10342 ✓

CAMBRIA

August 2, 2004

Mr. James Yoo
Alameda County Public Works Agency
Water Resources Section
399 Elmhurst Street
Hayward, CA 94544-1395

Re: **Well Destruction Work Plan**
Chevron Site #9-4800
1700 Castro Street
Oakland, CA

Dear Mr. Yoo:

Cambria Environmental Technology, Inc. (Cambria) has prepared this well destruction work plan on behalf of Chevron Environmental Management Company (ChevronTexaco), for the site referenced above (Figures 1 and 2). This work plan was prepared in response to properly destroy two monitoring well (MW-5 and MW-6) that were damaged during the renovation of the station. The details of the cause of damage to both monitoring wells will be included in our forthcoming *Underground Storage Tank Removal and Over-Excavation Report.* At this time Cambria is investigating if the two monitoring well (MW-5 and MW-6) will need to be replaced. If either well needs replacement Cambria will summit a work plan for the installation of each well.

Cambria will commence fieldwork on August 6, 2004. Monitoring wells MW-5 and MW-6 will be over-drilled to 30 feet below grade and back filled with I/II Portland cement. The wastes generated will be characterized and disposed of at a Chevron approved landfill. Cambria's standard operating procedures for well destruction are presented as Attachment A. Copies of the well logs are presented as Attachment B. Enclosed are the well destruction permit applications (Attachment C). Once the wells are destroyed Cambria will submit a well destruction report as part of the forthcoming *Underground Storage Tank Removal and Over-Excavation Report.*

Cambria Environmental Technology, Inc.

5900 Hollis Street
Suite A
Emeryville, CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

CAMBRIA

Mr. James Yoo
August 2, 2004

Please call Tom Sparrowe at (510) 420- 3316 or John Ortega at (510) 420-3349 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

