RO-259

CAMBRIA

Alameda County

NOV 07 2002

Environmental Health

November 6, 2002

Wyman Hong
Alameda County Flood Control and Water Conservation District
5997 Parkside Drive
Pleasanton, California 94588

Re: **Monitoring Well Destruction Report**
Former Shell Service Station
7194 Amador Valley Boulevard
Dublin, California
Incident #97093380

Dear Mr. Hong:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell), Cambria Environmental Technology, Inc. (Cambria) prepared this *Monitoring Well Destruction Report* for the referenced site. Well destruction activities were completed in accordance with our Alameda County Flood Control and Water Conservation District requirements. Presented below is a summary of well destruction activities conducted at the site.

WELL DESTRUCTION ACTIVITIES

Site Location: The subject site is a former Shell service station located on the eastern corner of the intersection of Amador Valley Boulevard and Village Parkway in Dublin, California (Figure 1) and is currently occupied by Oil Changer, Inc.

Destruction Dates: June 17 and 18, 2002.

Wells Destroyed: Twelve monitoring wells were destroyed by pressure grouting including MW-1 through MW-9, MW-11, MW-12, and RW-1 (Figure 1).

Well MW-13 could not be located during the field work. Site plans indicate MW-13 was located on the adjacent property The surface of the property currently consists of compacted sand and gravel We attempted to locate MW-13 utilizing a metal detector and by hand digging tools in the general vicinity of its location on the site plan This search only resulted in the detection of underground pipes and scattered

Oakland, CA
San Ramon CA
Sonoma, CA

Cambria
Environmental
Technology, Inc.

270 Perkins Street
P O Box 259
Sonoma, CA 95476
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Fax (707) 935-6649

scrap metal debris beneath the ground surface. In a telephone message from Wyman Hong of the Zone 7 Water Agency on June 17, 2002, Mr. Hong stated that the agency would consider MW-13 lost if Cambria's search method described above did not locate the well. Location and proper destruction of the lost well would not be required.

Permits: Zone 7 Water Agency Drilling Permit #22080 (Attachment A).

City of Dublin Encroachment Permit #02-45 (Attachment A).

Personnel Present: Jason Gerke, Staff Geologist, Cambria.

Drilling Company: Gregg Drilling of Martinez, California; C-57 License # 485165.

Destruction Method: Prior to pressure grouting, the water levels in the wells were recorded and ranged from 5.7 feet below grade (fbg) in MW-7 to 9.7 fbg in MW-4. For each well, neat Portland I/II cement was injected to the well bottom using a tremie pipe. Once the well casing was filled with grout, a pressure cap was fitted to the top of the well casing and pressure was applied using the grout pump (25 pounds per square inch) for 10 minutes to force the grout into the sand pack. After pressure grouting was completed, the well box was removed and the area backfilled and resurfaced to match the existing grade. Cambria's standard field procedures for destroying monitoring wells are included as Attachment B. Department of Water Resources well completion reports are included as Attachment C.

CLOSING

We anticipate a formal case closure notification be issued based on this report documenting the destruction of all the associated monitoring wells. Please call Joe Neely at (707) 933-2361 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc

Jason Gerke
Staff Geologist

Joe W. Neely, RG
Senior Project Geologist
RG 6927

Table 1. Well Data

Figure 1. Site Plan

Attachments: A - Permits
B - Standard Field Procedures for Destroying Monitoring Wells
C - DWR Well Completion Reports

cc: Ms. Karen Petryna, Shell Oil Products US
Ms. Eva Chu, Alameda County Health Care Services Agency

Table 1. Well Data - Former Shell Service Station - 7194 Amador Valley Boulevard, Dublin, California
Incident # 97093380

Well ID	Type	Total Depth (fbg)	Total Depth (fbg) Measured 6/17,18/02	Casing Diam. (In.)	Screen Depth (fbg) Top	Screen Depth (fbg) Bottom	Destruction Method	Comments
MW-1	HSA Well	25	25.0	4	NA	NA	PG	
MW-2	HSA Well	26	25.5	4	6	24	PG	
MW-3	HSA Well	26	24.8	4	6	24	PG	
MW-4	HSA Well	25.5	25.0	4	6	24	PG	
MW-5	HSA Well	45	44.5	4	NA	NA	PG	Well Log Not Available
MW-6	HSA Well	23	23.1	4	NA	NA	PG	Well Log Not Available
MW-7	HSA Well	17	16.8	4	NA	NA	PG	Well Log Not Available
MW-8	HSA Well	16	16.0	4	NA	NA	PG	Well Log Not Available
MW-9	HSA Well	18	18.3	4	NA	NA	PG	Well Log Not Available
MW-10	HSA Well	NA	NA	4	NA	NA	PG	Well Previously Destroyed
MW-11	HSA Well	17	16.8	4	NA	NA	PG	Well Log Not Available
MW-12	HSA Well	17	17.2	4	NA	NA	PG	Well Log Not Available
MW-13	HSA Well	17	16.5	4	NA	NA	PG	Well Log Not Available, Could Not Locate Well
RW-1	HSA Well	32	31.5	6	10	30	PG	

Notes and Abbreviations:

fbg - feet below grade

HSA - Hollow Stem Auger

PG - Pressure Grouting

NA - Not Available

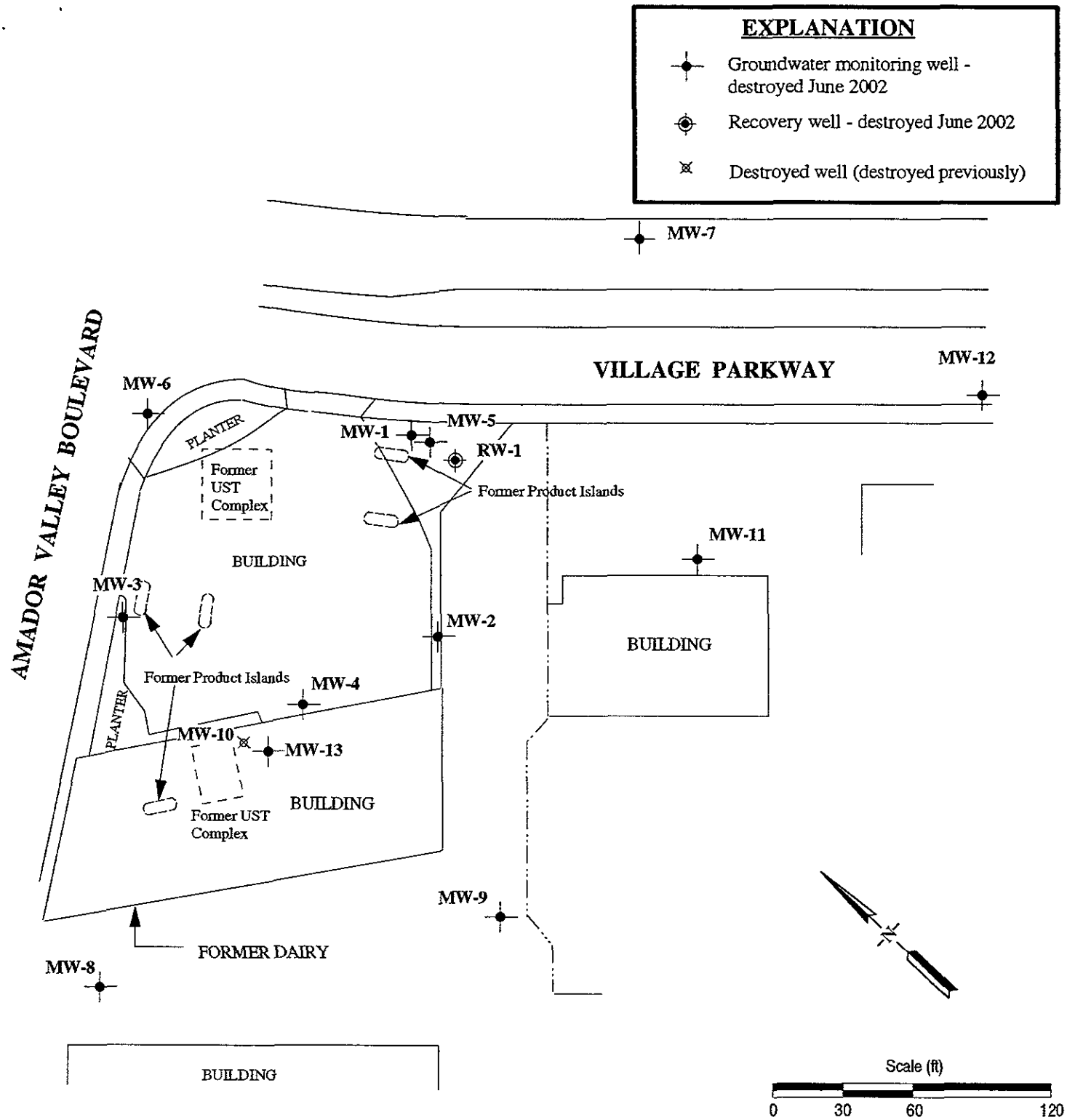

FIGURE
1

1268

Former Shell Service Station
7194 Amador Valley Boulevard
Dublin, California

Site Plan

CAMBRIA

ATTACHMENT A

Permits

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588-5127 VOICE (925) 484-2600 X235 FAX (925) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

(7194 VILLAGE PARKWAY)

LOCATION OF PROJECT 7194 AMADOR VALLEY RD, DUBLIN
Corner of Amador Valley Rd & Village Pkwy

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

CLIENT
Name SHELL OIL PRODUCTS US
Address PO BOX 7869 Phone
City BURBANK, CA Zip 91510-7869

APPLICANT
Name CAMBRIA ENVIRONMENTAL TECHNOLOGY
SUE LANDSITTEL Fax 510.420.9170
Address 1144 65th ST Phone 510-420-3333
City OAKLAND, CA Zip 94608

TYPE OF PROJECT:

Well Construction	☐	Geotechnical Investigation	☐
Well Destruction	☒	Contamination Investigation	☐
Cathodic Protection	☐	Other _____	☐

PROPOSED WELL USE:

Domestic	☐	Irrigation	☐
Municipal	☐	Remediation	☐
Industrial	☐	Groundwater Monitoring	☐
Dewatering	☐	Other _____	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Hollow Stem Auger	☐
Cable Tool	☐	Direct Push	☐	Other _____	☐

DRILLING COMPANY GREGG DRILLING
DRILLER'S LICENSE NO. C57 485165

WELL SPECIFICATIONS:
Drill Hole Diameter 10 in. Maximum
Casing Diameter 6 in. Depth 45 ft.
Surface Seal Depth 4 ft. Number 13

SOIL BORINGS:
Number of Borings _____ Maximum
Hole Diameter _____ in. Depth _____ ft.

ESTIMATED STARTING DATE June 4, 2002 / June 17/02
ESTIMATED COMPLETION DATE June 6, 2002 / June 19/02

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No 73-68
APPLICANT'S SIGNATURE _____ Date 05-15-02

ATTACH SITE PLAN OR SKETCH

PERMIT NUMBER 22080
WELL NUMBER 2S/1W 36P5 to 36P14 & 3S/1W 1C1
APN to 1C3

PERMIT CONDITIONS

Circled Permit Requirements Apply

(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 SUPPLY WELLS
1. Minimum surface seal diameter is four inches greater than the well casing diameter.
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. Grout placed by tremie.
4. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
5. A sample port is required on the discharge pipe near the wellhead.

