

C A M B R I A

September 28, 2005

Mr. Barney Chan
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: **Well Destruction and Sparge Well Search**
Former Chevron Service Station 9-4816
301 14th Street
Oakland, California
Cambria Project Number 31H-2000



Dear Mr. Chan:

On behalf of Chevron Environmental Management Company (Chevron), Cambria Environmental Technology, Inc. (Cambria) is submitting this *Well Destruction and Sparge Well Search* report for the site referenced above. The former Chevron service station #9-4816 located at 301 14th Street in Oakland, CA (Figure 1) is scheduled to be redeveloped as a residential property in October of 2005.

With the permission of Alameda County Environmental Health Department (ACEHD) Cambria destroyed ten groundwater monitoring wells during the week of September 19, 2005 under permit from Alameda County Department of Public Works (ACDPW). On September 21, 2005, four onsite monitoring wells (Figure 2) were destroyed by over drilling, removing the polyvinylchloride piping (PVC), and tremie grouting the overdrilled boring. On September 23, 2005, six offsite monitoring wells located in the public right-of-way on 14th Street and Harrison Street were destroyed (Figure 2). The offsite wells were grouted by pressurizing the well per ACDPW standards with 25 pounds per square inch (psi) for five minutes. The boring was then filled to ground surface with grout. After destruction the well vaults were removed and the surrounding asphalt/concrete was replaced to Oakland City Standards. Well Construction forms and well destruction permits are attached as Appendix A.

At the request of ACEHD, ICES Environmental (ICES) obtained the services of a backhoe and trenched the area onsite in search of six sparge-wells. Cambria and ICES could find no evidence of either their presence or subsequent destruction. A total of six trenches to two feet below ground surface were dug in the identified sparge-well locations. Photos of trenching activities are attached as Appendix B.

Cambria
Environmental
Technology, Inc.

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

Mr. Barney Chan
September 28, 2005

C A M B R I A

The owners of this site (Kansai Development, Inc.) would like to begin construction October 1, 2005. If development activities encounter evidence of undestroyed sparge-wells, Cambria will mobilize to the site and properly permit and destroy the wells. With this submittal, Cambria requests documentation of case closure from ACEHD. If you have any questions or concerns regarding the well destruction, or this report, please contact Laura Genin at (510) 420-3367.



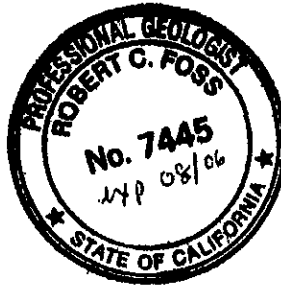
Sincerely
Cambria Environmental Technology, Inc.

Laura Genin

Laura Genin
Senior Staff Geologist

Robert Foss

Robert Foss, P.G. #7445
Associate Geologist

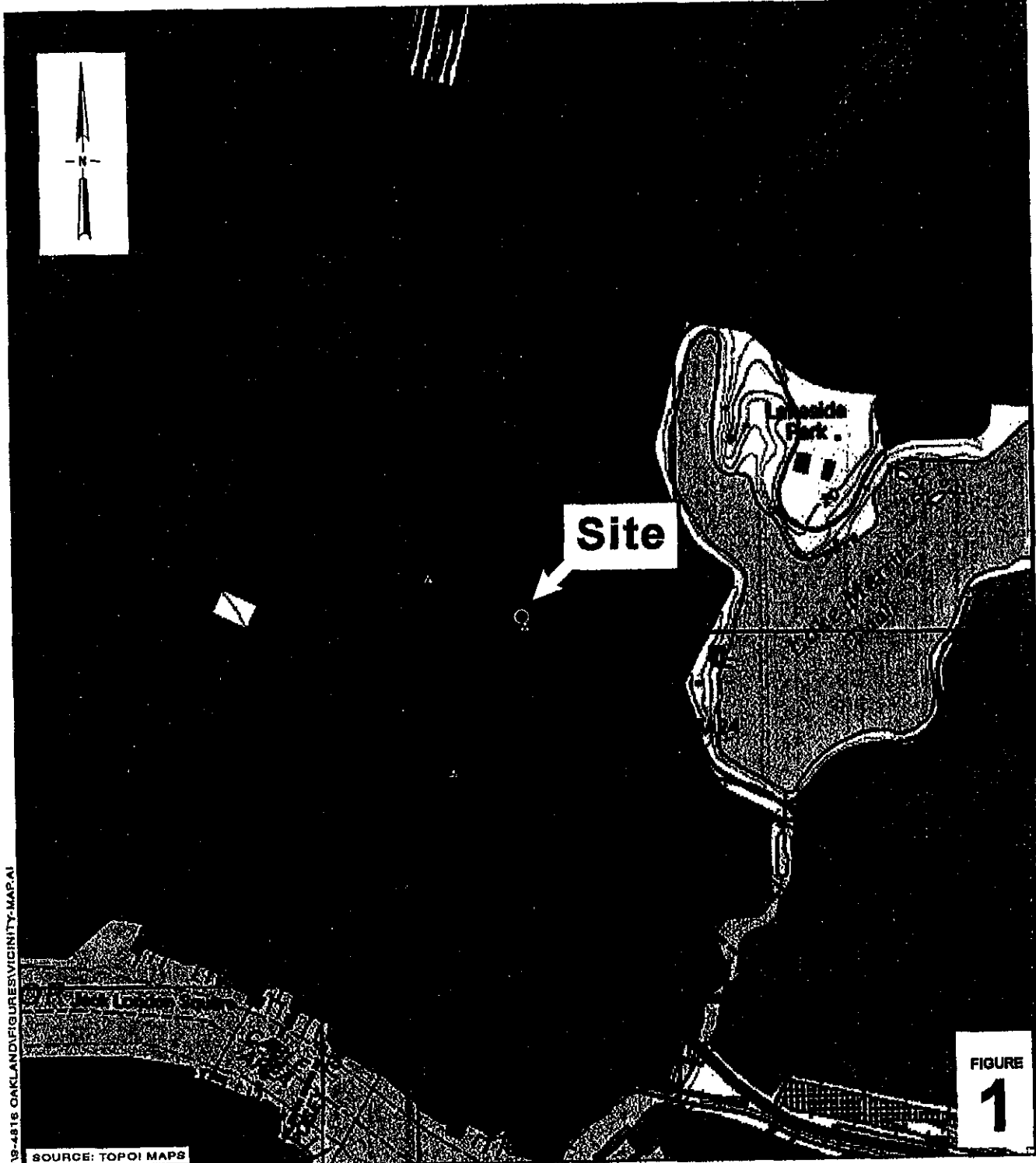


Figures: 1 – Site Vicinity Map
 2 – Site Plan

Appendix: A – Well Construction Details and Well Destruction Permits
 B – Photographs of Trenching Activities

cc: Chevron Strata Database
 Mr. Derek Wong, ICES Environmental, P.O. Box 99288 Emeryville, CA 94662

