CLARKE
Date : 11:01:01 12:56



Max. Depth: 81.86 (ft)

Depth Inc.: 0.164 (ft)

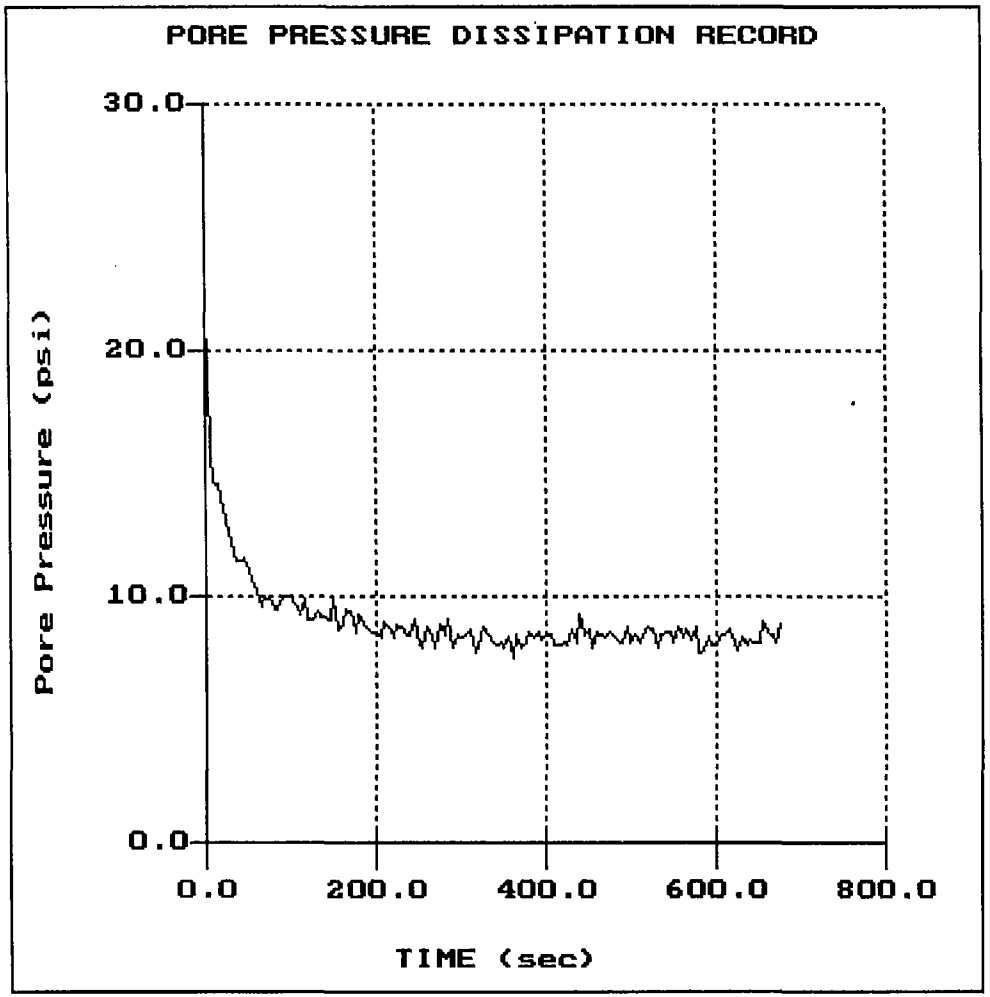
SBT: Soil Behavior Type (Robertson and Campanella 1988)

3.2 PORE PRESSURE DISSIPATION PLOTS

R.F. WESTON

Site: OMEGA CHEMICAL
Location: CPT-63

Geologist: B. CLARKE
Date: 02:10:01 08:48

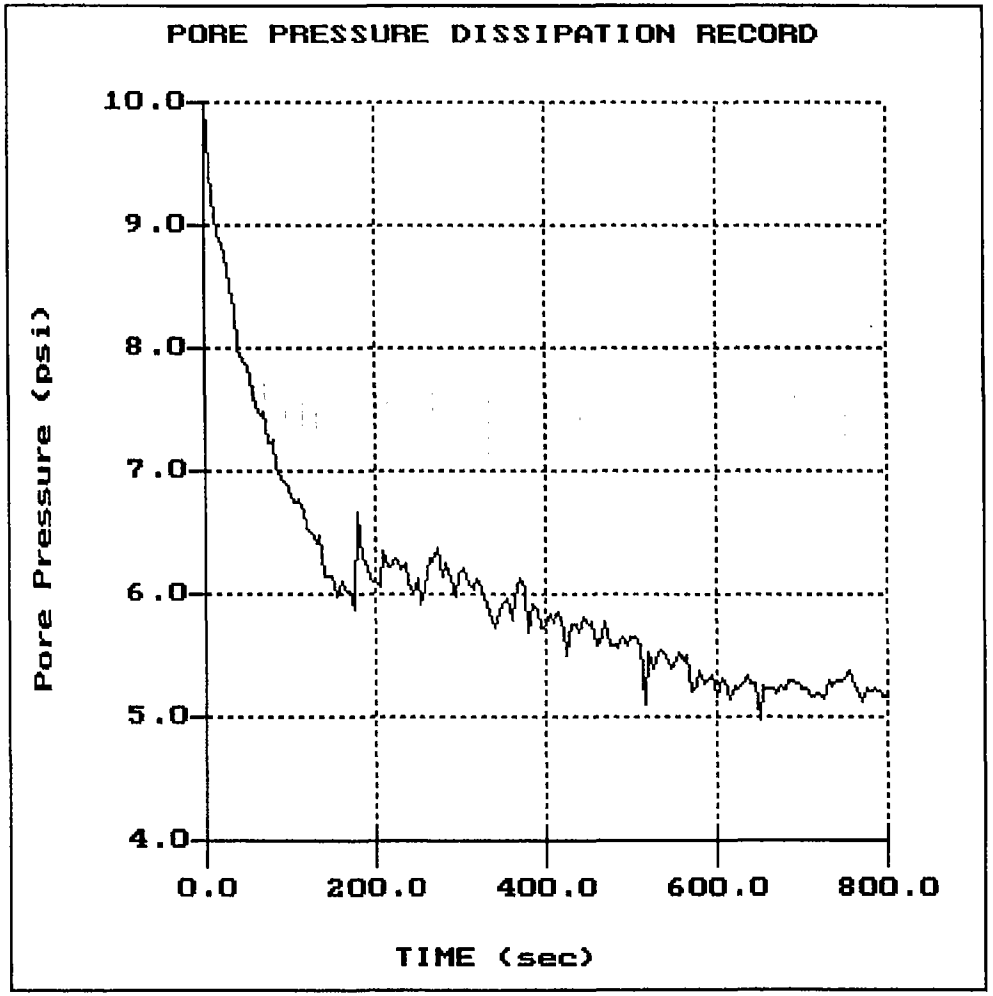


File: 296C63.PPC
Depth (m): 12.60
(ft): 41.34
Duration : 675.0s
U-min: 7.55 360.0s
U-max: 22.01 0.0s

R.F. WESTON

Site: OMEGA CHEMICAL
Location: CPT-66

Geologist: B. CLARKE
Date: 02:10:01 13:44

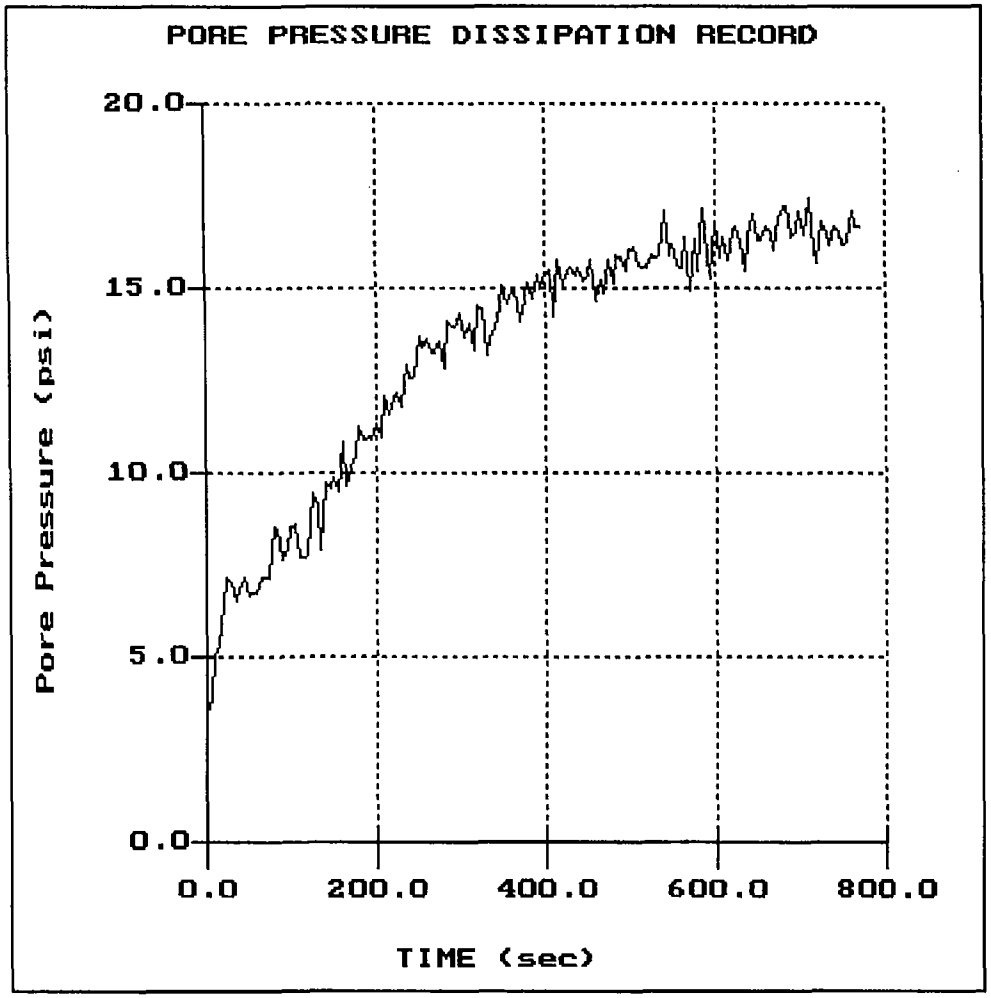


File: 296C66.PPC
Depth (m): 18.90
(ft): 62.01
Duration : 865.0s
U-min: 4.98 650.0s
U-max: 9.99 0.0s

R.F. WESTON

Site: OMEGA CHEMICAL
Location: CPT-69

Geologist: B. CLARKE
Date: 10:30:01 9:29



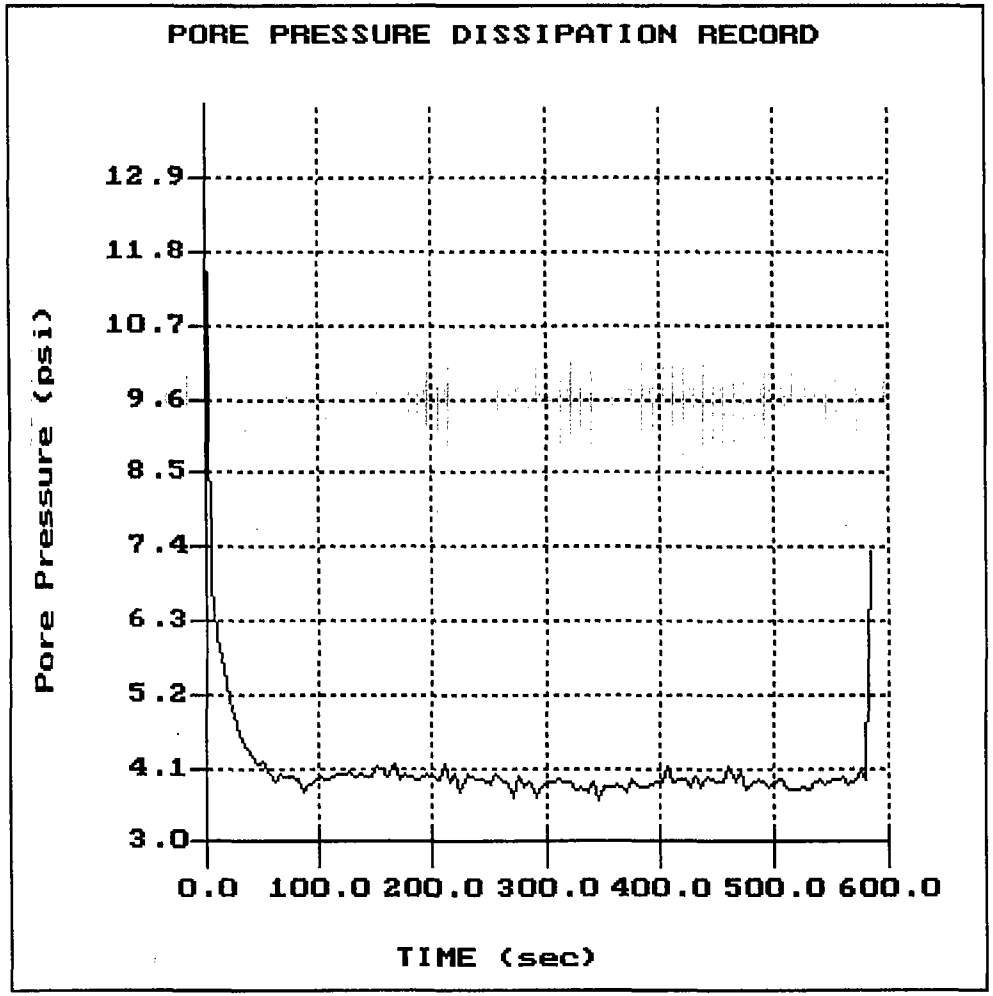
File: 296C69.PPC
Depth (m): 26.95
(ft): 88.42
Duration : 770.0s
U-min: 3.50 0.0s
U-max: 17.42 710.0s

R.F. WESTON

Site: OMEGA CHEMICAL
Location: CPT-74

Geologist: B. CLARKE
Date: 10:31:01 9:02

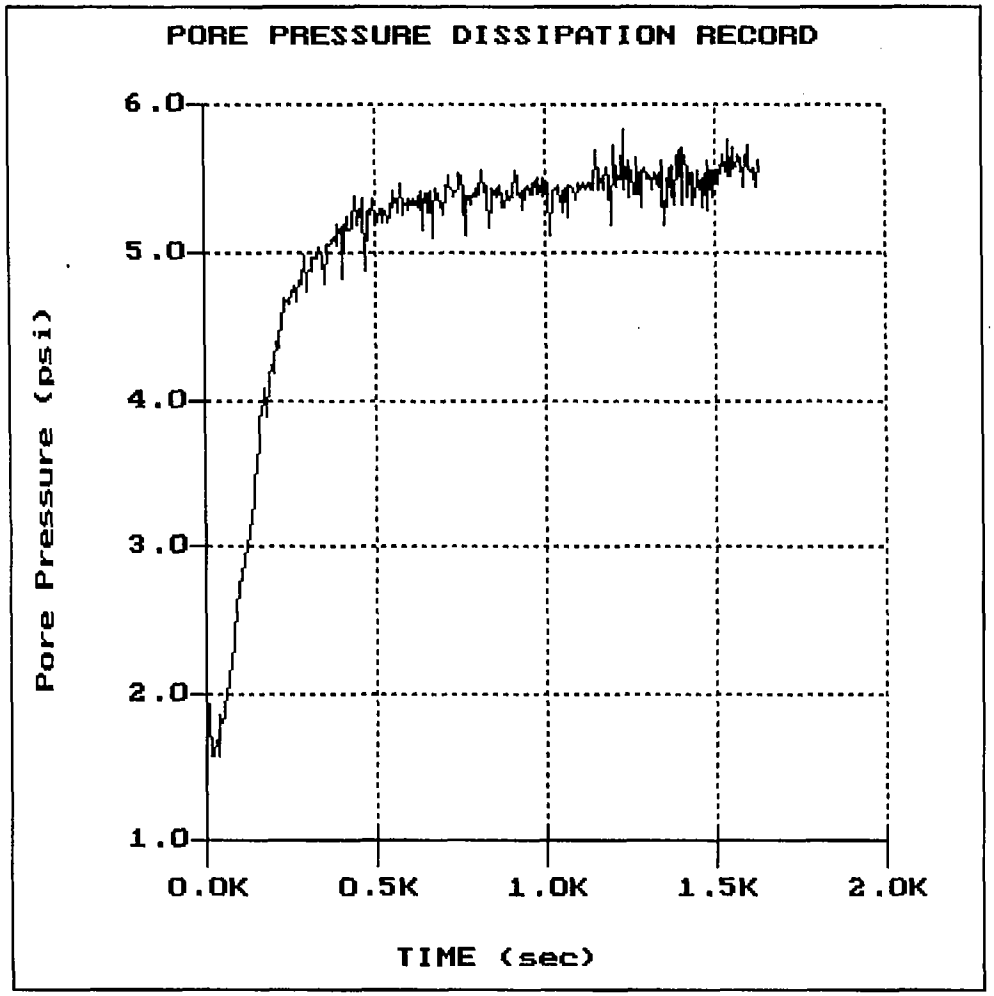
File: 296C74.PPC
Depth (m): 15.45
(ft): 50.69
Duration : 585.0s
U-min: 3.62 345.0s
U-max: 13.06 0.0s



R.F. WESTON

Site: OMEGA CHEMICAL
Location: CPT-~~83~~ 81

Geologist: B. CLARKE
Date: 11:01:01 2:56



File: 296C83.PPC
Depth (m): 24.95
(ft): 81.86
Duration : 1625.0s
U-min: 1.57 35.0s
U-max: 5.82 1230.0s

APPENDIX

ELECTRICAL PIEZOCONE

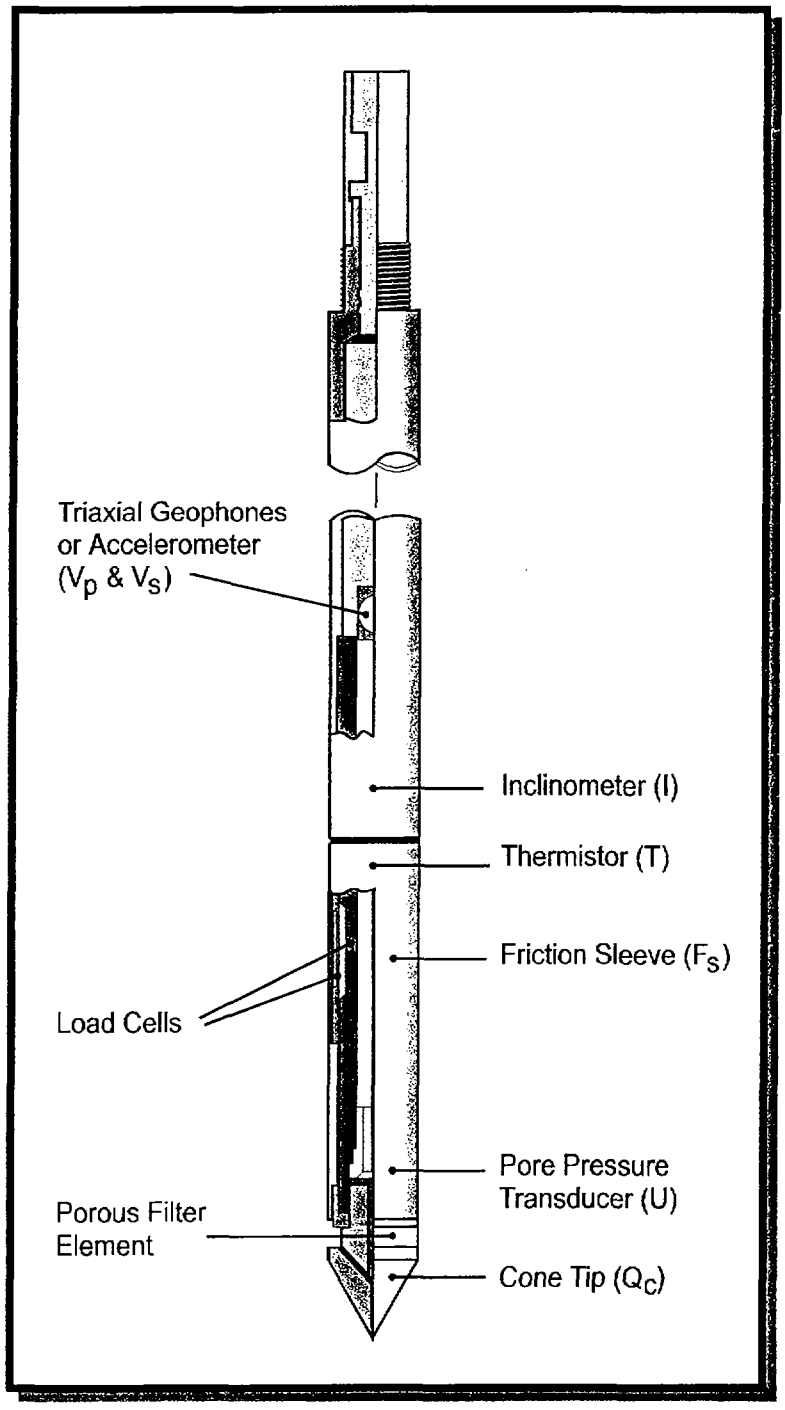


Figure 1

GROUNDWATER SAMPLER (HYDROPUNCH)

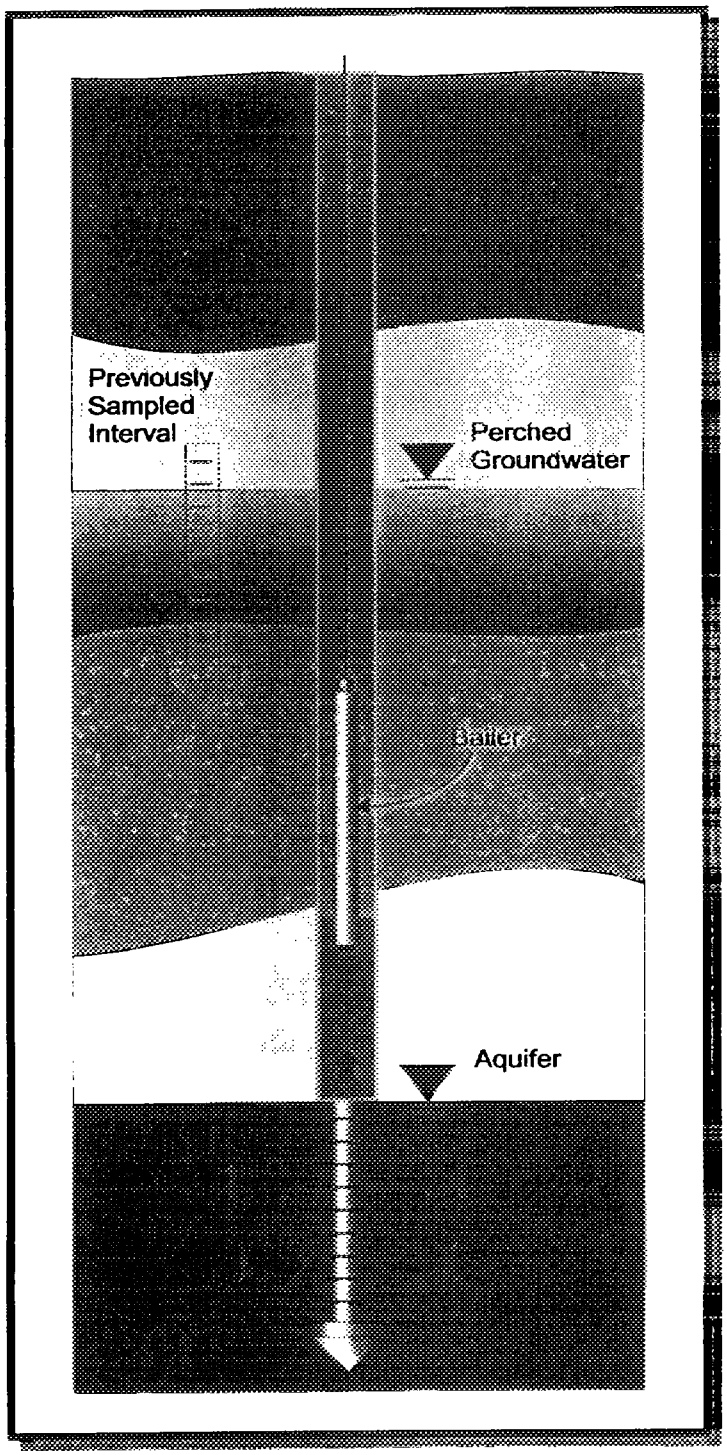
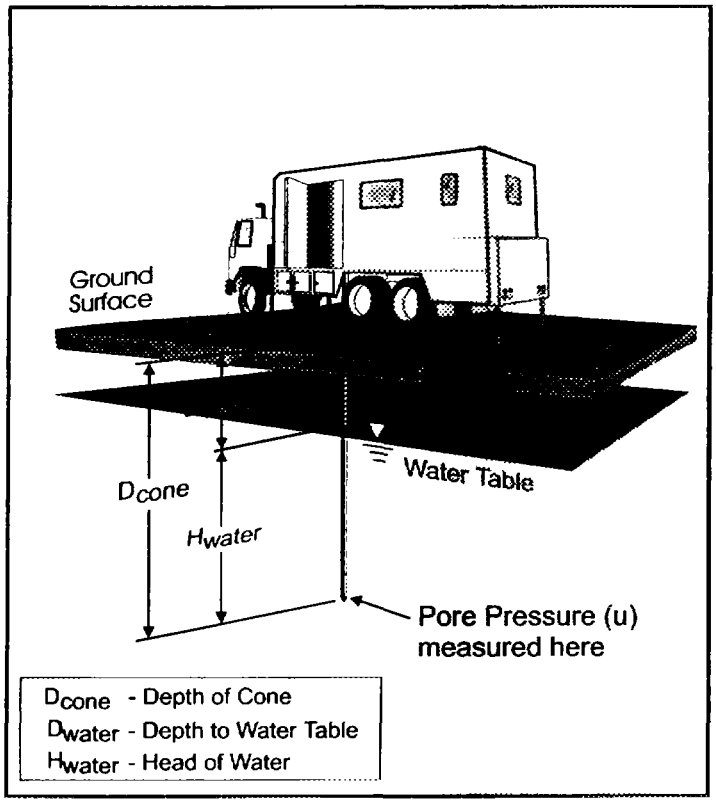
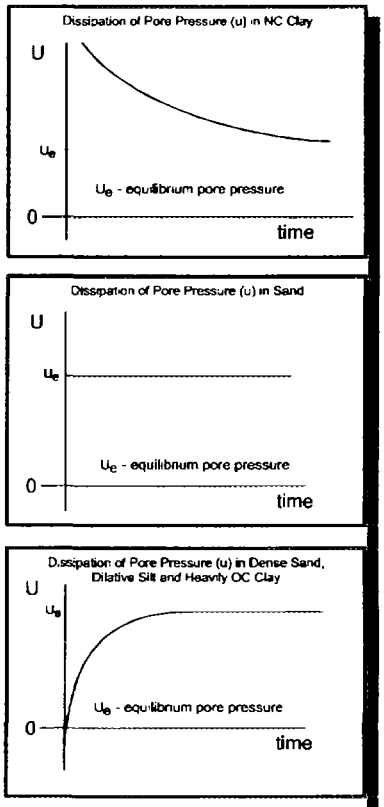


Figure 2

PPDT CORRELATION





Water Table Calculation

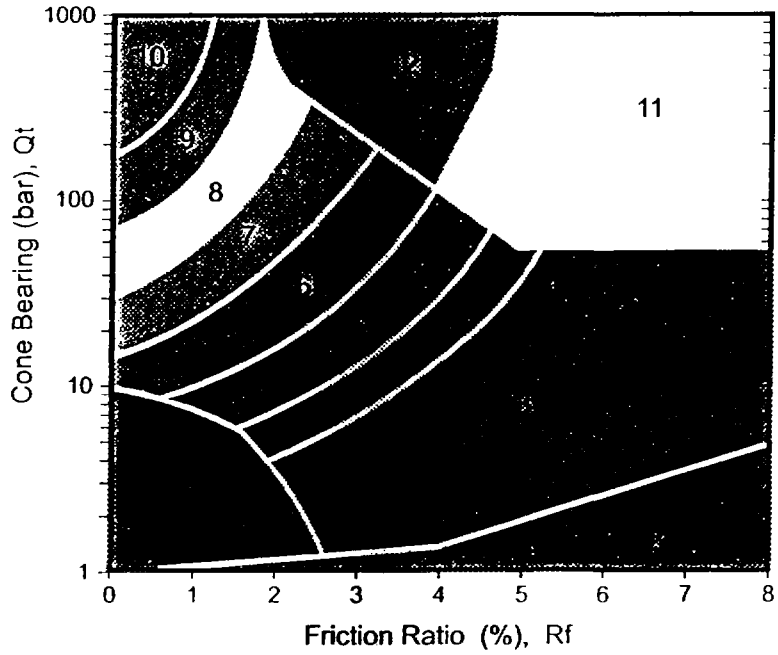
$$D_{water} = D_{cone} - H_{water}$$

where $H_{water} = U_e$ (depth units)

Useful Conversion Factors:
1psi = 0.704m = 2.31 feet (water)
1tsf = 0.958 bar = 13.9 psi
1m = 3.28 feet

Figure 3

SOIL CLASSIFICATION CHART



Zone	Q_t / N	Soil Behaviour Type
1	2	sensitive fine grained
2	1	organic material
3	1	clay
4	1.5	silty clay to clay
5	2	clayey silt to silty clay
6	2.5	sandy silt to clayey silt
7	3	silty sand to sandy silt
8	4	sand to silty sand
9	5	sand
10	6	gravelly sand to sand
11	1	very stiff fine grained *
12	2	sand to clayey sand *

* overconsolidated or cemented

After Robertson and Campenella

Figure 4

REFERENCES

Robertson, P.K. and Campanella, R.G. and Wightman, A., 1983 "SPT-CPT Correlations", Journal of the Geotechnical Division, ASCE, Vol. 109, No. GT11, Nov., pp. 1449-1460.

Robertson, P.K. and Wride C.E., 1998 "Evaluating Cyclic Liquefaction Potential Using The Cone Penetration Test", Journal of Geotechnical Division, Mar. 1998, pp. 442-459.

Robertson, P.K. and Campanella, R.G., Gillespie, D. and Greig, J., 1986, "Use of Piezometer Cone Data", Proceedings of In Situ 86, ASCE Specialty Conference, Blacksburg, Virginia.

Robertson, P.K. and Campanella, R.G., 1988, "Guidelines for Use, Interpretation and Application of the CPT and CPTU", UBC, Soil Mechanics Series No. 105, Civil Eng. Dept., Vancouver, B.C., V6T 1W5, Canada.

Robertson, P.K., Campanella, R.G., Gillespie, D. and Rice, A., 1986, "Seismic CPT to Measure In Situ Shear Wave Velocity", Journal of Geotechnical Engineering, ASCE, Vol. 112, No. 8, pp. 791-803.

