Pacific Gas and Electric Company

Yvonne J. Meeks
Topock Project Manager
Chromium Remediation Project Office
Gas Transmission & Distribution

6588 Ontario Road
San Luis Obispo, CA 93405

Mailing Address
4325 South Higuera Street
San Luis Obispo, CA 93401

805.546.5243
Internal: 664.5243
Fax:: 805.546.5232
E-Mail: YJM1@pge.com

April 26, 2007

334110.RF.02.00

Aaron Yue
California Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, CA 90630

Subject: 300B Pipeline Liquids Tank Closure

Dear Mr. Yue:

This is a transmittal letter for a technical memorandum that summarizes information pertaining to the closure of the Former 300B Pipeline Liquids Tank at the Pacific Gas and Electric Company's Topock Compressor Station. As discussed with you, additional information about the Former 300B Pipeline Liquids Tank has been obtained since submitting the September 6, 2006 *RCRA Facility Investigation/Remedial Investigation Report, Volume 1 – Site Background and History*. The additional information concludes that the site investigation and closure process at the Former 300B Pipeline Liquids Tank is complete.

The site investigation and closure reports pertaining to the Former 300B Pipeline Liquids Tank are included as attachments, as well as the closure letter issued by the County of San Bernardino Fire Department in June 1997.

As discussed in the RCRA/CERCLA conference call on April 4, 2007, no further investigation is proposed for this location. The *RFI/RI Soil Investigation Work Plan* (Part A) and the RFI/RI Volume 3 (Soil) will simply reference the attached technical memorandum and will indicate that the site investigation and closure process at the Former 300B Pipeline Liquids Tank is complete and that no further investigation or evaluation is required.

Please contact me at 805/234-2257 if you have any questions regarding the attached technical memorandum or any other aspect of the RFI/RI activities.

Sincerely,

Yvonne Meeks

Yvonne Meeks

cc: Karen Baker
Chris Guerre
Greg Neal
Casey Padgett
John Earle
Carrie Marr
Cathy Wolff-White
Jeff Smith

Privileged and Confidential

Former 300B Pipeline Liquids Tank Closure

PREPARED FOR: Pacific Gas and Electric Company (PG&E)

PREPARED BY: CH2M HILL

DATE: April 27, 2007

This memorandum summarizes closure information for the Former 300B Pipeline Liquids Tank at the Pacific Gas and Electric Company (PG&E) Topock Compressor Station. The Former 300B Pipeline Liquids Tank was identified as an "Other Undesignated Area" in the *Final RCRA Facility Investigation/Remedial Investigation (RFI/RI) Volume 1* for the PG&E Topock Compressor Station (CH2M HILL 2006a). Review of the existing documents available at the time provided incomplete information on the status of the cleanup efforts and closure of the site. Consequently, the RFI/RI Volume 1 recommended that the Former 300B Pipeline Liquids Tank be carried forward in the RFI/RI (CH2M HILL 2006a), and a proposed sampling plan for additional investigation of the Former 300B Pipeline Liquids Tank was included in the *Draft RFI/RI Soil Investigation Work Plan (Part A)* (CH2M HILL 2006b). Additional information recently obtained modifies the conclusions of the RFI/RI Volume 1 pertaining to the Former 300B Pipeline Liquids Tank as documented herein.

The following documents associated with the site investigation and closure of the Former 300B Pipeline Liquids Tank are provided in Attachment A:

- *Investigation of Pipeline Liquid Oil Tank at PG&E's Topock Compressor Station, Needles, California*, dated July 6, 1995 (Trident 1995)
- *Former Pipeline Liquid Closure Plan PG&E Topock Compressor Station, Needles, California*, dated May 7, 1996 (Trident 1996a)
- *Former Pipeline Liquid Oil Tank Closure Certification Report, PG&E Topock Gas Compressor Station Needles, California*, dated October 10, 1996 (Trident 1996b).
- Letter from County of San Bernardino, County Fire Department, Hazardous Materials Management Division (CSBFD) to PG&E, titled *Report of Scrubber Sump Investigation Results and Former Pipeline Liquid Oil Tank Closure Certification Report for the PGE Topock Compressor Station Located 15 Miles South of Needles, off I-40, Needles, California*, dated June 9, 1997 (CSBFD 1997).

The following summarizes the existing and newly-available information pertaining to the closure of the Former 300B Pipeline Liquids Tank. Figure 1 shows the Former 300B Pipeline Liquids Tank Location. Tables 1 and 2 summarize the soil sampling results from the site investigation and closure activities.

Closure Activities

The 300B Pipeline Liquids Tank was formerly used to collect pipeline liquids from the 300B natural gas pipeline. It was located east of the Topock Compressor Station, south of the compressor station access road, immediately west of the pipeline access road adjacent to the Colorado River, on the Havasu National Wildlife Refuge (Figure 1). The tank was an aboveground tank set on a small ledge in the hillside adjacent to the road.

In 1994, oil-stained soil was observed underneath and immediately adjacent to a portion of the tank, and an initial site investigation was performed December 2, 1994. Samples were analyzed for total petroleum hydrocarbons in the motor-oil range (TPH-mo) by gas chromatography/flame ionization detector. Low levels of TPH-mo were detected at 1.2 and 2 feet below ground surface (bgs) (Trident 1995).

The tank was subsequently removed in 1995. The tank removal process consisted of removing residual liquids from the tanks; removing and disposing of the tank at an approved facility; and emptying, disconnecting, and capping the abandoned pipe ends. One surface soil sample was collected on April 16, 1996 to characterize the stained soil for future disposal. The soil sample was analyzed for total recoverable petroleum hydrocarbons (TRPH) by United States Environmental Protection Agency (USEPA) Methods 418.1, volatile organic compounds (VOCs) by USEPA Method 8240, semivolatile organic compounds (SVOCs) by USEPA Method 8270, polychlorinated biphenyls (PCBs by USEPA Method 8080, and California Assessment Method 17 metals. The sample results were less than analytical limits for VOCs, SVOCs, and PCBs. The TRPH data and metals data are presented in Tables 1 and 2, respectively (Trident 1996a). Metals, VOCs, SVOCs and PCBs were sampled at a location coincident with the highest level of TRPH, and analytical results indicate no elevated concentrations of these constituents; therefore, TRPH is considered the only constituent of concern.

Trident submitted a closure plan in May 1996 to remove the TRPH-impacted soil (Trident 1996a). The cleanup was implemented and soil excavation was conducted between July 18, 1996 and September 26, 1996. Trident conducted four rounds of excavation to 5.5 feet bgs and collected confirmation samples after each round of excavation. The cleanup target was 1,000 milligrams per kilogram (mg/kg) TRPH. Samples collected during the last two sampling events indicated that the soil remaining in place below and adjacent to the excavation contained TRPH at concentrations ranging from less than analytical detection limits to 150 mg/kg. The soil excavation and sampling results are documented in the Closure Certification Report (Trident 1996b).

The CSBFD issued a letter on June 9, 1997 confirming the completion of the site investigation and remedial action for the contaminated soil at this site.

Summary

Based on the information presented in the attachments and as summarized in this technical memorandum, the site investigation and closure process for the Former 300B Pipeline Liquids Tank is complete. The tank was removed in 1995, and contaminated soil was

removed in 1996 to 5.5 feet bgs. Residual levels of TPH are low, ranging from less than analytical detection limits to 150 mg/kg, and well below the 1,000 mg/kg cleanup level.

The CSBFD confirmed the completion of the site investigation and remedial action and granted closure of the tank in its letter dated June 9, 1997.

References

CH2M HILL. 2006a. *Final RCRA Facility Investigation Report/Remedial Investigation Report (Volume 1) PG&E Topock Compressor Station, Needles California.* September.

_____. 2006ba. Draft *RCRA Facility Investigation Report/Remedial Investigation Soil Investigation Work Plan (Part A) PG&E Topock Compressor Station, Needles California.* November.

County of San Bernardino, County Fire Department, Hazardous Materials Management Division (CSBFD). 1997. *Report of Scrubber Sump Investigation Results and Former Pipeline Liquid Oil Tank Closure Certification Report for the PG&E Topock Compressor Station*. June 9.

Trident Environmental and Engineering (Trident). 1995. *Investigation of Pipeline Liquid Oil Tank at PG&E's Topock Compressor Station, Needles, California.* July 6.

_____. 1996a. *Former Pipeline Liquid Closure Plan PG&E Topock Compressor Station, Needles, California.* May 7.

_____. 1996b. *Former Pipeline Liquid oil Tank Closure Certification Report PG&E Topock Compressor Station, Needles, California.* October 10.

Figures

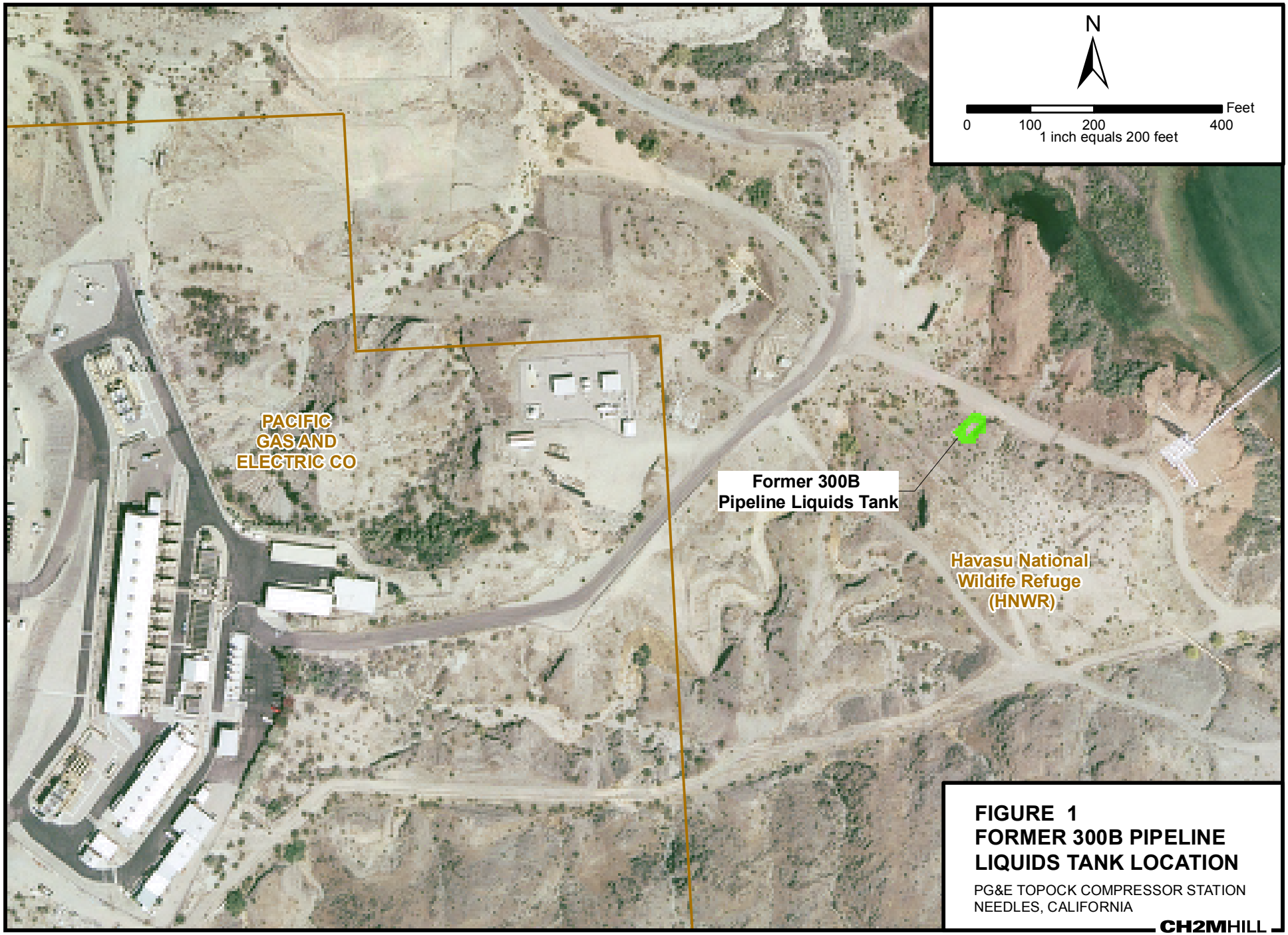


FIGURE 1
FORMER 300B PIPELINE LIQUIDS TANK LOCATION

PG&E TOPOCK COMPRESSOR STATION
NEEDLES, CALIFORNIA

CH2MHILL

Tables

TABLE 1
Total Petroleum Hydrocarbons
Soil Sampling Results
Former 300B Pipeline Liquids Tank
PG&E Topock Compressor Station, Needles, California

Sample Event/ Sample ID	Sample Date	Sample Depth (bgs)	TPH-Motor Oil[a] (mg/kg)	Total Recoverable Petroleum Hydrocarbons[b] (mg/kg)	Comments
Initial Site Investigation Results					
HDPT 1/1.2	12/2/94	1.2 feet	100		
HDPT 1/2	12/2/94	2 feet	13		
Soil Disposal Characterization Results					
TODT-1	4/16/96	0-4 inches		68,000	Excavated
Post Excavation Confirmation Sampling Round 1					
ODT-1	7/18/96	2.5 feet		1,200	Re-excavated
ODT-2	7/18/96	3.0 feet		360	Re-excavated
ODT-3	7/18/96	1.5 feet		3,800	Re-excavated
ODT-4	7/18/96	0.5 feet		ND <20	
Post Excavation Confirmation Sampling Round 2					
ODT-5	8/22/96	2.0 feet		2,500	Re-excavated
ODT-6	8/22/96	3.0 feet		1,300	Re-excavated
Post Excavation Confirmation Sampling Round 3					
ODT-7	9/5/96	2.0 feet		ND <20	
ODT-8	9/5/96	2.5 feet		ND <20	
ODT-9	9/5/96	2.5 feet		ND <20	
ODT-10	9/5/96	4.0 feet		ND <20	
ODT-11	9/5/96	4.5 feet		690	Re-excavated
Post Excavation Confirmation Sampling Round 4					
ODT-12	9/26/96	5.5 feet		ND <20	
ODT-13	9/26/96	5.0 feet		120	
ODT-14	9/26/96	5.0 feet		66	
ODT-15	9/26/96	5.0 feet		150	

Notes:
[a] Analysis Method was GC/FID.
[b] Analysis Method EPA 418.1.
ND = Not Detected at the stated reporting limit

Sources:
Investigation of Pipeline Liquid Oil Tank at PG&E's Topock Compressor Station, Needles, California, dated July 6, 1995 (Trident 1995)

Former Pipeline Liquid Closure Plan PG&E Topock Compressor Station, Needles, California, dated May 7, 1996 (Trident 1996a)

Former Pipeline Liquid Oil Tank Closure Certification Report, PG&E Topock Gas Compressor Station Needles, California, dated October 10, 1996 (Trident 1996b).

TABLE 2
Title 22 Metals
Soil Sampling Results
Former 300B Pipeline Liquids Oil Tank
PG&E Topock Compressor Station, Needles, California

Sample Event/Sample ID	Sample Date	Sample Depth (bgs)	Title 22 Metals (EPA 6010) (mg/kg)	STLC (mg/L)	TTLC (mg/kg)
Soil Disposal Characterization Results					
TODT-1	4/16/96	0-4 inches			
Antimony			ND <	15	500
Arsenic			5.5	5.0	500
Barium			224	100	10,000
Beryllium			ND <	0.75	75
Cadmium			0.86	1.0	100
Chromium (total)			20	560	2,500
Cobalt			7.5	80	8,000
Copper			12	25	2,500
Lead			8.8	5.0	1,000
Mercury			ND <	0.2	20
Molybdenum			ND <	350	3,500
Nickel			ND <	20	2,000
Selenium			ND <	1.0	100
Silver			ND <	5.0	500
Thallium			ND <	7.0	700
Vanadium			37	24	2,400
Zinc			53	250	5,000

ND - Not Detected at the stated reporting limit.

Source: *Former Pipeline Liquid Closure Plan PG&E Topock Compressor Station, Needles, California*, dated May 7, 1996 (Trident 1996a)

Attachments

INVESTIGATION OF PIPELINE LIQUID OIL TANK
AT PG&E's TOPOCK GAS COMPRESSOR STATION
NEEDLES, CALIFORNIA

Prepared By:

TRIDENT ENVIRONMENTAL AND ENGINEERING
110 L Street, Suite #1
Antioch, California 94509

For:

PACIFIC GAS AND ELECTRIC COMPANY
GAS SYSTEM TECHNICAL SUPPORT
123 Mission Street
San Francisco, California 94177

REGISTERED PROFESSIONAL ENGINEER
MICHAEL HECKATHORN
C45775
Exp 12-31-98
CIVIL
STATE OF CALIFORNIA

July 6, 1995

Michael E. Heckathorn, P.E.
Registered Civil Engineer
Number C45775

Jonathan Nunez
Project Engineer

[illegible].DOC

TABLE OF CONTENTS

PG30064796

1.0 INTRODUCTION

This report details a limited field investigation conducted on December 1 and 2, 1994 at the site of a former pipeline liquid oil tank at PG&E's Topock Compressor Station. The investigation was conducted by Trident Environmental and Engineering to determine the level and extend of oil contamination in the soils underlying the former tank (now removed). The soils immediately surrounding the former 900 gallon tank were observed to be oil stained. The investigation included a site reconnaissance, photographs of the immediate area, and soil sampling and laboratory analyses of the affected area beneath the former tank.

2.0 SITE INFORMATION

2.1 Site Location

The Topock Compressor Station is located approximately 14 miles southeast of Needles, on the Colorado River in San Bernardino County, California. It is on the United States Geological Survey Topock Arizona - California 7.5 minute quadrangle map of 1970. A vicinity map is attached as Figure 1 for location purposes.

The oil tank site is located southeast of the station on the facility access road. Access from Interstate 40 is via the Park Moabi exit, underneath the freeway and southeast approximately two miles along an asphalt road to the facility. The tank site lies about 100 feet east of the asphalt road on an unpaved road south of the large Route 66 Highway sign, (see Figure 2, "Plot Plan").

2.2 Tank Site Location

The site of the former tank currently consists of an elevated benched pad, two concrete saddle supports, and a flight of concrete steps that provide access from the road to the pad. The pad is a benched cut of soil about 20 feet wide at its widest berth and is elevated about 7 feet above the road extending south away from the road along the west side of a small hill. The tank pad slopes approximately 1% to 3% northwest.

The dimensions of the former oil tank were two feet, ten inches in diameter by 20 feet long and made of one-half inch thick steel. It sat in an north south direction on the two, concrete saddles each measuring, two feet by four feet by two feet high and situated one and a half feet to the inside of each end of the tank. An inlet pipe entered the tank at the top near the south end, with an outlet located at the bottom of the tank on the north end. The tank was used to store pipeline liquids, separated from the pipeline.

