

RECEIVED

1:59 pm, Jul 27, 2007

Alameda County
Environmental Health

**Chevron Environmental
Management Company**
6001 Bollinger Canyon Rd, K2236
P.O. Box 6012
San Ramon, CA 94583-2324
Tel 925-842-9559
Fax 925-842-8370

Dana Thurman
Project Manager

ChevronTexaco

1/22/07

(date)

Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Chevron Service Station # 9-5542

Address: 7007 San Ramon Road, Dublin, CA

I have reviewed the attached report titled Subsurface Investigation Report
and dated January 22, 2007.

I agree with the conclusions and recommendations presented in the referenced report. The information in this report is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This report was prepared by Cambria Environmental Technology, Inc., upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct.

Sincerely,



Dana Thurman
Project Manager

Enclosure: Report

January 22, 2007

Mr. Barney Chan
Alameda County Health Care Services Agency (ACHCSA)
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Subsurface Investigation Report

Chevron Service Station 9-5542
7007 San Ramon Road
Dublin, California



Dear Mr. Chan,

On behalf of Chevron Environmental Management Company (Chevron), Cambria Environmental Technology, Inc. (Cambria) is submitting this *Subsurface Investigation Report* for the site referenced above. The work was proposed in Cambria's *Monitoring Well Installation Workplan* dated March 2, 2006, and approved by the ACHCSA in a letter dated August 4, 2006 (Attachment A). The purpose of the investigation was to further evaluate hydrocarbon concentrations in the deeper groundwater bearing zone. The site background, details of this investigation and Cambria's conclusions and recommendations are presented below.

SITE BACKGROUND

Site Description: The site is an active Chevron-branded service station located on the northeast corner of the intersection of San Ramon Road and Dublin Boulevard in Dublin, California (Figure 1). The surrounding land use is primarily commercial with residential to the northwest. Chevron records indicate the property was leased by Chevron in 1965 at which time a station was constructed and operations began. Chevron purchased the property in 1990. In February 1990, the existing service station was remodeled and the underground storage tanks (USTs) and product lines were removed and replaced.

On-site facilities consist of a station building with three dispenser islands beneath a common canopy (Figure 2). Three gasoline USTs in a common pit are located directly east of the dispenser islands. Former gasoline and used-oil USTs were located northeast of the current dispenser islands (north of the current USTs). The site is located along the western edge of the Livermore Valley at the base of the eastern slope of the East Bay Hills.

**Cambria
Environmental
Technology, Inc.**

2000 Opportunity Drive
Suite 110
Roseville, CA 95678
Tel (916) 677-3407
Fax (916) 677-3687

The site resides at an elevation of approximately 360 feet above mean sea level with local topography gently sloping eastward toward San Ramon Creek, approximately 2,900 feet east, which appears to be the bottom of the valley. The nearest surface water is Dublin Creek located approximately 900 feet south of the site. California Department of Water Resources well search data show no domestic or municipal supply wells exist within a 2,000 feet radius of the site.

Site Hydrogeology: Sediments beneath the site are characterized as alluvial fan deposits, consisting primarily of silt, silty clay, sandy clay, silty sand, clayey sand and occasional gravel lenses. Groundwater beneath the site has varied from approximately 15 feet below grade (fbg) to approximately 28 fbg. Groundwater flow direction beneath the site has typically been to the east and southeast.



PREVIOUS INVESTIGATIONS

Four, single-wall steel USTs were originally installed at the site. The USTs consisted of two 10,000-gallon tanks containing leaded gasoline, one 4,000-gallon tank containing leaded gasoline, and one 500-gallon used oil tank.

In 1983, a hole was discovered in the regular leaded tank and the tank was re-lined with fiberglass. In December 1983, five monitoring wells (MW-1 through MW-5) were installed at the site to approximately 20 fbg. Groundwater was not encountered in any of these wells. In January 1984, monitoring well MW-3 was deepened to a depth of 25 fbg. Motor oil was observed and bailed from the well. No further separate phase hydrocarbons were observed during biweekly monitoring through October 1984.

In September 1984, a corroded section of product piping was replaced and cathodic protection was installed. In November 1984, the regular leaded product line failed a leak test and was subsequently repaired.

In February 1990, the station was remodeled. During this time, USTs and product lines were excavated and replaced. Three, 12,000-gallon fiberglass USTs were installed in a new tank basin located south of the former tank basin. During removal of the old USTs, soil was over-excavated to a depth between 16 fbg on the north end and 22 fbg on the south end. Chemical analytical results from soil samples collected within the former tank basin and former product distribution lines indicated the presence of petroleum hydrocarbons.

Groundwater monitoring has been performed at the site since April 1990. The historical groundwater flow direction has been to the east. The historical depth to water beneath the site has ranged from 16.90 to 29.80 feet.

1990 Monitoring Well Installation: In March 1990, the five original monitoring wells were destroyed and four new monitoring wells (MW-1 through MW-4) were installed at the site by Burlington Environmental, Inc. Petroleum hydrocarbons were detected in the soil samples collected from borings MW-1, MW-3 and MW-4.

1991 Monitoring Well Installation: In June 1991, three offsite groundwater monitoring wells (MW-5 through MW-7) were installed by Sierra Environmental Services. Petroleum hydrocarbons were detected in the soil sample analyzed from boring MW-6. Details of the installation are presented in the Sierra Environmental Services *Subsurface Investigation Report*, dated July 22, 1991. In December 1991, an additional groundwater monitoring well (MW-8) was installed offsite by GeoStrategies. Details of this installation are presented in GeoStrategies *Well Installation Report*, dated January 16, 1992.

