

R02604



Pacific Gas and Electric Company®

Technical and Ecological Services

3400 City Canyon Road
San Ramon, CA 94583
925.866.2000
Fax: 925.866.5681

RECEIVED
MAR 1 2006

Alameda County
Environmental Health
MAR 02 2006

February 21, 2006

Mr. Wyman Hong
Water Resources Specialist
Alameda County Zone 7 Agency
100 North Canyons Parkway
Livermore, CA 94551

Subject: Well Destruction, PG&E Livermore Training Center, 7205 National Drive, Livermore, California

Dear Mr. Hong:

Pacific Gas and Electric Company (PG&E) Environmental Services has prepared this report documenting the destruction of six groundwater monitoring wells (MW-1 through MW-6) at the PG&E Livermore Training Center, located at 7205 National Drive, Livermore, California. PG&E destroyed the groundwater monitoring wells at the request of the Alameda County Zone 7 Water Agency (the County) and the Alameda County Environmental Health Services (Environmental Health) and because they are no longer in use. Monitoring wells MW-1 through MW-6 were installed in August 1990. The locations of former monitoring wells MW-1 through MW-6 and other site features are shown on Figure 1.

Prior to performing the well destruction, PG&E obtained drilling permit number 26026 from the County for the destruction of monitoring wells 3S/2E-1K2 (MW-1), 3S/2E-1L1 (MW-2), 3S/2E-1L2 (MW-3), 3S/2E-1L3 (MW-4), 3S/2E-1L4 (MW-5), 3S/2E-1K3 (MW-6). A copy of the drilling permit is provided in Appendix A.

On February 6, 2006, PG&E observed Gregg Drilling and Testing, Inc. (Gregg) destroy groundwater monitoring wells MW-1 through MW-6. Prior to the monitoring well destruction, PG&E measured and recorded the depth to water and total depth of each well. The total depth of monitoring wells MW-1 through MW-6 were 39.35', 39.40', 39.42', 39.72', 39.82', and 39.49', respectively. The depth to water measurements in monitoring wells MW-1 through MW-6 were 27.66', 29.45', 24.43', 24.45', 29.05', and 24.08', respectively. Monitoring wells MW-1 through MW-6 were all constructed of 2-inch diameter PVC.

Gregg destroyed groundwater monitoring wells MW-1 through MW-6 by pressure grouting. The well casings were filled with cement grout from the bottom of the well to the top of the well casing and approximately 30 pounds of pressure was applied to the top of the casing for approximately five minutes. If the cement grout subsided in the well casing after the pressure was applied, the well casing was refilled with cement grout to the top of the well casing. The well boxes and concrete skirts were then removed and the upper two feet of the borings were backfilled with concrete.

Department of Water Resources (DWR) Well Completion Reports for monitoring wells MW-1 through MW-6 are provided in Appendix B. PG&E understands that the County will forward the completed DWR reports to the DWR.

Mr. Wyman Hong
February 21, 2006
Page 2 of 4

Please contact Rob Saur at 925.866.5888 if you have any questions.

Sincerely,



Robert Saur
Environmental Geologist
PG&E Environmental Services



David Harnish
Professional Geologist #4671
PG&E Environmental Services

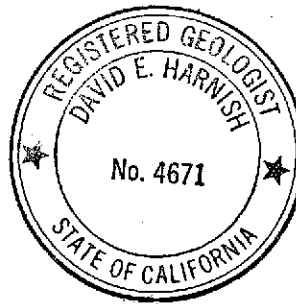
RAS: ngc
402.331.06.16

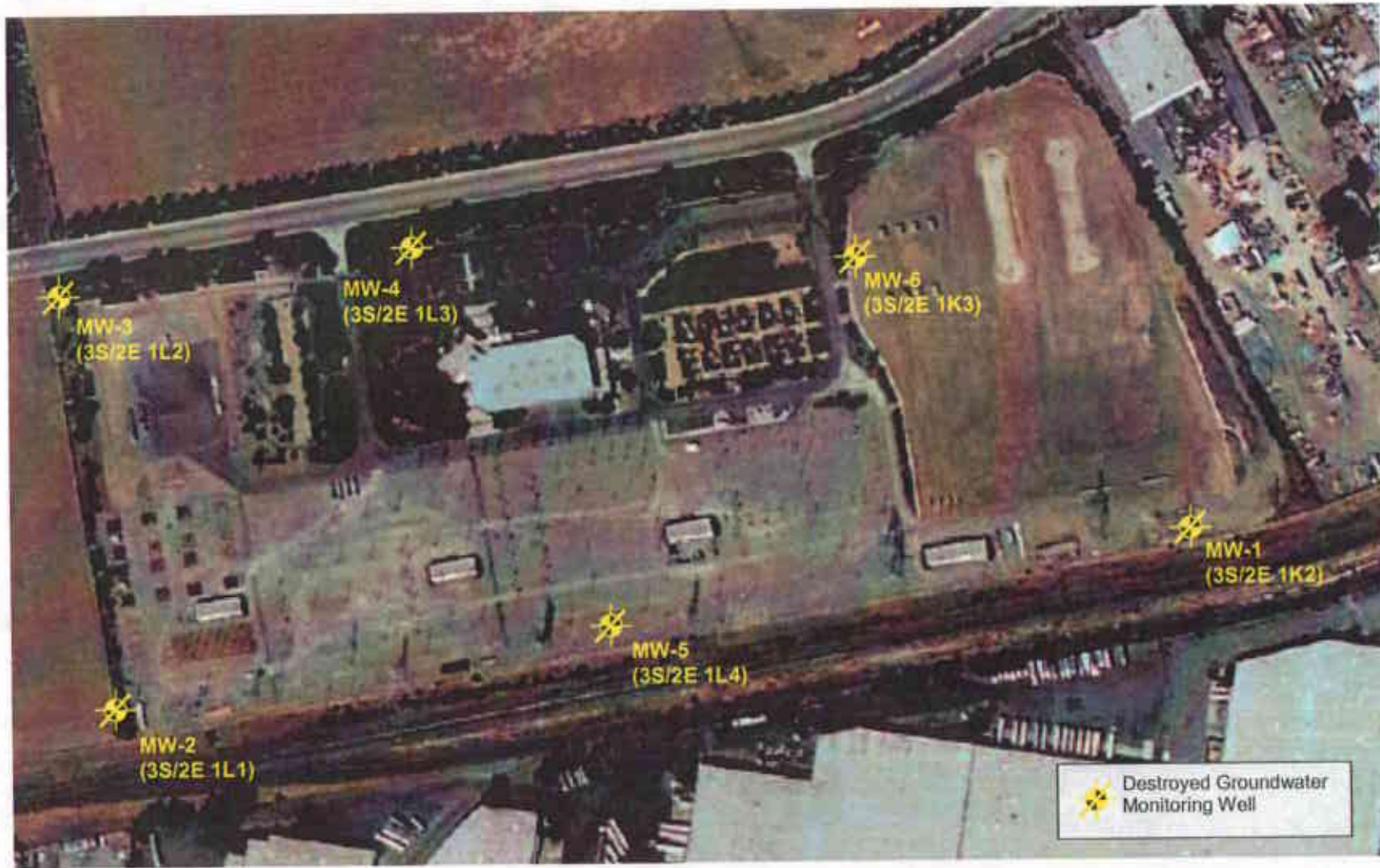
cc: Mr. Jerry Wickham, Alameda County Environmental Health Services, Environmental Protection