John Ortega
Senior Staff Scientist

Thomas A. Sparrowe, RG
Project Geologist

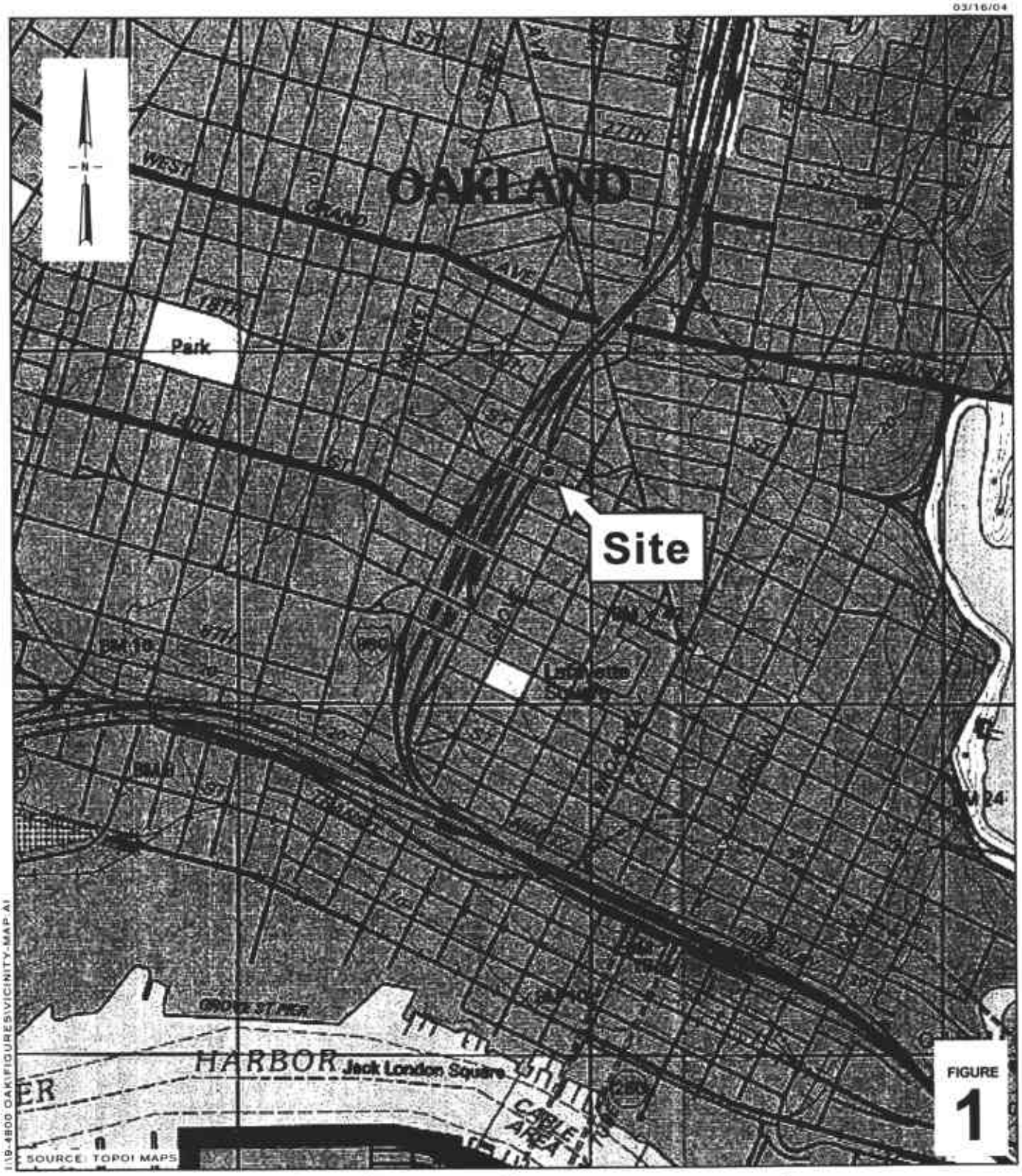
REGISTERED GEOLOGIST
THOMAS A. SPARROWE
5065
Exp. 12/31/04
STATE OF CALIFORNIA

Figures: 1 – Vicinity Map
3 – Site Plan

Attachments: A – Standard Operating Procedures
B – Well logs
C – Well Destruction Permit Application

cc: Karen Streich, Chevron Products Company, P.O. Box 6004, San Ramon, CA 94583
Tom Bott, QPM- Chevron Team, 6001 Bollinger Canyon Road T1046-A5, San Ramon, CA (4583
Barney Chan, Alameda County Environmental Health Services, 1131 Harbor Bay Parkway, Suit 250, Alameda CA, 94502-6577
Bruce Eppler, Cambria Environmental Technology, Inc.

I:\9-4800 OAKLAND\WELL DESTRUCTION\WORK PLAN.DOC



Chevron Service Station 9-4800

1700 Castro Street

Oakland, California

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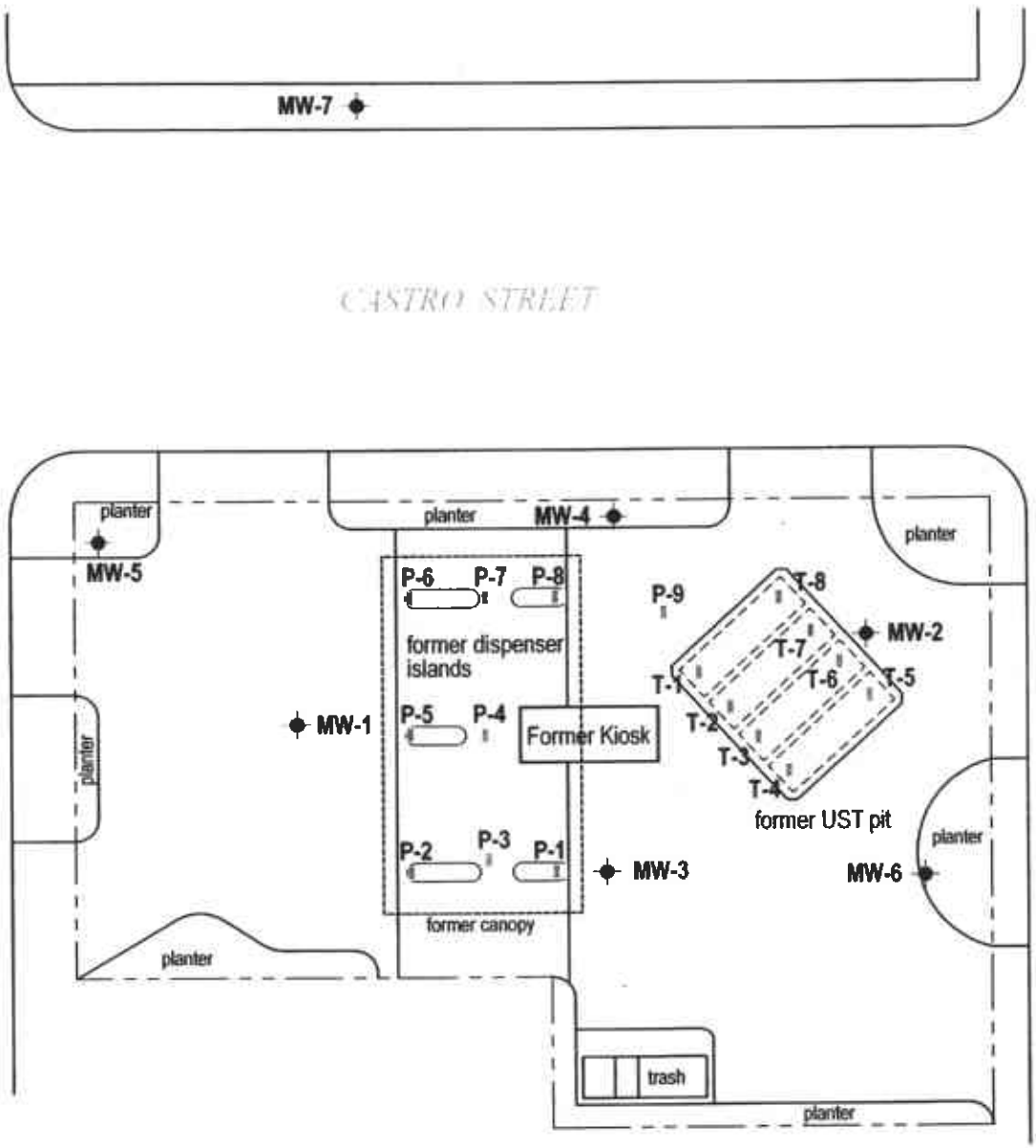
Vicinity Map