1992 Vapor Extraction Well Installation: During November 1992, Geraghty & Miller, Inc. installed two vapor extraction wells (VW-1 and VW-2) and reinstalled MW-1 to a depth of 50 fbg. Analytical results from soil samples collected from borings VW-1 and VW-2 indicated the presence petroleum hydrocarbons. VW-1 and VW-2 were never used as vapor extraction wells. Details of the installation are presented in the Geraghty & Miller, Inc. *Letter Report for the Installation of Groundwater and Vapor-Extraction Well and Vacuum-Monitoring Wells*, dated January 5, 1993.

1994 Soil Borings: On June 8, 1994, Sierra Environmental Services advanced three soil borings (B-1, B-2, and MW-9) in the vicinity of the site. Petroleum hydrocarbon constituents were reported in samples collected from each boring location. Details of the installation are presented in Sierra Environmental Services *Monitoring Well Installation Report*, dated September 20, 1994.

1995 Soil Borings: On July 12, 1995, Groundwater Technology, Inc. advanced three GeoProbe® soil borings (SB-1 through SB-3) along Dublin Boulevard for the collection of grab groundwater samples. Petroleum hydrocarbons were reported in each of the grab groundwater samples collected. Details of the soil boring advancement is presented in the Groundwater Technology, Inc. *Environmental Assessment Report*, dated September 28, 1995.

1996 Soil Borings: On June 12, 1996, Gettler-Ryan, Inc. advanced three soil borings (B-3, B-4, and MW-10) in the vicinity of the site. Soil samples collected from borings B-3 and B-4 were

submitted for geotechnical and chemical analysis. No petroleum hydrocarbon constituents were reported in the samples from B-3 and B-4. Details of the installation are presented in the Gettler-Ryan, Inc. *Soil Boring and Well Installation Report*, dated August 29, 1996.

1998 Soil Sampling: During September 1998, Gettler-Ryan, Inc. was onsite to collect soil samples beneath the product distribution lines and product dispensers during replacement of the lines. Analytical results from the soil samples collected did not indicate the presence of petroleum hydrocarbons. The details and results of the sampling event are presented in the Gettler-Ryan, Inc. *Soil Sampling During Product Dispenser and Piping Replacement*, dated November 10, 1998.



2006 Cone Penetration Tests: On January 17, 2006, Cambria advanced three Cone Penetration Test (CPT) borings (CPT-1 through CPT-3). The analytical results from grab groundwater samples collected from CPT-2 indicated the presence of petroleum hydrocarbons. No petroleum hydrocarbons were detected in grab groundwater samples collected from CPT-1 and CPT-3. In addition to the CPT borings, Cambria destroyed monitoring wells MW-6 through MW-10. The details of the event are presented in the Cambria's *Subsurface Investigation and Well Destruction Report*, dated March 2, 2006

INVESTIGATION RESULTS

The objective of this investigation was to evaluate the hydrocarbon concentrations and trends in the deeper groundwater bearing zone. To meet this objective, Cambria installed monitoring well MW-11 to a total depth of 55 fbg. Permits are presented in Attachment B. The soil boring log is presented in Attachment C. Standard operating procedure for monitoring well installation is presented in Attachment D.

Permits: Alameda County Flood Control and Water Conservation District (Zone 7) #26196 and City of Dublin Public Works Department Encroachment Permit #05-68 (Attachment B)

Drilling Dates: November 30, 2006.

Drilling Company: Test America Drilling (d.b. West Hazmat) of Rancho Cordova, CA (C-57 License #819548).

Sampling Personnel: Staff Scientists Kelly Rider and John Bostick conducted fieldwork under the supervision of Senior Project Geologist David Herzog (P.G. #7211).

Number of Wells: One monitoring well (MW-11).

Drilling Method: The first 8 feet of the boring was cleared using a combination of air-knife and hand auger. Below 8 feet, the boring was advanced to approximately 55 fbg using a hollow stem auger drill rig.



Encountered Lithology: Lithology encountered in soil boring consists of sandy clay, clay with sand and clay to an explored depth of 55 fbg.

Soil Disposal: Soil cuttings were stored in 55-gallon steel drums on-site, sampled for disposal purposes, and were removed on January 4, 2007, by Integrated Waste Management of Milpitas, CA and transported to Republic Services Vasco Road Landfill in Livermore, California, for disposal.

Groundwater Depth: Groundwater was first encountered at approximately 29 fbg.

Well Installation

Well Construction: MW-11 was constructed using 2-inch diameter, Schedule 40 PVC pipe with 0.010-inch slotted casing from 45 to 55 fbg with No. 2/12 sand pack. The well annulus has a 2-foot bentonite seal above the screened interval and sand pack, and was filled with neat Portland I/II cement to 1 fbg.

Well Development and

Groundwater Sampling:

Gettler-Ryan Inc. (G-R) attempted development of the newly installed monitoring well MW-11 on December 29, 2006. The partial development was due to insufficient recharge of groundwater in the well, but development and sampling will continue during the first quarter 2007 groundwater monitoring and sampling event.



Well Survey:

Virgil Chavez Land Surveying of Vallejo surveyed MW-11 in January 3, 2007. Survey results are presented as Attachment E.

Well Recovery:

Cambria attempted to recover, redevelop and sample monitoring well MW-5. The monitoring well was located with a metal detector; however the well was not recovered due to soil conditions and time constraints. Recovery of well MW-5 will be scheduled during the first quarter 2007 in order to redevelop and sample the monitoring well.


OXYGEN INJECTION

In order for the site to be considered for low-risk closure, total petroleum hydrocarbons as gasoline (TPHg) and benzene concentrations in on-site well MW-4 must be reduced. To achieve this objective, Cambria proposes conducting periodic oxygen injection in well MW-4 to increase dissolved oxygen concentrations in groundwater and enhance biodegradation activity, which should result in a reduction of TPHg and benzene concentrations in that area of the site.

