

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, DIRECTOR

June 8, 1995
STID # 4141

Mr. Michael Karvelot
Quick Stop Market
4567 Enterprise Street
Fremont, California 94538

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6700

**RE: Case Closure - Quick Stop Market
6001 MacArthur Blvd., Oakland, CA 94619**

Dear Mr. Karvelot:

The Alameda County Department of Environmental Health, Environmental Protection Division has recently received concurrence from the Regional Water Quality Control Board regarding this office determination that no further action is required concerning the removal of three underground storage tanks (2 -10,000 gallon gasoline and 1 - 300 gallon waste oil) at the referenced site.

Please be advised that the three groundwater monitoring wells (MW-1, MW-2 and MW-3) at the site must be properly decommissioned before our agency will issue the **Remedial Action Completion Certification** (closure letter) for the subject site. A report must be submitted documenting the abandonment of the monitoring wells.

Additionally, you will need to notify this office 72 hours in advance of the well abandonment field activities so I can schedule a site visit.

If you have any questions concerning this letter, please contact me at (510) 567- 6780.

Sincerely,

Susan L. Hugo

Susan L. Hugo
Senior Hazardous Materials Specialist

cc: Rafat A. Shahid, Director, Environmental Health
Mee Ling Tung, Acting Chief, Environmental Protection
Division / files
Kevin Graves, San Francisco Bay RWQCB
J. Charles Binder, 22661 Cass Avenue, Woodland Hills,
California 91364
Richard Morales, Growth Environmental, 536 Stone Road,
Suite J, Benicia, California 94510

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



Alameda County CC4580
Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda CA 94502-6577

September 13, 1995

UST Local Oversight Program
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6700

REMEDIAL ACTION COMPLETION CERTIFICATION

Mr. Michael Karvelot
Quick Stop Market
4567 Enterprise Street
Fremont, California 94538

RE: Quick Stop Market
6001 MacArthur Blvd., Oakland, California 94605
STID # 4141

Dear Mr. Karvelot:

This letter confirms the completion of site investigation and remedial action for the three underground storage tanks (2 - 10,000 gallon gasoline and 1 - 300 gallon waste oil) removed on April 14, 1992 and June 30, 1992 at the above described location. Enclosed is the Case Closure Summary for the referenced site for your records.

Based upon the available information, including the current land use, and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the three underground storage tanks release is required.

This notice is issued pursuant to a regulation contained in Title 23, California Code of Regulations, Division 3, Chapter 16, Section 2721 (e). If a change in the present land use is proposed, the property owner must promptly notify this agency.

Please contact Susan L. Hugo at (510) 567-6780 if you have any questions regarding this matter.

Sincerely,

A handwritten signature in cursive script that reads "Jun Makishima".

Jun Makishima, Interim Director

Enclosure

cc: Leroy Todd, Acting Chief, Environmental Protection - files
Kevin Graves, RWQCB
Mike Harper, SWRCB (with enclosure)
J. Charles Binder, 22661 Cass Avenue, Woodland Hills, CA 91364
Steve Long, Growth Env., 420 Executive, Ct. North, Suite G
Fairfield, California 94533

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION (Continued) Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After
TPH (Gas)	* 1500	1300	430	ND
TPH (Diesel)	370	**	300	ND
Benzene	2.5	1.9	28	ND
Toluene	2.6	2.6	ND	ND
Xylene	* 65	4.4	0.94	ND
Ethylbenzene	* 22	3.2	0.62	ND
Oil & Grease	3000	**	ND	ND
Others	Refer to comments			

* Results from composite of four discreet soil samples from spoil piles.

** Confirmation soil samples from the area of the waste oil tank were not analyzed for TPH diesel and TOG.

Comments (Depth of Remediation, etc.):

Two 10,000 gallon steel, single walled, and asphalt wrapped gasoline tanks were removed on April 14, 1992. The tanks appeared to be in good condition with no visible holes nor corrosion. However, strong petroleum hydrocarbon odor and discoloration were noted during the removal and sidewall samples collected at approximately 14 feet depth indicated the presence of petroleum hydrocarbon contamination at the site. Free product appeared to be present in the groundwater found at the bottom of the excavation which were pumped out and stored in Baker tanks.

On April 29 and May 21, 1992, ten soil borings were drilled to a maximum depth of 27 feet to delineate the extent of the contamination. The characterization of the petroleum hydrocarbon contamination were further expanded around the perimeter of the property boundary. Borings upgradient of the property appeared to indicate the presence of off-site sources (up to 670 ppm TPH gasoline).

Contaminated soil was removed (July 14, 1992 to August 28, 1992) to the greatest practical extent without affecting the integrity of the building and the streets. The limits of the excavation extended laterally to 60th Avenue (northwest), to MacArthur Blvd (northeast), the property boundary (southeast), and near the building (southeast) and vertically to depths ranging from 15.5 feet to 22 feet.