Summary of Lithologic Interpretations for the CPT Borings

Omega Superfund Site

Push Probe Name: PP001(CPT-1)
Total Depth: 86' bgs
Date Completed: 8.16.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	86+
	C	0
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 3	B	Clay	Clay
3 – 18	B	Silt	Primarily clayey silt with some silt and silty clay
18 – 27	B	Clay	Primarily clay with some silty clay
27 – 52	B	Silt	Clayey silt with minor silt lenses
52 – 60	B	Clay	Primarily silty clay with minor clay lens
60 – 86	B	Silt	Primarily clayey silt with interbedded silt layers

Push Probe Name: PP002 (CPT-2)
Total Depth: 85' bgs
Date Completed: 8.15.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	85+
	C	0
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 12	B	Clay	Clay
12 – 35	B	Silt	Mostly silt with sandy and clayey silt
35 – 45	B	Clay	Primarily silty clay with some clay
45 – 50	B	Sand	Primarily sand with some gravelly sand
50 – 85	B	Silt	Primarily clayey silt with interbedded silt layers

Push Probe Name: PP006
Total Depth: 78' bgs
Date Completed: 8.16.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	78+
	C	0
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 10	B	Silt	Mostly silt with some clayey silt and silty clay
10 – 24	B	Clay	Mostly clay with silty clay
24 – 78	B	Silt	Primarily clayey silt with silt and silty clay

Push Probe Name: PP010
Total Depth: 47' bgs
Date Completed: 8.18.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	40
	C	7+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 19	B	Silt	Mostly silt with some clayey silt and sandy silt
19 – 28	B	Clay	Mostly silty clay with clay and clayey silt
28 – 40	B	Silt	Primarily silt with clayey silt interbeds
40 – 47	C	Sand	Mostly gravelly sand with silty sand

Push Probe Name: PP011
Total Depth: 74' bgs
Date Completed: 8.17.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	55
	C	4
	D	15+
	E	0

Depth	Unit	Interpretation	Description
0 – 8	B	Silt	Mostly silt with some clayey silt
8 – 29	B	Clay	Mostly clay with silty clay
29 – 55	B	Silt	Primarily clayey silt
55 – 59	C	Sand	Gravelly sand
59 – 74	D	Silt	Mostly silt with stiff fine grained material

Push Probe Name: PP013
Total Depth: 58' bgs
Date Completed: 8.17.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	40
	C	18+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 40	B	Silt	Primarily silt with clayey and sandy silt
40 – 58	C	Sand	Mostly silty sand with sandy silt

Push Probe Name: PP015
Total Depth: 88' bgs
Date Completed: 8.16.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	70
	C	0
	D	18+
	E	0

Depth	Unit	Interpretation	Description
0 – 70	B	Silt	Primarily silt with clayey and sandy silt and silty clay
70 – 88	D	Silt	Mostly clayey silt with silt and silty clay

Push Probe Name: PP017
Total Depth: 63' bgs
Date Completed: 8.18.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	3
	B	36
	C	24
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 3	A	Sand	Mostly silty sand
3 – 39	B	Silt	Mostly silt with clayey silt and sandy silt
39 – 63	C	Sand	Mostly gravelly sand with sand near 40' bgs

Push Probe Name: PP020
Total Depth: 76' bgs
Date Completed: 8.18.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	5
	B	35
	C	12
	D	16
	E	8+

Depth	Unit	Interpretation	Description
0 – 5	A	Sand	Silty sand
5 – 20	B	Clay	Mostly silty clay with clay and clayey silt
20 – 40	B	Silt	Mostly clayey silt with silty clay and clay
40 – 52	C	Sand	Mostly gravelly sand with silty sand interbeds
52 – 68	D	Silt	Mostly clayey silt with sandy silt
68 – 76	E	Sand	Sandy silt

Push Probe Name: PP022
Total Depth: 68' bgs
Date Completed: 8.18.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	10
	B	29
	C	29+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 10	A	Sand	Silty sand
10 – 23	B	Silt	Mostly silty clay with clay and clayey silt
23 – 28	B	Clay	Mostly silty clay with clay
28 – 39	B	Silt	Mostly clayey silt with silt
39 – 51	C	Sand	Sand with silty sand interbeds
51 – 68	C	Sand	Mostly gravelly sand with sandy interbeds

Push Probe Name: PP023
Total Depth: 65' bgs
Date Completed: 8.17.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	9
	B	40
	C	16+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 9	A	Sand	Silty sand
9 – 15	B	Silt	Silt
15 – 21	B	Sand	Mostly silty sand
21 – 49	B	Silt	Mostly silt with sandy and clayey silt
49 – 59	C	Sand	Gravelly sand
59 – 62	C	Sand	Silty sand with silt
62 – 65	C	Sand	Gravelly sand

Push Probe Name: PP029
Total Depth: 44' bgs
Date Completed: 8.22.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	9
	B	23
	C	12+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 9	A	Sand	Silty sand with sandy silt
9 – 32	B	Silt	Mostly clayey silt with silty clay
32 – 40	C	Sand	Mostly sand with silty sand
40 – 44	C	Sand	Mostly sand with gravelly sand

Push Probe Name: PP033
Total Depth: 40' bgs
Date Completed: 8.20.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	2
	B	26
	C	12+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 2	A	Sand	Silty sand
2 – 8	B	Silt	Mostly silt with clayey silt
8 – 28	B	Clay	Mostly silty clay with clayey silt
28 – 40	C	Sand	Mostly sand with interbedded gravelly sand

Push Probe Name: PP034
Total Depth: 36' bgs
Date Completed: 8.20.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	5
	B	31
	C	9+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 5	A	Sand	Silty sand with sand and sandy silt
5 – 31	B	Silt	Mostly clayey silt with silt interbeds
31 – 36	C	Sand	Mostly sand with gravelly sand
28 – 40	C	Sand	Mostly sand with interbedded gravelly sand

Push Probe Name: PP038
Total Depth: 73' bgs
Date Completed: 8.21.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	11
	C	24
	D	38+
	E	0

Depth	Unit	Interpretation	Description
0 – 11	B	Silt	Mostly clayey silt with silty clay interbeds
11 – 21	C	Sand	Sand
21 – 25	C	Sand	Silty sand
25 – 30	C	Sand	Sand
30 – 35	C	Sand	Mostly sandy silt
35 – 73	D	Silt	Mostly clayey silt with silt interbeds

Push Probe Name: PP039
Total Depth: 35' bgs
Date Completed: 8.21.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	30
	C	5+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 16	B	Silt	Mostly clayey silt
16 – 25	B	Clay	Mostly silty clay with clay interbeds
25 – 30	B	Silt	Mostly silt with clayey silt interbeds
30 – 35	C	Sand	Sand and gravelly sand

Push Probe Name: PP040
Total Depth: 64' bgs
Date Completed: 8.21.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	19
	C	6
	D	39+
	E	0

Depth	Unit	Interpretation	Description
0 – 15	B	Silt	Silt and sandy silt interbeds
15 – 19	B	Clay	Mostly clay with silty clay
19 – 25	C	Sand	Sand and silty sand interbeds
25 – 64	D	Silt	Clayey silt and silt interbeds

Push Probe Name: PP041
Total Depth: 73' bgs
Date Completed: 8.18.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	45
	C	11
	D	4
	E	13+

Depth	Unit	Interpretation	Description
0 – 2	B	Silt	Silt
2 – 7	B	Sand	Sand
7 – 11	B	Silt	Silt
11 – 15	B	Sand	Sandy silt
15 – 45	B	Silt	Mostly silt with clayey and sandy silt
45 – 56	C	Sand	Sand and sandy silt interbeds
56 – 60	D	Silt	Silt
60 – 73	E	Sand	Gravelly sand

Push Probe Name: PP042
Total Depth: 60' bgs
Date Completed: 8.20.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	60+
	C	0
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 10	B	Silt	Clayey silt with clay and silty clay
10 – 20	B	Clay	Mostly clay with silty clay
20 – 60	B	Silt	Clayey silt and silt interbeds

Push Probe Name: PP046
Total Depth: 52' bgs
Date Completed: 8.22.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	11
	B	18
	C	23+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 11	A	Sand	Sandy silt and silty sand
11 – 21	B	Silt	Clayey silt
21 – 29	B	Clay	Silty clay and clay interbeds

29 – 52	C	Sand	Sand and gravelly sand interbeds

Push Probe Name: PP052
Total Depth: 74' bgs
Date Completed: 8.23.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	3
	B	11
	C	41
	D	9
	E	10+

Depth	Unit	Interpretation	Description
0 – 3	A	Sand	Sand and silty sand
3 – 14	B	Clay	Clay and silty clay interbeds
14 – 32	C	Sand	Sand and gravelly sand interbeds
32 – 47	C	Sand	Sandy silt and silt interbeds
47 – 55	C	Sand	Sand and gravelly sand interbeds
55 – 64	D	Silt	Silt with sandy silt
64 – 74	E	Sand	Sandy silt and silty sand

Push Probe Name: PP057
Total Depth: 70' bgs
Date Completed: 9.4.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	44
	C	26+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 11	B	Clay	Silty clay and clay
11 – 27	B	Silt	Clayey silt with stiff fine grained material
27 – 37	B	Clay	Clay interbedded with a stiff fine grained material
37 – 44	B	Silt	Clayey silt with sandy silt and silty sand
44 – 70	C	Sand	Gravelly sand interbedded with sand

Push Probe Name: PP059
Total Depth: 94' bgs
Date Completed: 9.4.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	40
	C	50
	D	4+
	E	0

Depth	Unit	Interpretation	Description
0 – 40	B	Silt	Clayey and sandy silt interbedded with stiff fine grained material
40 – 52	C	Sand	Mostly sand with silty sand interbeds
52 – 60	C	Sand	Cemented sand with silty sand and sand
60 – 81	C	Sand	Mostly sand with gravelly sand
81 – 90	C	Sand	Mostly sand with silty sand
90 – 94	D	Silt	Mostly silt with clayey silt

Push Probe Name: PP063
Total Depth: 104' bgs
Date Completed: 10.29.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	12
	C	18
	D	7
	E	53

Depth	Unit	Interpretation	Description
0 – 2	B	Silt	Silt and clayey silt
2 – 12	B	Clay	Mostly clay with silty clay and clayey silt interbeds
12 – 15	C	Sand	Silty sand
15 – 25	C	Sand	Sand and gravelly sand interbeds
25 – 30	C	Sand	Sandy silt with silt interbeds
30 – 37	D	Silt	Clayey silt and silt
37 – 47	E	Sand	Sand
47 – 55	E	Sand	Gravelly sand and sand interbeds
55 – 62	E	Sand	Sand and gravelly sand interbeds
62 – 65	E	Sand	Silty sand and sand interbeds
65 – 70	E	Sand	Sand and gravelly sand interbeds
70 – 73	E	Sand	Silty sand and sandy silt interbeds
73 – 83	E	Sand	Sand and gravelly sand interbeds
83 – 90	E	Sand	Silty sand and sandy silt interbeds
90 – 95		Silt	Stiff fine grained material with clayey silt
95 – 98		Sand	Silty sand and sand interbeds
98 – 104		Silt	Clayey silt and silt interbeds

Push Probe Name: PP065
Total Depth: 64' bgs
Date Completed: 10.29.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	5
	B	27
	C	32+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 5	A	Sand	Sand and silty sand interbeds
5 – 12	B	Silt	Clayey silt and silt interbeds
12 – 19	C	Sand	Sandy silt with silt interbeds
19 – 39	B	Silt	Clayey silt interbedded with stiff fine grained material
39 – 43	C	Sand	Silty sand
43 – 52	C	Sand	Mostly sand with silt
52 – 61	C	Sand	Sandy silt with silt interbeds
61 – 64	C	Sand	Gravelly sand with sand interbeds

Push Probe Name: PP066
Total Depth: 62' bgs
Date Completed: 10.29.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	6
	C	38
	D	8
	E	10+

Depth	Unit	Interpretation	Description
0 – 6	B	Silt	Sandy and Clayey Silt
6 – 31	C	Sand	Stiff fine grained material interbedded with clayey silt
31 – 44	C	Sand	Silty sand with some sandy silt
44 – 52	D	Silt	Silt with sandy silty and clayey silty interbeds
52 – 62	E	Sand	Stiff fine grained material interbedded with cemented sand

Push Probe Name: PP069
Total Depth: 91' bgs
Date Completed: 10.30.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	4
	B	4
	C	72
	D	9
	E	2+

Depth	Unit	Interpretation	Description
0 – 4	A	Sand	Silty sand
4 – 8	B	Silt	Mostly clayey silt with silt
8 – 42	C	Sand	Stiff fine grained material interbedded with cemented sand
42 – 46	C	Sand	Sandy silt
46 – 62	C	Sand	Gravelly sand interbedded with sand
62 – 80	C	sand	Stiff fine grained material interbedded with cemented sand
80 – 89	D	Silt	Clayey silt interbedded with silt
89 – 91	E	Sand	Stiff fine grained material interbedded with cemented sand

Push Probe Name: PP070
Total Depth: 107' bgs
Date Completed: 10.30.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	100
	C	0
	D	7+
	E	0

Depth	Unit	Interpretation	Description
0 – 18	B	Silt	Clayey silt interbedded with silt, silty clay, and sandy silt
18 – 23	B	Clay	Clay and silty clay
23 – 42	B	Silt	Clayey silt interbedded with sandy silt and silty clay
42 – 100	B	Silt	Clayey silt interbedded with clay and silt
100 -- 107	D	Silt	Clayey silt interbedded with clay and silt

Push Probe Name: PP074
Total Depth: 87' bgs
Date Completed: 10.31.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	19
	C	68+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 16	B	Silt	Silt interbedded with silty clay and clayey silt
16 – 27	C	Sand	Stiff fine grained material interbedded with cemented sand
27 – 30	B	Silt	Silty and clayey silt
30 – 87	C	Sand	Stiff fine grained material interbedded with cemented sand
55 – 59	C	Sand	Sand
59 – 71	C	Sand	Stiff fine grained material interbedded with cemented sand
71 – 83	C	Sand	Sand
83 – 87	C	Sand	Stiff fine grained material interbedded with cemented sand

Push Probe Name: PP081
Total Depth: 82' bgs
Date Completed: 11.1.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	82
	C	0
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 10	B	Silt	Silt interbedded with silty clay
10 – 19	B	Clay	Clay interbedded with silty clay
19 – 82	B	Silt	Silt interbedded with clay, clayey silt, and sandy silt

Push Probe Name: H-1
Total Depth: 90' bgs
Date Completed: 1.29.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	90
	C	0
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 90	B	Silt	Silt interbedded with clayey silt

Push Probe Name: H-2
Total Depth: 124' bgs
Date Completed: 1.30.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	90
	C	0
	D	34+
	E	0

Depth	Unit	Interpretation	Description
0 – 90	B	Silt	Silt interbedded with clayey silt and silty clay

90 – 124	D	Silt	Silt interbedded with clayey silt, and sandy silt

Push Probe Name: H-3
Total Depth: 85' bgs
Date Completed: 1.29.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	85
	C	0
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 85	B	Silt	Silt interbedded with clayey silt, silty clay, and sandy silt

Push Probe Name: H-4
Total Depth: 102' bgs
Date Completed: 1.29.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	90
	C	0
	D	12+
	E	0

Depth	Unit	Interpretation	Description
0 – 90	B	Silt	Silt interbedded with clayey silt and silty clay
90 – 102	D	Silt	Silt interbedded with clayey silt, and sandy silt

Push Probe Name: H-5
Total Depth: 69' bgs
Date Completed: 1.31.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	51
	C	18+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 51	B	Silt	Silt interbedded with clayey silt, silty clay, clay, and silty sand
51 – 69	C	Sand	Cemented sand with silty sand interbedded with sandy silt

Push Probe Name: H-6
Total Depth: 116' bgs
Date Completed: 7.15.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	53
	C	36
	D	27+
	E	0

Depth	Unit	Interpretation	Description
0 – 53	B	Silt	Clay interbedded with clayey silt and silty clay
53 – 89	C	Sand	Sand interbedded with sandy silt, silt and cemented sand
89 – 116	D	Silt	Silt interbedded with sandy silt

Push Probe Name: H-7
Total Depth: 97' bgs
Date Completed: 7.15.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	58
	C	18
	D	21+
	E	0

Depth	Unit	Interpretation	Description
0 – 58	B	Silt	Silt interbedded with clayey silt

58 – 76	C	Sand	Sand interbedded with silty sand, silt, and gravelly sand
76 – 97	D	Silt	Silt interbedded with sandy silt and clayey silt

Push Probe Name: H-8
Total Depth: 90' bgs
Date Completed: 7.16.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	46
	C	18
	D	26+
	E	0

Depth	Unit	Interpretation	Description
0 – 46	B	Silt	Silt interbedded with clayey silt, silty clay, and clay
46 – 64	C	Sand	Sand interbedded with silty sand and sandy silt
64 – 90	D	Silt	Silt interbedded with clayey silt

Push Probe Name: H-9
Total Depth: 72' bgs
Date Completed: 7.16.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	65
	C	7+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 65	B	Silt	Silt interbedded with clayey silt, silty sand, and sand
65 – 72	C	Sand	Sand with silty sand

Push Probe Name: H-10
Total Depth: 93' bgs
Date Completed: 7.16.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	93+
	C	0
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 93	B	Silt	Silt interbedded with clayey silt and sandy silt

Push Probe Name: H-11
Total Depth: 97' bgs
Date Completed: 7.17.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	52
	C	34
	D	11+
	E	0

Depth	Unit	Interpretation	Description
0 – 52	B	Silt	Silt interbedded with clay, clayey silt, silty clay, and sandy silt
52 – 86	C	Sand	Sand interbedded with silty sand, sandy silt, and silt
86 – 97	D	Silt	Silt interbedded with sandy silt

Push Probe Name: H-12
Total Depth: 122' bgs
Date Completed: 7.19.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	90
	C	0
	D	32+
	E	0

Depth	Unit	Interpretation	Description
0 – 90	B	Silt	Silt interbedded with clayey silt, silty clay, and sandy silt

90 – 122	D	Silt	Silt interbedded with clayey silt

Push Probe Name: H-13
Total Depth: 85' bgs
Date Completed: 7.19.97
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	45
	C	23
	D	17+
	E	0

Depth	Unit	Interpretation	Description
0 – 45	B	Silt	Silt interbedded with clay, clayey silt, and silty clay
45 – 68	C	Sand	Sand interbedded with gravelly sand and silty sand
68 – 85	D	Silt	Silt

Push Probe Name: H-14
Total Depth: 67' bgs
Date Completed: 3.11.97
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	30
	C	37+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 30	B	Clay	Clay interbedded with clayey silt, silty clay, and silt
30 – 67	C	Sand	Asnd interbedded with gravelly sand and silty sand

Push Probe Name: H-15
Total Depth: 75' bgs
Date Completed: 3.11.97
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	39
	C	41
	D	5+
	E	0

Depth	Unit	Interpretation	Description
0 – 39	B	Clay	Clay interbedded with silt, clayey silt, and silty clay
39 – 70	C	Sand	Sand interbedded with gravelly sand, cemented sand, and silty sand
70 –75	D	Silt	Sandy silt and silt

Push Probe Name: H-16
Total Depth: 52' bgs
Date Completed: 3.11.97
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	30
	C	22+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 30	B	Clay	Clay interbedded with silt, silty clay, and clayey silt
30 – 52	C	Sand	Sand interbedded with gravelly sand and silty sand

Push Probe Name: H-17
Total Depth: 75' bgs
Date Completed: 3.11.97
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	30
	C	46+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 30	B	Clay	Clay interbedded with silt, clayey silt, silty clay, and sandy clay
30 – 76	C	Sand	Sand interbedded with gravelly sand, and silty sand

Well Name: OW-1
Total Depth: 80' bgs
Date Completed: 6.4.96
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	80+
	C	0
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 80	B	Clay	Clayey silt, silty clay, silty sand, clay, and silt

Well Name: OW-1b
Total Depth: 132' bgs
Date Completed: 6.16.99 - 6.18.99
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	90
	C	0
	D	42+
	E	0

Depth	Unit	Interpretation	Description
0 – 90	B	Clay	Silty clay
90 -- 132	D	Clay	Silty clay with minor gravel

Well Name: OW-2
Total Depth: 85' bgs
Date Completed: 6.17.99
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	60
	C	15
	D	10+
	E	0

Depth	Unit	Interpretation	Description
0 – 55	B	Clay	Silty clay
55 – 60	B	Silt	Silt with sand
60 – 75	C	Sand	Sand with silt, and silt with sand
75 –80	D	Clay	Silty clay
80 – 85	D	Clay	Clayey sand

Well Name: OW-3
Total Depth: 86' bgs
Date Completed: 6.15.99
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	50
	C	10
	D	26+
	E	0

Depth	Unit	Interpretation	Description
0 – 50	B	Clay	Silty clay
50 – 60	C	Sand	Sand
60 – 70	D	Clay	Silty clay
70 – 75	D	Gravel	Clayey gravel
75 – 86	D	Clay	Silty clay

Well Name: OW-4a
Total Depth: 79' bgs
Date Completed: 3.15.99
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	52
	C	27+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 52	B	Clay	Silty clay
52 – 79	C	Sand	Sand interbedded with silty sand and gravelly sand

Well Name: OW-4b
Total Depth: 125' bgs
Date Completed: 3.28.99
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	52
	C	34
	D	22
	E	17+

Depth	Unit	Interpretation	Description
0 – 52	B	Clay	Clay with silt
52 – 86	C	Sand	Sand
86 – 108	D	Clay	Clay
108 – 125	E	Sand	Sand

Well Name: OW-6
Total Depth: 62' bgs
Date Completed: 3.16.1
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	38
	C	24+
	D	0
	E	0

Depth	Unit	Interpretation	Description
0 – 38	B	Clay	Silty clay
38 – 62	C	Sand	Sand interbedded with silty sand

Well Name: 2S/11W-30R3
Total Depth: 904' bgs
Date Completed: 6.15.61
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	10
	C	30
	D	23
	E	39+

Depth	Unit	Interpretation	Description
0 – 10	B	Silt	Surface soil
10 – 40	C	Sand	Sand, gravel, silty clay
40 – 53	D	Clay	Clay
53 – 63	D	Clay	Clay
63 – 102	E	Sand	Sand and small gravel
102 – 904			Undifferentiated sands and silts

Well Name: 2S/11W-30Q1
Total Depth: 370' bgs
Date Completed: 10.15.51
Lithology (feet bgs):

Thickness of Units (feet)		
	A	0
	B	30
	C	28
	D	8
	E	58+

Depth	Unit	Interpretation	Description
0 – 30	B	Clay	Clay
30 – 40	C	Sand	Sand
40 – 58	C	Sand	Sand and gravel
58 – 66	D	clay	Gravel and clay
66 – 86	E	Gravel	Cemented gravel
86 – 88	E	Sand	Sand and gravel
88 – 92	E	Gravel	Cemented gravel
92 – 94	E	Sand	Sand and gravel
94 – 98	E	Gravel	Cemented gravel
98 – 124	E	Sand	Sand and gravel
124 – 370			Undifferentiated sands and silts

APPENDIX B

GROUNDWATER SAMPLING LOGS

GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA
PROJECT: Omega Chemical
SITE:

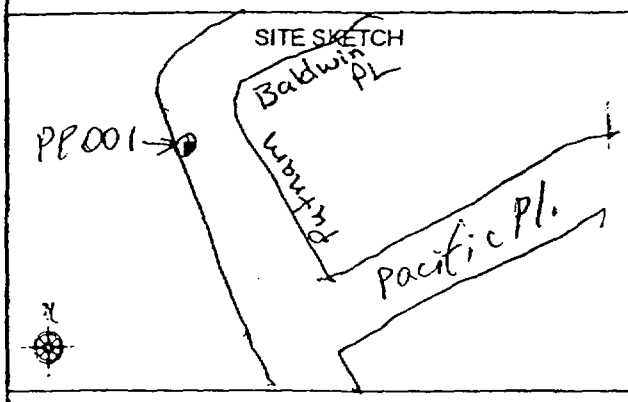
SAMPLE NO.: GW 301-PP001-00824
DATE: 8/16/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: 14:55
TIME COLLECTED:
SAMPLE DEPTH: 84ft. FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: Unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - XEM - BCB - SCP - TGS - OTH
OTHER: Bailer through 5' screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln, DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Cl VOCs, HAPsite + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - DUP - RNS - TRP - LCS

COMMENTS: CPT Auto-lith & PDP Curve TD refusal (84ft)
Sample Boring PP001 TD = 86ft bgs (refusal)

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

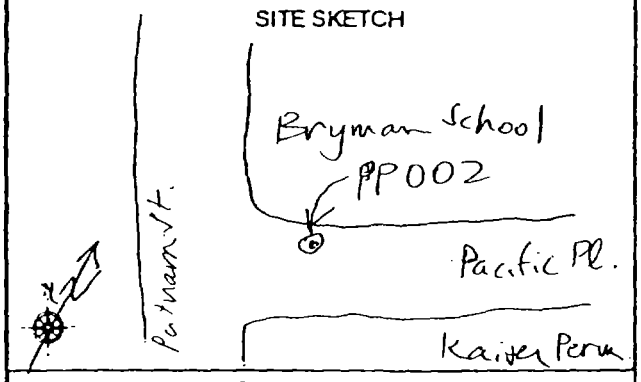
SAMPLE NO: GW301-PP002-0084
DATE: 8-15-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP002-0084
TIME COLLECTED: 1255
SAMPLE DEPTH: 83.5' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK ?
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	71' bgs	PPD Test
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: Unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Bailer in 5' length of screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln ; DI rinse
QA SAMPLES: N/A
CO-LOCATED SAMPLE ID:
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP-on site	Chlor VOCs, Hap-Site & GC/MS	3 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL SPL - RNS - TRP - LCS

COMMENTS: CPT auto lith. 1st, TD = 85.5' bgs (refusal)
Run 1 pressure curve @ TD! ⇒ DTW = 71' bgs.
second boring for sample TD = 86, sample @ 83.5' bgs

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G0012917

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

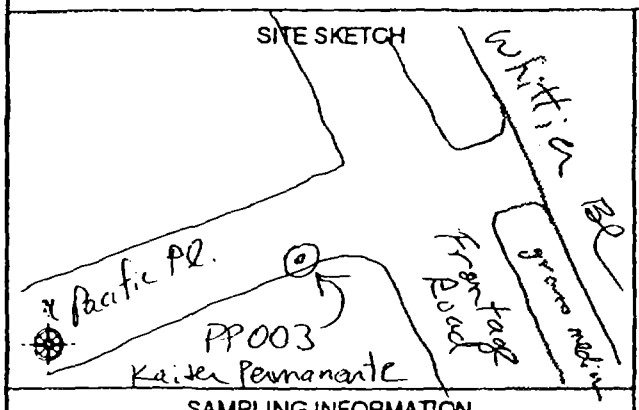
SAMPLE NO.: GW301-PP003-0094
DATE: 8-17-04
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP003-0094
TIME COLLECTED: 0825
SAMPLE DEPTH: 94' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION		
N. COORDINATE		
E. COORDINATE		
WELL PERMIT No.		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS: IN-CM
DESCRIPTION:

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		~92' bgs sounder
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE:

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Bailer in open hole.
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs; Hap-site + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Adv to 86' bgs; no water. Adv. to 96' bgs; v. little water; screen prob. mudded up. Pull rod & sample open hole.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form Re-established

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

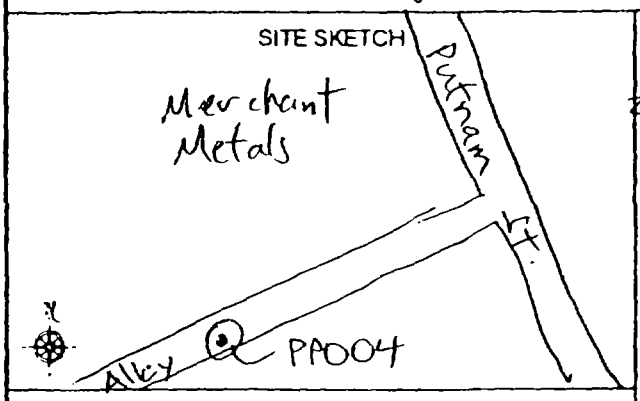
SAMPLE NO.: QW301-PP004-0086
DATE: 8-22-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 · 2 · 3
UNIT SYSTEM: ENGLISH · METRIC
SAMPLE ID: QW301-PP004-0086
TIME COLLECTED: 0835
SAMPLE DEPTH: 84-88 'bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		86' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: Unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - XEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln, DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (Hap-Site + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance sample boring to 88' bgs TD. No CPT litho. Waited ~15 min for sufficient water.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES · NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G0912917

GEOLIS Water Sampling Form

No Sample - BC

COMPANY:	RFW	SAMPLE NO.:	~~GW301-PP004-0073~~
CLIENT:	USACE/EPA	DATE:	8-15-01
PROJECT:	Omega	SAMPLER:	Bill Clarke
SITE:		SIGNATURE:	Bill Clarke

SAMPLE IDENTIFICATION TD = 75'

QUALITY LEVEL: 1 - 2 - 3

UNIT SYSTEM: ENGLISH - METRIC

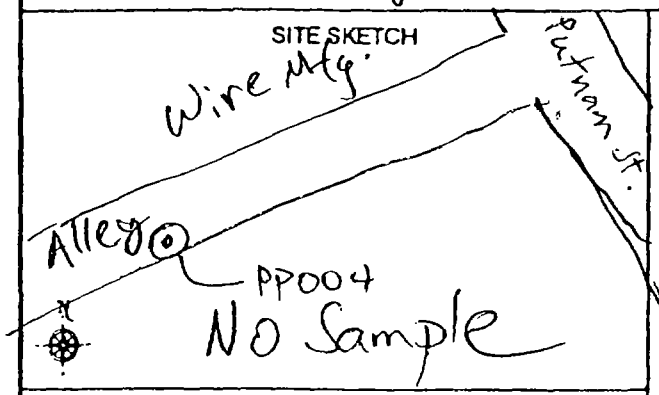
SAMPLE ID: ~~GW301-PP004-0073~~ No Sample BC

TIME COLLECTED: ~~1355~~

SAMPLE DEPTH: 72.5' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH

SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH

DESCRIBE OTHER:

NAPL LAYER PRESENT: NO FLT SNK

LAYER SAMPLED: NO YES MIX

THICKNESS IN-CM

DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		
TEMPERATURE		
SP. COND		
pH		
Eh		
DO		
PID	0.0	
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER

DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER

DESCRIBE: SS Bailer w/ 5' pvc screen

SAMPLING METHOD:

GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH

SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH

OTHER:

SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH

DESCRIBE OTHER:

PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH

DESCRIBE OTHER: Alconox soln; DI rinse

QA SAMPLES:

CO-LOCATED SAMPLE ID: N/A

SPLIT SAMPLE ID:

RINSE BLANK ID:

TRIP BLANK ID:

LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	~~FASP~~	~~Chlor. VOCs, 3 VOAs - Hap site + GC/MS~~	
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A

SPLIT SAMPLE ID NO.: N/A

ORGANIZATION NAME:

