



James P. Kiernan, P.E.
Project Manager

**Chevron Environmental
Management Company**
6001 Bollinger Canyon Road
Room C2102
San Ramon, CA 94583
Tel (925) 842-3220
jkiernan@chevron.com

June 12, 2018

Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Re: Former Unocal No. 6129 (351639)
Well Destruction Report
3420 35th Avenue, Oakland, California
Fuel Leak Case No.: RO0000058
GeoTracker Global ID #T0600101465

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to the SWRCB's GeoTracker website.

The information in this report is accurate to the best of my knowledge. This report was prepared by Arcadis, upon whose assistance and advice I have relied.

Sincerely,

A handwritten signature in blue ink, appearing to be 'J. Kiernan', written over a horizontal line.

James P. Kiernan, P.E.
Project Manager

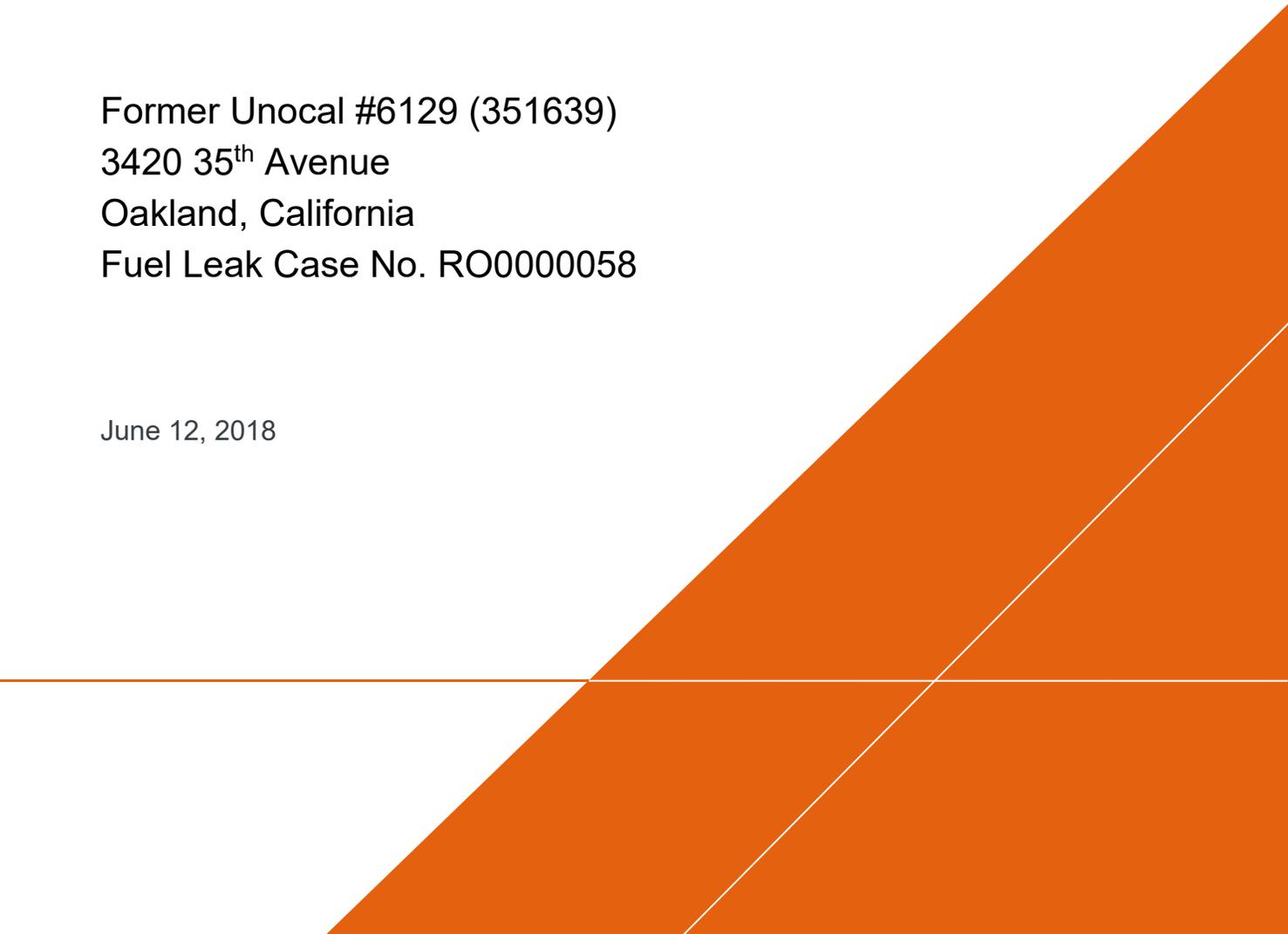
Attachment: Well Destruction Report by Arcadis

Chevron Environmental Management Company

WELL DESTRUCTION REPORT

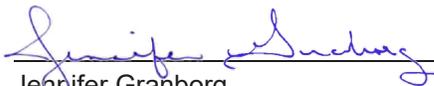
Former Unocal #6129 (351639)
3420 35th Avenue
Oakland, California
Fuel Leak Case No. RO0000058

June 12, 2018



WELL DESTRUCTION REPORT

Former Unocal #6129 (351639)
3420 35th Avenue
Oakland, California
Fuel Leak Case No. RO0000058



Jennifer Granborg
Task Manager



Katherine Szymanowski (formerly Brandt), P.G.
(No.9132)
Project Manager / Principal Geologist

Prepared for:

Chevron Environmental Management Company

Prepared by:

Arcadis U.S., Inc.
100 Montgomery Street
Suite 300
San Francisco
California 94104
Tel 415 374 2744
Fax 415 374 2745

Our Ref.:

Y0235135.1639

Date:

June 12, 2018

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WELL DESTRUCTION REPORT

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ACRONYMS AND ABBREVIATIONS

ACDEH	Alameda County Department of Environmental Health
ACPWA	Alameda County Public Works Agency
Arcadis	Arcadis U.S., Inc.
bgs	below ground surface
Cascade	Cascade Drilling L.P.
CEMC	Chevron Environmental Management Company
DWR	California Department of Water Resources
Site	3420 35 th Avenue, Oakland, California
Union Oil	Union Oil Company of California
USA-North	Underground Service Alert

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) has prepared this *Well Destruction Report* (report) on behalf of Chevron Environmental Management Company's (CEMC's) affiliate, Union Oil Company of California ("Union Oil") for the former Unocal station No. 6129 (351639) located at 3420 35th Avenue in Oakland, California (the Site; Figure 1). Well destruction activities were performed as requested in the April 25, 2018 Alameda County Department of Environmental Health (ACDEH) letter (Appendix A) as the final step prior to case closure. An extension for submittal of this report to June 15, 2018 was provided by ACDEH in an email dated May 4, 2018 (Appendix A).

This report has been prepared to summarize the closure activities at the Site in May 2018. The report is organized into the following sections:

- 1 Introduction, including a site description and background, well destruction planning and a summary of completed actions (Section 1).
- 2 Well Destruction Scope of Work, describing pre-field activities, well destruction activities, investigation-derived waste, and necessary reporting (Section 2).
- 3 Conclusions (Section 3).
- 4 References (Section 4).