Attachments:

Figure 1: Site Map

Attachment A: Drilling Permit
Attachment B: DWR Well Completion Reports





060206/Livermore TC destroyed wells.doc

Figure 1. Site Map, PG&E Livermore Training Center, 7205 National Drive, Livermore, CA.



ZONE 7 WATER AGENCY

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

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT PG+E Livermore Training Center
7205 National Drive
Livermore, CA 94550

PERMIT NUMBER 26026
WELL NUMBER 3S/2E-1K2, 1K3, 1L1, 1L2, 1L3, 1L4
APN _____

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

PERMIT CONDITIONS

(Circled Permit Requirements Apply)

CLIENT Name PG+E EA Drew Saur
Address 6533 Ontario Rd Phone 925-546-3354
City San Luis Obispo Zip 93405

APPLICANT Name PG+E TES Rob Saur
Address 3400 Crow Canyon Rd Fax 925-866-5681
City San Ramon Phone 925-866-5833 Zip 94523

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

PROPOSED WELL USE
New Domestic ..
Municipal ..
Industrial ..
Dewatering ..
Irrigation ..
Remediation ..
Groundwater Monitoring ..
Other ..

DRILLING METHOD:
Mud Rotary .. Air Rotary ..
Cable Tool .. Direct Push ..
Hollow Stem Auger ..
Other Pressure Grout

DRILLING COMPANY Gregg Drilling & Testing, Inc
DRILLER'S LICENSE NO. 485165

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 40 ft.
Surface Seal Depth 23 ft. Number 6

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

ESTIMATED STARTING DATE 2/6/06
ESTIMATED COMPLETION DATE 2/6/06

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-88.

APPLICANT'S SIGNATURE Rob Saur Date 1/26/06
Rob Saur

ATTACH SITE PLAN OR SKETCH

- 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 thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
 3. An access port at least 0.5 inches in diameter is required on the wellhead for water level measurements.
 4. A sample port is required on the discharge pipe near the wellhead.
- 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 with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.
- E. CATHODIC. Fill hole above anode zone with concrete placed by tremie.
- F. WELL DESTRUCTION. See attached.
- G. SPECIAL CONDITIONS. Submit to Zone 7 within 60 days after the completion of permitted work the well installation report including all soil and water laboratory analysis results.

Approved Wyman Hong Date 1/31/06

January 31, 2006

**Zone 7
Water Resources Engineering
Groundwater Protection Ordinance**

**Pacific Gas and Electric
7205 National Drive
Livermore**

**Wells 3S/2E-1K2 (MW-1), 3S/2E-1K3 (MW-6), 3S/2E-1L1 (MW-2), 3S/2E-1L2 (MW-3), 3S/2E-1L3 (MW-4) and 3S/2E-1L4 (MW-5)
Permit 26026**

Destruction Requirements:

1. Clean out all bridged or poorly compacted materials to the bottom of the well.
2. Sound the well as deeply as practicable and record for your report.
3. Pressure grout the casing to two feet below the finished grade or original ground, whichever is the lower elevation.
4. Remove the casing, seal, and gravel pack to two feet below the finished grade or original ground, whichever is the lower elevation (optional).
5. After the seal has set, backfill the remaining hole with compacted material (optional).

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

35/ZE 1KZ

**BORING LOG B-3
(MONITORING WELL NO. 1)**

JOB NUMBER: 90-71-131
 JOB NAME: PG&E, LIVERMORE
 DRILL RIG: MOBILE B-57

DATE DRILLED: 8/14/90
 SURFACE ELEVATION: 385.93
 DATUM: MEAN SEA LEVEL

SAMPLER TYPE: 2 1/2" SPLIT SPOON DRIVE WEIGHT-LB: 140 HEIGHT OF FALL-IN: 30

* Laboratory Analysis: S-Soil Properties C-Chemical Properties

Depth feet	Well Construction	Lab # Analysis	Blows Per Foot	Sample Depth	Sample Type	USCS Symbol	Description
2	Watertight utility box locking steel cover PVC cap		35 50/4"	2		ML	CLAYEY SILT with sand - Reddish-brown, moist, hard, sand is fine-grained. OVM = 0 ppm.
4	Heat Cement Grout			4			
5	2" Diameter SCH 40 Blank						
8			40 50/3"	8			CLAYEY SILT with sand - Light brown, moist, hard, sand is medium to fine-grained, caliche, iron spots. OVM = 0 ppm.
10				10			
12							
14			30 50/4.5"	14		SP	POORLY GRADED SAND with minor clay and silt - light brown, moist, dense, sand is fine to coarse-grained, caliche, iron spots. OVM = 0 ppm.
16				16			
18		C	24 50/5.5"	18		ML	CLAYEY SILT with minor sand - Tan, moist, hard, sand is fine-grained, caliche. OVM = 0 ppm.
20				20			
22	Bentonite						
24	No. 2/16 Sand	C	40 50/5"	24			CLAYEY SILT with sand - Tan, moist, hard, sand is fine to medium-grained. OVM = 0 ppm.
26	2" Diameter PVC SCH 40 0.01 Slot			26			
28		C	25 50/4.5"	28		SP	POORLY GRADED SAND with minor silt and clay - Tan, wet, very dense, sand is fine to coarse-grained. OVM = 0 ppm.
30				30			