EXPLANATION

MW-1 ✦	Monitoring well location
SB-1 ◉	Soil boring location
P-1 ▮	Soil sample location

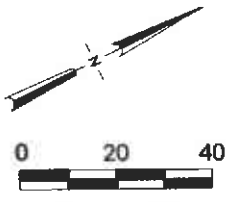


FIGURE
2

Chevron Service Station 9-4800

1700 Castro Street

Oakland, California

CAMBRIA

Site Plan

ATTACHMENT A

Standard Operating Procedures

STANDARD FIELD PROCEDURES FOR ABANDONING MONITORING WELLS

This document presents standard field methods for abandoning ground water monitoring wells. The objective of well abandonment is to destroy wells in a manner that is protective of potential water resources. The two procedures most commonly used are pressure grouting and drilling out the well. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

Pressure Grouting

Pressure grouting consists of injecting neat Portland cement through a tremie pipe under pressure to the bottom of the well. The cement is composed of about five gallons of water to a 94 lb. sack of Portland I/II Cement. Once the well casing is full of grout, it remains pressurized by applying pressure with a grout pump. The well casing can also be pressurized by extending the well casing to the appropriate height and filling it with grout. In either case, the additional pressure allows the grout to be forced into the sand pack. After grouting the sand pack and casing, the well vault is removed and the area resurfaced or backfilled as required.

Well Drill Out

When well drill out is required, a hollow-stem auger drilling rig is used to drill out the well casing and pack materials. First, drill rods are dropped down the well and used to guide the augers as they drill out the well. Once the well is drilled out, the boring is filled with Portland cement injected through the augers or a tremie pipe under pressure to the bottom of the boring. The well vault is removed and the area resurfaced or backfilled as required.

ATTACHMENT B

Well Logs

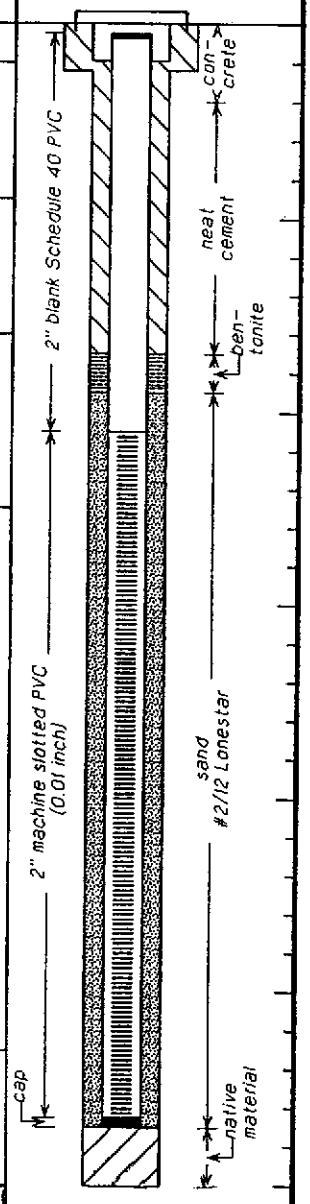
Gettler-Ryan Inc.