1.1 Site Description and Background

The Site is an active Chevron-branded service station located on the southern corner of the intersection of 35th Avenue and Quigley Street in Oakland, California. The site layout is shown on Figure 2.

1.2 Well Destruction Planning and Previous Activities

On January 29, 2018, ACDEH issued the directive for *Case Closure Consideration* for the Site (ACDEH, 2018a). On February 15, 2018, ACDEH issued the *Invitation to Comment – Potential Case Closure* to stakeholders (ACDEH 2018b) with the public comment period ending April 20, 2018. On April 5, 2018, ACEHD issued a request for well destruction scheduling at the Site (ACDEH 2018c). A well destruction authorization letter was issued by ACDEH on April 25, 2018 (Appendix A). Closure activities included destruction of monitoring wells MW-1 through MW-3.

1.3 Summary of Completed Actions

The three (3) monitoring wells associated with the Site (MW-1, MW-2, and MW-3) were destroyed. Well construction and destruction details are summarized in Table 1. A site plan showing the approximate well locations is provided as Figure 2. Permits, boring logs/well construction diagrams, and well completion reports are provided as Appendices B, C and D, respectively. The wells were destroyed as described in Section 2.2 and in accordance with agency guidelines.

2 WELL DESTRUCTION SCOPE OF WORK

2.1 Pre-field Activities

2.1.1 Health and Safety

Prior to initiating field activities, the site-specific Health and Safety Plan was updated in accordance with state and federal requirements for use during the proposed field activities.

2.1.2 Utility Clearance

An Underground Service Alert (USA-North) ticket was obtained on May 8, 2018 to identify any public utilities in the vicinity of the wells, more than the required 48 hours prior to well destruction activities. Ground Penetrating Radar Systems, Inc., a private third-party utility locating company, also completed a utility location survey on May 1, 2018 to additionally identify any underground utilities and other potential subsurface obstructions in the vicinity of the monitoring well destruction locations.

2.1.3 Permitting

Well destruction permits from Alameda County Public Works Agency (ACPWA) were obtained on May 10, 2018 (permit numbers W2018-0383 [MW-1], W2018-0384 [MW-2], and W2018-0385 [MW-3] - Appendix B).

2.1.4 Access to On-Site Well Locations

The Site property owners were sent a Notification of Closure Activities letter on April 24, 2018 pursuant to the existing access agreement.

2.2 Well Destruction Activities

On May 17, 2018, Arcadis supervised Cascade Drilling L.P. (Cascade), a State of California C-57 licensed drilling contractor, during the well destruction operations. The three monitoring wells were destroyed in accordance with ACDEH guidelines and the ACPWA permit conditions (Appendix B). Well destruction activities were performed in the presence of an ACPWA grout inspector.

2.2.1 Borehole Inspection Activities

Each well was inspected prior to destruction to determine its integrity and to confirm obstructions were not present in or around the well that would have interfered with filling and sealing.

2.2.2 Pressure Grouting Activities

Depth to groundwater and total depth measurements were initially collected using a water level indicator to confirm well construction details were accurate. Monitoring well MW-3 had an expected depth of 44 feet bgs, however the bottom was tagged at 39.5 feet bgs (Table 1). The bottom of the well felt soft and unobstructed indicating sediment had infiltrated and settled at the bottom of the well. The ACPWA inspector was onsite to confirm that pressure grouting was the appropriate method of destruction.

WELL DESTRUCTION REPORT

The volume of each well was calculated to establish a minimum volume of grout to be placed in the well. After the minimum grout volume was calculated, the well was destroyed by filling with neat cement grout using a tremie pipe. Once the well was filled, the wellhead was fit with a removable manifold and connected to an air compressor and the casing was pressurized. A pressure of approximately 25 pounds per square inch was applied at the wellhead for approximately 5 minutes. Once complete, the manifold was removed and the level of grout in the well was inspected to ensure enough grout was used. Additional grout was allowed to spill over the top of the casing to fill any annular space between casing and soil.

2.2.3 Surface Completions

The well box was removed, and concrete was used to backfill the void to surface grade at each location. The ground surface was restored to match the surrounding area.

2.3 Well Completion Reports

As required by section 13751 of the California Water Code (California Department of Water Resources [DWR] 1949), DWR Well Completion Reports were submitted to the DWR by Cascade on June 8, 2018 and copies are included in Appendix D.

2.4 Waste Disposal

Well boxes were disposed off-site by Cascade as municipal waste. No other waste was generated during well destruction activities.

3 CONCLUSIONS AND RECOMMENDATIONS

All Site wells have been destroyed as required by ACDEH and as such, all case closure requirements have been completed. All investigation, remediation and well destruction waste has been removed from the Site. We look forward to receipt of the case closure letter for the Site.

4 REFERENCES

Alameda County Department of Environmental Health (ACDEH). 2018a. Case Closure Consideration, Fuel Leak Case No. RO000058, Unocal #6129, 3420 35th Ave., Oakland, CA 94619; Geotracker ID T0600101465. January 29, 2018.

ACDEH. 2018b. Invitation to Comment – Potential case Closure, Unocal #6129, 3420 35th Ave., Oakland, California, Fuel Leak case RO0000058; Geotracker ID T0600101465. February 29, 2018.

ACDEH. 2018c. Well Destruction Scheduling, Fuel Leak Case No. RO000058, Unocal #6129, 3420 35th Ave., Oakland, CA 94619; Geotracker ID T0600101465. April 5, 2018.

Arcadis U.S. Inc. (Arcadis). 2018. Notification of Closure Activities, 3420 35th Ave., Oakland, CA 94619. April 24, 2018.

