

Alameda County
APR 04 2003
Environmental Health

**CLOSURE REPORT
ABANDONMENT OF EIGHT GROUNDWATER MONITORING WELLS
ALAMEDA FEDERAL CENTER
620 CENTRAL AVENUE
ALAMEDA, CALIFORNIA
CONTRACT NUMBER GS-09P-93-KTD-0012**

Prepared for:

**GSA, SAN FRANCISCO SERVICE CENTER (9PCT)
450 Golden Gate Avenue, 3rd Floor
San Francisco, California 94102-3400**

Prepared by:

**CAPE ENVIRONMENTAL
2823 McGaw Avenue
Irvine, California 92614**

Project Number 2403C.024.002
March 2003

SIGNATURE PAGE
Cape Environmental

CLOSURE REPORT
ABANDONMENT OF EIGHT GROUNDWATER MONITORING WELLS

Alameda Federal Center
620 Central Avenue
Alameda, California
Contract No. GS-09P-93-KTD-0012

Project No. 2403C.024.002
March 2003

Prepared by:



Victor Salcedo
Staff Geologist

Reviewed by:



Paul R. Sones, R.G.
Senior Project Manager



This report was prepared in accordance with generally accepted standards of environmental, geological, and engineering practice in California at the time of the well abandonment. This investigation was conducted solely to evaluate environmental conditions of the soil beneath the site for hydrocarbons at the subject property. Evaluation of the environmental and geological conditions beneath the site at the facility for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points.

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1.0 INTRODUCTION

1.1 Project Overview

Cape Environmental (CAPE) is pleased to submit this Closure Report summarizing the abandonment of eight groundwater monitoring wells at the Alameda Federal Center, 620 Central Avenue, Alameda, California (Figure 1). In a June 28, 2002, letter, the Alameda County Health Care Agency (ACHCA) approved closing the site, but required that the site monitoring wells be abandoned before a "Remedial Action Completion Certificate" can be issued. A copy of the ACHCA letter is included in Appendix A.

1.2 Well Abandonment

Before abandoning eight groundwater wells, CAPE obtained well destruction permits from the Alameda County Public Works Agency. A copy of the permits is included in Appendix B.

CAPE conducted fieldwork at the facility in accordance with a *Health and Safety Plan* prepared for this project in April 1995 (CAPE, 1995). This plan describes the safety requirements for working around drill rigs and the safe evaluation of hydrocarbons in the soil at the subject site. A copy of the plan was available on site during field activities.

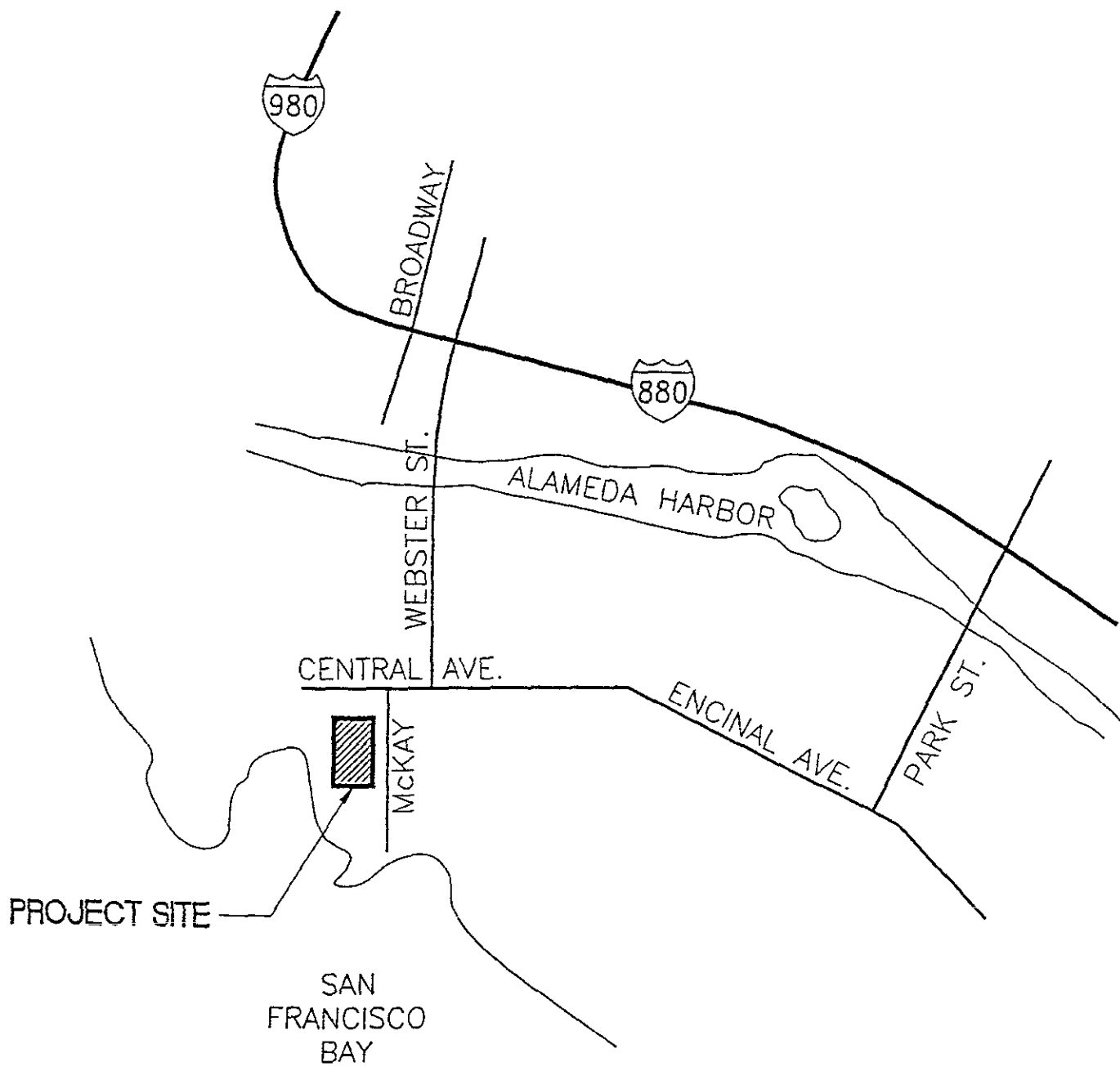
On February 25, 2003, West Hazmat Drilling Corporation (C-57 License No. 554979) was retained to abandon the eight onsite groundwater monitoring wells (MW-1, MW-2R, MW-4, TW/MW-5, MW-6, AMW-1, AMW-2, and AMW-3). For well location, please refer to Figures 2, 3, and 4. These wells were abandoned by using a CME-75 truck-mounted drill rig. A CAPE geologist working under the supervision of a California registered geologist supervised the well abandonment activities.