During the excavation, a 300 gallon waste oil tank was uncovered and removed. Soil sample collected beneath the tank showed contamination as high as 3000 ppm TOG, 370 ppm TPH diesel and 66 ppm TPH gasoline. Low levels of BTEX were present. Metals were also found at the following concentrations: 2.6 ppm cadmium, 35 ppm chromium, 21 ppm lead, 53 ppm nickel and 66 ppm zinc. Approximately 20 cubic yards of contaminated soil was excavated below the waste oil tank. Final confirmation soil samples were not analyzed for TPH diesel and TOG but it appeared that waste oil affected soil were removed since literally the entire site was excavated.

Leaking Underground Storage Tank Program

Soil contamination remains only beneath the market building, along 60th Avenue and MacArthur Blvd. and the property boundary on the east side.

Three groundwater monitoring wells were installed on May 23, 1993. Water was encountered between 12 and 16 feet in the borings and stabilized in the wells between 8 to 12 feet bgs. All the wells were installed within the backfill of the former site remediation excavation. Prior to excavation, soil types encountered at the site consist of stiff, lean clay from surface to approximately 12 feet bgs, and medium dense silty to clayey gravel from 12 feet to 25 feet bgs. The groundwater flow direction varies from northwest to southwest (influenced by steep topographic gradients east of the site. The gradient trend in general is towards the San Francisco Bay. Monitoring well MW-3 showed non detect for all target compounds during the entire monitoring program (6/93 to 7/94). TPH gasoline (73 ppb), ethyl benzene (0.62 ppb), xylenes (0.94 ppb) were detected only in MW-2 during the 6/93 sampling. TPH diesel was detected in both MW-1 and MW-2 at concentrations ranging from ND (last sampling event on 7/94) up to 300 ppb.

A 12 inch groundwater extraction sump (approx. depth of 24 feet) was installed to dewater the excavation during the remediation / backfilling activities. A total of 12,000 gallons of water was extracted and treated prior to discharge in to the storm drain with approval from the RWQCB.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **Undetermined**
Does corrective action protect public health for current land use? **YES**
Site management requirements: **NA**
Should corrective action be reviewed if land use changes? **YES**
Monitoring wells Decommissioned: **NO (proposed to decommission all wells upon closure approval).**
Number Decommissioned: **NA** Number Retained: **3**
List enforcement actions taken: **NA**
List enforcement actions rescinded: **NA**

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: **Susan L. Hugo** Title: **Sr. Hazardous Materials Specialist**
Signature: *Susan L. Hugo* Date: *May 1, 1995*

Reviewed by

Name: **Eva Chu** Title: **Hazardous Materials Specialist**
Signature: *Eva Chu* Date: *5/23/95*

Name: **Thomas Peaceck** Title: **Sup. Hazardous Materials Specialist**
Signature: *Thomas Peaceck* Date: *5-23-95*

Leaking Underground Storage Tank Program

VI. RWQCB NOTIFICATION

Date Submitted to RB: 5/23/95
RWQCB Staff Name: Kevin Graves

RB Response: *Approved*
Title: Water Resources Control Engineer
Date: *6/1/95*

VII. ADDITIONAL COMMENTS, DATA, ETC.

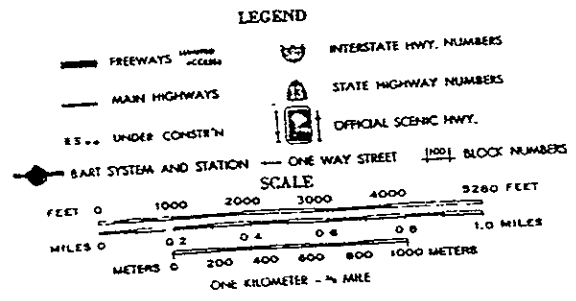
Based on the data submitted for the referenced site, aggressive source removal has occurred at this site. The potential beneficial uses of the groundwater do not appear to be threatened to a significant extent from the release that occurred at the site associated with the former underground fuel tanks.