PARAMETERS: SAME OTHER:

REPRESENTATIVES NAME:

QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT Auto Lith
Slow fill before sample - wait ~15' to accumulate; pull up another foot & wait again. 1425 still no water ⇒ OMITTED

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

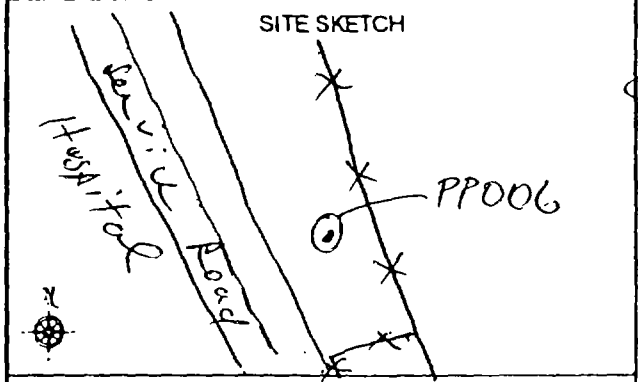
SAMPLE NO.: GW301-PP006-0070
DATE: 8-16-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP006-0070
TIME COLLECTED: 1120
SAMPLE DEPTH: 72' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION		
N. COORDINATE		
E. COORDINATE		
WELL PERMIT No.		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	~62' bgs	PPD curve
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID	0.0	
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer; 5' pvc screen
SAMPLER DECONTAMINATION: DED - LAB FLD OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: alconox rinse; DI rinse
QA SAMPLES: 5' sequential; 2nd
CO-LOCATED SAMPLE ID: GW301-PP006-4070 → 1125 sample time
SPLIT SAMPLE ID: N/A BC
RINSE BLANK ID:
TRIP BLANK ID: 1070
LAB CONTROL SAMPLE ID:

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	chlor VOCs; Hap-site & GCMS	3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH:
SPLIT SAMPLE ID NO.:
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho and PPD curve first. TD refusal @ 78.5' bgs. Sample boring slow water => wait for water; then sample — keep sample times as-is.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

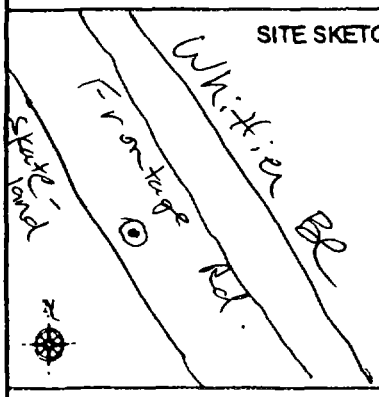
COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE: TD = 83.3'
SAMPLE NO.: GW301-PP007-0081
DATE: 8-15-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP007-0081
TIME COLLECTED: 1025
SAMPLE DEPTH: 80.8' bgs (FT) M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: (GROUNDWATER) WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: (NO) FLT SNK ?
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		68.5' bgs
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: (DISCRETE) COMPOSITE - OTHER
DESCRIBE: bailer in 5' length of screen
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER:
SAMPLER DECONTAMINATION: DED - LAB (FLD) OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
(CHM) - RAD - OTH	FACP	Chlorinated VOCs	Hap site + GC/MS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT auto-lith

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G0912917

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

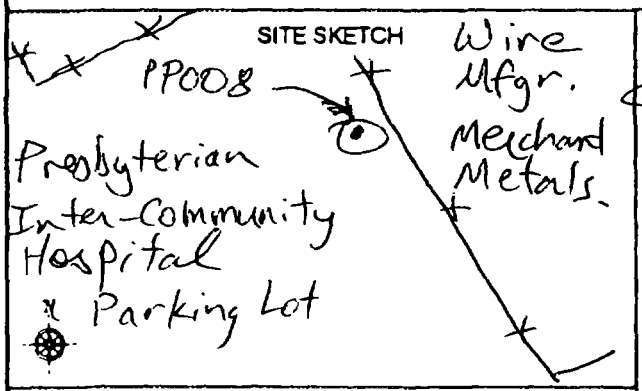
SAMPLE NO.: GW301-PP008-0070
DATE: 8-16-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION TD = 72'

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP008-0070
TIME COLLECTED: 0930
SAMPLE DEPTH: 70' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		60' bgs — sound
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer and 5' prescreen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs, Hap-site + GCMS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

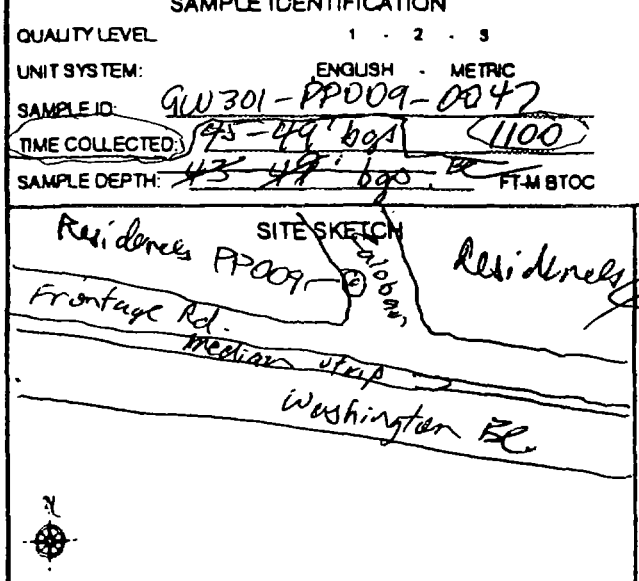
SAMPLE NO.: GW301-PP009-0047
DATE: 8-18-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP009-0047
TIME COLLECTED: 45-49' bgs 1100
SAMPLE DEPTH: ~~43-49' bgs~~ FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		35.8' bgs - sound
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs; Hap-Site+GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Refusal @ 49' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

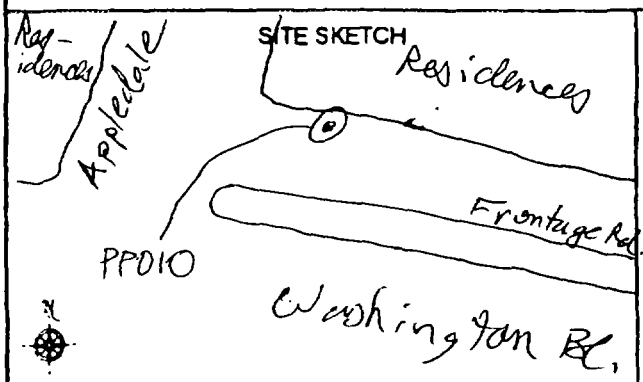
SAMPLE NO.: GW301-PP010-0045
DATE: 8-18-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP010-0045
TIME COLLECTED: 1335
SAMPLE DEPTH: 43-47' bgs. FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	28.3' bgs ⇐ PPD curve	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		O.B
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor-VOCs; Hap-Site + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT lithog. PPD curve @ 44' bgs. ⇒ DTW ≈ 28.3' (hand beg. 43' bgs)
CPT boring refusal @ 47' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

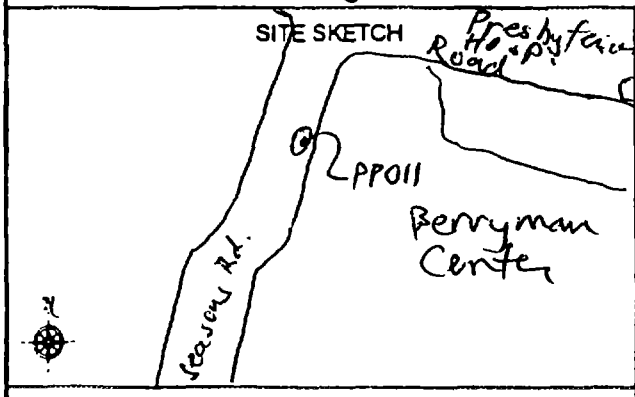
SAMPLE NO.: GW301-PP011-0059
DATE: 8-16-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION TD=

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP011-0059
TIME COLLECTED: 1425
SAMPLE DEPTH: bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

~~SOURCE:~~
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	52' bgs from PPD curve	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB PLD OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs; Hap-lite & GC/MS	3 VOAs.
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT lithology & PPD; sands @ 55-60, & ~72'
TD CPT 74' (Refusal)
Sample boring will do two depths: near 60' & near TD
FHW

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

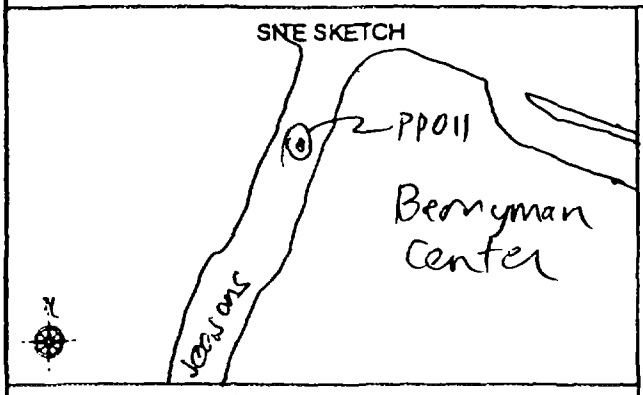
SAMPLE NO.: GW301-PP011-0072
DATE: 8-16-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP011-0072
TIME COLLECTED: 1447
SAMPLE DEPTH: 74.5-2=72.5 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	52' bgs, per PD curve	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unfiltered

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs - Hap Site and GC/MS	3 VOA
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: See GW301-PP011-0059; This is deeper sample at 74.47-2' bgs.

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USAE/EPA
PROJECT: Omega
SITE:

SAMPLE NO.: GW301-PP012-0063
DATE: 2-16-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

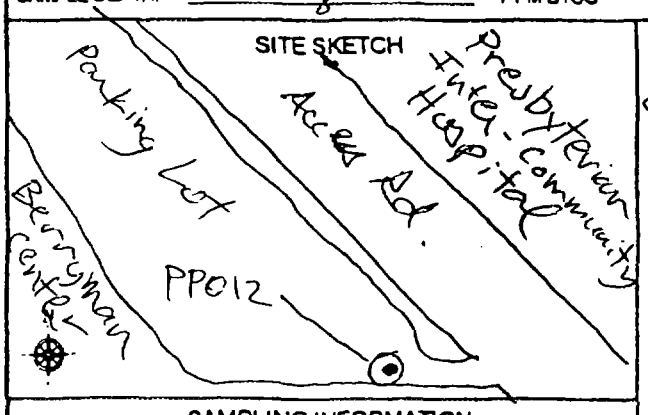
SAMPLE IDENTIFICATION

TD=65' bgs

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP012-63
TIME COLLECTED: 0850
SAMPLE DEPTH: 63' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		45.0' bgs
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

Sound

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer and 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs, Hap-Site + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH:
SPLIT SAMPLE ID NO.:
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. sand (C)(est) @ ~63' bgs. TD=65' bgs tight but no refusal.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

BC

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

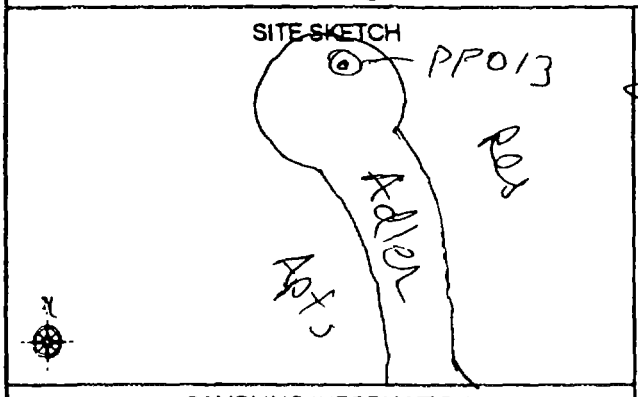
SAMPLE NO.: ~~PP~~ GW301-PP013-0056
DATE: 8-16-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP013-0056
TIME COLLECTED: 1620
SAMPLE DEPTH: 56' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	45' bgs ⇐ PPD curve	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID	0.0	
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer; 5' pvc screen
SAMPLER DECONTAMINATION: DED - LAB FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	clean VOCs, hap-site plus gc/ms	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - ~~SPL~~ RNS - TRP - LCS

COMMENTS: CPT lithology refusal @ 58' bgs. Sandy @ ~41-50; 53'
PPD curve ⇒ DTW = 45' bgs.
Sample boring to refusal @ 58' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

BC

COMPANY:	RFW	SAMPLE NO.:	~~PPO~~ GW301-PP014-0052
CLIENT:	USACE/EPA	DATE:	8-21-01
PROJECT:	Omega	SAMPLER:	Bill Clarke
SITE:		SIGNATURE:	Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3

UNIT SYSTEM: ENGLISH - METRIC

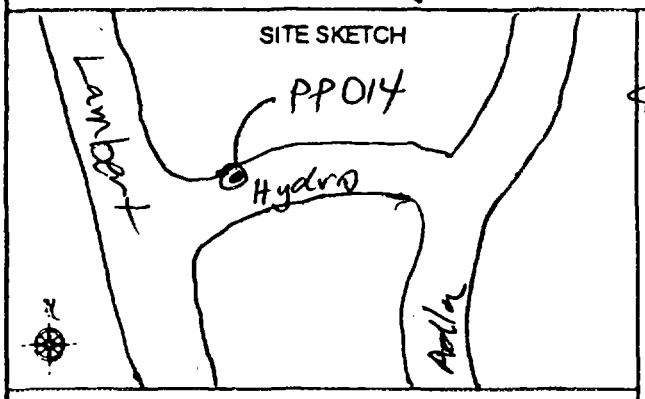
SAMPLE ID: GW301-PP014-0052

TIME COLLECTED: 0825

SAMPLE DEPTH: 50-54' bgs. FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WQS - WOO - WBS - WBO - SUP - RES - SPR - OTH

SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH

DESCRIBE OTHER:

NAPL LAYER PRESENT: NO FLT SNK

LAYER SAMPLED: NO YES MIX

THICKNESS IN-CM

DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		43.5 bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER

DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER

DESCRIBE:

SAMPLING METHOD:

GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH

SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH

OTHER: SS bailer; 5' pvc screen

SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH

DESCRIBE OTHER:

PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH

DESCRIBE OTHER: Alconox soln; DI water

QA SAMPLES:

CO-LOCATED SAMPLE ID: N/A

SPLIT SAMPLE ID:

RINSE BLANK ID:

TRIP BLANK ID:

LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (Hap-Site + GC/MS)	3 VOAs.
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A

SPLIT SAMPLE ID NO.: N/A

ORGANIZATION NAME:

PARAMETERS: SAME OTHER:

REPRESENTATIVES NAME:

QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Adv. sample boring to refusal @ 54' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED ? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

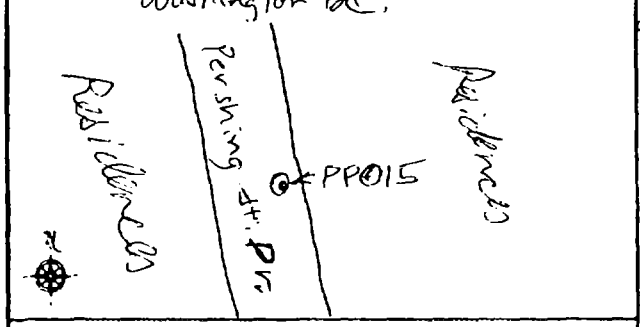
SAMPLE NO.: GW301-PP015-0084
DATE: 8-15-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION TD sample boring = 86' bgs.

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP015-0084
TIME COLLECTED: 1610
SAMPLE DEPTH: 83.5' FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	61' bgs ← PPD curve	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID	0.0	
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Bailer through 5' screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alcmox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chla ~~solvents~~ VOCs, HAP-Site + GC/MS, 3 VOAs	
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL SPL - RNS - TRP - LCS

COMMENTS: CPT Auto-lith & PDP curve. TD (Refusal @ 88').
Just tagged sand ~ @ TD.
Sample boring PP015 TD = 86' (Refusal) bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

0080

COMPANY: RFW
CLIENT: USACE / US EPA
PROJECT: Omega Chemical
SITE:

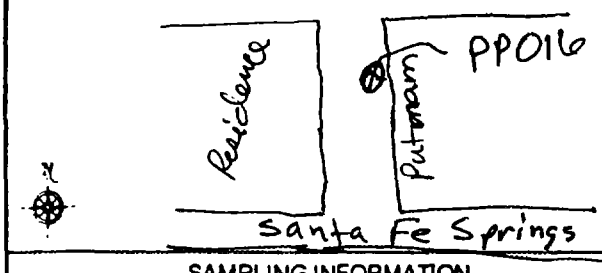
SAMPLE NO.: GW 301-PP016-0080
DATE: 8/16/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW 301-PP016-0080
TIME COLLECTED:
SAMPLE DEPTH: 80' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		81' bgs - sounded
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: Unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer and 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB FLD - OTH
DESCRIBE OTHER: DI
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox Soln, DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Cl VOCs, Hap-site + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho
Refusal @ 82.5 ft bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

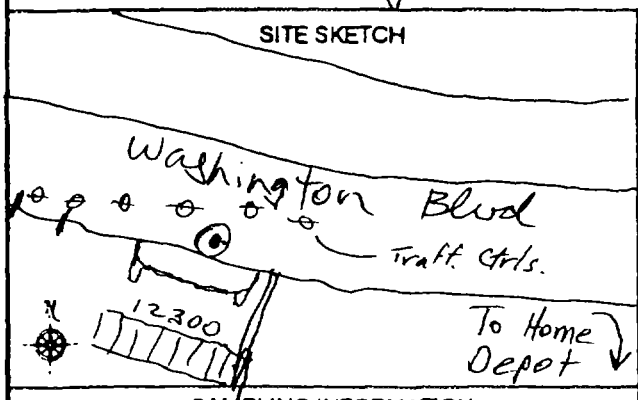
SAMPLE NO.: GW301-PP017-0056
DATE: 8-18-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP017-0056
TIME COLLECTED: 1005
SAMPLE DEPTH: 54-58 'bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	N/PPD curve	40.5' bgs
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: ~~BCB~~ SS bailer; 5' pvc screen
SAMPLER DECONTAMINATION: DED - LAB FLD OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: GW301-PP017-1056@1010 → sequential dup; second.
SPLIT SAMPLE ID: N/A
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	CNar VOCs; Hip-Site + GC/MS	3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho to refusal @ TD = 63' bgs. No PPD curve. Adv. sample boring to 58' bgs; basically refusal.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

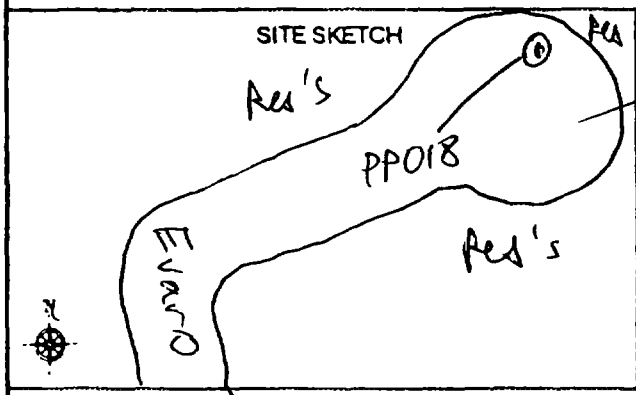
SAMPLE NO.: GW301-PP01B-0058
DATE: 8-20-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP01B-0058
TIME COLLECTED: 0950
SAMPLE DEPTH: 46-60' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		40' bgs (roun
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0-0.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS Bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FAID	Chlor: VOC-Hap-Site+GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Adv sample boring to 60' bgs TD.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

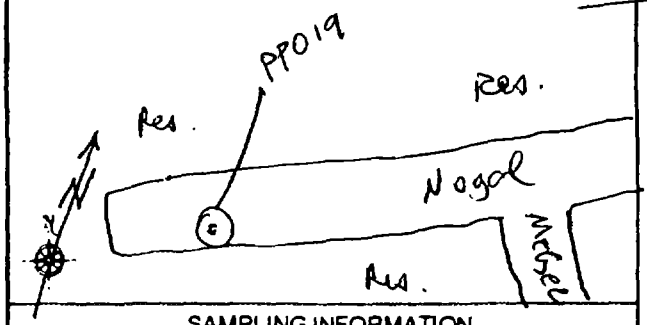
SAMPLE NO.: GW301-PP019-0058
DATE: 8-20-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP019-0058
TIME COLLECTED: 1045
SAMPLE DEPTH: 56-60' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER - WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		48' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.8
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs (Top-site + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Adv. sample boring to 60' bgs. Found DTW = 48' bgs. immediately after sample.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

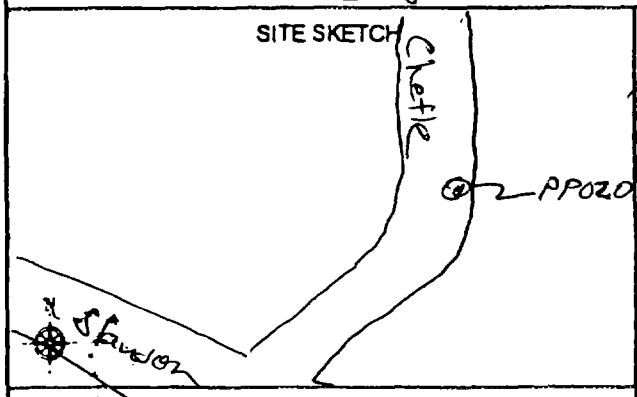
SAMPLE NO.: GW301-PP020-0050
DATE: 8-17-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP020-0050
TIME COLLECTED: 1420
SAMPLE DEPTH: 48-52' ~~50~~ bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER PPD BC
WATER LEVEL	bgs	⇐ PDP curve.
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		NM
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Bailer & 5' PVC screen.
SAMPLER DECONTAMINATION: DED - LAB - FLD OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs;	
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho & PDP test. CPT boring adv. to refusal @ 75' bgs TD. First sample @ 50'; second, deeper sample listed on separate form.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

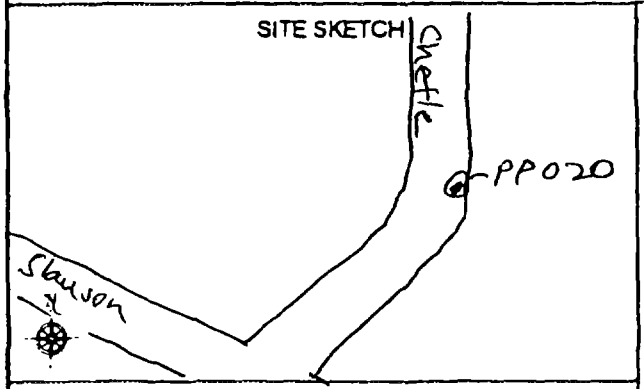
SAMPLE NO.: GW301-PP020-0073
DATE: 9-17-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP020-0073
TIME COLLECTED: 1445
SAMPLE DEPTH: 71-75 'bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WCS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	~25' bgs ← PPD test	
TEMPERATURE		~50' bgs
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer & 5' pvc screen
SAMPLER DECONTAMINATION: DED - LAB - FID - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	CHlor VOCs; Hap Site + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: second, deeper sample @ same location; based on ~~TD = 82'~~ refusal @ 75' bgs TD.

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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G081291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: WAGE/EPA
PROJECT: Omega
SITE:

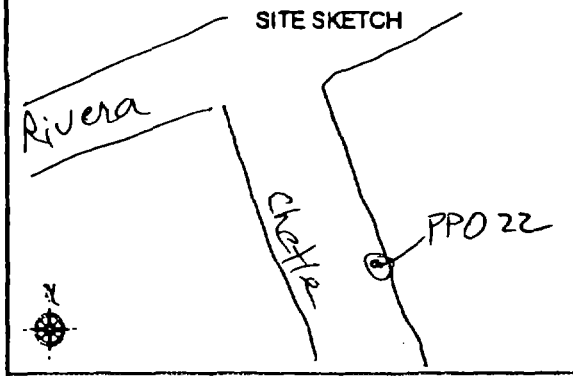
SAMPLE NO.: GW301-PP022-0058
DATE: 8-17-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP022-0058
TIME COLLECTED: 1255
SAMPLE DEPTH: 56-60 'bgs. FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	30 'bgs ← PPP curve	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Bailer & 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	CNor VOCs; Hap-site + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho and PPD curve. CPT boring refusal @ 68' bgs TD. Sandy & sndgrav 39 to 68'. Advance sample boring to 60' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

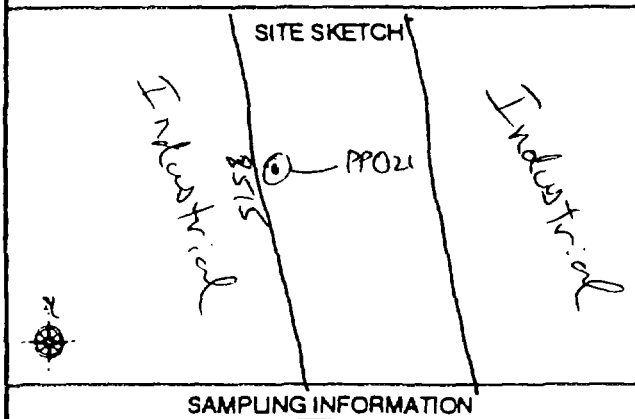
SAMPLE NO.: GW301-PP021-0058
DATE: 8-17-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP021-0058
TIME COLLECTED: 1050
SAMPLE DEPTH: 56-60 'bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		33 'bgs sounder & rising
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.5
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer & 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB FLD OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID: ↓
RINSE BLANK ID: GW301-PP021-~~4008~~ 4001 → 1045
TRIP BLANK ID: N/A
LAB CONTROL SAMPLE ID: ↓

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	chlor. VOCs, Hap-Site + GC/MS	3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME: ↓
PARAMETERS: SAME OTHER: ↓
REPRESENTATIVES NAME: ↓
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Sample boring refusal @ 60' bgs TD.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

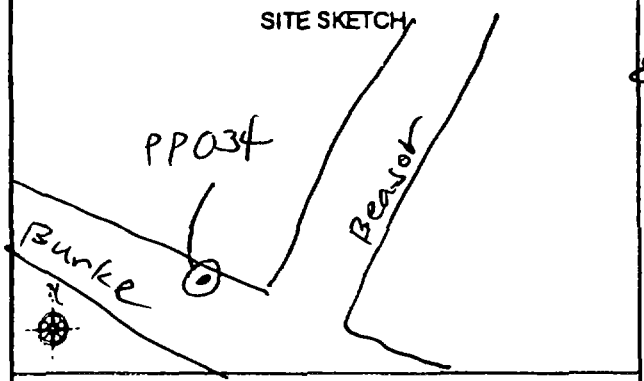
SAMPLE NO.: GW301-PP034-0033
DATE: 8-20-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP034-0033
TIME COLLECTED: 1305
SAMPLE DEPTH: 31-35' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WSS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		28' bgs (sampled)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.5-0.8
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (Hap-Site + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho. refusal @ 36' bgs TD, in gravelly sand. Adv. sample bor

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G0012917

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

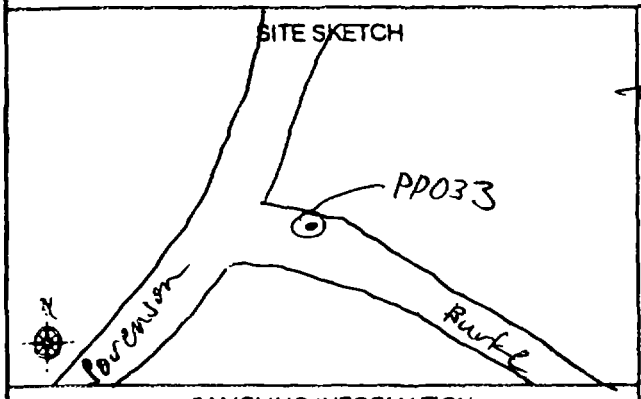
SAMPLE NO.: GW301-PP033-0038
DATE: 8-20-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP033-0038
TIME COLLECTED: 1415
SAMPLE DEPTH: 36 - 40 ' bgs FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		34' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.5 to 0.8
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: ss bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (Hap-site + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho refusal @ 40' bgs. Adv. sample boring to refusal also @ 40' bgs.