C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS
1. Minimum surface seal diameter is four inches greater than the well or piezometer casing diameter.
2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
3. Grout placed by tremie.

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 completion of permitted work the well installation report **including all soil and water laboratory analysis results.**

Approved Wyman Hong Date 5/23/02
Wyman Hong

ATTACHMENT B

Standard Field Procedures for Destroying Monitoring Wells

CAMBRIA

STANDARD FIELD PROCEDURES FOR DESTROYING MONITORING WELLS

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

Pressure Grouting

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

Well Drill Out

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

ATTACHMENT C

DWR Well Completion Reports

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

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EXPLORATORY BORING LOG

PROJECT NAME: Shell Oil Company
Dublin, CA
PROJECT NUMBER: 1826G

BORING NO. MW-1
DATE DRILLED: 28-Apr-88
LOGGED BY: J. Rike

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1–4			CH	SILTY CLAY - very dark grey (2.5 YR N3), 5 to 10% medium gravel, medium stiff, plastic, moist, organic odor and slight product odor.		
5	SDC-1001	14				12
6–8				Static Water Level Measured 9-May-88 At 8.72 Feet.	▼	
9–10	SDC-1002	11				20
11–14				- grades to dark grayish brown (10YR, 4/2), mottled with oxidation staining, no product odor.		
15	SDC-1003	8				14
16–18			CL	SILTY CLAY - dark grey (7.5 YR N5), stiff, low plasticity, wet, no product odor.		
19–20	SDC-1004	19				8
				Continued Next Page		

ensco environmental services, Inc.

EXPLORATORY BORING LOG

PROJECT NAME: Shell Oil Company Dublin, CA
PROJECT NUMBER: 1826G

BORING NO. MW-1
DATE DRILLED: 28-Apr-88
LOGGED BY: J. Rike

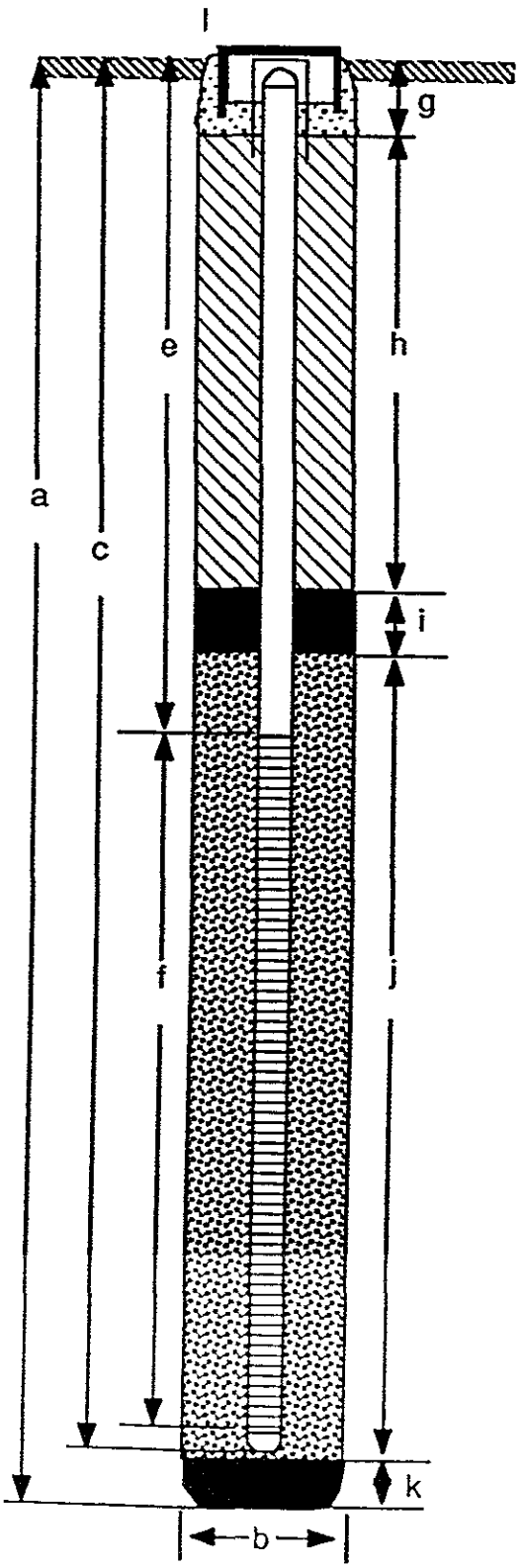
DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
21			CL	SILTY CLAY - dark grey (7.5 YR N5), stiff, low plasticity, wet, no product odor.		
22						
23						
24				- grades to dark greenish grey (5GY 5/1),		
25	SDC-1005	25				1
26				Bottom Of Boring 25.5 Feet		

SUPERVISED AND APPROVED BY: L. D. Powers C.E.G. No. 1157

Monitoring Well Detail

PROJECT NUMBER 1826G
PROJECT NAME Shell Oil Company-Dublin
COUNTY Alameda
WELL PERMIT NO. 88082

BORING / WELL NO. MW-1
TOP OF CASING ELEV. 334.84
GROUND SURFACE ELEV. ---
DATUM Mean Sea Level



EXPLORATORY BORING

a. Total Depth 25.5 ft.
b. Diameter 10 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Casing length 25.28 ft.
Material Schedule 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 5 ft.
f. Perforated length 20 ft.
Perforated interval from 5 to 25 ft.
Perforation type machine slot
Perforation size 0.02 in.
g. Surface seal .5 ft.
Seal Material Concrete
h. Backfill 3 ft.
Backfill material Neat Cement Grout
i. Seal 1 ft.
Seal Material 1/2 In. Bentonite Pellets
j. Gravel pack 21 ft.
Pack material 2/20 Monterey Type Sand
k. Bottom seal --- ft.
Seal material n/a
l. Steel Protective Casing With Locking Cover

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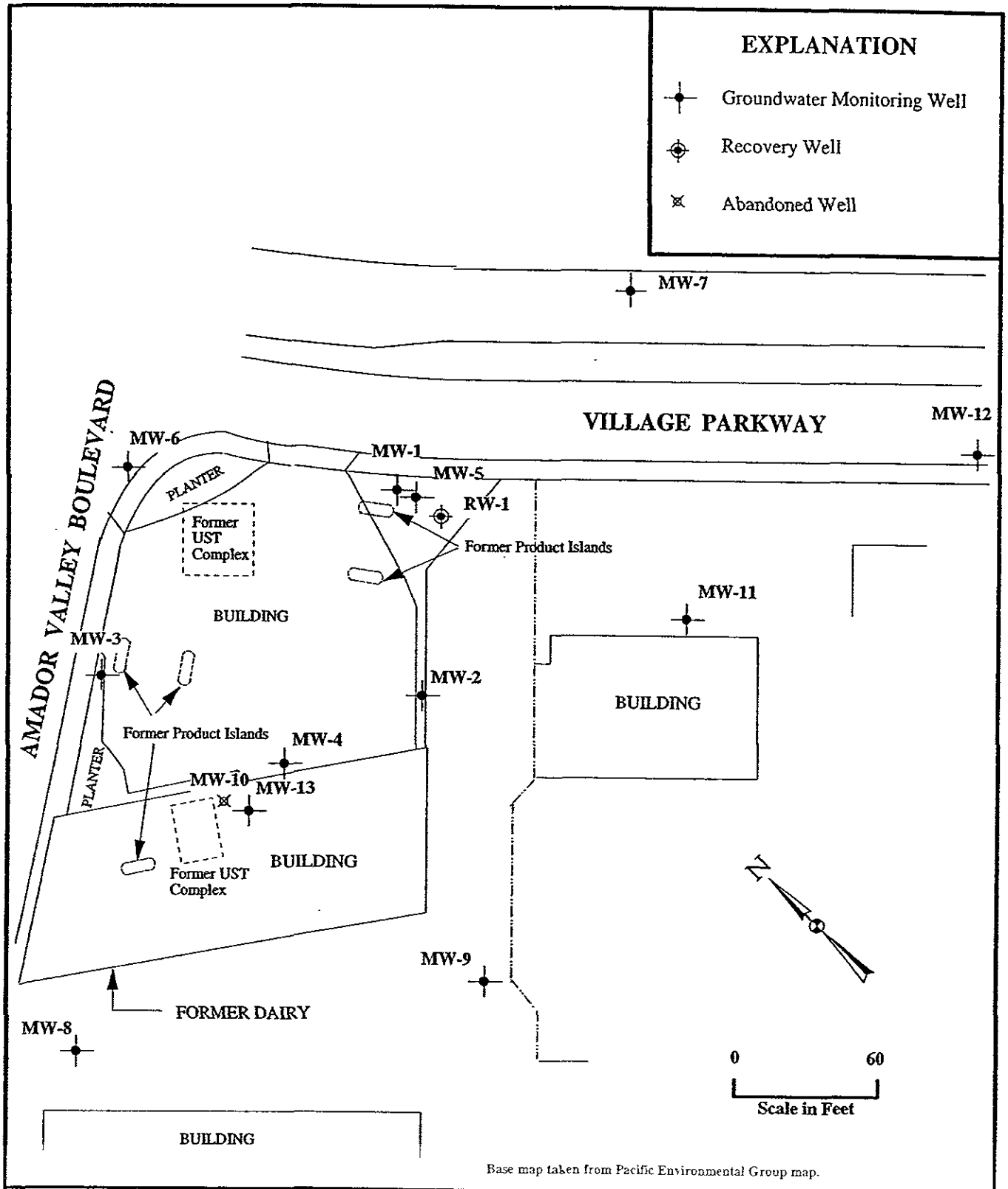

Base map taken from Pacific Environmental Group map.

PLATE **2**

SITE PLAN

Former Shell Service Station
7194 Amador Valley Boulevard
Dublin, California

enviros ®
95285

Drawn By JLP Date. 5-2-95

Approved By:_____ Date:_____

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

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services, inc.

EXPLORATORY BORING LOG

PROJECT NAME: Shell Oil Company
Dublin, CA
PROJECT NUMBER: 1826G

BORING NO. MW-2
DATE DRILLED: 28-Apr-88
LOGGED BY: J. Rike

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm.
1–4			CH	SILTY CLAY - very dark grey (2.5 YR N3), trace very fine sand, trace gravel (<5%), medium stiff, plastic, damp, organic odor and slight product odor, minor small wood fragments and oxidation staining.		
5	SDC-1006	9				5
6–9						
10	SDC-1007	17		- stiff and strong product odor at 10 feet, moist		60
				Static Water Level Measured 9-May-88 At 10.85 Feet.	▼	
11–14						
15	SDC-1008	14		- grades to dark greyish brown (10YR 4/2), mottling with grey, stiff, moist, plastic, no product odor.		7
16–17						
18			CL	SILTY CLAY - dark gray (5YR, 4/1), very stiff to stiff, plastic, moist, no product odor.		
19	SDC-1009	24				
20						0
				Continued Next Page		

ensco environmental services, inc.

