

**DOCKETED**

<b>Docket Number:</b>	99-AFC-01C
<b>Project Title:</b>	Elk Hills Power Project - Compliance
<b>TN #:</b>	266455
<b>Document Title:</b>	Appendix O Phase 1 Environmental Site Assessment Part F
<b>Description:</b>	Appendix O Phase 1 Environmental Site Assessment, Part F
<b>Filer:</b>	Daniel I. Padilla
<b>Organization:</b>	California Resources Corporation
<b>Submitter Role:</b>	Applicant
<b>Submission Date:</b>	10/10/2025 12:13:58 PM
<b>Docketed Date:</b>	10/10/2025

# CalCapture CCS Project

## Phase I Environmental Site Assessment Report

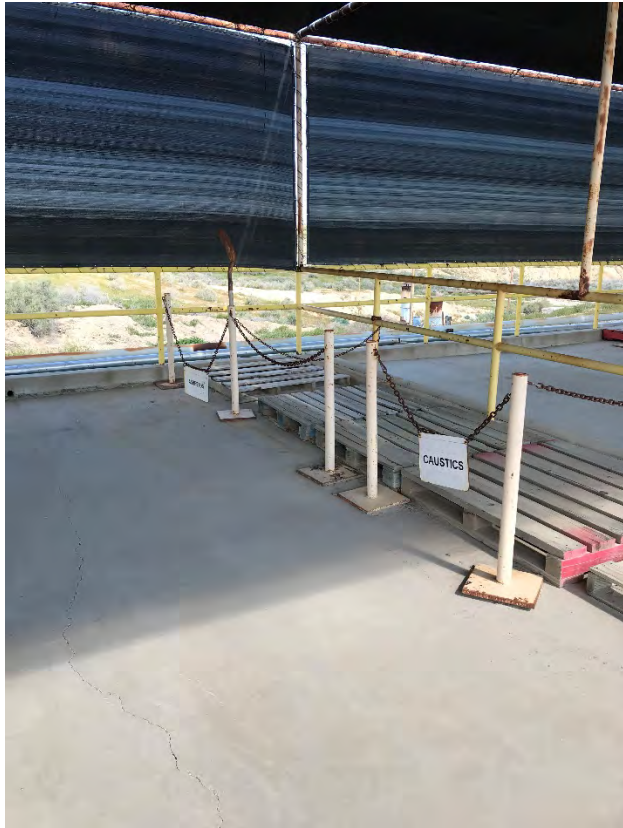
Prepared for:  
Carbon TerraVault Holdings, LLC, a carbon  
management subsidiary of California Resources  
Corporation

October 2025

Prepared by:  
Stantec Consulting Services Inc.  
2646 Santa Maria Way, Suite 107  
Santa Maria, CA 93455

Project/File:  
185806775









### HAZARDOUS MATERIALS BUSINESS PLAN (HMBP) INSPECTION REPORT

<b>Facility Name:</b> CALIFORNIA RESOURCES ELK HILLS, LLC (FIELD)		<b>Facility ID:</b> FA0002399
<b>Site Address:</b> 28590 HIGHWAY 119 TUPMAN, CA 93276		<b>CERS ID:</b> 10233439
<b>Phone:</b> (661) 412-5000	<b>Consent Granted By:</b>	<b>Inspection Date:</b> 10/23/2015
<b>Inspection Type:</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection		<b>Reinspection required:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Inspection Element:</b> BUS PLAN LARGE HIGH RISK >5 UNITS		

#### File/CERS Review Violations

V	Viol #	Summary	Code
	H335	Failure to adequately complete and submit a HMBP into the California Environmental Reporting System (CERS)	HSC 6.95 25505, 25508(a)(1), 25508(d)
	H344	Failure to complete and submit the Business Activities Page and/or Business Owner Operator Identification Page in CERS	HSC 6.95 25508(a)(1); 19 CCR 4 2729.2(a)(1);
	H342	Failure to complete and submit hazardous material inventory information for all reportable hazardous materials on site in CERS	HSC 6.95 25505(a)(1), 25506, 25508(a)(1)
	H341	Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date in CERS	HSC 6.95 25508(c), 25508.2
	H346	Failure to complete and submit a site map with all required content in CERS	HSC 6.95 25505(a)(2), 25508(a)(1)
	H347	Failure to submit an adequate emergency response plan and procedures in CERS	HSC 6.95 25505(a)(3), 25508(a)(1)
	H353	Failure to submit an adequate training program in CERS	HSC 6.95 25505(a)(4), 25508(a)(1)
	H340	Failure to notify property owner in writing that a HMBP is required	HSC 6.95 25505.1
	H336	Failure to provide property owner a copy of the HMBP upon request	HSC 6.95 25505.1

#### Onsite Inspection Violations

V	Viol #	Summary	Code
	H334	Failure to adequately establish and implement a HMBP	HSC 6.95 25507
	H343	Failure to revise HMBP in CERS within 30 days upon a substantial change in the handler's operation	HSC 6.95 25508.1(f)
	H345	Failure to update Facility Information and/or Hazardous Materials Inventory in CERS within 30 days upon a significant change	HSC 6.95 25508.1(a)-(e)
	H348	Failure to provide initial and annual safety training to all employees and/or failure to document and maintain training records for 3 years	HSC 6.95 25505(a)(4)
✓	H338	Failure to report a release or threatened release of a hazardous material to the CUPA and to California Office of Emergency Services	HSC 6.95 25510(a)

**Inspector:** DAN R STARKEY

**Inspection Date:** 10/23/2015

**CONDITIONAL EXEMPTIONS FROM REPORTING REQUIREMENTS**

**Agricultural handlers** are conditionally exempt from electronically submitting Emergency Response and Employee Training Plans in CERS if the following requirements are met:

- Owner/Operator annually submits the Facility Information and Hazardous Materials Inventory electronically into CERS
- Each location/building, where hazardous materials (i.e. pesticides, petroleum products, fertilizers, etc.) are stored, is posted with warning signs that meet the following requirements:
  - Shall be conspicuous and visible from any direction of probable approach
  - Shall be of such size that it is readable from 25 feet and shall be labeled as follows:

DANGER HAZARDOUS MATERIAL STORAGE AREA  
 (the hazardous materials stored within shall be noted by category  
 [i.e. pesticides, petroleum products, fertilizers, etc.]  
 ALL UNAUTHORIZED PERSONS-KEEP OUT - IN AN EMERGENCY, CONTACT:  
 (list the name and phone number of an emergency contact person(s))

- Shall be repeated in an appropriate language other than English when persons who do not understand the English language may enter the posted location/building
- Owner/Operator provides training for all new employees and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material, including, but not limited to, familiarity with the emergency plans and procedures

**Exempt Facility Violations**

V	Viol #	Summary	Code
	H760	Failure to submit Emergency Response/Contingency Plan in CERS when not meeting agricultural handler exemption requirements	HSC 6.95 25507.1, 25508(a)(1); 19 CCR 4 2733, 2734
	H758	Failure to submit Employee Training Plan in CERS when not meeting agricultural handler exemption requirements	HSC 6.95 25507.1, 25508(a)(1); 19 CCR 4 2733, 2734
	H759	Failure to establish and submit a HMBP in CERS when not meeting remote unstaffed facility exemption requirements	HSC 6.95 25505, 25506, 25507, 25507.2, 25508(a)(1)

**SUMMARY OF OBSERVATIONS/VIOLATIONS**

☐ No violations of hazardous materials business plan laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.

☒ Violations were observed/discovered as listed below. **ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED.** CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

**VIOLATIONS**

Violation Number	Violation Text	Violation Degree	Comply by
H338	Failure of business to provide an immediate, verbal report of a release or threatened release of a hazardous material to the CUPA and the California Office of Emergency Services (OES) Warning Center. HSC 6.95 25510(a)	CLASS I VIOLATION	11/22/2015
<b>Violation Details &amp; Corrective Action Required:</b>	CRC failed to contact the Agency on Sunday 10-18-2015 at 1324 when the release of crude oil and produced water was discovered. CRC contacted the Agency on Monday 10-19-2015 at 0851. This is the second violation of this type. The previous violation occurred on May 17, 2015 and resulted in an Administrative Enforcement Order (AEO)		

Inspector: DAN R STARKEYInspection Date: 10/23/2015

**INSPECTION COMMENTS:**

3-27S SOC Broken Pipe CRC Elk Hills Field

**COMMENTS:** Go to <http://www.co.kern.ca.us/eh/> (Hazardous Materials) for forms and information.



**Inspector:** DAN R STARKEY

**Signature of Facility Representative:**

**Inspection Date:** 10/23/2015

**Certification:** I certify under penalty of perjury that this facility has complied with the corrective actions listed on this inspection form.

\_\_\_\_\_  
**Printed Name of Owner/Operator**

\_\_\_\_\_  
**Title**

\_\_\_\_\_  
**Signature of Owner/Operator**

\_\_\_\_\_  
**Date**



**UNIFIED PROGRAM AGENCY (UPA)  
INSPECTION CONSENT AND  
ACKNOWLEDGEMENT CERTIFICATION**

Facility Name: California Resources Elk Hills, LLC Inspection Date: 11/10/2021  
Facility ID: F A0002399 CERS ID: 10233439

The State of California and the Health and Safety Code (HSC) gives the UPA the authority to conduct business facility inspections for compliance with the programs listed below. By signing this document, you are consenting to an inspection of the above referenced facility by the Kern County Public Health Services Department, Environmental Health Division; UPA for the County of Kern. Inspections may consist of the physical inspection of all business areas on the property, review and copying of documentation/records, video or photographs (includes aerial), employee interviews, and conducting sampling activities to evaluate compliance with UPA requirements.

- Hazardous Waste (Health & Safety Code [HSC § 25185, subd. (a)]);
- California Accidental Release Prevention [HSC § 25534.5];
- Hazardous Materials Release Response Plans [HSC § 25508, subd. (a)];
- Underground Storage Tanks - [HSC § 25289]; and
- Aboveground Storage Tanks - [HSC § 25270.5, subd. (a)].

  
Signature Facility Representative

SONNIE PINEDA / HSE ADVISOR, SR  
Print Name and Title

11/10/2021  
Date Signed

☐ Declined to sign, verbal consent to inspect given.

☐ Inspection Refused

**Acknowledgement of Method to Receive Inspection Report:**

E-mail to: \_\_\_\_\_

Mail to: \_\_\_\_\_

Fax to: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

  
Signature Inspector

Michael Hernandez EHS  
Print Name and Title

11/9/2021  
Date Signed





## Initial Summary of Violations

On 11/10/2021, Kern County Public Health Services Department, Environmental Health Division (KCEHD) as the Unified Program Agency (UPA), conducted an inspection at:

Facility Name: California Resources Elk Hills, LLC

Facility Address: 28590 Highway 119

Facility ID: FAC002390

CERS #: 10233439

Violations ☒ Yes ☐ No If no violations found, no further action required.

As a result of this inspection, violations of one or more covered program laws, regulations, or requirements were discovered. This is an initial summary of violations found at the time of the inspection. Additional violations may be found after the site visit. The final inspection report will contain all actionable violations. All violations must be corrected within 30 days of receipt of the final inspection report or other specified time frame. The issuance of this Summary of Violations does not preclude KCEHD from taking administrative, civil, or criminal action as a result of the violations noted in the Summary of Violations or violations that have not been corrected within the time provided. KCEHD may re-inspect this facility at any time.

Item	Description
1	<u>Business Plan inaccurate - update environmental contact</u>
2	<u>Facility lists trade secret materials - please delete as trade secret or upload</u>
3	<u>trade secret form</u>
4	<u>Haz inventory mat incomplete.</u>
5	<u>improper labeling of waste containers (lab) C.O.S</u>
6	
7	
8	

Comments:

[Signature]  
Facility Representative Signature

10 Nov 2021  
Date

[Signature]  
Inspector Signature

11/10/2021  
Date



## 27R Waste I

Electric Panel



Waste Pad





## Pad

Sample Bottle and E waste cleaned.

AC unit disposed to Lighting Resources Corp. The Diesel Exhaust Waste in yellow bag is disposed as well. Spent lead acid batteries are awaiting disposal.

Accumulated Universal Waste hauled and sent to Lighting Resources Corp. The drums of Sand Blast media is awaiting for profile from the disposal facility. Once cleared, it will be disposed immediately.

E waste Computer accessories/monitor etc. are sent to Lighting Resource Corp for disposal.

Used Lamp shed are disposed, sent to Lighting Resource Corp for disposal.

Updated label on Used oil Storage.

Drums of bleach are segregated. It is usable and planned to be used. No longer consider are waste. Empty Blue metallic drum will be dispose . Empty Black metallic drum is for waste storage.



KERN COUNTY  
Public Health Services  
DEPARTMENT

MATTHEW CONSTANTINE  
DIRECTOR

2700 M STREET, SUITE 300, BAKERSFIELD, CALIFORNIA 93301-2370

VOICE: 661-862-8740 \* FAX: 661-862-8701 \* E-mail: EH@kerncounty.com \* kernpublichealth.com/environmental-health

## ENVIRONMENTAL HEALTH DIVISION INSPECTION CONSENT AND ACKNOWLEDGEMENT CERTIFICATION

Facility Name: CRC ELK Hills Inspection Date: 3/20/19  
Facility ID: FA0002399 CERS ID: 10233439

**Consent:** By signing this document, you are consenting to an inspection of the above referenced facility by the Kern County Public Health Services Department, Environmental Health Division; Certified Unified Program Agency (CUPA) for the county of Kern The State of California has authorized the CUPA to conduct business facility inspections for compliance with the programs listed below. These inspections may include the inspection of all business areas on the property, the review and copying of records, the taking of photographs, and the taking of samples to evaluate compliance with CUPA requirements. The following Health and Safety Code (HSC) sections give the CUPA the authority to inspect:

- Hazardous Waste (Health & Safety Code [HSC § 25185, subd. (a)];
- California Accidental Release Prevention [HSC § 25534.5];
- Hazardous Materials Release Response Plans [HSC § 25508, subd. (a)];
- Underground Storage Tanks - [HSC § 25289]; and
- Aboveground Storage Tanks - [HSC § 25270.5, subd. (a)].

[Signature] SORAN PINEDA 3/18/2019  
Signature Facility Representative Print Name and Title Date Signed

☐ Declined to sign, verbal consent to inspect given. ☐ Inspection Refused

### Acknowledgement of Method to Receive Inspection Report:

E-mail to: Sorani Pineda@kern.co Mail to: \_\_\_\_\_  
Fax to: \_\_\_\_\_

[Signature] BROOKLYN SALGREN ZELLUS 3/21/19  
Signature Inspector Print Name and Title Date Signed

#2315

**From:** <Drew\_Laza@oxy.com>  
**To:** <dans@co.kern.ca.us>  
**CC:** <Mike\_Glavin@oxy.com>, <Bill\_Dixon@oxy.com>, <Richard\_Garcia@oxy.com>  
**Date:** 02/05/2013 2:46 PM  
**Subject:** FW: Kern County Findings  
**Attachments:** 2012 Closeout Pictures.pdf

Dan,

Attached you will find evidence of all the corrective actions taken. If I've missed any, please let me know.

Images 1 and 2 show the clean secondary containments at 18G Baker Chemical Storage.

Images 4 and 5 are of the 19R well pad that had a breach in the berm. After contacting KVS (who operates this tank) and determining that they have not had any significant loss of fluid from those tanks and we have no spill on record, operations and members of the HES team believe that this may have been a result of the large storm in December of 2010. The storm has washed out numerous roads and well pads with similar cuts. And since it was behind the tanks, it may have been overlooked by our teams.

Images 3 and 6 are from well pad 348-35R and show that the fluids that were within the containments have been removed. They have been cleaned up as best as possible with the vacuum trucks, but further work is still being completed on them. As there is still some residue left in the bottom of the containment, operations will either replace the drums and containment or remove them altogether.

Image 7 shows the clean-up of the oil stain that was on the ground at 18G DEHY/LACT that you saw when you visited.

Image 8 shows the clean-up around the 18G Cut Lab drain tank.

If you have any trouble with this file, please let me know.

Drew Laza  
Health, Environment, and Safety  
Occidental of Elk Hills, Inc.  
Environmental Engineer, EIT  
Office: 661-412-5268  
Fax: 661-412-5270  
Cell: 661-303-9038  
drew\_laza@oxy.com<mailto:drew\_laza@oxy.com>





# ENVIRONMENTAL HEALTH PERMIT

## KERN COUNTY PUBLIC HEALTH SERVICES DEPARTMENT

### ENVIRONMENTAL HEALTH SERVICES DIVISION

2700 M ST SUITE 300 BAKERSFIELD CA 93301

(661) 862-8740 [www.co.kern.ca.us/eh](http://www.co.kern.ca.us/eh) e-mail: [eh@co.kern.ca.us](mailto:eh@co.kern.ca.us)

#### REGULATED FACILITY:

OCCIDENTAL OF ELK HILLS INC (FIELD)  
28590 HIGHWAY 119  
TUPMAN CA 93276

#### IDENTIFICATION NUMBERS:

FACILITY ID: FA0002399  
CERS ID: 10233439  
FILE ID: 002315

#### OWNER(S) OF RECORD:

OCCIDENTAL OF ELK HILLS INC

#### General Health Program

APSA 10,000-99,999 GALLON CAPACITY  
BUS PLAN LARGE MOD RISK >5 UNITS  
HAZARDOUS WASTE GENERATOR  
RCRA LARGE QTY GENERATOR

Permit #	Additional Information	Effective Thru
0024111		06/30/2017
0024109		06/30/2017
0024112		06/30/2017
0025756		06/30/2017

Permit Issued: 07/01/2012

Matthew Constantine  
Public Health Services Director

This ENVIRONMENTAL HEALTH PERMIT is issued to the owner(s) and establishment shown above subject to compliance with all applicable laws and regulations. Permit is valid unless revoked or suspended for violation of applicable laws and regulations.

PERMIT IS NON-TRANSFERABLE AND MUST BE PROMINENTLY DISPLAYED IN THE PLACE OF BUSINESS

DREW LAZA  
10800 STOCKDALE HWY  
BAKERSFIELD, CA 93311



## INTEROFFICE MEMORANDUM CLOSURE OF HAZMAT FACILITY/PROGRAM(S)

To: Chris Hollinger  
From: Laurel  
Subject: FA 0030793 CERS ID 10237339 Closure/inactivation of facility/program(s)  
Name: KEY ENERGY SERVICES CALIF-TUPMAN

☒ An inspection was completed at the above facility and no hazardous materials/waste were found.

☐ An inspection was done at the above facility and the following Program(s) are no longer regulated:

PE: Description:

PE: Description:

PE: Description:

☒ All open violations have been closed and comments have been made in Envision.  
Inspector name/signature and date: Paul E. Strom

Refer to Designated CERS Staff

☒ All violations closed, comments by inspector in Envision.

☒ Facility's submittal(s) have been processed through CIW and into Envision, facility has been changed to "Not Applicable" in CERS.

☒ Verified not a PIP facility (if so, deleted from PIP Possible and PIP scoring template spreadsheets).

☒ /NA Open invoice attached to facility. Comments made in Envision and referred to Fiscal for closure of invoice. Invoice # IN0415671

☐ /NA No open invoice attached to facility. All appropriate programs inactivated in Envision and facility comments added. Refer to Fiscal.

Designated CERS Staff name/signature and date: Laurel Tink 8/10/2018

Refer to Fiscal Staff

☒ Verification by Fiscal complete. Facility closed/inactivated.

Fiscal Staff name/signature and date: ZCN 8-24-18

Return to Designated CERS Staff





# INVOICE

Invoice ID

IN0415671

Account ID

AR0041630

Date

8/10/2018

FA0030793

KEY ENERGY SERVICES CALIF - TUPMAN



Make checks payable to:

COUNTY OF KERN

ENVIRONMENTAL HEALTH SERVICES DIVISION

2700 M STREET, SUITE 300

BAKERSFIELD, CA 93301-2730

Now accepting online credit card payments at <http://kernpublichealth.com/environmental-health/>

To avoid 50% Penalty, pay by:

7/31/2018

Total Due:

\$445.00

Amount Paid:

DALE JOHNSON

KEY ENERGY SERVICES CALIF INC

5080 CALIFORNIA AVE SUITE 150

BAKERSFIELD, CA 93309



Please return the top portion of this invoice notice with payment

County of Kern

Environmental Health Services Division

RE: KEY ENERGY SERVICES CALIF - TUPMAN, FA0030793

28590 HIGHWAY 119

TUPMAN, CA 93268

Unpaid balances will be sent to a collection agency  
and you will be responsible for any associated charges.

Date	Program Element	Description	Record Identifier	Amount
<b>Invoice # IN0415671 -- Date of Invoice: 7/1/2018</b>				
07/01/2018	CB1T	BUS PLAN SMALL LOW RISK 1 UNIT	PR0058871	90.00
07/01/2018	CG07	SMALL QUANTITY HAZARDOUS WASTE GENERATOR	PR0058872	170.00
07/01/2018	SC10	STATE SERVICE CHG - OVERSITE	PR0058873	49.00
07/01/2018	CD01	APSA 1,320-9,999 GALLON CAPACITY	PR0064877	110.00
07/01/2018	SC25	STATE SERVICE CHG - APSA PROGRAM	PR0068778	26.00

Total For this Invoice:

445.00

Total Amount Due for this Invoice

-- Please Remit this Amount --

\$445.00

For questions related to your invoice, please feel free to contact us.

(661) 862-8713 Food Program

(661) 862-8733 Haz Mat/Land Program

(661) 862-8773 Water/Solid Waste Program

(661) 862-8740 Main Line

You must notify Environmental Health of any changes of Ownership, Billing Address, Business Name, Closure

FAILURE to notify Environmental Health may result in LATE PENALTIES, PERMIT DENIAL, OR REVOCATION

Permits and Fees Paid are NOT TRANSFERABLE

2700 M Street, Suite 300

\*

Bakersfield, California 93301

\*

(661) 862-8740

\*

FAX (661) 862-8701





### HAZARDOUS WASTE GENERATOR INSPECTION REPORT

<b>Facility Name:</b> KEY ENERGY SERVICES CALIF - TUPMAN		<b>Facility ID:</b> FA0030793
<b>Site Address:</b> 28590 HIGHWAY 119 TUPMAN, CA 93268		<b>CERS ID:</b> 10237339
		<b>EPA ID #:</b> CAL000331890
<b>Phone:</b> (661) 334-8200	<b>Consent Granted By:</b>	<b>Inspection Date:</b> 09/08/2015
<b>Inspection Type:</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection		<b>Reinspection required:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Conditionally Exempt Small Quantity Generator (CESQG)	Small Quantity Generator (SQG)	Large Quantity Generator (LQG)
40 CFR §261.5(a) & (e)	22 CCR § 66262.34(d), 66262.34(d)(3); HSC § 25123.3(h)(1)	22 CCR § 66262.34; HSC § 25123.3
. 100 kg or . 220 lbs or . 27 gal per month	. 100 kg but . 1,000 kg or . 220 lbs but . 2,240 lbs or . 27 gal but . 270 gal per month	. 1000 kg or . 2,240 lbs or . 270 gal per month
. 1 kg or . 2.2 lbs or . 0.3 gals per month acute or extremely hazardous waste	. 1 kg or . 2.2 lbs or . 0.3 gals per month acute or extremely hazardous waste	. 1 kg or . 2.2 lbs or . 0.3 gals per month acute or extremely hazardous waste
. 100 kg or . 220 lbs or . 27 gal per month acute spill residue or soil		. 100 kg or . 220 lbs or . 27 gals per month acute spill residue or soil
<b>Accumulation Time Limits</b>		
22 CCR § 66262.34(b)	22 CCR § 66262.34(d)(2), 66262.34(d)(3)	22 CCR 66262.34(a)
90 days from date 100 kg limit is reached	≤180 days or ≤270 days (if greater than 200 miles)	≤90 days

#### General Violations - All Generators

V	VIOL #	Summary	Code
	H235	OPERATING WITHOUT A PERMIT	HSC 6.11 25404.1
	H236	EPA ID NUMBER INCORRECT OR INACTIVE	22 CCR 12 66262.12
	H248	MANIFEST/CONSOLIDATED MANIFEST NOT MAINTAINED FOR 3 YEARS	22 CCR 12 66262.40(a); HSC 6.5 25160.2
	H246	FAILURE OF OWNER/OPERATOR TO SEND GENERATOR MANIFEST COPIES TO DTSC WITHIN 30 DAYS	22 CCR 12 66262.23(a)(4)
	H251	IMPROPER HAZARDOUS WASTE DETERMINATION	22 CCR 12 66262.11, 66262.40(c)
	H260	HAZARDOUS WASTE LABELING STANDARDS NOT MET	22 CCR 12 66262.34(f)
	H277	OPERATING RECKLESSLY UNDER PERMIT	HSC 6.5 25186, 25186.2
	H296	USED OIL & FUEL FILTER HANDLING REQUIREMENTS NOT FOLLOWED	22 CCR 16 66266.130
	H297	HAZARDOUS WASTE NOT TRANSPORTED BY REGISTERED HAULER	22 CCR 13 66263.41; HSC 6.5 25163(a)
	H298	IMPROPER DISPOSAL OF HAZARDOUS WASTE	HSC 6.5 25189.5(a)
	H302	FAILURE TO MEET EXCLUDED RECYCLABLE MATERIALS REQUIREMENTS	HSC 6.5 25143.2, 25143.9
	E001	IMPROPER EMPTY CONTAINER MANAGEMENT	22 CCR 66261.7(e),(f),(i)

Inspector: Brody Saleen

Inspection Date: 09/08/2015



**Conditionally Exempt Small Quantity Generator - Violations**

V	VIOL #	Summary	Code
	C001	IMPROPER TRANSPORTATION OF WASTE TO FACILITY	HSC 25163(c)
	C242	FAILURE TO CONDUCT EMPLOYEE TRAINING	22 CCR 12 66262.34(d)(2); 40 CFR 262.34(d)(5)(iii)
	C267	TANK/CONTAINER IN POOR CONDITION OR DAMAGED	22 CCR 12 66262.34(d)(2); 40 CFR 265.171
	C269	HAZARDOUS WASTE CONTAINER INCOMPATIBLE WITH MATERIAL STORED	22 CCR 12 66262.34(d)(2); 40 CFR 265.172
	C271	OPEN HAZARDOUS WASTE TANK/CONTAINER	22 CCR 12 66262.34(d)(2); 40 CFR 265.173
	C273	FAILURE TO CONDUCT WEEKLY HAZARDOUS WASTE STORAGE AREA INSPECTION	22 CCR 12 66262.34(d)(2); 40 CFR 265.174
	C299	FAILURE TO IMPLEMENT EMERGENCY PLAN	22 CCR 12 66262.34(d)(2); 40 CFR 262.34(d)(5)(ii)
	C303	FACILITY NOT MAINTAINED TO PREVENT FIRE/EXPLOSION/RELEASE	22 CCR 12 66262.34(d)(2); 40 CFR 265.31
	C305	FAILURE TO MAINTAIN FACILITY EMERGENCY EQUIPMENT	22 CCR 12 66262.34(d)(2); 40 CFR 265.33
	C306	FAILURE TO HAVE EMERGENCY EQUIPMENT	22 CCR 12 66262.34(d)(2); 40 CFR 265.32
	C308	INADEQUATE AISLE SPACE	22 CCR 12 66262.34(d)(2); 40 CFR 265.35
	H259	HAZARDOUS WASTE ACCUMULATION TIME LIMIT EXCEEDED	22 CCR 12 66262.34(b)(1)

**Small Quantity Generator - Violations**

V	VIOL #	Summary	Code
	H242	FAILURE TO CONDUCT EMPLOYEE TRAINING	22 CCR 12 66262.34(d)(2); 40 CFR 262.34(d)(5)(iii)
	H256	HAZARDOUS WASTE ACCUMULATION TIME LIMIT EXCEEDED	22 CCR 66262.34(d)
	H267	TANK/CONTAINER IN POOR CONDITION OR DAMAGED	22 CCR 12 66262.34(d)(2); 40 CFR 265.171
	H269	HAZARDOUS WASTE CONTAINER INCOMPATIBLE WITH MATERIAL STORED	22 CCR 12 66262.34(d)(2); 40 CFR 265.172
	H271	OPEN HAZARDOUS WASTE TANK/CONTAINER	22 CCR 12 66262.34(d)(2); 40 CFR 265.173
	H273	FAILURE TO CONDUCT WEEKLY HAZARDOUS WASTE STORAGE AREA INSPECTION	22 CCR 12 66262.34(d)(2); 40 CFR 265.174
	H276	INCOMPATIBLE WASTE STORAGE	22 CCR 12 66262.34(d)(2); 40 CFR 265.17(b), 265.177
	H281	FAILURE TO COMPLETE DAILY TANK, MONITORING, AND DISCHARGE INSPECTIONS	22 CCR 66262.34(d)(2); 40 CFR 265.201(c)(1), 265.201(c)(2), 265.201(c)(3)
	H299	FAILURE TO IMPLEMENT EMERGENCY PLAN	22 CCR 12 66262.34(d)(2); 40 CFR 262.34(d)(5)(ii)
	H303	FACILITY NOT MAINTAINED TO PREVENT FIRE/EXPLOSION/RELEASE	22 CCR 12 66262.34(d)(2); 40 CFR 265.31
	H305	FAILURE TO MAINTAIN FACILITY EMERGENCY EQUIPMENT	22 CCR 12 66262.34(d)(2); 40 CFR 265.33
	H306	FAILURE TO HAVE EMERGENCY EQUIPMENT	22 CCR 12 66262.34(d)(2); 40 CFR 265.32
	H308	INADEQUATE AISLE SPACE	22 CCR 12 66262.34(d)(2); 40 CFR 265.35

**Large Quantity Generator - Violations**

V	VIOL #	Summary	Code
	H237	FAILURE TO HAVE A CONTINGENCY PLAN	22 CCR 15 66265.51
	H240	CONTINGENCY PLAN INCORRECT OR NOT IMPLEMENTED	22 CCR 15 66265.52
	H245	FAILURE TO CONDUCT EMPLOYEE TRAINING	22 CCR 15 66265.16

Inspector: Brody SaleenInspection Date: 09/08/2015

## Large Quantity Generator - Violations (continued)

V	VIOL #	Summary	Code
	H258	HAZARDOUS WASTE ACCUMULATION TIME LIMIT EXCEEDED	22 CCR 12 66262.34(a)
	H268	TANK/CONTAINER IN POOR CONDITION OR DAMAGED	22 CCR 15 66265.171
	H270	HAZARDOUS WASTE CONTAINER INCOMPATIBLE WITH MATERIAL STORED	22 CCR 15 66265.172
	H272	OPEN HAZARDOUS WASTE TANK/CONTAINER	22 CCR 15 66265.173
	H274	FAILURE TO CONDUCT WEEKLY HAZARDOUS WASTE STORAGE AREAS INSPECTIONS	22 CCR 15 66265.174
	H275	REACTIVE AND IGNITABLE WASTE NOT 50 FT FROM PROPERTY LINE	22 CCR 15 66265.176
	H279	INCOMPATIBLE WASTE STORAGE	22 CCR 15 66265.17(b), 66265.177
	H289	FAILURE TO CONDUCT DAILY HAZARDOUS WASTE TANK INSPECTIONS	22 CCR 15 66265.195
	H286	FAILURE TO OBTAIN AND/OR MAINTAIN HAZARDOUS WASTE TANK ASSESSMENT	22 CCR 15 66265.192(a), 66265.192(h)
	H291	FAILURE TO MEET SECONDARY CONTAINMENT REQUIREMENTS	22 CCR 15 66265.193
	H292	FAILURE TO MEET TANK CLOSURE REQUIREMENTS AND DOCUMENTATION	22 CCR 15 66265.111, 66265.114, 66265.197
	H294	FAILURE TO MEET HAZARDOUS WASTE TANK RELEASE REQUIREMENTS	22 CCR 15 66265.196
	H301	FAILURE TO MAINTAIN FACILITY EMERGENCY EQUIPMENT	22 CCR 15 66265.33
	H304	FACILITY NOT MAINTAINED TO PREVENT FIRE/EXPLOSION/RELEASE	22 CCR 15 66265.31
	H307	FAILURE TO HAVE EMERGENCY EQUIPMENT	22 CCR 15 66265.32
	H309	INADEQUATE AISLE SPACE	22 CCR 15 66265.35
	H310	FAILURE TO MEET PRECAUTION REQUIREMENTS FOR REACTIVE AND IGNITABLE WASTE	22 CCR 15 66265.17(a)
	H312	FAILURE TO CONDUCT HAZARDOUS WASTE TANK CATHODIC INSPECTION	22 CCR 15 66265.195(b)
	H313	FAILURE TO MAINTAIN SECURITY OF HAZARDOUS WASTE AREA	22 CCR 15 66265.14
	A268	FAILURE TO STORE HAZARDOUS WASTE IN CONTAINERS/TANKS THAT MEET THE AIR EMISSIONS REQUIREMENTS	22 CCR 15 66265.178

## Universal Waste Generator - Violations

V	VIOL #	Summary	Code
	H317	FAILURE TO MANAGE BATTERIES AS UNIVERSAL WASTE	22 CCR 23 66273.2(a)
	H318	FAILURE TO CONDUCT EMPLOYEE TRAINING	22 CCR 23 66273.36
	H319	FAILURE TO DISPOSE OF ELECTRONICS PROPERLY	22 CCR 23 66273.3
	H320	FAILURE TO MEET OFFSITE SHIPMENT REQUIREMENTS	22 CCR 23 66273.38; 49 CFR 1 172.201(e)
	H321	FAILURE TO MEET PROPER LABELING REQUIREMENTS	22 CCR 23 66273.34
	H322	IMPROPER MANAGEMENT OF MERCURY CONTAINING PRODUCTS	22 CCR 23 66273.4
	H323	FAILURE TO PROPERLY MANAGE MERCURY CONTAINING LAMP BULBS	22 CCR 23 66273.5
	H324	FAILURE TO PROPERLY MANAGE CRT TUBES AND GLASS	22 CCR 23 66273.6, 66273.7
	H325	IMPROPER HANDLING OF AEROSOL CANS	HSC 6.5 25201.16(e)
	H326	FAILURE TO MANAGE UNIVERSAL WASTE TO PREVENT RELEASE TO THE ENVIRONMENT	22 CCR 23 66273.33.5
	H328	FAILURE TO MEET ACCUMULATION STANDARDS FOR AEROSOL CANS	HSC 6.5 25201.16(f)
	H329	ILLEGAL DISPOSAL OF UNIVERSAL WASTE	22 CCR 23 66273.31(a)
	H330	UNIVERSAL WASTE ACCUMULATION TIME LIMIT EXCEEDED	22 CCR 23 66273.35

Inspector: Brody SaleenInspection Date: 09/08/2015

## Waste Lead Acid Battery Generator - Violations

V	VIOL #	Summary	Code
	H250	FAILURE TO MAINTAIN LEAD BATTERY DISPOSAL DOCUMENTATION	22 CCR 16 66266.81(a)(4)(B)
	H261	IMPROPER MANAGEMENT OF 11 OR MORE SPENT VEHICLE LEAD-ACID BATTERIES	22 CCR 16 66266.81(a)(3)
	H290	IMPROPER MANAGEMENT OF 10 OR LESS SPENT VEHICLE LEAD-ACID BATTERIES	22 CCR 16 66266.81(a)(1)
	H293	IMPROPER HANDLING OF DAMAGED LEAD BATTERY	22 CCR 16 66266.81(b)
	H316	FAILURE TO PROPERLY MANAGE NON-AUTOMOTIVE LEAD BATTERIES	22 CCR 23 66273.2(b)(1)

## SUMMARY OF OBSERVATIONS/VIOLATIONS

☒ No violations of hazardous waste laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.

☐ Violations were observed/discovered as listed below. All violations must be corrected by implementing the corrective action listed by each violation. If you disagree with any of the violations or corrective actions required, please inform the CUPA in writing.

ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED. CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

## INSPECTION COMMENTS:

COMMENTS: Go to <http://www.co.kern.ca.us/eh/> (Hazardous Materials) for forms and information.



Inspector: Brody Saleen  
Inspection Date: 09/08/2015

Signature of Facility Representative:



**ABOVEGROUND PETROLEUM STORAGE ACT  
INSPECTION REPORT**

<b>Facility Name:</b> KEY ENERGY SERVICES CALIF - TUPMAN		<b>Facility ID:</b> FA0030793
<b>Site Address:</b> 28590 HIGHWAY 119 TUPMAN, CA 93268		<b>CERS ID:</b> 10237339
<b>Phone:</b> (661) 334-8200	<b>Consent Granted By:</b>	<b>Inspection Date:</b> 09/08/2015
<b>Inspection Type:</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection		<b>Reinspection required:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Facility Classification:</b>		

Tier I Qualified Facility	Tier II Qualified Facility	Non Qualified Facility
1,320 gal. - 10,000 gal. cumulative liquid petroleum storage capacity  All containers 4,999 gal. capacity or smaller	1,320 gal. - 10,000 gal. cumulative liquid petroleum storage capacity  One or more containers 5,000 gal. capacity or greater	10,001 gal. or more cumulative liquid petroleum storage capacity  Spill Prevention, Control, & Countermeasure (SPCC) plan must be certified by a Professional Engineer (PE)

**CONDITIONALLY EXEMPT FROM APSA REQUIREMENTS\*:**

**FARMS DAIRIES NURSERIES LOGGING SITES CONSTRUCTION SITES**

No AST Exceeds 20,000 Gallons and the cumulative storage capacity of the tank facility does not exceed 100,000 Gallons

**Failure to comply with the following will result in loss of Exempt status**

- \* Conduct daily visual inspections of any storage tank storing a petroleum product
- \* Allow the CUPA to conduct a periodic inspection of the tank facility
- \* Install a secondary containment for each tank or group of tanks (if required by the CUPA)

\* While farms, nurseries, logging sites, or construction sites are conditionally exempt from the requirements to prepare an SPCC Plan under APSA, these facilities are not exempt from federal SPCC requirements enforced by US EPA.

**OIL PRODUCTION FACILITIES**

If a tank or other facility is used for a purpose other than oil and gas production, such as a diesel tank in a maintenance yard to service trucks that are used on the lease, then it is generally not a facility attendant to oil and gas production and therefore is not under the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources's (DOGGR) jurisdiction

**General Violations**

V	Viol #	Summary	Code
	H004	FAILURE TO PREPARE/IMPLEMENT A SPCC PLAN	40 CFR 112.3; HSC 6.67 25270.4.5(a)
	H087	FAILURE TO MAINTAIN A VALID PERMIT	HSC 6.11 25404.1
	H090	FAILURE TO SUBMIT AN ANNUAL TANK STATEMENT	HSC 6.67 25270.6(a)(1), 25270.6(a)(2)
	H091	FAILURE TO REPORT SPILLS OF ONE BARREL OR MORE	HSC 6.67 25270.8
	H092	FAILURE TO PAY FEES	HSC 6.67 25270.6(b)

**Inspector:** Brody Saleen

**Inspection Date:** 09/08/2015



**Spill Prevention, Control, & Countermeasure (SPCC) Plan Violations**

V	Viol #	Summary	Code
	H001	SPCC PLAN IS NOT CERTIFIED BY A PROFESSIONAL ENGINEER (IF REQUIRED)	40 CFR 112.3(d); HSC 6.67 25270.4.5(a)
	H002	FAILURE TO MAINTAIN SPCC PLAN ON SITE	40 CFR 112.3(e)(1); HSC 6.67 25270.4.5(a)
	H005	FAILURE TO AMEND PLAN	40 CFR 112.5(a); HSC 6.67 25270.4.5(a)
	H006	FAILURE TO COMPLETE FIVE-YEAR PLAN REVIEW	40 CFR 112.5(b); HSC 6.67 25270.4.5(a)
	H008	FAILURE TO HAVE CERTIFICATION FOR TECHNICAL AMENDMENTS	40 CFR 112.5(c), 112.6(a)(2); HSC 6.67 25270.4.5(a)
	H022	FAILURE TO ADEQUATELY DESCRIBE THE FACILITY LAYOUT IN SPCC PLAN	40 CFR 112.7(a)(3); HSC 6.67 25270.4.5(a)
	H023	FAILURE TO ADEQUATELY DISCUSS FACILITY TRANSFER OPERATIONS	40 CFR 112.7(a)(3), 112.8(a), 112.8(d); HSC 6.67 25270.4.5(a)
	H024	SPCC PLAN DOES NOT MEET BASIC REQUIREMENTS	40 CFR 112.7, 112.7(a)(1); HSC 6.67 25270.4.5(a)
	H025	INCOMPLETE/INADEQUATE FACILITY DIAGRAM	40 CFR 112.7(a)(3); HSC 6.67 25270.4.5(a)
	H026	FAILURE TO ADEQUATELY DISCUSS REPORTING PROCEDURES FOR A DISCHARGE	40 CFR 112.7(a)(4); HSC 6.67 25270.4.5(a)
	H027	FAILURE TO ADEQUATELY ORGANIZE DISCHARGE PROCEDURES	40 CFR 112.7(a)(5); HSC 6.67 25270.4.5(a)
	H028	FAILURE TO PREDICT THE EXTENT OF A DISCHARGE WITHIN THE SPCC PLAN	40 CFR 112.7(b); HSC 6.67 25270.4.5(a)
	H029	FAILURE TO DISCUSS APPROPRIATE CONTAINMENT	40 CFR 112.7(c); HSC 6.67 25270.4.5(a)
	H030	IMPRACTICABILITY CLAIMS OF APPROPRIATE CONTAINMENT NOT DEMONSTRATED	40 CFR 112.7(d); HSC 25270.4.5(a)
	H035	NO PERSON DESIGNATED FOR DISCHARGE PREVENTION	40 CFR 112.7(f)(2); HSC 6.67 25270.4.5(a)
	H037	FAILURE TO DISCRIBE THE FACILITY'S SECURITY MEASURES	40 CFR 112.7(g); HSC 6.67 25270.4.5(a)
	H045	FAILURE TO ADEQUATELY DISCUSS FACILITY DRAINAGE	40 CFR 112.8(b); HSC 6.67 25270.4.5(a)
	H061	FAILURE TO ADEQUATELY DISCUSS BULK STORAGE TANKS	40 CFR 112.8(c); HSC 6.67 25270.4.5(a)

**Site Inspection Violations**

V	Viol #	Summary	Code
	H038	FAILURE TO IMPLEMENT SECURITY MEASURES FOR FACILITY	40 CFR 112.7(g); HSC 6.67 25270.4.5(a)
	H039	FAILURE TO ADEQUATELY DISCUSS LOADING/UNLOADING RACKS	40 CFR 112.7(h); HSC 6.67 25270.4.5(a)
	H040	FAILURE TO MAINTAIN SECONDARY CONTAINMENT SYSTEMS	40 CFR 112.7(h)(1); HSC 6.67 25270.4.5(a)
	H041	FAILURE TO PROVIDE WARNING TO PREVENT VEHICLE DEPARTURE	40 CFR 112.7(h)(2); HSC 6.67 25270.4.5(a)
	H042	FAILURE TO INSPECT DRAINS AND OUTLETS	40 CFR 112.7(h)(2); HSC 6.67 25270.4.5(a)
	H046	VALVES FOR DRAINAGE ARE UNCONTROLLED	40 CFR 112.8(b)(2); HSC 6.67 25270.4.5(a)
	H058	INADEQUATE DRAINAGE	40 CFR 112.8(b)(3), 112.8(b)(4); HSC 6.67 25270.4.5(a)
	H062	TANKS INCOMPATIBLE WITH STORED MATERIALS	40 CFR 112.8(c)(1); HSC 6.67 25270.4.5(a)
	H063	INADEQUATE SECONDARY CONTAINMENT	40 CFR 112.8(c)(2); HSC 6.67 25270.4.5(a)
	H064	CONTAINMENT NOT SUFFICIENTLY IMPERVIOUS TO OIL	40 CFR 112.8(c)(2); HSC 6.67 25270.4.5(a)
	H065	FAILURE TO CLOSE CONTAINMENT BYPASS VALVES WHEN NOT DRAINING RAINWATER	40 CFR 112.8(c)(3)(i); HSC 6.67 25270.4.5(a)
	H066	FAILURE TO INSPECT RUN-OFF FROM CONTAINMENT	40 CFR 112.8(c)(3)(ii); HSC 6.67 25270.4.5(a)
	H067	VALVES OPERATED WITHOUT RESPONSIBLE SUPERVISION	40 CFR 112.8(c)(3)(iii); HSC 6.67 25270.4.5(a)
	H069	FAILURE TO HAVE ADEQUATE CORROSION PROTECTION	40 CFR 112.8(c)(5); HSC 6.67 25270.4.5(a)

Inspector: Brody SaleenInspection Date: 09/08/2015

## Site Inspection Violations (continued)

V	Viol #	Summary	Code
	H074	CONTAINER INSTALLATION NOT PROPERLY ENGINEERED WITH HIGH LEVEL MONITORING DEVICE	40 CFR 112.8(c)(8)(i), 112.8(c)(8)(ii), 112.8(c)(8)(iii), 112.8(c)(8)(iv); HSC 6.67 25270.4.5(a)
	H075	LIQUID LEVEL SENSING DEVICES NOT TESTED	40 CFR 1 112.8(c)(8)(v); HSC 6.67 25270.4.5(a)
	H077	LEAKS NOT IMMEDIATELY ADDRESSED	40 CFR 112.8(c)(10); HSC 6.67 25270.4.5(a)
	H078	INADEQUATE SECONDARY CONTAINMENT SYSTEMS-PORTABLE TANKS	40 CFR 112.8(c)(11); HSC 6.67 25270.4.5(a)
	H079	IMPROPER MOBILE TANK POSITIONING	40 CFR 112.8(c)(11); HSC 6.67 25270.4.5(a)
	H080	BURIED PIPING NOT REPAIRED WHEN DETERIORATION FOUND	40 CFR 112.8(d)(1); HSC 6.67 25270.4.5(a)
	H081	BURIED PIPING IS NOT CATHODICALLY PROTECTED	40 CFR 112.8(d)(1); HSC 6.67 25270.4.5(a)
	H082	STAND-BY PIPING IS NOT CAPPED AND/OR LABELED	40 CFR 112.8(d)(2); HSC 6.67 25270.4.5(a)
	H084	FAILURE TO REGULARLY INSPECT ABOVEGROUND PIPING	40 CFR 1 112.8(d)(4); HSC 6.67 25270.4.5(a)
	H086	FAILURE TO WARN VEHICLES ABOUT ABOVEGROUND PIPING OR TRANSFER OPERATIONS	40 CFR 112.8(d)(5); HSC 6.67 25270.4.5(a)

## Supplemental to SPCC Plan Violations

V	Viol #	Summary	Code
	H033	INADEQUATE INSPECTIONS/TESTS AND/OR WRITTEN RECORDS NOT MAINTAINED	40 CFR 1 112.7(e); HSC 6.67 25270.4.5(a)
	H034	FAILURE TO MEET EMPLOYEE TRAINING REQUIREMENTS	22 CCR 23 66273.36
	H036	FAILURE TO SCHEDULE AND CONDUCT SPILL PREVENTION BRIEFINGS	40 CFR 1 112.7(f)(1); HSC 6.67 25270.4.5(a)
	H068	FAILURE TO MAINTAIN ADEQUATE DRAINAGE RECORDS	40 CFR 1 112.8(c)(3)(iv); HSC 6.67 25270.4.5(a)
	H070	FAILURE TO MAINTAIN INSPECTION RECORDS	40 CFR 1 112.8(c)(6); HSC 6.67 25270.4.5(a)
	H072	TANKS NOT INTEGRITY TESTED PER INDUSTRY STANDARDS	40 CFR 1 112.8(c)(6); HSC 6.67 25270.4.5(a)
	H085	BURIED PIPING NOT TESTED AT INSTALLATION, MODIFICATION, CONSTRUCTION, RELOCATION, OR REPLACEMENT	40 CFR 1 112.8(d)(4); HSC 6.67 25270.4.5(a)

## Exempt Facility Violations

V	Viol #	Summary	Code
	H093	EXEMPT FACILITY - NO DAILY INSPECTIONS	HSC 6.67 25270.4.5(b)(1)
	H094	EXEMPT FACILITY - FAILURE OF AN EXEMPT FACILITY TO ALLOW CUPA TO CONDUCT PERIODIC INSPECTIONS	HSC 6.67 25270.4.5(b)(2)
	H095	EXEMPT FACILITY-NO SECONDARY CONTAINMENT	HSC 6.67 25270.4.5(b)(3)

Inspector: Brody SaleenInspection Date: 09/08/2015



**SUMMARY OF OBSERVATIONS/VIOLATIONS**

- ☒ No violations of aboveground petroleum storage act laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.
- ☐ Violations were observed/discovered as listed below. All violations must be corrected by implementing the corrective action listed by each violation. If you disagree with any of the violations or corrective actions required, please inform the CUPA in writing.

ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED. CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

Facility Name: KEY ENERGY SERVICES CALIF - TUPMAN

Facility ID: FA0030793

CERS ID: 10237339

**INSPECTION COMMENTS:**

COMMENTS: Go to <http://www.co.kern.ca.us/eh/> (Hazardous Materials) for forms and information.



Inspector: Brody Saleen

Signature of Facility Representative:

Inspection Date: 09/08/2015



MATTHEW CONSTANTINE, DIRECTOR  
PUBLIC HEALTH SERVICES

## ENVIRONMENTAL HEALTH

### DIVISION

2700 M STREET, SUITE 300, BAKERSFIELD, CA 93301-2370

VOICE: (661) 862-8740 FAX: (661) 862-8701

Web: www.co.kern.ca.us/eh E-mail: eh@co.kern.ca.us

"ONE VOICE"



CLAUDIA JONAH, MD  
PUBLIC HEALTH OFFICER

### CERTIFIED UNIFIED PROGRAM AGENCY (CUPA) HAZARDOUS MATERIAL INSPECTION FORM

Report Date: 07/26/2012

Facility ID: FA0030793

File #: 002712

Facility Name: KEY ENERGY SERVICES CALIF - TUPMAN				<b>Inspection Type</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection <input type="checkbox"/> Complaint
Site Address: 28590 HIGHWAY 119 TUPMAN, CA 93268				
Phone: (661)334-8200				
<b>PROGRAMS INSPECTED:</b>	<input checked="" type="checkbox"/> Business Plan	<input checked="" type="checkbox"/> HW Generator	<input type="checkbox"/> UST	<input checked="" type="checkbox"/> APSA
<b>REINSPECTION REQUIRED:</b>	<input type="checkbox"/> Business Plan	<input type="checkbox"/> HW Generator	<input type="checkbox"/> UST	<input type="checkbox"/> APSA

VIOLATION	VIOLATION NUMBER	BUSINESS PLAN REQUIREMENTS
	BP01	Inventory of hazardous materials is accurate, up to date, and complete [HSC 6.95, 25504, Title 19 CCR 2729].
	BP02	Site layout/facility maps are accurate [HSC 6.95,25504; Title 19 CCR 2729].
	BP03	Hazardous materials are stored in properly labeled and non-deteriorated containers [HSC 25124(b)(3)(A & B)].
	BP04	The hazardous materials inventory shall be submitted annually on or before March 1 [Title 19 CCR 2729.4(b)].
	ER01	Contingency Plan is complete, updated, and maintained on site [HSC 6.95, 25504; Title 19 CCR 2731 Title 22 CCR 66265.53-54].
	ER02	Facility is operated and maintained to prevent/mitigate fire, explosion, or release of hazardous material or waste which could threaten human health or the environment [Title 22 CCR 66265.31; Title 19 CCR 2731].
	ER03	Business has equipment required to, or appropriate for, safe handling of hazardous materials [Title 22 CCR 66265.32 & .34].
	TR01	Facility has a training program appropriate for the size and complexity of business and nature of hazardous materials handled [Title 19 CCR 2732; Title 22 CCR 66265.16].
	TR02	Training documentation is maintained on site for current personnel [Title 19 CCR 2732; Title 22 CCR 66265.16].