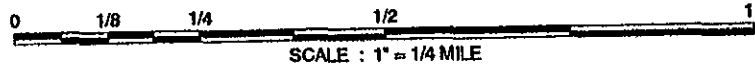
FIGURES



1:19-4816 OAKLAND FIGURES VICINITY-MAP.A1

SOURCE: TOPOI MAPS

FIGURE
1



Former Chevron Station 9-4816
301 14th Street
Oakland, California



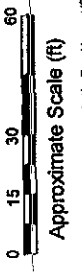
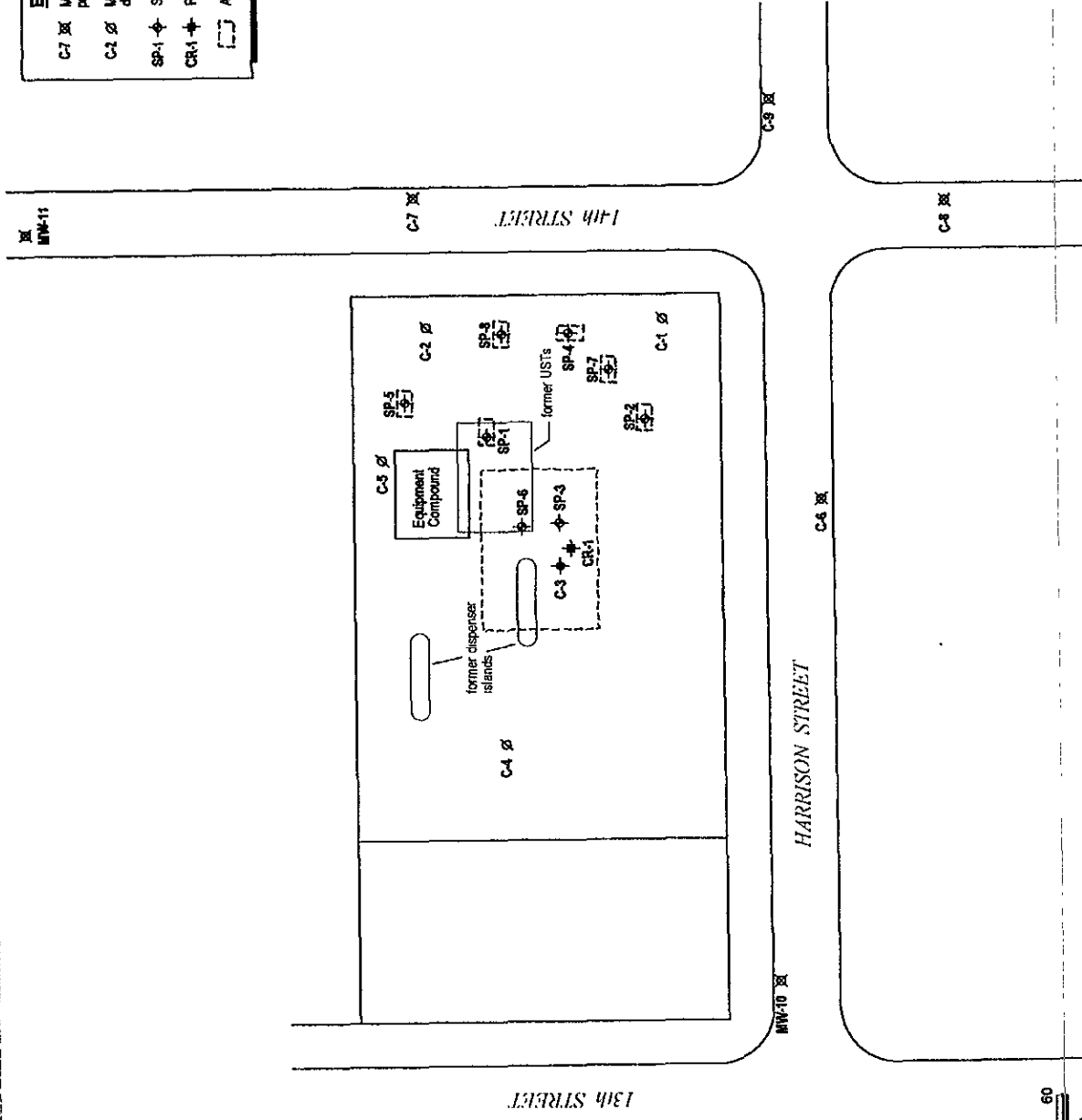
C A M B R I A

Vicinity Map



FIGURE 2

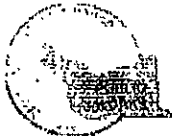
EXPLANATION	
C-1 ☒	Monitoring well destroyed by pressure grout on 09/23/05
C-2 ☒	Monitoring well destroyed by drill out on 09/21/05
SP-1 ☐	Sparge well location
CR-1 ☐	Recovery well location
[---]	Approximate area of excavation



Baseline modified from drawing provided by TerraVex and ICS

16-416 OAKLAND/FORMER-CHEV-11-1876/1/05

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: 08/22/2005 By Jamesy
Permits Issued: W2005-0820 to W2005-0829

Receipt Number: WR2005-2066
Permits Valid from 09/20/2005 to 09/26/2005

Application Id: 1124493800618
Site Location: 301 14th Street, Oakland, CA 94606 (former Chevron Service Sta.)
Project Start Date: 09/20/2005

City of Project Site:Oakland
Completion Date:09/26/2005

Applicant: Cambria Environmental - Laura Genin
5900 Hollis Street, Suite A, Emeryville, CA 94662

Phone: 510-420-3367

Property Owner: Kansai Dev't
755 Sansome St., San Francisco, CA 94111

Phone: 415-394-7555

Client: ** same as Property Owner **
Contact: Laura Genin

Phone: --
Cell: 510-420-3367

Total Due: \$3000.00
Total Amount Paid: \$3000.00
Paid By: CHECK PAID IN FULL

Works Requesting Permits:

Well Destruction-Monitoring - 10 Wells

Driller: Gregg Drilling - Lic #: 485165 - Method: auger

Work Total: \$3000.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth	State Well #	Orig. Permit #	DWR #
W2005-0820	08/22/2005	11/27/2005	C1	8.00 in	2.00 in.	5.00 ft	30.00 ft			
W2005-0821	08/22/2005	11/27/2005	C2	8.00 in.	2.00 in.	5.00 ft	30.00 ft			
W2005-0822	08/22/2005	11/27/2005	C4	8.00 in.	2.00 in	5.00 ft	30.00 ft			
W2005-0823	08/22/2005	11/27/2005	C5	8.00 in.	2.00 in.	5.00 ft	30.00 ft			
W2005-0824	08/22/2005	11/27/2005	C6	8.00 in.	2.00 in.	5.00 ft	30.00 ft			
W2005-0825	08/22/2005	11/27/2005	C7	8.00 in.	2.00 in.	5.00 ft	30.00 ft			
W2005-0826	08/22/2005	11/27/2005	C8	8.00 in.	2.00 in.	5.00 ft	30.00 ft			
W2005-0827	08/22/2005	11/27/2005	C9	8.00 in.	2.00 in.	5.00 ft	30.00 ft			
W2005-0828	08/22/2005	11/27/2005	MW10	8.00 in.	2.00 in.	5.00 ft	30.00 ft			
W2005-0829	08/22/2005	11/27/2005	MW11	8.00 in.	2.00 in.	5.00 ft	30.00 ft			

Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibilities 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. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with

Alameda County Public Works Agency - Water Resources Well Permit

appropriate State reporting-requirements related to well 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.

3. 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, liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.