The wells were abandoned by pressure grouting with neat cement with a tremie pipe to the bottom of the well. The wells were then filled with neat cement to 3 feet to 5 feet below surface grade. The upper 3 feet to 5 feet of casing material and annular seal was then removed. After the seal had set, the remaining annulus was backfilled with black concrete to match the surrounding asphalt surface. Pictures of the abandoned wells are contained in Appendix C.

1.3 Waste Disposal

Since the concrete rubble and well casing materials were transported off site by the drilling contractor for disposal, no waste was stored at the site

FIGURES



VICINITY MAP

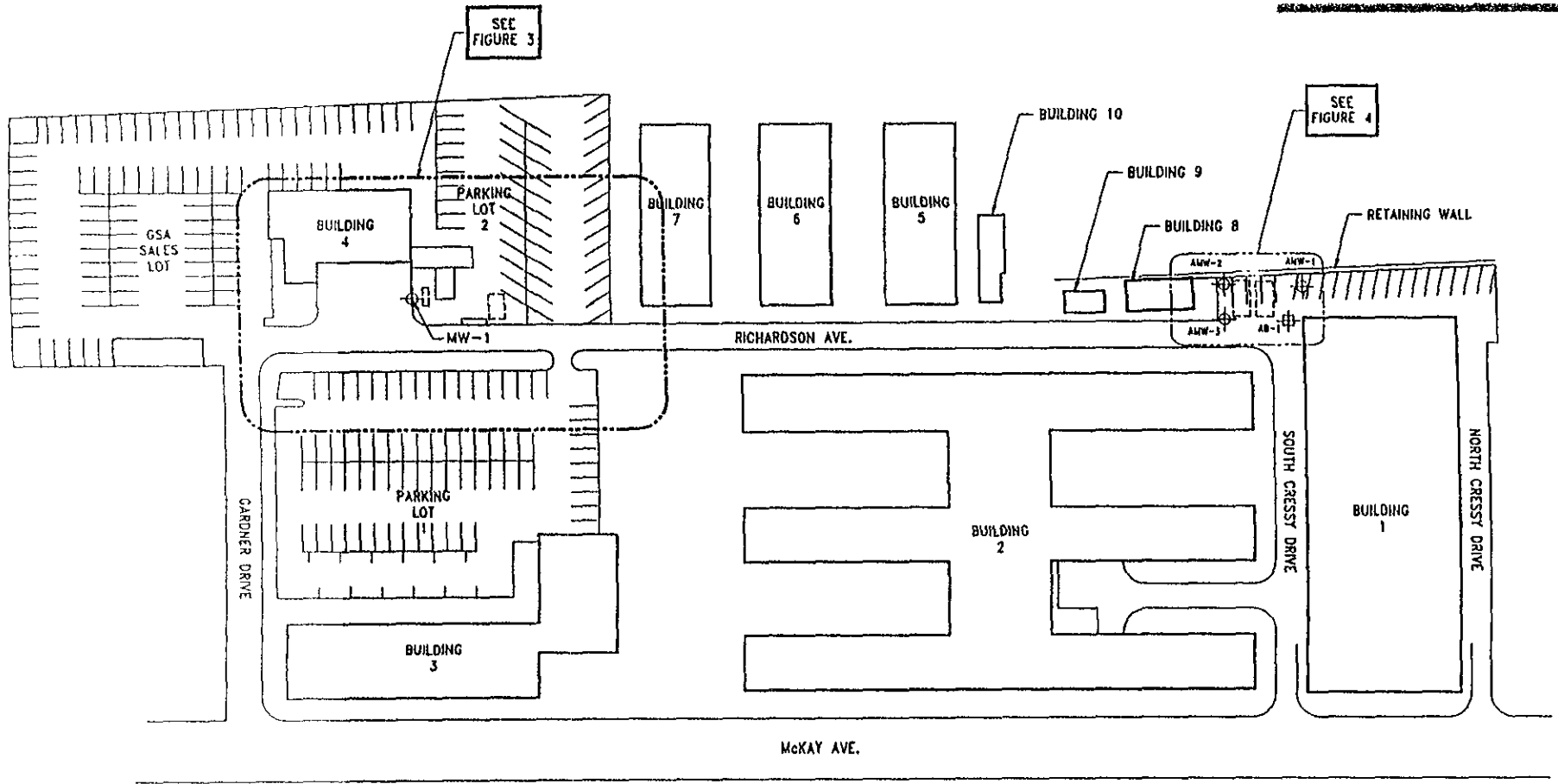
NOT TO SCALE



PROJECT NORTH

SHEET TITLE: FIGURE 1 - SITE VICINITY MAP		CHECKED BY	PROJECT NUMBER 2403C.24
PROJECT TITLE: ALAMEDA FEDERAL CENTER, ALAMEDA, CA		DRAWN BY	DATE March 2003
			SHEET 1