Du Pont Environmental Remediation Services

Logged by: ML

Approved by: DA RG 4S16

DU PONT ENVIRONMENTAL REMEDIATION SERVICES

35/2E 1K2

**BORING LOG B-3
(MONITORING WELL NO. 1)**

JOB NUMBER: 90-71-131
 JOB NAME: PG&E, LIVERMORE
 DRILL RIG: MOBILE B-57

DATE DRILLED: 8/14/90
 SURFACE ELEVATION: 585.93
 DATUM: MEAN SEA LEVEL

SAMPLER TYPE: 2-1/2" I.D. SPLIT SPOON DRIVE WEIGHT-LB: 140 HEIGHT OF FALL-IN: 30

* Laboratory Analysis: I-Soil Properties C-Chemical Properties

Depth feet	Well Construction	Lab # Analysis	Blows Per Foot	Sample Depth	Sample Type	USCS Symbol	Description	
34			30 50/4"	34	ML	ML	CLAYEY SILT with sand - light brown, moist, hard, sand is fine to medium grained. D ₉₀ = 0 ppm.	
36			2 9 8	36	SP	SP	POORLY GRADED SAND with gravel - Tan, wet, medium dense, sand is fine to coarse-grained, gravel is fine.	
38					38			
40					40			As above.
42					42	ML	ML	CLAYEY SILT with sand - light brown, moist, hard, sand is fine-grained, caliche.
44					44			
46				9 18 50/3"	46	ML	ML	
48					48			Boring terminated at 46.5 feet. Hole caved to 29 feet and redrilled to 40 feet. Well set 25-40 feet. Ground water encountered at 29 feet.
50					50			
52					52			
54				54				
56				56				
58				58				
60				60				
62				62				

Du Pont Environmental Remediation Services

Logged by: ML Approved by: DR. RG 4516

DU PONT ENVIRONMENTAL REMEDIATION SERVICES



060206/Livermore TC destroyed wells.doc

Figure 1. Site Map, PG&E Livermore Training Center, 7205 National Drive, Livermore, CA.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

39/2E 1L1

BORING LOG B-7
(MONITORING WELL NO.2)

JOB NUMBER: 90-71-131
 JOB NAME: PG&E, LIVERMORE
 DRILL RIG: MOBILE B-57

DATE DRILLED: 8/15/90
 SURFACE ELEVATION: 572.72
 DATUM: MEAN SEA LEVEL

SAMPLER TYPE: 3 1/2" SPLIT SPOON DRIVE WEIGHT-LB: 140 HEIGHT OF FALL-IN: 30

* Laboratory Analysis: S-Soil Properties C-Chemical Properties

Depth feet	Well Construction	Lab. Analysis	Blows Per Foot	Sample Depth	Sample Type	USCS Symbol	Description
2	Wapertight utility box Locking steel cover PVC cap Heat Cement Grout 2" Diameter SCH 40 Blank			2			
4			55	4	SM	SM	SILTY SAND - 10 YR 4/4 dark yellowish brown, moist, very dense, sand is very fine to fine-grained. OVM = 0 ppm.
6				6			
8				55	8	SM	SM
10				10			
12				12			
14			48	14	SM	SM	As above, 10 YR 5/4 yellowish brown, minor clay. OVM = 0 ppm.
16				16			
18		C		18	SM	SM	
20			55	20	SM	SM	WELL GRADED SAND - 2.5 YR 5/6 light olive brown, moist, very dense, medium to coarse-grained, poorly rounded to angular. OVM = 0 ppm.
22	Sentonite			22			
24	No. 2/16 Sand	C*		24	SM	SM	As above, 10 YR 6/4 light yellow brown. OVM = 0 ppm.
26				26			
28	2" Diameter PVC SCH 40 0.01 Slot			28	SM	SM	
30		C		30	SM	SM	WELL GRADED SAND with gravel - 7.5 YR 6/4 reddish yellow, very moist, very dense, sand is fine to coarse-grained. OVM = 0 ppm.

Du Pont Environmental Remediation Services

Logged by: ML

Approved by: JA R54816

35/2E 1L1

**BORING LOG B-7
(MONITORING WELL NO.2)**

JOB NUMBER: 90-71-131
 JOB NAME: PG&E, LIVERMORE
 DRILL RIG: MOBILE B-57

DATE DRILLED: 8/15/90
 SURFACE ELEVATION: 572.72
 DATUM: MEAN SEA LEVEL

SAMPLER TYPE: 2-1/2" I.D. SPLIT SPOON DRIVE WEIGHT-LB: 140 HEIGHT OF FALL-IN: 30

* Laboratory Analysis: S-Soil Properties C-Chemical Properties

Depth feet	Well Construction	Lab # Analysis	Blows Per Foot	Sample Depth	Sample Type	USCS Symbol	Description	
34			50/5"	34	SW	SW	WELL GRADED SAND with gravel - 7.5 YR 5/8 reddish yellow, wet, very dense, sand is fine to coarse-grained. Sample lost.	
36				36				
38					38			As above, 10 YR 5/3 brown, saturated, medium dense.
40				7	40			Boring terminated at 40 feet. Ground water encountered at 32 feet.
42				42				
44				44				
46				46				
48				48				
50				50				
52				52				
54				54				
56				56				
58				58				
60				60				
62				62				

Du Pont Environmental Remediation Services

Logged by: ML Approved by: DB REASIG



060206/Livermore TC destroyed wells.doc

Figure 1. Site Map, PG&E Livermore Training Center, 7205 National Drive, Livermore, CA.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