GENERAL VICINITY MAP

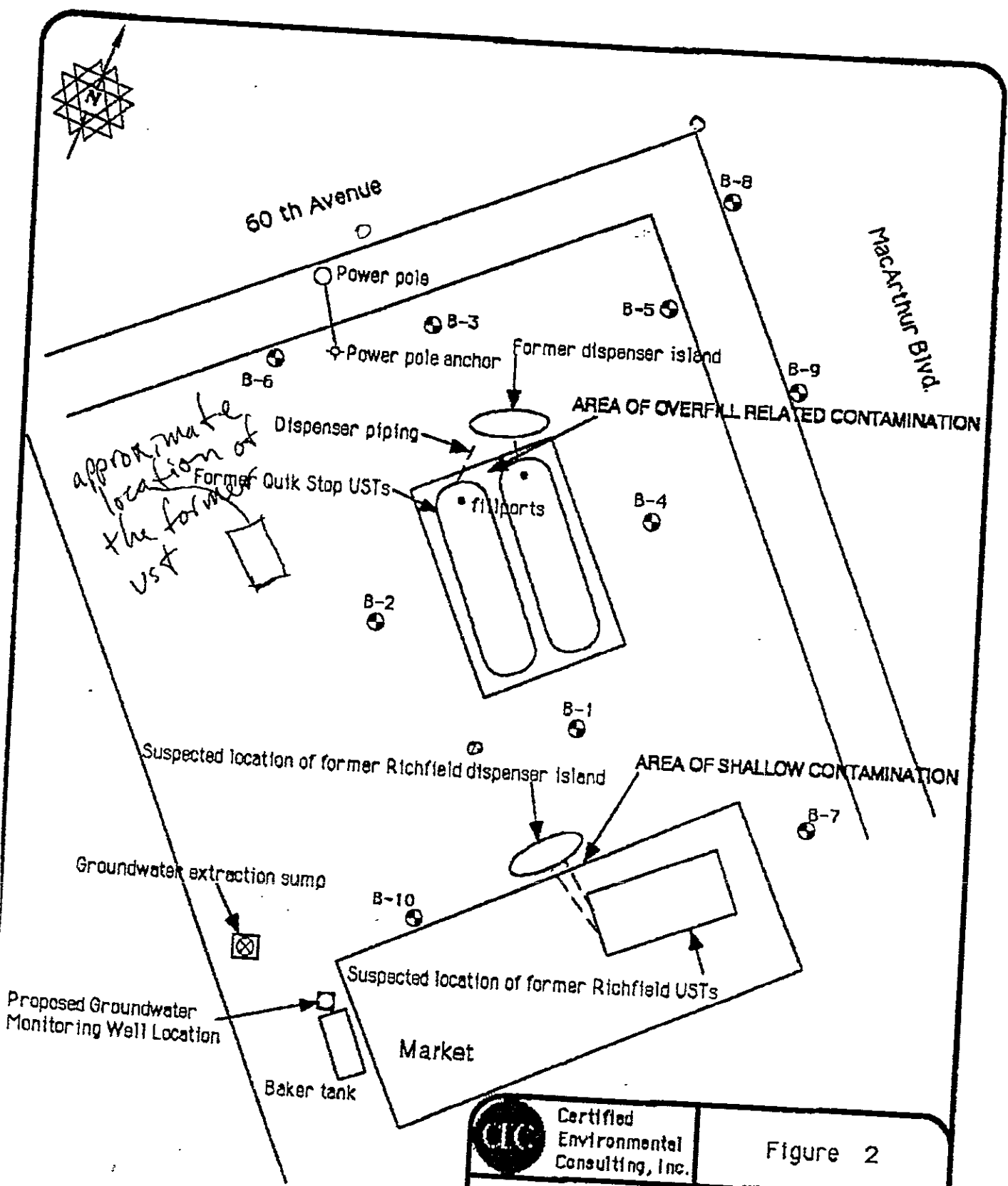
QUIK STOP MARKET # 47
 6001 MacArthur Blvd.
 Oakland, CA

Oakland



CERTIFIED ENVIRONMENTAL CONSULTING
 356 STONE ROAD, SUITE J, BENICIA, CA 94510
 (707) 745-0171 / (800) 228-0171 / (707) 745-0163 FAX

