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Alameda County

Environmental Health

ARCADIS U.S., Inc.
100 Montgomery Street, Suite 300
San Francisco, CA 94104
Tel 415.374.2744
Fax 415.374.2745
www.arcadis-us.com

Well Destruction Report

Former British Petroleum Station #11107 18501 Hesperian Blvd San Lorenzo, California ACEH Case RO0000489

ENVIRONMENT

"I declare that to the best of my knowledge at the present time, that the information and/or recommendations contained in the attached document are true and correct."

Date:

January 27, 2011

Contact:

Hollis E. Phillips

Phone:

415.374.2744 ext 13

Email:

Hollis.phillips@arcadisus.com

Our ref:

GP09BPNA.C154

Submitted by:

ARCADIS U.S., Inc

HETRILIPS

Hollis E. Phillips, PG Project Manager





Mr. Paresh C. Khatri Hazardous Material Specialist Alameda County Environmental Health Department 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577 ARCADIS U.S., Inc. 100 Montgomery Street Suite 300 San Francisco California 94104 Tel 415.374.2744 Fax 415.374.2745 www.arcadis-us.com

ENVIRONMENTAL

Subject:

Well Destruction Report
ACEH Case RO0000489
Former British Petroleum Station #11107
18501 Hesperian Blvd
San Lorenzo, California

Dear Mr. Khatri:

On behalf of BP West Coast Products, LLC (BP West), ARCADIS-US, Inc. is pleased to submit this Groundwater Monitoring Well Destruction Completion Memorandum to the Alameda County Environmental Health Department (ACEH). This Memorandum documents the destruction of seven monitoring wells at the Former British Petroleum (BP) Station #11107 (site) located at 18501 Hesperian Blvd San Lorenzo, California (Figure 1). Destruction of monitoring wells MW-1 through MW-7 was approved by ACEH in their Correspondence dated November 18, 2010 (Attachment A). Destruction of the wells was required after the approval of case closure at the site.

Prior to conducting the field activities, ARCADIS obtained well destruction permits W2010-0955 through W2010-0961 from Alameda County Public Works Agency (ACPW). Copies of the permits are included as Attachment B. ARCADIS contracted WDC Exploration and Wells (WDC) of Richmond, California to properly destroy the wells. WDC is a California-licensed drilling contractor (C57 License No. 283326). All monitoring wells were destroyed on January 3, 2011.

The wells were backfilled with neat cement grout using a tremie pipe until the displaced groundwater reached the bottom of the well box. Table 1 below provides estimates of the amount of neat cement grout pumped into each monitoring well. Once the well was backfilled using the tremie pipe, the well was pressure-grouted for approximately 5 minutes at a pressure of approximately 20 psi. After grouting was

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ARCADIS

Mr. Paresh Khatri
January 27, 2011

completed, the well box was removed by WDC, and the remainder of each borehole was completed with concrete mixed with black dye to match the existing surface.

TABLE 1
Neat Cement Grout Estimates

Well ID	Total Depth (ft)	Boring Radius (ft)	Estimated Amount of Cement Grout (gal)				
MW-1	31	0.66	42				
MW-2	25	0.66	26				
MW-3	25	0.66	26				
MW-4	25	0.66	26				
MW-5	25	0.66	35				
MW-6	25	0.66	35				
MW-7	25	0.66	35				

Concrete was the only project-derived waste and it was contained in one (1) Department of Transportation-approved 55-gallon steel drum. The drum was labeled and temporally stored on-site pending proper disposal. The drum was removed from the site on January 26, 2011, by Belshire Environmental Services, Inc. The concrete was disposed of at the Philadelphia Recycling Mine, which disposes of non-recyclable, non-crushable inert materials..

Well Completion Reports were submitted to the Department of Water Resources and copies are included in Attachment C.

