ConocoPhillips
76 Broadway
Sacramento, California 95818

February 11, 2010

Barbara Jakub
Alameda County Health Agency
1131 Harbor Bay parkway, Suite250
Alameda, California 94502-577

Re: **Addendum to Work Plan for Delineation of Two Potential Water Bearing Zones**
76 Service Station # 3072 RO # 02968
2445 Castro Valley Road
Castro Valley, CA

Dear Ms. Jakub:

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

If you have any questions or need additional information, please call me at (916) 558-7666.

Sincerely,

Terry L. Grayson
Site Manager
Risk Management & Remediation

February 8, 2010

Ms. Barbara Jakub
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Subject: **Addendum to Work Plan for Delineation of Two Potential Water Bearing Zones**
76 Service Station No. 3072
2445 Castro Valley Blvd.
Castro Valley, California
ACEH Case No: RO# 2968

DELTA

Dear Ms. Jakub:

Delta Consultants (Delta) has prepared this *Addendum to Work Plan for Delineation of Two Potential Water Bearing Zones,* in order to assess the vertical extent of dissolved phase petroleum hydrocarbons in groundwater at ConocoPhillips 76 Service Station Number 3072, located at 2445 Castro Valley Boulevard in Castro Valley, California (the Site). This work plan addendum has been submitted to revise the scope of work proposed in the work plan submitted on January 5, 2009 (**Attachment A**). The previously submitted work plan proposed to install three sets of nested wells with two-foot screens. The purpose of these nested wells was to investigate two potential water bearing zones identified by TRC in a 2007 CPT investigation (**Attachment B**); a shallow zone between 14-40 feet below grade (fbg) and a deep zone between 45-55 fbg.

Upon reviewing available project data, Delta believes that well clusters, rather than the proposed nested wells, are appropriate for the Site conditions and will aid in the prevention of cross contamination of the shallow and deep zones, should separate water-bearing zones exist beneath the Site. In the absence of narrow, well-defined water bearing zones, or confining layers, the previously proposed two-foot long screen intervals may not be practical for monitoring groundwater conditions beneath the Site.

Available lithologic data from previous borings shows that clay, silt and gravel lies beneath approximately 2 feet of base rock. Historic CPT and well logs do not clearly indicate the presence of confined water-bearing zones; however, shale bedrock has been encountered in borings beginning at depths ranging from 5 fbg to of approximately 20 fbg, which may act to hinder mixing of shallow and deep groundwater. The logs from TRC's 2005 investigation show mainly sand beginning at 5 fbg and extending depths of up to 25 fbg.

Hard drilling conditions are noted in most historic logs between approximately 15 feet and 50 feet, with intervals where samples were not recovered, which may indicate the presence of a bedrock aquitard. Historic boring logs are included in **Attachment C**.

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The following work plan addendum proposes to modify the scope of work in the original work plan (**Attachment A),** which proposed the installation of three nested wells (each with a two-foot screen interval).

In this addendum, Delta proposes to install four sets of cluster wells. Each well cluster will consist of two wells (one shallow and one deep) placed within approximately 5 feet of one another, with screens approximately ten feet in length and screen depth intervals of approximately 10 to 20 fbg (shallow) and at 45 to 55 fbg (deep).

Delta proposes to install a total of four well clusters to address locations where contamination was reported in 2005 and 2007, and to assess current shallow and deep groundwater conditions at the Site. A Site location map is included as **Figure 1.**

SITE DESCRIPTION

The general Site location is at the intersection of Castro Valley Boulevard and Stoneridge Avenue in Castro Valley, California, as shown on the Vicinity Map (**Figure 1**). The Site Map (**Figure 2**) illustrates the location of the current underground storage tank (UST) system which consists of two 12,000 gallon and one 10,000 gallon gasoline USTs with six fuel dispensers located on three dispenser islands. There is also a waste oil UST located directly south of the station building. The USTs are located to the north of the site, and are oriented approximately northwest-southeast. Two of the dispenser islands are located immediately to the west of the USTs, and oriented perpendicularly. The other island is southeast of, and parallel to the USTs.

SITE BACKGROUND

November 1989 through February 1990: Three 10,000 gallon underground storage tanks (USTs), one 550 gallon waste oil UST, and product piping were removed and replaced. The UST pits were over excavated to remove impacted soil, Kaprealian Engineering (KEI), 1990).

January 18 and 19, 1990: Three 2-inch diameter monitoring wells (MW1, MW2, and MW3) were installed onsite (KEI), 1990).

April 24 and 25, 1990: Eight exploratory soil borings (EB1 through EB8) were drilled and soil sampled collected. The borings were backfilled with neat cement. Low to non-detect concentrations of TPH-G and BTEX were detected with a maximum TPH-G concentration of 5 ppm (KEI), 1991).

August 13, 1990: Two 2-inch monitoring wells (MW4 and MW5) were installed. Soil samples from the monitoring well pilot borings contained non-detect concentrations of TPH-G and BTEX in all samples. Benzene was detected at a maximum concentration of 3.2 ppb (KEI), 1990).

June 15, 1993: Monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 were destroyed by KEI.

June 7, 2001: Gettler-Ryan Inc. (GR) observed the removal of one hydraulic hoist from the site. A soil sample from 8.5 feet below grade (fbg) was reported to contain 1,200 mg/kg TPH-Hydraulic Fluid (GR, 2001).

January 24, 25 and 31, 2005: TRC conducted a Baseline Site Assessment (TRC, 2005) which involved the advancement of six direct-push borings (SB-1 through SB-6) to assess the presence of hydrocarbon-affected soil and groundwater beneath the site. TPPH was detected in two soil samples at a maximum concentration of 480 ppm in SB-1 at a depth of 8 fbg. MTBE was detected in two soil samples at a maximum concentration of 0.11 ppm in SB-3 at a depth of 18 fbg. MTBE was detected in three of the four grab groundwater samples at a maximum concentration of 87 ppb in boring SB-1.

May 2007: TRC conducted an additional site assessment using cone penetrometer test (CPT) equipment, advancing CPT borings CPT-1, CPT-2, CPT-4, and CPT-5 onsite, to depths of up to 55 fbg. TPH-D was detected in groundwater samples collected in all four soil borings, with a maximum concentration of 800 micrograms per liter (µg/l) in the groundwater sample collected from CPT-4. MTBE was in three of four borings with a maximum of 10 µg/l detected in CPT-4. TBA was detected only in CPT-2 at a maximum of 54 µg/l. No other analytes were detected during this investigation.

PROPOSED GROUNDWATER CLUSTER WELL INSTALLATIONS

The locations of the proposed monitoring wells were selected based upon the results of TRC's 2005 Baseline Site Assessment and 2007 CPT Investigation. During the 2005 Baseline Site Assessment, TRC advanced six soil borings (SB-1 through SB-6) at the Site. Soil samples from a depth of 8 fbg from borings SB-1 and SB-4 were reported to contain 480 mg/kg and 470 mg/kg TPH-G, respectively. Boring SB-3 was reported to contain 87 ug/l MTBE. During the 2007 CPT investigation, TPH-D was reported in groundwater samples from borings CPT-1, CPT-2, CPT-4 and CPT-5 at concentrations ranging from 280 ug/l in CPT-5 to 800 ug/l in CPT-4. In order to address concentrations reported in the two investigations, Delta proposes to place the new wells in the following locations:

- MW-6 will be placed in the vicinity of SB-1 near the western dispenser island.
- MW-7 will be placed northeast (downgradient) of CPT-2 and SB-3 in the northern portion of the site.
- MW-8 will be placed in the vicinity of CPT-4 on the eastern portion of the site.
- MW-9 will be placed in the southern portion of the site to monitor groundwater entering the site.

The original work plan proposed nested monitoring wells (two casings within one borehole) with two foot screens. Delta proposes to modify the previously proposed well design from nested wells to cluster wells. The well clusters will be comprised of two wells, installed within five feet of one another at each proposed location, with approximate 10 foot screen intervals. Delta proposes to modify the well design for the following reasons:

- Wells with a two-foot screen are more likely become dry due to seasonal groundwater fluctuations.
- Samples collected from wells with a two-foot screen interval may not be representative of overall groundwater conditions beneath the site as they allow water to flow into the casing from a limited thickness within the formation.
- Historic lithologic boring logs do not indicate conditions, such as narrowly confined water bearing zones, which would necessitate a short well screen.

The new wells will be installed in the following method. First, a soil boring will be advanced to a depth of approximately 55 fbg, allowing access to the deeper water bearing zone identified by TRC in their 2007 CPT investigation, utilizing truck mounted hollow stem auger drilling rig equipped with eight inch outer diameter auger flights. Although historic logs indicate difficult drilling and high blow counts, samples will be collected continuously, if feasible, to enable the identification of potential aquitards(s) and the precise depth(s) in the vicinity of 40-45 fbg, as anticipated by TRC. Lithology recorded during the installation of the deeper well will be used to set a shallow well in the vicinity of 10-25 fbg, where first groundwater is anticipated to be encountered. The shallow well will be installed approximately five feet away from the deep well. For each location, MW-6 through MW-9, one shallow and one deep well will be installed.

The wells will be constructed using 2-inch diameter PVC casings with 0.010-inch slotted casing in the screen interval due to anticipated fine grained sediment. 2/16 Monterey sand filter packing will be installed in the annular space to one foot above the top of the screened interval, overlain by a 2-foot thick bentonite seal (saturated in place). The wells will be capped with Portland cement grout and boxed at grade with a locking, water-tight cap and traffic-rated well box.

A minimum of 72 hours following completion of the well installation, each well will be properly developed to ensure the collection of a representative groundwater sample. Following a minimum of 72 hours after development, new wells will be purged of three well-casing volumes and sampled. The newly-installed wells will be added to a quarterly monitoring program for the Site. Sampling frequency will decrease to semi-annual events following four quarters of monitoring, or less, contingent upon agency approval.

During drilling, soil samples will be collected continuously from each deep boring and screened for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID). A lithologic description of each soil sample will be recorded by a Delta geologist on a boring log form. From each deep soil boring, three soil samples will be collected for laboratory analysis from the depths that exhibit the highest PID value or at depths exhibiting significant change in lithology. Should all collected samples indicate PID readings below the instrument's detection limit, then the deepest unsaturated soil sample will be submitted to the laboratory for analysis.

Soil and groundwater samples submitted for laboratory analysis will be analyzed for TPH-G and TPH-D with silica gel clean up by EPA Method 8015M, benzene, toluene, ethylbenzene, toluene, xylenes, methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tert butyl alcohol (TBA), ethylene dibromide (EDB), ethylene dichloride (EDC) and ethanol by EPA Method 8260.

Down-hole tools will be cleaned prior to and between each boring to prevent cross-contamination. Waste materials will be stored onsite in drums or bins pending proper disposal by a licensed ConocoPhillips approved waste hauling firm. All field point data, soil and water sample analytical data will be uploaded to the GeoTracker system per current standards.

Soil and groundwater samples selected for laboratory analysis will be individually labeled, registered on a chain-of-custody form, and immediately placed on ice pending transport to a certified analytical laboratory. Strict chain-of-custody protocols will be followed during the transport of the samples.

SCHEDULE

Delta will obtain all necessary permits following submittal of this work plan and will commence field activities within 30 days of receipt of work plan approval from the Alameda County Environmental Health Department.

REPORTING

Upon completion of the fieldwork, Delta will prepare a report describing field activities, methods, and analytical results. Delta will include recommendations for additional assessment work at the Site, as appropriate.

It is further estimated that the final report will be ready for submittal approximately 45 days after receipt of the sample analytical results.

REMARKS

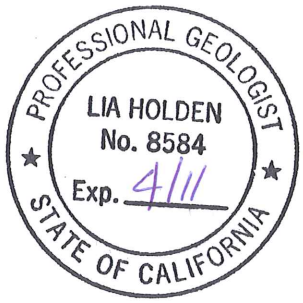
The descriptions, conclusions, and recommendations contained in this document represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. For any reports cited that were not generated by Delta, the data from those reports is used "as is" and is assumed to be accurate. Delta does not guarantee the accuracy of this data for the referenced work performed nor the inferences or conclusions stated in these reports. This document is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this document were conducted. This document is intended only for the use of Delta's Client and anyone else specifically listed on this document. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this document.

If you have any questions regarding this work plan or need and additional information about this Site, please do not hesitate to contact the undersigned (408) 826-1863.

Sincerely,

DELTA CONSULTANTS

Nadine Periat
Senior Staff Geologist



Lia Holden, PG #8584
Geologist - Project Manager

Figures:

Figure 1 – Site Location Map
Figure 2 – Site Plan

Attachments:

Attachment A – Work Plan for Delineation of Two Potential Water Bearing Zones

Attachment B – TRC's Hydropunch Groundwater Investigation Report

Attachment C - Historic Boring Logs

cc: Mr. Terry Grayson - ConocoPhillips

REFERENCES

Kaprealian Engineering Inc., Stockpiled Soil Sampling for Unocal Service Station #3072, 2445 Castro Valley, California, December 5, 1989.

Kaprealian Engineering Inc., Stockpiled Soil Sampling for Unocal Service Station #3072, 2445 Castro Valley, California, January 12, 1990.

Kaprealian Engineering Inc., Waste Oil Stockpiled Soil Sampling for Unocal Service Station #3072, 2445 Castro Valley, California, January 12, 1990.

Kaprealian Engineering Inc., Preliminary Ground Water Investigation at Unocal Service Station #3072, 2445 Castro Valley, California, April 12 1990.

Kaprealian Engineering Inc., Follow Up Soil Sampling Report, Unocal Service Station #3072, 2445 Castro Valley, California, April 13, 1990.

Kaprealian Engineering Inc., Continuing Subsurface Investigation at Unocal Service Station #3072, 2445 Castro Valley, California, June 11, 1990.

Kaprealian Engineering Inc., Continuing Ground Water Investigation at Unocal Service Station #3072, 2445 Castro Valley, California, September 28, 1990.

Kaprealian Engineering Inc., Report on Destruction of Monitoring Wells at Unocal Service Station #3072, 2445 Castro Valley, California, July 15, 1993.

Kaprealian Engineering Inc., Subsurface Soil Investigation at Unocal Service Station #3072, 2445 Castro Valley, California, February 27, 1996.

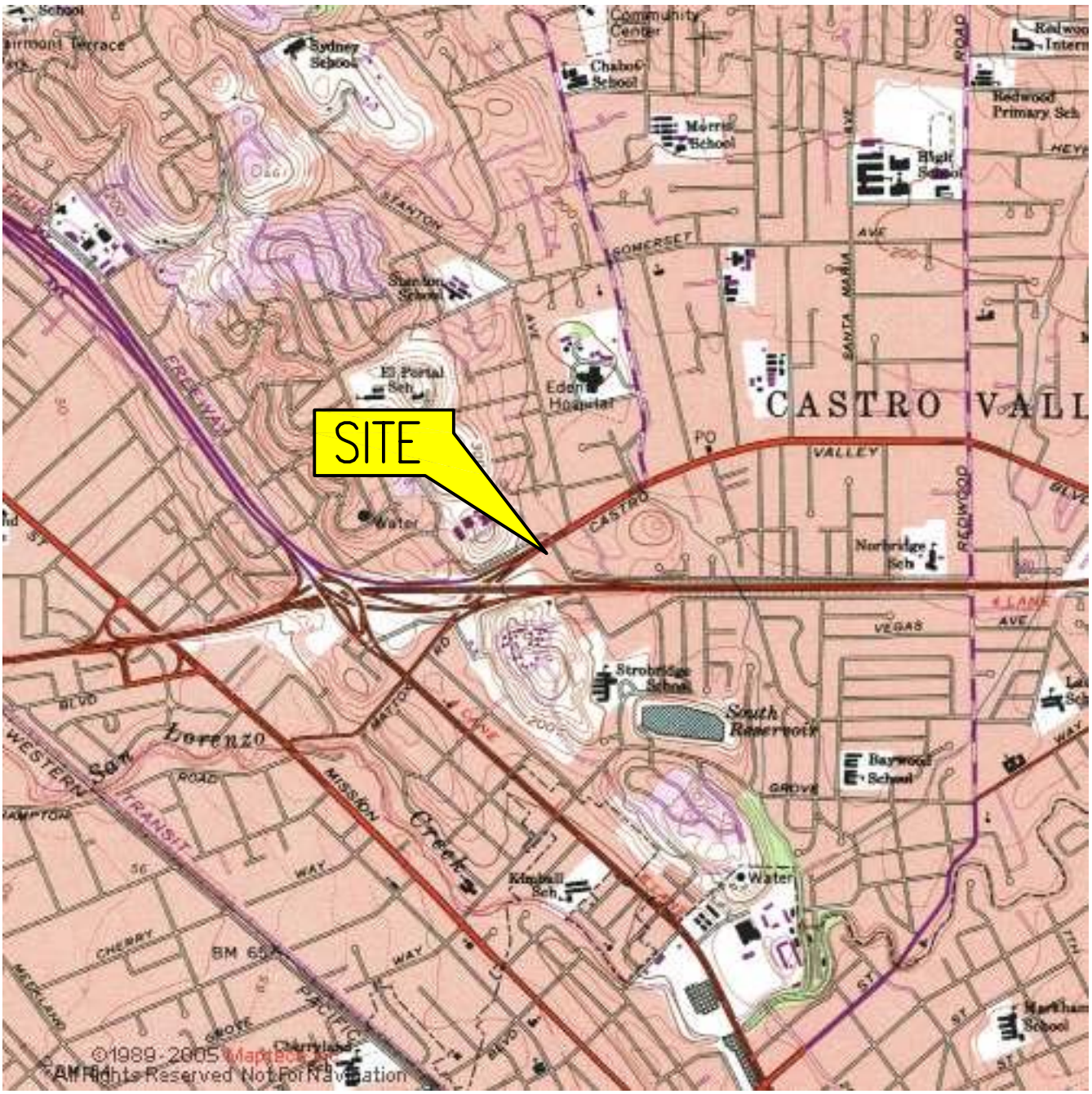
Gettler-Ryan Inc., Soil Sampling During Hydraulic Hoist Removal at Tosco Service Station #3072, 2445 Castro Valley Blvd, Castro Valley, California, September 6, 2001.

TRC, Baseline Site Assessment Report, 76 Service Station No. 3072, 2445 Castro Valley Blvd, Castro Valley, California, March 8, 2005.

TRC, Hydropunch Groundwater Investigation Report, 76 Service Station No. 3072, 2445 Castro Valley Boulevard, Castro Valley, California, October 11, 2007.

Delta Consultants, Work Plan for Delineation of Two Potential Water-Bearing Zones, 76 Service Station No. 3072, 2445 Castro Valley Boulevard, Castro Valley, California, January 5, 2009.

FIGURES



North

0 900 1800 FT

SCALE

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, SAN LEANDRO QUADRANGLE (1973)

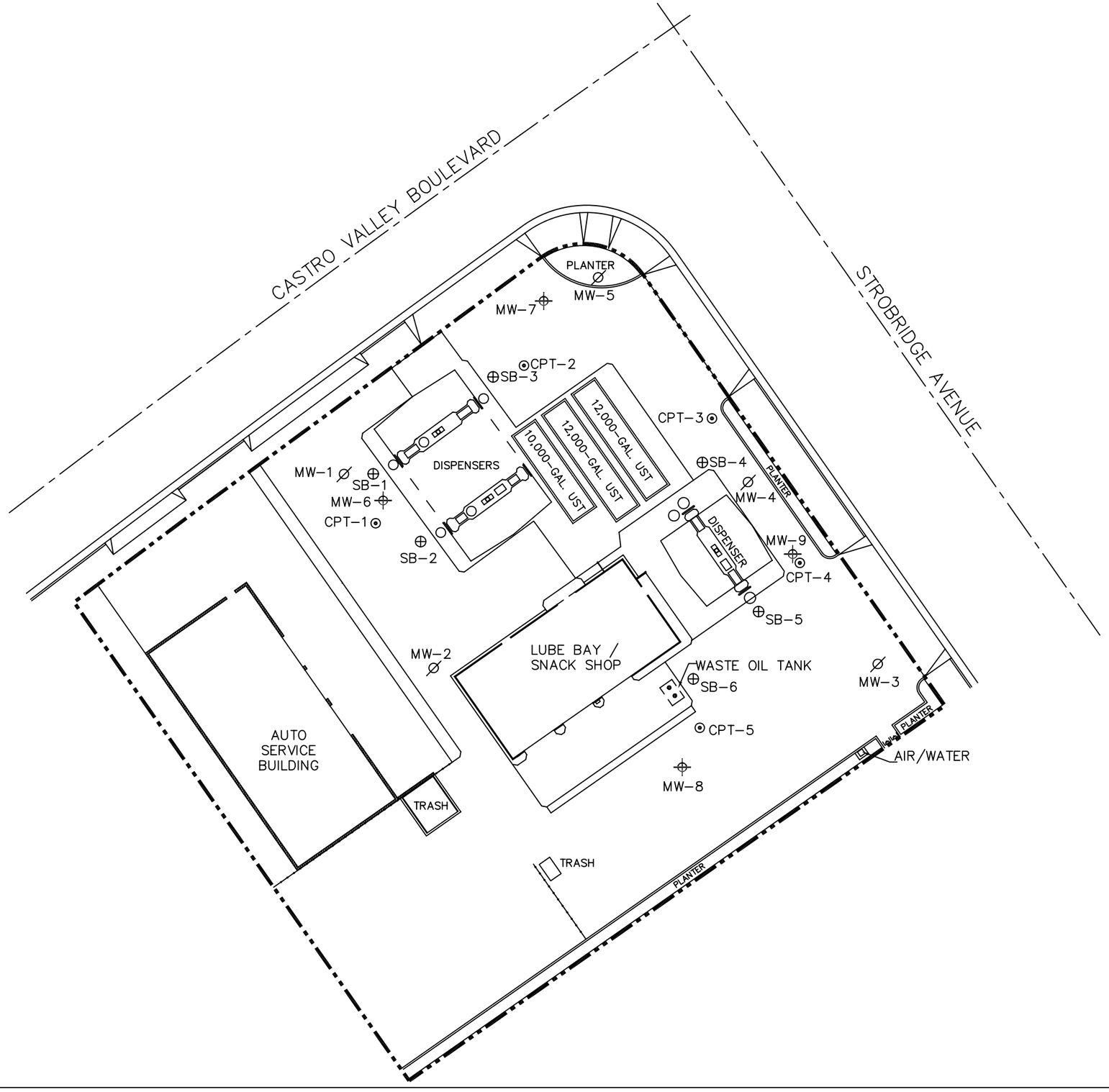
FIGURE 1

SITE LOCATION MAP

76 SERVICE STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO. C103072	DRAWN BY JH 01/14/09
FILE NO. 3072-SiteLocator	PREPARED BY AB
REVISION NO.	REVIEWED BY JR

DELTA®



LEGEND

MW-7	PROPOSED MONITORING WELL CLUSTER LOCATION
MW-1	DESTROYED MONITORING WELL (KEI, 1993)
CPT-1	CPT BORING (TRC, 2007)
SB-4	SOIL BORING
	PROPERTY BOUNDARY

N

0 30 FT

SCALE

SOURCE: Client-provided site plan prepared by A&S Engineering, October 1997 and TRC.

FIGURE 2
SITE PLAN WITH PROPOSED MONITORING WELLS

76 SERVICE STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C103072	NP	JH
DATE	REVIEWED BY	FILE NAME
02/03/10	LH	76-3072

DELTA®

Attachment A

Work Plan for Delineation of Two Potential Water-Bearing Zones

ConocoPhillips

76 Broadway
Sacramento, California 95818

January 14, 2009

Barbara Jakub
Alameda County Health Agency
1131 Harbor Bay parkway, Suite250
Alameda, California 94502-577

Re: ***Delineation of Two potential Water-Bearing Zones --Work Plan***
76 Service Station # 3072 RO 02968
2445 Castro Valley Blvd
Castro Valley, CA

Dear Ms. Jakub,

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

If you have any questions or need additional information, please call me at (916) 558-7666.

Sincerely,

Terry L. Grayson
Site Manager
Risk Management & Remediation

MS. BARBARA JAKUB
Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

cc: Mr. Terry Grayson, ConocoPhillips (electronic copy)

WORK PLAN
FOR DELINEATION OF TWO POTENTIAL WATER-BEARING ZONES

DELTA

76 SERVICE STATION NO. 3072
2445 Castro Valley Blvd
Castro Valley, CA
AOC# 01154
RO# 02968

DELTA PROJECT C103072
JANUARY 5, 2009

Prepared for:

ConocoPhilips Company
76 Broadway
Sacramento, CA 95818

Prepared by:

Delta Consultants

a member of: Inogen Environmental Alliance

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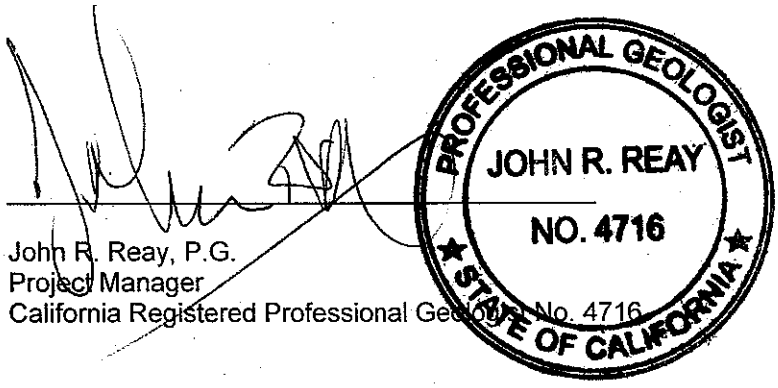
TABLE OF CONTENTS

1.0 CERTIFICATION

This report was prepared under the supervision and direction of the undersigned California Professional Geologist.

Delta Consultants



John R. Reay, P.G.
Project Manager
California Registered Professional Geologist No. 4716

2.0 DECLARATION

On behalf of ConocoPhillips Company (COP), Delta Consultants (Delta) has prepared this *Work Plan for Delineation of Two Potential Water-Bearing Zones* proposing the installation of 3 sets of 2 nested monitoring wells for a total of 6 monitoring wells (MW-1A/B, MW-2A/B, MW-3A/B).

In their 2007 *Hydropunch Groundwater Investigation Report*, TRC states that there appear to be two potential water-bearing zones. The intent of this work is to identify these zones, and implement nested monitoring wells to attain depth specific data from each zone independently.

3.0 SITE BACKGROUND AND DESCRIPTION

3.1 SITE BACKGROUND

The general site location is at the intersection of Castro Valley Boulevard and Stoneridge Avenue in Castro Valley, California, as shown on the Vicinity Map (Figure 1). The Site Map (Figure 2) illustrates the location of the current underground storage tank (UST) system which consists of two 12,000 gallon and one 10,000 gallon gasoline USTs with six fuel dispensers located on three dispenser islands. There is also a waste oil UST located directly south of the station building. The USTs are located to the north of the site, and are oriented approximately northwest-southeast. Two of the dispenser islands are located immediately to the west of the USTs, and oriented perpendicularly. The other island is southeast of, and parallel to the USTs.

3.2 PREVIOUS ASSESSMENT

November 1989 through February 1990: Three 10,000 gallon underground storage tanks (USTs), one 550 gallon waste oil UST, and product piping were removed and replaced. The UST pits were over excavated to remove impacted soil, Kaprealian Engineering (KEI), 1991).

November 14, 1989: Six soil samples (A1, A2, B1, B2, C1, and C2) were collected from below the fuel USTs and one soil sample (WO1) was collected from below the waste oil UST. Samples from beneath the gasoline USTs contained concentrations of total petroleum hydrocarbons as gasoline (TPH-g) from non-detect to 11 parts per million (ppm) and non-detect concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX). Concentrations of total petroleum hydrocarbons as diesel (TPH-d) were non-detect in the sample collected from below the diesel UST. The soil samples collected from beneath the waste oil tank contained reportable concentrations of TPH-g, metals, and 1,1-dichloroethene (1,1-DCE) and were non-detect for all other constituents analyzed (KEI), 1991).

November 16, 1989: Six sidewall soil samples (SW1 through SW6) and a grab water sample were collected from the fuel UST. Samples SW1 and SW4 contained TPH-g concentrations of 140 ppm and 160 ppm, respectively. TPH-d was detected at a concentration of 24 ppm in sample SW4 (KEI), 1991).

December 22, 1989: Eight soil sidewall samples (SW1 (17), SW2 (17), SW7 through SW11, and SW3 (17)) were collected after additional excavation of the UST pits. Maximum reported TPH-g concentrations were 1,500 ppm and 1,900 ppm (KEI), 1991).

January 18 and 19, 1990: Three 2-inch diameter monitoring wells (MW1, MW2, and MW3) were installed onsite (KEI), 1991).

February 14, 1990: Three soil samples (P1, P2, and P3) were collected from the product pipeline trenches. Low to non-detect concentrations of TPH-g and BTEX were detected with a maximum TPH-g concentration of 87 ppm (KEI), 1991).

March 9, 1990: Three sidewall soil samples (SWB, SWC, and SWD) were collected from the sidewalls of the waste oil UST pit. Low to non-detect concentrations of TPH-g and BTEX were detected with a maximum TPH-g concentration of 37 ppm (KEI), 1991).

April 24 and 25, 1990: Eight exploratory soil borings (EB1 through EB8) were drilled and soil sampled collected. The borings were backfilled with neat cement. Low to non-detect concentrations of TPH-g and BTEX were detected with a maximum TPH-g concentration of 5 ppm (KEI), 1991).

June 15, 1993: Monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 were destroyed by KEI.

August 13, 1990: Two 2-inch monitoring wells (MW4 and MW5) were installed. Soil samples from the monitoring well pilot borings contained non-detect concentrations of TPH-g and BTEX in all samples. Benzene was detected at a maximum concentration of 3.2 ppb (KEI), 1991).

October 2003: Site environmental consulting responsibilities were transferred to TRC.

January 24, 25 and 31, 2005: TRC conducted a Baseline Site Assessment (TRC, 2005) which involved the advancement of six direct-push borings (SB-1 through SB-6) to assess the presence of hydrocarbon-affected soil and groundwater beneath the site. TPPH was detected in two soil samples at a maximum concentration of 480 ppm in SB-1 at a depth of 8 fbg. MTBE was detected in two soil samples at a maximum concentration of 0.11 ppm in SB-3 at a depth of 18 fbg. MTBE was detected in three of the four grab groundwater samples at a maximum concentration of 87 ppb in boring SB-1.