Proposed Scope of Work

Site Health and Safety Plan: Cambria will prepare a site health and safety plan to protect site workers. The plan will be kept onsite at all times and signed by all site workers.

Oxygen Injection: Approximately every two weeks, Cambria will inject oxygen into groundwater in well MW-4. Cambria will utilize a mobile injection system consisting of an



oxygen tank, hose, and porous plastic diffuser. During each injection event, the diffuser will be lowered to the bottom of the well, and approximately 125 cubic feet (3,538 liters) of oxygen will be injected into groundwater. The diffuser will consist of 1-inch diameter porous polyethylene pipe approximately 4 feet in length. The pipe has pore sizes of 20 to 35 microns; resulting in micro-bubbles approximately one millimeter in diameter. During injection, these micro-bubbles rise slowly, transferring more oxygen to dissolved phase. Depending on conditions, the injection rate will vary between 35 to 100 liters per minute, which will take between 0.5 to 1.5 hours to inject the proposed volume of oxygen. These injection rates should result in a dissolved oxygen transfer rate to groundwater between 60 to 175 grams per hour. Cambria will measure dissolved oxygen (DO) concentrations in well MW-4 prior to each injection event to evaluate DO increases in that area of the site over time. The efficiency of this remediation alternative will be evaluated after two quarters of oxygen injection.

Groundwater Sampling: Prior to the initial oxygen injection event, Cambria will collect a grab-groundwater sample from well MW-4 to establish baseline concentrations. Prior to the third injection event, Cambria will collect an additional grab-groundwater sample to evaluate initial progress of the oxygen injections. Following these two sampling events, Cambria will rely on regularly scheduled quarterly sampling events to evaluate remedial progress. The grab-groundwater samples will be analyzed for the following:

- Total petroleum hydrocarbons as gasoline by EPA Method 8015; and
- Benzene, toluene, ethylbenzene, and xylenes by EPA Method 8260.

CONCLUSIONS

Cambria will place newly installed monitoring well MW-11 on a quarterly monitoring and sampling schedule. Cambria will conduct oxygen injections approximately every two weeks for three to six months, and will include remedial progress updates with the quarterly monitoring reports. After two quarters of oxygen injection the efficiency of this remedial alternative will be evaluated. The evaluation will be submitted in the quarterly monitoring report. The recovery and repair of monitoring well MW-5 will be completed during the first quarter 2007. Following a minimum of two quarters of data, Cambria will make recommendations of any further site investigations needed.

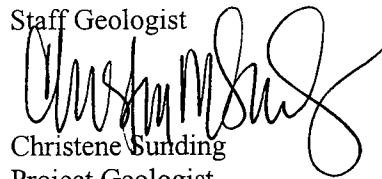
CLOSING

Cambria appreciates the opportunity to work on this project. Please contact Christene Sunding at (916) 677-3407 ext. 109 with any questions or comments.

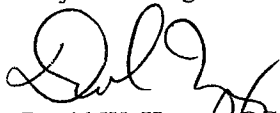
Sincerely,
Cambria Environmental Technology, Inc.



