RO 380

CAMBRIA

September 16, 2002

Alameda County
SEP 19 2002
Environmental Health

Mr. Barney M. Chan
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California, 94502

Re: **Monitoring Well Destruction Report**
Former Shell Service Station
2101 Park Boulevard
Oakland, California
Incident #97088251
Cambria Project #244-0865

Dear Mr. Chan:

On behalf of Equilon Enterprises LLC dba Shell Oil Products US, Cambria Environmental Technology, Inc. (Cambria) has prepared this *Monitoring Well Destruction Report* for the referenced site as requested by the Alameda County Health Care Services Agency (ACHCSA) in a June 27, 2002 letter. This letter granted closure for the site by ACHCSA with concurrence of the San Francisco Regional Water Quality Control Board, pending proper abandonment of the site monitoring wells. Presented below are the site characteristics and a summary of well destruction activities conducted at the site.

SITE CHARACTERISTICS

Site Description: The site is a former Shell-branded service station located at the intersection of Park Boulevard and Newton Avenue in Oakland, California. The site is currently being used as a Goodyear Tire service center with a service building, seven hydraulic lifts, a waste-oil tank and a trash enclosure. The former site layout included three separate generations of underground fuel storage tanks, two separate generations of waste-oil tanks and three dispenser islands. Earlier site history is documented in Enviros' February 24, 1995 *Site Assessment Report*. The site is located in a mixed commercial and residential area (Figure 1). Topography slopes generally toward the south

Oakland, CA
San Ramon CA
Sonoma CA

Cambria
Environmental
Technology, Inc.

1144 65th Street
Suite B
Oakland CA 94608
Tel (510) 420-0700
Fax (510) 420-9170

Site Lithology: Lithology consists predominantly of clay with lesser amounts of silt, clayey sand, sand, and gravel to the maximum explored depth of approximately 18 feet below grade. The groundwater flow beneath the site is typically with the topographic gradient to the south and southwest.

WELL DESTRUCTION ACTIVITIES

Destruction Date: August 26, 2002.

Wells Destroyed: Wells S-1, S-2 and S-3 were destroyed by pressure grouting (Figure 1).

Permitting: The well destruction permits were issued by the Alameda County Public Works Agency, Water Resources Section (Attachment A).

Personnel Present: Stewart Dalie, Cambria Staff Geologist.

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

Destruction Technique: Wells S-1, S-2 and S-3 were pressure grouted to the surface. 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, pressure was applied at 25 pounds per square inch for 10 minutes in order to force the grout into the sand pack. After the well casing and sand pack were grouted, the well box was removed and the area backfilled and resurfaced to match the existing grade. Cambria's standard field procedures for abandoning monitoring wells are included as Attachment B. Department of Water Resources well completion reports are included as Attachment C.

CLOSING

We appreciate the opportunity to work with you on this project. Please call Jacquelyn Jones at (510) 420-3316 if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc

Jacquelyn L. Jones
Project Geologist

Matthew W. Derby, P.E.
Senior Project Engineer

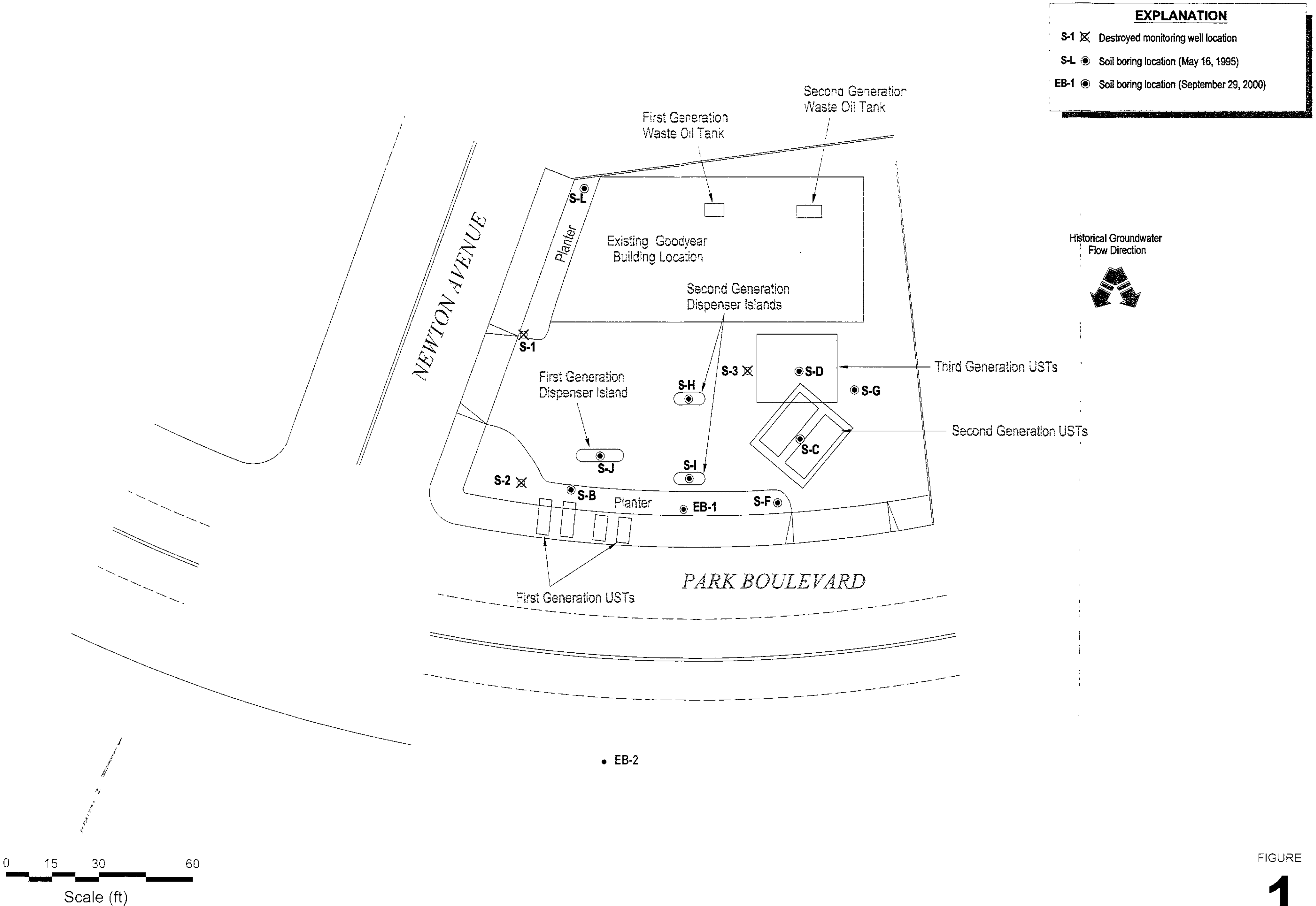
REGISTERED PROFESSIONAL ENGINEER
MATTHEW W. DERBY
No. C055475
Exp. 12/31/04
CIVIL
STATE OF CALIFORNIA

Figure: 1 - Site Plan

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

cc: Karen Petryna, Equiva Services LLC, P.O. Box 7869, Burbank, California 94510-7869
Ms. Alice Heilman, 333 Keary Street, San Francisco, CA 94108
Mr. Frank Schlessinger, 333 Kearny Street, San Francisco, CA 94108
Mr. Chuck Headlee, SFBRWQCB, 1515 Clay Street, Suite 1400, Oakland, CA 94612