With the completion of the above mentioned well abandonment activities, ARCADIS does not believe that there are any remaining issues associated with ACEH Case RO0000489; therefore, this site should be considered closed with regard to the previous environmental issues associated with this site. If you have any questions or

ARCADIS

Mr. Paresh Khatri
January 27, 2011

need additional information regarding this site please contact Hollis Phillips at 415.374.2477 X13. Thank you for your assistance with closing Former BP Site #11107.

Sincerely,

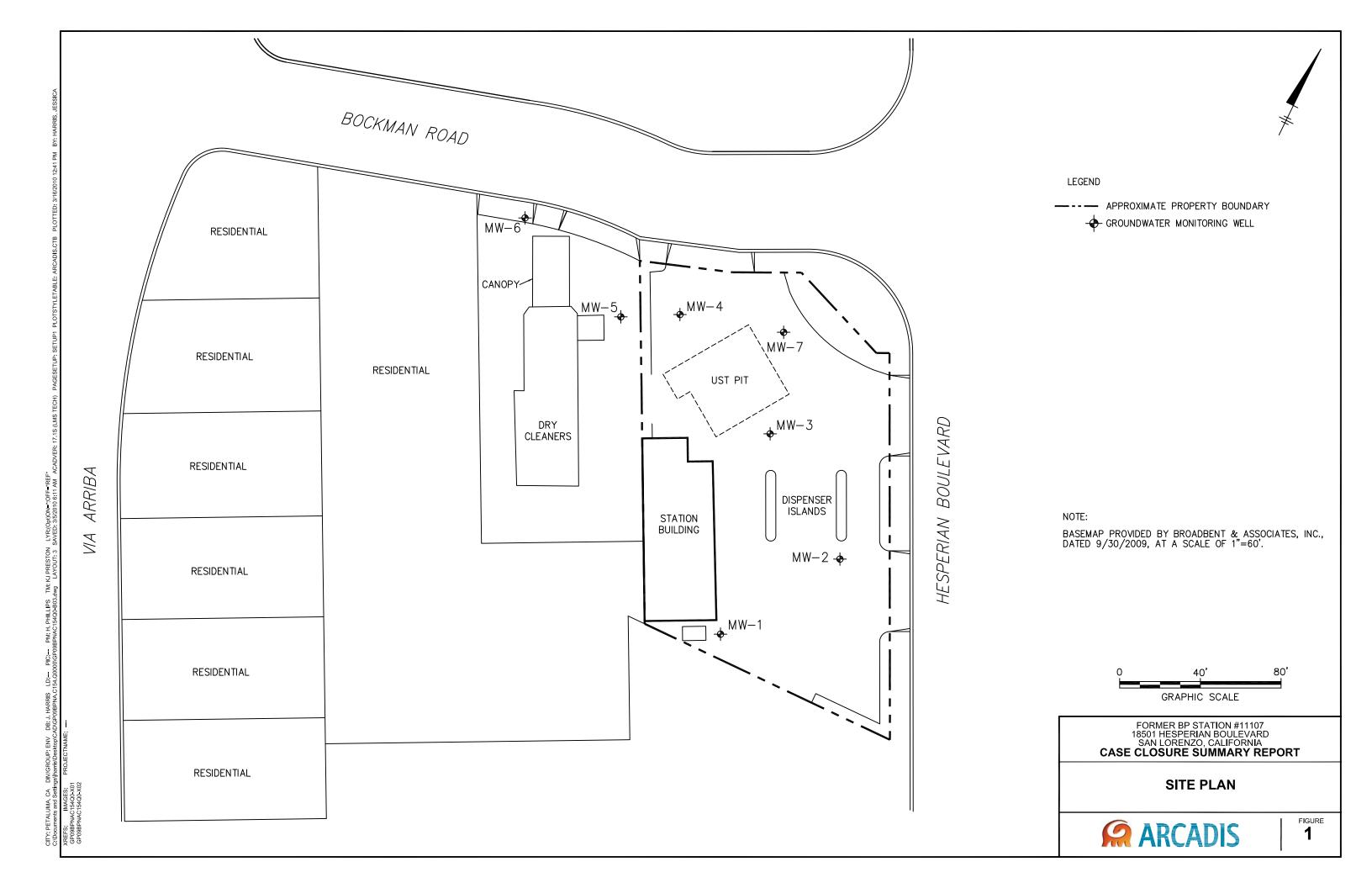
ARCADIS U.S., Inc.