TABLE



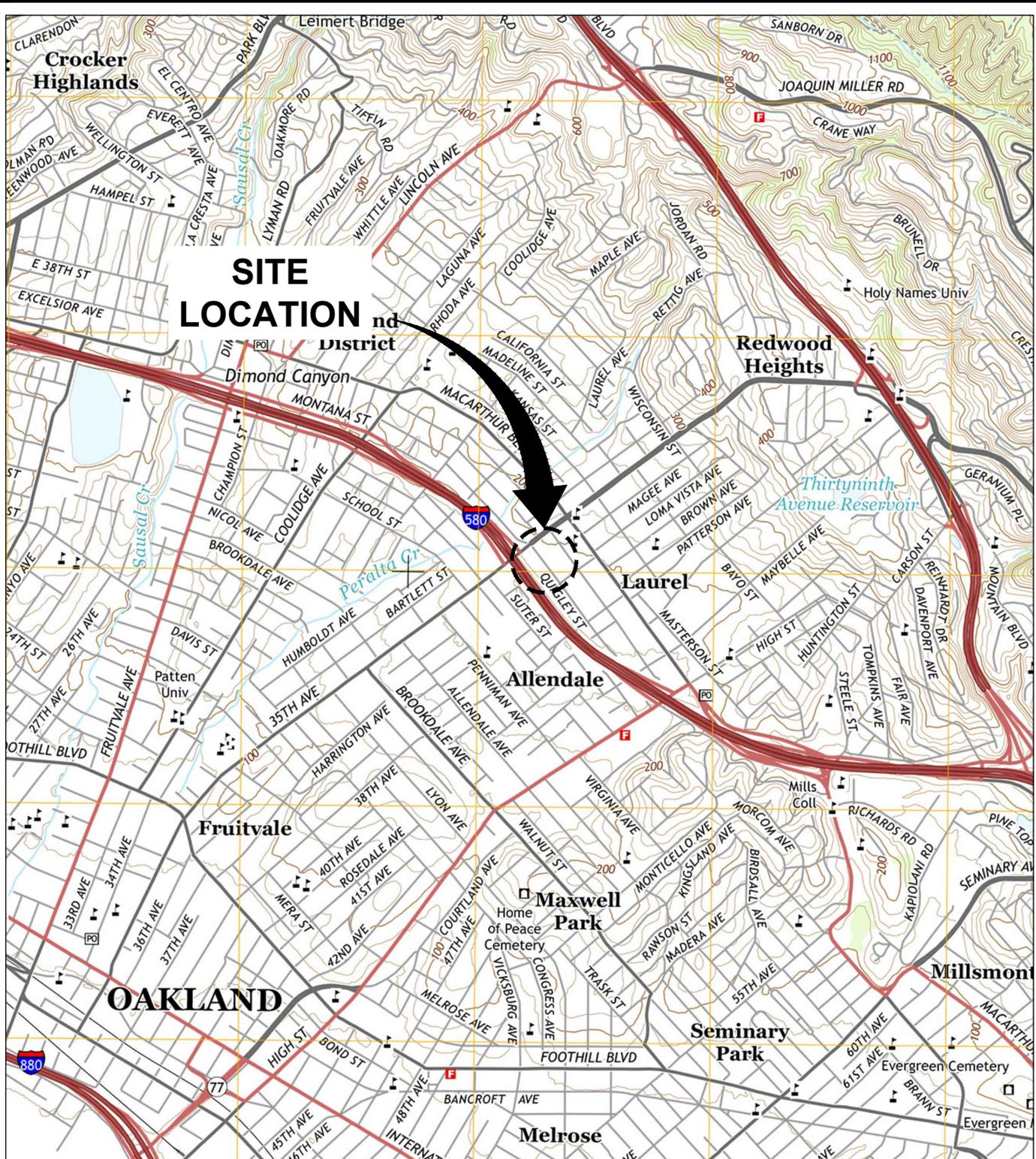
Table 1
Well Destruction Details
Former Unocal #6129
3420 35th Avenue
Oakland, California

Well ID	Drill Date	Date Destroyed	Well Depth (feet bgs)	Well Diameter (inches)	Destruction Method
Monitoring Wells					
MW-1	12/12/1989	5/17/2018	43.5	2	Pressure Grout
MW-2	12/12/1989	5/17/2018	43.2	2	Pressure Grout
MW-3	12/13/1989	5/17/2018	39.5	2	Pressure Grout
<u>Explanation</u>					
Wells are of poly-vinyl-chloride (PVC) construction bgs = Below ground surface					

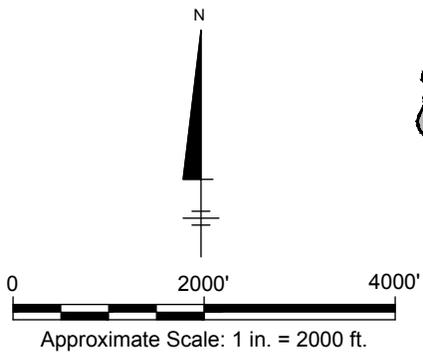
FIGURES



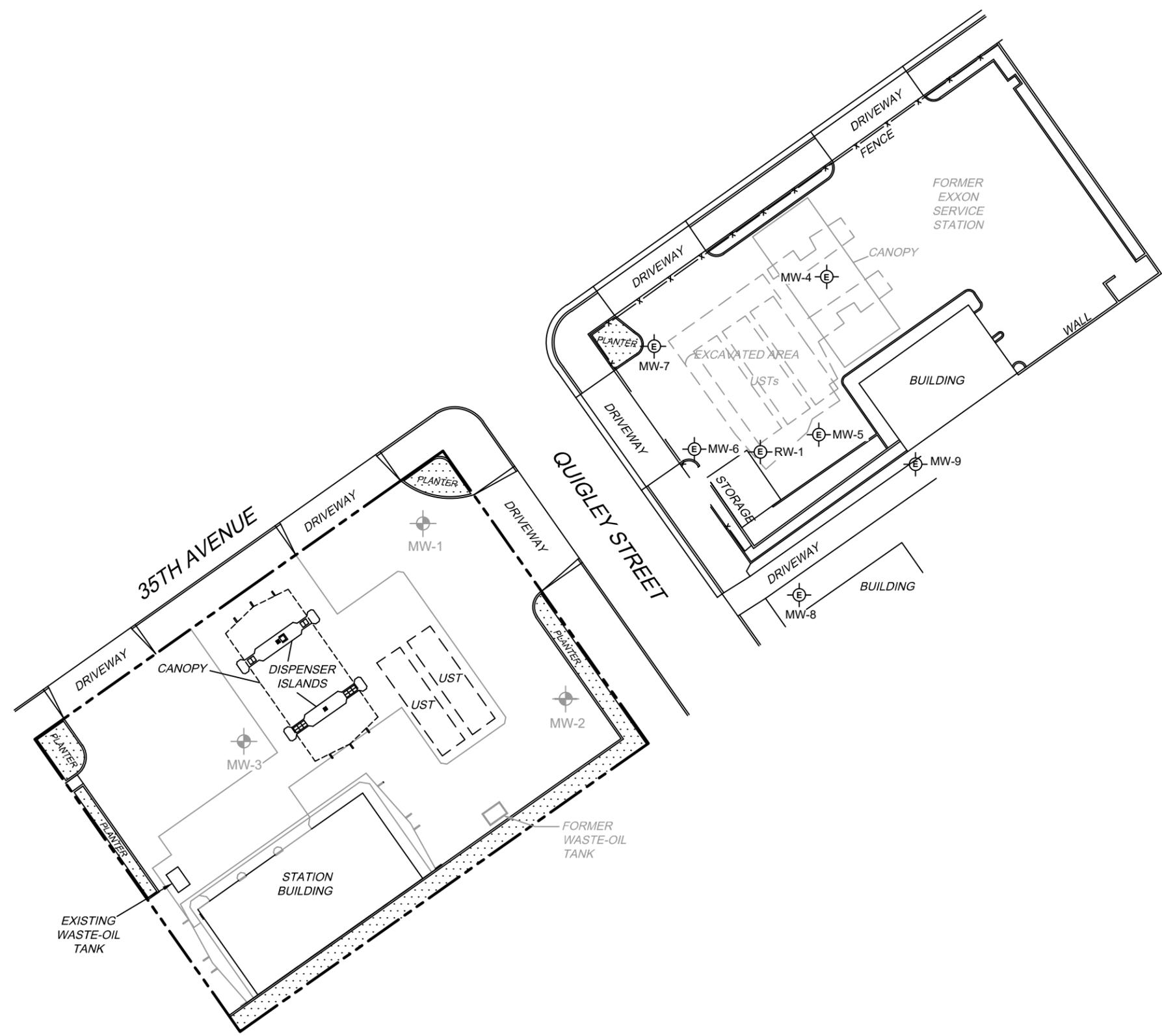
CITY: CONCORD, CA DIV/GRUP: ENVCAD DB: A. REYES
 G:\ENV\CAD\comor\ACT\1023513511645000\MDWG\1023513511645 Site Loc.dwg LAYOUT: 1 - SAVED: 10/17/2017 11:59 AM ACADVER: 20.1S (LMS TECH) PAGES: 1 PLOT: 10/17/2017 12:03 PM BY: REYES, ALEC
 XREFS: IMAGES: PROJECTNAME: X:\USGS TOPO CA_Oakland_East_2015.jp9