INSPECTOR: LYDIA VON SYDOW

INSPECTION DATE: 07/26/2012

**FACILITY NAME:** KEY ENERGY SERVICES CALIF -  
TUPMAN

**ADDRESS:** 28590 HIGHWAY 119  
TUPMAN, CA 93268

**FA ID:** FA0030793  
**FILE ID:** 002712

VIOLATION	VIOLATION NUMBER	<b>HAZARDOUS WASTE GENERATOR REQUIREMENTS</b>
		EPA ID NUMBER: <u>CAL000331890</u>
	<b>GA01</b>	Hazardous waste has not accumulated for more than 90/180/270 days (depending upon volume/circumstances) without having a hazardous waste storage permit [Title 22, CCR, 66262.34 HSC, 25123.3(c)].
	<b>GA02</b>	Empty containers or inner liners greater than 5 gallons have dates when emptied and are properly managed within one year of date emptied [Title 22, CCR, 66261.7(f)].
	<b>GA03</b>	Universal waste is not accumulated at facility for more than one year [Title 22 CCR, 66273.35(a)].
	<b>GA04</b>	The facility disposes of used oil filters within one year of generation, or 180 days if greater than 1 ton are accumulated [Title 22, CCR, 66266.130(c)(4)].
	<b>GC01</b>	Hazardous waste storage containers are in good condition [Title 22, CCR, 66165.171].
	<b>GC02</b>	A container holding hazardous waste shall always be closed during transfer and storage, except when it is necessary to add or remove waste [Title 22 CCR, 66265.173(a)].
	<b>GC03</b>	The owner or operator shall inspect areas used for container storage at least weekly, looking for leaking containers and for deterioration of containers or containment systems [Title 22 CCR, 66265.174].
	<b>GC05</b>	The facility has adequate secondary containment for hazardous waste tank systems [Title 22 CCR, 66264.193(a) & (b)].
	<b>GC07</b>	A generator may accumulate as much as 55 gallons of hazardous waste at the initial accumulation point which is at or near the area where the waste is generated and which is under the control of the operator of the process generating the waste. The generator cannot hold the waste on-site for more than one year from the initial date of accumulation [Title 22 CCR, 66262.34 (e)(1)(A)].
	<b>GL01</b>	All containers and portable tanks containing hazardous waste shall be labeled with the following information: "Hazardous Waste," composition, hazardous properties of the waste, the name and address of the person producing the waste, and accumulation start date [Title 22 CCR, 66262.34(f)].
	<b>GL03</b>	Universal waste handler shall label or mark universal waste containers to identify the type of universal waste: batteries, mercury-containing equipment, lamps, electronic devices, and CRTs [Title 22 CCR, 66273.34].
	<b>GL04</b>	Containers shall be labeled as "drained used oil filters" (not as non-hazardous waste) and show initial date of accumulation on each container of filters [Title 22 CCR, 66266.130(c)(3)].
	<b>GL06</b>	Containers and aboveground tanks used to store used oil and fill pipes used to transfer used oil into underground storage tanks shall be marked or clearly labeled with the words "USED OIL" [Title 22 CCR, 66279.21(b)].
	<b>GR01</b>	Generator has an EPA identification number to treat, store, dispose of, transport, or offer for transportation hazardous waste [Title 22, CCR, 66262.12].

**INSPECTOR:** LYDIA VON SYDOW

**INSPECTION DATE:** 07/26/2012

**FACILITY NAME:** KEY ENERGY SERVICES CALIF -  
TUPMAN

**ADDRESS:** 28590 HIGHWAY 119  
TUPMAN, CA 93268

**FA ID:** FA0030793  
**FILE ID:** 002712

VIOLATION	VIOLATION NUMBER	HAZARDOUS WASTE GENERATOR REQUIREMENTS (Continued)
	GR02	The facility has made an appropriate hazardous waste determination for all wastes generated at the facility. The determination is based on laboratory analysis, "generator knowledge," or other prescribed means [Title 22, CCR, 66262.11].
	GR04	Manifests or receipts for the shipping of hazardous wastes are properly completed and retained by generator for 3 years [Title 22, CCR, 66262.23(a)(1); 66262.40(a); HSC 25160.2 Consolidated manifests].
	GT01	The facility is conducting on-site treatment of hazardous waste with a tiered permit [HSC 25189.5(d), HSC 25123.5(a) 25189.7(a)].
	GT02	Authorized, licensed, and certified hazardous waste haulers are used to transport hazardous waste to appropriate facilities [HSC 25163(a)(1), HSC 25189.5].
	GT03	Hazardous wastes are sent to authorized disposal facilities [HSC 25189.5, HSC 25114, HSC 25117.1].
	GT04	Hazardous waste is properly contained and not disposed to ground, water, or air [HSC 25189.5, HSC 25189.7(a), HSC 25113(a)].

**INSPECTOR:** LYDIA VON SYDOW

**INSPECTION DATE:** 07/26/2012

**FACILITY NAME:** KEY ENERGY SERVICES CALIF -  
TUPMAN

**ADDRESS:** 28590 HIGHWAY 119  
TUPMAN, CA 93268

**FA ID:** FA0030793  
**FILE ID:** 002712

VIOLATION	VIOLATION NUMBER	ABOVE GROUND STORAGE TANKS
✓	AG01	SPCC plan is up to date and readily available. [HSC 25270.3].
	AG02	Self-certified or professional engineer certified SPCC plan. [HSC 25270.4.5 (a)].
	AG03	Secondary containment is free of liquid and debris and can contain the largest container. [HSC 25270.4.5 (3)].
	AG04	Annually submit to the local CUPA either an inventory update or a tank statement form. [HSC 25270.6 (a)(1)].
	AG05	Facility follows SPCC plan and keeps all necessary logs required by the plan. [HSC 25270.5 (a)].

**INSPECTOR:** LYDIA VON SYDOW

**INSPECTION DATE:** 07/26/2012



FACILITY NAME: KEY ENERGY SERVICES CALIF -  
TUPMAN

ADDRESS: 28590 HIGHWAY 119  
TUPMAN, CA 93268

FA ID: FA0030793  
FILE ID: 002712

## SUMMARY OF OBSERVATIONS/VIOLATIONS

☐ No violations of underground storage tank, hazardous materials, or hazardous waste laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.

☒ Violations were observed/discovered as listed below. All violations must be corrected by implementing the corrective action listed by each violation. If you disagree with any of the violations or corrective actions required, please inform the CUPA in writing.

ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED. CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

## VIOLATIONS

VIOLATION #	DEGREE OF VIOLATION	CORRECTIVE ACTION REQUIRED
AG01	CLASS II VIOLATION	A SPCC plan must be prepared and easily accessible to facility personnel and the inspector. <b>Facility needs a Tier 1 SPCC plan. A blank template was left with Aurdea Estrada during the inspection. The template must be completed within 30 days and a copy kept on site.</b>

INSPECTION COMMENTS:

COMMENTS: Go to <http://www.co.kern.ca.us/eh/cupaprogram.asp> for forms and information.

INSPECTOR: LYDIA VON SYDOW  
INSPECTION DATE: 07/26/2012

SIGNATURE OF FACILITY REP:

FA ID: FA0030793

FACILITY NAME: KEY ENERGY SERVICES CALIF - TUPMAN

FILE ID: 002712

Certification: I certify under penalty of perjury that this facility has complied with the corrective actions listed on this inspection form.

\_\_\_\_\_  
Printed Name of Owner/Operator

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature of Owner/Operator

\_\_\_\_\_  
Date



### HAZARDOUS MATERIALS BUSINESS PLAN (HMBP) INSPECTION REPORT

<b>Facility Name:</b> KEY ENERGY SERVICES CALIF - TUPMAN		<b>Facility ID:</b> FA0030793
<b>Site Address:</b> 28590 HIGHWAY 119 TUPMAN, CA 93268		<b>CERS ID:</b> 10237339
<b>Phone:</b> (661) 334-8200	<b>Consent Granted By:</b>	<b>Inspection Date:</b> 09/08/2015
<b>Inspection Type:</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection		<b>Reinspection required:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Inspection Element:</b> BUS PLAN SMALL LOW RISK 1 UNIT		

#### File/CERS Review Violations

V	Viol #	Summary	Code
	H335	Failure to adequately complete and submit a HMBP into the California Environmental Reporting System (CERS)	HSC 6.95 25505, 25508(a)(1), 25508(d)
	H344	Failure to complete and submit the Business Activities Page and/or Business Owner Operator Identification Page in CERS	HSC 6.95 25508(a)(1); 19 CCR 4 2729.2(a)(1);
	H342	Failure to complete and submit hazardous material inventory information for all reportable hazardous materials on site in CERS	HSC 6.95 25505(a)(1), 25506, 25508(a)(1)
	H341	Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date in CERS	HSC 6.95 25508(c), 25508.2
	H346	Failure to complete and submit a site map with all required content in CERS	HSC 6.95 25505(a)(2), 25508(a)(1)
	H347	Failure to submit an adequate emergency response plan and procedures in CERS	HSC 6.95 25505(a)(3), 25508(a)(1)
	H353	Failure to submit an adequate training program in CERS	HSC 6.95 25505(a)(4), 25508(a)(1)
	H340	Failure to notify property owner in writing that a HMBP is required	HSC 6.95 25505.1
	H336	Failure to provide property owner a copy of the HMBP upon request	HSC 6.95 25505.1

#### Onsite Inspection Violations

V	Viol #	Summary	Code
	H334	Failure to adequately establish and implement a HMBP	HSC 6.95 25507
	H343	Failure to revise HMBP in CERS within 30 days upon a substantial change in the handler's operation	HSC 6.95 25508.1(f)
	H345	Failure to update Facility Information and/or Hazardous Materials Inventory in CERS within 30 days upon a significant change	HSC 6.95 25508.1(a)-(e)
	H348	Failure to provide initial and annual safety training to all employees and/or failure to document and maintain training records for 3 years	HSC 6.95 25505(a)(4)
	H338	Failure to report a release or threatened release of a hazardous material to the CUPA and to California Office of Emergency Services	HSC 6.95 25510(a)

**Inspector:** Brody Saleen

**Inspection Date:** 09/08/2015

Printed: 09/08/2015

Page 1 of 2

**CONDITIONAL EXEMPTIONS FROM REPORTING REQUIREMENTS**

**Agricultural handlers** are conditionally exempt from electronically submitting Emergency Response and Employee Training Plans in CERS if the following requirements are met:

- Owner/Operator annually submits the Facility Information and Hazardous Materials Inventory electronically into CERS
- Each location/building, where hazardous materials (i.e. pesticides, petroleum products, fertilizers, etc.) are stored, is posted with warning signs that meet the following requirements:
  - Shall be conspicuous and visible from any direction of probable approach
  - Shall be of such size that it is readable from 25 feet and shall be labeled as follows:

DANGER HAZARDOUS MATERIAL STORAGE AREA  
 (the hazardous materials stored within shall be noted by category  
 [i.e. pesticides, petroleum products, fertilizers, etc.])  
 ALL UNAUTHORIZED PERSONS-KEEP OUT - IN AN EMERGENCY, CONTACT:  
 (list the name and phone number of an emergency contact person(s))

- Shall be repeated in an appropriate language other than English when persons who do not understand the English language may enter the posted location/building
- Owner/Operator provides training for all new employees and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material, including, but not limited to, familiarity with the emergency plans and procedures

**Exempt Facility Violations**

V	Viol #	Summary	Code
	H760	Failure to submit Emergency Response/Contingency Plan in CERS when not meeting agricultural handler exemption requirements	HSC 6.95 25507.1, 25508(a)(1); 19 CCR 4 2733, 2734
	H758	Failure to submit Employee Training Plan in CERS when not meeting agricultural handler exemption requirements	HSC 6.95 25507.1, 25508(a)(1); 19 CCR 4 2733, 2734
	H759	Failure to establish and submit a HMBP in CERS when not meeting remote unstaffed facility exemption requirements	HSC 6.95 25505, 25506, 25507, 25507.2, 25508(a)(1)

**SUMMARY OF OBSERVATIONS/VIOLATIONS**

☒ No violations of hazardous materials business plan laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.

☐ Violations were observed/discovered as listed below. **ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED.** CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

**INSPECTION COMMENTS:**

**COMMENTS:** Go to <http://www.co.kern.ca.us/eh/> (Hazardous Materials) for forms and information.



Inspector: Brody Saleen

Signature of Facility Representative:

Inspection Date: 09/08/2015

**ENVIRONMENTAL HEALTH SERVICES DEPARTMENT****MATTHEW CONSTANTINE, R.E.H.S., Director**

2700 "M" STREET, SUITE 300  
BAKERSFIELD, CA 93301-2370  
Voice: (661) 862-8700  
Fax: (661) 862-8701  
TTY Relay: (800) 735-2929  
Web: [www.co.kern.ca.us/eh](http://www.co.kern.ca.us/eh)  
E-mail: [eh@co.kern.ca.us](mailto:eh@co.kern.ca.us)



March 20, 2009

**RESOURCE MANAGEMENT AGENCY****DAVID PRICE III, RMA DIRECTOR**

Animal Control Department  
Community and Economic Development Department  
Engineering and Survey Services Department  
Environmental Health Services Department  
Planning Department  
Roads Department

**CERTIFIED UNIFIED PROGRAM AGENCY (CUPA)  
HAZARDOUS MATERIAL INSPECTION FORM**

Date: 03/20/2009

Facility ID: FA0030793

File #: 002712

Facility Name: KEY ENERGY SERVICES			<b>Inspection Type</b>  <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection <input type="checkbox"/> Complaint		
Site Address: 28590 HWY 119 TUPMAN, CA 93576					
Phone: (661)343-0936					
<b>PROGRAMS INSPECTED:</b>	<input checked="" type="checkbox"/> Business Plan	<input checked="" type="checkbox"/> HW Generator	<input type="checkbox"/> UST	<input type="checkbox"/> AGT	<input type="checkbox"/> CalARP
<b>REINSPECTION REQUIRED:</b>	<input type="checkbox"/> Business Plan	<input type="checkbox"/> HW Generator	<input type="checkbox"/> UST	<input type="checkbox"/> AGT	<input type="checkbox"/> CalARP

**VIOLATION**

YES	NO/NA	VIOL. #	BUSINESS PLAN REQUIREMENTS
<input type="checkbox"/>	<input checked="" type="checkbox"/>	BP01	Inventory of hazardous materials is accurate, up to date, and complete [HSC 6.95, 25504, Title 19 CCR 2729].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	BP02	Site layout/facility maps are accurate [HSC 6.95,25504; Title 19 CCR 2729].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	BP03	Hazardous materials are stored in properly labeled and non-deteriorated containers [HSC 25124(b)(3)(A & B)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	BP04	The hazardous materials inventory shall be submitted annually on or before March 1 [Title 19 CCR 2729.4(b)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	ER01	Contingency Plan is complete, updated, and maintained on site [HSC 6.95, 25504; Title 19 CCR 2731 Title 22 CCR 66265.53-54].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	ER02	Facility is operated and maintained to prevent/mitigate fire, explosion, or release of hazardous material or waste which could threaten human health or the environment [Title 22 CCR 66265.31; Title 19 CCR 2731].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	ER03	Business has equipment required to, or appropriate for, safe handling of hazardous materials [Title 22 CCR 66265.32 & .34].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	TR01	Facility has a training program appropriate for the size and complexity of business and nature of hazardous materials handled [Title 19 CCR 2732; Title 22 CCR 66265.16].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	TR02	Training documentation is maintained on site for current personnel. [Title 19 CCR 2732; Title 22 CCR 66265.16].

**COMMENTS:** Go to <http://www.co.kern.ca.us/eh/cupaprogram.asp> for forms and information.**GPS Coordinates:** Latitude:

Longitude:

**INSPECTOR:** LYDIA VON SYDOW**DATE:** 03/20/2009



## HAZARDOUS WASTE GENERATOR

EPA ID NUMBER: CAL000331890

## VIOLATIONS

<u>YES</u>	<u>NO/NA</u>	<u>VIOL. #</u>	<u>GENERATOR REQUIREMENTS</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GR01	Generator has an EPA Identification number to treat, store, dispose, transport, or transfer hazardous waste [Title 22, CCR 66262.12].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GR02	The facility has made an appropriate hazardous waste determination for all wastes based on analysis, "own knowledge," or another means [Title 22, CCR 66262.11]
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GR03	Facility Personnel demonstrate awareness of proper(legal) hazardous-waste handling procedures. [Title 22, CCR, 66262.34(d)(2)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA01	Hazardous waste has not been accumulating for more than 90/180/270 days(depending upon volume/circumstances) without the facility having a hazardous waste storage permit [Title 22,CCR, 66262.34(a).]
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA02	Empty containers or inner liners greater than 5 gallons have dates when emptied and are managed properly within one year of date emptied [Title 22, CCR, 66261.7(f)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA03	Universal waste is not accumulated at facility for more than one year [Title 22, CCR, 66273.15(a);66273.35(a)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA04	The facility disposes used oil filters within 180 days of generation (or one year if less than 1 ton are accumulated) [Title 22, CCR, 66266.130(c)(4)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GA05	The facility disposes lead-acid batteries within 180 days of generation (or one year if less than 1 ton are accumulated) [Title 22, CCR, 66268.81(a)(6)]
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GC01	Hazardous waste storage containers are in good condition [Title 22, CCR, 66262.34(a)(1)(A)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GC02	Containers holding hazardous waste are closed/sealed except when adding/removing waste [Title 22, CCR, 66262.34(a)(1)(A)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GC03	The facility documents weekly inspections of hazardous waste storage area/containers [Title 22, CCR, 66265.15(d) and 66262.34(a)(1)(A)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GC04	The facility documents daily inspections of tanks where hazardous waste is stored [Title 22, CCR 66262.34(a)(1)(A)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GC05	The facility has adequate secondary containment for hazardous waste tank systems [Title 22, CCR 66262.34(a)(1)(A)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GC06	Containers utilizing satellite accumulation rules are at or near the point of generation [Title 22, CCR 66262.34(e)(1)(A)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GC07	Satellite wastes are managed according to the regulations (complete labeling, accumulation times, 55-gallon or 1 quart volume limits, etc.). [Title 22, CCR, 66262.34(e)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GR04	Manifests or LDRs are properly completed and/or retained by generator for 3 years [Title 22, CCR 66262.23(a)(1); 66263.42;66263.24;66262.34(a)(4)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GR05	The facility filed an exception report to DTSC after not receiving the signed TSDF copy of a manifest within 35 days [Title 22, CCR, 66262.42].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GR06	The facility has copies of bills of lading or receipts for removal of hazardous wastes [HSC 25160.2-Consolidated manifests/ 66266.81(a)(6)(B)-lead acid batteries/66266.130- oil filters]. The facility shall maintain copies of receipts for at least three years.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GR07	The facility submitted a hazardous waste recycling report [HSC 25143.10]
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GT01	The facility is conducting on-site treatment of hazardous waste with a tiered permit [HSC 25189.5(d)]
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GT02	Authorized, licensed, and certified hazardous waste haulers are used to transport hazardous waste to appropriate facilities [H&S Code Chapter 6.5 Section 25163].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GT03	Hazardous wastes are sent to authorized disposal facilities [HSC 25189.5].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GT04	Hazardous waste is not disposed to ground, water, or air [HSC 25189.5].

INSPECTOR: LYDIA VON SYDOWDATE: 03/20/2009



## VIOLATIONS

<u>YES</u>	<u>NO/NA</u>	<u>VIOL. #</u>	<u>GENERATOR REQUIREMENTS</u>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GL01	Containers of hazardous waste are properly labeled (includes appropriate accumulation date, the words "HAZARDOUS WASTE," the waste composition/physical state, the hazardous properties, and name/address of generator) [Title 22, CCR, 66262.34(f)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GL02	Containers of excluded recyclable materials are properly labeled [HSC 25143.9(a)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GL03	Containers of universal waste are properly labeled. [Title 22, CCR, 66273.14 for SQH or 66273.34 for LQH].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GL04	Containers of drained used oil filters are labeled with the words "DRAINED USED OIL FILTERS" [Title 22, CCR, 66266.130(c)(3)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GL05	Accumulation dates are marked on spent lead-acid batteries [22CCR 66266.81]
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GL06	Tanks/containers of used oil destined for recycling are clearly marked with the words "USED OIL" [HSC 25143.9(a)].
<input type="checkbox"/>	<input checked="" type="checkbox"/>	GL07	Empty contaminated containers are clearly marked with the date they were emptied [Title 22, CCR, 66261.7(f)].

**SUMMARY OF OBSERVATIONS/VIOLATIONS**

- ☒ No violations of underground storage tank, hazardous materials, or hazardous waste laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations
- ☐ Violations were observed/discovered as listed below. All violations must be corrected by implementing the corrective action listed by each violation. If you disagree with any of the violations or corrective actions required, please inform the CUPA in writing.

ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED. CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

FACILITY NAME: KEY ENERGY SERVICES

ADDRESS: 28590 HWY 119  
TUPMAN, CA 93576FA ID: FA0030793  
FILE ID: 002712**VIOLATIONS**

VIOL. NO	VIOL. TYPE	CORRECTIVE ACTION REQUIRED
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INSPECTION COMMENTS:

INSPECTOR: LYDIA VON SYDOW  
DATE: 03/20/2009

SIGNATURE OF FACILITY REP:

Certification: I certify under penalty of perjury that this facility has complied with the corrective actions listed on this inspection form.

Signature of Owner/Operator: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

## RCRA LARGE QUANTITY HAZARDOUS WASTE GENERATOR INSPECTION REPORT

<b>Facility Name:</b> OCCIDENTAL OF ELK HILLS INC (FIELD)		<b>Facility ID:</b> FA0002399
<b>Site Address:</b> 28590 HIGHWAY 119 TUPMAN, CA 93276		<b>CERS ID:</b> 10233439
		<b>EPA ID #:</b>
<b>Phone:</b> (661) 412-5000	<b>Consent Granted By:</b>	<b>Inspection Date:</b> 11/25/2014
<b>Inspection Type:</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection		<b>Reinspection required:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

A RCRA large quantity hazardous waste generator generates the following quantities of RCRA hazardous waste:

. 1000 kg or . 2,240 lbs or . 270 gal per month OR

. 1 kg or . 2.2 lbs or . 0.3 gals per month of acute or extremely hazardous waste OR

. 100 kg or . 220 lbs or . 27 gals per month of acute spill residue or soil

### General Violations

V	Viol #	Summary	Code
	R235	OPERATING WITHOUT A PERMIT	HSC 6.11 25404.1
	H358	EPA ID NUMBER INCORRECT OR INACTIVE	22 CCR 12 66262.12
	H360	FAILURE TO PREPARE A HAZARDOUS WASTE MANIFEST	22 CCR 12 66262.20
	H363	FAILURE TO PROPERLY COMPLETE HAZARDOUS WASTE MANIFEST	22 CCR 12 66262.23(a)
	H364	FAILURE TO COMPLETE THE MANIFEST EXCEPTION REQUIREMENTS	22 CCR 12 66262.42
	H365	MANIFEST/CONSOLIDATED MANIFEST NOT MAINTAINED FOR 3 YEARS	22 CCR 12 66262.40(a)
	H361	FAILURE TO SEND MANIFEST COPIES TO DTSC	22 CCR 12 66262.23(a)(4)
	H359	IMPROPER HAZARDOUS WASTE DETERMINATION	22 CCR 12 66262.11
	H379	HAZARDOUS WASTE LABELING STANDARDS NOT MET	22 CCR 12 66262.34(f)
	R277	OPERATING RECKLESSLY UNDER PERMIT	HSC 6.5 25186, 25186.2
	R296	USED OIL & FUEL FILTER HANDLING REQUIREMENTS NOT FOLLOWED	22 CCR 16 66266.130
	H366	HAZARDOUS WASTE NOT TRANSPORTED BY REGISTERED HAULER	22 CCR 13 66263.41; HSC 6.5 25163(a)
✓	R298	IMPROPER DISPOSAL OF HAZARDOUS WASTE	HSC 6.5 25189.5(a)
	R302	FAILURE TO MEET EXCLUDED RECYCLABLE MATERIALS REQUIREMENTS	HSC 6.5 25143.2, 25143.9
	H362	FAILURE TO MAKE LAND DISPOSAL RESTRICTION DETERMINATION	22 CCR 18 66268.7(a)
	H374	FAILURE TO OBTAIN APPROVAL TO REPLACE HAZARDOUS WASTE STORAGE EQUIPMENT	22 CCR 12 66262.34(d)(2); 40 CFR 265.173

**Inspector:** DAN R STARKEY

**Inspection Date:** 11/25/2014

## RCRA Large Quantity Generator - Violations

V	Viol #	Summary	Code
	H367	FAILURE TO CONDUCT EMPLOYEE TRAINING	22 CCR 15 66265.16
	H368	FAILURE TO PREPARE AND IMPLEMENT A CONTINGENCY PLAN	22 CCR 15 66265.51
	H369	INSUFFICIENT CONTINGENCY PLAN	22 CCR 15 66265.52
	H370	FAILURE TO MAINTAIN A COPY OF THE CONTINGENCY PLAN ON SITE AND PROVIDE A COPY TO THE REQUIRED AGENCIES	22 CCR 15 66265.53
	H380	HAZARDOUS WASTE ACCUMULATION TIME LIMIT EXCEEDED	22 CCR 12 66262.34(a)
	H381	TANK/CONTAINER IN POOR CONDITION OR DAMAGED	22 CCR 15 66265.171
	H382	HAZARDOUS WASTE CONTAINER INCOMPATIBLE WITH MATERIAL STORED	22 CCR 15 66265.172
	H384	OPEN HAZARDOUS WASTE TANK/CONTAINER	22 CCR 15 66265.173
	H383	FAILURE TO CONDUCT WEEKLY HAZARDOUS WASTE STORAGE AREAS INSPECTIONS	22 CCR 15 66265.174
	H385	REACTIVE AND IGNITABLE WASTE NOT 50 FT FROM PROPERTY LINE	22 CCR 15 66265.176
	H388	INCOMPATIBLE WASTE STORAGE	22 CCR 15 66265.17(b), 66265.177
	H392	FAILURE TO CONDUCT DAILY HAZARDOUS WASTE TANK	22 CCR 15 66265.195(a)
	H393	FAILURE TO MEET SECONDARY CONTAINMENT REQUIREMENTS	22 CCR 15 66265.193
	H399	FAILURE TO MEET TANK CLOSURE REQUIREMENTS AND DOCUMENTATION	22 CCR 15 66265.111, 66265.114, 66265.197
	H402	FAILURE TO MEET HAZARDOUS WASTE TANK RELEASE REQUIREMENTS	22 CCR 15 66265.196
	H390	FAILURE TO MAINTAIN FACILITY EMERGENCY EQUIPMENT	22 CCR 15 66265.33
	H386	FACILITY NOT MAINTAINED TO PREVENT FIRE/EXPLOSION/RELEASE	22 CCR 15 66265.31
	H387	FAILURE TO HAVE EMERGENCY EQUIPMENT	22 CCR 15 66265.32
	H391	INADEQUATE AISLE SPACE	22 CCR 15 66265.35
	H400	FAILURE TO MEET PRECAUTION REQUIREMENTS FOR REACTIVE AND IGNITABLE WASTE	22 CCR 15 66265.17(a)
	H375	FAILURE TO CONDUCT HAZARDOUS WASTE TANK CATHODIC INSPECTION	22 CCR 15 66265.195(b)
	H401	FAILURE TO MAINTAIN SECURITY OF HAZARDOUS WASTE AREA	22 CCR 15 66265.14
	H371	FAILURE TO OBTAIN/MAINTAIN A WRITTEN HAZARDOUS WASTE TANK ASSESSMENT	22 CCR 15 66265.192(a), 66265.192(h)
	H372	HAZARDOUS WASTE TANK SYSTEM ASSESSMENT IS INADEQUATE OR INCOMPLETE	22 CCR 15 66265.192(k)
	H373	FAILURE TO PREPARE/SUBMIT A SUMMARY PROGRESS REPORT	22 CCR 31 67100.9
	H376	FAILURE TO COMPLETE THE BIENNIAL REPORT	22 CCR 15 66262.40(b), 66262.41
	H377	FAILURE TO ADEQUATELY COMPLETE/MAINTAIN A SOURCE REDUCTION REVIEW AND PLAN	22 CCR 31 67100.3, 67100.4, 67100.5; HSC 6.5 25244.19, 25244.21
	H378	FAILURE TO ADEQUATELY PREPARE/MAINTAIN A HAZARDOUS WASTE MANAGEMENT PERFORMANCE REPORT	22 CCR 31 67100.7, 67100.8
	H389	FAILURE TO MAINTAIN THE GENERAL TANK OPERATING REQUIREMENTS	22 CCR 15 66265.194
	A269	FAILURE TO STORE HAZARDOUS WASTE IN CONTAINERS/TANKS THAT MEET THE AIR EMISSIONS REQUIREMENTS	22 CCR 15 66265.178

Inspector: DAN R STARKEYInspection Date: 11/25/2014

**Universal Waste Generator - Violations**

V	Viol #	Summary	Code
	R317	FAILURE TO MANAGE BATTERIES AS UNIVERSAL WASTE	22 CCR 23 66273.2(a)
	R318	FAILURE TO CONDUCT EMPLOYEE TRAINING	22 CCR 23 66273.36
	R319	FAILURE TO DISPOSE OF ELECTRONICS PROPERLY	22 CCR 23 66273.3
	R320	FAILURE TO MEET OFFSITE SHIPMENT REQUIREMENTS	22 CCR 23 66273.38; 49 CFR 1 172.201(e)
	R321	FAILURE TO MEET PROPER LABELING REQUIREMENTS	22 CCR 23 66273.34
	R322	IMPROPER MANAGEMENT OF MERCURY CONTAINING PRODUCTS	22 CCR 23 66273.4
	R323	FAILURE TO PROPERLY MANAGE MERCURY CONTAINING LAMP BULBS	22 CCR 23 66273.5
	R324	FAILURE TO PROPERLY MANAGE CRT TUBES AND GLASS	22 CCR 23 66273.6, 66273.7
	R325	IMPROPER HANDLING OF AEROSOL CANS	HSC 6.5 25201.16(e)
	R326	FAILURE TO MANAGE UNIVERSAL WASTE TO PREVENT RELEASE TO THE ENVIRONMENT	22 CCR 23 66273.33.5
	R328	FAILURE TO MEET ACCUMULATION STANDARDS FOR AEROSOL CANS	HSC 6.5 25201.16(f)
	R329	ILLEGAL DISPOSAL OF UNIVERSAL WASTE	22 CCR 23 66273.31(a)
	R330	UNIVERSAL WASTE ACCUMULATION TIME LIMIT EXCEEDED	22 CCR 23 66273.35

**Waste Lead Acid Battery Generator - Violations**

V	Viol #	Summary	Code
	R250	FAILURE TO MAINTAIN LEAD BATTERY DISPOSAL DOCUMENTATION	22 CCR 16 66266.81(a)(4)(B)
	R261	IMPROPER MANAGEMENT OF 11 OR MORE SPENT VEHICLE LEAD-ACID BATTERIES	22 CCR 16 66266.81(a)(3)
	R290	IMPROPER MANAGEMENT OF 10 OR LESS SPENT VEHICLE LEAD-ACID BATTERIES	22 CCR 16 66266.81(a)(1)
	R293	IMPROPER HANDLING OF DAMAGED LEAD BATTERY	22 CCR 16 66266.81(b)
	R316	FAILURE TO PROPERLY MANAGE NON-AUTOMOTIVE LEAD BATTERIES	22 CCR 23 66273.2(b)(1)

**SUMMARY OF OBSERVATIONS/VIOLATIONS**

☐ No violations of hazardous waste laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.

☒ Violations were observed/discovered as listed below. All violations must be corrected by implementing the corrective action listed by each violation. If you disagree with any of the violations or corrective actions required, please inform the CUPA in writing.

**ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED. CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.**

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

Inspector: DAN R STARKEYInspection Date: 11/25/2014



VIOLATIONS

Violation Number	Violation Text	Violation Degree	Comply by
R298	Failure to properly dispose of hazardous waste at an authorized location. HSC 6.5 25189.5(a)	CLASS I VIOLATION	12/25/2014
Violation Details & Corrective Action Required:	<i>Baker Petrolite - Site used to decon and cut up totes and containers had hazardous waste on the ground in numerous areas. Drums of labeled Hazardous Waste had residue running /dripping from the drums onto the ground. Immediately clean up the waste and place into approved labeled containers and drums.</i>  <i>27R Liquid off the solid separator process piping had leaked into the gravel and around pumps .</i>  <i>27R Tub with oily waste was behind wooden shed was unlabeled and open to the atmosphere.</i>  <i>Numerous secondary containment systems had 2-3 inches of waste. 23 Tank Farm, 23Z Wemco totes, 18G, 18G Pump oil, 18G sump with dried drilling fluid, 18D Phillips 66 Royal Purple, 18G FWKO,</i>		

## INSPECTION COMMENTS:

Baker Petrolite - Site used to demo tanks hazardous waste disposed to the ground

COMMENTS: Go to <http://www.co.kern.ca.us/eh/> (Hazardous Materials) for forms and information.



Inspector: DAN R STARKEY

Signature of Facility Representative:

Inspection Date: 11/25/2014

Certification: I certify under penalty of perjury that this facility has complied with the corrective actions listed on this inspection form.

\_\_\_\_\_  
Printed Name of Owner/Operator\_\_\_\_\_  
Title\_\_\_\_\_  
Signature of Owner/Operator\_\_\_\_\_  
Date

**ABOVEGROUND PETROLEUM STORAGE ACT  
INSPECTION REPORT**

<b>Facility Name:</b> OCCIDENTAL OF ELK HILLS INC (FIELD)		<b>Facility ID:</b> FA0002399
<b>Site Address:</b> 28590 HIGHWAY 119 TUPMAN, CA 93276		<b>CERS ID:</b> 10233439
<b>Phone:</b> (661) 412-5000	<b>Consent Granted By:</b>	<b>Inspection Date:</b> 11/25/2014
<b>Inspection Type:</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection		<b>Reinspection required:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Facility Classification:</b>		

Tier I Qualified Facility	Tier II Qualified Facility	Non Qualified Facility
1,320 gal. - 10,000 gal. cumulative liquid petroleum storage capacity  All containers 4,999 gal. capacity or smaller	1,320 gal. - 10,000 gal. cumulative liquid petroleum storage capacity  One or more containers 5,000 gal. capacity or greater	10,001 gal. or more cumulative liquid petroleum storage capacity  Spill Prevention, Control, & Countermeasure (SPCC) plan must be certified by a Professional Engineer (PE)

**CONDITIONALLY EXEMPT FROM APSA REQUIREMENTS\*:**

**FARMS DAIRIES NURSERIES LOGGING SITES CONSTRUCTION SITES**

No AST Exceeds 20,000 Gallons and the cumulative storage capacity of the tank facility does not exceed 100,000 Gallons

**Failure to comply with the following will result in loss of Exempt status**

- \* Conduct daily visual inspections of any storage tank storing a petroleum product
- \* Allow the CUPA to conduct a periodic inspection of the tank facility
- \* Install a secondary containment for each tank or group of tanks (if required by the CUPA)

\* While farms, nurseries, logging sites, or construction sites are conditionally exempt from the requirements to prepare an SPCC Plan under APSA, these facilities are not exempt from federal SPCC requirements enforced by US EPA.

**OIL PRODUCTION FACILITIES**

If a tank or other facility is used for a purpose other than oil and gas production, such as a diesel tank in a maintenance yard to service trucks that are used on the lease, then it is generally not a facility attendant to oil and gas production and therefore is not under the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources's (DOGGR) jurisdiction

**General Violations**

V	Viol #	Summary	Code
	H004	FAILURE TO PREPARE/IMPLEMENT A SPCC PLAN	40 CFR 112.3; HSC 6.67 25270.4.5(a)
	H087	FAILURE TO MAINTAIN A VALID PERMIT	HSC 6.11 25404.1
	H090	FAILURE TO SUBMIT AN ANNUAL TANK STATEMENT	HSC 6.67 25270.6(a)(1), 25270.6(a)(2)
	H091	FAILURE TO REPORT SPILLS OF ONE BARREL OR MORE	HSC 6.67 25270.8
	H092	FAILURE TO PAY FEES	HSC 6.67 25270.6(b)

**Inspector:** DAN R STARKEY

**Inspection Date:** 11/25/2014

**Spill Prevention, Control, & Countermeasure (SPCC) Plan Violations**

V	Viol #	Summary	Code
	H001	SPCC PLAN IS NOT CERTIFIED BY A PROFESSIONAL ENGINEER (IF REQUIRED)	40 CFR 112.3(d); HSC 6.67 25270.4.5(a)
	H002	FAILURE TO MAINTAIN SPCC PLAN ON SITE	40 CFR 112.3(e)(1); HSC 6.67 25270.4.5(a)
	H005	FAILURE TO AMEND PLAN	40 CFR 112.5(a); HSC 6.67 25270.4.5(a)
	H006	FAILURE TO COMPLETE FIVE-YEAR PLAN REVIEW	40 CFR 112.5(b); HSC 6.67 25270.4.5(a)
	H008	FAILURE TO HAVE CERTIFICATION FOR TECHNICAL AMENDMENTS	40 CFR 112.5(c), 112.6(a)(2); HSC 6.67 25270.4.5(a)
	H022	FAILURE TO ADEQUATELY DESCRIBE THE FACILITY LAYOUT IN SPCC PLAN	40 CFR 112.7(a)(3); HSC 6.67 25270.4.5(a)
	H023	FAILURE TO ADEQUATELY DISCUSS FACILITY TRANSFER OPERATIONS	40 CFR 112.7(a)(3), 112.8(a), 112.8(d); HSC 6.67 25270.4.5(a)
	H024	SPCC PLAN DOES NOT MEET BASIC REQUIREMENTS	40 CFR 112.7, 112.7(a)(1); HSC 6.67 25270.4.5(a)
	H025	INCOMPLETE/INADEQUATE FACILITY DIAGRAM	40 CFR 112.7(a)(3); HSC 6.67 25270.4.5(a)
	H026	FAILURE TO ADEQUATELY DISCUSS REPORTING PROCEDURES FOR A DISCHARGE	40 CFR 112.7(a)(4); HSC 6.67 25270.4.5(a)
	H027	FAILURE TO ADEQUATELY ORGANIZE DISCHARGE PROCEDURES	40 CFR 112.7(a)(5); HSC 6.67 25270.4.5(a)
	H028	FAILURE TO PREDICT THE EXTENT OF A DISCHARGE WITHIN THE SPCC PLAN	40 CFR 112.7(b); HSC 6.67 25270.4.5(a)
	H029	FAILURE TO DISCUSS APPROPRIATE CONTAINMENT	40 CFR 112.7(c); HSC 6.67 25270.4.5(a)
	H030	IMPRACTICABILITY CLAIMS OF APPROPRIATE CONTAINMENT NOT DEMONSTRATED	40 CFR 112.7(d); HSC 25270.4.5(a)
	H035	NO PERSON DESIGNATED FOR DISCHARGE PREVENTION	40 CFR 112.7(f)(2); HSC 6.67 25270.4.5(a)
	H037	FAILURE TO DISCRIBE THE FACILITY'S SECURITY MEASURES	40 CFR 112.7(g); HSC 6.67 25270.4.5(a)
	H045	FAILURE TO ADEQUATELY DISCUSS FACILITY DRAINAGE	40 CFR 112.8(b); HSC 6.67 25270.4.5(a)
	H061	FAILURE TO ADEQUATELY DISCUSS BULK STORAGE TANKS	40 CFR 112.8(c); HSC 6.67 25270.4.5(a)

**Site Inspection Violations**

V	Viol #	Summary	Code
	H038	FAILURE TO IMPLEMENT SECURITY MEASURES FOR FACILITY	40 CFR 112.7(g); HSC 6.67 25270.4.5(a)
	H039	FAILURE TO ADEQUATELY DISCUSS LOADING/UNLOADING RACKS	40 CFR 112.7(h); HSC 6.67 25270.4.5(a)
	H040	FAILURE TO MAINTAIN SECONDARY CONTAINMENT SYSTEMS	40 CFR 112.7(h)(1); HSC 6.67 25270.4.5(a)
	H041	FAILURE TO PROVIDE WARNING TO PREVENT VEHICLE DEPARTURE	40 CFR 112.7(h)(2); HSC 6.67 25270.4.5(a)
	H042	FAILURE TO INSPECT DRAINS AND OUTLETS	40 CFR 112.7(h)(2); HSC 6.67 25270.4.5(a)
	H046	VALVES FOR DRAINAGE ARE UNCONTROLLED	40 CFR 112.8(b)(2); HSC 6.67 25270.4.5(a)
	H058	INADEQUATE DRAINAGE	40 CFR 112.8(b)(3), 112.8(b)(4); HSC 6.67 25270.4.5(a)
	H062	TANKS INCOMPATIBLE WITH STORED MATERIALS	40 CFR 112.8(c)(1); HSC 6.67 25270.4.5(a)
	H063	INADEQUATE SECONDARY CONTAINMENT	40 CFR 112.8(c)(2); HSC 6.67 25270.4.5(a)
	H064	CONTAINMENT NOT SUFFICIENTLY IMPERVIOUS TO OIL	40 CFR 112.8(c)(2); HSC 6.67 25270.4.5(a)
	H065	FAILURE TO CLOSE CONTAINMENT BYPASS VALVES WHEN NOT DRAINING RAINWATER	40 CFR 112.8(c)(3)(i); HSC 6.67 25270.4.5(a)
	H066	FAILURE TO INSPECT RUN-OFF FROM CONTAINMENT	40 CFR 112.8(c)(3)(ii); HSC 6.67 25270.4.5(a)
	H067	VALVES OPERATED WITHOUT RESPONSIBLE SUPERVISION	40 CFR 112.8(c)(3)(iii); HSC 6.67 25270.4.5(a)
	H069	FAILURE TO HAVE ADEQUATE CORROSION PROTECTION	40 CFR 112.8(c)(5); HSC 6.67 25270.4.5(a)

Inspector: DAN R STARKEYInspection Date: 11/25/2014

## Site Inspection Violations (continued)

V	Viol #	Summary	Code
	H074	CONTAINER INSTALLATION NOT PROPERLY ENGINEERED WITH HIGH LEVEL MONITORING DEVICE	40 CFR 112.8(c)(8)(i), 112.8(c)(8)(ii), 112.8(c)(8)(iii), 112.8(c)(8)(iv); HSC 6.67 25270.4.5(a)
	H075	LIQUID LEVEL SENSING DEVICES NOT TESTED	40 CFR 1 112.8(c)(8)(v); HSC 6.67 25270.4.5(a)
	H077	LEAKS NOT IMMEDIATELY ADDRESSED	40 CFR 112.8(c)(10); HSC 6.67 25270.4.5(a)
	H078	INADEQUATE SECONDARY CONTAINMENT SYSTEMS-PORTABLE TANKS	40 CFR 112.8(c)(11); HSC 6.67 25270.4.5(a)
	H079	IMPROPER MOBILE TANK POSITIONING	40 CFR 112.8(c)(11); HSC 6.67 25270.4.5(a)
	H080	BURIED PIPING NOT REPAIRED WHEN DETERIORATION FOUND	40 CFR 112.8(d)(1); HSC 6.67 25270.4.5(a)
	H081	BURIED PIPING IS NOT CATHODICALLY PROTECTED	40 CFR 112.8(d)(1); HSC 6.67 25270.4.5(a)
	H082	STAND-BY PIPING IS NOT CAPPED AND/OR LABELED	40 CFR 112.8(d)(2); HSC 6.67 25270.4.5(a)
	H084	FAILURE TO REGULARLY INSPECT ABOVEGROUND PIPING	40 CFR 1 112.8(d)(4); HSC 6.67 25270.4.5(a)
	H086	FAILURE TO WARN VEHICLES ABOUT ABOVEGROUND PIPING OR TRANSFER OPERATIONS	40 CFR 112.8(d)(5); HSC 6.67 25270.4.5(a)

## Supplemental to SPCC Plan Violations

V	Viol #	Summary	Code
	H033	INADEQUATE INSPECTIONS/TESTS AND/OR WRITTEN RECORDS NOT MAINTAINED	40 CFR 1 112.7(e); HSC 6.67 25270.4.5(a)
	H034	FAILURE TO MEET EMPLOYEE TRAINING REQUIREMENTS	22 CCR 23 66273.36
	H036	FAILURE TO SCHEDULE AND CONDUCT SPILL PREVENTION BRIEFINGS	40 CFR 1 112.7(f)(1); HSC 6.67 25270.4.5(a)
	H068	FAILURE TO MAINTAIN ADEQUATE DRAINAGE RECORDS	40 CFR 1 112.8(c)(3)(iv); HSC 6.67 25270.4.5(a)
	H070	FAILURE TO MAINTAIN INSPECTION RECORDS	40 CFR 1 112.8(c)(6); HSC 6.67 25270.4.5(a)
	H072	TANKS NOT INTEGRITY TESTED PER INDUSTRY STANDARDS	40 CFR 1 112.8(c)(6); HSC 6.67 25270.4.5(a)
	H085	BURIED PIPING NOT TESTED AT INSTALLATION, MODIFICATION, CONSTRUCTION, RELOCATION, OR REPLACEMENT	40 CFR 1 112.8(d)(4); HSC 6.67 25270.4.5(a)

## Exempt Facility Violations

V	Viol #	Summary	Code
	H093	EXEMPT FACILITY - NO DAILY INSPECTIONS	HSC 6.67 25270.4.5(b)(1)
	H094	EXEMPT FACILITY - FAILURE OF AN EXEMPT FACILITY TO ALLOW CUPA TO CONDUCT PERIODIC INSPECTIONS	HSC 6.67 25270.4.5(b)(2)
	H095	EXEMPT FACILITY-NO SECONDARY CONTAINMENT	HSC 6.67 25270.4.5(b)(3)

Inspector: DAN R STARKEYInspection Date: 11/25/2014

**SUMMARY OF OBSERVATIONS/VIOLATIONS**

- ☒ No violations of aboveground petroleum storage act laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.
- ☐ Violations were observed/discovered as listed below. All violations must be corrected by implementing the corrective action listed by each violation. If you disagree with any of the violations or corrective actions required, please inform the CUPA in writing.

ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED. CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

Facility Name: OCCIDENTAL OF ELK HILLS INC (FIELD)

Facility ID: FA0002399

CERS ID: 10233439

**INSPECTION COMMENTS:**

COMMENTS: Go to <http://www.co.kern.ca.us/eh/> (Hazardous Materials) for forms and information.



Inspector: DAN R STARKEY

Signature of Facility Representative:

Inspection Date: 11/25/2014



### HAZARDOUS MATERIALS BUSINESS PLAN (HMBP) INSPECTION REPORT

<b>Facility Name:</b> OCCIDENTAL OF ELK HILLS INC (FIELD)		<b>Facility ID:</b> FA0002399
<b>Site Address:</b> 28590 HIGHWAY 119 TUPMAN, CA 93276		<b>CERS ID:</b> 10233439
<b>Phone:</b> (661) 412-5000	<b>Consent Granted By:</b>	<b>Inspection Date:</b> 11/25/2014
<b>Inspection Type:</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection		<b>Reinspection required:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>Inspection Element:</b> BUS PLAN LARGE MOD RISK >5 UNITS		

#### File/CERS Review Violations

V	Viol #	Summary	Code
	H335	Failure to complete and/or submit a HMBP	19 CCR 6.95 25505; HSC 6.95 25508(a)(1), 25508(d)
	E002	Failure to report program data electronically into the California Environmental Reporting System (CERS)	HSC 6.11 25404(e)(4)
	H344	Failure to complete and submit the Business Activities Page and/or Business Owner Operator Identification Page in CERS	19 CCR 4 2729.2(a)(1); 19 CCR 6.95 25508(a)(1)
	H342	Failure to complete and submit hazardous material inventory information for all reportable hazardous materials on site in CERS	HSC 6.95 25505(a)(1), 25506, 25508(a)(1)
	H341	Failure to annually review and certify that the business plan is complete, accurate, and up-to-date in CERS	HSC 6.95 25508(c), 25508.2
	H337	Failure to review, revise, and recertify the HMBP at least once every three years	HSC 6.95 25508(b)
✓	H346	Failure to complete and submit a site map with all required content in CERS	HSC 6.95 25505(a)(2), 25508(a)(1)
	H347	Emergency response plan and procedures not submitted in CERS or not adequate	HSC 6.95 25505(a)(3), 25508(a)(1)
	H353	Training program not submitted in CERS or is not adequate	HSC 6.95 25505(a)(4), 25508(a)(1)
	H340	Property owner was not notified in writing that a HMBP is required	HSC 6.95 25505.1
	H336	Property owner was not provided a copy of the HMBP upon request	HSC 6.95 25505.1

#### Onsite Inspection Violations

V	Viol #	Summary	Code
	H334	Failure to establish and implement a HMBP	HSC 6.95 25507
	H343	Failure to revise HMBP upon a substantial change in the handler's operation	HSC 6.95 25508.1(f)
	H345	Failure to update Facility Information/Hazardous Materials Inventory upon a significant change	HSC 6.95 25508.1(a)-(e)
	H348	Training program not implemented	HSC 6.95 25505(a)(4)
	H338	Failure to report a release or threatened release of a hazardous material to the CUPA and to California Office of Emergency Services	HSC 6.95 25510(a)

**Inspector:** DAN R STARKEY

**Inspection Date:** 11/25/2014

**CONDITIONAL EXEMPTIONS FROM REPORTING REQUIREMENTS**

**Agricultural handlers** are conditionally exempt from electronically submitting Emergency Response and Employee Training Plans in CERS if the following requirements are met:

- Owner/Operator annually submits the Facility Information and Hazardous Materials Inventory electronically into CERS
- Each location/building, where hazardous materials (i.e. pesticides, petroleum products, fertilizers, etc.) are stored, is posted with warning signs that meet the following requirements:
  - Shall be conspicuous and visible from any direction of probable approach
  - Shall be of such size that it is readable from 25 feet and shall be labeled as follows:

DANGER HAZARDOUS MATERIAL STORAGE AREA  
 (the hazardous materials stored within shall be noted by category  
 [i.e. pesticides, petroleum products, fertilizers, etc.])  
 ALL UNAUTHORIZED PERSONS-KEEP OUT - IN AN EMERGENCY, CONTACT:  
 (list the name and phone number of an emergency contact person(s))

- Shall be repeated in an appropriate language other than English when persons who do not understand the English language may enter the posted location/building
- Owner/Operator provides training for all new employees and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material, including, but not limited to, familiarity with the emergency plans and procedures

**Exempt Facility Violations**

V	Viol #	Summary	Code
	E003	Failure to meet agricultural handler exemption requirements for electronically submitting Emergency Response/Contingency Plan in CERS	19 CCR 4 2733, 2734; HSC 6.95 25507.1, 25508(a)(1)
	E004	Failure to meet agricultural handler exemption requirements for electronically submitting Employee Training Plan in CERS	19 CCR 4 2733, 2734; HSC 6.95 25507.1, 25508(a)(1)
	E005	Failure to meet remote unstaffed facility exemption requirements for electronically submitting HMBP annually in CERS	HSC 6.95 25505, 25506, 25507, 25507.2, 25508(a)(1)

**SUMMARY OF OBSERVATIONS/VIOLATIONS**

- ☐ No violations of hazardous materials business plan laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.
- ☒ Violations were observed/discovered as listed below. **ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED.** CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

**VIOLATIONS**

Violation Number	Violation Text	Violation Degree	Comply by
H346	Failure to complete and electronically submit an annotated site map with all required content (north orientation, loading areas, internal roads, adjacent streets, storm and sewer drains, access and exit points, emergency shutoffs, evacuation staging areas, hazardous material handling and storage areas, and emergency response equipment). Updates to existing maps to meet these requirements shall be completed by January 1, 2015. HSC 25505(a)(2), 25508(a)(1)	CLASS II VIOLATION	12/25/2014

**Violation Details &  
Corrective Action  
Required:**

*Site maps are inadequate and do not meet the basic requirements. Review the maps submitted for  
Vintage - Lost Hills which show labeled tank settings minus the listed chemical inventory on site.*

**INSPECTION COMMENTS:**

**COMMENTS:** Go to <http://www.co.kern.ca.us/eh/> (Hazardous Materials) for forms and information.

**Inspector: DAN R STARKEY****Signature of Facility Representative:****Inspection Date: 11/25/2014**

**Certification: I certify under penalty of perjury that this facility has complied with the corrective actions listed on this inspection form.**

\_\_\_\_\_  
**Printed Name of Owner/Operator**\_\_\_\_\_  
**Title**\_\_\_\_\_  
**Signature of Owner/Operator**\_\_\_\_\_  
**Date**

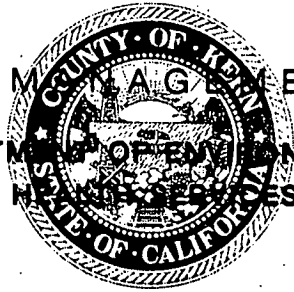
GARY J. WICKS  
Agency Director  
(805) 861-3502

STEVE McCALLEY  
Director

2700 M Street, Suite 300  
Bakersfield, CA 93301  
Telephone (805) 861-3636  
Telecopier (805) 861-3429

RESOURCE MANAGEMENT AGENCY

DEPARTMENT OF ENVIRONMENTAL HEALTH SERVICES



December 14, 1989

0122885  
R. L. Donahoe  
Bechtel petroleum Operations, Inc.  
P. O. Box 127  
Tupman, CA 93276

Dear Mr. Donahoe:

SUBJECT: Location : T 30S, R 23E, Section 36  
Known As : Elk Hills Naval Petroleum Reserve  
Permit # : 330088

This letter confirms the completion of site investigation and remedial action 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 this office that no further action is required at this time.

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.

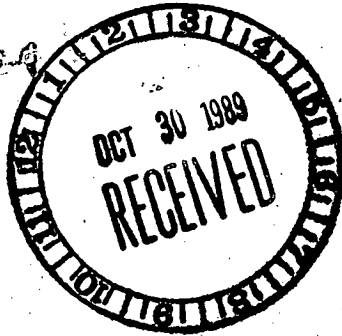
If you have any questions regarding this matter, please contact Joe Canas at (805) 861-3636.