Photographs of the tank site are included as Appendix I.

3.0 SITE CHARACTERISTICS

3.1 Site Topography

The pad for the tank is situated in moderately hilly terrain on the northwest flank of a small hill adjacent to the west side of the Colorado River. The pad was roughly estimated, by hand leveling, to be 55 feet above a slough adjacent to the Colorado River. This slough in turn is approximately five feet above the River. The small hill extending

southeast of the tank site is estimated to be 50 or 60 feet higher than the tank pad. The hill is essentially surrounded by arroyos that flow eastward emptying into the Colorado River. The arroyo between the tank and main asphalt access road is spanned by a 48 inch diameter culvert that is partially filled with sediment at the up slope end (a distance of 50 to 60 feet north of the tank).

3.2 Site Geology And Hydrogeology

The tank site appears to be underlain by very hard, moderately fractured metamorphic rock that is somewhat weathered and more fractured near the surface. Overlying the rock to various depths are partially cemented alluvial fan deposits. Typically, these fan deposits are stratified, containing angular rock fragments, and are partially cemented. Locally, terrace deposits containing rounded river gravels in brown, silty sand overlie and possibly interfinger with the alluvial fan deposits. Between the dirt access road and the Colorado River is a deposit of moderately hard, moderately weathered reddished-brown, brecciated rock containing angular fragments to 12 inches, but typically less than one inch. It is stratified and generally dips northerly.

Exploration was not performed to determine the depth to groundwater or the gradient. Often the groundwater table is related to the topography. The groundwater table would slope northward toward the nearby Colorado River should that be the case at this site. Water was not encountered in the two foot deep test pit and there were no visual indications, such as springs or seeps, of groundwater near the tank site.

4.0 RESULTS OF SITE INVESTIGATION

4.1 Observations

Oil staining was observed in the soil adjacent to the tank site to an approximate maximum distance of six feet from the edge of the tank (see Figure 2 and Photographic Log). It appears that oil has overflowed from the pipe on top of the south end of the tank and sprayed onto the soil. Oil was also observed on the concrete saddle tank supports and local soil extending approximately five feet east of the tank. Oil stained soil was also observed completely underneath the tank extending to the northwest approximately six feet and on the vertical seven foot embankment cut sloping to the access road below. An eight inch wide diameter puddle of oil, one inch deep, was seen to occur underneath the tank on the west side of the tank. A hand dug test pit (HDTP-1) was excavated on the west side of the tank. The depth of oil penetration below the ground surface at the tank site appears to be greatest on the surface and decreasing with depth to approximately two feet deep as observed in HDTP-1, since staining was not observed below the two feet depth in HDTP-1.

4.2 Soil Sampling Analyses

HDTP-1 soil was sampled at 1.2 and 2.0 feet depths on December 2, 1994. These two soil samples were put in glass jars, sealed, labeled, and properly packed in Blue Ice™. They were delivered for TRPH-LUFT/M analyses to The Twining Laboratories, Inc.,

PG30064800

Fresno, California. The hole was logged as Test Pit Log HDTP-1, and then backfilled. (A cross-section of HDPT-1 is included as Figure 3).

Results of laboratory analyses indicate amounts of total recoverable petroleum hydrocarbons (TRPH) in HDTP-1 to be 1250 mg/kg and 1600 mg/kg at 1.2 foot and 2.0 foot depths below ground surface, respectively. The laboratory analytical results are included as Appendix II. The Soil Sampling Quality Assurance Plan is presented as Appendix III.

In summary, the area affected by oil staining is a rectangle approximately 20 by 40 feet in area and two feet deep.

5.0 RECOMMENDATIONS

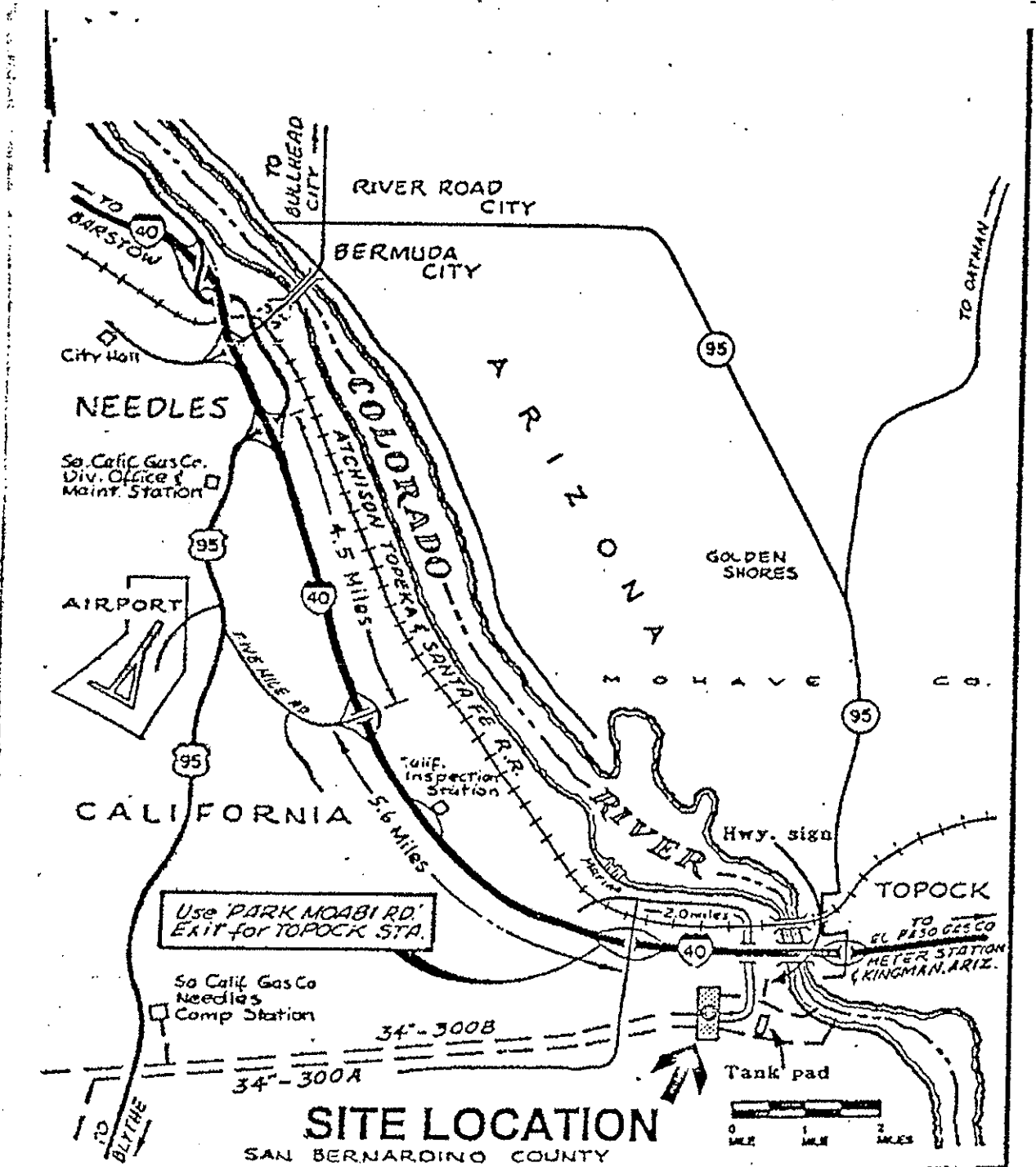
Recommendations include removing up to two vertical feet of existing soil in a maximum approximate area of 20' x 10' area surrounding the former tank site (see Figures), to an appropriate disposal facility. Oil stained soils on the near vertical embankment to the north of the tank site plus any other visibly oil stained soils outside the removal area should also be removed entirely. It is estimated that between 15 to 30 cubic yards of oil contaminated soil will need to be excavated. Appropriate stockpile characterizations should also be performed. Other recommendations include dismantling and removing the existing concrete saddle supports and the concrete steps for disposal at Lake Havasu Landfill or another Class III disposal facility.

Field analytical support should be implemented as necessary and results documented.

Confirmation soil sampling and laboratory analysis should be performed in the confirmation soil sampling zone (see Figure 4) after all contaminated soil excavation is complete.

Current access to the site allows for standard construction equipment such as a backhoe and end-dump transport trucks to be used in the excavation and removal of contaminated soils. Contaminated soil removal and disposal should be conducted in accordance with all state and federal regulatory agency requirements. Additionally, extreme care in protecting the adjacent embankment should be maintained as loss of the embankment could result in erosion and other peripheral site problems.

FIGURES



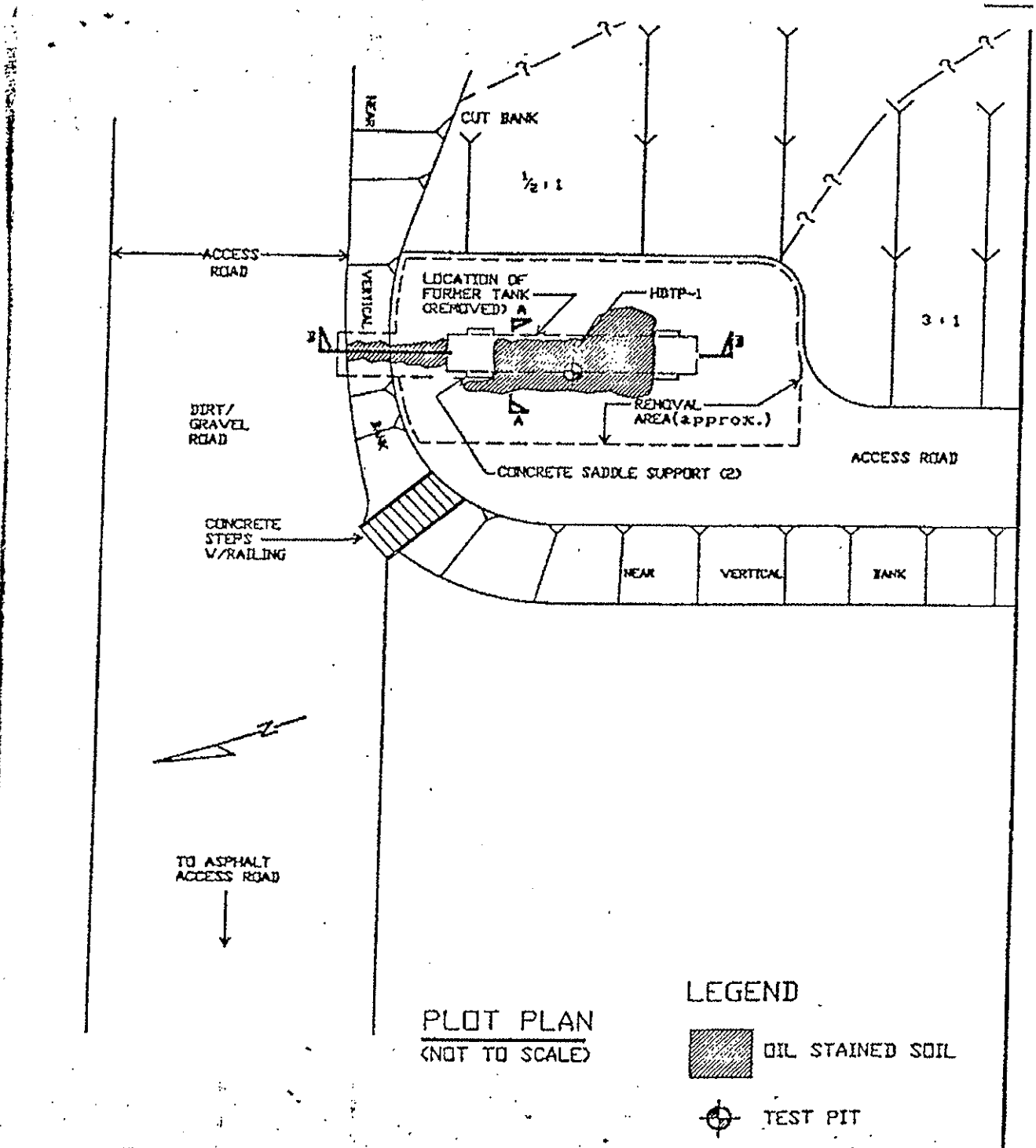
PG&E

VICINITY MAP

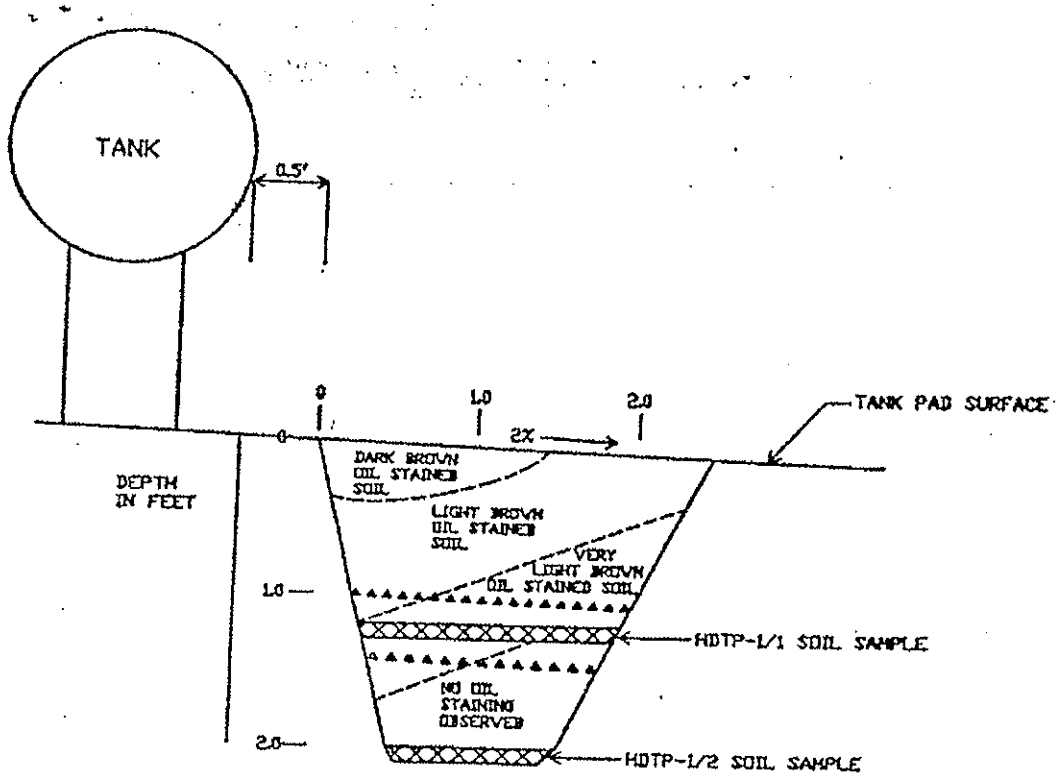
TOPOCK COMPRESSOR STATION

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

FIGURE 1



TOPOCK TANK SITE PLOT PLAN PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA	TRIDENT ENVIRONMENTAL AND ENGINEERING 110 L STREET, SUITE #1 ANTIOCH, CALIFORNIA 94509 PHONE: (510) 706-6931	FIGURE 2 DRAWN BY A.D.G.S. DATE 12/17/94 CHECKED BY C.T. JOB NO. 1134 SHEET 1 OF 3



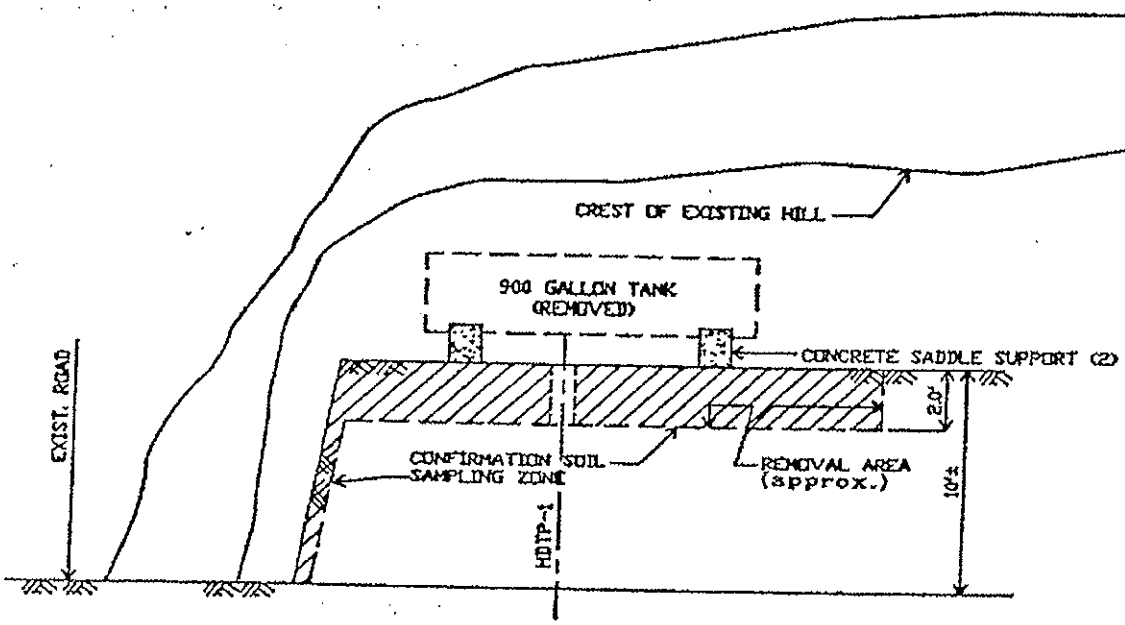
HDTP-1

SANDY GRAVEL (GP)
BROWN, ETREMELY DENSE, DRY, ANGULAR, VERY HARD, SLIGHTLY WEATHERED ROCK FRAGMENTS IN A SILTY SAND MATRIX. PREDOMINANTLY METAPHORIC BUT SOME GRANITIC ROCK FRAGMENTS. MATERIAL MODERATELY CEMENTED WITH CALICHE. STRATIFICATION DIPS 0-5 DEGREES TO NORTHEAST, VARIABLE.

HDTP-1 HAND DUG ON FRIDAY, DECEMBER 2, 1994, USING PICK, BAR, AND SHOVEL. REPRESENTATIVE SOIL SAMPLES TAKEN AT 1.2 AND 2.0 FT. IN 3-INCH GLASS SAMPLE TUBES FOR TPH-LUFT/M TESTS. NO WATER WAS ENCOUNTERED. SOIL WAS DRY. HOLE WAS BACKFILLED USING MATERIAL EXCAVATED FROM HOLE.