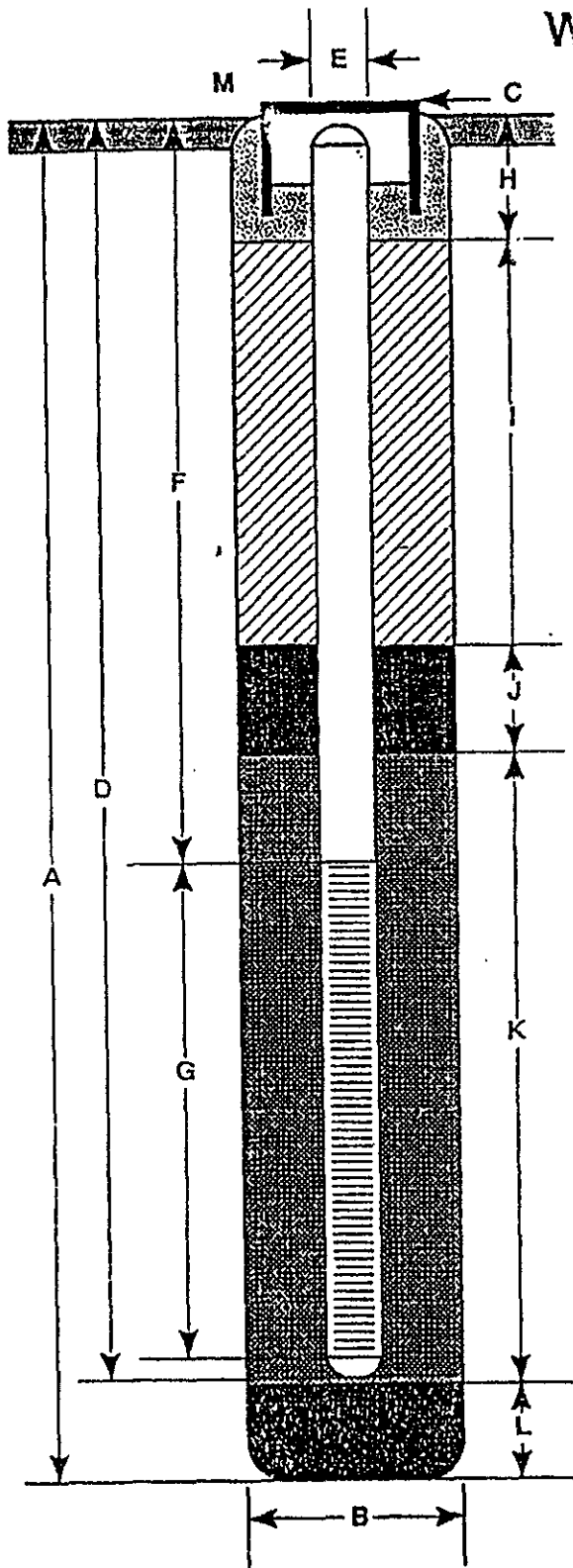
4. Permittee, permittee's, contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable 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.

5. Tremie Grout with Cement (More than 30 ft in depth)

6. Applicant shall contact Johnson Tang for a inspection time at 510-670-6450 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. Applicant shall submit the copies of the approved encroachment permit(s) to this office within 60 days.

WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 35 ft.
- B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger
- C Top of Box Elevation 30.82 ft.
 Referenced to Mean Sea Level
 Referenced to Project Datum
- D Casing Length 33.5 ft.
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 18.5 ft.
- G Perforated Length 15 ft.
Perforated Interval from 18.5 to 33.5 ft.
Perforation Type Factory Slot
Perforation Size 0.020 in.
- H Surface Seal from 0.0 to 1.5 ft.
Seal Material Cement Grout
- I Backfill from 1.5 to 14.5 ft.
Backfill Material Concrete Grout
- J Seal from 14.5 to 16.5 ft.
Seal Material Bentonite Pellets
- K Gravel Pack from 16.5 to 33.5 ft.
Pack Material Lonestar #2/12 Sand
- L Bottom Seal 1.5 ft.
Seal Material Bentonite Pellets
- M Christy box with locking well cap.

Note: Depths measured from initial ground surface.

Well Construction Detail

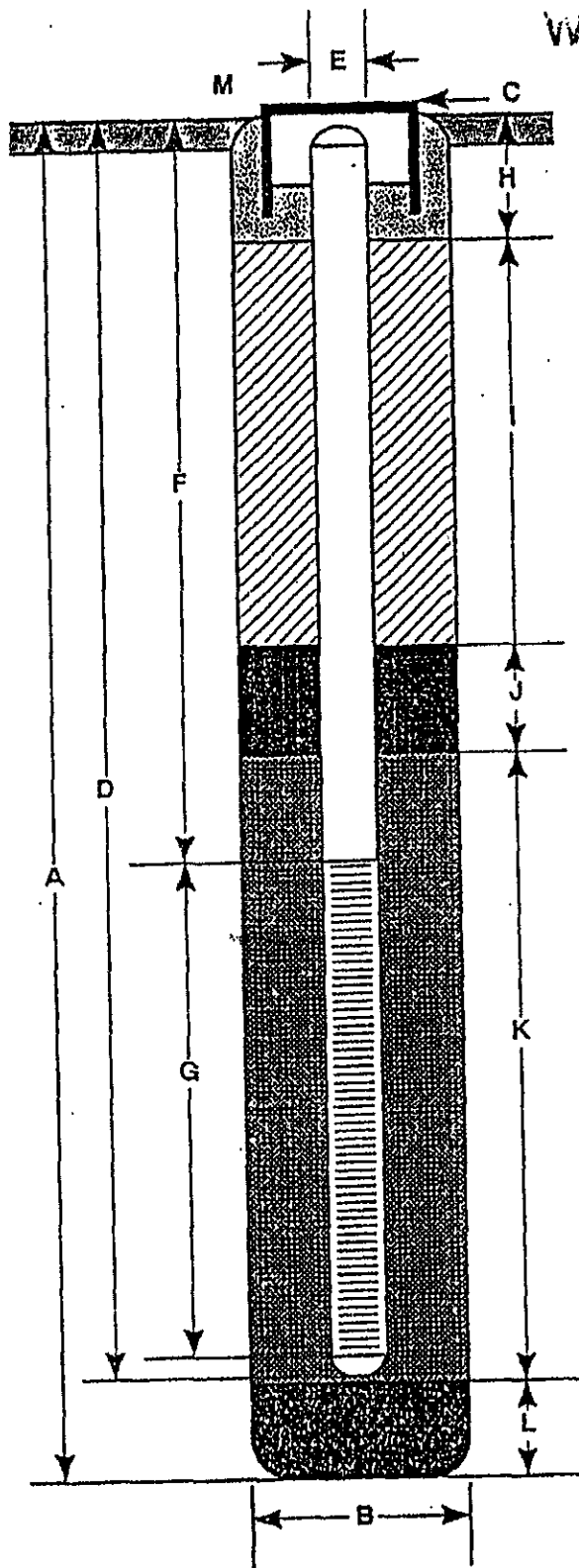
WELL NO



GeoStrategies Inc.

C-1

WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 35 ft.
- B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger
- C Top of Box Elevation 30.91 ft.
 Referenced to Mean Sea Level
 Referenced to Project Datum
- D Casing Length 33 ft.
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 18 ft.
- G Perforated Length 15 ft.
Perforated Interval from 18 to 23 ft.
Perforation Type Factory Slot
Perforation Size 0.020 in.
- H Surface Seal from 0.0 to 1.5 ft.
Seal Material Cement Grout
- I Backfill from 1.5 to 14 ft.
Backfill Material Concrete Grout
- J Seal from 14 to 16 ft.
Seal Material Bentonite Pellets
- K Gravel Pack from 16 to 33 ft.
Pack Material Lonestar #2/12 Sand
- L Bottom Seal 2 ft.
Seal Material Bentonite Pellets
- M Christy box with locking well cap.

Note: Depths measured from initial ground surface.



GeoStrategies Inc.

Well Construction Detail

WELL NO.