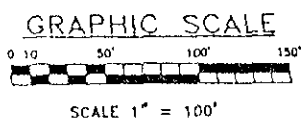
CAPE ENVIRONMENTAL



LEGEND

⊕ MW-1 MONITORING WELL

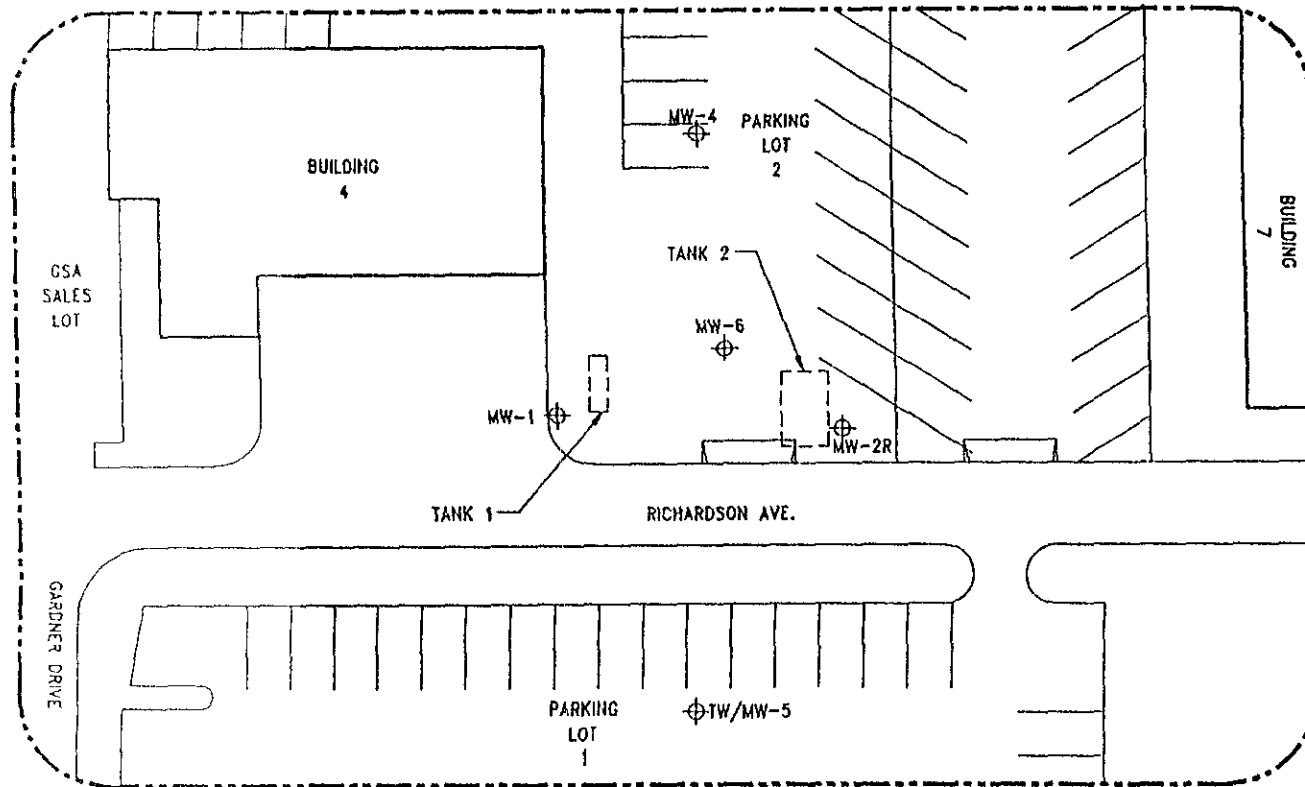
⊕ AB-1 SOIL BORING



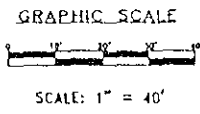
SHEET TITLE: FIGURE 2 - SITE MAP		CHECKED BY:	PROJECT NUMBER: 2403C.24
PROJECT TITLE: ALAMEDA FEDERAL CENTER, ALAMEDA, CA		DRAWN BY:	DATE: March 2003
			SHEET: 2