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

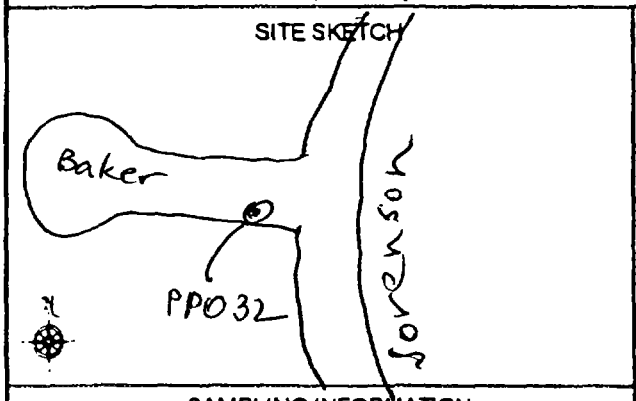
SAMPLE NO.: GW301-PP032-0062
DATE: 8-21-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP032-0062
TIME COLLECTED: 1240
SAMPLE DEPTH: 60 - 64' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		39.5' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2-0.5
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

(1235) sample time

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen.
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln.; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID: GW301-PP032-4002
LAB CONTROL SAMPLE ID: N/A

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unfiltered

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (Hap-Site + GC/MS)	3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
ORGANIZATION NAME:
REPRESENTATIVES NAME:

SPLIT SAMPLE ID NO.: N/A
PARAMETERS: SAME OTHER:
QA/QC SAMPLES: COL - SPL - ANS - TRP - LCS

COMMENTS: No CPT litho. Adv. sample boring to refusal @ 64' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

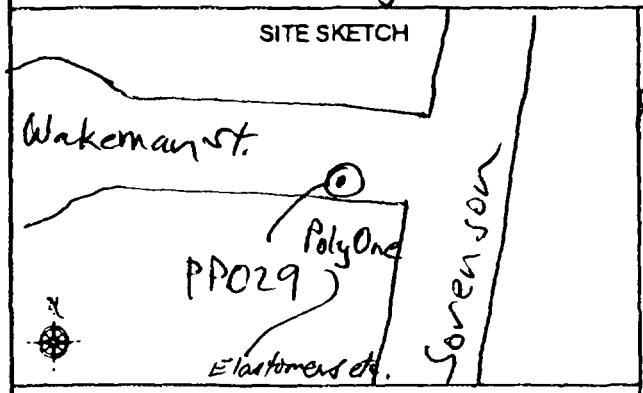
SAMPLE NO.: GW301-PP029-0045
DATE: 8-21-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP029-0045
TIME COLLECTED: 1415
SAMPLE DEPTH: 43-47' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	26' bgs (PPD curve)	24.8' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID: GW301-PP029-0046

(1415) MS/MSD

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs (Hap-Site + GC/MS)	3+5 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Adv. CPT line to refusal @ 44' bgs. silty sand begins @ 34' bgs; gravly sand near TD. Sample boring advanced to refusal @ 47' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G0912917

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

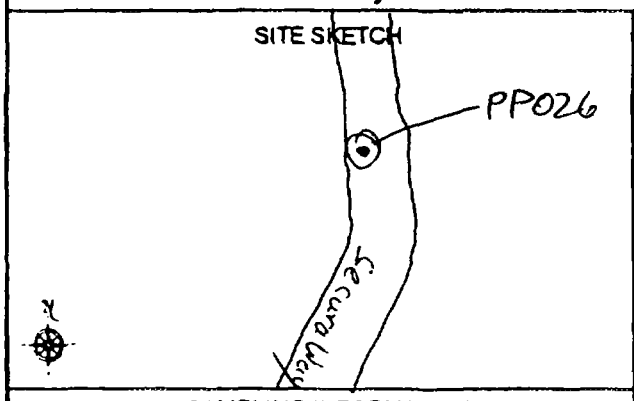
SAMPLE NO.: GW301-PP026-0041
DATE: 8-17-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP026-0041
TIME COLLECTED: 1550
SAMPLE DEPTH: 39-43' bgs screen FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		24' bgs (rounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		NM
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Bailer & 5' PVC screen.
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln.; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EASP	ChlorVOCs, Hap-Lite + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Sample during refusal @ TD = 43' bgs. Feels cemented, driller says.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: USACE/US EPA
PROJECT: Omega Chemical
SITE:

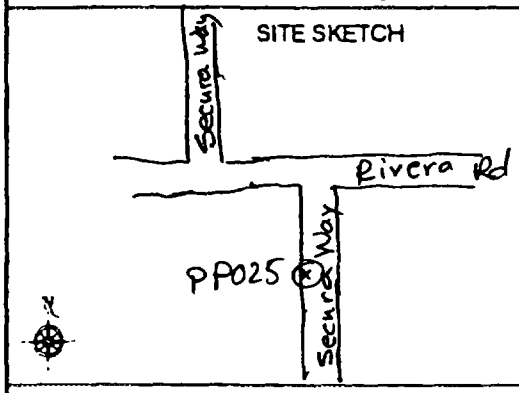
SAMPLE NO.: GW301-PP025-0050
DATE: 8/17/01
SAMPLER: B. Clarke
SIGNATURE:

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP025-0050
TIME COLLECTED: 15:20
SAMPLE DEPTH: 50' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		25' sounded bgs.
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: Unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer through PVC screen 5'
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER:
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	chlor VOCs; Hapsite + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: TD ~ 52' bgs

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

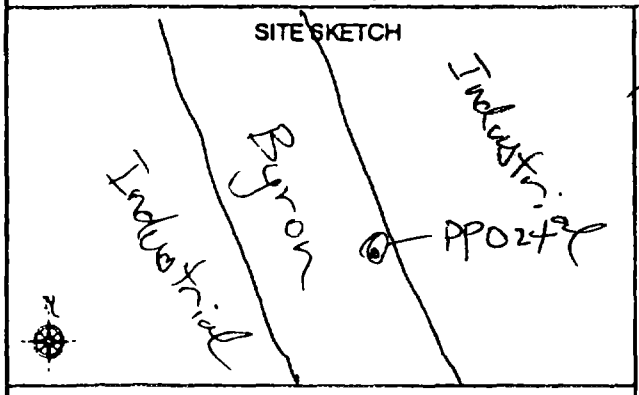
SAMPLE NO.: GW301-PP024-0058
DATE: 8-17-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP024-0058
TIME COLLECTED: 1020
SAMPLE DEPTH: 58' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		28' bgs
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		1.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: alconox; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs; Hop-site + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Sample boring TD @ 60' (Refusal) - sample @ ~58' bgs.

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

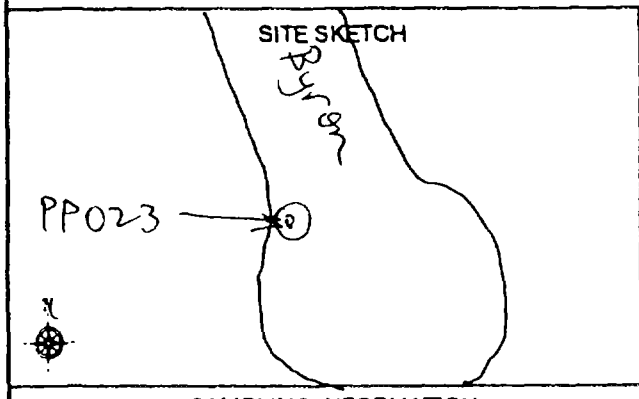
SAMPLE NO.: GW301-PP023-0063
DATE: 8-17-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP023-0063
TIME COLLECTED: 0950
SAMPLE DEPTH: 63' bgs FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	30' ⇐ PPP Curve	→ 29.5' bgs sour
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.5-0.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER:
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs hap-site + GC/MS	3VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.:
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho, grvly snds @ 50-59'; 63-64.5' (TD-refusal); PPD test ⇒ DTW = 30' bgs. Sample boring refusal @ 65' TD.

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

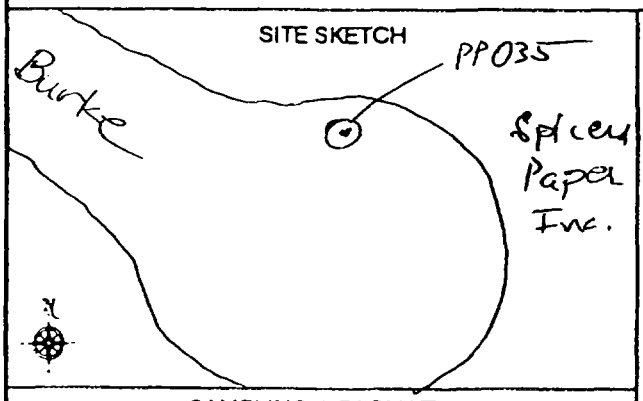
SAMPLE NO.: GW301-PP035-0036
DATE: 8-21-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP035-0036
TIME COLLECTED: 0755
SAMPLE DEPTH: 34-38' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOB - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		28' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' pvc screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs (Hap-Site + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Sample boring adv. to refusal @ 38' bgs.

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

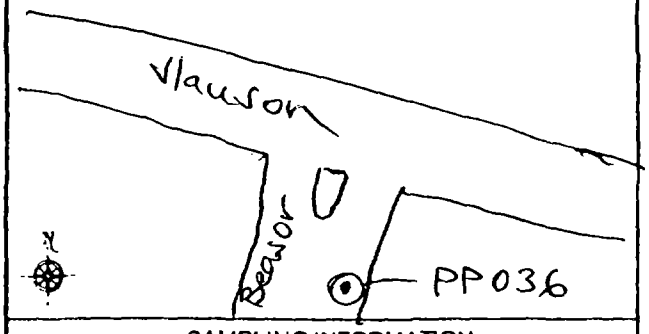
SAMPLE NO.: GW301-PP036-0054 52
DATE: 8-20-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID:
TIME COLLECTED: 1125
SAMPLE DEPTH: ~~52-56' bgs~~ FT-M BTOC
50-54' bgs

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		28' bgs (sounde
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		4.5
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' pvc screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: GW301-PP036-1054 (1130) 2 BC
SPLIT SAMPLE ID: N/A
RINSE BLANK ID:
TRIP BLANK ID: 2 BC
MS/MSD Volume LAB CONTROL SAMPLE ID: GW301-PP036-0054 (1125, 2 BC)

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Non VOCs (Hap-site + GC/MS)	6+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
ORGANIZATION NAME:
REPRESENTATIVES NAME:

SPLIT SAMPLE ID NO.: N/A
PARAMETERS: SAME OTHER:
QA/QC SAMPLES: COL - ~~SPL~~ - RNS - TRP - LCS

COMMENTS: No CPT Litho. Adv. sample boring to 54' bgs TD. found DTW = 28' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE: 41-45' bgs.

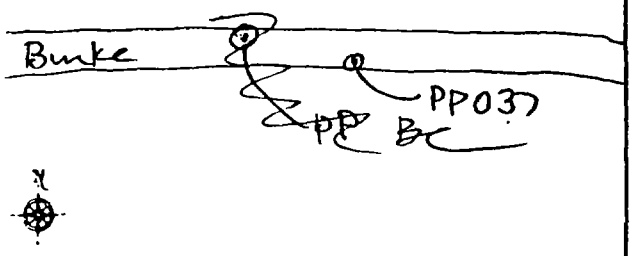
SAMPLE NO.: GW301-PP037-0043
DATE: 8-20-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP037-0043
TIME COLLECTED: 1445
SAMPLE DEPTH: 41-45' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WSS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		25.5' bgs (sounded
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: 55 bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB FLD OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (Hag. site + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: NO CPT (tho. sample boring refusal in grav (?) @ 45' bgs TD. Sound DTW after @ 25.5' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

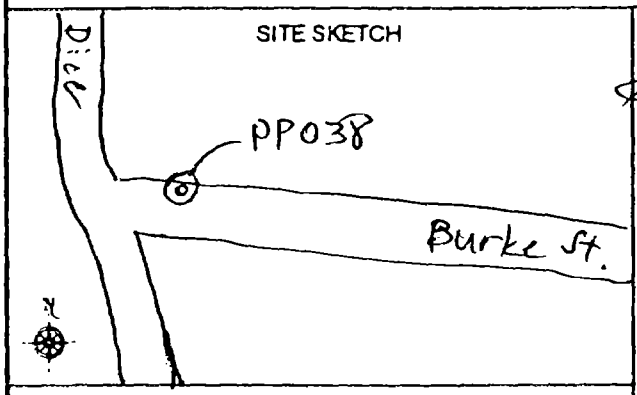
SAMPLE NO.: GW301-PP038-0073
DATE: 8-21-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP038-0073
TIME COLLECTED: 0955
SAMPLE DEPTH: 71-75' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	34.6' bgs (PPD curve)	~64' bgs seconds.
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unfiltered

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	CHlorVOCs (Hap-site + GC/MS)	3 VOAs.
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Adv. CPT litho to refusal @ 73' bgs. Shallow sands (Gaspur Aquifer?). Deeper sands below ~73' bgs (Gage Aquifer?). Adv. sample boring to refusal @ 75' bgs TD.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G0912911

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

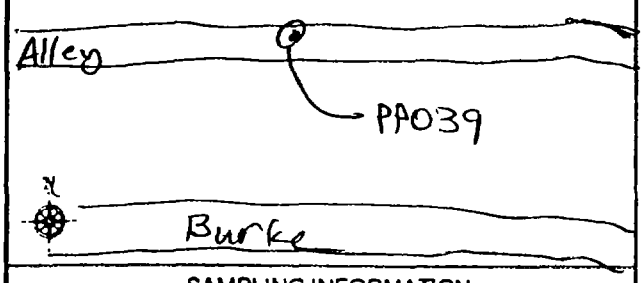
SAMPLE NO.: GW301-PP039-0033
DATE: 8-20-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP039-0033
TIME COLLECTED: 1610
SAMPLE DEPTH: 31 – 35' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	25' bgs (PPD curve)	22' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		NM
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - MLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' pre screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM RAD - OTH	FASP	Chlor. VOCs (Hop-site + GCMS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - FB - RNS - TRP - LCS

COMMENTS: CPT litho to refusal @ 35' bgs. Sand @ ~30.5' bgs. Sample boring adv. to refusal @ 35' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

Be GW301-PP040-0062

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

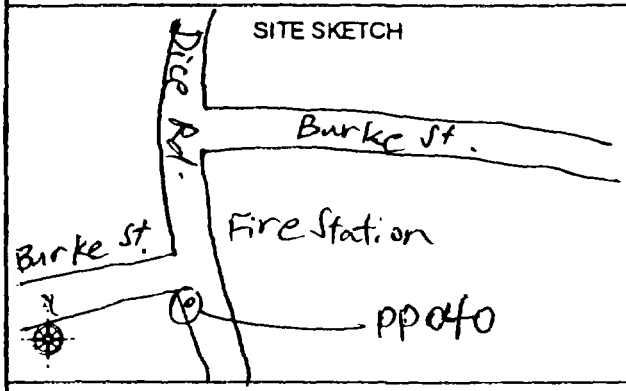
SAMPLE NO.: ~~PP301-0~~
DATE: 8-21-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP040-0062
TIME COLLECTED: 1115
SAMPLE DEPTH: 60-64' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO PLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS	BEFORE	AFTER
WATER LEVEL	40.5' bgs (PPDcurved)	46' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2-0.5
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' Arc screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs; (Hap site + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
ORGANIZATION NAME:
REPRESENTATIVES NAME:
SPLIT SAMPLE ID NO.: N/A
PARAMETERS: SAME OTHER:
QA/QC SAMPLES: COL SPL - RNS - TRP - LCS

COMMENTS: CPT litho to refusal @ 64' bgs. (Sand begins @ ~63').
Adv. sample boring to refusal @ 64' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

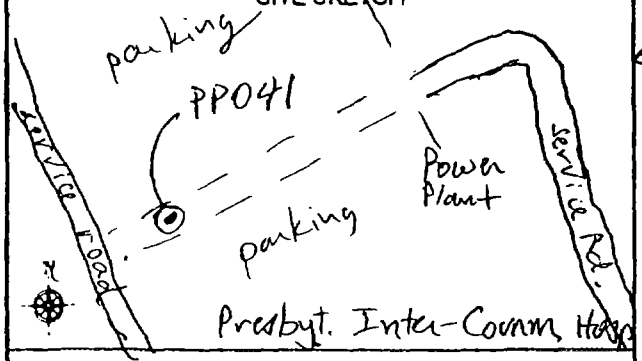
SAMPLE NO.: GW301-PP041-0065
DATE: 8-18-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clark

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP041-0065
TIME COLLECTED: ~~14~~ BC ~~1520~~ BC 1505
SAMPLE DEPTH: – ' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	53.8' bgs ⇐ PPD curve.	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 - 0.2
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE:

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs - Hapsite/GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: BC COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho boring to ~~refusal~~ @ 62' bgs. PPD curve ⇒ DTW = 53.8' bgs. ~~Sample boring~~ BC Continue CPT to refusal @ 72' bgs. Sample boring ~~refusal~~ at to 67' bgs TD. BC

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

No Sample

COMPANY:	RFW	SAMPLE NO.:	~~GW301 PP042-00~~
CLIENT:	USACE/EPA	DATE:	8-20-01
PROJECT:	Omega	SAMPLER:	Bill Clarke
SITE:		SIGNATURE:	Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3

UNIT SYSTEM: ENGLISH - ~~METRIC~~

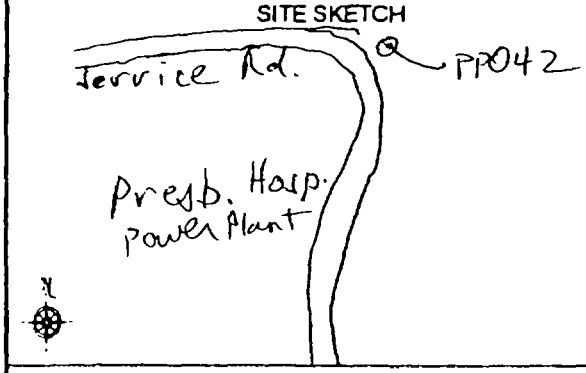
SAMPLE ID: ~~GW301 PP042-00~~

TIME COLLECTED: ~~08~~

SAMPLE DEPTH: - ' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH

SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH

DESCRIBE OTHER:

NAPL LAYER PRESENT: NO FLT SNK

LAYER SAMPLED: NO YES MIX

THICKNESS IN-CM

DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	53' bgs ⇐ PPD curve	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER

DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER

DESCRIBE:

SAMPLING METHOD:

GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH

SURFACE WATER BOT - KEM - BCS - SCP - TGS - OTH

OTHER: SS bailer; 5' PVC screen; + casing (temp. piezometer)

SAMPLER DECONTAMINATION: DED - LAB FLD OTH

DESCRIBE OTHER:

PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH

DESCRIBE OTHER: alconox soln; DI rinse

QA SAMPLES:

CO-LOCATED SAMPLE ID: N/A

SPLIT SAMPLE ID:

RINSE BLANK ID:

TRIP BLANK ID:

LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs - Hap Site + GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A

SPLIT SAMPLE ID NO.: N/A

ORGANIZATION NAME:

PARAMETERS: SAME OTHER:

REPRESENTATIVES NAME:

QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: GPT litho boring, refusal @ dense sand @ 60' bgs. PPD test ⇒ DTW = 53' bgs. Water v.v. slow ⇒ set temp piezometer to accumulate water. BC 8-22-01 No water at TD = 63' btoc. (~1' stickup) ⇒ No sample; abandoned. BC

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G0912917

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

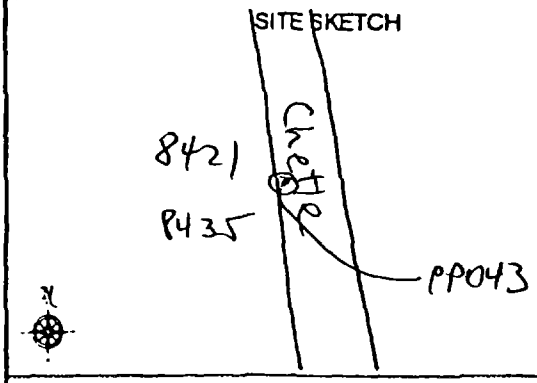
SAMPLE NO.: GW301-PP043-0051
DATE: 8-22-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP043-0051
TIME COLLECTED: 0935
SAMPLE DEPTH: 49-53' bgs. FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		36' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		NM
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - XEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs (Hep-Site + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: NO CPT litho. Adv. sample boring to 53' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: AFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

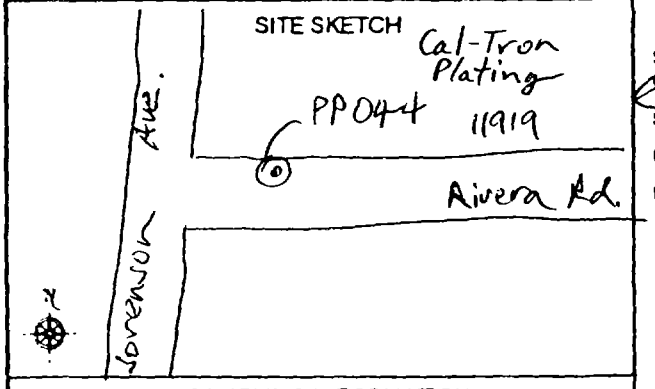
SAMPLE NO.: GW301-PP044-0051
DATE: 8-22-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP044-0051
TIME COLLECTED: 1000
SAMPLE DEPTH: – ' bgs FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		24' bgs (Sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2-0.5
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FALP	Chlor. VOCs (Hnp-Lite + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Adv. sample boring to refusal @ 53' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

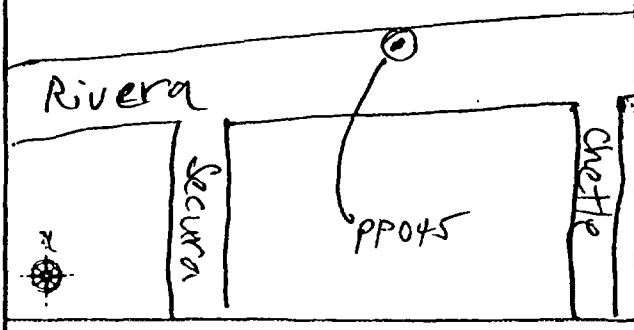
SAMPLE NO.: GW301-PP045-0052
DATE: 8-21-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP045-0052
TIME COLLECTED: 1550
SAMPLE DEPTH: 50 — 54' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH Public Storage



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER: WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER: STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS: IN-CM
DESCRIPTION:

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		27' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		NM
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER: BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER: BOT - KEM - SCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox
QA SAMPLES:
CO-LOCATED SAMPLE ID: GW301-PP045-1052 (1555)
SPLIT SAMPLE ID: N/A
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (Hap-Site + GC/MS)	3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Adv. sample boring to 54' bgs TD (refusal).

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

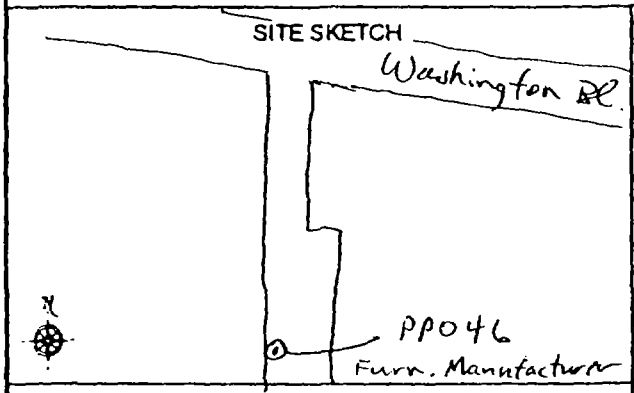
SAMPLE NO.: GW301-PP046-0047
DATE: 8-22-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP046-0047
TIME COLLECTED: 1110
SAMPLE DEPTH: 45-49' bgs FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	25.5' bgs (PPD curve)	26' (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.8-1.1
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs (Hap-Site plus GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance CPT litho to refusal @ 52' bgs; Advance sample boring to 49' (base of grvly snd unit).

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

SAMPLE NO.: GW301-PP047-0048
DATE: 8-22-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

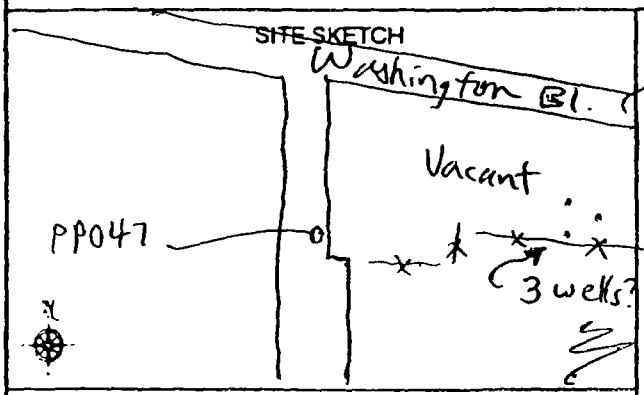
SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP047-0048
TIME COLLECTED: 1135
SAMPLE DEPTH: 46-50' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		

WELL PERMIT No.:

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WGS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		28' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2-0.5
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: ss bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (Hap-Site + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance sample boring to 50' bgs. No CPT litho.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

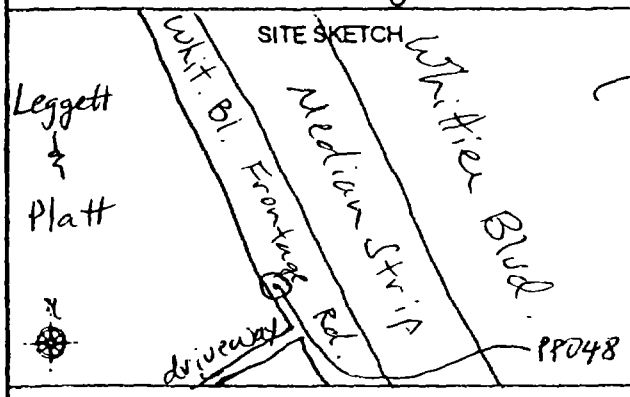
SAMPLE NO.: ~~GW-PT~~ GW301-PP048-0099
DATE: 8-22-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP048-0099
TIME COLLECTED: 1245
SAMPLE DEPTH: 97-101' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		98' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2-0.5
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln.; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (GC, GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Adv. sample boring to 101' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

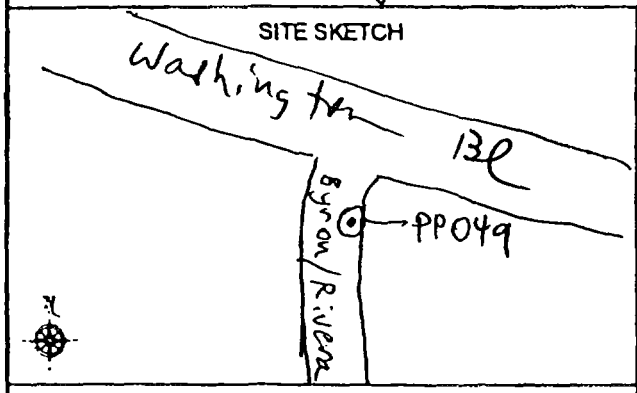
SAMPLE NO.: GW301-PP049-0063
DATE: 8-23-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP049-0063
TIME COLLECTED: 0800
SAMPLE DEPTH: 61-65' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		45' bgs. Sounded
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.8
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (GC + GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Advance sample boring to refusal @ 65' bgs. Sandy sample.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

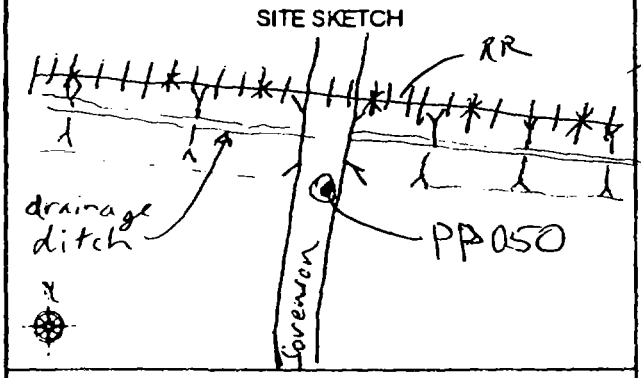
SAMPLE NO.: GW301-PP050-0072
DATE: 8-23-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP050-0072
TIME COLLECTED: 0845
SAMPLE DEPTH: 71-75' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		36' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		NM
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: 4" bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB FLD OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	ChlorVOCs (GC+GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Sand apparent bel. 50' (to driller). Adv. to refusal @ 75' bgs. Achieved greater depth than other locations in this area.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

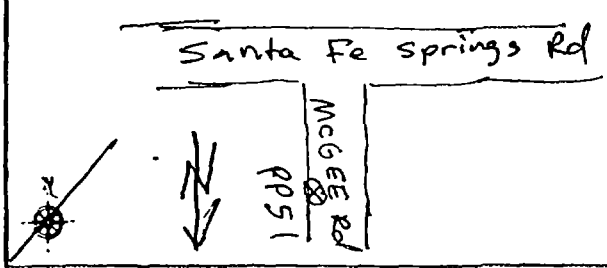
SAMPLE NO.: GW301-PP051-0055
DATE: 8-23-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP051-0055
TIME COLLECTED: 0915
SAMPLE DEPTH: 53-57' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		43' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unfiltered.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Bailer through 5' screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER:
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (GC+GC/ms)	3 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Advance to 57' bgs

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

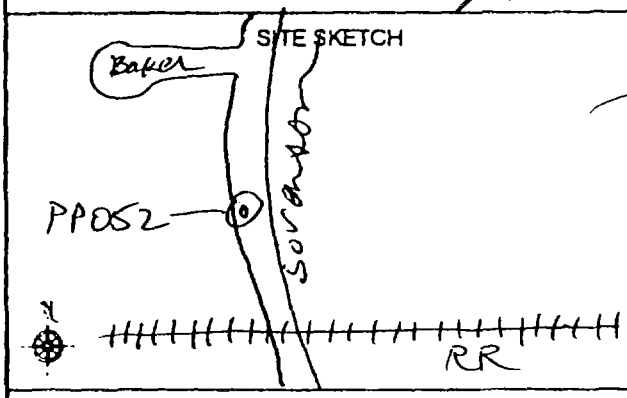
SAMPLE NO.: GW301-PP052-0055
DATE: 8-23-01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP052-0055
TIME COLLECTED: 1107
SAMPLE DEPTH: 53-57 ft. bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	30' bgs by PPD avg	27' bgs (sounde
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE:

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - P98 - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5 ft. PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES: RC
CO-LOCATED SAMPLE ID: DP GW301-PP052-1055 (1115)
SPLIT SAMPLE ID: N/A
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	CWar VOCs (GC + GC/MS)	3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advanced CPT litho to refusal at 74' bgs TD. Sample boring advanced to base of primary sand unit at 57' bgs TD.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US ACE / US EPA
PROJECT: Omega Superfund Site
SITE:

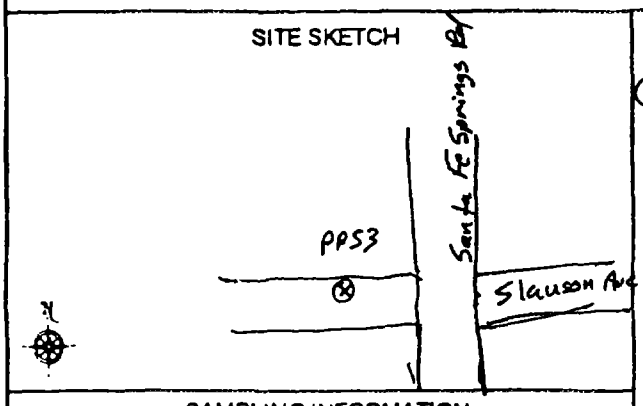
SAMPLE NO.: GW301-PP053-0049
DATE: 8/23/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP053-0049
TIME COLLECTED: 13:09
SAMPLE DEPTH: 49' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		25' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		ND
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer through 5' screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox Soln; DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A BC
SPLIT SAMPLE ID: BC 03
BC RINSE BLANK ID: GW301-PP053-4049 ~~(1309)~~ (1300) BC
TRIP BLANK ID: N/A BC
LAB CONTROL SAMPLE ID:

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: Unpreserved

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	(GC + GC/MS) chlor. VOCs	3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Total Depth ~ 51' bgs. Prepared rinsate blank prior to sampling. BC

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

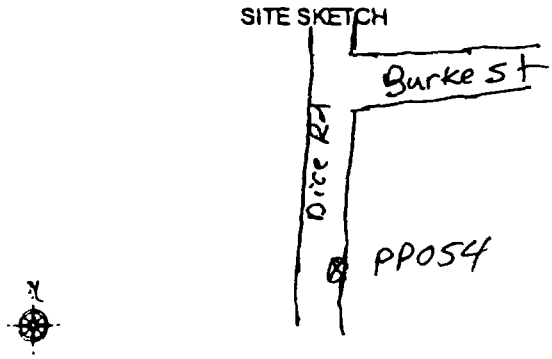
COMPANY: Roy F. Weston
CLIENT: US ACE / US EPA
PROJECT: Omega Superfund site
SITE:
SAMPLE NO.: GW301-PP054-0062
DATE: 8/23/01
SAMPLER: G. Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP054-0062
TIME COLLECTED: 14:12
SAMPLE DEPTH: 62' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		46.5' (Sounded bgs (46.5' bgs)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		ND
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: Unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer through 5' screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID:
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (GC+GC/ms)	3 Voas
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Total Depth to refusal ~ 64' bgs