C-2

JOB NUMBER
7270

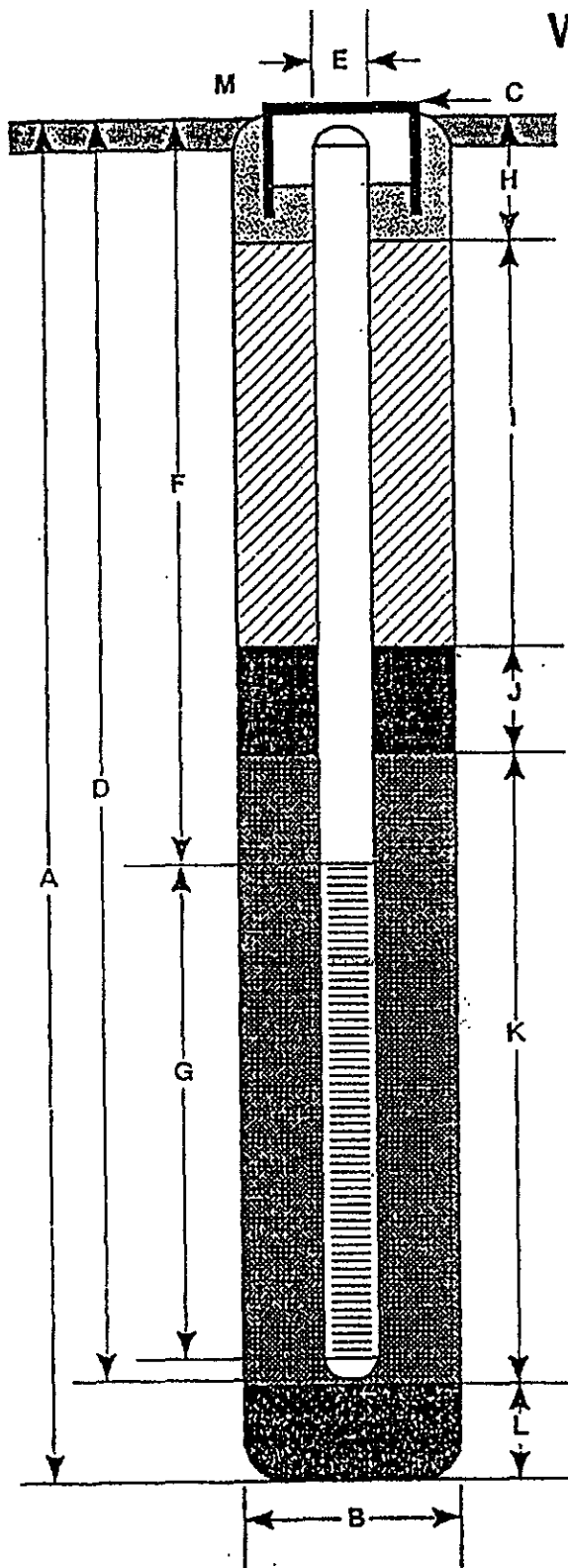
REVIEWED BY RG/CEG
DWP cell 1262

DATE
06/90

REVISED DATE

REVISED DATE

WELL CONSTRUCTION DETAIL



- A Total Depth of Boring _____ 35 ft.
- B Diameter of Boring _____ 8 in.
Drilling Method _____ Hollow Stem Auger
- C Top of Box Elevation _____ 31.42 ft.
 Referenced to Mean Sea Level
 Referenced to Project Datum
- D Casing Length _____ 33 ft.
Material _____ Schedule 40 PVC
- E Casing Diameter _____ 2 in.
- F Depth to Top Perforations _____ 18 ft.
- G Perforated Length _____ 15 ft.
Perforated Interval from _____ 18 to _____ 33 ft.
Perforation Type _____ Factory Slot
Perforation Size _____ 0.020 in.
- H Surface Seal from _____ 0.0 to _____ 1.5 ft.
Seal Material _____ Cement Grout
- I Backfill from _____ 1.5 to _____ 14 ft.
Backfill Material _____ Concrete Grout
- J Seal from _____ 14 to _____ 16 ft.
Seal Material _____ Bentonite Pellets
- K Gravel Pack from _____ 16 to _____ 33 ft.
Pack Material _____ Lonestar #2/12 Sand
- L Bottom Seal _____ 2 ft.
Seal Material _____ Bentonite Pellets
- M _____ Christy box with locking well cap.

Note: Depths measured from initial ground surface.

Well Construction Detail

WELL NO.

C-4



GeoStrategies Inc.

JOB NUMBER
7270

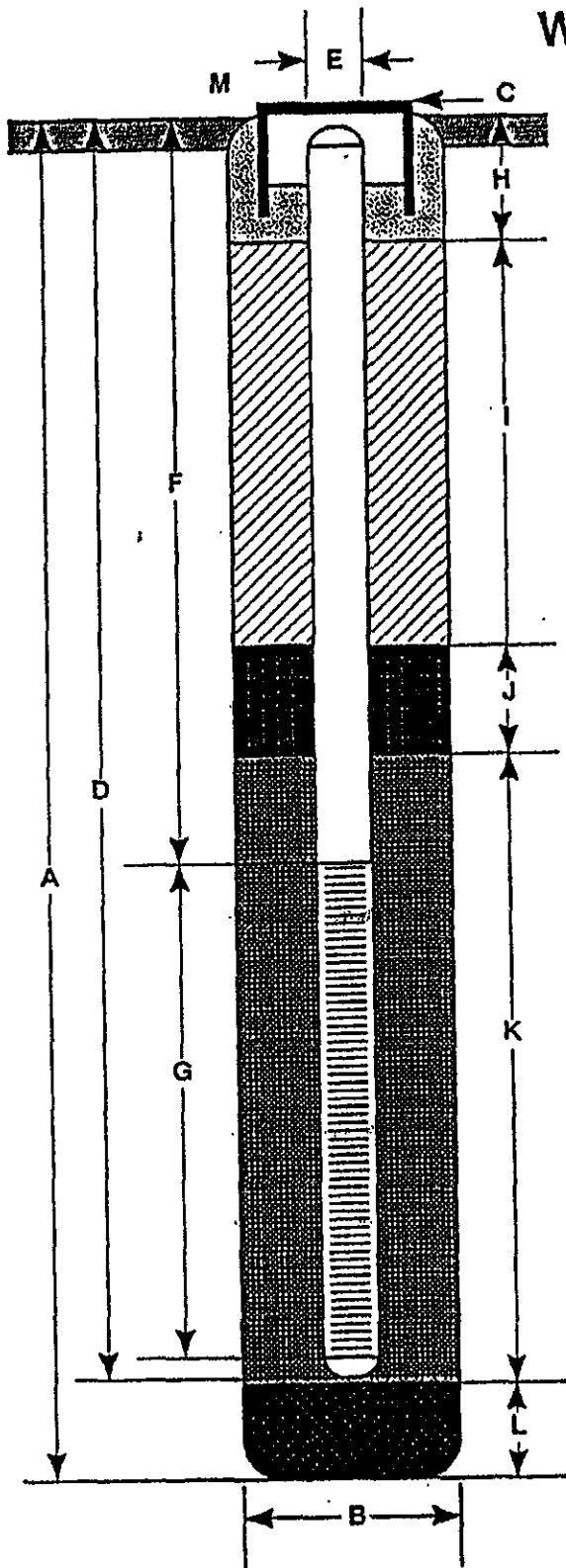
REVIEWED BY RGCEG
CMB/ck/12/02

DATE
06/90

REVISED DATE

REVISED DATE

WELL CONSTRUCTION DETAIL



- A Total Depth of Boring _____ 36 ft.
- B Diameter of Boring _____ 8 in.
Drilling Method _____ Hollow Stem Auger
- C Top of Box Elevation _____ 31.25 ft.
 Referenced to Mean Sea Level
 Referenced to Project Datum
- D Casing Length _____ 34 ft.
Material _____ Schedule 40 PVC
- E Casing Diameter _____ 2 in.
- F Depth to Top Perforations _____ 18 ft.
- G Perforated Length _____ 16 ft.
Perforated Interval from _____ 18 to _____ 34 ft.
Perforation Type _____ Factory Slot
Perforation Size _____ 0.020 in.
- H Surface Seal from _____ 0 to _____ 1.5 ft.
Seal Material _____ Cement Grout
- I Backfill from _____ 1.5 to _____ 14 ft.
Backfill Material _____ Cement Grout
- J Seal from _____ 14 to _____ 16 ft.
Seal Material _____ Bentonite Pellets
- K Gravel Pack from _____ 16 to _____ 34 ft.
Pack Material _____ Lonestar #2/12 Sand
- L Bottom Seal _____ 2 ft.
Seal Material _____ Native Material
- M _____ Vault box with locking cap and cover.