FIGURE 1



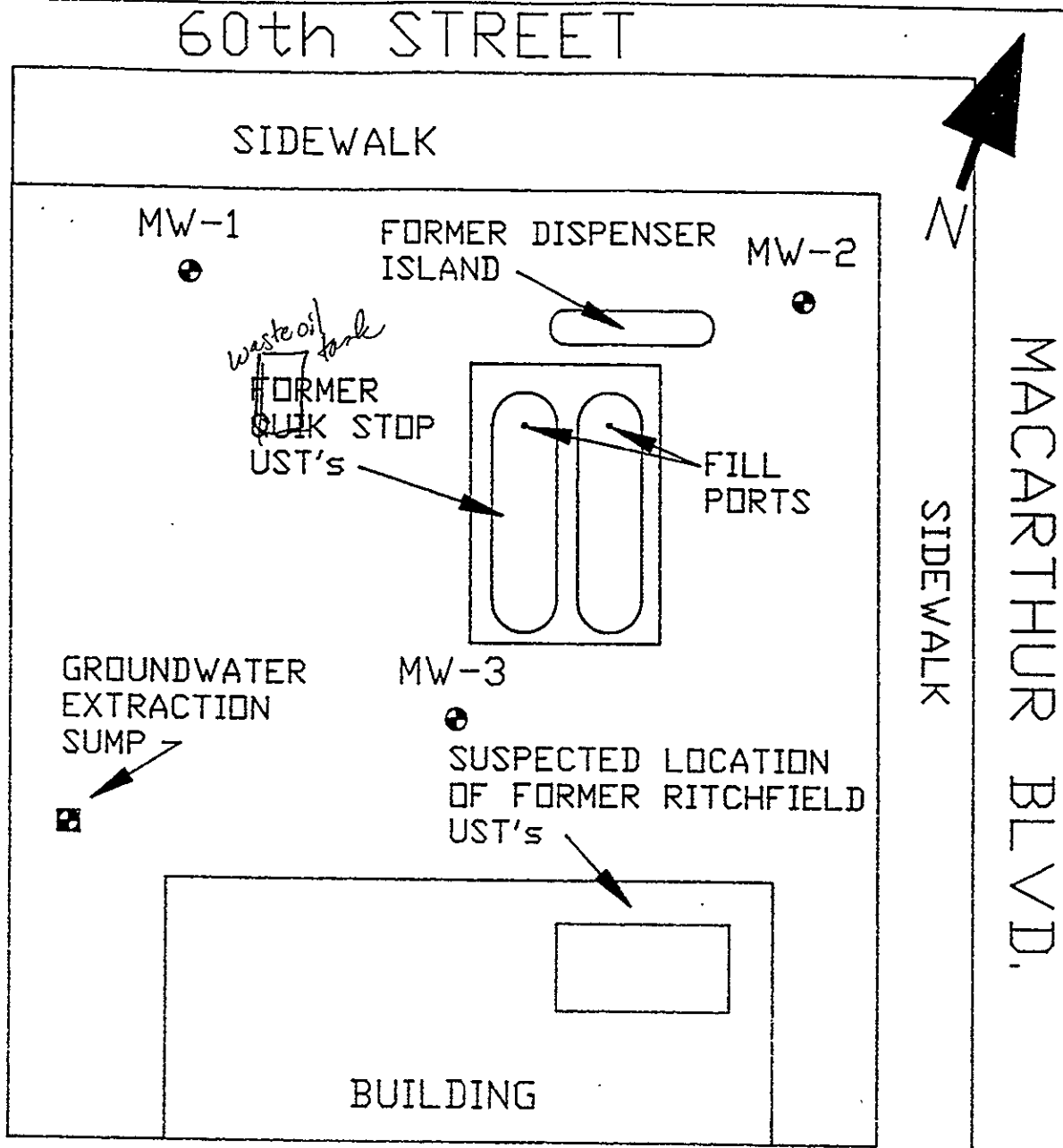
CEC Certified Environmental Consulting, Inc.

Figure 2

DETAILED SITE MAP
QUIK STOP MARKET #47
 6001 MacArthur Blvd.
 Oakland, CA

Scale 1"=20'
 0 Feet 20

⊙ = CEC borings



QUICK STOP # 47
 6001 MACARTHUR BLVD.
 OAKLAND, CA
 WELL LOCATIONS AND
 FORMER UST LOCATIONS

 **CERTIFIED ENVIRONMENTAL CONSULTING**
 356 STONE ROAD, SUITE J, BENICIA, CA 94510
 (707) 745-0171 / (800) 228-0171 / (707) 745-0163 FAX

FIGURE 2

TABLE 2

**Groundwater Monitoring Well Analytical Results for
Quik Stop Market #47
6001 MacArthur Boulevard, Oakland, CA**

Well Number	Date Collected	Water Elevation**	TPH-D ug/L	TPH-G ug/L	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Xylenes ug/L	Total Oil and Grease mg/L
MW-1	6/08/93	91.22'	240	ND	ND	ND	ND	ND	ND
MW-2	6/08/93	90.62'	300	73	ND	ND	0.62	0.94	ND
MW-3	6/08/93	89.68'	ND	ND	ND	ND	ND	ND	ND
Detection Limits			50	50	0.5	0.5	0.5	0.5	5
*California MCL's Primary			None	None	1.0	None	680	1750	None
California MCL's Secondary			None	None	None	40	30	20	None

* Marshack, J., B., 1991, A Compilation of Water Quality Goals, Staff Report, California Regional Water Quality Control Board, Central Valley Region

** On-site reference elevation, not surveyed to Mean Sea Level at this time

ND = Not Detected

TABLE 1

**Monitoring Well Installation Soil Analytical Results for
Quick Stop Market #47
6001 MacArthur Boulevard, Oakland, CA**

Well Number/ Depth Collected	TPH-G mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Xylenes mg/Kg
MW-1-22'	ND	ND	ND	ND	ND
MW-1-26'	ND	ND	ND	ND	ND
MW-2-21.5'	ND	ND	ND	ND	ND
MW-2-27.5	ND	ND	ND	ND	ND
MW-3-22.5	ND	ND	ND	ND	ND
MW-3-28.5	ND	ND	ND	ND	ND
Detection Limits	1.0	0.005	0.005	0.005	0.005

