



**Weiss Associates**

5500 Shellmound Street, Emeryville, CA 94608-2411

*Environmental and Geologic Services*

Fax: 510-547-5043 Phone: 510-450-6000

February 27, 1996

Wyman Hong  
Permit Coordinator  
Zone 7 Water Agency  
5997 Parkside Drive  
Pleasanton, California 94588

Site: ALA 2160  
Proj.  Rem.  Rpt.  BHI   
1  2  3  4  5  6

RE: Ground Water Monitoring Well Abandonment  
Shell Service Station  
2160 Otis Drive  
Alameda, California  
WIC #204-0072-0502  
WA Job #81-0429-7

Dear Mr. Hong:

On behalf of Shell Oil Products Company (Shell), on February 15, 1996 Weiss Associates (WA) directed the abandonment of ground water monitoring wells MW-1, MW-2 and S-1 at the Shell site referenced above. This work was conducted with authorization from your agency. Gregg Drilling and Testing, Inc. of Martinez, California (License #C-57, 485165) abandoned the wells according to specification outlined in the California Department of Water Resources Bulletin 74.

The wells were abandoned using the pressure grouting method. Before abandonment of each well, the well vaults were jackhammered out. A cement grout slurry was pumped through a tremie hose so that each casing was grouted from the bottom of the casing to ground surface in one continuous operation. Once the grout reached the top of the casing, a pressure grouting attachment was placed in the casing and grout was pumped in under pressure in order to seal the slotted casing and filter pack. The grout slurry consisted of Portland Type I, II cement mixed with 3 to 5% bentonite powder. Once the pressure grouting was completed, concrete was mixed and used to top off the remainder of the former well location.



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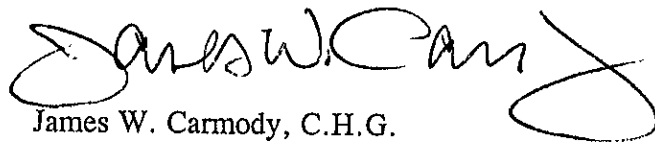
2

As required, the Department of Water Resources Well Completion Report and boring logs are included with this letter.

WA trusts that this submittal is complete and meets your needs. Please call Brian Busch at (510) 450-6000 if you have any questions or comments regarding this project.



Sincerely,  
Weiss Associates



James W. Carmody, C.H.G.  
Senior Project Hydrogeologist

Enclosures: DWR Well Completion Report  
Boring Logs

JWC:bb

J:\SHELL\0429\CORRENT\96WELLARD1.DOC

cc: R. Jeff Granberry, Shell Oil Products Company, P.O. Box 4023, Concord, California 94524  
Juliet Shin, Alameda County Health Agency Department of Environmental Health, 1131 Harbor Bay Parkway #250, Alameda, CA 94502.