3.3 SENSITIVE RECEPTOR SURVEY

January 31, 2006: TRC completed a sensitive receptor survey for the site. No wells or water bodies identified during the survey are believed to be near enough to the site or in the direct path of groundwater flow from the site to be considered sensitive receptors.

3.4 HYDROGEOLOGIC SITE CONDITIONS

From previous soil and groundwater investigations conducted at the site, the soil beneath the site consists of silt, clay, and fine sand. Shale has also been observed underlying the clay and fine sand from 10 to 50 feet below grade (fbg). Groundwater has been encountered at the site historically between 6 and 9 fbg. During the recent baseline investigation, groundwater was encountered at depths between 15 and 25 fbg on the northern portion of the site and 47 to 50 fbg on the southern portion of the site (TRC, 2005). Historically, the groundwater flow direction has been to the northeast (KEI), 1991).

TRC's October 2007 *Hydropunch Groundwater Investigation Report* (Attachment A) discusses the identification of two potential water bearing zones at depth intervals of between 14 and 40 feet bgs and 45 to 55 feet bgs.

4.0 PRE-FIELD ACTIVITIES AND UTILITY LOCATION

4.1 PERMITTING/HASP PREPARATION

Drilling permits will be obtained for the boring and the monitoring wells as necessary from the appropriate parties prior to commencing field work. Delta will prepare a Health and Safety Plan (HASP) specific to the site and work being performed in accordance with Title 8, Section 5192 of the California Code of Regulations. This will contain a list of emergency contacts, as well as hospital route maps to the nearest emergency facility and Occupational Heath Center, and will be reviewed daily by field personnel as part of tailgate safety SOP.

4.2 SITE MARKING/UTILITIY CLEARANCE

The proposed boring locations will be marked in the field prior to drilling, and Underground Services Alert (USA) will be contacted at least 48 hours prior to initiating drilling to minimize the risk of damaging underground utilities. A private utility locator will also be retained to survey the locations and further minimize the risk of damaging underground utilities. Additionally, an air-knife vacuum truck will be used to clear the proposed boring and monitoring well locations to a depth of at least 5 feet bgs prior to drilling.

5.0 PROPOSED MONITORING WELL INSTALLATIONS

Drilling of the Monitoring wells will be done with hollow stem auger technology. In order to identify stratigraphy as well as to delineate potential water-bearing sand zones borings will be advanced utilizing continuous core with acetate sleeve to 60 feet bgs or refusal for the first boring of each set of nested wells. Three sets of nested monitoring wells, each well located within a 5 foot radius, will be installed, with depths to be determined based on in-field lithologic observations.

5.1 MONITORING WELL CONSTRUCTION

Wells will be constructed (Figures 3 and 4) in and 8 inch boring of 2 inch ID PVC with 0.010 inch slotted screen with end cap and Loanstar #2/12 gravel pack (or equivalent) extending approximately 1 foot above the top of the screen. The gravel pack will be emplaced via treme pipe or equivalent. Approximately one foot granular bentonite seal will be placed on top of the gravel pack. The bentonite seal will be hydrated with a minimum of one gallon of clean potable water prior to installation of the neat cement seal if it extends above groundwater. The well will be completed by installation of a neat cement seal to ground surface, a concrete sanitary seal, locking cap, and traffic rated water-resistant well-head vault.

5.2 SOIL SAMPLING AND LABORATORY ANALYSIS

Soil samples will be collected for laboratory analysis from continuous core samples. A pre-calibrated photo-ionization detector (PID) will be used to field screen soil samples for the presence of organic vapors. Discrete soil samples retained for analysis will be cut to size from the continuous core sleeve, capped with Teflon sheeting and tight-fitting plastic end caps, properly labeled with a unique identification number, placed in an ice-chilled cooler, and transported to a California-certified analytical laboratory with chain of custody documentation. Soil samples will be analyzed for TPHg, TPHd by EPA Method 8015M, benzene, toluene, ethylbenzene, toluene, xylenes, methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tert butyl alcohol (TBA), ethylene dibromide (EDB), ethylene dichloride (EDC) and ethanol by EPA Method 8260.

5.3 GROUNDWATER SAMPLING AND LABORATORY ANALYSIS

Groundwater grab samples will be collected from all borings from field selected depth discrete intervals based on the continuous core samples. The groundwater samples will be placed into laboratory supplied sample bottles labeled with a unique identification number. The samples will then be placed into an ice-chilled cooler and transported to a California-certified analytical laboratory with chain of custody documentation. Groundwater samples will be analyzed for TPHg, TPHd by EPA Method 8015M, benzene, toluene, ethylbenzene, toluene, xylenes, methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tert butyl alcohol (TBA), ethylene dibromide (EDB), ethylene dichloride (EDC) and ethanol by EPA Method 8260.

5.4 SAMPLE POINT SURVEY

Following the completion of the sampling event, a California licensed surveyor will survey the northing and easting of the monitoring well locations using Datum NGVD29 or NAD 88. A global positioning system (GPS) will also be used to survey in the latitude and longitude of the wells to be uploaded into California's GeoTracker database system. The survey of the well locations will be to sub-meter accuracy.

5.5 DISPOSAL OF DRILL CUTTINGS AND WASTEWATER

Drill cutting, purge and decontamination water generated during the sampling event will be placed into properly labeled 55-gallon Department of Transportation (DOT) approved steel drums and temporarily stored on the property. Samples of the drill cuttings and wastewater will be collected, properly labeled and placed on ice for submittal to a California-certified laboratory and analyzed for TPHg, TPHd by EPA Method 8015M, benzene, toluene, ethylbenzene, toluene, xylenes, methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), tert butyl alcohol (TBA), ethylene dibromide (EDB), ethylene dichloride (EDC) and ethanol by EPA Method 8260. A chain-of-custody will accompany the samples during transportation to the laboratory. Subsequent to receiving the laboratory analytical results, the drummed drill cuttings and wastewater will be profiled, transported, and disposed of at a ConocoPhillips (COP) approved facility.

6.0 REPORTING

Anticipated schedule of work includes:

- 1st Q 09: Workplan submitted to ACEH
- 2nd Q 09: Comments to workplan received from ACEH
- Proceed with field work within 90 days of receipt of ACEH comments

Following completion of the field work and receipt of analytical results, a site investigation report will be prepared and submitted within 60 days. The report will present the details of the boring activities, including copies of boring permits, and details of disposal activities and copies of disposal documents. Required electronic submittals will be uploaded to the State Geotracker and Alameda County databases.

7.0 REMARKS

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report will be performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report. If you have questions regarding this report, please contact John Reay at (916) 503-1260 or Terry Grayson at 916-558-7666.

FIGURES

North

0 900 1800 FT

SCALE

FIGURE 1

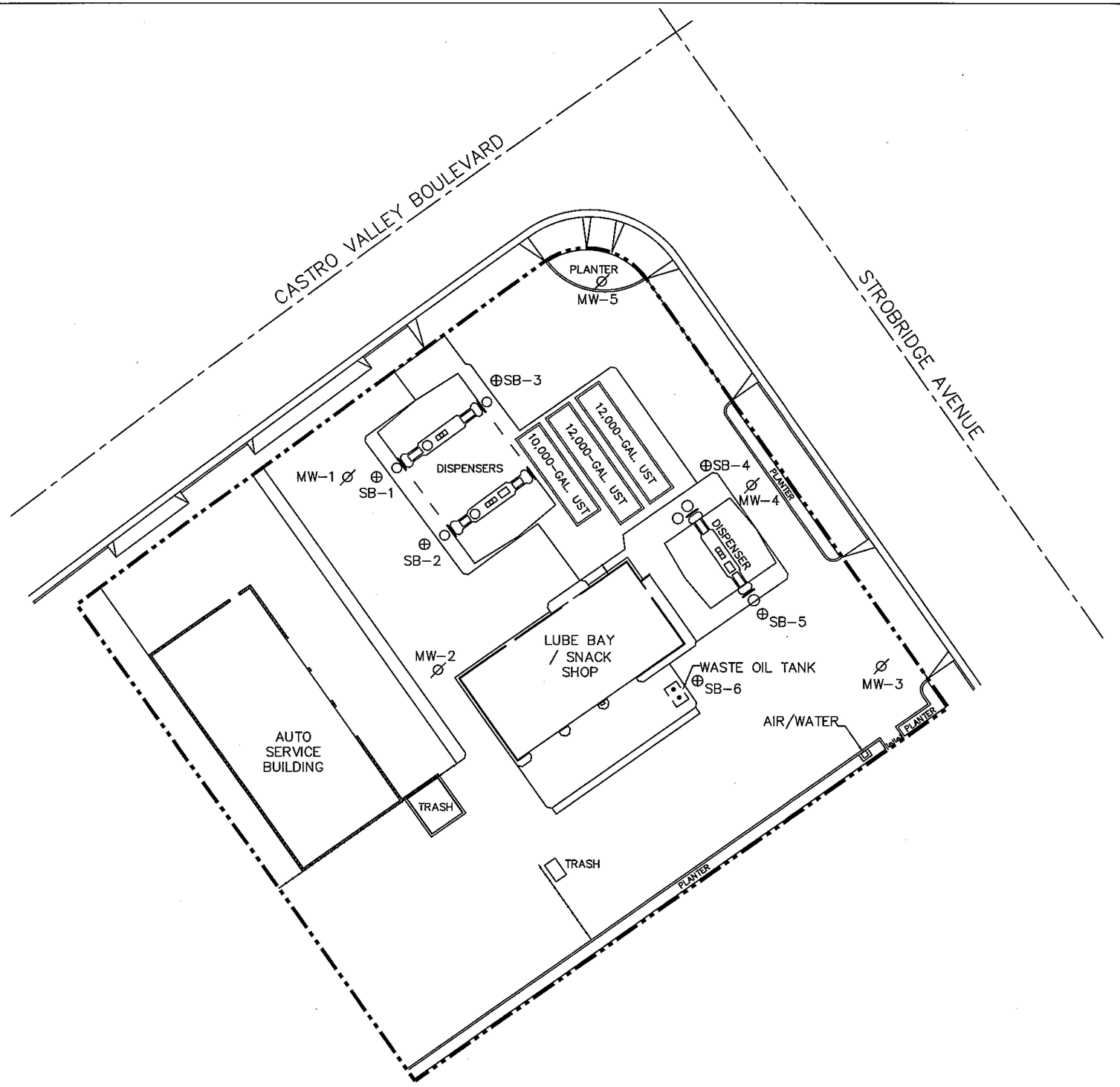
SITE LOCATION MAP

76 SERVICE STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO. C103072	DRAWN BY JH 01/14/09
FILE NO. 3072-SiteLocator	PREPARED BY AB
REVISION NO.	REVIEWED BY JR

DELTA®

SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, SAN LEANDRO QUADRANGLE (1973)



LEGEND

⌀ MW-1	DESTROYED MONITORING WELL (KEI, 1993)
CPT-1	CPT BORING (TRC, 2007)
⊕ SB-4	SOIL BORING
— · —	PROPERTY BOUNDARY

N

0 30 FT

SCALE

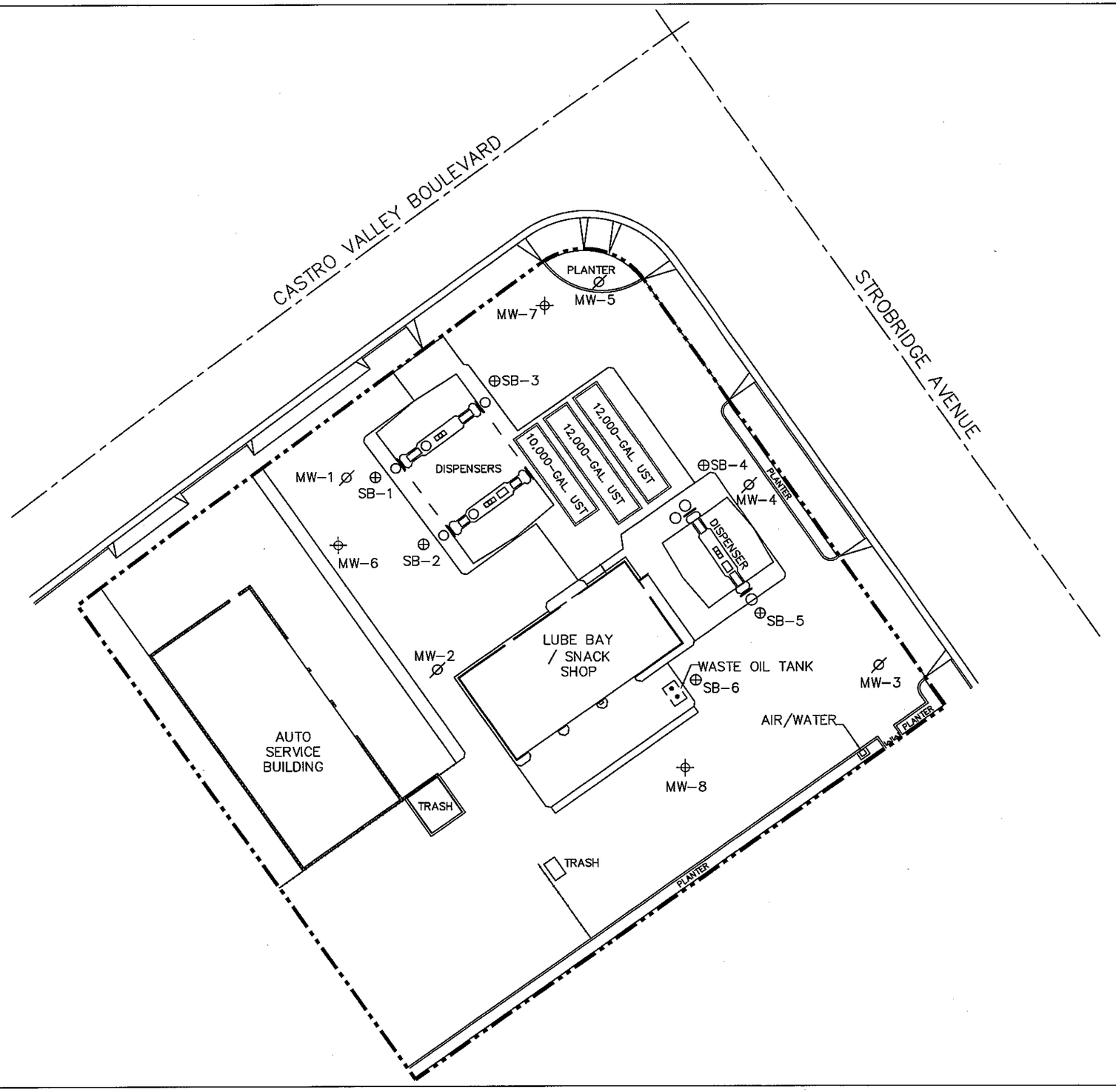
SOURCE: Client-provided site plan prepared by A&S Engineering, October 1997 and TRC.

FIGURE 2
SITE PLAN WITH DESTROYED WELLS

76 SERVICE STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C103072	AB	JH
DATE	REVIEWED BY	FILE NAME
01/14/09	JR	76-3072

DELTA®



LEGEND

⊕ MW-7	PROPOSED MONITORING WELL LOCATION
⌀ MW-1	DESTROYED MONITORING WELL (KEI, 1993)
CPT-1	CPT BORING (TRC, 2007)
⊕ SB-4	SOIL BORING
— - —	PROPERTY BOUNDARY

N

0 30 FT

SCALE

SOURCE: Client-provided site plan prepared by A&S Engineering, October 1997 and TRC.

FIGURE 3
SITE PLAN WITH PROPOSED MONITORING WELLS

76 SERVICE STATION NO. 3072
2445 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C103072	AB	JH
DATE	REVIEWED BY	FILE NAME
01/14/09	JR	76-3072

DELTA®

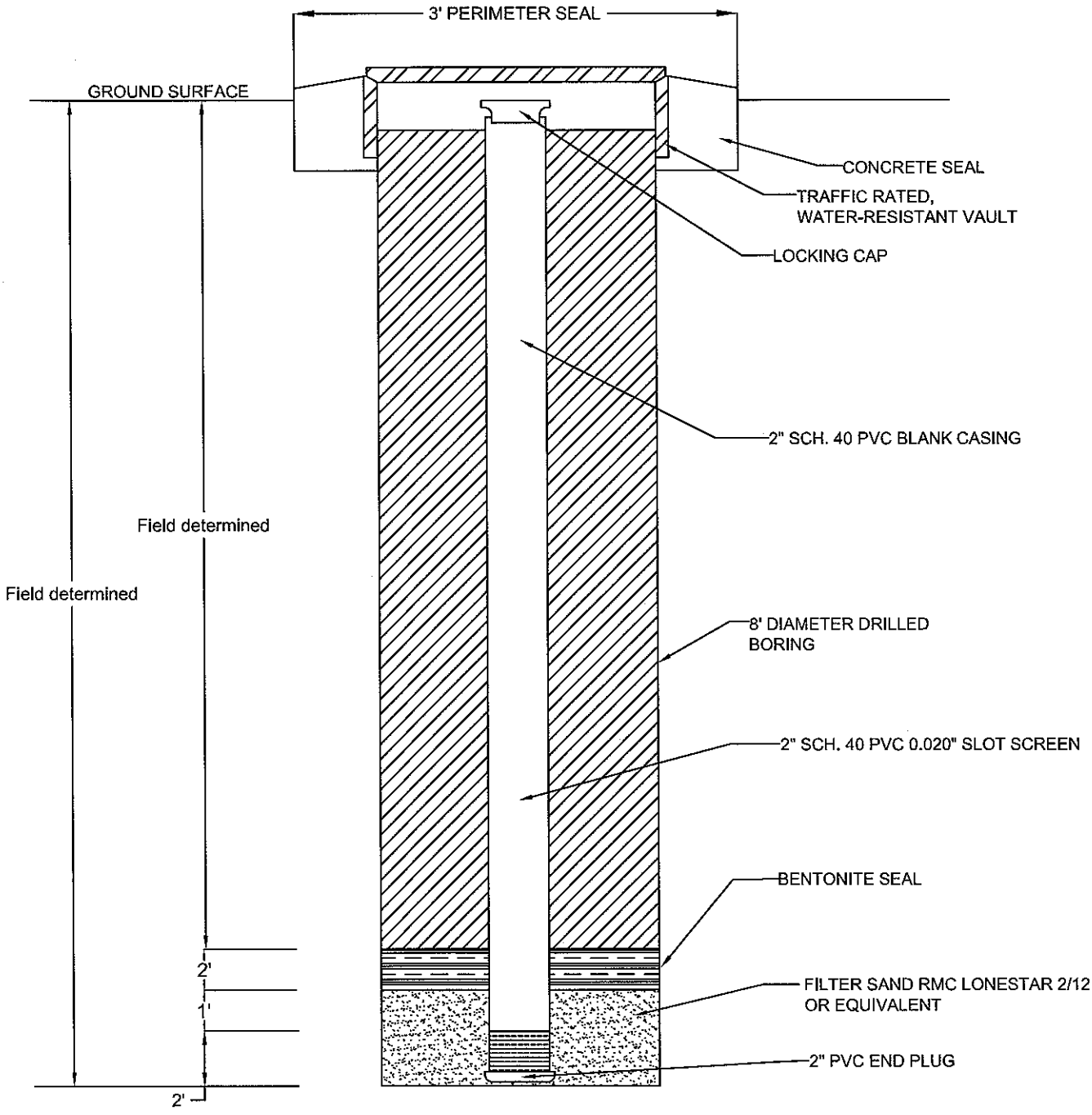


FIGURE 4

PROPOSED GROUNDWATER MONITORING
WELL CONSTRUCTION DETAIL

76 STATION NO. 3072
2445 Castro Valley Boulevard
Castro Valley, California

PROJECT NO. C103072	DRAWN BY JH 12/11/08
FILE NO. 1156-WELLDETAIL	PREPARED BY DD
REVISION NO.	REVIEWED BY

DELTA®

ATTACHMENT A

ConocoPhillips
76 Broadway
Sacramento, California 95818

October 11, 2007

Ms. Donna Drogos
Supervising Hazardous Materials Specialist
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Re: Hydropunch Groundwater Investigation Report
76 Service Station No. 3072
2445 Castro Valley Blvd.
Castro Valley, CA

Dear Ms. Drogos:

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

If you have any questions or need additional information, please contact me at (916) 558-7612.

Sincerely,

Bill Borgh

Bill Borgh
Site Manager – Risk Management and Remediation

Attachment

1590 Solano Way
#A
Concord, CA 94520

925.688.1200 PHONE
925.688.0388 FAX

www.TRCsolutions.com

October 10, 2007 TRC Project No. 125874

Ms. Donna Drogos
Supervising Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

SITE: 76 SERVICE STATION NO. 3072
2445 CASTRO VALLEY BLVD
CASTRO VALLEY, CALIFORNIA

RE: HYDROPUNCH GROUNDWATER INVESTIGATION REPORT

Dear Ms. Drogos:

On behalf of ConocoPhillips, TRC submits this *Hydropunch Groundwater Investigation Report* documenting additional groundwater investigation activities at the 76 Service Station No. 3072, located at 2445 Castro Valley Blvd in Castro Valley, California. This work was performed in accordance to a work plan submitted to the Alameda County Environmental Health (ACEH) as a response to a results obtained during a baseline completed for ConocoPhillips.

Please call Keith Woodburne at (925) 688-2488 if you have any questions regarding this report.

Sincerely,

Rachelle Dunn
Senior Staff Geologist

Keith Woodburne, P.G.
Senior Project Manager

Enclosure

cc: Bill Borgh, ConocoPhillips (electronic upload only)

HYDROPUNCH GROUNDWATER INVESTIGATION REPORT

October 10, 2007

76 Service Station No. 3072
2445 Castro Valley Blvd.
Castro Valley, California

TRC Project No. 125874

Prepared For:

ConocoPhillips Company
76 Broadway
Sacramento, California 94818

By:

Rachelle Dunn
Senior Staff Geologist

Keith Woodburne P.G.
Senior Project Manager

REGISTERED GEOLOGIST
KEITH L. WOODBURNE
No. 7607
exp 1/09
STATE OF CALIFORNIA

TRC
1590 Solano Way
Concord, California
(925) 688-1200

TABLE OF CONTENTS

TRC

1.0 INTRODUCTION

On behalf of ConocoPhillips, TRC submits this report of additional site assessment performed at 76 Service Station No. 3072, located at 2445 Castro Valley Blvd. in Castro Valley, California (the Site, Figure 1). This work was performed in accordance with the Additional Soil and Groundwater Investigation Work Plan submitted to the Alameda County Health Care Services Agency (ACHCS) on February 14, 2006.

The objective of this assessment was to further characterize the extent of the dissolved-phase hydrocarbons in the shallow water-bearing zone onsite.

The scope of work for this assessment involved the following:

- Advancement of Cone Penetrometer Test (CPT) borings at five onsite locations.
- Collection of depth-discreet grab groundwater samples using a hydropunch sampler for analysis at a state certified laboratory.
- Evaluate groundwater data to determine the lateral and vertical extent of groundwater impacts and determine if monitoring wells are required to better define the dissolved-phase hydrocarbon plume.

This report documents the CPT hydropunch groundwater investigation completed between May 3 and May 4, 2007.

2.0 SITE DESCRIPTION

The site is currently an active 76 service station located on the corner of Castro Valley Boulevard and Strobridge Avenue in Castro Valley, California (Figure 1). Current site facilities include a station building, lube bay, an auto service building, three underground fuel storage tanks, one underground waste oil storage tank, and three dispenser islands. Locations of the pertinent site features are shown on Figure 2.

2.1 Geology and Hydrogeology

Based on data collected during the recent baseline assessment and previous soil and groundwater investigations conducted at the site, lithologies observed beneath the site consist of silts, clays, and fine sands. Shale has also been observed underlying the clay and fine sands from 10 to 50 feet below grade (fbg).

Groundwater has been encountered at the site historically between 6 and 9 fbg. During the recent baseline investigation, groundwater was encountered at depths of between 15 and 25 fbg on the northern portion of the site and 47 to 50 fbg on the southern portion of the site (TRC, 2005). Historically, the groundwater flow direction has been to the northeast (Kaprealian Engineering (KEI), 1991).

3.0 SITE BACKGROUND

November 1989 through February 1990: Three 10,000-gallon underground storage tanks (USTs), one 550-gallon waste oil UST, and the associated product piping were removed and replaced. The UST pits were over excavated to remove impacted soil (KEI, 1991).

November 14, 1989: Six soil samples (A1, A2, B1, B2, C1, and C2) were collected from below the fuel USTs and one soil sample (WO1) was collected from below the waste oil UST. Samples collected from beneath the gasoline USTs contained concentrations of total petroleum hydrocarbons as gasoline (TPH-g) ranging from below laboratory reporting limits to 11 parts per million (ppm). Benzene, toluene, ethylbenzene, and xylenes (BTEX) were below laboratory reporting limits. Total petroleum hydrocarbons as diesel (TPH-d) were below reported laboratory limits in the sample collected from beneath the diesel UST. The soil samples collected from beneath the waste oil tank contained reportable concentrations of TPH-g, metals, and 1,1-dichloroethene (1,1-DCE). Analytical results for all other analytes were below laboratory reporting limits (KEI, 1991).

November 16, 1989: Six sidewall soil samples (SW1 through SW6) and a grab water sample were collected from the fuel UST excavation. Samples SW1 and SW4 contained TPH-g concentrations of 140 ppm and 160 ppm, respectively. TPH-d was detected at a concentration of 24 ppm in sample SW4 (KEI, 1991).

December 22, 1989: Eight soil sidewall samples (SW1 (17), SW2 (17), SW7 through SW11, and SW3 (17)) were collected after additional excavation of the UST pits. The maximum reported TPH-g concentrations were 1,500 ppm and 1,900 ppm (KE, 1991).

January 18 and 19, 1990: Three 2-inch diameter monitoring wells (MW1, MW2, and MW3) were installed onsite (KEI, 1991).

February 14, 1990: Three soil samples (P1, P2, and P3) were collected from the product pipeline trenches. Low to non-detect concentrations of TPH-g and BTEX were detected with a maximum TPH-g concentration of 87 ppm (KEI, 1991).

March 9, 1990: Three sidewall soil samples (SWB, SWC, and SWD) were collected from the sidewalls of the waste oil UST pit. Low to non-detect concentrations of TPH-g and BTEX were detected with a maximum TPH-g concentration of 37 ppm (KEI, 1991).

April 24 and 25, 1990: Eight exploratory soil borings (EB1 through EB8) were drilled and soil sampled collected. The borings were backfilled with neat cement. Low to non-detect concentrations of TPH-g and BTEX were detected with a maximum TPH-g concentration of 5 ppm (KEI, 1991).

August 13, 1990: Two 2-inch monitoring wells (MW4 and MW5) were installed. Soil samples from the monitoring well pilot borings contained non-detect concentrations of TPH-g and BTEX in all samples. Benzene was detected at a maximum concentration of 3.2 ppb (KEI, 1991).

January 24, 25 and 31, 2005: TRC conducted a Baseline Site Assessment (TRC, 2005) which involved the advancement of six direct-push borings (SB-1 through SB-6) to assess the presence of hydrocarbon-affected soil and groundwater beneath the site. TPPH was detected in two soil samples at a maximum concentration of 480 milligrams per kilogram (mg/kg) in SB-1 at a depth of 8 fbg. Methyl tertiary butyl ether (MTBE) was detected in two soil samples at a maximum concentration of 0.11 mg/kg in SB-3 at a depth of 18 fbg. MTBE was detected in three of the four grab groundwater samples at a maximum concentration of 87 micrograms per liter (µg/L) in boring SB-1.

4.0 SITE INVESTIGATION ACTIVITIES

Under the supervision of a TRC field geologist, Gregg In Situ, Inc. of Martinez, California (Gregg) advanced exploratory borings at five onsite locations using a CPT rig for the purpose of characterizing site lithology, identifying potential deeper water-bearing zones, and assessing groundwater quality within those zones. Boring locations are shown in Figure 2.

4.1 Pre-Field Activities

Underground Services Alert (USA) was notified at least two days prior to field activities to mark underground utilities near proposed boring locations. In addition, a private utility locating service was contracted to check and clear proposed boring locations prior to drilling. Drilling permits were obtained from Alameda County Public Works and are included in Appendix A.

A site and job specific health and safety plan was prepared for the site that promotes personnel safety and preparedness during the planned field activities. Prior to beginning field activities each day, a "tailgate" safety meeting was conducted with all exclusion zone workers to discuss the health and safety issues and concerns related to the specific scope of work. A copy of the health and safety plan was maintained onsite throughout the field investigation.

4.2 CPT Hydropunch Groundwater Investigation

At each of the boring locations, up to three separate co-located borings were advanced. The first boring at each location was advanced to a total depth of 60 fbg or refusal to assess soil behavior types using the integrated electronic cone system of the CPT rig. Data obtained from the initial logging run was then used to identify potential water-bearing zones for subsequent hydropunch groundwater sampling. The second and third co-located borings were advanced to the desired depths based on an assessment of the stratigraphic soil behavior logs (Appendix B). The use of separate co-located borings for each depth-discrete groundwater sample minimizes the potential for cross-contamination during boring advancement.

Where feasible, grab groundwater sampling was attempted in two potential water-bearing zones identified at depth intervals of between 14 and 40 fbg (shallow) and 45 to 55 fbg (deep). At proposed location CPT-3, it was not feasible to advance the boring due to the presence of an underground utility. A total of four grab groundwater samples were collected during the investigation, two from the shallow water-bearing zone and two from the apparent deeper water-bearing zone.

At boring locations CPT-2 and CPT-5, only the shallow grab groundwater samples were collected due to refusal at depths of 36.4 fbg and 22.3 fbg, respectively. Therefore, hydropunch grab groundwater samples were collected from borings CPT-2 and CPT-5 at depths of 36 fbg and 22 fbg, respectively.

At boring locations CPT-1 and CPT-4, the apparent shallow water-bearing zone did not produce enough water to collect a sample. However, grab groundwater samples were collected from the deeper water-bearing zone at these two locations encountered at depths of 55 fbg and 51 fbg, respectively. A total of four onsite grab groundwater samples were collected during this investigation.

The four grab groundwater samples were submitted to a State-certified laboratory for analysis, and analyzed for TPH-d by EPA Method 8015 and for total purgeable petroleum hydrocarbons (TPPH), BTEX, MTBE, and other fuel oxygenates including tertiary butyl alcohol (TBA), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), ethyl tertiary butyl ether (ETBE) 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), and ethanol by EPA Method 8260B.