EXPLORATORY BORING LOG

PROJECT NAME: Shell Oil Company
Dublin, CA
PROJECT NUMBER: 1826G

BORING NO. MW-2
DATE DRILLED: 28-Apr-88
LOGGED BY: J. Rike

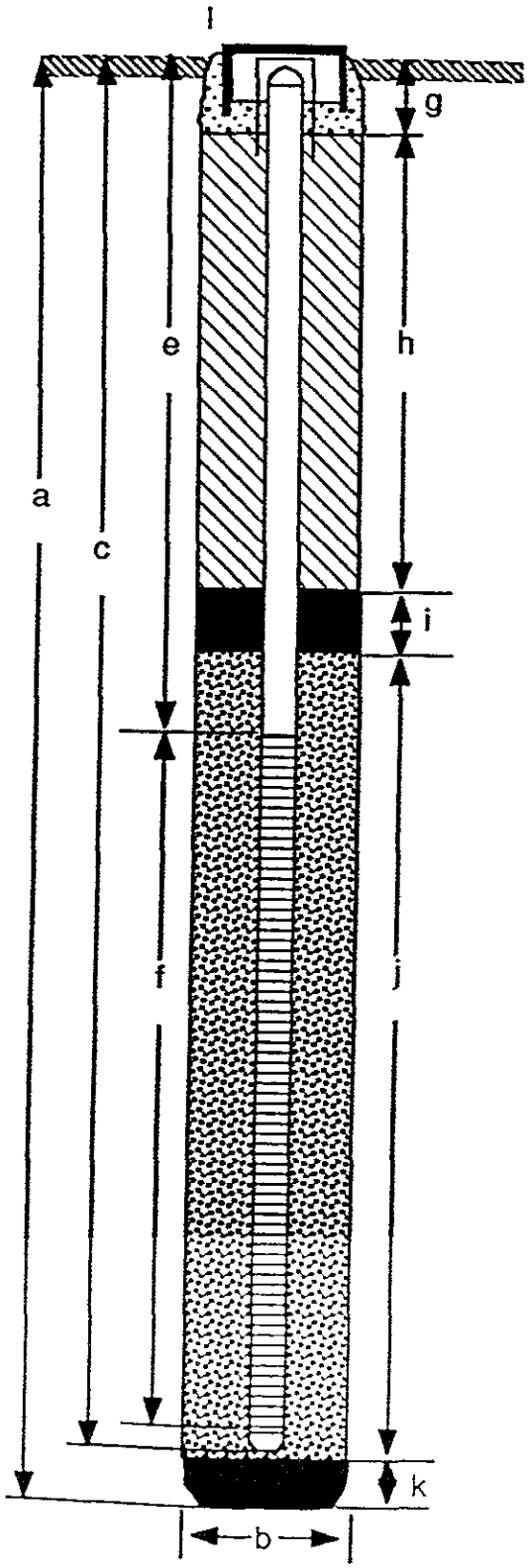
DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm	
21			CL	SILTY CLAY - dark grey (5 YR 4/1), stiff to very stiff, less plastic, moist, no product odor.			
22							
23							
24				- grades to dark greenish grey (5GY 5/1),			
25	SDC-1010	24				1	
26				Bottom Of Boring 25.5 Feet			

SUPERVISED AND APPROVED BY: L. D. Powell C.E.G. No. 1187

Monitoring Well Detail

PROJECT NUMBER 1826G
PROJECT NAME Shell Oil Company-Dublin
COUNTY Alameda
WELL PERMIT NO. 88082

BORING / WELL NO. MW-2
TOP OF CASING ELEV. 336.96
GROUND SURFACE ELEV. ---
DATUM Mean Sea Level



EXPLORATORY BORING

a. Total Depth 25.5 ft.
b. Diameter 10 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Casing length 24.66 ft.
Material Schedule 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 6 ft.
f. Perforated length 18 ft.
Perforated interval from 6 to 24 ft.
Perforation type machine slot
Perforation size 0.02 in.
g. Surface seal .5 ft.
Seal Material Concrete
h. Backfill 3 ft.
Backfill material Neat Cement Grout
i. Seal 1 ft.
Seal Material 1/2 In. Bentonite Pellets
j. Gravel pack 20 ft.
Pack material 2/20 Monterey Type Sand
k. Bottom seal --- ft.
Seal material n/a
l. Steel Protective Casing With Locking Cover

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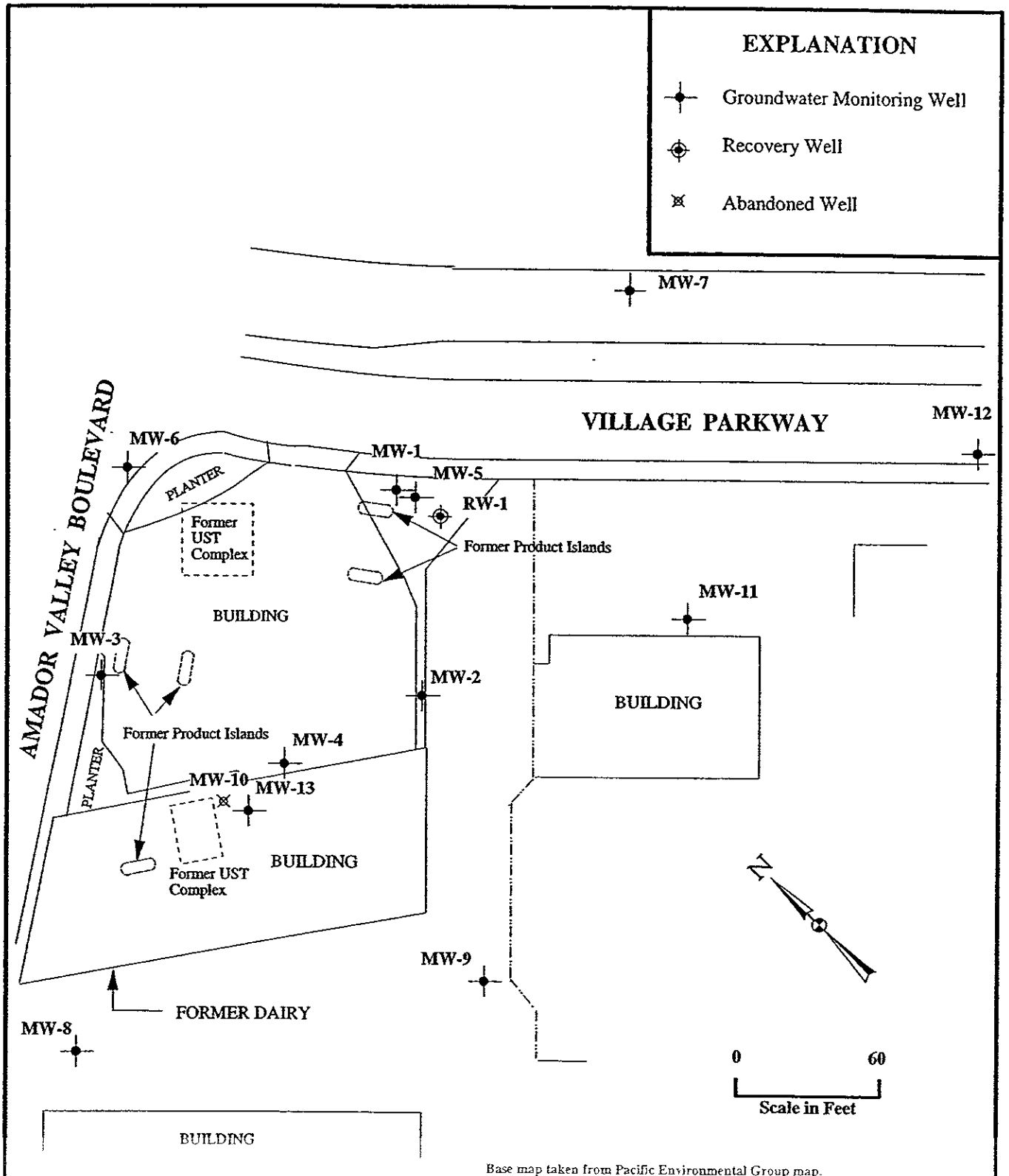

Base map taken from Pacific Environmental Group map.

PLATE **2**

SITE PLAN

Former Shell Service Station
7194 Amador Valley Boulevard
Dublin, California

enviros ®
95285

Drawn By: JLP Date: 5-2-95

Approved By _____ Date _____

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

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services, inc.

EXPLORATORY BORING LOG

PROJECT NAME: Shell Oil Company
Dublin, CA
PROJECT NUMBER: 1826G

BORING NO. MW-3
DATE DRILLED: 29-Apr-88
LOGGED BY: B. Von Thaden

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1-4			OL	SILTY CLAY - very dark grey (2.5 YR N3), trace fine sand, trace gravel (<5%), stiff, low to moderate plasticity, damp, organic odor, no product odor.		
5	SDC-1011	19				1
6-8				- increasing moisture at 8 feet		
9				- at 10 feet, strong product odor		
10	SDC-1012	14		Static Water Level Measured 9-May-88 At 10.59 Feet.	▼	64
11-14				- grades to dark grayish brown (2.5YR, 4/2), mottled with oxidation staining, medium plasticity, firm, wet, no product odor.		
15	SDC-1013	8				3
16-18			CL	SILTY CLAY - dark greenish grey (7.5 YR N5) mottled with dark grayish brown (2.5YR 4/2), low to medium plasticity, stiff, wet, no product odor.		
19	SDC-1014	9				7
20				Continued Next Page		

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EXPLORATORY BORING LOG

PROJECT NAME: Shell Oil Company Dublin, CA
PROJECT NUMBER: 1826G

BORING NO. MW-3
DATE DRILLED: 29-Apr-88
LOGGED BY: B. Von Thaden

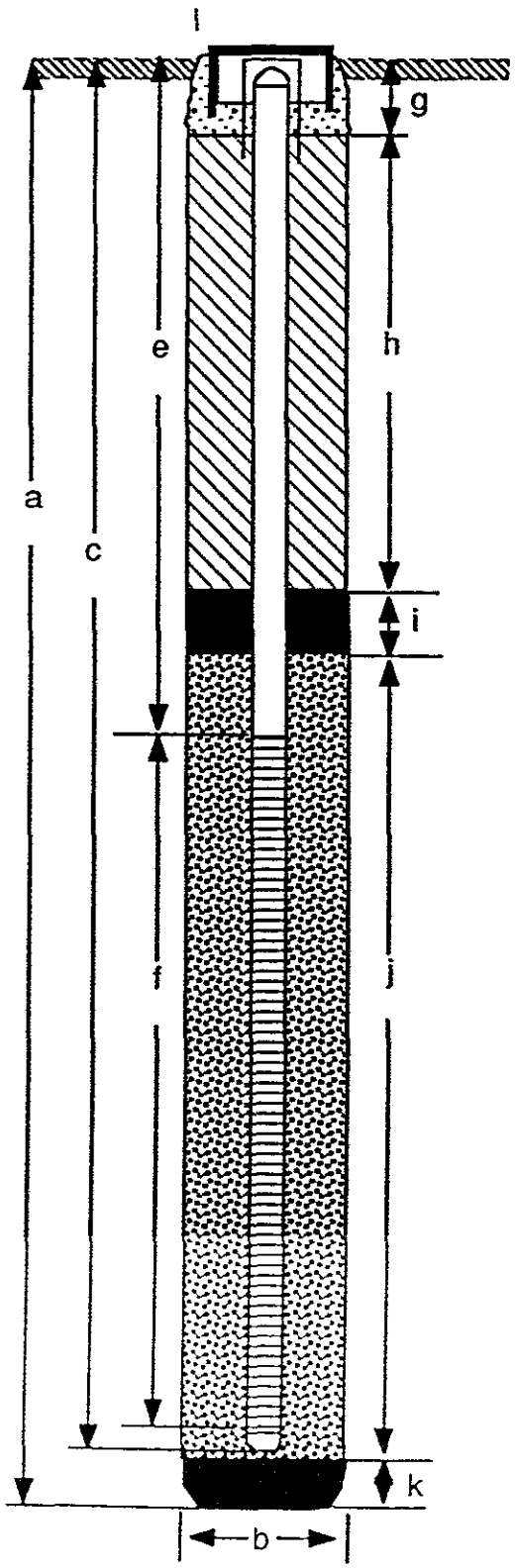
DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm	
21			CL	SILTY CLAY - dark greenish grey (7.5 YR N5) mottled with dark grayish brown (2.5YR 4/2), low to medium plasticity, stiff, wet, no product odor.			
22							
23							
24							
25	SDC-1015	21				0	
26				Bottom Of Boring 25.5 Feet			