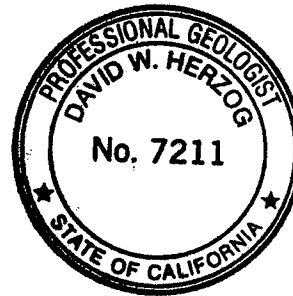
Rebecca Rouas
Staff Geologist



Christene Sunding
Project Geologist



David W. Herzog, PG#7211
Senior Project Geologist



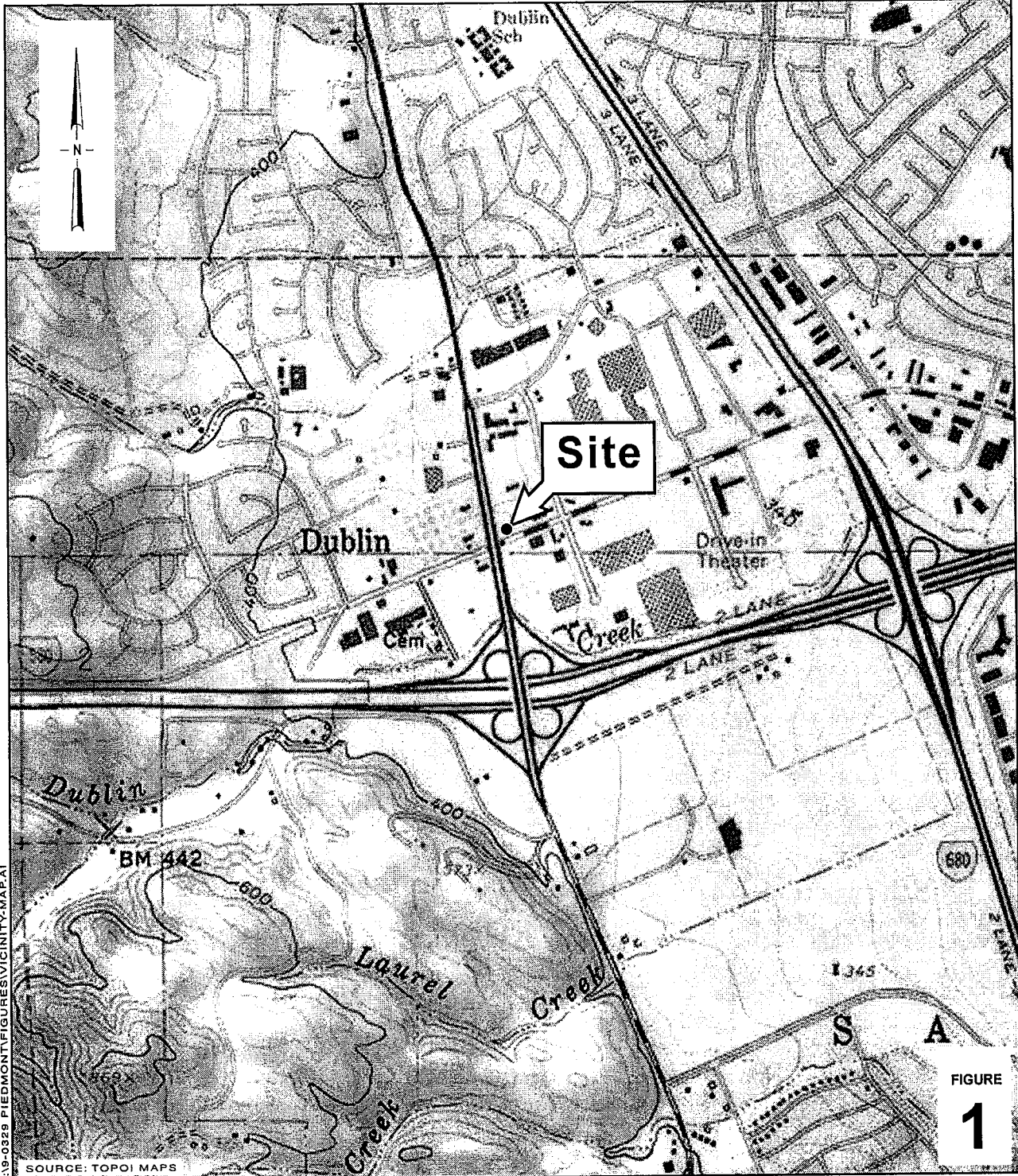
Figures: 1 – Vicinity Map
2 – Site Map

Attachments: A – Regulatory Correspondence
B – Permits
C – Boring Log
D – Standard Field Procedures
E – Well Survey Results

cc: Mr. Dana Thurman, Chevron Products Company, P.O. Box 6012, San Ramon, CA 94583
Mr. Tim Kircher, See's Candies, 400 Allan St., Daly City, CA 94014
Cambria File Copy

R:\9-5542 Dublin\Investigation 2006\9-5542 SSI 11-30-06.doc

The services described in this assessment report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. Summary of previous investigations contained in this report are generally excerpted from existing documents supplied by Chevron, and Cambria does not guarantee their completeness or accuracy. This report is solely for the use and information of our client unless otherwise noted.