4.3 Analytical Results

TPH-d, MTBE and TBA were detected in the grab groundwater samples collected during the investigation. TPH-d was detected in all four of the samples analyzed, and at a maximum concentration of 800 µg/L in the deeper water-bearing zone sample from boring CPT-4. MTBE was detected in three of the four samples analyzed, and at a maximum concentration of 10 µg/L in the deeper water-bearing zone sample from boring CPT-4. TBA was detected in one of the samples at a concentration of 54 µg/L in the shallow water-bearing zone sample from boring CPT-2.

Analytical results of the grab groundwater samples are presented in Table 1. Copies of the laboratory analytical reports and chain of custody records are provided in Appendix C.

5.0 CONCLUSIONS AND RECOMMENDATIONS

TPH-d was detected in all four samples analyzed and is present at elevated concentrations in the both the shallow and apparent deeper water-bearing zones onsite. MTBE was also identified at relatively low concentrations in samples form both depth zones and TBA was detected only within the shallow water-bearing zone. Data obtained during this investigation indicates groundwater impacts have occurred onsite and those impacts may have migrated down into the apparent deeper water-bearing zone.

At the end of October 2007, environmental consulting responsibilities for this site will be transferred to Delta Environmental Consultants, Inc. (Delta). As such, Delta will evaluate the existing site data and provide all future recommendations regarding additional work at the site.

FIGURES

SOURCE:

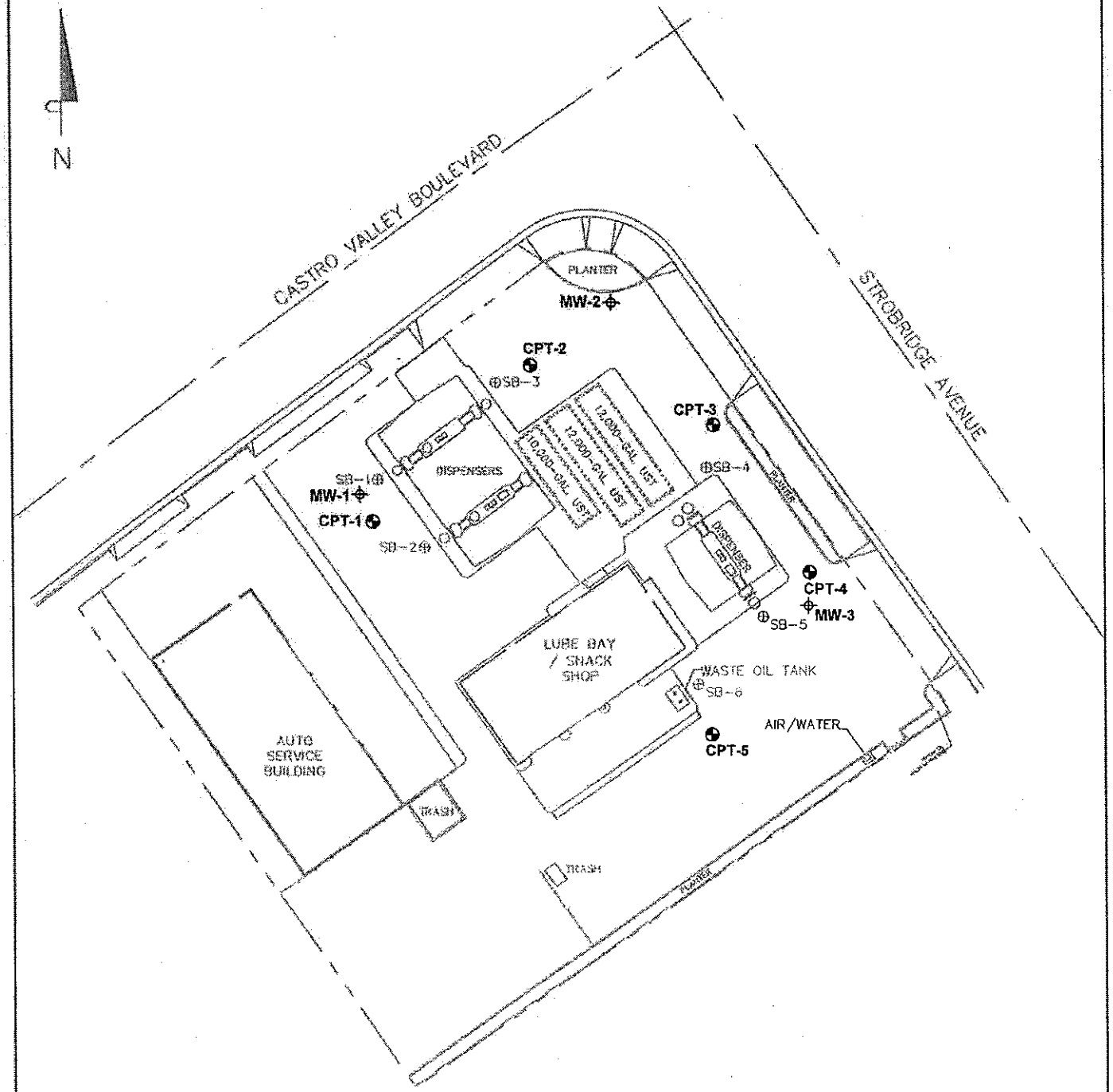
United States Geological Survey
7.5 Minute Topographic Maps:
Hayward Quadrangle
California

VICINITY MAP

76 Service Station #3072
2445 Castro Valley Boulevard
Castro Valley, California

TRC

FIGURE 1



LEGEND

	Property Boundary
	Fence
⊕ SB-6	Previous Soil Boring
CPT-5	CPT Hydropunch Location
MW-3	Proposed Monitoring Well Locations

APPROXIMATE SCALE (FEET)

0 40 80

SITE PLAN SHOWING CPT HYDROPUNCH & PROPOSED MONITORING WELL LOCATIONS

76 Service Station #3072
2445 Castro Valley Boulevard
Castro Valley, California

SOURCE: Client-provided site plan prepared by A&S Engineering, October 1997.

TRC

FIGURE 2

TABLE

Table 1
GRAB GROUNDWATER ANALYTICAL RESULTS
76 Service Station #3072
2445 Castro Valley Boulevard, Castro Valley, CA

Sample ID	Date Sampled	Sample Depth (fbg)	TPH-d	TPPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TAME	TBA	DIPE	EDB	ETBE	1,2-DCA	Ethanol
			EPA 8015	EPA Method 8260B												
			Concentrations in micrograms per liter (µg/L)													
Shallow Water-Bearing Zone																
CPT-2	5/3/2007	36	**500**	<50	<0.50	<0.50	<0.50	<0.50	**6.3**	<0.50	**54**	<0.50	<0.50	<0.50	<0.50	<250
CPT-5	5/3/2007	22	**280**	<50	<0.50	<0.50	<0.50	<0.50	**5.2**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<250
Deeper Water-Bearing Zone																
CPT-1	5/2/2007	55	**490**	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<250
CPT-4	5/2/2007	51	**800**	<50	<0.50	<0.50	<0.50	<0.50	**10**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<250

Notes:

TPH-d = total petroleum hydrocarbons as diesel (C12-C24)
TPPH = total purgable petroleum hydrocarbons (C6-C12)
MTBE = methyl teriary butyl ether
TAME = tertiary amyl methyl ether
TBA = tertiary butyl alcohol
DIPE = di-isopropyl ether
EDB = 1,2-dibromoethane
ETBE = ethyl tertiary butyl ether
1,2-DCA = 1,2-dichloroethane
fbg = feet below grade
-- = not analysed
N/A = not applicable

APPENDIX A

Drilling Permits

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 04/19/2007 By jamesy

Permit Numbers: W2007-0531
Permits Valid from 05/02/2007 to 05/04/2007

Application Id:	1176398684583	**City of Project Site:** Castro Valley
Site Location:	76 Service Station #3072 2445 Castro Valley Boulevard	
Project Start Date:	05/02/2007	**Completion Date:** 05/04/2007
Applicant:	TRC - Monika Krupa 1590 Solano Way, Suite A, Concord, CA 94520	**Phone:** 925-688-2482
Property Owner:	Jagdish and Janki Moorjani 2445 Castro Valley Boulevard, Castro Valley, CA 94546	**Phone:** --
Client:	Eric Hetrick ConocoPhillips, 76 Broadway, Sacramento, CA 95818	**Phone:** --

	Total Due:	$200.00
Receipt Number: WR2007-0173	**Total Amount Paid:**	$200.00
Payer Name : TRC Companis, Inc.	Paid By: CHECK	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Geotechnical Study/CPT's - 5 Boreholes
Driller: Gregg Drilling and Testing, Inc. - Lic #: 485165 - Method: CPT

Work Total: $200.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2007-0531	04/19/2007	07/31/2007	5	4.00 in.	60.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this

permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

APPENDIX B

CPT Site Investigation Report
(Gregg Drilling)

GREGG IN SITU, INC.

GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

May 7, 2007

TRC Solutions
Attn: Keith Woodburne
1590 Solano Way, Suite A
Concord, California 94520

Subject: CPT Site Investigation
Conoco Phillips #3072
Castro Valley, California
GREGG Project Number: 07-137MA

Dear Mr. Woodburne:

The following report presents the results of GREGG Drilling & Testing's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☒
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	Resistivity Cone Penetration Tests	(RCPTU)	☐
5	UVIF Cone Penetration Tests	(UVIFCPTU)	☐
6	Groundwater Sampling	(GWS)	☒
7	Soil Sampling	(SS)	☐
8	Vapor Sampling	(VS)	☐
9	Vane Shear Testing	(VST)	☐
10	SPT Energy Calibration	(SPTE)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (925) 313-5800.

Sincerely,
GREGG Drilling & Testing, Inc.

Mary Walden
Operations Manager

Cone Penetration Test Sounding Summary

-Table 1-

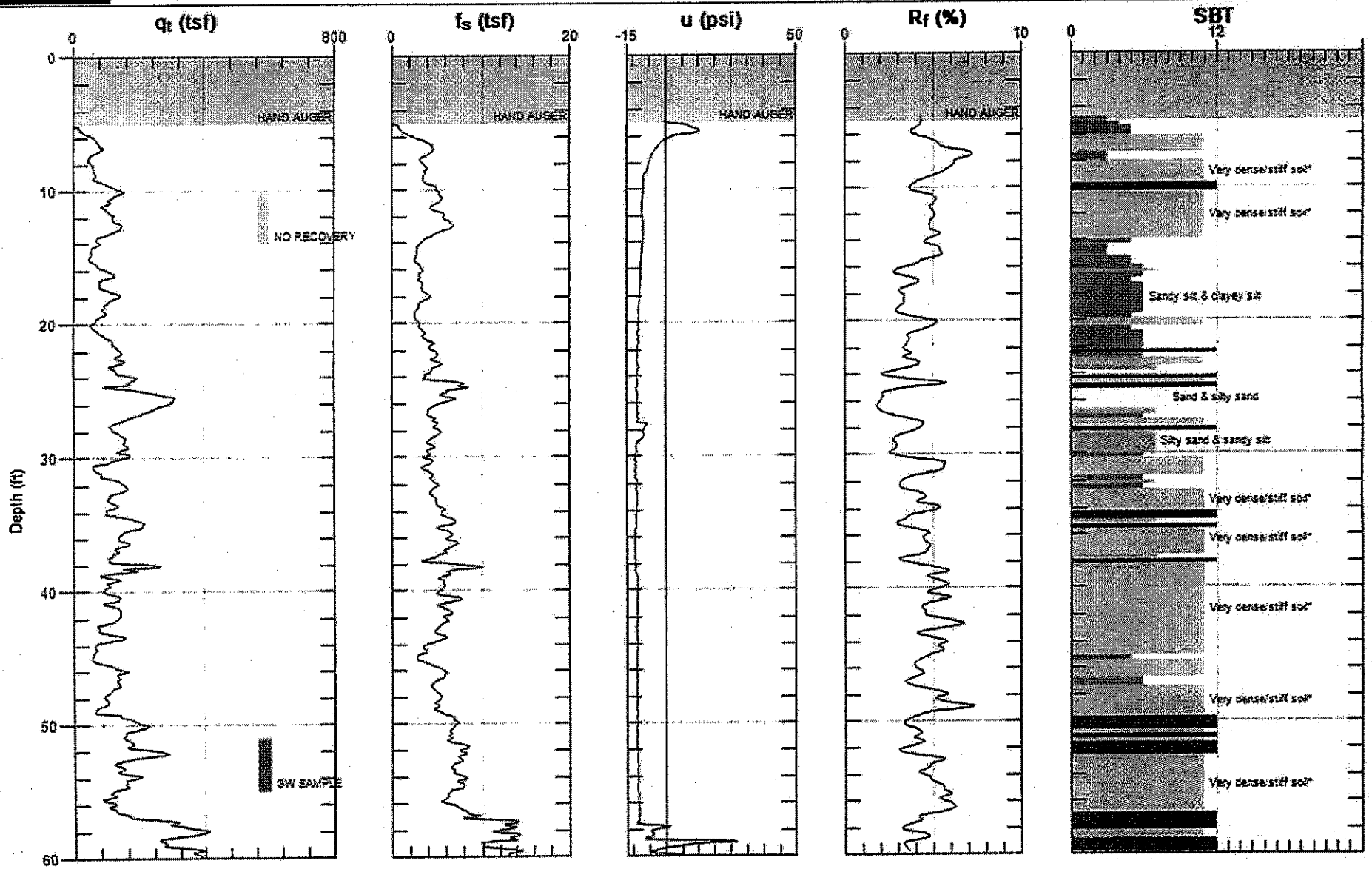
CPT Sounding Identification	Date	Termination Depth (Feet)	Depth of Groundwater Samples (Feet)	Depth of Soil Samples (Feet)	Depth of Pore Pressure Dissipation Tests (Feet)
CPT-01	5/03/07	60	14NR, 55	-	-
CPT-02	5/03/07	36	32.5	-	-
CPT-04	5/03/07	51	40NR, 48.5	-	-
CPT-05	5/04/07	22	23	-	22.3

950 Howe Rd • Martinez, California 94553 • (925) 313-5800 • FAX (925) 313-0302
OTHER OFFICES: LOS ANGELES • HOUSTON • SOUTH CAROLINA
www.greggdrilling.com

TRC SOLUTIONS

Site: CONOCO PHILLIPS #3072 Engineer: K.WOODBURNE

Sounding: CPT-01 **Date: 5/3/2007 05:45**



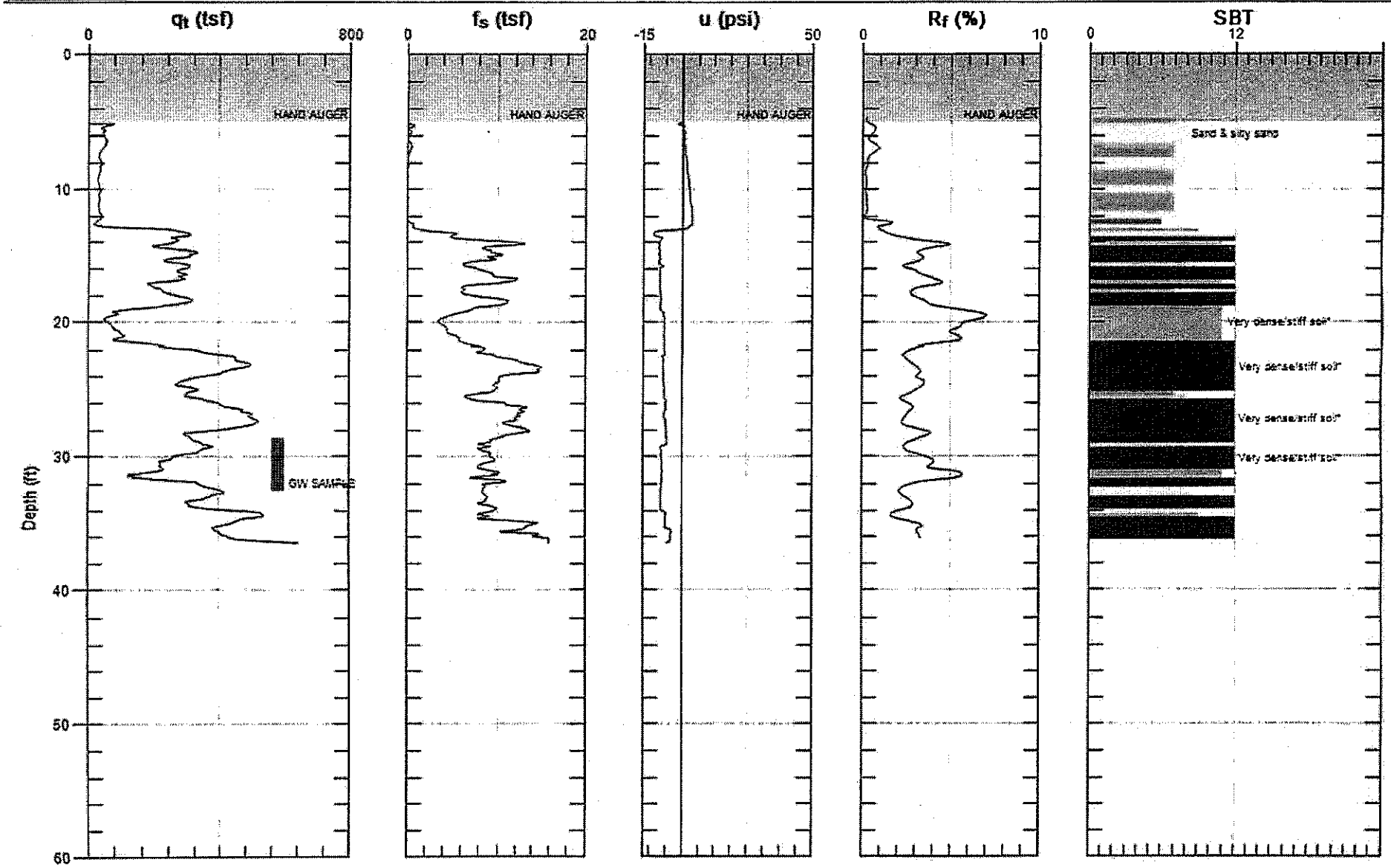
Max. Depth: 60.039 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

TRC SOLUTIONS

Site: CONOCO PHILLIPS #3072 Engineer: K.WOODBURNE

Sounding: CPT-02 **Date: 5/3/2007 12:15**



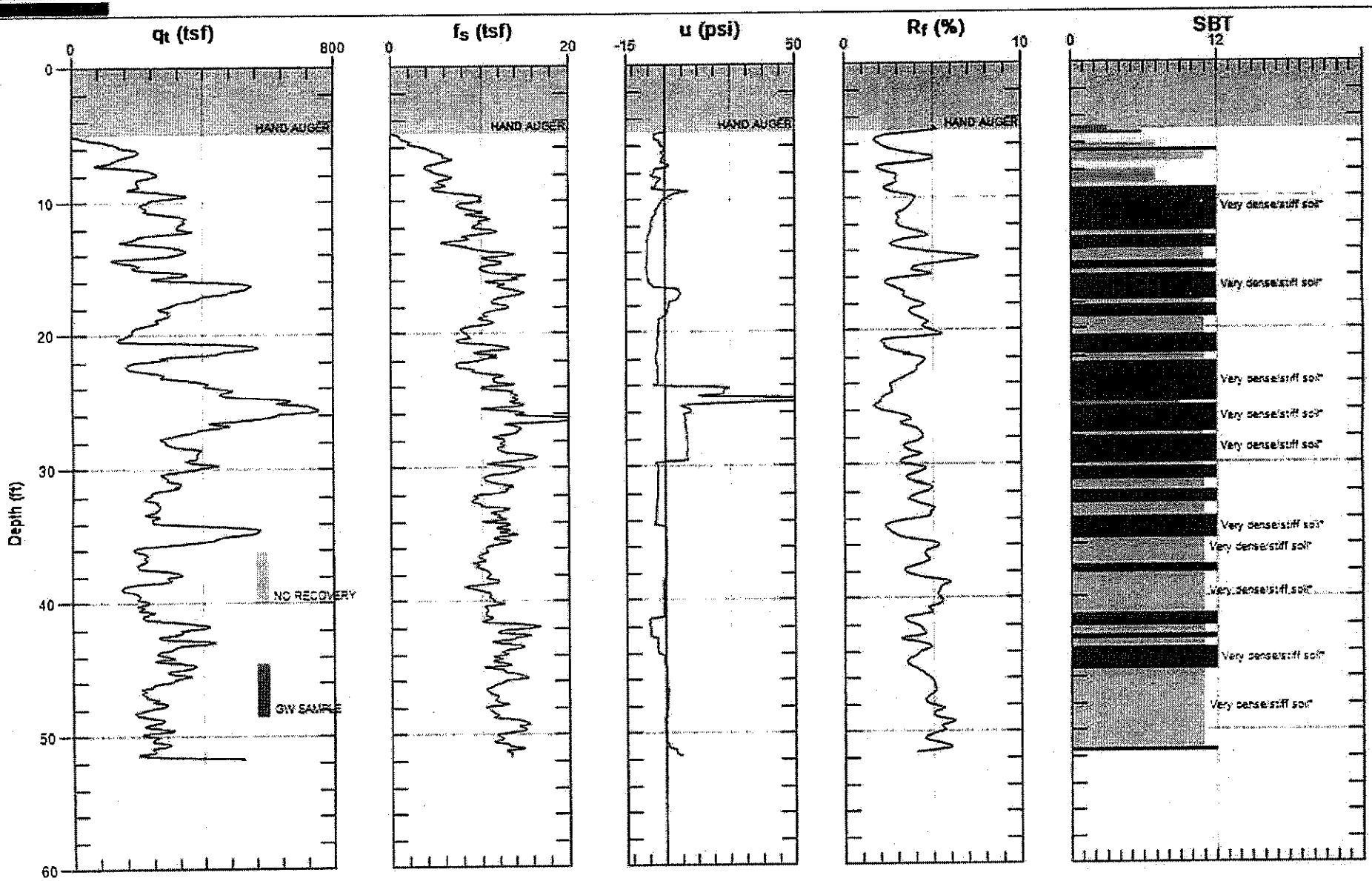
Max. Depth: 36.417 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

TRC SOLUTIONS

Site: CONOCO PHILLIPS #3072 Engineer: K.WOODBURNE

Sounding: CPT-04 Date: 5/3/2007 08:37



Max. Depth: 51.673 (ft)
Avg. Interval: 0.328 (ft)

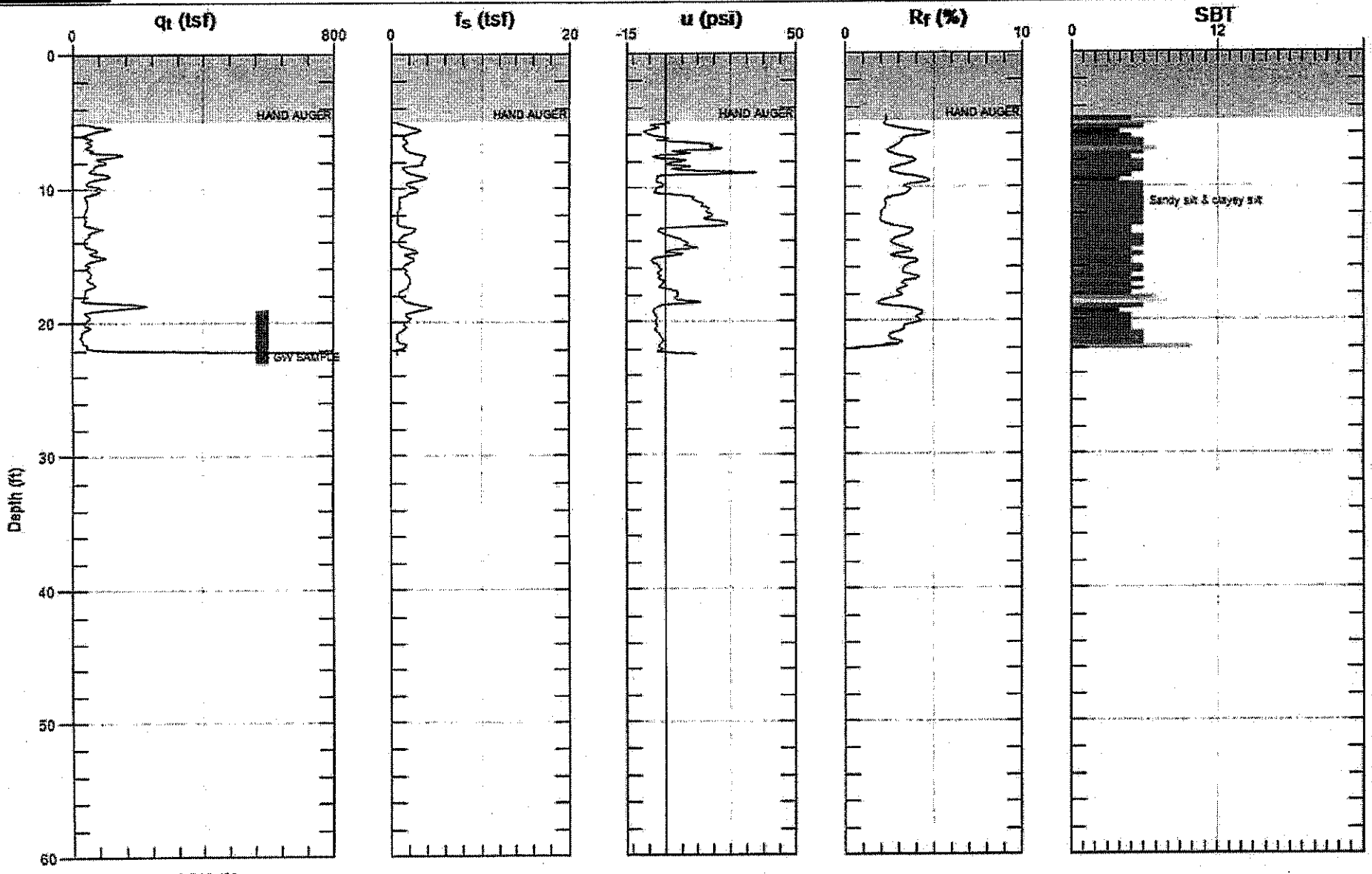
SBT: Soil Behavior Type (Robertson 1990)

GREGG

TRC SOLUTIONS

Site: CONOCO PHILLIPS #3072 Engineer: K.WOODBURNE

Sounding: CPT-05 Date: 5/4/2007 05:23

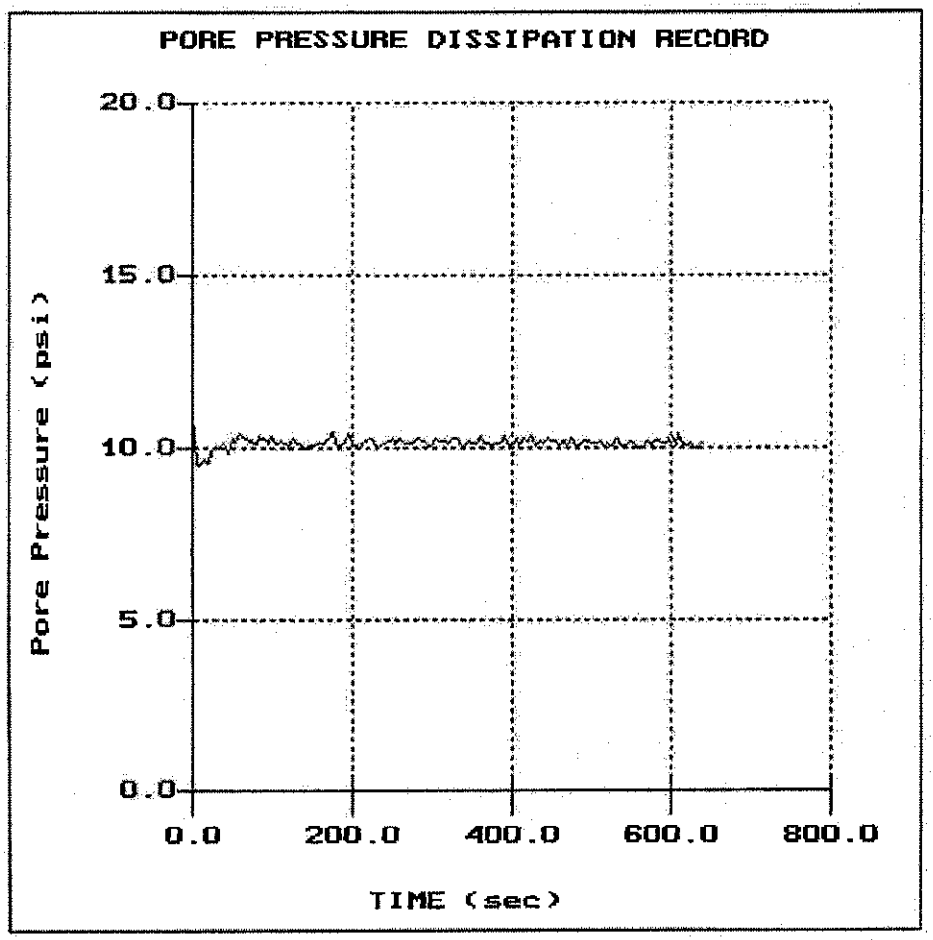


Max. Depth: 22.310 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

TRC SOLUTIONS

Site:CONOCO PHILLIPS #3072 Oversite:K.WOODBURNE
Location:CPT-05 Date:05:04:07 05:23



File: 137C05.PPC
Depth (m): 6.80
(ft): 22.31
Duration : 640.0s
U-min: 9.50 5.0s
U-max: 11.07 0.0s

APPENDIX CPT

Cone Penetration Testing Procedure (CPT)

Gregg Drilling & Testing, Inc. carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*. The soundings were conducted using a 20 ton capacity cone with a tip area of 15 cm^2 and a friction sleeve area of 225 cm^2. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85.

The cone takes measurements of cone bearing (q_c), sleeve friction (f_s) and penetration pore water pressure (u_2) at 5-cm intervals during penetration to provide a nearly continuous hydrogeologic log. CPT data reduction and interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored on disk for further analysis and reference. All CPT soundings are performed in accordance with revised (2002) ASTM standards (D 5778-95).

The cone also contains a porous filter element located directly behind the cone tip (u_2), *Figure CPT*. It consists of porous plastic and is 5.0mm thick. The filter element is used to obtain penetration pore pressure as the cone is advanced as well as Pore Pressure Dissipation Tests (PPDT's) during appropriate pauses in penetration. It should be noted that prior to penetration, the element is fully saturated with silicon oil under vacuum pressure to ensure accurate and fast dissipation.