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

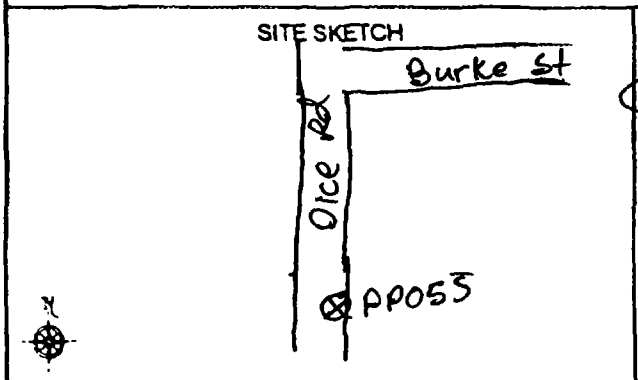
COMPANY: Roy F. Weston
CLIENT: US ACE / US EPA
PROJECT: Omega Superfund Site
SITE:
SAMPLE NO.: GW301 - PP055-0065
DATE: 8/23/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP055-0065
TIME COLLECTED: 14:42
SAMPLE DEPTH: 65 FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		45' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		ND
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer through 5' screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI H2O
QA SAMPLES:
CO-LOCATED SAMPLE ID:
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor VOCs (GC+GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Total Depth to refusal: 67' bgs

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Superfund Site
SITE:

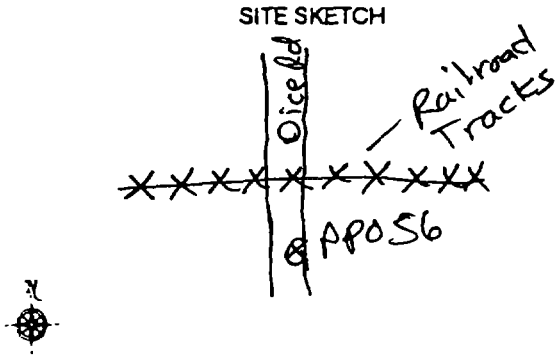
SAMPLE NO.: GW301-PP056-0058
DATE: 8/23/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW 301-PP056-0058
TIME COLLECTED: ~~SS~~ 1515
SAMPLE DEPTH: 58' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.2ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: Unpreserved Tank

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: bailer through 5' screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox; DI H2O Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID:
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs (GC+GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Total Depth to refusal: 60' bgs

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F Weston
CLIENT: US ACE/US EPA
PROJECT: Omega Superfund Site
SITE:

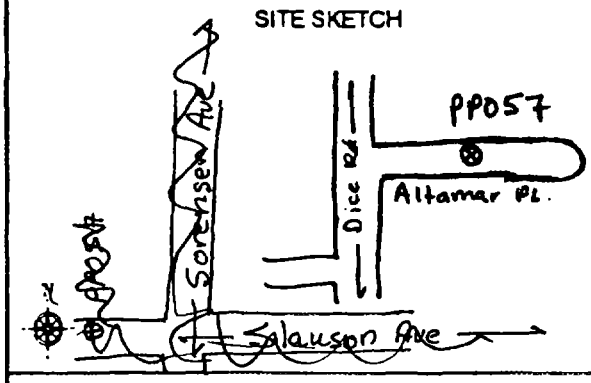
SAMPLE NO.: GW301-PP057-0062
DATE: 9/4/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP057-0062
TIME COLLECTED: 09:22
SAMPLE DEPTH: 62' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	47' bgs (PPO Curve)	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		ND 0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: preserved HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER:
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER: Alconox Soln; DI H_2O Rinse
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER:
QA SAMPLES:
CO-LOCATED SAMPLE ID:
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP	Chlor. VOCs (GC+GC/MS)	3 Voas
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT TD to refusal: 70' bgs
Sample boring to ~~refusal~~ BC: 64' bgs

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston, Inc.
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

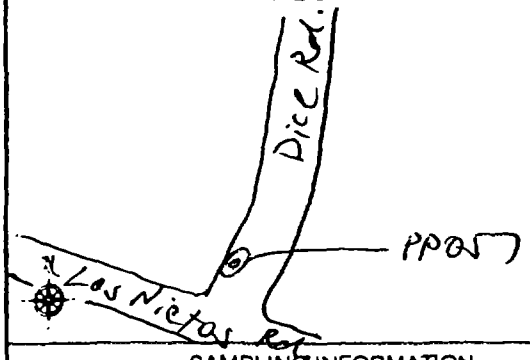
SAMPLE NO.: GW301-PP058-0064
DATE: 9-4-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP058-0064
TIME COLLECTED: 1005
SAMPLE DEPTH: 60-64' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		55' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		ND-0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FAIP/Region IX Lab	Chlor VOCs (GC/MS)	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho.
TD to refusal: 66' bgs
GW samples collected @ 10:05

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

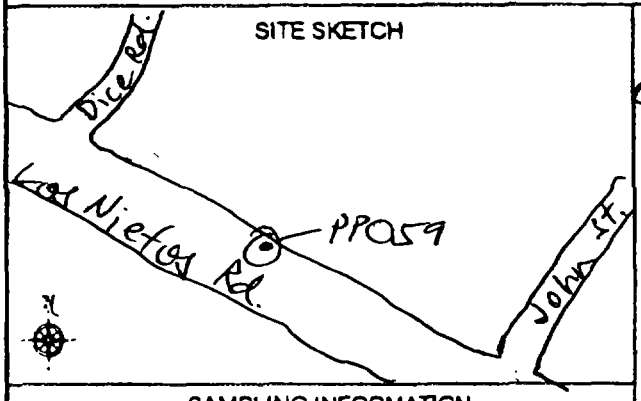
SAMPLE NO.: GW301-PP059-0063
DATE: 9-4-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP059-0063
TIME COLLECTED: 12:10
SAMPLE DEPTH: 61-65' 63' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	61' bgs (PPD curve)	58.5' bgs soaked
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox Soln.; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP/Region IX Lab	VOCs - GC/MS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Adv. CPT to refusal @ 94' bgs
Sample boring advanced to 65' bgs to intermediate S+G

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

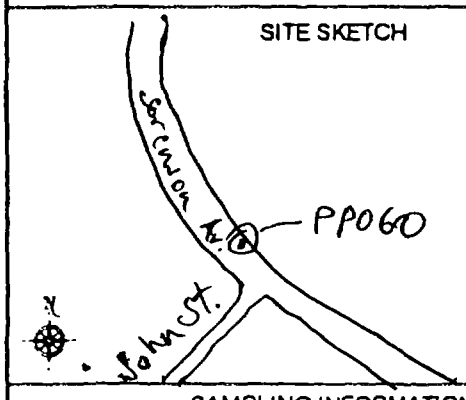
SAMPLE NO.: GW301-PP060-0065
DATE: 9-7-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP060-00
TIME COLLECTED: 1320
SAMPLE DEPTH: 63 - 67' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		32' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		2.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: SS bailer; 5' pvc screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: GW301-PP060-1065 (1325) sample time
SPLIT SAMPLE ID: N/A
RINSE BLANK ID: GW301-PP060-4005 (1315) sample time
TRIP BLANK ID: NA
LAB CONTROL SAMPLE ID:

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl.

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP/Region IX Lab	VOCs - GC/MS	3+3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Adv. sample boring to 67' bgs. Slower yield, but enough water for samples.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW BC
CLIENT: USACE/~~OM~~ EPA
PROJECT: Omega
SITE:

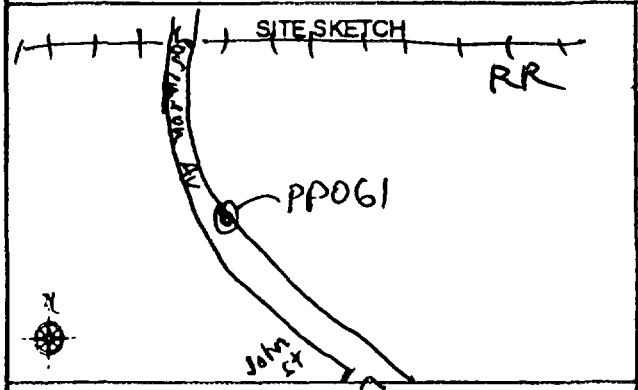
SAMPLE NO.: GW301-PP061-0065
DATE: 9-4-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP061-0065
TIME COLLECTED: 1404
SAMPLE DEPTH: 63-67' bgs FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		59' bgs (sounded
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - MLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: ss bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID: GW301-PP061-0065 (1404)

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: unpreserved

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP/Region 9 Lab	VOCs (GC/MS)	3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT Litho. Advance sample boring to 67' bgs

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: RFW
CLIENT: USACE/EPA
PROJECT: Omega
SITE:

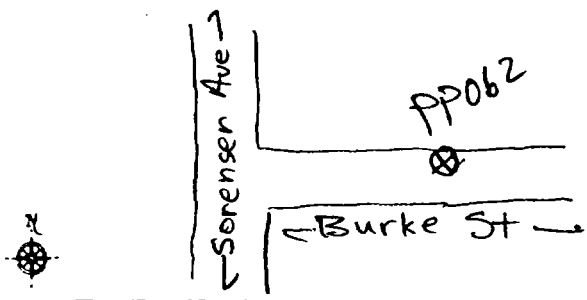
SAMPLE NO.: GW301-PP062-0038
DATE: 9-4-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW301-PP062-0038
TIME COLLECTED: 15:05
SAMPLE DEPTH: 35 — 40 'bgs. FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER - WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		24' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: 5' bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln.; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID: GW301-PP062-2001
LAB CONTROL SAMPLE ID: N/A

(1525)
SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: Unpreserved

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	FASP/Region IX Lab	VOCs - GCMS	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Advance sample boring to 40' bgs (refusal)

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

4 401 BC

COMPANY:	RFW	SAMPLE NO.:	GW301-PP063-0059
CLIENT:	USACE/EPA	DATE:	10-29-01
PROJECT:	Omega	SAMPLER:	Bill Clarke
SITE:		SIGNATURE:	Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 401 4 BC 1 - 2 - 3

UNIT SYSTEM: ENGLISH - METRIC

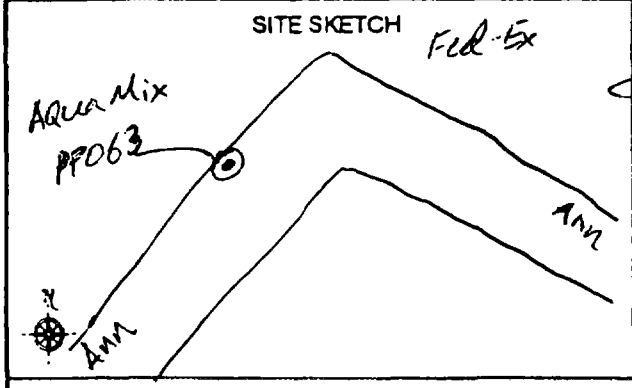
SAMPLE ID: GW301-PP063-0059

TIME COLLECTED: 1035

SAMPLE DEPTH: 57-61 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH

SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH

DESCRIBE OTHER:

NAPL LAYER PRESENT: NO FLT SNK

LAYER SAMPLED: NO YES MIX

THICKNESS _____ IN-CM

DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	22.7' PPD @ 42'	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 PPM
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED PRESERVED - OTHER

DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER

DESCRIBE:

SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH

SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH

OTHER: 6.2 acrylic bailer; 5' of PVC screen

SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH

DESCRIBE OTHER:

PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH

DESCRIBE OTHER: Alconox soln, DI rinse

QA SAMPLES:

CO-LOCATED SAMPLE ID: N/A

SPLIT SAMPLE ID:

RINSE BLANK ID:

TRIP BLANK ID:

LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A

SPLIT SAMPLE ID NO.: N/A

ORGANIZATION NAME:

PARAMETERS: SAME OTHER:

REPRESENTATIVES NAME:

QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho to ~~refusal~~ BC @ ~~52' bgs~~ BC 103' bgs. Sndy grav @ 52' bgs. & deeper softer slt near TD. Advance sample boring to 60' bgs. Collected gw samples @ 1035. 0.0 ppm OVM reading

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:

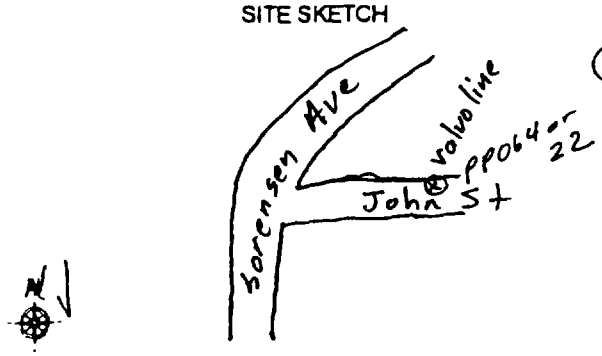
SAMPLE NO.: GW401-PP064-0061
DATE: 10/29/01
SAMPLER: G. Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP064-0061
TIME COLLECTED: 1101
SAMPLE DEPTH: 59-63 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		52.70' (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED PRESERVED OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: 6' of 3/8" bailer; 5' of PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Torrance	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance GW boring to refusal @ 63' bgs @ 1059. Collect GW samples @ 1101. 0.0 ppm reading on OVM

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:

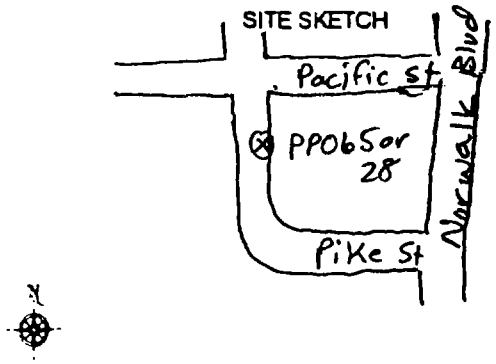
SAMPLE NO.: GW401-PP065-00 ~~52~~ 69 G.Z
DATE: 10/29/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP065-00~~62~~ 69 G.Z
TIME COLLECTED: G.Z ~~67~~ ~~62~~ 1335
SAMPLE DEPTH: ~~50-54~~ 71 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS: G.Z

	BEFORE	AFTER
WATER LEVEL	~~54' PPD~~	61.2' (sounded)
TEMPERATURE		
SP. CONO.		
pH		
Eh		
DO		
PID		218 ppm; 4 ppm 2nd read.
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCR - TGS - OTH
OTHER: G.Z acrylic ~~SS~~ bailer; 5' of PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	3 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho to refusal @ 64' bgs
Sand layer @ approximately 52'. Silty sand/sand: 61'-62'.
TD @ 71' in CPT boring. GW samples collected @ 1335

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

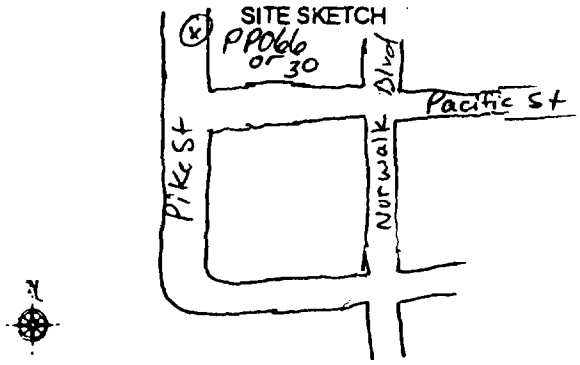
COMPANY: Roy F Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:
SAMPLE NO.: GW401-PP066-0065
DATE: 10/29/01
SAMPLER: G. Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP066-0065
TIME COLLECTED: 1458
SAMPLE DEPTH: 63-67 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	50' (PPD Curve)	
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		BC
PID		~~4~~ 0.4
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		
		@1520

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer ; 5' of PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Alconox soln; DI Rinse
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID: GW401-PP066-~~1~~2002
LAB CONTROL SAMPLE ID: — N/A —

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho to refusal @ 62' bgs @ 1420 Cemented sand @ 31' bgs: Water level from PPD curve @ 50' bgs. Advance GW boring penetration to 67' bgs. GW samples collected @ 1458

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

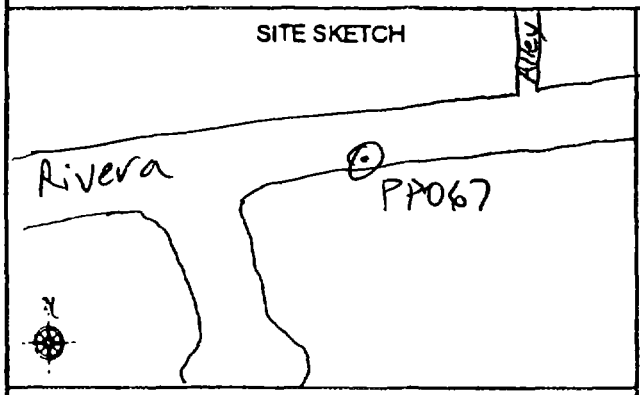
COMPANY: Roy F. Weston, Inc. SAMPLE NO.: GW401-PP067-0046
CLIENT: USEPA / USACE DATE: 10-30-01
PROJECT: Omega SAMPLER: Bill Clarke
SITE: SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP067-0046
TIME COLLECTED: 0810
SAMPLE DEPTH: 44-48' FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		24.8' bgs sounded.
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl.

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5' pvc screen
SAMPLER DECONTAMINATION: DED - LAB - PID - OTH
DESCRIBE OTHER: Disposable - matl
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER:
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME: PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME: QA/QC SAMPLES: COL SPL - RNS - TRP - LCS

COMMENTS: Advance sample boring to refusal @ 48' bgs. No CPT litho.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston, Inc.
CLIENT: USEPA / USACE
PROJECT: Omega
SITE:

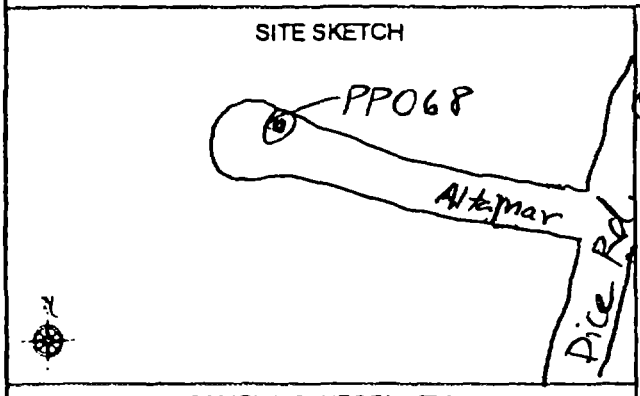
SAMPLE NO.: GW401-PP068-0058
DATE: 10-30-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP068-0058
TIME COLLECTED: 0845
SAMPLE DEPTH: 56-60' FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		~47.3' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic disp. bailer; 5' pvc screen
SAMPLER DECONTAMINATION: IDED - LAB - FLD - OTH
DESCRIBE OTHER: Disposable matls.
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER:
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Adv. sample boring to refusal @ 60' bgs. Plenty of water.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston, Inc.
CLIENT: USEPA / USACE
PROJECT: Omega
SITE:

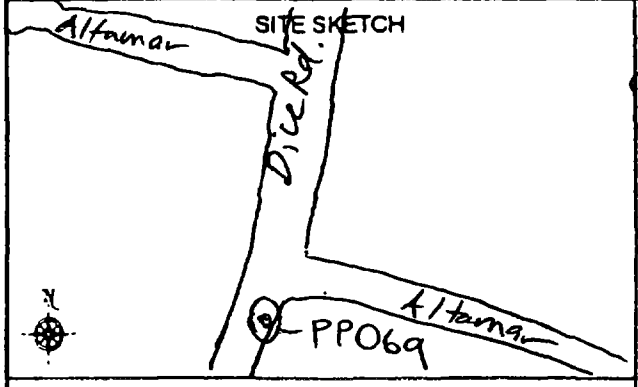
SAMPLE NO.: GW401-PP069-0060
DATE: 10-30-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP069-0060
TIME COLLECTED: 1045
SAMPLE DEPTH: 58 - 62 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	50.3' bgs PPD @ 88'	52.3' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER: Disposable nitrile
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER:
QA SAMPLES:
CO-LOCATED SAMPLE ID: GW401-PP069-~~1060~~ -1060 BC → @ 1050
DUP - sequential
SPLIT SAMPLE ID: N/A
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX	8260B	3+3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance CPT litho to ~ refusal in dense sand @ ~~88'~~ 90' bgs. F-grad above. Advance sample boring to 62' bgs, to sample near base of S+G.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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No sample! 070 rea... to bori... on Whittier ...

GEOLIS Water Sampling Form

~~70~~ 6.2

COMPANY:	Roy F. Weston, Inc.	SAMPLE NO.:	GW401-PP070-00
CLIENT:	US EPA / US ACE	DATE:	10/30/01
PROJECT:	Omega Chemical	SAMPLER:	G. Zuñiga
SITE:		SIGNATURE:	Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3 BC

UNIT SYSTEM: ENGLISH 6.2 METRIC

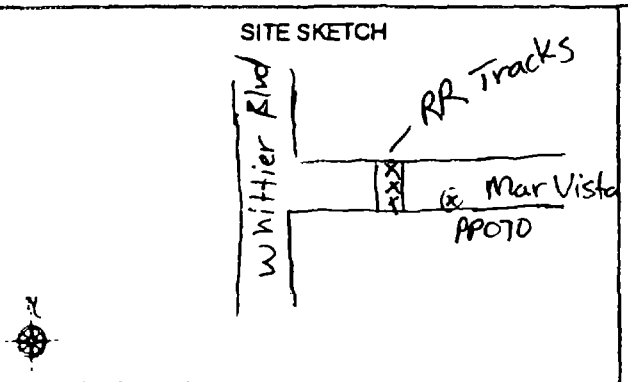
SAMPLE ID: GW401-PP070-00 78

TIME COLLECTED: BC

SAMPLE DEPTH: ~~76-80' bgs~~ FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH

SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH

DESCRIBE OTHER:

NAPL LAYER PRESENT: NO FLT SNK

LAYER SAMPLED: NO YES MIX

THICKNESS IN-CM

DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		Dry
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED PRESERVED - OTHER

DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER

DESCRIBE:

SAMPLING METHOD:

GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH

SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH

OTHER: acrylic bailer; 5' PVC screen

SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH

DESCRIBE OTHER:

PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH

DESCRIBE OTHER: Disposable Materials

QA SAMPLES:

CO-LOCATED SAMPLE ID: N/A

SPLIT SAMPLE ID:

RINSE BLANK ID:

TRIP BLANK ID:

LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260 B	3 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A

SPLIT SAMPLE ID NO.: N/A

ORGANIZATION NAME:

PARAMETERS: SAME OTHER:

REPRESENTATIVES NAME:

QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance PP070 GW Boring to refusal @ 80' bgs. No H_2O found! No sample collected. Bedrock??

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

No Sample 070 reassigned

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:

SAMPLE NO.: GW401-PP070
DATE: 10/30/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP070
TIME COLLECTED: * No Sample Collected *
SAMPLE DEPTH: FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH

SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		DRY
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED PRESERVED OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5' PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID:
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260	3 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance GW Boring to refusal @ 87' bgs
No H_2O found: No Sample Collected.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

93 6.2

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:

SAMPLE NO.: GW401 - PP070 - 0098
DATE: 10/30/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC 93 6.2
SAMPLE ID: GW401-PP070-0098
TIME COLLECTED: 1447
SAMPLE DEPTH: 86-100' FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH

SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	83 (sounded)	84.1' bgs (sounded)
TEMPERATURE	CPT boring	
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PEN - PBL - NLF - OTH 6.2
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Acrylic bailer; 14' PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance CPT litho to 107' bgs @ 1350. Groundwater level from CPT boring @ 1414 = 83' bgs. Advance GW boring to 100' bgs @ 1431. 14' of exposed screen placed down boring. GW samples collected @ 1447

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: USACE/USEPA
PROJECT: Omega
SITE:

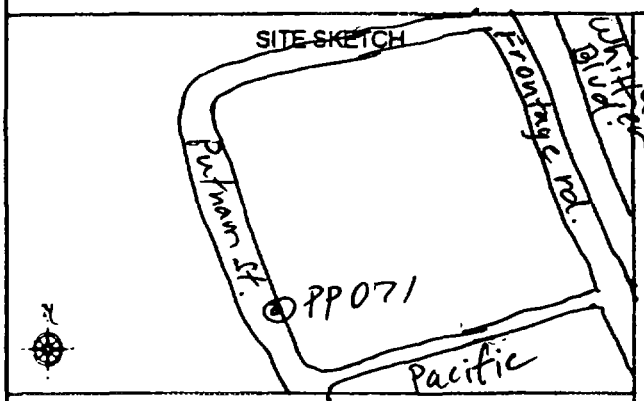
SAMPLE NO.: GW401-PP071-0084
DATE: 10-30-01
SAMPLER: Bill Clarke/Gerard Zuniga
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP071-0084
TIME COLLECTED: 1535
SAMPLE DEPTH: 82-86 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		69' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED PRESERVED OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5' pvc screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER: disposable materials
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER:
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260 B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - BNS - TRP - LCS

COMMENTS: No CPT litho. Advance sample boring to 86' bgs (refusal). GW samples collected @ 1535. (GW401-PP071-0084)

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:

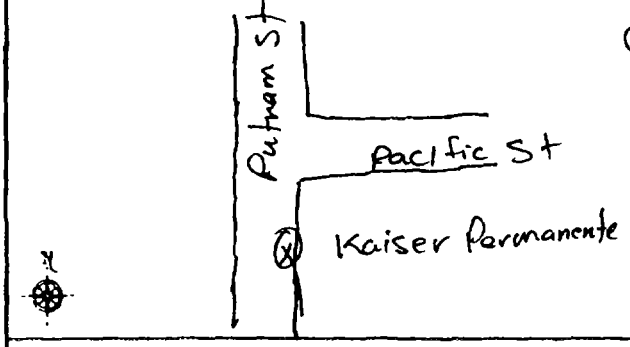
SAMPLE NO.: GW401-PP072-0088
DATE: 10/30/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP072-0088
TIME COLLECTED: 1618
SAMPLE DEPTH: 86-90 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		73' bgs (sound)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Acrylic bailer; 5' PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID: GW401-PP072-2003 @ 1620
LAB CONTROL SAMPLE ID: N/A

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Torrance	8260b	SVOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - BPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Advance GW boring to 90' bgs (1615). Collect GW samples (GW401-PP072-0088) @ 1618.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

COMPANY: Roy F. Weston, Inc.
CLIENT: USEPA / USACE
PROJECT: Omega
SITE: OU-02
SAMPLE NO.: GW401-PP073-0087
DATE: 10-31-01
SAMPLER: Bill Clarke
SIGNATURE: Bill Clarke

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP073-0087
TIME COLLECTED: 0740
SAMPLE DEPTH: 82 - ~~84~~ 92' bgs BC FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH

SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		54.6' bgs (sound)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5/10 PVC screen
SAMPLER DECONTAMINATION: DED LAB FLD OTH
DESCRIBE OTHER: disposable matls
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER:
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM RAD - OTH	EMAX-Torrance	8260 B	6.7 2 ~~3~~ VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: ~~Ad~~ BC No CPT litho. Advance sample boring to 84' bgs. Dry. Pull out, and advance again deeper. Adv. to 92' bgs w/ 10' screen.

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO
QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS
QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

0072

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:

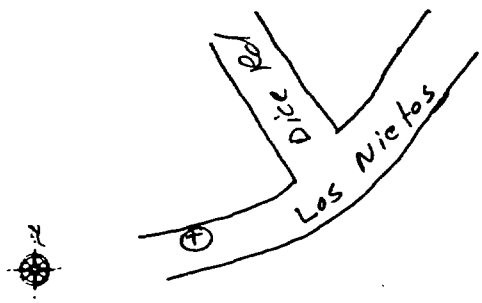
SAMPLE NO.: GW401-PP074-~~0085~~ 0072
DATE: 10/31/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP074-0072
TIME COLLECTED: 1035
SAMPLE DEPTH: ~~83 87'~~ 70-74 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL	41' (PPD Curve)	59.7' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5' PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: disposable materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	3 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance CPT litho to 87' bgs. (0942)
GW boring advanced to 74' bgs. (1029)
GW samples (GW401-PP074-0072) @ 1035

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G0912911

GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:

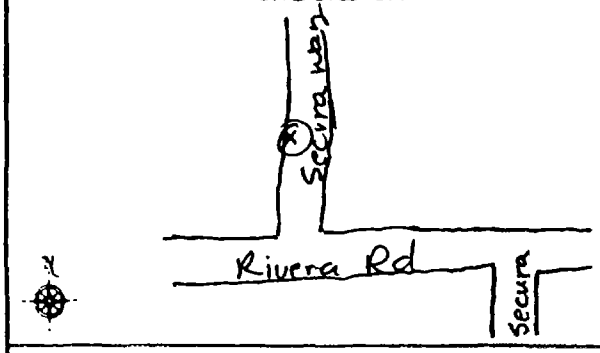
SAMPLE NO.: GW401-PP075-0048
DATE: 10/31/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP075-0048
TIME COLLECTED: 1126
SAMPLE DEPTH: 46 - 50 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		36.9 (sounded)
TEMPERATURE		
SP. CONO.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: disposable materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID: 2005 @ 1230
TRIP BLANK ID: GW401-PP075-0048
LAB CONTROL SAMPLE ID: N/A

SAMPLE TREATMENT: FILTERED PRESERVED - OTHER
DESCRIBE: HCl

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Torrance	8260B	3 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
ORGANIZATION NAME:
REPRESENTATIVES NAME:
SPLIT SAMPLE ID NO.: N/A
PARAMETERS: SAME OTHER:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance GW boring to refusal @ 50' bgs (1124)
Collect GW samples @ 1126 (GW401-PP075-0048

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

NO SAMPLE
076 assigned to next loc

GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA/US ACE
PROJECT: Omega Chemical
SITE:

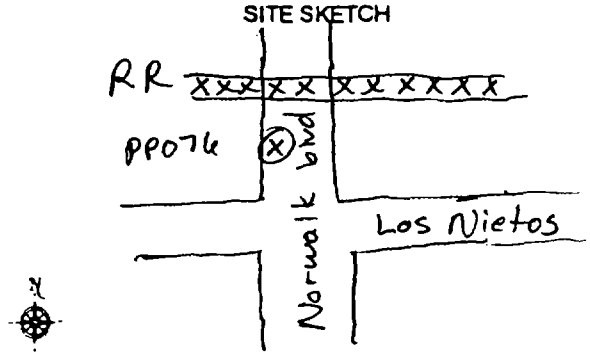
SAMPLE NO.: GW401-PP076-~~0036~~ 6.2
DATE: 10/31/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC 6.2
SAMPLE ID: GW401-PP076~~0036~~
TIME COLLECTED: ~~1300~~ 6.2
SAMPLE DEPTH: ~~34-38~~ 6.2 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		Dry
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE:

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5' PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Torrance	8260B	3 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Hydro-punch (advance GW boring to Refusal @38' bgs. No CPT litho. No N2O found. No gw sample collected.

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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G091291T

076 assigned to next locn.
No Sample.