G:\Oakland 2101 Park\Well Destructions\2101 2002 - Well Destruction Report.doc



EXPLANATION
S-1 Destroyed monitoring well location
S-L Soil boring location (May 16, 1995)
EB-1 Soil boring location (September 29, 2000)
First Generation Waste Oil Tank
Second Generation Waste Oil Tank
Existing Goodyear Building Location
Planter
S-L
Second Generation Dispenser Islands
NEWTON AVENUE
S-1
First Generation Dispenser Island
S-H
S-3
S-D
S-G
Third Generation USTs
Second Generation USTs
S-C
S-J
S-I
S-2
S-B
Planter
EB-1
S-F
PARK BOULEVARD
First Generation USTs
Historical Groundwater Flow Direction
EB-2
0 15 30 60
Scale (ft)

FIGURE 1

Site Plan

CAMBRIA

Former Shell Service Station
2101 Park Boulevard
Oakland, California
Incident #97088251

ATTACHMENT A

Permits

Attn: James Yoo

ALAMEDA COUNTY PUBLIC WORKS AGENCY

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

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2101 Park Avenue, Oakland, CA.

CLIENT
Name Shell Oil Products US
Address P.O. box 7869 Phone 925-506-1559
City Burbank CA Zip 91510-7869

APPLICANT
Name Cambria (Stewart Dalie) Fax 420-9170
Address 1144 65th St Phone 420-3339 x 139
City Oakland, CA Zip 94608

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	
Monitoring		Well Destruction	X

3,4" @ 18' bgs

PROPOSED WATER SUPPLY WELL USE

New Domestic		Replacement Domestic	
Municipal		Irrigation	
Industrial		Other	

DRILLING METHOD:

Mud Rotary		Air Rotary		Auger	
Cable		Other	X - Pressure grouting		

DRILLER'S NAME Gregg Drilling
DRILLER'S LICENSE NO. 485-165

WELL PROJECTS
Drill Hole Diameter 11 in. Maximum 3 wells
Casing Diameter 4 in. Depth 18 ft.
Surface Seal Depth X ft. Owner's Well Number S-1

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

ESTIMATED STARTING DATE 8/26/02
ESTIMATED COMPLETION DATE 8/26/02

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

APPLICANT'S SIGNATURE [signature] DATE 8/15/02

PLEASE PRINT NAME Stewart A. Dalie

Rev 3-04-02

FOR OFFICE USE

PERMIT NUMBER W02-0840
WELL NUMBER
APN

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 — pressure grout —
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 8-19-02

Attn: James Yoo

ALAMEDA COUNTY PUBLIC WORKS AGENCY

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

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2101 Park Avenue, Oakland, CA

CLIENT
Name Shell Oil Products US
Address P.O. Box 7869 Phone 925-926-1559
City Burbank CA Zip 91510-7869

APPLICANT
Name Cambria (Stewart Dalie) Fax 510-420-9170
Address 1144 65th St Phone 510-420-3339 x 139
City Oakland, CA Zip 94608

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☐	Well Destruction	☒

3,4"ø 18' bgs

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐	Auger	☐
Cable	☐	Other	Pressure grouting		

DRILLER'S NAME Gregg Drilling

DRILLER'S LICENSE NO. 485-165

WELL PROJECTS

Drill Hole Diameter ____ in. Maximum 2 wells
Casing Diameter 4" in. Depth 18 ft.
Surface Seal Depth ____ ft. Owner's Well Number S-2

GEOTECHNICAL PROJECTS

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

ESTIMATED STARTING DATE 8/26/02
ESTIMATED COMPLETION DATE 8/26/02

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

APPLICANT'S SIGNATURE [signature] DATE 8/15/02

PLEASE PRINT NAME Stewart A. Dalie

Rev.3-06-02

FOR OFFICE USE

PERMIT NUMBER WR02-0841
WELL NUMBER
APN

PERMIT CONDITIONS
Circled Permit Requirements Apply

A. GENERAL
1. A permit application should be submitted so as to arrive at the ACFWA office five days prior to proposed starting date.
2. Submit to ACFWA 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 above zone with concrete placed by tremie.