CAPE

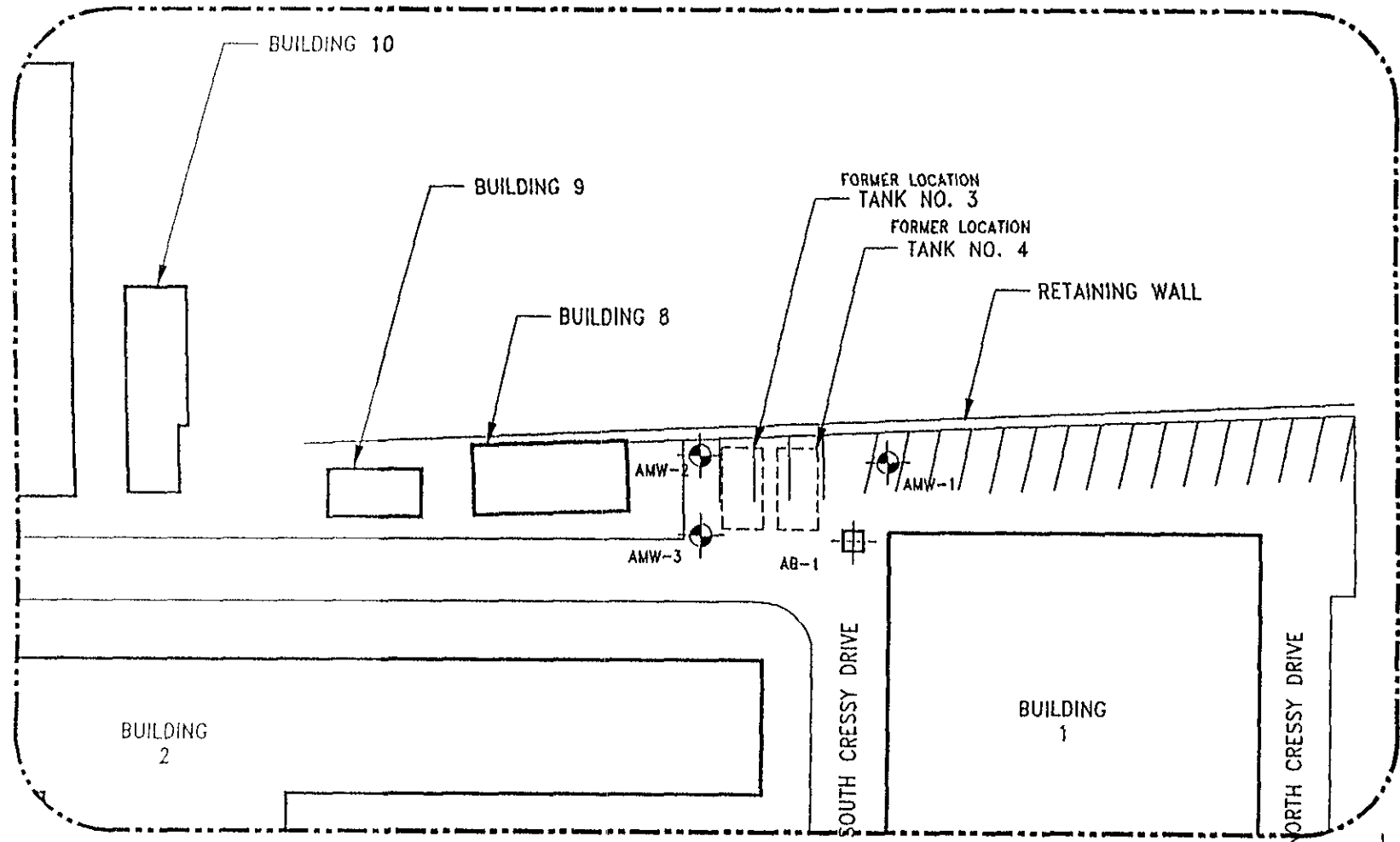
ENVIRONMENTAL






- LEGEND**
- MW EXISTING MONITORING WELL
 - APPROX. LOCATION OF REMOVED UST's

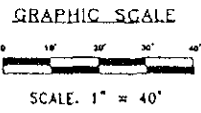


SHEET TITLE: FIGURE 3 - TANK 1 & 2 AREA / MONITORING WELL LOCATIONS		CHECKED BY:	PROJECT NUMBER: 2403C.24
PROJECT TITLE: ALAMEDA FEDERAL CENTER, ALAMEDA, CA		DRAWN BY:	DATE: March 2003
		SHEET: 3	



LEGEND

-  MONITORING WELLS
-  SOIL BORING
-  APPROX. LOCATION OF REMOVED UST'S



SHEET TITLE: FIGURE 4 - TANK 3 & 4 AREA / MONITORING WELL LOCATIONS		CHECKED BY:	PROJECT NUMBER: 2403C.24
PROJECT TITLE: ALAMEDA FEDERAL CENTER, ALAMEDA, CA		DRAWN BY:	DATE: March 2003
			SHEET: 4

APPENDIX A

**ALAMEDA COUNTY HEALTH CARE AGENCY
JUNE 28, 2002, LETTER**

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



June 28, 2002

RO 48

Mr. James Lew
General Services Administration
S.F. Service Center (9PEC)
450 Golden Gate Ave., 3rd Floor East
San Francisco, CA 94102-3400

JUL 16 2002

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

RE: Alameda Federal Center, 620 Central Avenue, Alameda – Well Destruction

Dear Mr. Lew:

The Alameda County Environmental Health Department, Environmental Protection Division, has received concurrence from the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), for final closure of the underground storage tank investigation at the referenced site.

Prior to the issuance of a "Remedial Action Completion Certificate" by this office, however, the monitoring wells at the site must be properly destroyed should they be of no further use. Well destruction is performed under permit issued by Alameda County Public Works Agency (ACPWA). Please contact James Yoo of ACPWA at (510) 670-6633 to secure your well destruction permit.

Please advise me if the well will be destroyed, and when destruction has been completed, as appropriate. I may be reached at (510) 567-6783.

Sincerely,

Scott O. Seery, CHMM
Hazardous Materials Specialist

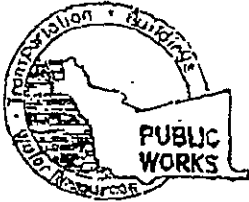
Post-it® Fax Note	7671	Date	7-28	# of pages	1
To	Paul Sones	From	S. Seery		
Co./Dept.	CAPE	Co.	ACDET		
Phone #		Phone #	510-567-6783		
Fax #	949-474-2091	Fax #			

cc: Chuck Headlee, RWQCB
James Yoo, ACPWA QIC 51503
✓ Paul Sones, CAPE Env. Management, Inc.
3631 So. Harbor Blvd., Ste. 130, Santa Anna, CA 92704

2823 McCaw Ave
Irvine, CA 92614

APPENDIX B

**ALAMEDA COUNTY PUBLIC WORKS AGENCY
WELL DESTRUCTION PERMITS**



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. RAYWARD CA. 94544-1395
PHONE (510) 670-8554 670-6633 *Saves You*
FAX (510) 782-1919

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT
Alameda Federal Center
620 Central Avenue
Alameda, CA 94501

PERMIT NUMBER W03-0133
WELL NUMBER _____
APN _____

CLIENT
Name U.S. General Services Administration
Address 450 Golden Gate Ave Phone _____
City San Francisco Zip 94102

ATTN: Robert Furukawa

APPLICANT
Name Cape Environmental, Attn: Victor Salcedo
Address 2825 McLean Ave. Phone (949) 474-3091
City Irvine, CA Zip 92614

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 West Hazmat
DRILLER'S LICENSE NO. C-57 No. 554979

WELL PROJECTS
Drill Hole Diameter _____ in. Maximum Depth 14 ft
Casing Diameter _____ in. Owner's Well Number MW-1
Surface Seal Depth _____ ft

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

ESTIMATED STARTING DATE 2-25-03
ESTIMATED COMPLETION DATE 2-25-03

APPROVED _____ DATE 2-18-03

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 72-55.