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., OAKLAND, CALIFORNIA, 2015



UNOCAL No. 6129 (351639) 3420 35TH AVENUE OAKLAND, CALIFORNIA	
SITE LOCATION MAP	
	FIGURE 1



- LEGEND:**
- SUBJECT PROPERTY BOUNDARY
 - MW-1 DESTROYED MONITORING WELL
 - MW-4 FORMER EXXON SERVICE STATION MONITORING WELL
 - UST UNDERGROUND STORAGE TANK



UNOCAL No. 6129 (351639) 3420 35TH AVENUE OAKLAND, CALIFORNIA	
SITE PLAN	
ARCADIS	<small>Design & Consultancy for natural and built assets</small>
FIGURE	2

APPENDIX A

ACDEH Correspondence



From: Nowell, Keith, Env. Health <Keith.Nowell@acgov.org>

Sent: Friday, May 4, 2018 9:49 AM

To: Szymanowski, Katherine <Katherine.Szymanowski@arcadis.com>

Cc: James Kiernan <JKiernan@chevron.com>; Edwards, Carl <Carl.Edwards@arcadis.com>; Granborg, Jennifer <Jennifer.Granborg@arcadis.com>; Khatri, Paresh, Env. Health <paresh.khatri@acgov.org>

Subject: RE: RO58 - Well Destruction Schedule

Kathy,

Your request for a report submittal extension to June 15, 2018 has been approved. ACDEH requests that the report be submitted at the earliest possible date.

Regards,

Keith

Keith Nowell PG, CHG

Hazardous Materials Specialist

Land Water Division

Alameda County Department of Environmental Health

1131 Harbor Bay Parkway

Alameda, CA 94502-6540

phone: 510 / 567 - 6764

fax: 510 / 337 - 9335

email: keith.nowell@acgov.org

ALAMEDA COUNTY
**HEALTH CARE SERVICES
AGENCY**

COLLEEN CHAWLA, Agency Director



DEPARTMENT OF ENVIRONMENTAL HEALTH
LOCAL OVERSIGHT PROGRAM (LOP) FOR
HAZARDOUS MATERIALS RELEASES
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6700
FAX (510) 337-9335

April 25, 2018

Chevron Corporation
DBA Chevron Environmental Management Company
6001 Bollinger Canyon Road
San Ramon, CA 94583
Attn.: James Kiernan (*Sent via electronic mail to:*
jkiernan@chevron.com)

Redwood and 35th Avenue Gas Station Inc.
6247 Ridgemont Drive
Oakland, CA 94619-3726
(*Sent via electronic mail to:*
amylepham@yahoo.com)

Clover Trust 1997-1
c/o Tosco Corp.
PO Box 52085
Phoenix, AZ 85072

Son T. Nguyen
6247 Ridgemont Drive
Oakland, CA 94619-3726

Son T. Nguyen Et Al
6247 Ridgemont Drive
Oakland, CA 94619-3726

Son T. Nguyen & Le Pham Family Trust
6247 Ridgemont Drive
Oakland, CA 94619-3726

Suncor Holdings COP II
11601 Wilshire Blvd., Suite 700
Los Angeles, CA 90025
Attn.: Keith Marks

ConocoPhillips
76 Broadway
Sacramento, CA 95818
Attn.: Terry Grayson

Unocal
M, E, & C Department
PO Box 2390
Brea, CA 92622-2390

Tosco
2000 Crow Canyon Place, # 400
San Ramon, CA 94583

Subject: Well Destruction Authorization, Fuel Leak Case No. RO0000058, Unocal #6129, 3420 35th Ave., Oakland, CA 94619; GeoTracker Global ID T0600101465

Dear Responsible Parties:

Thank you for submitting the well destruction scheduling information to Alameda County Department of Environmental Health (ACDEH). We requested the confirmation of the well destruction scheduling in our letter dated April 5, 2018 and received the information via your electronic mail dated April 24, 2018. We understand destruction for all wells associated with the subject case is scheduled for May 15 through 18, 2018.

The public comment period for responses regarding the potential closure of the subject case ended on April 20, 2018. No responses regarding the potential closure were received by ACDEH. Therefore, ACDEH authorizes the well destruction.

Monitoring Well Destruction and Waste Removal Activities

Following the well destruction, please provide ACDEH with a well destruction report according to the schedule outlined below. The well destruction report should document site activities, provide well destruction permit documentation, and documentation indicating that any remaining investigation, remediation, and well destruction derived waste have been removed from the site. The State Water Board's Well Destruction and Waste Removal Requirements Fact Sheet is included as an attachment.

TECHNICAL REPORT REQUEST

Please upload technical reports to the State Water Board's GeoTracker website, in accordance with the following specified file naming convention and schedule:

- **June 1, 2018** –Well Destruction Report (file name: RO0000058_WELL_DCM_R_yyyy-mm-dd)

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Should you have any questions, please contact me at (510) 567-6764 or send me an electronic mail message at keith.nowell@acgov.org. If your email address does not appear on the cover page of this notification ACEH is requesting you provide your email address so that we can correspond with you quickly and efficiently regarding your case.

Sincerely,

 Digitally signed by Keith Nowell
DN: cn=Keith Nowell, o=Alameda County,
ou=Department of Environmental Health,
email=keith.nowell@acgov.org, c=US
Date: 2018.04.25 09:20:18 -07'00'

Keith Nowell, PG, CHG
Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements/Obligations

Attachment 2 – The State Water Board's Well Destruction and Waste Removal Requirements Fact Sheet

cc: Ed Ralston, Phillips 66 Company, 76 Broadway, Sacramento, CA 95818 (*Sent via electronic mail to: Ed.C.Ralston@p66.com*)

Katherine Szymanowski, ARCADIS U.S., Inc., 2300 Clayton Road, Suite 400, Concord, CA 94520 (*Sent via electronic mail to: Katherine.Szymanowski@arcadis.com*)

Dilan Roe, ACDEH, (*Sent via electronic mail to: dilan.roe@acgov.org*)

Paresh Khatri, ACDEH, (*Sent via electronic mail to: paresh.khatri@acgov.org*)

Keith Nowell, ACDEH (*Sent via electronic mail to: keith.nowell@acgov.org*)

Geotracker, File

Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)	REVISION DATE: December 14, 2017
	ISSUE DATE: July 25, 2012
	PREVIOUS REVISIONS: September 17, 2013, May 15, 2014, December 12, 2016
SECTION: ACDEH Procedures	SUBJECT: Responsible Party(ies) Legal Requirements / Obligations

REPORT & DELIVERABLE REQUESTS

Alameda County Department of Environmental Health (ACDEH) Cleanup Oversight Programs, Local Oversight Program (LOP) and Site Cleanup Program (SCP) require submission of all reports in electronic form to the State Water Board's (SWB) GeoTracker website in accordance with California Code of Regulations, Chapter 30, Division 3, Title 23 and Division 3, Title 27.