SUPERVISED AND APPROVED BY: L. D. Powell C.E.G. No. 1187

Monitoring Well Detail

PROJECT NUMBER 1826G
PROJECT NAME Shell Oil Company-Dublin
COUNTY Alameda
WELL PERMIT NO. 88082

BORING / WELL NO. MW-3
TOP OF CASING ELEV. 336.97
GROUND SURFACE ELEV. ---
DATUM Mean Sea Level



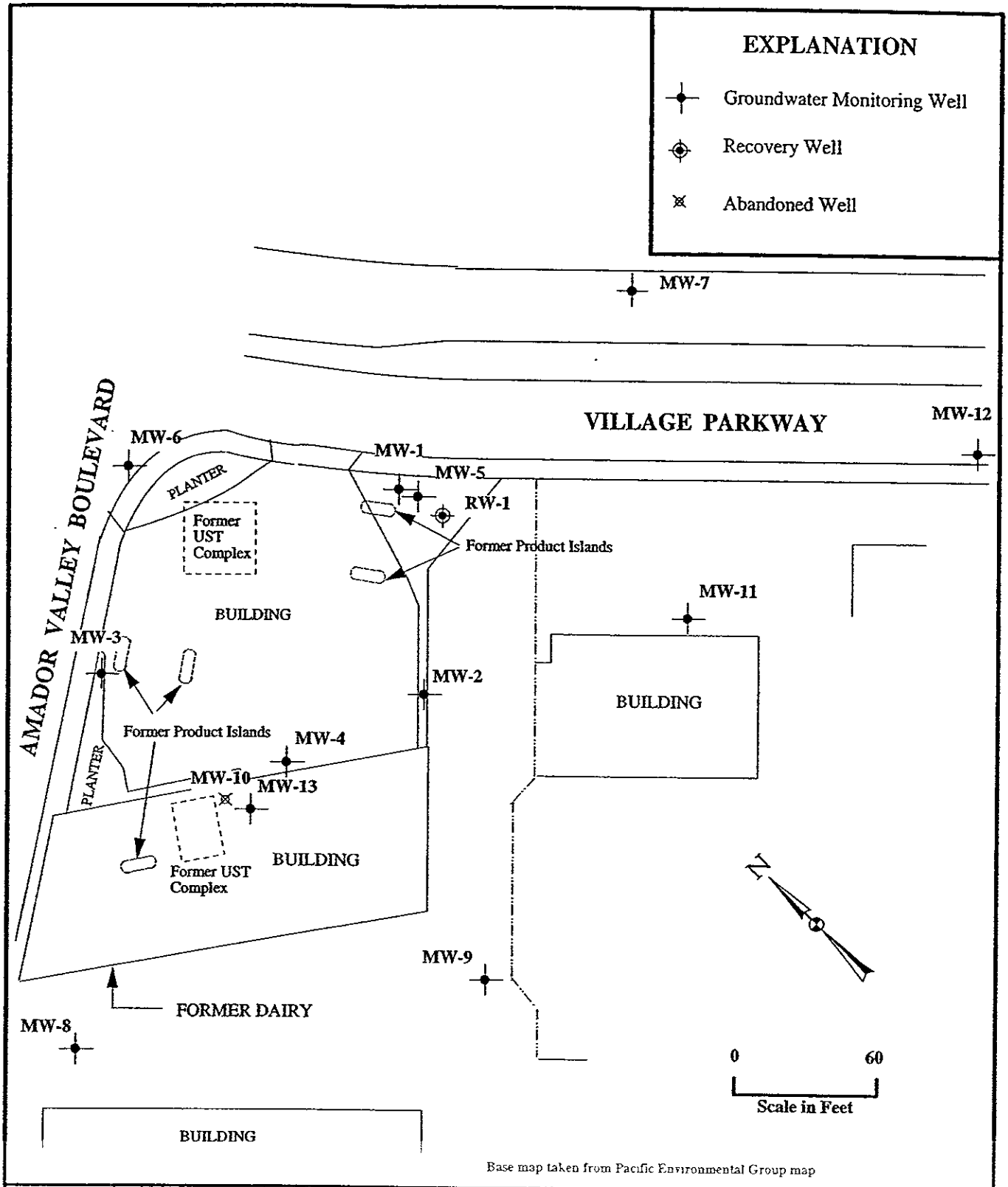
EXPLORATORY BORING

a. Total Depth 25.5 ft.
b. Diameter 10 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Casing length 24.44 ft.
Material Schedule 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 6 ft.
f. Perforated length 18 ft.
Perforated interval from 6 to 24 ft.
Perforation type machine slot
Perforation size 0.02 in.
g. Surface seal .5 ft.
Seal Material Concrete
h. Backfill 3 ft.
Backfill material Neat Cement Grout
i. Seal 1 ft.
Seal Material 1/2 In. Bentonite Pellets
j. Gravel pack 20 ft.
Pack material 2/20 Monterey Type Sand
k. Bottom seal --- ft.
Seal material n/a
l. Steel Protective Casing With Locking Cover

ensco environmental services, inc.



Base map taken from Pacific Environmental Group map

PLATE 2

SITE PLAN

Former Shell Service Station
7194 Amador Valley Boulevard
Dublin, California

enviros ®
95285

Drawn By: JLP Date: 5-2-95

Approved By _____ Date _____

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

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environmental
services, inc.

EXPLORATORY BORING LOG

PROJECT NAME: Shell Oil Company
Dublin, CA
PROJECT NUMBER: 1826G

BORING NO. MW-4
DATE DRILLED: 29-Apr-88
LOGGED BY: B. Von Thaden

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
1–7	SDC-1016	15	CL	SILTY CLAY - grey brown, ~ 40% silt, trace fine sand, stiff, low plasticity, damp, slight product odor.		22
8–11	SDC-1017	15	OL	SILTY CLAY - very dark gray, low to medium plasticity, stiff, minor roots, damp to moist, strong product odor. Static Water Level Measured 9-May-88 At 10.88 Feet.	▼	62
12–15	SDC-1018	11		- grades to dark grayish brown (2.5YR, 4/2), slight mottling, medium plasticity, stiff, moist to wet, no product odor.		3
16–19	SDC-1019	5	CL	SILTY CLAY - dark greenish grey (7.5 YR N5) mottled with dark grayish brown (2.5YR 4/2), low to medium plasticity, medium stiff, wet, no product		0
20				Continued Next Page		

ensco environmental services, inc.

EXPLORATORY BORING LOG

PROJECT NAME: Shell Oil Company Dublin, CA
PROJECT NUMBER: 1826G

BORING NO. MW-4
DATE DRILLED: 29-Apr-88
LOGGED BY: B. Von Thaden

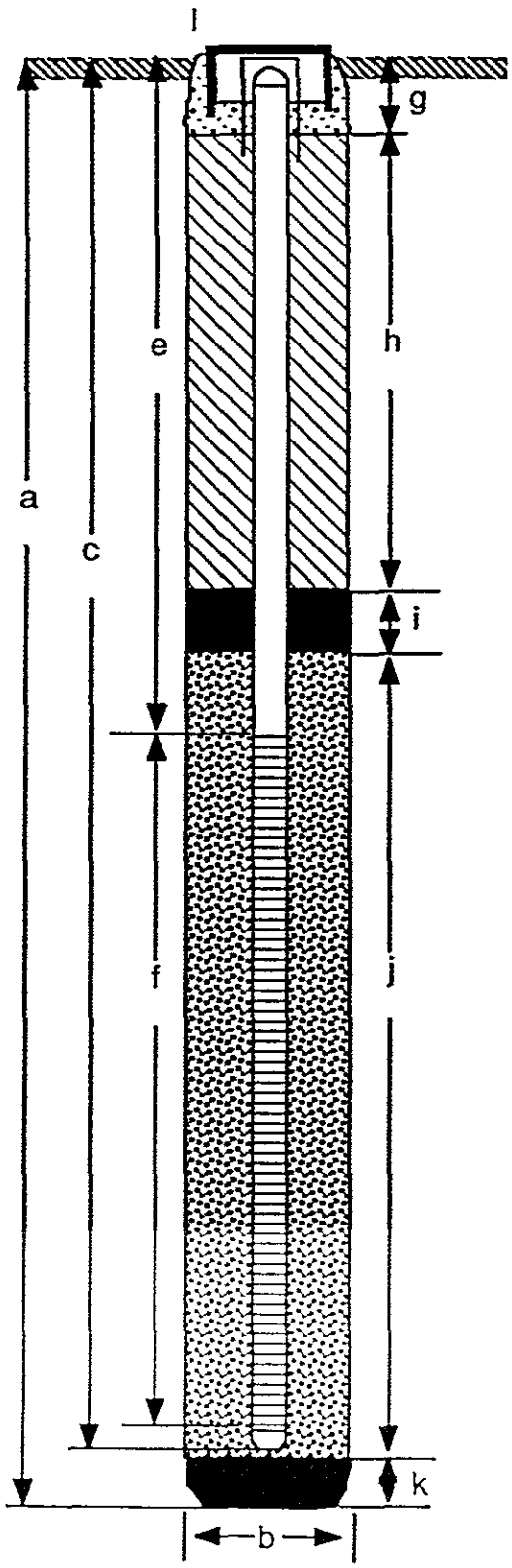
DEPTH (ft.)	SAMPLE No	BLOWS/FOOT 140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm	
21			CL	SILTY CLAY - dark greenish grey (7.5 YR N5) mottled with dark grayish brown (2.5YR 4/2), low to medium plasticity, medium stiff, wet, no product odor.			
22							
23							
24							
25	SDC-1020	18				0	
26				Bottom Of Boring 25.5 Feet			

SUPERVISED AND APPROVED BY: L. D. Lorbeer C.E.G. No. 1187

Monitoring Well Detail

PROJECT NUMBER 1826G
PROJECT NAME Shell Oil Company-Dublin
COUNTY Alameda
WELL PERMIT NO. 88082