Sincerely,

Chris Burger, R.E.H.S.  
Program Manager  
Environmental Health Services Department

CB:JC:cas

\\canas\330088.clt



# Bechtel Petroleum Operations, Inc.



28590 Highway 119.  
Tupman, California  
Mail Address: P.O. Box 127, Tupman, CA 93276  
Telephone: (805) 763-6000

OCT 27 1989

Mr. Joe Canas  
Kern County Environmental  
Health Department  
1415 Truxtun Avenue  
Bakersfield, CA 93301

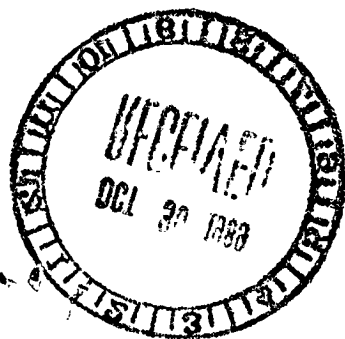
Subject: CHARACTERIZATION REPORT AND MITIGATION OUTLINE OF THE  
POTENTIAL CERCLA SITES

Dear Mr. Canas:

Please find attached the Characterization Report and Mitigation Outline of the Potential CERCLA Sites at the three former underground storage tank locations at Elk Hills Naval Petroleum Reserve #1, (NPR-1). The report and outline were prepared for NPR-1 by Wilson Zublin, Inc. (WZI). The 36R Warehouse location did not have any contamination, and mitigation options for this site are not required. The two other locations found, 36S Warehouse and 36S Garage Area, do show some contamination. Several mitigation options are described for these two contaminated sites. The "no action" alternative is proposed at both sites for the following reasons:

- o Groundwater is at least 250' and it is estimated that it would take 30,000 years for the shallow contamination to reach it through vertical migration;
- o The quality of the groundwater directly below the sites is not known. However, the groundwater originates from the Tulare formation which is known to be saline and highly mineralized elsewhere at NPR-1;
- o The Tulare formation which contains the first known saturated layers at NPR-1 is considered a potential oil and gas production zone and has been produced elsewhere on NPR-1.
- o Multiple mixed beds were encountered in the bore holes. Many of these mixed beds have a "clayey" nature which would tend to delay vertical migration or deflect the contaminants to a horizontal migration;
- o The nearest well to the sites is at least one mile away, horizontal migration would take 5,000 years by WZI's estimate.





191 54 207

Mr. Joe Canas

CHARACTERIZATION REPORT AND MITIGATION OUTLINE OF THE POTENTIAL

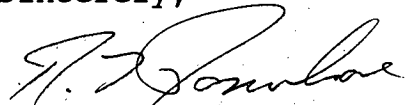
CERCLA SITES  
OCT 27 1985

Page 2


NPR-1 will maintain records of the sites. In accordance with Section 107 of CERCLA, the sites will also be recorded on any deed for the property in the event of the divestiture of NPR-1.

If there are any questions on this matter, please contact Mr. Roy Campbell of my staff, at (805) 763-6620.

Sincerely,



R. L. Donahoe  
Manager, Environmental  
Services

  
CEE/REC:rbe

Enclosure

cc: DNPRC

# Bechtel Petroleum Operations, Inc.



28590 Highway 119  
Tupman, California  
Mail Address: P.O. Box 127, Tupman, CA 93276  
Telephone: (805) 763-6000

April 5, 1989

Mr. Joe Canas  
Kern County Environmental Health Department  
2700 "M" Street, Suite 300  
Bakersfield, California 93301

Dear Mr. Canas:

Please find attached a work plan prepared by WZI, Inc., to characterize the former underground tank areas located within NPR-1 (Permit File #330088). The plan is submitted for your review and concurrence. The plan has been reviewed by representatives of Bechtel Petroleum Operations, Inc., (BPOI) as Unit Operator of the facility, and the owners of the facility, the U. S. Department of Energy (DOE) and Chevron USA. The plan meets the requirements listed on page nine of the Kern County Environmental Health Dept. (KCEHD) Handbook #UT30.

Please review the plan and confirm your concurrence with the plan by May 1, 1989. BPOI is aware of the problems with prepayment by DOE into the Local Option Trust Account. We are prepared to promptly pay invoices for the above work in order to prevent delays in completion of this project. If there are any questions on this matter, please contact Mr. Roy Campbell of my staff at (805) 763-6620.

Yours truly,

A handwritten signature in dark ink, appearing to read "R. L. Donahoe".

R. L. Donahoe  
Manager, Environmental Services

*CEE/REC:lg*  
CEE/REC:lg

cc: DNPRC

Bechtel Petroleum Operations, Inc.  
Elk Hills Naval Petroleum Reserve #1  
36S Warehouse, 36S Garage, and 36R Warehouse  
Site Characterization  
Proposed Work Plan

### Introduction

This proposed work plan has been prepared in response to the request of the Kern County Environmental Health Department, letter to Bechtel Petroleum Operations Inc., August 8, 1988. The work plan has been prepared in regard to the contamination associated with nine underground storage tanks removed from three sites on the Elk Hills Naval Petroleum Reserve #1. Two of the sites, the 36S Warehouse and the 36S Garage, are located in Section 36, T.30S, R.24E. The third site, the 36R Warehouse, is located in section 36, T. 30S., R.23E. MDB&M, Exhibit 1.

### Site History

The Naval Petroleum Reserve is a major oil field located on the west side of the southern San Joaquin Valley. Bechtel Petroleum Operations, Inc. (BPOI) operates the field under contract to the U.S. Department of Energy. In the course of normal maintenance and regulatory compliance, BPOI terminated the use of ten underground storage tanks which ranged in size from one thousand to six thousand gallons capacity. Four of the tanks contained gasoline and six contained waste oil. The tanks were removed from three different sites, the 36S Garage, 36S Warehouse and the 36R Warehouse. In accordance with Kern County Health Department Underground Tank

Closure Guidelines, soil samples were collected from beneath the tank sites immediately upon removal. Chemical analysis of these samples indicates that gasoline contamination exists beneath three of the former gasoline tanks. Of the six waste oil tank sites, three showed both oil and grease and Total Organic Halogens (TOX) contamination, the remaining three sites show only TOX contamination.

The tank removal and preliminary site assessment was conducted by Golden State Environmental Services. This report included the soil analysis result from samples taken during tank removal and is currently on file with the Kern County Health Department.

#### Geology and Hydrogeology

According to the U.S. Department of the Interior Geological Survey Water Supply Paper 1457, the sites are underlain by the Tulare Formation. The Tulare consists primarily of unconsolidated to poorly consolidated continental deposits. The Tulare predominantly consists of silty material containing stringers of coarse sand and gravel.

The groundwater beneath the 36S Warehouse and 36S Garage sites is estimated to be approximately 250' below ground level. The groundwater at the 36R Warehouse is estimated to be approximately 900' below ground level. The water levels have been estimated from Kern County Water Agency data and WZI Inc. hydrogeologic studies in the vicinity.

### Drilling Program

The vertical and horizontal extent of gasoline and waste oil contamination will be determined using a hollow stem auger drilling rig having a capacity of at least 150 feet in unconsolidated soil. (A minimum of three boreholes will be drilled at each site for a total minimum of nine boreholes.) Each borehole will be drilled to the base of contamination or until the limit of the drilling rig is reached. Exhibits 2, 3, and 4 show the proposed borehole locations at each site.

Primary boreholes will be drilled through the center of previous tank locations. These boreholes will delineate the base of contamination. Subsequent boreholes will be drilled in a linear step out pattern as per Kern County Health Department recommendations on previous investigations of this type. The step out boreholes will be in 15' intervals and continue until a clean borehole is drilled. The 15' step out pattern was chosen based on the great depth to groundwater and the current land usage. The linear step out pattern assumes uniform and symmetrical spread of contamination from the contamination source in the unconsolidated and poorly consolidated soils found at the sites. Table 1 shows borehole location rationale as well as proposed sampling intervals and analysis.

### Sampling Process

A 2-1/2 inch split spoon sampler fitted with three 6-inch stainless steel or brass sample tubes will be used to collect samples. In each borehole, samples will be collected at ten foot intervals starting at a predetermined depth. After drilling to each sampling depth, the sampling apparatus will be inserted into the hollow auger and driven into the undisturbed soil beneath the borehole.



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~~SECRET~~

Upon recovery, the lower samples, designated A and B, will be sealed in the tubes by covering with aluminum foil, capping with plastic and sealing with plastic tape. This sample recovery method minimizes head space in the sample tubes. The samples will then be stored on ice pending delivery to a California Department of Health Services certified laboratory for chemical analysis and accompanied by appropriate chain of custody forms. The material in the third tube and in the sampler "shoe" will be examined and described, then discarded. Sample descriptions will include lithology, moisture content, fossil content, and odor. Samples will also be checked with an Organic Vapor Analyzer (OVA). Lithologic logs for each borehole will be compiled utilizing the sample descriptions.

The sampler will be washed with a non-phosphate cleaner and rinsed with water after each use.

#### Borehole Completion

Uncontaminated boreholes (as determined by OVA field tests) will be backfilled to the surface with the uncontaminated cuttings. Contaminated boreholes will be plugged with a bentonite pellet column five feet thick and backfilled with cement to the surface. Contaminated cuttings will be placed in 55 gallon barrels with lids and disposed of by BPOI through proper hazardous waste channels, per discussion with Roy Campbell of BPOI (telephone conversation, December 13, 1988).

#### Auger Decontamination

~~Auger flights will be steam cleaned after drilling boreholes which are found to be contaminated.~~ This will assure that contamination is not transferred to other boreholes. The cleaning will take place on established cleaning sites and the effluent will be

contained (communication from BPOI during WZI telephone conversation with Roy Campbell, December 13, 1988).

### Sample Analysis

Samples from gasoline contaminated sites will be analyzed for benzene, toluene, ethyl benzene, xylene (BTEX) and total petroleum hydrocarbons (TPH). Samples from waste oil contaminated sites will be analyzed for oil and grease, total organic halogens (TOX) and lead. Samples which may contain both gasoline and waste oil, will be analyzed for all of the above constituents. The analysis will be done by a California Department of Health Services certified laboratory. Samples will be analyzed within 14 days of acquisition. The chemical analysis will be done by Midway Laboratory, Taft, California. A copy of the laboratory Quality Assurance/Quality Control Manual is attached as Appendix I. This QA/QC manual has been approved by the State of California Health and Welfare Agency, Department of Health Services.

Samples from the tank sites showing only TOX contamination will be analyzed for TOX and lead. If TOX contamination appears serious then one back up sample from the site in question will be further analyzed in an attempt to identify the specific TOX components. Currently, action levels for TOX contamination are determined on a case by case basis by the governing authority.

Samples showing field evidence of contamination will be analyzed individually. Composite samples will be made of each three consecutive samples showing no field evidence of contamination.

In boreholes directly through the former tank sites, the first three samples will be analyzed individually, regardless of whether field evidence of contamination exists or not.

On-Site Health and Safety

WZI Inc. personnel and all on-site contractors will comply with all of WZI's health and safety procedures. Based on the data provided by BPOI, the WZI Safety Manager and Project Geologist have designated this project as a Level D site assessment for the purposes of protective equipment and clothing. Hard hats and chemically resistant steel-toes boots will be worn at all times on the site. Half-mask respirators fitted with organic vapor cartridges will be available on-site for each individual. A Site Safety Plan for field investigations which contains the names and telephone numbers of emergency response personnel, locations of nearby hospitals and fire stations will be available on-site. A discussion of potential chemical hazards will also be included in the Site Safety Plan. All field personnel will be familiarized with Site Safety Plan. WZI personnel are trained in basic first aid and a first aid kit will be available on-site in case of an emergency. At least one on-site WZI Inc. employee will be trained in CPR. Before beginning work each morning, a Safety Meeting will be held with drilling contractors to explain on-site safety precautions and emergency response. A written record of each meeting signed by those attending will be kept by the site manager.

The BPOI security department will be notified immediately of any and all accidents and/or injuries to a WZI Inc. employee or subcontractor occurring on NPRC premises.

In addition, all emergencies (fire, accidents, etc.) observed by any WZI Inc personnel or subcontracted personnel on NPRC shall be reported to the Contractors Technical Representative (CTR).

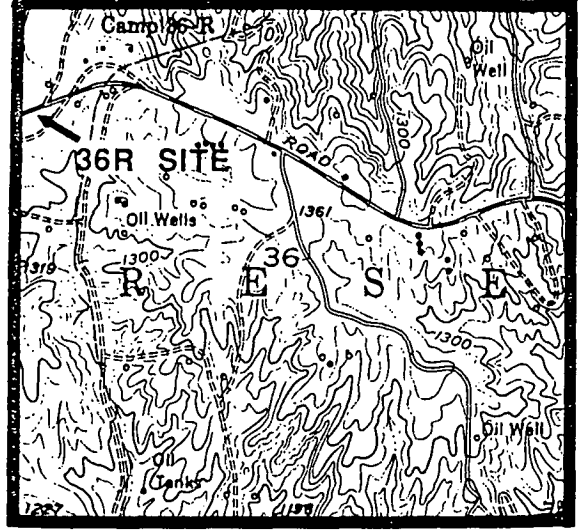
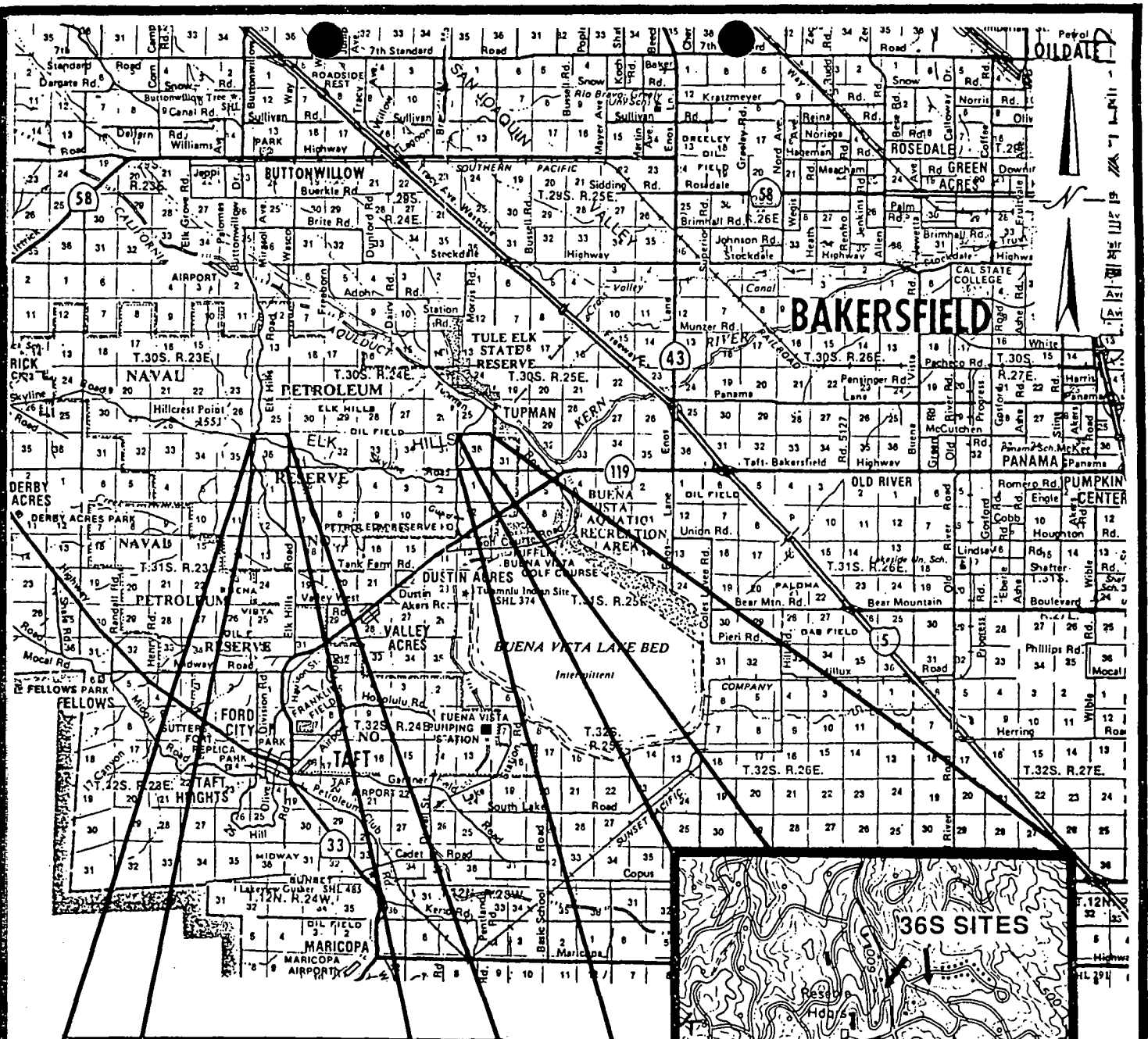
Particular attention will be paid to the overhead lines at the 36S Garage site. Great care will be taken to insure that the drilling rig mast is a safe distance from any

overhead lines at all times. A spotter will be used during all rig moves to insure that the rig mast is a safe distance from any hazards at all times. If sufficient clearance is not possible and an electrical shock hazard exists then proper measures will be taken to remove the hazard. These measures may include the temporary shut down or removal of the line in question.

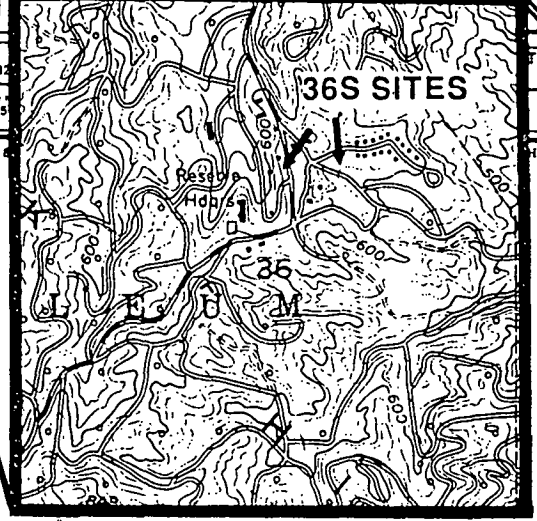
Air quality around the drilling rig will be monitored continually with an Organic Vapor Analyzer (OVA). This instrument measures total organic vapor concentration in parts per million of organic hydrocarbons converted to methane equivalent. During drilling of each borehole, OVA readings will be taken at the borehole/ground surface interface and at the drillers chest level. If the OVA reading remains at 10 ppm for a prolonged period of time around the drill rig, the drillers will be required to don organic vapor respirators.

Due to the nature of working in an oil field, some extra precautions must be made. Primarily, extreme caution must be used when drilling the first ten feet of each borehole. Drilling the first ten feet will be executed very slowly and with little downward force. This will allow the driller to feel any unknown underground obstacles before damage to the obstacle, rig or crew occurs. In the event an obstacle is encountered, the rig will pull out and try another suitable location.


In addition, all personnel will be aware of oil field traffic and the need to watch for other equipment and personnel. A "hot zone" will be established around each drill site to limit non-essential personnel from entering the work area. This "hot zone" will be established by the BPOI Security Department. Good housekeeping will also be practiced at all times while on site.



SEC. 36 T30S/R23E



SEC. 36 T30S/R24E



**BECHTEL PETROLEUM  
OPERATIONS, INC.**

LOCATION MAP

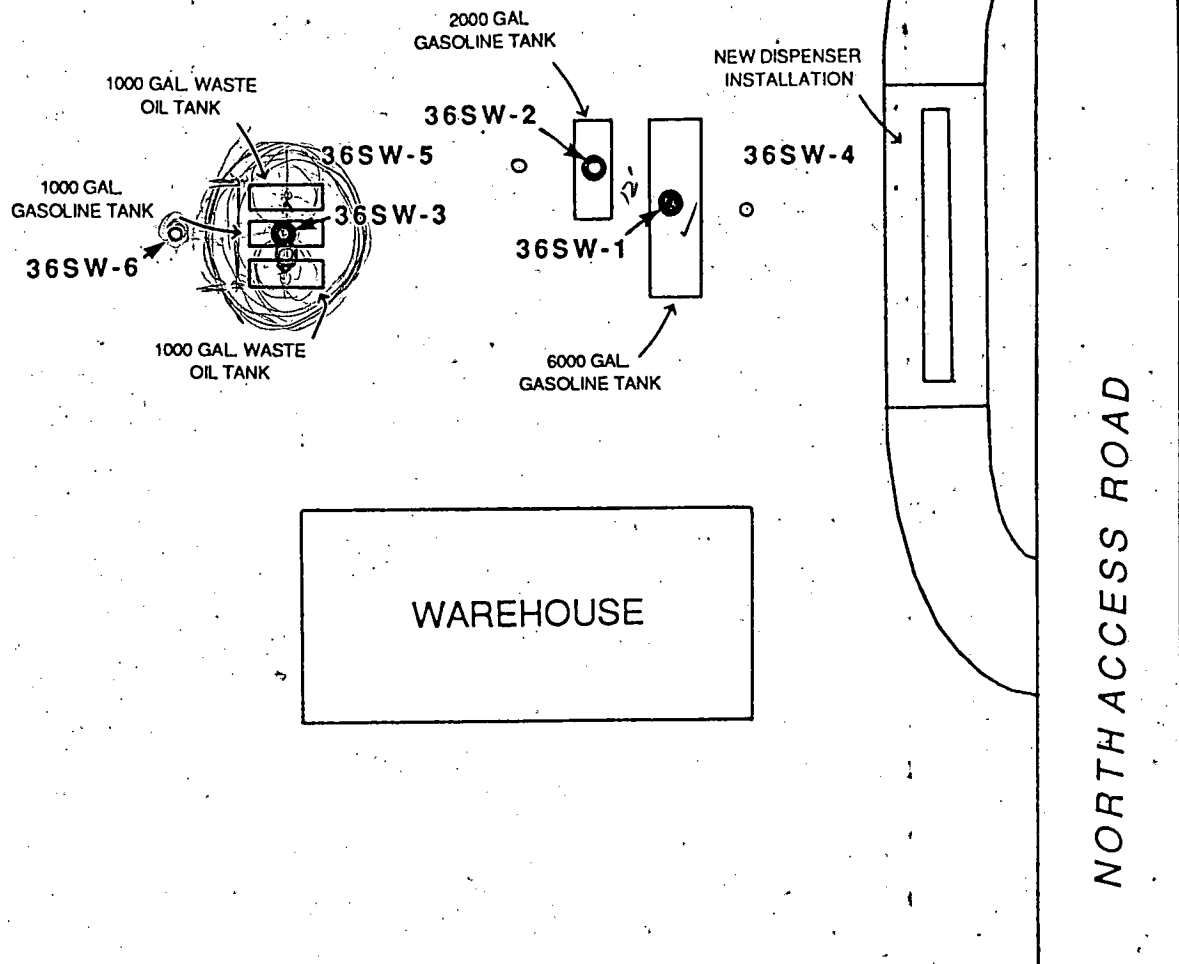
CHARACTERIZATION OF POTENTIAL  
CERCLA SITES

ELK HILLS, NAVAL PETROLEUM RESERVE NO.1  
KERN COUNTY, CALIFORNIA

WZI INC  
DATE 1/89

BAKERSFIELD, CA  
EXHIBIT 1





### LEGEND

- 36RW-1 ○ PRIMARY BOREHOLE LOCATION  
 36RW-1 ○ STEP-OUT BOREHOLE LOCATION

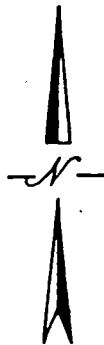


BECHTEL PETROLEUM  
 OPERATIONS, INC.  
 NPR #1  
 PROPOSED BOREHOLE LOCATIONS  
 36S WAREHOUSE

WZI INC.  
 DATE 3/89

BAKERSFIELD, CA  
 EXHIBIT 2





GARAGE

APPROXIMATE POWER LINE LOCATION

36SG-3

36SG-2

36SG-1

1000 GAL. WASTE  
OIL TANK

### LEGEND

36RW-1

PRIMARY BOREHOLE LOCATION

36RW-1

STEP-OUT BOREHOLE LOCATION

0 25' 50'

APPROXIMATE SCALE IN FEET



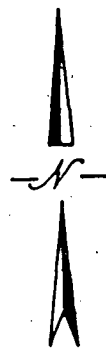
BECHTEL PETROLEUM  
OPERATIONS, INC.

NPR #1

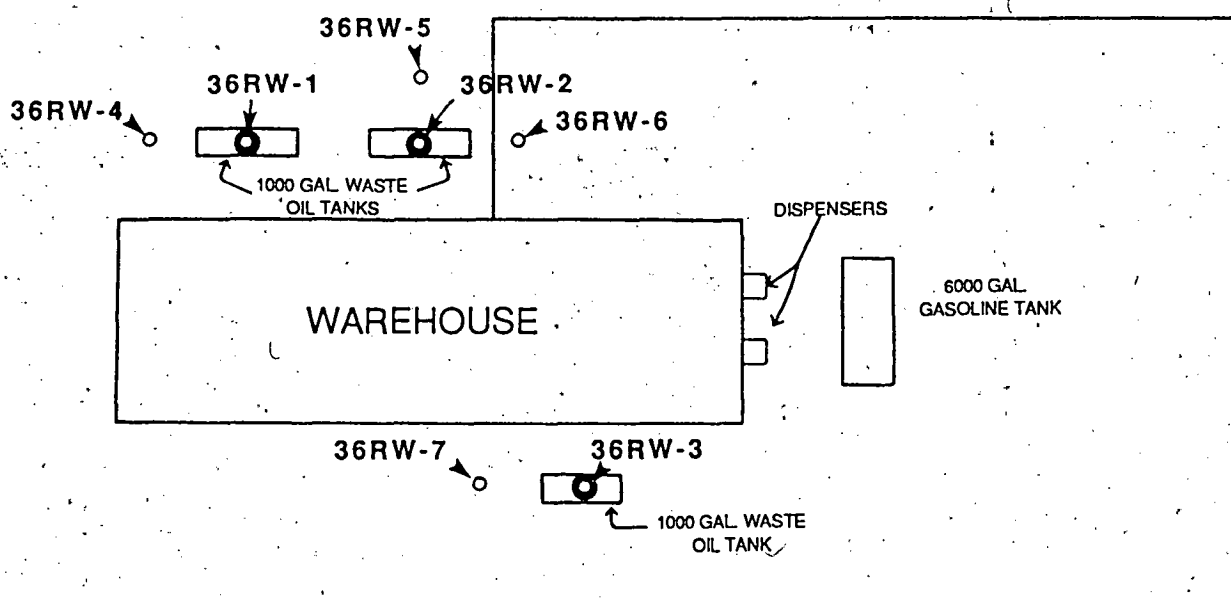
PROPOSED BOREHOLE LOCATIONS  
36S GARAGE

WZI INC  
DATE 3/89

BAKERSFIELD, CA  
EXHIBIT 3



SKYLINE ROAD



**LEGEND**

- 36RW-1 ○ PRIMARY BOREHOLE LOCATION  
36RW-1 ○ STEP-OUT BOREHOLE LOCATION

0 25' 50'  
APPROXIMATE SCALE IN FEET



BECHTEL PETROLEUM  
OPERATIONS, INC.  
NPR #1  
PROPOSED BOREHOLE LOCATIONS  
36R WAREHOUSE

WZI INC  
DATE 3/89

BAKERSFIELD, CA  
EXHIBIT 4

TABLE 1  
BECHTEL PETROLEUM OPERATIONS, INC.  
BOREHOLE LOCATION and RATIONALE

BOREHOLE	LOCATION	RATIONALE	ANALYSIS	SAMPLE INTERVAL
<b>36S GARAGE</b>				
36SG-1	Center of 1000 gallon waste oil tank site.	Determine base of contamination.	O/G, TOX, lead	Start at 10', sample at 10' intervals thereafter
36SG-2	15' North of 36SG-1	To determine lateral extent of contamination.	O/G, TOX, lead	Start at 10', sample at 10' intervals thereafter
36SG-3	15' North of 36SG-2	To determine lateral extent of contamination.	O/G, TOX, lead	Start at 10', sample at 10' intervals thereafter
<b>36S WAREHOUSE</b>				
36SW-1	Center of 6000 gallon gasoline tank site.	Determine base of contamination.	BTEX, TPH	Start at 15', sample at 10' intervals thereafter **
36SW-2	Center of 2000 gallon gasoline tank site.	Determine base of contamination.	BTEX, TPH	Start at 15', sample at 10' intervals thereafter **
36SW-3	Center of 1000 gallon gasoline tank site.	Determine base of contamination.	BTEX, TPH, O/G, TOX, lead	Start at 10', sample at 10' intervals thereafter
36SW-4*	15' East of 36SW-1	To determine lateral extent of contamination.	BTEX, TPH	Start at 15', sample at 10' intervals thereafter
36SW-5*	15' West of 36SW-2	To determine lateral extent of contamination.	BTEX, TPH	Start at 15', sample at 10' intervals thereafter
36SW-6*	15' West of 36SW-3	To determine lateral extent of contamination.	BTEX, TPH, O/G, TOX, lead	Start at 10', sample at 10' intervals thereafter

O/G=Oil and Grease/BTEX=Benzene, Toluene, Ethyl Benzene, Xylenes/TPH=Total Petroleum Hydrocarbons/TOX=Total Organic Halogens

\* = Optional Stepout Borehole

NOTE: Additional step outs may be necessary pending field evidence of contamination

\*\* = 15', initial sample depth based on estimated tank base of 10' for 2000 and 6000 gal. tanks: previous samples were taken 2' and 6' below base





**TABLE 1 CONTINUED**  
**BECHTEL PETROLEUM OPERATIONS, INC.**  
**BOREHOLE LOCATION and RATIONALE**

BOREHOLE	LOCATION	RATIONALE	ANALYSIS	SAMPLE INTERVAL
<b>36R WAREHOUSE</b>				
36RW-1	Center of 1000 gallon waste oil tank site.	Determine base of contamination.	TOX, lead	Start at 10', sample at 10' intervals thereafter
36RW-2	Center of 1000 gallon waste oil tank site.	Determine base of contamination.	TOX, lead	Start at 10', sample at 10' intervals thereafter
36RW-3	Center of 1000 gallon waste oil tank site.	Determine base of contamination.	TOX, lead	Start at 10', sample at 10' intervals thereafter
36RW-4*	15' West of 36RW-1	To determine lateral extent of contamination.	TOX, lead	Start at 10', sample at 10' intervals thereafter
36RW-5*	15' North of 36RW-2	To determine lateral extent of contamination.	TOX, lead	Start at 10', sample at 10' intervals thereafter
36RW-6*	15' East of 36RW-2	To determine lateral extent of contamination.	TOX, lead	Start at 10', sample at 10' intervals thereafter
36RW-7*	15' West of 36RW-3	To determine lateral extent of contamination.	TOX, lead	Start at 10', sample at 10' intervals thereafter

O/G=Oil and Grease/BTEX=Benzene, Toluene, Ethyl Benzene, Xylenes/TPH=Total Petroleum Hydrocarbons/TOX=Total Organic Halogens.

\* = Optional Stepout Borehole

NOTE: Additional step outs may be necessary pending field evidence of contamination

\*\* = 15'; initial sample depth based on estimated tank base of 10' for 2000 and 6000 gal. tanks: previous samples were taken 2' and 6' below base

Appendix I

## INTRODUCTION

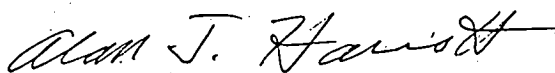
The purpose of this manual is to define EPA quality control guidelines for those professionals currently employed by Midway Laboratory. The subject matter is concerned primarily with quality control for the assessment of liquid, semi-solids, and solid waste with emphasis placed on early recognition, prevention, and correction of all problems.

Sections are included on quality control and preventive maintenance as well as the proper protocol for analysis and assessment of results of all routine and non-routine samples.

Personnel assigned to analytical methodology related to this and other in-house quality assurance programs will adhere to the following protocol as described in this manual.

It is our goal to produce viable, accurate data according to EPA methodology and quality assurance guidelines and serve the community that we live in.

Alan J. Harris,



Laboratory Director



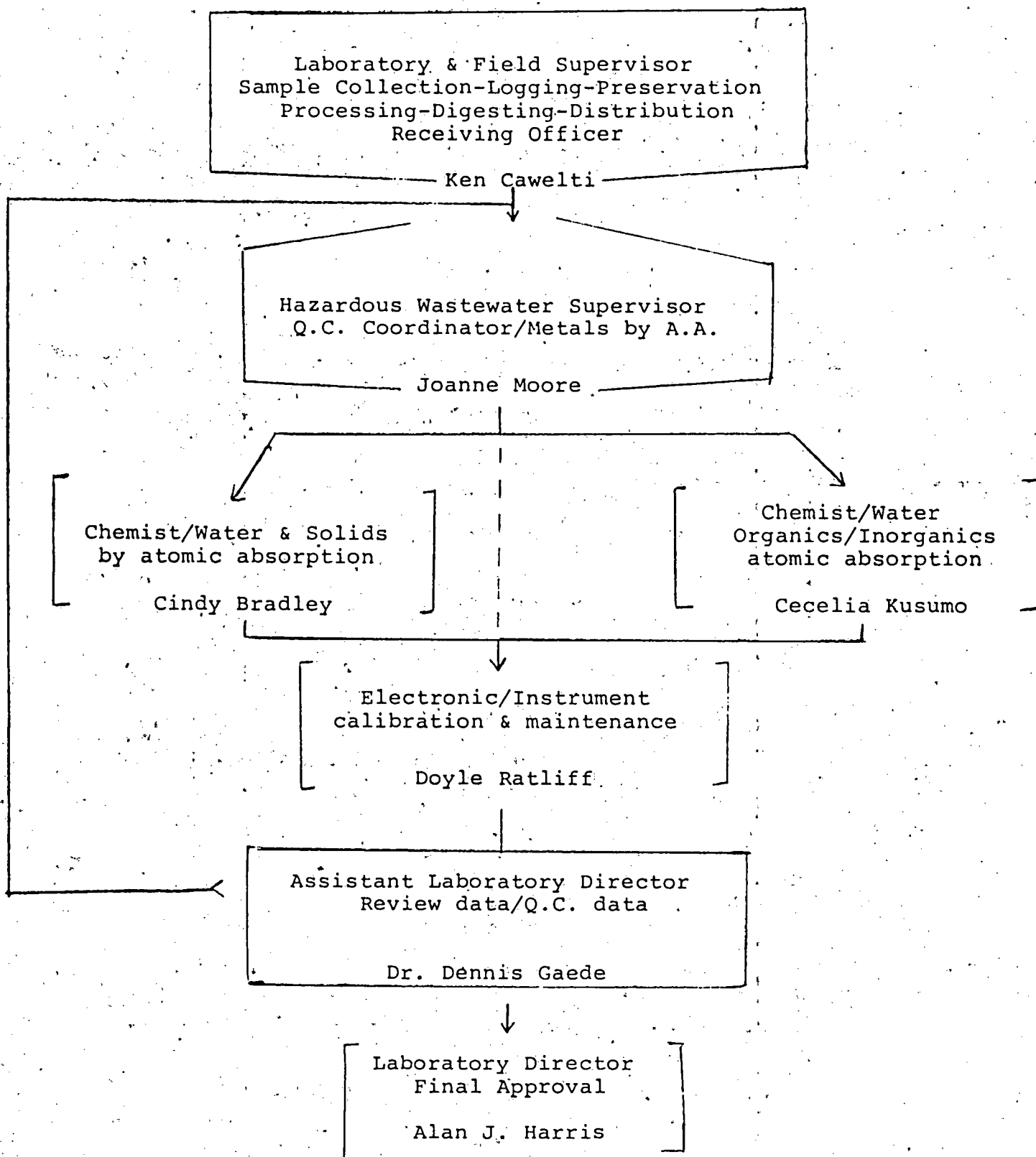
MIDWAY LABORATORY STAFF

Alan J. Harris	B.S. Biochemistry	Laboratory Director/Owner
Lori L. Harris	Secretarial/Clerical	Vice President/Owner
Dr. Dennis Gaede	Ph.D. Analytical Chem.	Ass't Laboratory Director
Cindy Bradley	B.S. Biology/Geology	Chemist/Water
Joanne Moore	B.S. Medical Technology	Chemist/Water
Doyle Ratliff	B.S. Electronics	Petro/Water/Instrumentation
Cecilia Kusumo	B.S. Chemistry	Chemist/Water & Petroleum
Ken Cawelti	Lab/Field Supervisor	
Jay Anderson	B.S. Soil Science	Agriculture
Rick Ricards	A.A. /Calif. Community College Teaching Cred.	Technician
Nancy Woods	B.S. Business Admin./ Marketing	Secretarial/Marketing and Education





ORGANIZATIONAL CHART



PETROLEUM — INDUSTRIAL — AGRICULTURE  
P.O. Box 1151 — Taft, CA 93268

## QUALITY ASSURANCE

### I. SAMPLES

#### A.) Collection of Samples

Those samples known to be from an area that has been classified as hazardous are collected by a California Certified Geologist and/or California Certified Civil Engineer.

Most samples are obtained by outside companies and brought to us with appropriate identification (see Exhibit I).

#### B.) Preservation & Storage of Samples

Those samples either collected by Midway Laboratory personnel or submitted to our facility are collected, preserved, and stored as listed in Table I.

This table is posted at the Log-In Department and in designated areas where sample preparation or analysis is performed.

#### C.) Chain of Custody of Samples/Receipt & Logging of Samples

- 1.) The laboratory sample custodian inspects all incoming samples for any leakage and sample integrity. Leaky containers containing multiphase materials are not accepted.

The sample custodian also checks that proper containers have been used (Table I, EPA "Methods for Chemical Analysis of Water and Wastes," and proper preservation is achieved.)

- 2.) A log number is assigned upon receipt which is included in the chain of custody form (see Exhibit II), along with the name of the collector, name of the sample custodian, date

and time of collection, temperature of sample when collected, place of collection, and preservatives, if necessary.

- 3.) A time clock (Simplex #HA2G) is used for date and time validation.
- 4.) All samples with atypical preservation, or samples that are perishable, are tended to immediately, and the attending supervisor is notified. These include, but are not limited to:
  - a.) Settleable matter assays for oilfield brine wastewater effluents are to be done within two hours of collection. All others are done within 48 hours.
  - b.) pH is taken upon immediate receipt of samples.
  - c.) Chromium +6 is analyzed within 24 hours of collection.
  - d.) Dissolved and total metals are processed in field or in laboratory as described in Table I.
- 5.) Samples are stored in a secured area according to the needs of each sample (ie; refrigeration, etc.; Table I).
- 6.) The technician assigned to each sample verifies that the preservation was properly administered. It is the responsibility of the supervisor and/or technician to ensure appropriate care of each sample.

## II. REAGENT & QUALITY CONTROL SAMPLE SOURCES

### A.) Source of Standard Reagents:

Certified standard reagents for atomic absorption are purchased from Sigma Chemical Company, P.O. Box 14508, St. Louis, MO. 63178-9974, or Solutions Plus, Inc., 23 Cassens St., Fenton, MO 63026.

### B.) Source of Quality Control Samples:

Quality control samples are distributed to Midway Laboratory from the U.S. Environmental Protection Agency and are analyzed on a quarterly basis.

Synthetic control concentrates are prepared biannually by Midway Laboratory and analyzed routinely during every analytical run to ensure experimental integrity.

### III. PROTOCOL FOR ANALYSIS OF ROUTINE AND NON-ROUTINE SAMPLES

#### A.) Sample preparation:

EPA Method 3005 - acid digestion of waters for total recoverable and/or dissolved metals for analysis by flame atomic absorption spectroscopy.

EPA Method 3040 - dissolution procedure for greases, oils, and/or waxes.

EPA Method 3050 - acid digestion of sediments, sludges, and soils.

#### B.) Sample procedure:

Analytical methods for each specific test are obtained from "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," SW-846, 2nd Edition, U.S. EPA, revised April 1985 and 3rd Edition, September 1986 and "Methods for Chemical Analysis of Water and Wastes," EPA 600/4-79-020, revised March 1983 and EPA 4-84-017, March 1984.

Method numbers for inorganic chemical testing are as follows:

Antimony, Sb	7040
Arsenic, As	7061
Barium, Ba	7080
Beryllium, Be	7090
Cadmium, Cd	7130
Chromium, Cr	7190
Chromium VI,	7196
Cobalt, Co	7200
Copper, Cu	7210
Lead, Pb	7420
Mercury, Hg	7470, 7471
Molybdenum, Mo	7480
Nickel, Ni	7520
Selenium, Se	7741
Silver, Ag	7760
Thallium, Tl	7840
Vanadium, V	7910
Zinc, Zn	7950
Cyanide, CN	9010
Fluoride, Fl	340.1
Sulfide, S	9030

#### 1.) Procedures include the following criteria:

- a.) Analysis of method blanks for interferences, background correction, etc. Blanks are analyzed at least once after every 10 samples or per analytical run, and more frequently if interferences are present.

- b.) Analysis of duplicate samples (at least once after every 10 samples or per analytical run, whichever is more frequent).
- c.) Analysis of atypical samples are performed in triplicate. A single value is then achieved by applying the Q-test and reporting the mean of all values within the accepted range.
- d.) Spiked samples are analyzed a minimum of once for every batch of samples or each type of matrix or 20 samples, whichever is more frequent. Spiked samples are also analyzed whenever a new reagent is prepared or when analyzing non-routine samples.
- e.) Analysis of a synthetic control reference sample of the specific ions of interest is evaluated per analytical run. (see Reagent and Quality Control).
- f.) Periodic analysis of external reference samples (U.S. EPA check samples) for verification of methods.
- g.) Reagent preparation outline.
- h.) All samples are evaluated by standard addition methodology in order to correct for discernable sample matrices.

C.) Record any modification made on a procedure, and verify with attending supervisor.

D.) Clearly outline calculations of results and include proper units and limits of detection.

E.) Final reports are organized with sample method, date of initiation, completion, and analyst signature.

F.) All analytical and quality control results and corrective action procedures are received for final approval, and signed by Mr. Alan Harris, Laboratory Director and/or Dr. Dennis J. Gaede, Assistant Director.

#### IV. QUALITY CONTROL CRITERIA

##### A.) Establishment of Acceptance Limits:

1.) Statistical calculations are derived from regression equations generated by data compiled from Midway Laboratory Q.C. in-house reference sample analyses. The following list defines statistical terms used to calculate and establish practical quantitation limits:

Accuracy - The difference between an average value and the true value when the latter is known or assumed.

Arithmetic mean - The arithmetic mean (or average) of a set of  $n$  values is the sum of the values divided by  $n$  :

$$\bar{X} = \frac{\sum_{i=1}^n X_i}{n}$$

Confidence limit, 95 percent - The limits of the range of analytical values within which a single analysis will be included 95% of the time,

$$95 \text{ percent CL} = \bar{X} \pm 1.96S$$

where CL is the confidence level and S is the estimate of standard deviation.

Median - Middle value of all data ranked in ascending order. If there are two middle values, the median is the mean of these values.

$n$  - The number of values  $X$  reported for a sample.

N - The total number of values  $X_i$  of the entire population or universal set of data.

Percent Recovery (%R) - The true percent recovery of spiked sample in a given material:

$$\text{for standards: } \%R = 100 \frac{\text{observed}}{\text{known}}$$

$$\text{for recovery of spikes: } \%R = 100 \frac{\text{observed-background}}{\text{spike}}$$

Population: The total set of units, items, or measurements under consideration.

Precision - Relative to the data from a single test procedure, the degree of mutual agreement among individual measurements made under prescribed conditions.

Precision data - Factors that relate to the variations among the test results themselves; ie, the scatter or dispersion of a series of test results, without assumption of any prior information.

Q-Test - Determines whether a questionable result should be accepted or rejected.

$$Q = \frac{X_2 - X_1}{X_n - X_1}$$

Range - The difference between the highest and lowest values reported for a sample.



Relative deviation (coefficient of variation) - The ratio of the standard deviation S of a set of numbers to their mean  $\bar{X}$  expressed as percent. It relates standard deviation (or precision) of a set of data to the size of the numbers.

$$CV = RD \text{ (percent)} = 100 \frac{S}{\bar{X}}$$

Standard deviation - The square root of the variance of the universe.

$$\sigma = \sqrt{\sum \left( \frac{X - \bar{X}}{n-1} \right)^2}$$

Standard deviation estimate - The most widely used measure to describe the dispersion of a set of data. Normally  $\bar{X} \pm S$  will include 68 percent, and  $\bar{X} \pm 2S$  will include about 95 percent of the data from a study.

$$S = \sqrt{\frac{\sum_{i=1}^n X_i^2 - \left( \sum_{i=1}^n X_i \right)^2 / n}{n-1}}$$

2.) Analyses (criteria for determining precision and accuracy)

- a.) Control samples should fall within  $\pm 2$  S.D. of the mean 95% of the time.
- b.) Values should have uniform distribution on either side of the mean line. Five or more consecutive measurements on the same side of the mean should be regarded with suspicion.
- c.) There should not be a gradual increase or decrease in control values for more than five consecutive analyses.
- d.) Values falling outside  $\pm 2$  S.D. are unacceptable.

### 3.) Results from Q.C. samples

Results from quality control samples (duplicates, spikes, in-house and external reference samples) are plotted on a quality control chart upon completion of analyses and prior to releasing any results. (see Exhibit 3) Q.C. charts are displayed in all appropriate working areas.

### B.) QUALITY CONTROL CORRECTIVE ACTION:

1.) When data derived from analytical methodology is "red tagged" or when unacceptable results are obtained for precision and accuracy, corrective action is as follows:

- a.) Data is submitted to the attending supervisor for review.
- b.) Procedural operations are evaluated.
- c.) Instrument function and calibration is checked.
- d.) Samples are reanalyzed.
- e.) If value is the same, use new control samples and repeat.
- f.) Determine the integrity of all reagents and standards used in method (ie; stability, expiration dates, etc.)
- g.) Change reagents and prepare new standards.
- h.) The problem and its solution is recorded and all analyses since the last in-control point must be repeated or discarded.
- i.) All data including spikes and duplicates on the confirmational analysis are submitted to the supervisor for approval.
- j.) Laboratory results are reported only when the problem has been resolved.

### V. INSTRUMENTS:

A.) Personnel are properly trained in the operation and limited maintenance of instruments. Extensive maintenance is performed by trained laboratory personnel specific to said instrument or referred to manufacturer. (see instrument manual).

B.) Operational procedures are outlined. A periodic electronic instrument calibration is performed in accordance to manufacturers recommendations. A manufacturers manual is accessible.

C.) Records of periodic inspection, calibration, and service of equipment is maintained. Midway Laboratory retains personnel with formal electronics experience (B.S. electronics). It is their primary responsibility for service/repair and periodic preventive maintenance of equipment and instrumentation.

#### VI. GLASSWARE:

A clean room is provided for the exclusive use of maintaining scrupulously clean glassware, sample containers, and laboratory apparatus.

No reagents, samples, or other "contaminants" are allowed in this room. Guidelines as to the cleaning of said materials are followed by the recommendations set forth by APHA-AWWA-WPCF, "Standard Methods for the Evaluation of Water and Wastewater," 15th Edition, copyright 1980.

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#### REFERENCES:

- 1.) Dharan, Murali, "Total Quality Control in the Clinical Laboratory," COPYRIGHT 1977 C.V. Mosby Co., St. Louis, MO.
- 2.) "Handbook for Analytical Quality Control in Water and Wastewater Laboratories," copyright March 1979 Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency Office of Research and Development, Cincinnati, OH 45268.
- 3.) "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846 2nd Edition, U.S. EPA Revised April 1985 & 3rd Edition, Sept. 1986, and 3rd Edition Nov. 1986.
- 4.) "Methods for Chemical Analysis of Water and Wastes," EPA 600/4-79-020 Revised March 1983, EPA 4-84-017 March 1984.
- 5.) Fritz, S.J., Schenk, H.G., "Quantitative Analytical Chemistry," 3rd Edition, copyright 1974 Allyn & Bacon Publishers.
- 6.) APHA-AWWA-WPCF, "Standard Methods for the Evaluation of Water and Wastewater," 15th Edition, copyright 1980.

REFERENCES continued

- 7.) ASTM, "Water," copyright 1983 American Society for Testing and Materials.
- 8.) Title 22, "California Administrative Code," Division 4 Environmental Health

**MIDWAY LABORATORY**

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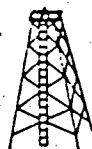
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ATTENTION: \_\_\_\_\_

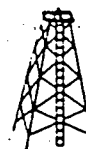
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DATE SAMPLED: \_\_\_\_\_ TIME SAMPLED: \_\_\_\_\_

FIELD INFORMATION: \_\_\_\_\_  
\_\_\_\_\_  
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MIDWAY LABORATORY  
315 MAIN ST.  
TAFT, CA. 93268  
(805)765-2364



DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

COMPANY: \_\_\_\_\_ CONTACT: \_\_\_\_\_

PHONE: \_\_\_\_\_

ANALYSES: \_\_\_\_\_  
\_\_\_\_\_  
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EXHIBIT #1

**Taft, CA 93268**

### CHAIN OF CUSTODY RECORD

[illegible]

# Q.C. CHART ... 95% CONFIDENCE INTERVAL

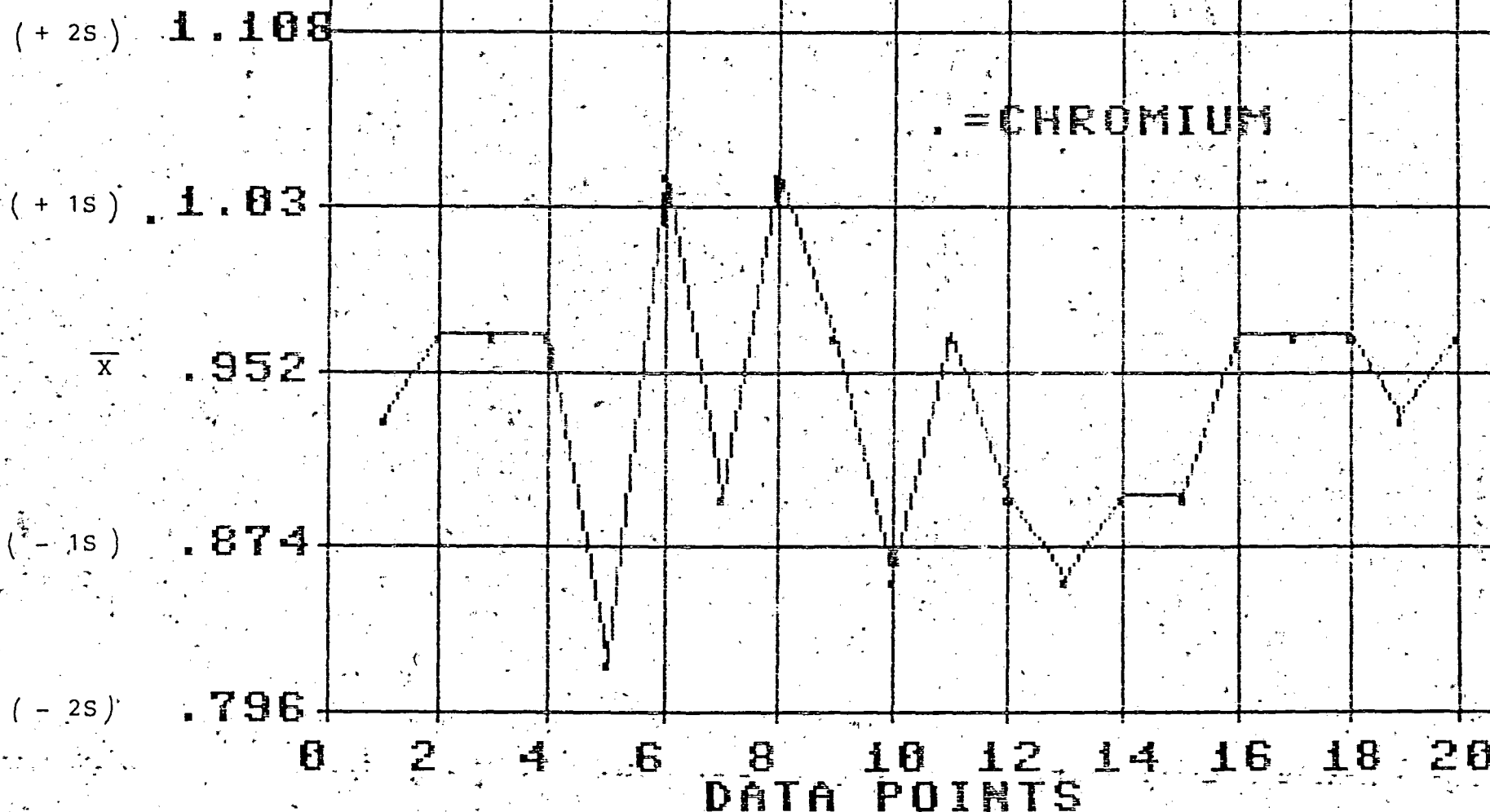




Table 1 RECOMMENDED COLLECTION VOLUMES FOR METAL DETERMINATIONS

Measurement	Digestion Vol. Req. <sup>a</sup> (mL)	Collection Volume (mL) <sup>b</sup>	Preservative	Holding Time
<u>Metals</u> (except hexavalent chromium and mercury):				
Total recoverable	100	600	HNO <sub>3</sub> to pH <2	6 mo
Dissolved	100	600	Filter on site; HNO <sub>3</sub> to pH <2	6 mo
Suspended	100	600	Filter on site	6 mo
Total	100	600	HNO <sub>3</sub> to pH <2	6 mo
<u>Chromium VI:</u>	100	400	Cool, 4°C	24 hr
<u>Mercury:</u>				
Total	100	400	HNO <sub>3</sub> to pH <2	28 days
Dissolved	100	400	Filter; HNO <sub>3</sub> to pH <2	28 days

<sup>a</sup>Solid samples must be at least 200 g and usually require no preservation other than storing at 4°C until analyzed.