F. WELL DESTRUCTION Pressure Stop
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 8/16/02

Attn: James Yoo

ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 James Yoo
FAX (510)782-1939
APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2101 Park Avenue
Oakland, CA.

CLIENT
Name Shell Oil Products US
Address P.O. box 7869 Phone 925-526-1559
City Burbank CA Zip 91510-7869

APPLICANT
Name Cambria (Stewart Dalie) Fax 510-420-9170
Address 1144 65th St Phone 510-420-3339 x 139
City Oakland, CA Zip 94608

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	☐	General	☐
Water Supply	☐	Contamination	☐
Monitoring	☐	Well Destruction	X

3,4" @ 18' bgs

PROPOSED WATER SUPPLY WELL USE

New Domestic	☐	Replacement Domestic	☐
Municipal	☐	Irrigation	☐
Industrial	☐	Other	☐

DRILLING METHOD:

Mud Rotary	☐	Air Rotary	☐
Cable	☐	Other	X - Pressure grouting

Auger ☐

DRILLER'S NAME Gregg Drilling
DRILLER'S LICENSE NO. 485-165

WELL PROJECTS
Drill Hole Diameter 11 in. Maximum 18 ft. 3 wells
Casing Diameter 4" in. Depths
Surface Seal Depth 2 ft. Owner's Well Number [illegible] S3

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

ESTIMATED STARTING DATE 8/26/02
ESTIMATED COMPLETION DATE 8/26/02

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

APPLICANT'S SIGNATURE [signature] DATE 8/15/02
PLEASE PRINT NAME Stewart A. Dalie

Rev 3-04-02

FOR OFFICE USE
PERMIT NUMBER WR02-0842
WELL NUMBER
APN

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 above zone with concrete placed by tremie.

F. WELL DESTRUCTION Pressure grout
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 8-19-02

ATTACHMENT B

Standard Field Procedures for Destroying Monitoring Wells

STANDARD FIELD PROCEDURES FOR DESTROYING MONITORING WELLS

This document presents standard field methods for destroying groundwater monitoring wells. The objective of these procedures 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 dropped down the well 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