Note: Depths measured from initial ground surface.



GeoStrategies Inc.

Well Construction Detail

WELL NO.

C-5

JOB NUMBER

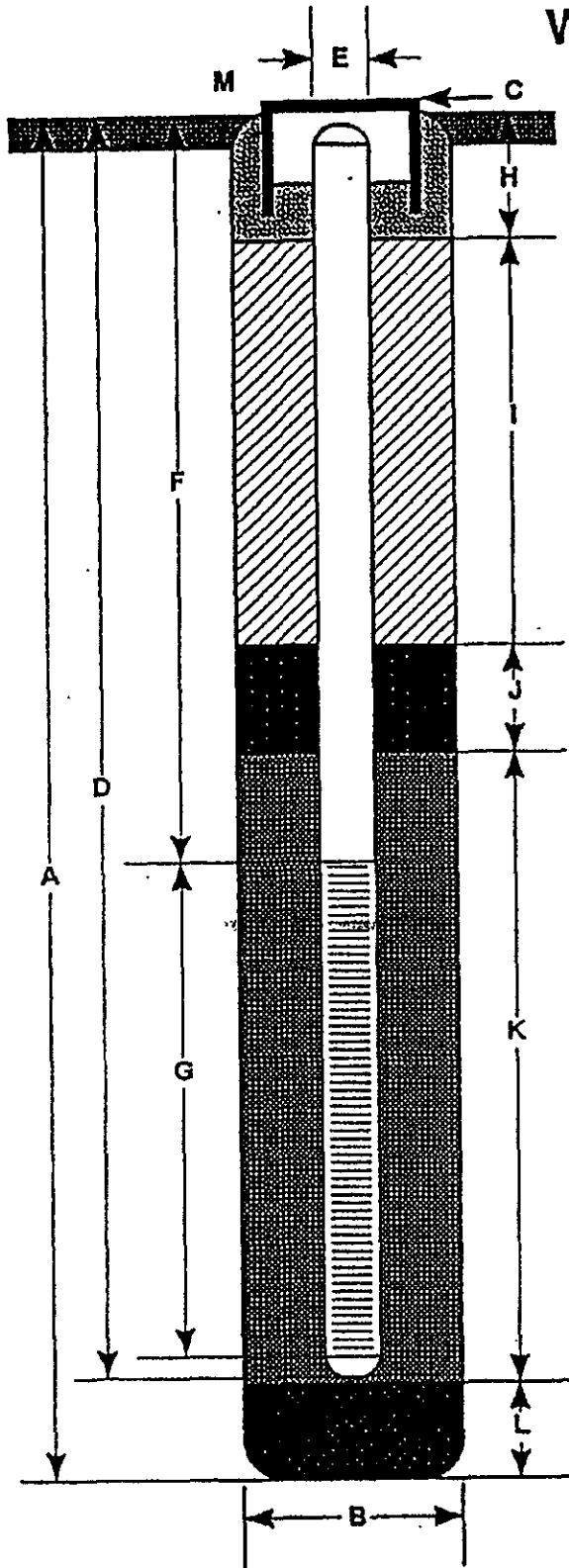
REVIEWED BY RG/CEG

DATE

REVISED DATE

REVISED DATE

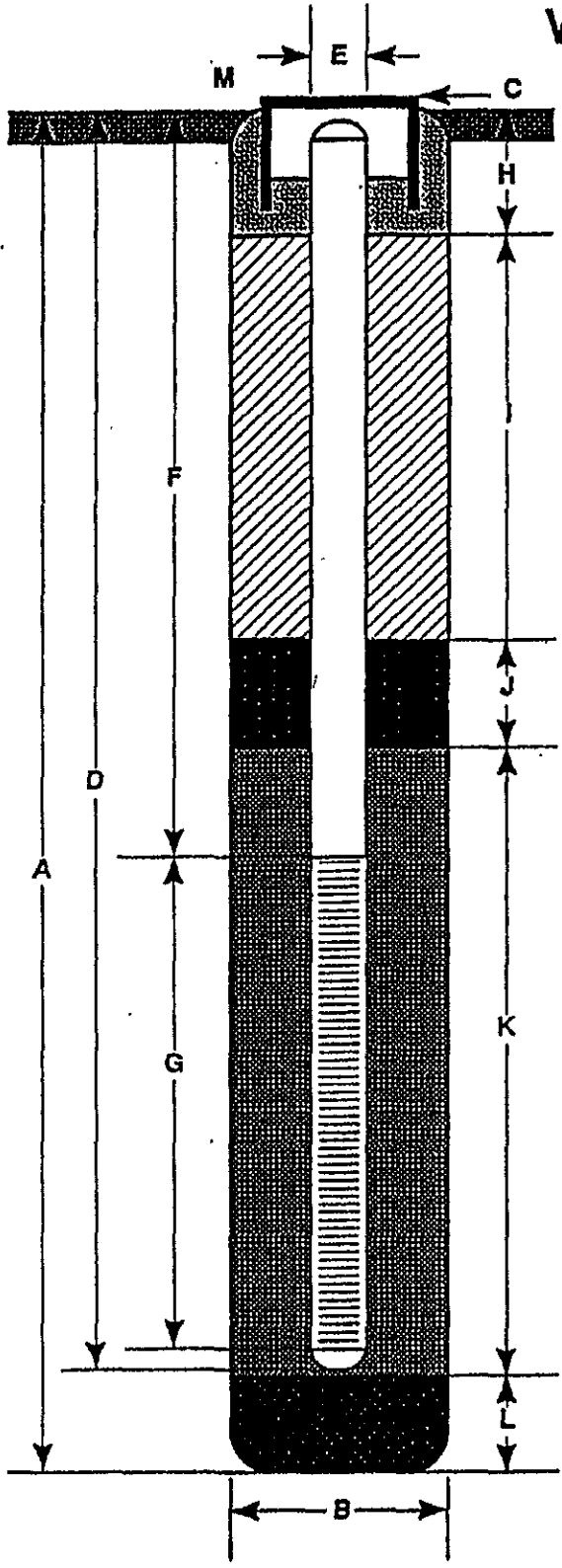
WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 35.5 ft.
- B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger
- C Top of Box Elevation 30.41 ft.
 Referenced to Mean Sea Level
 Referenced to Project Datum
- D Casing Length 29.5 ft.
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 14.5 ft.
- G Perforated Length 15 ft.
Perforated Interval from 14.5 to 29.5 ft.
Perforation Type Factory slotted
Perforation Size 0.020 in.
- H Surface Seal from 0 to 1.5 ft.
Seal Material Concrete
- I Backfill from 1.5 to 10.5 ft.
Backfill Material Cement Grout
- J Seal from 10.5 to 12.5 ft.
Seal Material Bentonite Pellets
- K Gravel Pack from 12.5 to 30 ft.
Pack Material Lonestar #2/12 graded sand
- L Bottom Seal ft.
Seal Material
- M Traffic-rated vault box with locking cap, lock and cover.