SECTION A-A
(NOT TO SCALE)

TOPOCK TANK SITE SECTION A-A PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA	TRIDENT ENVIRONMENTAL AND ENGINEERING 110 L STREET, SUITE #1 ANTIOCH, CALIFORNIA 94509 PHONE: (510) 706-6931	FIGURE 3 DRAWN BY A.D.G.S. DATE 12/17/94 REVIEW BY C.T. JOB NO. 1134 SHEET 2 OF 3



SECTION B-B

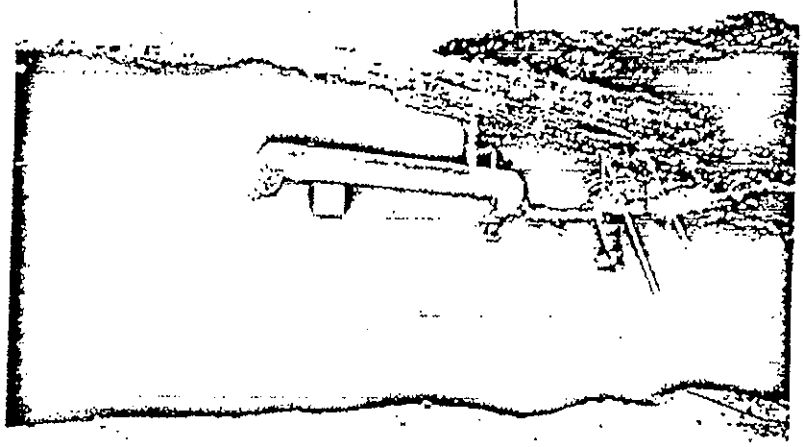
(NOT TO SCALE)

REMOVAL AREA

TOPOCK TANK SITE SECTION B-B PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA	TRIDENT ENVIRONMENTAL AND ENGINEERING 110 L STREET, SUITE #1 ANTIOCH, CALIFORNIA 94509 PHONE: (510) 706-6931	FIGURE 4 A.D.G.S. 12/17/94 1134 SHEET 3 OF 3

APPENDIX I

Photographic Log



PIPELINE LIQUID OIL TANK ON BENCHED PAD

OIL STAINED SOIL

POOR QUALITY ORIGINAL

APPENDIX II

Laboratory Analytical Results and

Chain-of-Custody Records

for

HDTP-1

POOR QUALITY ORIGINAL

Chain-of-Custody and Analysis Request Record

(209) 268-7021

RUSH

Date 12/08/94
Page 1 of 1

Mgr. Moorilos, CA / Chamiro
TL#

Report To:
Client Name Trident Env. & Eng.
Address 110 "L" Street
Antioch, CA 94509
Contact Name
Phone (510)706-6931
Contract/PO# 20-3439-254
Sampler Name C. I. TRANTHAM

Copies To: Pacific Gas & Electric
RC #22176
Malvin Wong

Bill To:

Expected Turnaround:
☐ ROUTINE ☐ RUSH VERBALS* ☒ RUSH REPORT*
*Additional Fees Apply
Specify Date: __/__/__
☐ FAX # (510)778-9067

Analysis Requested: Nickel (Ni), Chromium (Cr), Hexavalent Chromium, Copper, Zinc, Pb, TPH-LUFT/A, TPH-motor oil

Lab ID#	Client Sample ID	Sample Date/Time	Sample Type	#/Size/Type of Container	Analysis Requested	Preservation/Handling	Location
1	HDIP 1/1.2	12:50 12/2/94	S		X		
2	HDIP 1/2	4:10 pm 12/2/94	S		X		

Each hazardous sample submitted for analysis will be charged a hazardous waste disposal fee. Clients that retrieve hazardous samples within 30 days of the analytical report date will be refunded any disposal fees.

For Water samples, please check one of the following:
☐ Drinking Water
☐ Waste Water
☐ Ground Water (wells)
☐ Surface Water (rivers, lakes)

Comments:

Dept. | Initials | Date/Time | Location
601
602
603
604

Relinquished By:	Delivered By:	Received By:	Received By:
Signature C. I. Trantham	Signature Greyhound	Signature Mickey Olivarius	Signature
Printed C. I. TRANTHAM	Printed	Company TL	Company
Company TRIECA	Company	Date/Time 12/9/94	Date/Time
Date/Time 12/2/94 9:10 pm	Date/Time 12/9/94 8:30	Log In Date/Time 0850	Log In Date/Time

SHADED AREAS FOR OFFICE USE ONLY

RECEIVED DEC 1 0 1994

POOR QUALITY ORIGINAL

TWINING
LABORATORIES, INC.
ANALYTICAL CHEMISTRY • ENVIRONMENTAL SERVICES
GEOTECHNICAL ENGINEERING • DRILLING SERVICES
CONSTRUCTION INSPECTION & MATERIALS TESTING

REPORT DATE : December 14, 1994
LABORATORY ID : 694-7319.1-2

PAGE 1 of 1

DATE SAMPLED : 12-02-94 at As Listed by C.I. Trantham
DATE RECEIVED : 12-09-94 at 0850 via Greyhound

CLIENT : Pacific Gas & Electric
Trident Environmental & Engineering

PROJECT : Topoc Comp. Station
I-40 & Park Mosbi Road
Needles, CA

ANALYZED BY : B. Meadows
REVIEWED BY : R. Stafford

DATE PREPARED : 12-09-94
DATE ANALYZED : 12-13-94

SAMPLE TYPE : Soil

CONSTITUENT : Total Petroleum Hydrocarbons- Motor Oil

LAB ID #	CLIENT SAMPLE ID		RESULT	UNITS	DLR	METHOD
.1	HDTP 1/1.2	@ 1250	100	mg/kg	2	GC/FID
.2	HDTP 1/2	@ 1600	13	mg/kg	2	GC/FID

ND: None Detected DLR: Detection Limit for Reporting purposes
mg/kg: milligrams per kilogram (parts per million)

Rev. 3 2/94 #FORM1.JNB

CORPORATE OFFICE:
2527 Fresno Street
Fresno, CA 93721
(209) 268-7021 • Fax 268-7126
Chemistry Fax 268-0740

MODESTO
4230 Kiernan Ave. Suite 105
Modesto, CA 95356
(209) 545-1050
Fax 545-1147

VISALIA
2521 E. Valley Oaks Drive
Visalia, CA 93292
(209) 625-1712
Fax 625-1714

BAKERSFIELD
3701 Pegasus Drive, Suite 124
Bakersfield, CA 93308
(805) 393-5088
Fax 393-4643

APPENDIX III

Soil Sampling Quality Assurance Plan

SOIL SAMPLING QUALITY ASSURANCE PLAN

Sample Collection and Handling

The samples will be collected in glass jars using a stainless steel trowel following procedures given in appropriate regulatory guidance documents (i.e. EPA SW-846, ASTM guidelines, etc.). The jars will be sealed, clearly marked and dated for identification and prepared for transport to a state certified analytical laboratory. All samples will be preserved correctly and stored no longer than the maximum allowable holding time for laboratory analysis. Blue Ice™ will be used to maintain proper temperature during shipment.

Decontamination Procedures

In order to ensure that no cross contamination occurs during soil sampling activities at the site, all equipment will be decontaminated between each sampling event. Decontamination will consist of cleaning with a detergent wash followed by a flowing deionized water rinse. All decontaminated equipment will be stored on clean pallets or plastic sheeting. The following procedures will be utilized for decontaminating all sampling equipment.

- All soil sampling equipment (trowels)will be washed with TSP detergent and rinsed with flowing deionized water.
- Glass jars used in the sampling will be new and will be certified clean by the laboratory.
- Remaining soil material will be left in place.

Sample Handling Procedures

All soil samples will be collected in new, clean glass sampling jars. No jars will be reused during the project. Fresh Blue Ice™ will be added to the ice chest. One copy of the chain-of-custody form will be placed in a plastic bag and put into the ice chest, which will be sealed with strapping tape. The samples will be shipped via overnight delivery or courier service to the laboratory.

Sample Labels

All labels will include the following information: the name of the sampler, project name, sample designation, and date and time of sampling. All labels will be filled out at the time of sample collection.

Chain-of-Custody Record

A chain of-custody record will be used to establish the documentation necessary to trace sample possession from the time of collection. It may incorporate a separate sample analysis request sheet. Alternately, a separate request sheet may be used.

Sample information will be recorded on the chain-of-custody form. Personnel will record information for individual samples indicating the sample number, matrix, collection date and time, analytical tests to be performed, and any special instructions for the laboratory. The forms will accompany all samples collected in the field to the laboratory. Whenever a sample is transferred, both parties will sign and date the form, and the person releasing the samples will retain a copy. Final chain-of-custody forms will be attached to the analytical reports prepared by the laboratory.

Instruction to the laboratory will be provided in writing prior to the start of field activities. The instructions will reference sample identification numbers and analyses to be performed on each sample.

Field Log

A field log will be used to record all field data pertinent to the sampling event. The log must contain the following data:

1. name of sampler
2. location of sampling point
3. purpose of sampling
4. description of sample
5. sampling point and sampling methodology
6. number and volume of sample taken
7. name and address of field contact
8. date and time of collection
9. collector's sample identification number
10. weather conditions at the time of sampling
11. sample distribution and transportation mode field observations
12. field measurements made and records of instrument standardization and calibration, if applicable
13. relevant comments regarding sampling procedure, methods, and any problems encountered during the sampling
14. signatures of personnel responsible for observations

Sample Delivery to the Laboratory

The sample will be delivered to the laboratory for analysis as soon as practicable. Efforts will be made to deliver the sample to the lab on the same day it was taken, if possible. It will not be accepted by the laboratory if sample preservation times have not been met. All samples will be accompanied by the Chain-of-Custody Record. Samples shipped via common carrier will be considered to have been in their custody during that period of time. Shipping bills of lading will be used as evidence of their sample custody. All samples shipped via common carrier shall be transported in sealed ice chests.

Laboratory Quality Control

A State approved laboratory will be used. The laboratory will follow an approved QA/QC program. The laboratory will be approved by PG&E (i.e. under PG&E contact).

Receipt and Logging of Sample

In the laboratory, the assigned sample custodian will receive the samples. Upon receipt of a sample, the custodian will do the following: inspect the condition of the sample and the sample seal (if any), reconcile the information on the sample label and seal against that on the Chain-of-Custody Record, assign a laboratory number, log in the sample in the laboratory log book, and store the sample in a proper sample storage room or cabinet until assigned to an analyst.

The sample custodian will inspect the sample for any leakage from the container. Any discrepancies between the information on the sample label, sample seal (if any), and the information on the Chain-of-Custody record or sample analysis request sheet will be resolved. Results of the inspection will be noted on the sample, chain-of-custody record, and on the laboratory sample log book. Incoming samples will carry the sample identification numbers.

Assignment of Sample for Analysis

Once the sample has been received in the laboratory, the laboratory will maintain an internal chain-of-custody control in accordance within its own chain-of-custody program.

All written records of sample handling and analyses will be maintained by the laboratory to document sample history from the time samples reach the laboratory until disposal.

Laboratory Analytical Quality Assurance

In addition to routine calibration of the instruments with standards and blanks, the analyst is required to run duplicates and spikes on 10% of the analyses to ensure an added measure of precision and accuracy. Accuracy is also verified through the following:

1. Certification by California Department of Health Services.
2. Participation in inter-laboratory or round-robin programs.
3. "Blind" samples are submitted by the laboratory's quality assurance officer on a weekly basis. These are prepared from National Bureau of Standards or U.S. Environmental Protection Agency reference standards.

Further details of the laboratory QA/QC program will be supplied in the report documenting the soil sampling and analyses work.

Trident Environmental AND Engineering, Inc.
110 L Street, Suite #1, Antioch, California 94509 Lic.# A-584149 Phone (510) 706-6931 Fax (510) 778-9067

May 7, 1996

Ms. Catherine B. Richards
San Bernardino County Fire Department
Hazardous Materials Division
385 North Arrowhead Avenue
San Bernardino, California 92415

RE: Pacific Gas and Electric
Topock Compressor Station
Former Pipeline Liquids Oil Tank Closure Plan

Dear Ms. Richards:

Attached is the closure plan for former pipeline liquid oil tank site at the above referenced facility. The former oil tank has been removed. The tank was formerly used to collect oil blown down from the natural gas pipeline at the compressor station. This plan proposes to remove the concrete saddle supports for the tank, the concrete access stairs and the visible oil stained soil in the vicinity of the former tank, per the enclosed LUFT analysis.

Confirmation soil samples will be obtained after the removal of the stained soil. The samples will be tested for Total Petroleum Hydrocarbons (TPH) in accordance with EPA Method 418.1. The site will be regraded after removal of the soil. Contaminated soils will be recycled or disposed of at an approved Class II disposal facility.

We would greatly appreciate it if you please contact Mr. Rex Bell of PG&E at (510)746-4258 with any comments and your approval of this Former Pipeline Liquid Oil Tank Closure Plan.

Sincerely,

Richard E. McGough

Richard E. McGough, PE
Senior Civil Engineer

Attachment

cc: Rex Bell
Pacific Gas and Electric
375 North Wiget Lane, Suite 130
Walnut Creek, CA 94598

Melvin Wong, Pat Fonbuena, Glen Riddle, Taha Nassar, Ernie Ralston

FORMER PIPELINE LIQUID OIL TANK CLOSURE PLAN
PG&E TOPOCK GAS COMPRESSOR STATION
NEEDLES, CALIFORNIA

Submitted for Approval to:

County of San Bernardino
County Fire Department Hazardous Materials
385 North Arrowhead Avenue
San Bernardino, California 92415

By:
Pacific Gas and Electric Company
Gas System Technical Support Department
375 North Wiget Lane
Walnut Creek, California 94598

Prepared by:
Trident Environmental and Engineering
110 "L" Street, Suite 1
Antioch, CA 94509

May 7, 1996

E:\PROP-PRA\1996\1231\UPT1231D.DOC

TABLE OF CONTENTS

FIGURES

APPENDICES

1.0 INTRODUCTION

This closure plan is being submitted to the County of San Bernardino, County Fire Department, Hazardous Materials Division for the closure of the former pipeline liquid oil tank located at PG&E's Topock Gas Compressor Station. The site is located near Needles, California, County of San Bernardino. The pipeline liquid oil tank was formerly used to collect oil blown down from the natural gas pipeline at the compressor station.

2.0 SITE DESCRIPTION

2.1 Site Location

The Topock Compressor Station is situated in the eastern part of San Bernardino County, approximately 14 miles southeast of Needles California and about 0.25 miles west of the Colorado River. A vicinity map indicating the location of the site is presented as Figure 1. The oil tank site is located southeast of the station on the facility access road. The tank site is about 100 feet east of the asphalt road leading to the compressor station. The tank site borders on an unpaved road, south of the large "Route 66 Highway Sign", (See Figure 2, "Plot Plan").

2.2 Tank Site Location

The site of the former pipeline liquid oil tank currently consists of an elevated benched earth pad, two concrete saddle supports, and a flight of concrete stairs that provide access from the unpaved road to the pad. The pad is a benched cut of soil about 20 feet wide at its widest berth. It is elevated about seven feet above the unpaved road which extends east from the main access road leading to the compressor station. The tank pad slopes approximately 1% to 3% to the northwest. The former tank site is located on property owned by the United States Bureau of Land Management.

PG40330099

The dimensions of the former oil tank, which was removed in May 1995, were two feet, ten inches in diameter by 20 feet long. The aboveground tank had a shell thickness of one-half inch. It sat in a north-south direction on two concrete saddles each measuring two feet wide, by four feet long, by two feet high. They were situated one and a half feet to the inside of each end of the tank. An inlet pipe entered the tank at the top near the south end, and an outlet pipe was located at the bottom on the north end. The tank was used to store pipeline liquids, which were blown down from the gas pipeline.

3.0 SITE CHARACTERISTICS

3.1 Climate

The Topock Compressor Station has a relatively cold climate during the winter season and a hot climate during the summer months. Average monthly temperatures vary from minimums of 30 to 40° F in the winter months to maximums exceeding 100° F in the summer. Average annual precipitation for the site is 5.15 inches per year. The highest amount of rainfall is likely to occur in summertime thunderstorms. The maximum expected 24-hour precipitation for a 100-year storm is 2.66 inches to 3.26 inches. The average annual wind speeds are approximately 7.5 mph from prevailing winds from the southwest.

3.2 Site Topography

The earth pad for the tank is situated on moderately hilly terrain on the northwest flank of a small hill adjacent to the west side of the Colorado River. The pad is estimated to be approximately 55 feet above a slough adjacent to the Colorado River. This slough in turn is approximately five feet above the Colorado River. The small hill extending southeast of the tank site is approximately 50 to 60 feet higher than the tank pad. The hill is essentially surrounded by arroyos that flow eastward emptying into the Colorado

River.

4.0 JUSTIFICATION FOR CLOSURE

The tank was no longer used for blowdown of pipeline liquids and was removed. Presently the pipeline liquid oil is removed from the pipeline at other locations within the compressor station.

5.0 TANK REMOVAL

The former pipeline liquid oil tank was removed in 1994. The scope of work for the tank removal was as follows:

- Residual liquid was removed from the tank by vacuum truck.
- The tank was removed from the site and disposed of at an approved facility.
- Piping was emptied, disconnected and capped at abandoned ends.

6.0 RESULTS OF SITE INVESTIGATION

An initial site investigation was performed by Trident Environmental and Engineering on December 1 and 2 1994. Oil staining was observed in the soil adjacent to the tank site at an approximate maximum distance of six feet from the edge of the tank (see Figure 2). It appears that the oil overflowed from the vent located on the south end of the tank, and sprayed onto the soil. Oil staining was observed as follows: in local soil extending approximately five feet east of the tank; underneath the tank extending to the northwest - approximately six feet from the tank; and on the face of the seven foot vertical embankment cut, sloping to the access road below. (See Figure 2).

A hand dug test pit (HDTP-1) was excavated on the west side of the tank on December 2, 1994. Results of laboratory analyses indicate concentrations of Total Petroleum Hydrocarbons (TPH) in HDTP-1 to be 1250 mg/kg at 1.2 foot depth and 1600 mg/kg at a 2.0 foot depth

100 13

PG40330101

below ground surface. The laboratory analytical results are included as Appendix A. The Soil Sampling Quality Assurance Plan is presented as Appendix B. All personnel followed the Trident's Health and Safety Plan requirements.

In summary, the area affected by oil staining is a rectangular box approximately 20 feet by 40 feet in dimension and two feet deep.

7.0 CHARACTERIZATION OF STAINED SOIL

A soil sample was obtained just below the surface of the oil stained soil on April 16, 1996 to characterize the soil for proper disposal. The sample was tested for TPH (EPA 418.1), CAM 17 (TTLC) metals, Volatile Organics (EPA 8240), Semi-Volatile Organics (EPA 8270) and PCB's (EPA-8080). Results of analyses are as follows: metals concentrations are near background, the TPH concentration is 68,000 ppm. All other analyses had nondetectable (N.D.) concentrations. The test results indicate that the oil stained soil is non-hazardous and the only constituent of concern is petroleum hydrocarbons. The laboratory analytical results are also included in Appendix A.