Hollis E. Phillips, PG Project Manager

Attachments

Figure 1 – Site Plan Attachment A –ACEH November 18, 2010 Correspondence Attachment B – Well Destruction Permit Attachment C – Well Completion Reports

Copies: Geotracker



ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY



ALEX BRISCOE. Director

ENVIRONMENTAL HEALTH DEPARTMENT ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

November 18, 2010

Charles Carmel (Sent via E-mail to: charles.carmel@bp.com)
Atlantic Richfield Corporation
P.O. Box 1257
San Ramon, CA 94583

Bill Borgh (Sent via E-mail to Bill.Borgh@conocophillips.com)
Conoco Phillips
76 Broadway Street
Sacramento, CA 95818

Subject: Monitoring Well Destruction for Fuel Leak Case No. RO0000489 and GeoTracker

Global ID T0600101665, BP #11107, 18501 Hesperian Boulevard, San Lorenzo, CA

94580

Dear Messrs. Carmel & Borgh:

Final approval of case closure for the underground storage tank investigation at the subject site is almost complete. A case summary report proposing closure had been forwarded to the Regional Water Quality Control Board (RWQCB) on October 5, 2010 for their thirty (30) day review period. The RWQCB notified Alameda County Environmental Health (ACEH) that they have no comments on the proposed closure action. Also, a public notification fact sheet was mailed on September 30, 2010 for a thirty (30) day comment period. Since no comments opposing closure were received, the monitoring wells installed at the site must be properly destroyed, per California Water Code, prior to issuance of a remedial action completion certificate.

ACEH requests that you address the following technical comments, perform the proposed work, and send us the technical reports requested below. Upon receipt of the requested documents a remedial action completion certificate will be sent to the responsible party.

TECHNICAL COMMENTS

 Monitoring Well Destruction – ACEH is requesting that you contact Alameda County Public Works Agency at (510) 567-6791, obtain the necessary permits, destroy the wells, and electronically upload the monitoring well destruction report to ACEH's FTP server and the State Water Resources Control Board's GeoTracker website within ninety (90) days from the date of this letter (December 15, 2010). Electronic reporting is described in detail below. Messrs. Carmel & Borgh RO0000489 November 18, 2010, Page 2

NOTIFICATION OF FIELDWORK ACTIVITIES

Please schedule and complete the fieldwork activities by the date specified below and provide ACEH with at least three (3) business days notification prior to conducting the fieldwork.

TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Paresh Khatri), according to the following schedule:

• February 15, 2011 – Monitoring Well Destruction Report

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please call me at (510) 777-2478 or send me an electronic mail message at paresh.khatri@acgov.org.

Sincerely,

Paresh C. Khatri Hazardous Materials Specialist

Enclosure: Responsible Party(ies) Legal Requirements/Obligations
ACEH Electronic Report Upload (ftp) Instructions

cc: Hollis Phillips, ARCADIS, 100 Montgomery Street., Suite. 300, San Francisco, CA 94104 (Sent via E-mail to: hollis.phillips@arcadis-us.com)

Donna Drogos, ACEH (Sent via E-mail to: donna.drogos@acgov.org)

Paresh Khatri, ACEH (Sent via E-mail to: paresh.khatri@acgov.org)

GeoTracker

File

Responsible Party(ies) Legal Requirements/Obligations

REPORT REQUESTS

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.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rgmts.shtml.