<sup>b</sup>Either plastic or glass containers may be used.

In the determination of trace metals, containers can introduce either positive or negative errors in the measurement of trace metals by (a) contributing contaminants through leaching or surface desorption, and (b) depleting concentrations through adsorption. Thus the collection and treatment of the sample prior to analysis require particular attention. The following cleaning treatment sequence has been determined to be adequate to minimize contamination in the sample bottle, whether borosilicate glass, linear polyethylene, polypropylene, or Teflon: detergent, tap water, 1:1 nitric acid, tap water, 1:1 hydrochloric acid, tap water, and Type II water.

NOTE: Chromic acid should not be used to clean glassware, especially if chromium is to be included in the analytical scheme. Commercial, non-chromate products (e.g., Nochromix) may be used in place of chromic acid if adequate cleaning is documented by an analytical quality control program. (Chromic acid should also not be used with plastic bottles.)



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# CHARACTERIZATION REPORT AND MITIGATION OUTLINE OF POTENTIAL CERCLA SITES

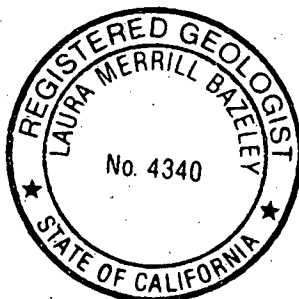
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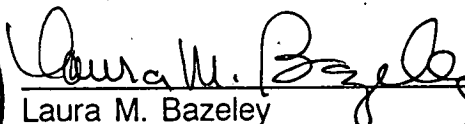
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1

KERN COUNTY, CALIFORNIA

Subcontract No.

S-89-00088



  
Laura M. Bazeley  
Registered Geologist  
State of California No. 4340  
Expiration Date: 6/30/90



## INTRODUCTION

WZI Inc. has completed a characterization of potential CERCLA Sites at the Naval Petroleum Reserve at Elk Hills, California in response to subcontract No. S-89-00088 with Bechtel Petroleum Operations, Inc. (BPOI), operator of the Petroleum Reserve. The site characterization entailed investigation of underground gasoline and waste oil tank locations at three separate sites on the Petroleum Reserve (Exhibit 1). The tanks have been removed and initial soil analyses indicated contamination was present at all three of the sites. The 36S (Sec.36 T30S/R24E) sites had substantially more contamination than the 36R (Sec.36 T30S/R23E) site. The tank removal and preliminary site assessment was conducted by Golden State Environmental Services.

The Naval Petroleum Reserve is a major oil field located on the west side of the southern San Joaquin Valley. Bechtel Petroleum Operations, Inc. (BPOI) operates the field under contract to the U.S. Department of Energy. In the course of normal maintenance and regulatory compliance, Bechtel terminated the use of ten underground storage tanks which ranged in size from one thousand to six thousand gallons capacity. Four of the tanks contained gasoline and six contained waste oil. In accordance with Kern County Health Department underground tank closure guidelines, soil samples were collected from beneath the tank sites, after the tanks were removed. Analyses of these samples indicated that additional work would be required to define the lateral and vertical extent of contamination beneath the tanks.

WZI Inc. prepared a site characterization work plan which was submitted through BPOI to the Kern County Health Department (KCHD) and approved by Mr. Joe Canas of the KCHD, prior to starting the field work.

The purpose of the Site Characterization was to determine the lateral and vertical extent



of subsurface contamination on the tank sites and to assess the impact of this contamination (if any) on the on-site health, safety and groundwater quality. After collection of all pertinent data from borehole sampling, the size, shape, lateral extent, vertical extent, and concentration of the soil contamination plume(s) were determined. This information has enabled WZI Inc. to propose a Site Mitigation and Remedial Action Plan in accordance with the Kern County Health Department Requirements for Permanent Closure of Underground Hazardous Substance Storage Tanks.

## PROJECT LOCATION

The tank sites are located in Section 36, T.30S., R.24E., and Section 36, T.30S., R. 23E., MDB&M, Kern County, California (Exhibit 1).

The three sites which were characterized are as follows:

<u>Site No.</u>	<u>Site Features</u>	<u>Suspected Contamination</u>
Site I	Garage	Waste oil
Site II	Warehouse	Gasoline and waste oil
Site III	Warehouse on Skyline Road	Waste oil

## SUMMARY AND CONCLUSIONS

### SITE I: 36S GARAGE

Based on laboratory analysis of samples from the two boreholes, and confirmed by odor and Organic Vapor Analyzer (OVA) response, soil contamination exists in borehole 36SG-1 (Exhibit 2). The contaminated zone is approximately 10.5 feet thick, from a depth of 8 feet to 18.5 feet, and approximately 11 feet wide, centered under the former tank location. The contamination is composed of oil and grease and has a maximum concentration of 59,534 ppm. No organic lead was detected in any of the samples. Borehole 36SG-2 showed no significant contamination.

## SITE II: 36S WAREHOUSE

Based on laboratory analysis of samples from the five boreholes, as well as odor and Organic Vapor Analyzer (OVA) response, soil contamination exists in boreholes 36SW-1, 36SW-1S and 36SW-3 (Exhibit 3). Boreholes 36SW-2 and 36SW-2S encountered no significant contamination. The contamination is composed of benzene, toluene, ethyl benzene, xylene and other petroleum hydrocarbons. The maximum contamination concentration of 36,000 ppm total petroleum hydrocarbons was observed at this site. It is interpreted that there are three separate contamination plumes that resulted from gasoline leakage from the underground storage tanks.

## SITE III: 36R WAREHOUSE

Laboratory analysis, odor and Organic Vapor Analyzer (OVA) response, indicate that no contamination exists beneath this site. Boreholes 36RW-1, 36RW-2 and 36RW-3 (Exhibit 4) encountered no contamination and therefore remedial action is not necessary.

## GEOLOGIC SETTING

### Structure

The Elk Hills oil field extends over part of a large anticlinal trend which results in a surface expression as a line of hills (Maher et.al.,1975) located on the west side of the southern San Joaquin Valley. This structure is located in a transitional area between the Bakersfield Arch and the regional uplift which forms the Temblor Range. The surface expression of the structure is approximately 15 miles long and 5 miles wide. Fracturing and minor faulting are associated with the anticlinal folding.

The Tulare Formation, which is at the surface at Elk Hills (Geologic Map, Exhibit 5), has





been folded into a large anticlinal structure consisting of two en echelon anticlines with broad tops and steep flanks. The westernmost anticline trends southeastward and connects across a flat saddle to the less prominent eastern anticline offset en echelon to the northeast. The subsurface structure reflects the surface features, but the folds become sharper and more distinctly separable with depth (Maher et.al., 1975).

### Stratigraphy

The geologic units of interest for this study are the Pliocene to Pleistocene Tulare Formation (QT) and Recent Alluvium (Q<sub>a</sub>). Exhibit 6 is a type log for this area. These non-marine sediments consist of unconsolidated to poorly consolidated gravel, sand, silt and clay deposited around and in the ancient lake which occupied the southern San Joaquin Valley during Late Tertiary and Holocene time. The Tulare Formation is underlain by the Pliocene San Joaquin and Etchegoin Formations. Underlying the Etchegoin Formation is the Miocene Reef Ridge and Temblor Formations.

The Tulare Formation may be divided into two informal members. The Upper Tulare consists primarily of sandy alluvial fan deposits. The Lower Tulare member consists of interbedded fine grained sand, silt and clay layers, interpreted to be of fluvial and lacustrine origin. The basal portion of the Lower Tulare is silt and clay-rich facies that is interpreted to have been deposited via deltas entering the near shore lake environment and by suspension sedimentation in the distal lake environment. The total thickness of the Tulare Formation varies at Elk Hills but is estimated to be approximately 1500 feet at both the 36S sites and the 36R site (WZI Inc., 1988).

Borings of up to 70 feet deep which were drilled for this site assessment encountered unconsolidated to poorly consolidated sand, silt and clay of the Tulare Formation (Test Boring Logs, Appendix I). These sediments are interlayered in beds of 10 to 15 feet thick.

## Groundwater

The groundwater beneath the sites is interpreted to be within the Lower member of the Tulare Formation. The principal groundwater aquifer in the southern San Joaquin is the Alluvium (WZI, 1988). Therefore it is not appropriate to use the Kern County Water Agency (KCWA) Depth to Groundwater and Groundwater Elevation maps which record data from the Alluvium. Although there is virtually no water well data in the vicinity, many oil wells in close proximity to the sites have wireline logs. Depth to groundwater can sometimes be determined by examining the log character.

Salinity from sample analysis is not available for the groundwater under any of these three sites. However, regional geologic and hydrogeologic studies (WZI, 1988; Rector, 1983; KCWA, 1989) indicate the groundwater in this region is saline. Since the groundwater in this area is saline, well logs are able to be used to define the water table. Well logs were obtained from wells near the subject sites and analyzed to establish the elevation of the water table beneath the site. The groundwater is between 700 and 800 feet below the surface on site 36R and is approximately 250 feet below the surface of both 36S sites.

The log analysis methodology used to establish water elevation is summarized in Exhibit 6. The spontaneous potential (SP), resistivity, density (gamma-gamma) and neutron well logs are very sensitive to the type of material that is filling the pore space (fresh water, salt water, gas or oil). Fresh water, air, and liquid hydrocarbons (oil or tar) are highly resistive. Moreover, there is little resistivity contrast between a fresh water filled sand and an air filled sand. Therefore, it is normally difficult to define the water table with just an SP and resistivity log. Saline water has low resistivity. Since a saline water filled sand has a low resistivity and an air filled sand has a high resistivity, the water table can be defined when the groundwater is saline. As the water becomes more



saline, the resistivity contrast at the water table becomes more apparent. The density and neutron logs can be used to verify the results of the SP and resistivity logs. When sands are fluid filled, the apparent density and neutron porosities are similar. When air (gas) is in the pore space the apparent neutron porosity is much lower than the apparent density porosity, resulting in a "cross-over" of the two porosity log responses, which is called the "gas effect".

## ON-SITE METHODOLOGY

### Drilling and Sampling Program

The drilling program consisted of a total of ten auger boreholes; two on Site I, five on the Site II, and three on Site III.

Drilling was accomplished with an eight inch continuous flight hollow stem auger drilling rig. The rig utilized had the capability to drill to a maximum depth of one hundred and fifty feet below the surface, in unconsolidated sediments.

### Organic Vapor Analyzer

The OVA instrument measures total organic vapor concentration in parts per million of organic hydrocarbons converted to methane equivalent. Therefore, the OVA is responsive to the presence of hydrogen containing volatile organics from any source including the components of gasoline, other fuels and petroleum by-products.

### Borehole Completion

Uncontaminated boreholes (as determined by OVA field tests) were backfilled to the

surface with the uncontaminated cuttings. Contaminated boreholes were plugged with a bentonite pellet column three to five feet thick and backfilled with cement to the surface. Contaminated cuttings were placed in 55 gallon barrels with lids and disposed of by BPOI.

#### Auger Decontamination

Auger flights were steam cleaned after drilling all boreholes. This assured that contamination was not transferred to other boreholes.

#### General Sampling Plan

Soil samples were collected by the use of a split spoon sampler fitted with three brass or stainless steel sample tubes, 2-3/8 inch in diameter and 6 inches long. The sampler was driven into the undisturbed soil beneath the auger borehole, resulting in an 18 inch soil core which reflected the composition and condition of the formation being sampled.

When the sample core was retrieved from the borehole, each individual sample tube was immediately tested with the OVA to determine the presence of organic vapors (i.e., contamination). Two tubes per sample were sealed and retained for delivery to the laboratory. The contents of the third tube was described and then discarded. This description served as a log of subsurface lithology, contaminants and other characteristics. These logs are essential to a complete understanding of the subsurface conditions and delineation of the contamination plume.



Sample tubes were handled as follows:

1. Tested with the OVA for organic vapors.
2. The ends covered with aluminum foil and covered with plastic caps.
3. The caps sealed onto the tube with plastic tape.
4. The tubes labeled with waterproof ink and the labels covered with clear plastic tape.
5. The tubes stored in an ice chest with dry ice until delivery to the laboratory.
6. A complete sample inventory was recorded and Chain of Custody Documents prepared for the samples.
7. The samples were delivered to the laboratory with Chain of Custody Documents and analyzed usually within 48 hours, but always in less than 14 days.

Samples were collected at 10 foot intervals starting at 10 or 15 feet below the surface, depending on site conditions.

Both the drilling and sampling field work was supervised by an on-site California Registered Geologist with experience in site characterizations.

#### Sample Analysis

The following analyses were performed per KCHD guidelines (consistent with gasoline and waste oil storage on the subject sites).





Gasoline Storage Site:

Benzene (EPA 8020)

Toluene (EPA 8020)

Xylene (EPA 8020)

Total Volatile Organics (EPA 8010 on selected samples)

TPH gasoline (DHS LUFT Manual)

Waste Oil Storage Site:

Oil and Grease (EPA 413.1 as required by KCHD)

Total Organic Halides (TOX)(EPA 9020)

Organic Lead (State-Draft)

Halogenated Volatile Organics (EPA 8010 of a single waste oil site sample, as requested by the KCHD)

Both sets of analyses were performed on samples which were collected from beneath gasoline and waste oil sites which were in very close proximity.

Analyses were performed by BC Laboratories, a laboratory certified by the State of California for the analysis of hazardous waste.

On-Site Health and Safety

WZI Inc. personnel and all on-site contractors complied with all of WZI's health and safety procedures. Based on the data provided by BPOI, the WZI Safety Manager and Project Geologist designated the site as requiring Level D personal protective equipment and clothing. Hard hats and chemically resistant steel-toed boots were worn at all times on the site, and half-mask respirators fitted with organic vapor cartridges were available on site for each individual. A Site Safety Plan for field investigations which



contained the names and telephone numbers of emergency response personnel, locations of nearby hospitals and fire stations and a discussion of chemical hazards was also available on site. WZI personnel on the site had previously been trained in basic first aid and a first aid kit was available on site in case of an emergency. Before beginning work each morning, a Safety Meeting was held with drilling contractors to explain on-site safety precautions and emergency response. A written record of each meeting signed by those attending is presented in Appendix III.

Air quality around the drilling rig was monitored continually with an Organic Vapor Analyzer (OVA). During drilling of each borehole, the air quality was checked both at the borehole/ground surface interface and at the drillers chest level and found to be within safety limits. A strong breeze (estimated at 10 - 15 mph) during much of the drilling program prevented organic vapors from concentrating near the drilling rig.

## FIELD RESULTS AND INTERPRETATIONS

Samples from each boring were analyzed in the field by an OVA. The presence or absence of a petroleum odor was also recorded. A summary of odor and OVA data were tabulated for each site (Tables 1-3). The laboratory analytical results were also tabulated for each site (Tables 4-6).

### SITE I: 36S GARAGE

Based on laboratory analysis from soil samples and confirmed by odor and OVA response, borehole 36SG-1 encountered contamination (Tables 1 and 4). Oil and grease at a concentration of 59,534 ppm occurs at a depth of 8.5 feet, decreasing to below detection threshold (BDT) at a depth of 18.5 feet (Test Boring Log in Appendix I and Table 4).

Borehole 36SG-2 contained 3 samples (3A, 4A and 5A) which had oil and grease concentrations that were less than 100 ppm. Oil and grease concentrations less than 100 ppm are not considered to be a health hazard. It is possible that these low levels of contamination are actually due to residual petroleum that has migrated through these sediments and is being produced commercially in adjacent areas. Sample 5A contained 1.7 ppm of organic lead which is well below the Total Threshold Limit Concentration (TTLC) of 13 ppm.

Cross section A-A' (Exhibit 7) displays the vertical, and lateral extent of the contamination plume. Exhibit 10 is a soil contamination map displaying the areal extent of the plume at a depth of ten feet. Based on these exhibits, the zone of contamination is approximately 10.5 feet thick, from 8 feet to 18.5 feet, and approximately 11 feet wide. This is approximately 39 cubic yards of waste oil contaminated soil.

There are numerous site characteristics that must be considered to determine the degree to which this plume may threaten groundwater. There are two factors that lower the potential of groundwater contamination. First, approximately 250 feet of unsaturated (vadose) Tulare separate this contamination from existing groundwater. Secondly, the average annual precipitation is low. Although there are several clay layers in the Tulare, they may not be able to effectively retard the movement of hydrocarbons and other organic chemicals. Some of the clay samples also exhibited some indications of fractures (Boring Logs-Appendix I), adding to the possibility of downward migration. There is also the potential of old petroleum wellbores providing conduits for vertical migration.



## SITE II: 36S WAREHOUSE

Based on laboratory analyses, boreholes 36SW-1, 36SW-1S, and 36SW-3 encountered contamination (see Test Boring Logs in Appendix I and Table 5). A concentration of 16 ppm Total Petroleum Hydrocarbons (TPH) occurs at a depth of 13.5 feet in borehole 36SW-1, increasing to a maximum concentration of 69 ppm at 23.5 feet and decreasing to below detection threshold (BDT) at a depth of 33.5 feet. Borehole 36SW-1S contained a contaminated sample at 13.5 feet, with a concentration of 20 ppm TPH decreasing to below detection threshold limit at 33.5 feet.

Samples from borehole 36SW-2 were analyzed for gasoline and waste oil contamination due to the close proximity of gasoline and waste oil sites. They were analyzed for Oil and Grease, Total Organic Halides (TOX), Organic Lead, and Halogenated Volatile Organics (EPA Method 8010), BTEX and TPH gasoline. All samples were below detection threshold limits except for minor oil and grease contamination (below 72 ppm). Borehole 36SW-3 encountered contaminated soil at a depth of 13.5 feet. The concentration of TPH increases from 36 ppm at 13.5 feet to 36,000 ppm at 23.5 feet, decreasing to below detection threshold at a depth of 33.5.

Cross section B-B' (Exhibit 8) displays the vertical and lateral extent of the contamination plumes. Exhibit 11 is a soil contamination map which displays the areal extent of the plumes. The potential for vertical contaminant migration at this site is nearly identical to Site I. The depth to groundwater is approximately 250 feet and the clays have signs of fractures (Boring Logs-Appendix I). Utilizing the "Leaching Potential Analysis for Gasoline" (Table 2-1, Luft Manual) Based on table 2-1 of the LUFT manual (leaching potential analysis for gasoline, this site has a score of 43 points. This score results in maximum allowable B/T/X/E and TPH levels are 0.3/0.3/1/1 and 100 respectively. The concentrations observed in borehole 36SW-1 exceed the B/T/X/E levels and those observed in borehole 36SW-3 greatly exceed these maximum allowable





levels. Even if this site had a perfect score on the LUFT leaching potential table, the concentration of Benzene in 36SW-3 is 1200 times the maximum allowable level.

### SITE III: 36R WAREHOUSE

Soil samples from boreholes 36RW-1, 36RW-2 and 36RW-3 were analyzed for Organic Lead and Total Organic Halide (TOX) (EPA 9020). All laboratory results were below Detection Threshold Concentrations. Field observations are shown on Table 3, analytical results are shown on Table 6, and cross section C-C' (Exhibit 9) displays the lithological analytical results.

### MITIGATION OUTLINE

#### SITE I: 36S Garage

##### Previous Work

A prior site investigation during the removal of a 1,000 gallon waste oil tank revealed the presence of oil and grease contaminated soil beneath the former tank site.

##### Findings

Results from this site assessment have identified the presence of a plume of oil and grease contamination beneath the former tank site. The plume extends from a depth of 8 feet to approximately 18.5 feet as shown on Exhibit No. 7. The lateral extent of contamination is estimated to be 11 feet as defined by the boreholes. Based on this data the volume of contaminated soil is estimated to be 39 cubic yards in place.

Soil samples were analyzed for oil and grease (EPA 413.1), Total Organic Halides (TOX)



(EPA 9020), and organic lead. The maximum concentration of oil and grease is 59,534 ppm at a depth of 8 feet. One sample contained 1.7 ppm of organic lead which is well below the Total Threshold Limit Concentration (TTL) of 13 ppm. TOX was not detected in any of the samples.

The site is underlain by the Tulare Formation which consists of gravel, sand, silt, and clay. The plume is located in a silty sand to the base of contamination as shown on cross section A-A' (Exhibit 7). The depth to groundwater is estimated to be 250 feet below the surface based on electric log interpretation. There are no groundwater wells or surface water on or near the site.

#### Remedial Action Alternatives

The remedial action alternatives considered for this site are excavation and disposal, excavation and incineration, excavation and on-site bioremediation, and "no action". Excavation of the contaminated soil has been considered due to the relatively shallow depth and the limited aerial extent. It is estimated that the volume of excavated soil will be 30% greater than the in-place volume or approximately 51 cubic yards. Excavation is estimated to cost \$10 per cubic yard or \$510. This does not include the cost of backfilling with clean soil. The short term effects of excavation can result in the potential release of contaminated soil particles to the atmosphere. This can be mitigated by implementing dust control measures and utilizing half mask respirators with organic vapor and particulate filters for all on-site personnel during excavation operations. Excavation eliminates any long term effects because the source of contamination has been removed.

Disposal of the contaminated soil in a licensed landfill is the quickest and most expensive remedial alternative. The disadvantage is that the generator is exposed to



"Cradle To Grave" liability for not only his waste, but for the combined wastes of others that are commingled at the disposal site. The short and long term threat and effect to air, soil, surface, and groundwater, and biological receptors are dependent upon the particular disposal site. Costs for disposal are approximately \$300 per cubic yard. The total cost for off-site disposal including excavation is estimated to be \$15,800.

Incineration involves hauling the soil to off-site incinerators. The closest facilities which are licensed to accept petroleum hydrocarbon contaminated soil are located in Texas and Arkansas. Regulatory acceptance of this method is sometimes difficult to obtain and time consuming. The short and long term threat and effect to air, soil, surface, and groundwater, and biological receptors are minimal since the soil is shipped in Department of Transportation approved containers. Costs are approximately \$200.00 per cubic yard. The total cost for incineration is estimated to be \$10,700.

On-site bioremediation involves placing the contaminated soil in an area away from the area of contamination where it can be treated. An impermeable liner is overlain with 6" of clean fill and the contaminated soil is stockpiled in lifts no greater than 3 feet. Custom tailored bacteria and nutrients are introduced and a clear plastic covering is paced over the soil to create a "Greenhouse Effect" which speeds the process. The bioremediation treating area should be constructed to prevent the migration of any contaminated soil off the area by rainfall. The short term effect of bioremediation may be the release of hydrocarbons into the atmosphere and the potential for surface runoff during the rainy season. The release of hydrocarbons to the atmosphere is mitigated by covering the contaminated soil. There are no anticipated long term effects due to the relatively short duration of time required for implementation of this method.

Treating a minimum amount of soil such as this would cost approximately \$275.00 per cubic yard. This includes costs of a feasibility study and start-up. The treatment can

be completed in a 3-6 month period for this small amount of contaminated soil. The total cost for on-site bioremediation is estimated to be \$14,500.

The "no action" alternative requires the contaminated soil to remain in place. There is the potential for gases released from the hydrocarbon contaminated soil to migrate to the surface. The contamination is buried, therefore there is no impact, short or long term to the surface water. There is no short term impact to groundwater, since the depth to groundwater is estimated to be 250 feet and the maximum level of contamination is at a depth of 8 feet. However, there is potential for a long term impact to groundwater through vertical migration through the unsaturated zone. It is conservatively estimated that the travel time to groundwater is at least 30,000 years assuming the lithology is silt, sand and that the hydrocarbon will migrate at the rate of water with a constant head from a point source. The nearest down-gradient water well is approximately one mile from the site. At a minimum it would take approximately 5,000 years to reach this receptor. At that time there is a potential threat to a biological receptor from groundwater contamination. The groundwater wells are completed in the Alluvium and Upper Tulare Formations. The groundwater below the site is in the underlying Lower Tulare Formation. Therefore groundwater contamination will be restricted to the Lower Tulare. The Lower Tulare water is not likely to come in contact with Upper Tulare water, therefore the threat to a biological receptor is considered extremely slight.

#### SITE II: 36S Warehouse

##### Previous Work

A prior site investigation during the removal of five abandoned tanks, two-1000 gallon waste oil tanks and three gasoline tanks of 1,000, 2,000 and 6,000 gallon capacity revealed the presence of contaminated soil beneath the tanks.

## Findings

Results from this site assessment have identified the presence of three separate plumes of benzene, toluene, ethyl benzene, xylene, and total petroleum hydrocarbon contamination beneath the former tank sites which have resulted from gasoline leakage. Cross section B-B' (Exhibit 8) shows the location of each of the plumes.

### Plume Number 1

Plume Number 1 located beneath borehole 36SW-1S extends from a depth of 13.5 feet to approximately 23.5 feet. The lateral extent of contamination is estimated to be no greater than 5 feet as defined by the boreholes. Based on this data the volume of contaminated soil is estimated to be 7 cubic yards in place.

Soil samples were analyzed for benzene, toluene, ethyl benzene, xylene (EPA 8020) and Total Petroleum Hydrocarbons (DHS LUFT Manual). The maximum concentration of 20 ppm Total Petroleum Hydrocarbons (TPH) encountered at a depth of 13.5 feet decreases to 1.5 ppm TPH at 23.5 feet and is below detection levels from the sample analyzed at 33.5 feet to the total depth of the hole at 65 feet. Utilizing the "Leaking Potential Analysis for Gasoline" (Table 2-1, LUFT Manual), this site has a score of 43 points which results in maximum allowable B/T/X/E and TPH levels of 0.3/0.3/1/1 and 100 ppm respectively. All constituents tested for are below these maximum allowable levels.

### Plume Number 2

Plume Number 2 located beneath borehole 36SW-1 extends from a depth of 13.5 feet to a depth between 23.5 feet and 33.5 feet. The lateral extent of contamination is

estimated to be no greater than 12 feet. The volume of contaminated soil is estimated to be a maximum of 80 cubic yards in place.

Soil samples were analyzed for benzene, toluene, ethyl benzene, xylene (EPA 8020) and Total Petroleum Hydrocarbons (DHS LUFT Manual). A concentration of 16 ppm Total Petroleum Hydrocarbons (TPH) encountered at a depth of 13.5 feet, increases to a maximum concentration of 69 ppm at 23.5 feet and decreases to below detection levels from the sample analyzed at 33.5 feet to the total depth of the hole at 70 feet. Utilizing the "Leaching Potential Analysis for Gasoline" (Table 2-1, LUFT Manual) allowable levels for B/T/X/ and E are exceeded from the sample obtained at 13.5 feet and 23.5 feet. All samples were below the maximum allowable levels for TPH.

#### Plume Number 3

Plume Number 3 located beneath borehole 36SW-3 extends from a depth of 13.5' to a depth between 23.5 feet and 33.5 feet. The lateral extent of contamination is estimated to be no greater than 14 feet. The volume of contaminated soil is estimated to be a minimum of 140 cubic yards in place.

Soil samples were analyzed for benzene, toluene, ethyl benzene, xylene (EPA 8020) and Total Petroleum Hydrocarbons (TPH) encountered at a depth of 13.5 feet, increases to a maximum concentration of 36,000 ppm at 23.5 feet and decreases to below detection levels from the sample analyzed at 33.5 feet to the total depth of the hole at 60 feet. Utilizing the "Leaching Potential Analysis for Gasoline" (Table 2-1, LUFT Manual) allowable levels for B/T/ and X are exceeded from the sample obtained at 13.5 feet. The sample from 23.5 feet exceeds maximum allowable levels for B/T/X/E and TPH.

The site is underlain by the Tulare Formation which consists of gravel, sand, silt, and



clay. The plumes are located in clay and silty clay to the base of contamination as shown on cross section B-B' (Exhibit 8). The depth to groundwater is estimated to be 250 feet below the surface based on electric log interpretation. There are no groundwater wells or surface water on or near the site.

### Remedial Action Alternatives

The Leaching Potential Analysis for Gasoline (Table 2-1 LUFT Manual) using Total Petroleum Hydrocarbons (TPH) and benzene, toluene, xylene, and ethyl benzene (BTX &E) was designed to permit estimating the concentrations of TPH and BTX&E that can be left in place without threatening the groundwater.

#### Plume Number 1

The results of soil sample analysis are all below the maximum allowable levels for B/T/X/E and TPH that can be left in place without threatening the groundwater. Therefore no action is required for this plume.

#### Plumes Number 2 & 3

These two plumes are fifteen feet apart with maximum contamination occurring at similar depths. Both plumes should be treated concurrently.

The remedial action alternatives considered for this site are in-situ vapor extraction, in-situ bioremediation, and "no-action".

Vapor extraction is used for clean up of soil contaminated with volatile organic chemicals. The operation of this process involves the removal of volatile organics from

the particles of soil by inducing clean vapor into contaminated soil by injection wells that are connected to a pump. The vapor is then passed through a scrubber or a thermal destruction unit prior to discharging to the atmosphere. Before implementation a feasibility study must be performed to determine if the soil permeability and the amount of hydrocarbon contamination lend itself to this method. It is estimated that a 12-18 month period would be required for remediation. The short term effects of vapor extraction may be the release of hydrocarbons into the atmosphere if the system malfunctioned. The long term effects are considered minimal due to the relatively short period of time required for implementation. Costs for this method are estimated to be \$40,000 - \$50,000 which would include development of a work plan, regulatory agency approval, system implementation, and certified soil analysis to assure that the process has reduced the contaminants to an acceptable level.

In-situ bioremediation involves the injection of microbes, oxygen, and nutrients into the ground to enhance the activity of micro-organics in the biological degradation of the petroleum hydrocarbons. Prior to field implementation a comprehensive biotreatability investigation would have to be performed to determine if the soil characteristics and levels of contamination lends itself to this method of treatment. It is estimated that this process may require 18 months for remediation. Since the contaminated soil will remain in place there are not short term effects anticipated. The long term effects are also considered minimal due to the relatively short implementation time. Costs for this method are estimated to be \$40,000 - \$60,000 which would also include development of a work plan, regulatory agency approval, system implementation, and a certified soil analysis to assure that the process has reduced the contaminants to an acceptable level.

The "no action" alternative also requires the contaminated soil to remain in place. There is the potential for gas released from the hydrocarbon contaminated soil migrating to

the surface. The contamination is buried, therefore there is no impact, short or long term to the surface water. There is no short term impact to groundwater, since the depth to groundwater is estimated to be 250 feet and the maximum level of contamination is at a depth of 23.5 feet. However, there is potential for a long term impact to groundwater through vertical migration through the unsaturated zone. It is conservatively estimated that the travel time to groundwater is at least 30,000 years assuming the lithology is silt, sand, and that the hydrocarbon will migrate at the rate of water with a constant head from a point source. The nearest down-gradient water well is approximately one mile from the site. At a minimum it would take approximately 5,000 years to reach this receptor. At that time there is a potential threat to a biological receptor from groundwater contamination. The groundwater wells are completed in the Alluvium and Upper Tulare Formations. The groundwater below the site is in the underlying Lower Tulare Formation. The Lower Tulare water is not likely to come in contact with Upper Tulare water, therefore the threat to a biological receptor is considered extremely slight.

#### SITE III: 36R Warehouse

##### Previous Work

A prior site investigation during the removal of two 1,000 gallon waste oil tanks revealed the presence of total organic halide contaminated soil beneath the former tank sites.

##### Findings

Results from this site assessment have indicated that no contamination exists beneath the site and remedial action is not necessary.

Soil sample were analyzed for Total Organic Halides (TOX) (EPA 9020), and organic lead. Results obtained from all of the samples were below the detection threshold.

## REFERENCES

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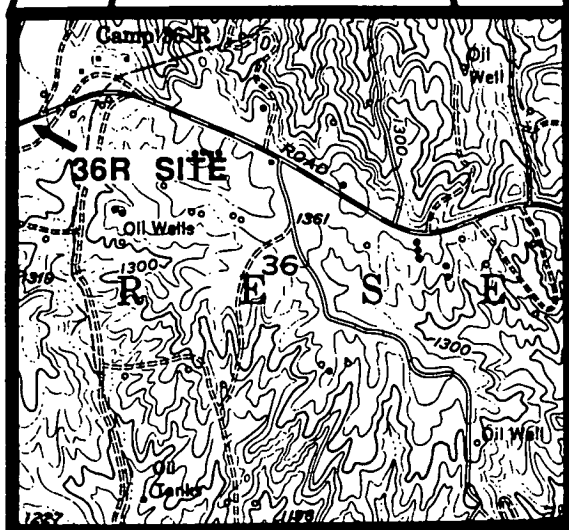
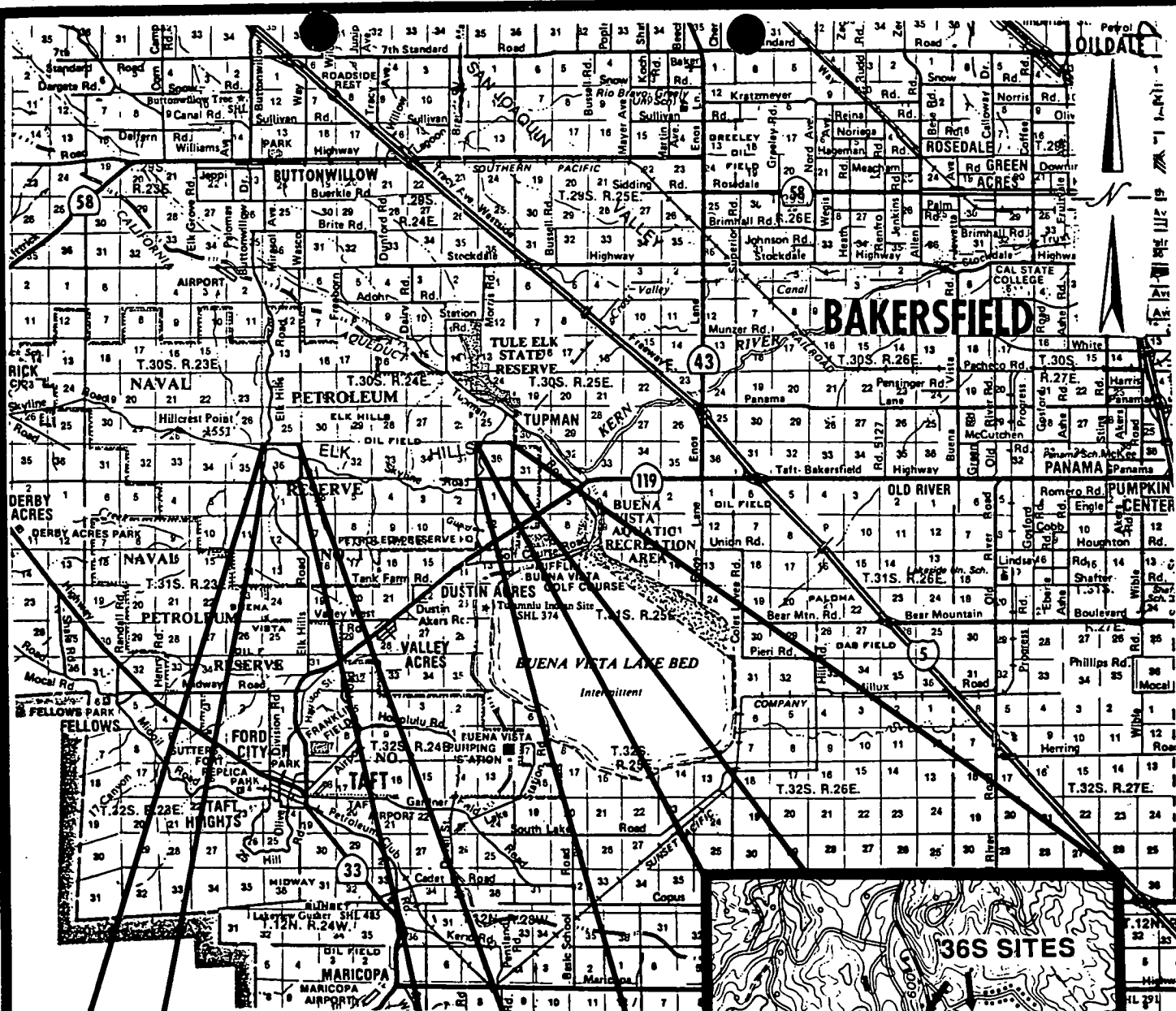
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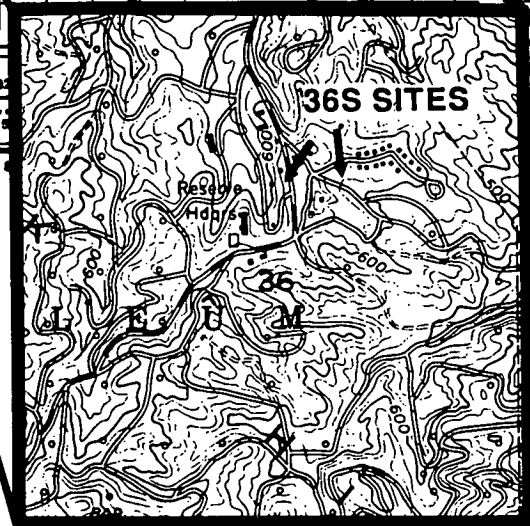
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SEC. 36 T30S/R23E



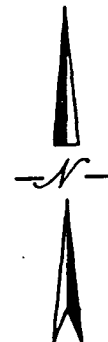
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**BECHTEL PETROLEUM  
OPERATIONS, INC.**  
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1  
KERN COUNTY, CALIFORNIA  
FORMER UNDERGROUND STORAGE TANK SITES  
LOCATION MAP

WZI INC  
DATE 7/89

BAKERSFIELD, CA  
EXHIBIT 1



GARAGE

CURB

POWER LINE

BACKFILLED WITH  
DRILL CUTTINGS

A'

36S G-2  
TD 58'

ABANDONED 1000 gal.  
WASTE OIL TANK

36S G-1  
TD 70'

GROUT  
FILLED

A

⊙  
LAMP  
POST

ASPHALT

**LEGEND**

36SG-1- BOREHOLE  
⊙

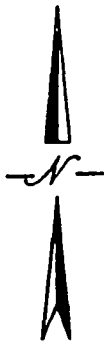
0 20' 40'  
SCALE IN FEET



BECHTEL PETROLEUM  
OPERATIONS, INC.  
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1  
KERN COUNTY, CALIFORNIA  
FORMER UNDERGROUND STORAGE TANK SITES  
SITE I: 36S GARAGE

WZI INC  
DATE 8/89

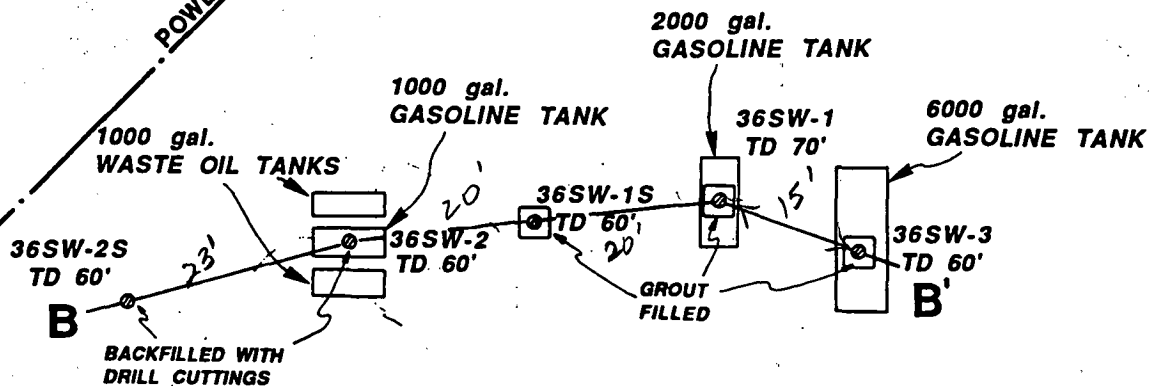
BAKERSFIELD, CA  
EXHIBIT 2



CONCRETE  
RETAINING WALL  
(ABOVE GROUND)

8000 gal. GASOLINE  
STORAGE TANK

POWER LINE



ALL UNDERGROUND  
TANKS ABANDONED

COVERED SHED  
(Assume E-W)

### LEGEND

● BOREHOLE LOCATIONS

0 20' 40'  
SCALE IN FEET



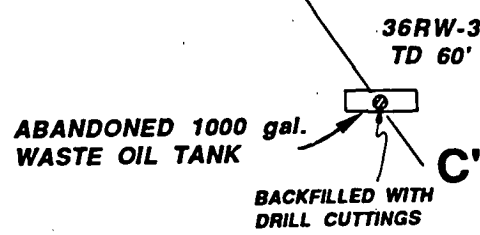
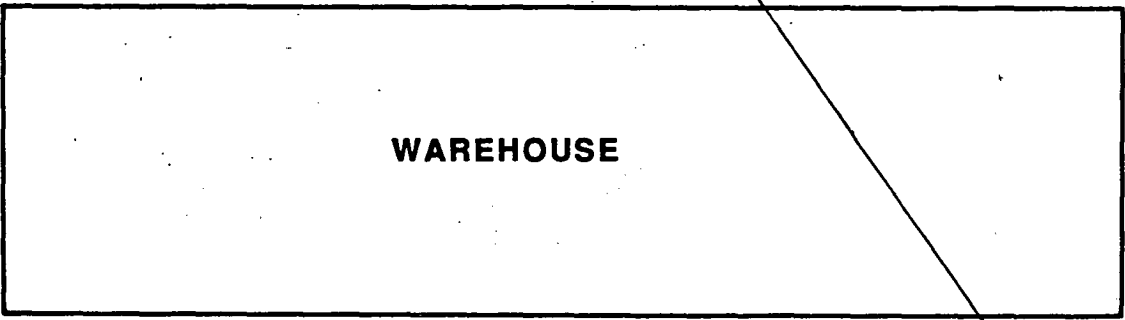
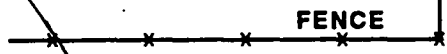
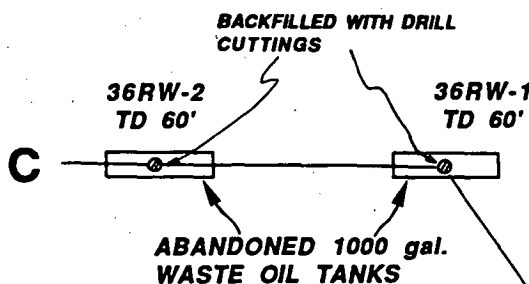
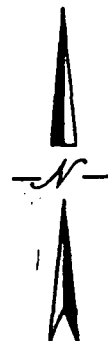
BECHTEL PETROLEUM  
OPERATIONS, INC.  
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1  
KERN COUNTY, CALIFORNIA  
FORMER UNDERGROUND STORAGE TANK SITES  
SITE II : 36S WAREHOUSE

WZI INC  
DATE 8/89

BAKERSFIELD, CA  
EXHIBIT 3







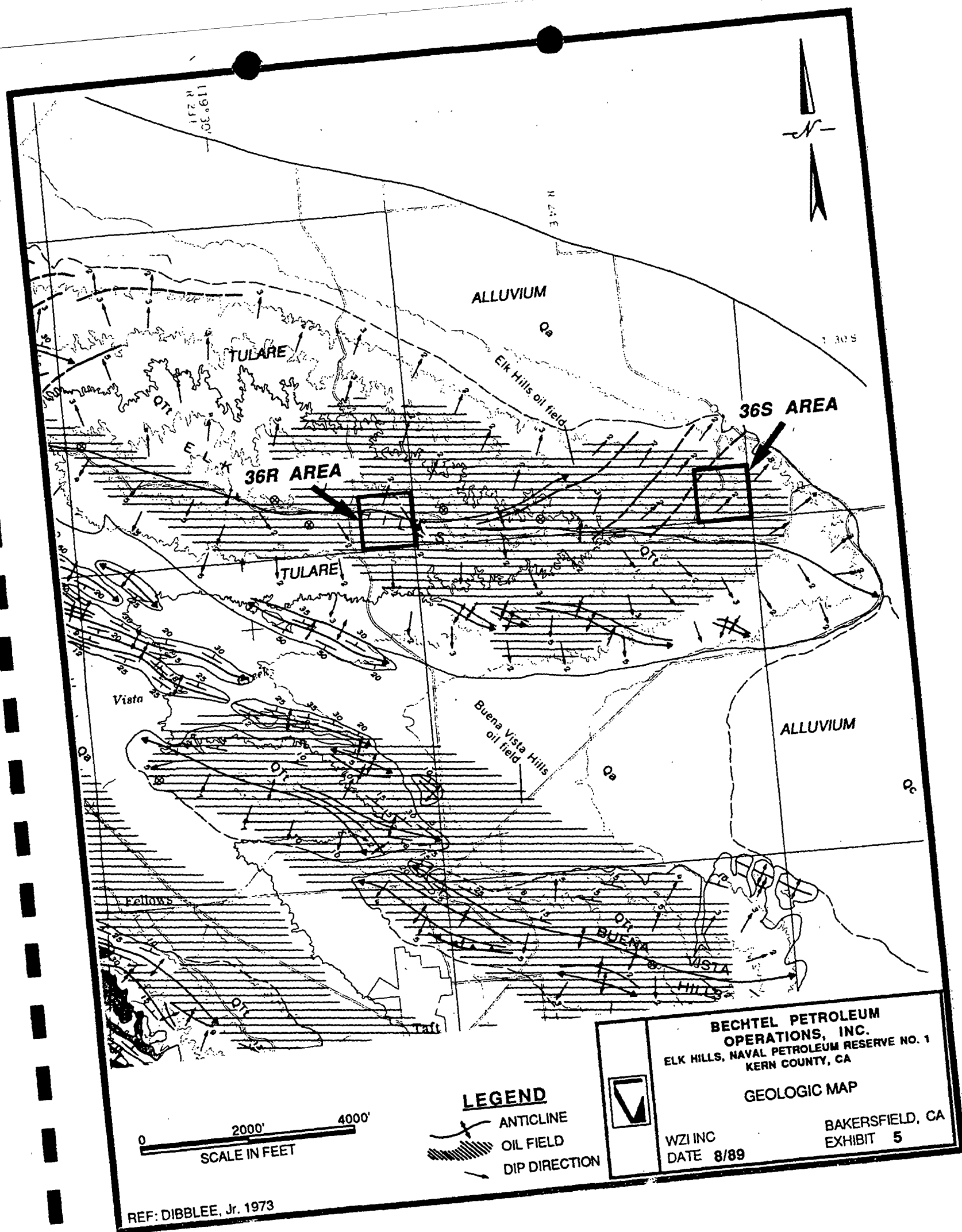
**LEGEND**

⊙ BOREHOLE LOCATIONS



	<b>BECHTEL PETROLEUM OPERATIONS, INC.</b>	
	ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1	
	KERN COUNTY, CALIFORNIA	
	FORMER UNDERGROUND STORAGE TANK SITES	
<b>SITE III : 36R WAREHOUSE</b>		
WZI INC		BAKERSFIELD, CA
DATE 8/89		EXHIBIT 4



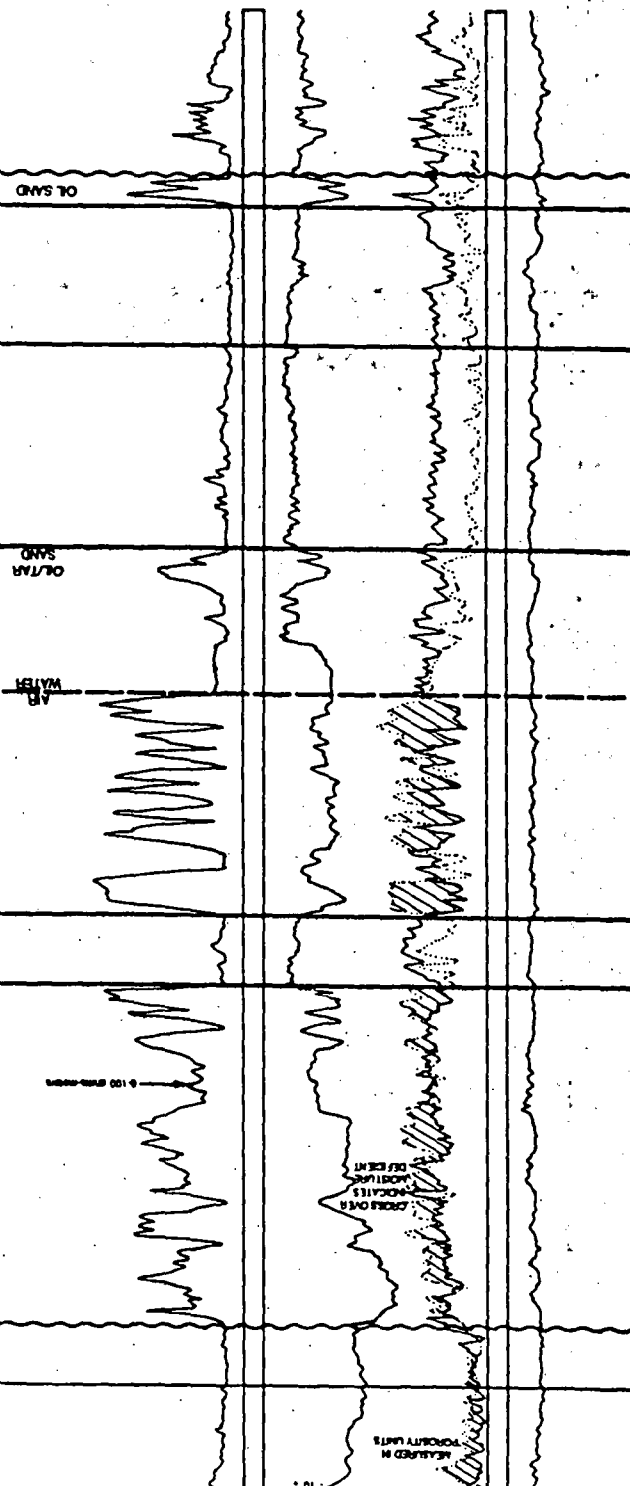




BECHTEL PETROLEUM  
OPERATIONS, INC.  
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1  
KERN COUNTY, CALIFORNIA  
FORMER UNDERGROUND STORAGE TANK SITES  
TYPE LOG



• HCZ INTERMEDIATE TULARE CLAY ZONE



RECEIVED  
IN CHARGE

CONFIRMED  
DENSITY  
GROSS RAY  
MEASURED IN AIR UNITS  
CONFIRMED  
MEASURED IN AIR UNITS  
SPONTANEOUS  
POSITIVE  
MEASURED IN  
AIR UNITS

TYPE ELECTRIC LOG

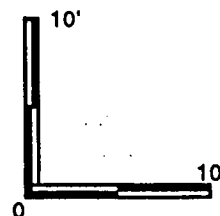
TYPE DENSITY/  
NEUTRON LOG

ADOLPH  
SCENE

## FORMATION

**INFORMAL  
MEMBERS**

**A'**



### \* - SAMPLE LOCATION

**BDT.** BELOW DETECTION THRESHOLD

**36- OIL & GREASE IN (ppm)**

**10,000- OIL & GREASE CONTOURS IN (ppm x 1000)**



**BECHTEL PETROLEUM  
OPERATIONS, INC.  
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1  
KERN COUNTY, CALIFORNIA  
SITE I: 36S GARAGE  
SECTION A-A'**

WZI INC.  
DATE 8/89

BAKERSFIELD, CA  
EXHIBIT 7



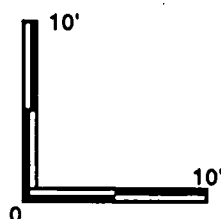


C'

**36RW-3**

This diagram is a geological cross-section showing soil layers and the locations of abandoned tanks. The vertical axis on the left indicates depth in feet, with markers at 10', 20', 40', 50', and 60'. The horizontal axis at the bottom is labeled 'TD 60'' at three points. The soil layers are labeled as follows from top to bottom: SAND, CLAYEY SILT, CLAY, SILTY SAND, SILTY CLAY, and SILT. There are three dashed circles representing abandoned tanks. One is located near the top left, labeled 'GRAVEL & SILT FILL' and 'ABANDONED TANK'. Another is near the top right, labeled 'ABANDONED TANK'. A third is near the bottom right, labeled 'SILTY CLAY' and 'ABANDONED TANK'. Numerous points are marked with '\*BDT' throughout the section.