GEOLIS Water Sampling Form

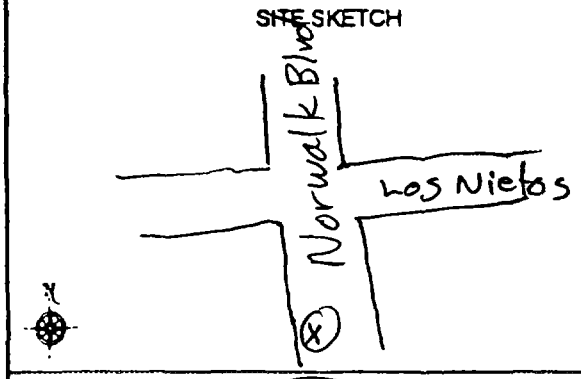
COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega chemical
SITE:
SAMPLE NO.: GW401-PP076b
DATE: 10/3/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-~~PP076~~b
TIME COLLECTED:
SAMPLE DEPTH: FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Torrance	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance GW boring to refusal @ 40' (1418) No H2O found. No sample collected (1420)

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

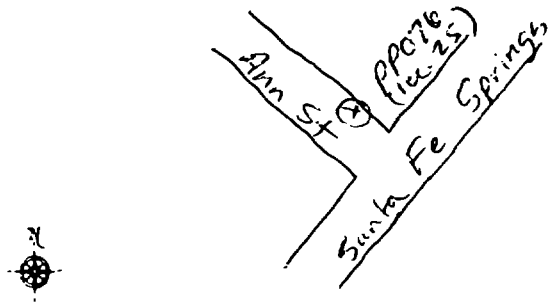
COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:
SAMPLE NO.: GW401-PP076-0056
DATE: 11/01/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP076-0056
TIME COLLECTED: 0810
SAMPLE DEPTH: 53-59 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		32' bgs (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5' PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Advance GW boring to 59' bgs (refusal) — 0805
GW samples (GW401-PP076-0056) collected @ 0810
Groundwater sounded @ 32' bgs @ 0815.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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G091291T

GEOLIS Water Sampling Form

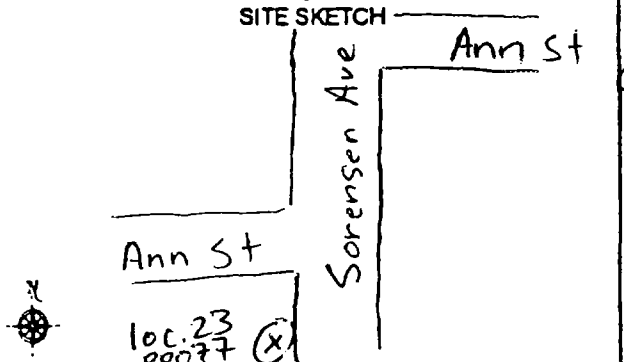
COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:
SAMPLE NO.: GW401-PP077-0060
DATE: 11/01/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP077-0060
TIME COLLECTED: 0850
SAMPLE DEPTH: 56 to 65 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		32' bgs (sounded
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE:

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: Acrylic bailer; 10' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Torrance	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT Litho. Advance GW boring to 65' bgs (0846). GW samples collected @ 0850 (GW401-PP077-0060) Groundwater sounded @ 32' bgs (0858)

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:

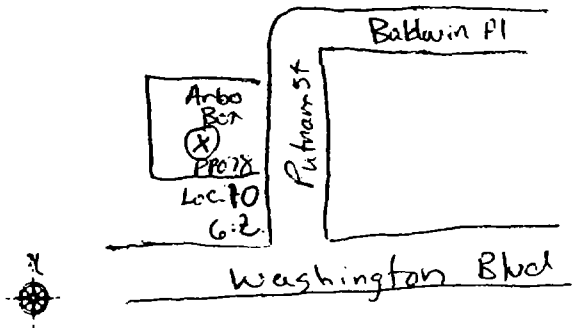
SAMPLE NO.: GW401-PP078-0081
DATE: 11/01/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP078-0081
TIME COLLECTED: 0930
SAMPLE DEPTH: 79-83' FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		75' (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - XEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer, 5 PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Torrance	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT. Metho. Advance gw boring to 83' bgs (0928) return collect GW samples (GW401-PP078-0081) @ 0930. GW level @ 75' @ 0933

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

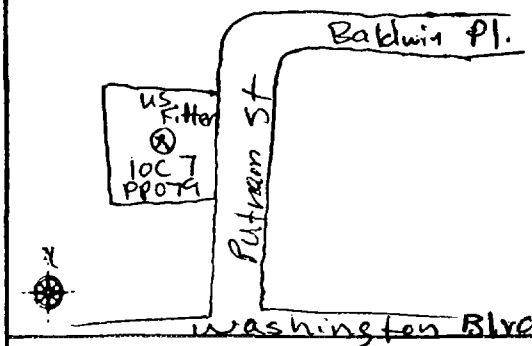
COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:
SAMPLE NO.: GW401-PP079-0088
DATE: 11/01/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP079-088
TIME COLLECTED: 1105
SAMPLE DEPTH: 86-90' FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WCS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		83.7 (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 5' PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES: (1110) GW401-PP079-1088
CO-LOCATED SAMPLE ID: Sequential ~~N/A~~ 6.2
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Orrance	8260B	3 VOAs
CHM - RAD - OTH	Sample Duplicate →		3 VOAS
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT Litho. Advance GW boring to 90' bgs (1101). GW samples collected @ 1105. (GW401-PP079-0088). Sample duplicated collected (GW401-PP079-1088) (1110) Groundwater sounded @ 83.7' @ 1118

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

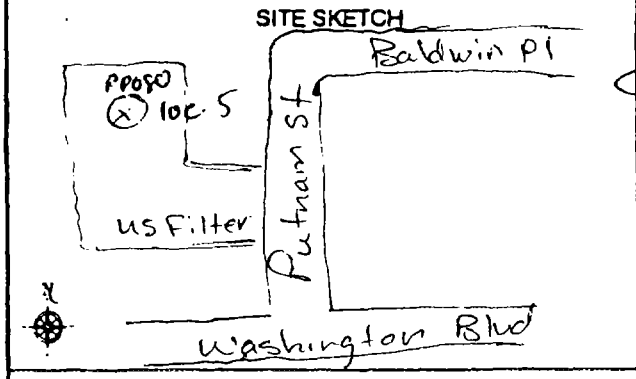
COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:
SAMPLE NO.: GW401-PP080-~~0088~~ 6.2 0071
DATE: 11/01/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC 0071
SAMPLE ID: GW401-PP080-~~0088~~ 6.2
TIME COLLECTED: 1540 ~~12 15~~ 6.2
SAMPLE DEPTH: 61-81 ~~86-90'~~ 6.2 FT-M BTOC

SURFACE	ESTIMATED	SURVEYED
ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 20 PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	5 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS 81 bgs (15

COMMENTS: No CPT litho, Advance GW boring to ~~90' bgs (1211)~~ 6.2
GW samples collected @ 1540 ~~12 15~~ 6.2 @ (GW401-PP080-~~0088~~ 6.2)
Groundwater sounded @ @

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO
QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS
QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:

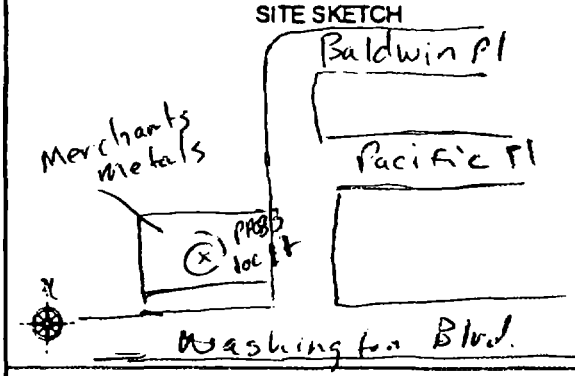
SAMPLE NO.: GW401-PP083-0082
DATE: 11/02/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401 - PP083 - 0082
TIME COLLECTED: 0805
SAMPLE DEPTH: 75-90' FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WDS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		67.3' bgs (sounder)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 15' PVC screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER: Disposable materials
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable materials

QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID: GW401-PP083-0082 (MS/MSD)

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	3 VOAS
CHM - RAD - OTH	MS/MSD		3 VOAS
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance GW boring to 90' bgs (0801) No CPT litho. GW samples (GW401-PP083-0082) collected @ 0805 Groundwater sounded @ 67.3' @ 0811

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

COMPANY: Roy F. Weston
CLIENT: US EPA / USACE
PROJECT: Omega Chemical
SITE:

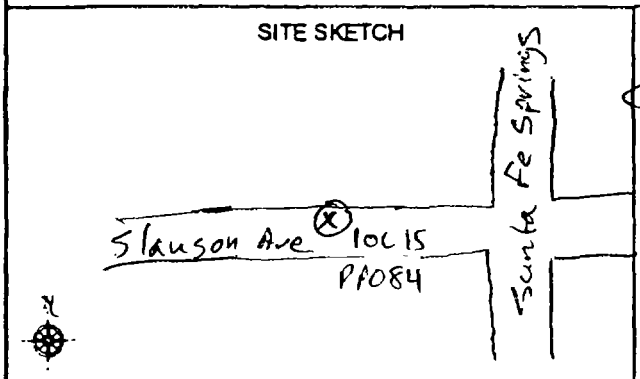
SAMPLE NO.: GW401-PP084-0047
DATE: 11/2/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP084-0047
TIME COLLECTED: 1005
SAMPLE DEPTH: 40-55 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		25.6' (sounded)
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer ; 15 PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID:
LAB CONTROL SAMPLE ID:

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	3VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance GW boring to 55' bgs @ 0958
Collect GW samples (GW401-PP084-0047) @ 1005
water level sounded @ 25.6' bgs @ 1006

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

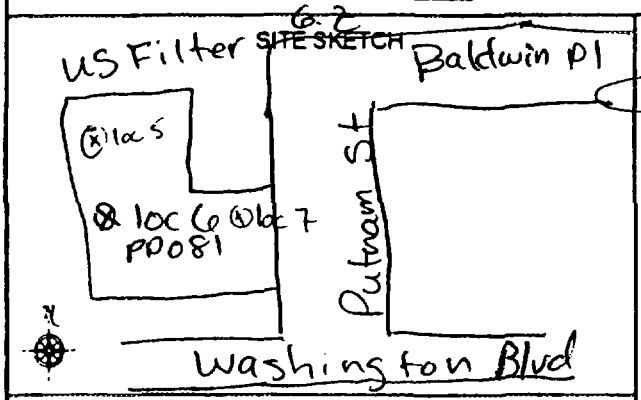
COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:
SAMPLE NO.: GW401-PP081-0071
DATE: 11/01/01
SAMPLER: Gerardo Zuniga
SIGNATURE: Gerardo Zuniga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP081-0071
TIME COLLECTED: 1457
SAMPLE DEPTH: 62 ~~77~~-81 FT-M BTOC
6.2

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS: (1323) BEFORE (PPD Curve) AFTER

	BEFORE	AFTER
WATER LEVEL	~~75.5'~~ 6.2	68' bgs (sounc
TEMPERATURE	68.9'bgs	
SP. COND.		
pH		
Eh		
DO		
PID		0.0ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer ; PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID: GW401-PP081-9006 → @ 1330
TRIP BLANK ID: N/A
LAB CONTROL SAMPLE ID:

SAMPLE TREATMENT: FILTERED PRESERVED - OTHER
DESCRIBE: HCL

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Torrance	8260B	3 VOAS
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: CPT litho Advance CPT to 82' bgs (1320). Advance GW Boring down CPT boring to 81' bgs (1431). Groundwater samples collected @ 1457. Groundwater sounded @ 68' bgs.

DATA ENTRY BY:	QC REVIEW BY:	QA REVIEW BY:
DATE ENTERED:	REVIEW DATE:	REVIEW DATE:
QC REPORTS PRINTED? YES - NO	APPROVED WITH - WITHOUT REVISIONS	APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

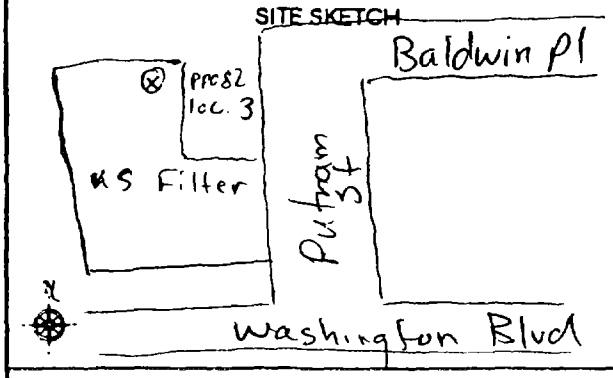
COMPANY: Roy F Weston
CLIENT: US EPA / US ACE
PROJECT: Omega Chemical
SITE:
SAMPLE NO.: GW401-PP082-0080
DATE: 11/01/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP082-0080
TIME COLLECTED: 1620
SAMPLE DEPTH: 71-90 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE:
GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		89.8' bgs (sounded
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE:

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 20' PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET NON OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID (1611) GW401-PP082-2006 (@ 1611)
LAB CONTROL SAMPLE ID: N/A

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX-Torrance	8260B	3 VOAs
CHM - RAD - OTH			
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH: N/A
SPLIT SAMPLE ID NO.: N/A
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: No CPT litho. Advance GW boring to 90' bgs
GW samples (GW401-PP082-0080) collected @ 1620
Groundwater sounded @

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO

QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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GEOLIS Water Sampling Form

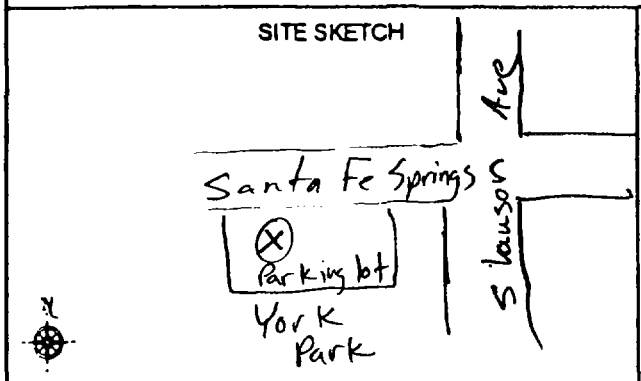
COMPANY: Roy F. Weston
CLIENT: US EPA / US ACE
PROJECT: Omega chemical
SITE:
SAMPLE NO.: GW401-PP085-0038
DATE: 11/2/01
SAMPLER: Gerardo Zuñiga
SIGNATURE: Gerardo Zuñiga

SAMPLE IDENTIFICATION

QUALITY LEVEL: 1 - 2 - 3
UNIT SYSTEM: ENGLISH - METRIC
SAMPLE ID: GW401-PP085-0038
TIME COLLECTED: 1150
SAMPLE DEPTH: 30-44 FT-M BTOC

	ESTIMATED	SURVEYED
SURFACE ELEVATION:		
N. COORDINATE:		
E. COORDINATE:		
WELL PERMIT No.:		

SITE SKETCH



SAMPLE DESCRIPTION

SOURCE: GROUNDWATER WOS - WOO - WBS - WBO - SUP - RES - SPR - OTH
SURFACE WATER STR - WET - RIV - PND - LAK - LAG - PIP - OTH
DESCRIBE OTHER:
NAPL LAYER PRESENT: NO FLT SNK
LAYER SAMPLED: NO YES MIX
THICKNESS IN-CM
DESCRIPTION

FIELD PARAMETERS:	BEFORE	AFTER
WATER LEVEL		21' bgs (sounded
TEMPERATURE		
SP. COND.		
pH		
Eh		
DO		
PID		0.0 ppm
FID		
ALKALINITY		
HARDNESS		
TURBIDITY		

SAMPLE TREATMENT: FILTERED - PRESERVED - OTHER
DESCRIBE: HCl

SAMPLING INFORMATION

SAMPLE TYPE: DISCRETE - COMPOSITE - OTHER
DESCRIBE:
SAMPLING METHOD:
GROUNDWATER BLO - BLC - PSB - PPR - PCN - PBL - NLF - OTH
SURFACE WATER BOT - KEM - BCB - SCP - TGS - OTH
OTHER: acrylic bailer; 15 PVC Screen
SAMPLER DECONTAMINATION: DED - LAB - FLD - OTH
DESCRIBE OTHER:
PROCEDURE: DET - STM - ACE - HEX - MET - NON - OTH
DESCRIBE OTHER: Disposable Materials
QA SAMPLES:
CO-LOCATED SAMPLE ID: N/A
SPLIT SAMPLE ID:
RINSE BLANK ID:
TRIP BLANK ID: (1200) GW401-PP085-2007
LAB CONTROL SAMPLE ID: N/A

LAB TYPE	LAB NAME	ANALYTICAL PARAMETERS	NOTES
CHM - RAD - OTH	EMAX - Torrance	8260B	3 VOAs
CHM - RAD - OTH	Trip Blank	8260B	3 VOAs
CHM - RAD - OTH			

SPLIT SAMPLES: NON - OWN - OVR - OTH:
SPLIT SAMPLE ID NO.:
ORGANIZATION NAME:
PARAMETERS: SAME OTHER:
REPRESENTATIVES NAME:
QA/QC SAMPLES: COL - SPL - RNS - TRP - LCS

COMMENTS: Advance GW boring to refusal @ 44' bgs @ 1145. Collect gw samples @ 1150. groundwater sounded @ 21' bgs @ 1151, 0.0 ppm OVM reading. Trip blank collected @ 1200 (GW401-PP085-2007)

DATA ENTRY BY:
DATE ENTERED:
QC REPORTS PRINTED? YES - NO
QC REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS
QA REVIEW BY:
REVIEW DATE:
APPROVED WITH - WITHOUT REVISIONS

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APPENDIX C

GROUNDWATER ANALYTICAL DATA

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	N/A	N/A	N/A	N/A	N/A	N/A
Sample ID:	OCS-GW301-PP021-400	OCS-GW301-PP032-400	OCS-GW301-PP053-400	OCS-GW301-PP060-400	OCS-GW301-PP062-200	OCS-GW401-PP066-200
Sample Date:	08/17/01	08/21/01	08/23/01	09/04/01	09/04/01	10/29/01
Constituent / Depth (feet bgs):	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A
Volatile Organic Compounds (ug/l)						
1,1,1-Trichloroethane	1 U	1 U	1 U	1 U	1 U	
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	
1,1,2-Trichloroethane	1 U	1 U	1 U	1 U	1 U	
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene						1 U
1,2,3-Trichloropropane						1 U
1,2,4-Trimethylbenzene						1 U
1,2-Dibromo-3-chloropropane						2 U
1,2-Dibromoethane [EDB]						1 U
1,2-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane				1 U	1 U	1 U
1,3,5-Trimethylbenzene						1 U
1,3-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane						1 U
1,4-Dichlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane						1 U
2-Chlorotoluene						1 U
4-Chlorotoluene						1 U
Acetone						10 U
Benzene	1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene						1 U
Bromochloromethane						1 U
Bromodichloromethane						1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

	Station ID:	N/A	N/A	N/A	N/A	N/A	N/A
	Sample ID:	OCS-GW301-PP021-400	OCS-GW301-PP032-400	OCS-GW301-PP053-400	OCS-GW301-PP060-400	OCS-GW301-PP062-200	OCS-GW401-PP066-200
	Sample Date:	08/17/01	08/21/01	08/23/01	09/04/01	09/04/01	10/29/01
Constituent	Depth (feet bgs):	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A
Bromoform							1 U
Bromomethane							1 U
Carbon Disulfide							1 U
Carbon Tetrachloride		1 U	1 U	1 U	0.5 U	0.5 U	0.5 U
Chlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane		1 U	1 U	1 U	1 U	1 U	1 U
Chlorofluorocarbon-113		1 U	1 U	1 U	1 U	1 U	1 U
Chloroform		7	13	7	8	7	0.64 J
Chloromethane		1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane							1 U
Dibromomethane							1 U
Dichlorodifluoromethane							1 U
Ethylbenzene		1 U	1 U	1 U	1 U	1 U	
M,P-Xylene		1 U	1 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (MEK)							10 U
Methylene Chloride		1 U	1 U	1 U	1 U	1 U	
n-Butylbenzene							1 U
o-Xylene		1 U	1 U	1 U	1 U	1 U	1 U
sec-butylbenzene							1 U
tert-Butylbenzene							1 U
Tetrachloroethene		1 U	1 U	1 U	1 U	1 U	1 U
Toluene		1 U	1 U	1 U	1 U	1 U	0.28 J
trans-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene		1 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane		1 U	1 U	1 U	1 U	1 U	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	N/A	N/A	N/A	N/A	N/A	N/A
	Sample ID:	OCS-GW301-PP021-400	OCS-GW301-PP032-400	OCS-GW301-PP053-400	OCS-GW301-PP060-400	OCS-GW301-PP062-200	OCS-GW401-PP066-200
	Sample Date:	08/17/01	08/21/01	08/23/01	09/04/01	09/04/01	10/29/01
	Depth (feet bgs):	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A
Vinyl Chloride		1 U	1 U	1 U	0.5 U	0.5 U	2 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	N/A	N/A	N/A	N/A	N/A	OW1
	Sample ID:	OCS-GW401-PP072-200	OCS-GW401-PP075-200	OCS-GW401-PP081-400	OCS-GW401-PP082-200	OCS-GW401-PP085-200	OCS-GW401-OW1-0080
	Sample Date:	10/30/01	10/31/01	11/01/01	11/01/01	11/02/01	11/15/01
	Depth (feet bgs):	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	80 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane							
1,1,2,2-Tetrachloroethane							
1,1,2-Trichloroethane							
1,1-Dichloroethane		1 U	1 U	1 U	1 U	1 U	
1,1-Dichloroethene		1 U	1 U	1 U	1 U	1 U	
1,1-Dichloropropene		1 U	1 U	1 U	1 U	1 U	
1,2,3-Trichloropropane		1 U	1 U	1 U	1 U	1 U	
1,2,4-Trimethylbenzene		1 U	1 U	1 U	1 U	1 U	
1,2-Dibromo-3-chloropropane		2 U	2 U	2 U	2 U	2 U	
1,2-Dibromoethane [EDB]		1 U	1 U	1 U	1 U	1 U	
1,2-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	
1,2-Dichloroethane		0.5 U	0.5 U	0.5 U	0.5 U	.5 U	
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	
1,3,5-Trimethylbenzene		1 U	1 U	1 U	1 U	1 U	
1,3-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	
1,3-Dichloropropane		1 U	1 U	1 U	1 U	1 U	
1,4-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	
2,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	
2-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	
4-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	
Acetone		10 U	10 U	10 U	10 U	10 U	
Benzene		1 U	1 U	1 U	1 U	1 U	
Bromobenzene		1 U	1 U	1 U	1 U	1 U	
Bromochloromethane		1 U	1 U	1 U	1 U	1 U	
Bromodichloromethane		1 U	1 U	1 U	1 U	1 U	

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	N/A	N/A	N/A	N/A	N/A	OW1
	Sample ID:	OCS-GW401-PP072-200	OCS-GW401-PP075-200	OCS-GW401-PP081-400	OCS-GW401-PP082-200	OCS-GW401-PP085-200	OCS-GW401-OW1-0080
	Sample Date:	10/30/01	10/31/01	11/01/01	11/01/01	11/02/01	11/15/01
	Depth (feet bgs):	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	80 to N/A
Bromoform		1 U	1 U	1 U	1 U	1 U	
Bromomethane		1 U	1 U	1 U	1 U	1 U	
Carbon Disulfide		1 U	1 U	1 U	1 U	1 U	
Carbon Tetrachloride		0.5 U	0.5 U	0.5 U	0.5 U	.5 U	
Chlorobenzene		1 U	1 U	1 U	1 U	1 U	
Chloroethane		1 U	1 U	1 U	1 U	1 U	
Chlorofluorocarbon-113		1 U	1 U	1 U	1 U	1 U	
Chloroform		0.67 J	0.65 J	0.53 J	0.64 J	.64 J	
Chloromethane		1 U	1 U	1 U	1 U	1 U	
cis-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U	
Dibromochloromethane		1 U	1 U	1 U	1 U	1 U	
Dibromomethane		1 U	1 U	1 U	1 U	1 U	
Dichlorodifluoromethane		1 U	1 U	1 U	1 U	1 U	
Ethylbenzene							
M,P-Xylene		1 U	1 U	1 U	1 U	1 U	
Methyl ethyl ketone (MEK)		10 U	10 U	10 U	10 U	10 U	
Methylene Chloride							
n-Butylbenzene		1 U	1 U	1 U	1 U	1 U	
o-Xylene		1 U	1 U	1 U	1 U	1 U	
sec-butylbenzene		1 U	1 U	1 U	1 U	1 U	
tert-Butylbenzene		1 U	1 U	1 U	1 U	1 U	
Tetrachloroethene		1 U	1 U	1 U	0.21 J	1 U	
Toluene		0.47 J	1 U	1 U	1 U	1 U	
trans-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U	
Trichloroethene		1 U	1 U	1 U	1 U	1 U	
Trichlorofluoromethane		1 U	1 U	1 U	1 U	1 U	

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Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

	Station ID:	N/A	N/A	N/A	N/A	N/A	OW1
	Sample ID:	OCS-GW401-PP072-200	OCS-GW401-PP075-200	OCS-GW401-PP081-400	OCS-GW401-PP082-200	OCS-GW401-PP085-200	OCS-GW401-OW1-0080
	Sample Date:	10/30/01	10/31/01	11/01/01	11/01/01	11/02/01	11/15/01
Constituent	Depth (feet bgs):	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	N/A to N/A	80 to N/A
Vinyl Chloride		2 U	2 U	2 U	2 U	2 U	
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							3600 Q
Conventional Parameters							
Perchlorate (ug/l)							5.0 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

	Station ID:	OW1B	OW2	OW3	OW4A	OW4B	OW5
	Sample ID:	OCS-GW401-OW1B-009	OCS-GW401-OW2-0073	OCS-GW401-OW3-0073	OCS-GW401-OW4A-006	OCS-GW401-OW4B-009	OCS-GW401-OW5-0039
	Sample Date:	11/16/01	11/16/01	11/15/01	11/16/01	11/16/01	11/16/01
Constituent	Depth (feet bgs):	96 to N/A	73 to N/A	73 to N/A	64 to N/A	94 to N/A	39 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane							
1,1,2,2-Tetrachloroethane							
1,1,2-Trichloroethane							
1,1-Dichloroethane							
1,1-Dichloroethene							
1,1-Dichloropropene							
1,2,3-Trichloropropane							
1,2,4-Trimethylbenzene							
1,2-Dibromo-3-chloropropane							
1,2-Dibromoethane [EDB]							
1,2-Dichlorobenzene							
1,2-Dichloroethane							
1,2-Dichloropropane							
1,3,5-Trimethylbenzene							
1,3-Dichlorobenzene							
1,3-Dichloropropane							
1,4-Dichlorobenzene							
2,2-Dichloropropane							
2-Chlorotoluene							
4-Chlorotoluene							
Acetone							
Benzene							
Bromobenzene							
Bromochloromethane							
Bromodichloromethane							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

	Station ID:	OW1B	OW2	OW3	OW4A	OW4B	OW5
	Sample ID:	OCS-GW401-OW1B-009	OCS-GW401-OW2-0073	OCS-GW401-OW3-0073	OCS-GW401-OW4A-006	OCS-GW401-OW4B-009	OCS-GW401-OW5-0039
	Sample Date:	11/16/01	11/16/01	11/15/01	11/16/01	11/16/01	11/16/01
Constituent	Depth (feet bgs):	96 to N/A	73 to N/A	73 to N/A	64 to N/A	94 to N/A	39 to N/A
Bromoform							
Bromomethane							
Carbon Disulfide							
Carbon Tetrachloride							
Chlorobenzene							
Chloroethane							
Chlorofluorocarbon-113							
Chloroform							
Chloromethane							
cis-1,2-Dichloroethene							
Dibromochloromethane							
Dibromomethane							
Dichlorodifluoromethane							
Ethylbenzene							
M,P-Xylene							
Methyl ethyl ketone (MEK)							
Methylene Chloride							
n-Butylbenzene							
o-Xylene							
sec-butylbenzene							
tert-Butylbenzene							
Tetrachloroethene							
Toluene							
trans-1,2-Dichloroethene							
Trichloroethene							
Trichlorofluoromethane							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	OW1B	OW2	OW3	OW4A	OW4B	OW5
	Sample ID:	OCS-GW401-OW1B-009	OCS-GW401-OW2-0073	OCS-GW401-OW3-0073	OCS-GW401-OW4A-006	OCS-GW401-OW4B-009	OCS-GW401-OW5-0039
	Sample Date:	11/16/01	11/16/01	11/15/01	11/16/01	11/16/01	11/16/01
	Depth (feet bgs):	96 to N/A	73 to N/A	73 to N/A	64 to N/A	94 to N/A	39 to N/A
Vinyl Chloride							
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane		16	3.8	1.1 U	1.6	1.1 U	1.0 U
Conventional Parameters							
Perchlorate (ug/l)		5.0 U					

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	OW6	PP001	PP002	PP003	PP004	PP006
	Sample ID:	OCS-GW401-OW6-0051	OCS-GW301-PP001-008	OCS-GW301-PP002-008	OCS-GW301-PP003-009	OCS-GW301-PP004-008	OCS-GW301-PP006-007
	Sample Date:	11/16/01	08/16/01	08/15/01	08/17/01	08/22/01	08/16/01
	Depth (feet bgs):	51 to N/A	84 to N/A	84 to N/A	94 to N/A	86 to N/A	70 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane			50 U	5 U	10 U	25 U	100 U
1,1,2,2-Tetrachloroethane			50 U	5 U	10 U	25 U	100 U
1,1,2-Trichloroethane			50 U	5 U	10 U	25 U	100 U
1,1-Dichloroethane			50 U	3 J	10 U	25 U	100 U
1,1-Dichloroethene			50	5 U	10 U	100	100 U
1,1-Dichloropropene							
1,2,3-Trichloropropane							
1,2,4-Trimethylbenzene							
1,2-Dibromo-3-chloropropane							
1,2-Dibromoethane [EDB]							
1,2-Dichlorobenzene			50 U	5 U	10 U	25 U	100 U
1,2-Dichloroethane			50 U	5 U	10 U	25 U	100 U
1,2-Dichloropropane			50 U	5 U			100 U
1,3,5-Trimethylbenzene							
1,3-Dichlorobenzene			50 U	5 U	10 U	25 U	100 U
1,3-Dichloropropane			50 U	5 U			100 U
1,4-Dichlorobenzene			50 U	5 U	10 U	25 U	100 U
2,2-Dichloropropane							
2-Chlorotoluene							
4-Chlorotoluene							
Acetone							
Benzene			50 U	5 U	10 U	25 U	100 U
Bromobenzene							
Bromochloromethane							
Bromodichloromethane							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	OW6	PP001	PP002	PP003	PP004	PP006
Sample ID:	OCS-GW401-OW6-0051	OCS-GW301-PP001-008	OCS-GW301-PP002-008	OCS-GW301-PP003-009	OCS-GW301-PP004-008	OCS-GW301-PP006-007
Sample Date:	11/16/01	08/16/01	08/15/01	08/17/01	08/22/01	08/16/01
Constituent / Depth (feet bgs):	51 to N/A	84 to N/A	84 to N/A	94 to N/A	86 to N/A	70 to N/A
Bromoform						
Bromomethane						
Carbon Disulfide						
Carbon Tetrachloride		50 U	5 U	10 U	25 U	100 U
Chlorobenzene		50 U	5 U	10 U	25 U	100 U
Chloroethane		50 U	5 U	10 U	25 U	100 U
Chlorofluorocarbon-113		50 U	120	70	210	100 U
Chloroform		50 U	5 U	10 U	25 U	100 U
Chloromethane		50 U	5 U	10 U	25 U	100 U
cis-1,2-Dichloroethene		50 U	5 U	10 U	25 U	100 U
Dibromochloromethane						
Dibromomethane						
Dichlorodifluoromethane						
Ethylbenzene		50 U	5 U	10 U	25 U	100 U
M,P-Xylene		50 U	5 U	10 U	25 U	100 U
Methyl ethyl ketone (MEK)						
Methylene Chloride		50 U	5 U	10 U	25 U	100 U
n-Butylbenzene						
o-Xylene		50 U	5 U	10 U	25 U	100 U
sec-butylbenzene						
tert-Butylbenzene						
Tetrachloroethene		60	420	10 U	150	1100
Toluene		50 U	5 U	10 U	25 U	100 U
trans-1,2-Dichloroethene		50 U	1 U	10 U	25 U	100 U
Trichloroethene		600	1 J	6 J	70	70 J
Trichlorofluoromethane		50 U	32	10	70	100 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	OW6	PP001	PP002	PP003	PP004	PP006
Sample ID:	OCS-GW401-OW6-0051	OCS-GW301-PP001-008	OCS-GW301-PP002-008	OCS-GW301-PP003-009	OCS-GW301-PP004-008	OCS-GW301-PP006-007
Sample Date:	11/16/01	08/16/01	08/15/01	08/17/01	08/22/01	08/16/01
Constituent / Depth (feet bgs):	51 to N/A	84 to N/A	84 to N/A	94 to N/A	86 to N/A	70 to N/A
Vinyl Chloride		50 U	5 U	10 U	25 U	100 U
Semi-Volatile Organic Compounds (ug/l)						
1,4-Dioxane	2.1					
Conventional Parameters						
Perchlorate (ug/l)						