8.0 LUFT MANUAL GENERAL RISK APPRAISAL

A general risk appraisal was made to assess the potential threat to the environment caused by the presence of petroleum hydrocarbons in the soils beneath the removed pipeline liquids oil tank. This general risk appraisal was based on the guidelines set forth in the LUFT Manual. The intent of this analysis was to set site cleanup goals.

The LUFT Manual guidelines are designed to assess the cleanup level for diesel fuels present in the soils. This can be applied to pipeline liquids oil, which is essentially lubricating oil, introduced into the pipeline during previous compression of the gas. The lubricating oil

PG40330102

present in the tank is more viscous and less mobile than diesel. Thus the LUFT diesel analysis will apply more stringent standards in assessing the potential oil impact on groundwater and will serve as a conservative analysis of any leaching potential.

The following table is a summary analysis of the leaching potential of lubricating oil in soil to determine what concentration can be left in place without threatening groundwater. The scoring system is taken from the LUFT Manual and incorporates site specific features of the Topock site. Scoring assesses site specific features, such as the following. The depth to the Colorado River is 55 feet and the average annual precipitation is 5.15 inches per year. There are no conduits or other unique site features which could increase vertical migration of leachate to groundwater. These features are scored as to their potential to impact groundwater. The sum of the scores indicates the overall impact at the site.

Reference Table 2-1 of the LUFT Manual

Site Feature	Condition	Score
Minimum Depth to the Ground Water from the Soil Sample (feet)	55	9
Fractures in subsurface (applies to foothills or mountain areas)	None	10
Average annual Precipitation (inches)	<10	10
Man-made conduits which increase vertical migration of leachate	None	10
Unique site features: recharge area, coarse soil, nearby wells, etc.	None	10
Total Points	+	49

Results of analyses indicate a score of 49. The LUFT Manual states that for a total score of 49 or more points, the maximum allowable TPH (diesel) level would be 10,000 ppm.

PG40330103

Additionally, the general risk appraisal checklist for protection of water quality, as set forth in the LUFT Manual, is analyzed as part of this risk appraisal. The following questions are designed to address site specific characteristics that may impact water quality. Positive response to any questions would make the general risk appraisal results less valid and may indicate a higher risk associated with the site.

Reference Table 2-2 of the LUFT Manual

GENERAL RISK APPRAISAL FOR PROTECTION OF WATER QUALITY: APPLICABILITY CHECKLIST	YES	NO
1. Is the site in a mountainous area? (shaded moist area &/or area with rocky subsurface conditions)	X	
2. Is the site in an area that could collect surface runoff or intercept water from a source other than the natural precipitation?		X
3. Does the area extent of soil contamination exceed 1000 feet^2?		X
4. Do the concentrations of fuel constituents in any soil samples exceed the following amounts: benzene - 100 ppm, toluene - 80 ppm, xylene - 40 ppm, ethylbenzene - 40 ppm? (See Note 1)		X
5. Are there any records or evidence of man-made or natural objects which could provide a conduit for vertical migration of leachate?		X
6. Do any boring or excavation logs show the presence of fractures, joints or faults that could act as a conduit for vertical migration of leachate?		X
7. Do any boring logs show that contaminated soil could be within 5 ft. of highest ground water?		X
8. Do any boring logs show the presence of a layer of material, 5 ft. thick or more, which is more than 75% sand and/or gravel?		X

Even though the site is in a mountainous area, the precipitation at the site is very low and the groundwater depth is greater than 50 feet; therefore, this condition would not present a problem. All other questions are negative indicating a minimal potential for impact.

PG40330104

Therefore, based on the above general appraisal and leaching potential analysis of soils it is apparent that the soils containing petroleum hydrocarbons, namely lubricating oil, at the site would pose little or no risk of impacting groundwater. Results of the analysis indicate a 10,000 ppm (mg/kg) cleanup level. Thus, it is recommended that the maximum allowable TPH present in the soils in the vicinity of the removed pipeline liquids oil tank, after the removal of visibly oil stained soils, be 10,000 ppm. However, based on analytical data previously obtained for the stained soils, the TPH concentration remaining after the stained soil is removal is expected to be substantially less than 10,000 ppm.

9.0 RECOMMENDED CLOSURE PROCEDURES

Recommendations include the removal of the two existing concrete tank saddle supports and the concrete access stairs. The concrete will be steamed cleaned to remove any oil staining. Wash water will be properly disposed. The concrete will be disposed at an approved Class III disposal facility.

The visibly oil stained soils will be excavated and loaded onto a truck for transportation and disposal at an approved disposal facility, in accordance with applicable state and federal regulations. The contractor will prepare and follow an approved Site Health and Safety plan which meets all appropriate requirements, and is acceptable to PG&E's Safety Health and Claims Department.

After all contaminated soil excavation has been completed, confirmation soil samples will be obtained. One soil grab sample will be obtained from the center of each third of the confirmation soil sampling zone (see Figure 4). Soil samples will be tested for TPH (EPA 418.1) at a California certified laboratory. Any soil which has results above the cleanup level of 10,000 ppm will be removed and a new confirmation soil sample taken in that area.

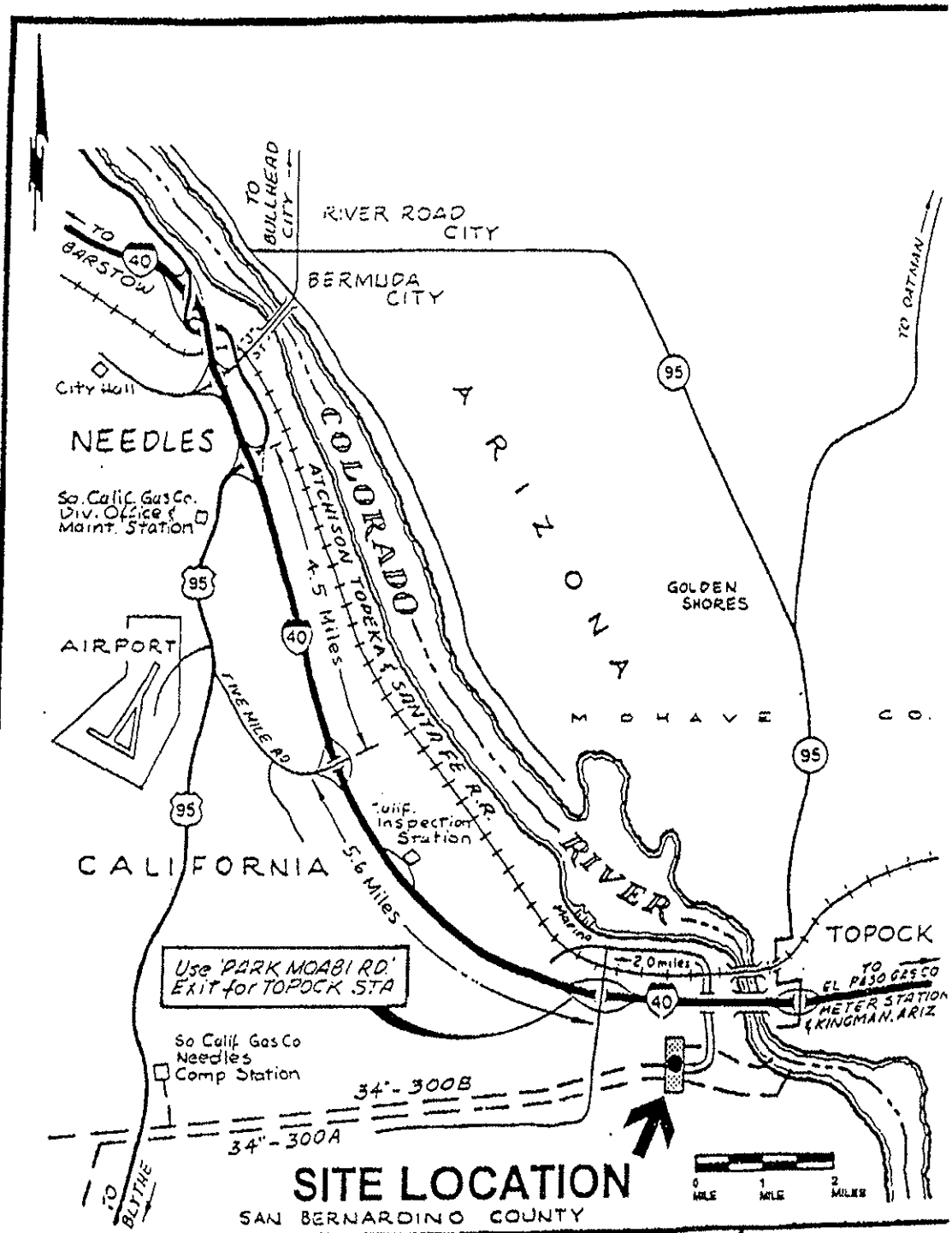
The site will be regraded to conform to surrounding areas.

10.0 FINAL REPORT AND NOTIFICATION

An Engineer's Closure Certification Report will be prepared to detail the closure activities. It will be submitted to the San Bernardino Fire Department, Department of Hazardous Materials, following completion of excavation activities.

PG40330106

FIGURES



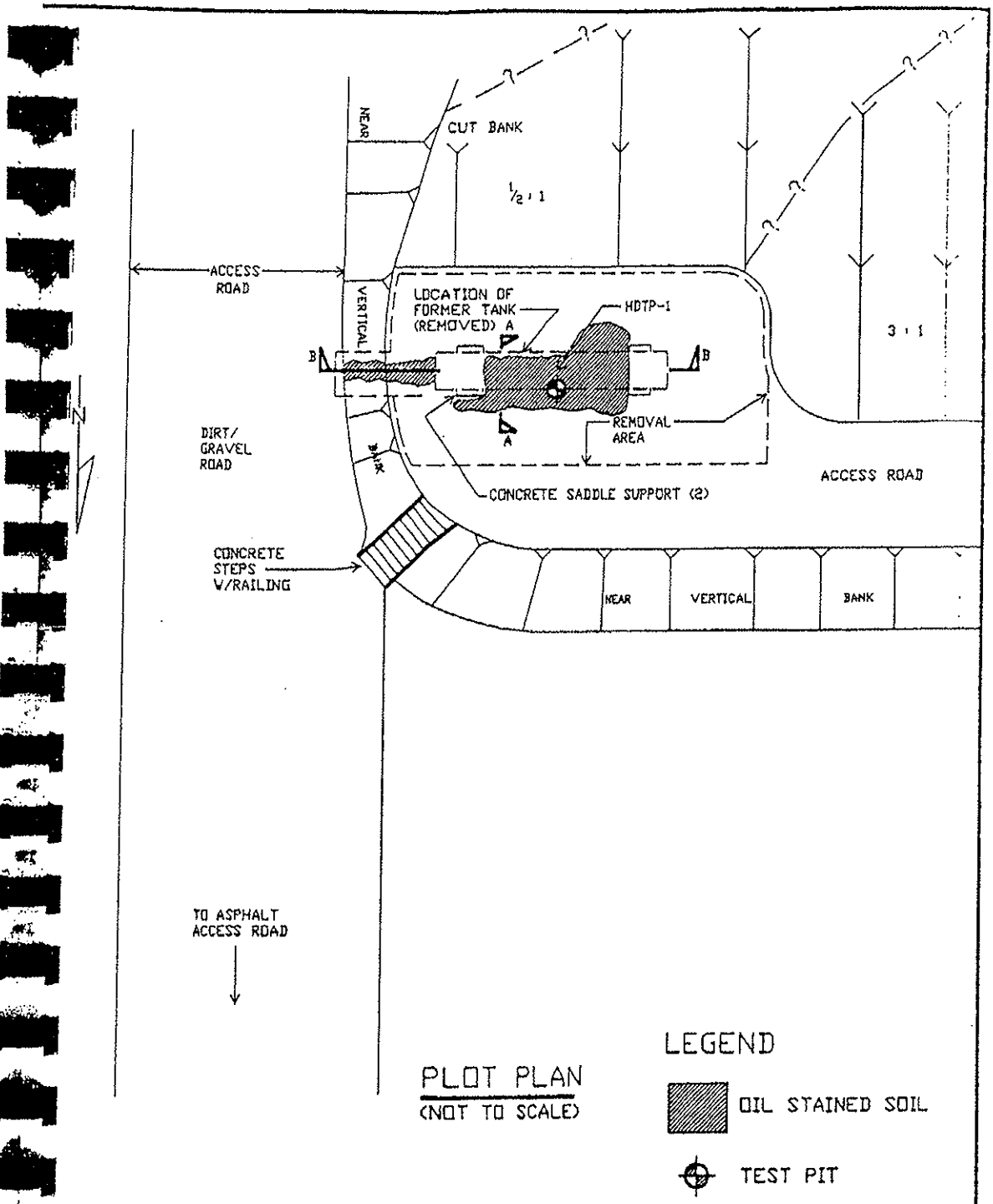
PG&E

VICINITY MAP

TOPOCK COMPRESSOR STATION

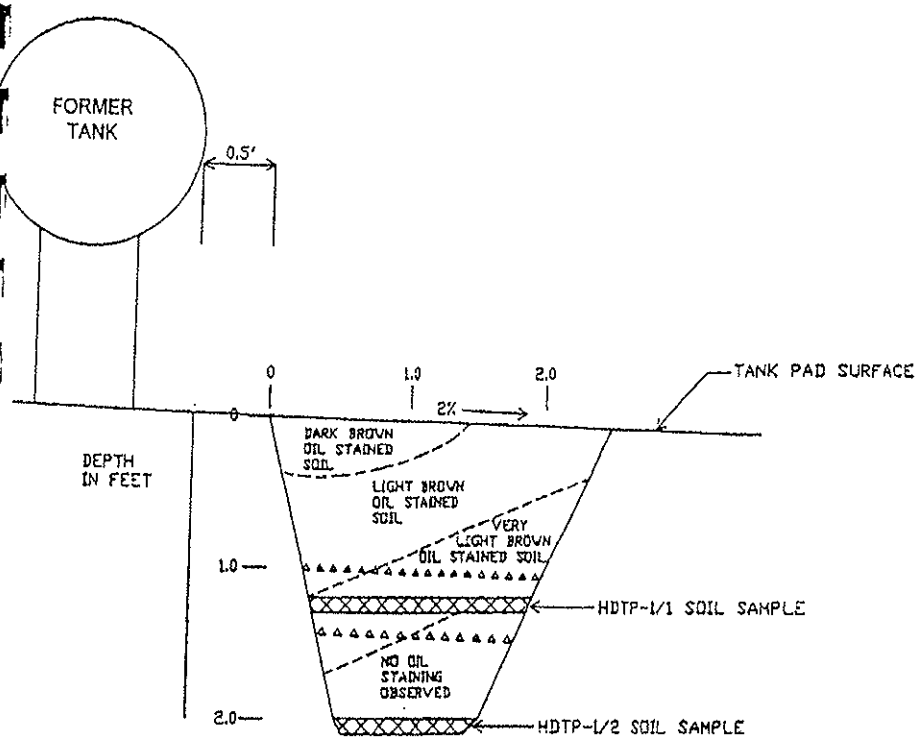
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

FIGURE 1



TOPOCK TANK SITE PLOT PLAN PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA	TRIDENT ENVIRONMENTAL AND ENGINEERING 110 L STREET, SUITE #1 ANTIOCH, CALIFORNIA 94509 PHONE: (510) 706-6931	FIGURE 2 DRAWN BY A.D.G.S. DATE 12/17/94 JOB NO. 1134 SHEET 1 OF 3

PG40330109



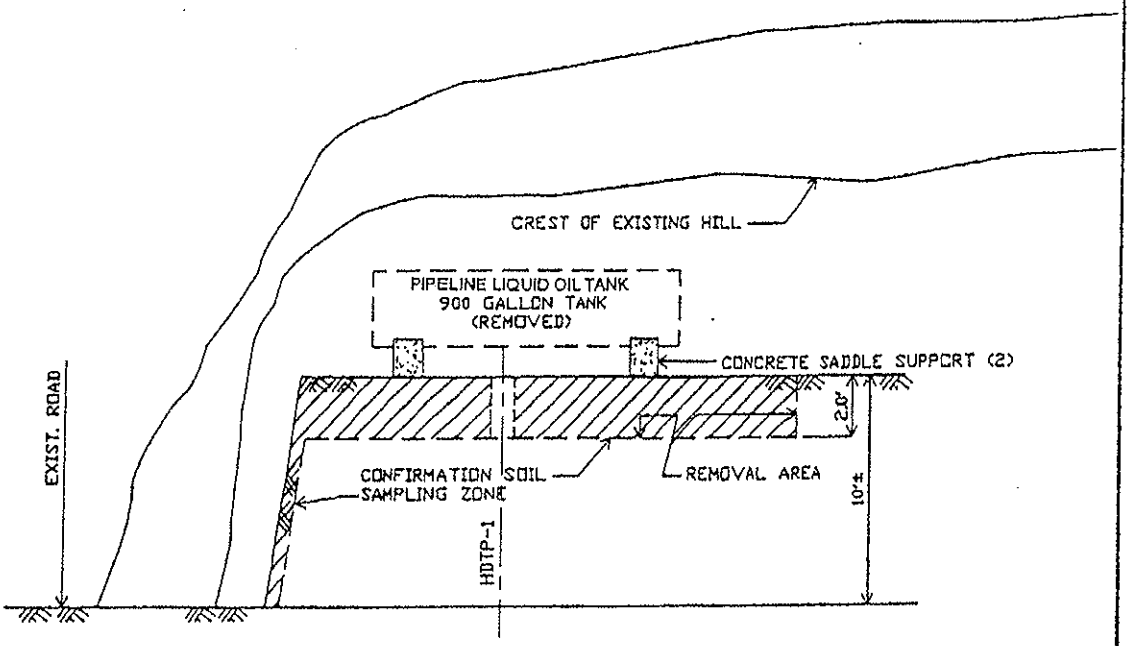
HDTP-1

SANDY GRAVEL (GP)
BROWN, ETREMELY DENSE, DRY, ANGULAR, VERY HARD, SLIGHTLY WEATHERED ROCK FRAGMENTS IN A SILTY SAND MATRIX. PREDOMINANTLY METAPHORIC BUT SOME GRANITIC ROCK FRAGMENTS. MATERIAL MODERATELY CEMENTED WITH CALICHE. STRATIFICATION DIPS 0-5 DEGREES TO NORTHEAST, VARIABLE.

HDTP-1 HAND DUG ON FRIDAY, DECEMBER 2, 1994, USING PICK, BAR, AND SHOVEL. REPRESENTATIVE SOIL SAMPLES TAKEN AT 1.2 AND 2.0 FT. IN 3-INCH GLASS SAMPLE TUBES FOR TPH-LUFT/M TESTS. NO WATER WAS ENCOUNTERED. SOIL WAS DRY. HOLE WAS BACKFILLED USING MATERIAL EXCAVATED FROM HOLE.