BORING / WELL NO. MW-4
TOP OF CASING ELEV. 337.15
GROUND SURFACE ELEV. ---
DATUM Mean Sea Level



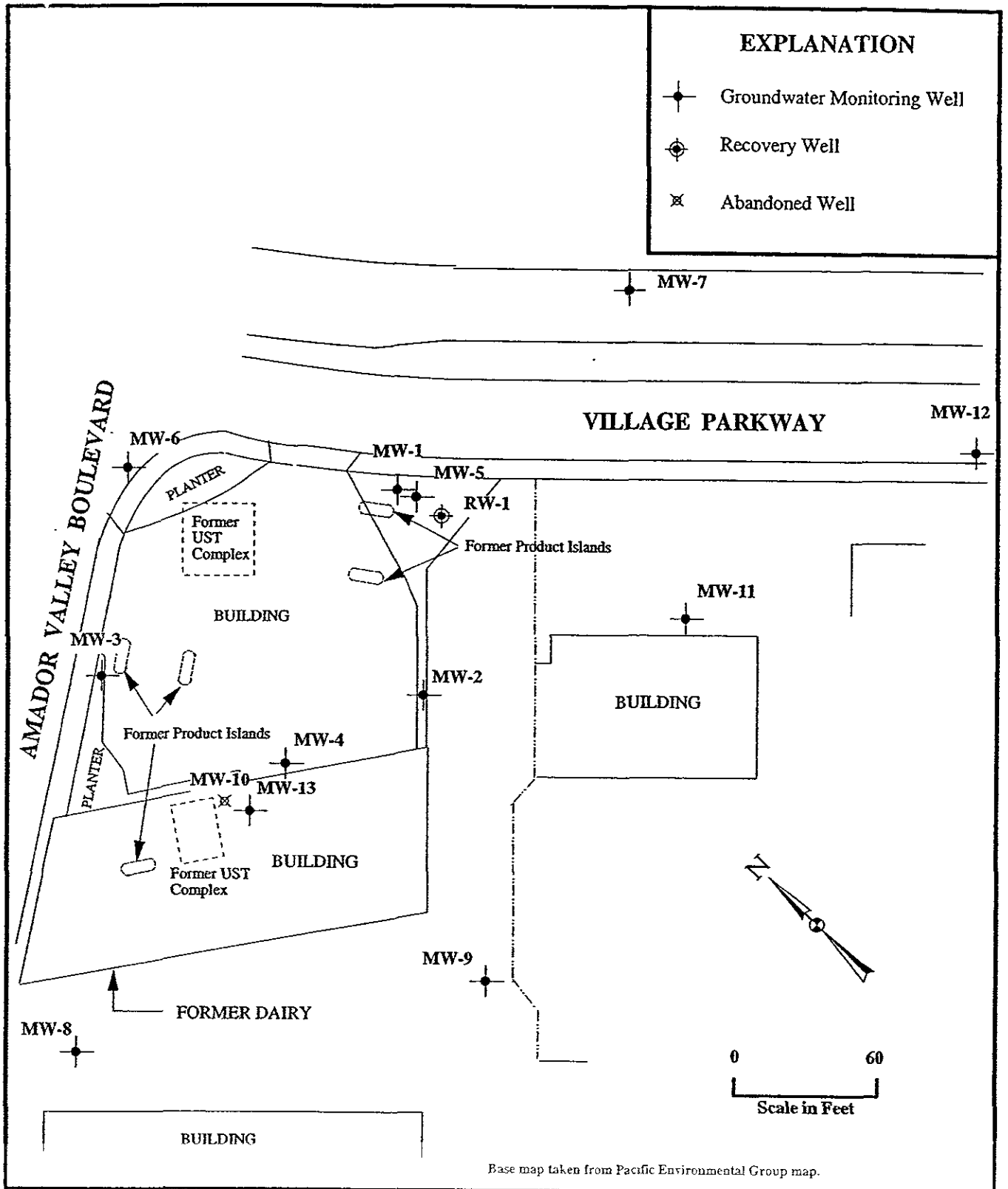
EXPLORATORY BORING

a. Total Depth 25.5 ft.
b. Diameter 10 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Casing length 24.90 ft.
Material Schedule 40 PVC
d. Diameter 4 in.
e. Depth to top perforations 6 ft.
f. Perforated length 18 ft.
Perforated interval from 6 to 24 ft.
Perforation type machine slot
Perforation size 0.02 in.
g. Surface seal .5 ft.
Seal Material Concrete
h. Backfill 3 ft.
Backfill material Neat Cement Grout
i. Seal 1 ft.
Seal Material 1/2 In. Bentonite Pellets
j. Gravel pack 20 ft.
Pack material 2/20 Monterey Type Sand
k. Bottom seal --- ft.
Seal material n/a
l. Steel Protective Casing With Locking Cover

ensco environmental services, inc.



Base map taken from Pacific Environmental Group map.

PLATE 2

SITE PLAN

Former Shell Service Station
7194 Amador Valley Boulevard
Dublin, California

enviros ®
95285

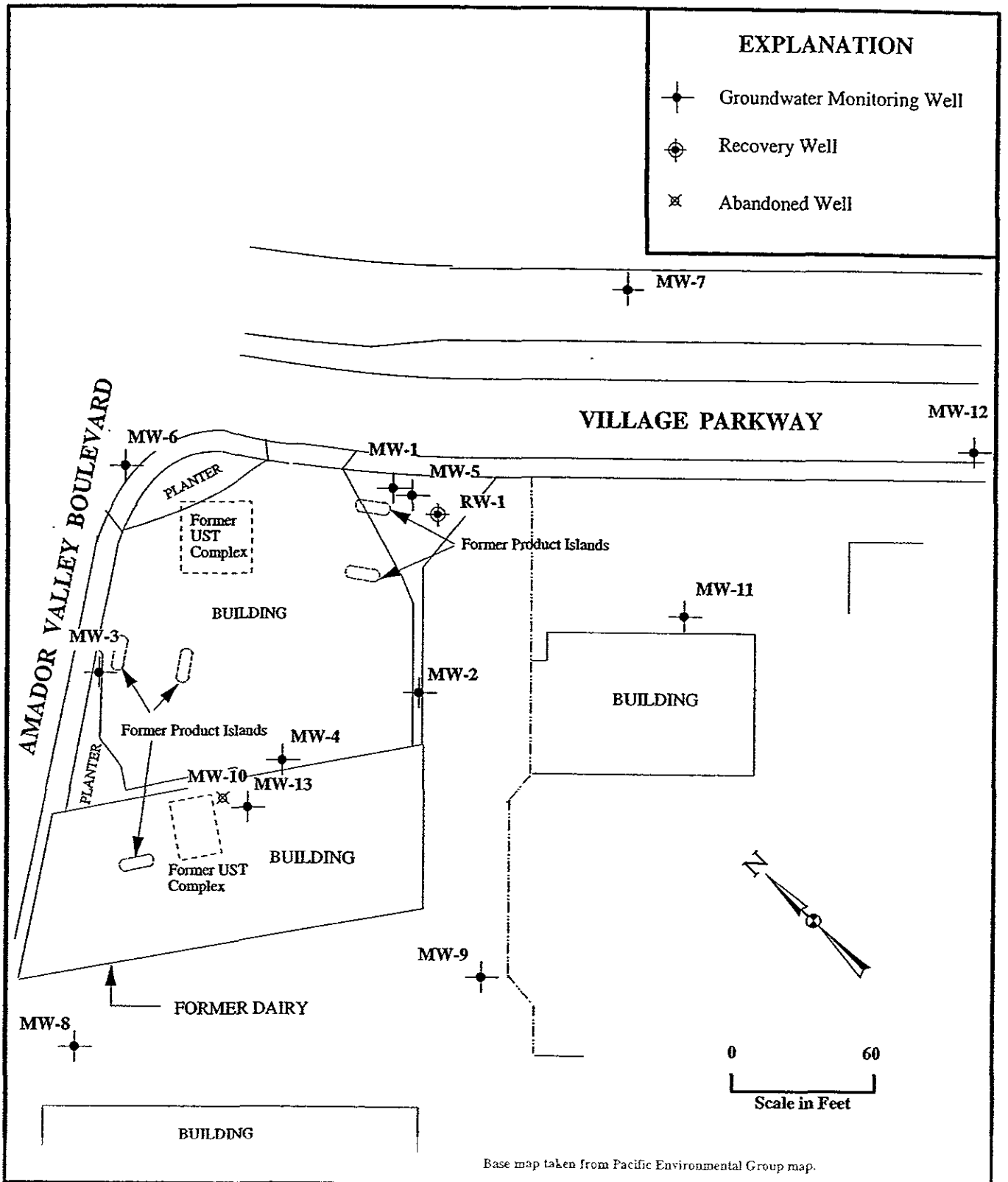
Drawn By: JLP Date: 5-2-95

Approved By:_____ Date:_____

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED



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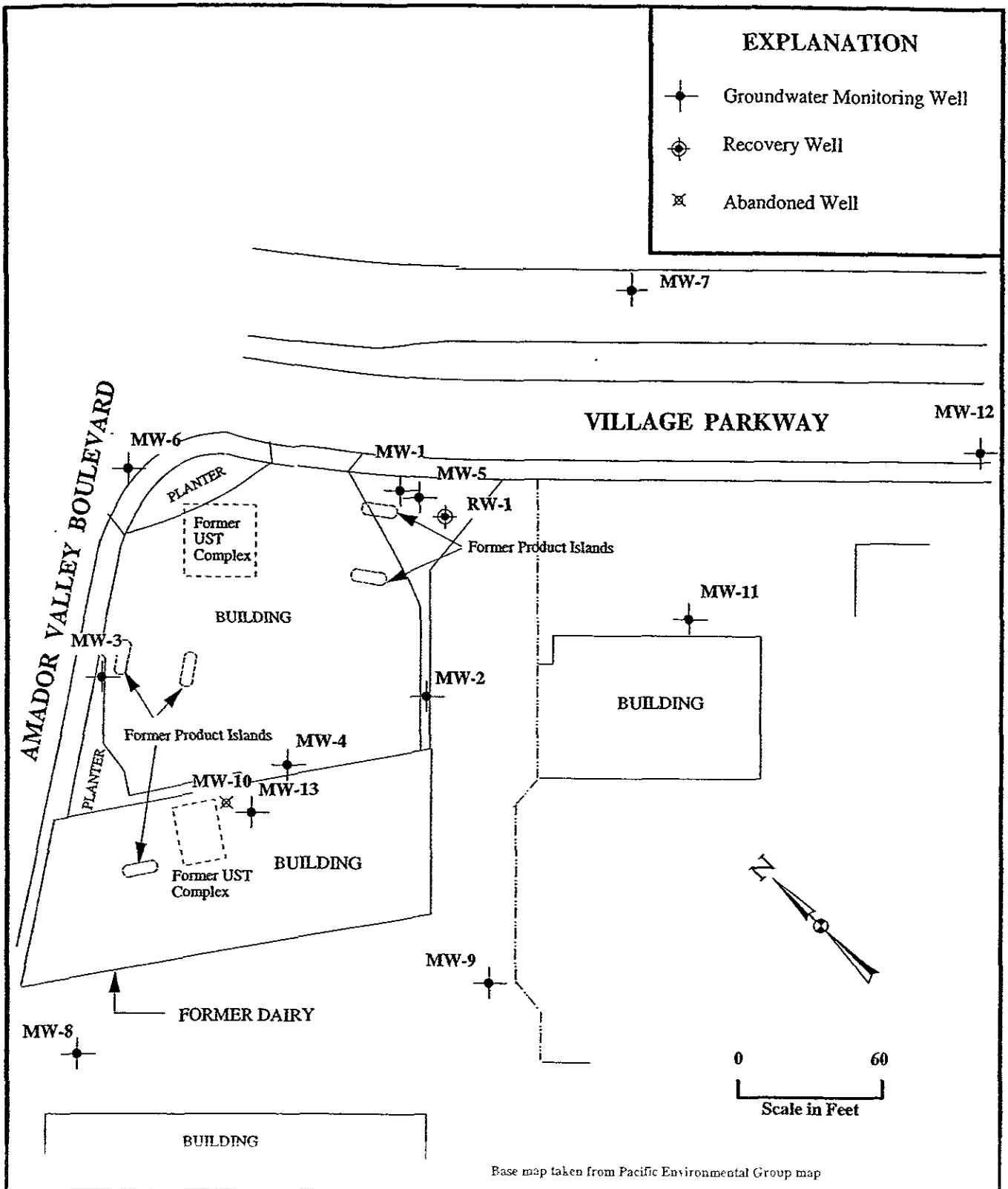