APPLICANT'S SIGNATURE Victor Salcedo DATE 2/14/03
PLEASE PRINT NAME Victor Salcedo

REV. 5-12-00

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

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

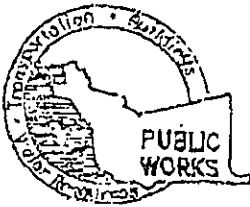
E. CATHODIC

Fill hole anode zone with concrete placed by tremie.

F. WELL DESTRUCTION - P&A 1. APPLIED.
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.



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

399 ELMHURST ST. HAYWARD CA. 94544-1395
 PHONE (510) 670-8854 670-6633 *Sum & You*
 FAX (510) 792-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT
Alameda Federal Center
620 Central Avenue
Alameda, CA 94501

PERMIT NUMBER W03-0134
 WELL NUMBER _____
 APN _____

CLIENT
 Name U.S. General Services Administration
 Address 450 Golden Gate Ave Phone _____
 City San Francisco Zip 94102

ATTN: Robert Furukawa

APPLICANT
 Name Cape Environmental, Attn: Victor Salcedo
 Address 2823 McLaw Ave. Fax (949) 474-3091
 City Irvine, CA Phone (949) 474-3090
 Zip 92614

TYPE OF PROJECT

Well Construction	<input type="checkbox"/>	Geotechnical Investigation	<input type="checkbox"/>
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input checked="" type="checkbox"/>
Monitoring	<input checked="" type="checkbox"/>	Well Destruction	<input checked="" type="checkbox"/>

PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input checked="" type="checkbox"/>	Auger	<input type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input type="checkbox"/>		

DRILLER'S NAME West Hazmat
 DRILLER'S LICENSE NO. C-57 No. 554979

WELL PROJECT'S

Drill Hole Diameter	_____ in.	Maximum	
Casing Diameter	_____ in.	Depth	<u>15 ft</u>
Surface Seal Depth	_____ ft.	Owner's Well Number	<u>MW2-R</u>

GEOTECHNICAL PROJECTS

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

ESTIMATED STARTING DATE 2-25-03
 ESTIMATED COMPLETION DATE 2-25-03

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 72-65.

APPLICANT'S SIGNATURE Victor Salcedo DATE 2/14/03
 PLEASE PRINT NAME Victor Salcedo

R 2/15-00

[Handwritten signature]

APPROVED _____ DATE 2/18/03

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 30 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

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

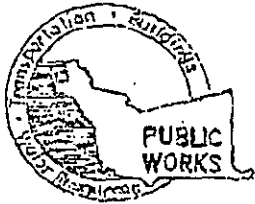
Fill hole shoe zone with concrete placed by tremie.

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.



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-8534 670-6633
FAX (510) 782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT
Alameda Federal Center
620 Central Avenue
Alameda, CA 94501

PERMIT NUMBER W03-0135
WELL NUMBER
APN

CLIENT
U.S. General Services Administration
ATTN: Robert Furukawa
Address 450 Golden Gate Ave
City San Francisco Zip 94102

PERMIT CONDITIONS
Circled Permit Requirements Apply

APPLICANT
Cape Environmental, Attn: Victor Salado
Address 2823 Mc Graw Ave.
City Irvine, CA Zip 92614

- 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.

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

- 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.

PROPOSED WATER SUPPLY WELL USE
New Domestic
Municipal
Industrial
Replacement Domestic
Irrigation
Other

- 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 30 feet.

DRILLING METHOD:
Mud Rotary
Cable
Air Rotary
Other
Auger

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

DRILLER'S NAME West Hazmat
DRILLER'S LICENSE NO. C-57 No. 554979

- E. CATHODIC
Fill hole anode zone with concrete placed by tremie.
F. WELL DESTRUCTION - PG&E Affected
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

WELL PROJECTS
Drill Hole Diameter
Casing Diameter
Surface Seal Depth
Maximum Depth
Owner's Well Number MW-4

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.

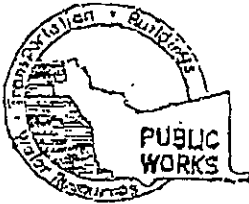
GEOTECHNICAL PROJECTS
Number of Borings
Hole Diameter
Maximum Depth

ESTIMATED STARTING DATE 2-25-03
ESTIMATED COMPLETION DATE 2-25-03

APPROVED DATE 2-18-03

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 75-65.
APPLICANT'S SIGNATURE Victor Salado DATE 2/14/03
PLEASE PRINT NAME Victor Salado

Handwritten signature of Victor Salado



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

399 ELMHURST ST. HAYWARD CA. 94544-1395

PHONE (510) 670-0834 670-6633 *Simes You*
FAX (510) 782-1232

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT

Alameda Federal Center
620 Central Avenue
Alameda, CA 94501

PERMIT NUMBER W03-0136

WELL NUMBER _____

APN _____

CLIENT

Name U.S. General Services Administration
Address 450 Golden Gate Ave Phone _____
City San Francisco Zip 94102

ATTN: Robert Furukawa

APPLICANT

Name Cape Environmental, ATTN: Victor Salcedo
Address 2823 McGraw Ave. Phone (949) 474-3090
City Irvine, CA Zip 92614

PERMIT CONDITIONS

Circled Permits 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.
1. 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.
1. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

D. GEOTECHNICAL

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 inside zone with concrete placed by tremie.

F. WELL DESTRUCTION - PERMIT ATTACHED

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.