SECTION A-A
(NOT TO SCALE)

TOPOCK TANK SITE SECTION A-A IFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA	TRIDENT ENVIRONMENTAL AND ENGINEERING 110 L STREET, SUITE #1 ANTIOCH, CALIFORNIA 94509 PHONE: (510) 706-6931	FIGURE 3 DRAWN BY A.D.G.S. DATE 12/17/94 SCANNED BY JOB NO. 1134 SHEET 2 OF 3



SECTION B-B

(NOT TO SCALE)

PROPOSED
REMOVAL AREA

TOPOCK TANK SITE SECTION B-B PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA	TRIDENT ENVIRONMENTAL AND ENGINEERING 110 L STREET, SUITE #1 ANTIOCH, CALIFORNIA 94509 PHONE: (510) 706-6931	FIGURE 4 DRAWN BY: A.D.G.S. DATE: 12/17/94 REVISED BY: J. NUMBER: 1134 SHEET 3 OF 3

APPENDIX A

Laboratory Analytical Results
and Chain of Custody Records

TWINING LABORATORIES, INC.
EST. 1968
ANALYTICAL CHEMISTRY · ENVIRONMENTAL SERVICES
GEOTECHNICAL ENGINEERING · DRILLING SERVICES
CONSTRUCTION INSPECTION & MATERIALS TESTING

REPORT DATE : December 14, 1994
LABORATORY ID : 694-7319.1-2

DATE SAMPLED : 12-02-94 at As Listed by C.I. Trantham
DATE RECEIVED : 12-09-94 at 0850 via Greyhound

CLIENT : Pacific Gas & Electric
Trident Environmental & Engineering

PROJECT : Topoc Comp. Station
I-40 & Park Moabi Road
Needles, CA

ANALYZED BY : B. Meadows
REVIEWED BY : R. Stafford

DATE PREPARED : 12-09-94
DATE ANALYZED : 12-13-94

SAMPLE TYPE : Soil

CONSTITUENT : Total Petroleum Hydrocarbons- Motor Oil

LAB ID #	CLIENT SAMPLE ID		RESULT	UNITS	DLR	METHOD
.1	HDTP 1/1.2	@ 1250	100	mg/kg	2	GC/FID
.2	HDTP 1/2	@ 1600	13	mg/kg	2	GC/FID

ND: None Detected DLR: Detection Limit for Reporting purposes
mg/kg: milligrams per kilogram (parts per million)

Rev. 2 8/94 (FORM1.INO)

CORPORATE OFFICE:
2527 Fresno Street
Fresno, CA 93721
(209) 268-7021 • Fax 268-7126
Chemistry Fax 268-0740

MODESTO
4230 Kiernan Ave. Suite 105
Modesto, CA 95356
(209) 545-1050
Fax 545-1147

VISALIA
2521 E. Valley Oaks Drive
Visalia, CA 93292
(209) 625-1712
Fax 625-1714

BAKERSFIELD
3701 Pegasus Drive, Suite 124
Bakersfield, CA 93308
(805) 393-5088
Fax 393-4643

Chain-of-Custody and Analysis Request Record

Date 12/08/94
Page 1 of 1

Report To:
Client Name Trident Env. & Eng.
Address 110 "L" Street
Antioch, CA 94509
Contact Name (510) 706-6931
Phone 25-3439-254
Contract/PO #
Sampler Name C. I. TRANTHAM (Print)

Copies To: Pacific Gas & Electric
RC #22176
Melvin Wong

Bill To:

Expected Turnaround: ☐ROUTINE ☒RUSH VERBALS* ☒RUSH REPORT*
*Additional Fees Apply
Specify Date: ___/___/___
☐FAX # (510) 778-9067

RUSH

Analysis Requested: Nickel (Ni), Chromium (Cr), Hexavalent Chromium, ~~Copper~~, Zinc, ~~Pb~~, TPH-LUFT/M, TPH-motor oil

Lab ID#	Client Sample ID	Sample Date/Time	Sample Type	#/Size/Type of Container	Nickel (Ni)	Chromium (Cr)	Hexavalent Chromium	~~Copper~~	Zinc	~~Pb~~	TPH-LUFT/M	TPH-motor oil			Preservation/Handling:	Location
1	HDTP 1/1.2	12:50 12/02/94	S								✓					
2	HDTP 1/2	4:10pm 12/02/94	S								✓					

Each hazardous sample submitted for analysis will be charged a hazardous waste disposal fee. Clients that retrieve hazardous samples within 30 days of the analytical report date will be refunded any disposal fees.

For Water samples, please check one of the following:
☐ Drinking Water
☐ Waste Water
☐ Ground Water (wells)
☐ Surface Water (rivers, lakes)

Comments:

Dept.	Initials	Date/Time	Location
601			
602			
603			
604			

Relinquished By:	Delivered By:	Received By:	Received By:
Signature C. I. Trantham	Signature Greyhound	Signature [signature]	Signature
Printed C. I. TRANTHAM	Printed	Company TL	Company
Company TRIDENT	Company	Date/Time 12/9/94	Date/Time
Date/Time 12/2/94 5:10pm	Date/Time 12/1/94 9:30	Log In Date/Time 0850	Log In Date/Time

SHADED AREAS FOR OFFICE USE ONLY

POOR QUALITY ORIGINAL

BC LABORATORIES

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

PG&E
P.O. BOX 770000
SAN FRANCISCO, CA 94111
Attn: STEVE GALLO 415-973-2635

Date Reported: 04/29/96
Date Received: 04/17/96
Laboratory No.: 96-04475-1

Sample Description: TOPOCK OIL DRIP TANK #173776-6: SOIL SAMPLE 0-4" DEEP TODT-1 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 04/16/96 @ 12:00PM

Title 22 Waste Type: Type i: Millable Solid - No Free Liquid

Constituents	Sample Results	Units	Method P.Q.L.	Method	Regulatory Criteria STLC mg/L	Regulatory Criteria TTLC mg/kg
Antimony	None Detected	mg/kg	5.0	SW-6010	15.	500.
Arsenic	5.5	mg/kg	0.5	SW-6010	5.0	500.
Barium	224.	mg/kg	0.5	SW-6010	100.	10000.
Beryllium	None Detected	mg/kg	0.5	SW-6010	0.75	75.
Cadmium	0.86	mg/kg	0.5	SW-6010	1.0	100.
Chromium	20.	mg/kg	0.5	SW-6010	560.	2500.
Cobalt	7.5	mg/kg	2.5	SW-6010	80.	8000.
Copper	12.	mg/kg	0.5	SW-6010	25.	2500.
Lead	8.8	mg/kg	2.5	SW-6010	5.0	1000.
Mercury	None Detected	mg/kg	0.2	SW-7471	0.2	20.
Molybdenum	None Detected	mg/kg	2.5	SW-6010	350.	3500.
Nickel	14.	mg/kg	2.5	SW-6010	20.	2000.
Selenium	None Detected	mg/kg	0.5	SW-6010	1.0	100.
Silver	None Detected	mg/kg	1.0	SW-6010	5.0	500.
Thallium	None Detected	mg/kg	5.0	SW-6010	7.0	700.
Vanadium	37.	mg/kg	0.5	SW-6010	24.	2400.
Zinc	53.	mg/kg	2.5	SW-6010	250.	5000.

Comment: All above constituents are reported on an as received (wet) sample basis. Results reported represent totals (TTLC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:
SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846, September, 1986.

Dan Schultz
Laboratory Director

cc: TRIDENT ENV. - RICH MCGOUGH

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

FROM 05.02.1996 11:25 NO.13 P. 2

BC LABORATORIES

Total Petroleum Hydrocarbons

PG&E
P.O. BOX 770000
SAN FRANCISCO, CA 94111
Attn: STEVE GALLO 415-973-2635

Date Reported: 04/26/96
Date Received: 04/17/96
Laboratory No.: 96-04475-1

Sample Description: TOPOCK OIL DRIP TANK #173776-6: SOIL SAMPLE 0-4" DEEP TODT-1 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 04/16/96 @ 12:00PM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	68000.	mg/kg	20000.	EPA-418.1

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

cc: TRIDENT ENV. - RICH MCGOUGH

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.
1100 Atlas St. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

FROM 05.02.1996 11:36 NO.13 P. 2

BC LABORATORIES

PCB Analysis
(EPA Method 8080)

PG&E
P.O. BOX 770000
SAN FRANCISCO, CA 94111
Attn: STEVE GALLO 415-973-2635

Date Reported: 04/26/96
Date Received: 04/17/96
Laboratory No.: 96-04475-1

Sample Description: TOPOCK OIL DRIP TANK #173776-6: SOIL SAMPLE 0-4" DEEP TODT-1 SAMPLED BY R. MCGOUGH

Sample Matrix: Soil

Date Collected: 04/16/96 @ 12:00PM
Date Extracted: 04/19/96
Date Analyzed: 04/22/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
PCB-1016	None Detected	mg/kg	0.1
PCB-1221	None Detected	mg/kg	0.1
PCB-1232	None Detected	mg/kg	0.1
PCB-1242	None Detected	mg/kg	0.1
PCB-1248	None Detected	mg/kg	0.1
PCB-1254	None Detected	mg/kg	0.1
PCB-1260	None Detected	mg/kg	0.1
Total PCB's (Summation)	None Detected	mg/kg	0.1

Quality Control Data

Surrogates	% Recovery	Control Limits
Decachlorobiphenyl	77.	60-140

Note: PQL's were raised due to matrix interference.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

cc: TRIDENT ENV. - RICH MCGOUGH

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.
4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

05.02.1996 11:17 NO.13 P.4 FROM

BC LABORATORIES

Base Neutral and Acid Extractables
Organic Analysis
(EPA Method 8270)

PG&E
P.O. BOX 770000
SAN FRANCISCO, CA 94111
Attn: STEVE GALLO 415-973-2635

Date Reported: 04/26/96
Date Received: 04/17/96
Laboratory No.: 96-04475-1

Sample Description: TOPOCK OIL DRIP TANK #173776-6: SOIL SAMPLE 0-4' DEEP TODT-1 SAMPLED BY R. MCGOUGH

Sample Matrix: Soil

Date Collected: 04/16/96 @ 12:00PM
Date Extracted: 04/22/96
Date Analyzed: 04/24/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Acenaphthene	None Detected	mg/kg	8.
Acenaphthylene	None Detected	mg/kg	8.
Aldrin	None Detected	mg/kg	8.
Aniline	None Detected	mg/kg	20.
Anthracene	None Detected	mg/kg	8.
Benzidine	None Detected	mg/kg	80.
Benz (a) anthracene	None Detected	mg/kg	8.
Benzo (b) fluoranthene	None Detected	mg/kg	8.
Benzo (k) fluoranthene	None Detected	mg/kg	8.
Benzo (a) Pyrene	None Detected	mg/kg	8.
Benzo (ghi) perylene	None Detected	mg/kg	8.
Benzoic Acid	None Detected	mg/kg	20.
Benzyl alcohol	None Detected	mg/kg	8.
Butyl benzyl phthalate	None Detected	mg/kg	8.
alpha-BHC	None Detected	mg/kg	8.
beta-BHC	None Detected	mg/kg	8.
delta-BHC	None Detected	mg/kg	8.
gamma-BHC	None Detected	mg/kg	8.
bis(2-chloroethyl)ether	None Detected	mg/kg	8.
bis(2-chloroethoxy)methane	None Detected	mg/kg	8.
bis(2-chloro-1-methylethyl)	None Detected	mg/kg	8.
bis(2-ethylhexyl)phthalate	None Detected	mg/kg	20.
4-Bromophenyl phenyl ether	None Detected	mg/kg	8.
4-Chloroaniline	None Detected	mg/kg	8.
2-Chloronaphthalene	None Detected	mg/kg	8.
4-Chlorophenyl phenyl ether	None Detected	mg/kg	8.
Chrysene	None Detected	mg/kg	8.
4,4-DDD'	None Detected	mg/kg	8.
4,4-DDE'	None Detected	mg/kg	8.
4,4-DDT'	None Detected	mg/kg	8.
Dibenzo (a,h) anthracene	None Detected	mg/kg	8.
Dibenzofuran	None Detected	mg/kg	8.
Di-n-butyl phthalate	None Detected	mg/kg	8.
1,2-Dichlorobenzene	None Detected	mg/kg	8.
1,3-Dichlorobenzene	None Detected	mg/kg	8.
1,4-Dichlorobenzene	None Detected	mg/kg	8.
3,3-Dichlorobenzidine	None Detected	mg/kg	20.
Dieldrin	None Detected	mg/kg	8.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

05.02.1996 11:38 NO.13 P. 2 FROM

BC LABORATORIES

Base Neutral and Acid Extractables
Organic Analysis
(EPA Method 8270)

PG&E
P.O. BOX 770000
SAN FRANCISCO, CA 94111
Attn: STEVE GALLO 415-973-2635

Date Reported: 04/26/96
Date Received: 04/17/96
Laboratory No.: 96-04475-1

Sample Description: TOPOCK OIL DRIP TANK #173776-6; SOIL SAMPLE 0-4" DEEP TODT-1 SAMPLED BY R. MCGOUGH

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit	
Diethyl phthalate	None Detected	mg/kg	8.	
Dimethyl phthalate	None Detected	mg/kg	8.	
2,4-Dinitrotoluene	None Detected	mg/kg	8.	
2,6-Dinitrotoluene	None Detected	mg/kg	8.	
Di-n-octylphthalate	None Detected	mg/kg	8.	
1,2-Diphenylhydrazine	None Detected	mg/kg	8.	
Endosulfan I	None Detected	mg/kg	8.	
Endosulfan II	None Detected	mg/kg	8.	
Endosulfan sulfate	None Detected	mg/kg	8.	
Endrin	None Detected	mg/kg	8.	*T
Endrin Aldehyde	None Detected	mg/kg	8.	
Fluoranthene	None Detected	mg/kg	8.	
Fluorene	None Detected	mg/kg	8.	
Heptachlor	None Detected	mg/kg	8.	
Heptachlor epoxide	None Detected	mg/kg	8.	
Hexachlorobenzene	None Detected	mg/kg	8.	
Hexachlorobutadiene	None Detected	mg/kg	8.	
Hexachlorocyclopentadiene	None Detected	mg/kg	8.	
Hexachloroethane	None Detected	mg/kg	8.	
Indeno (1,2,3-cd) pyrene	None Detected	mg/kg	8.	
Isophorone	None Detected	mg/kg	8.	
2-Methylnaphthalene	None Detected	mg/kg	8.	
Naphthalene	None Detected	mg/kg	8.	*1
2-Naphthylamine	None Detected	mg/kg	80.	
2-Nitroaniline	None Detected	mg/kg	8.	
3-Nitroaniline	None Detected	mg/kg	8.	
4-Nitroaniline	None Detected	mg/kg	20.	
Nitrobenzene	None Detected	mg/kg	8.	
n-Nitrosodimethylamine	None Detected	mg/kg	8.	
n-Nitrosodiphenylamine	None Detected	mg/kg	8.	
N-nitrosodi-n-propylamine	None Detected	mg/kg	8.	
Phenanthrene	None Detected	mg/kg	8.	
Pyrene	None Detected	mg/kg	8.	
1,2,4-Trichlorobenzene	None Detected	mg/kg	8.	
4-Chloro-3-methylphenol	None Detected	mg/kg	20.	
2-Chlorophenol	None Detected	mg/kg	8.	
2,4-Dichlorophenol	None Detected	mg/kg	8.	
2,4-Dimethylphenol	None Detected	mg/kg	8.	
2,4-Dinitrophenol	None Detected	mg/kg	40.	
2-Methyl-4,6-dinitrophenol	None Detected	mg/kg	20.	
2-Methylphenol	None Detected	mg/kg	8.	
4-Methylphenol	None Detected	mg/kg	8.	
2-Nitrophenol	None Detected	mg/kg	8.	
4-Nitrophenol	None Detected	mg/kg	20.	
Pentachlorophenol	None Detected	mg/kg	20.	

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

05.02.1996 11:39 NO.13 P.6 FROM

BC LABORATORIES

Base Neutral and Acid Extractables
Organic Analysis
(EPA Method 8270)

PG&E
P.O. BOX 770000
SAN FRANCISCO, CA 94111
Attn: STEVE GALLO 415-973-2635

Date Reported: 04/26/96
Date Received: 04/17/96
Laboratory No.: 96-04475-1

Sample Description: TOPOCK OIL DRIP TANK #173776-6: SOIL SAMPLE 0-4" DEEP TODT-1 SAMPLED BY R. MCGOUGH

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit
Phenol	None Detected	mg/kg	8.
2,4,5-Trichlorophenol	None Detected	mg/kg	20.
2,4,6-Trichlorophenol	None Detected	mg/kg	20.

Quality Control Data

Surrogates	% Recovery	Control Limits
2-Fluorophenol	56.	25-121
Phenol-d5	66.	24-113
Nitrobenzene-d5	59.	23-120
2-Fluorobiphenyl	67.	30-115
2,4,6-Tribromophenol	56.	19-122
d14-Terphenyl	73.	18-137

Note: Results are estimated due to incompliant end CCV.

Flag Explanations:
*1 = PQL is estimated due to low CCV recovery.
*T = Result based on Tentatively Identified Compound search.
California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

cc: TRIDENT ENV. - RICH MCGOUGH

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

03.02.1996 11:41 NO.13 P.7 FROM

BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8240)

PG&E
P.O. BOX 770000
MAIL CODE N9A
SAN FRANCISCO, CA 94111
Attn: MEL WONG 415-973-3233

Date Reported: 05/02/96
Date Received: 04/17/96
Laboratory No.: 96-04475-1

Sample Description: TOPOCK OIL DRIP TANK #173776-6: SOIL SAMPLE 0-4" DEEP TODT-1 SAMPLED BY R. MCGOUGH

Sample Matrix: Soil

Date Collected: 04/16/96 @ 12:00PM
Date Extracted: 04/26/96
Date Analyzed: 04/26/96

Constituents	Analysis Results	Reporting Units	Practical Quantitation Limit	
Benzene	None Detected	mg/kg	0.0025	*1
Bromodichloromethane	None Detected	mg/kg	0.0025	*2
Bromoform	None Detected	mg/kg	0.0025	*1
Bromomethane	None Detected	mg/kg	0.0025	
Carbon tetrachloride	None Detected	mg/kg	0.0025	*1
Chlorobenzene	None Detected	mg/kg	0.0025	*1
Chloroethane	None Detected	mg/kg	0.0025	
Chloroform	None Detected	mg/kg	0.0025	
Chloromethane	None Detected	mg/kg	0.0025	
Dibromochloromethane	None Detected	mg/kg	0.0025	*2
1,2-Dichlorobenzene	None Detected	mg/kg	0.0025	
1,3-Dichlorobenzene	None Detected	mg/kg	0.0025	*1
1,4-Dichlorobenzene	None Detected	mg/kg	0.0025	*1
1,1-Dichloroethane	None Detected	mg/kg	0.0025	
1,2-Dichloroethane	None Detected	mg/kg	0.0025	*1
1,1-Dichloroethene	None Detected	mg/kg	0.0025	
trans-1,2-Dichloroethane	None Detected	mg/kg	0.0025	
1,2-Dichloropropane	None Detected	mg/kg	0.0025	
cis-1,3-Dichloropropene	None Detected	mg/kg	0.0025	*2
trans-1,3-Dichloropropene	None Detected	mg/kg	0.0025	*2
Ethyl benzene	None Detected	mg/kg	0.0025	*1
Methylene Chloride	None Detected	mg/kg	0.0025	
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.0025	*2
Tetrachloroethene	None Detected	mg/kg	0.0025	*2
Toluene	None Detected	mg/kg	0.0025	*1
1,1,1-Trichloroethane	None Detected	mg/kg	0.0025	
1,1,2-Trichloroethane	None Detected	mg/kg	0.0025	*2
Trichloroethene	None Detected	mg/kg	0.0025	*1
Trichlorofluoromethane	None Detected	mg/kg	0.0025	
1,1,2-Trichloro-1,2,2-trifluoroethane	None Detected	mg/kg	0.005	
Vinyl Chloride	None Detected	mg/kg	0.0025	
Xylenes	None Detected	mg/kg	0.005	*1

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, attachment or third party interpretation.