ND = Not Detected

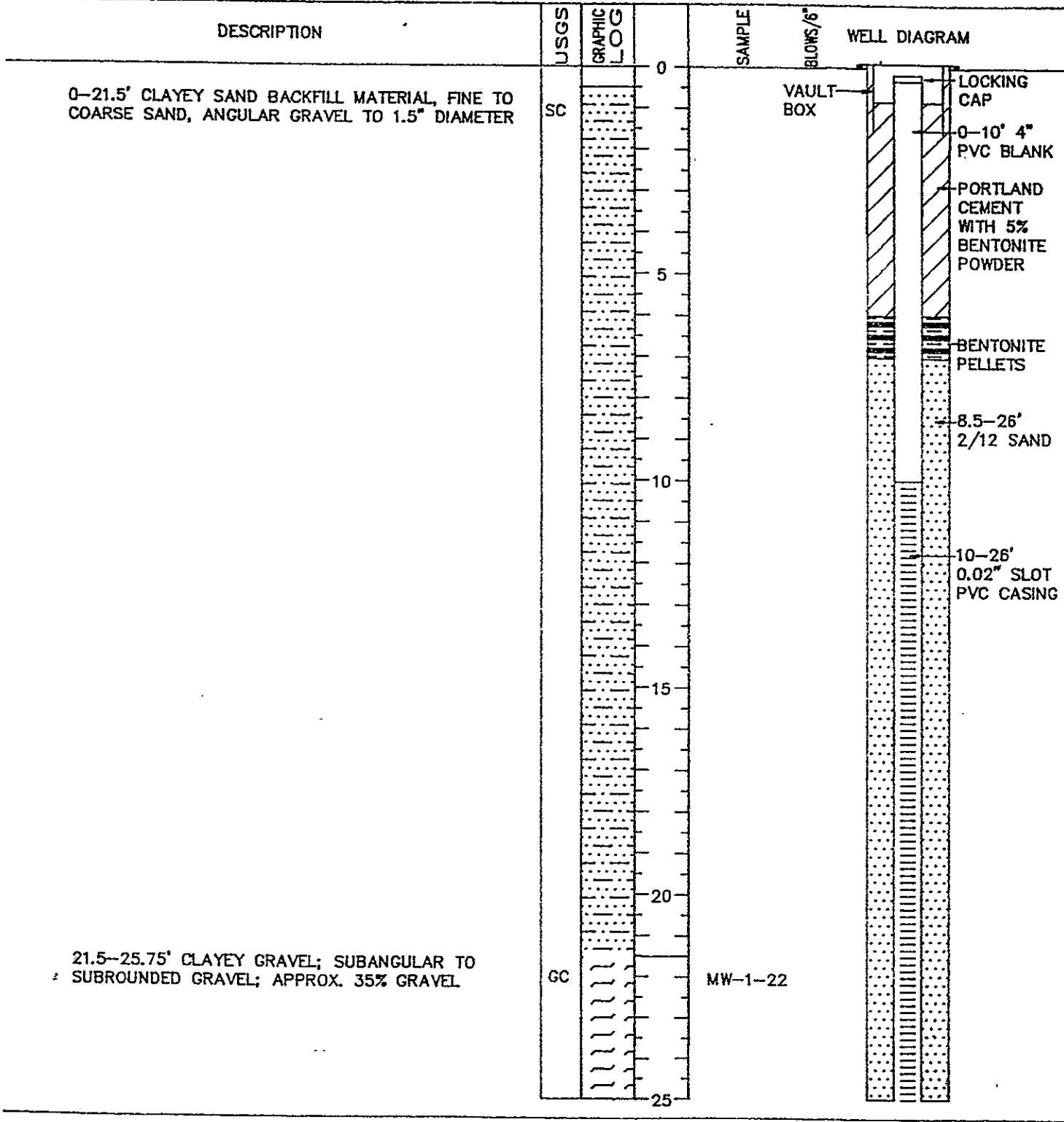


CERTIFIED ENVIRONMENTAL CORPORATION

WELL/BORING NO. MW-1 PAGE 1

PROJECT QUIK STOP #47
 PROJECT NO. 93-221-1088
 LOCATION 6001 MACARTHUR, OAKLAND, CA
 DATE/TIME DRILLED 5/25/93
 SCREEN TYPE PVC INTERVAL 10-26'
 FILTER PACK TYPE 2/12 SAND INTERVAL 8.5-26'
 SURFACE SEAL TYPE BENT. CHIPS INTERVAL 7.5-8.5'