\* . SAMPLE LOCATION  
BDT- BELOW DETECTION THRESHOLD

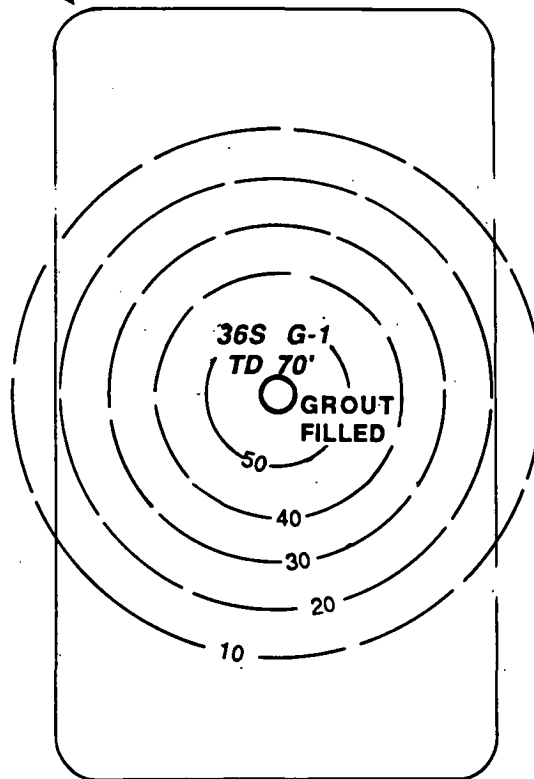


BAKERSFIELD, CA  
EXHIBIT 9

BACKFIELD WITH  
DRILL CUTTINGS

36S G-2  
TD 58'

ABANDONED 1000 gal.  
WASTE OIL TANK



POWER LINE

ASPHALT

CURB

LAMP  
POST



**LEGEND**

36SG-1- BOREHOLE

-10,000- OIL & GREASE ISOPLETH IN (ppm x 1000)

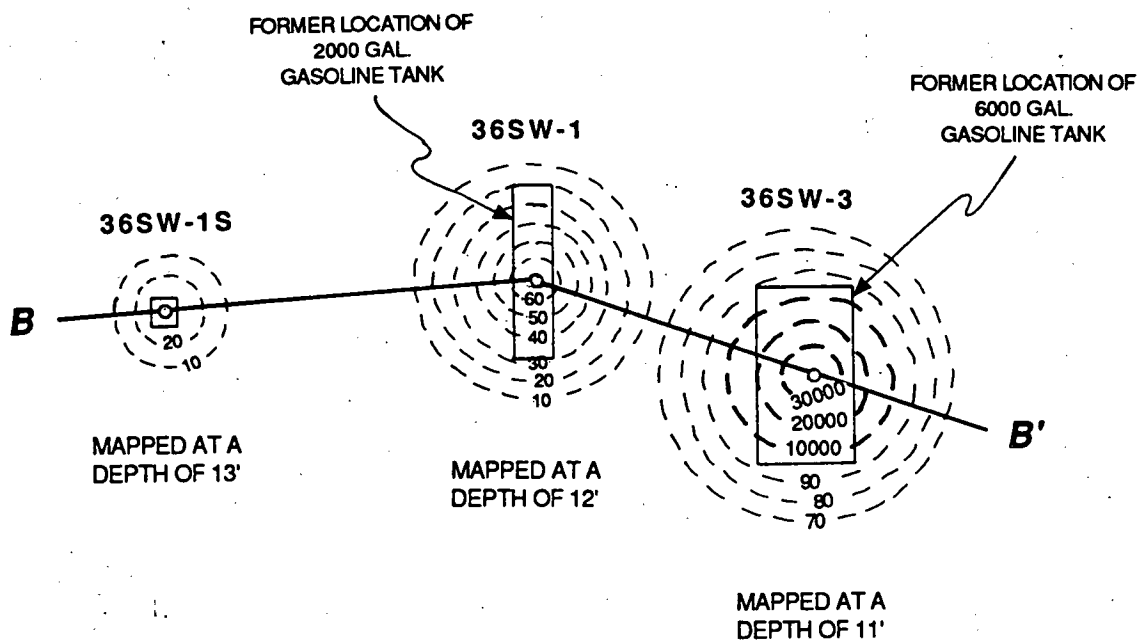


BECHTEL PETROLEUM  
OPERATIONS, INC.  
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1

SITE I: 36S GARAGE  
SOIL CONTAMINATION MAP  
( Ten Feet Depth )

WZI INC.  
DATE 8/89

BAKERSFIELD, CA  
EXHIBIT 10



### LEGEND

- - - 10 - - - TOTAL PETROLEUM HYDROCARBONS (THP) ISOPLETH
- 36SW - 1  
○ BOREHOLE
- - - - - TPH ISOPLETHS (ppm x 1000)

0 10' 20'

SCALE IN FEET



**BECHTEL PETROLEUM  
OPERATIONS, INC.**  
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1  
KERN COUNTY, CALIFORNIA  
FORMER UNDERGROUND STORAGE TANK SITES  
SITE II : 36S WAREHOUSE  
SOIL CONTAMINATION MAP

WZI INC  
DATE 8/89

BAKERSFIELD, CA  
EXHIBIT 11

TABLE 1  
ELK HILLS, NAVAL PETROLEUM RESERVE  
KERN COUNTY, CA.

SUMMARY OF ODOR AND ORGANIC VAPOR ANALYZER DATA  
SITE I 36S GARAGE

WELL	DEPTH	SAMPLE	OVA READING (ppm)	PETROLEUM ODOR
36SG-1	8.5	1A	100	Mod.-Strong
	18.5	2B	400	Slight
	28.5	3B	900	No Odor
	38.5	4A	150	No Odor
	48.5	5A	1	No Odor
	58.5	6A	>1000	No Odor
	68.5	7A	>1000	No Odor
36SG-2	8.5	1A	0	No Odor
	18.5	2A	0	No Odor
	28.5	3A	350	No Odor
	38.5	4A	400	No Odor
	49.5	5A	15	No Odor



TABLE 2  
ELK HILLS, NAVAL PETROLEUM RESERVE  
KERN COUNTY, CA.

SUMMARY OF ODOR AND ORGANIC VAPOR ANALYZER DATA  
SITE II 36S WAREHOUSE

WELL	DEPTH	SAMPLE	OVA READING (ppm)	PETROLEUM ODOR
36SW-1	13.5	1A	Off Scale	Slight
	23.5	2A	Off Scale	Moderate
	33.5	3A	1000	No Odor
	48.5	5A	110	No Odor
	58.5	6A	30	No Odor
	68.5	7A	15	No Odor
36SW-1S	13.5	1A	550	Slight
	23.5	2A	>1000	Moderate
	33.5	3A	450	No Odor
	43.5	4A	>1000	Slight
	53.5	5A	1	No Odor
	63.5	6A	15	No Odor
36SW-2	13.5	1A	14	No Odor
	23.5	2A	40	No Odor
	33.5	3A	800	No Odor
	43.5	4B	280	No Odor
	53.5	5A	0	No Odor
	59.5	6A	3	No Odor
36SW-2S	13.5	1A	0	No Odor
	23.5	2A	5	No Odor
	33.5	3A	50	No Odor
	43.5	4A	2	No Odor
	53.5	5A	0	No Odor
	58.5	6A	0	No Odor
36SW-3	13.5	1A	0	Moderate
	23.5	2A	>1000	Mod-Strong
	33.5	3A	>1000	Strong
	43.5	4A	>1000	Strong
	53.5	5A	30	No Odor
	58.5	6A	0	No Odor



**TABLE 3**  
**ELK HILLS, NAVAL PETROLEUM RESERVE**  
**KERN COUNTY, CA.**

**SUMMARY OF ODOR AND ORGANIC VAPOR ANALYZER DATA**  
**SITE III 36R WAREHOUSE**

<u>WELL</u>	<u>DEPTH</u>	<u>SAMPLE</u>	<u>OVA READING (ppm)</u>	<u>PETROLEUM ODOR</u>
36RW-1	8.5	1B	1	No Odor
	19.5	2A	0	No Odor
	28.5	3A	0	No Odor
	38.5	4A	0	No Odor
	48.5	5A	0	No Odor
	58.5	6A	0	No Odor
36RW-2	8.5	1A	0	No Odor
	19.5	2A	0	No Odor
	28.5	3A	0	No Odor
	38.5	4A		No Odor
	48.5	5A	15	No Odor
	58.5	6A	20	No Odor
36RW-3	8.5	1A	0	No Odor
	19.5	2A	0	No Odor
	28.5	3A	0	No Odor
	38.5	4A	0	No Odor
	48.5	5A	0	No Odor
	58.5	6A	0	No Odor



TABLE 4  
ELK HILLS, NAVAL PETROLEUM RESERVE  
KERN COUNTY, CA.

SUMMARY OF ANALYTICAL RESULTS  
SITE I 36S GARAGE

WELL	DEPTH	SAMPLE	TOX	ORGANIC LEAD	OIL & GREASE
36SG-1	8.5	1A	BDT	BDT	59,534
	18.5	2B	BDT	BDT	BDT
	28.5	3B	BDT	BDT	BDT
	38.5	4A	BDT	BDT	BDT
	48.5	5A	BDT	BDT	30.0
	58.5	6A	BDT	BDT	BDT
	68.5	7A	BDT	BDT	BDT
36SG-2	8.5	1A	BDT	BDT	BDT
	18.5	2A	BDT	BDT	BDT
	28.5	3A	BDT	BDT	26.0
	38.5	4A	BDT	BDT	36.0
	49.5	5A	BDT	1.70	56.0

Analytical values reported in mg/kg = ppm  
BDT = below detection threshold

TABLE 5  
ELK HILLS, NAVAL PETROLEUM RESERVE  
KERN COUNTY, CA.

SUMMARY OF ANALYTICAL RESULTS  
SITE II 36S WAREHOUSE

WELL	DEPTH	SAMPLE	EPA 8010	OIL & GREASE (mg/kg)	BTEX* (µg/g)	TPH (µg/g)	TOX (mg/kg)	ORGANIC LEAD (mg/kg)
36SW-1	13.5	1A			2.73	16.00		
	23.5	2A			12.10	69.00		
	33.5	3A			BDT	BDT		
	48.5	5A			BDT	BDT		
	58.5	6A			BDT	BDT		
	68.5	7A			BDT	BDT		
36SW-1S	13.5	1A			2.22	20.00		
	23.5	2A			0.61	1.50		
	33.5	3A			BDT	BDT		
	43.5	4A			0.24	BDT		
	53.5	5A			BDT	BDT		
	63.5	6A			BDT	BDT		
36SW-2	13.5	1A	BDT	BDT	BDT	BDT	BDT	BDT
	23.5	2A	BDT	72.00	BDT	BDT	BDT	BDT
	33.5	3A	BDT	46.00	BDT	BDT	BDT	BDT
	43.5	4B	BDT	42.00	BDT	BDT	BDT	BDT
	53.5	5A	BDT	BDT	BDT	BDT	BDT	BDT
	59.5	6A	BDT	52.00	BDT	BDT	BDT	BDT
36SW-2S	13.5	1A			BDT	BDT		
	23.5	2A			BDT	BDT		
	33.5	3A			BDT	BDT		
	43.5	4A			BDT	BDT		
	53.5	5A			BDT	BDT		
	58.5	6A			BDT	BDT		
36SW-3	13.5	1A			16.20	36.00		
	23.5	2A			10,569	36,000		
	33.5	3A			BDT	BDT		
	43.5	4A			BDT	BDT		
	53.5	5A			BDT	BDT		
	58.5	6A			BDT	BDT		

BDT = below detection threshold

\* BTEX concentrations represent sum of individual components.



TABLE 6  
ELK HILLS, NAVAL PETROLEUM RESERVE  
KERN COUNTY, CA.

SUMMARY OF ANALYTICAL RESULTS  
SITE III 36R WAREHOUSE

WELL	DEPTH	SAMPLE	TOX	ORGANIC LEAD
36RW-1	8.5	1B	BDT	BDT
	19.5	2A	BDT	BDT
	28.5	3A	BDT	BDT
	38.5	4A	BDT	BDT
	48.5	5A	BDT	BDT
	58.5	6A	BDT	BDT
36RW-2	8.5	1A	BDT	BDT
	19.5	2A	BDT	BDT
	28.5	3A	BDT	BDT
	38.5	4A	BDT	BDT
	48.5	5A	BDT	BDT
	58.5	6A	BDT	BDT
36RW-3	8.5	1A	BDT	BDT
	19.5	2A	BDT	BDT
	28.5	3A	BDT	BDT
	38.5	4A	BDT	BDT
	48.5	5A	BDT	BDT
	58.5	6A	BDT	BDT

Analytical results reported in mg/kg = ppm  
BDT = below detection threshold



**TABLE 7  
ELK HILLS, NAVAL PETROLEUM RESERVE  
KERN COUNTY, CALIFORNIA  
REMEDIAL OPTIONS**

<b>REMEDIAL ACTIVITY</b>	<b>APPROXIMATE COST EST.</b>	<b>TIME CONSTRAINTS</b>	<b>OTHER CONSIDERATIONS</b>
Land Farming/ Bioremediation	* \$75/cu. yd.	6 to 24 months	-material to be treated in- situ or excavated and treated on site.
Excavate and Dispose in Designated Site	\$300/cu. yd.	No known time constraints	-cradle to grave liability.
Vapor Extraction	\$20/cu. yd.	18 to 24 months	-volatile organics are removed by inducing clean vapor into soil and removing vapor by extraction wells.
Excavation and Incineration	\$200/cu. yd.	No known time constraints	-no licensed incinerators in California.

From: Lovegreen, Jon R. 1989, AAPG Annual Conference

\* = Amounts > 1000 Cubic Yards

DATE DRILLED: 6-5-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SG-1



WZI

PAGE 1

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	ORG LEAD	TOX	oil & grease	Blow counts	REMARKS
Spud in coarse sand and pebbles.	5								Spud at 12:15 p.m. hand dug to 5' - no lines.
Silty sand; gray to tan, fine to med. grained w/ 15% pebbles to .5". Sand is arkosic w/abundant muscovite, quartz, feldspar; pebble quartz and metamorphic; moderate-strong petroleum odor; damp.	8.5 10		1 C B A	100	BDT	BDT	59,534	3 3 5	12:27 p.m.
Sand; lt. tan, fine to medium grained arkosic sand; very loose, dry, slight petroleum odor.	18.5 20		2 C B A	400	BDT	BDT	BDT	30 60 70	12:35 p.m.
Sand; lt. tan; very fine grained, arkosic sand; very dry, loose; no odor.	28.5 30		3 C B A	900 200	BDT	BDT	BDT	30 70 80	12:57 p.m.

Sand, fine grained
 Silt
 Gravel
 \* = Composite sample

Sand, medium grained
 Silty sand
 Hydrocarbon odor
 BDT=below detection threshold

Sand, coarse grained
 Sandy clay or clayey sand
 Concrete
 = water level

Clay
 Silty clay
 Sample analyzed

WZI INC.

DATE DRILLED: 6-5-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SG-1



PAGE 2

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	ORG LEAD	TOX	oil & grease	Blow counts	REMARKS
Sand; lt. tan, fine grained, cemented; very hard; dry, no odor.	35								
	38.5								
	40		4 C B (A)	150	BDT	BDT	BDT	100	1:03 p.m. drill ahead 5'
	43.5								
Silt: lt. brown; cannot sample, too hard. OVA 600 but may contain sluff. No sample. Silt contains quartz nodules to 1" dia. Clay - full 18" thickness of sample; lt. brown; very cohesive, dry, parting on bedding, no odor.	45								160/3" 1:15 dull, 5 more feet
	48.5		5 C B (A)	1	BDT	BDT	30.0	60 35 20	1:21 p.m.
	50								
	55								
Silt: lt. brown; very well sorted; dry; no odor.	58.5		6 C B (A)	>1000	BDT	BDT	BDT	60 18 5	1:43 p.m.
	60								
	65								
	68.5		7 C B (A)	>1000	BDT	BDT	BDT	100-3 40 10 100-5 10	2:06 empty sample; drive again
Sand: lt. tan; med-crse grained; poorly sorted arkosic; dry; no odor-visual evidence of petroleum. High OVA reading may be from natural formation gas trapped by clay at 50' - 60'.	70								
				TD @ 70' 2:20P.M. POOH 2:25 P.M. OOH 2:41 P.M.					

WZI INC.



DATE DRILLED: 6-5-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SG-2



WZI

PAGE 1

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	ORG LEAD	TOX	oil & grease	Blow counts	REMARKS
Spud in coarse sand									Spud at 3:01 p.m.
Silty clay	5								
	8.5								
Clay: lt.-dark brown; flakes of black; damp; very cohesive; no odor.	10		1 C B A	0	BDT	BDT	BDT	50 30 13	3:18 p.m.
	15								
	18.5								
Sand; lt. tan, med-coarse grained w/pebbles; poorly sorted; arkosic; quartz, feldspar, muscovite; dry; loose; no odor.	20		2 C B A	0	BDT	BDT	BDT	100 80 40	3:30 p.m.
	25								
	28.5								
Sand; lt. tan; very fine grained, very well sorted; dry; loose; no odor.	30		3 C B A	30 350	BDT	BDT	26.0	105-5 35	3:45 p.m.

Sand, fine grained
 Silt
 Gravel

Sand, medium grained
 Silty sand
 Hydrocarbon odor

Sand, coarse grained
 Sandy clay or clayey sand
 Concrete

Clay
 Silty clay
 Sample analyzed

\* = Composite sample  
 BDT=below detection threshold  
 = water level

WZI INC.

DATE DRILLED: 6-5-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SG-2



PAGE 2

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	ORG LEAD	TOX	oil & grease	Blow counts	REMARKS
Sand; lt. tan, med-coarse grained; moderately sorted; arkosic w/rock fragments of gray diatomaceous shale; dry; very loose; no odor.	35		4	C B A 350 400	BDT	BDT	36.0	100-2 80 70	3:55 p.m.
	38.5								
	40		5	C B A 15 100	BDT	1.70	56.0	100 80 65	4:05 p.m.
	45								
Clay and Silt: lt. tan-brown; very cohesive; no odor-predominately gypsum xtals in fractures in clay.	49.5								
	50								
	55								
	59.5								
	60								
	65								
	70								

TD @ 58' 4:20P.M.  
 POOH  
 OOH 4:31 P.M.



DATE DRILLED: 6-6-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-1



WZI

PAGE 1

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	Blow counts	REMARKS	
Spud in gravel and silt								Spud at 8:25 a.m.	
	5								
Clayey Silt: tan to brown; damp; cohesive; strong gasoline odor.	10								
	13.5		1	C B A	off scale	2.73	16	25 10 3	8:36 a.m.
Clay: tan-brown; flakes of muscovite; damp; very cohesive; slight odor in A; greater odor in B; B is siltier; "fill" per Ray Campbell.	15								
	20								
	23.5		2	C B A	off scale	12.1	69	80 100 40	8:50 a.m.
Clay and Sand: intermixed lt. tan clay; cohesive; dry; sand is fine to med. grained, arkosic w/ dark rock fragments, trace gypsum; moderately sorted; dry; moderate odor. Should be natural formation.	25								
	30								
	33.5		3	C B A	200	BDT	BDT	103 100 10	9:05 p.m.
Sand; lt. tan; very fine grained, very well sorted; dry; loose; no odor.	35				1000				

Sand, fine grained Silt

Sand, medium grained Silty sand

Sand, coarse grained Sandy clay or clayey sand

Clay Silty clay

Gravel Hydrocarbon odor

Concrete Sample analyzed

\* = Composite sample

BDT=below detection threshold

= water level

 Silty Gravel

WZI INC.



DATE DRILLED: 6-6-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-1



PAGE 2

DESCRIPTION	Depth (ft)	Lith-ology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	Blow counts	REMARKS
	35							
	40							
	43.5							
	45		4 C B A	100			100-3 70	9:25 a.m. Min. Recovery 1/3 of A tube. Sample Held
Silt: gray to lt. green; very well sorted; fissile; parts on bedding; moderately consolidated; no odor.	48.5		5 C B (A)	110	BDT	BDT	75 65 40	9:37 a.m.
	50							
	53.5							
Hard drilling - cuttings are dark green clay.	55							
	58.5		6 C B (A)	30	BDT	BDT	100-3 45 5	10:00 a.m.
Silt: lt. tan; very well sorted; dry; no odor; very fine sand; arkosic w/dark rock fragments; grains 10%; no odor.	60							
	65							
	68.5		7 C B (A)	15	BDT	BDT	100-4 30 10	10:30 a.m.
Sand: lt. tan; very fine grained; well sorted; arkosic; dry; loose; no odor.	70							
								TD @ 70' 10:35P.M. POOH

WZI INC.



DATE DRILLED: 6-6-89  
 LOGGED BY: Robert Sengebusch  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-1S (STEP OUT #1)



PAGE 1

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	Blow counts	REMARKS
Spud in gravel and silt fill								Spud at 11:25 a.m.
Dark gray and brown fill material-slight gasoline odor.	5							
	10							
Silt: lt. brown; very well sorted; damp; slight gasoline odor. Fill or Natural - Unknown.	13.5		1 C B (A)	>1000 550	2.22	20	35 20 15	11:39 a.m.
	15							
	20							
Silty Clay: lt. tan; fine-med. grained; very well sorted; fissile, parts on bdg planes; fractures to 1mm dia., filled w/gypsum; moderate gasoline odor.	23.5		2 C B (A)	>1000	0.61	1.5	60 50 25	11:55 a.m.
	25							
	30							
Sand; lt. tan; very fine grained, very well sorted; arkosic w/abundant muscovite and some biotite; dry; loose; no odor	33.5		3 C B (A)	45 450	BDT 0.61	BDT WA	100-2 90	12:15 p.m.
	35							

Sand, fine grained  
 Sand, medium grained  
 Sand, coarse grained  
 Clay

Silt  
 Silty sand  
 Sandy clay or clayey sand  
 Silty clay

Gravel  
 Hydrocarbon odor  
 Concrete  
 Sample analyzed

\* = Composite sample

BDT=below detection threshold

= water level

 Silty Gravel

WZI INC.





DATE DRILLED: 6-5-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-1S (STEP OUT #1)



PAGE 2

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	Blow counts	REMARKS
Gravel w/Sand: lt. tan, green, orange; gravel: 75%-pebbles to .5" dia.; subrounded-quartz; diatomite, quartz; and med.-coarse grained; poorly sorted; arkosic w/abundant sedimentary rock fragment grains; loose; slight odor-not gasoline(?). Gravel and sand lenses alternate within 6" thickness; a few inches thick.	35		4 C B A	>1000	0.24	BDT	100-5 80	12:25 p.m.
	40							
Sand: lt. green; fine-med. grained; very well sorted; quartz, feldspar, sedimentary rock fragments; loose, dry, no odor.	43.5		5 C B A	1	BDT	BDT	100-5 40 10	12:48 p.m.
	45							
Silt: lt. gray-green; very well sorted; sl. cohesive; no odor.	50		6 C B A	15	BDT	BDT	65 13 6	1:50 p.m.
	53.5							
	55							
	60							
	63.5							
	65							
	70							TD @ 65' 2:06P.M. POOH OOH 3:34 P.M.

WZI INC.

DATE DRILLED: 6-6-89  
 LOGGED BY: Robert Sengebusch  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-2



WZI

PAGE 1

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	EPA 8010	oil & grease	ORG LEAD	TOX	Blow counts	REMARKS
Spud in gravel and silt												Spud at 2:43 p.m.
Dark gray silt-moderate to strong gasoline odor. "FILL"	5											
	10											
	13.5											
Clayey silt: lt. brown; very well sorted; cohesive; no odor - maybe fill.	15		1 C B (A)	14	BDT	BDT	BDT	BDT	BDT	BDT	50 30 15	3:01 p.m.
	20											
	23.5											
Clay and Silty clay: brown w/ pockets of white gypsum; very well sorted; very cohesive; damp; slight odor in B and C tube; no odor in A or shoe.	25		2 C B (A)	100 40	BDT	BDT	BDT	72.0	BDT	BDT	50 25 10	3:14 p.m.
	30											
	33.5											
Silt and Sand: lt. tan; very well sorted; very fine sand, as above; arkosic; loose; dry; no odor to SP odor.	35		3 C B (A)	800	BDT	BDT	BDT	46.0	BDT	BDT	100-4 40	3:20 p.m.



Sand, fine grained



Silt



Gravel

\* = Composite sample



Sand, medium grained



Silty sand



Hydrocarbon odor

BDT=below detection threshold



Sand, coarse grained



Sandy clay or clayey sand



Concrete

▲ = water level



Clay



Silty clay



Sample analyzed



Silty Gravel

WZI INC.

DATE DRILLED: 6-6-89  
 LOGGED BY: Robert Sengebusch  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-2



PAGE 2

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	EPA 8010	oil & grease	TOX	ORG LEAD	Blow counts	REMARKS
Sand: lt. tan; medium grained w/ 10% coarse; moderate to well sorted; arkosic w/sedimentary rock fragment grains; loose; dry; no odor.	35		4 C B A	280 14	BDT	BDT	BDT	42.0	BDT	BDT	100-5 70	3:30 p.m.
	40											
	43.5											
Silt and Fine Sand: lt. tan to lt. green; moderate to well sorted; arkosic; loose; dry; no odor.	45		5 C B A	0	BDT	BDT	BDT	BDT	BDT	BDT	100-5	3:49 p.m.
	50											
	53.5											
Silt: lt. green; very well sorted; loose; dry; no odor.	55		6 C B A	3	BDT	BDT	BDT	52.0	BDT	BDT	105 70 30	4:00 p.m.
	59.5											
	60											
	65											
	70											

TD @ 60' 4:04 P.M.  
 POOH 4:30

WZI INC.



DATE DRILLED: 6-6-89  
 LOGGED BY: Robert Sengbush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-2S (STEP OUT)



PAGE 1

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	Blow counts	REMARKS	
Spud in gravel and silt								Spud at 4:50 p.m.	
fill- Sandy silt: brown; loose; dry to damp; no odor.	5								
	10								
Silt: brown; trace medium sand; very well sorted; abundant muscovite; damp; very cohesive; no odor.	13.5		1	C B A	0	BDT	BDT	40 30 15	5:17 p.m.
	15								
	20								
Silt: lt. tan; very well sorted; dry; loose; no odor.	23.5		2	C B A	5	BDT	BDT	100-5 25	5:31 p.m.
	25								
	30								
Silt: lt. tan-lt. green; well sorted; trace medium-coarse grain sand in lenses; loose; no odor.	33.5		3	C B A	10 50	BDT	BDT	100-3 75	5:45 p.m.
	35								

Sand, fine grained

Sand, medium grained

Sand, coarse grained

Clay

Silt

Silty sand

Sandy clay or clayey sand

Silty clay

Gravel

Hydrocarbon odor

Concrete

Sample analyzed

\* = Composite sample

BDT=below detection threshold

= water level

WZI INC.



DATE DRILLED: 6-6-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-2S (STEP OUT)



PAGE 2

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	Blow counts	REMARKS
Clay and Silty Clay: lt.-med. grained; very well sorted; intergrated w/coarse arkosic sand-lt. tan; poorly sorted layers <6" thick; dry; loose(sand); no odor.	35							
	40							
	43.5		4 C B (A)	0 2	BDT	BDT	100-4 60	6:00 p.m.
Sand: lt. tan to lt. green; very fine grained; very well sorted; loose; damp; no odor.	45							
	50							
	53.5		5 C B (A)	0	BDT	BDT	100-5 50	6:15 p.m.
Clay, Silty Clay, and Silt: lt. green; intergrated <6"; very well sorted; cohesive; damp; no odor.	55							
	58.5		6 C B (A)	0	BDT	BDT	100 60 10	6:25 p.m.
	60							
	65							TD @ 60' POOH 6:30
	70							

WZI INC.





DATE DRILLED: 6-7-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-3



WZI

PAGE 1

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	Blow counts	REMARKS
Spud in gravel and silt								Spud at 8:29 a.m.
fill-silty clay and sandy silt - brown and gray. moderate gasoline odor in cuttings.	5							
	10							
	13.5							
Silt: brown; very well sorted; abundant mica flakes;*; moderate gasoline odor. *moist; very cohesive.	15		1	0	16.2	36.0	40 30 15	5:17 p.m.
	20							
Clay intergrated w/coarse sand: clay is brown; sand is lt. tan; clay is very cohesive, damp, moderate odor: sand - lt. tan, poorly sorted, quartz, feldspar, sedimentary rock fragments; loose, dry, moderate to strong gasoline odor.	23.5		2	off scale >1000	10,590	36,000	55 35 25	8:43 a.m.
	25							
	30							
Sand: lt. tan; very fine grained; very well sorted; loose; dry; strong gasoline odor.	33.5		3	off scale >1000	BDT	BDT	100-4 50	9:08 a.m.
	35							

Sand, fine grained
 Silt
 Gravel

Sand, medium grained
 Silty sand
 Hydrocarbon odor

Sand, coarse grained
 Sandy clay or clayey sand
 Concrete

Clay
 Silty clay
 Sample analyzed

\* = Composite sample

BDT=below detection threshold

= water level

WZI INC.



DATE DRILLED: 6-7-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36SW-3



PAGE 2

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	BTEX ug/g	TPH ug/g	Blow counts	REMARKS
Sand: lt. tan, pink, black; very poorly sorted; fine to pebbly; pebbles of diatomaceous shale, and rounded; sand is arkosic w/quartz, feldspar, rock fragments; dry; loose; moderate-strong gasoline odor.	35		4 C B A	off scale >1000	BDT	BDT	100-5 65	9:15 a.m.
	40							
	43.5							
Silty Clay: lt. gray-green; very well sorted; very cohesive; damp; no odor.	45		5 C B A	30	BDT	BDT		9:30 a.m.
	50							
	53.5							
sand: lt. tan; fine grained; very well sorted; arkosic; loose; dry; w/small cemented nodules; no odor.	55		6 C B A	16 0	BDT	BDT	100 30	TD @ 60' 9:55 a.m. POOH
	58.5							
	60							
	65							
	70							

WZI INC.



DATE DRILLED: 6-7-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36RW-1



WZI

PAGE 1

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	ORG. LEAD	TOX	Blow counts	REMARKS
Spud in gravel and silt								Spud at 12:45 p.m.
fill-	5							
	8.5		1	1	BDT	BDT	25	1:00 p.m.
Sand: lt. tan; med. grained; well sorted; arkosic-quartz; feldspar; trace dark rock fragments; dry; loose; no odor.	10		(C) (B) (A)				25	
	15						20	
	19.5		2	0	BDT	BDT	85	1:10 p.m.
Silty clay: lt. brown-brown; very well sorted; moderately consolidated; damp; no odor.	20		(C) (B) (A)				60	
	25						30	
	28.5		3	0	BDT	BDT	100-5	1:20 p.m.
Clayey Silt: brown w/flakes of black; very well sorted; damp; cohesive; no odor.	30		(C) (B) (A)				30	
							30	



Sand, fine grained



Silt



Gravel

\* = Composite sample



Sand, medium grained



Silty sand



Hydrocarbon odor

BDT=below detection threshold



Sand, coarse grained



Sandy clay or clayey sand



Concrete

= water level



Clay



Silty clay



Sample analyzed

WZI INC.



DATE DRILLED: 6-7-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36RW-1



PAGE 2

DESCRIPTION	Depth (ft)	Lithology	Sample Number	OVA ppm	ORG LEAD	TOX	Blow counts	REMARKS
Silty sand: lt. brown; very well sorted; dry; moderately consolidated; no odor.	35							
	38.5		4 C B (A)	0	BDT	BDT	100-4 50	1:36 p.m.
	40							
Clayey silt: lt. brown; very well sorted; cohesive; damp; no odor.	45							
	48.5		5 C B (A)	0	BDT	BDT	100-4 35	1:50 p.m.
	50							
Clay: olive green; well sorted; very cohesive; dry; no odor.	55							
	58.5		6 C B (A)	0	BDT	BDT	100-2 80	2:23 p.m.
	60							TD @ 60' 2:26 p.m. POOH
	65							
	70							

WZI INC.



DATE DRILLED: 6-7-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36RW-2



WZI

PAGE 1

DESCRIPTION	Depth (ft)	Lith-ology	Sample Number	OVA ppm	ORG LEAD	TOX	Blow counts	REMARKS
Spud in gravel and silt fill-	5							Spud at 3:10 p.m.
Sand: lt. tan; coarse to very coarse grained w/ pebbles to 1" dia., 15%; arkosic w/ sedimentary rock fragment grains; loose, dry; no odor.	8.5 10		1 C B (A)	0	BDT	BDT	25 15 5	3:25 p.m.
Clayey Silt: lt. brown; very well sorted; moderately cohesive; dry; no odor.	19.5 20		2 C B (A)	0	BDT	BDT	100 40 25	3:35 p.m.
Silty Clay: lt. brown w/white caliche nodules; very hard; cohesive; no odor.	28.5 30		3 C B (A)	0	BDT	BDT	100-4 90 30	3:45 p.m.



Sand, fine grained



Silt



Gravel

\* = Composite sample



Sand, medium grained



Silty sand



Hydrocarbon odor

BDT=below detection threshold



Sand, coarse grained



Sandy clay or clayey sand



Concrete

= water level



Clay



Silty clay or clayey silt



Sample analyzed



Silty gravel

WZI INC.

DATE DRILLED: 6-7-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36RW-2



PAGE 2

DESCRIPTION	Depth (ft)	Lith-ology	Sample Number	OVA ppm	ORG LEAD	TOX	Blow counts	REMARKS
Sand: lt. brown w/flakes of white; very fine grained; well sorted w/trace of medium grains; dry; loose; no odor.	35							
	38.5		4 C B (A)		BDT	BDT	100-5 10	4:13 p.m.
	40							
Silty clay: brown w/ flakes of black; very well sorted; cohesive; dry; no odor.	45							
	48.5		5 C B (A)	15	BDT	BDT	100-2 50	4:30 p.m.
	50							
Silt: lt. tan; very well sorted; dry; loose; no odor.	55							
	58.5		6 C B (A)	20	BDT	BDT	100-5 30	4:40 p.m.
	60							TD @ 60' POOH 4:45 p.m.
	65							
	70							

WZI INC.

DATE DRILLED: 6-8-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36RW-3



PAGE 1

DESCRIPTION	Depth (ft)	Lith-ology	Sample Number	OVA ppm	ORG LEAD	TOX	Blow counts	REMARKS
Spud in asphalt								Spud at 8:30 a.m.
	5							
Sand: lt. tan; medium-coarse grained w/15% pebbles; poorly sorted; arkosic; quartz, feldspar, muscovite, sedimentary rock fragment grains; pebbles of quartz; quartzite; diatomaceous shale; damp; loose; no odor.	8.5		1	0	BDT	BDT	35	8:41 a.m.
	10						25	
							15	
	15							
Clay: brown; well sorted; moist; very cohesive; no odor.	19.5		2	0	BDT	BDT	25	8:50 a.m.
	20						20	
							12	
	25							
Silty sand: lt. brown-brown; well sorted; sand is fine-medium grained; arkosic; abundant muscovite; damp; moderately cohesive; no odor.	28.5		3	0	BDT	BDT	80	9:01 a.m.
	30						60	
							30	



Sand, fine grained



Silt



Gravel

\* = Composite sample



Sand, medium grained



Silty sand or sandy silt



Hydrocarbon odor

BDT=below detection threshold



Sand, coarse grained



Sandy clay or clayey sand



Concrete

= water level



Clay



Silty clay or clayey silt



Sample analyzed

WZI INC.

DATE DRILLED: 6-8-89  
 LOGGED BY: Robert Sengebush  
 DRILLING EQUIP: F-10  
 HOLE DIAMETER: 8"

# TEST BORING 36RW-3



PAGE 2

DESCRIPTION	Depth (ft)	Lith-ology	Sample Number	OVA ppm	ORG LEAD	TOX	Blow counts	REMARKS
Silty sand: brown; well sorted; arkosic; moist; cohesive; no odor.	35		4 C B A	0	BDT	BDT	100-5 65 20	9:12 a.m.
	38.5							
	40							
Clay: brown w/ green patches and flakes of black organic material(?); very well sorted; very cohesive; no odor.	45		5 C B A	0	BDT	BDT	70 55 20	9:26 a.m.
	48.5							
	50							
Silty clay: lt. tan, trace green; very well sorted; cohesive; damp; no odor.	55		6 C B A	0	BDT	BDT	60 20 10	9:48 a.m.
	58.5							
	60							
	65							TD @ 60' POOH OOH 10:15 a.m.
	70							

WZI INC.

GROUND LEVEL

8" BOREHOLE  
DIAMETER

BACKFILL WITH CEMENT  
GROUT TO SURFACE

3 - 5' BENTONITE

CONTAMINATED  
BOREHOLES: 36SG-1  
36SW-1  
36SW-1S  
36SW-3



BECHTEL PETROLEUM  
OPERATIONS, INC.  
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1  
KERN COUNTY, CALIFORNIA  
FORMER UNDERGROUND STORAGE TANK SITES

BOREHOLE COMPLETION DIAGRAM

WZI INC.  
DATE 7/89

BAKERSFIELD, CA  
EXHIBIT

GROUND LEVEL

8" BOREHOLE  
DIAMETER

BACKFILL WITH CUTTINGS  
TO SURFACE

3 - 5' BENTONITE

NON-CONTAMINATED  
BOREHOLES: 36SG-2  
36SW-2  
36SW-2S  
36RW-1  
36RW-2  
36RW-3



BECHTEL PETROLEUM  
OPERATIONS, INC.  
ELK HILLS, NAVAL PETROLEUM RESERVE NO. 1  
KERN COUNTY, CALIFORNIA  
FORMER UNDERGROUND STORAGE TANK SITES

BOREHOLE COMPLETION DIAGRAM

WZI INC.  
DATE 7/89

BAKERSFIELD, CA  
EXHIBIT

WZI INC.  
P.O. BOX 9217  
BAKERSFIELD, CA 93389  
Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
Date Received: 06/06/89  
Laboratory No.: 4436-1

Sample Description: JOB #30265: 36SG-1-1A, 6/5/89

TOTAL CONTAMINANTS  
(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u>		<u>Method</u>	<u>Ref.</u>
		<u>P.Q.L.</u>	<u>Units</u>		
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	59534.	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
TTLC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

J. J. Eglin



WZI INC.

## CHAIN OF CUSTODY DOCUMENT

Lab# 4436-1

thru-12

6-6-89

Job Number: 30265

Attention: Rob Sengebush

Sample Type: (check one)

☐ Drinking Water ☐ Surface Water ☐ Wastewater ☐ Oil ☒ Soil☐ Sludge ☐ Other (specify) \_\_\_\_\_

Sample Description(s): Soil

Sample Number	Date Collected	Collector's Name	Type of Analysis
3654-1-1A	6-5-89	R. Sengebush	Org, Tox, Org. Lead
-2B			
-3B			
-4A			
-5A			
-6A			
-7A			
3654-2-1A			
-2A			
-3A			
-4A			
-5A			

Sample(s) Relinquished to Lab by: R. Sengebush 6-5-89

Sample(s) Received in Lab by: \_\_\_\_\_

1) Sample Relinquished by: \_\_\_\_\_

2) Sample Received by: \_\_\_\_\_

Sample Condition When Received By Lab: Cldy sealed, Labeled.

Lab Signature: Pat Cross



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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/06/89  
 Laboratory No.: 4436-2

Sample Description: JOB #30265: S6SG-1-2B, 6/5/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	None Detected	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
 Date Received: 06/06/89  
 Laboratory No.: 4436-3

Sample Description: JOB #30265: 36SG-1-3B, 6/5/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	None Detected	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).

N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).

I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration

TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
 Date Received: 06/06/89  
 Laboratory No.: 4436-4

Sample Description: JOB #30265: 36SG-1-4A, 6/5/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	None Detected	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
Date Received: 06/06/89  
Laboratory No.: 4436-5

Sample Description: JOB #30265: 36SG-1-5A, 6/5/89

TOTAL CONTAMINANTS  
(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	30.	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLIC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLIC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed).  
N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
TTLIC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/06/89  
 Laboratory No.: 4436-6

Sample Description: JOB #30265: 36SG-1-6A, 6/5/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	None Detected	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/06/89  
 Laboratory No.: 4436-7

Sample Description: JOB #30265: 36SG-1-7A, 6/5/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	None Detected	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

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WZI INC.  
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 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGEBUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/06/89  
 Laboratory No.: 4436-8

Sample Description: JOB #30265: 36SG-2-1A, 6/5/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	None Detected	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLIC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLIC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLIC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

J. J. Eglin



AGRICULTURE

CHEMICAL ANALYSIS

PETROLEUM

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LABORATORIES, INC.

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/06/89  
 Laboratory No.: 4436-9

Sample Description: JOB #30265: 36SG-2-2A, 6/5/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	None Detected	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLc, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLc = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

J. J. Eglin



AGRICULTURE

CHEMICAL ANALYSIS

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LABORATORIES, INC.

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
P.O. BOX 9217  
BAKERSFIELD, CA 93389  
Attn.: ROB SENGEBUSH 326-1112

Date Reported: 06/15/89 Page 1  
Date Received: 06/06/89  
Laboratory No.: 4436-10

Sample Description: JOB #30265: 36SG-2-3A, 6/5/89

TOTAL CONTAMINANTS  
(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	26.	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLc, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
TTLc = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

J. J. Eglin



AGRICULTURE

CHEMICAL ANALYSIS

PETROLEUM

BC

LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/06/89  
 Laboratory No.: 4436-11

Sample Description: JOB #30265: 36SG-2-4A, 6/5/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	36.	20.	mg/kg	413.1	2
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLc, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLc = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

*J. J. Eglin*  
 J. J. Eglin



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WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGEBUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/06/89  
 Laboratory No.: 4436-12

Sample Description: JOB #30265: 36SG-2-5A, 6/5/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Oil & Grease	56.	20.	mg/kg	413.1	2
Organic Lead	1.70	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLIC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLIC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLIC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

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J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 07-Jul-89

Lab No: 4459-1  
Sample Desc: Job #30265  
36SW-1-1A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	0.52	0.10
Toluene	ug/g	0.63	0.10
Ethyl Benzene	ug/g	0.21	0.10
p-Xylene	ug/g	0.37	0.10
m-Xylene	ug/g	0.55	0.10
o-Xylene	ug/g	0.45	0.10
Total Pet. Hydrocarbons	ug/g	16.00	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Ballo*  
Analyst

AGRICULTURE

CHEMICAL ANALYSIS

PETROLEUM

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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-2  
Sample Desc: Job #30265  
36SW-1-2A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	2.10	0.10
Toluene	ug/g	1.80	0.10
Ethyl Benzene	ug/g	1.10	0.10
p-Xylene	ug/g	1.60	0.10
m-Xylene	ug/g	3.40	0.10
o-Xylene	ug/g	2.10	0.10
Total Pet. Hydrocarbons	ug/g	69.00	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Balbo*  
Analyst

AGRICULTURE

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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-3  
Sample Desc: Job #30265  
36SW-1-3A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Balla*  
Analyst



AGRICULTURE  
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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-4  
Sample Desc: Job #30265  
36SW-1-5A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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*Joseph Balla*  
Analyst

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-5  
Sample Desc: Job #30265  
36SW-1-6A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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*Joseph Ballo*  
Analyst

AGRICULTURE

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-6  
Sample Desc: Job #30265  
36SW-1-7A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Ballo*  
Analyst



AGRICULTURE  
CHEMICAL ANALYSIS  
PETROLEUM

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LABORATORIES, INC.

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-7  
Sample Desc: Job #30265  
36SW-1S-1A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	0.30	0.10
Toluene	ug/g	0.23	0.10
Ethyl Benzene	ug/g	0.24	0.10
p-Xylene	ug/g	0.60	0.10
m-Xylene	ug/g	0.57	0.10
o-Xylene	ug/g	0.28	0.10
Total Pet. Hydrocarbons	ug/g	20.00	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Bello*  
Analyst



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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-8  
Sample Desc: Job #30265  
36SW-1S-2A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	0.33	0.10
Toluene	ug/g	0.18	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	0.10	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	1.50	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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*Joseph Balla*  
Analyst

AGRICULTURE

CHEMICAL ANALYSIS

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-9  
Sample Desc: Job #30265  
36SW-1S-3A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Balla*  
Analyst



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LABORATORIES, INC.

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-10  
Sample Desc: Job #30265  
36SW-1S-4A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	0.10	0.10
Toluene	ug/g	0.14	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
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*Joseph Ballo*  
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AGRICULTURE

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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-11  
Sample Desc: Job #30265  
36SW-1S-5A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Balla*  
Analyst

AGRICULTURE

CHEMICAL ANALYSIS

PETROLEUM

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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 06-Jul-89

Lab No: 4459-12  
Sample Desc: Job #30265  
36SW-1S-6A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Balla*  
Analyst



Post Office Box 9217  
Bakersfield, California 93389



**WZI INC.**

# CHAIN OF CUSTODY DOCUMENT

Lab# 4459-1  
thru-12

Job Number: 30265

Attention: Rob Sengebusch

Sample Type: (check one)

☐ Drinking Water    ☐ Surface Water    ☐ Wastewater    ☐ Oil    ☒ Soil

\_\_\_\_\_ Sludge \_\_\_\_\_ Other (specify) \_\_\_\_\_

Sample Description(s): *Soil*

[illegible]

Sample(s) Relinquished to Lab by: R. Sengul

Sample(s) Received in Lab by: \_\_\_\_\_

1) Sample Relinquished by: \_\_\_\_\_

2) Sample Received by: \_\_\_\_\_

Sample Condition When Received By Lab: Cold, Sealed, Labeled

Lab Signature: Pat Cross

Date Rec'd: 6/17/89

BC CHAIN OF CUSTODY

L-

Client:		Sampler:		Sample Type:		Analysis Requested:											
Name: WZI, Inc. Address: P.O. Box 9217 Attn: BKSfld, CA 93389 Rob Sengebush		Name: Address:		Water Soil <input checked="" type="checkbox"/> Sludge Oil		Other: (specify)		EPA 608/8080	BTX/TPH Diesel	BTX/TPH Gas	PCB	EPA 625/8270	EPA 524.2/8240	EPA 504 EDB/DBCP	EPA 502.2/8010/8020	EPA 503.1/8020	EPA 502.1/8010
Lab #	Description:	Job # 30265		Other Tests													
4459-1	36SW-1-1A, 6-6-89																
-2	36SW-1-2A																
-3	36SW-1-3A																
-4	36SW-1-5A																
-5	36SW-1-6A																
-6	36SW-1-7A																
-7	36SW-1S-1A																
-8	36SW-1S-2A																
-9	36SW-1S-3A																
-10	36SW-1S-4A																
-11	36SW-1S-5A																
-12	36SW-1S-6A																
Relinquished By:		Date:	Time:	Received By:		Date:	Time:	Comments:									
Jean Maltby		6/8/89	9:20 AM	J. J. Eglin		6-8-89	11:50 A										
J. J. Eglin		6-8-89	1:30 P	Tom Wilcox		6/8/89	1:45 pm										

White: Return to Customer with Report  
Yellow: BC Lab Copy

AGRICULTURE

CHEMICAL ANALYSIS

PETROLEUM

BC

LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 07-Jul-89

Lab No: 4461-7  
Sample Desc: Job #30265  
36SW-2S-1A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph L. Ballo*  
Analyst

AGRICULTURE  
CHEMICAL ANALYSIS  
PETROLEUM

BC

LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 07-Jul-89

Lab No: 4461-8  
Sample Desc: Job #30265  
36SW-2S-2A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 07-Jul-89

Lab No: 4461-9  
Sample Desc: Job #30265  
36SW-2S-3A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 07-Jul-89

Lab No: 4461-10  
Sample Desc: Job #30265  
36SW-2S-4A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 07-Jul-89

Lab No: 4461-11  
Sample Desc: Job #30265  
36SW-2S-5A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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Purgeable Aromatics  
(SOIL)

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 07-Jul-89

Lab No: 4461-12  
Sample Desc: Job #30265  
36SW-2S-6A 6/06/89

DATE SAMPLE  
COLLECTED:  
06-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
20-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Balla*  
Analyst





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Purgeable Aromatic Analysis

WZI  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 27-Jun-89  
Lab #: 4461-1

Sample Description: Job #30265  
36SW-2-1A 6/06/89

Test Method: EPA Method 8010  
As Received Basis

Type of Sample: Soil

Date Sample  
Collected:  
06-Jun-89

Date Sample  
Received @ Lab:  
08-Jun-89

Date Analysis  
Completed:  
22-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Bromodichloromethane	ug/g	none detected	0.02
Bromoform	ug/g	none detected	0.02
Bromomethane	ug/g	none detected	0.02
Carbon tetrachloride	ug/g	none detected	0.02
Chloroethane	ug/g	none detected	0.02
2-Chloroethylvinyl ether	ug/g	none detected	0.02
Chloroform	ug/g	none detected	0.02
Chloromethane	ug/g	none detected	0.02
bis(2-Chloroethyl) ether	ug/g	none detected	0.02
Dibromochloromethane	ug/g	none detected	0.02
Dichlorodifluoromethane	ug/g	none detected	0.02
1,1-Dichloroethane	ug/g	none detected	0.02
1,2-Dichloroethane	ug/g	none detected	0.02
1,1-Dichloroethene	ug/g	none detected	0.02
trans-1,2-Dichloroethene	ug/g	none detected	0.02
1,2-Dichloropropane	ug/g	none detected	0.02
cis-1,3-Dichloropropene	ug/g	none detected	0.02
trans-1,3-Dichloropropene	ug/g	none detected	0.02



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Purgeable Organic Analysis (Continued)

Lab #: 4461-1  
Sample Description: Job #30265  
36SW-2-1A 6/06/89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
1,1,2,2-Tetrachloroethane	ug/g	none detected	0.02
Tetrachloroethene	ug/g	none detected	0.02
1,1,1-Trichloroethane	ug/g	none detected	0.02
1,1,2-Trichloroethane	ug/g	none detected	0.02
Trichloroethene	ug/g	none detected	0.02
Trichlorofluoromethane	ug/g	none detected	0.02
Vinyl Chloride	ug/g	none detected	0.02

Comments: Analyzed by GC/MS Method 8240

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By

*J. J. Eglin*  
J. J. Eglin

*Stuart S. Butta*  
Chemist

## Return to Pierce Road

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Purgeable Aromatics  
(SOIL)

WZI, Inc.  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 22-Jun-89

Lab No: 4498-1  
Sample Desc: Job #30265  
36SW-3-1A 6/07/89

DATE SAMPLE  
COLLECTED:  
08-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
21-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	3.30	0.10
Toluene	ug/g	6.70	0.10
Ethyl Benzene	ug/g	0.79	0.10
p-Xylene	ug/g	1.20	0.10
m-Xylene	ug/g	2.60	0.10
o-Xylene	ug/g	1.60	0.10
Total Pet. Hydrocarbons	ug/g	36.00	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Balta*  
Analyst

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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI, Inc.  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 21-Jun-89

Lab No: 4498-2  
Sample Desc: Job #30265  
36SW-3-2A 6/07/89

DATE SAMPLE  
COLLECTED:  
08-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
21-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	1200.00	0.10
Toluene	ug/g	3200.00	0.10
Ethyl Benzene	ug/g	890.00	0.10
p-Xylene	ug/g	1200.00	0.10
m-Xylene	ug/g	2500.00	0.10
o-Xylene	ug/g	1600.00	0.10
Total Pet. Hydrocarbons	ug/g	36000.00	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Balla*  
Analyst



AGRICULTURE  
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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI, Inc.  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 21-Jun-89

Lab No: 4498-3  
Sample Desc: Job #30265  
36SW-3-3A 6/07/89

DATE SAMPLE  
COLLECTED:  
08-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
21-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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J. J. Eglin

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Analyst

AGRICULTURE

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LABORATORIES, INC.

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI, Inc.  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 21-Jun-89

Lab No: 4498-4  
Sample Desc: Job #30265  
36SW-3-4A 6/07/89

DATE SAMPLE  
COLLECTED:  
08-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
21-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI, Inc.  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 21-Jun-89

Lab No: 4498-5  
Sample Desc: Job #30265  
36SW-3-5A 6/07/89

DATE SAMPLE  
COLLECTED:  
08-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
21-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

*J. J. Eglin*  
J. J. Eglin

*Joseph Balla*  
Analyst



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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

Purgeable Aromatics  
(SOIL)

WZI, Inc.  
P.O. Box 9217  
Bakersfield, CA 93389  
Attention: Rob Sengebush

Date of  
Report: 21-Jun-89

Lab No: 4498-6  
Sample Desc: Job #30265  
36SW-3-6A 6/07/89

DATE SAMPLE  
COLLECTED:  
08-Jun-89

DATE SAMPLE  
RECEIVED @ LAB:  
08-Jun-89

DATE ANALYSIS  
COMPLETED:  
21-Jun-89

Constituent	Reporting Units	Analysis Results	Minimum Reporting Level
Benzene	ug/g	None Detected	0.10
Toluene	ug/g	None Detected	0.10
Ethyl Benzene	ug/g	None Detected	0.10
p-Xylene	ug/g	None Detected	0.10
m-Xylene	ug/g	None Detected	0.10
o-Xylene	ug/g	None Detected	0.10
Total Pet. Hydrocarbons	ug/g	None Detected	1.00

TEST METHOD: TPH for gasoline by D.O.H.S. L.U.F.T. method.  
Individual constituents by EPA method 8020.