35/E 112

**BORING LOG B-8
(MONITORING WELL NO.3)**

JOB NUMBER: 90-71-131
 JOB NAME: PG&E, LIVERMORE
 DRILL RIG: MOBILE B-57

DATE DRILLED: 8/15/90
 SURFACE ELEVATION: 556.08
 DATUM: MEAN SEA LEVEL

SAMPLER TYPE: 2 1/2" SPLIT SPOON DRIVE WEIGHT-LB: 140 HEIGHT OF FALL-IN: 30

* Laboratory Analysis: S-Soil Properties C-Chemical Properties

Depth Feet	Well Construction	Lab # Analysis	Slows Per Foot	Sample Depth	Sample Type	USCS Symbol	Description
2	Water-tight utility box locking steel cover PVC cap			2			
4	Next Cement Grout		44	4		ML	CLAYEY SILT with minor sand - 5 YR very dark gray, moist, hard, sand is fine to coarse-grained. OVM = 0 ppm.
6				6			
8	2" diameter SCH 40 Blank		37	8		SP	POORLY GRADED SAND with minor silt - 2.5 YR 7/6 yellow, damp, very dense, sand is fine to very fine-grained, root nests, fractures. OVM = 0 ppm.
10			50/4.5"	10			
12				12			
14			74	14			As above. OVM = 0 ppm.
16			50	16			
18				18			As above, with minor clay - 2.5 YR 6/6 olive yellow, moist, caliche mottling, few coarse grains. OVM = 0 ppm.
20		C	50	20			
22	Bentonite			22			As above. OVM = 0 ppm.
24	No. 2/16 Sand	C	26	24			
26			50/5"	26			
28	3" diameter PVC SCH 40 0.01 Slot			28			
30		C	38	30		SU	WELL GRADED SAND with gravel - 10 YR 6/4 light yellow brown, wet, very dense, sand is fine to coarse-grained, gravel is fine-grained, caliche filling vertical cracks. OVM = 0 ppm.

Du Pont Environmental Remediation Services
 Logged by: ML Approved by: DB RG 4516

DU PONT ENVIRONMENTAL REMEDIATION SERVICES

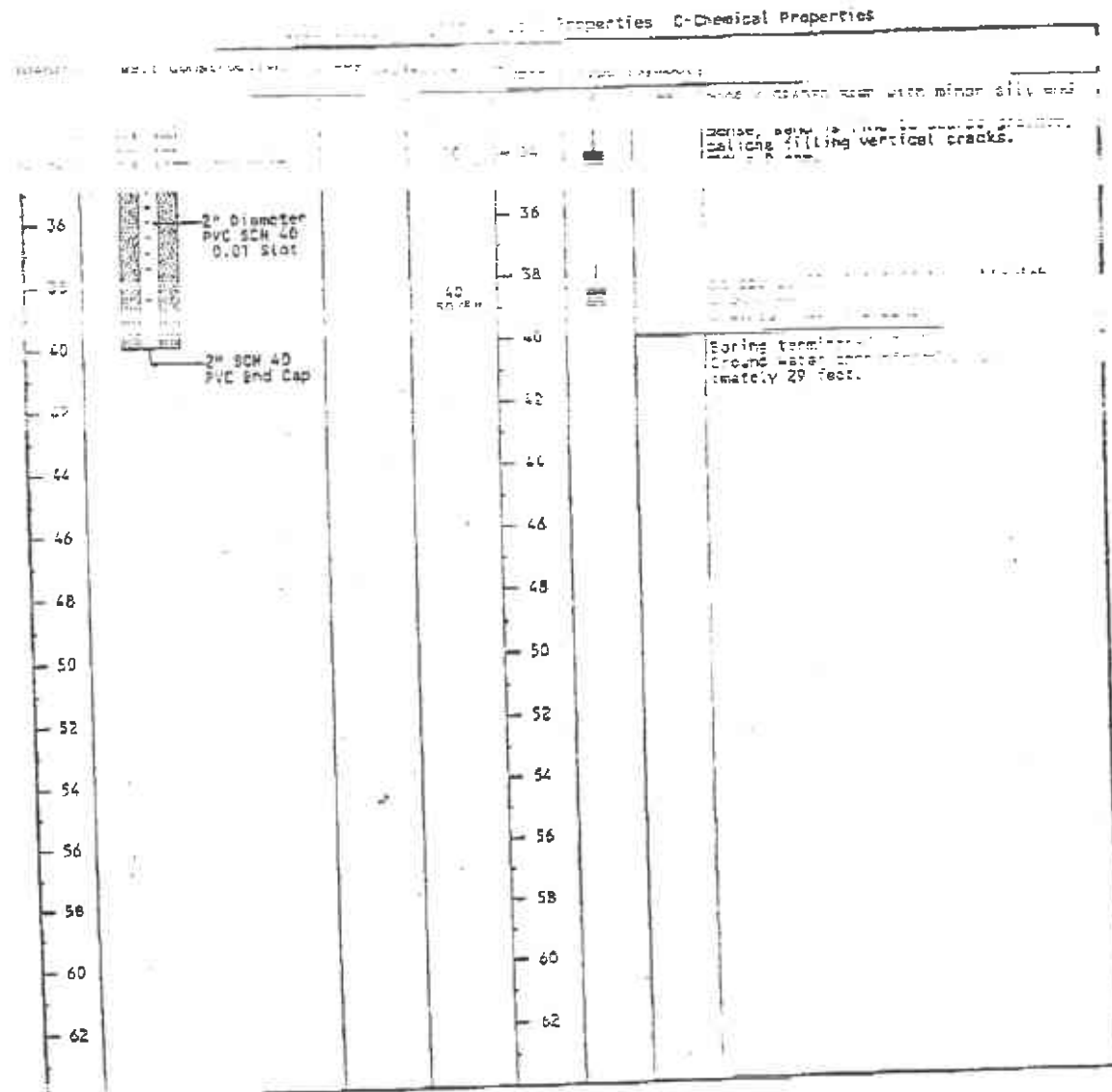
5/22/90

BORING LOG B-8 (MONITORING WELL NO. 3)

JOB NUMBER: 90-71-131

DATE NOTIFIED: 8/15/90
SHE: _____
MEAN SEA LEVEL: _____

WELL TYPE: _____ DRIVE WEIGHT-LB: _____ HEIGHT OF FALL-IN: _____



Logged by: ML Approved by: DR R5-316

DUPONT ENVIRONMENTAL REMEDIATION SERVICES



060206/Livermore TC destroyed wells.doc

Figure 1. Site Map, PG&E Livermore Training Center, 7205 National Drive, Livermore, CA.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