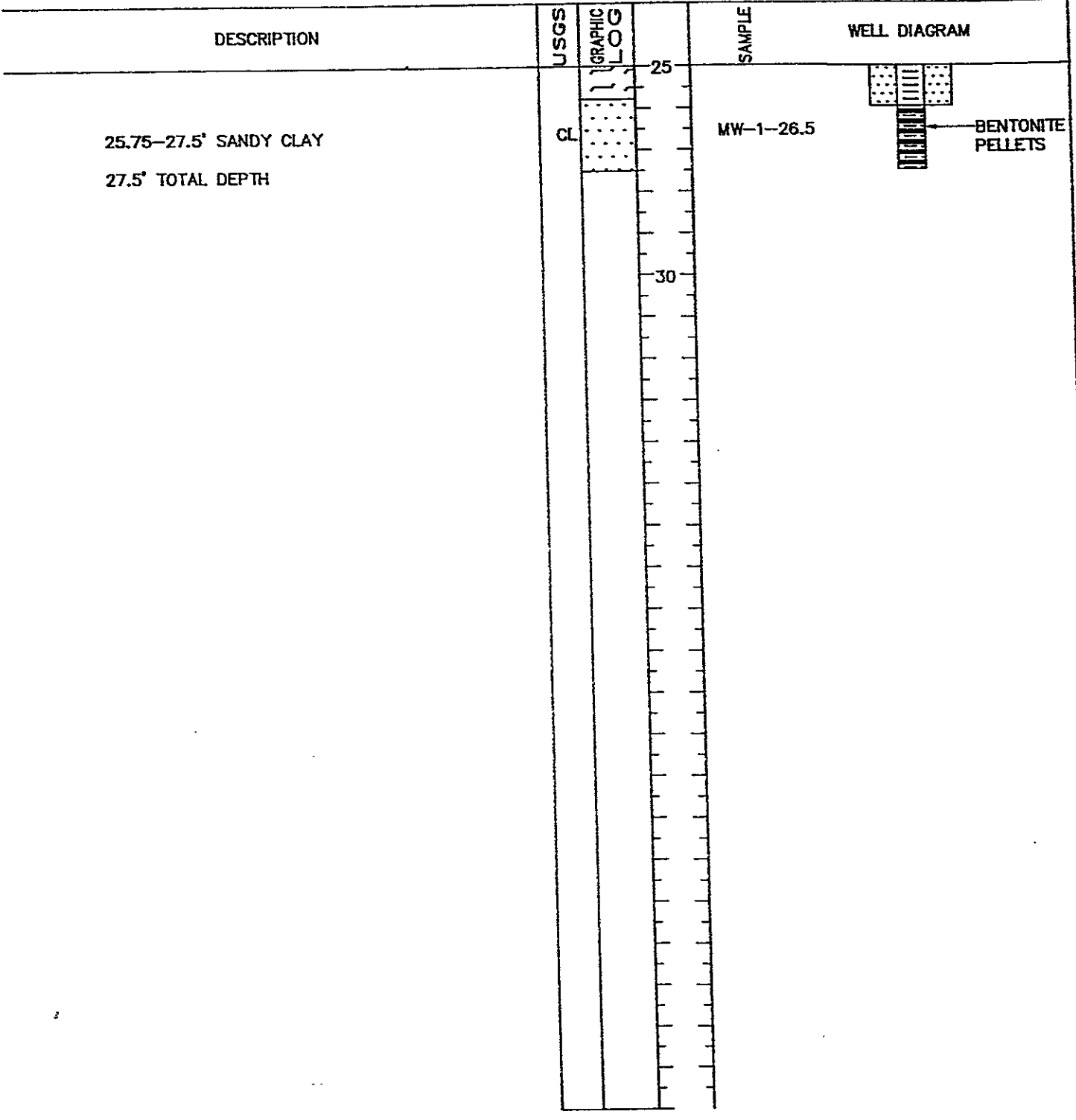
LOGGED BY HERB HIRSCHFELD
 DRILLING METHOD HOLLOW STEM CME-55
 SAMPLING METHOD MOD. CALIFORNIA SPLIT SPOON
 DRILLING CO./FOREMAN SOILS EXPLORATION SERVICE
 CASING DIA. 4 IN. SLOT SIZE 0.02"
 INITIAL WATER LEVEL _____ FINAL WATER LEVEL _____
 BOREHOLE DIA. 10 IN. TOTAL DEPTH 27.5'





PROJECT QUIK-STOP #47
 PROJECT NO. 93-221-1088
 LOCATION 6001 MACARTHER, OAKLAND, CA
 DATE/TIME DRILLED 5/25/93
 SCREEN TYPE PVC INTERVAL 10-26'
 FILTER PACK TYPE 2/12 SAND INTERVAL 8.5-26'
 SURFACE SEAL TYPE BENT. CHIPS INTERVAL 7.5-8.5'

LOGGED BY HERB HIRSCHFELD
 DRILLING METHOD 10" HS AUGERS/CME-55
 SAMPLING METHOD CA MODIFIED SPLIT SPOON
 DRILLING CO./FOREMAN SOILS EXPLORATION
 CASING DIA. 4" SLOT SIZE 0.02"
 INITIAL WATER LEVEL _____ FINAL WATER LEVEL _____
 BOREHOLE DIA. 10" TOTAL DEPTH 27.5'