Field Exploratory Boring Log S-1

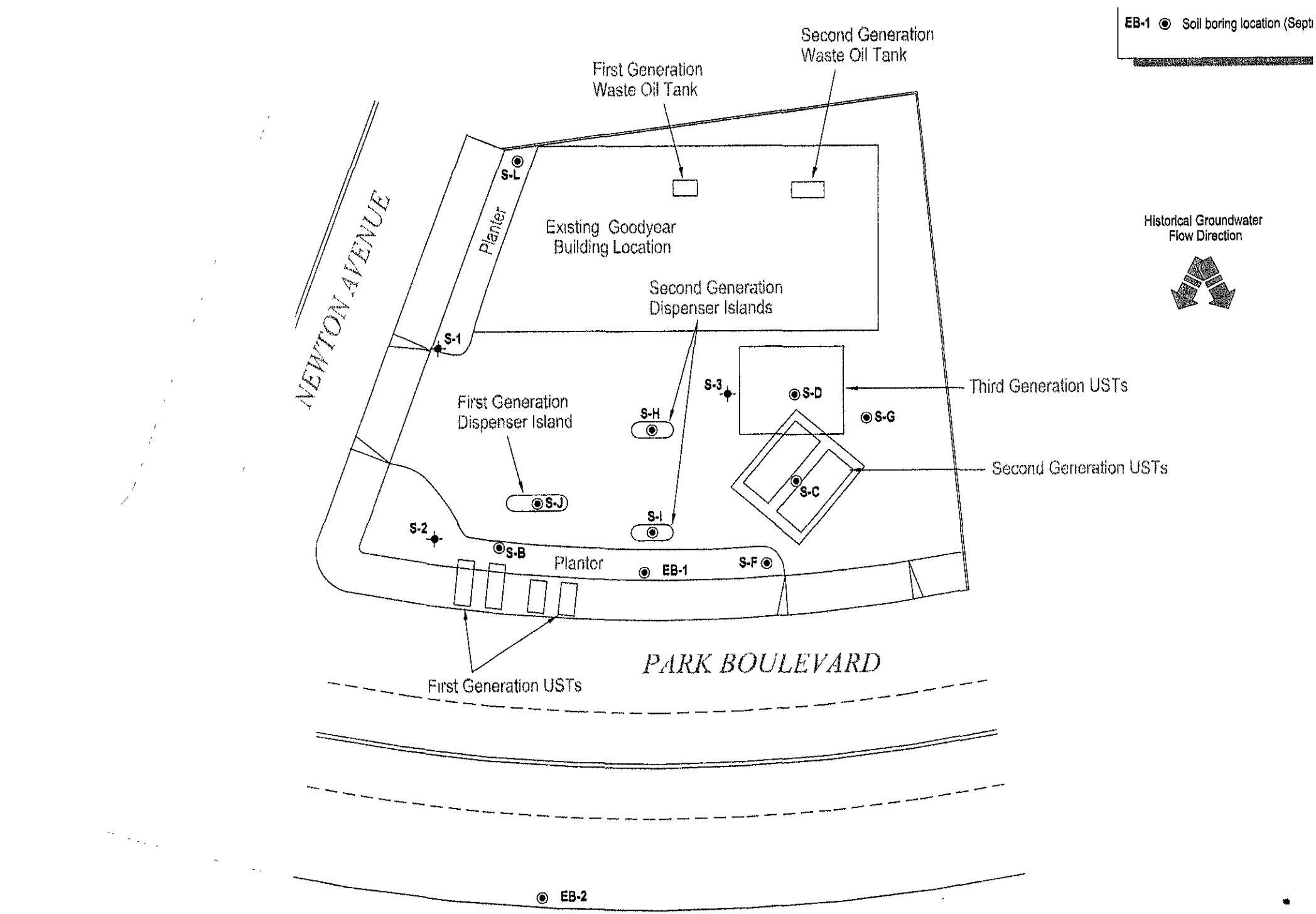
OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox & Cement 0 to 1 ft.			Clayey Sand (SC)
			Bentonite 1 to 2 ft.			Very dark grayish brown (2.5Y 3/2). moist, low plasticity, 55-65% fine sand, 30-40% clay, 5-15% silt.
			2-in. Sch. 40 PVC			Silt (ML)
	9					Olive (5Y 5/3), moist, very stiff, low plasticity, 65-75% silt, 10-15% clay, 15-25% fine sand.
	12					
25	12	S-1-5		5		
	12					@ 9': As above, moist, hard.
	15					
18	25	S-1-10.5		10		
	15					Sand (SP)
	35					Olive gray (5Y 3/2), wet, very dense. 75-85% fine to coarse sand, 5-10% silt, 5-10% fine gravel.
23	35	S-1-15		15		
	5					@ 17': As above, color change to olive (5Y 5/3), wet, medium dense, 90-95% fine sand, 5-10% silt.
19.4	12	S-1-18				
	17					
				20		
				25		
				30		

Lonestar #2/12 Sand

2-in. Sch. 40 PVC - 0.02-in. Slot 3 to 18 ft.