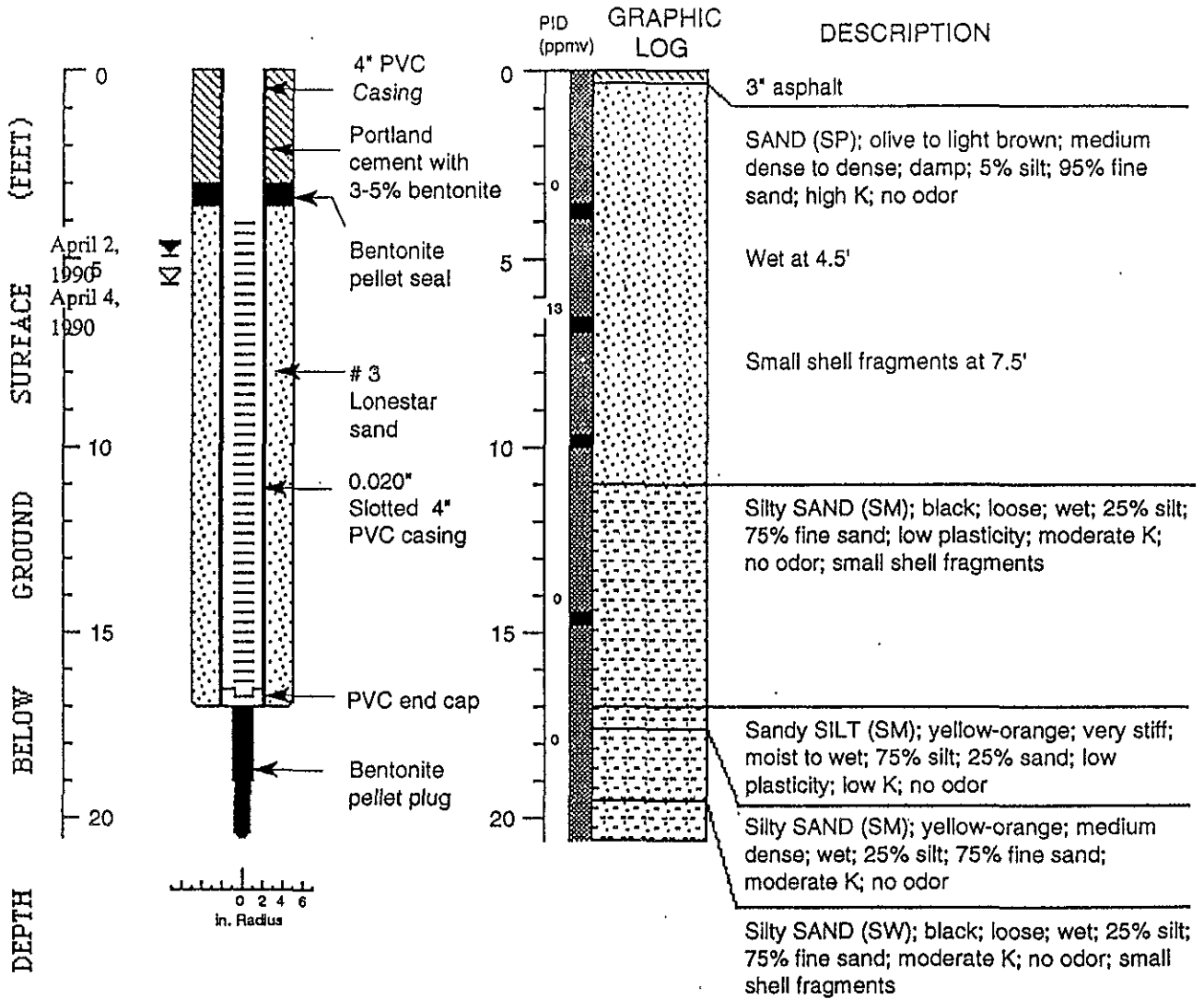
**CONFIDENTIAL**

STATE OF CALIFORNIA DWR  
WELL COMPLETION REPORT  
(WELL LOGS)