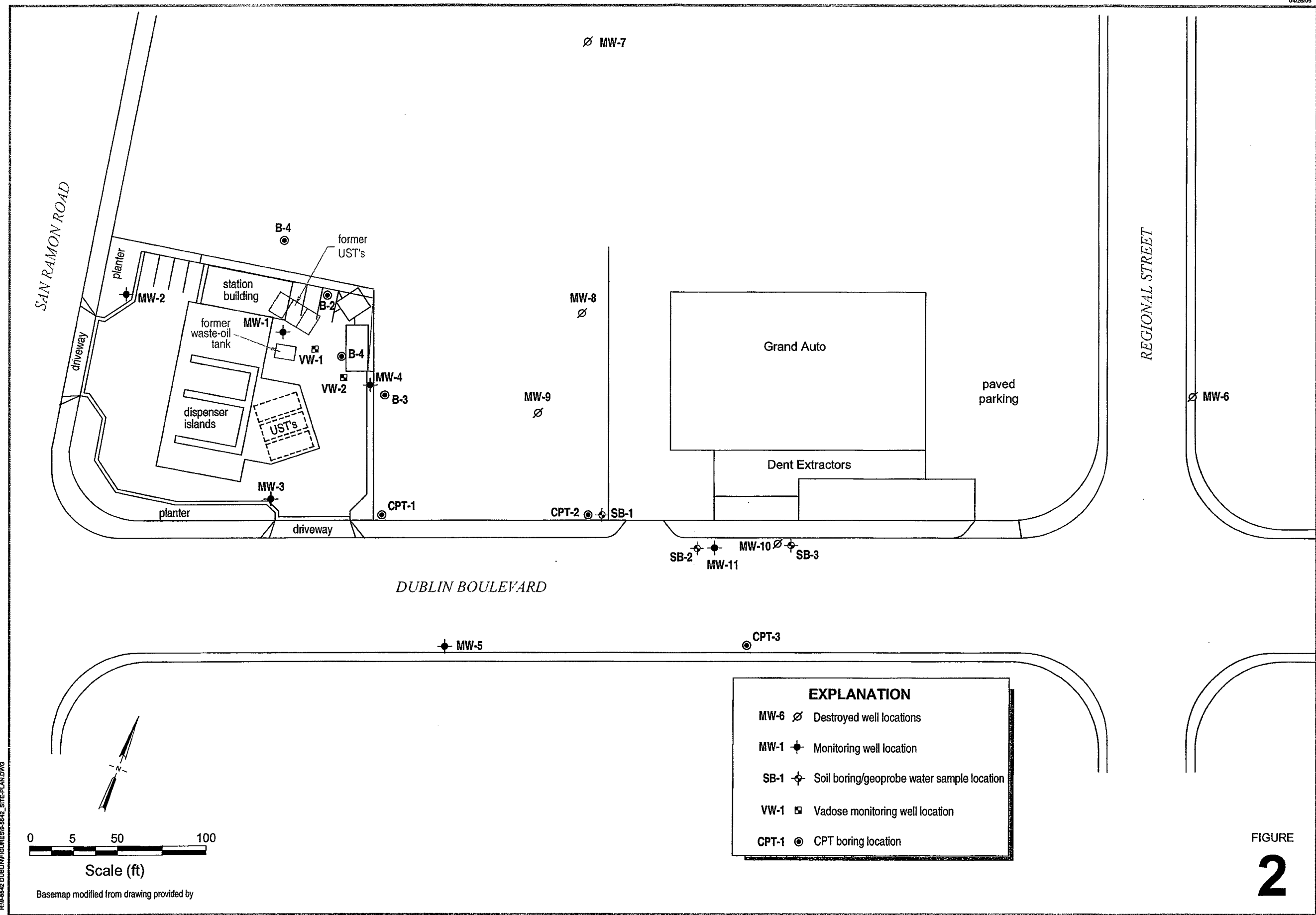


Former Chevron Station 9-5542
 7007 San Ramon Road
 Dublin, California



C A M B R I A

Vicinity Map



Site Plan



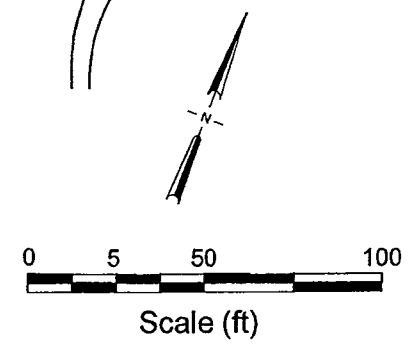
C A M B R I A

Cheveron Service Station 9-5542

7007 San Ramon Road
Dublin, California

EXPLANATION	
MW-6 ∅	Destroyed well locations
MW-1 ◆	Monitoring well location
SB-1 ⊕	Soil boring/geoprobe water sample location
VW-1 ▣	Vadose monitoring well location
CPT-1 ⊙	CPT boring location

FIGURE
2



Basemap modified from drawing provided by

ATTACHMENT A
Regulatory Correspondence

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director

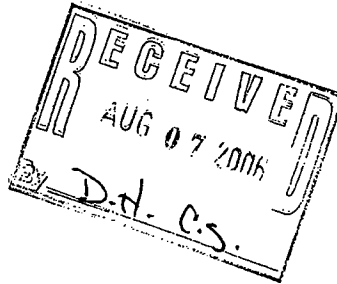


ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

August 4, 2006

Mr. Dana Thurman
Chevron
P.O. Box 6012
San Ramon, CA 94583-2324

T. W. Johnson
7007 San Ramon Rd.
Dublin, CA 94568-3239



Dear Mr. Thurman and T. W. Johnson:

Subject: Fuel Leak Case RO0000206, Chevron Station 9-5542, 7007 San Ramon Rd.,
Dublin, CA 94568

Alameda County Environmental Health (ACEH) staff has reviewed the file for the subject site including the March 2, 2006 Monitoring Well Installation Workplan from Cambria. The work plan proposes the installation of one monitoring well (MW-11) in the lower groundwater bearing zone and the recovery of MW-5 to determine the lateral and vertical extent of petroleum hydrocarbons.

TECHNICAL COMMENTS

1. The proposal to locate, redevelop and sample MW-5 is approved. If MW-5 cannot be located and sampled, please propose a replacement well. We believe that MW-5 is necessary to evaluate release(s), which may have occurred from the new UST complex. Please include MW-5 in your next monitoring report.
2. MW-11 is proposed to verify the extent of petroleum impact to the lower groundwater bearing zone, identified in CPT-2 and it will be screened from 45-55' bgs. This proposal is approved.
3. Elevated TPHg and benzene continues to be present in MW-4 likely from release(s) from the former USTs. To facilitate site closure, we recommend interim remediation from this well to reduce the onsite source. Please propose a viable approach in your monitoring well installation report.

TECHNICAL REPORT REQUEST

Please submit your monitoring well installation report 30 days after completion of the field work. This reports is 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) now request submission of reports in electronic form. The electronic copy is intended to replace the

Mr. Thurman and T. W. Johnson
August 4, 2006
Page 2 of 2

need for a paper copy and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. 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 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, electronic submittal of a complete copy of all reports is required in Geotracker (in PDF format). Please visit the State Water Resources Control Board for more information at (http://www.swrcb.ca.gov/ust/cleanup/electronic_reporting).

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.

If you have any questions, please call me at (510) 567-6765.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

c: files, D. Drogos

Mr. David Herzog, Cambria, 2000 Opportunity Dr., Ste. 110, Roseville, CA 95678
Mr. Tim Kircher, See's Candies, 400 Allan St., Daly City, CA 94014

8_2_06 7007 San Ramon Rd

ATTACHMENT B

Permits



ZONE 7 WATER AGENCY

100 NORTH CANYONS PARKWAY, LIVERMORE, CALIFORNIA 94551 VOICE (925) 454-5000 FAX (925) 454-5728

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 1007 San Ramon Rd
DUBLIN, CA

PERMIT NUMBER 26196
WELL NUMBER 3S/1W-2H36
APN 941-0305-007-02

California Coordinates Source _____ ft. Accuracy _____ ft.
CCN _____ ft. CCE _____ ft.
APN _____

PERMIT CONDITIONS

(Circled Permit Requirements Apply)

CLIENT
Name Chiron Environmental Management Co
Address 1007 S. Ramon Rd #2236 Phone 925-842-9559
City SAN RAMON Zip 94583

- A. GENERAL
 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
 2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects or drilling logs and location sketch for geotechnical projects.
 3. Permit is void if project not begun within 90 days of approval date.

APPLICANT
Name Gambria Environmental, John Bostick
Address 200 Opportunity Dr # 110 Phone 916 677 3407 x107
City Roseville Zip 95678

- 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.
 3. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
 4. A sample port is required on the discharge pipe near the wellhead.