Total Depth of Boring = 18 feet

BORING			
S-1	SHELL OIL COMPANY Former Shell Service Station 2101 Park Boulevard Oakland, California	Borehole Diameter: 8 inches Logged by: J. Neely Driller: Gregg Drilling Date Started: 15-Jun-95 Date Completed: 15-Jun-95	enviros© 95267


EB-1 Soil boring location (Sept
Second Generation
Waste Oil Tank
First Generation
Waste Oil Tank
S-L
Planter
NEWTON AVENUE
Existing Goodyear
Building Location
Second Generation
Dispenser Islands
Historical Groundwater
Flow Direction
S-1
S-3
S-D
Third Generation USTs
First Generation
Dispenser Island
S-H
S-G
Second Generation USTs
S-C
S-J
S-I
S-2
S-B
Planter
EB-1
S-F
PARK BOULEVARD
First Generation USTs
EB-2

CONFIDENTIAL

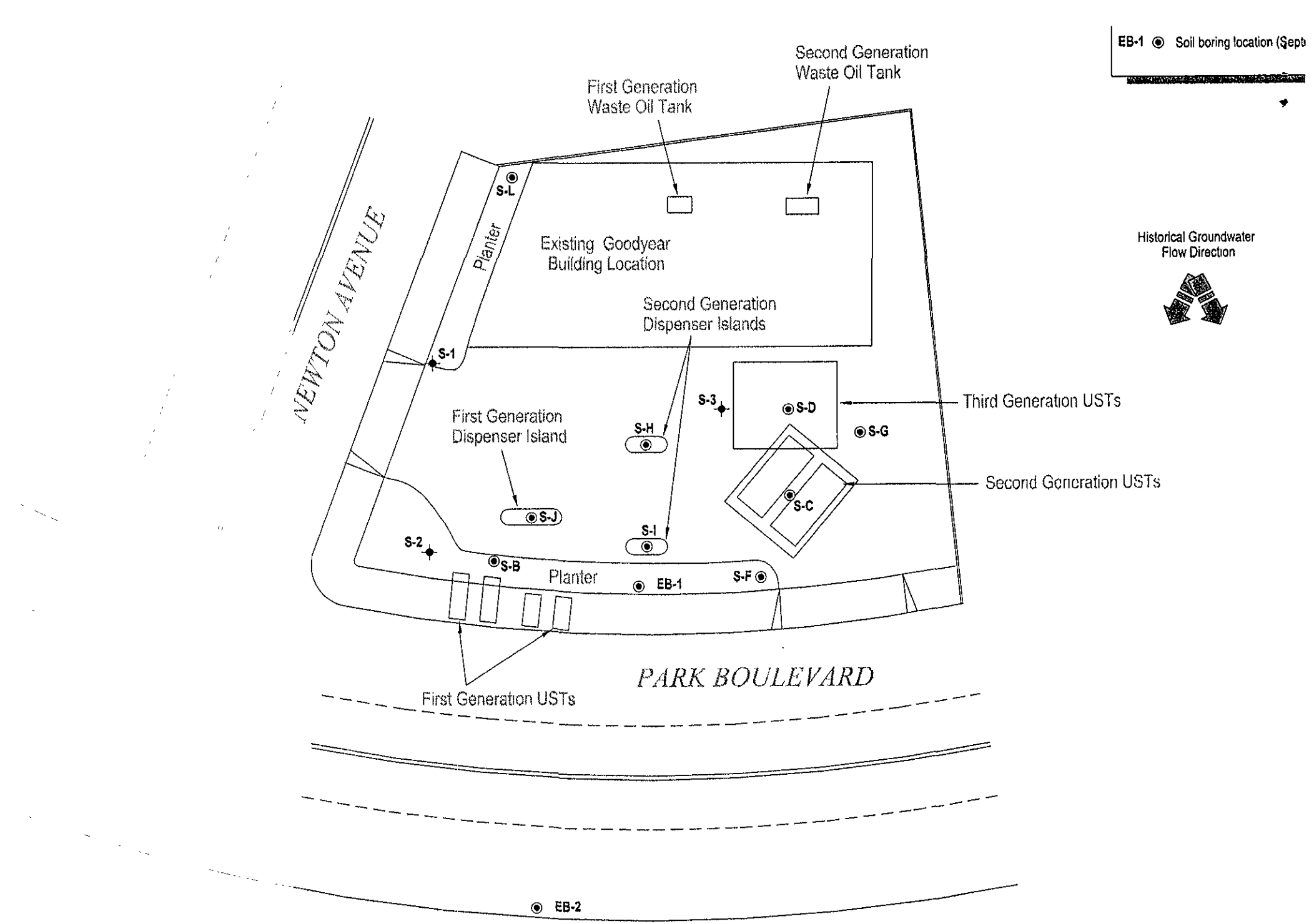
STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