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) 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 registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional 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.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)

REVISION DATE: July 20, 2010

ISSUE DATE: July 5, 2005

PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010

SECTION: Miscellaneous Administrative Topics & Procedures

SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- Please do not submit reports as attachments to electronic mail.
- Entire report including cover letter must be submitted to the ftp site as a single portable document format (PDF) with no password protection.
- It is preferable that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements must be included and have either original or electronic signature.
- <u>Do not</u> password protect the document. Once indexed and inserted into the correct electronic case file, the
 document will be secured in compliance with the County's current security standards and a password.
 <u>Documents with password protection will not be accepted.</u>
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:
 RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

- 1) Obtain User Name and Password:
 - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - i) Send an e-mail to dehloptoxic@acgov.org
 - b) In the subject line of your request, be sure to include "ftp PASSWORD REQUEST" and in the body of your request, include the Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.
- 2) Upload Files to the ftp Site
 - a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
 - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site.
 - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
 - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
 - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
 - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

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: 12/02/2010 By jamesy Permit Numbers: W2010-0955 to W2010-0961 Permits Valid from 01/03/2011 to 01/04/2011

San Lorenzo, CA

Project Start Date: 12/10/2010 Completion Date:12/31/2010 Extension Start Date: 01/03/2011 Extension End Date: 01/04/2011

Extension Count: 1 Extended By: vickyh1

Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

Applicant: ARCADIS - Kyle King Phone: 415-374-2744 x40

Property Owner: 100 Montgomery Street, Suite 300, San Francisco, CA 94104
Abdul Mayer Phone: 510-481-2161

18501 Hesperian Blvd, San Lorenzo, CA, CA 64580

Client: Phone: 415-374-2744 x13

100 Montgomery Street, Suite 300, San Francisco, CA 94104

Contact: Kyle King **Phone:** 415-374-2744 x40 **Cell:** 516-306-7744

Receipt Number: WR2010-0413 Total Amount Paid: \$2779.00 \$2779.00

Payer Name : Arcadis Paid By: CHECK PAID IN FULL

Works Requesting Permits:

Well Destruction-Monitoring - 7 Wells

Driller: W D C Exploration & Wells - Chris Tatum [Gregg Drilling 485165] - Lic #: Work Total: \$2779.00

283326 - Method: press

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR #
W2010- 0955	12/02/2010	03/10/2011	B-1/MW-1	8.00 in.	2.00 in.	13.00 ft	31.00 ft	3S/2W18G2 3	92494	424777
W2010- 0956	12/02/2010	03/10/2011	B-2/MW-2	8.00 in.	2.00 in.	13.00 ft	26.00 ft	3S/2W18G2 4	92494	424777
W2010- 0957	12/02/2010	03/10/2011	B-3/MW-3	8.00 in.	2.00 in.	13.00 ft	26.50 ft	3S/2W18G2 5	92494	424777
W2010- 0958	12/02/2010	03/10/2011	B-4/MW-4	8.00 in.	2.00 in.	13.00 ft	26.00 ft	3S/2W18G2 6	92494	424777
W2010- 0959	12/02/2010	03/10/2011	MW-5	8.00 in.	2.00 in.	9.00 ft	25.00 ft	3S/2W18G2 7	95004	464183
W2010- 0960	12/02/2010	03/10/2011	MW-6	8.00 in.	2.00 in.	9.00 ft	25.00 ft	3S/2W18G2 8	95004	464183
W2010- 0961	12/02/2010	03/10/2011	MW-7	8.00 in.	2.00 in.	9.00 ft	25.00 ft	3S/2W18G2 9	95004	464183

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

Alameda County Public Works Agency - Water Resources Well Permit

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. No work shall begin until all the permits and requirements have been approved or obtained.

- 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 60 days. Including permit number and site map.
- 4. Applicant shall submit the copies of the approved encroachment permit to this office within 60 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 Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
- 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.