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

05-03-1996 07:28AM FROM BC LABORATORIES, INC.. TO 15107789067 P.02

TOTAL P.03

BC LABORATORIES

Volatile Organic Analysis
(EPA Method 8240)

PG&E
P.O. BOX 770000
MAIL CODE H9A
SAN FRANCISCO, CA 94111
Attn: MEL WONG 415-973-3233

Date Reported: 05/02/96
Date Received: 04/17/96
Laboratory No.: 96-04475-1

Sample Description: TOPOCK OIL DRIP TANK #173776-6: SOIL SAMPLE 0-4' DEEP TODT-1 SAMPLED BY R. MCGOUGH

Quality Control Data

Surrogates	% Recovery	Control Limits	
1,2-Dichloroethane-d4	113.	70-121	
Toluene-d8	72.	81-117	*3
4-Bromofluorobenzene	83.	74-121	

Flag Explanations:
*1 = PQL is estimated due to low internal standard response caused by matrix.
*2 = Result is estimated due to incompliant surrogate recovery.
PQL is estimated due to low internal standard response caused by matrix.
*3 = Surrogate is low due to matrix interferences.

Note: ICV criteria not met for trichlorofluoromethane, chloromethane, or 1,1,2-trichloro-1,2,2-trifluoroethane.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

cc: TRIDENT ENV. - RICH MCGOUGH

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

05-03-1996 07:29AM FROM BC LABORATORIES, INC. TO 15107789867 P.03

CHAIN OF CUSTODY

BC LABORATORIES, INC. 4100 Atlas Court • Bakersfield, CA 93308 (805) 327-4911 • FAX (805) 327-1918

Report To:

Name: Trident Environ.
Address: 110 "L" St, #1
City: Antioch
State: CA Zip: 94509
Attn: Rich McGough
Phone: 510/706-6931

Project: Tosco K Oil Drip Tank
Project #: 173776-6
Sampler Name: R. McGough
Other:

Lab#	Sample Description	Date & Time Sampled	Matrix (S) Soil (SL) Sludge (W) Water (Other)	Analysis Requested: Total Recoverable Hydrocarbons 418.1	Volatile Organics EPA 8240	EPA 8080	Semi Volatile EPA 8270	CAM Metals (17)	Samples rec. cold (y/n)	Custody Seals (y/n)	Results Needed by: Date & Time	Number and Container Type
	3-8oz Jar Soil	4/16/96 12 noon	S	X	X	X	X	X				
	Sample 0-4" Deep Composite into 1 sample TODT-1											
	Perform 96 Hr LC50 Fish Bioassay, if other Test are non-hazardous											

Comment: Hold sample 90 days.

Billing Info:
Name: PG&E -
Address P.O. Box 770000, Mail Code H9A
City San Francisco State CA 94177
Attention: Melvin Wong
Time:
Miles:
P.O.# 25 - [redacted]

Sample Disposal
☐ BC Disposal @ 5.00 ea.
☐ Return to client

Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
R. McGough	ZZ Wood	4-16-96 13:20
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:

APPENDIX B

Soil Sampling Quality Assurance Plan

SOIL SAMPLING QUALITY ASSURANCE PLAN

Sample Collection and Handling

The samples will be collected in glass jars using a stainless steel trowel following procedures given in appropriate regulatory guidance documents (i.e. EPA SW-846, ASTM guidelines, etc.). The jars will be sealed, clearly marked and dated for identification and prepared for transport to a state certified analytical laboratory. All samples will be preserved correctly and stored no longer than the maximum allowable holding time for laboratory analysis. Blue Ice™ will be used to maintain proper temperature during shipment.

Decontamination Procedures

In order to ensure that no cross contamination occurs during soil sampling activities at the site, all equipment will be decontaminated between each sampling event. Decontamination will consist of cleaning with a detergent wash followed by a flowing deionized water rinse. All decontaminated equipment will be stored on clean pallets or plastic sheeting. The following procedures will be utilized for decontaminating all sampling equipment.

- All soil sampling equipment (trowels) will be washed with TSP detergent and rinsed with flowing deionized water.
- Glass jars used in the sampling will be new and will be certified clean by the laboratory.

Sample Handling Procedures

All soil samples will be collected in new, clean glass sampling jars. No jars will be reused during the project. Fresh Blue Ice™ will be added to the ice chest. One copy of the chain-of-custody form will be placed in a plastic bag and put into the ice chest, which will be sealed with strapping tape. The samples will be shipped via overnight delivery or courier service to the laboratory.

Sample Labels

All labels will include the following information: the name of the sampler, project name, sample designation, and date and time of sampling. All labels will be filled out at the time of sample collection.

Chain-of-Custody Record

A chain of-custody record will be used to establish the documentation necessary to trace sample possession from the time of collection. It may incorporate a separate sample analysis request sheet. Alternately, a separate request sheet may be used.

Sample information will be recorded on the chain-of-custody form. Personnel will record information for individual samples indicating the sample number, matrix, collection date and time, analytical tests to be performed, and any special instructions for the laboratory. The forms will accompany all samples collected in the field to the laboratory. Whenever a sample is transferred, both parties will sign and date the form, and the person releasing the samples will retain a copy. Final chain-of-custody forms will be attached to the analytical reports prepared by the laboratory.

Instruction to the laboratory will be provided in writing prior to the start of field activities. The instructions will reference sample identification numbers and analyses to be performed on each sample.

Field Log

A field log will be used to record all field data pertinent to the sampling event. The log must contain the following data:

1. name of sampler
2. location of sampling point
3. purpose of sampling
4. description of sample
5. sampling point and sampling methodology
6. number and volume of sample taken
7. name and address of field contact
8. date and time of collection
9. collector's sample identification number
10. weather conditions at the time of sampling
11. sample distribution and transportation mode field observations
12. field measurements made and records of instrument standardization and calibration, if applicable
13. relevant comments regarding sampling procedure, methods, and any problems encountered during the sampling
14. signatures of personnel responsible for observations

Sample Delivery to the Laboratory

The sample will be delivered to the laboratory for analysis as soon as practicable. Efforts will be made to deliver the sample to the lab on the same day it was taken, if possible. It will not be accepted by the laboratory if sample preservation times have not been met. All samples will be accompanied by the Chain-of-Custody Record. Samples shipped via common carrier will be considered to have been in their custody during that period of time. Shipping bills of lading will be used as evidence of their sample custody. All samples shipped via common carrier shall be transported in sealed ice chests.

Laboratory Quality Control

A State approved laboratory will be used. The laboratory will follow an approved QA/QC program. The laboratory will be approved by PG&E (i.e. under PG&E contact).

Receipt and Logging of Sample

In the laboratory, the assigned sample custodian will receive the samples. Upon receipt of a sample, the custodian will do the following: inspect the condition of the sample and the sample seal (if any), reconcile the information on the sample label and seal against that on the Chain-of-Custody Record, assign a laboratory number, log in the sample in the laboratory log book, and store the sample in a proper sample storage room or cabinet until assigned to an analyst.

The sample custodian will inspect the sample for any leakage from the container. Any discrepancies between the information on the sample label, sample seal (if any), and the information on the Chain-of-Custody record or sample analysis request sheet will be resolved. Results of the inspection will be noted on the sample, chain-of-custody record, and on the laboratory sample log book. Incoming samples will carry the sample identification numbers.

Assignment of Sample for Analysis

Once the sample has been received in the laboratory, the laboratory will maintain an internal chain-of-custody control in accordance within its own chain-of-custody program.

All written records of sample handling and analyses will be maintained by the laboratory to document sample history from the time samples reach the laboratory until disposal.

Laboratory Analytical Quality Assurance

In addition to routine calibration of the instruments with standards and blanks, the analyst is required to run duplicates and spikes on 10% of the analyses to ensure an added measure of precision and accuracy. Accuracy is also verified through the following:

1. Certification by California Department of Health Services.
2. Participation in inter-laboratory or round-robin programs.

3. "Blind" samples are submitted by the laboratory's quality assurance officer on a weekly basis. These are prepared from National Bureau of Standards or U.S. Environmental Protection Agency reference standards.

Further details of the laboratory QA/QC program will be supplied in the report documenting the soil sampling and analyses work.

Trident Environmental AND Engineering, Inc.
110 L Street, Suite #1, Antioch, California 94509 Lic.# A-584149 Phone (510) 706-6931 Fax (510) 778-9067

October 10, 1996

RECEIVED
OCT 15 1996
COUNTY FIRE DEPARTMENT
HAZARDOUS MATERIALS

Ms. Catherine B. Richards, R.E.H.S.
San Bernardino County Fire Department
Hazardous Materials Division
385 North Arrowhead Avenue, Second Floor
San Bernardino, California 92415-0513

RE: Pacific Gas and Electric
Topock Gas Compressor Station, Needles, California
Former Pipeline Liquids Oil Tank Closure Certification Report

Dear Ms. Richards:

The Closure Certification Report for the former pipeline liquids oil tank site, at the above referenced facility, is enclosed. This report supplements the former Pipeline Liquid Oil Tank Closure Plan dated May 7, 1996. The excavation has been backfilled with native soil. Contaminated soil will be disposed of at an approved Class II disposal facility.

Please contact Rex Bell of PG&E at (510) 974-4079 with your approval of this Former Pipeline Liquid Oil Tank Closure Certification Report or with any comments.

Sincerely,

Richard E. McGough

Richard E. McGough, P.E.
Senior Civil Engineer

REM:dj

Attachment

cc: Rex Bell
Pacific Gas and Electric
375 North Wiget Lane, Suite 130
Walnut Creek, CA 94598

Lowell Jeffcoat
U.S. Department of the Interior
Bureau of Land Management
Yuma District Office
2555 East Gila Ridge Road
Yuma, AZ 85365-3594

RECEIVED
OCT 15 1996
COUNTY FIRE DEPARTMENT
HAZARDOUS MATERIALS

FORMER PIPELINE LIQUID OIL TANK CLOSURE CERTIFICATION REPORT PG&E TOPOCK GAS COMPRESSOR STATION NEEDLES, CALIFORNIA

Submitted for Approval to:

County of San Bernardino
County Fire Department Hazardous Materials
385 North Arrowhead Avenue
San Bernardino, California 92415

By:
Pacific Gas and Electric Company
Gas System Technical Support Department
375 North Wiget Lane
Walnut Creek, California 94598

Prepared by:
Trident Environmental and Engineering
110 "L" Street, Suite 1
Antioch, California 94509

October 10, 1996

TABLE OF CONTENTS

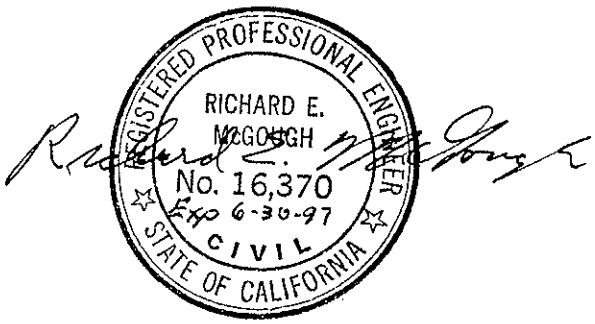
FIGURES

APPENDICES

PROFESSIONAL ENGINEER CLOSURE CERTIFICATION

This report details the closure activities completed for the pipeline liquid oil tank at Pacific Gas and Electric Company's Topock Gas Compressor Station near Needles, California. The closure activities were performed in compliance with the approved Closure Plan, dated May 7, 1996, except where identified as deviations from the Closure Plan in this report. The statements, conclusions and recommendations herein are based on my understanding of the site conditions and operations. A conscientious effort was made to evaluate all aspects of the site conditions. The collected data is considered to be technically accurate and complete to the best of my knowledge.

October 10, 1996
Date



Richard E. McGough
Registered Civil Engineer
California No. C-16370

1.0 INTRODUCTION

This closure certification report is being submitted to the San Bernardino County Fire Department, Hazardous Materials Division, for the closure of the former pipeline liquid oil tank located at PG&E's Topock Gas Compressor Station. The site is located near Needles, California, County of San Bernardino. The pipeline liquid oil tank was formerly used to collect oil blown down from the natural gas pipeline at the compressor station. This Certification Report supplements the information contained in the "Former Pipeline Liquid Oil Tank Closure Plan", dated May 7, 1996, and previously submitted to the county.

2.0 SITE DESCRIPTION

2.1 Site Location

The Topock Compressor Station is situated in the eastern part of San Bernardino County, approximately 14 miles southeast of Needles, California and, about 0.25 miles west of the Colorado River. A vicinity map indicating the location of the site is presented as Figure 1. The oil tank site is located southeast of the station on the facility access road. The tank site is about 100 feet east of the asphalt road leading to the compressor station. The tank site borders on an unpaved road south of the large "Route 66 Highway Sign" (See Figure 2, "Plot Plan").

2.2 Tank Site Location

The site of the former pipeline liquid oil tank consisted of an elevated benched earth pad, two concrete saddle supports, and a flight of concrete stairs that provided access from the unpaved road to the pad. The pad is a benched cut of soil about 20 feet wide at its widest berth. It is elevated about seven feet above the unpaved road which extends east from the main access road leading to the compressor station. The tank pad slopes approximately from 1% to 3% to the northwest. The former tank site is located on property owned by the United States Bureau of Land Management.

The dimensions of the former oil tank, which was removed in May 1995, were two feet, ten inches in diameter by 20 feet long. The aboveground tank had a shell thickness of one-half inch. It sat in a north-south direction on two concrete saddles each measuring two feet wide, by four feet long, by two feet high. They were situated one and a half feet to the inside of each end of the tank. An inlet pipe entered the tank at the top near the south end, and an outlet pipe was located at the bottom on the north end. The tank was used to store pipeline liquids which were blown down from the natural gas pipeline.

3.0 SITE CHARACTERISTICS

3.1 Climate

The Topock Compressor Station has a mildly cold climate during the winter season and a hot climate during the summer months. Average monthly temperatures vary from minimums of 30 to 40° F in the winter months to maximums exceeding 100° F in the summer. Average annual precipitation for the site is 5.15 inches per year. The highest amount of rainfall is likely to occur during summertime thunderstorms. The maximum expected 24-hour precipitation for a 100-year storm is from 2.66 inches to 3.26 inches. The average annual wind speeds are approximately 7.5 mph from prevailing winds from the southwest.

3.2 Site Topography

The earth pad for the tank is situated on moderately hilly terrain on the northwest flank of a small hill adjacent to the west side of the Colorado River. The pad is estimated to be approximately 60 feet above the Colorado River. The small hill extending southeast of the tank site is approximately 50 to 60 feet higher than the tank pad. The hill is essentially surrounded by arroyos that flow eastward, emptying into the Colorado River.

4.0 JUSTIFICATION FOR THE CLOSURE

The tank was no longer used for the blowdown of pipeline liquids and was removed. Presently, the pipeline liquid oil is removed from the pipeline at other locations within the compressor station.

5.0 TANK REMOVAL

The former pipeline liquid oil tank was removed in 1995. The scope of work for the tank removal was as follows:

- Residual liquid was removed from the tank by vacuum truck.
- The tank was removed from the site and disposed of at an approved facility.
- Piping was emptied, disconnected and capped at abandoned ends.

6.0 RESULTS OF THE INITIAL SITE INVESTIGATION

An initial site investigation was performed by Trident Environmental and Engineering in December 1994. Oil staining was observed in the soil adjacent to the former tank location as follows: in local soil extending approximately five feet east of the former tank location; underneath the former tank location, extending to the northwest at a distance of approximately six feet from the former tank location; and on the face of the seven foot vertical embankment cut, sloping to the access road below. (See Figure 2).

Hand dug test pits were excavated on the west side of the tank on December 2, 1994. The results of these samples are presented as Appendix A in the Closure Plan dated May 7, 1996. Additionally, a soil sample was obtained just below the surface of the oil stained soil on April 16, 1996 to characterize the soil for proper disposal. These soil sample test results indicate that the oil stained soil is non-hazardous and that the only constituent of concern is petroleum

hydrocarbons. The laboratory analytical results are also included in Appendix A of the Closure Plan.

7.0 SOIL EXCAVATION - SAMPLING AND ANALYSIS

7.1 Initial Soil Excavation

Initial soil excavation was performed on July 18, 1996. The two concrete tank saddles and the concrete stairs were removed from the site and properly stockpiled. The visibly oil stained soils were excavated by hand and by backhoe. The rocky soil area west of the tank's southern support was beyond the reach of the backhoe. It was excavated with hand picks and shovels. Approximately seven cubic yards of soil were removed. Four confirmation soil samples were taken at the bottom of the excavation and analyzed for Total Petroleum Hydrocarbon (TPH) by EPA Method 418.1. The results of the soil sample tests ranged from non-detect to 3,800 mg/kg, indicating that TPH contaminated soils still remained in the soil at the bottom of the excavation. Confirmation sample locations and test results are shown in Figure 3. Analytical results and the chain of custody forms, for the samples obtained on July 18, 1996, are presented in Appendix A. All soil sampling was conducted according to the methodology and QA/QC procedures detailed in Appendix E.