35/2E 1L3

**BORING LOG B-9
(MONITORING WELL NO. 4)**

JOB NUMBER: 90-71-131
 JOB NAME: PG&E, LIVERMORE
 DRILL RIG: MOBILE B-57

DATE DRESSED: 8/16/90
 SURFACE ELEVATION: 571.54
 DATUM: MEAN SEA LEVEL

SAMPLER TYPE: 2 1/2" SPLIT SPOON DRIVE WEIGHT-LB: 140 HEIGHT OF FALL-IN: 30

* Laboratory Analysis: S-Soil Properties C-Chemical Properties

Depth feet	Well Construction	Lab # Analysis	Blows Per Foot	Sample Depth	Sample Type	USCS Symbol	Description
2	Watertight utility box locking steel cover PVC cap			2			
4	Wet Cement Grout	C	30 50/3"	4		SP	POORLY GRADED SAND with minor silt and clay - 5 YR 5/1 very dark gray, dry, very dense, sand is fine to very fine-grained, roots, caliche. OVM = 0 ppm.
6				6			
8	2" Diameter SCH 40 Blank		24 34 50/5"	8		SW	WELL GRADED SAND - 10 YR 5/4 yellowish brown, moist, very dense, sand is fine to coarse-grained. OVM = 6 ppm.
10				10			
12				12			
14			31 50/5"	14		SP	POORLY GRADED SAND with minor silt and clay - 10 YR 5/6 yellowish brown, moist, very dense, sand is fine to very fine-grained, vertical cracks with caliche and manganese, sub-horizontal cracks with caliche. OVM = 0 ppm.
16				16			Gravels.
18			9 15 34	18			POORLY GRADED SAND - 10 YR 6/4 light yellowish brown, moist, dense, sand is mainly fine-grained with minor coarse-grains, caliche. OVM = 0 ppm.
20		C		20			
22	Bentonite			22			
24	No. 2/16 Sand	C	13 30	24			POORLY GRADED SAND - 10 YR 5/4 yellowish brown, moist, dense, sand is fine to very fine-grained, caliche. OVM = 0 ppm.
26	2" Diameter PVC SCH 40 0.01 Slot			26			
28			50/5"	28			No sample retained for lab. POORLY GRADED SAND - 10 YR 5/3 brown, very moist, dense, sand is medium-grained.
30			50/3"	30		SW	WELL GRADED SAND with gravel - 10 YR 5/4 yellowish brown, wet, dense, gravel is fine-grained, sand is fine to coarse-grained.

Du Pont Environmental Remediation Services

Logged by: ML Approved by: DR RB 4516

3S/2E 1L3

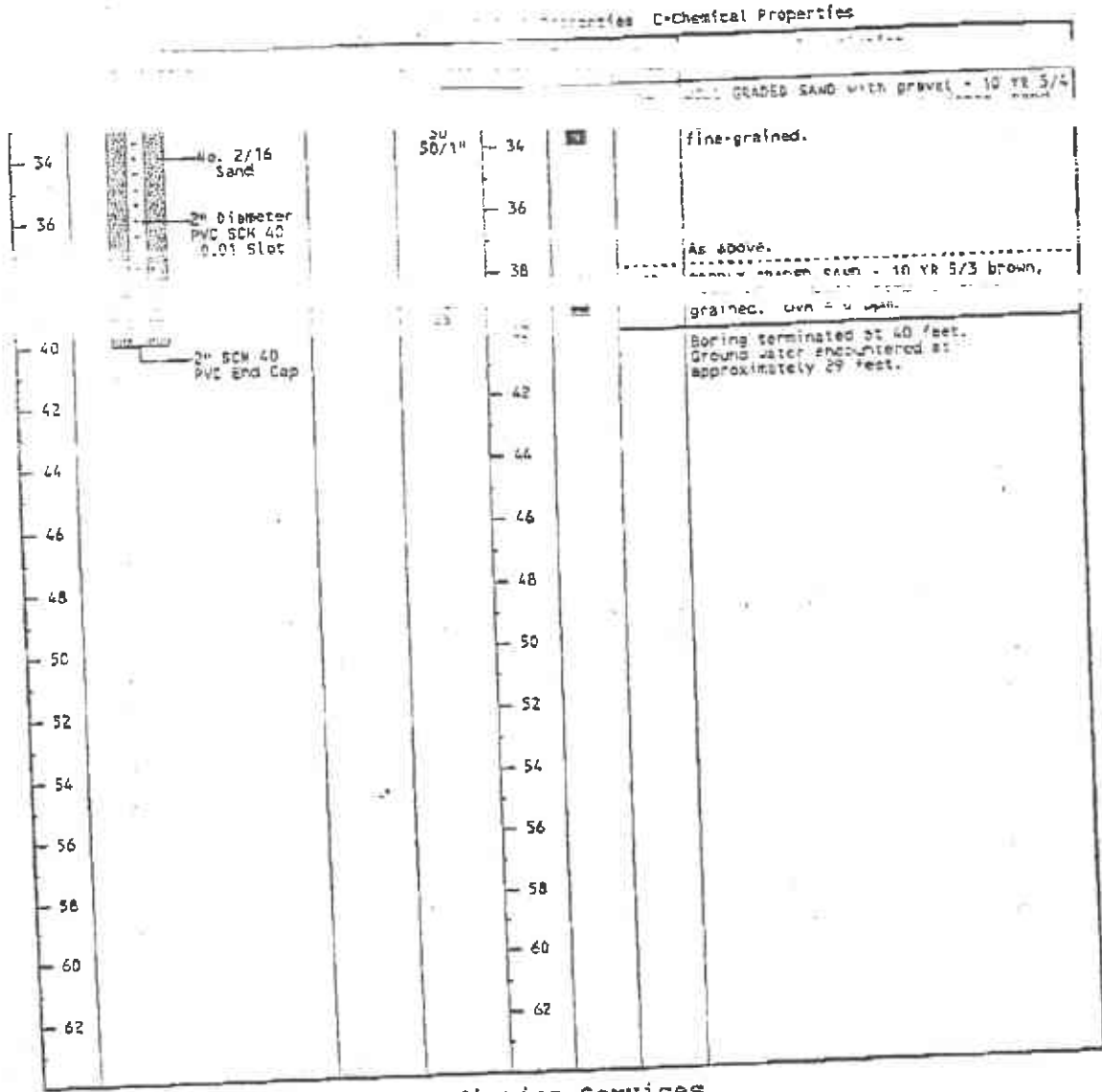
BORING LOG B-9
(MONITORING WELL NO. 4)