TYPE OF PROJECT

Well Construction	Geotechnical Investigation
Cathodic Protection ..	General ..
Water Supply ..	Contamination ..
<u>Monitoring</u> *x	Well Destruction ..

- 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.

PROPOSED WELL USE

New Domestic ..	Irrigation ..
Municipal ..	Remediation ..
Industrial ..	<u>Groundwater Monitoring</u> ..
Dewatering ..	Other ..

DRILLING METHOD:

Mud Rotary ..	Air Rotary ..	<u>Hollow Stem Auger</u> ..
Cable Tool ..	Direct Push ..	Other ..

- D. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.
- E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION. See attached.
- G. SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after the completion of permitted work the well installation report including all soil and water laboratory analysis results.

DRILLING COMPANY Test America
DRILLER'S LICENSE NO. B19548

WELL PROJECTS

Drill Hole Diameter <u>6</u> in.	Maximum
Casing Diameter <u>2</u> in.	Depth <u>55</u> ft.
Surface Seal Depth <u>2</u> ft.	Number <u>1</u>

SOIL BORINGS

Number of Borings _____	Maximum
Hole Diameter _____ in.	Depth _____ ft.

ESTIMATED STARTING DATE November 6, 2006
ESTIMATED COMPLETION DATE November 6, 2006

Approved Wyman Hong Date 11/2/06
Wyman Hong

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

APPLICANT'S SIGNATURE John Bostick Date 10/26/06
John Bostick

ATTACH SITE PLAN OR SKETCH

**CITY OF DUBLIN
PUBLIC WORKS DEPARTMENT**
100 Civic Plaza
Dublin, California 94568
(925) 833-6630

PERMIT NO. 05-68

ENCROACHMENT PERMIT

PERMIT TO DO WORK IN ACCORDANCE WITH CITY OF DUBLIN MUNICIPAL CODE CHAPTER 7.04 AND ANY SPECIAL REQUIREMENTS SHOWN OR LISTED HEREIN.

Applicant/Permittee: Name: <u>CAMBRIA ENVIRONMENTAL</u> Address: <u>4111 CITRUS AVE., SUITE 12</u> <u>ROCKLEN, CA 95677</u> Telephone <u>(916) 630-1855 x 115</u> <u>LEON GEARHART</u>	Permit Fee:	\$ 10.00
	Plancheck Fee:	\$
	Resurfacing Surcharge:	\$
	Inspection Fees:	\$ 315.00
		\$
		\$
	Total Fees:	\$ 325.00
	Bond: <u>Surety</u> \$1500 Cash:	103312819-0353 \$
	Total Paid:	\$ 325.00
	Receipt No.	

PLEASE READ THIS PERMIT CAREFULLY. KEEP IT AT THE WORK SITE. TO ARRANGE FOR INSPECTION, PHONE 833-6630 AT LEAST 48 HOURS BEFORE YOU START WORK.

JOB LOCATION: 7007 SAN RAMON RD., DUBLIN CHEVRON # 9-5542

DESCRIPTION OF WORK: (Attach 2 copies of plans. Attach additional pages if needed.)

DESTROY TWO (2) EXISTING GROUNDWATER MONITORING WELLS (MW-6 + MW-10)
ADVANCE ONE (1) CPT BORING (CPT-3)

Length of Excavation 2 l.f. **Width** 2 l.f. **Depth** 35 ft.

U. S. A. IDENTIFICATION NUMBER (if applicable) _____

ATTENTION IS DIRECTED TO THE GENERAL PROVISIONS PRINTED ON THE REVERSE SIDE OF THIS PERMIT AND TO THE FOLLOWING SPECIAL REQUIREMENTS:

1. Permittee shall provide and keep current a certificate of Public Liability and Workers Compensation Insurance which names the City of Dublin and its employees and agents as additional insureds.
2. Worksites left in an unsafe condition will be secured by the City Maintenance Department and the cost charged to the permittee.

INSPECTION REQUIRED FOR TRAFFIC CONTROL AND
FINAL LAKE CLOSURE BETWEEN 9:00-3:30 ONLY

Prosecution of Work: All work authorized by the permit shall be performed in a workmanlike, diligent, and expeditious manner, and must be complete to the satisfaction of the City Engineer.

Liability and Damages: The permittee shall be responsible for all liability imposed by law for personal injury or property damage which may arise out of the work permitted and done by permittee under this permit, or which may arise out of failure on the part of the permittee to perform his obligations under said permit in respect to maintenance and encroachment. The permittee shall protect and indemnify the City of Dublin, its officers and employees, and save them harmless in every way from all action by law for damage or injury to persons or property that may arise out of or be occasioned in any way because of his operations as provided in this permit.

Signature of Permittee:
By: [Signature]

City Engineer
By: [Signature]
Date of Issue: 11-28-01

ATTACHMENT C

Boring Log

Boring/Well Log Legend

KEY TO SYMBOLS/ABBREVIATIONS

- | | |
|---|---|
| <ul style="list-style-type: none"> First encountered groundwater Static groundwater Soils logged by hand-auger or air-knife cuttings Soils logged by drill cuttings or disturbed sample Undisturbed soil sample interval Soil sample retained for submittal to analytical laboratory No recovery within interval Hydropunch screen interval | <ul style="list-style-type: none"> Definite contact line Inferred or gradational contact line PID = Photo-ionization detector or organic vapor meter reading in parts per million (ppm) fbg = Feet below grade Blow Counts = Number of blows required to drive a California-modified split-spoon sampler using a 140-pound hammer falling freely 30 inches, recorded per 6-inch interval of a total 18-inch sample interval msl = Mean sea level Soils logged according to the USCS. |
|---|---|