7.2 Additional Soil Excavation

Based on the above test results, approximately three additional cubic yards of soil (which exceeded 1,000 mg/kg) were removed from the vicinity from which the above referenced confirmation samples were taken. Two confirmation soil samples were taken at the bottom of the excavation on August 22, 1996. These soil samples were tested in the field with a Hanby Field Test Kit. The field test results indicated that the soil samples contained less than 500 mg/kg of TPH. Based on these test results, the soil samples were sent to a state certified laboratory and were analyzed for TPH per EPA Method 418.1. The results of the soil sample test indicated that 2,500 mg/kg and 1,300 mg/kg of TPH remained at location 5

and 6, respectively. Locations of these confirmation samples and test results are shown in Figure 3. Analytical results and the chain of custody forms, for samples obtained on August 22, 1996, are presented in Appendix B.

Since the above results indicated that soils still exceeded 1,000 mg/kg, additional excavation was performed and confirmation samples were taken on September 5, 1996. The excavation east of the former tank's south support was enlarged and deepened. Approximately three cubic yards of additional soil was removed. The excavation was performed with pneumatic air tools and shovels, together with a backhoe. Five confirmation samples were taken, three on the side walls of the enlarged excavation and two at the bottom of the excavation. The results of the soil sampling indicated the following: four non-detect sample results and one soil sample (No. 11) with 690 mg/kg of TPH located at the bottom of the excavation. The locations of these samples and test results are shown in Figure 3. Analytical results and the chain of custody forms, for samples obtained on September 5, 1996, are presented in Appendix C.

The results of the soil sampling activity were discussed with a County of San Bernardino representative who indicated that the extent of the contamination should be better defined. Based on this request, an additional excavation was performed on September 26, 1996, with a backhoe. The evacuation was performed in the areas where soil contained TPH at concentrations of 360 mg/kg and 690 mg/kg (Sample locations 2 and 11, respectively). The excavation was increased in depth to 5.5 feet below the original grade. Four new soil samples were taken: one at the bottom of the excavation and three on the sides of the excavation, six inches above the bottom. The TPH result for the soil sample obtained at the bottom of the excavation was non-detectable. The TPH results for the three side wall samples were 66 mg/kg, 120 mg/kg and 160 mg/kg. The location of these samples and the corresponding test results are shown on Figure 3. Analytical results and the chain of

custody forms, for the samples obtained on September 16, 1996, are presented in Appendix D. Thus, these final sample results indicate that the extent of contamination ends at five and one-half feet below grade.

8.0 DISPOSAL OF CONTAMINATED SOIL

The contaminated soil from this site was stockpiled on plastic sheeting. The soils will be disposed of offsite at an approved Class II disposal facility. The concrete will be disposed of at an approved Class III disposal facility.

9.0 RECOMMENDATIONS

It is recommended that the small volume of soil containing TPH (with a concentration below 1,000 mg/kg) located in the vicinity of the former pipeline liquid oil tank, be permitted to remain on the site. Justifications for this recommendation are as follows:

- All visibly oil stained soil has been removed from the site.
- The extent of contaminated soil has been defined.
- The soil characterization results indicated that the concentrations of benzene, toluene, ethylbenzene and xylene, as well as all other votile, semi-votile and PCB analytes are non-detectable. Also, the fish bioassay test passed. Thus, TPH is the only chemical of concern.
- The average annual rainfall at the site is 5.15 inches per year, which is extremely low.
- The area will be backfilled with native soil to match existing site grades.

- The depth to groundwater is 60 feet from the bottom of the excavation. Since TPH is not highly mobile, even if some rainfall did cause leaching from the small amount contaminated soil, it is extremely unlikely that this TPH leaching would ever reach the deep groundwater.

The aforementioned factors were used in the general risk appraisal set forth in the LUFT Manual and presented in the May 7, 1996 Closure Plan. Results indicated that the potential risk of the TPH contaminating groundwater was very low if this small amount of contaminated soil was left in place.

It is recommended that this small volume of soil be left in place since its environmental impact is negli[illegible] The cleanup level of 1,000 mg/kg, as determined by the LUFT analysis, has been met in all other areas.

10.0 INVESTIGATION LIMITATIONS

This report is for the sole use of Pacific Gas and Electric Company and it's agents. In compliance with State and Federal regulations, Trident Environmental and Engineering (Trident) prepared this report as a third-party independent consultant. PG&E and its contractors supplied the only data for preparation of this report. Trident worked under the assumption that all data and reference material supplied were true and accurate, and that all relevant environmental information was disclosed to Trident during this investigation. All conclusions drawn by Trident were interpretations of the data supplied, and subject to the data's accuracy. This report was prepared in compliance with current procedures and accepted practices of the industry. Although every level of effort has gone into reducing risks, potential environmental problems and a certain level of risk may still exist at any level of effort.

Physical changes to a property, from the condition at which it existed during the time our investigation was accomplished, can be brought about by natural or manmade causes. Additionally, the standards of work which are acceptable to local governing authorities may be raised during the passage of time, and what is acceptable at this time may not be in the future.

It should be recognized that definition and evaluation of geologic conditions is a difficult and inexact art. Judgments leading to conclusions and recommendations are generally made with an incomplete knowledge of the subsurface conditions present. More extensive studies including additional subsurface investigation can tend to reduce the inherent uncertainties associated with studies of this type. It is possible that variations in soil could exist between and beyond borings, monitoring wells, test pits, and exploratory trenches.

Our services were conducted in a manner consistent with the level of care and skill ordinarily practiced by members of the profession under like circumstance. No other representation, express or implied, and no warranty or guarantee is included or intended in this report. The conclusions and recommendations submitted in this report are based upon sound engineering judgment using information obtained from our review of published data, site reconnaissance, and laboratory testing and analyses. These conclusions and recommendations may change as new, additional data is obtained.

FIGURES

FIGURE 1

Vicinity map

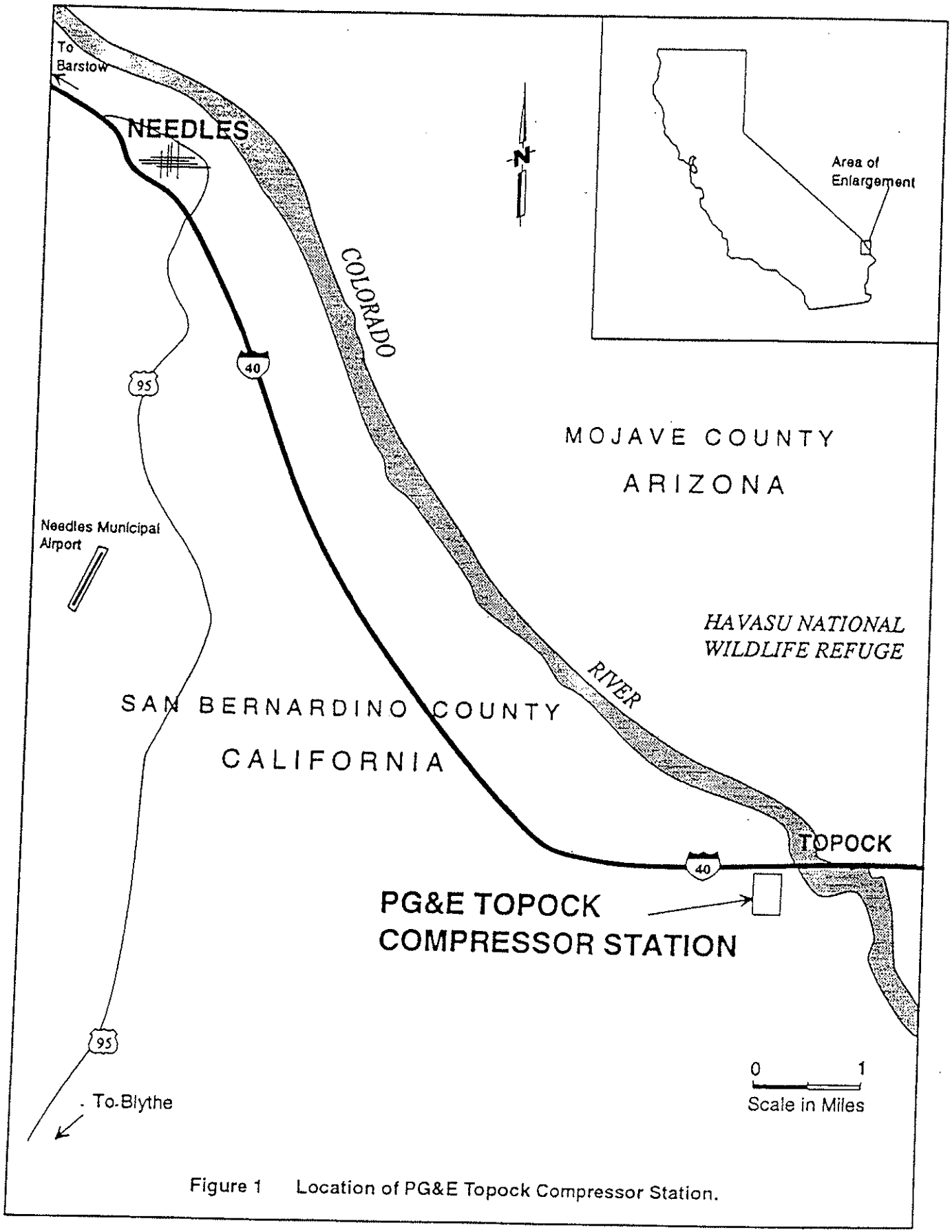
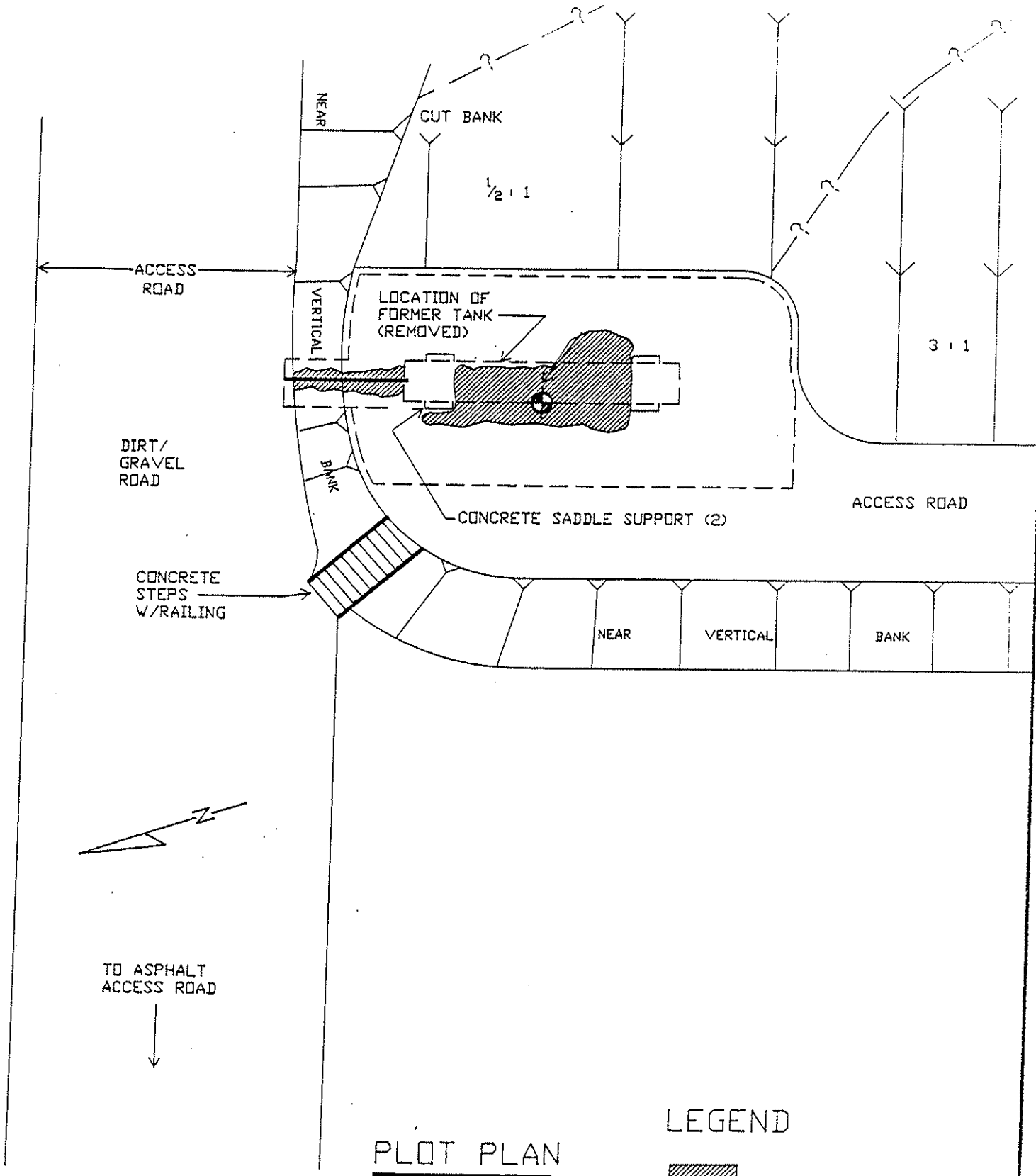


Figure 1 Location of PG&E Topock Compressor Station.

CCA-12A

FIGURE 2

Topock Site Plan, Plot Plan



PLOT PLAN
(NOT TO SCALE)

LEGEND

OIL STAINED SOIL

TEST PIT

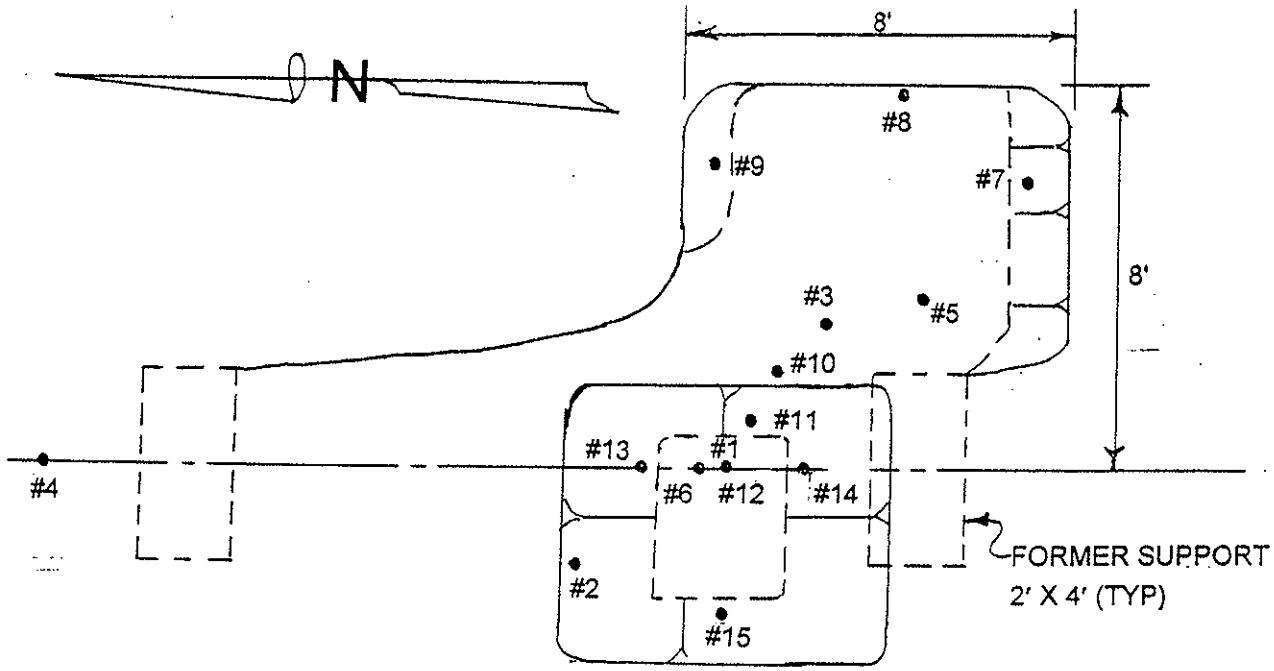
TOPOCK TANK SITE
PLOT PLAN
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

TRIDENT ENVRONMENTAL AND ENGINEERING
110 L STREET, SUITE #1
ANTIOCH, CALIFORNIA 94509
PHONE: (510) 706--6931

FIGURE 2	
DRAWN BY A.D.G.S.	DATE 12/17/94
DESIGN BY C.I. TRANTHAM	C.T.
JOB NO.	SHEET 1 OF

FIGURE 3

Soil Sample Locations and Soil Test Results



PLAN

1' = 4'

Sample Date	Sample Number	Depth Below Former Grade	TPH Result (418.1)	Remarks
7-18-96	ODT-1	2.5 Ft.	1,200 Mg/Kg	Re-excavated
"	ODT-2	3.0 Ft.	360 Mg/Kg	Re-excavated
"	ODT-3	1.5 Ft.	3,800 Mg/Kg	Re-excavated
"	ODT-4	0.5 Ft.	Non-Detect	
8-22-96	ODT-5	2.0 Ft.	2,500 Mg/Kg	Re-excavated
"	ODT-6	3.0 Ft.	1,300 Mg/Kg	Re-excavated
9-5-96	ODT-7	2.0 Ft.	Non-Detect	Side wall sample
"	ODT-8	2.5 Ft.	Non-Detect	Side wall sample
"	ODT-9	2.5 Ft.	Non-Detect	Side wall sample
"	ODT-10	4.0 Ft.	Non-Detect	
"	ODT-11	4.5 Ft.	690 Mg/Kg	Re-excavated
9-26-96	ODT-12	5.5 Ft.	Non Detect	
"	ODT-13	5.0 Ft.	120 Mg/Kg	Side wall sample
"	ODT-14	5.0 Ft.	66 Mg/Kg	Side wall sample
"	ODT-15	5.0 Ft.	150 Mg/Kg	Side wall sample

Trident Environmental and Engineering, Inc.
110 'L' Street, Suite #1, Antioch, CA 94509

Figure 3

Soil Sample Locations and Soil Test Results

APPENDIX A

Laboratory Analytical Results
and Chain of Custody Records
for Soils Sampled on July 18, 1996

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6931

Date Reported: 07/24/96
Date Received: 07/19/96
Laboratory No.: 96-08388-1

Sample Description: TOPOCK OIL DRIP TANK #173776-6: ODT-1 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 07/18/96 @ 12:15PM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	1200.	mg/kg	500.	EPA-418.1

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.
4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6931

Date Reported: 07/25/96
Date Received: 07/19/96
Laboratory No.: 96-08388-2

Sample Description: TOPOCK OIL DRIP TANK #173776-6: ODT-2 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 07/18/96 @ 12:20PM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	360.	mg/kg	100.	EPA-418.1

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6931

Date Reported: 07/25/96
Date Received: 07/19/96
Laboratory No.: 96-08388-3

Sample Description: TOPOCK OIL DRIP TANK #173776-6: ODT-3 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 07/18/96 @ 12:25PM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	3800.	mg/kg	500.	EPA-418.1

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.
4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6931

Date Reported: 07/25/96
Date Received: 07/19/96
Laboratory No.: 96-08388-4

Sample Description: TOPOCK OIL DRIP TANK #173776-6: ODT-4 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 07/18/96 @ 12:30PM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	None Detected	mg/kg	20.	EPA-418.1

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES, INC.