Log of Boring MW-6

PROJECT: *Chevron Service Station No. 9-4800*	LOCATION: *1700 Castro Street, Oakland, CA*
PROJECT NO.: *346383.03*	CASING ELEVATION:
DATE STARTED: *03/23/99*	WL (ft. bgs): *24.0* DATE: *03/23/99* TIME: *4:00 pm*
DATE FINISHED: *03/23/99*	WL (ft. bgs): *24.0* DATE: *03/23/99* TIME: *5:00 pm*
DRILLING METHOD: *8-inch hollow-stem auger*	TOTAL DEPTH: *30 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *B. Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SOIL CLASS	GEOLOGIC DESCRIPTION
					Planting soil.
				SM	SILTY SAND (SM) – yellowish brown (10YR 5/4), moist, medium dense, 70% fine sand, 30% silt.
5	0	18	MW-6-6	SC	CLAYEY SAND (SC) – yellowish brown (10YR 5/6), moist, medium dense, 70% fine sand, 30% clay.
				SM	SILTY SAND (SM) – yellowish brown (10YR 5/4) mottled with light yellowish brown (2.5Y 6/4), moist, medium dense, 80% fine sand, 20% silt.
10	0	23	MW-6-11		
				SP	SAND (SP) – yellowish brown (10YR 5/4), moist, dense, 100% fine sand.
15	0	36	MW-6-16		
20	0	47	MW-6-21		Color change to olive gray (5Y 5/2) at 21.5 feet.
					▼▼ Saturated at 24 feet.
25	0	52	MW-6-25		Color change to brown (10YR 5/3) at 25.5 feet.
				CL	CLAY (CL) – grayish brown (2.5Y 5/2), moist, medium plasticity, stiff, 100% clay.
30	0	14	MW-6-29.5		
35					* Converted to standard penetration blows/foot.

WELL DIAGRAM



JOB NUMBER: *346383.03*

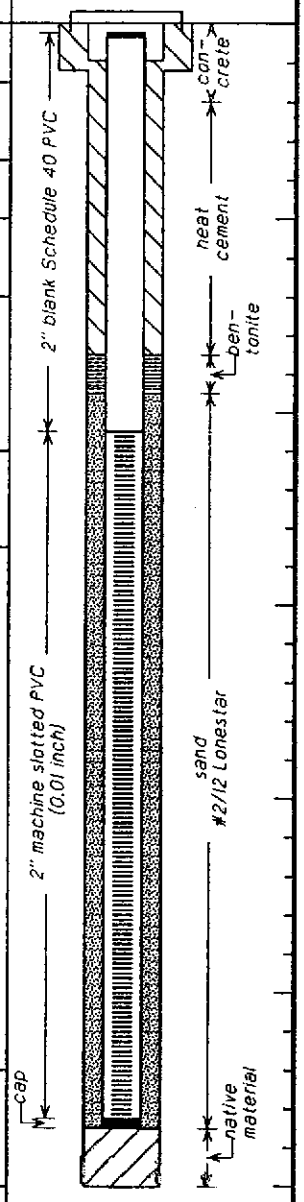
Gettler-Ryan Inc.

Log of Boring MW-5

PROJECT: *Chevron Service Station No. 9-4800*	LOCATION: *1700 Castro Street, Oakland, CA*
PROJECT NO. : *346383.03*	CASING ELEVATION:
DATE STARTED: *03/23/99*	WL (ft. bgs): *26.0* DATE: *03/23/99* TIME: *2:00 pm*
DATE FINISHED: *03/23/99*	WL (ft. bgs): *26.0* DATE: *03/23/99* TIME: *3:15 pm*
DRILLING METHOD: *8-inch hollow-stem auger*	TOTAL DEPTH: *30 Feet*
DRILLING COMPANY: *Bay Area Exploration, Inc.*	GEOLOGIST: *B. Sieminski*