**REMOVED**



### WELL MW-1 (BH-A)



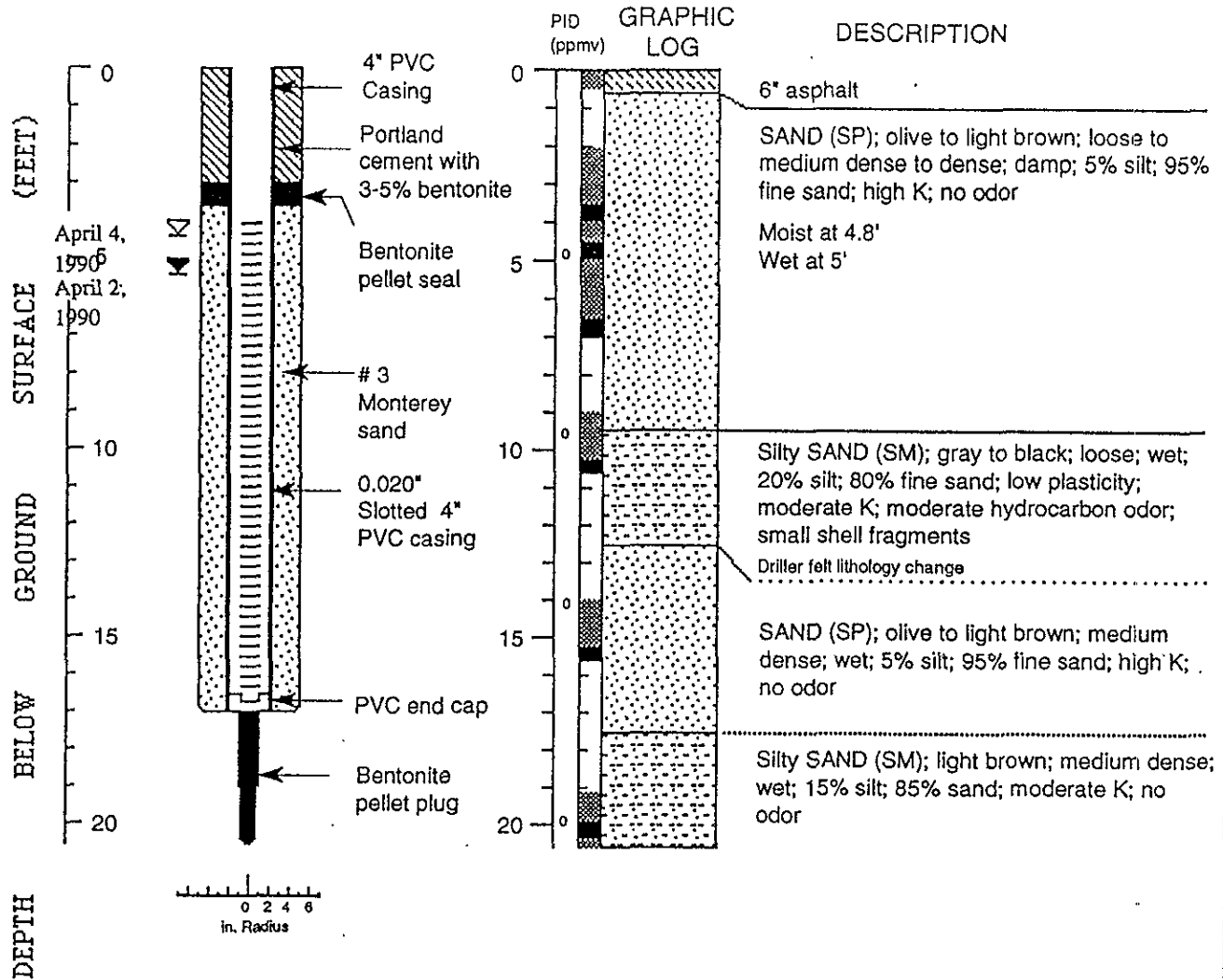
#### EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Uncertain contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K** = Estimated hydraulic conductivity

Logged by: Robert Kitay  
 Supervisor: Richard Weiss; EG 1112  
 Drilling Company: Soil Exploration Services  
 Driller: Russ Ellis  
 Drilling Method: Hollow stem auger  
 Date Drilled: April 2, 1990  
 Well Head Completion: Locking 4" plug, traffic-rated vault  
 Type of sampler: Split-barrel (2.0")  
 Ground Surface Elevation: 6.47 ft above msl



### WELL MW-2 (BH-B)



#### EXPLANATION

- Water level during drilling (date)
- Water level (date)
- Contact (dotted where approx.)
- Uncertain contact
- Location of recovered drive sample
- Location of drive sample sealed for chemical analysis
- Cutting sample
- K** = Estimated hydraulic conductivity

Logged by: Robert Kitay  
 Supervisor: Richard Weiss; EG 1112  
 Drilling Company: Soil Exploration Services  
 Driller: Russ Ellis  
 Drilling Method: Hollow stem auger  
 Date Drilled: April 2, 1990  
 Well Head Completion: Locking 4" plug, traffic-rated vault  
 Type of sampler: Split-barrel (2.0")  
 Ground Surface Elevation: 4.01 ft above msl