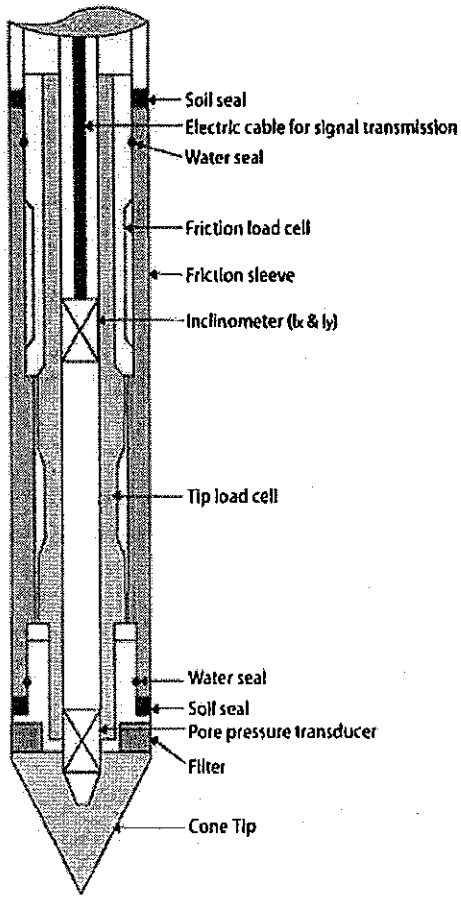


Figure CPT

When the soundings are complete, the test holes are grouted using a Gregg In Situ support rig. The grouting procedures generally consist of pushing a hollow CPT rod with a "knock out" plug to the termination depth of the test hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

Cone Penetration Test Data & Interpretation

Soil behavior type and stratigraphic interpretation is based on relationships between cone bearing (q_c), sleeve friction (f_s), and pore water pressure (u_2). The friction ratio (R_f) is a calculated parameter defined by $100f_s/q_c$ and is used to infer soil behavior type. Generally:

Cohesive soils (clays)

- High friction ratio (R_f) due to small cone bearing (q_c)
- Generate large excess pore water pressures (u_2)

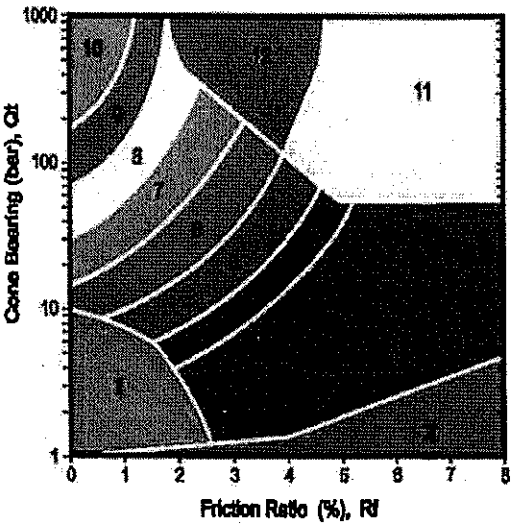
Cohesionless soils (sands)

- Low friction ratio (R_f) due to large cone bearing (q_c)
- Generate very little excess pore water pressures (u_2)

A complete set of baseline readings are taken prior to and at the completion of each sounding to determine temperature shifts and any zero load offsets. Corrections for temperature shifts and zero load offsets can be extremely important, especially when the recorded loads are relatively small. In sandy soils, however, these corrections are generally negligible.

The cone penetration test data collected from your site is presented in graphical form in Appendix CPT. The data includes CPT logs of measured soil parameters, computer calculations of interpreted soil behavior types (SBT), and additional geotechnical parameters. A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface.

Soil interpretation for this project was conducted using recent correlations developed by Robertson et al, 1990, *Figure SBT*. Note that it is not always possible to clearly identify a soil type based solely on q_c, f_s, and u_2. In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type.



ZONE	Qt/N	SBT
1	2	Sensitive, fine grained
2	1	Organic materials
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	Gravely sand to sand
11	1	Very stiff fine grained*
12	2	Sand to clayey sand*

*over consolidated or cemented

Figure SBT

APPENDIX PPD

Pore Pressure Dissipation Tests (PPDT)

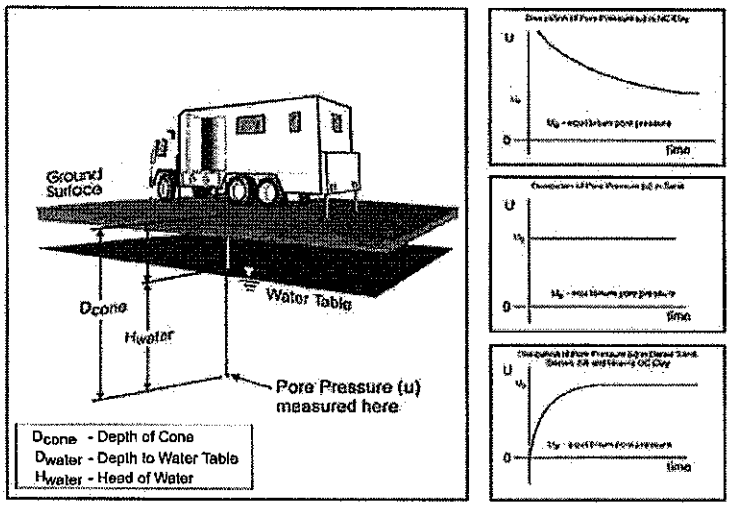
Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals measured hydrostatic water pressures and determined the approximate depth of the ground water table. A PPDT is conducted when the cone is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (u) with time is measured behind the tip of the cone and recorded by a computer system.
Pore pressure dissipation data can be interpreted to provide estimates of:

- Equilibrium piezometric pressure
- Phreatic Surface
- In situ horizontal coefficient of consolidation (c_h)
- In situ horizontal coefficient of permeability (k_h)

In order to correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until such time as there is no variation in pore pressure with time, *Figure PPDT*. This time is commonly referred to as t_{100}, the point at which 100% of the excess pore pressure has dissipated.

A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1992.

A summary of the pore pressure dissipation tests is summarized in Table 1. Pore pressure dissipation data is presented in graphical form in Appendix PPDT.



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 PPDT

APPENDIX GWS

Groundwater Sampling (GWS)

Gregg In Situ, Inc. conducts groundwater sampling using a Hydropunch® type groundwater sampler, *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the drill rig to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 1 ¾ inch hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

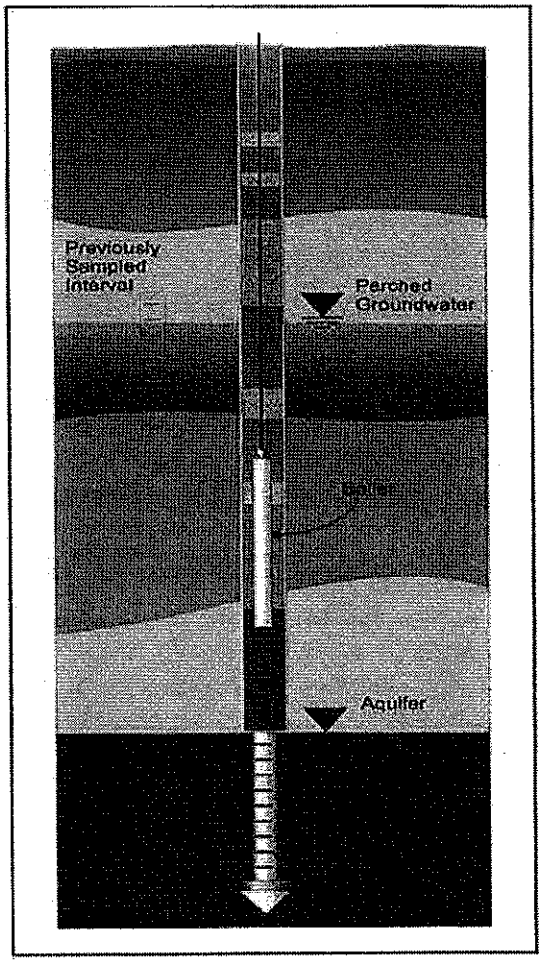


Figure GWS

A summary of the groundwater samples collected, including the sampling date, depth and location identification, is presented in Table 1 and the corresponding CPT plot.

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.

Bibliography

Lunne, T., Robertson, P.K. and Powell, J.J.M., "Cone Penetration Testing in Geotechnical Practice" E & FN Spon. ISBN 0 419 23750, 1997

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Mayne, P.W., "NHI (2002) Manual on Subsurface Investigations: Geotechnical Site Characterization", available through www.ce.gatech.edu/~geosys/Faculty/Mayne/papers/index.html, Section 5.3, pp. 107-112.

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Zemo, D.A., T.A. Delfino, J.D. Gallinatti, V.A. Baker and L.R. Hilpert, "Field Comparison of Analytical Results from Discrete-Depth Groundwater Samplers" BAT EnviroProbe and QED HydroPunch, Sixth national Outdoor Action Conference, Las Vegas, Nevada Proceedings, 1992, pp 299-312.

Copies of ASTM Standards are available through www.astm.org

APPENDIX C

Laboratory Analytical Reports
and
Chain of Custody Records

Date of Report: 05/18/2007

Keith Woodburne

TRC
1590 Solano Way, Suite A
Concord, CA 94520

RE: 3072
BC Work Order: 0705306

Enclosed are the results of analyses for samples received by the laboratory on 05/07/2007 22:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Hooker
Client Service Rep

Authorized Signature

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number: [none]	
Concord, CA 94520	Project Manager: Keith Woodburne	

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information				
0705306-01	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/02/2007 09:08	Global ID:
	Sampling Location:	CPT-1	**Sample Depth:**	—	Matrix: W
	Sampling Point:	CPT-1	**Sample Matrix:**	Water	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:
0705306-02	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/02/2007 13:27	Global ID:
	Sampling Location:	CPT-4	**Sample Depth:**	—	Matrix: W
	Sampling Point:	CPT-4	**Sample Matrix:**	Water	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:
0705306-03	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/03/2007 07:25	Global ID:
	Sampling Location:	CPT-2	**Sample Depth:**	—	Matrix: W
	Sampling Point:	CPT-2	**Sample Matrix:**	Water	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:
0705306-04	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/03/2007 09:05	Global ID:
	Sampling Location:	CPT-5	**Sample Depth:**	—	Matrix: W
	Sampling Point:	CPT-5	**Sample Matrix:**	Water	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:
0705306-05	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/03/2007 09:30	Global ID:
	Sampling Location:	COMB	**Sample Depth:**	—	Matrix: W
	Sampling Point:	COMB	**Sample Matrix:**	Solids	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number: [none]	
Concord, CA 94520	Project Manager: Keith Woodburne	

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-01 | **Client Sample Name:** 3072, CPT-1, CPT-1, 5/2/2007 9:08:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Ethanol	ND	ug/L	250		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane-d4 (Surrogate)	94.7	%	76 - 114 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443		
Toluene-d8 (Surrogate)	95.6	%	88 - 110 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443		
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443		

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number: [none]	
Concord, CA 94520	Project Manager: Keith Woodburne	

Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-01 | **Client Sample Name:** 3072, CPT-1, CPT-1, 5/2/2007 9:08:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	490	ug/L	50		Luft/TPHd	05/10/07	05/17/07 07:05	MRW	GC-5	1	BQE1132	ND	
Tetracosane (Surrogate)	55.4	%	42 - 125 (LCL - UCL)		Luft/TPHd	05/10/07	05/17/07 07:05	MRW	GC-5	1	BQE1132		

TRC 1590 Solano Way, Suite A Concord, CA 94520	Project: 3072 Project Number: [none] Project Manager: Keith Woodburne	**Reported:** 05/18/2007 10:30

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-02 | **Client Sample Name:** 3072, CPT-4, CPT-4, 5/2/2007 1:27:00PM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Methyl t-butyl ether	10	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Ethanol	ND	ug/L	250		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane-d4 (Surrogate)	95.3	%	76 - 114 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443		
Toluene-d8 (Surrogate)	96.4	%	88 - 110 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443		
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443		

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number: [none]	
Concord, CA 94520	Project Manager: Keith Woodburne	

Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-02 | **Client Sample Name:** 3072, CPT-4, CPT-4, 5/2/2007 1:27:00PM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	800	ug/L	50		Luft/TPHd	05/10/07	05/17/07 07:19	MRW	GC-5	1	BQE1132	ND	
Tetracosane (Surrogate)	68.5	%	42 - 125 (LCL - UCL)		Luft/TPHd	05/10/07	05/17/07 07:19	MRW	GC-5	1	BQE1132		

TRC 1590 Solano Way, Suite A Concord, CA 94520	Project: 3072 Project Number: [none] Project Manager: Keith Woodburne	**Reported:** 05/18/2007 10:30

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-03 | **Client Sample Name:** 3072, CPT-2, CPT-2, 5/3/2007 7:25:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Methyl t-butyl ether	6.3	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
t-Butyl alcohol	54	ug/L	10		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Ethanol	ND	ug/L	250		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane-d4 (Surrogate)	94.7	%	76 - 114 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443		
Toluene-d8 (Surrogate)	93.3	%	88 - 110 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443		
4-Bromofluorobenzene (Surrogate)	101	%	86 - 115 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443		

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number: [none]	
Concord, CA 94520	Project Manager: Keith Woodburne	

Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-03 | **Client Sample Name:** 3072, CPT-2, CPT-2, 5/3/2007 7:25:00AM, J. Keams

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	500	ug/L	50		Luft/TPHd	05/10/07	05/17/07 07:32	MRW	GC-5	1	BQE1132	ND	
Tetracosane (Surrogate)	65.8	%	42 - 125 (LCL - UCL)		Luft/TPHd	05/10/07	05/17/07 07:32	MRW	GC-5	1	BQE1132		

TRC 1590 Solano Way, Suite A Concord, CA 94520	Project: 3072 Project Number: [none] Project Manager: Keith Woodburne	**Reported:** 05/18/2007 10:30

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-04 | **Client Sample Name:** 3072, CPT-5, CPT-5, 5/3/2007 9:05:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Methyl t-butyl ether	5.2	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Ethanol	ND	ug/L	250		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane-d4 (Surrogate)	97.3	%	76 - 114 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443		
Toluene-d8 (Surrogate)	94.4	%	88 - 110 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443		
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443		

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
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Concord, CA 94520	Project Manager: Keith Woodburne	

Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-04 | **Client Sample Name:** 3072, CPT-5, CPT-5, 5/3/2007 9:05:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	280	ug/L	50		Luft/TPHd	05/10/07	05/17/07 07:46	MRW	GC-5	1	BQE1132	ND	
Tetracosane (Surrogate)	80.1	%	42 - 125 (LCL - UCL)		Luft/TPHd	05/10/07	05/17/07 07:46	MRW	GC-5	1	BQE1132		

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number: [none]	
Concord, CA 94520	Project Manager: Keith Woodburne	

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-05 | **Client Sample Name:** 3072, COMB, COMB, 5/3/2007 9:30:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
1,2-Dibromoethane	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
1,2-Dichloroethane	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Ethylbenzene	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Methyl t-butyl ether	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Toluene	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Total Xylenes	ND	mg/kg	0.050		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
t-Amyl Methyl ether	ND	mg/kg	0.0050		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
t-Butyl alcohol	ND	mg/kg	0.25		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Diisopropyl ether	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Ethanol	ND	mg/kg	5.0		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Ethyl t-butyl ether	ND	mg/kg	0.0050		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Total Purgeable Petroleum Hydrocarbons	ND	mg/kg	1.0		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
1,2-Dichloroethane-d4 (Surrogate)	99.6	%	70 - 121 (LCL - UCL)		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486		
Toluene-d6 (Surrogate)	97.7	%	81 - 117 (LCL - UCL)		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486		
4-Bromofluorobenzene (Surrogate)	84.6	%	74 - 121 (LCL - UCL)		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486		

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
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Concord, CA 94520	Project Manager: Keith Woodburne	

Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-05 | **Client Sample Name:** 3072, COMB, COMB, 5/3/2007 9:30:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	ND	mg/kg	1400		Luft/TPHd	05/11/07	05/17/07 09:50	MRW	GC-5	136.36	BQE1039	ND	
Tetracosane (Surrogate)	102	%	58 - 120 (LCL - UCL)		Luft/TPHd	05/11/07	05/17/07 09:50	MRW	GC-5	136.36	BQE1039		

TRC 1590 Solano Way, Suite A Concord, CA 94520	Project: 3072 Project Number: [none] Project Manager: Keith Woodburne	**Reported:** 05/18/2007 10:30

Total Concentrations (TTLC)

BCL Sample ID: 0705306-05 | **Client Sample Name:** 3072, COMB, COMB, 5/3/2007 9:30:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Lead	8.3	mg/kg	5.0		EPA-6010B	05/08/07	05/08/07 21:17	JCC	TJA61E	1.923	BQE0461	ND	A01

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Project: 3072
Project Number: [none]
Project Manager: Keith Woodburne

Reported: 05/18/2007 10:30

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Benzene	BQE0443	Matrix Spike	0705275-01	0.74000	28.380	25.000	ug/L		111		70 - 130	
		Matrix Spike Duplicate	0705275-01	0.74000	27.430	25.000	ug/L	3.7	107	20	70 - 130	
Toluene	BQE0443	Matrix Spike	0705275-01	1.9500	29.320	25.000	ug/L		109		70 - 130	
		Matrix Spike Duplicate	0705275-01	1.9500	29.020	25.000	ug/L	0.9	108	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BQE0443	Matrix Spike	0705275-01	ND	9.3100	10.000	ug/L		93.1		76 - 114	
		Matrix Spike Duplicate	0705275-01	ND	9.0800	10.000	ug/L		90.8		76 - 114	
Toluene-d8 (Surrogate)	BQE0443	Matrix Spike	0705275-01	ND	9.8100	10.000	ug/L		98.1		88 - 110	
		Matrix Spike Duplicate	0705275-01	ND	9.8400	10.000	ug/L		98.4		88 - 110	
4-Bromofluorobenzene (Surrogate)	BQE0443	Matrix Spike	0705275-01	ND	10.200	10.000	ug/L		102		86 - 115	
		Matrix Spike Duplicate	0705275-01	ND	10.100	10.000	ug/L		101		86 - 115	
Benzene	BQE0486	Matrix Spike	0703711-64	0	0.12296	0.12500	mg/kg		98.4		70 - 130	
		Matrix Spike Duplicate	0703711-64	0	0.12825	0.12500	mg/kg	4.6	103	20	70 - 130	
Toluene	BQE0486	Matrix Spike	0703711-64	0	0.12182	0.12500	mg/kg		97.5		70 - 130	
		Matrix Spike Duplicate	0703711-64	0	0.12139	0.12500	mg/kg	0.4	97.1	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BQE0486	Matrix Spike	0703711-64	ND	0.049610	0.050000	mg/kg		99.2		70 - 121	
		Matrix Spike Duplicate	0703711-64	ND	0.049700	0.050000	mg/kg		99.4		70 - 121	
Toluene-d8 (Surrogate)	BQE0486	Matrix Spike	0703711-64	ND	0.051450	0.050000	mg/kg		103		81 - 117	
		Matrix Spike Duplicate	0703711-64	ND	0.049860	0.050000	mg/kg		99.7		81 - 117	
4-Bromofluorobenzene (Surrogate)	BQE0486	Matrix Spike	0703711-64	ND	0.049840	0.050000	mg/kg		99.7		74 - 121	
		Matrix Spike Duplicate	0703711-64	ND	0.048920	0.050000	mg/kg		97.8		74 - 121	

TRC	Project:	3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number:	[none]	
Concord, CA 94520	Project Manager:	Keith Woodburne	

Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Diesel Range Organics (C12 - C24)	BQE1039	Matrix Spike	0701337-15		ND	16.722	mg/kg				54 - 119	Q03
		Matrix Spike Duplicate	0701337-15		11.982	16.779	mg/kg			30	54 - 119	Q02
Tetracosane (Surrogate)	BQE1039	Matrix Spike	0701337-15	ND	0.47806	0.66890	mg/kg		71.5		58 - 120	
		Matrix Spike Duplicate	0701337-15	ND	0.73339	0.67114	mg/kg		109		58 - 120	
Diesel Range Organics (C12 - C24)	BQE1132	Matrix Spike	0701337-99	19.000	344.84	500.00	ug/L		65.2		41 - 139	
		Matrix Spike Duplicate	0701337-99	19.000	481.35	500.00	ug/L	34.6	92.5	30	41 - 139	M02
Tetracosane (Surrogate)	BQE1132	Matrix Spike	0701337-99	ND	31.229	40.000	ug/L		78.1		42 - 125	
		Matrix Spike Duplicate	0701337-99	ND	49.344	40.000	ug/L		123		42 - 125	

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Lead	BQE0461	Duplicate	0705308-04	5.9902	5.9314		mg/kg	1.0		20		A01
		Matrix Spike	0705308-04	5.9902	100.96	98.039	mg/kg		96.9		75 - 125	A01
		Matrix Spike Duplicate	0705308-04	5.9902	103.24	98.039	mg/kg	2.3	99.2	20	75 - 125	A01

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
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Concord, CA 94520	Project Manager: Keith Woodburne	

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Benzene	BQE0443	BQE0443-BS1	LCS	26.050	25.000	1.0	ug/L	104		70 - 130		
Toluene	BQE0443	BQE0443-BS1	LCS	26.310	25.000	1.0	ug/L	105		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BQE0443	BQE0443-BS1	LCS	9.2500	10.000		ug/L	92.5		76 - 114		
Toluene-d8 (Surrogate)	BQE0443	BQE0443-BS1	LCS	9.8000	10.000		ug/L	98.0		88 - 110		
4-Bromofluorobenzene (Surrogate)	BQE0443	BQE0443-BS1	LCS	10.320	10.000		ug/L	103		86 - 115		
Benzene	BQE0486	BQE0486-BS1	LCS	0.12501	0.12500	0.0050	mg/kg	100		70 - 130		
Toluene	BQE0486	BQE0486-BS1	LCS	0.11827	0.12500	0.0050	mg/kg	94.6		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BQE0486	BQE0486-BS1	LCS	0.050090	0.050000		mg/kg	100		70 - 121		
Toluene-d8 (Surrogate)	BQE0486	BQE0486-BS1	LCS	0.049080	0.050000		mg/kg	98.2		81 - 117		
4-Bromofluorobenzene (Surrogate)	BQE0486	BQE0486-BS1	LCS	0.047590	0.050000		mg/kg	95.2		74 - 121		

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number: [none]	
Concord, CA 94520	Project Manager: Keith Woodburne	

Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Diesel Range Organics (C12 - C24)	BQE1039	BQE1039-BS1	LCS	13.866	16.393	10	mg/kg	84.6		58 - 131		
Tetracosane (Surrogate)	BQE1039	BQE1039-BS1	LCS	0.83436	0.65574		mg/kg	127		58 - 120		S09
Diesel Range Organics (C12 - C24)	BQE1132	BQE1132-BS1	LCS	313.81	500.00	50	ug/L	62.8		62 - 101		
Tetracosane (Surrogate)	BQE1132	BQE1132-BS1	LCS	28.441	40.000		ug/L	71.1		42 - 125		

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Project Number: [none]
Project Manager: Keith Woodburne

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Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Lead	BQE0461	BQE0461-BS1	LCS	10.045	10.441	2.5	mg/kg	96.2		75 - 125		

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number: [none]	
Concord, CA 94520	Project Manager: Keith Woodburne	

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BQE0443	BQE0443-BLK1	ND	ug/L	1.0		
1,2-Dibromoethane	BQE0443	BQE0443-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BQE0443	BQE0443-BLK1	ND	ug/L	0.50		
Ethylbenzene	BQE0443	BQE0443-BLK1	ND	ug/L	1.0		
Methyl t-butyl ether	BQE0443	BQE0443-BLK1	ND	ug/L	2.0		
Toluene	BQE0443	BQE0443-BLK1	ND	ug/L	1.0		
Total Xylenes	BQE0443	BQE0443-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BQE0443	BQE0443-BLK1	ND	ug/L	2.0		
t-Butyl alcohol	BQE0443	BQE0443-BLK1	ND	ug/L	10		
Diisopropyl ether	BQE0443	BQE0443-BLK1	ND	ug/L	2.0		
Ethanol	BQE0443	BQE0443-BLK1	ND	ug/L	1000		
Ethyl t-butyl ether	BQE0443	BQE0443-BLK1	ND	ug/L	2.0		
Total Purgeable Petroleum Hydrocarbons	BQE0443	BQE0443-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BQE0443	BQE0443-BLK1	96.2	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BQE0443	BQE0443-BLK1	97.0	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BQE0443	BQE0443-BLK1	102	%	86 - 115 (LCL - UCL)		
Benzene	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
1,2-Dibromoethane	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Ethylbenzene	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Methyl t-butyl ether	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Toluene	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Total Xylenes	BQE0486	BQE0486-BLK1	ND	mg/kg	0.010		
t-Amyl Methyl ether	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0010		

TRC
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Concord, CA 94520

Project: 3072
Project Number: [none]
Project Manager: Keith Woodburne

Reported: 05/18/2007 10:30

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
t-Butyl alcohol	BQE0486	BQE0486-BLK1	ND	mg/kg	0.20		
Diisopropyl ether	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Ethanol	BQE0486	BQE0486-BLK1	ND	mg/kg	1.0		
Ethyl t-butyl ether	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0010		
Total Purgeable Petroleum Hydrocarbons	BQE0486	BQE0486-BLK1	ND	mg/kg	0.20		
1,2-Dichloroethane-d4 (Surrogate)	BQE0486	BQE0486-BLK1	99.3	%	70 - 121 (LCL - UCL)		
Toluene-d8 (Surrogate)	BQE0486	BQE0486-BLK1	96.6	%	81 - 117 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BQE0486	BQE0486-BLK1	94.1	%	74 - 121 (LCL - UCL)		

TRC	Project: 3072	**Reported:** 05/18/2007 10:30
1590 Solano Way, Suite A	Project Number: [none]	
Concord, CA 94520	Project Manager: Keith Woodburne	

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Diesel Range Organics (C12 - C24)	BQE1039	BQE1039-BLK1	ND	mg/kg	10		
Tetracosane (Surrogate)	BQE1039	BQE1039-BLK1	94.1	%	58 - 120 (LCL - UCL)		
Diesel Range Organics (C12 - C24)	BQE1132	BQE1132-BLK1	ND	ug/L	50		
Tetracosane (Surrogate)	BQE1132	BQE1132-BLK1	81.7	%	42 - 125 (LCL - UCL)		

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Lead	BQE0461	BQE0461-BLK1	ND	mg/kg	2.5		

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.
M02	Analyte detected in the Method Blank at a level between the PQL and 1/2 the PQL.
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery(s) is(are) not within the control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
Z1	This sample clogged the needle, which caused the surrogate's recovery to be out of range. Second analysis was ran to verify the surrogate's %.

#07-05306

BC LABORATORIES, INC.

4100 Atlas Court □ Bakersfield, CA 93308
(661) 327-4911 □ FAX (661) 327-1918

CHAIN OF CUSTODY

Bill to: Conoco Phillips/ TRC	Consultant Firm: TRC
Address: 2445 CASTRO VALLEY BLVD.	~~21 Techology Drive~~ 1590 SOLANO WY SUITE A ~~Irvine, CA 92618-2302~~ CONCORD, CA 94520 ~~Attn: Anju Farfan~~ ATTN: KEITH WOODBURNE
City: CASTRO VALLEY	4-digit site#: 3072
	Workorder #
State: CA Zip:	Project #: 42013903
Conoco Phillips Mgr:	Sampler Name: J. KEARNS

MATRIX: (GW) Ground-water, (S) Soil, (WW) Waste-water, (SL) Sludge

Analysis Requested

Lab#	Sample Description	Field Point Name	Date & Time Sampled	MATRIX	BTEX/MTBE by 8021B, Gas by 8015	TPH GAS by 8015M	TPH DIESEL by 8015	8260 full list w/ oxygenates	BTEX/MTBE/~~OXYS~~ BY 8260B	ETHANOL by 8260B	TPH -G by GC/MS	TPPH by 8260B	TBA, DIPE, TAME, ETBE, 1,2-DCA, EDB	TOTAL LEAD	Turnaround Time Requested
	CPT-1 -1		5/2/07 0908	G.W.			X		X	X		X	X		
	CPT-4 -2		5/2/07 1327	↓			↓		↓	↓		↓	↓		
	CPT-2 -3		5/3/07 0725	↓			↓		↓	↓		↓	↓		
	CPT-5 -4		5/3/07 0905	↓			↓		↓	↓		↓	↓		
	COMB. -5		5/3/07 0930	S			↓		↓	↓		↓	↓	X	
		MFJKGSIMNFI													

Comments: PLEASE COMBINE SAMPLES FOR COMPOSIT ANALYSIS.

GLOBAL ID:

Relinquished by: (Signature)	Received by:	Date & Time
[signature]	Ross Dickey	5/7/07 ~~5/6/07~~ 1450
Relinquished by: (Signature) Ross Dickey 5/7/07	Received by: R L Reyes	Date & Time 5-7-07 1900
Relinquished by: (Signature) R L Reyes 5-7-07 2235	Received by: [signature]	Date & Time 5/7/07 2235

(A) = ANALYSIS (C) = CONTAINER (P) = PRESERVATIVE

Attachment B

TRC's Hydropunch Groundwater Investigation Report

ConocoPhillips
76 Broadway
Sacramento, California 95818

October 11, 2007

Ms. Donna Drogos
Supervising Hazardous Materials Specialist
Alameda County Health Agency
1131 Harbor Bay Parkway
Alameda, California 94502

Re: Hydropunch Groundwater Investigation Report
76 Service Station No. 3072
2445 Castro Valley Blvd.
Castro Valley, CA

Dear Ms. Drogos:

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

If you have any questions or need additional information, please contact me at (916) 558-7612.

Sincerely,

Bill Borgh

Bill Borgh
Site Manager – Risk Management and Remediation

Attachment

1590 Solano Way
#A
Concord, CA 94520

925.688.1200 PHONE
925.688.0388 FAX

www.TRCsolutions.com

October 10, 2007 TRC Project No. 125874

Ms. Donna Drogos
Supervising Hazardous Materials Specialist
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

SITE: 76 SERVICE STATION NO. 3072
2445 CASTRO VALLEY BLVD
CASTRO VALLEY, CALIFORNIA

RE: HYDROPUNCH GROUNDWATER INVESTIGATION REPORT

Dear Ms. Drogos:

On behalf of ConocoPhillips, TRC submits this *Hydropunch Groundwater Investigation Report* documenting additional groundwater investigation activities at the 76 Service Station No. 3072, located at 2445 Castro Valley Blvd in Castro Valley, California. This work was performed in accordance to a work plan submitted to the Alameda County Environmental Health (ACEH) as a response to a results obtained during a baseline completed for ConocoPhillips.