Leaking Underground Fuel Tank (LUFT) Cases

Reports and deliverable requests are pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party (RP) in conjunction with an unauthorized release from a petroleum underground storage tank (UST) system.

Site Cleanup Program (SCP) Cases

For non-petroleum UST cases, reports and deliverables requests are pursuant to California Health and Safety Code Section 101480.

ELECTRONIC SUBMITTAL OF REPORTS

A complete report submittal includes the PDF report and all associated electronic data files, including but not limited to GEO_MAP, GEO_XY, GEO_Z, GEO_BORE, GEO_WELL, and laboratory analytical data in Electronic Deliverable Format™ (EDF). Additional information on these requirements is available on the State Water Board's website (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/)

- Do not upload draft reports to GeoTracker
- Rotate each page in the PDF document in the direction that will make it easiest to read on a computer monitor.

GEOTRACKER UPLOAD CERTIFICATION

Each report submittal is to include a GeoTracker Upload Summary Table with GeoTracker valid values¹ as illustrated in the example below to facilitate ACDEH review and verify compliance with GeoTracker requirements.

GeoTracker Upload Table Example

Report Title	Sample Period	PDF Report	GEO_MAPS	Sample ID	Matrix	GEO_Z	GEO_XY	GEO_BORE	GEO_WELL	EDF
2016 Subsurface Investigation Report	2016 S1	✓	✓	Effluent	SO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
2012 Site Assessment Work Plan	2012	✓	✓			<input type="checkbox"/>				
2010 GW Investigation Report	2008 Q4	✓	✓	SB-10	W	✓	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
				SB-10-6	SO	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
				MW-1	WG	✓	✓	✓	✓	✓
				SW-1	W	✓	✓	✓	✓	✓

¹ GeoTracker Survey XYZ, Well Data, and Site Map Guidelines & Restrictions, CA State Water Resources Control Board, April 2005

Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)	REVISION DATE: NA
	ISSUE DATE: December 14, 2017
	PREVIOUS REVISIONS: September 17, 2013, May 15, 2014, December 12, 2016
SECTION: ACDEH Procedures	SUBJECT: Responsible Party(ies) Legal Requirements / Obligations

ACKNOWLEDGEMENT STATEMENT

All work plans, technical reports, or technical documents submitted to ACDEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to the State Water Board's GeoTracker website." This letter must be signed by the Responsible Party, or legally authorized representative of the Responsible Party.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6731, 6735, and 7835) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately licensed or certified professional and include the professional registration stamp, signature, and statement of professional certification. Additional information is available on the Board of Professional Engineers, Land Surveyors, and Geologists website at: <http://www.bpelsg.ca.gov/laws/index.shtml>.

UNDERGROUND STORAGE TANK CLEANUP FUND

For LUFT cases, RP's non-compliance with these regulations may result in ineligibility to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse the cost of cleanup. Additional information is available on the internet at: https://www.waterboards.ca.gov/water_issues/programs/ustcf/

AGENCY OVERSIGHT

Significant delays in conducting site assessment/cleanup or report submittals may result in referral of the case to the Regional Water Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

ATTACHMENT 2



Fact Sheet

Well Destruction and Waste Removal Requirements Prior to Underground Storage Tank Case Closure

Background: Proper destruction of wells helps to protect groundwater from potential threats and is a critical component of the Underground Storage Tank (UST) case closure process. The Low-Threat Underground Storage Tank (UST) Case Closure Policy (Policy) mandates that monitoring wells be properly destroyed prior to UST case closure, unless they will be kept and maintained in accordance with applicable local and state requirements. The Policy also mandates that all investigation and remediation-derived waste materials be removed prior to case closure. As of May 15, 2015, there were a total of 836 “Open-Eligible for Closure” cases throughout California, for which remaining wells and wastes served as impediments to closure.

Information for Responsible Parties and

Site Owners: If you received a letter from the State Water Resources Control Board (State Water Board), Regional Water Quality Control Board, or a local agency directing well destruction and waste removal, you must take action before your UST case can be closed. A uniform closure letter (UCL) will not be issued for your case until the wastes are removed and the wells are either destroyed or approved for continued maintenance by the regulatory agency overseeing your UST case. Your local well permitting agency may require ongoing monitoring of wells even though the regulatory agency is not requiring it, so additional costs may be incurred. A list of open cases with directives to destroy wells and remove wastes can be viewed on the public GeoTracker webpage at: http://geotracker.waterboards.ca.gov/ptcp_destruction_report.asp.

Note: The State Water Board has the authority to administratively impose civil penalties of up to \$10,000 per day per UST on responsible parties and site owners that fail to comply with the requirements of UST case closure order. **Do not let penalties be imposed on you!**

The contractor that helped you with corrective actions at your site can provide more information about the well destruction and waste removal process. If you do not currently have a contractor, you can contact the regulatory agency that is responsible for oversight of your UST case and ask if they have a list of contractors in the area. Your regulatory agency can also let you know if your contractor is required to submit a work plan for approval before well destruction and waste removal begins. Once the work is complete, submit confirmation documentation to the regulatory agency overseeing your UST case. After the well and waste

Important: Check the current standing of any contractor with the California Contractors State License Board. You can do this at the following location on the web: <https://www2.cslb.ca.gov/OnlineServices/CheckLicense.aspx>



removal has been completed, approved by your regulatory agency, and communicated to the State Water Board, a UCL will be issued and uploaded to GeoTracker.

If you have an eligible claim with the UST Cleanup Fund, the cost of well destruction is considered corrective action and reasonable and necessary costs are typically reimbursable. Monitoring of wells after you have been informed that the wells should be destroyed is not normally considered to be corrective action and may not be eligible for reimbursement. Additional information can be obtained on the State Water Board UST Cleanup Fund (Fund) website at: http://www.waterboards.ca.gov/water_issues/programs/ustcf/. You may also contact the Fund staff by email: ustcleanupfund@waterboards.ca.gov, message phone line: 1-800-813-Fund (3863), or fax: 916-341-5806.