PROJECT QUIK STOP #47
 PROJECT NO. 93-221-1088
 LOCATION 6001 MACARTHUR, OAKLAND, CA
 DATE/TIME DRILLED 5/25/93
 SCREEN TYPE PVC INTERVAL 8-27'
 FILTER PACK TYPE 2/12 SAND INTERVAL 7-27'
 SURFACE SEAL TYPE BENT. CHIPS INTERVAL 6-7'

LOGGED BY HERB HIRSCHFELD
 DRILLING METHOD HOLLOW STEM CME-55
 SAMPLING METHOD MOD. CALIFORNIA SPLIT SPOON
 DRILLING CO./FOREMAN SOILS EXPLORATION
 CASING DIA. 4 IN. SLOT SIZE 0.02"
 INITIAL WATER LEVEL _____ FINAL WATER LEVEL _____
 BOREHOLE DIA. 10 IN. TOTAL DEPTH 29'

DESCRIPTION

USCS

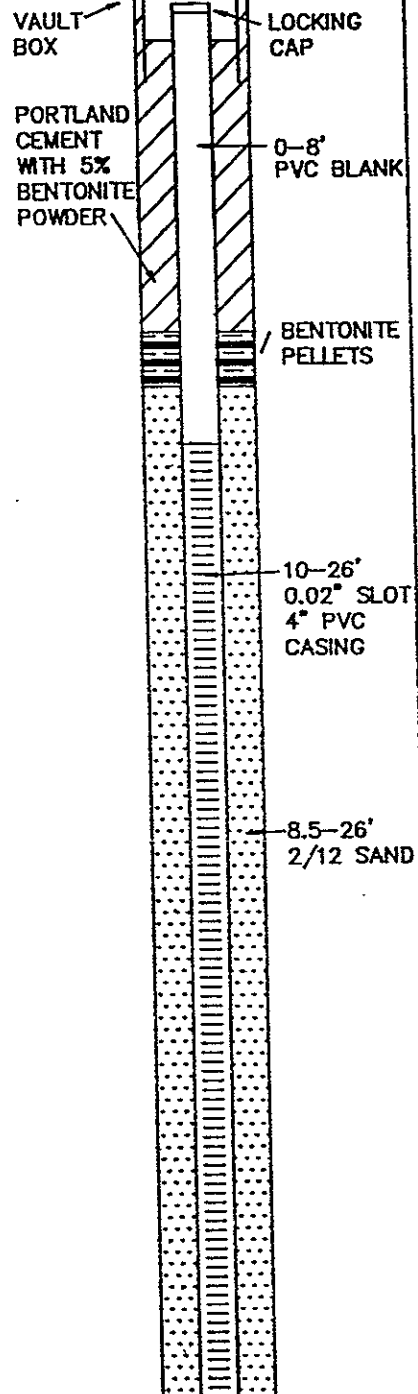
GRAPHIC LOG

SAMPLE

WELL DIAGRAM

0-21.5' CLAYEY SAND BACKFILL MATERIAL, FINE TO COARSE SAND, ANGULAR GRAVEL TO 1.5" DIAMETER

SC



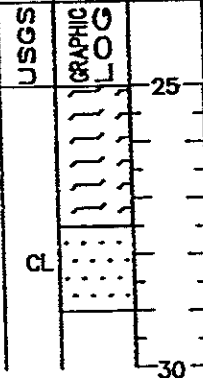
21.5' - 27.5' CLAYEY GRAVEL; SUBANGULAR TO SUBROUNDED GRAVEL

GC

25

PROJECT <u>QUIK-STOP #47</u>	LOGGED BY <u>HERB HIRSCHFELD</u>
PROJECT NO. <u>93-221-1088</u>	DRILLING METHOD <u>10" HS AUGERS/CME-55</u>
LOCATION <u>6001 MACARTHER, OAKLAND, CA</u>	SAMPLING METHOD <u>CA MODIFIED SPLIT SPOON</u>
DATE/TIME DRILLED <u>5/25/93</u>	DRILLING CO./FOREMAN <u>SOILS EXPLORATION</u>
SCREEN TYPE <u>PVC</u> INTERVAL <u>8-27'</u>	CASING DIA. <u>4"</u> SLOT SIZE <u>0.02"</u>
FILTER PACK TYPE <u>2/12 SAND</u> INTERVAL <u>7-27.5'</u>	INITIAL WATER LEVEL _____ FINAL WATER LEVEL _____
SURFACE SEAL TYPE <u>BENT. CHIPS</u> INTERVAL <u>6-7'</u>	BOREHOLE DIA. <u>10"</u> TOTAL DEPTH <u>29'</u>