Note: Depths measured from initial ground surface.

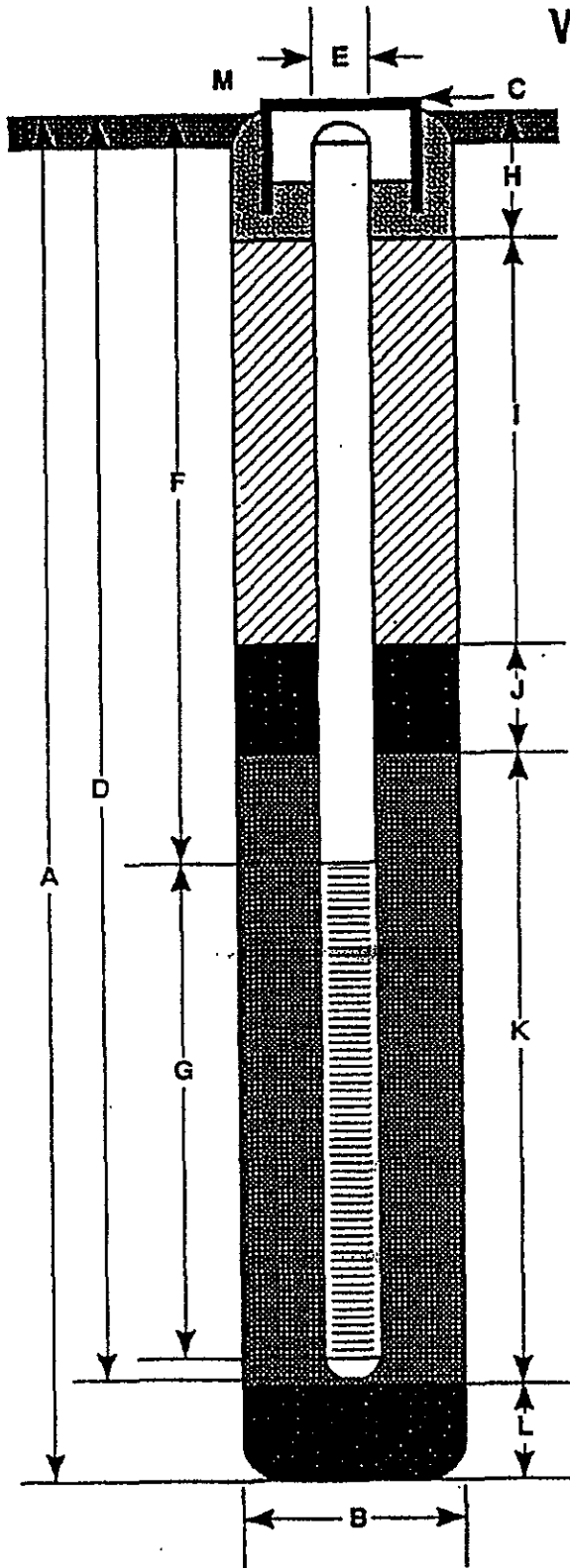
WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 35.5 ft.
- B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger
- C Top of Box Elevation 30.56 ft.
 Referenced to Mean Sea Level
 Referenced to Project Datum
- D Casing Length 35 ft.
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 15 ft.
- G Perforated Length 20 ft.
Perforated Interval from 15 to 35 ft.
Perforation Type Factory slotted
Perforation Size 0.020 in.
- H Surface Seal from 0 to 1.5 ft.
Seal Material Concrete
- I Backfill from 1.5 to 11 ft.
Backfill Material Cement Grout
- J Seal from 11 to 13 ft.
Seal Material Bentonite Pellets
- K Gravel Pack from 13 to 35.5 ft.
Pack Material Lonestar #2/12 graded sand
- L Bottom Seal _____ ft.
Seal Material _____
- M Traffic-rated vault box with locking cap, lock and cover.

Note: Depths measured from initial ground surface.

WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 35.5 ft.
- B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger
- C Top of Box Elevation 30.12 ft.
 Referenced to Mean Sea Level
 Referenced to Project Datum
- D Casing Length 35 ft.
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 15 ft.
- G Perforated Length 20 ft.
Perforated Interval from 15 to 35 ft.
Perforation Type Factory slotted
Perforation Size 0.020 in.
- H Surface Seal from 0 to 1.5 ft.
Seal Material Concrete
- I Backfill from 1.5 to 11 ft.
Backfill Material Cement Grout
- J Seal from 11 to 13 ft.
Seal Material Bentonite pellets
- K Gravel Pack from 13 to 35.5 ft.
Pack Material Lonestar #2/12 graded sand
- L Bottom Seal _____ ft.
Seal Material _____
- M Traffic-rated vault box with locking cap, lock and cover.

Note: Depths measured from initial ground surface.



GeoStrategies Inc.

Well Construction Detail

WELL NO.