Information for Consultants/Contractors/Drillers: A list of open cases with directives to destroy wells can be viewed on the public GeoTracker webpage at: http://geotracker.waterboards.ca.gov/ptcp_destruction_report.asp. Seek approval with regulatory agencies having jurisdiction before performing any well destruction work. Encroachment permits and/or access agreements may also be necessary. A list of local well-permitting agencies can be found at: <http://water.ca.gov/groundwater/wells/permitting.cfm>

Reference: *Plan for Implementation of Low-Threat UST Case Closure Policy and Additional Program Improvements*
(http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/110612_6_final_ltcp%20imp%20plan.pdf).

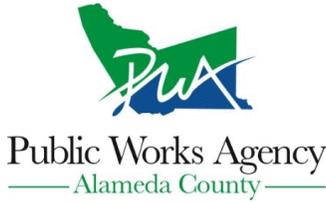
(This fact sheet was last updated May 21, 2015.)

APPENDIX B

Permits



Alameda County Public Works Agency - Water Resources Well Permit



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

Application Approved on: 05/10/2018 By jamesy

Permit Numbers: W2018-0383 to W2018-0385
Permits Valid from 05/17/2018 to 05/18/2018

Application Id: 1524605851680
Site Location: 3420 35th Ave, Oakland, CA 94619, USA
Project Start Date: 05/17/2018
Assigned Inspector: Contact Marcelino Vialpando at (510) 670-5760 or Marcelino@acpwa.org

City of Project Site:Oakland

Completion Date:05/18/2018

Applicant: Arcadis U.S., Inc. - Jennifer Granborg
100 Smith Ranch Road, San Rafael, CA 94903
Property Owner: Son T.Nguyen Pham Le Family Trust
6247 Ridgemont Drive, Oakland, CA 94619
Client: James Kiernan
6001 Bollinger Canyon Road, San Ramon, CA 94583
Contact: Carl Edwards

Phone: 415-915-8048
Phone: 510-919-6298
Phone: 925-842-3220
Phone: 415-432-6945
Cell: 415-825-0759

	Total Due:	\$1191.00
Receipt Number: WR2018-0236	Total Amount Paid:	\$1191.00
Payer Name : Jennifer Granborg	Paid By: VISA	PAID IN FULL

Works Requesting Permits:

Well Destruction-Monitoring - 3 Wells

Driller: Cascade - Lic #: 938110 - Method: tremi

Work Total: \$1191.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR #
W2018-0383	05/10/2018	08/15/2018	MW-1	9.00 in.	2.00 in.	20.00 ft	44.00 ft			
W2018-0384	05/10/2018	08/15/2018	MW-2	9.00 in.	2.00 in.	20.00 ft	44.00 ft			
W2018-0385	05/10/2018	08/15/2018	MW-3	9.00 in.	2.38 in.	19.00 ft	44.00 ft			

Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 30 days. Include permit number and site map.

Alameda County Public Works Agency - Water Resources Well Permit

4. Applicant shall submit the copies of the approved encroachment permit to this office within 10 days.
5. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost and liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.
6. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
7. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
8. Remove the Christy box or similar structure.

Destroy well by grouting neat cement with a tremie pipe or pressure grouting (25 psi for 5min.) to the bottom of the well and by filling with neat cement to three (3-5) feet below surface grade. Allow the sealing material to spill over the top of the casing to fill any annular space between casing and soil.

After the seal has set, backfill the remaining hole with concrete or compacted material to match existing conditions.

9. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
 10. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.
-

APPENDIX C

Boring Logs



B O R I N G L O G

Project No. KEI-P89-0902	Boring & Casing Diameter 9" 2"	Logged By D.L. <i>DR Brown</i> <i>6/13/90</i>
Project Name Unocal Oakland - 35th Ave.	Well Head Elevation N/A	Date Drilled 12/12/89
Boring No. MW1	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetra- tion blows/6"	G. W. level	Depth (ft) Samples	Strati- graphy USCS	Description
		0		A.C. Pavement Clay, sand and gravel: fill; large chert boulder at 6", dark yellowish brown.
5/7/11		5	CH	Clay, high plasticity, with gravel, 5% sand, stiff, moist, dark yellowish brown.
11/15/30		10	GC/ CH	Clayey gravel, 5-10% sand, dense, moist, dark yellowish brown, lensed with gravelly clay and clay, high plasticity, very stiff, moist, dark yellowish brown, gravel to 3/4".
18/30/48		15	GC	Clayey gravel with sand, 15-35% clay, very dense, slightly moist to wet, dark yellowish brown, gravel to 1".
18/29		20		Color change at 20 feet to dark brown.

B O R I N G L O G

Project No. KEI-P89-0902		Boring & Casing Diameter 9" 2"		Logged By D.L.
Project Name Unocal Oakland - 35th Ave.		Well Head Elevation N/A		Date Drilled 12/12/89
Boring No. MW1		Drilling Method	Hollow-stem Auger	Drilling Company EGI
Penetration blows/6"	G. W. level	Depth (ft) Samples	Strati- graphy USCS	Description
			GC	Clayey gravel with sand, as above.
16/33		25	CH	Gravelly clay, high plasticity, 10 - 15% sand, gravel to 3/4", very stiff, moist, dark yellowish brown and dark brown, mottled.
19/40		30	GC	Clayey gravel with sand, 15-30% coarse sand, very dense, moist, dark brown, gravel to 1".
26/50- 5 1/2	▼ =	35		Clayey gravel with sand, 15-20% clay, gravel to 1 1/2", very dense, moist to wet, dark brown.
12/22		40		Clayey gravel, as above, strong brown.

B O R I N G L O G

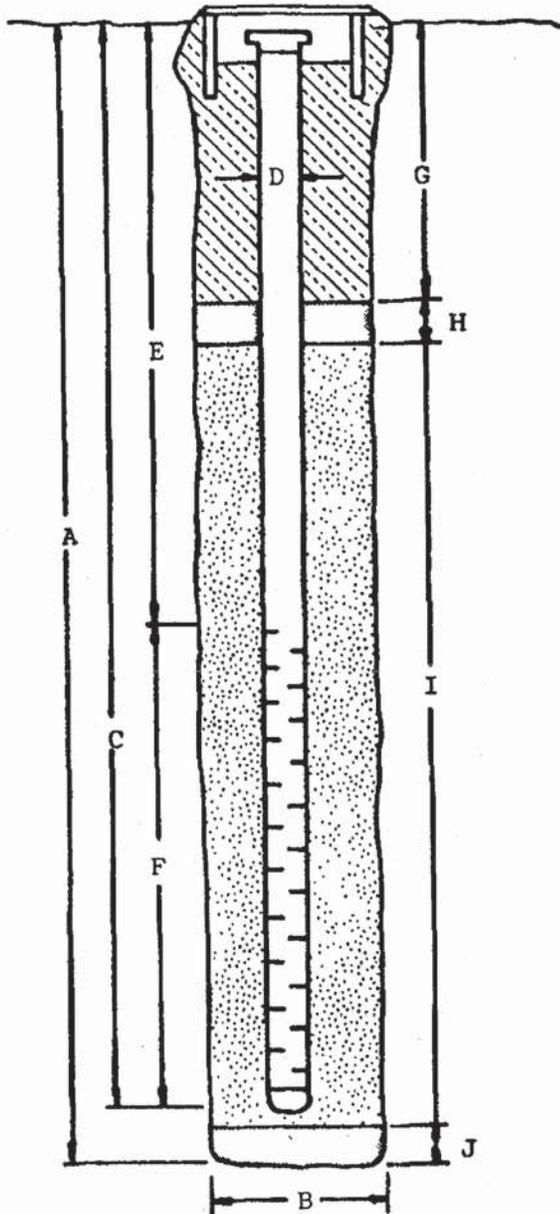
Project No. KEI-P89-0902	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal Oakland - 35th Ave.	Well Head Elevation N/A	Date Drilled 12/12/89
Boring No. MW1	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Strati- graphy USCS	Description
			GC	Clayey gravel, as above.
		45		
		50		
		55		
		60		
				TOTAL DEPTH 44'

WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Oakland - 35th Avenue BORING/WELL NO. MW1
 PROJECT NUMBER: KEI-P89-0902
 WELL PERMIT NO.: 89689

Flush-mounted Well Cover



- A. Total Depth: 44'
- B. Boring Diameter*: 9"
 Drilling Method: Hollow Stem Auger
- C. Casing Length: 44'
 Material: Schedule 40 PVC
- D. Casing Diameter: OD = 2.375"
ID = 2.067"
- E. Depth to Perforations: 24'
- F. Perforated Length: 20'
 Perforation Type: Machined Slot
 Perforation Size: 0.020"
- G. Surface Seal: 20'
 Seal Material: Concrete
- H. Seal: 2'
 Seal Material: Bentonite
- I. Gravel Pack: 22'
 Pack Material: RMC Lonestar Sand
 Size: #3
- J. Bottom Seal: None
 Seal Material: N/A

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

B O R I N G L O G

Project No. KEI-P89-0902		Boring & Casing Diameter 9" 2"		Logged By D.L. <i>Don Brown</i> CEG/3/10
Project Name Unocal Oakland - 35th Ave.		Well Head Elevation N/A		Date Drilled 12/12/89
Boring No. MW2		Drilling Method Hollow-stem Auger	Drilling Company EGI	
Penetra- tion blows/6"	G. W. level	Depth (ft) Samples	Strati- graphy USCS	Description
		0		A.C. Pavement
			GC	Well graded gravel with clay, 10-15% sand, very dense, moist, yellowish brown to dark yellowish brown, gravel to 5", sand content decreases with depth.
10/15/16		5		Clayey gravel, 25-45% clay, 10-15% sand, very dense, very moist, dark yellowish brown, gravel to 1".
13/36/ 50-5"				
29/39/40		10	GC/ CH	Clayey gravel, as above, lensed with gravelly clay, same.
27/38/ 50-5"			GC	Color change at 12 feet, dark yellowish brown and strong brown, mottled.
37/50- 5 1/2		15		Color change at 14 feet to dark yellowish brown.
27/37/47				Clayey gravel with sand, very dense, slightly moist to moist, dark yellowish brown, gravel to 1 1/2".
16/30/39		20		Clayey gravel, very dense, moist, dark brown.

B O R I N G L O G

Project No. KEI-P89-0902	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal Oakland - 35th Ave.	Well Head Elevation N/A	Date Drilled 12/12/89
Boring No. MW2	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Strati- graphy USCS	Description
30/50			GC	Clayey gravel to gravelly clay, very dense, moist, dark brown, clay is high plasticity, very stiff.
25/34/ 50-6"		25	GW- GC	Well graded gravel with clay and sand, 25-35% coarse sand, very dense, moist, dark brown.
15/20/33			CH	Sandy clay, high plasticity, 5-10% sand, very stiff, moist, dark brown to dark reddish brown.
16/22/35		30	GC	Clayey gravel with sand, gravel to 1", 15-30% sand, very dense, moist, dark brown.
13/24/48				
27/37/40 40/25/34	▼	35	GW- GC	Well graded gravel with clay and sand, gravel to 2".
19/22/32		40	CH	Sandy clay, high plasticity, with gravel, very stiff, moist, dark brown 15-30% gravel to 5/8".

B O R I N G L O G

Project No. KEI-P89-0902	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal Oakland - 35th Ave.	Well Head Elevation N/A	Date Drilled 12/12/89
Boring No. MW2	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetra- tion blows/6"	G. W. level	Depth (ft) Samples	Strati- graphy USCS	Description
17/24/25			CH	Sandy clay as above.
		45		Gravelly clay, high plasticity, with sand, very stiff, moist, dark brown, gravel to 5/8".
		50		
		55		
		60		
				TOTAL DEPTH 44'

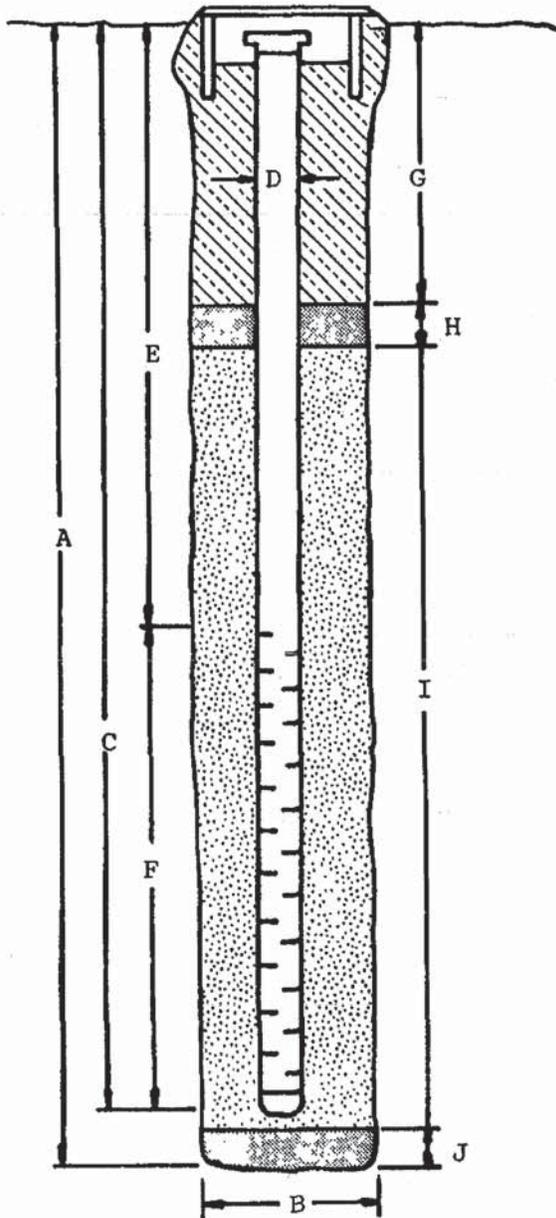
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Oakland - 35th Avenue BORING/WELL NO. MW2

PROJECT NUMBER: KEI-P89-0902

WELL PERMIT NO.: 89689

Flush-mounted Well Cover



A. Total Depth: 44'

B. Boring Diameter*: 9"

Drilling Method: Hollow Stem

Auger

C. Casing Length: 44'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 24'

F. Perforated Length: 20'

Perforation Type: Machined Slot

Perforation Size: 0.020"