4100 Atlas Court • Bakersfield, CA 93308
(805) 327-4911 • FAX (805) 327-1918

CHAIN OF CUSTODY

Report To:

Name: Trident Environ
Address: 110 "L" St, #1
City: Antioch
State: CA Zip: 94509
Attn: Rich McGough
Phone: 510/706-6931

Project: Topock Oil Drip Tank
Project #: 173776-6
Sampler Name: R. McGough
Other: 8388
Fax 510/778-9067

Lab#	Sample Description	Date & Time Sampled	Matrix (S) Soil (SL) Sludge (W) Water (Other)	TPH 418.1
	[illegible]		S	
-1	ODT-1	7/18 12 15	S	
-2	ODT-2	7/18 12 20	S	
-3	ODT-3	7/18 12 25	S	
-4	ODT-4	7/18 12 30	S	
	5 Day Test			

Analysis Requested | Samples rec. cold (y/n) | Custody Seals (y/n) | Results Needed by: Date & Time | Number and Container Type

Sample Received Broken per (TB)

O - 7/19/96 // 12:05 Rich McGough
OK - left message that one of four samples rec'd today was broken in transport and can't be tested. (C)

I 7/19/96 // 12:15 Rich McGough
[illegible] some of dirt & run [illegible] in report (C)

Comment:
Hold Samples 90 Days

Billing Info:
Name: PG&E
Address: PO Box 770000, Mail Code H9A
City: San Francisco State: CA 94177
Attention: Melvin Wong
Time:
Miles:
P.O.# 85-3439-084

Sample Disposal
☐ BC Disposal @ $5.00 ea.
☐ Return to client

Relinquished by: (Signature)	Received by: (Signature)	Date: Time
R. McGough	[signature]	7-19-96
Relinquished by: (Signature)	Received by: (Signature)	Date: Time
Relinquished by: (Signature)	Received by: (Signature)	Date: Time
Relinquished by: (Signature)	Received by: (Signature)	Date: Time
Relinquished by: (Signature)	Received by: (Signature)	Date: Time
Relinquished by: (Signature)	Received by: (Signature)	Date: Time

APPENDIX B

Laboratory Analytical Results
and Chain of Custody Records
for Soils Sampled on August 22, 1996

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6931

Date Reported: 08/26/96
Date Received: 08/23/96
Laboratory No.: 96-09885-1

Sample Description: #1281 TOPOCK OIL DRIP TANK: ODT-5 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 08/22/96 @ 08:15AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	2500.	mg/kg	200.	EPA-418.1

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6931

Date Reported: 08/26/96
Date Received: 08/23/96
Laboratory No.: 96-09885-2

Sample Description: #1281 TOPOCK OIL DRIP TANK: ODT-6 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 08/22/96 @ 08:45AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	1300.	mg/kg	200.	EPA-418.1

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for

CHAIN OF CUSTODY

BC LABORATORIES, INC. 4100 Atlas Court • Bakersfield, CA 93308 (805) 327-4911 • FAX (805) 327-1918

Report to:

Name: Trident Environ	Project: Topock Oil Drip Tank
Address: 110 "L" St, #1	Project #: 1281
City: Antioch	Sampler Name: R. McGough
State: CA Zip: 94509	Other:
Attn: Rich McGough	
Phone: 510/706-6931	Fax 510/778-9067

Lab#	Sample Description	Date & Time Sampled	Matrix (S) Soil (SL) Sludge (W) Water (Other)	Analysis Requested: TPH 418.1	Samples rec. cold (y/n)	Custody Seals (y/n)	Results Needed by: Date & Time	Number and Container Type
	8oz Jars							
	ODT-5	8/22/96 815	S					
	ODT-6	8/22/96 845	S					
	24 Hours Turnaround							

Comment:

Billing Info:

Name: PG&E

Address: P.O. Box 770000, Mail Code H9A

City: San Francisco State: CA

Attention: Melvin Wang

Time:

Miles:

P.O.#

Sample Disposal

☐ BC Disposal @ 5.00 ea.
☐ Return to client

Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
R. McGough		
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:

APPENDIX C

Laboratory Analytical Results
and Chain of Custody Records
for Soils Sampled on September 5, 1996

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 L ST., SUITE 1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6933

Date Reported: 09/09/96
Date Received: 09/06/96
Laboratory No.: 96-10405-1

Sample Description: TOPOCK OIL DRIP TANK ODT-7 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 09/06/96 @ 09:20AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	None Detected	mg/kg	20.	EPA-418.1

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 L ST., SUITE 1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6933

Date Reported: 09/09/96
Date Received: 09/06/96
Laboratory No.: 96-10405-2

Sample Description: TOPOCK OIL DRIP TANK ODT-8 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 09/05/96 @ 09:25AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	None Detected	mg/kg	20.	EPA-418.1

California D.O.H.S. Cert. #1286

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 L ST., SUITE 1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6933

Date Reported: 09/09/96
Date Received: 09/06/96
Laboratory No.: 96-10405-3

Sample Description: TOPOCK OIL DRIP TANK ODT-9 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 09/05/96 @ 09:30AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	None Detected	mg/kg	20.	EPA-418.1

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.
4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 L ST., SUITE 1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6933

Date Reported: 09/09/96
Date Received: 09/06/96
Laboratory No.: 96-10405-4

Sample Description: TOPOCK OIL DRIP TANK ODT-10 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 09/05/96 @ 09:35AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	None Detected	mg/kg	20.	EPA-418.1

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.
4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENVIRONMENTAL
110 L ST., SUITE 1
ANTIOCH, CA 94509
Attn: RICH MCGOUGH 510-706-6933

Date Reported: 09/09/96
Date Received: 09/06/96
Laboratory No.: 96-10405-5

Sample Description: TOPOCK OIL DRIP TANK ODT-11 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 09/05/96 @ 09:40AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	690.	mg/kg	200.	EPA-418.1

Note: PQL's were raised due to high concentration of target analytes requiring sample dilution.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. • Bakersfield, CA 93308 • (805) 327-4911 • FAX (805) 327-1918

BC LABORATORIES, INC. 4100 Atlas Court • Bakersfield, CA 93308 (805) 327-4911 • FAX (805) 327-1918

CHAIN OF CUSTODY

Report To:

Name: Trident Environ

Address: 110 L St. #1

City: Antioch

State: CA Zip: 94509

Attn: Rich McGough

Phone: 510/706-6931

Tosco

Project: Oil Drip Tank

Project #:

Sampler Name: R. McGough

Other: 910-10405

Fax 510/778-9067

Lab#	Sample Description	Date & Time Sampled	Matrix (S) Soil (SL) Sludge (W) Water (Other)	Analysis Requested
-1	ODT-7 ~~9:20~~	9/5, 9:20	S	✓ TPH 418.1
-2	ODT-8 ~~9:25~~	9:25	S	✓
-3	ODT-9 ~~9:30~~	9:30	S	✓
-4	ODT-10 ~~9:35~~	9:35	S	✓
-5	ODT-11 ~~9:40~~	9:40	S	✓
	24 hour test			

DISTRIBUTION S.S.

Samples rec. cold (y/n)

Custody Seals (y/n)

Results Needed by: Date & Time

Number and Container Type

Comment:

Hold samples 90 days

Billing Info:

Name: PG&E

Address 375 N' Wiget Lane

City Walnut Creek State CA 94598

Attention: Melvin Wong

Time:

Miles:

P.O.# 25-3439-084

Sample Disposal

☐ BC Disposal @ 5.00 ea.

☐ Return to client

Relinquished by: (Signature)	Received by: (Signature)	Date: Time
R. McGough	Jennifer Mandonna	9/6/96 11
Relinquished by: (Signature)	Received by: (Signature)	Date: Time
Relinquished by: (Signature)	Received by: (Signature)	Date: Time
Relinquished by: (Signature)	Received by: (Signature)	Date: Time
Relinquished by: (Signature)	Received by: (Signature)	Date: Time

APPENDIX D

Laboratory Analytical Results
and Chain of Custody Records
for Soils Sampled on September 26, 1996

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENV
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGHT 510-706-6931

Date Reported: 09/30/96
Date Received: 09/27/96
Laboratory No.: 96-11386-1

Sample Description: TOPOCK OIL DRILL TANK #1281: ODT-12 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 09/26/96 @ 09:30AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	None Detected	mg/kg	20.	EPA-418.1

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

RECEIVED OCT 0 3 1996

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENV
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGHT 510-706-6931

Date Reported: 09/30/96
Date Received: 09/27/96
Laboratory No.: 96-11386-2

Sample Description: TOPOCK OIL DRILL TANK #1281: ODT-13 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 09/26/96 @ 10:00AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	120.	mg/kg	20.	EPA-418.1

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

RECEIVED

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENV
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGHT 510-706-6931

Date Reported: 09/30/96
Date Received: 09/27/96
Laboratory No.: 96-11386-3

Sample Description: TOPOCK OIL DRILL TANK #1281: ODT-14 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 09/26/96 @ 10:15AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	66.	mg/kg	20.	EPA-418.1

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

BC LABORATORIES

Total Petroleum Hydrocarbons

TRIDENT ENV
110 "L" ST #1
ANTIOCH, CA 94509
Attn: RICH MCGOUGHT 510-706-6931

Date Reported: 09/30/96
Date Received: 09/27/96
Laboratory No.: 96-11386-4

Sample Description: TOPOCK OIL DRILL TANK #1281: ODT-15 SAMPLED BY R. MCGOUGH

Sampling Date/Time: 09/26/96 @ 10:40AM

Constituents	Sample Results	Units	Method P.Q.L.	Method
Total Recoverable Petroleum Hydrocarbons	150.	mg/kg	20.	EPA-418.1

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.

4100 Atlas Ct. · Bakersfield, CA 93308 · (805) 327-4911 · FAX (805) 327-1918

CHAIN OF CUSTOD

LABORATORIES, INC. 4100 Atlas Court • Bakersfield, CA 93308 (805) 327-4911 • FAX (805) 327-1918

Report To:

Name: Trident Environ
Address: 110 "L" St, #1
City: Antioch
State: CA Zip: 94509
Attn: Rich McGough
Phone: 510/706-6931

Project: Oil Drip Tank
Project #: 1281
Sampler Name: R. McGough
Other: 96-W386
Fax 510/778-9867

Lab#	Sample Description	Date & Time Sampled	Matrix (S) Soil (SL) Sludge (W) Water (Other)	Analysis Requested: TPH 418.1	Samples rec. cold (y/n)	Custody Seals (y/n)	Results Needed by: Date & Time	Number and Container Type
-1	ODT-12	9/26/96, 7:30 A	S	✓				
-2	ODT-13	9/26/96, 10:00 A	S	✓				
-3	ODT-14	9/26/96, 10:15 A	S	✓				
-4	ODT-15	9/26/96, 10:40 A	S	✓				
	24 hours Turnaround							

DISTRIBUTION S.B.

Comment:

Billing Info:
Name: PG&E
Address 375 N. Wiget Lane
City Walnut Creek State CA
Attention: Melvin Wong
Time:
Miles:
P.O.#

Sample-Disposal
☐ Lab Disposal @ 5.00 ea
☐ Return to client

Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
R. McGough	Jennifer McMahon	9/27/96 11A
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: Time:

APPENDIX E

Soil Sampling Quality Assurance Plan

SOIL SAMPLING QUALITY ASSURANCE PLAN

Sample Collection and Handling

The samples will be collected in glass jars using a stainless steel trowel following procedures given in appropriate regulatory guidance documents (i.e. EPA SW-846, ASTM guidelines, etc.). The jars will be sealed, clearly marked and dated for identification and prepared for transport to a state certified analytical laboratory. All samples will be preserved correctly and stored no longer than the maximum allowable holding time for laboratory analysis.

Decontamination Procedures

In order to ensure that no cross contamination occurs during soil sampling activities at the site, all equipment will be decontaminated between each sampling event. Decontamination will consist of cleaning with a detergent wash followed by a flowing deionized water rinse. All decontaminated equipment will be stored on clean pallets or plastic sheeting. The following procedures will be utilized for decontaminating all sampling equipment.

- All soil sampling equipment (trowels) will be washed with TSP detergent and rinsed with flowing deionized water.
- Glass jars used in the sampling will be new and will be certified clean by the laboratory.
- Remaining soil material will be left in place.

Sample Handling Procedures

All soil samples will be collected in new, clean glass sampling jars. No jars will be reused during the project. The samples will be shipped via overnight delivery or courier service to the laboratory.

Sample Labels

All labels will include the following information: the name of the sampler, project name, sample designation, and date and time of sampling. All labels will be filled out at the time of sample collection.

Chain-of-Custody Record

A chain of-custody record will be used to establish the documentation necessary to trace sample possession from the time of collection. It may incorporate a separate sample analysis request sheet. Alternately, a separate request sheet may be used.

Sample information will be recorded on the chain-of-custody form. Personnel will record information for individual samples indicating the sample number, matrix, collection date and time, analytical tests to be performed, and any special instructions for the laboratory. The forms will accompany all samples collected in the field to the laboratory. Whenever a sample is transferred, both parties will sign and date the form, and the person releasing the samples will retain a copy. Final chain-of-custody forms will be attached to the analytical reports prepared by the laboratory.

Instruction to the laboratory will be provided in writing prior to the start of field activities. The instructions will reference sample identification numbers and analyses to be performed on each sample.

Field Log

A field log will be used to record all field data pertinent to the sampling event. The log must contain the following data:

1. name of sampler
2. location of sampling point
3. purpose of sampling
4. description of sample
5. sampling point and sampling methodology
6. number and volume of sample taken
7. name and address of field contact
8. date and time of collection
9. collector's sample identification number
10. weather conditions at the time of sampling
11. sample distribution and transportation mode field observations
12. field measurements made and records of instrument standardization and calibration, if applicable
13. relevant comments regarding sampling procedure, methods, and any problems encountered during the sampling
14. signatures of personnel responsible for observations

Sample Delivery to the Laboratory

The sample will be delivered to the laboratory for analysis as soon as practicable. Efforts will be made to deliver the sample to the lab on the same day it was taken, if possible. It will not be accepted by the laboratory if sample preservation times have not been met. All samples will be accompanied by the Chain-of-Custody Record. Samples shipped via common carrier will be considered to have been in their custody during that period of time. Shipping bills of lading will be used as evidence of their sample custody

Laboratory Quality Control

A State approved laboratory will be used. The laboratory will follow an approved QA/QC program. The laboratory will be approved by PG&E (i.e. under PG&E contact).

Receipt and Logging of Sample

In the laboratory, the assigned sample custodian will receive the samples. Upon receipt of a sample, the custodian will do the following: inspect the condition of the sample and the sample seal (if any), reconcile the information on the sample label and seal against that on the Chain-of-Custody Record, assign a laboratory number, log in the sample in the laboratory log book, and store the sample in a proper sample storage room or cabinet until assigned to an analyst.

The sample custodian will inspect the sample for any leakage from the container. Any discrepancies between the information on the sample label, sample seal (if any), and the information on the Chain-of-Custody record or sample analysis request sheet will be resolved. Results of the inspection will be noted on the sample, chain-of-custody record, and on the laboratory sample log book. Incoming samples will carry the sample identification numbers.

Assignment of Sample for Analysis

Once the sample has been received in the laboratory, the laboratory will maintain an internal chain-of-custody control in accordance within its own chain-of-custody program.

All written records of sample handling and analyses will be maintained by the laboratory to document sample history from the time samples reach the laboratory until disposal.

Laboratory Analytical Quality Assurance

In addition to routine calibration of the instruments with standards and blanks, the analyst is required to run duplicates and spikes on 10% of the analyses to ensure an added measure of precision and accuracy. Accuracy is also verified through the following:

1. Certification by California Department of Health Services.
2. Participation in inter-laboratory or round-robin programs.

3. "Blind" samples are submitted by the laboratory's quality assurance officer on a weekly basis. These are prepared from National Bureau of Standards or U.S. Environmental Protection Agency reference standards.

Further details of the laboratory QA/QC program will be supplied in the report documenting the soil sampling and analyses work.

COUNTY FIRE DEPARTMENT

HAZARDOUS MATERIALS DIVISION
385 North Arrowhead Avenue, Second Floor • San Bernardino, CA 92415-0153

RECEIVED JUN 1 6 1997 1281

COUNTY OF SAN BERNARDINO

RICHARD W. SEWELL
Fire Chief
County Fire Warden

[redacted]

June 9, 1997

Ron Ripley 15 Site Remed. Supervisor
909 386-8419

PACIFIC GAS AND ELECTRIC COMPANY
375 NORTH WIDGET LANE
WALNUT CREEK, CALIFORNIA 94598

ATTENTION: REX BELL

SUBJECT: REPORT OF SCUBBER SUMP INVESTIGATION RESULTS AND FORMER PIPELINE LIQUID OIL TANK CLOSURE CERTIFICATION REPORT FOR THE PGE TOPOCK COMPRESSOR STATION LOCATED 15 MILES SOUTH OF NEEDLES OFF I-40, NEEDLES, CALIFORNIA

The Department has reviewed the subject documents dated February 27, 1997 and October 10, 1996, respectively, submitted by Ecology and Environment and Trident Environmental Engineering and also additional documentation. This letter confirms the completion of the site investigation and remedial action for the contaminated soil at the above site. With the provision that the information provided to this agency was accurate and representative of existing conditions, it is the position of the Department that no further action is required at this time. Residual concentrations of contaminants remain in the soil; however, verification sampling has revealed the concentrations to be below hazardous waste thresholds.

Please be advised that this letter does not relieve you of any liability under the California Health and Safety Code or Water Code for past, present, or future operations at the site. Nor does it relieve you of the responsibility to clean up existing, additional, or previously unidentified conditions at the site, which cause or threaten to cause pollution or nuisance or otherwise pose a threat to water quality or public health.

Additionally, be advised that changes in the present or proposed use of the site may require further site characterization and mitigation activity. It is the property owner's responsibility to notify this agency of any changes in report content, future contamination findings, or site usage.

If you have any questions, please call me at (909) 387-3041.

Catherine B. Richards

CATHERINE B. RICHARDS, R.E.H.S.
ENVIRONMENTAL HEALTH SPECIALIST II
HAZARDOUS MATERIALS DIVISION
SITE REMEDIATION/LOCAL OVERSIGHT PROGRAM

CR:mf

cc: Greg Holmes, Department of Toxics Substances Control, Region 3
Steve Garino, Regional Water Quality Control Board, Colorado River Basin Region
Ralph Lambert, R.G., Ecology and Environment, Inc.
Richard E. McGough, P.E., Trident Environmental and Engineering, Inc.