Please call Keith Woodburne at (925) 688-2488 if you have any questions regarding this report.

Sincerely,

Rachelle Dunn
Senior Staff Geologist

Keith Woodburne, P.G.
Senior Project Manager

Enclosure

cc: Bill Borgh, ConocoPhillips (electronic upload only)

HYDROPUNCH GROUNDWATER INVESTIGATION REPORT

October 10, 2007

76 Service Station No. 3072
2445 Castro Valley Blvd.
Castro Valley, California

TRC Project No. 125874

Prepared For:

ConocoPhillips Company
76 Broadway
Sacramento, California 94818

By:

Rachelle Dunn
Senior Staff Geologist

Keith Woodburne P.G.
Senior Project Manager

REGISTERED GEOLOGIST
KEITH L. WOODBURNE
No. 7607
exp 11/09
STATE OF CALIFORNIA

TRC
1590 Solano Way
Concord, California
(925) 688-1200

TABLE OF CONTENTS

1.0 INTRODUCTION

On behalf of ConocoPhillips, TRC submits this report of additional site assessment performed at 76 Service Station No. 3072, located at 2445 Castro Valley Blvd. in Castro Valley, California (the Site, Figure 1). This work was performed in accordance with the Additional Soil and Groundwater Investigation Work Plan submitted to the Alameda County Health Care Services Agency (ACHCS) on February 14, 2006.

The objective of this assessment was to further characterize the extent of the dissolved-phase hydrocarbons in the shallow water-bearing zone onsite.

The scope of work for this assessment involved the following:

- Advancement of Cone Penetrometer Test (CPT) borings at five onsite locations.
- Collection of depth-discreet grab groundwater samples using a hydropunch sampler for analysis at a state certified laboratory.
- Evaluate groundwater data to determine the lateral and vertical extent of groundwater impacts and determine if monitoring wells are required to better define the dissolved-phase hydrocarbon plume.

This report documents the CPT hydropunch groundwater investigation completed between May 3 and May 4, 2007.

2.0 SITE DESCRIPTION

The site is currently an active 76 service station located on the corner of Castro Valley Boulevard and Strobridge Avenue in Castro Valley, California (Figure 1). Current site facilities include a station building, lube bay, an auto service building, three underground fuel storage tanks, one underground waste oil storage tank, and three dispenser islands. Locations of the pertinent site features are shown on Figure 2.

2.1 Geology and Hydrogeology

Based on data collected during the recent baseline assessment and previous soil and groundwater investigations conducted at the site, lithologies observed beneath the site consist of silts, clays, and fine sands. Shale has also been observed underlying the clay and fine sands from 10 to 50 feet below grade (fbg).

Groundwater has been encountered at the site historically between 6 and 9 fbg. During the recent baseline investigation, groundwater was encountered at depths of between 15 and 25 fbg on the northern portion of the site and 47 to 50 fbg on the southern portion of the site (TRC, 2005). Historically, the groundwater flow direction has been to the northeast (Kaprealian Engineering (KEI), 1991).

3.0 SITE BACKGROUND

November 1989 through February 1990: Three 10,000-gallon underground storage tanks (USTs), one 550-gallon waste oil UST, and the associated product piping were removed and replaced. The UST pits were over excavated to remove impacted soil (KEI, 1991).

November 14, 1989: Six soil samples (A1, A2, B1, B2, C1, and C2) were collected from below the fuel USTs and one soil sample (WO1) was collected from below the waste oil UST. Samples collected from beneath the gasoline USTs contained concentrations of total petroleum hydrocarbons as gasoline (TPH-g) ranging from below laboratory reporting limits to 11 parts per million (ppm). Benzene, toluene, ethylbenzene, and xylenes (BTEX) were below laboratory reporting limits. Total petroleum hydrocarbons as diesel (TPH-d) were below reported laboratory limits in the sample collected from beneath the diesel UST. The soil samples collected from beneath the waste oil tank contained reportable concentrations of TPH-g, metals, and 1,1-dichloroethene (1,1-DCE). Analytical results for all other analytes were below laboratory reporting limits (KEI, 1991).

November 16, 1989: Six sidewall soil samples (SW1 through SW6) and a grab water sample were collected from the fuel UST excavation. Samples SW1 and SW4 contained TPH-g concentrations of 140 ppm and 160 ppm, respectively. TPH-d was detected at a concentration of 24 ppm in sample SW4 (KEI, 1991).

December 22, 1989: Eight soil sidewall samples (SW1 (17), SW2 (17), SW7 through SW11, and SW3 (17)) were collected after additional excavation of the UST pits. The maximum reported TPH-g concentrations were 1,500 ppm and 1,900 ppm (KE, 1991).

January 18 and 19, 1990: Three 2-inch diameter monitoring wells (MW1, MW2, and MW3) were installed onsite (KEI, 1991).

February 14, 1990: Three soil samples (P1, P2, and P3) were collected from the product pipeline trenches. Low to non-detect concentrations of TPH-g and BTEX were detected with a maximum TPH-g concentration of 87 ppm (KEI, 1991).

March 9, 1990: Three sidewall soil samples (SWB, SWC, and SWD) were collected from the sidewalls of the waste oil UST pit. Low to non-detect concentrations of TPH-g and BTEX were detected with a maximum TPH-g concentration of 37 ppm (KEI, 1991).

April 24 and 25, 1990: Eight exploratory soil borings (EB1 through EB8) were drilled and soil sampled collected. The borings were backfilled with neat cement. Low to non-detect concentrations of TPH-g and BTEX were detected with a maximum TPH-g concentration of 5 ppm (KEI, 1991).

August 13, 1990: Two 2-inch monitoring wells (MW4 and MW5) were installed. Soil samples from the monitoring well pilot borings contained non-detect concentrations of TPH-g and BTEX in all samples. Benzene was detected at a maximum concentration of 3.2 ppb (KEI, 1991).

January 24, 25 and 31, 2005: TRC conducted a Baseline Site Assessment (TRC, 2005) which involved the advancement of six direct-push borings (SB-1 through SB-6) to assess the presence of hydrocarbon-affected soil and groundwater beneath the site. TPPH was detected in two soil samples at a maximum concentration of 480 milligrams per kilogram (mg/kg) in SB-1 at a depth of 8 fbg. Methyl tertiary butyl ether (MTBE) was detected in two soil samples at a maximum concentration of 0.11 mg/kg in SB-3 at a depth of 18 fbg. MTBE was detected in three of the four grab groundwater samples at a maximum concentration of 87 micrograms per liter (µg/L) in boring SB-1.

4.0 SITE INVESTIGATION ACTIVITIES

Under the supervision of a TRC field geologist, Gregg In Situ, Inc. of Martinez, California (Gregg) advanced exploratory borings at five onsite locations using a CPT rig for the purpose of characterizing site lithology, identifying potential deeper water-bearing zones, and assessing groundwater quality within those zones. Boring locations are shown in Figure 2.

4.1 Pre-Field Activities

Underground Services Alert (USA) was notified at least two days prior to field activities to mark underground utilities near proposed boring locations. In addition, a private utility locating service was contracted to check and clear proposed boring locations prior to drilling. Drilling permits were obtained from Alameda County Public Works and are included in Appendix A.

A site and job specific health and safety plan was prepared for the site that promotes personnel safety and preparedness during the planned field activities. Prior to beginning field activities each day, a "tailgate" safety meeting was conducted with all exclusion zone workers to discuss the health and safety issues and concerns related to the specific scope of work. A copy of the health and safety plan was maintained onsite throughout the field investigation.

4.2 CPT Hydropunch Groundwater Investigation

At each of the boring locations, up to three separate co-located borings were advanced. The first boring at each location was advanced to a total depth of 60 fbg or refusal to assess soil behavior types using the integrated electronic cone system of the CPT rig. Data obtained from the initial logging run was then used to identify potential water-bearing zones for subsequent hydropunch groundwater sampling. The second and third co-located borings were advanced to the desired depths based on an assessment of the stratigraphic soil behavior logs (Appendix B). The use of separate co-located borings for each depth-discrete groundwater sample minimizes the potential for cross-contamination during boring advancement.

Where feasible, grab groundwater sampling was attempted in two potential water-bearing zones identified at depth intervals of between 14 and 40 fbg (shallow) and 45 to 55 fbg (deep). At proposed location CPT-3, it was not feasible to advance the boring due to the presence of an underground utility. A total of four grab groundwater samples were collected during the investigation, two from the shallow water-bearing zone and two from the apparent deeper water-bearing zone.

At boring locations CPT-2 and CPT-5, only the shallow grab groundwater samples were collected due to refusal at depths of 36.4 fbg and 22.3 fbg, respectively. Therefore, hydropunch grab groundwater samples were collected from borings CPT-2 and CPT-5 at depths of 36 fbg and 22 fbg, respectively.

At boring locations CPT-1 and CPT-4, the apparent shallow water-bearing zone did not produce enough water to collect a sample. However, grab groundwater samples were collected from the deeper water-bearing zone at these two locations encountered at depths of 55 fbg and 51 fbg, respectively. A total of four onsite grab groundwater samples were collected during this investigation.

The four grab groundwater samples were submitted to a State-certified laboratory for analysis, and analyzed for TPH-d by EPA Method 8015 and for total purgeable petroleum hydrocarbons (TPPH), BTEX, MTBE, and other fuel oxygenates including tertiary butyl alcohol (TBA), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), ethyl tertiary butyl ether (ETBE) 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), and ethanol by EPA Method 8260B.

4.3 Analytical Results

TPH-d, MTBE and TBA were detected in the grab groundwater samples collected during the investigation. TPH-d was detected in all four of the samples analyzed, and at a maximum concentration of 800 µg/L in the deeper water-bearing zone sample from boring CPT-4. MTBE was detected in three of the four samples analyzed, and at a maximum concentration of 10 µg/L in the deeper water-bearing zone sample from boring CPT-4. TBA was detected in one of the samples at a concentration of 54 µg/L in the shallow water-bearing zone sample from boring CPT-2.

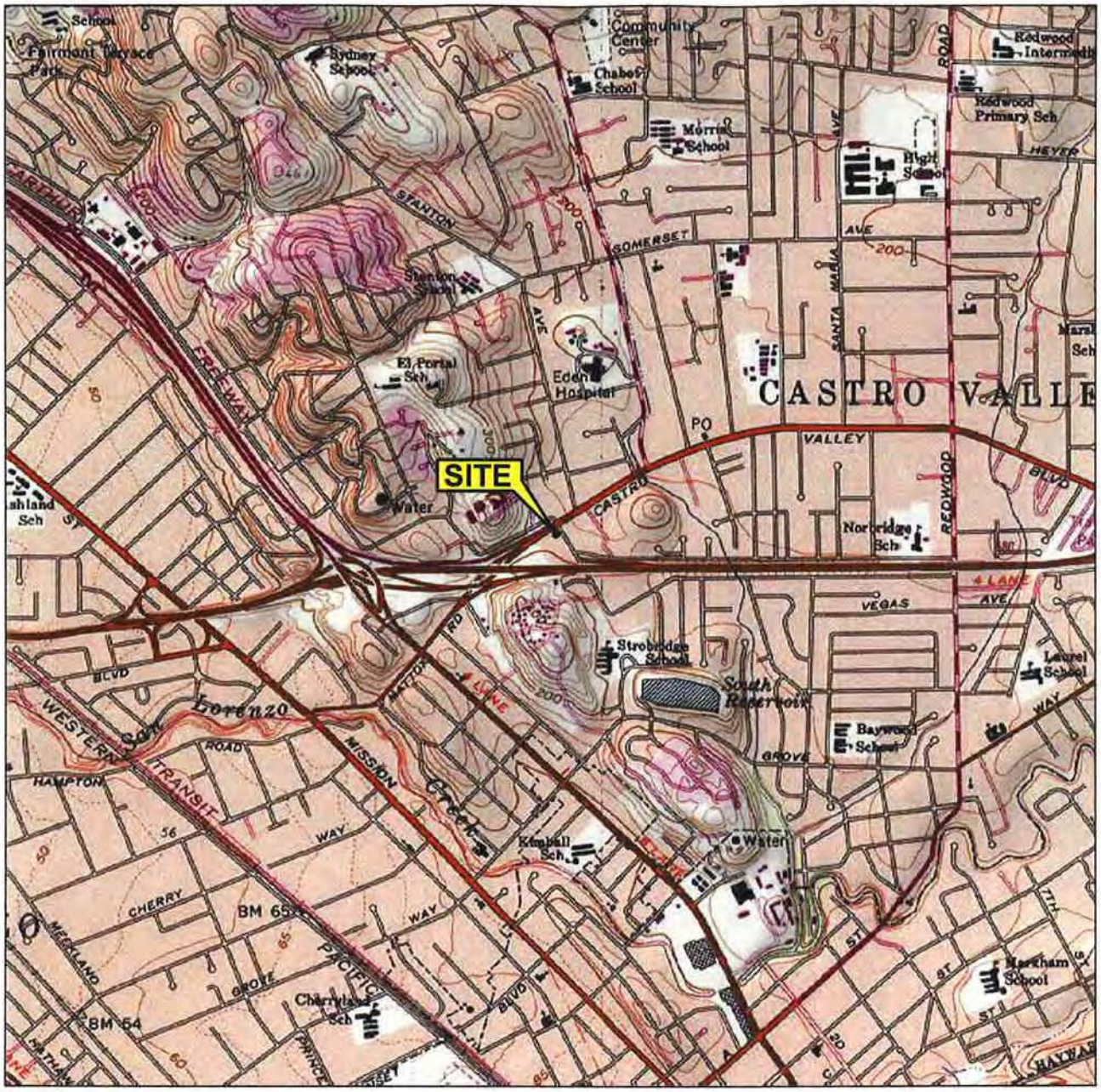
Analytical results of the grab groundwater samples are presented in Table 1. Copies of the laboratory analytical reports and chain of custody records are provided in Appendix C.

5.0 CONCLUSIONS AND RECOMMENDATIONS

TPH-d was detected in all four samples analyzed and is present at elevated concentrations in the both the shallow and apparent deeper water-bearing zones onsite. MTBE was also identified at relatively low concentrations in samples form both depth zones and TBA was detected only within the shallow water-bearing zone. Data obtained during this investigation indicates groundwater impacts have occurred onsite and those impacts may have migrated down into the apparent deeper water-bearing zone.

At the end of October 2007, environmental consulting responsibilities for this site will be transferred to Delta Environmental Consultants, Inc. (Delta). As such, Delta will evaluate the existing site data and provide all future recommendations regarding additional work at the site.

FIGURES



1 MILE 3/4 1/2 1/4 0 1 MILE

SCALE 1 : 24,000

N

SOURCE:

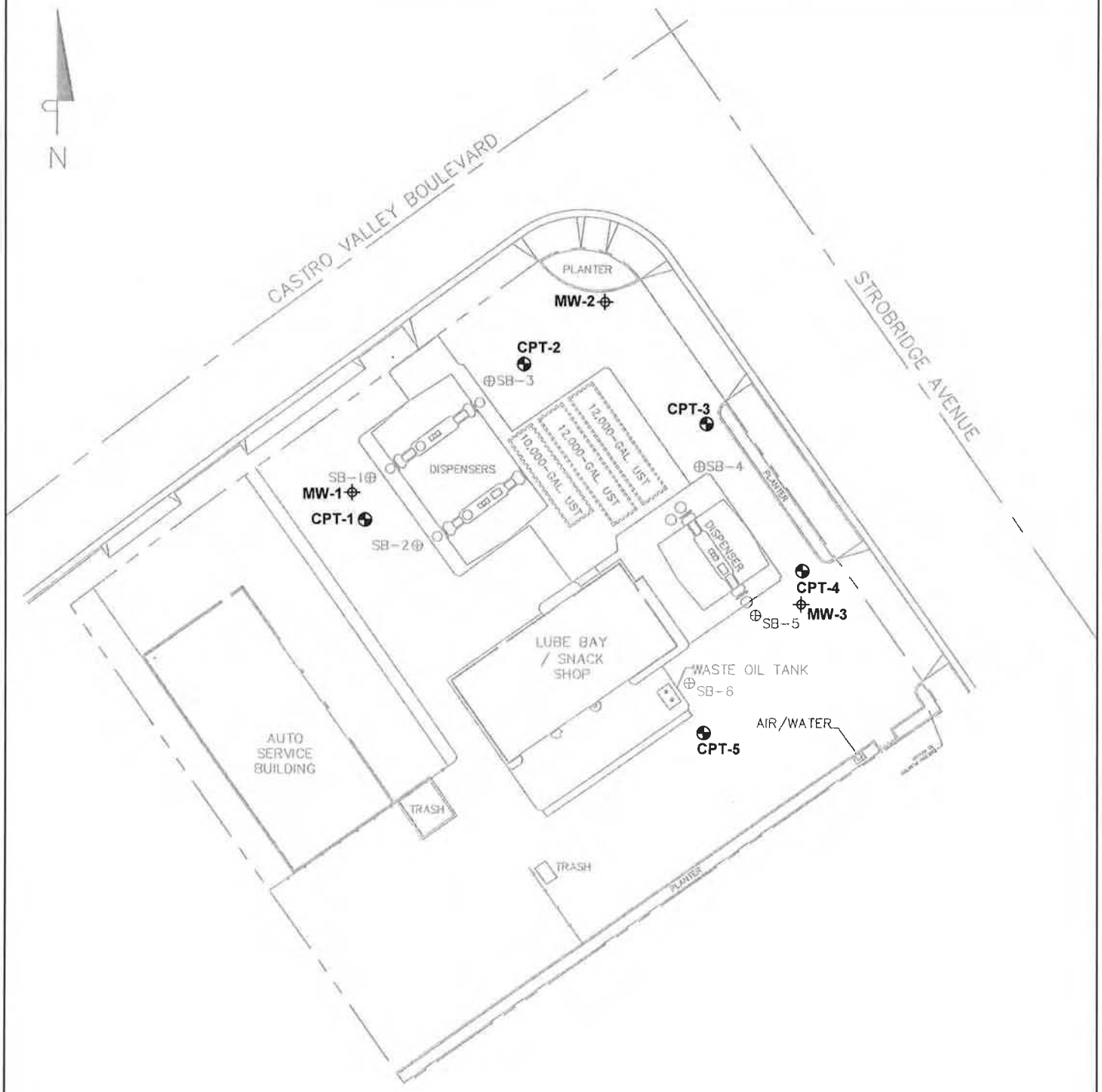
United States Geological Survey
7.5 Minute Topographic Maps:
Hayward Quadrangle
California

VICINITY MAP

76 Service Station #3072
2445 Castro Valley Boulevard
Castro Valley, California

TRC

FIGURE 1



LEGEND

- Property Boundary
- Fence
- ⊕ SB-6 Previous Soil Boring
- CPT-5 CPT Hydropunch Location
- MW-3 Proposed Monitoring Well Locations

APPROXIMATE SCALE (FEET)

0 40 80

SOURCE: Client-provided site plan prepared by A&S Engineering, October 1997.

SITE PLAN SHOWING CPT HYDROPUNCH & PROPOSED MONITORING WELL LOCATIONS

76 Service Station #3072
2445 Castro Valley Boulevard
Castro Valley, California

TRC

FIGURE 2

TABLE

Table 1
GRAB GROUNDWATER ANALYTICAL RESULTS
76 Service Station #3072
2445 Castro Valley Boulevard, Castro Valley, CA

Sample ID	Date Sampled	Sample Depth (fbg)	TPH-d	TPPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	TAME	TBA	DIPE	EDB	ETBE	1,2-DCA	Ethanol
			EPA 8015	EPA Method 8260B												
			Concentrations in micrograms per liter (µg/L)													
Shallow Water-Bearing Zone																
CPT-2	5/3/2007	36	**500**	<50	<0.50	<0.50	<0.50	<0.50	**6.3**	<0.50	**54**	<0.50	<0.50	<0.50	<0.50	<250
CPT-5	5/3/2007	22	**280**	<50	<0.50	<0.50	<0.50	<0.50	**5.2**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<250
Deeper Water-Bearing Zone																
CPT-1	5/2/2007	55	**490**	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<250
CPT-4	5/2/2007	51	**800**	<50	<0.50	<0.50	<0.50	<0.50	**10**	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<250

Notes:

TPH-d = total petroleum hydrocarbons as diesel (C12-C24)
TPPH = total purgable petroleum hydrocarbons (C6-C12)
MTBE = methyl teriary butyl ether
TAME = tertiary amyl methyl ether
TBA = tertiary butyl alcohol
DIPE = di-isopropyl ether
EDB = 1,2-dibromoethane
ETBE = ethyl tertiary butyl ether
1,2-DCA = 1,2-dichloroethane
fbg = feet below grade
-- = not analysed
N/A = not applicable

APPENDIX A

Drilling Permits

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 04/19/2007 By jamesy

Permit Numbers: W2007-0531
Permits Valid from 05/02/2007 to 05/04/2007

Application Id:	1176398684583	**City of Project Site:** Castro Valley
Site Location:	76 Service Station #3072 2445 Castro Valley Boulevard	
Project Start Date:	05/02/2007	**Completion Date:** 05/04/2007
Applicant:	TRC - Monika Krupa 1590 Solano Way, Suite A, Concord, CA 94520	**Phone:** 925-688-2482
Property Owner:	Jagdish and Janki Moorjani 2445 Castro Valley Boulevard, Castro Valley, CA 94546	**Phone:** --
Client:	Eric Hetrick ConocoPhillips, 76 Broadway, Sacramento, CA 95818	**Phone:** --

	Total Due:	$200.00
Receipt Number: WR2007-0173	**Total Amount Paid:**	$200.00
Payer Name : TRC Companis, Inc.	Paid By: CHECK	**PAID IN FULL**

Works Requesting Permits:

Borehole(s) for Investigation-Geotechnical Study/CPT's - 5 Boreholes
Driller: Gregg Drilling and Testing, Inc. - Lic #: 485165 - Method: CPT

Work Total: $200.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2007-0531	04/19/2007	07/31/2007	5	4.00 in.	60.00 ft

Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

4. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

5. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

6. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this

permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

APPENDIX B

CPT Site Investigation Report
(Gregg Drilling)

GREGG IN SITU, INC.

GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

May 7, 2007

TRC Solutions
Attn: Keith Woodburne
1590 Solano Way, Suite A
Concord, California 94520

Subject: CPT Site Investigation
Conoco Phillips #3072
Castro Valley, California
GREGG Project Number: 07-137MA

Dear Mr. Woodburne:

The following report presents the results of GREGG Drilling & Testing's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	☒
2	Pore Pressure Dissipation Tests	(PPD)	☒
3	Seismic Cone Penetration Tests	(SCPTU)	☐
4	Resistivity Cone Penetration Tests	(RCPTU)	☐
5	UVIF Cone Penetration Tests	(UVIFCPTU)	☐
6	Groundwater Sampling	(GWS)	☒
7	Soil Sampling	(SS)	☐
8	Vapor Sampling	(VS)	☐
9	Vane Shear Testing	(VST)	☐
10	SPT Energy Calibration	(SPTE)	☐

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (925) 313-5800.

Sincerely,
GREGG Drilling & Testing, Inc.

Mary Walden
Operations Manager

Cone Penetration Test Sounding Summary

-Table 1-

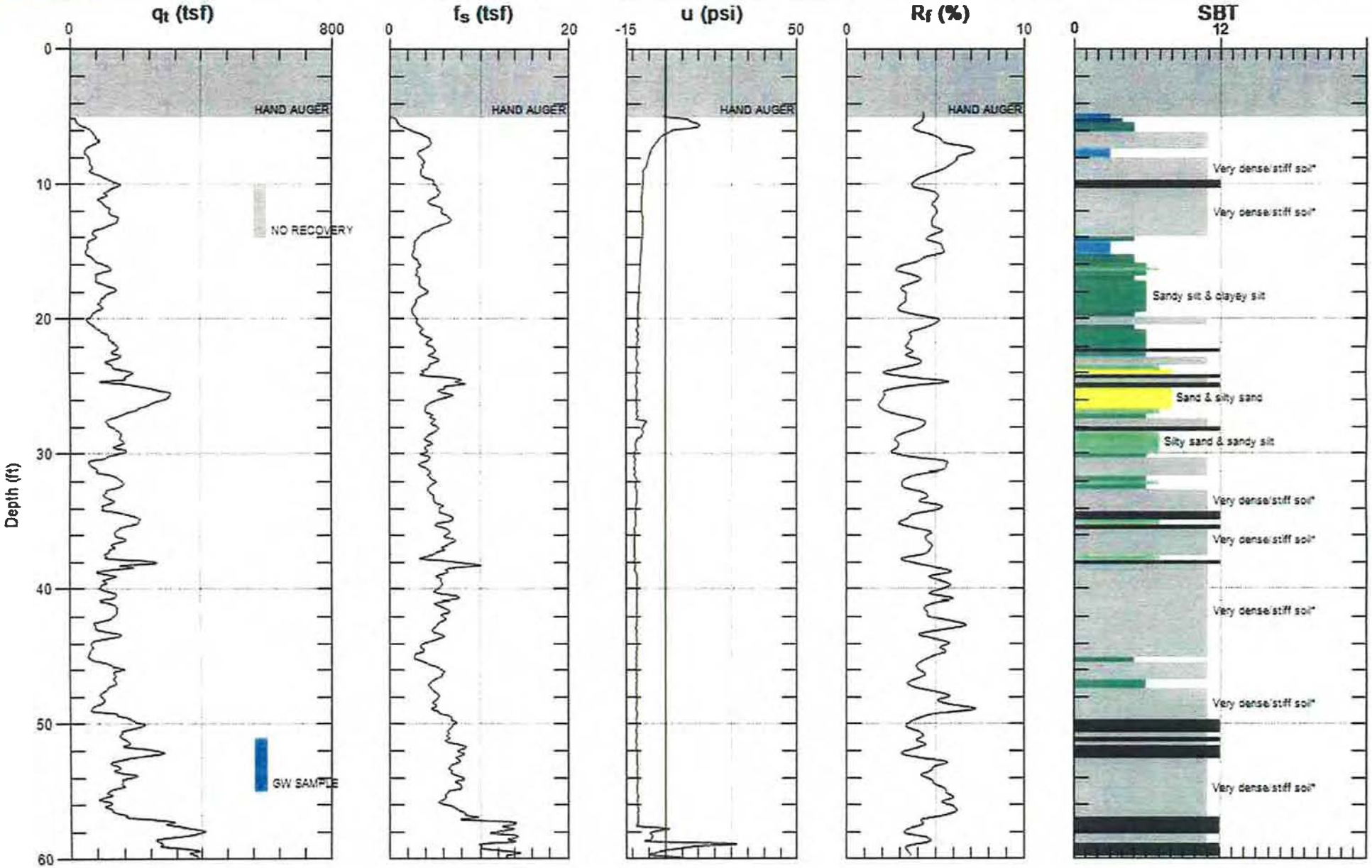
CPT Sounding Identification	Date	Termination Depth (Feet)	Depth of Groundwater Samples (Feet)	Depth of Soil Samples (Feet)	Depth of Pore Pressure Dissipation Tests (Feet)
CPT-01	5/03/07	60	14NR, 55	-	-
CPT-02	5/03/07	36	32.5	-	-
CPT-04	5/03/07	51	40NR, 48.5	-	-
CPT-05	5/04/07	22	23	-	22.3

950 Howe Rd • Martinez, California 94553 • (925) 313-5800 • FAX (925) 313-0302
OTHER OFFICES: LOS ANGELES • HOUSTON • SOUTH CAROLINA
www.greggdrilling.com

TRC SOLUTIONS

Site: CONOCO PHILLIPS #3072 Engineer: K.WOODBURNE

Sounding: CPT-01 **Date: 5/3/2007 05:45**



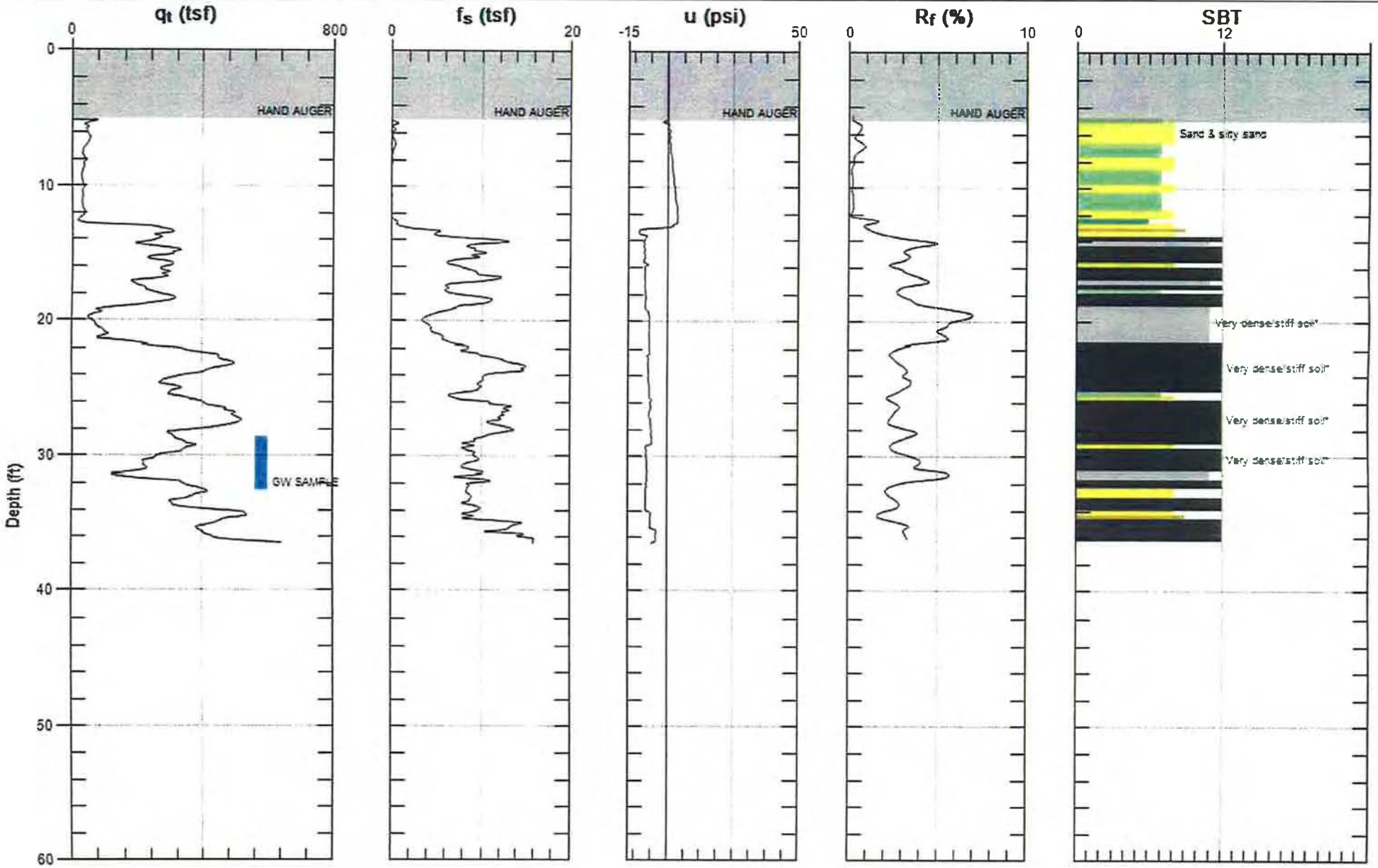
Max. Depth: 60.039 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