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

		O ENGINEERING GROUP OMCORD, CALIFORNIA		L	OG	6 (OF BORING B-1/MW-1 Page 1 of 1
			ALIST	TO P	ROJE	GT	NO: 10-060 CATE DRILLED: 10/22/92
			CL IEN	٧T:	BP	Oil (Стрепу
	SEE	SITE PLAN	LOCA	TIO	N: 1	850	1 Hesperian Boulevars, San Loenzo, California
		W): Hollow-stem Auger (8")
			DRILL	ING	COM	(PAt	IY: Great Sierra Expioration CASING ELEVATION: 4107 MSL
	1		LOGG	ED (Tec	Moise APPROVED 6 Y AT Servira
BLOWS/6 IN	PID VALUES	WELL DIAGRAM	DEPTH feet	SAMPLES	SRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
					5 0	SW	2" Asphalt
		him and the second			ວັດ		gravelly SAND: gray/green, damp, loose, line- to coarse-grained sand
			5			ML	sandy SILT: dark brown, damp, medium firm, abundant very fine- to medium-grained sand.
8,8,9	1.0	J PVG	J			SM	sity.SAND: tan/red, damp, loose, very line- to medium-grained sand.
9,8,12	1.4	Sch 40 PVC					Same: tine-grained sand, gray/green from 7.75 to 6'
6,7,8	4.2		10 - 0				Same.
7,9,10	0.8		Laberto				Same: abundant srt.
9,8,10	1,1		17.				
			15			ML.	sandy SILT; tan, moist, stiff, abundant very fine-grained sand, ninor clay.
12,15,22	13						Same: no clay.
4,4,4	1.8	reen	20	T.			Same: ten, moist, medium frm, abundant very fine-grained sand, minor clay.
7,5,8		A PVC				SM M	slity SAND: brown, wet loose, fine- to madium-grained sand,
		satted PVC su	25				sandy SILT: tan, wet, stiff, very fine to fine-grained sand, minor clay.
5,0,12		0.010'		ໝ			clayey SILT from 28.6 to 28 feet.
7,10,12			20			SM	silty SAND: brown, արցել macium dense, very fine co fine-grained sand, abundant silt, minor clay.
11,8,6			30-			ML.	clayey SILT: brown, wet, vary stiff, minor very fine-grained sand.

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

			NEERING GROUP CALIFORNIA		L()G	0	BORING B-2/MW-2 Page 1 of 1
								NO: 10-060 DATE ORILLED: 10/22/02 Ompany
	SEE	SITE	PLAN	DAILI DAILI	. ING	CO.	THOC MPAN	Hesperian Boulevard, San Loenzo, California Hollow-stem Auger (8") Great Sierra Exploration CASING ELEVATION: 40.56 MS Modes 48880VED 3.7 & Sevila
BLOWS/8 IN	PID VALUES	(HELL DIAGRAN	POG9	T.,	g	SOIL CLASS	MOISE APPROVED BY ALSOWS GEOLOGIC DESCRIPTION
		***************************************				0	O ML	2" Asphait silty CLAY: black, damp, medium frm, minor very line- to fine-grained sand.
đ,7,S	0.	Sch 40 PVC	nuo.	(C)			gw.	sity SANO: brown, damp, medium dense, fine— to medium—grained sand.
6,9,10	0.2				I		S SW	gravelly SAND: tan, damp, medium dense, fine- to medium-grained sand, angular gravel to P.
3,8,8	<u></u>	1.88		15 -			ML	sandy SILT: tan. damp. stiff, very fine- to fine-grained sand, minor clay
10,11,1 5 9,15,10	÷,4	0.0i0' statied PVC son	5 R) sau (0/3#	1			SM ML	silty SAND: brown, Wet, medium dense, abundant silt, minor clay, very fine- to fine-grained sand. clayey SILT: tan, wet, very stiff, abundant clay, minor very fine- to fine-grained sand.
20,20,30		0.0		25 -	T = 1		CL	silty CLAY; tan, wat, hard, minor silt.
				30 ~	,			