Dry Matter Basis

Comments:

California D.O.H.S. Cert. #102

By

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J. J. Eglin

*Joseph Ballo*  
Analyst



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J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-7

Sample Description: JOB #30265: 36RW-1-1B, 6/7/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLc, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLc = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

J. J. Eglin





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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-8

Sample Description: JOB #30265: 36RW-1-2A, 6/7/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed.

N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).

I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration

TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

J. J. Eglin



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4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-9

Sample Description: JOB #30265: 36RW-1-3A, 6/7/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

J. J. Eglin



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PETROLEUM

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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-10

Sample Description: JOB #30265: 36RW-1-4A, 6/7/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLIC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLIC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLIC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-11

Sample Description: JOB #30265: 36RW-1-5A, 6/7/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).

N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).

I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration

TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-12

Sample Description: JOB #30265: 36RW-1-6A, 6/7/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-13

Sample Description: JOB #30265: 36RW-2-1A, 6/7/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLT, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLT) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLT = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-14

Sample Description: JOB #30265: 36RW-2-2A, 6/7/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLIC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLIC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLIC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-15

Sample Description: JOB #30265: 36RW-2-3A, 6/7/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
Date Received: 06/08/89  
Laboratory No.: 4498-16

Sample Description: JOB #30265: RW-2-4A, 6/7/89

TOTAL CONTAMINANTS  
(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLIC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLIC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed).  
N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
TTLIC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-17

Sample Description: JOB #30265: 36RW-2-5A, 6/7/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed.  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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 Attn.: ROB SENGEBUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4498-18

Sample Description: JOB #30265: 36RW-2-6A, 6/7/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLT, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLT) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLT = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY \_\_\_\_\_  
 J. J. Eglin





WZI INC.

## CHAIN OF CUSTODY DOCUMENT

#4498-1

thru-18

6/8/89

Job Number: 30265Attention: R. Sengelbush

Sample Type: (check one)

☐ Drinking Water
 ☐ Surface Water
 ☐ Wastewater
 ☐ Oil
 ☒ Soil

☐ Sludge
 ☐ Other (specify) \_\_\_\_\_

Sample Description(s):

SoilGasoline

Sample Number	Date Collected	Collector's Name	Type of Analysis
36SW-3 1A ✓	6-7-89	R. Sengelbush	BTEX, TPH
2A ✓	↓	↓	↓
3A ✓	↓	↓	↓
4A ✓	↓	↓	↓
5A ✓	↓	↓	↓
6A ✓	↓	↓	↓
36RW-1-1B ✓	↓	↓	TOX, Org Lead
2A ✓	↓	↓	↓
3A ✓	↓	↓	↓
4A ✓	↓	↓	↓
5A ✓	↓	↓	↓
6A ✓	↓	↓	↓
36RW-2-1A ✓	↓	↓	TOX, Org Lead
2A ✓	↓	↓	↓
3A ✓	↓	↓	↓
4A ✓	↓	↓	↓
5A ✓	↓	↓	↓
6A ✓	↓	↓	↓

Sample(s) Relinquished to Lab by: R. Sengelbush 6-7-89

Sample(s) Received in Lab by: \_\_\_\_\_

1) Sample Relinquished by: \_\_\_\_\_

2) Sample Received by: \_\_\_\_\_

Sample Condition When Received By Lab: Sealed, Cold, LabeledLab Signature: Pat Cross

Date Rec'd: 6/8/89

BC CHAIN OF CUSTODY

Client:		Sampler:		Sample Type:		Analysis Requested:									
Name: WZJ, Inc Address: P.O. Box 9217 Attn: Bksfld, CA 93389 R. Sengebusch		Name: Address: Same		Water _____ Soil <u>X</u> Sludge _____ Oil _____ Other: (specify) _____		EPA 608/8080	BTX/TPH Diesel	BTX/TPH Gas	PCB	EPA 625/8270	EPA 524.2/8240	EPA 504 EDB/DBCP	EPA 502.2/8010/8020	EPA 503.1/8020	EPA 502.1/8010
Lab #	Description: Sch # 30265			Other Tests											
4498-1	36SW-3-1A, 6-7-89							X							
-2	36SW-3-2A							X							
-3	36SW-3-3A							X							
-4	36SW-3-4A							X							
-5	36SW-3-5A							X							
-6	36SW-3-6A							X							

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Comments:
Jean M. Eglar	6/8/89	10:45 AM	J. J. Eglar	6-8-89	11:50 A	
J. J. Eglar	6-8-89	1:30 P	For: D. L. Cox	6/8/89	1:45 PM	

White: Return to Customer with Report  
Yellow: BC Lab Copy



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 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4501-1

Sample Description: JOB #30265: 36RW-3-1A, 6/8/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

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Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4501-2

Sample Description: JOB #30265: 36RW-3-2A, 6/8/89

## TOTAL CONTAMINANTS

(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

## REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

  
 J. J. Eglin

AGRICULTURE  
CHEMICAL ANALYSIS  
PETROLEUM

BC

LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
P.O. BOX 9217  
BAKERSFIELD, CA 93389  
Attn.: ROB SENGEBUSH 326-1112

Date Reported: 06/15/89 Page 1  
Date Received: 06/08/89  
Laboratory No.: 4501-3

Sample Description: JOB #30265: 36RW-3-3A, 6/8/89

TOTAL CONTAMINANTS  
(Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
TTLC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

*J. J. Eglin*  
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AGRICULTURE

CHEMICAL ANALYSIS

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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGEBUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4501-4

Sample Description: JOB #30265: 36RW-3-4A, 6/8/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

*J. J. Eglin*  
 J. J. Eglin



AGRICULTURE

CHEMICAL ANALYSIS

PETROLEUM

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LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGE BUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4501-5

Sample Description: JOB #30265: 36RW-3-5A, 6/8/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLIC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) on an as received (wet) sample basis. Results reported represent totals (TTLIC) as sample subjected to appropriate techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLIC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

*J. J. Eglin*  
 J. J. Eglin



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AGRICULTURE

CHEMICAL ANALYSIS

PETROLEUM

BC

LABORATORIES, INC.

J. J. EGLIN, REG. CHEM. ENGR.

4100 PIERCE RD., BAKERSFIELD, CALIFORNIA 93308 PHONE 327-4911

WZI INC.  
 P.O. BOX 9217  
 BAKERSFIELD, CA 93389  
 Attn.: ROB SENGEBUSH 326-1112

Date Reported: 06/15/89 Page 1  
 Date Received: 06/08/89  
 Laboratory No.: 4501-6

Sample Description: JOB #30265: 35RW-3-6A, 6/8/89

TOTAL CONTAMINANTS  
 (Title 22, Article II, California Administrative Code)

<u>Constituents</u>	<u>Sample Results</u>	<u>Method</u> <u>P.Q.L.</u>	<u>Units</u>	<u>Method</u>	<u>Ref.</u>
TOX	None Detected	20.	mg/kg	9020	1
Organic Lead	None Detected	1.0	mg/kg	State-Draf	2

(See Last Page for Comments, Definitions, Regulatory Criteria, and References)

<u>Constituents</u>	<u>Regulatory Criteria</u>	
	<u>STLC, mg/L</u>	<u>TTLC, mg/kg</u>
Organic Lead	None	13.0

Comment: All constituents reported above are in mg/kg (unless otherwise stated) 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 detectable based on sample size used and analytical technique employed).  
 N.D. = None Detected (Constituent, if present, would be less than the method P.Q.L.).  
 I.S. = Insufficient Sample

STLC = Soluble Threshold Limit Concentration  
 TTLC = Total Threshold Limit Concentration

REFERENCES:

- (1) "Test Methods for Evaluating Solid Wastes", SW 846, July, 1982.
- (2) "Methods for Chemical Analysis of Water and Wastes", EPA-600, 14-79-020.

BY

J. J. Eglin





WZL INC.

## CHAIN OF CUSTODY DOCUMENT

Job Number: 30265Attention: Rob Sengbush

Sample Type: (check one)

☐ Drinking Water ☐ Surface Water ☐ Wastewater ☐ Oil ☒ Soil☐ Sludge ☐ Other (specify) \_\_\_\_\_Sample Description(s): Soil

Sample Number	Date Collected	Collector's Name	Type of Analysis
36RW-3-1A	6-8-89	R. Sengbush	TOX, Org. Lead
- 2A	↓	↓	↓
- 3A	↓	↓	↓
- 4A	↓	↓	↓
- 5A	↓	↓	↓
- 6A	↓	↓	↓
36RW-3-1B	6-8-89	R. Sengbush	STORE
2B	↓	↓	↓
3B	↓	↓	↓
4B	↓	↓	↓
5B	↓	↓	↓
6B	↓	↓	↓

Sample(s) Relinquished to Lab by: Rob Sengbush 6-8-89Sample(s) Received in Lab by: Chris Harrell 6-8-89

1) Sample Relinquished by: \_\_\_\_\_

2) Sample Received by: \_\_\_\_\_

Sample Condition When Received By Lab: Cold, Sealed, Labeled

Lab Signature: \_\_\_\_\_



# FOREMAN'S TOOL BOX MEETING

FOREMAN R. Sengebusch DATE 6-5-89 TIME 12:10 SHIFT       

JOB NAME Elk Hills NO. IN CREW 4 NO. ATTENDING 5

Subjects Discussed: Beritel 30265  
Safety Mtg

Hard Hat

Boots

No Smoking

Rig Shut down

First Aid Kit

Level D Lightening

Suggestions Made:       

Dial 2300 for Emergency

Action To Be Taken:       

Superintendent's Remarks:       

## SIGNATURES OF THOSE ATTENDING

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

Superintendent

Foreman



# FOREMAN'S TOOL BOX MEETING

FOREMAN R. Sengbusch DATE 6-6-89 TIME 8:00 SHIFT       

JOB NAME Elkhills NO. IN CREW 4 NO. ATTENDING 5

Subjects Discussed: Bechtel 30265 Safety Mtg

Hard Hats  
Gloves  
No Smoking

Suggestions Made:       

Dial 2300 for Emergency

Action To Be Taken:       

Superintendent's Remarks:       

## SIGNATURES OF THOSE ATTENDING

1	<u>[Signature]</u>	11	21
2	<u>[Signature]</u>	12	22
3	<u>[Signature]</u>	13	23
4	<u>[Signature]</u>	14	24
5		15	25
6		16	26
7		17	27
8		18	28
9		19	29
10		20	30

Superintendent

Foreman



# FOREMAN'S TOOL BOX MEETING

FOREMAN R. Sengbusch DATE 6-7-89 TIME 8:19 SHIFT       

JOB NAME Elkhills NO. IN CREW 4 NO. ATTENDING 4

Subjects Discussed: Bechtel 30265 Safety Mtg

Hard Hats Level D site  
boots  
No Smoking  
First Aid kit in vehicle

Suggestions Made: Drill slowly 1<sup>st</sup> 5'

Action To Be Taken:       

Superintendent's Remarks:       

## SIGNATURES OF THOSE ATTENDING

1	<u>[Signature]</u>	11	21
2	<u>[Signature]</u>	12	22
3	<u>[Signature]</u>	13	23
4	<u>[Signature]</u>	14	24
5	<u>[Signature]</u>	15	25
6		16	26
7		17	27
8		18	28
9		19	29
10		20	30

Superintendent

Foreman

# FOREMAN'S TOOL BOX MEETING

FOREMAN R. Sengel DATE 6-8-89 TIME 8:30 SHIFT 4

JOB NAME Bechtel NO. IN CREW 4 NO. ATTENDING 4

Subjects Discussed: Elkhills 30265  
Safety Mtg

Hard Hat  
Safety Shoes  
No Smoking Drill Slowly to Start  
Need Safety Line to Service Mast

Suggestions Made: \_\_\_\_\_

Action To Be Taken: \_\_\_\_\_

Superintendent's Remarks: \_\_\_\_\_

## SIGNATURES OF THOSE ATTENDING

1	<u>[Signature]</u>	21
2	<u>[Signature]</u>	22
3	<u>[Signature]</u>	23
4	<u>[Signature]</u>	24
5		25
6		26
7		27
8		28
9		29
10		30

Superintendent

Foreman

2700 "M" Street, Ste. 300  
Bakersfield, CA 93301  
(805) 861-3636

**KERN COUNTY**  
**Environmental Health Department**



February 7, 1989

Sir/Madam  
U. S. Dept. of Energy  
P. O. Box 11  
Tupman, CA 93276

SUBJECT: Location: T305, 1224E, SEC36

Known As: Elk Hills Naval Reserve  
PERMIT #: 330088

Dear Sir/Madam:

This letter is an official notice to inform you, a responsible party for the above described site, of your options for oversight cost recovery. As previously notified, you are a responsible party for a site determined to have an unauthorized release of hazardous materials from an underground storage tank and are required to provide for all studies and work relating to the above described property; see attachment "A".

The costs incurred by Kern County Environmental Health for the oversight of the work for the site characterization, feasibility study, remediation action plan, site remediation, and ongoing monitoring is not covered by any fees or permits. These costs are recovered by Kern County Environmental Health in one of the two ways described below. It is your responsibility to select the method of oversight cost recovery under the terms of the (A) State contract or (B) County of Kern Local Agreement Option. These options **ONLY** pertain to current and future costs associated with oversight, and you will not be "back-billed" or retroactively charged for previous oversight costs.

**(A) STATE CONTRACT**

The State Leaking Underground Storage Tank Pilot Program provides a mechanism for the State to reimburse the County for County oversight. The County will conduct the necessary oversight and bill the State Water Resources Control Board under this State contract. The State will then charge you, a responsible party for both the costs incurred by the County and the State pertaining to your site.

**(B) COUNTY LOCAL AGREEMENT**

Kern County Environmental Health is providing this option for those who prefer to pay the County directly and avoid the addition of State costs. Prior to the County's performance of services, this option requires your deposit of

\$1,000.00 (one thousand dollars) with the County to be held in the Local Option Trust Account. Charges for County oversight are made against this account. In this option, a responsible party must enter into a County agreement, attachment "B".

To safeguard the environment, the environmental sensitivity (Attachment "C") of this site has been reviewed by Environmental Health to determine the potential threat for groundwater contamination. Only sites determined to be non-environmentally sensitive may enroll in the Local Option Agreement. The site described above is not in an environmentally sensitive area and may be enrolled in the Local Option Agreement; however, the County of Kern reserves the right to cancel any Local Option Agreement, should it be discovered that groundwater contamination or a unique, complex hydrogeological condition exists. In such cases, Environmental Health will utilize the State contract to pay for County oversight activities. The County of Kern reserves this right for any site even when the site is located in a non-environmentally sensitive area.

It is necessary for you to respond in writing within ten (10) calendar days of receipt of this letter to advise Kern County Environmental Health of your choice: either the State Contract or the County's Local Agreement option. If you select the County's Local Agreement, please sign the Local Agreement, enclosure "B", and return it with your check for \$1,000.00 (one thousand dollars) made payable to the County of Kern, addressed to Kern County Environmental Health 2700 M Street, Suite 300, Bakersfield, CA 93301, Attention: Underground Storage Tank Contract Administrator. If you select the State Contract, please indicate that you have made this selection and that you have read Attachment "D", the official notification, in a letter sent to the address indicated above.

Failure to respond in writing to this notice within ten (10) calendar days will automatically result in oversight cost recovery for your site(s) to be placed under the terms of the State Pilot Program for Leaking Underground Storage Tanks. Attachment "D" will then serve as the official notification of your enrollment into the State Pilot Program for Underground Storage Tanks.

If you should have any questions regarding this matter, please contact John Nilon, contract manager, at (805) 861-3636.

Sincerely,

Mary Weddell  
Assistant County Administrative Officer  
Environmental Health

attachments

2700 "M" Street, Ste. 300  
Bakersfield, CA 93301  
(805) 861-3636

## KERN COUNTY

Environmental Health Department

ATTACHMENT "D"



February 7, 1989

Sir/Madam  
U. S. Dept. of Energy  
P. O. Box 11  
Tupman, CA 93276

SUBJECT: Location: T305, 1224E, SEC36

Known As: Elk Hills Naval Reserve  
PERMIT #: 330088

Dear Sir/Madam:

This letter will serve as the official notification concerning reimbursement requirements for a responsible party enrolled in the State Leaking Underground Storage Tank Pilot Program. As mentioned in the introductory letter, by either not responding to this package within ten (10) calendar days or through your own selection of the State Contract option, your site will be placed under the terms explained below:

Whereas the Legislature has appropriated funds from the California Hazardous Substance Clean-up Fund to pay the local and state agency administrative and oversight costs associated with the cleanup of releases from underground storage tanks; and Whereas the direct and indirect costs of overseeing removal or remedial action at the above site are funded, in whole or in part, from the Hazardous Substance Cleanup Fund; and Whereas the above individual(s) or entity(ies) have been identified as the party or parties responsible for investigation and cleanup of the above site; YOU ARE HEREBY NOTIFIED that pursuant to Section 25360 of the Health and Safety code, the Above Responsible Party or Parties shall reimburse the State Water Resources Control Board for all direct and indirect costs incurred by any and all state and local agencies while overseeing the cleanup of the above underground storage tank site, and the above Responsible Party or Parties shall make full payment of such costs within 30 days of receipt of a detailed invoice from the State Water Resources Control Board.

If you should have any questions regarding this matter, please contact John Nilon, contract manager, at (805) 861-3636.

Sincerely,

Mary Weddell  
Assistant County Administrative Officer  
Environmental Health

attachments

WATER RESOURCES CONTROL BOARD  
DIVISION OF WATER QUALITY  
UST CLEANUP PROGRAM  
SITE SPECIFIC QUARTERLY REPORT

CONTRACTOR NO: 15000 SOURCE OF FUNDS: S SUBSTANCE: 12036  
SITE NO: 330088 FEDERAL EXEMPT: N PETROLEUM: Y  
SITE NAME: ELK HILLS NAVAL, RESERVE #1 DATE REPORTED: 03/01/88  
ADDRESS: T30S, R24E, SEC. 36 DATE CONFIRMED: 03/01/88  
CITY/ZIP: TUPMAN, CA CATEGORY: R

SITE STATUS

CASE TYPE: S CONTRACT STATUS: 9 EMERGENCY  
RESPONSE:  
RP SEARCH: S DATE UNDERWAY: 03/01/88 DATE COMPLETED: 03/01/88  
PRELIMINARY ASSESSMENT: C DATE UNDERWAY: 04/05/88 DATE COMPLETED: 04/07/88  
REMEDIAL INVESTIGATION: C DATE UNDERWAY: 04/05/89 DATE COMPLETED: 08/10/89  
REMEDIAL ACTION: C DATE UNDERWAY: 12/12/89 DATE COMPLETED: 12/14/89  
POST REMEDIAL ACTION MONITORING DATE UNDERWAY: / / DATE COMPLETED:

ENFORCEMENT ACTION TYPE: DATE TAKEN:  
TAKEN:

RAP REQUIRED: DATE APPROVED:

CASE CLOSED: Y DATE CLOSED: 12/14/89

DATE EXCAVATION STARTED: REMEDIAL ACTIONS TAKEN:

RESPONSIBLE PARTY

CONTACT NAME: SPECIALIST: 6  
COMPANY NAME: U. S. DEPT. OF ENERGY SENSITIVITY: NES  
ADDRESS: P. O. BOX 11 VERIFIED (X)  
CITY/STATE: TRPMAN, CA 93276 DATE OF REPORT: 01/03/90

Attachment 6

**PRELIMINARY SITE ASSESSMENT**

**BECHTEL PETROLEUM  
ELK HILLS RESERVE  
TUPMAN, CALIFORNIA**

**PERMIT NUMBER A602-33**

March 7, 1988

Prepared by  
**GOLDEN STATE ENVIRONMENTAL SERVICES**  
2420 Eric Way, Suite B  
Bakersfield, California 93306  
(805)871-2380

GOLDEN STATE ENVIRONMENTAL SERVICES

2420 Eric Way, Suite B., Bakersfield, CA. (805) 871-2380

PRELIMINARY ASSESSMENT REPORT

BECHTEL PETROLEUM

ELK HILLS RESERVE

Tupman, California

BACKGROUND INFORMATION

The firm of Golden State Environmental Services was retained as decontamination and preliminary assessment contractor by Liquid Construction Inc., of Tulare, California, to decontaminate and certify the abandonment of ten existing underground storage tanks for Bechtel Petroleum at the Elk Hills Naval Petroleum Reserve located in Tupman, California (see attached vicinity map). Tanks ranged in size from one thousand to six thousand gallon capacity. An application for permit for permanent closure of underground hazardous substances storage facility was submitted to the Kern County Environmental Health Department by Bechtel Petroleum. The Kern County Health Department issued permit No. *A602-83* following review & approval.

ABANDONMENT PROCEDURES

Prior to the excavation of the tank the Kern County Health Department and the Kern County Fire Department were given required prior notification



by the contractor that the subject tanks were to be decontaminated and removed commencing February 15, 1987

Upon arrival at the site, excavation to expose the fill, product and vent lines for the purpose of decontamination had been previously accomplished. Fill and vent lines were then removed to access tank for the decontamination process. Product lines were then pressure washed into the tank to remove all residual hazardous waste in the lines. Product lines were subsequently disassembled and removed from the tanks.

Residual liquid in the tanks were first removed using a vacuum truck. The interior of the tanks were then decontaminated utilizing high pressure (3000 psi) cold water. The interior of the tanks were visually inspected to insure that all sludge and residual liquid had been removed. The decontamination process was continued until a reading of less than five percent (5%) was achieved on the L.E.L. meter.

Rinsate waters generated in the decontamination process was removed from the tank by the vacuum truck operated by M P Vacuum Service.

A California Uniform Hazardous Waste Manifest was executed and accompanied the vacuum truck containing the wastes to Gibson Oil and Refining Co., Inc., Commercial Drive, Bakersfield, California. After insuring that the vehicle was properly placarded the vehicle was allowed to proceed to its destination.

100 lbs per 1000 gallons of tank volume. Dry ice was broken into small pieces and distributed over the greatest possible area to secure rapid evaporation. Fire Inspector M. Cody arrived and verified that the L.E.L. and oxygen levels within the tanks were within acceptable limits and the tanks were safe to remove

The tanks were removed from the excavation and identification numbers spray painted conspicuously on the sides. Tanks were then placed on a flatbed trailer operated by M P Vacuum Service for transport. The tank tracking card that was issued with the permit was completed and accompanied the tanks to their final destination. The tanks were transported to American Metal Recycling, 2202 South Milliken Ave., Ontario, CA for destruction and disposal. The tracking card was signed by the disposal facility and returned to the Health Department.

#### FIELD OBSERVATIONS

#### SAMPLING PROCEDURES

Field observations and sampling procedures for the subject investigation consisted of the following: Visual and Olfactory observation of site soils, tank and tank bedding condition, and soil sampling utilizing stainless steel drive tubes.

Casual inspection of the tanks upon removal revealed some corrosion but no obvious failure points. Soil samples for laboratory analysis were obtained at two feet (2') and six feet (6') below the center of the waste oil tanks and at two locations approximately one-third of the way in from the ends of the gasoline tanks at depths of two feet (2') and six feet (6').

County Health Department.

A backhoe was employed to excavate to the desired test depth. Representative samples were carefully taken from the backhoe bucket at the appropriate depths by driving the stainless steel tube into the soils. After collection each end of the tube was covered with aluminum foil and then

covered with polyethylene lid, taped, and labeled. Identification numbers were marked on tubes. The tubes were placed into an ice chest which contained blue ice for transportation to the laboratory.

Chain-of-custody and sample analysis request forms were completed and the samples were delivered to SMC Laboratories, 3155 Pegasus Drive, Bakersfield, CA. Samples obtained below the waste oil tank were analyzed for total organic halides, oil and grease, and lead. Samples obtained below the gasoline tanks were analyzed for benzene, toluene, xylene, and total petroleum hydrocarbons as specified in permit conditions.

#### ANALYSIS

Attached you will find the laboratory analysis report sheet from SMC Laboratories. The accompanying chain-of-custody forms have not been included but are on file at the Golden State Environmental office, and are available for review.

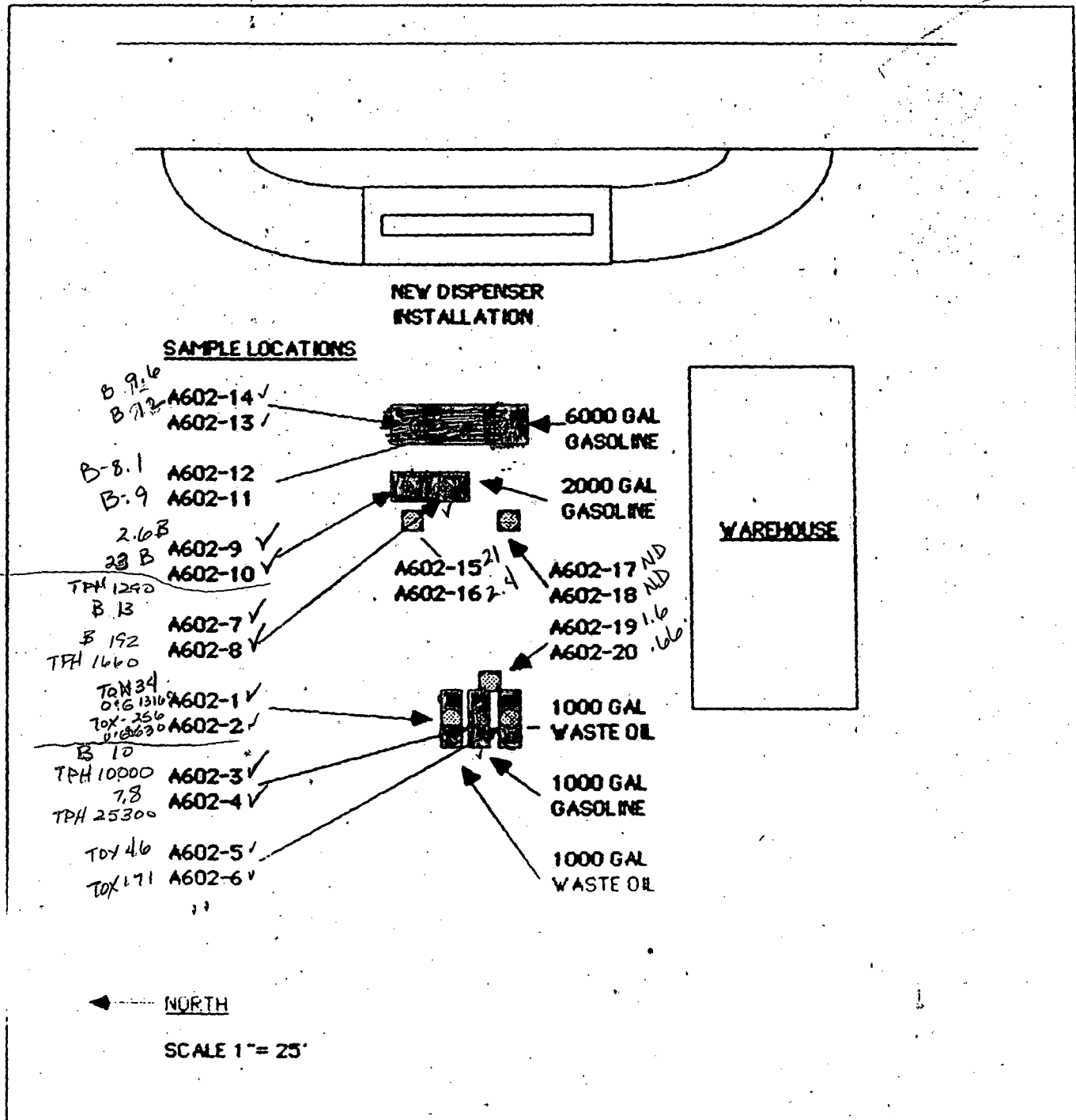
Review of the lab analysis in conjunction with field observations suggest that contaminant levels reported for samples indicate that further investigative work to determine the vertical and horizontal extent of plume migration may be necessary.

Please feel free to contact this office at (805)871-2380 if there are

Respectfully Submitted,

GOLDEN STATE ENVIRONMENTAL SERVICES

**GOLDEN STATE ENVIRONMENTAL SERVICES**  
 2420 ERIC WAY SUITE B, BAKERSFIELD, CA 93306  
 (805) 871-2380



**DETAIL MAP**

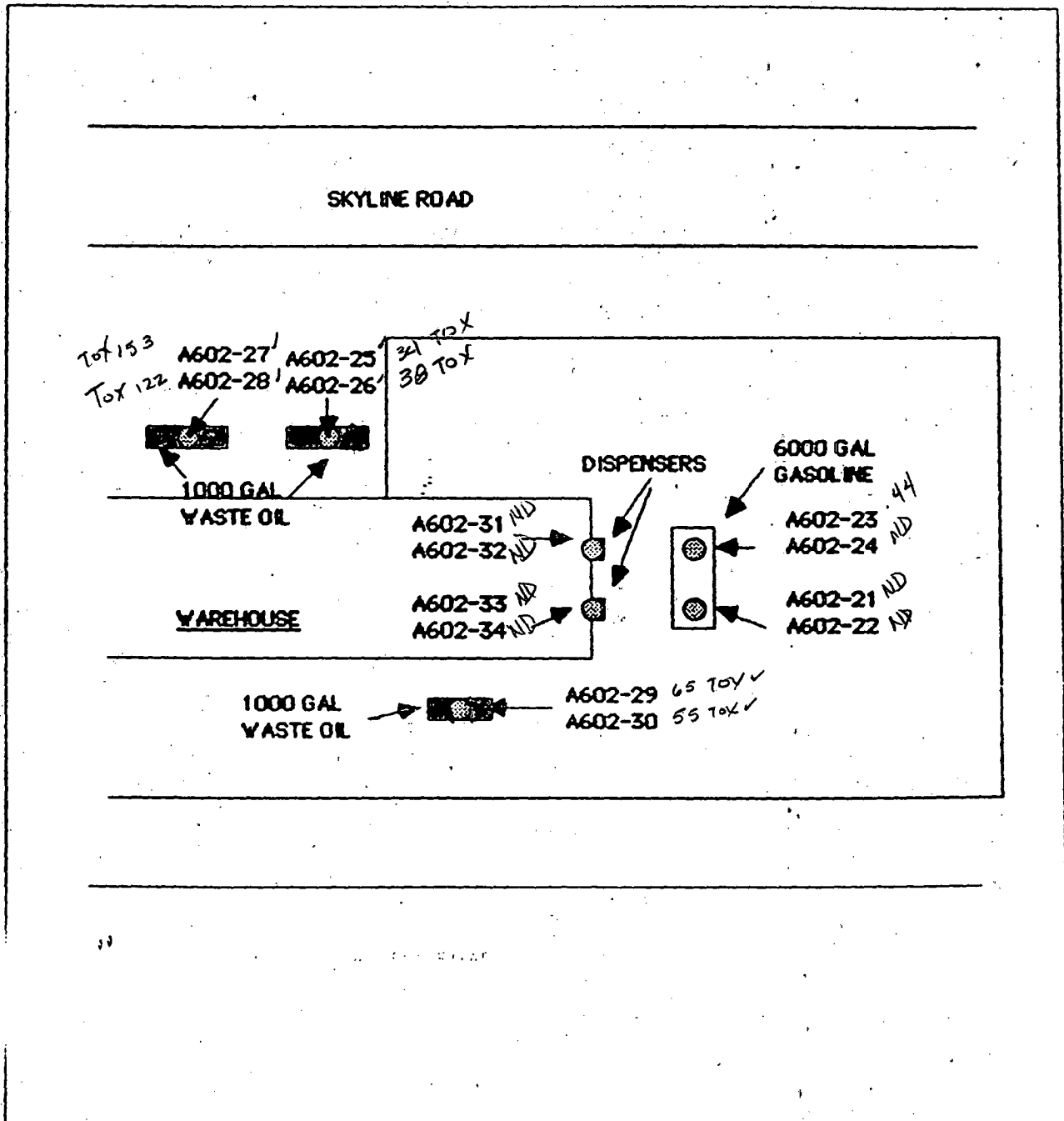
**BECHTEL PETROLEUM**  
**36 S WAREHOUSE**  
**ELK HILLS RESERVE**

213  
213

213

213

**GOLDEN STATE ENVIRONMENTAL SERVICES**  
 2420 ERIC WAY SUITE B, BAKERSFIELD, CA 93306  
 (805) 871-2380



DETAIL MAP

BECHTEL PETROLEUM  
 36 R WAREHOUSE  
 ELK HILLS RESERVE

330

03

cont. butyl  
 of product  
 11/15

**GOLDEN STATE ENVIRONMENTAL SERVICES**  
2420 ERIC WAY SUITE B., BAKERSFIELD, CA 93306  
(805) 871-2380

1000 GAL  
WASTE OIL →



SAMPLE LOCATION

✓A602-35 1/21 Tox  
✓A602-36 2/6/04  
016 19064

36 S GARAGE

DETAIL MAP

BECHTEL PETROLEUM  
36 S GARAGE  
ELK HILLS RESERVE

SMC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80935  
Bakersfield, CA 93380  
(805) 393-3597

Client Name: Jack Kash  
Address : 2420 Eric Way #B  
Bakersfield, CA 93306

Date sample received : 2-19-88  
Date analysis completed: 3-01-88  
Date of report : 3-02-88

Laboratory No. 331 through 366 Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#333 ID: A-602-3

	ugm/gm	MRL,ugm/gm
Benzene	10	0.1
Toluene	11	0.1
Ethylbenzene	13	0.1
p-Xylene	8.7	0.1
m-Xylene	29	0.1
o-Xylene	2.8	0.1
Isopropylbenzene	ND	0.1
TPH (Diesel)	10,300	1.0

#334 ID: A-602-4

	ugm/gm	MRL,ugm/gm
Benzene	7.8	0.1
Toluene	16	0.1
Ethylbenzene	18	0.1
p-Xylene	39	0.1
m-Xylene	ND	0.1
o-Xylene	16	0.1
Isopropylbenzene	ND	0.1
TPH (Diesel)	25,300	1.0

ND = Not detected

Method of Analysis: California DOHS LUF1 Manual

Stan Comer

Stan Comer



SMC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 331 through 366      Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#337 ID: A-602-7

	ugm/gm	MRL,ugm/gm
Benzene	13	0.1
Toluene	119	0.1
Ethylbenzene	45	0.1
p-Xylene	74	0.1
m-Xylene	156	0.1
o-Xylene	101	0.1
Isopropylbenzene	126	0.1
TPH (Not Diesel)	1,290	1.0

#338 ID: A-602-8

	ugm/gm	MRL,ugm/gm
Benzene	192	0.1
Toluene	87	0.1
Ethylbenzene	414	0.1
p-Xylene	ND	0.1
m-Xylene	ND	0.1
o-Xylene	72	0.1
Isopropylbenzene	102	0.1
TPH (Not Diesel)	1,660	1.0

#339 ID: A-602-9

	ugm/gm	MRL,ugm/gm
Benzene	2.6	0.1
Toluene	5.7	0.1
Ethylbenzene	3.0	0.1
p-Xylene	5.4	0.1
m-Xylene	12	0.1
o-Xylene	7	0.1

ugm/gm = microgram per gram

MRL = Minimum Reporting Level

TPH = Total Petroleum Hydrocarbons

ND = Not Detected

Method used: EPA 821-1 (GC/MS) (EPA 821-1)

Stan Gomez

Stan Gomez

SMC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 331 through 366

Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#340 ID: A-602-10

	ugm/gm	MRL,ugm/gm
Benzene	23	0.1
Toluene	17	0.1
Ethylbenzene	6.9	0.1
p-Xylene	ND	0.1
m-Xylene	0.52	0.1
o-Xylene	30	0.1
Isopropylbenzene	ND	0.1
TPH (Not Diesel)	1,640	1.0

#341 ID: A-602-11

	ugm/gm	MRL,ugm/gm
Benzene	0.91	0.1
Toluene	1.3	0.1
Ethylbenzene	0.20	0.1
p-Xylene	ND	0.1
m-Xylene	0.31	0.1
o-Xylene	ND	0.1
Isopropylbenzene	ND	0.1
TPH (Not Diesel)	6.6	1.0

#342 ID: A-602-12

	ugm/gm	MRL,ugm/gm
Benzene	8.1	0.1
Toluene	16	0.1
Ethylbenzene	6.0	0.1
p-Xylene	9.8	0.1
m-Xylene	22	0.1

ugm/gm = micrograms per gram

MRL = Minimum Reporting Level

TPH = Total Petroleum Hydrocarbons

ND = not detected

Method used: EPA 821-R-87-0101

Star Conner

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

## RESULTS OF ANALYSIS

	ugm/gm	MRL, ugm/gm
Benzene	12	0.1
Toluene	87	0.1
Ethylbenzene	16	0.1
p-Xylene	26	0.1
m-Xylene	51	0.1
o-Xylene	29	0.1
Isopropylbenzene	ND	0.1
TPH (Not Diesel)	568	1.0

	ugm/gm	MRL, ugm/gm
Benzene	9.6	0.1
Toluene	23	0.1
Ethylbenzene	7.5	0.1
p-Xylene	11	0.1
m-Xylene	22	0.1
o-Xylene	15	0.1
Isopropylbenzene	4.5	0.1
TPH (Not Diesel)	344	1.0

	ugm/gm	MRL, ugm/gm
Benzene		0.1
Toluene	21	0.1
Ethylbenzene	4.6	0.1
p-Xylene	2.2	0.1
m-Xylene	5.1	0.1
o-Xylene	10	0.1

On the other hand, the  $\beta$ -phase is not stable in the  $\text{Fe}-\text{Fe}_3\text{C}$  system, and the  $\beta$ -phase is not observed in the  $\text{Fe}-\text{Fe}_3\text{C}$  system.

Stay Games

SMC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 331 through 366

Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#346 ID: A-602-16

	ugm/gm	MRL,ugm/gm
Benzene	2.4	0.1
Toluene	11	0.1
Ethylbenzene	ND	0.1
p-Xylene	2.8	0.1
m-Xylene	4.7	0.1
o-Xylene	4.2	0.1
Isopropylbenzene	ND	0.1
TPH (Not Diesel)	136	1.0

#347 ID: A-602-17

	ugm/gm	MRL,ugm/gm
Benzene	ND	0.1
Toluene	0.89	0.1
Ethylbenzene	0.79	0.1
p-Xylene	1.3	0.1
m-Xylene	3.5	0.1
o-Xylene	2.4	0.1
Isopropylbenzene	ND	0.1
TPH (Not Diesel)	53	1.0

#348 ID: A-602-18

	ugm/gm	MRL,ugm/gm
Benzene	ND	0.1
Toluene	0.97	0.1
Ethylbenzene	0.48	0.1
p-Xylene	1.6	0.1
m-Xylene	1.9	0.1
o-Xylene		

ugm/gm = microgram per gram

MRL = Minimum Reporting Level

TPH = Total Petroleum Hydrocarbons

ND = Not detected

Method used: EPA 821-1, EPA 821-2, EPA 821-3

10/10/82

Stan Gomez

Stan Gomez

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Job Location: Bechtel Petroleum

#349 ID: A-602-19

#350 ID: A-602-20

#351 ID: A-602-21

35R

electrical field  $E$  and the magnetic field  $B$  are given by (1) and (2), respectively:

W. J. Corner

SNC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 331 through 366      Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#352 ID: A-602-22      35R

	ugm/gm	MRL,ugm/gm
Benzene	ND	0.1
Toluene	ND	0.1
Ethylbenzene	ND	0.1
p-Xylene	ND	0.1
m-Xylene	ND	0.1
o-Xylene	ND	0.1
Isopropylbenzene	ND	0.1
TPH (Not Diesel)	ND	1.0

#353 ID: A-602-23      35R

	ugm/gm	MRL,ugm/gm
Benzene	0.44	0.1
Toluene	2.5	0.1
Ethylbenzene	0.92	0.1
p-Xylene	1.3	0.1
m-Xylene	3.0	0.1
o-Xylene	1.8	0.1
Isopropylbenzene	ND	0.1
TPH (Not Diesel)	139	1.0

#354 ID: A-602-24      35R

	ugm/gm	MRL,ugm/gm
Benzene	ND	0.1
Toluene	ND	0.1
Ethylbenzene	ND	0.1
p-Xylene	ND	0.1
m-Xylene	ND	0.1

ugm/gm = microgram per gram

MRL = Minimum Reporting Level

TPH = Total Petroleum Hydrocarbons

ND = Not detected

Method used: EPA 821-1 (GC/MS) for TPH and 821-2 (GC/MS) for BTEX

Stan Comer

Stan Comer

SMC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 351 through 366

Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#361 ID: A-602-31

	ugm/gm	MRL,ugm/gm
Benzene	ND	0.1
Toluene	ND	0.1
Ethylbenzene	ND	0.1
p-Xylene	ND	0.1
m-Xylene	ND	0.1
o-Xylene	ND	0.1
Isopropylbenzene	ND	0.1
TPH (Not Diesel)	ND	1.0

35R

#362 ID: A-602-32

	ugm/gm	MRL,ugm/gm
Benzene	ND	0.1
Toluene	ND	0.1
Ethylbenzene	ND	0.1
p-Xylene	ND	0.1
m-Xylene	ND	0.1
o-Xylene	ND	0.1
Isopropylbenzene	ND	0.1
TPH (Not Diesel)	ND	1.0

35R

#363 ID: A-602-33

	ugm/gm	MRL,ugm/gm
Benzene	ND	0.1
Toluene	0.17	0.1
Ethylbenzene	0.14	0.1
p-Xylene	0.46	0.1
m-Xylene	1.0	0.1
o-Xylene		0.1

35R

ugm/gm = micrograms per gram

MRL = Minimum Reporting Level

TPH = Total Petroleum Hydrocarbons

ND = Not Detected

Reference: SMC Laboratory Method 35R

Stan Gomez

Stan Gomez

SMC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 331 through 366      Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#364 ID: A-602-34

	ugm/gm	MRL, ugm/gm	352
Benzene	ND	0.1	
Toluene	ND	0.1	
Ethylbenzene	ND	0.1	
p-Xylene	ND	0.1	
m-Xylene	ND	0.1	
o-Xylene	ND	0.1	
Isopropylbenzene	ND	0.1	
TPH (Not Diesel)	1.6	1.0	

ugm/gm = microgram per gram

MRL = Minimum Reporting Level

TPH = Total Petroleum Hydrocarbons

ND = Not detected

Method of Analysis: California DOHS LUFT Manual

Stan Comer  
Stan Comer



SMC Laboratory  
Analytical Chemistry  
3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 331 through 366      Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#331 ID: A-602-1  
TOX      ug/m/gm      MRL,ugm/gm  
Oil & Grease      34      20  
13,160      50  
Total lead      <2.5 (mg/kg)

#332 ID: A-602-2  
TOX      ug/m/gm      MRL,ugm/gm  
Oil & Grease      256-      20  
8,630      50  
Total lead      3.24 (mg/kg)

#335 ID: A-602-5  
TOX      ug/m/gm      MRL,ugm/gm  
Oil & Grease      46      20  
21,590      50  
Total lead      24.6 (mg/kg)

ugm/gm = microgram per gram

Report of Analysis for Job # 331-336 9071  
Total Lead Analysis done by BC Laboratories, Inc.

Stan Gomes

SMC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 331 through 366      Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#336 ID: A-602-6  
TOX      ug/m/gm      MRL, ug/m/gm  
Oil & Grease      171      20  
                 8,150      50  
Total lead      <2.5 (mg/kg)

#355 ID: A-602-25  
TOX      ug/m/gm      MRL, ug/m/gm  
Oil & Grease      34      20  
                 ND      50  
Total lead      <2.5 (mg/kg)

#356 ID: A-602-26  
TOX      ug/m/gm      MRL, ug/m/gm  
Oil & Grease      38      20  
                 ND      50  
Total lead      <2.5 (mg/kg)

ugm/gm      micro      gm/gm

Method of Analysis for Oil & Grease: EPA 9071  
Total lead Analysis done by EC Laboratories, Inc.

Stan Gomes

SMC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 331 through 366      Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#357 ID: A-602-27

TOX

Oil & Grease

Total lead

ugm/gm	MRL,ugm/gm
153	20
ND	50

<2.5 (mg/kg)

#358 ID: A-602-28

TOX

Oil & Grease

Total lead

ugm/gm	MRL,ugm/gm
122	20
ND	50

<2.5 (mg/kg)

#359 ID: A-602-29

TOX

Oil & Grease

Total lead

ugm/gm	MRL,ugm/gm
65	20
ND	50

<2.5 (mg/kg)

ugm/gm = microgram per gram  
ND = Not Detected

Method used for Oil & Grease: ASTM D-4052  
Total lead Analysis done by EC Laboratories, Inc.

Stan Gomez  
Stan. Gomez

SMC Laboratory  
Analytical Chemistry

3155 Pegasus Drive  
P.O. Box 80835  
Bakersfield, CA 93380  
(805) 393-3597

Laboratory No. 331 through 366      Job Location: Bechtel Petroleum

RESULTS OF ANALYSIS

#360 ID: A-602-30

TOX

Oil & Grease

Total lead

ugm/gm	MRL,ugm/gm
55	20
ND	50

2.63 (mg/kg)

#365 ID: A-602-35

TOX

Oil & Grease

Total lead

ugm/gm	MRL,ugm/gm
421	20
ND	50

7.95 (mg/kg)

#366 ID: A-602-36

TOX

Oil & Grease

Total lead

ugm/gm	MRL,ugm/gm
264	20
19,050	50

<2.5 (mg/kg)

ugm/gm = microgram per gram

Oil & Grease: EPA 9/71  
Total Lead Analysis done by EC Laboratories, Inc.

Stan Gomez

**UNIFORM HAZARDOUS  
WASTE MANIFEST**

1. Generator's US EPA ID No.

Manifest  
Document No.

K-2, Page 1

Information in the shaded areas  
is not required by Federal law.

3. Generator's Name and Mailing Address

ELI HILL NAVAL Petroleum Reserve #1  
28590 Hwy 119 Turpin CA.

4. Generator's Phone ( ) 714-4131

5. Transporter 1 Company Name

MR. L. P. C. H. M.

6. US EPA ID Number

101111111111111111

7. Transporter 2 Company Name

8. US EPA ID Number

101111111111111111

9. Designated Facility Name and Site Address

GIBSON DILL REFINING CO  
COMMERCIAL DISTRICT  
1000 10th St. S.E.

10. US EPA ID Number

101111111111111111

A. State Manifest Document Number

101111111111111111

B. State Generator's ID Number

101111111111111111

C. State Transporter's ID Number

101111111111111111

D. Transporter's Phone ( ) 714-4131

E. State Transporter's ID Number

101111111111111111

F. Transporter's Phone ( ) 714-4131

G. State Facility's ID Number

101111111111111111

H. Facility's Phone ( ) 714-4131

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)

a. HAZARDOUS WASTE, LIQUID, N.O.S.  
b. c. d.

12. Containers  
No. Type

13. Total  
Quantity

14. Unit  
Wt/Vol

15. Waste No.

J. Additional Descriptions for Materials Listed Above

HAZARDOUS WASTE, LIQUID, N.O.S.

K. Handling Codes for Wastes Listed Above

a. b. c. d.

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name

Signature

Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Signature

Month Day Year

IN CASE OF SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA CALL 1-800-852-7350

GENERATOR

PORTER

FACILITY

# LCI

**LIQUID CONSTRUCTION, INC.**

February 19, 1988  
089/C.1

Joe Canus  
Kern County Environmental  
Health Department  
1700 Flower Street  
Bakersfield, CA 93305

Re: Elkhills Naval Petroleum Reserve, Tupman, CA


Dear Mr. Canus:

As per our conversation on Tuesday, February 16, 1988 @ 4:00, LCI has authorization to remove the tanks at the above-referenced location without a Kern County Environmental Health Department inspector on site. As I explained in our conversation, an environmental representative of Bechtel was on site, and the fire department was metering our tanks. You then stated that as long as the tanks fell within the fire departments limits, we could pull the tanks and sample the soil.

As per our contract specifications and Bechtel Petroleum Operation's approval, all of the soil from the existing tank excavation will be put back into the hole in which it was retrieved from; therefore, there will be no moving of possible contaminated soil. LCI will not move any of the soil from the excavation without prior approval from the Kern County Environmental Health Department.

Thank you for your cooperation in this matter.

Regards,



Tom Lockwood  
Construction Foreman

TL/meo

RECEIVED  
FEB 22 1988  
KERN COUNTY HEALTH DEPT



LIQUID CONSTRUCTION, INC.

February 16, 1988  
085/C.1

Joe Canus  
County of Kern  
Environmental Health Division  
1700 Flower Street  
Bakersfield, CA 93305

Re: Elkhills Naval Petroleum Reserve, Tupman, CA

Dear Mr. Canus:

On February 16, 1988 @ 9:00 a.m. I contacted you to inform you that while uncovering the tanks at the above-referenced location for removal an additional tank was found. As per our telephone conversation, you were headed out to the jobsite anyway and would make the necessary changes on the tank removal permit.

Thank you for your cooperation in this matter.

Regards,

A handwritten signature in cursive script, reading "Michelle Oliveira".

Michelle Oliveira  
Construction Secretary



R E C E I V E D

FEB 17 1988

KERN COUNTY HEALTH DEPT

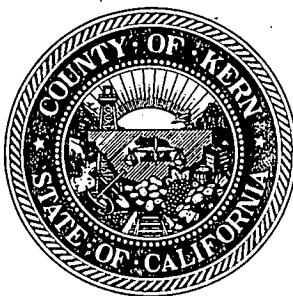
2700 M STREET  
MAILING ADDRESS  
1415 TRUXTUN AVENUE  
BAKERSFIELD, CA 93301  
(805) 861-3636

KERN COUNTY HEALTH DEPARTMENT

ENVIRONMENTAL HEALTH DIVISION

HEALTH OFFICER  
Leon M Hebertson, M.D.

DIRECTOR OF ENVIRONMENTAL HEALTH  
Vernon S. Reichard



August 8, 1988

Wayne Kaufman, Director  
Naval Petroleum Reserves in California  
P.O. Box 11  
Tupman, California 93276

Dear Mr. Kaufman:

This department has completed the review of the preliminary site assessment results submitted for the tanks removed at Elk Hills Naval Petroleum Reserve.

The following sampling locations as identified in the preliminary site assessment require further study to fully delineate the extent of the contamination. The sampling points are 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14, 25, 28, 29, 30, 35, and 36. A site characterization must be performed in accordance with the enclosed guidelines.

Should you have any questions regarding the additional study required, you may contact me at (805) 861-3636.

Sincerely,

A handwritten signature in cursive script that reads "Joe Canas".

Joe Canas  
Environmental Health Specialist  
Hazardous Materials Management Program

JC/gb  
cc: Roy Campbell  
enclosure

DISTRICT OFFICES

Delano • Lamont • Lake Isabella • Mojave • Ridgecrest • Shafter • Taft

$$\begin{array}{r} 6427 \\ \hline 400 \end{array}$$

$$\begin{array}{r} 6827 \\ \hline 332 \end{array}$$

$$\begin{array}{r} 7159 \\ \hline 320 \end{array}$$

$$\begin{array}{r} 1103 \\ 2870 \\ \hline 3973 \\ 2866 \\ \hline 320 \end{array}$$

1700 Flower Street  
Bakersfield, California 93305  
Telephone (805) 861-3636

# KERN COUNTY HEALTH DEPARTMENT

ENVIRONMENTAL HEALTH DIVISION

HEALTH OFFICER  
Leon M Hebertson, M.D.

DIRECTOR OF ENVIRONMENTAL HEALTH  
Vernon S. Reichard



Facility Name

Elk Hills Naval Reserve

Address 28590 Hwy 119

Topman, CA

Kern County Permit #

A 602-33

## \* \* UNDERGROUND TANK DISPOSITION TRACKING RECORD \* \*

This form is to be returned to the Kern County Health Department within 14 days of acceptance of tank(s) by disposal or recycling facility. The holder of the permit with number noted above is responsible for insuring that this form is completed and returned.

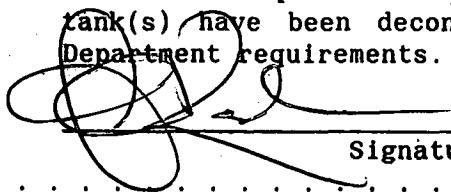
### Section 1 - To be filled out by tank removal contractor:

Tank Removal Contractor: Liquor Const Inc  
Address P.O. Box 1220 Phone (209) 688-1980  
Tulare, CA Zip 93275  
Date Tanks Removed 2-16-88 No. of Tanks 5

### Section 2 - To be filled out by contractor "decontaminating tank(s)":

Tank "Decontamination" Contractor Golden State Environmental SVS  
Address 2420 Eric Way # B Phone (805) 871-2380  
Bakersfield CA Zip 93306

Authorized representative of contractor certifies by signing below that tank(s) have been decontaminated in accordance with Kern County Health Department requirements.