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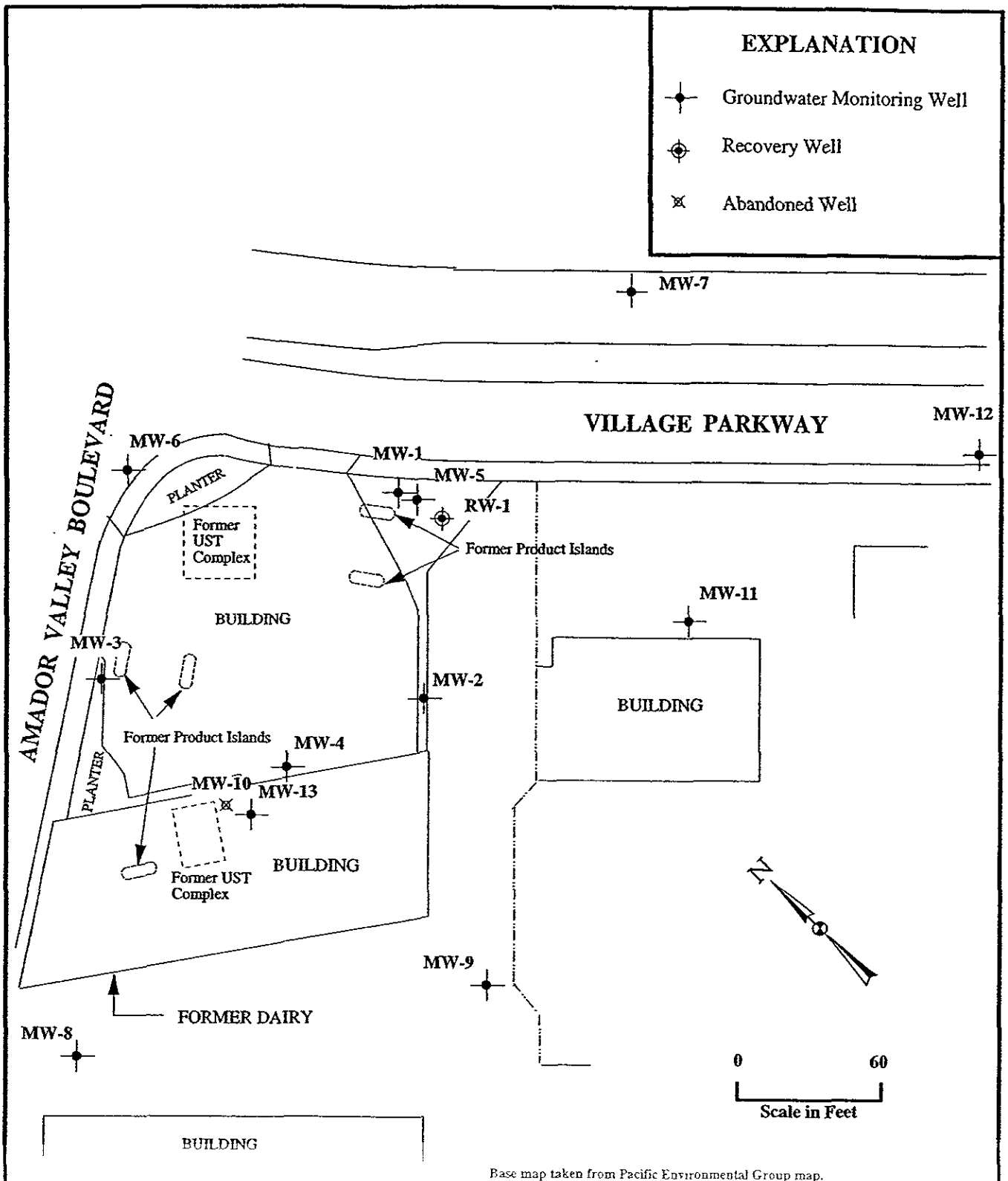

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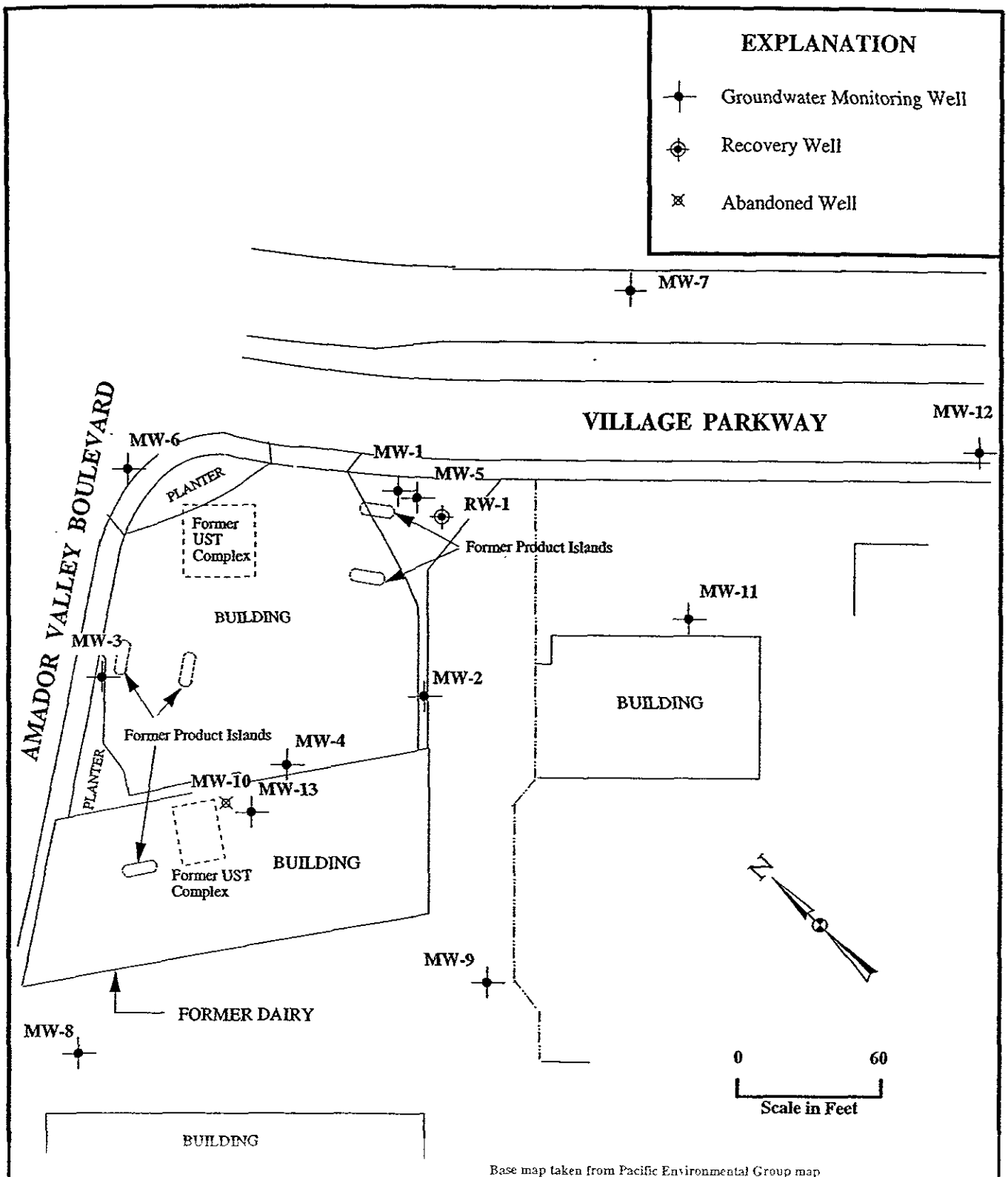

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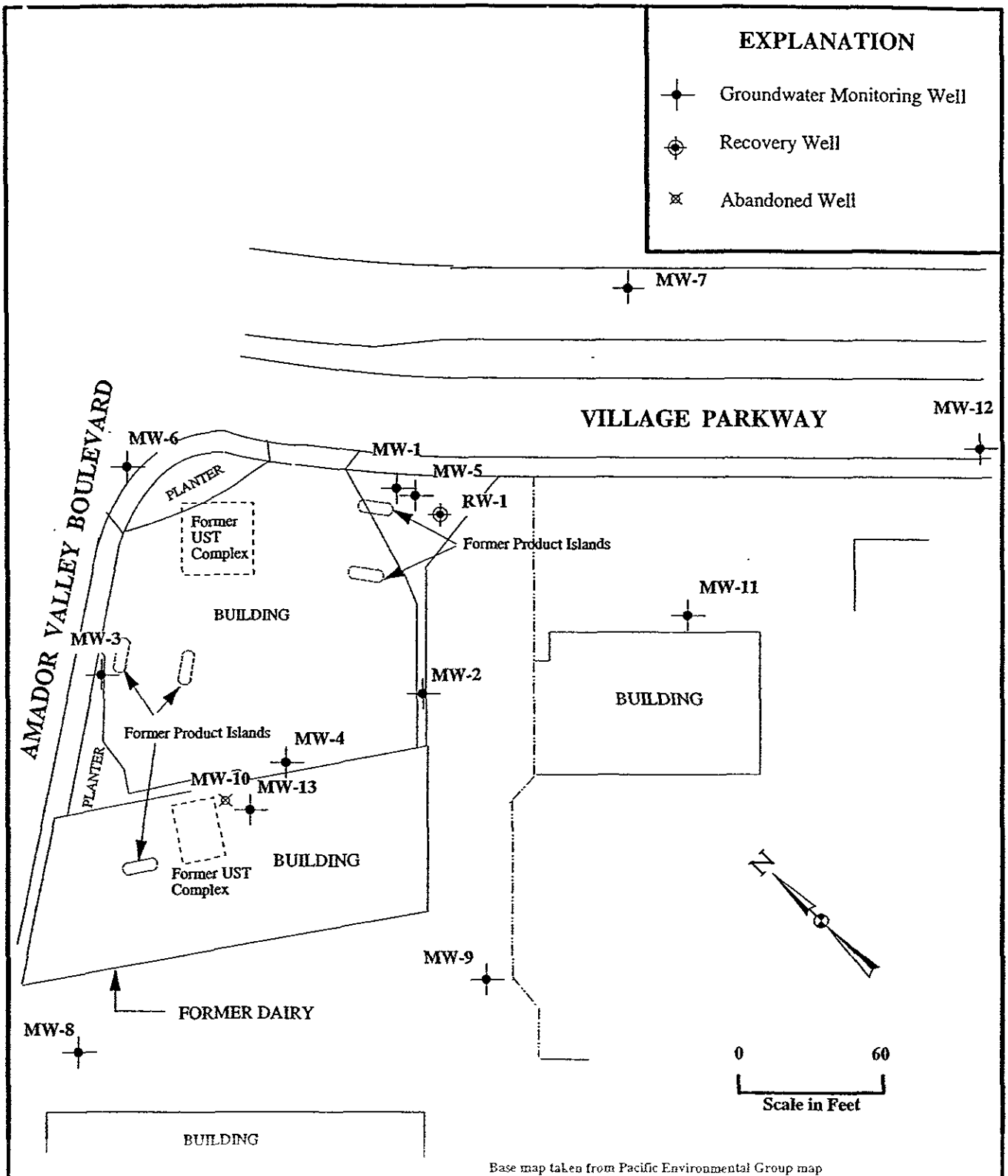