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP006	PP007	PP008	PP009	PP010	PP011
	Sample ID:	OCS-GW301-PP006-107	OCS-GW301-PP007-008	OCS-GW301-PP008-007	OCS-GW301-PP009-004	OCS-GW301-PP010-004	OCS-GW301-PP011-005
	Sample Date:	08/16/01	08/15/01	08/16/01	08/18/01	08/18/01	08/16/01
	Depth (feet bgs):	70 to N/A	81 to N/A	70 to N/A	47 to N/A	45 to N/A	59 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane		100 U	1 U	10 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane		100 U	1 U	10 U	1 U	1 U	1 U
1,1,2-Trichloroethane		100 U	1 U	10 U	1 U	1 U	1 U
1,1-Dichloroethane		100 U	1 U	10 U	1 U	1 U	1 U
1,1-Dichloroethene		100 U	1 U	500	1 U	1 U	2
1,1-Dichloropropene							
1,2,3-Trichloropropane							
1,2,4-Trimethylbenzene							
1,2-Dibromo-3-chloropropane							
1,2-Dibromoethane [EDB]							
1,2-Dichlorobenzene		100 U	1 U	10 U	1 U	1 U	1 U
1,2-Dichloroethane		100 U	1 U	10 U	1 U	1 U	1 U
1,2-Dichloropropane		100 U	1 U	10 U			1 U
1,3,5-Trimethylbenzene							
1,3-Dichlorobenzene		100 U	1 U	10 U	1 U	1 U	1 U
1,3-Dichloropropane		100 U	1 U	10 U			1 U
1,4-Dichlorobenzene		100 U	1 U	10 U	1 U	1 U	1 U
2,2-Dichloropropane							
2-Chlorotoluene							
4-Chlorotoluene							
Acetone							
Benzene		100 U	1 U	10 U	1 U	1 U	1 U
Bromobenzene							
Bromochloromethane							
Bromodichloromethane							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP006	PP007	PP008	PP009	PP010	PP011
	Sample ID:	OCS-GW301-PP006-107	OCS-GW301-PP007-008	OCS-GW301-PP008-007	OCS-GW301-PP009-004	OCS-GW301-PP010-004	OCS-GW301-PP011-005
	Sample Date:	08/16/01	08/15/01	08/16/01	08/18/01	08/18/01	08/16/01
	Depth (feet bgs):	70 to N/A	81 to N/A	70 to N/A	47 to N/A	45 to N/A	59 to N/A
Bromoform							
Bromomethane							
Carbon Disulfide							
Carbon Tetrachloride		100 U	1 U	10 U	1 U	1 U	1 U
Chlorobenzene		100 U	1 U	10 U	1 U	1 U	1 U
Chloroethane		100 U	1 U	10 U	1 U	1 U	1 U
Chlorofluorocarbon-113		100 U	22	1500	1 U	1 U	1 U
Chloroform		100 U	1 U	10 U	1 U	1 U	1 U
Chloromethane		100 U	1 U	10 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		100 U	1 U	17	1 U	1 U	1 U
Dibromochloromethane							
Dibromomethane							
Dichlorodifluoromethane							
Ethylbenzene		100 U	1 U	10 U	1 U	1 U	1 U
M,P-Xylene		100 U	1 U	10 U	1 U	1 U	1 U
Methyl ethyl ketone (MEK)							
Methylene Chloride		100 U	1 U	10 U	1 U	1 U	1 U
n-Butylbenzene							
o-Xylene		100 U	1 U	10 U	1 U	1 U	1 U
sec-butylbenzene							
tert-Butylbenzene							
Tetrachloroethene		800	10	400	11	1 U	8
Toluene		100 U	1 U	10 U	1 U	1 U	1 U
trans-1,2-Dichloroethene		100 U	11 U	10 U	1 U	1 U	1 U
Trichloroethene		60 J	1 U	600	12	1	23
Trichlorofluoromethane		100 U	25	400	0.5 J	1 U	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

	Station ID:	PP006	PP007	PP008	PP009	PP010	PP011
	Sample ID:	OCS-GW301-PP006-107	OCS-GW301-PP007-008	OCS-GW301-PP008-007	OCS-GW301-PP009-004	OCS-GW301-PP010-004	OCS-GW301-PP011-005
	Sample Date:	08/16/01	08/15/01	08/16/01	08/18/01	08/18/01	08/16/01
Constituent	Depth (feet bgs):	70 to N/A	81 to N/A	70 to N/A	47 to N/A	45 to N/A	59 to N/A
Vinyl Chloride		100 U	1 U	10 U	1 U	1 U	1 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	PP011	PP012	PP013	PP014	PP015	PP016
Sample ID:	OCS-GW301-PP011-007	OCS-GW301-PP012-006	OCS-GW301-PP013-005	OCS-GW301-PP014-005	OCS-GW301-PP015-008	OCS-GW301-PP016-008
Sample Date:	08/16/01	08/16/01	08/16/01	08/21/01	08/15/01	08/16/01
Constituent / Depth (feet bgs):	72 to N/A	63 to N/A	56 to N/A	52 to N/A	84 to N/A	80 to N/A
Volatile Organic Compounds (ug/l)						
1,1,1-Trichloroethane	25 U	10 U	10 U	2 U	1 U	1 U
1,1,2,2-Tetrachloroethane	25 U	10 U	10 U	2 U	1 U	1 U
1,1,2-Trichloroethane	25 U	10 U	10 U	2 U	1 U	1 U
1,1-Dichloroethane	25 U	10 U	10 U	2 U	1 U	1 U
1,1-Dichloroethene	40	70	20	7	0.9 J	1 U
1,1-Dichloropropene						
1,2,3-Trichloropropane						
1,2,4-Trimethylbenzene						
1,2-Dibromo-3-chloropropane						
1,2-Dibromoethane [EDB]						
1,2-Dichlorobenzene	25 U	10 U	10 U	2 U	1 U	1 U
1,2-Dichloroethane	25 U	10 U	10 U	2 U	1 U	1 U
1,2-Dichloropropane	25 U	10 U	10 U		1 U	1 U
1,3,5-Trimethylbenzene						
1,3-Dichlorobenzene	25 U	10 U	10 U	2 U	1 U	1 U
1,3-Dichloropropane	25 U	10 U	10 U		1 U	1 U
1,4-Dichlorobenzene	25 U	10 U	10 U	2 U	1 U	1 U
2,2-Dichloropropane						
2-Chlorotoluene						
4-Chlorotoluene						
Acetone						
Benzene	25 U	10 U	10 U	2 U	1 U	1 U
Bromobenzene						
Bromochloromethane						
Bromodichloromethane						

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP011	PP012	PP013	PP014	PP015	PP016
	Sample ID:	OCS-GW301-PP011-007	OCS-GW301-PP012-006	OCS-GW301-PP013-005	OCS-GW301-PP014-005	OCS-GW301-PP015-008	OCS-GW301-PP016-008
	Sample Date:	08/16/01	08/16/01	08/16/01	08/21/01	08/15/01	08/16/01
	Depth (feet bgs):	72 to N/A	63 to N/A	56 to N/A	52 to N/A	84 to N/A	80 to N/A
Bromoform							
Bromomethane							
Carbon Disulfide							
Carbon Tetrachloride		25 U	10 U	10 U	2 U	1 U	1 U
Chlorobenzene		25 U	10 U	10 U	2 U	1 U	1 U
Chloroethane		25 U	10 U	10 U	2 U	1 U	1 U
Chlorofluorocarbon-113		25 U	220	160	28	160	5
Chloroform		25 U	10 U	10 U	2 U	1 U	1 U
Chloromethane		25 U	10 U	10 U	2 U	1 U	1 U
cis-1,2-Dichloroethene		25 U	230	10 U	2 U	1 U	1 U
Dibromochloromethane							
Dibromomethane							
Dichlorodifluoromethane							
Ethylbenzene		25 U	10 U	10 U	2 U	1 U	1 U
M,P-Xylene		25 U	10 U	10 U	2 U	1 U	1 U
Methyl ethyl ketone (MEK)							
Methylene Chloride		25 U	10 U	10 U	2 U	1 U	1 U
n-Butylbenzene							
o-Xylene		25 U	10 U	10 U	2 U	1 U	1 U
sec-butylbenzene							
tert-Butylbenzene							
Tetrachloroethene		40	140	6 UJ	6	2	1 U
Toluene		25 U	10 U	10 U	2 U	1 U	1 U
trans-1,2-Dichloroethene		25 U	10 U	10 U	2 U	1 U	1 U
Trichloroethene		370	1300	10 U	2 U	1 U	1 U
Trichlorofluoromethane		25 U	70	180	11	140	4

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP011	PP012	PP013	PP014	PP015	PP016
	Sample ID:	OCS-GW301-PP011-007	OCS-GW301-PP012-006	OCS-GW301-PP013-005	OCS-GW301-PP014-005	OCS-GW301-PP015-008	OCS-GW301-PP016-008
	Sample Date:	08/16/01	08/16/01	08/16/01	08/21/01	08/15/01	08/16/01
	Depth (feet bgs):	*72 to N/A*	*63 to N/A*	*56 to N/A*	*52 to N/A*	*84 to N/A*	*80 to N/A*
Vinyl Chloride		25 U	10 U	10 U	2 U	1 U	1 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP017	PP017	PP018	PP019	PP020	PP020
	Sample ID:	OCS-GW301-PP017-005	OCS-GW301-PP017-105	OCS-GW301-PP018-005	OCS-GW301-PP019-005	OCS-GW301-PP020-005	OCS-GW301-PP020-007
	Sample Date:	08/18/01	08/18/01	08/20/01	08/20/01	08/17/01	08/17/01
	Depth (feet bgs):	56 to N/A	56 to N/A	58 to N/A	58 to N/A	50 to N/A	73 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane		100 U	100 U	1 U	0.9 J	50 U	25 U
1,1,2,2-Tetrachloroethane		100 U	100 U	1 U	1 U	50 U	25 U
1,1,2-Trichloroethane		100 U	100 U	1 U	1 U	50 U	25 U
1,1-Dichloroethane		100 U	100 U	1 U	1 U	50 U	25 U
1,1-Dichloroethene		400	300	0.8 J	60	150	60
1,1-Dichloropropene							
1,2,3-Trichloropropane							
1,2,4-Trimethylbenzene							
1,2-Dibromo-3-chloropropane							
1,2-Dibromoethane [EDB]							
1,2-Dichlorobenzene		100 U	100 U	1 U	1 U	50 U	25 U
1,2-Dichloroethane		100 U	100 U	0.4 J	0.4 J	50 U	25 U
1,2-Dichloropropane							
1,3,5-Trimethylbenzene							
1,3-Dichlorobenzene		100 U	100 U	1 U	1 U	50 U	25 U
1,3-Dichloropropane							
1,4-Dichlorobenzene		100 U	100 U	1 U	1 U	50 U	25 U
2,2-Dichloropropane							
2-Chlorotoluene							
4-Chlorotoluene							
Acetone							
Benzene		100 U	100 U	1 U	1 U	50 U	25 U
Bromobenzene							
Bromochloromethane							
Bromodichloromethane							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP017	PP017	PP018	PP019	PP020	PP020
	Sample ID:	OCS-GW301-PP017-005	OCS-GW301-PP017-105	OCS-GW301-PP018-005	OCS-GW301-PP019-005	OCS-GW301-PP020-005	OCS-GW301-PP020-007
	Sample Date:	08/18/01	08/18/01	08/20/01	08/20/01	08/17/01	08/17/01
	Depth (feet bgs):	56 to N/A	56 to N/A	58 to N/A	58 to N/A	50 to N/A	73 to N/A
Bromoform							
Bromomethane							
Carbon Disulfide							
Carbon Tetrachloride		100 U	100 U	1 U	1 U	50 U	25 U
Chlorobenzene		100 U	100 U	1 U	1 U	50 U	25 U
Chloroethane		100 U	100 U	1 U	1 U	50 U	25 U
Chlorofluorocarbon-113		1000	1000	3	110	360	250
Chloroform		100 U	100 U	1 U	2	50 U	25 U
Chloromethane		100 U	100 U	1 U	1 U	50 U	25 U
cis-1,2-Dichloroethene		200	200	1 U	1 U	50 U	25 U
Dibromochloromethane							
Dibromomethane							
Dichlorodifluoromethane							
Ethylbenzene		100 U	100 U	1 U	1 U	50 U	25 U
M,P-Xylene		100 U	100 U	1 U	1 U	50 U	25 U
Methyl ethyl ketone (MEK)							
Methylene Chloride		100 U	100 U	1 U	1 U	50 U	25 U
n-Butylbenzene							
o-Xylene		100 U	100 U	1 U	1 U	50 U	25 U
sec-butylbenzene							
tert-Butylbenzene							
Tetrachloroethene		700	700	23	60	260	160
Toluene		100 U	100 U	1 U	1 U	50 U	25 U
trans-1,2-Dichloroethene		100 U	100 U	1 U	1 U	50 U	25 U
Trichloroethene		1300	1200	1 U	14	720	410
Trichlorofluoromethane		300	200	1	40	120	100

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

	Station ID:	PP017	PP017	PP018	PP019	PP020	PP020
	Sample ID:	OCS-GW301-PP017-005	OCS-GW301-PP017-105	OCS-GW301-PP018-005	OCS-GW301-PP019-005	OCS-GW301-PP020-005	OCS-GW301-PP020-007
	Sample Date:	08/18/01	08/18/01	08/20/01	08/20/01	08/17/01	08/17/01
Constituent	Depth (feet bgs):	56 to N/A	56 to N/A	58 to N/A	58 to N/A	50 to N/A	73 to N/A
Vinyl Chloride		100 U	100 U	1 U	1 U	50 U	25 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	PP021	PP022	PP023	PP024	PP025	PP026
Sample ID:	OCS-GW301-PP021-005	OCS-GW301-PP022-005	OCS-GW301-PP023-006	OCS-GW301-PP024-005	OCS-GW301-PP025-005	OCS-GW301-PP026-004
Sample Date:	08/17/01	08/17/01	08/17/01	08/17/01	08/17/01	08/17/01
Constituent / Depth (feet bgs):	58 to N/A	58 to N/A	63 to N/A	58 to N/A	50 to N/A	41 to N/A
Volatile Organic Compounds (ug/l)						
1,1,1-Trichloroethane	50 U	10 U	100 U	250 U	5 U	50 U
1,1,2,2-Tetrachloroethane	50 U	10 U	100 U	250 U	5 U	50 U
1,1,2-Trichloroethane	50 U	10 U	100 U	250 U	5 U	50 U
1,1-Dichloroethane	50 U	10 U	100 U	250 U	5 U	50 U
1,1-Dichloroethene	90	10	900	2300	5 J	300
1,1-Dichloropropene						
1,2,3-Trichloropropane						
1,2,4-Trimethylbenzene						
1,2-Dibromo-3-chloropropane						
1,2-Dibromoethane [EDB]						
1,2-Dichlorobenzene	50 U	10 U	100 U	250 U	5 U	50 U
1,2-Dichloroethane	50 U	10 U	100 U	100 J	5 U	50 U
1,2-Dichloropropane						
1,3,5-Trimethylbenzene						
1,3-Dichlorobenzene	50 U	10 U	100 U	250 U	5 U	50 U
1,3-Dichloropropane						
1,4-Dichlorobenzene	50 U	10 U	100 U	250 U	5 U	50 U
2,2-Dichloropropane						
2-Chlorotoluene						
4-Chlorotoluene						
Acetone						
Benzene	50 U	10 U	100 U	250 U	5 U	50 U
Bromobenzene						
Bromochloromethane						
Bromodichloromethane						

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP021	PP022	PP023	PP024	PP025	PP026
	Sample ID:	OCS-GW301-PP021-005	OCS-GW301-PP022-005	OCS-GW301-PP023-006	OCS-GW301-PP024-005	OCS-GW301-PP025-005	OCS-GW301-PP026-004
	Sample Date:	08/17/01	08/17/01	08/17/01	08/17/01	08/17/01	08/17/01
	Depth (feet bgs):	58 to N/A	58 to N/A	63 to N/A	58 to N/A	50 to N/A	41 to N/A
Bromoform							
Bromomethane							
Carbon Disulfide							
Carbon Tetrachloride		50 U	10 U	100 U	250 U	5 U	50 U
Chlorobenzene		50 U	10 U	100 U	250 U	5 U	50 U
Chloroethane		50 U	10 U	100 U	250 U	5 U	50 U
Chlorofluorocarbon-113		250	40	1200	2300	5	560
Chloroform		50 U	10 U	100	1100	5 U	80
Chloromethane		50 U	10 U	100 U	250 U	5 U	50 U
cis-1,2-Dichloroethene		10 J	10 U	100 U	250 U	5 U	40 J
Dibromochloromethane							
Dibromomethane							
Dichlorodifluoromethane							
Ethylbenzene		50 U	10 U	100 U	250 U	5 U	50 U
M,P-Xylene		50 U	10 U	100 U	250 U	5 U	50 U
Methyl ethyl ketone (MEK)							
Methylene Chloride		50 U	10 U	100 U	250 U	5 U	50 U
n-Butylbenzene							
o-Xylene		50 U	10 U	100 U	250 U	5 U	50 U
sec-butylbenzene							
tert-Butylbenzene							
Tetrachloroethene		170	40	1000	4500	17	500
Toluene		50 U	10 U	100 U	250 U	5 U	50 U
trans-1,2-Dichloroethene		50 U	10 U	100 U	250 U	5 U	50 U
Trichloroethene		800	210	200	1100	98	950
Trichlorofluoromethane		80	7 J	500	800	5 U	160

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP021	PP022	PP023	PP024	PP025	PP026
	Sample ID:	OCS-GW301-PP021-005	OCS-GW301-PP022-005	OCS-GW301-PP023-006	OCS-GW301-PP024-005	OCS-GW301-PP025-005	OCS-GW301-PP026-004
	Sample Date:	08/17/01	08/17/01	08/17/01	08/17/01	08/17/01	08/17/01
	Depth (feet bgs):	58 to N/A	58 to N/A	63 to N/A	58 to N/A	50 to N/A	41 to N/A
Vinyl Chloride		50 U	10 U	100 U	250 U	5 U	50 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP029	PP032	PP033	PP034	PP035	PP036
	Sample ID:	OCS-GW301-PP029-004	OCS-GW301-PP032-006	OCS-GW301-PP033-003	OCS-GW301-PP034-003	OCS-GW301-PP035-003	OCS-GW301-PP036-005
	Sample Date:	08/21/01	08/21/01	08/20/01	08/20/01	08/21/01	08/20/01
	Depth (feet bgs):	45 to N/A	62 to N/A	38 to N/A	33 to N/A	36 to N/A	52 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane		1 U	10 U	1 U	5 U	25 U	25 U
1,1,2,2-Tetrachloroethane		1 U	10 U	1 U	5 U	25 U	25 U
1,1,2-Trichloroethane		1 U	10 U	1 U	5 U	25 U	25 U
1,1-Dichloroethane		1 U	10 U	0.5 J	5 U	25 U	25 U
1,1-Dichloroethene		1 U	6 J	12	13	30	90
1,1-Dichloropropene							
1,2,3-Trichloropropane							
1,2,4-Trimethylbenzene							
1,2-Dibromo-3-chloropropane							
1,2-Dibromoethane [EDB]							
1,2-Dichlorobenzene		1 U	10 U	1 U	5 U	25 U	25 U
1,2-Dichloroethane		1 U	10 U	0.9 J	5 U	25 U	25 U
1,2-Dichloropropane							
1,3,5-Trimethylbenzene							
1,3-Dichlorobenzene		1 U	10 U	1 U	5 U	25 U	25 U
1,3-Dichloropropane							
1,4-Dichlorobenzene		1 U	10 U	1 U	5 U	25 U	25 U
2,2-Dichloropropane							
2-Chlorotoluene							
4-Chlorotoluene							
Acetone							
Benzene		1 U	10 U	1 U	5 U	25 U	25 U
Bromobenzene							
Bromochloromethane							
Bromodichloromethane							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	PP029	PP032	PP033	PP034	PP035	PP036
Sample ID:	OCS-GW301-PP029-004	OCS-GW301-PP032-006	OCS-GW301-PP033-003	OCS-GW301-PP034-003	OCS-GW301-PP035-003	OCS-GW301-PP036-005
Sample Date:	08/21/01	08/21/01	08/20/01	08/20/01	08/21/01	08/20/01
Constituent / Depth (feet bgs):	45 to N/A	62 to N/A	38 to N/A	33 to N/A	36 to N/A	52 to N/A
Bromoform						
Bromomethane						
Carbon Disulfide						
Carbon Tetrachloride	1 U	10 U	1 U	5 U	25 U	25 U
Chlorobenzene	1 U	10 U	1 U	5 U	25 U	25 U
Chloroethane	1 U	10 U	1 U	5 U	25 U	25 U
Chlorofluorocarbon-113	1 U	7 J	1 U	76	50	240
Chloroform	1 U	10 U	0.8 J	5	25 U	20 J
Chloromethane	1 U	10 U	1 U	5 U	25 U	25 U
cis-1,2-Dichloroethene	1 U	6 J	13	5 U	25 U	20 J
Dibromochloromethane						
Dibromomethane						
Dichlorodifluoromethane						
Ethylbenzene	1 U	10 U	1 U	5 U	25 U	25 U
M,P-Xylene	1 U	10 U	1 U	5 U	25 U	25 U
Methyl ethyl ketone (MEK)						
Methylene Chloride	1 U	10 U	1 U	5 U	25 U	25 U
n-Butylbenzene						
o-Xylene	1 U	10 U	1 U	5 U	25 U	25 U
sec-butylbenzene						
tert-Butylbenzene						
Tetrachloroethene	1	140	400	42	50	160
Toluene	1 U	10 U	1 U	5 U	25 U	25 U
trans-1,2-Dichloroethene	1 U	10 U	1 U	5 U	25 U	25 U
Trichloroethene	1 U	60	70	80	180	460
Trichlorofluoromethane	1 U	10 U	1 U	24	20 J	60

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP029	PP032	PP033	PP034	PP035	PP036
	Sample ID:	OCS-GW301-PP029-004	OCS-GW301-PP032-006	OCS-GW301-PP033-003	OCS-GW301-PP034-003	OCS-GW301-PP035-003	OCS-GW301-PP036-005
	Sample Date:	08/21/01	08/21/01	08/20/01	08/20/01	08/21/01	08/20/01
	Depth (feet bgs):	45 to N/A	62 to N/A	38 to N/A	33 to N/A	36 to N/A	52 to N/A
Vinyl Chloride		1 U	10 U	1 U	5 U	25 U	25 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP036	PP037	PP038	PP039	PP040	PP041
	Sample ID:	OCS-GW301-PP036-105	OCS-GW301-PP037-004	OCS-GW301-PP038-007	OCS-GW301-PP039-003	OCS-GW301-PP040-006	OCS-GW301-PP041-006
	Sample Date:	08/20/01	08/20/01	08/21/01	08/20/01	08/21/01	08/18/01
	Depth (feet bgs):	52 to N/A	43 to N/A	73 to N/A	33 to N/A	62 to N/A	65 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane		25 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane		25 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		25 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		25 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		100	1 U	0.6 J	2	1 U	1 U
1,1-Dichloropropene							
1,2,3-Trichloropropane							
1,2,4-Trimethylbenzene							
1,2-Dibromo-3-chloropropane							
1,2-Dibromoethane [EDB]							
1,2-Dichlorobenzene		25 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		25 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane							
1,3,5-Trimethylbenzene							
1,3-Dichlorobenzene		25 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane							
1,4-Dichlorobenzene		25 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane							
2-Chlorotoluene							
4-Chlorotoluene							
Acetone							
Benzene		25 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene							
Bromochloromethane							
Bromodichloromethane							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	PP036	PP037	PP038	PP039	PP040	PP041
Sample ID:	OCS-GW301-PP036-105	OCS-GW301-PP037-004	OCS-GW301-PP038-007	OCS-GW301-PP039-003	OCS-GW301-PP040-006	OCS-GW301-PP041-006
Sample Date:	08/20/01	08/20/01	08/21/01	08/20/01	08/21/01	08/18/01
Constituent / Depth (feet bgs):	52 to N/A	43 to N/A	73 to N/A	33 to N/A	62 to N/A	65 to N/A
Bromoform						
Bromomethane						
Carbon Disulfide						
Carbon Tetrachloride	25 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	25 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	25 U	1 U	1 U	1 U	1 U	1 U
Chlorofluorocarbon-113	280	1 U	0.5 J	1 U	1 U	1 U
Chloroform	20 J	1 U	1 U	1 U	1 U	1 U
Chloromethane	25 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	20 J	1 U	1 U	1 U	1 U	1 U
Dibromochloromethane						
Dibromomethane						
Dichlorodifluoromethane						
Ethylbenzene	25 U	1 U	1 U	1 U	1 U	1 U
M,P-Xylene	25 U	1 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (MEK)						
Methylene Chloride	25 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene						
o-Xylene	25 U	1 U	1 U	1 U	1 U	1 U
sec-butylbenzene						
tert-Butylbenzene						
Tetrachloroethene	190	4	1	16	1 U	1
Toluene	25 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	25 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	500	0.6 J	1	1	2	3
Trichlorofluoromethane	70	1 U	1 U	1 U	1 U	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP036	PP037	PP038	PP039	PP040	PP041
	Sample ID:	OCS-GW301-PP036-105	OCS-GW301-PP037-004	OCS-GW301-PP038-007	OCS-GW301-PP039-003	OCS-GW301-PP040-006	OCS-GW301-PP041-006
	Sample Date:	08/20/01	08/20/01	08/21/01	08/20/01	08/21/01	08/18/01
	Depth (feet bgs):	52 to N/A	43 to N/A	73 to N/A	33 to N/A	62 to N/A	65 to N/A
Vinyl Chloride		25 U	1 U	1 U	1 U	1 U	1 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP043	PP044	PP045	PP045	PP046	PP047
	Sample ID:	OCS-GW301-PP043-005	OCS-GW301-PP044-005	OCS-GW301-PP045-005	OCS-GW301-PP045-105	OCS-GW301-PP046-004	OCS-GW301-PP047-004
	Sample Date:	08/22/01	08/22/01	08/21/01	08/21/01	08/22/01	08/22/01
	Depth (feet bgs):	51 to N/A	51 to N/A	52 to N/A	52 to N/A	47 to N/A	48 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane		100 U	5 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane		100 U	5 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane		100 U	5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane		100 U	5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		1300	5 U	1 U	1 U	1 U	1 U
1,1-Dichloropropene							
1,2,3-Trichloropropane							
1,2,4-Trimethylbenzene							
1,2-Dibromo-3-chloropropane							
1,2-Dibromoethane [EDB]							
1,2-Dichlorobenzene		100 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		100 U	5 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane							
1,3,5-Trimethylbenzene							
1,3-Dichlorobenzene		100 U	5 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane							
1,4-Dichlorobenzene		100 U	5 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane							
2-Chlorotoluene							
4-Chlorotoluene							
Acetone							
Benzene		100 U	5 U	1 U	1 U	1 U	1 U
Bromobenzene							
Bromochloromethane							
Bromodichloromethane							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP043	PP044	PP045	PP045	PP046	PP047
	Sample ID:	OCS-GW301-PP043-005	OCS-GW301-PP044-005	OCS-GW301-PP045-005	OCS-GW301-PP045-105	OCS-GW301-PP046-004	OCS-GW301-PP047-004
	Sample Date:	08/22/01	08/22/01	08/21/01	08/21/01	08/22/01	08/22/01
	Depth (feet bgs):	51 to N/A	51 to N/A	52 to N/A	52 to N/A	47 to N/A	48 to N/A
Bromoform							
Bromomethane							
Carbon Disulfide							
Carbon Tetrachloride		100 U	5 U	1 U	1 U	1 U	1 U
Chlorobenzene		100 U	5 U	1 U	1 U	1 U	1 U
Chloroethane		100 U	5 U	1 U	1 U	1 U	1 U
Chlorofluorocarbon-113		1100	5 U	1 U	1 U	2	0.7 J
Chloroform		300	5 U	0.9 J	0.9 J	1 U	1 U
Chloromethane		100 U	5 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		100 U	44	1 U	1 U	1 U	1 U
Dibromochloromethane							
Dibromomethane							
Dichlorodifluoromethane							
Ethylbenzene		100 U	5 U	1 U	1 U	1 U	1 U
M,P-Xylene		100 U	5 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (MEK)							
Methylene Chloride		100 U	5 U	1 U	1 U	1 U	1 U
n-Butylbenzene							
o-Xylene		100 U	5 U	1 U	1 U	1 U	1 U
sec-butylbenzene							
tert-Butylbenzene							
Tetrachloroethene		1500	66	4	4	2	1
Toluene		100 U	5 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene		100 U	5 U	1 U	1 U	1 U	1 U
Trichloroethene		800	14	10	10	2	1
Trichlorofluoromethane		400	5 U	1 U	1 U	1 U	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP043	PP044	PP045	PP045	PP046	PP047
	Sample ID:	OCS-GW301-PP043-005	OCS-GW301-PP044-005	OCS-GW301-PP045-005	OCS-GW301-PP045-105	OCS-GW301-PP046-004	OCS-GW301-PP047-004
	Sample Date:	08/22/01	08/22/01	08/21/01	08/21/01	08/22/01	08/22/01
	Depth (feet bgs):	51 to N/A	51 to N/A	52 to N/A	52 to N/A	47 to N/A	48 to N/A
Vinyl Chloride		100 U	5 U	1 U	1 U	1 U	1 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP048	PP049	PP050	PP051	PP052	PP052
	Sample ID:	OCS-GW301-PP048-009	OCS-GW301-PP049-006	OCS-GW301-PP050-007	OCS-GW301-PP051-005	OCS-GW301-PP052-005	OCS-GW301-PP052-105
	Sample Date:	08/22/01	08/23/01	08/23/01	08/23/01	08/23/01	08/23/01
	Depth (feet bgs):	99 to N/A	63 to N/A	72 to N/A	55 to N/A	55 to N/A	55 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane		100 U	50 U	50 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane		100 U	50 U	50 U	1 U	1 U	1 U
1,1,2-Trichloroethane		100 U	50 U	50 U	1 U	1 U	1 U
1,1-Dichloroethane		100 U	50 U	50 U	1 U	1 U	1 U
1,1-Dichloroethene		100 U	50 U	50 U	1 U	0.5 J	1 U
1,1-Dichloropropene							
1,2,3-Trichloropropane							
1,2,4-Trimethylbenzene							
1,2-Dibromo-3-chloropropane							
1,2-Dibromoethane [EDB]							
1,2-Dichlorobenzene		100 U	50 U	50 U	1 U	1 U	1 U
1,2-Dichloroethane		100 U	50 U	50 U	1 U	1 U	1 U
1,2-Dichloropropane							
1,3,5-Trimethylbenzene							
1,3-Dichlorobenzene		100 U	50 U	50 U	1 U	1 U	1 U
1,3-Dichloropropane							
1,4-Dichlorobenzene		100 U	50 U	50 U	1 U	1 U	1 U
2,2-Dichloropropane							
2-Chlorotoluene							
4-Chlorotoluene							
Acetone							
Benzene		100 U	50 U	50 U	1 U	1 U	1 U
Bromobenzene							
Bromochloromethane							
Bromodichloromethane							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	PP048	PP049	PP050	PP051	PP052	PP052
Sample ID:	OCS-GW301-PP048-009	OCS-GW301-PP049-006	OCS-GW301-PP050-007	OCS-GW301-PP051-005	OCS-GW301-PP052-005	OCS-GW301-PP052-105
Sample Date:	08/22/01	08/23/01	08/23/01	08/23/01	08/23/01	08/23/01
Constituent / Depth (feet bgs):	99 to N/A	63 to N/A	72 to N/A	55 to N/A	55 to N/A	55 to N/A
Bromoform						
Bromomethane						
Carbon Disulfide						
Carbon Tetrachloride	100 U	50 U	50 U	1 U	1 U	1 U
Chlorobenzene	100 U	50 U	50 U	1 U	1 U	1 U
Chloroethane	100 U	50 U	50 U	1 U	1 U	1 U
Chlorofluorocarbon-113	100 U	50 U	50 U	1 U	0.8 J	0.7 J
Chloroform	100 U	50 U	50 U	1 U	1 U	1 U
Chloromethane	100 U	50 U	50 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	100 U	50 U	50 U	1 U	1 U	1 U
Dibromochloromethane						
Dibromomethane						
Dichlorodifluoromethane						
Ethylbenzene	100 U	50 U	50 U	1 U	1 U	1 U
M,P-Xylene	100 U	50 U	50 U	1 U	1 U	1 U
Methyl ethyl ketone (MEK)						
Methylene Chloride	100 U	50 U	50 U	1 U	1 U	1 U
n-Butylbenzene						
o-Xylene	100 U	50 U	50 U	1 U	1 U	1 U
sec-butylbenzene						
tert-Butylbenzene						
Tetrachloroethene	100 U	30 J	290	1	5	5
Toluene	100 U	50 U	50 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100 U	50 U	50 U	1 U	1 U	1 U
Trichloroethene	960	190	90	1 U	7	7
Trichlorofluoromethane	100 U	50 U	50 U	1 U	1 U	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP048	PP049	PP050	PP051	PP052	PP052
	Sample ID:	OCS-GW301-PP048-009	OCS-GW301-PP049-006	OCS-GW301-PP050-007	OCS-GW301-PP051-005	OCS-GW301-PP052-005	OCS-GW301-PP052-105
	Sample Date:	08/22/01	08/23/01	08/23/01	08/23/01	08/23/01	08/23/01
	Depth (feet bgs):	99 to N/A	63 to N/A	72 to N/A	55 to N/A	55 to N/A	55 to N/A
Vinyl Chloride		100 U	50 U	50 U	1 U	1 U	1 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	PP053	PP054	PP055	PP056	PP057	PP058
Sample ID:	OCS-GW301-PP053-004	OCS-GW301-PP054-006	OCS-GW301-PP055-006	OCS-GW301-PP056-005	OCS-GW301-PP057-006	OCS-GW301-PP058-006
Sample Date:	08/23/01	08/23/01	08/23/01	08/23/01	09/04/01	09/04/01
Constituent / Depth (feet bgs):	49 to N/A	62 to N/A	65 to N/A	58 to N/A	62 to N/A	64 to N/A
Volatile Organic Compounds (ug/l)						
1,1,1-Trichloroethane	1 U	1 U	5 U	5 U	1	250
1,1,2,2-Tetrachloroethane	1 U	1 U	5 U	5 U	1 U	1 U
1,1,2-Trichloroethane	1 U	1 U	5 U	5 U	1 U	4
1,1-Dichloroethane	1 U	1 U	5 U	5 U	0.7 J	240
1,1-Dichloroethene	1 U	1 U	5 U	8	8	2900
1,1-Dichloropropene						
1,2,3-Trichloropropane						
1,2,4-Trimethylbenzene						
1,2-Dibromo-3-chloropropane						
1,2-Dibromoethane [EDB]						
1,2-Dichlorobenzene	1 U	1 U	5 U	5 U	1 U	1 U
1,2-Dichloroethane	0.5	1 U	5 U	5 U	0.5	110
1,2-Dichloropropane					1 U	1 U
1,3,5-Trimethylbenzene						
1,3-Dichlorobenzene	1 U	1 U	5 U	5 U	1 U	1 U
1,3-Dichloropropane						
1,4-Dichlorobenzene	1 U	1 U	5 U	5 U	1 U	1 U
2,2-Dichloropropane						
2-Chlorotoluene						
4-Chlorotoluene						
Acetone						
Benzene	1 U	1 U	5 U	5 U	1 U	1
Bromobenzene						
Bromochloromethane						
Bromodichloromethane						