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	<input type="checkbox"/>	General	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	Contamination	<input type="checkbox"/>
Monitoring	<input type="checkbox"/>	Well Destruction	<input checked="" type="checkbox"/>

PROPOSED WATER SUPPLY WELL USE

New Domestic	<input type="checkbox"/>	Replacement Domestic	<input type="checkbox"/>
Municipal	<input type="checkbox"/>	Irrigation	<input type="checkbox"/>
Industrial	<input type="checkbox"/>	Other	<input type="checkbox"/>

DRILLING METHOD:

Mud Rotary	<input type="checkbox"/>	Air Rotary	<input type="checkbox"/>	Auger	<input type="checkbox"/>
Cable	<input type="checkbox"/>	Other	<input type="checkbox"/>		

DRILLER'S NAME West Hazmat

DRILLER'S LICENSE NO. C-57 No. 554979

WELL PROJECTS

Drill Hole Diameter _____ in.	Maximum	
Casing Diameter _____ in.	Depth <u>13</u> ft.	
Surface Seal Depth _____ ft.	Owner's Well Number <u>TW/MW-5</u>	

GEOTECHNICAL PROJECTS

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

ESTIMATED STARTING DATE 2-25-03

ESTIMATED COMPLETION DATE 2-25-03

APPROVED _____

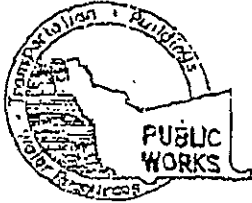
DATE 2/14/03

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 72-88.

APPLICANT'S SIGNATURE Victor Salcedo DATE 2/14/03

PLEASE PRINT NAME Victor Salcedo

Rev. 5-13-00



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-5534 670-6633 SUMAS YOU
FAX (510) 782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT
Alameda Federal Center
620 Central Avenue
Alameda, CA 94501

PERMIT NUMBER W03-0137
WELL NUMBER
APN

CLIENT
Name U.S. General Services Administration
Address 450 Golden Gate Ave
City San Francisco
ATTN: Robert Furukawa

APPLICANT
Name Cape Environmental, Attn: Victor Salcedo
Address 2823 McLaugh Ave.
City Irvine, CA

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

PROPOSED WATER SUPPLY WELL USE
New Domestic
Municipal
Industrial
Replacement Domestic
Irrigation
Other

DRILLING METHOD:
Mud Rotary
Cable
Air Rotary
Other
Auger

DRILLER'S NAME West Hazmat
DRILLER'S LICENSE NO. C-57 No. 554979

WELL PROJECTS
Bore Hole Diameter
Casing Diameter
Surface Seal Depth
Maximum Depth 13 ft
Owner's Well Number MW-6

GEOTECHNICAL PROJECTS
Number of Borings
Bore Diameter
Maximum Depth

ESTIMATED STARTING DATE 2-25-03
ESTIMATED COMPLETION DATE 2-25-03

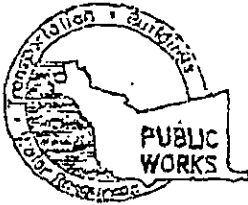
I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-65.
APPLICANT'S SIGNATURE Victor Salcedo DATE 2/14/03
PLEASE PRINT NAME Victor Salcedo

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 30 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 30 feet.
D. GEOTECHNICAL
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cavings.
E. CATHODIC
Fill hole anode zone with concrete placed by tremie.
F. WELL DESTRUCTION - P64 Attached
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 [Signature] DATE 2-18-03



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION

399 ELMHURST ST. HAYWARD CA. 94544-1395

PHONE (510) 778-5554 670-6633 SUMES YOU
FAX (510) 782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT
Alameda Federal Center
620 Central Avenue
Alameda, CA 94501

PERMIT NUMBER W03-0138
WELL NUMBER _____
APN _____

CLIENT
Name U.S. General Services Administration
Address 450 Golden Gate Ave Phone _____
City San Francisco Zip 94102
ATTN: Robert Furukawa

PERMIT CONDITIONS
Circled Permit Requirements Apply

APPLICANT
Name Cape Environmental, Attn: Victor Salcedo
Address 2823 Mc Graw Ave. Phone (949) 474-3090
City Irvine, CA Zip 92614

- 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.

TYPE OF PROJECT
Well Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Confirmation
Monitoring Well Destruction

- B. WATER SUPPLY WELLS
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth is 30 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.

PROPOSED WATER SUPPLY WELL USE
New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other _____

- 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 30 feet.

DRILLING METHOD:
Mud Rotary Air Rotary Auger
Cable Other

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

DRILLER'S NAME West Hazmat
DRILLER'S LICENSE NO. C-57 No. 554979

- E. CATHODIC
Fill hole anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION - Placed by tremie
Send a map of work site. A separate permit is required for wells deeper than 45 feet.

WELL PROJECTS
Drill Hole Diameter _____ in. Maximum Depth 15 ft. Owner's Well Number AMW-1
Casing Diameter _____ in.
Surface Seal Depth _____ ft.

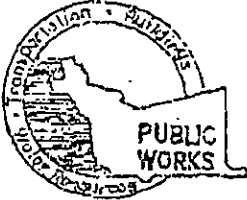
G. SPECIAL CONDITIONS
NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

GEOTECHNICAL PROJECTS
Number of Borings _____ Maximum Depth _____ ft.
Bore Diameter _____ in.

ESTIMATED STARTING DATE 2-25-03
ESTIMATED COMPLETION DATE 2-25-03

APPROVED [Signature] DATE 2-19-03

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 72-63.
APPLICANT'S SIGNATURE Victor Salcedo DATE 2/14/03
PLEASE PRINT NAME Victor Salcedo REV 5-1-00



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 678-8554 678-6633 SUMMS YOU
FAX (510) 782-1939

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT
Alameda Federal Center
620 Central Avenue
Alameda, CA 94501

PERMIT NUMBER W03-0139
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

CLIENT
Name U.S. General Services Administration
Address 450 Golden Gate Ave
City San Francisco
Phone
Zip 94102

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.