G. Surface Seal: 20'

Seal Material: Concrete

H. Seal: 2'

Seal Material: Bentonite

I. Gravel Pack: 22'

Pack Material: RMC Lonestar Sand

Size: #3

J. Bottom Seal: None

Seal Material: N/A

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

B O R I N G L O G

Project No. KEI-P89-0902	Boring & Casing Diameter 9" 2"	Logged By D.L. <i>DRB CEG 1310</i>
Project Name Unocal Oakland - 35th Ave.	Well Head Elevation N/A	Date Drilled 12/13/89
Boring No. MW3	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Strati- graphy USCS	Description
		0		A.C. Pavement
11/12 8/21/36		5	GC	No sample recovery first attempt. Clayey gravel with sand, very dense, very moist to wet, olive, dark yellowish brown below 6 feet.
13/29		10		Clayey gravel with sand, 25-35% clay, gravel to 1 1/2", very dense, moist, dark yellowish brown, clay is high plasticity.
16/30/ 50-5 1/2		15	CH	Gravelly clay, high plasticity, with sand, very stiff to hard, moist, dark brown and dark yellowish brown, mot- tled.
26/34		20	GC	Clayey gravel with sand, lensed with with clay sand with gravel to 3/8", very dense, moist, dark brown, 15% clay throughout, gravel to 1".

B O R I N G L O G

Project No. KEI-P89-0902		Boring & Casing Diameter 9" 2"		Logged By D.L.
Project Name Unocal Oakland - 35th Ave.		Well Head Elevation N/A		Date Drilled 12/13/89
Boring No. MW3		Drilling Method Hollow-stem Auger	Drilling Company EGI	

Penetration blows/6"	G. W. level	Depth (ft) Samples	Strati- graphy USCS	Description
19/33		25	GC	Clayey gravel with sand, 15-25% sand, very dense, moist, dark brown.
8/8/12		30	CH	Sandy clay, high plasticity, firm to stiff, moist, strong brown. Gravelly clay, high plasticity with sand, dense, moist to very moist, strong brown to dark brown.
40/50/50		35	GW- GC	Well graded gravel with clay and sand, very dense, moist to wet, dark brown, gravel to >2".
43/50-5"			GC/ CH	Undifferentiated clayey gravel and gravelly clay, very dense, very stiff, dark brown.

B O R I N G L O G

Project No. KEI-P89-0902	Boring & Casing Diameter 9" 2"	Logged By D.L.
Project Name Unocal Oakland - 35th Ave.	Well Head Elevation N/A	Date Drilled 12/13/89
Boring No. MW3	Drilling Method Hollow-stem Auger	Drilling Company EGI

Penetration blows/6"	G. W. level	Depth (ft) Samples	Strati- graphy USCS	Description
			GC/ CH	Undifferentiated clayey gravel and gravelly clay, as above.
		45		
		50		
		55		
		60		
				TOTAL DEPTH 44'

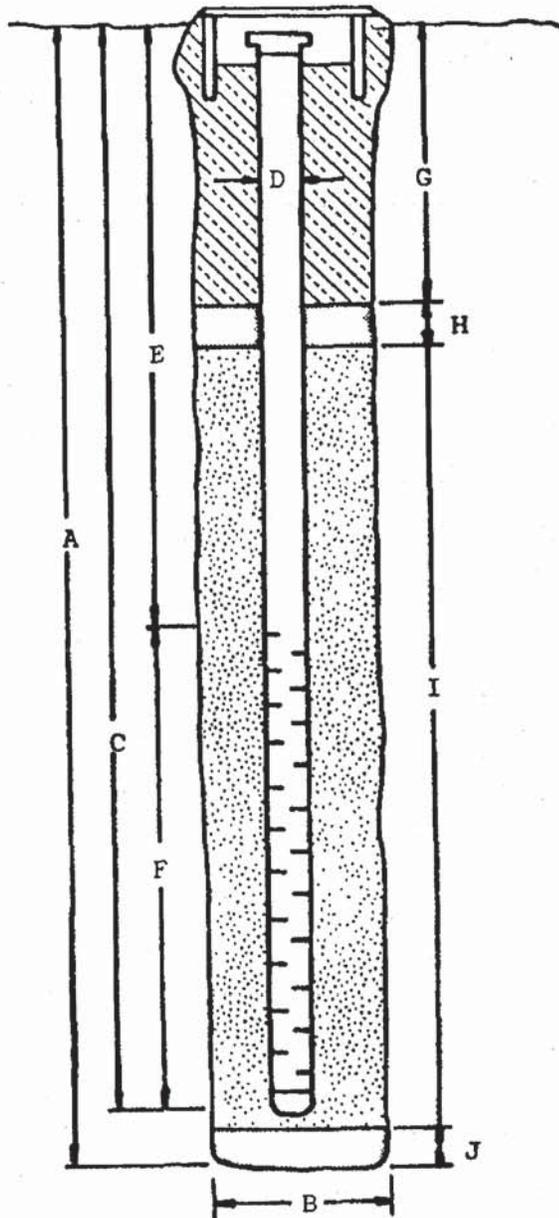
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Oakland - 35th Avenue BORING/WELL NO. MW3

PROJECT NUMBER: KEI-P89-0902

WELL PERMIT NO.: 89689

Flush-mounted Well Cover



- A. Total Depth: 44'
- B. Boring Diameter*: 9"
Drilling Method: Hollow Stem Auger
- C. Casing Length: 43'
Material: Schedule 40 PVC
- D. Casing Diameter: OD = 2.375"
ID = 2.067"
- E. Depth to Perforations: 23'
- F. Perforated Length: 20'
Perforation Type: Machined Slot
Perforation Size: 0.020"
- G. Surface Seal: 19'
Seal Material: Concrete
- H. Seal: 2'
Seal Material: Bentonite
- I. Gravel Pack: 22'
Pack Material: RMC Lonestar Sand
Size: #3
- J. Bottom Seal: None
Seal Material: N/A

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

APPENDIX D

Well Completion Reports



Arcadis U.S., Inc.

100 Montgomery Street

Suite 300

San Francisco

California 94104

Tel 415 374 2744

Fax 415 374 2745

www.arcadis.com

STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A GEO_REPORT FILE

SUCCESS

Your GEO_REPORT file has been successfully submitted!

<u>Submittal Type:</u>	GEO_REPORT
<u>Report Title:</u>	Well Destruction Report 06/12/2018
<u>Report Type:</u>	Well Destruction Report
<u>Report Date:</u>	6/12/2018
<u>Facility Global ID:</u>	T0600101465
<u>Facility Name:</u>	UNOCAL #6129
<u>File Name:</u>	351639 180612 76PP - Well Destruction Report.pdf
<u>Organization Name:</u>	ARCADIS
<u>Username:</u>	ARCADIS76
<u>IP Address:</u>	199.19.248.57
<u>Submittal Date/Time:</u>	6/12/2018 4:40:03 PM
<u>Confirmation Number:</u>	4232190072

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