Signature

Environmental Specialist  
Title

### Section 3 - To be filled out and signed by an authorized representative of the treatment, storage, or disposal facility accepting tank(s):

Facility Name American Metal Recycling  
Address 2202 S. Milliken Ave Phone #714-947-2888  
Ontario CA Zip 91761  
Date Tanks Received 2-26-88 No. of Tanks 5  
Signature M. J. Jaramal Title 2nd  
(Authorized Representative)

\* \* \* MAILING INSTRUCTIONS: Fold in half and staple. Postage and mailing label have already been affixed to outside for your convenience.

Received by Mr. H. J. ...

**ATTN: Underground Tank Section**



RECEIVED  
FEB 29 1988  
KERN COUNTY HEALTH DEPT

*file*

RECEIVED  
DEC 16 1987  
KERN COUNTY HEALTH DEPT

Bechtel Petroleum Operations, Inc.



28590 Highway 119  
Tupman, California  
Mail Address: P.O. Box 127, Tupman, CA 93276  
Telephone: (805) 763-6000

DEC 15 1987

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

330088

A59233

Kern County Health Department  
Division of Environmental Health  
Underground Tank Program  
1700 Flower Street  
Bakersfield, CA 93305

Attention: J. Canas

Gentlemen:

Please find attached check No. 015591 for \$100.00 to cover permit/Invoice No. A602-33. These are the fees for the application and project review for removal of the underground tanks at Elk Hills Naval Petroleum Reserve No. 1.

A592-33

If there are any questions, please contact Mr. Curt Morgan of my staff at (805) 763-6622.

*[Signature]*

D. A. Greenberg  
Vice President and  
General Manager, BPOI

*[Signature]*  
CEE/RLD/QC/CEM:djk

Attachment

cc: DNPRC

## KERN COUNTY HEALTH DEPARTMENT

AIR POLLUTION CONTROL DISTRICT

1700 Flower Street  
Bakersfield, California 93305-4198  
Telephone (805) 861-3621

LEON M HEBERTSON, M.D.  
Director of Public Health  
Air Pollution Control Officer



PERMIT FOR PERMANENT CLOSURE  
OF UNDERGROUND HAZARDOUS  
SUBSTANCES STORAGE FACILITY

592-33  
PERMIT NUMBER A602-33

## FACILITY NAME/ADDRESS:

Elk Hills Naval Petroleum  
Reserve #1  
28590 Highway 119  
Tupman, CA

## OWNER(S) NAME/ADDRESS:

U.S. Dept. of Energy  
P.O. Box 11  
Tupman, CA 93276  
Phone #(805) 763-4131

## CONTRACTOR:

Liquid Construction, Inc.  
P.O. Box 1220  
Tulare, CA 93275  
Phone #(209) 688-1980  
License No. A-496011

## PERMIT FOR CLOSURE OF

PERMIT EXPIRES March 3, 1988

## 9 TANK(S) AT ABOVE

APPROVAL DATE December 3, 1987

## LOCATION.

APPROVED BY

  
Joe Canas. . . . . POST ON PREMISES . . . . .

## CONDITIONS AS FOLLOW:

1. A copy of this permit has been provided to the Kern County Fire Department. Permittee must notify the County Fire Department at (805) 861-2577 two working days prior to tank (removal) or (inerting and filling) to arrange for required inspection(s).
2. Tank closure activities must be per Kern County Health and Fire Department approved methods as described in Handout #UT-30.
3. The proposed work plan for abandonment of the waste oil pipeline connected to tank #8, as submitted to this department has been approved. In the event the pipeline does not hold the specified pressure, the requirements as specified in UT-30 must be followed.
4. A minimum of two samples must be retrieved beneath the center of the tanks at depths of approximately two feet and six feet for each tank 1,000 gallons or less. A minimum of four samples must be retrieved one-third of the way in from the ends of each tank between 1,000 and 10,000 gallons, at depths of approximately two feet and six feet.
5. A minimum of two samples must be retrieved at depths of approximately two feet and six feet for every 15 linear feet of pipe run and also near the dispenser area(s).

PERMIT FOR PERMANENT CLOSURE  
OF UNDERGROUND HAZARDOUS  
SUBSTANCES STORAGE FACILITY

PERMIT NUMBER A602-33  
ADDENDUM

6. All (leaded/unleaded) gasoline samples must be analyzed for benzene, toluene, xylene and total petroleum hydrocarbons. All waste oil samples must be analyzed for total organic halides, oil and grease, and lead. The waste solvent samples must be analyzed for toluene and total halogenated hydrocarbons.
7. All applicable state laws for hazardous waste disposal, transportation, or treatment must be adhered to. The Kern County Health Department must be notified before moving and/or disposing of any contaminated soil.
8. Permittee must be responsible for making sure that "tank disposition tracking record" issued with this permit is properly filled out and returned within 14 days of tank removal.
9. Advise this office of the time and date of the proposed sampling with 24 hours advance notice.
10. Results must be submitted to this office within three days of analysis completion.

APPROVED BY

*C. D. E. Morgan*

DATE

*Dec. 4, 1987*



# Bechtel Petroleum Operations, Inc.



28590 Highway 119  
Tupman, California  
Mail Address: P.O. Box 127, Tupman, CA 93276  
Telephone: (805) 763-6000

NOV 23 1987

Ms. Ann Boyce  
Kern County Division of Environmental Health  
1700 Flower Street  
Bakersfield, CA 93305

Subject: VARIANCE

Dear Ms. Boyce:

As discussed in your November 17, 1987 meeting with Curt Morgan we are requesting a variance from testing the soil beneath the waste oil line to tank #8 on Permit 330088C.

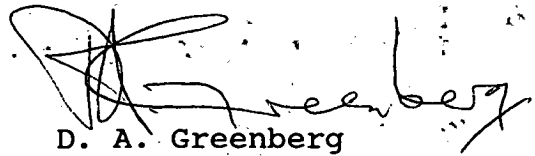
The line in question is a three (3) inch drain line used to drain used crankcase oil from the automotive garage to tank #8. This line is coated and wrapped, was installed in 1981 and has never required repair since that time. The line is a gravity line and has not, nor will be, subject to pressures above 0 psig.

Because the line runs under part of the garage foundation and under an asphalted parking lot we would like to service test the line to determine if it is leaking instead of sampling the soil under the line. The service test will consist of pressurizing the line to 5 psig and holding that pressure for one hour.

If the line fails to hold pressure we will advise the KCHD and then proceed with the sampling procedure outlined in the KCHD Handbook #UT30, Requirements for Permanent Closure of Underground Hazardous Substance Storage Tanks.

If this proposal is acceptable, please so indicate on the permit to abandon tank #8.

If you have any questions please contact Mr. Curt Morgan of my staff.

  
D. A. Greenberg  
Vice President and  
General Manager, BPOI

  
CEE/QC/RLD/CEM:jj

cc: DNPRC

KERN COUNTY HEALTH DEPARTMENT  
DIVISION OF ENVIRONMENTAL HEALTH  
1700 FLOWER STREET, BAKERSFIELD, CA 93305  
(805) 861-3636

INTERNAL USE ONLY:

PTO 330088 PTA 4592-33  
APPLICATION DATE 11/16/87  
# OF TANKS TO BE ABANDONED 9  
LENGTH OF PIPING TO ABANDON \_\_\_\_\_

APPLICATION FOR PERMIT FOR PERMANENT  
CLOSURE/ABANDONMENT OF UNDERGROUND  
HAZARDOUS SUBSTANCES STORAGE FACILITY

THIS APPLICATION IS FOR ☒ REMOVAL, OR ☐ ABANDONMENT IN PLACE (FILL OUT ONE APPLICATION PER FACILITY)

A. FACILITY INFORMATION	PROJECT CONTACT <b>Curtis Morgan</b>	PHONE # (805) 763-6622 DAYS-NIGHTS (805) 397-7624	SEC/T/R (RURAL LOCATIONS ONLY) <b>36R/T30S/R23E</b>
	FACILITY NAME <b>Elk Hills Naval Petroleum Reserve</b>	ADDRESS <b>P.O. Box 127 Tupman, CA. 93276</b>	NEAREST CROSS STREET <b>Hwy-119</b>
	OWNER <b>Department Of Energy</b>	ADDRESS <b>P.O. Box 11 Tupman, CA. 93276</b>	PHONE <b>(805) 763-6621</b>
	TANK REMOVAL CONTRACTOR <b>Not Yet Selected</b>	ADDRESS <b>P.O. Box 1320 2117 Durango Way Tulare, CA. 93278 Bakersfield, CA. 93309</b>	PHONE <b>209-688-1480 (805) 834-8002</b>
B. CONTRACTOR INFORMATION	PROPOSED PROJECT STARTING DATE	CALIFORNIA LICENSE # <b>501739A-446</b>	WORKER'S COMPENSATION # <b>9368389334-88</b>
	INSURER <b>Kansas City Fire &amp; Marine</b>	PRELIMINARY SITE ASSESSMENT CONTRACTOR <b>Not Yet Selected</b>	ADDRESS <b>2420 B ERIK WAY, BAKERSFIELD, CA.</b>
	WORKER'S COMPENSATION # <b>JACK CASH, Sole Proprietor</b>	INSURER <b>None</b>	PHONE <b>(805) 871-2380</b>
	LABORATORY THAT WILL ANALYZE SAMPLES <b>Not Yet Selected SMC LAB</b>	ADDRESS <b>3155 Pegasus, Bakersfield, CA.</b>	PHONE <b>(805) 393-3597</b>

C. CHEMICAL INFORMATION	CHEMICAL COMPOSITION OF MATERIALS STORED			
	TANK #	VOLUME	CHEMICAL STORED (NON-COMMERCIAL NAME)	DATES STORED
	3	6000 gal	Unleaded Gasoline	1980 to Present
	7	1000 gal	Nothing-Out Of Service	1980 to "
	N.P.	1500 gal	Nothing-Out Of Service	1980 to "
	N.P.	1500 gal	Nothing-Out Of Service	1986 to "
	N.P.=Not Permitted			Waste Solvents & Water

D. ENVIRONMENTAL INFORMATION	WATER TO FACILITY PROVIDED BY <b>California Aqueduct (Westside Water District)</b>	DEPTH TO GROUNDWATER <b>More than 100 Feet</b>
	NEAREST WATER WELL - GIVE DISTANCE AND DESCRIBE TYPE IF WITHIN 500 FEET <b>About Four (4) Miles</b>	SOIL TYPE AT FACILITY WELL <b>drained loam with rock fragments</b>
	BASIS FOR SOIL TYPE AND GROUNDWATER DEPTH DETERMINATION <b>Numerous Oil Wells Drilled Near This Location</b>	
	TOTAL NUMBER OF SAMPLES TO BE ANALYZED <b>Thirty two (32)</b>	SAMPLES WILL BE ANALYZED FOR: <b>Benzene, Toluene, Xylene Total Volatile Hydrocarbons, Lead, Oil &amp; Grease, TOX</b>
E. DISPOSAL INFORMATION	DESCRIBE HOW RESIDUE IN TANK(S) AND PIPING IS TO BE REMOVED AND DISPOSED OF (INCLUDE TRANSPORTATION AND DISPOSAL COMPANIES): <b>High Pressure Wash w/ water. Triple rinse. M.P. Vacuum to haul residue to Gibson Refinery Contractor &amp; Method Not Yet Selected in Bakersfield for disposal.</b>	
	DESCRIBE BOTH THE DISPOSAL METHOD AND DISPOSAL LOCATION FOR: TANK(S) <b>Not Yet Selected Recycling by American Metal Recycling, Ontario Ca. Hauling by M.P. Vacuum</b>	
	PIPING <b>Not Yet Selected Same as Tanks above.</b>	

• • PLEASE PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS SHEET BEFORE SUBMITTING APPLICATION FOR REVIEW • •

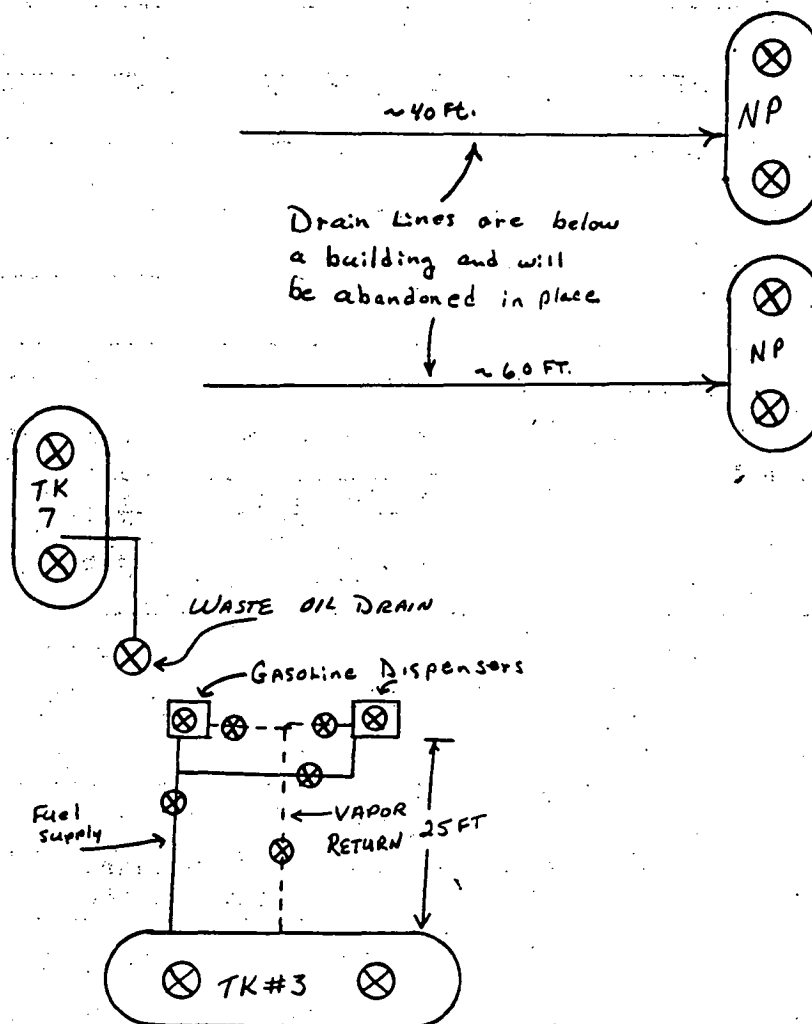
THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY AND TO THE BEST OF MY KNOWLEDGE IS TRUE AND CORRECT.

SIGNATURE Curtis Morgan TITLE Waste Mgt. Specialist DATE 7/22/87

PROVIDE DRAWING OF PHYSICAL LAYOUT OF FACILITY USING SPACE PROVIDED BELOW.

ALL OF THE FOLLOWING INFORMATION MUST BE INCLUDED IN ORDER FOR APPLICATION TO BE PROCESSED:

- \_\_\_\_\_ TANK(S), PIPING & DISPENSER(S), INCLUDING LENGTHS AND DIMENSIONS
- \_\_\_\_\_ PROPOSED SAMPLING LOCATIONS DESIGNATED BY THIS SYMBOL "⊗"
- \_\_\_\_\_ NEAREST STREET OR INTERSECTION
- \_\_\_\_\_ ANY WATER WELLS OR SURFACE WATERS WITHIN 100' RADIUS OF FACILITY
- \_\_\_\_\_ NORTH ARROW



⊗ Samples to be taken at 2Ft. & 6Ft. Below the Tanks, Lines and Dispensers Per Kern County Health Dept. Requirements



**LIQUID CONSTRUCTION, INC.**

November 16, 1987

Tom Carter  
Bechtel Petroleum Operations, Inc.  
Facsimile No. (805) 765-5280

**SUBJECT:** Information for Environmental Health Permit Application

**TANK REMOVAL CONTRACTOR:** Whitten Excavation  
7217 Durango Way  
Bakersfield, Ca. 93309  
Phone (805) 834-8002  
Workers Comp.# 93W8389334-88  
Insurer: Kansas City Fire & Marine  
Contractor License# 501739

**PRELIMINARY SITE ASSESSMENT CONTRACTOR:** Golden State Soils  
2420 B Erik Way  
Bakersfield, Ca.  
Phone (805) 871-2380  
Jack Cash, Sole Proprietor

**LABORATORY THAT WILL ANALYZE SAMPLES:** SMC Lab  
3155 Pegasus  
Bakersfield, Ca.  
Phone (805) 393-3597

**DISPOSAL METHOD AND LOCATION:** MP Vacuum. Truck tank American Metal Recycling  
Ontario, Ca.

**DESCRIBE HOW RESIDUE & PIPING:** High pressure wash with water. Triple Rinse.  
MP Vacuum. Dispose fo rinseant at Gibson  
Refinery in Bakersfield.

KERN COUNTY HEALTH DEPARTMENT

DIVISION OF ENVIRONMENTAL HEALTH

1700 FLOWER STREET, BAKERSFIELD, CA 93305

(805) 861-3636

INTERNAL USE ONLY:

PTO

330018 PTA

APPLICATION DATE 11/16/87

# OF TANKS TO BE ABANDONED

LENGTH OF PIPING TO ABANDON

APPLICATION FOR PERMIT FOR PERMANENT  
CLOSURE/ABANDONMENT OF UNDERGROUND  
HAZARDOUS SUBSTANCES STORAGE FACILITYTHIS APPLICATION IS FOR ☒ REMOVAL, OR ☐ ABANDONMENT IN PLACE (FILL OUT ONE APPLICATION PER FACILITY)FACILITY  
INFORMATION  
A.

PROJECT CONTACT Curtis Morgan	PHONE # (805) 763-6622 DAYS- NIGHTS-(805) 397-7624	SEC/T/R (RURAL LOCATIONS ONLY) 36-S/T30S/R24E
FACILITY NAME Elk Hills Naval Petroleum Reserve	ADDRESS P.O. Box 127 Tupman, CA. 93276	NEAREST CROSS STREET Hwy-119
OWNER Dept. Of Energy	ADDRESS P.O. Box 11 Tupman, CA. 93276	PHONE (805) 763 -662

CONTRACTOR  
INFORMATION  
B.

TANK REMOVAL CONTRACTOR <del>WHITTEN</del> <del>Not Yet Selected</del> EXCAVATION	ADDRESS 7217 DURANGO WAY BAKERSFIELD, CA. 93309	PHONE (805) 834 -8002
PROPOSED PROJECT STARTING DATE	CALIFORNIA LICENSE # 501739	WORKER'S COMPENSATION # 93W8389334-88
INSURER KANSAS CITY FIRE & MARINE	PRELIMINARY SITE ASSESSMENT CONTRACTOR <del>Not Yet Selected</del> GOLDEN STATE SOILS	ADDRESS 3420 B ERIK WAY, BAKERSFIELD, CA.
PHONE (805) 871 -2380	WORKER'S COMPENSATION #	INSURER
JACK CASH, SOLE Proprietor	None	PHONE (805) 871 -2380
LABORATORY THAT WILL ANALYZE SAMPLES <del>Not Yet Selected</del> SMC LABS	ADDRESS 3155 Pegasus, BAKERSFIELD, CA.	PHONE (805) 393 -3597

CHEMICAL  
INFORMATION  
C.

TANK #	VOLUME	CHEMICAL STORED (NON-COMMERCIAL NAME)	DATES STORED	CHEMICAL PREVIOUSLY :
4	6000 gal.	Unleaded Gasoline	1976 to Present	Leaded Gasoline
5	1000 gal.	" "	1976 to Present	Leaded Gasoline
6	2000 gal.	" "	1976 to Present	Leaded Gasoline
N.P.	1000 gal.	Lube Oil	1955 to Present	Unknown
N.P.=Tank Not Permitted				

ENVIRONMENTAL  
INFORMATION  
D.

WATER TO FACILITY PROVIDED BY California Aqueduct (Westside Water District)	DEPTH TO GROUNDWATER More than 100 feet
NEAREST WATER WELL - GIVE DISTANCE AND DESCRIBE TYPE IF WITHIN 500 FEET About one mile	SOIL TYPE AT FACILITY Well drained loam with rock fragments
BASIS FOR SOIL TYPE AND GROUNDWATER DEPTH DETERMINATION Numerous Oil Wells Drilled Near this Location	
TOTAL NUMBER OF SAMPLES TO BE ANALYZED Thirty (30)	SAMPLES WILL BE ANALYZED FOR: Benzene, Toluene, Xylene Total Volatile Hydrocarbons, Lead, Oil & Grease

DISPOSAL  
INFORMATION  
E.

DESCRIBE HOW RESIDUE IN TANK(S) AND PIPING IS TO BE REMOVED AND DISPOSED OF (INCLUDE TRANSPORTATION AND DISPOSAL COMPANIES): High Pressure Wash w/ water, Triple rinse, MP Vacuum to haul residue to Gibson Refinery in Contractor & Method not yet selected BAKERSFIELD FOR DISPOSAL
DESCRIBE BOTH THE DISPOSAL METHOD AND DISPOSAL LOCATION FOR: TANK(S) Recycling by American Metal Recycling, Ontario, CA. Not Yet Selected Hauling by M. P. Vacuum
PIPING Not Yet Selected SAME AS TANKS ABOVE

\* \* PLEASE PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS SHEET BEFORE SUBMITTING APPLICATION FOR REVIEW \* \*

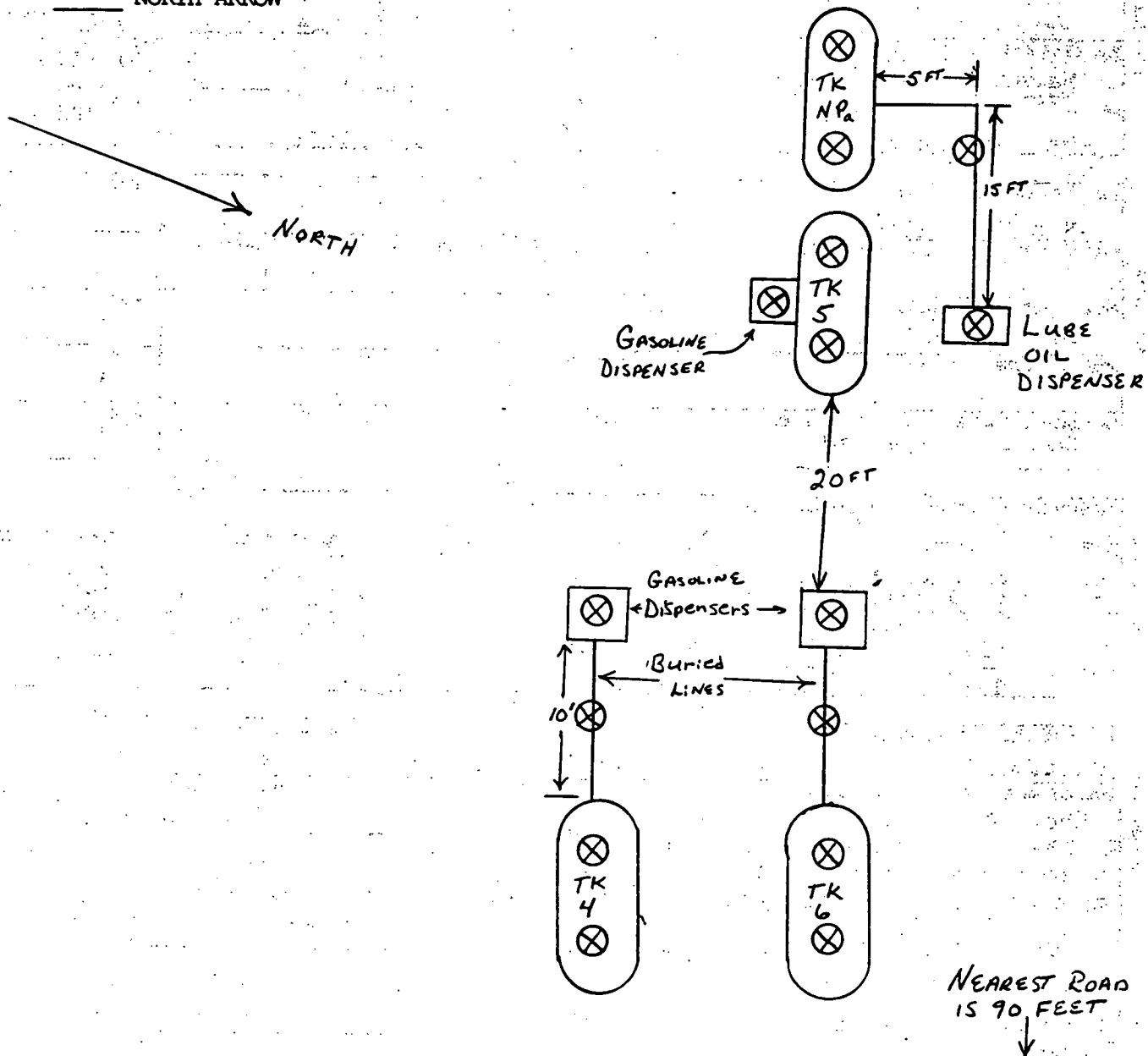
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SIGNATURE Curtis E. Morgan TITLE Waste Mgt. Specialist DATE 7/22/87

PROVIDE DRAWING OF PHYSICAL LAYOUT OF FACILITY USING SPACE PROVIDED BELOW.

ALL OF THE FOLLOWING INFORMATION MUST BE INCLUDED IN ORDER FOR APPLICATION TO BE PROCESSED:

- \_\_\_\_\_ TANK(S), PIPING & DISPENSER(S), INCLUDING LENGTHS AND DIMENSIONS
- \_\_\_\_\_ PROPOSED SAMPLING LOCATIONS DESIGNATED BY THIS SYMBOL "⊗"
- \_\_\_\_\_ NEAREST STREET OR INTERSECTION
- \_\_\_\_\_ ANY WATER WELLS OR SURFACE WATERS WITHIN 100' RADIUS OF FACILITY
- \_\_\_\_\_ NORTH ARROW



⊗ Samples to be taken at 2ft. & 6ft. Below the Tanks, Lines and Dispensers Per Kern County Health Dept. Requirements

# LCI

LIQUID CONSTRUCTION, INC.

November 16, 1987

Tom Carter  
Bechtel Petroleum Operations, Inc.  
Facsimile No. (805) 765-5280

SUBJECT: Information for Environmental Health Permit Application

TANK REMOVAL CONTRACTOR: Whitten Excavation  
7217 Durango Way  
Bakersfield, Ca. 93309  
Phone (805) 834-8002  
Workers Comp.# 93W8389334-88  
Insurer: Kansas City Fire & Marine  
Contractor License# 501739

PRELIMINARY SITE ASSESSMENT CONTRACTOR: Golden State Soils  
2420 B Erik Way  
Bakersfield, Ca.  
Phone (805) 871-2380  
Jack Cash, Sole Proprietor

LABORATORY THAT WILL ANALYZE SAMPLES: SMC Lab  
3155 Pegasus  
Bakersfield, Ca.  
Phone (805) 393-3597

DISPOSAL METHOD AND LOCATION: MP Vacuum. Truck tank American Metal Recycling  
Ontario, Ca.

DESCRIBE HOW RESIDUE & PIPING: High pressure wash with water. Triple Rinse.  
MP Vacuum. Dispose fo rinseant at Gibson  
Refinery in Bakersfield.

KERN COUNTY HEALTH DEPARTMENT

DIVISION OF ENVIRONMENTAL HEALTH

1700 FLOWER STREET, BAKERSFIELD, CA 93305

(805) 861-3836

INTERNAL USE ONLY:

PTO 330088 PTA \_\_\_\_\_  
APPLICATION DATE 11/16/87  
# OF TANKS TO BE ABANDONED \_\_\_\_\_  
LENGTH OF PIPING TO ABANDON \_\_\_\_\_APPLICATION FOR PERMIT FOR PERMANENT  
CLOSURE/ABANDONMENT OF UNDERGROUND  
HAZARDOUS SUBSTANCES STORAGE FACILITYTHIS APPLICATION IS FOR ☒ REMOVAL, OR ☐ ABANDONMENT IN PLACE (FILL OUT ONE APPLICATION PER FACILITY)

FACILITY INFORMATION	PROJECT CONTACT Curtis Morgan		PHONE # (805) 763-6622 DAYS- NIGHTS-(805) 397-7624	SEC/T/R (RURAL LOCATIONS ONLY) 36S/T30S/R24E
	FACILITY NAME Elk Hills Naval Petroleum Reserve		ADDRESS P.O. Box 127 Tupman, CA. 93276	NEAREST CROSS STREET Hwy-119
	OWNER Department Of Energy		ADDRESS P.O. Box 11 Tupman, CA. 93276	PHONE (805) 763-6622
CONTRACTOR INFORMATION	TANK REMOVAL CONTRACTOR <del>WHITTEN</del> Not Yet Selected EXCAVATION		ADDRESS 7217 DURANGO WAY BAKERSFIELD, CA. 93309	PHONE (805) 834-8002
	PROPOSED PROJECT STARTING DATE	CALIFORNIA LICENSE # 501739	WORKER'S COMPENSATION # 93W 8389334-88	INSURER KANSAS CITY FIRE & MARINE
	PRELIMINARY SITE ASSESSMENT CONTRACTOR Not Yet Selected GOLDEN STATE SOILS		ADDRESS 2420 B ERK WAY, BAKERSFIELD, CA.	PHONE (805) 871-3380
	WORKER'S COMPENSATION # JACK CASH, SOLE PROPRIETOR		INSURER NONE	PHONE (805) 871-3380
	LABORATORY THAT WILL ANALYZE SAMPLES Not Yet Selected SMC LABS		ADDRESS 3155 PEGASUS, BAKERSFIELD, CA.	PHONE (805) 393-3597
CHEMICAL INFORMATION	CHEMICAL COMPOSITION OF MATERIALS STORED			
	TANK #	VOLUME	CHEMICAL STORED (NON-COMMERCIAL NAME)	DATES STORED
	8	1000 gal	Motor Vehicle Crankcase	1980 to Present
			Draining	TO
				TO
ENVIRONMENTAL INFORMATION	WATER TO FACILITY PROVIDED BY California Aqueduct (Westside Water District)		DEPTH TO GROUNDWATER More than 100 Feet	
	NEAREST WATER WELL - GIVE DISTANCE AND DESCRIBE TYPE IF WITHIN 500 FEET About 1 mile		SOIL TYPE AT FACILITY Well drained loam with rock fragments	
	BASIS FOR SOIL TYPE AND GROUNDWATER DEPTH DETERMINATION Numerous oil wells drilled near this location			
	TOTAL NUMBER OF SAMPLES TO BE ANALYZED Sixteen (16)		SAMPLES WILL BE ANALYZED FOR: Oil & Grease, Lead, TOX	
	DESCRIBE HOW RESIDUE IN TANK(S) AND PIPING IS TO BE REMOVED AND DISPOSED OF (INCLUDE TRANSPORTATION AND DISPOSAL COMPANIES): High Pressure Water Wash Triple Rinse. M.P. Vacuum to haul, rinse to Gibson Refinery in BAKERSFIELD for disposal			
DISPOSAL INFORMATION	DESCRIBE BOTH THE DISPOSAL METHOD AND DISPOSAL LOCATION FOR: TANK(S) Recycling by American Metal Recycling - Ontario, CA. Not Yet Selected HAULING by M.P. VACUUM			
	PIPING Not Yet Selected SAME AS ABOVE			

\*\* PLEASE PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS SHEET BEFORE SUBMITTING APPLICATION FOR REVIEW \*\*

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY AND TO THE BEST OF MY KNOWLEDGE IS TRUE AND CORRECT.

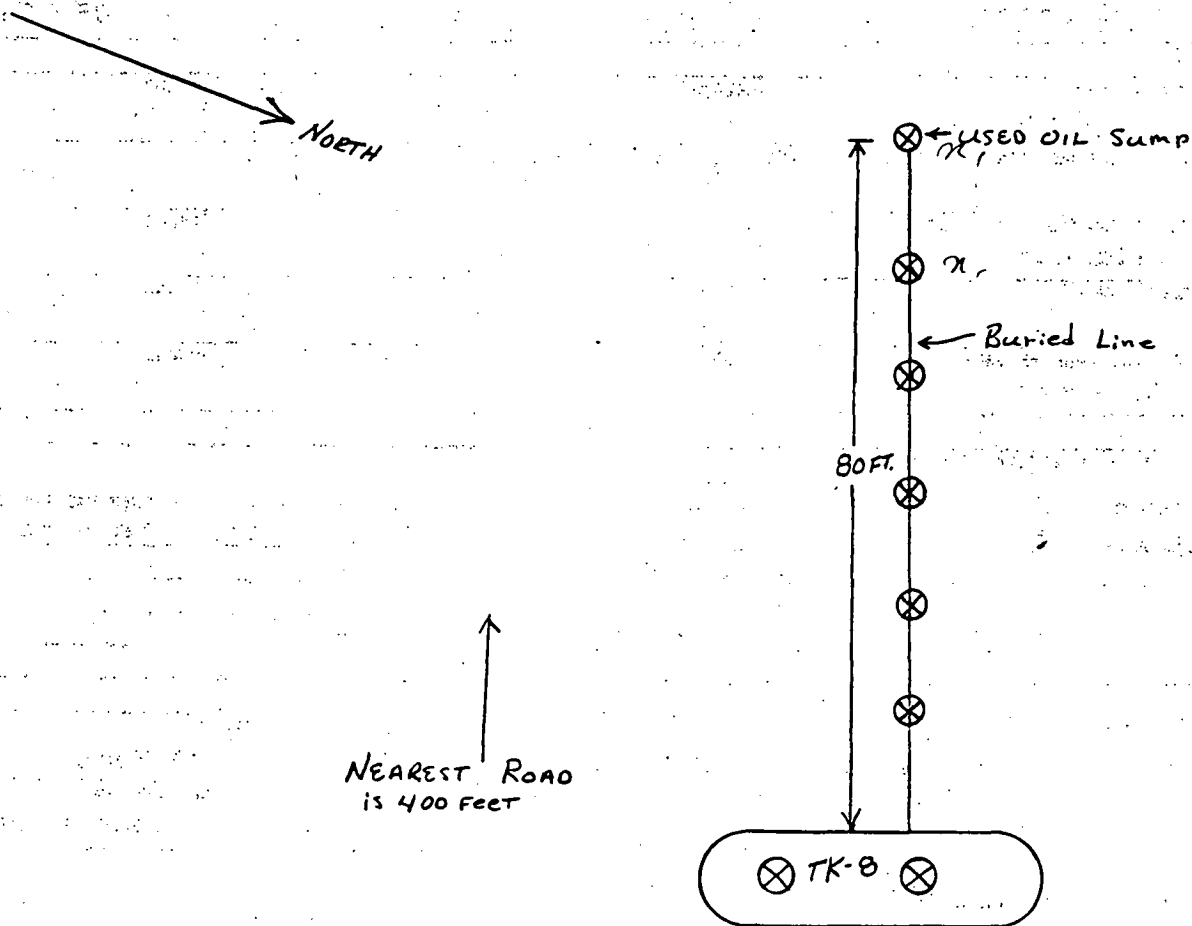
SIGNATURE Curtis E. Morgan TITLE Waste MGT. Specialist DATE 7/22/87



PROVIDE DRAWING OF PHYSICAL LAYOUT OF FACILITY USING SPACE PROVIDED BELOW.

ALL OF THE FOLLOWING INFORMATION MUST BE INCLUDED IN ORDER FOR APPLICATION TO BE PROCESSED:

- \_\_\_\_\_ TANK(S), PIPING & DISPENSER(S), INCLUDING LENGTHS AND DIMENSIONS
- \_\_\_\_\_ PROPOSED SAMPLING LOCATIONS DESIGNATED BY THIS SYMBOL "⊗"
- \_\_\_\_\_ NEAREST STREET OR INTERSECTION
- \_\_\_\_\_ ANY WATER WELLS OR SURFACE WATERS WITHIN 100' RADIUS OF FACILITY
- \_\_\_\_\_ NORTH ARROW



⊗ Samples to be taken 2 Ft. & 6 Ft. Below the Tanks and Lines Per Kern County Health Dept. Requirements

# LCI

**LIQUID CONSTRUCTION, INC.**

November 16, 1987

Tom Carter  
Bechtel Petroleum Operations, Inc.  
Facsimile No. (805) 765-5280

**SUBJECT:** Information for Environmental Health Permit Application

**TANK REMOVAL CONTRACTOR:** Whitten Excavation  
7217 Durango Way  
Bakersfield, Ca. 93309  
Phone (805) 834-8002  
Workers Comp.# 93W8389334-88  
Insurer: Kansas City Fire & Marine  
Contractor License# 501739

**PRELIMINARY SITE ASSESSMENT CONTRACTOR:** Golden State Soils  
2420 B Erik Way  
Bakersfield, Ca.  
Phone (805) 871-2380  
Jack Cash, Sole Proprietor

**LABORATORY THAT WILL ANALYZE SAMPLES:** SMC Lab  
3155 Pegasus  
Bakersfield, Ca.  
Phone (805) 393-3597

**DISPOSAL METHOD AND LOCATION:** MP Vacuum. Truck tank American Metal Recycling  
Ontario, Ca.

**DESCRIBE HOW RESIDUE & PIPING:** High pressure wash with water. Triple Rinse.  
MP Vacuum. Dispose fo rinseant at Gibson  
Refinery in Bakersfield.

# Bechtel Petroleum Operations, Inc.



28590 Highway 119  
Tupman, California  
Mail Address: P.O. Box 127, Tupman, CA 93276  
Telephone: (805) 763-6000

JUL 17 1987

Ms. Janis Lehman  
Environmental Health Specialist  
Kern County Department of Public Health  
1700 Flower Street  
Bakersfield, CA 93305

Subject: REMOVING TANK #6, PERMIT 330088C, FROM SERVICE

Dear Ms. Lehman:

On June 25, 1987 Tank #6 at the Naval Petroleum Reserve No. 1 was taken out of service and emptied by a vacuum truck from Hayter Trucking Co., of Taft, California. Approximately fifty (50) pounds of dry ice was then added to the tank to provide an inert atmosphere.

It is our intention to remove and dispose of Tank #6 during the first quarter of 1988 at the same time we remove the other buried tanks on NPR-1. Application for removal of this tank as well as the others will be forthcoming in the near future.

Until such time as the tanks are removed we ask that the requirement for daily gauging of Tank #6 be replaced by a requirement to gauge this tank weekly.

Taking Tank #6 out of service resulted in Tank #4 no longer qualifying for low volume service. This is to inform you that Tank #4 is now subject to the standard inventory monitoring control procedures.

D. A. Greenberg  
Vice President and  
General Manager, BPOI

*Handwritten initials: JLD, JLC*

*Handwritten initials: CEM*  
CEE/QC/RLD/CEM:jj

KERN COUNTY HEALTH DEPT.

JUL 21 1987

RECEIVED

# Bechtel Petroleum Operations, Inc.



28590 Highway 119  
Tupman, California  
Mail Address: P.O. Box 127, Tupman, CA 93276  
Telephone: (805) 763-6000

JUL 15 1987

Janis Lehman  
Environmental Health Specialist  
Kern County Health Department  
1700 Flower Street  
Bakersfield, CA 93305

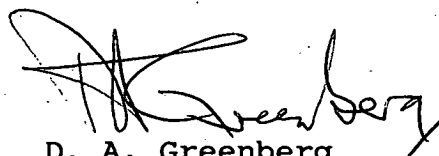
Subject: REPORTABLE VOLUME CHANGE FOR USED OIL TANK #8

Dear Ms. Lehman:

Attached are the notification and investigation reports for the reportable volume change that was called in July 14, 1987.

The tank in question had a volume increase during the weekly shutdown period due to used motor oil being inadvertently added to the tank. We are attempting to install a lock on the drain to prevent this from happening in the future.

If you have any questions please call Curt Morgan of my staff at 763-6622.

  
D. A. Greenberg  
Vice President and  
General Manager, BPOI

   
CEE/QC/RLD/CEM:jj

Attachments

**24 HOUR REPORTABLE VOLUME CHANGE**  
**NOTIFICATION**

**TO:**

Kern County Health Department  
1700 Flower Street  
Bakersfield, California 93305  
Attn: Underground Tank Section

**REGARDING:**

**Facility:** EIK HILLS Naval Petroleum Res. **Permit #** 3300 88 C  
**Facility Address:** P.O. Box 127, Tupman CA. 93276  
**Name Of Person Filing Report:** CURTIS E. MORGAN

On July 13, 1987 @ 0800 hrs., the above facility had a  
(date and time)

volume change that exceeded reportable limits as described below:

<u>Tank #</u>	<u>Gallons Lost Or Gained During Weekly Shut-Down Period</u>	<u>Cumulative Gallonage Lost Or Gained During Quarter</u>
<u>8</u>	<u>23 gained</u>	<u>30.5 gained</u>

*Tank still in service per phone discussion w J. Lehman 7/14/87*  
I have ~~stopped using tank(s)~~ and have initiated investigation procedures required by the Permitting Authority.

This notification is in addition to the phone call I previously placed.

Signature C E Morgan

**KERN COUNTY HEALTH DEPARTMENT**  
**REPORTABLE VOLUME CHANGE INVESTIGATION REPORT**

Facility: ELK HILLS NAVAL PETROLEUM RESERVE Permit #: 330088C  
Facility Address: P.O. Box 127, TUPMAN, CA. 93276  
Tank(s) Exceeding Reportable Limit 8 Date/Time of Discovery: 7/14/87 @ 0900  
Name of Person Filing Report: CURTIS E. MORGAN  
Description Of Reportable Loss or Gain: The waste oil TANK gained 23 gallons  
during the weekly shutdown period 7-10 to 7-13

**INVESTIGATION SUMMARY**

The following procedures must be performed within the specified times starting at the time a reportable limit is discovered or should have been discovered:

**Within:**

<b>6 Hours</b>	Owner/Operator or other qualified person is to	<u>Date</u>	<u>Time</u>
	review records for errors before determining	<u>7/14/87</u>	<u>0900</u>
	there is a reportable volume gain or loss.		

Performed By: C.E. Morgan

<b>24 Hours</b>	1) Owner/Operator must verbally report discovery	<u>Date</u>	<u>Time</u>
	to KCHD and follow-up with written notification	<u>7/14/87</u>	<u>0900</u>
	on form provided.		

Performed By: C.E. MORGAN

	2) Visual facility check to be performed to	<u>Date</u>	<u>Time</u>
	locate any obvious equipment or contamination	<u>7/14/87</u>	<u>1100</u>
	problems in the tank area.		

Performed By: C.E. Morgan

**Describe results:**

Inspection & Discussion determined  
that the garage mechanics emptied  
their waste oil gathering drums into TK#8  
after the initial gauge was taken on 7/10/87 @ 1000 hrs.

<b>72 Hours</b>	Tightness Testing of tank(s) to be performed	<u>Date</u>	<u>Time</u>
	using approved tester and method.		

Contractor's Name Test not required per Janis Lehman @ KCHD

License # \_\_\_\_\_ Test Performer's Name \_\_\_\_\_

Type of test performed \_\_\_\_\_

**\*\* ATTACH COPY OF TEST RESULTS. \*\***

**NOTE: THIS REPORT MUST BE SUBMITTED TO THE PERMITTING AUTHORITY WITHIN 5 DAYS OF COMPLETION OF INVESTIGATION PROCEDURES.**

RECEIVED  
JUL 17 1987  
KERN COUNTY HEALTH DEPT.



RECEIVED  
JUL 08 1987  
KERN COUNTY HEALTH DEPT.

Bechtel Petroleum Operations, Inc.



28590 Highway 119  
Tupman, California  
Mail Address: P.O. Box 127, Tupman, CA 93276  
Telephone: (805) 763-6000

JUL 2 1987

Ms. Janis Lehman  
Kern County Health Department  
1700 Flower Street  
Bakersfield, CA 93305

Subject: JUNE 1987 INVENTORY RECONCILIATION SHEETS

Dear Ms. Lehman:

Enclosed are the June 1987 inventory reconciliation sheets for underground gasoline storage tanks 4 and 5 (low throughput program) on permit #330088C. Also included are the notification sheets for tank #4 which had three variations in June that exceeded the daily allowance of 75 gal.

There was no apparent reason other than gauging errors that would explain the variations. It should be noted that the weekly and monthly variations were well below the reporting limits and except for the first week, the weekly and monthly percent variations were below the reporting limits for regular throughput tanks.

If you have any questions please contact Curt Morgan of my staff at 763-6622.

D. A. Greenberg  
Vice President and  
General Manager, BPOI

*WJC 8/2/87 CEM*  
DAG/CEE/QC/RLD/CEM:jj

Enclosures

**24 HOUR REPORTABLE VARIATION/LOSS**  
**NOTIFICATION**

**TO:**

Kern County Health Department  
1700 Flower Street  
Bakersfield, California 93305  
Attn: Underground Tank Section

**REGARDING:**

Facility: ELK HILLS NAVAL PET. Res. Permit # 330088 C  
Facility Address: P.O. Box 127, Tupman, CA. 93276  
Name Of Person Filing Report: CURTIS E. Morgan

On June 4, 1987, the above facility had an  
(date and time)

inventory variation/loss that exceeded reportable limits as described below:

<u>Tank #</u>	<u>Amount of</u> <u>Daily</u> <u>Variation/Loss</u>	<u>Amount of</u> <u>Weekly</u> <u>Variation/Loss</u>	<u>Amount of</u> <u>Monthly</u> <u>Variation/Loss</u>	<u>Total Minuses</u> <u>Line 3 of</u> <u>Trend Analysis</u>
<u>4</u>	<u>89 gal</u>	<u>36 gal</u>	<u>5 gal</u>	<u>25 to 27*</u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

~~I have stopped dispensing product and begun investigation procedures required by the Permitting Authority.~~ *Not required per conversation with Janis Lehman on 7/1/87*

This notification is in addition to the phone call I previously placed.

C Em

Signature C E Morgan

\* There are 2 days left in the 2<sup>nd</sup> cycle, thus the uncertainty on total minuses. Action Number for above cycle total is 37 (period 2)

# 24 HOUR REPORTABLE VARIATION/LOSS

## NOTIFICATION

Kern County Health Department  
1700 Flower Street  
Bakersfield, California 93305  
Attn: Underground Tank Section

RECORDING:

Facility: Elk Hills Naval Pet. Co. Permit # 330088C  
Facility Address: P.O. Box 127, Tujunga, Ca. 93276  
Name of Person Filing Report: Guerrero E. Martinez

On June 13, 1987, the above facility had an  
(date and time)

Inventory variation/loss that exceeded reportable limits as described below:

Tank #	Amount of Daily Variation/Loss	Amount of Weekly Variation/Loss	Amount of Monthly Variation/Loss	Total Minuses Line 3 of Trend Analysis
4	94	5	5 gal	254.37*

~~I have stopped dispensing product and begun investigation procedures required by the Permitting Authority. Not required per conversation with Janis Lehnman on 7/1/87~~  
This notification is in addition to the phone call I previously placed.

Signature

*[Handwritten Signature]*

\* There are 3 days left in the 2nd cycle, thus the uncertainty  
on total minuses. Action number for above cycle total is 37 (period 2)

**24 HOUR REPORTABLE VARIATION/LOSS**  
**NOTIFICATION**

**TO:**

Kern County Health Department  
1700 Flower Street  
Bakersfield, California 93305  
Attn: Underground Tank Section

**REGARDING:**

**Facility:** ELK HILLS NAVAL PET. Res. **Permit #** 330088 C  
**Facility Address:** P.O. Box 127, TUPMAN, CA. 93276  
**Name Of Person Filing Report:** CURTIS E. Morgan

On June 19, 1987, the above facility had an  
(date and time)

inventory variation/loss that exceeded reportable limits as described below:

<u>Tank #</u>	<u>Amount of</u> <u>Daily</u> <u>Variation/Loss</u>	<u>Amount of</u> <u>Weekly</u> <u>Variation/Loss</u>	<u>Amount of</u> <u>Monthly</u> <u>Variation/Loss</u>	<u>Total Minuses</u> <u>Line 3 of</u> <u>Trend Analysis</u>
<u>4</u>	<u>89</u>	<u>10</u>	<u>5 gal</u>	<u>25 to 27*</u>

~~I have stopped dispensing product and begun investigation procedures required by the Permitting Authority.~~ *Not required per conversation with Janis Lehman on 7/1/87*

This notification is in addition to the phone call I previously placed.

C Em

Signature

C E Morgan

\* There are 2 days left in the 2<sup>nd</sup> cycle, thus the uncertainty on total minuses. Action number for above cycle total is 37 (period 2)

1700 Flower Street  
Bakersfield, California 93305  
Telephone (805) 861-3636

# KERN COUNTY HEALTH DEPARTMENT

ENVIRONMENTAL HEALTH DIVISION

HEALTH OFFICER  
Leon M Hebertson, M.D.

DIRECTOR OF ENVIRONMENTAL HEALTH  
Vernon S. Reichard



June 12, 1987

Curt Morgan  
P. O. Box 127  
Tupman, California 93276

Dear Mr. Morgan:

After careful review of the reportable inventory variations at your facility located at The Elk Hills facility (permit #330088), this Department has concluded that these results are due to a history of low throughput. This letter is to advise you that you will be granted a "provisional exemption" from the standard reporting described in your permit packet.

This Department is currently undertaking a study of the inventory control problems of low-throughput tanks. To facilitate this, a copy of reconciliation worksheets for tanks listed on the attached outline must be sent to this Department monthly so that we may add this information to our data base. Please send all submittals to my attention.

Our preliminary information indicates that a change in reportable variations is necessary when the throughput of a tank is less than 2,000 gallons per week and less than 10,000 gallons per month. The accompanying "Low-Throughput Tank Reporting Outline" describes these changes.

A revised action chart and an example of a changed summary sheet (on the back of inventory reconciliation worksheet) have also been enclosed for your convenience. Please make these changes on your worksheets for weeks in which you have low throughput.

Be advised that this provisional exemption is subject to change as further data becomes available to the Health Department. If, however, a listed tank at any time exceeds the defined low-throughput amounts, you must revert to compliance with the original reporting requirements. If you have any questions regarding this correspondence I can be reached at (805) 861-3636 between 8 am - 9 am.

Sincerely,

*Janis Lehman*  
Janis Lehman

Environmental Health Specialist  
Hazardous Materials Management Program

JL:sw  
Enclosures  
(Form letter #HMMP 510)

DISTRICT OFFICES

Delano . Lamont . Lake Isabella . Mojave . Ridgecrest . Shafter . Taft

## Low-Throughput Tank Reporting Outline

These amended permit requirements are only applicable to tank(s) indicated below when weekly throughput is less than 2000 gallons and monthly throughput is less than 10,000 gallons:

Effective Date:	June 12, 1987
Facility Permit #	330088
Tank # 4	Unleaded
Tank # 5	Unleaded
Tank # n/a	n/a
Tank # n/a	n/a

### Amended Permit Requirements:

1. Revised inventory reconciliation monitoring worksheets are to be submitted to the Health Department on a monthly basis.
2. Revised Action Chart is to be posted at facility
3. All variations exceeding the following amounts must be reported as described on page 16, Part "2" of Handbook #UT-10.

DAILY	-	75 gallons
WEEKLY	-	150 gallons
MONTHLY	-	200 gallons
TREND ANALYSIS	-	No change

1700 Flower Street  
Bakersfield, California 93305  
Telephone (805) 861-3636

KERN COUNTY HEALTH DEPARTMENT

ENVIRONMENTAL HEALTH DIVISION

HEALTH OFFICER  
Leon M Hebertson, M.D.

DIRECTOR OF ENVIRONMENTAL HEALTH  
Vernon S. Reichard



April 15, 1987

Curt Morgan  
P. O. Box 127  
Tupman, California 93276

RE: Substance Code For Underground Tanks

Dear Mr. Morgan,

On April 1, 1987 this office sent to you an interim permit to operate the underground hazardous substance storage tanks at the Elk Hills Naval Petroleum Reserve #1 facility located at 28590 Highway 119 (permit #330088C).

This permit listed your substance code as MVF 1 when in actuality the substance code is MVF3.

The motor vehicle code is based on the environmental sensitivity of the area. In your area the depth to groundwater is over 100 feet. This information comes from municipal water district records and historical data.

Enclosed you will find the correct permit for your facility. Please destroy the previous permit, as it is no longer valid.

If you have any questions, please call me at (805) 861-3636.

Sincerely,

A handwritten signature in cursive script that reads "Janis Lehman".

Janis Lehman  
Environmental Health Specialist  
Hazardous Materials Management Program

JL:sw  
Enclosure

DISTRICT OFFICES

Delano . Lamont . Lake Isabella . Mojave . Ridgecrest . Shafter . Taft

ENCLOSURE  
11:28

HANDBOOKS MATERIALS MANAGEMENT PROGRAM  
ENVIRONMENTAL HEALTH SPECIALIST  
JAMES LORSEN

Sincerely,

If you have any questions, please call me at (302) 381-3838.

Please destroy the previous permit as it is no longer valid.

Enclosed you will find the correct permit for your facility.

Facility records and historical data.

Over 100 feet. This information comes from municipal water  
sensitivities of the area. In your area the depth to groundwater is  
the motor vehicle code is passed on the environmental

accuracy the substance code is WAB3.

This permit listed your substance code as WAB 1 when in

HTKUNNY 110 (permit #330088C).