APPLICANT
Name Cape Environmental, Attn: Victor Salcedo
Address 2823 McGraw Ave.
City Irvine, CA
Phone (949) 474-3090
Fax (949) 474-3091
Zip 92614

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 30 feet for domestic and irrigation wells unless a lesser depth is specially approved.

TYPE OF PROJECT

Well Construction Geotechnical Investigation
Cathodic Protection
Water Supply
Monitoring
General
Contamination
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 30 feet.

PROPOSED WATER SUPPLY WELL USE

New Domestic
Municipal
Industrial
Replacement Domestic
Irrigation
Other

D. GEOTECHNICAL

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

DRILLING METHOD:

Mud Rotary
Cable
Air Rotary
Other

E. CATHODIC

Fill hole (zone) with concrete placed by tremie.

DRILLER'S NAME West Hazmat
DRILLER'S LICENSE NO. C-57 No. 554979

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

WELL PROJECTS

Drill Hole Diameter
Casing Diameter
Surface Seal Depth
Maximum Depth
Owner's Well Number AMW-2

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.

GEOTECHNICAL PROJECTS

Number of Borings
Hole Diameter
Maximum Depth

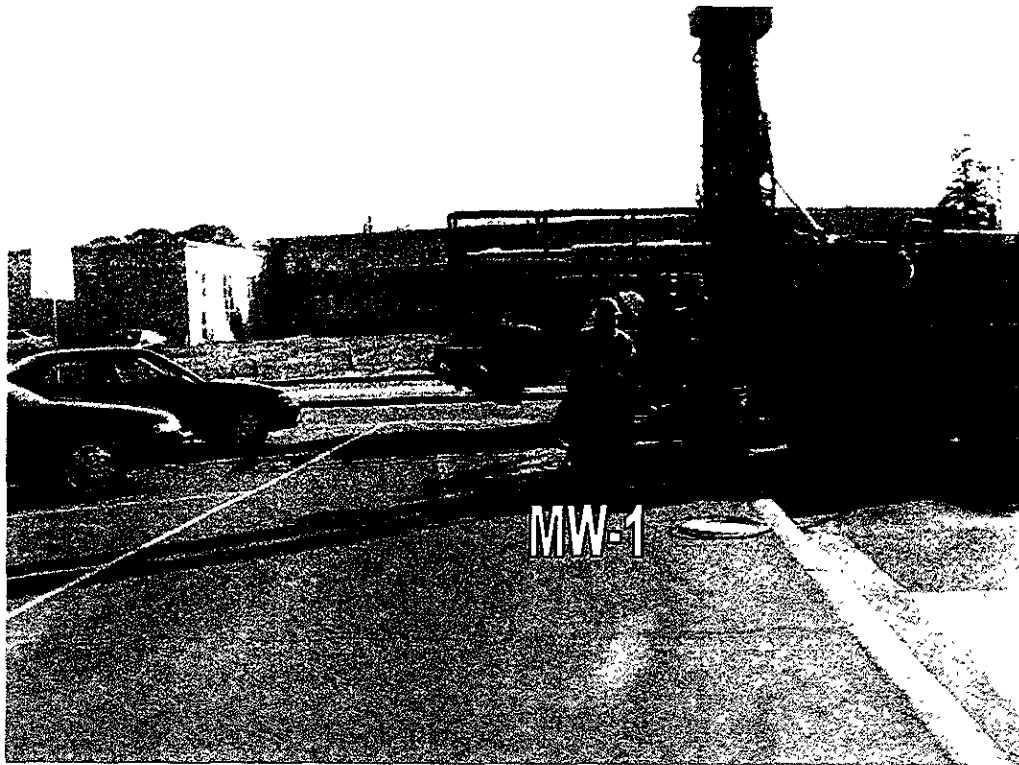
ESTIMATED STARTING DATE 2-25-03
ESTIMATED COMPLETION DATE 2-25-03

APPROVED DATE 2-18-03

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 75-65.

APPLICANT'S SIGNATURE Victor Salcedo DATE 2/14/03
PLEASE PRINT NAME Victor Salcedo