Field Exploratory Boring Log S-2

OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox & Cement 0 to 1 ft.			Clayey Sand (SC)
			Bentonite 1 to 2 ft.			Very dark grayish brown (2.5Y 3/2), moist, low to moderate plasticity, 55-65% fine sand, 20-30% clay, 5-10% silt.
	3		2-in. Sch. 40 PVC			Clay (CL)
429	5	S-2-5		5		Very dark gray (5Y 3/1), low to moderate plasticity, moist, stiff, 65-75% clay, 10-15% fine sand.
	7					
	9		Lonestar #2/12 Sand			@ 9': As above, moist, hard.
933	18	S-2-10	2-in. Sch. 40 PVC - 0.02-in. Slot 3 to 18 ft.	10		
	26					
	3					Silt (ML)
16	6	S-2-15		15		Olive (5Y 5/3), moist, very stiff, low plasticity, 80% silt, 20% fine sand, faint and sparse iron staining noted.
	12					
	5					@ 16.5': As above, moist, very stiff.
24.5	6	S-2-17.5				
	12					
				20		Total Depth of Boring = 18 feet
				25		
				30		

BORING			
S-2	SHELL OIL COMPANY Former Shell Service Station 2101 Park Boulevard Oakland, California	Borehole Diameter: 8 inches Logged by: J. Neely Driller: Gregg Drilling Date Started: 15-Jun-95 Date Completed: 15-Jun-95	enviros® 95267


EB-1 Soil boring location (Sept
Second Generation
Waste Oil Tank
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Waste Oil Tank
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Existing Goodyear
Building Location
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Second Generation
Dispenser Islands
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Planter
EB-1
S-F
PARK BOULEVARD
First Generation USTs
EB-2