UNIFIED SOILS CLASSIFICATION SYSTEM (USCS) SUMMARY

Major Divisions		Graphic	Group Symbol	Typical Description		
Coarse-Grained Soils (>50% Sands and/or Gravels)	Gravel and Gravelly Soils	Clean Gravels (≤5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines		
		Gravels with Fines (≥15% fines)	GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines		
		Clean Sands (≤5% fines)	SW	Well-graded sands, gravelly sands, little or no fines		
		Sands with Fines (≥15% fines)	SP	Poorly-graded sands, gravelly sand, little or no fines		
	Sand and Sandy Soils	Silty sands, sand-silt mixtures	SM	SM	Silty sands, sand-silt mixtures	
		Clayey sands, sand-clay mixtures	SC	SC	Clayey sands, sand-clay mixtures	
		Silts and Clays	Inorganic silts, very fine sands, silty or clayey fine sands, clayey silts with slight plasticity	ML	ML	Inorganic silts, very fine sands, silty or clayey fine sands, clayey silts with slight plasticity
			Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	CL	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
Organic silts and organic silty clays of low plasticity	OL		OL	Organic silts and organic silty clays of low plasticity		
Silts and Clays	Inorganic silts, micaceous or diatomaceous fine sand or silty soils	MH	MH	Inorganic silts, micaceous or diatomaceous fine sand or silty soils		
	Inorganic clays of high plasticity	CH	CH	Inorganic clays of high plasticity		
	Organic clays of medium to high plasticity, organic silts	OH	OH	Organic clays of medium to high plasticity, organic silts		
Highly Organic Soils			PT	Peat, humus, swamp soils with high organic contents		

I:\0-Chevron\Templates, Forms and Procedures\Field Forms\Boring Logs\Boring Log Legend



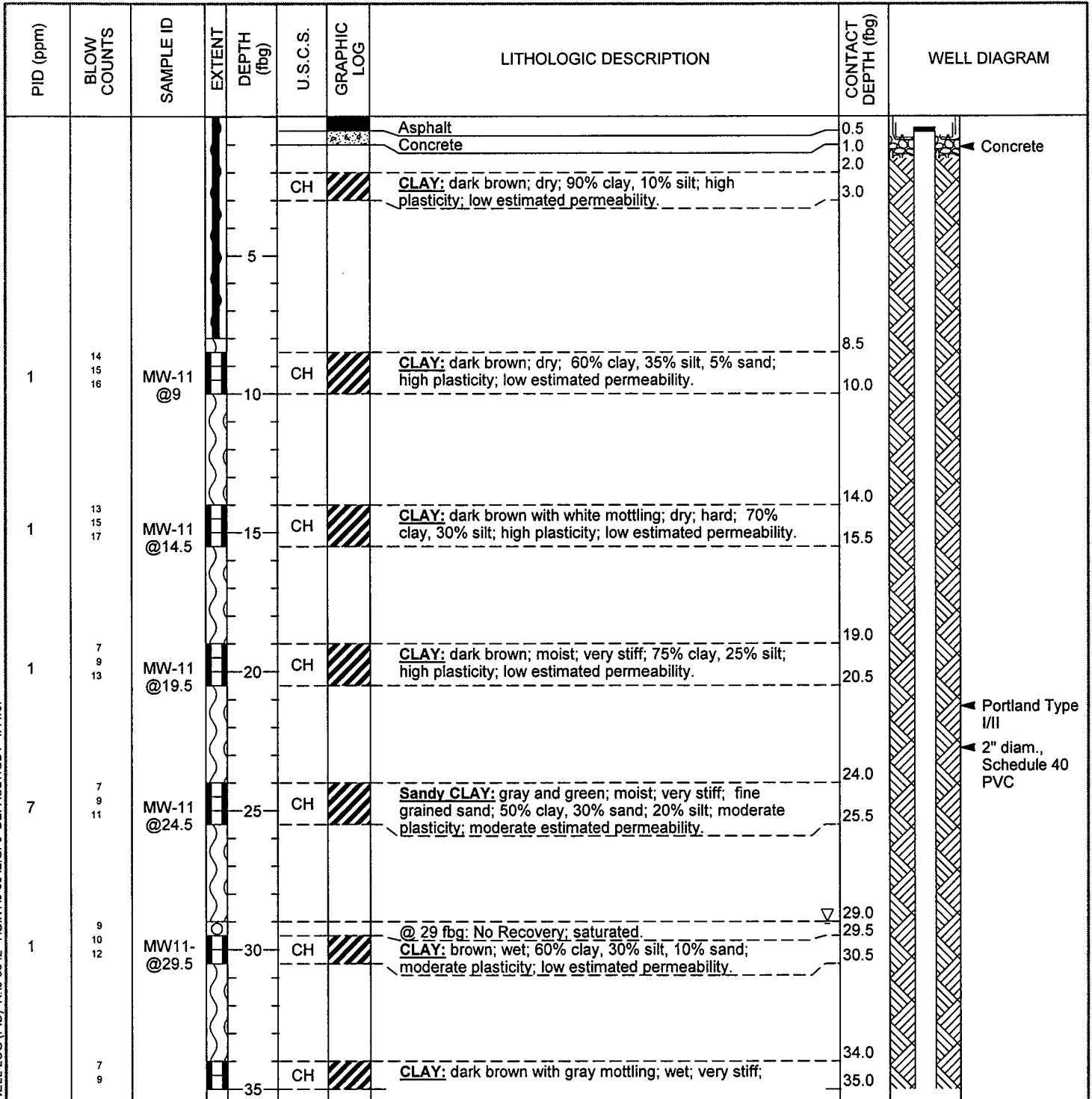
CAMBRIA



Cambria Environmental Technology, Inc.
 2000 Opportunity Drive, Suite 110
 Roseville, CA
 Telephone: 916.677.3407
 Fax: 916.677.3687