TRC SOLUTIONS

Site: CONOCO PHILLIPS #3072 Engineer: K.WOODBURNE

Sounding: CPT-02 **Date: 5/3/2007 12:15**



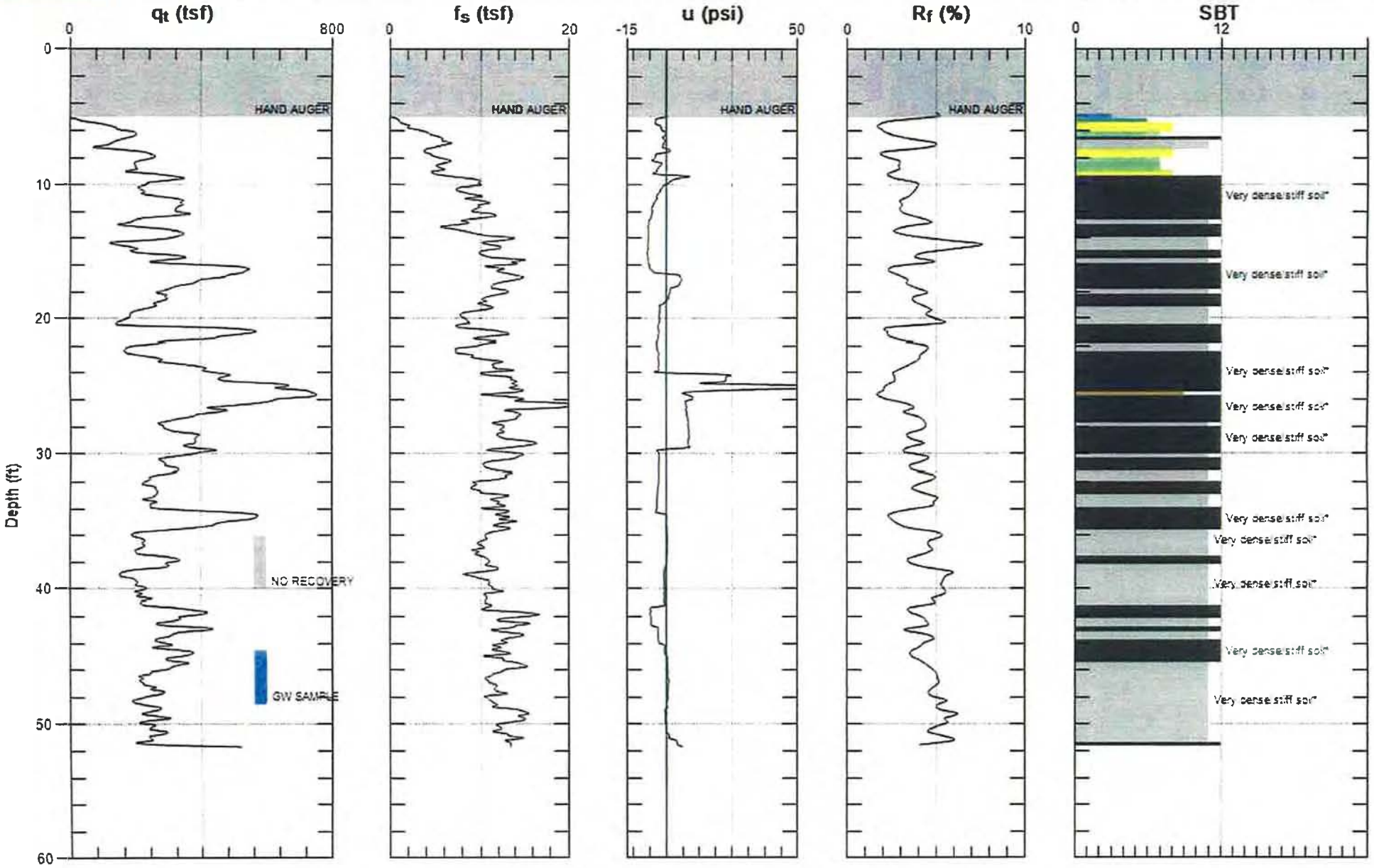
Max. Depth: 36.417 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

TRC SOLUTIONS

Site: CONOCO PHILLIPS #3072 Engineer: K.WOODBURNE

Sounding: CPT-04 **Date: 5/3/2007 08:37**



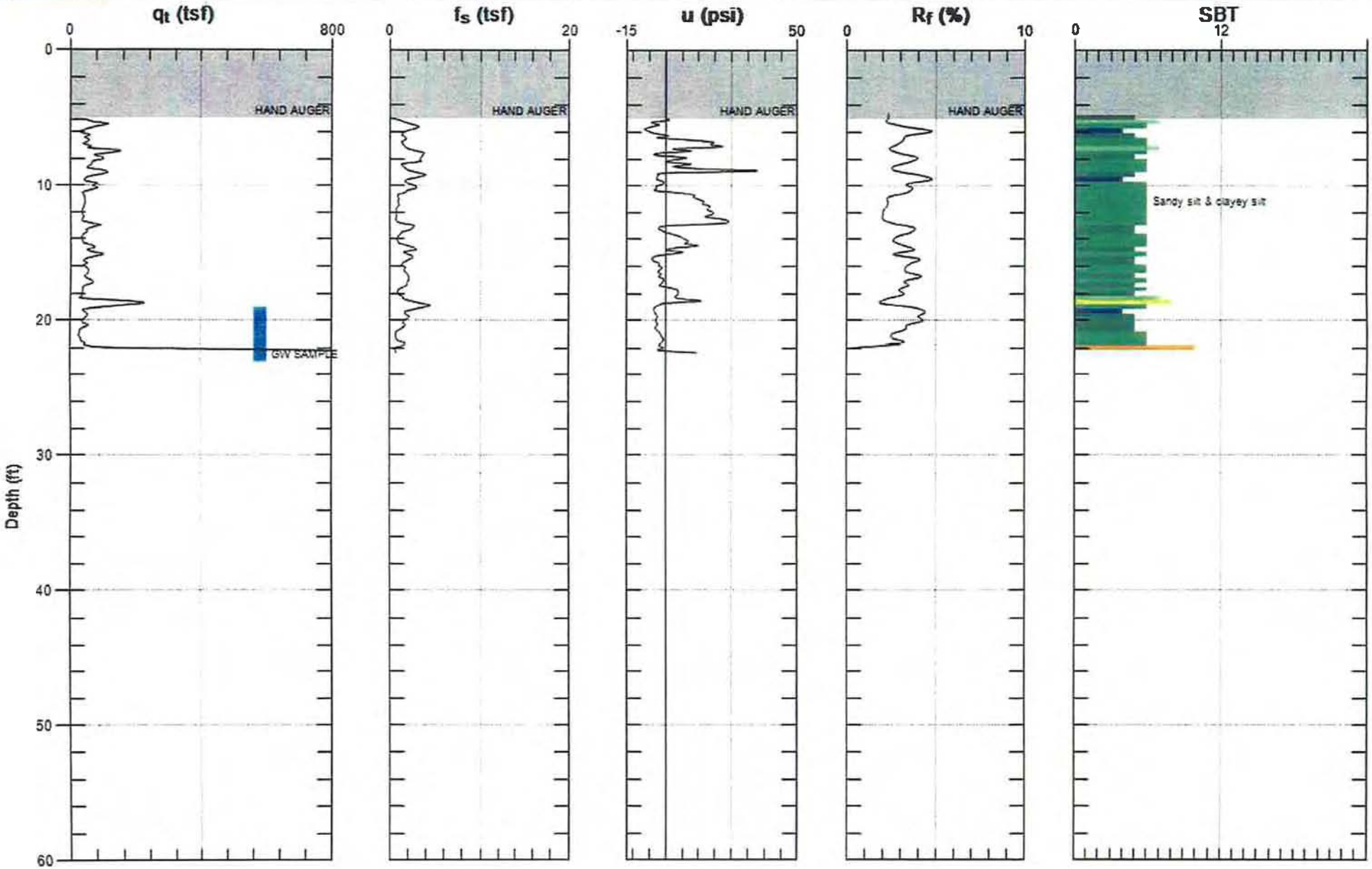
Max. Depth: 51.673 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

TRC SOLUTIONS

Site: CONOCO PHILLIPS #3072 Engineer: K.WOODBURNE

Sounding: CPT-05 **Date: 5/4/2007 05:23**

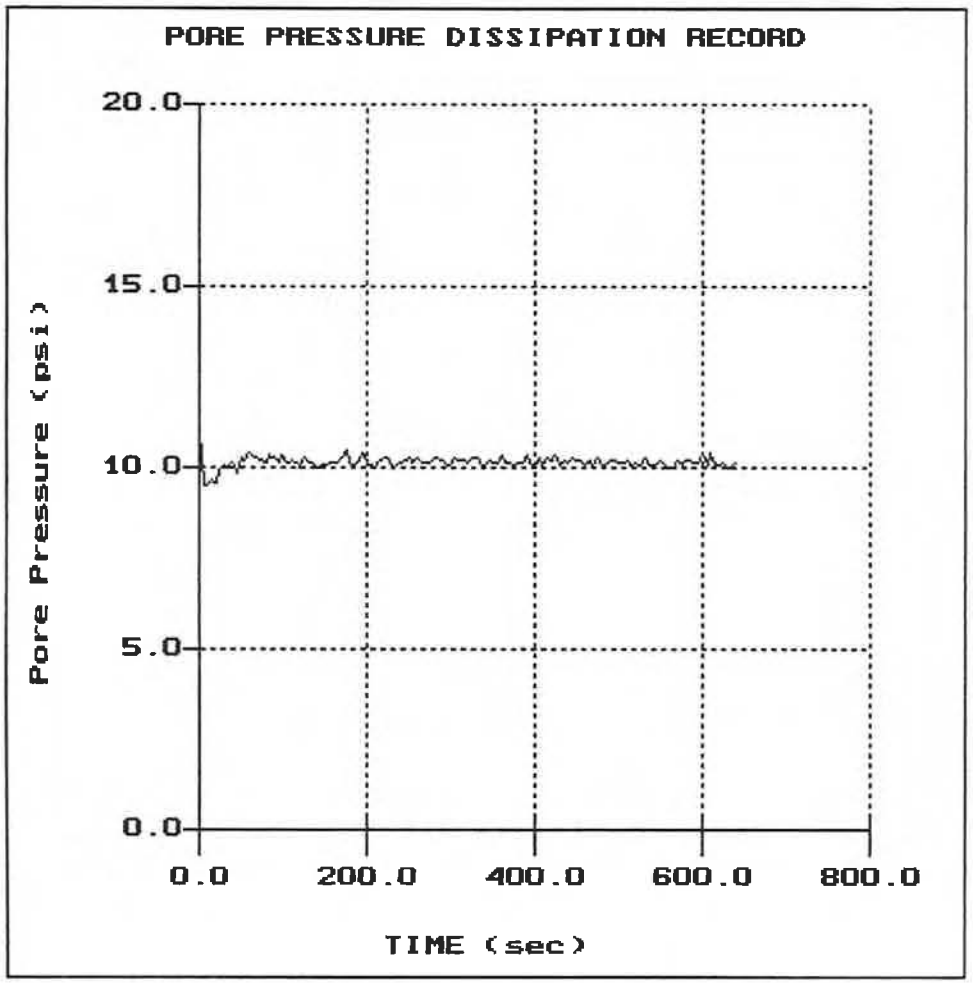


Max. Depth: 22.310 (ft)
Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)

TRC SOLUTIONS

Site:CONOCO PHILLIPS #3072 Oversite:K.WOODBURNE
Location:CPT-05 Date:05:04:07 05:23



File: 137C05.PPC
Depth (m): 6.80
(ft): 22.31
Duration : 640.0s
U-min: 9.50 5.0s
U-max: 11.07 0.0s

APPENDIX CPT

Cone Penetration Testing Procedure (CPT)

Gregg Drilling & Testing, Inc. carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*. The soundings were conducted using a 20 ton capacity cone with a tip area of 15 cm^2 and a friction sleeve area of 225 cm^2. The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.85.

The cone takes measurements of cone bearing (q_c), sleeve friction (f_s) and penetration pore water pressure (u_2) at 5-cm intervals during penetration to provide a nearly continuous hydrogeologic log. CPT data reduction and interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored on disk for further analysis and reference. All CPT soundings are performed in accordance with revised (2002) ASTM standards (D 5778-95).

The cone also contains a porous filter element located directly behind the cone tip (u_2), *Figure CPT*. It consists of porous plastic and is 5.0mm thick. The filter element is used to obtain penetration pore pressure as the cone is advanced as well as Pore Pressure Dissipation Tests (PPDT's) during appropriate pauses in penetration. It should be noted that prior to penetration, the element is fully saturated with silicon oil under vacuum pressure to ensure accurate and fast dissipation.

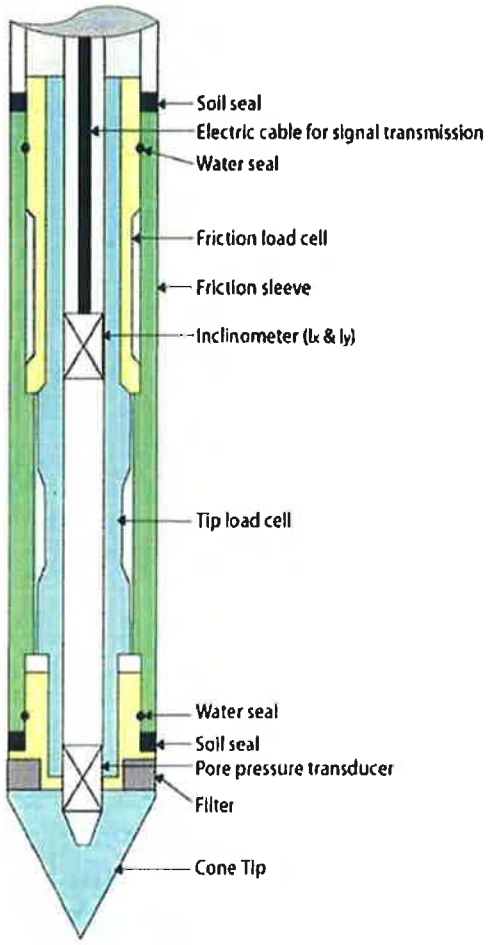


Figure CPT

When the soundings are complete, the test holes are grouted using a Gregg In Situ support rig. The grouting procedures generally consist of pushing a hollow CPT rod with a "knock out" plug to the termination depth of the test hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.

Cone Penetration Test Data & Interpretation

Soil behavior type and stratigraphic interpretation is based on relationships between cone bearing (q_c), sleeve friction (f_s), and pore water pressure (u_2). The friction ratio (R_f) is a calculated parameter defined by $100f_s/q_c$ and is used to infer soil behavior type. Generally:

Cohesive soils (clays)

- High friction ratio (R_f) due to small cone bearing (q_c)
- Generate large excess pore water pressures (u_2)

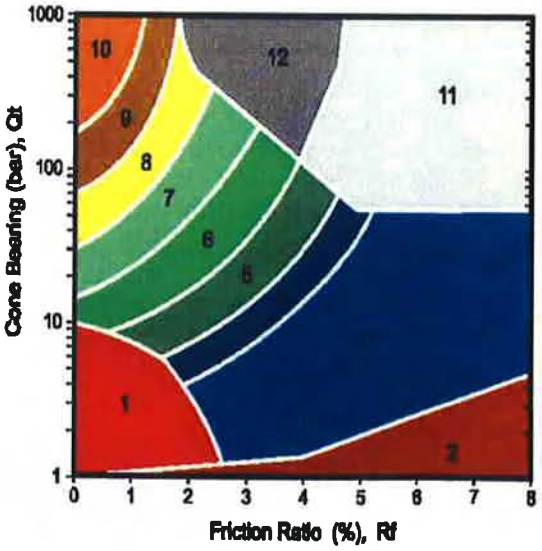
Cohesionless soils (sands)

- Low friction ratio (R_f) due to large cone bearing (q_c)
- Generate very little excess pore water pressures (u_2)

A complete set of baseline readings are taken prior to and at the completion of each sounding to determine temperature shifts and any zero load offsets. Corrections for temperature shifts and zero load offsets can be extremely important, especially when the recorded loads are relatively small. In sandy soils, however, these corrections are generally negligible.

The cone penetration test data collected from your site is presented in graphical form in Appendix CPT. The data includes CPT logs of measured soil parameters, computer calculations of interpreted soil behavior types (SBT), and additional geotechnical parameters. A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface.

Soil interpretation for this project was conducted using recent correlations developed by Robertson et al, 1990, *Figure SBT*. Note that it is not always possible to clearly identify a soil type based solely on q_c, f_s, and u_2. In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the soil behavior type.



ZONE	Qt/N	SBT
1	2	Sensitive, fine grained
2	1	Organic materials
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	Gravely sand to sand
11	1	Very stiff fine grained*
12	2	Sand to clayey sand*

*over consolidated or cemented

Figure SBT

APPENDIX PPD

Pore Pressure Dissipation Tests (PPDT)

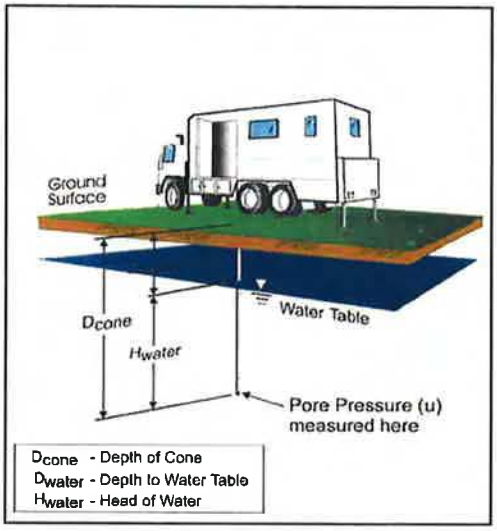
Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals measured hydrostatic water pressures and determined the approximate depth of the ground water table. A PPDT is conducted when the cone is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (u) with time is measured behind the tip of the cone and recorded by a computer system.
Pore pressure dissipation data can be interpreted to provide estimates of:

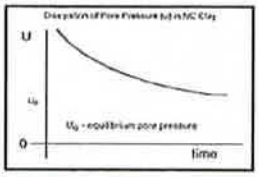
- Equilibrium piezometric pressure
- Phreatic Surface
- In situ horizontal coefficient of consolidation (c_h)
- In situ horizontal coefficient of permeability (k_h)

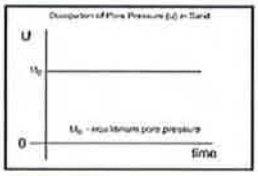
In order to correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until such time as there is no variation in pore pressure with time, *Figure PPDT*. This time is commonly referred to as t_{100}, the point at which 100% of the excess pore pressure has dissipated.

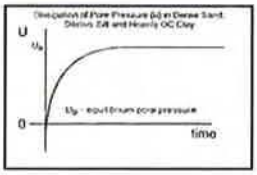
A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1992.

A summary of the pore pressure dissipation tests is summarized in Table 1. Pore pressure dissipation data is presented in graphical form in Appendix PPDT.









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 PPDT

APPENDIX GWS

Groundwater Sampling (GWS)

Gregg In Situ, Inc. conducts groundwater sampling using a Hydropunch® type groundwater sampler, *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the drill rig to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates by advancing 1 ¾ inch hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen and allowing groundwater to infiltrate hydrostatically from the formation into the inlet screen. A small diameter bailer (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

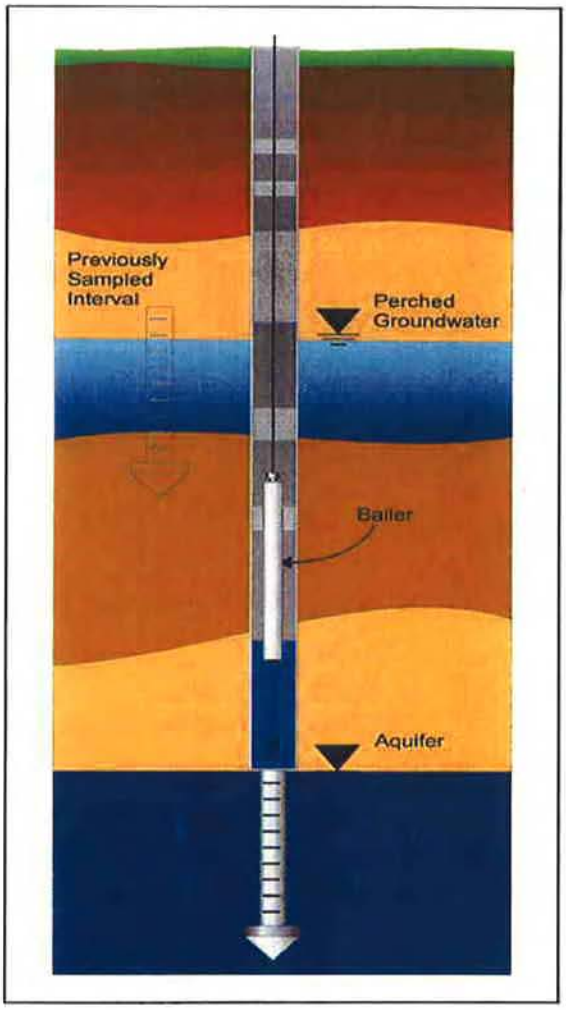


Figure GWS

A summary of the groundwater samples collected, including the sampling date, depth and location identification, is presented in Table 1 and the corresponding CPT plot.

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.

Bibliography

Lunne, T., Robertson, P.K. and Powell, J.J.M., "Cone Penetration Testing in Geotechnical Practice" E & FN Spon. ISBN 0 419 23750, 1997

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

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Zemo, D.A., T.A. Delfino, J.D. Gallinatti, V.A. Baker and L.R. Hilpert, "Field Comparison of Analytical Results from Discrete-Depth Groundwater Samplers" BAT EnviroProbe and QED HydroPunch, Sixth national Outdoor Action Conference, Las Vegas, Nevada Proceedings, 1992, pp 299-312.

Copies of ASTM Standards are available through www.astm.org

APPENDIX C

Laboratory Analytical Reports
and
Chain of Custody Records

Date of Report: 05/18/2007

Keith Woodburne

TRC
1590 Solano Way, Suite A
Concord, CA 94520

RE: 3072
BC Work Order: 0705306

Enclosed are the results of analyses for samples received by the laboratory on 05/07/2007 22:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Vanessa Hooker
Client Service Rep

Authorized Signature

TRC 1590 Solano Way, Suite A Concord, CA 94520	Project: 3072 Project Number: [none] Project Manager: Keith Woodburne	**Reported:** 05/18/2007 10:30

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information				
0705306-01	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/02/2007 09:08	Global ID:
	Sampling Location:	CPT-1	**Sample Depth:**	—	Matrix: W
	Sampling Point:	CPT-1	**Sample Matrix:**	Water	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:
0705306-02	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/02/2007 13:27	Global ID:
	Sampling Location:	CPT-4	**Sample Depth:**	—	Matrix: W
	Sampling Point:	CPT-4	**Sample Matrix:**	Water	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:
0705306-03	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/03/2007 07:25	Global ID:
	Sampling Location:	CPT-2	**Sample Depth:**	—	Matrix: W
	Sampling Point:	CPT-2	**Sample Matrix:**	Water	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:
0705306-04	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/03/2007 09:05	Global ID:
	Sampling Location:	CPT-5	**Sample Depth:**	—	Matrix: W
	Sampling Point:	CPT-5	**Sample Matrix:**	Water	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:
0705306-05	**COC Number:**	—	**Receive Date:**	05/07/2007 22:35	Delivery Work Order:
	Project Number:	3072	**Sampling Date:**	05/03/2007 09:30	Global ID:
	Sampling Location:	COMB	**Sample Depth:**	—	Matrix: W
	Sampling Point:	COMB	**Sample Matrix:**	Solids	Samle QC Type (SACode): CS
	Sampled By:	J. Kearns of TRCC			Cooler ID:

TRC
1590 Solano Way, Suite A
Concord, CA 94520

Project: 3072
Project Number: [none]
Project Manager: Keith Woodburne

Reported: 05/18/2007 10:30

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-01 | **Client Sample Name:** 3072, CPT-1, CPT-1, 5/2/2007 9:08:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Methyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Ethanol	ND	ug/L	250		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane-d4 (Surrogate)	94.7	%	76 - 114 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443		
Toluene-d8 (Surrogate)	95.6	%	88 - 110 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443		
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:40	SDU	MS-V10	1	BQE0443		

TRC 1590 Solano Way, Suite A Concord, CA 94520	Project: 3072 Project Number: [none] Project Manager: Keith Woodburne	**Reported:** 05/18/2007 10:30

Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-01 | **Client Sample Name:** 3072, CPT-1, CPT-1, 5/2/2007 9:08:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	490	ug/L	50		Luft/TPHd	05/10/07	05/17/07 07:05	MRW	GC-5	1	BQE1132	ND	
Tetracosane (Surrogate)	55.4	%	42 - 125 (LCL - UCL)		Luft/TPHd	05/10/07	05/17/07 07:05	MRW	GC-5	1	BQE1132		

TRC
1590 Solano Way, Suite A
Concord, CA 94520

Project: 3072
Project Number: [none]
Project Manager: Keith Woodburne

Reported: 05/18/2007 10:30

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-02 | **Client Sample Name:** 3072, CPT-4, CPT-4, 5/2/2007 1:27:00PM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Methyl t-butyl ether	10	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Ethanol	ND	ug/L	250		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane-d4 (Surrogate)	95.3	%	76 - 114 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443		
Toluene-d8 (Surrogate)	96.4	%	88 - 110 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443		
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)		EPA-8260	05/08/07	05/08/07 23:58	SDU	MS-V10	1	BQE0443		

TRC 1590 Solano Way, Suite A Concord, CA 94520	Project: 3072 Project Number: [none] Project Manager: Keith Woodburne	**Reported:** 05/18/2007 10:30

Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-02 | **Client Sample Name:** 3072, CPT-4, CPT-4, 5/2/2007 1:27:00PM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	800	ug/L	50		Luft/TPHd	05/10/07	05/17/07 07:19	MRW	GC-5	1	BQE1132	ND	
Tetracosane (Surrogate)	68.5	%	42 - 125 (LCL - UCL)		Luft/TPHd	05/10/07	05/17/07 07:19	MRW	GC-5	1	BQE1132		

TRC 1590 Solano Way, Suite A Concord, CA 94520	Project: 3072 Project Number: [none] Project Manager: Keith Woodburne	**Reported:** 05/18/2007 10:30

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-03 | **Client Sample Name:** 3072, CPT-2, CPT-2, 5/3/2007 7:25:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Methyl t-butyl ether	6.3	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
t-Butyl alcohol	54	ug/L	10		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Ethanol	ND	ug/L	250		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane-d4 (Surrogate)	94.7	%	76 - 114 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443		
Toluene-d8 (Surrogate)	93.3	%	88 - 110 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443		
4-Bromofluorobenzene (Surrogate)	101	%	86 - 115 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:16	SDU	MS-V10	1	BQE0443		

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Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-03 | **Client Sample Name:** 3072, CPT-2, CPT-2, 5/3/2007 7:25:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	500	ug/L	50		Luft/TPHd	05/10/07	05/17/07 07:32	MRW	GC-5	1	BQE1132	ND	
Tetracosane (Surrogate)	65.8	%	42 - 125 (LCL - UCL)		Luft/TPHd	05/10/07	05/17/07 07:32	MRW	GC-5	1	BQE1132		

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Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-04 | **Client Sample Name:** 3072, CPT-5, CPT-5, 5/3/2007 9:05:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
1,2-Dibromoethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Ethylbenzene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Methyl t-butyl ether	5.2	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Toluene	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Total Xylenes	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
t-Amyl Methyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
t-Butyl alcohol	ND	ug/L	10		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Diisopropyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Ethanol	ND	ug/L	250		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Ethyl t-butyl ether	ND	ug/L	0.50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
Total Purgeable Petroleum Hydrocarbons	ND	ug/L	50		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443	ND	
1,2-Dichloroethane-d4 (Surrogate)	97.3	%	76 - 114 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443		
Toluene-d8 (Surrogate)	94.4	%	88 - 110 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443		
4-Bromofluorobenzene (Surrogate)	103	%	86 - 115 (LCL - UCL)		EPA-8260	05/08/07	05/09/07 00:34	SDU	MS-V10	1	BQE0443		

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Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-04 | **Client Sample Name:** 3072, CPT-5, CPT-5, 5/3/2007 9:05:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instru-ment ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	280	ug/L	50		Luft/TPHd	05/10/07	05/17/07 07:46	MRW	GC-5	1	BQE1132	ND	
Tetracosane (Surrogate)	80.1	%	42 - 125 (LCL - UCL)		Luft/TPHd	05/10/07	05/17/07 07:46	MRW	GC-5	1	BQE1132		

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Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID: 0705306-05 | **Client Sample Name:** 3072, COMB, COMB, 5/3/2007 9:30:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Benzene	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
1,2-Dibromoethane	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
1,2-Dichloroethane	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Ethylbenzene	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Methyl t-butyl ether	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Toluene	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Total Xylenes	ND	mg/kg	0.050		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
t-Amyl Methyl ether	ND	mg/kg	0.0050		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
t-Butyl alcohol	ND	mg/kg	0.25		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Diisopropyl ether	ND	mg/kg	0.025		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Ethanol	ND	mg/kg	5.0		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Ethyl t-butyl ether	ND	mg/kg	0.0050		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
Total Purgeable Petroleum Hydrocarbons	ND	mg/kg	1.0		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486	ND	A01,Z1
1,2-Dichloroethane-d4 (Surrogate)	99.6	%	70 - 121 (LCL - UCL)		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486		
Toluene-d8 (Surrogate)	97.7	%	81 - 117 (LCL - UCL)		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486		
4-Bromofluorobenzene (Surrogate)	84.6	%	74 - 121 (LCL - UCL)		EPA-8260	05/08/07	05/11/07 22:56	CAW	MS-V3	5	BQE0486		