DEPTH feet	PID (ppm)	BLOWS/FT. *	SAMPLE NUMBER	SOIL CLASS	GEOLOGIC DESCRIPTION
					Planting soil.
				SM	SILTY SAND (SM) – yellowish brown (10YR 5/4), moist, medium dense, 70% fine sand, 30% silt.
				SC	CLAYEY SAND (SC) – yellowish brown (10YR 5/6), moist, medium dense, 60% fine sand, 40% clay.
5	0	27	MW-5-6	SM	SILTY SAND (SM) – dark yellowish brown (10YR 4/6), moist, 65% fine sand, 30% silt, 5% clay.
				SC	CLAYEY SAND (SC) – brown (10YR 5/3) mottled with dark yellowish brown (10YR 4/6), moist, medium dense, 70% fine sand, 30% clay.
10	0	12	MW-5-11	SM	SILTY SAND (SM) – yellowish brown (10YR 5/4), moist, medium dense, 80% fine sand, 15% silt, 5% clay.
				SP	SAND (SP) – yellowish brown (10YR 5/4), moist, dense, 100% fine sand.
15	0	30	MW-5-16		
20	0	45	MW-5-21		
	0	50	MW-5-24		
25					Color change to grayish brown (2.5Y 5/2) at 24.5 feet.
				CL	CLAY (CL) – light olive brown (2.5Y 5/4), moist, low plasticity, stiff, 95% clay, 5% fine sand.
30	0	15	MW-5-29.5		
35					* Converted to standard penetration blows/foot.

WELL DIAGRAM



JOB NUMBER: *346383.03*

ATTACHMENT C

Well Destruction Permit Application

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939 www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Chevron Station 9-4800
1700 Castro Street
Oakland, CA

CLIENT (Chevron Texaco)
Name Chevron Env. Management Co.
Address PO Box 6012 Phone
City San Ramon Zip 94583

APPLICANT Att: John Ortega
Name Cambria Env. Tech Inc.
Fax (510) 420-9170
Address 5900 Hollis St. Phone (510) 420-3349
City Emeryville Zip 94608

TYPE OF PROJECT

Well Construction	Geotechnical Investigation
Cathodic Protection	General
Water Supply	Contamination
Monitoring	Well Destruction

PROPOSED WATER SUPPLY WELL USE

New Domestic	Replacement Domestic
Municipal	Irrigation
Industrial	Other

DRILLING METHOD:

Mud Rotary	Air Rotary	Auger
Cable	Other	

DRILLER'S NAME Woodward Dr. Illing Co
DRILLER'S LICENSE NO. C57 # 710079

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 30 ft.
Surface Seal Depth ____ ft. Owner's Well Number MW-5

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings ____ Maximum
Hole Diameter ____ in. Depth ____ ft.

STARTING DATE ASAP (8/9/04)?
COMPLETION DATE SAME DAY

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] DATE 7/30/04
PLEASE PRINT NAME John Ortega

Rev.5-11-04

FOR OFFICE USE

PERMIT NUMBER ____
WELL NUMBER ____
APN ____

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
3. Permit is void if project not begun within 90 days of approval date

B. WATER SUPPLY WELLS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and Industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL/CONTAMINATION
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.

E. CATHODIC
Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

G. SPECIAL CONDITIONS

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED ____ DATE ____

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510) 782-1939 www.acfcwcd.org

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT CHEVRON STATION 9-4800
1700 CUSTRO STREET
OAKLAND, CA

CLIENT
Name Chevron Env. Management Co (ChevronTexaco)
Address PO BOX 6012 Phone
City SAN RAMON Zip 94583

APPLICANT
Name CAMBRIA ENV. Tech Inc.
ATT: John Ochoa Fax (510) 420-9170
Address 5900 4th ST Suite A Phone (510) 420-3349
City Emeryville, CA Zip 94608

TYPE OF PROJECT

Well Construction	Geotechnical Investigation
Cathodic Protection	General
Water Supply	Contamination
Monitoring	Well Destruction

PROPOSED WATER SUPPLY WELL USE

New Domestic	Replacement Domestic
Municipal	Irrigation
Industrial	Other

DRILLING METHOD:

Mud Rotary	Air Rotary	Auger
Cable	Other	

DRILLER'S NAME WOODWARD Drilling Co.
DRILLER'S LICENSE NO. C57# 710079

WELL PROJECTS
Drill Hole Diameter 6 in. Maximum
Casing Diameter 2" in. Depth 30 ft.
Surface Seal Depth ft. Owner's Well Number MW-6

GEOTECHNICAL/CONTAMINATION PROJECTS
Number of Borings 4 Maximum
Hole Diameter 8 in. Depth ft.

STARTING DATE
COMPLETION DATE

FOR OFFICE USE

PERMIT NUMBER
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
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G. SPECIAL CONDITIONS

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APPROVED DATE

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE DATE 7/30/04

PLEASE PRINT NAME John Ochoa

Rev.5-11-04