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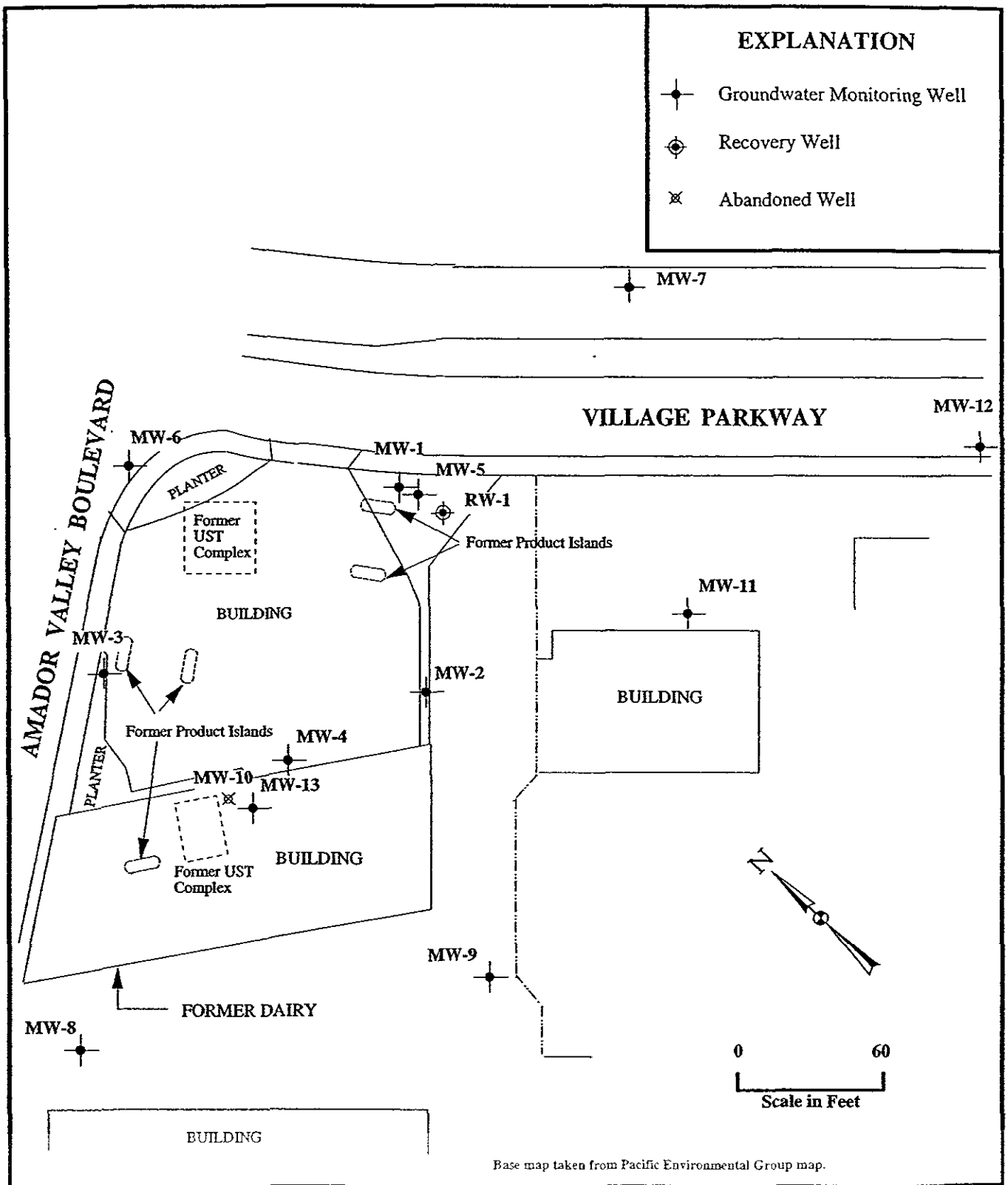

Base map taken from Pacific Environmental Group map.

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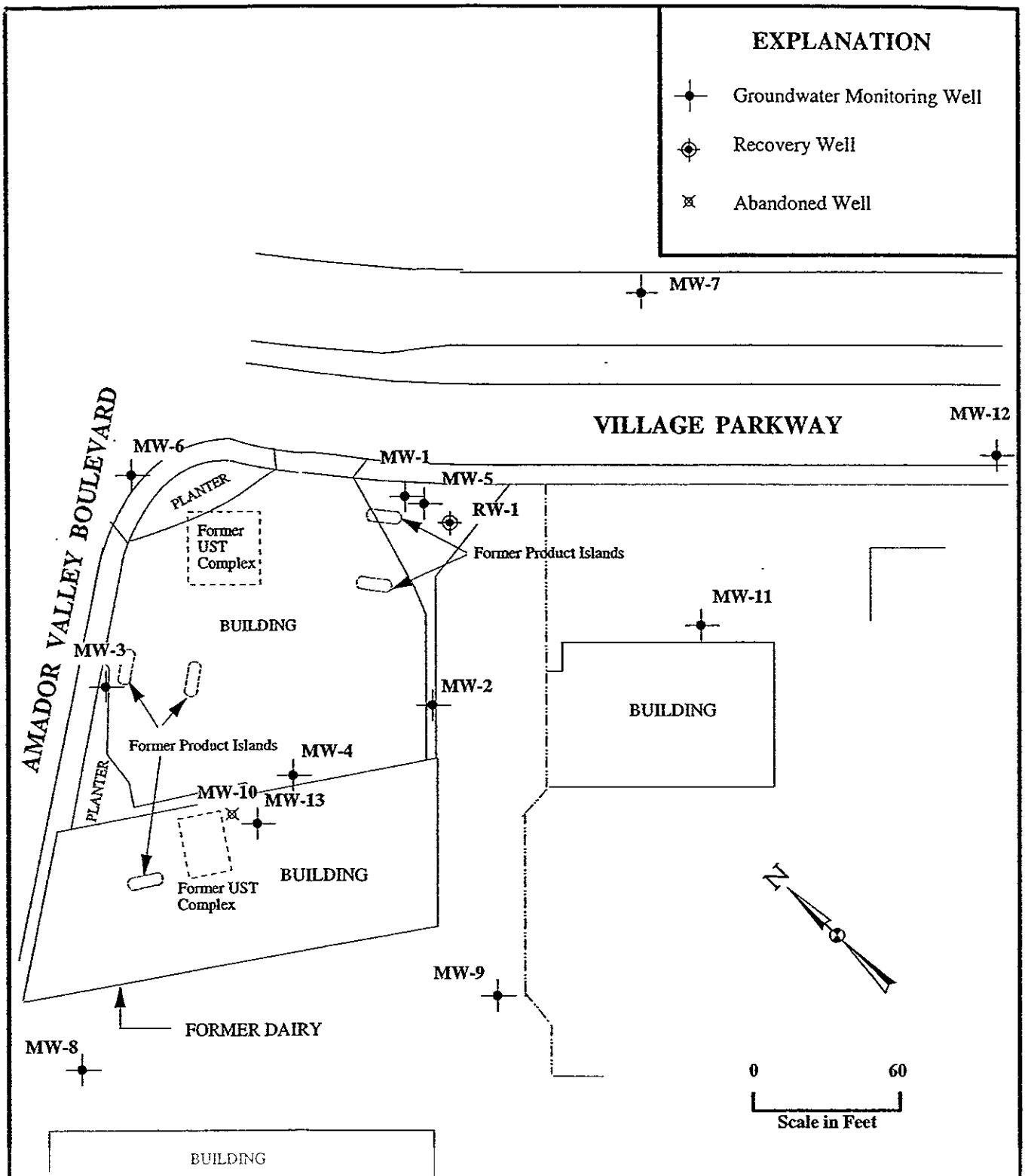

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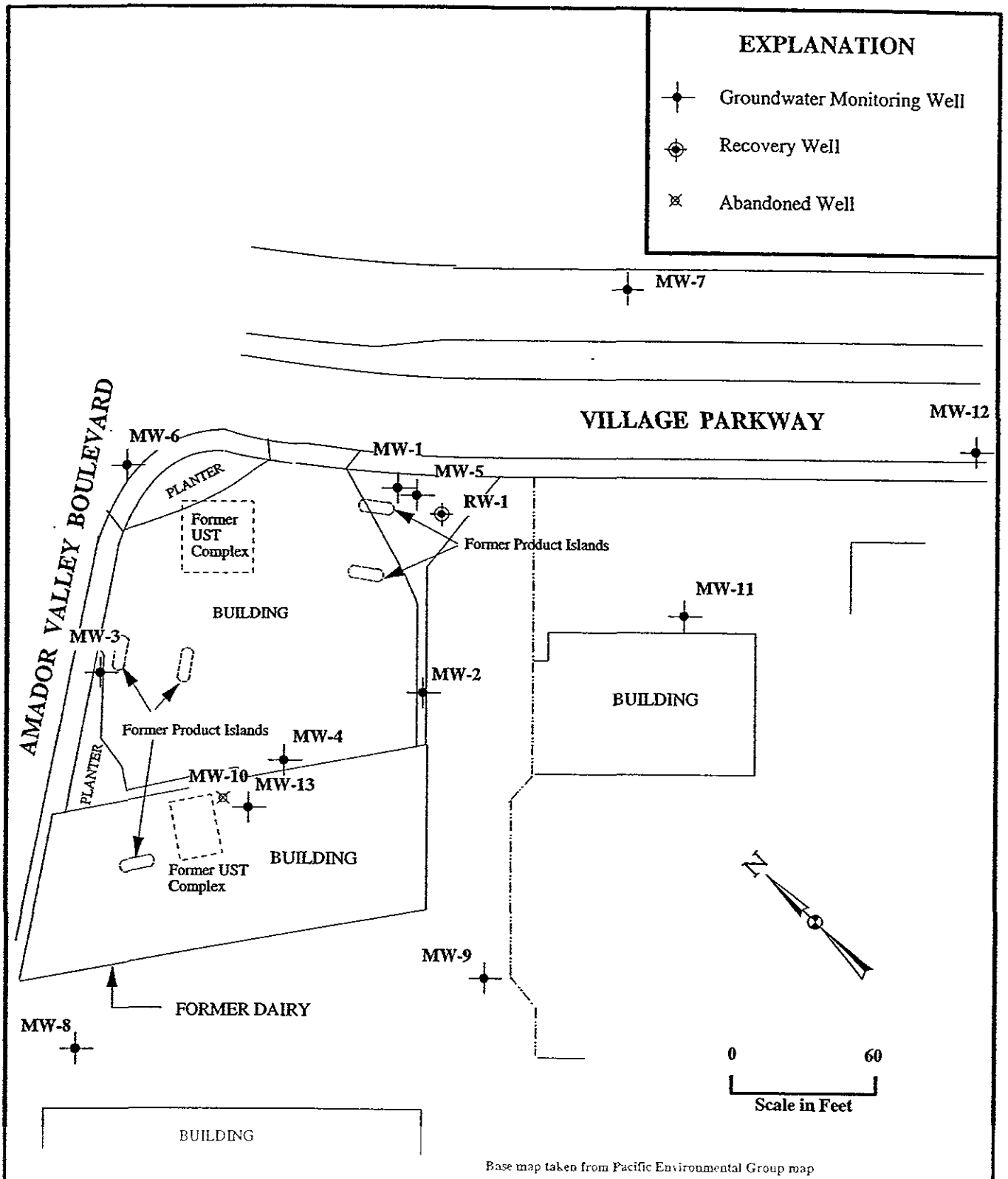