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Total Petroleum Hydrocarbons

BCL Sample ID: 0705306-05 | **Client Sample Name:** 3072, COMB, COMB, 5/3/2007 9:30:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Diesel Range Organics (C12 - C24)	ND	mg/kg	1400		Luft/TPHd	05/11/07	05/17/07 09:50	MRW	GC-5	136.36	BQE1039	ND	
Tetracosane (Surrogate)	102	%	58 - 120 (LCL - UCL)		Luft/TPHd	05/11/07	05/17/07 09:50	MRW	GC-5	136.36	BQE1039		

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Total Concentrations (TTLC)

BCL Sample ID: 0705306-05 **Client Sample Name:** 3072, COMB, COMB, 5/3/2007 9:30:00AM, J. Kearns

Constituent	Result	Units	PQL	MDL	Method	Prep Date	Run Date/Time	Analyst	Instrument ID	Dilution	QC Batch ID	MB Bias	Lab Quals
Lead	8.3	mg/kg	5.0		EPA-6010B	05/08/07	05/08/07 21:17	JCC	TJA61E	1.923	BQE0461	ND	A01

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Benzene	BQE0443	Matrix Spike	0705275-01	0.74000	28.380	25.000	ug/L		111		70 - 130	
		Matrix Spike Duplicate	0705275-01	0.74000	27.430	25.000	ug/L	3.7	107	20	70 - 130	
Toluene	BQE0443	Matrix Spike	0705275-01	1.9500	29.320	25.000	ug/L		109		70 - 130	
		Matrix Spike Duplicate	0705275-01	1.9500	29.020	25.000	ug/L	0.9	108	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BQE0443	Matrix Spike	0705275-01	ND	9.3100	10.000	ug/L		93.1		76 - 114	
		Matrix Spike Duplicate	0705275-01	ND	9.0800	10.000	ug/L		90.8		76 - 114	
Toluene-d8 (Surrogate)	BQE0443	Matrix Spike	0705275-01	ND	9.8100	10.000	ug/L		98.1		88 - 110	
		Matrix Spike Duplicate	0705275-01	ND	9.8400	10.000	ug/L		98.4		88 - 110	
4-Bromofluorobenzene (Surrogate)	BQE0443	Matrix Spike	0705275-01	ND	10.200	10.000	ug/L		102		86 - 115	
		Matrix Spike Duplicate	0705275-01	ND	10.100	10.000	ug/L		101		86 - 115	
Benzene	BQE0486	Matrix Spike	0703711-64	0	0.12296	0.12500	mg/kg		98.4		70 - 130	
		Matrix Spike Duplicate	0703711-64	0	0.12825	0.12500	mg/kg	4.6	103	20	70 - 130	
Toluene	BQE0486	Matrix Spike	0703711-64	0	0.12182	0.12500	mg/kg		97.5		70 - 130	
		Matrix Spike Duplicate	0703711-64	0	0.12139	0.12500	mg/kg	0.4	97.1	20	70 - 130	
1,2-Dichloroethane-d4 (Surrogate)	BQE0486	Matrix Spike	0703711-64	ND	0.049610	0.050000	mg/kg		99.2		70 - 121	
		Matrix Spike Duplicate	0703711-64	ND	0.049700	0.050000	mg/kg		99.4		70 - 121	
Toluene-d8 (Surrogate)	BQE0486	Matrix Spike	0703711-64	ND	0.051450	0.050000	mg/kg		103		81 - 117	
		Matrix Spike Duplicate	0703711-64	ND	0.049860	0.050000	mg/kg		99.7		81 - 117	
4-Bromofluorobenzene (Surrogate)	BQE0486	Matrix Spike	0703711-64	ND	0.049840	0.050000	mg/kg		99.7		74 - 121	
		Matrix Spike Duplicate	0703711-64	ND	0.048920	0.050000	mg/kg		97.8		74 - 121	

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Total Petroleum Hydrocarbons

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Diesel Range Organics (C12 - C24)	BQE1039	Matrix Spike	0701337-15		ND	16.722	mg/kg				54 - 119	Q03
		Matrix Spike Duplicate	0701337-15		11.982	16.779	mg/kg			30	54 - 119	Q02
Tetracosane (Surrogate)	BQE1039	Matrix Spike	0701337-15	ND	0.47806	0.66890	mg/kg		71.5		58 - 120	
		Matrix Spike Duplicate	0701337-15	ND	0.73339	0.67114	mg/kg		109		58 - 120	
Diesel Range Organics (C12 - C24)	BQE1132	Matrix Spike	0701337-99	19.000	344.84	500.00	ug/L		65.2		41 - 139	
		Matrix Spike Duplicate	0701337-99	19.000	481.35	500.00	ug/L	34.6	92.5	30	41 - 139	M02
Tetracosane (Surrogate)	BQE1132	Matrix Spike	0701337-99	ND	31.229	40.000	ug/L		78.1		42 - 125	
		Matrix Spike Duplicate	0701337-99	ND	49.344	40.000	ug/L		123		42 - 125	

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Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

Constituent	Batch ID	QC Sample Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits RPD	Control Limits Percent Recovery	Lab Quals
Lead	BQE0461	Duplicate	0705308-04	5.9902	5.9314		mg/kg	1.0		20		A01
		Matrix Spike	0705308-04	5.9902	100.98	98.039	mg/kg		96.9		75 - 125	A01
		Matrix Spike Duplicate	0705308-04	5.9902	103.24	98.039	mg/kg	2.3	99.2	20	75 - 125	A01

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Benzene	BQE0443	BQE0443-BS1	LCS	26.050	25.000	1.0	ug/L	104		70 - 130		
Toluene	BQE0443	BQE0443-BS1	LCS	26.310	25.000	1.0	ug/L	105		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BQE0443	BQE0443-BS1	LCS	9.2500	10.000		ug/L	92.5		76 - 114		
Toluene-d8 (Surrogate)	BQE0443	BQE0443-BS1	LCS	9.8000	10.000		ug/L	98.0		88 - 110		
4-Bromofluorobenzene (Surrogate)	BQE0443	BQE0443-BS1	LCS	10.320	10.000		ug/L	103		86 - 115		
Benzene	BQE0486	BQE0486-BS1	LCS	0.12501	0.12500	0.0050	mg/kg	100		70 - 130		
Toluene	BQE0486	BQE0486-BS1	LCS	0.11827	0.12500	0.0050	mg/kg	94.6		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BQE0486	BQE0486-BS1	LCS	0.050090	0.050000		mg/kg	100		70 - 121		
Toluene-d8 (Surrogate)	BQE0486	BQE0486-BS1	LCS	0.049080	0.050000		mg/kg	98.2		81 - 117		
4-Bromofluorobenzene (Surrogate)	BQE0486	BQE0486-BS1	LCS	0.047590	0.050000		mg/kg	95.2		74 - 121		

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Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Diesel Range Organics (C12 - C24)	BQE1039	BQE1039-BS1	LCS	13.866	16.393	10	mg/kg	84.6		58 - 131		
Tetracosane (Surrogate)	BQE1039	BQE1039-BS1	LCS	0.83436	0.65574		mg/kg	127		58 - 120		S09
Diesel Range Organics (C12 - C24)	BQE1132	BQE1132-BS1	LCS	313.81	500.00	50	ug/L	62.8		62 - 101		
Tetracosane (Surrogate)	BQE1132	BQE1132-BS1	LCS	28.441	40.000		ug/L	71.1		42 - 125		

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Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

Constituent	Batch ID	QC Sample ID	QC Type	Result	Spike Level	PQL	Units	Percent Recovery	RPD	Control Limits Percent Recovery	Control Limits RPD	Lab Quals
Lead	BQE0461	BQE0461-BS1	LCS	10.045	10.441	2.5	mg/kg	96.2		75 - 125		

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BQE0443	BQE0443-BLK1	ND	ug/L	1.0		
1,2-Dibromoethane	BQE0443	BQE0443-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BQE0443	BQE0443-BLK1	ND	ug/L	0.50		
Ethylbenzene	BQE0443	BQE0443-BLK1	ND	ug/L	1.0		
Methyl t-butyl ether	BQE0443	BQE0443-BLK1	ND	ug/L	2.0		
Toluene	BQE0443	BQE0443-BLK1	ND	ug/L	1.0		
Total Xylenes	BQE0443	BQE0443-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BQE0443	BQE0443-BLK1	ND	ug/L	2.0		
t-Butyl alcohol	BQE0443	BQE0443-BLK1	ND	ug/L	10		
Diisopropyl ether	BQE0443	BQE0443-BLK1	ND	ug/L	2.0		
Ethanol	BQE0443	BQE0443-BLK1	ND	ug/L	1000		
Ethyl t-butyl ether	BQE0443	BQE0443-BLK1	ND	ug/L	2.0		
Total Purgeable Petroleum Hydrocarbons	BQE0443	BQE0443-BLK1	ND	ug/L	50		
1,2-Dichloroethane-d4 (Surrogate)	BQE0443	BQE0443-BLK1	96.2	%	76 - 114 (LCL - UCL)		
Toluene-d8 (Surrogate)	BQE0443	BQE0443-BLK1	97.0	%	88 - 110 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BQE0443	BQE0443-BLK1	102	%	86 - 115 (LCL - UCL)		
Benzene	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
1,2-Dibromoethane	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Ethylbenzene	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Methyl t-butyl ether	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Toluene	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Total Xylenes	BQE0486	BQE0486-BLK1	ND	mg/kg	0.010		
t-Amyl Methyl ether	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0010		

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Project: 3072
Project Number: [none]
Project Manager: Keith Woodburne

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Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
t-Butyl alcohol	BQE0486	BQE0486-BLK1	ND	mg/kg	0.20		
Diisopropyl ether	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0050		
Ethanol	BQE0486	BQE0486-BLK1	ND	mg/kg	1.0		
Ethyl t-butyl ether	BQE0486	BQE0486-BLK1	ND	mg/kg	0.0010		
Total Purgeable Petroleum Hydrocarbons	BQE0486	BQE0486-BLK1	ND	mg/kg	0.20		
1,2-Dichloroethane-d4 (Surrogate)	BQE0486	BQE0486-BLK1	99.3	%	70 - 121 (LCL - UCL)		
Toluene-d8 (Surrogate)	BQE0486	BQE0486-BLK1	96.6	%	81 - 117 (LCL - UCL)		
4-Bromofluorobenzene (Surrogate)	BQE0486	BQE0486-BLK1	94.1	%	74 - 121 (LCL - UCL)		

TRC 1590 Solano Way, Suite A Concord, CA 94520	Project: 3072 Project Number: [none] Project Manager: Keith Woodburne	**Reported:** 05/18/2007 10:30

Total Petroleum Hydrocarbons

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Diesel Range Organics (C12 - C24)	BQE1039	BQE1039-BLK1	ND	mg/kg	10		
Tetracosane (Surrogate)	BQE1039	BQE1039-BLK1	94.1	%	58 - 120 (LCL - UCL)		
Diesel Range Organics (C12 - C24)	BQE1132	BQE1132-BLK1	ND	ug/L	50		
Tetracosane (Surrogate)	BQE1132	BQE1132-BLK1	81.7	%	42 - 125 (LCL - UCL)		

TRC
1590 Solano Way, Suite A
Concord, CA 94520

Project: 3072
Project Number: [none]
Project Manager: Keith Woodburne

Reported: 05/18/2007 10:30

Total Concentrations (TTLC)

Quality Control Report - Method Blank Analysis

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Lead	BQE0461	BQE0461-BLK1	ND	mg/kg	2.5		

Notes And Definitions

MDL	Method Detection Limit
ND	Analyte Not Detected at or above the reporting limit
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
A01	PQL's and MDL's are raised due to sample dilution.
M02	Analyte detected in the Method Blank at a level between the PQL and 1/2 the PQL.
Q02	Matrix spike precision is not within the control limits.
Q03	Matrix spike recovery(s) is(are) not within the control limits.
S09	The surrogate recovery on the sample for this compound was not within the control limits.
Z1	This sample clogged the needle, which caused the surrogate's recovery to be out of range. Second analysis was ran to verify the surrogate's %

#07-05306

BC LABORATORIES, INC.
4100 Atlas Court ☐ Bakersfield, CA 93308
(661) 327-4911 ☐ FAX (661) 327-1918

CHAIN OF CUSTODY

Analysis Requested

Bill to: Conoco Phillips/ TRC	Consultant Firm: TRC
Address: 2445 CASTRO VALLEY BLVD.	~~24 Tecnology Drive~~ ~~Irvine, CA 92618-2302~~ 1590 SOLANO WY SUITE A CONCORD, CA 94520 ~~Attn: Anju Farfan~~ ATTN: KEITH WOODBURNE
City: CASTRO VALLEY	4-digit site#: 3072
	Workorder #
State: CA Zip:	Project #: 42013903
Conoco Phillips Mgr:	Sampler Name: J. KEARNS

MATRIX: (GW) Groundwater (S) Soil (WW) Wastewater (SL) Sludge

Lab#	Sample Description	Field Point Name	Date & Time Sampled	MATRIX	BTEX/MTBE by 8021B, Gas by 8015	TPH GAS by 8015M	TPH DIESEL by 8015	8260 full list w/ oxygenates	BTEX/MTBE/~~EDTS~~ BY 8260B	ETHANOL by 8260B	TPH -G by GC/MS	TPHd by 8260B	TBA, DIPE, TAME, EDBE, 1,2-DCA, EDB	TOTAL LEAD	Turnaround Time Requested
	CPT-1 -1		5/2/07 0908	G.W.			X		X	X		X	X		
	CPT-4 -2		5/2/07 1327	↓			↓		↓	↓		↓	↓		
	CPT-2 -3		5/3/07 0725	↓			↓		↓	↓		↓	↓		
	CPT-5 -4		5/3/07 0905	↓			↓		↓	↓		↓	↓		
	COMB. -5		5/3/07 0930	S			↓		↓	↓		↓	↓	X	
		MR JKL SIMNFI													
	60														

Comments: PLEASE COMBINE SAMPLES FOR COMPOSIT ANALYSIS.

GLOBAL ID:

Relinquished by: (Signature)	Received by:	Date & Time
[signature]	Ross Dickey	5/7/07 ~~5/8/07~~ 1450
Relinquished by: (Signature) Ross Dickey 5/7/07	R L Reynolds	5-7-07 1900
Relinquished by: (Signature) R L Reynolds 5-7-07 2235	[signature]	5/7/7 2235

(A) = ANALYSIS (C) = CONTAINER (P) = PRESERVATIVE

Attachment C

Historic Monitoring Well Logs

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-1106	9" 2"	D.L.
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 1/18/90
Boring No. MW1	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement Clay, sand, and gravel: fill
			CH	Clay, high plasticity, stiff, moist, black.
5/7/14		5		Color change at 5 feet to dark gray 10-15% sand.
16/33/43			N/A	Shale bedrock, weathered, locally hard, fractured, slightly moist, olive brown, clayey inside fractures.
22/46/ 50-5"		10		
	▼			Shale bedrock at 13 feet, as above, wet.
		15		
		20		Color change at 20 feet to very dark gray.

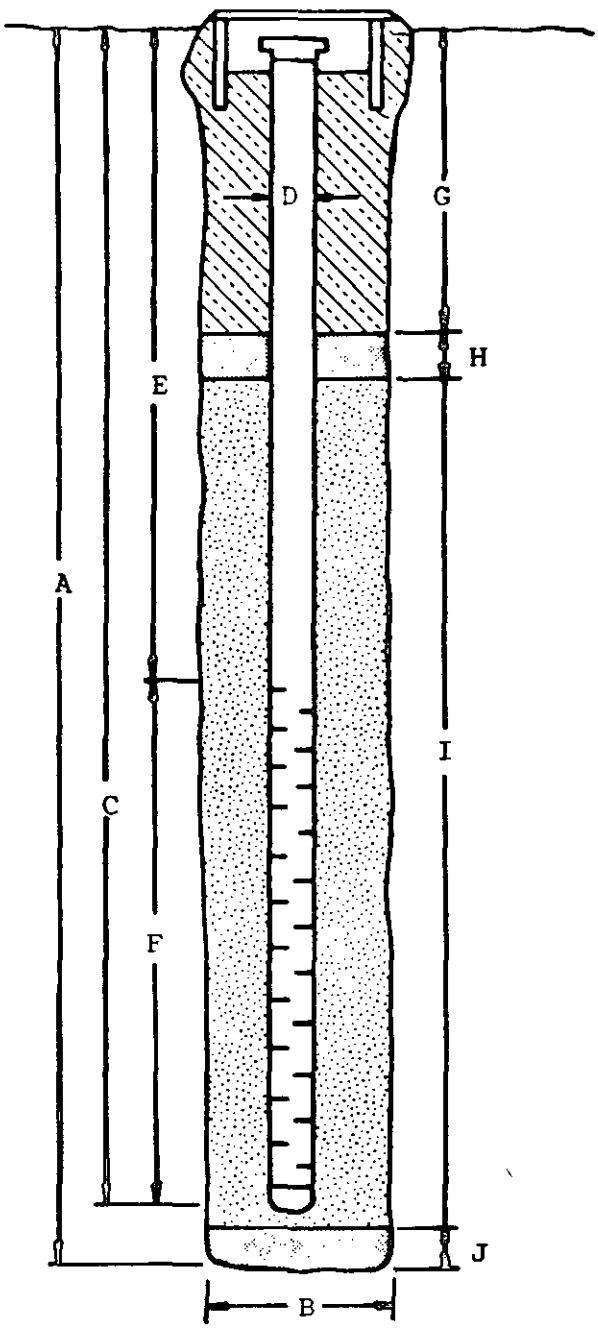
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Castro Valley BORING/WELL NO. MW1

PROJECT NUMBER: KEI-P89-1106

WELL PERMIT NO.:

Flush-mounted Well Cover



A. Total Depth: 25.5'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem Auger

C. Casing Length: 25.5'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"
ID = 2.067"

E. Depth to Perforations: 8'

F. Perforated Length: 17.5'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 4'

Seal Material: Concrete

H. Seal: 2'

Seal Material: Bentonite

I. Gravel Pack: 19.5'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-1106	9" 2"	D.L.
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 1/18/90
Boring No. MW2	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement
				Silty clay, high plasticity, stiff, moist, very dark gray, locally gravelly, gravel to 1/2".
6/8/10		5	CH	Clay, high plasticity , with silt, 10-15% sand, stiff, moist, dark greenish gray, locally cemented, with gravel below 6 feet.
16/25/26			GC	Clayey gravel with sand, dense, moist, dark greenish gray, mottled with olive brown below 7.5 feet.
4/7/13		10	CH	Sandy clay, moderate to high plasticity, 10-15% gravel, stiff, firable, moist, yellowish brown.
8/11/15				Very stiff at 12 feet, ocasional gravel, gravel is olive brown shale.
7/13/22				
13/20/28		15		
10/19/21			GC	Clayey gravel with sand, dense, moist, yellowish brown, gravel is shale, dark brown within clay.
13/19/23				At 20 feet, varied gravel, some
50-2"	▼	20		serpentine. No recovery at 20.5 feet

BORING LOG

Project No. KEI-P89-1106	**Boring & Casing Diameter** 9" 2"	**Logged By** D.L.
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 1/18/90
Boring No. MW2	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
36/48/ 50-5"			SW-SC	Clayey sand with gravel, 15% clay, gravel as above, hard, wet, olive brown.
			N/A	Shale bedrock, very hard, fractured, dark yellowish brown to dark brown.
22/50-5"		25		Shale bedrock, well weathered to clay, locally hard, very dark gray.
50-3"		30		No recovery, shale bedrock, as above, near refusal.
		35		
		40		TOTAL DEPTH: 30'

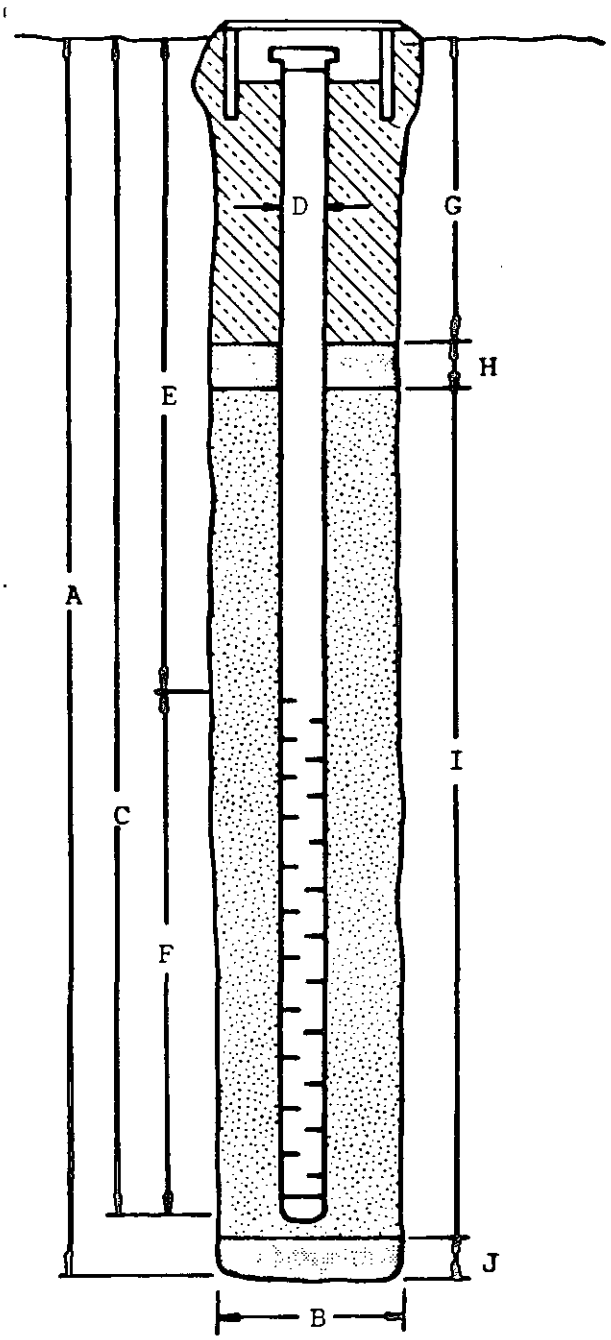
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Castro Valley BORING/WELL NO. MW2

PROJECT NUMBER: KEI-P89-1106

WELL PERMIT NO.:

Flush-mounted Well Cover



A. Total Depth: 30'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem Auger

C. Casing Length: 25'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375" ID = 2.067"

E. Depth to Perforations: 5'

F. Perforated Length: 20'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 2'

Seal Material: Concrete

H. Seal: 2'

Seal Material: Bentonite

I. Gravel Pack: 26'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-1106	9" 2"	D.L.
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 1/19/90
Boring No. MW3	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
		0		A.C. Pavement Sand and gravel: fill
				Silty clay, high plasticity, stiff, moist, very dark grayish brown, 5-10% sand.
10/17/22		5	CH	Gravelly clay, high plasticity, 5-10% silt, very stiff, moist, light olive brown.
20/21/24			GC	Clayey gravel with sand, very dense, moist to wet, olive brown, gravel is almost entirely shale.
23/28/33	▼	10		
18/30/23		15		Clayey gravel with sand, as above, ocasionally grading to gravelly clay, very stiff, moist, olive brown.
		20		

BORING LOG

Project No. KEI-P89-1106	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal Castro Valley	Well Head Elevation N/A	Date Drilled 1/19/90
Boring No. MW3	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Stratigraphy USCS	Description
				Clayey gravel with sand, as above, ocasionally grading to gravelly clay, as above.
		25		
		30		
		35		
		40		TOTAL DEPTH: 22'

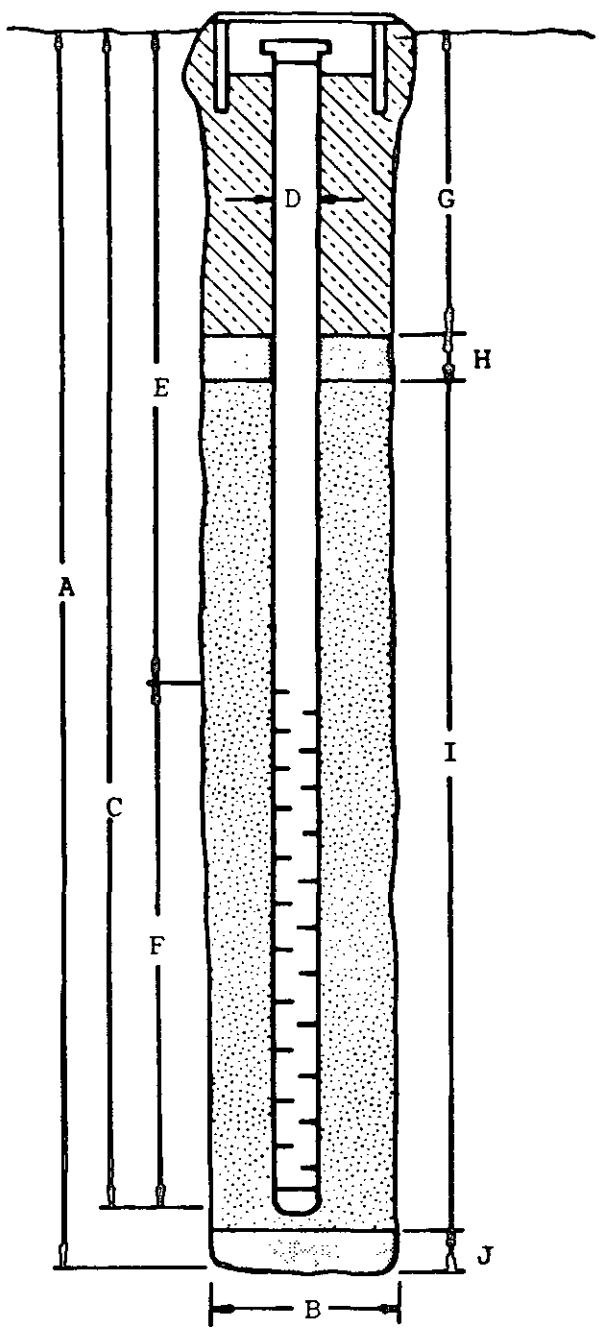
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Castro Valley BORING/WELL NO. MW3

PROJECT NUMBER: KEI-P89-1106

WELL PERMIT NO.:

Flush-mounted Well Cover



A. Total Depth: 22'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem Auger

C. Casing Length: 22'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375" ID = 2.067"

E. Depth to Perforations: 5'

F. Perforated Length: 17'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 2'

Seal Material: Concrete

H. Seal: 18'

Seal Material: Bentonite

I. Gravel Pack:

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

BORING LOG

Project No. KEI-P89-1106	**Boring & Casing Diameter** 9" 2"	**Logged By** W.W. DRB
Project Name Unocal-Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 8/13/90
Boring No. MW4	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		Asphalt concrete over clayey sand and gravel base
			CH	Clay, trace to 5% coarse-grained sand trace of gravel to 1/2 inch dia. moist, hard, dark gray, 5% orangish brown banding
6/11/24		5	CL/CH	Clay, trace to 5% sand, trace to 10% caliche, light dive gray to greenish gray, moist, hard
				Bedrock
50	▼	10	N/A	Shale, moderately hard, fractured, very weathered, decomposed and clayey, wet below 10', olive brown
		15		Shale, moist, clayey, moderately hard, medium gray to olive gray
22/50-5"		20		

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-1106	9" 2"	W.W.
Project Name Unocal-Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 8/13/90
Boring No. MW4	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Stratigraphy USCS	Description
17/28/37			N/A	Clayey shale bedrock as above, moderately hard, moist, gray

25

30

35

40

TOTAL DEPTH DRILLED: 22'
TOTAL DEPTH SAMPLED: 23.5'

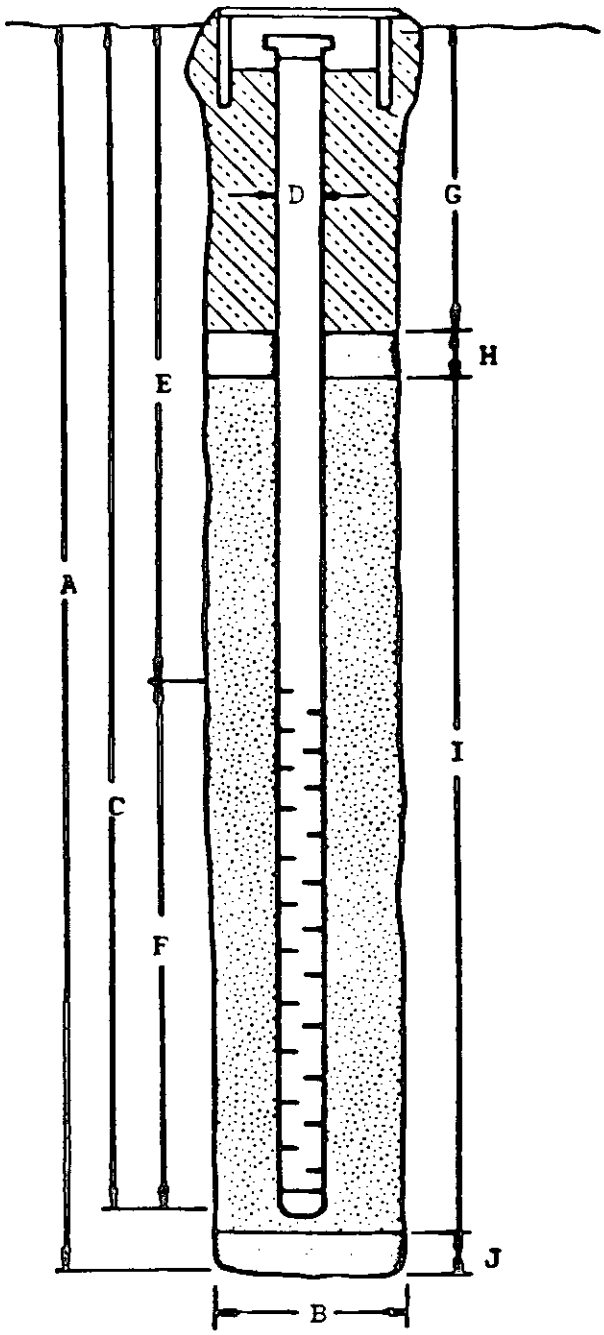
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal Castro Valley BORING/WELL NO. MW4