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

		TO ENGINEERING GROUP ONCORD, CALIFORNIA		L()G	0	F BORING B-3/MW-3 Page 1 of 1
			ALIS	TO F	ROJE	СТ	NO: 10-080 DATE DRILLED 10/22/92
			ļ				ompany
	SEE	SITE PLAN	į			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	l Hesperian Boulevard, San Loenzo. Celifornia
			DRILL	.INE	ME.	HOE): Hollow-stem Auger (8") IY: Great'Sleria Exploration CASING ELEVATION: 40.45," MSL
			LOGG				TO Great Sierra Exploration CASING ELEVATION: 40.45, MSL APPROVED BY: 45
<u> </u>	T o		1	T			APPROVED BY, AS
BLOWS/6 IN.	PID VALUES	WELL DIAGRAN	DEPTH	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
					A 2-1-2-1-2-1-2-1-2-1-2-1-2-1-2-1-2-1-2-1	SM	2" Asphalt sitty SAND: brown/red, damp, loose, very fine- to medium -grained sand, minor sitt, no diay
7,9,13	1.0	3ch. 40 PVC	5~				Sang.
4,4,5	1,2	2 506,4	oertionte seer				Same: brown, damp, very fine— to fine—grained sand, abundant silt, minor clay
6,7,8	3.0		15-			ML.	sandy SILT; tan/gray, damp, stiff, very fine-grained sand, minor clay.
7,8,10	14	0.010" slotted PVC screen	20-		11 SETTA I I SISIANIA MINISTANIANI SE COMO INNONESCONO SERVICIO.		clayey SILT: tan/gray, moist, stiff, minor very fine-grained sand
8,12,17		010' s					Sama: wet.
15,17,23			25-			Ci	silty CLAY: tan, damp, very stiff, minor sit.
		· · · · · · · · · · · · · · · · · · ·	30				

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

		TO ENGINEERING GROUP ONCORD, CALIFORNIA		L(OG	0	F BORING B-4/MW-4 Page 1 of 1
			ALIS	TOF	POR	ECT	NO: 10~060 DATE DAILLED: 10/23/92
							Company
	SEE	SITE PLAN		**********			1 Hesperian Bouleyard, San Loenzo, California
			£			*****	D: Hollow-stem Auger (8")
			• ****************				NY: Great Sierra Exploration CASING ELEVATION: 39.24 "MSL I Moise ————————————————————————————————————
<u> </u>	رم رم		1 2000	1	·		ATTHORE AT THE SERVING
BLOWS/6 IN	PID VALUES	WELL DIAGRAM	DEPTH	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
4,4,8	1.4	Sch 40 PVC	C.			SM	3" Asphalt silty SAND; brown/red, dämp, loose, fine- to medium-grained sänd, minor silt, no clay.
6,7,7	ı.a	2' Sah		I			Same: abundant silt.
4,4.4	50	- Pc	1	<u></u>		ML	sandy SILTK gray, damp, medium firm, very fine- io fine-grained sand, minor clay
3,4,8	187	se l	20-	Ŧ			Same: brown/gray, very moist
7,10,11	***************************************	0.00	5	T			Same: brown, abundant clay.
10,20,23				+			allty.Pt.AY: brown, damp, hard, minor sill, minor very fine sand.
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STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

		TO ENGINEERING GROUP NUT CREEK, CALIFORNIA			L(OG	OF BORING MW-5 Page 1 of 1
			ALIS	ТОР	ROJE	ECT	NO: 10-080-02 DATE DRILLED: 02/15/85
			CLIE	NT:	<i>BP</i>	OII C	отрапу
	SEE	SITE PLAN	LOCA	TIO	N: /	18501	Hesperian Boulevard, San Lorenzo, California
		or i a i ann	ORILL	ING	MET	THOE	: Hollow-Stem Auger (8")
			ORILL	ING	CON	4PAN	Y: Soils Exploration Srv. CASING ELEVATION: 39.07
			LOGG	ED 6		J.D.	APPROVED BY: Al Sevilla
BLOKS/B IN	PID VALUES	WELL CLAGRAN	DEPTH	SAMPLES	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
4,5,7	0	2° Sch. 40 PVC ———————————————————————————————————	Bentonite Seal Ch			М̈́L	sandy SILT: black/brown, slightly moist, stiff; fine- to medium- grained sand; trace fine angular gravel.
2,3,4	0	***************************************	10-			SP SP	SAND: light brown, slightly maist, laase; fine-grained; trace slit.
1,2,2	8	PVC Screen ———————————————————————————————————	15-	<u></u>		J.	SAND with silt and clay: light brown, very moist to wet, toose (soft); very fine-grained sand.
4,5,8	274	- 0.010" Statted PVC S	20-				Same: color change to olive/green at 18.5'.
4,8,8	1		25-	₩		CL	sandy CLAY with silt: light brown, moist, stiff; very fine- to fine-grained sand. Stabilized water level measured on March 1, 1995.
			30-				