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

Field Exploratory Boring Log S-3

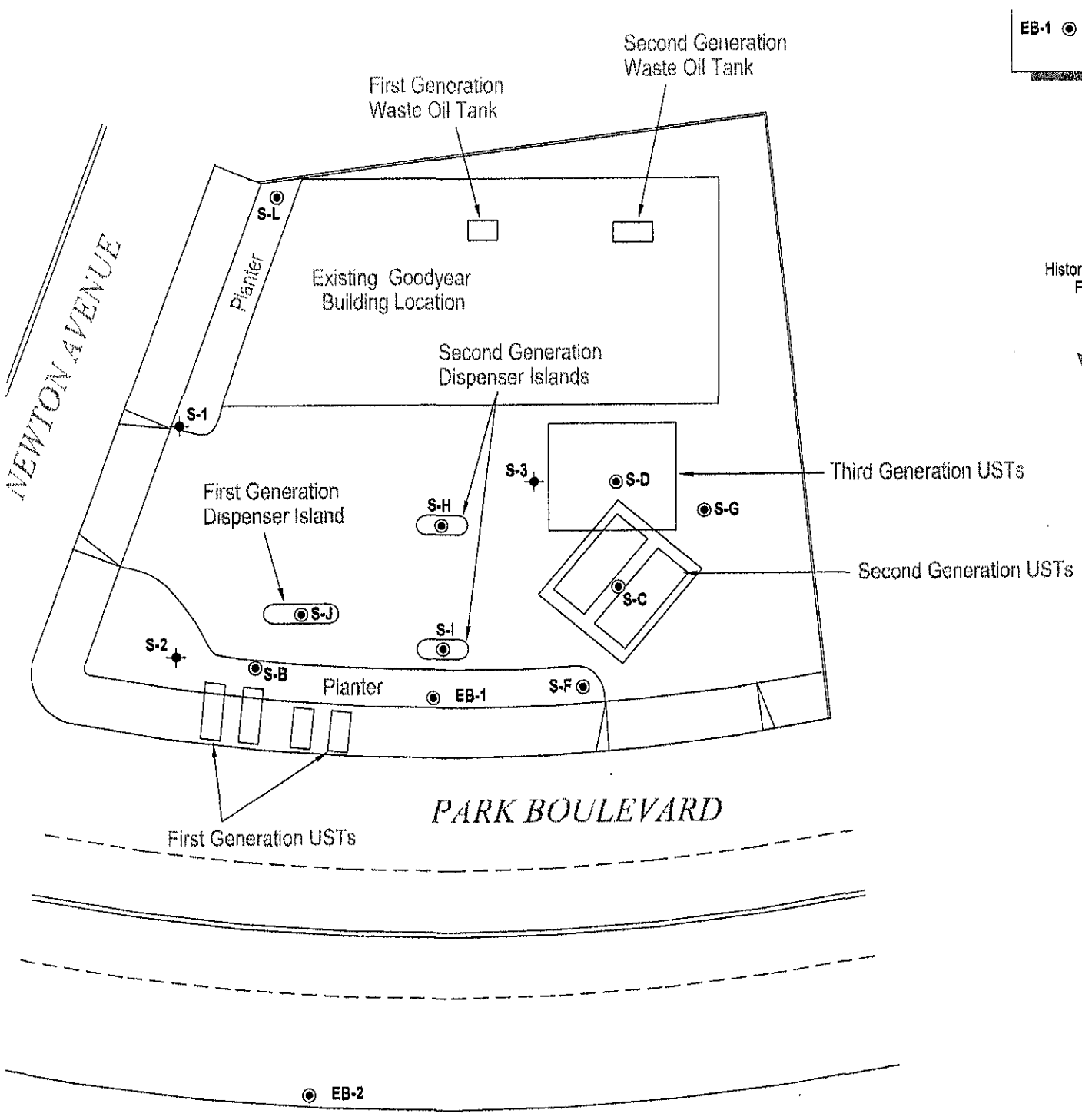
OVM PPM	Blows/ 6"	Sample Number	Well Construction	Depth (ft)	Soil Group (USCS)	Materials Description
			Wellbox & Cement 0 to 1 ft.			6" concrete
			Bentonite 1 to 2 ft.			Sand (SP) Grayish brown (2.5Y 5/2), moist, loose, 90-95% fine to medium sand, 5-10% silt.
	11		2-in. Sch 40 PVC			
1942	17 15	S-3-5.5		5		Clay (CL) Dark olive gray (5Y 3/2), moist, moderate plasticity, 75-85% clay, 5-10% silt, 5-10% fine sand.
	6		Lonestar #2/12 Sand			
1246	8 12	S-3-10.5	2-in. Sch. 40 PVC - 0.02-in. Slot 3 to 18 ft.	10		@ 9': As above, moist, very stiff.
	20					Sand (SP)
30	21 25	S-3-15.5		15		Dark olive gray (5Y 3/2), wet, dense, 90-95% fine to coarse sand, 5-10% silt.
	18					
12	23 48	S-3-17.5				@ 16.5': As above, wet, very dense.
				20		Total Depth of Boring = 18 feet
				25		
				30		

BORING
S-3

SHELL OIL COMPANY
Former Shell Service Station
2101 Park Boulevard
Oakland, California

Borehole Diameter	8 inches
Logged by	J. Neely
Driller	Gregg Drilling
Date Started	15-Jun-95
Date Completed	15-Jun-95

enviros
95267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Waste Oil Tank
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S-L
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PARK BOULEVARD
First Generation USTs
EB-2