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP053	PP054	PP055	PP056	PP057	PP058
	Sample ID:	OCS-GW301-PP053-004	OCS-GW301-PP054-006	OCS-GW301-PP055-006	OCS-GW301-PP056-005	OCS-GW301-PP057-006	OCS-GW301-PP058-006
	Sample Date:	08/23/01	08/23/01	08/23/01	08/23/01	09/04/01	09/04/01
	Depth (feet bgs):	49 to N/A	62 to N/A	65 to N/A	58 to N/A	62 to N/A	64 to N/A
Bromoform							
Bromomethane							
Carbon Disulfide							
Carbon Tetrachloride		1 U	1 U	5 U	5 U	0.5 U	0.5 U
Chlorobenzene		1 U	1 U	5 U	5 U	1 U	0.7 J
Chloroethane		1 U	1 U	5 U	5 U	1 U	1 U
Chlorofluorocarbon-113		6	1 U	3 J	7	2	61
Chloroform		1 U	1 U	5 U	5 U	1 U	9
Chloromethane		1 U	1 U	5 U	5 U	1 U	1 U
cis-1,2-Dichloroethene		1 U	1 U	5 U	5 U	1.0	1400
Dibromochloromethane							
Dibromomethane							
Dichlorodifluoromethane							
Ethylbenzene		1 U	1 U	5 U	5 U	1 U	1 U
M,P-Xylene		1 U	1 U	5 U	5 U	1 U	1 U
Methyl ethyl ketone (MEK)							
Methylene Chloride		1 U	1 U	5 U	5 U	1 U	0.8 J
n-Butylbenzene							
o-Xylene		1 U	1 U	5 U	5 U	1 U	1 U
sec-butylbenzene							
tert-Butylbenzene							
Tetrachloroethene		22	2	120	58	110	3300
Toluene		1 U	1 U	5 U	5 U	1 U	1 U
trans-1,2-Dichloroethene		1 U	1 U	5 U	5 U	1 U	15
Trichloroethene		0.5 J	24	62	72	40	780
Trichlorofluoromethane		2	1 U	5 U	6	0.7 J	61

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP053	PP054	PP055	PP056	PP057	PP058
	Sample ID:	OCS-GW301-PP053-004	OCS-GW301-PP054-006	OCS-GW301-PP055-006	OCS-GW301-PP056-005	OCS-GW301-PP057-006	OCS-GW301-PP058-006
	Sample Date:	08/23/01	08/23/01	08/23/01	08/23/01	09/04/01	09/04/01
	Depth (feet bgs):	49 to N/A	62 to N/A	65 to N/A	58 to N/A	62 to N/A	64 to N/A
Vinyl Chloride		1 U	1 U	5 U	5 U	0.5 U	11
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP059	PP060	PP060	PP061	PP062	PP063
	Sample ID:	OCS-GW301-PP059-006	OCS-GW301-PP060-006	OCS-GW301-PP060-106	OCS-GW301-PP061-006	OCS-GW301-PP062-003	OCS-GW401-PP063-005
	Sample Date:	09/04/01	09/04/01	09/04/01	09/04/01	09/04/01	10/29/01
	Depth (feet bgs):	63 to N/A	65 to N/A	65 to N/A	65 to N/A	38 to N/A	59 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane		1 U	1 U	1 U	1 U	1 U	
1,1,2,2-Tetrachloroethane		1 U	1 U	1 U	1 U	1 U	
1,1,2-Trichloroethane		1 U	1 U	1 U	1 U	1 U	
1,1-Dichloroethane		2	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		10	42	40	4	13	1 U
1,1-Dichloropropene							1 U
1,2,3-Trichloropropane							1 U
1,2,4-Trimethylbenzene							1 U
1,2-Dibromo-3-chloropropane							2 U
1,2-Dibromoethane [EDB]							1 U
1,2-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene							1 U
1,3-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane							1 U
1,4-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane							1 U
2-Chlorotoluene							1 U
4-Chlorotoluene							1 U
Acetone							10 U
Benzene		1 U	1 U	1 U	1 U	1 U	1 U
Bromobenzene							1 U
Bromochloromethane							1 U
Bromodichloromethane							1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP059	PP060	PP060	PP061	PP062	PP063
	Sample ID:	OCS-GW301-PP059-006	OCS-GW301-PP060-006	OCS-GW301-PP060-106	OCS-GW301-PP061-006	OCS-GW301-PP062-003	OCS-GW401-PP063-005
	Sample Date:	09/04/01	09/04/01	09/04/01	09/04/01	09/04/01	10/29/01
	Depth (feet bgs):	63 to N/A	65 to N/A	65 to N/A	65 to N/A	38 to N/A	59 to N/A
Bromoform							1 U
Bromomethane							1 U
Carbon Disulfide							1 U
Carbon Tetrachloride		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.99
Chlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane		1 U	1 U	1 U	1 U	1 U	1 U
Chlorofluorocarbon-113		16	210	180	4	2	0.97 J
Chloroform		3	1	1	2	2	0.29 J
Chloromethane		1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene		18	6	6	3	1	1 U
Dibromochloromethane							1 U
Dibromomethane							1 U
Dichlorodifluoromethane							1 U
Ethylbenzene		1 U	1 U	1 U	1 U	1 U	
M,P-Xylene		1 U	1 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (MEK)							10 U
Methylene Chloride		1 U	1 U	1 U	1 U	1 U	
n-Butylbenzene							1 U
o-Xylene		1 U	1 U	1 U	1 U	1 U	1 U
sec-butylbenzene							1 U
tert-Butylbenzene							1 U
Tetrachloroethene		80	150	180	46	250	5.9
Toluene		1 U	1 U	1 U	1 U	1 U	0.28 J
trans-1,2-Dichloroethene		0.6 J	1 U	1 U	1 U	1 U	1 U
Trichloroethene		48	190	200	18	25	1.7
Trichlorofluoromethane		13	110	90	2	0.5 J	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP059	PP060	PP060	PP061	PP062	PP063
	Sample ID:	OCS-GW301-PP059-006	OCS-GW301-PP060-006	OCS-GW301-PP060-106	OCS-GW301-PP061-006	OCS-GW301-PP062-003	OCS-GW401-PP063-005
	Sample Date:	09/04/01	09/04/01	09/04/01	09/04/01	09/04/01	10/29/01
	Depth (feet bgs):	63 to N/A	65 to N/A	65 to N/A	65 to N/A	38 to N/A	59 to N/A
Vinyl Chloride		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP064	PP065	PP066	PP067	PP068	PP069
	Sample ID:	OCS-GW401-PP064-006	OCS-GW401-PP065-006	OCS-GW401-PP066-006	OCS-GW401-PP067-004	OCS-GW401-PP068-005	OCS-GW401-PP069-006
	Sample Date:	10/29/01	10/29/01	10/29/01	10/30/01	10/30/01	10/30/01
	Depth (feet bgs):	61 to N/A	69 to N/A	65 to N/A	46 to N/A	58 to N/A	60 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane							
1,1,2,2-Tetrachloroethane							
1,1,2-Trichloroethane							
1,1-Dichloroethane		1 U	29	180	5 U	2.5 J	110
1,1-Dichloroethene		4.6	630	1300	12	13	380
1,1-Dichloropropene		1 U	10 U	10 U	5 U	5 U	5 U
1,2,3-Trichloropropane		1 U	10 U	10 U	5 U	5 U	5 U
1,2,4-Trimethylbenzene		1 U	17	10 U	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane		2 U	20 U	20 U	10 U	10 U	10 U
1,2-Dibromoethane [EDB]		1 U	10 U	10 U	5 U	5 U	5 U
1,2-Dichlorobenzene		1 U	10 U	10 U	5 U	5 U	5 U
1,2-Dichloroethane		0.24 J	5 U	110	2.5 U	2.5 U	13
1,2-Dichloropropane		1 U	21	10 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene		1 U	3.4 J	10 U	5 U	5 U	5 U
1,3-Dichlorobenzene		1 U	10 U	10 U	5 U	5 U	5 U
1,3-Dichloropropane		1 U	10 U	10 U	5 U	5 U	5 U
1,4-Dichlorobenzene		1 U	10 U	10 U	5 U	5 U	5 U
2,2-Dichloropropane		1 U	10 U	10 U	5 U	5 U	5 U
2-Chlorotoluene		1 U	10 U	10 U	5 U	5 U	5 U
4-Chlorotoluene		1 U	10 U	10 U	5 U	5 U	5 U
Acetone		10 U	100 U	100 U	50 U	50 U	50 U
Benzene		1 U	10 U	10 U	5 U	5 U	5 U
Bromobenzene		1 U	10 U	10 U	5 U	5 U	5 U
Bromochloromethane		1 U	10 U	10 U	5 U	5 U	5 U
Bromodichloromethane		1 U	10 U	10 U	5 U	5 U	5 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP064	PP065	PP066	PP067	PP068	PP069
	Sample ID:	OCS-GW401-PP064-006	OCS-GW401-PP065-006	OCS-GW401-PP066-006	OCS-GW401-PP067-004	OCS-GW401-PP068-005	OCS-GW401-PP069-006
	Sample Date:	10/29/01	10/29/01	10/29/01	10/30/01	10/30/01	10/30/01
	Depth (feet bgs):	61 to N/A	69 to N/A	65 to N/A	46 to N/A	58 to N/A	60 to N/A
Bromoform		1 U	10 U	10 U	5 U	5 U	5 U
Bromomethane		1 U	10 U	10 U	5 U	5 U	5 U
Carbon Disulfide		1 U	10 U	10 U	5 U	5 U	5 U
Carbon Tetrachloride		0.5 U	5 U	5 U	2.5 U	2.5 U	2.5 U
Chlorobenzene		1 U	10 U	10 U	5 U	5 U	5 U
Chloroethane		1 U	10 U	10 U	5 U	5 U	5 U
Chlorofluorocarbon-113		13	10 U	17	5 U	5.9	21
Chloroform		0.52 J	5.4 J	7.5 J	1.2 J	1 J	1.1 J
Chloromethane		1 U	10 U	10 U	5 U	5 U	5 U
cis-1,2-Dichloroethene		3	44	550	5 U	5 U	340
Dibromochloromethane		1 U	10 U	10 U	5 U	5 U	5 U
Dibromomethane		1 U	10 U	10 U	5 U	5 U	5 U
Dichlorodifluoromethane		1 U	10 U	10 U	5 U	5 U	5 U
Ethylbenzene							
M,P-Xylene		1 U	10 U	10 U	5 U	5 U	5 U
Methyl ethyl ketone (MEK)		10 U	100 U	100 U	50 U	50 U	50 U
Methylene Chloride							
n-Butylbenzene		1 U	5.2 J	10 U	5 U	5 U	5 U
o-Xylene		1 U	10 U	10 U	5 U	5 U	5 U
sec-butylbenzene		1 U	4.2 J	10 U	5 U	5 U	5 U
tert-Butylbenzene		1 U	10 U	10 U	5 U	5 U	5 U
Tetrachloroethene		45	86	850	540	45	200
Toluene		0.42 J	4.2 J	3.6 J	1.9 J	1.6 J	2 J
trans-1,2-Dichloroethene		0.93 J	10 U	4.3 J	5 U	5 U	1.9 J
Trichloroethene		32	70	540	8.8	46	110
Trichlorofluoromethane		7.9	10 U	19	5 U	3.1 J	11

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP064	PP065	PP066	PP067	PP068	PP069
	Sample ID:	OCS-GW401-PP064-006	OCS-GW401-PP065-006	OCS-GW401-PP066-006	OCS-GW401-PP067-004	OCS-GW401-PP068-005	OCS-GW401-PP069-006
	Sample Date:	10/29/01	10/29/01	10/29/01	10/30/01	10/30/01	10/30/01
	Depth (feet bgs):	61 to N/A	69 to N/A	65 to N/A	46 to N/A	58 to N/A	60 to N/A
Vinyl Chloride		2 U	20 U	20 U	10 U	10 U	5.2 J
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP069	PP070	PP071	PP072	PP073	PP074
	Sample ID:	OCS-GW401-PP069-106	OCS-GW401-PP070-009	OCS-GW401-PP071-008	OCS-GW401-PP072-008	OCS-GW401-PP073-008	OCS-GW401-PP074-007
	Sample Date:	10/30/01	10/30/01	10/30/01	10/30/01	10/31/01	10/31/01
	Depth (feet bgs):	60 to N/A	93 to N/A	84 to N/A	88 to N/A	87 to N/A	72 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane							
1,1,2,2-Tetrachloroethane							
1,1,2-Trichloroethane							
1,1-Dichloroethane		100	1 U	1 U	1 U	50 U	8.6
1,1-Dichloroethene		390	1.8	5.4	7.2	740	37
1,1-Dichloropropene		5 U	1 U	1 U	1 U	50 U	1 U
1,2,3-Trichloropropane		5 U	1 U	1 U	1 U	50 U	1 U
1,2,4-Trimethylbenzene		5 U	1 U	1 U	1 U	50 U	1 U
1,2-Dibromo-3-chloropropane		10 U	2 U	2 U	2 U	100 U	2 U
1,2-Dibromoethane [EDB]		5 U	1 U	1 U	1 U	50 U	1 U
1,2-Dichlorobenzene		5 U	1 U	1 U	1 U	50 U	1 U
1,2-Dichloroethane		12	0.5 U	0.5 U	0.5 U	25 U	0.22 J
1,2-Dichloropropane		5 U	1 U	1 U	1 U	50 U	1 U
1,3,5-Trimethylbenzene		5 U	1 U	1 U	1 U	50 U	1 U
1,3-Dichlorobenzene		5 U	1 U	1 U	1 U	50 U	1 U
1,3-Dichloropropane		5 U	1 U	1 U	1 U	50 U	1 U
1,4-Dichlorobenzene		5 U	1 U	1 U	1 U	50 U	1 U
2,2-Dichloropropane		5 U	1 U	1 U	1 U	50 U	1 U
2-Chlorotoluene		5 U	1 U	1 U	1 U	50 U	1 U
4-Chlorotoluene		5 U	1 U	1 U	1 U	50 U	1 U
Acetone		50 U	10 U	10 U	26	500 U	10 U
Benzene		5 U	1 U	1 U	1 U	50 U	1 U
Bromobenzene		5 U	1 U	1 U	1 U	50 U	1 U
Bromochloromethane		5 U	1 U	1 U	1 U	50 U	1 U
Bromodichloromethane		5 U	1 U	1 U	1 U	50 U	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP069	PP070	PP071	PP072	PP073	PP074
	Sample ID:	OCS-GW401-PP069-106	OCS-GW401-PP070-009	OCS-GW401-PP071-008	OCS-GW401-PP072-008	OCS-GW401-PP073-008	OCS-GW401-PP074-007
	Sample Date:	10/30/01	10/30/01	10/30/01	10/30/01	10/31/01	10/31/01
	Depth (feet bgs):	60 to N/A	93 to N/A	84 to N/A	88 to N/A	87 to N/A	72 to N/A
Bromoform		5 U	1 U	1 U	1 U	50 U	1 U
Bromomethane		5 U	1 U	1 U	1 U	50 U	1 U
Carbon Disulfide		5 U	1 U	1 U	1 U	50 U	1 U
Carbon Tetrachloride		2.5 U	0.5 U	0.5 U	0.5 U	25 U	0.5 U
Chlorobenzene		5 U	1 U	1 U	1 U	50 U	1 U
Chloroethane		5 U	1 U	1 U	1 U	50 U	1 U
Chlorofluorocarbon-113		21	1 U	52	240	2200	11
Chloroform		1.1 J	1 U	0.63 J	0.26 J	26 J	0.63 J
Chloromethane		5 U	1 U	1 U	1 U	50 U	1 U
cis-1,2-Dichloroethene		350	1 U	1 U	0.54 J	50 U	19
Dibromochloromethane		5 U	1 U	1 U	1 U	50 U	1 U
Dibromomethane		5 U	1 U	1 U	1 U	50 U	1 U
Dichlorodifluoromethane		5 U	1 U	1 U	1 U	50 U	1 U
Ethylbenzene							
M,P-Xylene		5 U	1 U	1 U	1 U	50 U	1 U
Methyl ethyl ketone (MEK)		50 U	10 U	10 U	10 U	500 U	10 U
Methylene Chloride							
n-Butylbenzene		5 U	1 U	1 U	1 U	50 U	1 U
o-Xylene		5 U	1 U	1 U	1 U	50 U	1 U
sec-butylbenzene		5 U	1 U	1 U	1 U	50 U	1 U
tert-Butylbenzene		5 U	1 U	1 U	1 U	50 U	1 U
Tetrachloroethene		180	0.28 J	6.1	400	420	35
Toluene		1.4 J	1 U	0.31 J	0.34 J	50 U	1 U
trans-1,2-Dichloroethene		1.7 J	1 U	1 U	1 U	50 U	0.3 J
Trichloroethene		110	29	35	78	250	46
Trichlorofluoromethane		10	1 U	6.7	65	600	4.9

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP069	PP070	PP071	PP072	PP073	PP074
	Sample ID:	OCS-GW401-PP069-106	OCS-GW401-PP070-009	OCS-GW401-PP071-008	OCS-GW401-PP072-008	OCS-GW401-PP073-008	OCS-GW401-PP074-007
	Sample Date:	10/30/01	10/30/01	10/30/01	10/30/01	10/31/01	10/31/01
	Depth (feet bgs):	60 to N/A	93 to N/A	84 to N/A	88 to N/A	87 to N/A	72 to N/A
Vinyl Chloride		5.1 J	2 U	2 U	2 U	100 U	2 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP075	PP076	PP077	PP078	PP079	PP079
	Sample ID:	OCS-GW401-PP075-004	OCS-GW401-PP076-005	OCS-GW401-PP077-006	OCS-GW401-PP078-008	OCS-GW401-PP079-008	OCS-GW401-PP079-108
	Sample Date:	10/31/01	11/01/01	11/01/01	11/01/01	11/01/01	11/01/01
	Depth (feet bgs):	48 to N/A	56 to N/A	60 to N/A	81 to N/A	88 to N/A	88 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane							
1,1,2,2-Tetrachloroethane							
1,1,2-Trichloroethane							
1,1-Dichloroethane		1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene		0.4 J	1 U	0.21 J	120	4.3	12
1,1-Dichloropropene		1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane		2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane [EDB]		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	1 U
4-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	1 U
Acetone		10 U	10 U	10 U	130	7.5 J	3 J
Benzene		1 U	1 U	1 U	0.75 J	0.24 J	1 U
Bromobenzene		1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane		1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane		1 U	1 U	1 U	1 U	1 U	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	PP075	PP076	PP077	PP078	PP079	PP079
Sample ID:	OCS-GW401-PP075-004	OCS-GW401-PP076-005	OCS-GW401-PP077-006	OCS-GW401-PP078-008	OCS-GW401-PP079-008	OCS-GW401-PP079-108
Sample Date:	10/31/01	11/01/01	11/01/01	11/01/01	11/01/01	11/01/01
Constituent / Depth (feet bgs):	48 to N/A	56 to N/A	60 to N/A	81 to N/A	88 to N/A	88 to N/A
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	0.5 U	0.5 U	0.26 J	0.5 U	0.5 U	0.5 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U
Chlorofluorocarbon-113	1 U	1.2	2.6	1000	2.9	1.8
Chloroform	1.2	0.4 J	0.54 J	1.5	0.61 J	0.97 J
Chloromethane	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	0.84 J	0.88 J	1.6	1 U	1 U
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene						
M,P-Xylene	1 U	1 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (MEK)	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride						
n-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	1 U	1 U	1 U	1 U	1 U	1 U
sec-butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5.5	32	34	2300	8.8	6.1
Toluene	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	2	11	16	240	240	580
Trichlorofluoromethane	1 U	1 U	0.48 J	310	0.66 J	0.25 J

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP075	PP076	PP077	PP078	PP079	PP079
	Sample ID:	OCS-GW401-PP075-004	OCS-GW401-PP076-005	OCS-GW401-PP077-006	OCS-GW401-PP078-008	OCS-GW401-PP079-008	OCS-GW401-PP079-108
	Sample Date:	10/31/01	11/01/01	11/01/01	11/01/01	11/01/01	11/01/01
	Depth (feet bgs):	48 to N/A	56 to N/A	60 to N/A	81 to N/A	88 to N/A	88 to N/A
Vinyl Chloride		2 U	2 U	2 U	2 U	2 U	2 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP080	PP081	PP082	PP083	PP084	PP085
	Sample ID:	OCS-GW401-PP080-007	OCS-GW401-PP081-007	OCS-GW401-PP082-008	OCS-GW401-PP083-008	OCS-GW401-PP084-004	OCS-GW401-PP085-003
	Sample Date:	11/01/01	11/01/01	11/01/01	11/02/01	11/02/01	11/02/01
	Depth (feet bgs):	71 to N/A	71 to N/A	80 to N/A	82 to N/A	47 to N/A	38 to N/A
Volatile Organic Compounds (ug/l)							
1,1,1-Trichloroethane							
1,1,2,2-Tetrachloroethane							
1,1,2-Trichloroethane							
1,1-Dichloroethane		1 U	1 U	1 U	1 U	1.2	1 U
1,1-Dichloroethene		1 U	1 U	1 U	800	280	1 U
1,1-Dichloropropene		1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane		2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dibromoethane [EDB]		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane		0.5 U	0.5 U	0.5 U	.5 U	1.2	.5 U
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene		1 U	1 U	1 U	1 U	1 U	1 U
2,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	1 U
4-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	1 U
Acetone		10 U	10 U	6.9 J	150 J	53 J	10 U
Benzene		1 U	1 U	0.44 J	1 U	.6 J	1 U
Bromobenzene		1 U	1 U	1 U	1 U	1 U	1 U
Bromochloromethane		1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane		1 U	1 U	1 U	1 U	1 U	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Station ID:	PP080	PP081	PP082	PP083	PP084	PP085
Sample ID:	OCS-GW401-PP080-007	OCS-GW401-PP081-007	OCS-GW401-PP082-008	OCS-GW401-PP083-008	OCS-GW401-PP084-004	OCS-GW401-PP085-003
Sample Date:	11/01/01	11/01/01	11/01/01	11/02/01	11/02/01	11/02/01
Constituent / Depth (feet bgs):	71 to N/A	71 to N/A	80 to N/A	82 to N/A	47 to N/A	38 to N/A
Bromoform	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Disulfide	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	0.5 U	0.5 U	0.5 U	.5 U	.24 J	.5 U
Chlorobenzene	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U
Chlorofluorocarbon-113	1 U	1 U	1 U	1300	550	6.1
Chloroform	1 U	1 U	1 U	1.1	4.6	.36 J
Chloromethane	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	.28 J	5.7	1.2
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	2.3	1 U	1 U
Ethylbenzene						
M,P-Xylene	1 U	1 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (MEK)	10 U	10 U	3 J	10 U	10 U	10 U
Methylene Chloride						
n-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
o-Xylene	1 U	1 U	1 U	1 U	1 U	1 U
sec-butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5.1	22	2.8	460	320	53
Toluene	1 U	1 U	0.44 J	.42 J	1 U	1 U
trans-1,2-Dichloroethene	1 U	1 U	1 U	1 U	.49 J	1 U
Trichloroethene	1 U	1 U	1 U	310	250	17
Trichlorofluoromethane	1 U	1 U	1 U	390	240	1 U

A blank cell indicates analysis was not performed or the result was rejected during analysis

Omega Chemical Data Summary - Groundwater Sampling: August-November 2001, Whittier, CA

Constituent	Station ID:	PP080	PP081	PP082	PP083	PP084	PP085
	Sample ID:	OCS-GW401-PP080-007	OCS-GW401-PP081-007	OCS-GW401-PP082-008	OCS-GW401-PP083-008	OCS-GW401-PP084-004	OCS-GW401-PP085-003
	Sample Date:	11/01/01	11/01/01	11/01/01	11/02/01	11/02/01	11/02/01
	Depth (feet bgs):	71 to N/A	71 to N/A	80 to N/A	82 to N/A	47 to N/A	38 to N/A
Vinyl Chloride		2 U	2 U	2 U	2 U	2 U	2 U
Semi-Volatile Organic Compounds (ug/l)							
1,4-Dioxane							
Conventional Parameters							
Perchlorate (ug/l)							

A blank cell indicates analysis was not performed or the result was rejected during analysis