JOB NUMBER: 90-71-131
ROAD, LEVERMORE

DATE DRILLED: 8/16/90
SURFACE:
DATUM: MEAN SEA LEVEL

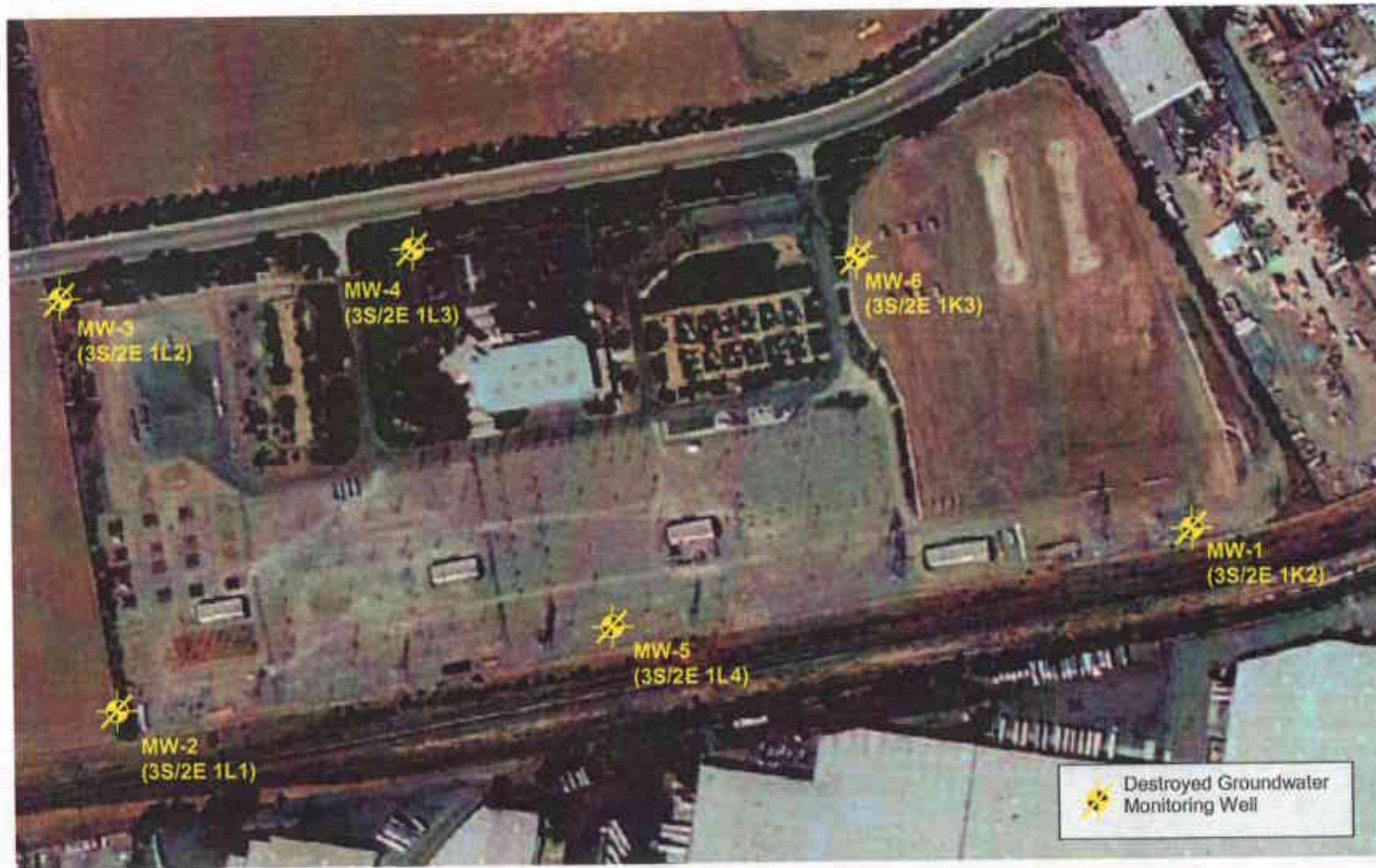
SAMPLES TYPE:

DRIVE WEIGHT-LB: HEIGHT OF DROP: 30



Du Pont Environmental Remediation Services
Logged by: ML Approved by: DB BASIG

DU PONT ENVIRONMENTAL REMEDIATION SERVICES



060206/Livermore TC destroyed wells.doc

Figure 1. Site Map, PG&E Livermore Training Center, 7205 National Drive, Livermore, CA.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

35/2E 114

BORING LOG B-10
(MONITORING WELL NO. 5)

JOB NUMBER: 90-71-131
 JOB NAME: PG&E, LIVERMORE
 DRILL RIG: MOBILE B-57

DATE DRILLED: 8/17/90
 SURFACE ELEVATION: 575.10
 DATUM: MEAN SEA LEVEL

SAMPLER TYPE:
2 1/2" SPLIT SPOON

DRIVE WEIGHT-LB:
140

HEIGHT OF FALL-IN:
30

* Laboratory Analysis: S-Soil Properties C-Chemical Properties

Depth feet	Well Construction	Lab # Analysis	Blows Per Foot	Sample Depth	Sample Type	USCS Symbol	Description
2	Watertight utility box locking steel cover PVC cap		40	2		ML	SILT with minor sand - 5 yr 3/2 dark, fine-grained.
4			50/5"	4			
6	Best Cement Grout						
8							
10	2" Diameter SCH 40 Blank						SP POORLY GRADED SAND brown, moist, very dense, sand to medium-grained, roots, caliche.
12							
14			12	12			As above, sand is very fine to fine-grained, caliche, root casts.
16			25	14			
18							As above.
20							
22	Bentonite	C	36	22			POORLY GRADED SAND with minor gravel - 10 yr 5/4 yellowish brown, moist, very dense, sand is fine to very fine-grained, caliche.
24			50/5.5"	24			
26	No. 2/16 Sand	C					EU SAND washed sand with minor gravel - 10 yr 5/4 yellowish brown, moist, very dense, sand is fine to very fine-grained, coarse-grained.
28	2" Diameter PVC SCH 40 0.01 slot						
30							