Well Construction and Boring Log - Well MW-2 (BH-B)

Shell Service Station  
 2160 Otis Drive  
 Alameda, California



# ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588  
 VOICE (510) 484-2600  
 FAX (510) 462-3914

## DRILLING PERMIT APPLICATION

**FOR APPLICANT TO COMPLETE**

**FOR OFFICE USE**

LOCATION OF PROJECT 2160 Otis Drive  
Alameda, CA  
(Shell Service Station)

PERMIT NUMBER 96097  
 LOCATION NUMBER 2S/4W 13G80 to 13G82

CLIENT  
 Name Shell Oil Products Company  
 Address P.O. Box 4023 Voice \_\_\_\_\_  
 City CONCORD, CA Zip 94524

### PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT  
 Name WEISS ASSOCIATES  
To BRIAN BUSCH Fax (510) 547-5043  
 Address 5500 SHELLMOUND Voice (510) 450-6189  
 City OAKLAND EMERYVILLE Zip 94608

### 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.

### B. WATER WELLS, INCLUDING PIEZOMETERS

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. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. 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.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

TYPE OF PROJECT  
 Well Construction \_\_\_\_\_  
 Cathodic Protection \_\_\_\_\_  
 Water Supply \_\_\_\_\_  
 Monitoring \_\_\_\_\_  
 Geotechnical Investigation  
 General \_\_\_\_\_  
 Contamination \_\_\_\_\_  
 Well Destruction (3) X

PROPOSED WATER SUPPLY WELL USE N/A  
 Domestic \_\_\_\_\_ Industrial \_\_\_\_\_ Other \_\_\_\_\_  
 Municipal \_\_\_\_\_ Irrigation \_\_\_\_\_

DRILLING METHOD: N/A  
 Mud Rotary \_\_\_\_\_ Air Rotary \_\_\_\_\_ Auger \_\_\_\_\_  
 Cable \_\_\_\_\_ Other \_\_\_\_\_

DRILLER'S LICENSE NO. Gregg Drilling - 485165

WELL PROJECTS  
 Drill Hole Diameter \_\_\_\_\_ in. Maximum \_\_\_\_\_  
 Casing Diameter \_\_\_\_\_ in. Depth \_\_\_\_\_ ft.  
 Surface Seal Depth \_\_\_\_\_ ft. Number \_\_\_\_\_

GEOTECHNICAL PROJECTS  
 Number of Borings \_\_\_\_\_ Maximum \_\_\_\_\_  
 Hole Diameter \_\_\_\_\_ in. Depth \_\_\_\_\_ ft.

ESTIMATED STARTING DATE 2/15/96  
 ESTIMATED COMPLETION DATE 2/16/96

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

Post-It® Fax Note	7671	Date	2-8-96	# of pages	2
To	ZONE 7 Water Agency	From	BRIAN BUSCH		
Co./Dept.		Co.	WEISS ASSOCIATES		
Phone #	510-484-2600	Phone #	510-450-6189		
Fax #	462-3914	Fax #	510-547-5043		

Approved Wyman Hong Date 9 Feb 96  
 Wyman Hong

APPLICANT'S SIGNATURE Brian Busch Date 2/2/96

9 February 1996

ZONE 7  
WATER RESOURCES ENGINEERING  
DRILLING ORDINANCE

SHELL OIL PRODUCTS COMPANY  
2160 OTIS DRIVE  
SAN LEANDRO  
WELLS 2S/4W 13G80 TO 13G82  
PERMIT 96097

Destruction Requirements:

1. Clean out all bridged or poorly compacted materials to the bottom of the well.
2. Using a tremie pipe, fill the hole to 8 feet below the lower of finished grade or original ground with neat cement.
3. After the seal has set, remove the remaining well casing(s), surface seal and gravel pack by excavation.

These destruction requirements as proposed by Brian Busch of Weiss Associates meet or exceed Zone 7 minimum requirements.