C-8

JOB NUMBER
727002

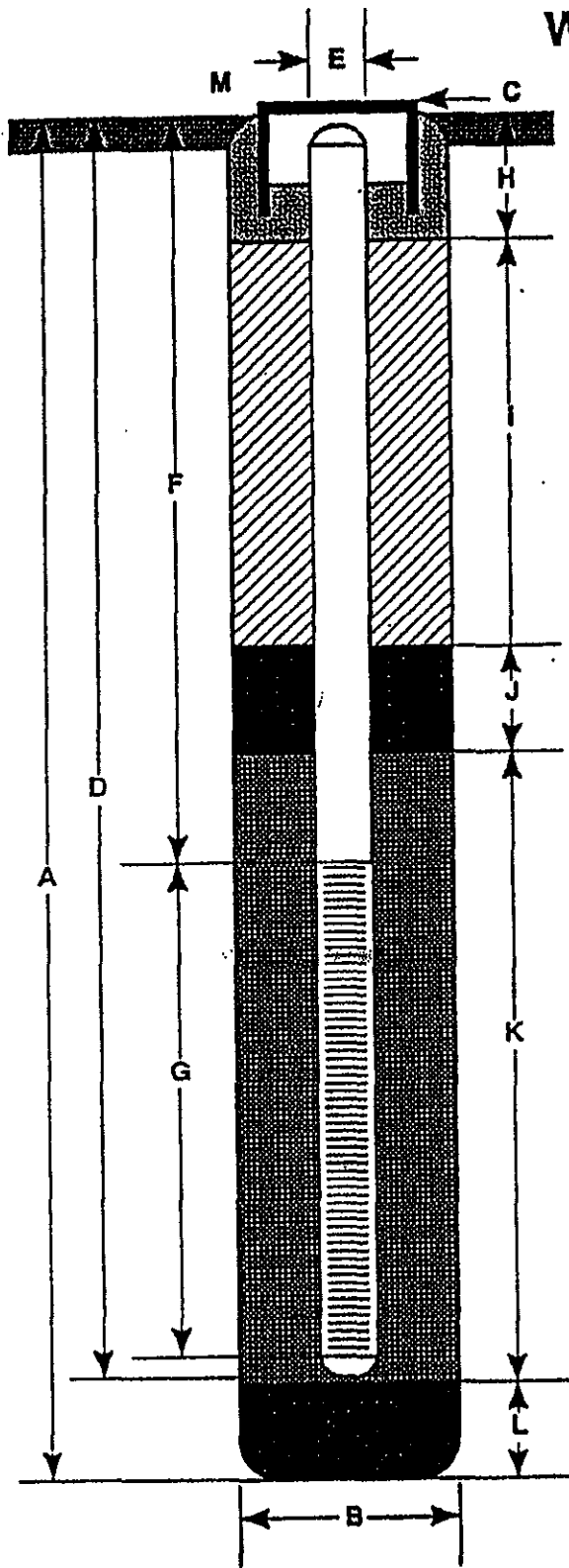
REVIEWED BY RG/CEG
DHP

DATE
4/91

REVISED DATE

REVISED DATE

WELL CONSTRUCTION DETAIL



- A Total Depth of Boring 35.5 ft.
- B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger
- C Top of Box Elevation 30.15 ft.
 Referenced to Mean Sea Level
 Referenced to Project Datum
- D Casing Length 34 ft.
Material Schedule 40 PVC
- E Casing Diameter 2 in.
- F Depth to Top Perforations 15 ft.
- G Perforated Length 19 ft.
Perforated Interval from 15 to 34 ft.
Perforation Type Factory slotted
Perforation Size 0.020 in.
- H Surface Seal from 0 to 1.5 ft.
Seal Material Concrete
- I Backfill from 1.5 to 11 ft.
Backfill Material Cement Grout
- J Seal from 11 to 13 ft.
Seal Material Bentonite Pellets
- K Gravel Pack from 13 to 35.5 ft.
Pack Material Lonestar #2/12 graded sand
- L Bottom Seal _____ ft.
Seal Material _____
- M Traffic-rated vault box with locking cap, lock and cover.

Note: Depths measured from initial ground surface.

Well Construction Detail

WELL NO.



GeoStrategies Inc.

C-9

JOB NUMBER
727002

REVIEWED BY RQ/CEG
DHP

DATE
4/91

REVISED DATE

REVISED DATE

Drilling Log

Monitoring Well MW-10



**GROUNDWATER
TECHNOLOGY**

Project CHV/301 14th Street Owner CHEVRON U.S.A. Products Company
 Location Oakland, California Project No. 02020 2748 Date drilled 06/11/92
 Surface Elev. _____ Total Hole Depth 35 ft. Diameter 8 inches ft.
 Top of Casing 31.59 ft. Water Level Initial 23 ft. Static 21.72 ft.
 Screen: Dia 2 in. Length 20 ft. Type/Size 0.020 in.
 Casing: Dia 2 in. Length 15 ft. Type SCH 40 PVC
 Filter Pack Material Lapis Lustre 2/12 Rig/Core Type Mobile B-53/split spoon
 Drilling Company Kvitthaug Well Drilling Method Hollow stem auger Permit # 92284
 Driller Mike Crocker Log By Steve Kranyak
 Checked By Dave Kleesattel License No. RG# 5136

See Site Map
For Boring Location

COMMENTS:

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure)
						Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0						Brown silty fine SAND with clay (loose, moist, no hydrocarbon odor)
2					SM	
4						
6		0				
8						Brown sandy CLAY/clayey SAND with trace silt (soft, moist, no hydrocarbon odor)
10		0	A		CL SC	
12						Brown silty fine SAND with clay (loose, wet, no hydrocarbon odor)
14						
16		0	B			
18					SM	
20		0	C			Brown silty fine SAND (loose, wet, no hydrocarbon odor)
22						Static water level
23						Encountered groundwater at 23 feet (06/11/92)
24					SP	

Drilling Log

Monitoring Well MW-10



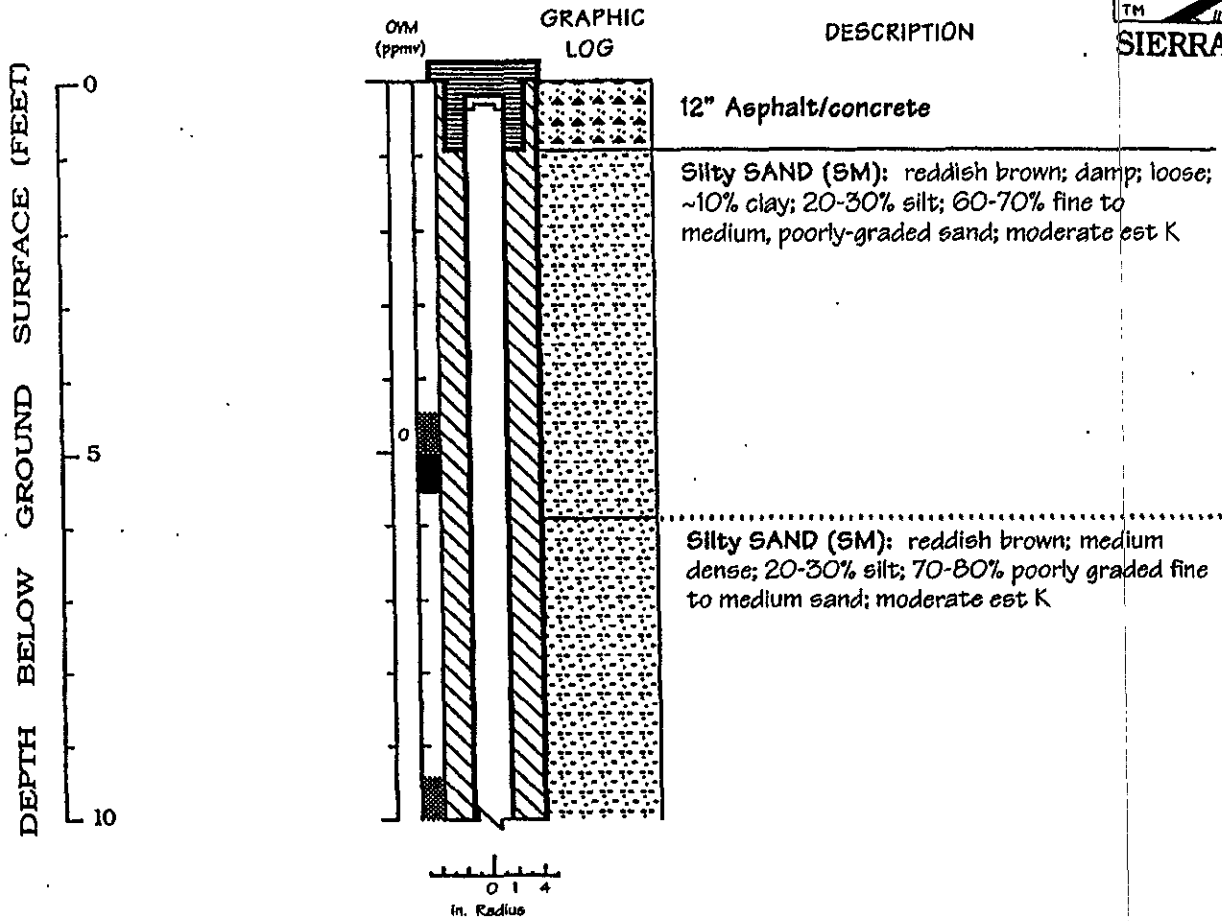
**GROUNDWATER
TECHNOLOGY**

Project CHV/301 14th Street
Location Oakland, California

Owner CHEVRON U.S.A. Products Company
Project No. 02020 2748 Date drilled 06/11/92

Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
24		0	D		SP	Brown fine SAND (loose, wet, no hydrocarbon odor)
26						
28						
30						
32	0	E		SP	End of boring at 35 feet. Installed groundwater monitoring well.	
34	0	F				
36						
38						
40						
42						
44						
46						
48						
50						
52						
54						
56						