Du Pont Environmental Remediation Services

Logged by: ML

Approved by: DS RB 4516

DU PONT ENVIRONMENTAL REMEDIATION SERVICES

35/ZE 14

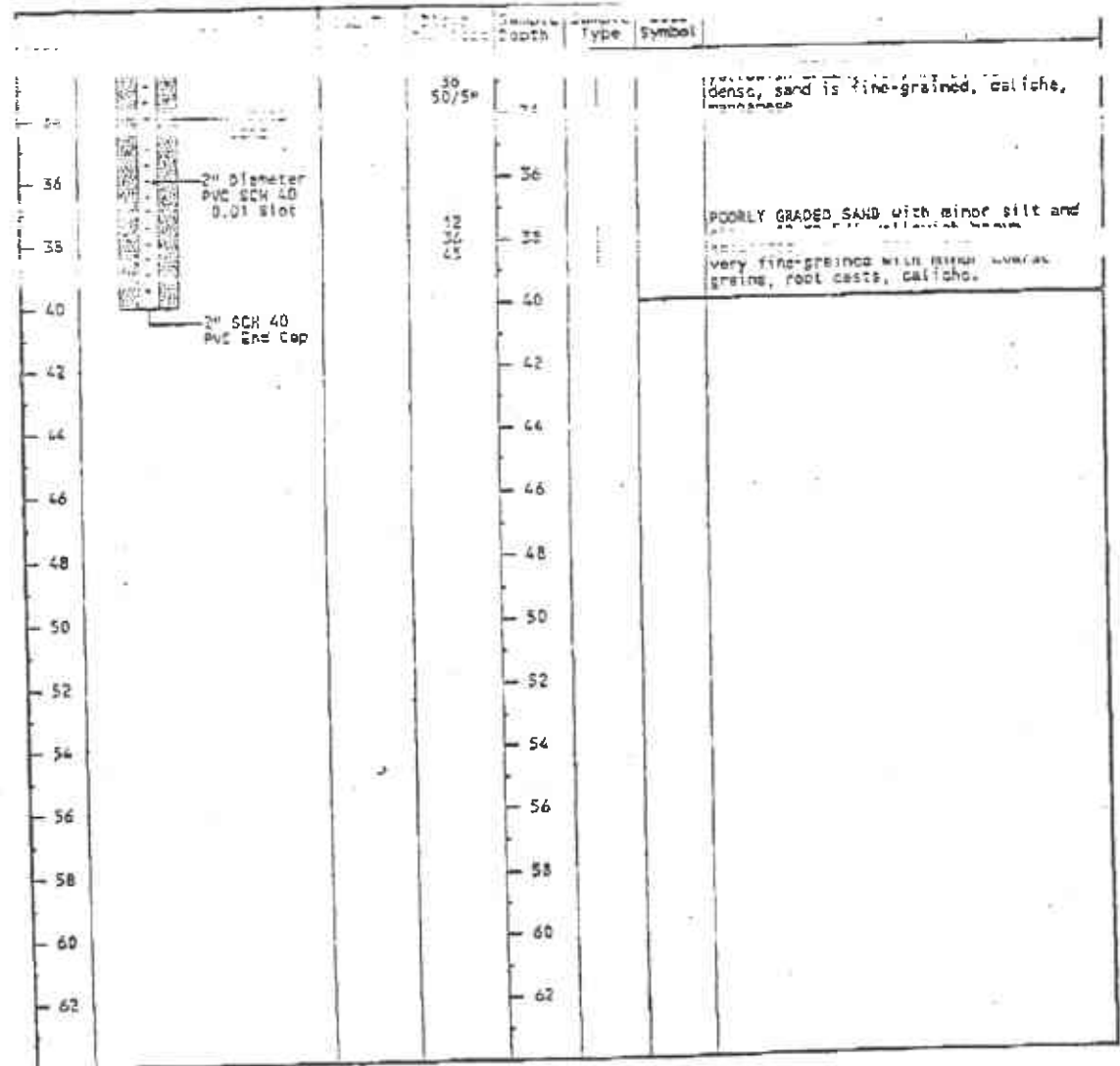
BORING LOG B-10
(MONITORING WELL NO. 5)

JOB NUMBER: 90-71-131

DATE DRILLED: 8/17/90
SURFACE ELEVATION: _____
DATUM: MEAN SEA LEVEL

SAMPLER TYPE: 2" I.D. SPLIT SPOON DRIVE WEIGHT-LB: _____ HEIGHT OF FALL-IN: _____

* Laboratory Analysis: S-Soil Acidity; C-Chemical Properties



Du Pont Environmental Remediation Services

Loosed by: ML Approved by: DR RG+516

DU PONT ENVIRONMENTAL REMEDIATION SERVICES



060206/Livermore TC destroyed wells.doc

Figure 1. Site Map, PG&E Livermore Training Center, 7205 National Drive, Livermore, CA.

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

35/2E 1K3

BORING LOG B-12
(MONITORING WELL NO. 6)

JOB NUMBER: 90-71-131
 JOB NAME: PG&E, LIVERMORE
 DRILL RIG: MOBILE B-57

DATE DRILLED: 8/17/90
 SURFACE ELEVATION: 578.19
 DATUM: MEAN SEA LEVEL

SAMPLER TYPE:
2 1/2" SPLIT SPOON

DRIVE WEIGHT-LB:
140

HEIGHT OF FALL-IN:
30

* Laboratory Analysis: S-Soil Properties C-Chemical Properties

Depth feet	Well Construction	Lab * Analysis	Blows Per Foot	Sample Depth	Sample Type	USCS Symbol	Description
2	Water-tight utility box locking steel cover PVC cap						
4	Cast Cement Grout	C	6 9	4		SP	POORLY GRADED SAND with silt and clay - 7/5 FR 4/2 dark brown, dry, medium dense, sand is fine-grained, (artificial fill).
6		C	5 6	6			As above.
8	2" Diameter SCH 40 Blank	C	14 30/5"	8			
10				10			
12		C	30 50/4"	12			POORLY GRADED SAND with gravel - 10 FR 5/4 yellowish brown, moist, very dense, sand is fine-grained, caliche.
14				14			
16				16			
18			30 50/4.5"	18			POORLY GRADED SAND with silt - 10 FR 5/4 yellowish brown, moist, very dense, sand is fine-grained, caliche, root pores.
20				20			
22	Bentonite			22		SW	WELL GRADED SAND - 10 FR 5/6 yellowish brown, moist, sand is fine to coarse-grained.
24	No. 2/16 Sand	C	40 50/4.5"	24			Gravels.
26	2" Diameter PVC SCH 40 0.01 Slot			26			
28		C	26 40 50/5"	28		SP	POORLY GRADED SAND - 10 FR 6/4 light yellowish brown, very moist, sand is fine to very fine-grained, caliche.
30				30			