APPENDIX C
PHOTOGRAPHS OF WELL ABANDONMENT ACTIVITIES



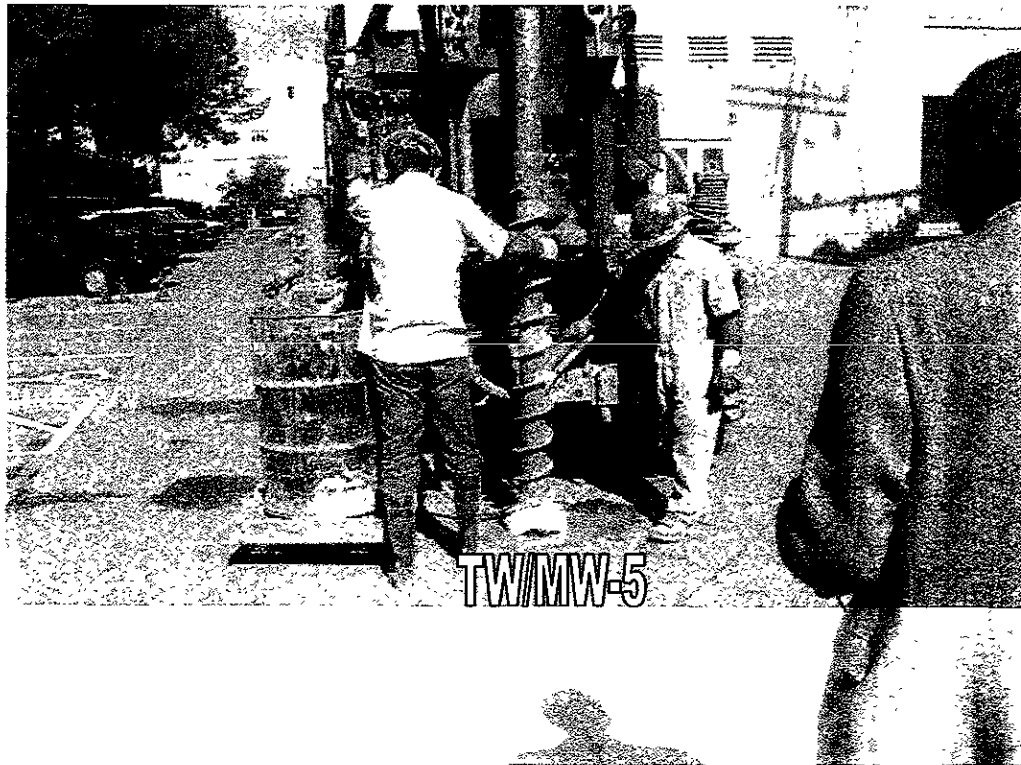
PICTURE 1 – MW-1 ABANDONMENT



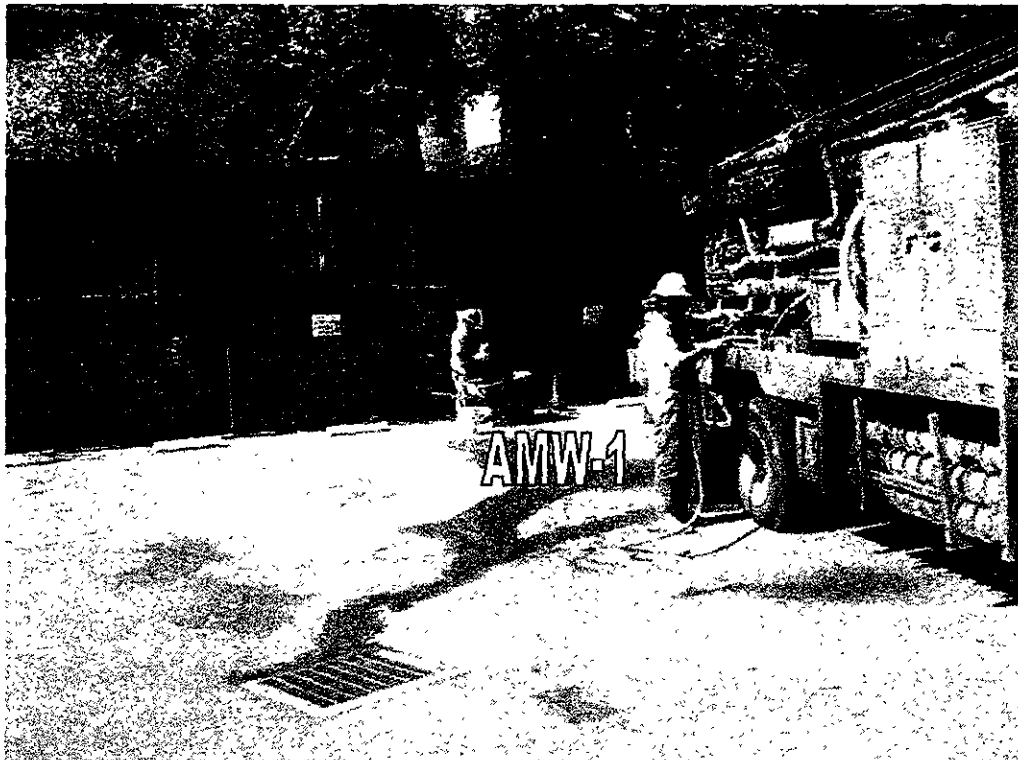
PICTURE 2 – MW-2R ABANDONMENT



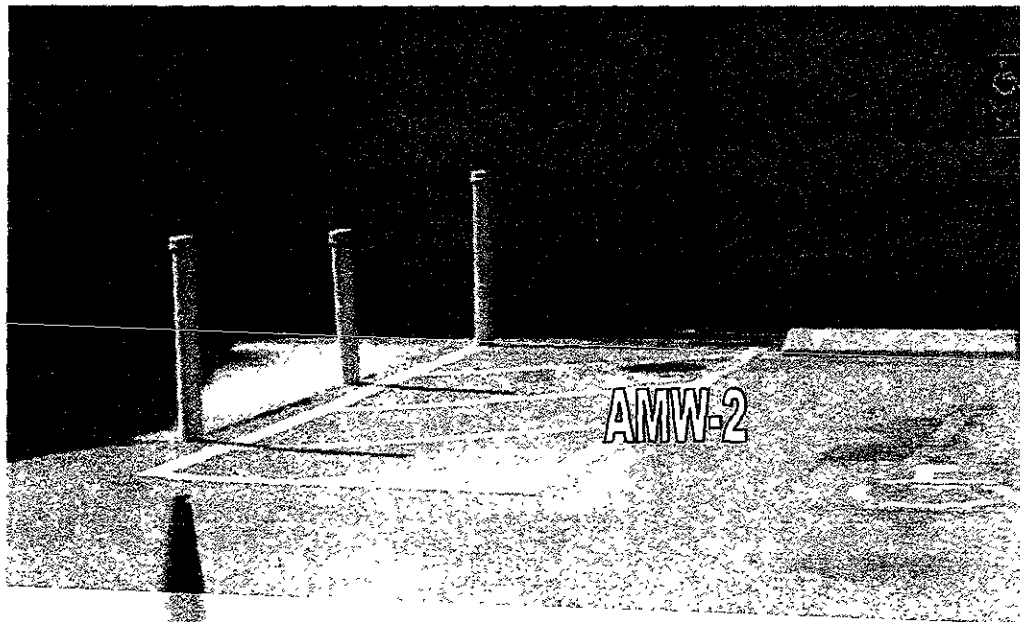
PICTURE 3 – MW-4 AND MW-6 ABANDONMENT



PICTURE 4 – TW/MW-5 ABANDONMENT



PICTURE 5 – AMW-1 ABANDONMENT



AMW-3

PICTURE 6 – AMW-2 AND AMW-3 ABANDONMENT