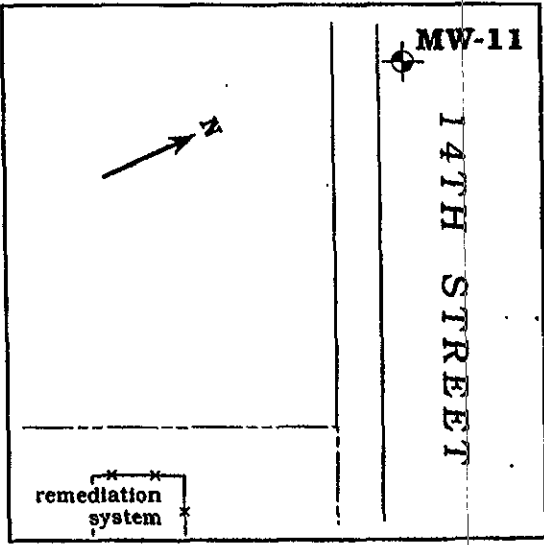
WELL MW-11



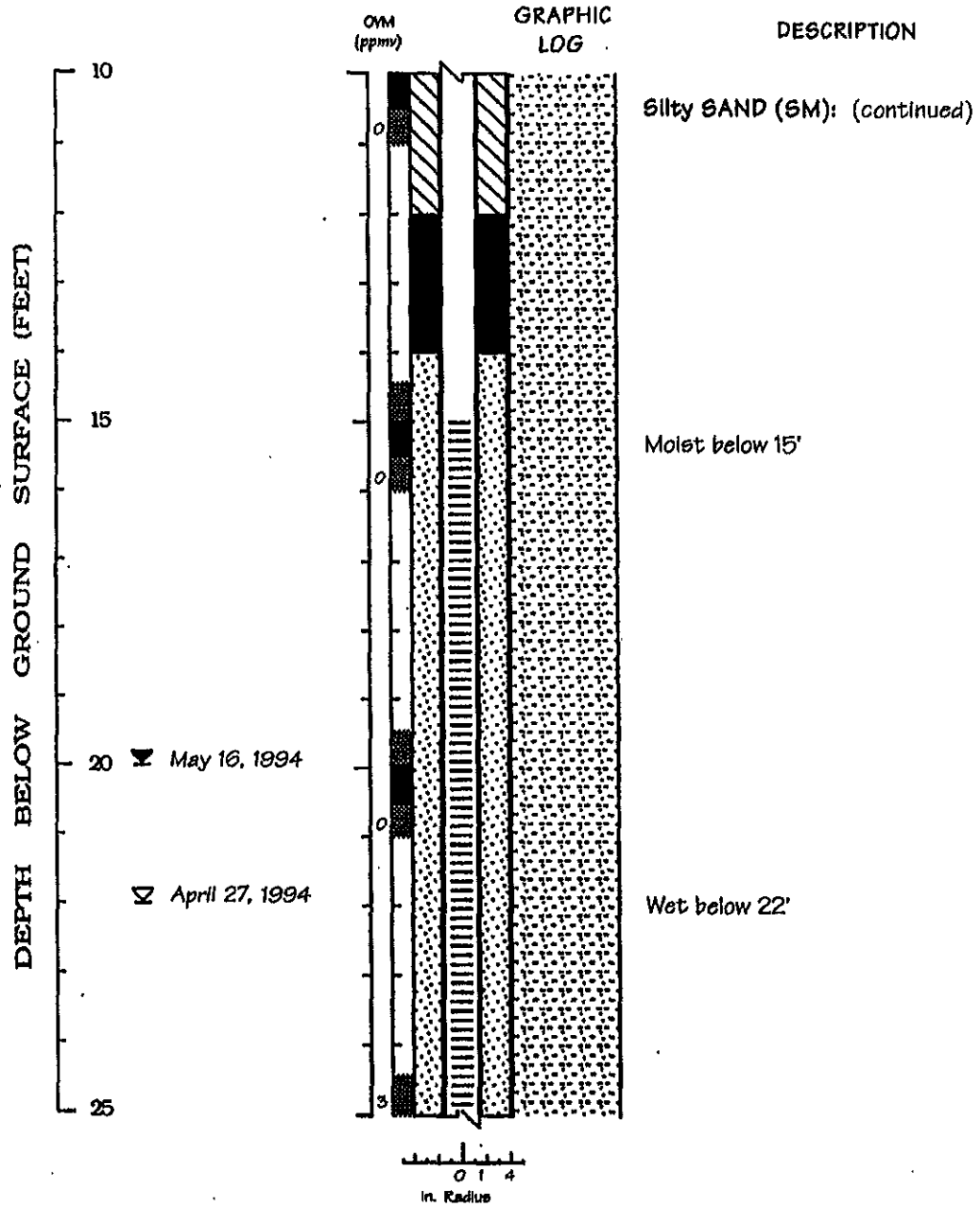
**Well Construction and Boring Log -
Well MW-11**

Former Chevron Service Station
#9-4816
301 14th Street
Oakland, California

Logged by: Carol Eaton
Supervisor: C. Bramer P.E. #C48846
Drilling Company: Soils Exploration Services
C-57#: 582696
Driller: Mike Duffy
Drilling Method: Hollow stem auger
Date Drilled: April 27, 1994
Well Head Completion: Locking cap & traffic-rated vault
Type of sampler: Split barrel (2" ID)



WELL MW-11 (continued)



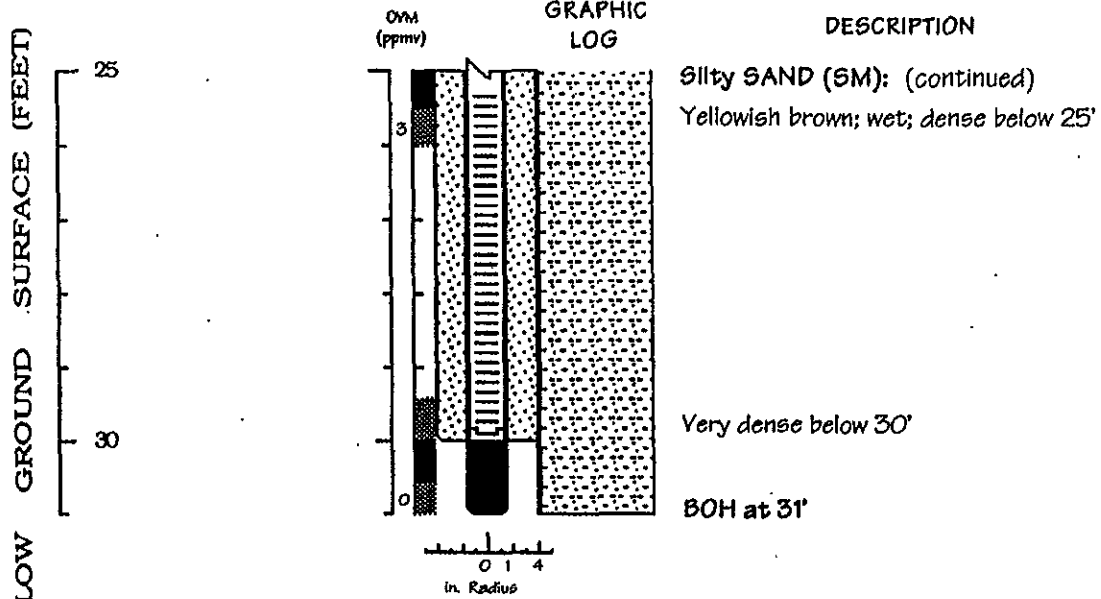
Well Construction and Boring Log - Former Chevron Service Station #9-4816
 Well MW-11
 301 14th Street
 Oakland, California

WELL MW-11

(continued)



SIERRA



Well Construction and Boring Log - Former Chevron Service Station #9-4816
Well MW-11
301 14th Street
Oakland, California



Photo 1: Excavator rig trenching in area of SP-4.



Photo 2: Trenched areas around the site facing northwest.



Photo 3: Trenched areas around site facing north.