PROJECT NUMBER: KEI-P89-1106

WELL PERMIT NO.:

Flush-mounted Well Cover



A. Total Depth: 23.5'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem Auger

C. Casing Length: 21'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"
ID = 2.067"

E. Depth to Perforations: 6'

F. Perforated Length: 15'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 4'

Seal Material: Concrete

H. Seal: 18'

Seal Material: Bentonite

I. Gravel Pack: 17'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

BORING LOG

Project No. KEI-P89-1106	**Boring & Casing Diameter** 9" 2"	**Logged By** W.W. DRB
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 8/13/90
Boring No. MW5	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		A.C. Pavement over clayey sand and and gravel base
				Clay with gravel, gravel angular to 1 1/8 dia., trace sand and caliche, moist, firm, greenish gray.
			CL/ CH	Clay, trace sand, moist, firm, very dark gray.
7/14/15		5		Clay, trace fine sand, moist, very stiff, light olive gray to greenish gray trace to 10% caliche with nodules to 1/2 dia.
				Bedrock
50				Clayey shale, trace caliche(?), moist, olive gray, orangish brown, trace greenish gray (clay) highly weather-ed, decomposed
		10		
16/24/30			N/A	
				Clayey shale, trace organic matter, moist, olive gray to olive brown with trace of orange-brown, moderately hard, less weathered than above
36/40/45				
	▼			
35/50		15		
				Clayey shale, slightly weathered and decomposed, saturated, moderately hard, olive gray
40/50-5"		20		

BORING LOG

Project No.	Boring & Casing Diameter	Logged By
KEI-P89-1106	9" 2"	W.W.
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 8/13/90
Boring No. MW5	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Stratigraphy USCS		Description
15/28/32			N/A		Shale, as above, very moist less weathered than above, clay in fract-fractures, moderately hard, gray.
		25			
		30			
		35			
		40			TOTAL DEPTH: 24'

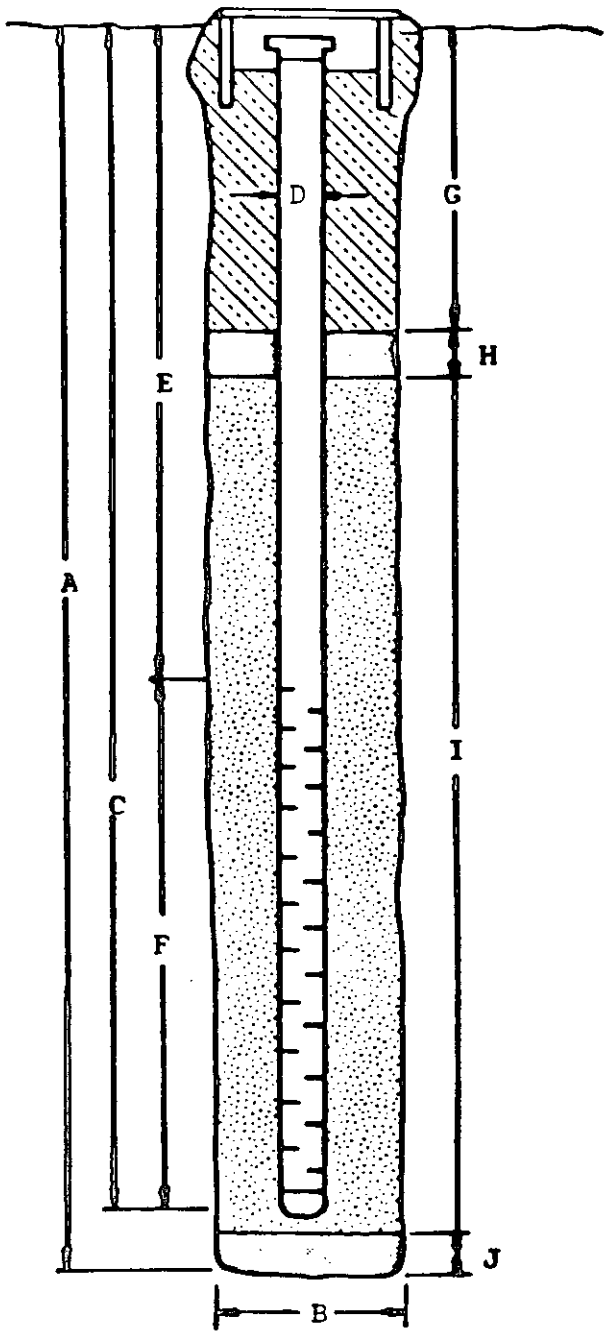
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal-Castro Valley 2445 C.V. Blvd. BORING/WELL NO. MW5

PROJECT NUMBER: KEI-P89-1106

WELL PERMIT NO.: _____

Flush-mounted Well Cover



A. Total Depth: 24'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem Auger

C. Casing Length: 23.5'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 8.5'

F. Perforated Length: 15'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 6.5'

Seal Material: Concrete

H. Seal: 1'

Seal Material: Bentonite

I. Gravel Pack: 16.5'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

BORING LOG

Project No. KEI-P89-1106	**Boring Diameter** 8"	**Logged By** D.L.
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 4/25/90
Boring No. EB1	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		A. C. Pavement over fill consisting of clay, sand, and gravel, moist.
				Fill is very moist at 3.5 feet.
14/24/37		5	CL/ CH	Gravelly clay, gravel consisting of shale fragments to 1-1/2" diameter, hard, moist, dark greenish gray and olive, cementation.
				BEDROCK
19/24/34		10	N/A	Shale, moderately hard, fractured, very weathered, decomposed and clayey moist, olive.
27/45/50-4"				Shale, as above, less weathered, becoming harder with depth.
	▼			Wet at 14 feet.
27/36/50-2 1/2"		15		
		20		TOTAL DEPTH DRILLED: 13.5' TOTAL DEPTH SAMPLED: 15'

BORING LOG

Project No.	Boring Diameter	Logged By
KEI-P89-1106	8"	D.L. DRB
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 4/25/90
Boring No. EB2	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		A. C. Pavement underlain by fill consisting of clay, sand and gravel.
			CL/ CH	Gravelly clay, very stiff, moist, very dark gray, gravel consists entirely of shale fragments.
21/42/50		5		BEDROCK
			N/A	Shale, hard, slightly moist, fractured decomposed and clayey in fractures, dark yellowish brown.
16/32/29	▼	10		Shale, as above, moist to wet, less weathered than above.
19/27/39				
		15		
		20		TOTAL DEPTH DRILLED: 12' TOTAL DEPTH SAMPLED: 13.5'

BORING LOG

Project No.	Boring Diameter	Logged By
KEI-P89-1106	8"	D.L. DRB
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 4/25/90
Boring No. EB3	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		A. C. Pavement underlain by fill consisting of clay, sand and gravel.
			CL/ CH	Clay, 10-15% silt, 5% sand and gravel to 1/8" diameter, stiff, moist, very dark gray.
5/26/30		5	GC	Clayey gravel with sand, very dense, moist, olive brown, gravel is mostly angular shale framents, trace serpentine?.
			CL/ CH	Clay, 5-10% sand, very stiff, moist, black.
15/21/32	▼	10	GC	Clayey gravel with sand, very dense, very moist to wet, yellowish brown.
		15		
		20		

TOTAL DEPTH DRILLED: 9'
TOTAL DEPTH SAMPLED: 10.5'

BORING LOG

Project No.	Boring Diameter	Logged By
KEI-P89-1106	8"	D.L. DRB
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 4/24/90
Boring No. EB4	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		A. C. Pavement underlain by fill consisting of clay, sand and gravel.
	NOT ENCOUNTERED DURING DRILLING		CL/CH	Clay, with sand, very stiff, moist, very dark grayish brown to black.
15/23/46		5	GC	Clayey gravel with sand, very dense, moist, olive brown, gravel is entirely shale, maybe bedrock weathered to soil.
				BEDROCK
49/50-3"				Shale, hard, slightly moist, fractured weathered with clay-lined fractures, olive.
50-5 3/4"		10		
				Color change at 12 feet to olive gray, hardness increasing with depth.
25/41/50-5 1/2"				
50-2"				Difficult drilling at 14 feet.
		15		
		20		

TOTAL DEPTH DRILLED: 14'
TOTAL DEPTH SAMPLED: 14.5'

BORING LOG

Project No. KEI-P89-1106	**Boring Diameter** 8"	**Logged By** D.L.
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 4/25/90
Boring No. EB5	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		A. C. Pavement
			GP/ SP	Gravel and sand fill, 5-10% fines, road and utility trench backfill.
		5		
10/10/11				
10/9/8				
7/6/8				
				Base of Fill Materials
12/33/50	▽	10	N/A	BEDROCK Shale, moderately hard, moist, fractured, decomposed with clay-lined fractures, olive to olive gray.
		15		
		20		

TOTAL DEPTH DRILLED: 9.5'
TOTAL DEPTH SAMPLED: 11'

BORING LOG

Project No. KEI-P89-1106	Boring Diameter 8"	Logged By D.L.
Project Name Unocal Castro Valley	Well Head Elevation N/A	Date Drilled 4/24/90
Boring No. EB6	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		A. C. Pavement underlain by fill consisting of sand and gravel.
7/11/15		5	CL/ CH	Clay, 5-10% sand, 5-10% gravel to 3/4" diameter, very stiff, moist, black.
21/33/45		10	N/A	BEDROCK Shale, hard, slightly moist to moist, fractured, weathered with clay-lined fractures, olive brown.
45/50-4"	▼			Shale, as above, less weathered than above, hardness increasing with depth
50-3 1/4"		15		
		20		TOTAL DEPTH DRILLED: 14' TOTAL DEPTH SAMPLED: 14.5'

BORING LOG

Project No.	Boring Diameter	Logged By
KEI-P89-1106	8"	D.L.
Project Name Unocal Castro Valley	**Well Head Elevation** N/A	**Date Drilled** 4/24/90
Boring No. EB7	**Drilling Method** Hollow-stem Auger	**Drilling Company** EGI

Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		A. C. Pavement underlain by sand and gravel baserock.
6/12/21		5	CL/ CH	Clay, 5-10% sand and gravel to 3/8" diameter, very stiff, moist, black, lensed with greenish gray partially cemented layers below 5 feet, cemented layers have blocky texture (caliche?).
				BEDROCK
5/50		10	N/A	Shale, hard, slightly moist to moist, fractured, weathered with clay-lined fractures, olive brown.
30/49/50-5"				
50-5 1/2"				
50-5"	▼			
		15		
		20		TOTAL DEPTH DRILLED: 13.5' TOTAL DEPTH SAMPLED: 14'

BORING LOG

Project No. KEI-P89-1106	Boring Diameter 8"	Logged By D.L. DRB
Project Name Unocal Castro Valley	Well Head Elevation N/A	Date Drilled
Boring No. EB8	Drilling Method Hollow-stem Auger	Drilling Company EGI

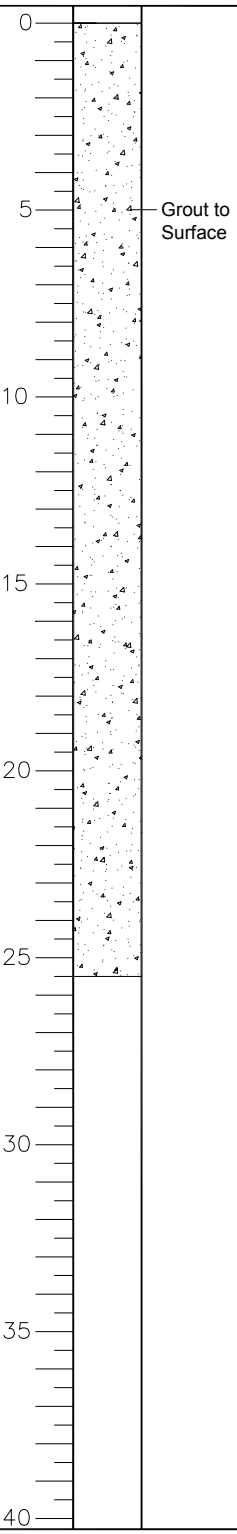
Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati-graphy USCS	Description
		0		A. C. Pavement underlain by sand and gravel baserock.
11/13/20		5	CL/ CH	Clay, 10-20% sand and gravel to 3/8" diameter, very stiff, moist, black. At 5 feet, black and greenish gray, with locally strong cementation, blocky texture, greenish gray below 6 feet. Color change at approximately 8.5 feet to black.
				BEDROCK
11/25/40	▼	10	N/A	Shale, moderately hard, moist, very weathered, fractured, clay-lined fractures, olive to olive brown.
30/41/47				
		15		
		20		TOTAL DEPTH DRILLED: 12' TOTAL DEPTH SAMPLED: 13.5'

PROJECT NO.: 42-0187-01	DATE DRILLED: 1/24/05	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3072	LOGGED BY: R. Dunn	EASTING: NOT SURVEYED
2445 Castro Valley Blvd.	APPROVED BY: K. Woodburne, RG	GROUND SURFACE ELEVATION: NOT SURVEYED
Castro Valley, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Diameter Direct-Push
SAMPLER TYPE: 4-foot Continuous-Core Barrel
TOTAL DEPTH: 25.5 feet
DEPTH TO WATER: 23.5 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Vacuum clearance to 5'.		
34.0		3.0/3.0		5	SAND (SP): Gray (10YR 6/1), 10% fines, 90% fine- to medium-grained sand, dense, dry, hydrocarbon odor.	SP	
5.0		4.0/4.0		10	- @ 8': color change to grayish brown (10YR 5/2), slight odor.		
1.0		3.0/3.0			- @ 12': color change to brown (10YR 4/3), no odor.		
1.2		2.0/2.0		15			
					No recovery.		
1.5		3.0/3.0		20	SAND (SP): same as above.		
					- @ 21.5': color change to dark gray (10YR 4/1).		
1.4		2.5/2.5		25	- @ 24': color change to grayish brown (10YR 5/2), wet.	SP ▽	
				30			
				35			
				40			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

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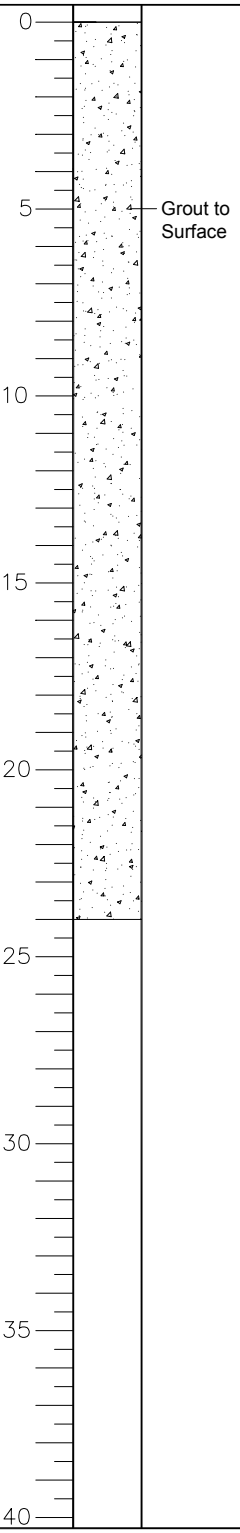
PROJECT NO.: 42-0187-01	DATE DRILLED: 1/24/05	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3072	LOGGED BY: R. Dunn	EASTING: NOT SURVEYED
2445 Castro Valley Blvd.	APPROVED BY: K. Woodburne, RG	GROUND SURFACE ELEVATION: NOT SURVEYED
Castro Valley, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Diameter Direct-Push
SAMPLER TYPE: 4-foot Continuous-Core Barrel
TOTAL DEPTH: 24.0 feet
DEPTH TO WATER: 23.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Vacuum clearance to 5'.		
0.6		3.0/3.0		5	SAND (SP): Brown (10YR 4/3), 10% fines, 90% fine-grained sand, loose, dry.		
7.1		4.0/4.0		10			
2.8		3.0/3.0				SP	
2.1		1.0/1.0		15	- @ 15': fine- to medium-grained sand.		
2.0		1.5/1.5					
1.9		2.0/2.0			- @ 17.5': color change to dark grayish brown (10YR 4/2), dense.		
2.1		1.5/1.5		20			
1.6		3.0/3.0			SILTY CLAY (CL): Gray (10YR 5/1), 95% fines, 5% fine-grained sand, medium plasticity, soft, wet.	CL	
				25			
				30			
				35			
				40			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

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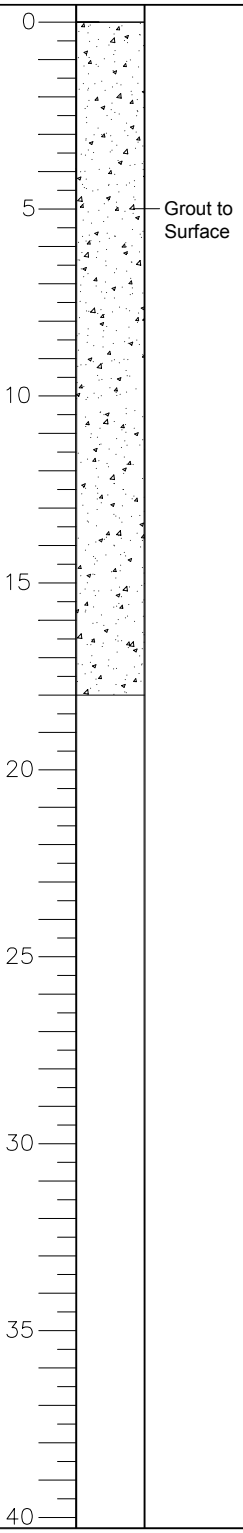
PROJECT NO.: 42-0187-01	DATE DRILLED: 1/25/05	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3072	LOGGED BY: R. Dunn	EASTING: NOT SURVEYED
2445 Castro Valley Blvd.	APPROVED BY: K. Woodburne, RG	GROUND SURFACE ELEVATION: NOT SURVEYED
Castro Valley, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Diameter Direct-Push
SAMPLER TYPE: 4-foot Continuous-Core Barrel
TOTAL DEPTH: 18.0 feet
DEPTH TO WATER: 15.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Vacuum clearance to 5'.		
		0.0/ 3.0		5	No recovery.		
		0.0/ 4.0		10			
		1.0/ 3.5		15	PEA GRAVEL: wet.		
1.4		2.5/ 2.5			SAND (GW): Brown (10YR 4/3), 5% fines, 95% fine- to medium-grained sand, loose, wet.	GW	
				20			
				25			
				30			
				35			
				40			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

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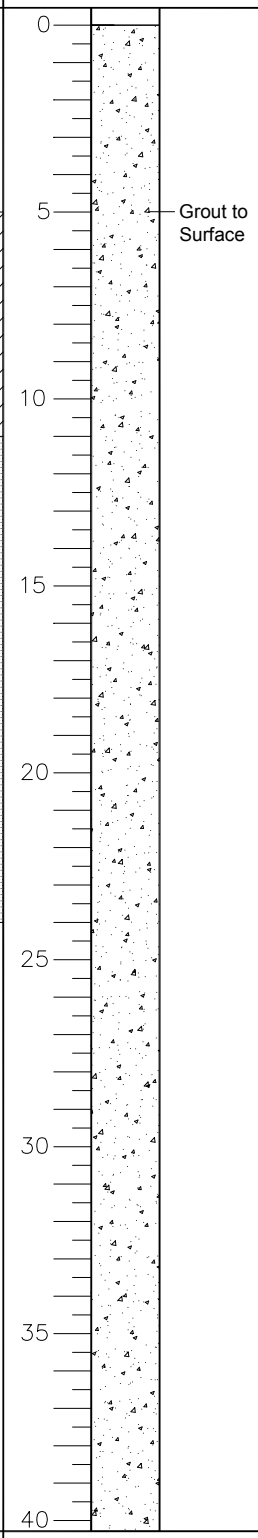
PROJECT NO.: 42-0187-01	DATE DRILLED: 1/25/05	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3072	LOGGED BY: R. Dunn	EASTING: NOT SURVEYED
2445 Castro Valley Blvd.	APPROVED BY: K. Woodburne, RG	GROUND SURFACE ELEVATION: NOT SURVEYED
Castro Valley, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Diameter Direct-Push
SAMPLER TYPE: 4-foot Continuous-Core Barrel
TOTAL DEPTH: 50.0 feet
DEPTH TO WATER: 49.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Vacuum clearance to 5'.		
44.0		3.0/ 3.0		5	SILTY CLAY (CL): Greenish gray (GLEY 1 5/10Y), 90% fines, 10% fine-grained sand, medium plastic, soft, moist, hydrocarbon odor.		
1.3		4.0/ 4.0			- @ 8.5': stiff.	CL	
				10			
1.7		2.0/ 4.0			SAND (SP): Grayish brown (10YR 5/2), 10% fines, 90% fine-grained sand, dense, no odor. - @ 13': color change to brown (10YR 5/3). - @ 13.5': color change to very dark gray (10YR 3/1).		
				15			
2.0		3.0/ 3.0			- @ 18': color change to dark grayish brown (10YR 4/2).	SP	
0.9		1.0/ 1.0					
1.5		3.0/ 3.0		20			
2.0		1.0/ 1.0					
				25	Difficult drilling conditions; augers used; no samples collected.		
				30			
				35			
				40			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

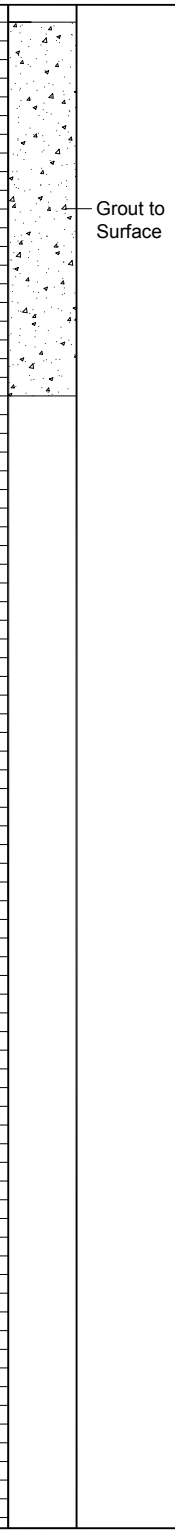
SB-4

PROJECT NO.: 42-0187-01	DATE DRILLED: 1/25/05	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3072	LOGGED BY: R. Dunn	EASTING: NOT SURVEYED
2445 Castro Valley Blvd.	APPROVED BY: K. Woodburne, RG	GROUND SURFACE ELEVATION: NOT SURVEYED
Castro Valley, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Diameter Direct-Push
SAMPLER TYPE: 4-foot Continuous-Core Barrel
TOTAL DEPTH: 50.0 feet
DEPTH TO WATER: 49.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				40	Difficult drilling conditions.		
				45			
1.2		1.0/ 1.0		50	SAND (SP): Gray (10YR 5/1), 10% fines, 90% very fine-grained sand, loose, wet.	SP	
				55			
				60			
				65			
				70			
				75			
				80			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

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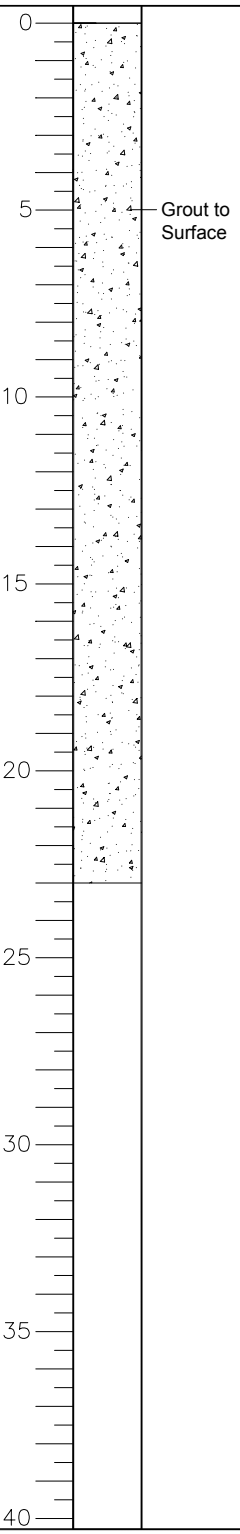
PROJECT NO.: 42-0187-01	DATE DRILLED: 1/31/05	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3072	LOGGED BY: R. Dunn	EASTING: NOT SURVEYED
2445 Castro Valley Blvd.	APPROVED BY: K. Woodburne, RG	GROUND SURFACE ELEVATION: NOT SURVEYED
Castro Valley, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Diameter Direct-Push
SAMPLER TYPE: 4-foot Continuous-Core Barrel
TOTAL DEPTH: 23.0 feet
DEPTH TO WATER: Not Encountered

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Vacuum clearance to 5'.		
0.2		3.0/3.0		5	SILT (ML): Light yellowish brown (10YR 6/4), 90% fines, 10% fine-grained sand, nonplastic, stiff, dry.	ML	
0.4		4.0/4.0					
				10	SAND (SP): Brown (10YR 5/3), 10% fines, 90% fine- to medium-grained sand, dense, dry.		
1.2		4.0/4.0					
				15		SP	
1.2		2.0/2.0			- @ 17.5': color change to gray (10YR 5/11), fine-grained sand, loose.		
1.8		2.0/2.0					
2.5		2.0/2.0		20			
2.0		1.0/1.0					
				25			
				30			
				35			
				40			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

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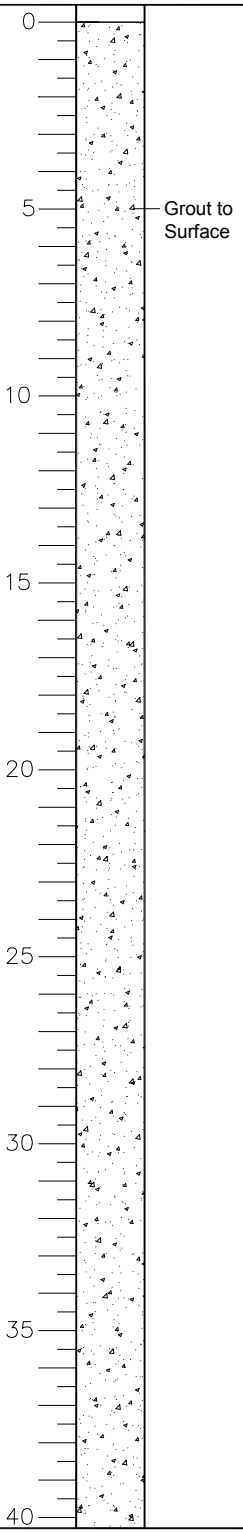
PROJECT NO.: 42-0187-01	DATE DRILLED: 1/31/05	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3072	LOGGED BY: R. Dunn	EASTING: NOT SURVEYED
2445 Castro Valley Blvd.	APPROVED BY: K. Woodburne, RG	GROUND SURFACE ELEVATION: NOT SURVEYED
Castro Valley, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Diameter Direct-Push
SAMPLER TYPE: 4-foot Continuous-Core Barrel
TOTAL DEPTH: 50.0 feet
DEPTH TO WATER: 47.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				0	Vacuum clearance to 5'.		
24.6		3.0/3.0		5	SILT (ML): Greenish gray (GLEY1 5/10Y), 90% fines, 10% fine- to medium-grained sand, low plasticity, soft, moist.	ML	
190.1		2.0/2.0					
60.1		2.0/2.0		10	SAND (SP): Pale brown (10YR 6/3), 15% fines, 85% fine-grained sand, dry.		
2.2		1.0/1.0			- @ 12.5': color change to yellowish brown (10YR 5/4).		
6.7		3.0/3.0		15	- @ 15.5': medium-grained sand, slight hydrocarbon odor.	SP	
7.1		3.0/3.0					
6.8		2.0/2.0		20	- @ 20': no odor.		
					Difficult drilling conditions; augers used; no samples collected.		
				25			
				30			
				35			
				40			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

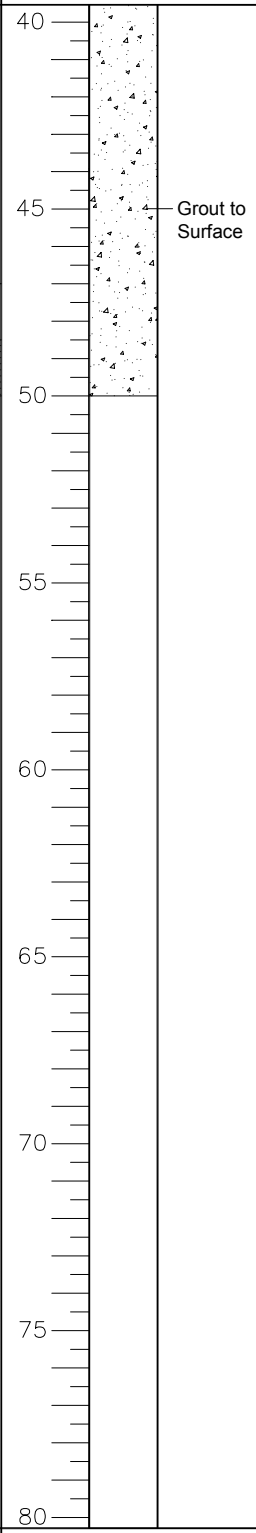
SB-6

PROJECT NO.: 42-0187-01	DATE DRILLED: 1/31/05	NORTHING: NOT SURVEYED
LOCATION: 76 Station #3072	LOGGED BY: R. Dunn	EASTING: NOT SURVEYED
2445 Castro Valley Blvd.	APPROVED BY: K. Woodburne, RG	GROUND SURFACE ELEVATION: NOT SURVEYED
Castro Valley, California	DRILLING CO.: Woodward Drilling	

DRILLING METHOD: 2-inch Diameter Direct-Push
SAMPLER TYPE: 4-foot Continuous-Core Barrel
TOTAL DEPTH: 50.0 feet
DEPTH TO WATER: 47.0 feet

PID/FID (ppm)	BLOWS PER 6 INCHES	RECOVERY	SAMPLE	DEPTH (feet below grade)	DESCRIPTION	USCS	LITHOLOGY
				40	Difficult drilling conditions.		
		3.0/ 3.0		45	SANDY SILT (ML): Gray (10YR 5/1), 90% fines, 10% fine-grained sand, low plasticity, soft, wet.	ML	
				50	SAND (SP): Gray (10YR 6/1), 10% fines, 90% fine-grained sand, dense, dry.	SP	
				55			
				60			
				65			
				70			
				75			
				80			

BORING BACKFILL DETAIL



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LOG OF EXPLORATORY BORING

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