BORING/WELL LOG

CLIENT NAME	Chevron Environmental Management Co.	BORING/WELL NAME	MW-11
JOB/SITE NAME	9-5542	DRILLING STARTED	30-Nov-06
LOCATION	7007 San Ramon Road, Dublin, CA	DRILLING COMPLETED	30-Nov-06
PROJECT NUMBER	61H-1969	WELL DEVELOPMENT DATE (YIELD)	29-Dec-06
DRILLER	Test America, d.b.A West Hazmat	GROUND SURFACE ELEVATION	347.62 ft above msl
DRILLING METHOD	Hollow-stem auger	TOP OF CASING ELEVATION	357.39 ft above msl
BORING DIAMETER	8"	SCREENED INTERVAL	45 to 55 fbg
LOGGED BY	J. Bostick	DEPTH TO WATER (First Encountered)	29.0 fbg (30-Nov-06)
REVIEWED BY	D. Herzog, PG# 7211	DEPTH TO WATER (Static)	NA
REMARKS	Cleared to 8 fbg using a combination of handauger and airknife.		



WELL LOG (PID) R:19-5542-1GINT9-5542.GPJ DEFAULT.GDT 1/1/07

Continued Next Page



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Continued from Previous Page

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0	11	MW-11 @34.5			SC		60% clay, 30% silt, 10% sand; medium plasticity; low estimated permeability. Clayey SAND: dark brown; wet; hard; 60% sand 30% clay, 10% silt; medium plasticity; moderate estimated permeability.	35.5	<p>Bentonite Seal</p> <p>Monterey Sand #2/12</p> <p>2"-diam., 0.010" Slotted Schedule 40 PVC</p> <p>Bottom of Boring @ 55 fbg</p>
1	3 13 16	MW-11 @39.5		40	CH		CLAY: brown with white mottling; wet; very stiff; 65% clay, 30% silt, 5% sand; medium plasticity; low estimated permeability.	39.0 40.5	
1	12 11 16	MW-11 @44.5		45	CH		CLAY: dark brown with red and green mottling; wet; very stiff; 65% clay, 30% silt, 5% silt; medium plasticity; low estimated permeability.	44.0 45.5	
1	15 16 17	MW-11 @49.5		50	CH		CLAY: dark brown; wet; hard; 55% clay, 35% silt, 10% sand; medium plasticity; low estimated permeability.	49.0 50.5	
0	15 17 19	MW-11 @54.5		55	CH		CLAY with sand: dark brown; wet; hard; 50% clay, 30% silt, 20% sand; medium plasticity; moderate estimated permeability.	53.5 55.0	

WELL LOG (PID) R:19-5542-1\GINT9-5542.GPJ DEFAULT.GDT 1/11/07

ATTACHMENT D
Standard Field Procedures

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STANDARD FIELD PROCEDURES FOR MONITORING WELL INSTALLATION

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

DRILLING AND SAMPLING

Objectives

Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Professional Geologist (PG).

Soil Boring and Sampling

Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Prior to drilling, the first 8 ft of the boring are cleared using an air or water knife and vacuum extraction. This minimizes the potential for impacting utilities.

Soil samples are collected at least every five ft to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Analysis

Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4°C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening

One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After ten to fifteen minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

Water Sampling

Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. Equipment blanks may be analyzed if non-dedicated sampling equipment is used.

MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Well Construction and Surveying

Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 feet below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. Rinsed and graded sand corresponding to the slot size occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I, II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development

Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Groundwater Sampling

Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Waste Handling and Disposal

Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and appropriately disposed.

ATTACHMENT E
Well Survey Results

Virgil Chavez Land Surveying

721 Tuolumne Street
Vallejo, California 94590
(707) 553-2476 • Fax (707) 553-8698

January 4, 2007
Project No.: 1104-50

John Bostick
Cambria Environmental
2000 Opportunity Dr., Ste. 110
Roseville, Ca 95678

Subject: Monitoring Well Survey
Chevron Station 9-5542
11989 Dublin Boulevard
Dublin, CA

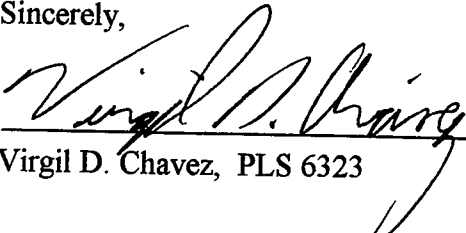
Dear John:

This is to confirm that we have proceeded at your request to survey the ground water monitoring wells located at the above referenced location. The survey was completed on January 3, 2007. The benchmark for this survey was a bronze disk established by the USGS, located under a manhole cover in the left turn lane in front of Mervyn's on Dublin Boulevard. The latitude, longitude and coordinates are for top of casings and are based on the California State Coordinate System, Zone III (NAD83).
Benchmark Elevation 347.622 feet (NGVD 29).

<u>Latitude</u>	<u>Longitude</u>	<u>Northing</u>	<u>Easting</u>	<u>Elev.</u>	<u>Desc.</u>
37.7027467	-121.9354559	2081532.97	6146401.90	364.65	RIM MW-1
				364.32	TOC MW-1
37.7026970	-121.9352393	2081513.93	6146464.28	363.16	RIM MW-4
				362.88	TOC MW-4
37.7026686	-121.9345372	2081500.45	6146667.22	358.17	RIM MW-11
				357.39	TOC MW-11



Sincerely,


Virgil D. Chavez, PLS 6323