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EXPLORATORY BORING LOG

ensco environmental services, inc.

PROJECT NAME: Shell Oil, Dublin
7194 Amador Valley Blvd.

BORING NO. RW-1

DATE DRILLED: 7/27/89

PROJECT NUMBER: 1826G

LOGGED BY: S.C.

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVM READING ppm
1–5				**FILL: Sandy Gravel, 75% fine to coarse gravel, 25% medium to coarse sand, damp to dry**		
3–11	R1-1	13	CH	**SILTY CLAY, black (5YR 2.5/1), trace fine sand, trace fine gravel, high plasticity, stiff, damp**		5
11	R1-2	10				20
11–15				**CLAY, black (10YR 2/1), trace of sand, minor roots, high plasticity, stiff, moist**		310
16	R1-3	8	CH	**Color change to dark grayish brown (2.5Y 4/2) mottled with very dark gray (10YR 3/1), becomes silty, trace fine to coarse sand,** rare fine gravel, few to common decayed roots, common rootholes (wet), medium stiff, wet, water noted in holes	▽	0.5
21	R1-3	10		Color change to black (5Y 2.5/1), no gravel, no roots, few rootholes (wet), stiff, wet		0.5

REVIEWED BY R.G./C.E.G.

EXPLORATORY BORING LOG

ensco environmental services, inc.

PROJECT NAME: Shell Oil, Dublin
7194 Amador Valley Blvd.

BORING NO. RW-1

DATE DRILLED: 7/27/89

PROJECT NUMBER: 1826G

LOGGED BY: S.C.

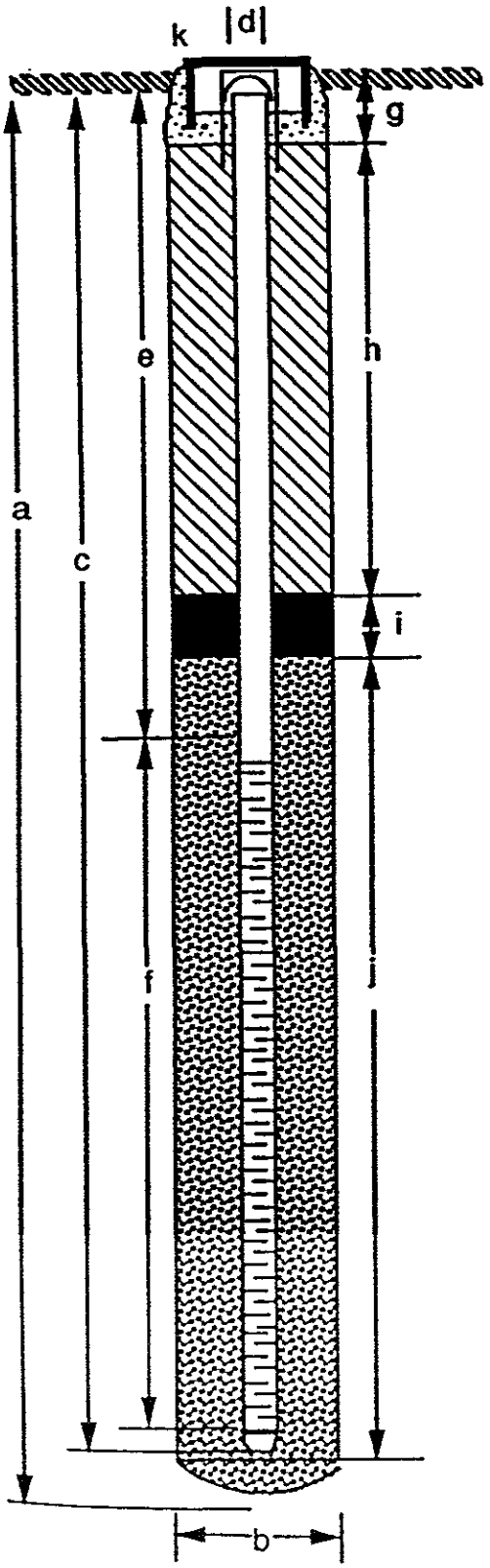
DEPTH (ft.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVM READING ppm
22			CH	SILTY CLAY, as above		
23						
24						
25			CL	SANDY CLAY, dark gray (5Y 4/1), 15% fine to coarse sand, rare root fibers, rare root holes, trace black organic staining, low to moderate plasticity, stiff, damp		
26	R1-5	16				0.5
27						
28						
29			CH	SANDY CLAY, dark gray (5Y 4/1) with very slight orange-brown staining, 15% fine sand, becomes 40% fine to coarse sand at shoe, some rootholes, very stiff, wet		
30						
31	R1-6	19				0.5
32				Bottom of Boring = 31.5 feet		
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						

REVIEWED BY R.G./C.E.G.

Recovery Well Detail

PROJECT NUMBER 1826G Shell Oil
PROJECT NAME 7194 Amador Valley Blvd.
COUNTY Alameda
WELL PERMIT NO.

BORING / WELL NO. RW-1
TOP OF CASING ELEV.
GROUND SURFACE ELEV.
DATUM Mean Sea Level



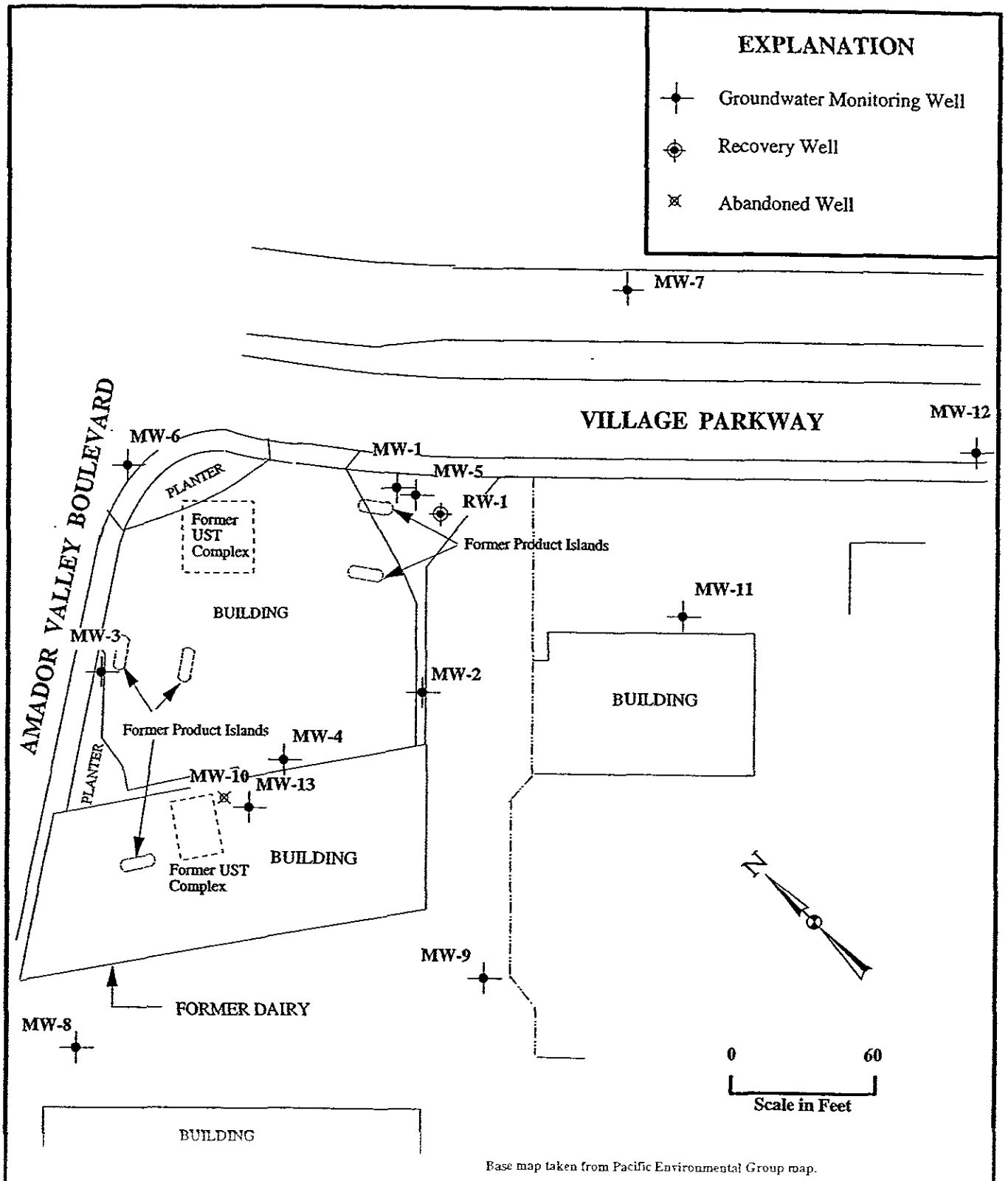
EXPLORATORY BORING

a. Total Depth 31.5 ft.
b. Diameter 10 in.
Drilling method Hollow Stem Auger

WELL CONSTRUCTION

c. Casing length 30 ft.
Material Schedule 40 PVC
d. Diameter 6 in.
e. Depth to top perforations 10 ft.
f. Perforated length 20 ft.
Perforated interval from 30 to 10 ft.
Perforation type Machine Slot
Perforation size 0.020 in.
g. Surface seal – ft.
Seal Material n/a
h. Backfill 8 ft.
Backfill material Grout
i. Seal 1 ft.
Seal Material Bentonite
j. Gravel pack 21 ft.
Pack material 2/12 Monterey Type Sand
k.

ensco environmental services, inc.



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