NIK HILLS HAVET BELLOJENW BESELAO #1 FACILITY LOCATED AT 58280  
OBERLAGE THE UNDERGROUND MATERIALS SUBSTANCE STORAGE TANKS AT THE  
ON APRIL 1, 1981 THIS OFFICE SENT TO YOU AN INTERIM PERMIT TO

DEAL MR. MORGAN.

RE: substance code for underground tanks

LORSEN, CALIFORNIA 93510

P. O. BOX 151

CALIF MORGAN

APRIL 12, 1981



# Bechtel Petroleum Operations, Inc.



28590 Highway 119  
Tupman, California  
Mail Address: P.O. Box 127, Tupman, CA 93276  
Telephone: (805) 325-1120

Dr. Leon Hebertson  
County Health Officer  
Kern County Department of Public Health  
1700 Flower Street  
Bakersfield, CA 93305

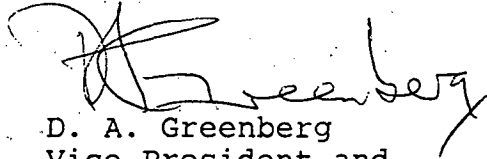
Subject: UNDERGROUND TANK PERMIT NO. 330088C

Dear Dr. Hebertson:

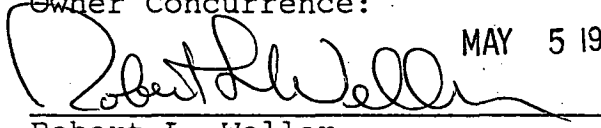
Bechtel Petroleum Operations, Inc. (BPOI) is the Unit Operator of the U.S. Naval Petroleum Reserves in California (NPRC) under the terms of a written contract awarded by the U.S. Department of Energy (DOE).

BPOI has a copy of the Permit to Operate No. 330088C applicable to the underground storage tanks at NPRC, and a copy of Chapter 15 of the Ordinance describing fines and penalties for noncompliance. We have read and understand our responsibilities under this Permit to Operate and have agreed to do the following:

- Monitor the underground tanks as specified in the Permit to Operate.
- Maintain appropriate records as required by the Permit to Operate.
- Implement all reporting procedures as required by the Permit to Operate.
- Properly close the underground tanks as required by the Permit to Operate.

  
D. A. Greenberg  
Vice President and  
General Manager, BPOI

Owner Concurrence:

  
Robert L. Weller  
Director, Naval Petroleum  
Reserves in California

MAY 5 1987

CEE/RLD/CEM:djk

MANAGER & OPERATOR  
U.S. Naval Petroleum Reserves in California

1700 Flower Street  
Bakersfield, California 93305  
Telephone (805) 861-3636

# KERN COUNTY HEALTH DEPARTMENT

ENVIRONMENTAL HEALTH DIVISION

HEALTH OFFICER  
Leon M Hebertson, M.D.

DIRECTOR OF ENVIRONMENTAL HEALTH  
Vernon S. Reichard



## INTERIM PERMIT TO OPERATE:

UNDERGROUND HAZARDOUS SUBSTANCES  
STORAGE FACILITY

PERMIT#330088C

ISSUED: JULY 1, 1986  
EXPIRES: JULY 1, 1988

NUMBER OF TANKS= 6

FACILITY:

ELK HILLS NAVAL PETROLEUM RESERVE | 1  
28590 HWY. 119  
KERN COUNTY WEST SIDE

OWNER:

UNITED STATES DEPARTMENT OF ENERGY  
P.O. BOX 11  
TUPMAN, CA 93276

<u>TANK #</u>	<u>AGE (IN YRS)</u>	<u>SUBSTANCE CODE</u>	<u>PRESSURIZED PIPING?</u>
3	UNK	MVF 1	NO
4	3	MVF 1	NO
5, 6	UNK	MVF 1	NO
7, 8	3	WO 1	NO

NOTE: ALL INTERIM REQUIREMENTS ESTABLISHED BY THE PERMITTING  
AUTHORITY MUST BE MET DURING THE TERM OF THIS PERMIT

NON-TRANSFERABLE \* \* \* POST ON PREMISES

DATE PERMIT MAILED: APR 1 1987

DATE PERMIT CHECK LIST RETURNED:

APPLICATION FOR PERMIT TO OPERATE UNDERGROUND  
HAZARDOUS SUBSTANCES STORAGE FACILITY

Type of Application (check):

☐ New Facility ☐ Modification of Facility ☒ Existing Facility ☐ Transfer of Ownership

A. Emergency 24-Hour Contact (name, area code, phone): Days Randy Wheat (805) 763-4131 ext. 5257  
Nights Randy Wheat (805) 833-0241

Facility Name Elk Hills Naval Petroleum Reserve #1 No. of Tanks 6

Type of Business (check): ☐ Gasoline Station ☒ Other (describe) Oil Producer

Is Tank(s) Located on an Agricultural Farm? ☐ Yes ☒ No

Is Tank(s) Used Primarily for Agricultural Purposes? ☐ Yes ☒ No

Facility Address P.O. Box 86 Tupman, Calif.

Nearest Cross St. Hwy 119

T \_\_\_\_\_ R \_\_\_\_\_ SEC \_\_\_\_\_ (Rural Locations Only)

Owner United States Department of Energy

Contact Person Joe Lagler

Address P.O. Box 11 Tupman, Calif.

Zip 93276

Telephone (805) 763-4131 ext. 2121

Operator Williams Brothers Engineering Co.

Contact Person R. Lee Norland

Address P.O. Box 86 Tupman, Calif.

Zip 93276

Telephone (805) 763-4131 ext. 2341

B. Water to Facility Provided by West Kern Water District Depth to Groundwater Varies

Soil Characteristics at Facility Varies by area from clay to loam to conglomerate

Basis for Soil Type and Groundwater Depth Determinations Well logs

C. Contractor \_\_\_\_\_ CA Contractor's License No. \_\_\_\_\_

Address \_\_\_\_\_ Zip \_\_\_\_\_ Telephone \_\_\_\_\_

Proposed Starting Date \_\_\_\_\_

Proposed Completion Date \_\_\_\_\_

Worker's Compensation Certification # \_\_\_\_\_

Insurer \_\_\_\_\_

D. If This Permit Is For Modification Of An Existing Facility, Briefly Describe Modifications Proposed N/A

E. Tank(s) Store (check all that apply):

Tank #	Waste	Product	Motor Vehicle Fuel	Unleaded	Regular	Premium	Diesel	Waste Oil
3 <u>6000</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 <u>6000</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F. Chemical Composition of Materials Stored (not necessary for motor vehicle fuels)

Tank # Chemical Stored (non-commercial name) CAS # (if known) Chemical Previously Stored (if different)

G. Transfer of Ownership

Date of Transfer \_\_\_\_\_

Previous Owner \_\_\_\_\_

Previous Facility Name \_\_\_\_\_

I, \_\_\_\_\_ accept fully all obligations of Permit No. \_\_\_\_\_ issued to \_\_\_\_\_  
I understand that the Permitting Authority may review and modify or terminate the transfer of the Permit to Operate this underground storage facility upon receiving this completed form.

This form has been completed under penalty of perjury and to the best of my knowledge is true and correct.

Signature \_\_\_\_\_

Title Director, Env. Affairs

Date 4-1-85

APPLICATION FOR PERMIT TO OPERATE UNDERGROUND  
HAZARDOUS SUBSTANCES STORAGE FACILITY

Type of Application (check):

☐ New Facility ☐ Modification of Facility ☒ Existing Facility ☐ Transfer of Ownership

A. Emergency 24-Hour Contact (name, area code, phone): Days Randy Wheat (805) 763-4131 ext. 5257  
Nights Randy Wheat (805) 833-0241

Facility Name Elk Hills Naval Petroleum Reserve #1 No. of Tanks 6

Type of Business (check): ☐ Gasoline Station ☒ Other (describe) Oil Producer

Is Tank(s) Located on an Agricultural Farm? ☐ Yes ☒ No

Is Tank(s) Used Primarily for Agricultural Purposes? ☐ Yes ☒ No

Facility Address P.O. Box 86 Tupman, Calif. Nearest Cross St. Hwy 119

T \_\_\_\_\_ R \_\_\_\_\_ SEC \_\_\_\_\_ (Rural Locations Only)

Owner United States Department of Energy Contact Person Joe Lagler

Address P.O. Box 11 Tupman, Calif. Zip 93276 Telephone (805) 763-4131 ext. 2121

Operator Williams Brothers Engineering Co. Contact Person R. Lee Norland Bill Kerston

Address P.O. Box 86 Tupman, Calif. Zip 93276 Telephone (805) 763-4131 ext. 5297  
ext. 2370

B. Water to Facility Provided by West Kern Water District Depth to Groundwater Varies  
Soil Characteristics at Facility Varies by area from clay to loam to conglomerate  
Basis for Soil Type and Groundwater Depth Determinations Well logs

C. Contractor \_\_\_\_\_ CA Contractor's License No. \_\_\_\_\_  
Address \_\_\_\_\_ Zip \_\_\_\_\_ Telephone \_\_\_\_\_  
Proposed Starting Date \_\_\_\_\_ Proposed Completion Date \_\_\_\_\_  
Worker's Compensation Certification # \_\_\_\_\_ Insurer \_\_\_\_\_

D. If This Permit Is For Modification Of An Existing Facility, Briefly Describe Modifications  
Proposed N/A

E. Tank(s) Store (check all that apply):

Tank #	Waste	Product	Motor Vehicle Fuel	Unleaded	Regular	Premium	Diesel	Waste Oil
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F. Chemical Composition of Materials Stored (not necessary for motor vehicle fuels)  
Tank # Chemical Stored (non-commercial name) CAS # (if known) Chemical Previously Stored  
(if different)

7	Used motor oil		
8	Used motor oil		

G. Transfer of Ownership

Date of Transfer \_\_\_\_\_ Previous Owner \_\_\_\_\_  
Previous Facility Name \_\_\_\_\_

I, \_\_\_\_\_ accept fully all obligations of Permit No. \_\_\_\_\_ issued to  
\_\_\_\_\_. I understand that the Permitting Authority may review and  
modify or terminate the transfer of the Permit to Operate this underground storage  
facility upon receiving this completed form.

This form has been completed under penalty of perjury and to the best of my knowledge is  
true and correct.

Signature R. Lee Norland Title Director, Date 4-1-85  
Environmental Affairs

FOR EACH SECTION, CHECK ALL APPROPRIATE BOXES

- H. 1. Tank is: ☐ Vaulted ☐ Non-Vaulted ☐ Double-Wall ☒ Single-Wall
2. Tank Material  
☒ Carbon Steel ☐ Stainless Steel ☐ Polyvinyl Chloride ☐ Fiberglass-Clad Steel  
☐ Fiberglass-Reinforced Plastic ☐ Concrete ☐ Aluminum ☐ Bronze ☒ Unknown  
☐ Other (describe): \_\_\_\_\_
3. Primary Containment  
Date Installed 1982 Thickness (Inches) Unknown Capacity (Gallons) 6000 Manufacturer Unknown
4. Tank Secondary Containment  
☐ Double-Wall ☐ Synthetic Liner ☐ Lined Vault ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_ Manufacturer: \_\_\_\_\_  
☐ Material \_\_\_\_\_ Thickness (Inches) \_\_\_\_\_ Capacity (Gals.) \_\_\_\_\_
5. Tank Interior Lining  
☐ Rubber ☐ Alkyd ☐ Epoxy ☐ Phenolic ☐ Glass ☐ Clay ☐ Unlined ☒ Unknown  
☐ Other (describe): \_\_\_\_\_
6. Tank Corrosion Protection  
☐ Galvanized ☐ Fiberglass-Clad ☐ Polyethylene Wrap ☐ Vinyl Wrapping  
☐ Tar or Asphalt ☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
Cathodic Protection: ☒ None ☐ Impressed Current System ☐ Sacrificial Anode System  
Describe System & Equipment: \_\_\_\_\_
7. Leak Detection, Monitoring, and Interception  
a. Tank: ☐ Visual (vaulted tanks only) ☐ Groundwater Monitoring Well(s)  
☐ Vadose Zone Monitoring Well(s) ☐ U-Tube Without Liner  
☐ U-Tube with Compatible Liner Directing Flow to Monitoring Well(s)\*  
☐ Vapor Detector\* ☐ Liquid Level Sensor\* ☐ Conductivity Sensor\*  
☐ Pressure Sensor in Annular Space of Double Wall Tank  
☐ Liquid Retrieval & Inspection From U-Tube, Monitoring Well or Annular Space  
☐ Daily Gauging & Inventory Reconciliation ☐ Periodic Tightness Testing  
☒ None ☐ Unknown ☐ Other: \_\_\_\_\_  
b. Piping: Flow-Restricting Leak Detector(s) for Pressurized Piping\*  
☐ Monitoring Sump with Raceway ☐ Sealed Concrete Raceway  
☐ Half-Cut Compatible Pipe Raceway ☐ Synthetic Liner Raceway ☒ None  
☐ Unknown ☐ Other: \_\_\_\_\_  
\*Describe Make & Model: \_\_\_\_\_
8. Tank Tightness  
Has This Tank Been Tightness Tested? ☒ Yes ☐ No ☐ Unknown  
Date of Last Tightness Test 1984 Results of Test No leak  
Test Name Pressure test Testing Company RLW Equipment
9. Tank Repair  
Tank Repaired? ☐ Yes ☒ No ☐ Unknown  
Date(s) of Repair(s) \_\_\_\_\_  
Describe Repairs \_\_\_\_\_
10. Overfill Protection  
☐ Operator Fills, Controls, & Visually Monitors Level  
☐ Tape Float Gauge ☐ Float Vent Valves ☐ Auto Shut-Off Controls  
☐ Capacitance Sensor ☐ Sealed Fill Box ☒ None ☐ Unknown  
☐ Other: \_\_\_\_\_ List Make & Model For Above Devices \_\_\_\_\_
11. Piping  
a. Underground Piping: ☒ Yes ☐ No ☐ Unknown Material Steel  
Thickness (inches) \_\_\_\_\_ Diameter \_\_\_\_\_ Manufacturer \_\_\_\_\_  
☐ Pressure ☒ Suction ☐ Gravity Approximate Length of Pipe Run \_\_\_\_\_  
b. Underground Piping Corrosion Protection:  
☐ Galvanized ☐ Fiberglass-Clad ☐ Impressed Current ☐ Sacrificial Anode  
☐ Polyethylene Wrap ☐ Electrical Isolation ☐ Vinyl Wrap ☐ Tar or Asphalt  
☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
c. Underground Piping, Secondary Containment:  
☐ Double-Wall ☐ Synthetic Liner System ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_

- H. 1. Tank is: ☐ Vaulted ☐ Non-Vaulted ☐ Double-Wall ☒ Single-Wall
2. Tank Material  
☒ Carbon Steel ☐ Stainless Steel ☐ Polyvinyl Chloride ☐ Fiberglass-Clad Steel  
☐ Fiberglass-Reinforced Plastic ☐ Concrete ☐ Aluminum ☐ Bronze ☐ Unknown  
☐ Other (describe): \_\_\_\_\_
3. Primary Containment  
Date Installed \_\_\_\_\_ Thickness (Inches) \_\_\_\_\_ Capacity (Gallons) \_\_\_\_\_ Manufacturer \_\_\_\_\_  
Unknown Unknown 1000 Unknown
4. Tank Secondary Containment  
☐ Double-Wall ☐ Synthetic Liner ☐ Lined Vault ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_ Manufacturer: \_\_\_\_\_  
☐ Material \_\_\_\_\_ Thickness (Inches) \_\_\_\_\_ Capacity (Gals.) \_\_\_\_\_
5. Tank Interior Lining  
☐ Rubber ☐ Alkyd ☐ Epoxy ☐ Phenolic ☐ Glass ☐ Clay ☐ Unlined ☒ Unknown  
☐ Other (describe): \_\_\_\_\_
6. Tank Corrosion Protection  
☐ Galvanized ☐ Fiberglass-Clad ☐ Polyethylene Wrap ☐ Vinyl Wrapping  
☐ Tar or Asphalt ☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
Cathodic Protection: ☒ None ☐ Impressed Current System ☐ Sacrificial Anode System  
Describe System & Equipment: \_\_\_\_\_
7. Leak Detection, Monitoring, and Interception  
a. Tank: ☐ Visual (vaulted tanks only) ☐ Groundwater Monitoring Well(s)  
☐ Vadose Zone Monitoring Well(s) ☐ U-Tube Without Liner  
☐ U-Tube with Compatible Liner Directing Flow to Monitoring Well(s)\*  
☐ Vapor Detector\* ☐ Liquid Level Sensor\* ☐ Conductivity Sensor\*  
☐ Pressure Sensor in Annular Space of Double Wall Tank  
☐ Liquid Retrieval & Inspection From U-Tube, Monitoring Well or Annular Space  
☐ Daily Gauging & Inventory Reconciliation ☐ Periodic Tightness Testing  
☒ None ☐ Unknown ☐ Other: \_\_\_\_\_  
b. Piping: Flow-Restricting Leak Detector(s) for Pressurized Piping\*  
☐ Monitoring Sump with Raceway ☐ Sealed Concrete Raceway  
☐ Half-Cut Compatible Pipe Raceway ☐ Synthetic Liner Raceway ☒ None  
☐ Unknown ☐ Other: \_\_\_\_\_  
\*Describe Make & Model: \_\_\_\_\_
8. Tank Tightness  
Has This Tank Been Tightness Tested? ☐ Yes ☒ No ☐ Unknown  
Date of Last Tightness Test \_\_\_\_\_ Results of Test \_\_\_\_\_  
Test Name \_\_\_\_\_ Testing Company \_\_\_\_\_
9. Tank Repair  
Tank Repaired? ☐ Yes ☒ No ☐ Unknown  
Date(s) of Repair(s) \_\_\_\_\_  
Describe Repairs \_\_\_\_\_
10. Overfill Protection  
☐ Operator Fills, Controls, & Visually Monitors Level  
☐ Tape Float Gauge ☐ Float Vent Valves ☐ Auto Shut-Off Controls  
☐ Capacitance Sensor ☐ Sealed Fill Box ☒ None ☐ Unknown  
☐ Other: \_\_\_\_\_ List Make & Model For Above Devices \_\_\_\_\_
11. Piping  
a. Underground Piping: ☒ Yes ☐ No ☐ Unknown Material Steel  
Thickness (inches) \_\_\_\_\_ Diameter \_\_\_\_\_ Manufacturer \_\_\_\_\_  
☐ Pressure ☒ Suction ☐ Gravity Approximate Length of Pipe Run \_\_\_\_\_  
b. Underground Piping Corrosion Protection:  
☐ Galvanized ☐ Fiberglass-Clad ☐ Impressed Current ☐ Sacrificial Anode  
☐ Polyethylene Wrap ☐ Electrical Isolation ☐ Vinyl Wrap ☐ Tar or Asphalt  
☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
c. Underground Piping, Secondary Containment:  
☐ Double-Wall ☐ Synthetic Liner System ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_

- H. 1. Tank is: ☐ Vaulted ☐ Non-Vaulted ☐ Double-Wall ☒ Single-Wall
2. Tank Material  
☒ Carbon Steel ☐ Stainless Steel ☐ Polyvinyl Chloride ☐ Fiberglass-Clad Steel  
☐ Fiberglass-Reinforced Plastic ☐ Concrete ☐ Aluminum ☐ Bronze ☐ Unknown  
☐ Other (describe): \_\_\_\_\_
3. Primary Containment  
Date Installed \_\_\_\_\_ Thickness (Inches) \_\_\_\_\_ Capacity (Gallons) \_\_\_\_\_ Manufacturer \_\_\_\_\_  
Unknown Unknown 2000 Unknown
4. Tank Secondary Containment  
☐ Double-Wall ☐ Synthetic Liner ☐ Lined Vault ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_ Manufacturer: \_\_\_\_\_  
☐ Material \_\_\_\_\_ Thickness (Inches) \_\_\_\_\_ Capacity (Gals.) \_\_\_\_\_
5. Tank Interior Lining  
☐ Rubber ☐ Alkyd ☐ Epoxy ☐ Phenolic ☐ Glass ☐ Clay ☐ Unlined ☒ Unknown  
☐ Other (describe): \_\_\_\_\_
6. Tank Corrosion Protection  
☐ Galvanized ☐ Fiberglass-Clad ☐ Polyethylene Wrap ☐ Vinyl Wrapping  
☐ Tar or Asphalt ☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
Cathodic Protection: ☒ None ☐ Impressed Current System ☐ Sacrificial Anode System  
Describe System & Equipment: \_\_\_\_\_
7. Leak Detection, Monitoring, and Interception  
a. Tank: ☐ Visual (vaulted tanks only) ☐ Groundwater Monitoring Well(s)  
☐ Vadose Zone Monitoring Well(s) ☐ U-Tube Without Liner  
☐ U-Tube with Compatible Liner Directing Flow to Monitoring Well(s)\*  
☐ Vapor Detector\* ☐ Liquid Level Sensor\* ☐ Conductivity Sensor\*  
☐ Pressure Sensor in Annular Space of Double Wall Tank  
☐ Liquid Retrieval & Inspection From U-Tube, Monitoring Well or Annular Space  
☐ Daily Gauging & Inventory Reconciliation ☐ Periodic Tightness Testing  
☒ None ☐ Unknown ☐ Other: \_\_\_\_\_  
b. Piping: Flow-Restricting Leak Detector(s) for Pressurized Piping\*  
☐ Monitoring Sump with Raceway ☐ Sealed Concrete Raceway  
☐ Half-Cut Compatible Pipe Raceway ☐ Synthetic Liner Raceway ☒ None  
☐ Unknown ☐ Other: \_\_\_\_\_  
\*Describe Make & Model: \_\_\_\_\_
8. Tank Tightness  
Has This Tank Been Tightness Tested? ☐ Yes ☒ No ☐ Unknown  
Date of Last Tightness Test \_\_\_\_\_ Results of Test \_\_\_\_\_  
Test Name \_\_\_\_\_ Testing Company \_\_\_\_\_
9. Tank Repair  
Tank Repaired? ☐ Yes ☒ No ☐ Unknown  
Date(s) of Repair(s) \_\_\_\_\_  
Describe Repairs \_\_\_\_\_
10. Overfill Protection  
☐ Operator Fills, Controls, & Visually Monitors Level  
☐ Tape Float Gauge ☐ Float Vent Valves ☐ Auto Shut-Off Controls  
☐ Capacitance Sensor ☐ Sealed Fill Box ☒ None ☐ Unknown  
☐ Other: \_\_\_\_\_ List Make & Model For Above Devices \_\_\_\_\_
11. Piping  
a. Underground Piping: ☒ Yes ☐ No ☐ Unknown Material Steel  
Thickness (inches) \_\_\_\_\_ Diameter \_\_\_\_\_ Manufacturer \_\_\_\_\_  
☐ Pressure ☒ Suction ☐ Gravity Approximate Length of Pipe Run \_\_\_\_\_  
b. Underground Piping Corrosion Protection:  
☐ Galvanized ☐ Fiberglass-Clad ☐ Impressed Current ☐ Sacrificial Anode  
☐ Polyethylene Wrap ☐ Electrical Isolation ☐ Vinyl Wrap ☐ Tar or Asphalt  
☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
c. Underground Piping, Secondary Containment:  
☐ Double-Wall ☐ Synthetic Liner System ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_

TANK # 8 (FILL OUT SEPARATE FORM FOR EACH TANK)  
FOR EACH SECTION, CHECK ALL APPROPRIATE BOXES

330088C

- H. 1. Tank is: ☐ Vaulted ☐ Non-Vaulted ☐ Double-Wall ☒ Single-Wall
2. Tank Material  
☒ Carbon Steel ☐ Stainless Steel ☐ Polyvinyl Chloride ☐ Fiberglass-Clad Steel  
☐ Fiberglass-Reinforced Plastic ☐ Concrete ☐ Aluminum ☐ Bronze ☐ Unknown  
☐ Other (describe): \_\_\_\_\_
3. Primary Containment  
Date Installed 1982 Thickness (Inches) Unknown Capacity (Gallons) 1000 Manufacturer Unknown
4. Tank Secondary Containment  
☐ Double-Wall ☐ Synthetic Liner ☐ Lined Vault ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_ Manufacturer: \_\_\_\_\_  
☐ Material \_\_\_\_\_ Thickness (Inches) \_\_\_\_\_ Capacity (Gals.) \_\_\_\_\_
5. Tank Interior Lining  
☐ Rubber ☐ Alkyd ☐ Epoxy ☐ Phenolic ☐ Glass ☐ Clay ☐ Unlined ☒ Unknown  
☐ Other (describe): \_\_\_\_\_
6. Tank Corrosion Protection  
☐ Galvanized ☐ Fiberglass-Clad ☐ Polyethylene Wrap ☐ Vinyl Wrapping  
☐ Tar or Asphalt ☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
Cathodic Protection: ☒ None ☐ Impressed Current System ☐ Sacrificial Anode System  
Describe System & Equipment: \_\_\_\_\_
7. Leak Detection, Monitoring, and Interception  
a. Tank: ☐ Visual (vaulted tanks only) ☐ Groundwater Monitoring Well(s)  
☐ Vadose Zone Monitoring Well(s) ☐ U-Tube Without Liner  
☐ U-Tube with Compatible Liner Directing Flow to Monitoring Well(s)\*  
☐ Vapor Detector\* ☐ Liquid Level Sensor\* ☐ Conductivity Sensor\*  
☐ Pressure Sensor in Annular Space of Double Wall Tank  
☐ Liquid Retrieval & Inspection From U-Tube, Monitoring Well or Annular Space  
☐ Daily Gauging & Inventory Reconciliation ☐ Periodic Tightness Testing  
☒ None ☐ Unknown ☐ Other: \_\_\_\_\_  
b. Piping: Flow-Restricting Leak Detector(s) for Pressurized Piping\*  
☐ Monitoring Sump with Raceway ☐ Sealed Concrete Raceway  
☐ Half-Cut Compatible Pipe Raceway ☐ Synthetic Liner Raceway ☒ None  
☐ Unknown ☐ Other: \_\_\_\_\_  
\*Describe Make & Model: \_\_\_\_\_
8. Tank Tightness  
Has This Tank Been Tightness Tested? ☐ Yes ☒ No ☐ Unknown  
Date of Last Tightness Test \_\_\_\_\_ Results of Test \_\_\_\_\_  
Test Name \_\_\_\_\_ Testing Company \_\_\_\_\_
9. Tank Repair  
Tank Repaired? ☐ Yes ☒ No ☐ Unknown  
Date(s) of Repair(s) \_\_\_\_\_  
Describe Repairs \_\_\_\_\_
10. Overfill Protection  
☐ Operator Fills, Controls, & Visually Monitors Level  
☐ Tape Float Gauge ☐ Float Vent Valves ☐ Auto Shut-Off Controls  
☐ Capacitance Sensor ☐ Sealed Fill Box ☒ None ☐ Unknown  
☐ Other: \_\_\_\_\_ List Make & Model For Above Devices \_\_\_\_\_
11. Piping  
a. Underground Piping: ☐ Yes ☐ No ☒ Unknown Material \_\_\_\_\_  
Thickness (inches) \_\_\_\_\_ Diameter \_\_\_\_\_ Manufacturer \_\_\_\_\_  
☐ Pressure ☐ Suction ☐ Gravity Approximate Length of Pipe Run \_\_\_\_\_  
b. Underground Piping Corrosion Protection:  
☐ Galvanized ☐ Fiberglass-Clad ☐ Impressed Current ☐ Sacrificial Anode  
☐ Polyethylene Wrap ☐ Electrical Isolation ☐ Vinyl Wrap ☐ Tar or Asphalt  
☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
c. Underground Piping, Secondary Containment:  
☐ Double-Wall ☐ Synthetic Liner System ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_



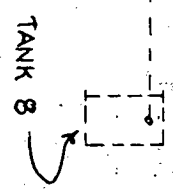
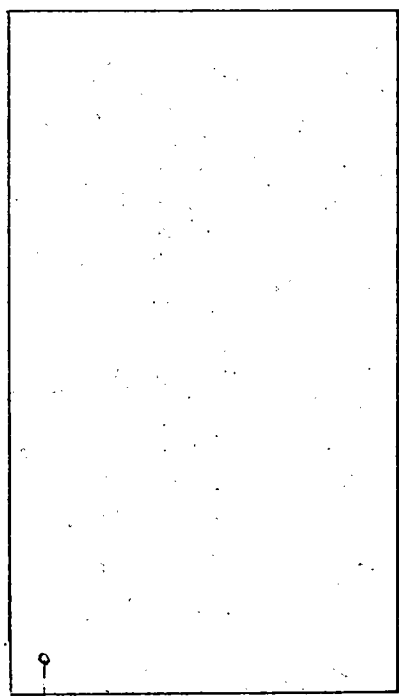
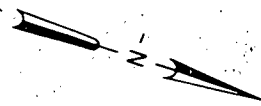
FOR EACH SECTION, CHECK ALL APPROPRIATE BOXES

- H. 1. Tank is: ☐ Vaulted ☐ Non-Vaulted ☐ Double-Wall ☒ Single-Wall
2. Tank Material  
☒ Carbon Steel ☐ Stainless Steel ☐ Polyvinyl Chloride ☐ Fiberglass-Clad Steel  
☐ Fiberglass-Reinforced Plastic ☐ Concrete ☐ Aluminum ☐ Bronze ☒ Unknown  
☐ Other (describe): \_\_\_\_\_
3. Primary Containment  
Date Installed \_\_\_\_\_ Thickness (Inches) \_\_\_\_\_ Capacity (Gallons) \_\_\_\_\_ Manufacturer \_\_\_\_\_  
Unknown Unknown 6000 Unknown
4. Tank Secondary Containment  
☐ Double-Wall ☐ Synthetic Liner ☐ Lined Vault ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_ Manufacturer: \_\_\_\_\_  
☐ Material \_\_\_\_\_ Thickness (Inches) \_\_\_\_\_ Capacity (Gals.) \_\_\_\_\_
5. Tank Interior Lining  
☐ Rubber ☐ Alkyd ☐ Epoxy ☐ Phenolic ☐ Glass ☐ Clay ☐ Unlined ☒ Unknown  
☐ Other (describe): \_\_\_\_\_
6. Tank Corrosion Protection  
☐ Galvanized ☐ Fiberglass-Clad ☐ Polyethylene Wrap ☐ Vinyl Wrapping  
☐ Tar or Asphalt ☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
Cathodic Protection: ☒ None ☐ Impressed Current System ☐ Sacrificial Anode System  
Describe System & Equipment: \_\_\_\_\_
7. Leak Detection, Monitoring, and Interception  
a. Tank: ☐ Visual (vaulted tanks only) ☐ Groundwater Monitoring Well(s)  
☐ Vadose Zone Monitoring Well(s) ☐ U-Tube Without Liner  
☐ U-Tube with Compatible Liner Directing Flow to Monitoring Well(s)\*  
☐ Vapor Detector\* ☐ Liquid Level Sensor\* ☐ Conductivity Sensor\*  
☐ Pressure Sensor in Annular Space of Double Wall Tank  
☐ Liquid Retrieval & Inspection From U-Tube, Monitoring Well or Annular Space  
☐ Daily Gauging & Inventory Reconciliation ☐ Periodic Tightness Testing  
☒ None ☐ Unknown ☐ Other: \_\_\_\_\_  
b. Piping: Flow-Restricting Leak Detector(s) for Pressurized Piping\*  
☐ Monitoring Sump with Raceway ☐ Sealed Concrete Raceway  
☐ Half-Cut Compatible Pipe Raceway ☐ Synthetic Liner Raceway ☒ None  
☐ Unknown ☐ Other: \_\_\_\_\_  
\*Describe Make & Model: \_\_\_\_\_
8. Tank Tightness  
Has This Tank Been Tightness Tested? ☐ Yes ☒ No ☐ Unknown  
Date of Last Tightness Test \_\_\_\_\_ Results of Test \_\_\_\_\_  
Test Name \_\_\_\_\_ Testing Company \_\_\_\_\_
9. Tank Repair  
Tank Repaired? ☐ Yes ☒ No ☐ Unknown  
Date(s) of Repair(s) \_\_\_\_\_  
Describe Repairs \_\_\_\_\_
10. Overfill Protection  
☐ Operator Fills, Controls, & Visually Monitors Level  
☐ Tape Float Gauge ☐ Float Vent Valves ☐ Auto Shut-Off Controls  
☐ Capacitance Sensor ☐ Sealed Fill Box ☒ None ☐ Unknown  
☐ Other: \_\_\_\_\_ List Make & Model For Above Devices \_\_\_\_\_
11. Piping  
a. Underground Piping: ☒ Yes ☐ No ☐ Unknown Material Steel  
Thickness (inches) \_\_\_\_\_ Diameter \_\_\_\_\_ Manufacturer \_\_\_\_\_  
☐ Pressure ☒ Suction ☐ Gravity Approximate Length of Pipe Run \_\_\_\_\_  
b. Underground Piping Corrosion Protection:  
☐ Galvanized ☐ Fiberglass-Clad ☐ Impressed Current ☐ Sacrificial Anode  
☐ Polyethylene Wrap ☐ Electrical Isolation ☐ Vinyl Wrap ☐ Tar or Asphalt  
☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
c. Underground Piping, Secondary Containment:  
☐ Double-Wall ☐ Synthetic Liner System ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_

TANK # 7 (FILL OUT SEPARATE FORM FOR EACH TANK)  
FOR EACH SECTION, CHECK ALL APPROPRIATE BOXES

330088C

- H. 1. Tank is: ☐ Vaulted ☐ Non-Vaulted ☐ Double-Wall ☒ Single-Wall
2. Tank Material  
☒ Carbon Steel ☐ Stainless Steel ☐ Polyvinyl Chloride ☐ Fiberglass-Clad Steel  
☐ Fiberglass-Reinforced Plastic ☐ Concrete ☐ Aluminum ☐ Bronze ☐ Unknown  
☐ Other (describe): \_\_\_\_\_
3. Primary Containment  
Date Installed 1982 Thickness (Inches) Unknown Capacity (Gallons) 1000 Manufacturer Unknown
4. Tank Secondary Containment  
☐ Double-Wall ☐ Synthetic Liner ☐ Lined Vault ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_ Manufacturer: \_\_\_\_\_  
☐ Material \_\_\_\_\_ Thickness (Inches) \_\_\_\_\_ Capacity (Gals.) \_\_\_\_\_
5. Tank Interior Lining  
☐ Rubber ☐ Alkyd ☐ Epoxy ☐ Phenolic ☐ Glass ☐ Clay ☐ Unlined ☒ Unknown  
☐ Other (describe): \_\_\_\_\_
6. Tank Corrosion Protection  
☐ Galvanized ☐ Fiberglass-Clad ☐ Polyethylene Wrap ☐ Vinyl Wrapping  
☐ Tar or Asphalt ☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
Cathodic Protection: ☒ None ☐ Impressed Current System ☐ Sacrificial Anode System  
Describe System & Equipment: \_\_\_\_\_
7. Leak Detection, Monitoring, and Interception  
a. Tank: ☐ Visual (vaulted tanks only) ☐ Groundwater Monitoring Well(s)  
☐ Vadose Zone Monitoring Well(s) ☐ U-Tube Without Liner  
☐ U-Tube with Compatible Liner Directing Flow to Monitoring Well(s)\*  
☐ Vapor Detector\* ☐ Liquid Level Sensor\* ☐ Conductivity Sensor\*  
☐ Pressure Sensor in Annular Space of Double Wall Tank  
☐ Liquid Retrieval & Inspection From U-Tube, Monitoring Well or Annular Space  
☐ Daily Gauging & Inventory Reconciliation ☐ Periodic Tightness Testing  
☒ None ☐ Unknown ☐ Other: \_\_\_\_\_  
b. Piping: Flow-Restricting Leak Detector(s) for Pressurized Piping\*  
☐ Monitoring Sump with Raceway ☐ Sealed Concrete Raceway  
☐ Half-Cut Compatible Pipe Raceway ☐ Synthetic Liner Raceway ☒ None  
☐ Unknown ☐ Other: \_\_\_\_\_  
\*Describe Make & Model: \_\_\_\_\_
8. Tank Tightness  
Has This Tank Been Tightness Tested? ☐ Yes ☒ No ☐ Unknown  
Date of Last Tightness Test \_\_\_\_\_ Results of Test \_\_\_\_\_  
Test Name \_\_\_\_\_ Testing Company \_\_\_\_\_
9. Tank Repair  
Tank Repaired? ☐ Yes ☒ No ☐ Unknown  
Date(s) of Repair(s) \_\_\_\_\_  
Describe Repairs \_\_\_\_\_
10. Overfill Protection  
☐ Operator Fills, Controls, & Visually Monitors Level  
☐ Tape Float Gauge ☐ Float Vent Valves ☐ Auto Shut-Off Controls  
☐ Capacitance Sensor ☐ Sealed Fill Box ☒ None ☐ Unknown  
☐ Other: \_\_\_\_\_ List Make & Model For Above Devices \_\_\_\_\_
11. Piping  
a. Underground Piping: ☐ Yes ☐ No ☒ Unknown Material \_\_\_\_\_  
Thickness (inches) \_\_\_\_\_ Diameter \_\_\_\_\_ Manufacturer \_\_\_\_\_  
☐ Pressure ☒ Suction ☐ Gravity Approximate Length of Pipe Run \_\_\_\_\_  
b. Underground Piping Corrosion Protection:  
☐ Galvanized ☐ Fiberglass-Clad ☐ Impressed Current ☐ Sacrificial Anode  
☐ Polyethylene Wrap ☐ Electrical Isolation ☐ Vinyl Wrap ☐ Tar or Asphalt  
☒ Unknown ☐ None ☐ Other (describe): \_\_\_\_\_  
c. Underground Piping, Secondary Containment:  
☐ Double-Wall ☐ Synthetic Liner System ☒ None ☐ Unknown  
☐ Other (describe): \_\_\_\_\_



36S GARAGE

GREEN COUNTY HEALTH DEPT

APR - 21 1985

RECEIVED



MATTHEW CONSTANTINE, DIRECTOR  
PUBLIC HEALTH SERVICES

## ENVIRONMENTAL HEALTH DIVISION

2700 M STREET, SUITE 300, BAKERSFIELD, CA 93301-2370

VOICE: (661) 862-8740 FAX: (661) 862-8701

Web: www.co.kern.ca.us/eh E-mail: eh@co.kern.ca.us

"ONE VOICE"



CLAUDIA JONAH, MD  
PUBLIC HEALTH OFFICER

### CERTIFIED UNIFIED PROGRAM AGENCY (CUPA) HAZARDOUS MATERIAL INSPECTION FORM

Report Date: 05/03/2012

Facility ID: FA0035735

File #: 002624

Facility Name: OCCIDENTAL OF ELK HILLS INC (RMP REGULATED FACILITIES)				<b>Inspection Type</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection <input type="checkbox"/> Complaint	
Site Address: 28590 HIGHWAY 119 TUPMAN, CA 93276					
Phone: (661)412-5000					
PROGRAMS INSPECTED:	<input checked="" type="checkbox"/> Business Plan	<input checked="" type="checkbox"/> HW Generator	<input type="checkbox"/> UST	<input checked="" type="checkbox"/> APSA	
REINSPECTION REQUIRED:	<input type="checkbox"/> Business Plan	<input type="checkbox"/> HW Generator	<input type="checkbox"/> UST	<input type="checkbox"/> APSA	

VIOLATION	VIOLATION NUMBER	BUSINESS PLAN REQUIREMENTS
✓	BP01	Inventory of hazardous materials is accurate, up to date, and complete [HSC 6.95, 25504, Title 19 CCR 2729].
	BP02	Site layout/facility maps are accurate [HSC 6.95,25504; Title 19 CCR 2729].
	BP03	Hazardous materials are stored in properly labeled and non-deteriorated containers [HSC 25124(b)(3)(A & B)].
	BP04	The hazardous materials inventory shall be submitted annually on or before March 1 [Title 19 CCR 2729.4(b)].
	ER01	Contingency Plan is complete, updated, and maintained on site [HSC 6.95, 25504; Title 19 CCR 2731 Title 22 CCR 66265.53-54].
	ER02	Facility is operated and maintained to prevent/mitigate fire, explosion, or release of hazardous material or waste which could threaten human health or the environment [Title 22 CCR 66265.31; Title 19 CCR 2731].
	ER03	Business has equipment required to, or appropriate for, safe handling of hazardous materials [Title 22 CCR 66265.32 & .34].
	TR01	Facility has a training program appropriate for the size and complexity of business and nature of hazardous materials handled [Title 19 CCR 2732; Title 22 CCR 66265.16].
	TR02	Training documentation is maintained on site for current personnel [Title 19 CCR 2732; Title 22 CCR 66265.16].

INSPECTOR: JOE CANAS

INSPECTION DATE: 03/01/2012

**FACILITY NAME:** OCCIDENTAL OF ELK HILLS INC  
(RMP REGULATED FACILITIES)

**ADDRESS:** 28590 HIGHWAY 119  
TUPMAN, CA 93276

**FA ID:** FA0035735  
**FILE ID:** 002624

VIOLATION	VIOLATION NUMBER	HAZARDOUS WASTE GENERATOR REQUIREMENTS
		EPA ID NUMBER:
	<b>GA01</b>	Hazardous waste has not accumulated for more than 90/180/270 days (depending upon volume/circumstances) without having a hazardous waste storage permit [Title 22, CCR, 66262.34 HSC, 25123.3(c)].
	<b>GA02</b>	Empty containers or inner liners greater than 5 gallons have dates when emptied and are properly managed within one year of date emptied [Title 22, CCR, 66261.7(f)].
	<b>GA03</b>	Universal waste is not accumulated at facility for more than one year [Title 22 CCR, 66273.35(a)].
	<b>GA04</b>	The facility disposes of used oil filters within one year of generation, or 180 days if greater than 1 ton are accumulated [Title 22, CCR, 66266.130(c)(4)].
	<b>GC01</b>	Hazardous waste storage containers are in good condition [Title 22, CCR, 66165.171].
	<b>GC02</b>	A container holding hazardous waste shall always be closed during transfer and storage, except when it is necessary to add or remove waste [Title 22 CCR, 66265.173(a)].
	<b>GC03</b>	The owner or operator shall inspect areas used for container storage at least weekly, looking for leaking containers and for deterioration of containers or containment systems [Title 22 CCR, 66265.174].
	<b>GC05</b>	The facility has adequate secondary containment for hazardous waste tank systems [Title 22 CCR, 66264.193(a) & (b)].
	<b>GC07</b>	A generator may accumulate as much as 55 gallons of hazardous waste at the initial accumulation point which is at or near the area where the waste is generated and which is under the control of the operator of the process generating the waste. The generator cannot hold the waste on-site for more than one year from the initial date of accumulation [Title 22 CCR, 66262.34 (e)(1)(A)].
	<b>GL01</b>	All containers and portable tanks containing hazardous waste shall be labeled with the following information: "Hazardous Waste," composition, hazardous properties of the waste, the name and address of the person producing the waste, and accumulation start date [Title 22 CCR, 66262.34(f)].
	<b>GL03</b>	Universal waste handler shall label or mark universal waste containers to identify the type of universal waste: batteries, mercury-containing equipment, lamps, electronic devices, and CRTs [Title 22 CCR, 66273.34].
	<b>GL04</b>	Containers shall be labeled as "drained used oil filters" (not as non-hazardous waste) and show initial date of accumulation on each container of filters [Title 22 CCR, 66266.130(c)(3)].
	<b>GL06</b>	Containers and aboveground tanks used to store used oil and fill pipes used to transfer used oil into underground storage tanks shall be marked or clearly labeled with the words "USED OIL" [Title 22 CCR, 66279.21(b)].
	<b>GR01</b>	Generator has an EPA identification number to treat, store, dispose of, transport, or offer for transportation hazardous waste [Title 22, CCR, 66262.12].

**INSPECTOR:** JOE CANAS

**INSPECTION DATE:** 03/01/2012

**FACILITY NAME:** OCCIDENTAL OF ELK HILLS INC  
(RMP REGULATED FACILITIES)

**ADDRESS:** 28590 HIGHWAY 119  
TUPMAN, CA 93276

**FA ID:** FA0035735  
**FILE ID:** 002624

<b>VIOLATION</b>	<b>VIOLATION NUMBER</b>	<b>HAZARDOUS WASTE GENERATOR REQUIREMENTS (Continued)</b>
	<b>GR02</b>	The facility has made an appropriate hazardous waste determination for all wastes generated at the facility. The determination is based on laboratory analysis, "generator knowledge," or other prescribed means [Title 22, CCR, 66262.11].
	<b>GR04</b>	Manifests or receipts for the shipping of hazardous wastes are properly completed and retained by generator for 3 years [Title 22, CCR, 66262.23(a)(1); 66262.40(a); HSC 25160.2 Consolidated manifests].
	<b>GT01</b>	The facility is conducting on-site treatment of hazardous waste with a tiered permit [HSC 25189.5(d), HSC 25123.5(a) 25189.7(a)].
	<b>GT02</b>	Authorized, licensed, and certified hazardous waste haulers are used to transport hazardous waste to appropriate facilities [HSC 25163(a)(1), HSC 25189.5].
	<b>GT03</b>	Hazardous wastes are sent to authorized disposal facilities [HSC 25189.5, HSC 25114, HSC 25117.1].
	<b>GT04</b>	Hazardous waste is properly contained and not disposed to ground, water, or air [HSC 25189.5, HSC 25189.7(a), HSC 25113(a)].

**INSPECTOR:** JOE CANAS

**INSPECTION DATE:** 03/01/2012

**FACILITY NAME:** OCCIDENTAL OF ELK HILLS INC  
(RMP REGULATED FACILITIES)

**ADDRESS:** 28590 HIGHWAY 119  
TUPMAN, CA 93276

**FA ID:** FA0035735  
**FILE ID:** 002624

VIOLATION	VIOLATION NUMBER	ABOVE GROUND STORAGE TANKS
	<b>AG01</b>	SPCC plan is up to date and readily available. [HSC 25270.3].
	<b>AG02</b>	Self-certified or professional engineer certified SPCC plan. [HSC 25270.4.5 (a)].
	<b>AG03</b>	Secondary containment is free of liquid and debris and can contain the largest container. [HSC 25270.4.5 (3)].
	<b>AG04</b>	Annually submit to the local CUPA either an inventory update or a tank statement form. [HSC 25270.6 (a)(1)].
	<b>AG05</b>	Facility follows SPCC plan and keeps all necessary logs required by the plan. [HSC 25270.5 (a)].

**INSPECTOR:** JOE CANAS

**INSPECTION DATE:** 03/01/2012



FACILITY NAME: OCCIDENTAL OF ELK HILLS INC  
(RMP REGULATED FACILITIES)

ADDRESS: 28590 HIGHWAY 119  
TUPMAN, CA 93276

FA ID: FA0035735  
FILE ID: 002624

## SUMMARY OF OBSERVATIONS/VIOLATIONS

- ☐ No violations of underground storage tank, hazardous materials, or hazardous waste laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.
- ☒ Violations were observed/discovered as listed below. All violations must be corrected by implementing the corrective action listed by each violation. If you disagree with any of the violations or corrective actions required, please inform the CUPA in writing.

ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED. CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

## VIOLATIONS

VIOLATION #	DEGREE OF VIOLATION	CORRECTIVE ACTION REQUIRED
BP01	CLASS II VIOLATION	Update inventory of hazardous materials.  Inventory may be updated online at: <a href="http://www.co.kern.ca.us/eh">www.co.kern.ca.us/eh</a> Owner ID: OW0002885 Password: shi6acyx  There were a few items at each site not included in the inventory

INSPECTION COMMENTS:

COMMENTS: Go to <http://www.co.kern.ca.us/eh/cupaprogram.asp> for forms and information.

INSPECTOR: JOE CANAS  
INSPECTION DATE: 03/01/2012

SIGNATURE OF FACILITY REP:

FA ID: FA0035735 FACILITY NAME: OCCIDENTAL OF ELK HILLS INC (RMP REGULATED FACILITIES) FILE ID: 002624

Certification: I certify under penalty of perjury that this facility has complied with the corrective actions listed on this inspection form.

Printed Name of Owner/Operator

Title

Signature of Owner/Operator

Date



MATTHEW CONSTANTINE, DIRECTOR  
PUBLIC HEALTH SERVICES

## ENVIRONMENTAL HEALTH DIVISION

2700 M STREET, SUITE 300, BAKERSFIELD, CA 93301-2370

VOICE: (661) 862-8740 FAX: (661) 862-8701

Web: www.co.kern.ca.us/eh E-mail: eh@co.kern.ca.us

"ONE VOICE"



CLAUDIA JONAH, MD  
PUBLIC HEALTH OFFICER

### CERTIFIED UNIFIED PROGRAM AGENCY (CUPA) HAZARDOUS MATERIAL INSPECTION FORM

Report Date: 12/10/2012

Facility ID: FA0035735

File #: 002624

Facility Name: OCCIDENTAL OF ELK HILLS INC (RMP REGULATED FACILITIES)				<b>Inspection Type</b> <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Reinspection <input type="checkbox"/> Complaint	
Site Address: 28590 HIGHWAY 119 TUPMAN, CA 93276					
Phone: (661)412-5000					
PROGRAMS INSPECTED:	<input checked="" type="checkbox"/> Business Plan	<input type="checkbox"/> HW Generator	<input type="checkbox"/> UST	<input type="checkbox"/> APSA	
REINSPECTION REQUIRED:	<input type="checkbox"/> Business Plan	<input type="checkbox"/> HW Generator	<input type="checkbox"/> UST	<input type="checkbox"/> APSA	

VIOLATION	VIOLATION NUMBER	BUSINESS PLAN REQUIREMENTS
	BP01	Inventory of hazardous materials is accurate, up to date, and complete [HSC 6.95, 25504, Title 19 CCR 2729].
	BP02	Site layout/facility maps are accurate [HSC 6.95,25504; Title 19 CCR 2729].
	BP03	Hazardous materials are stored in properly labeled and non-deteriorated containers [HSC 25124(b)(3)(A & B)].
	BP04	The hazardous materials inventory shall be submitted annually on or before March 1 [Title 19 CCR 2729.4(b)].
	ER01	Contingency Plan is complete, updated, and maintained on site [HSC 6.95, 25504; Title 19 CCR 2731 Title 22 CCR 66265.53-54].
	ER02	Facility is operated and maintained to prevent/mitigate fire, explosion, or release of hazardous material or waste which could threaten human health or the environment [Title 22 CCR 66265.31; Title 19 CCR 2731].
	ER03	Business has equipment required to, or appropriate for, safe handling of hazardous materials [Title 22 CCR 66265.32 & .34].
	TR01	Facility has a training program appropriate for the size and complexity of business and nature of hazardous materials handled [Title 19 CCR 2732; Title 22 CCR 66265.16].
	TR02	Training documentation is maintained on site for current personnel [Title 19 CCR 2732; Title 22 CCR 66265.16].

INSPECTOR: DAN R STARKEY

INSPECTION DATE: 11/28/2012

**FACILITY NAME:** OCCIDENTAL OF ELK HILLS INC  
(RMP REGULATED FACILITIES)

**ADDRESS:** 28590 HIGHWAY 119  
TUPMAN, CA 93276

**FA ID:** FA0035735  
**FILE ID:** 002624

## SUMMARY OF OBSERVATIONS/VIOLATIONS

☒ No violations of underground storage tank, hazardous materials, or hazardous waste laws/regulations were discovered. KERN CUPA greatly appreciates your efforts to comply with all the laws and regulations applicable to your facility.

☐ Violations were observed/discovered as listed below. All violations must be corrected by implementing the corrective action listed by each violation. If you disagree with any of the violations or corrective actions required, please inform the CUPA in writing.

ALL VIOLATIONS MUST BE CORRECTED WITHIN 30 DAYS OR AS SPECIFIED. CUPA must be informed in writing with a certification that compliance has been achieved. A false statement that compliance has been achieved is a violation of the law and punishable by a fine of not less than \$2,000 or more than \$25,000 for each violation. Your facility may be reinspected any time during normal business hours. If a second reinspection becomes necessary due to non compliance, a reinspection charge of \$100.00 per hour may be charged to the facility.

You may request a meeting with the Program Manager to discuss the inspection findings and/or the proposed corrective actions. The issuance of this Summary of Violations does not preclude the CUPA from taking administrative, civil, or criminal action.

## VIOLATIONS

VIOLATION #	DEGREE OF VIOLATION	CORRECTIVE ACTION REQUIRED
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INSPECTION COMMENTS:

COMMENTS: Go to <http://www.co.kern.ca.us/eh/cupaprogram.asp> for forms and information.

INSPECTOR: DAN R STARKEY  
INSPECTION DATE: 11/28/2012

SIGNATURE OF FACILITY REP:

FA ID: FA0035735 FACILITY NAME: OCCIDENTAL OF ELK HILLS INC (RMP REGULATED FACILITIES) FILE ID: 002624

Certification: I certify under penalty of perjury that this facility has complied with the corrective actions listed on this inspection form.

\_\_\_\_\_  
Printed Name of Owner/Operator

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature of Owner/Operator

\_\_\_\_\_  
Date