Du Pont Environmental Remediation Services

Logged by: ML

Approved by: DR AG 4516

DU PONT ENVIRONMENTAL REMEDIATION SERVICES

35/2E 1K3

**BORING LOG B-12
(MONITORING WELL NO. 6)**

JOB NUMBER: 90-71-131
 JOB NAME: PG&E, LIVERMORE
 DRILL RIG: MOBILE B-57

DATE DRILLED: 8/17/90
 SURFACE ELEVATION: 578.19
 DATUM: MEAN SEA LEVEL

SAMPLER TYPE: 2-1/2" I.D. SPLIT SPOON DRIVE WEIGHT-LB: 140 HEIGHT OF FALL-IN: 30

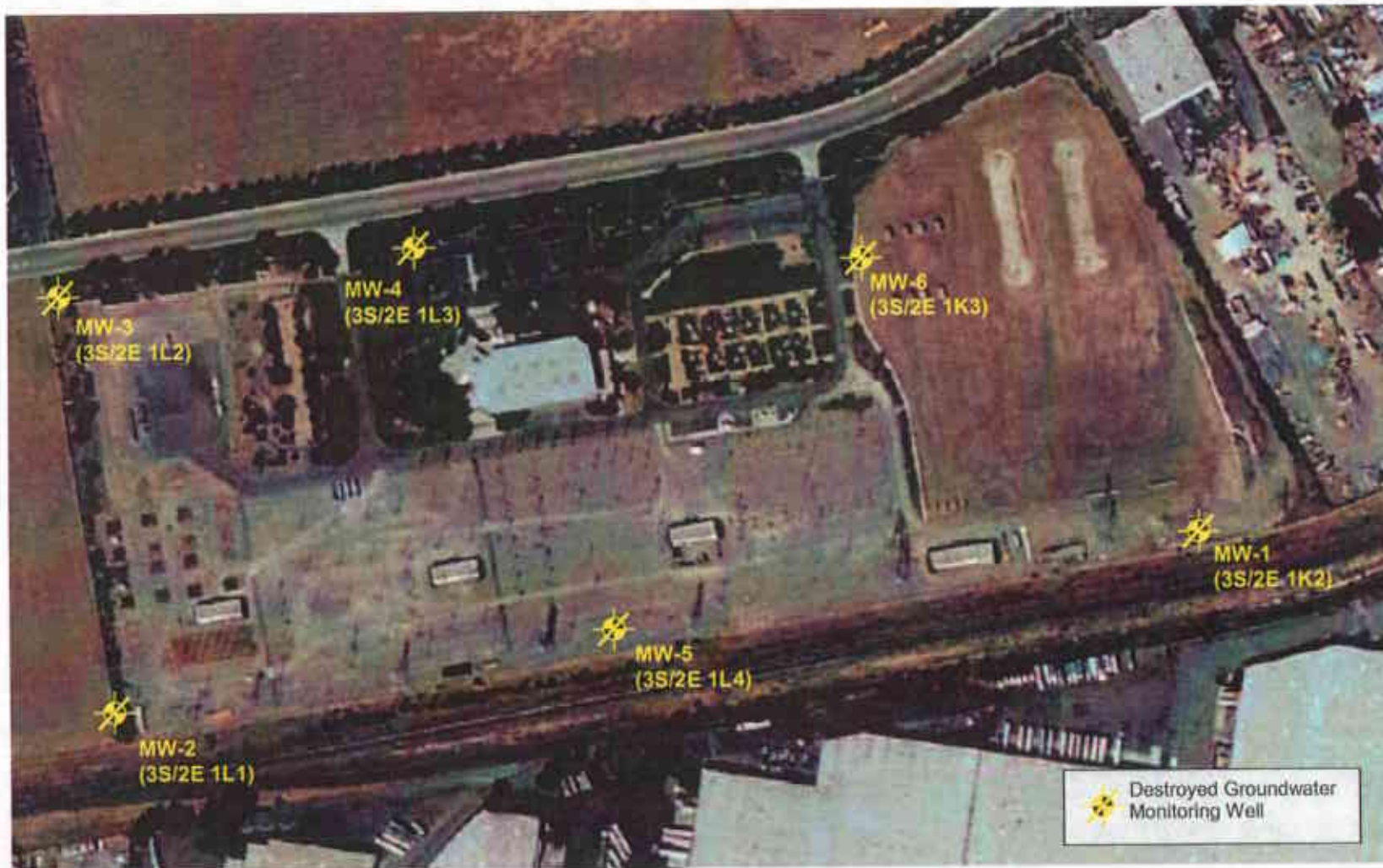
* Laboratory Analysis: S-Soil Properties C-Chemical Properties

Depth feet	Well Construction	Lab # Analysis	Blows Per Foot	Sample Depth	Sample Type	USCS Symbol	Description
34			33 80/5.5"	34	■	SP	POORLY GRADED SAND - 10 YR 4/4 dark yellowish brown, very moist, sand is fine to very fine-grained, caliche in fracture planes.
36				36			
38			12 28 50/3"	38			POORLY GRADED SAND with silt and clay - 10 YR 6/4 light yellowish brown, very moist, sand is fine to very fine-grained, caliche nodules and veins.
40				40			Boring terminated at 40 feet. Ground water encountered at approximately 31.5 feet.
42				42			
44				44			
46				46			
48				48			
50				50			
52				52			
54				54			
56				56			
58				58			
60				60			
62				62			

Du Pont Environmental Remediation Services

Logged by: ML

Approved by: DB RG 4516



060206/Livermore TC destroyed wells.doc

Figure 1. Site Map, PG&E Livermore Training Center, 7205 National Drive, Livermore, CA.