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

		O ENGINEERING GROUP BUT CREEK, CALIFORNIA			LC)G	OF BORING M	W-6	Page 1 of 1
			ALIS	ΓΟ P	ROJE	CT N	IO: 10-080-02	DATE DRILLED:	02/15/95
			CLIE	۹T:	BP (OII C	mpany		
	eee	SITE PLAN	LOCA	TIO	N: 18	3501	Hesperian Boulevard, San L	orenzo, California	
	SEE	STIE FLAN	DRILL	.ING	MET	ноп	Hollow-Stem Auger (8")		
			DRILL	ING	COM	PAN'	t: Soils Exploration Srv.	CASING ELEVATI	ON: <i>38.46</i> '
			LOGG	E0 8	3Y:	J.D.		APPROVED BY:	4/ Sevilla
BLOKS/6 IN.	PID VALUES	WELL DIAGRAM	DEPTH	SANPLES	GRAPHIC LOB	SOIL CLASS		IC DESCRIPTION	
					//	CL	8" Concrete silty CLAY: dark brown, sll	abily maist firm	
3,4,4	0	2° Sch. 40 PVC	Bentunite Seaf ຕ			SM	slity SANO: light brown, sli sand.		e-grained
3,4,3	28	***	- 10-			SP ML	SAND: light brown, slightly slit.	moist, laase; fine-gra	ained; trace
1,1,2	5	PVC Screen ———————————————————————————————————	15-	-			sandy SILT with clay: oily very fine-grained sand.	e/brown, very moist to	o wet, saft;
2,2,2	3	— 0.010" Statted PVC Sc	20~			SP	SANO with silt: light brown tine-grained sand.	, wet, laase (saft); vel	y fine- to
2,2,2			_ 25-			sc	clayey SAND with silt: ligh very tine-grained sand.		
			30-						

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STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

		O ENGINEERING GROUP OUT CREEK, CALIFORNIA			L	O G	OF BORING MW-7 Page 1 of 1
	***********		ALIST	O F	ROJE	ECT	NO: 10-080-02 DATE DRILLED: 02/15/95
			CLIEN	IT:	BP	OII C	Sompany Sompany
	SEE	SITE PLAN					Hesperian Boulevard, San Lorenzo, California
): Hallow-Stem Auger (8")
							Y: Soils Exploration Srv. CASING ELEVATION: 39.50
-4	T		Loggi	ED {		-	APPROVED BY: AI Sevilla
BLOMS/6 IN	PID VALUES	WELL DIAGRAN	DEPTH feet	SAMPLES	BRAPHIC LOS	SOR CLASS	GEOLOGIC DESCRIPTION
4.7.8	>1000	Sch. 40 PVC	Seal Gn			SM	3" Asphiat silty SAND: dark brown, slightly moist, medium dense; tine-grained sand. Same: color change to light brown.
3,4,4	>1000		LBentowite Seal			SP	SAND: light brown, slightly moist, loose; fine-grained; trace slit.
2.2.2	57	PVC Screen	15- -	-		ML	sandy SILT with clay; olive/brown, very moist to wet, soft; very tine-grained sand.
3,2,3	15	- 0.010" Statted I	20-	T		SP	SAND with silt: allve/brown, wet, laase (saft); very fine- to fine-grained sand.
5,8,7	٥		25-			ML	clayey SILT with sand: light brown, moist, stiff; very fine-grained sand.
			30-				Stabilized water level measured on Merch 1, 1895.

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