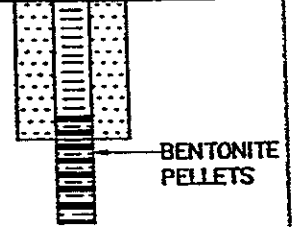
DESCRIPTION



SAMPLE

MW-2-27.5

WELL DIAGRAM



27.5' - 29' SANDY CLAY

29' TOTAL DEPTH

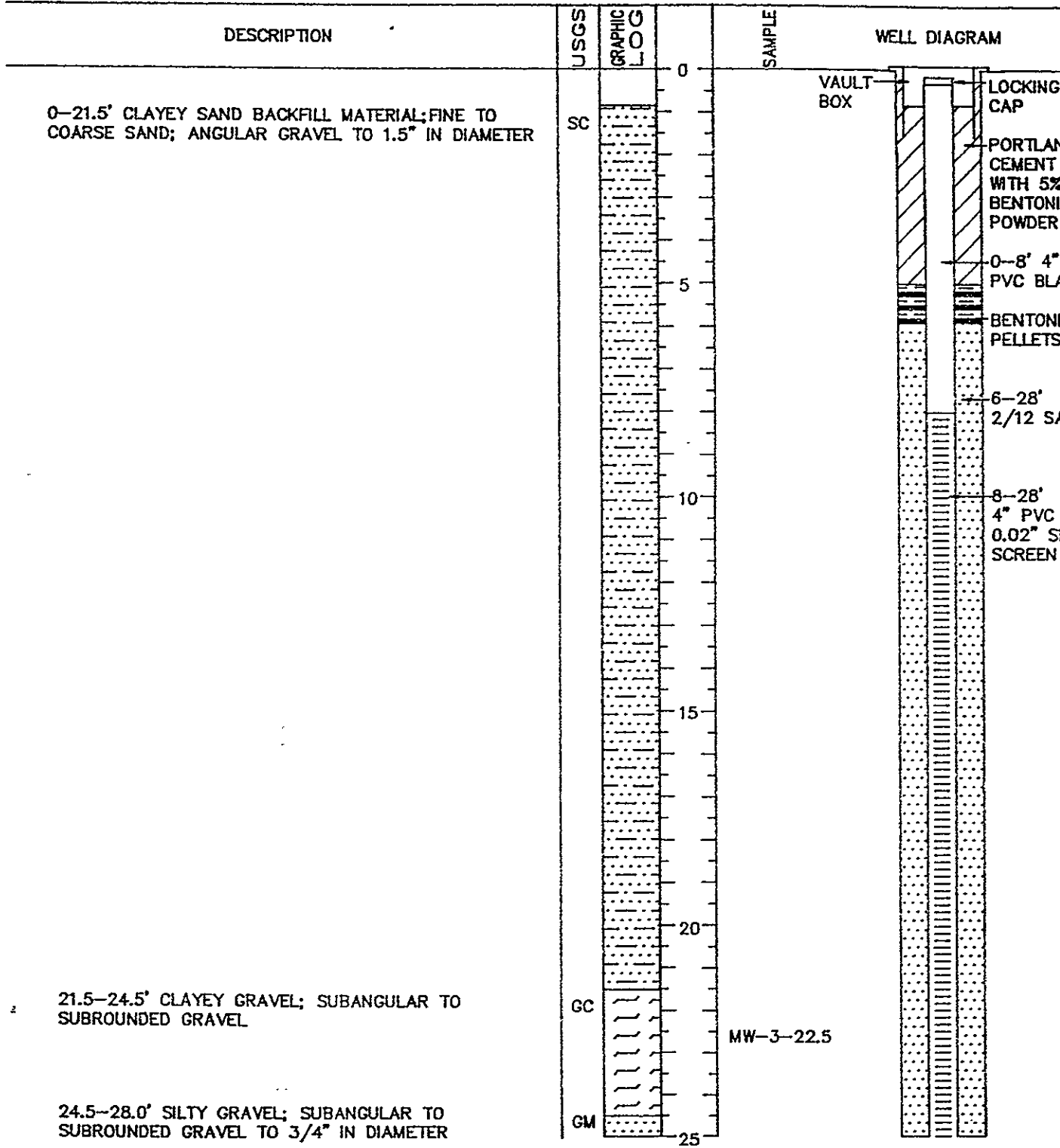


CERTIFIED ENVIRONMENTAL CORPORATION

WELL/BORING NO. MW-3 PAGE 1

PROJECT QUIK STOP #47
 PROJECT NO. 93-221-1088
 LOCATION 6001 MACARTHER, OAKLAND, CA
 DATE/TIME DRILLED 5/26/93
 SCREEN TYPE PVC INTERVAL 8-28'
 FILTER PACK TYPE 2/12 SAND INTERVAL 6-28'
 SURFACE SEAL TYPE BENT. CHIPS INTERVAL 5-6'

LOGGED BY HERB HIRSCHFELD
 DRILLING METHOD 10" HS AUGERS/CME-55
 SAMPLING METHOD MOD. CALIFORNIA SPLIT SPOON
 DRILLING CO./FOREMAN SOILS EXPLORATION SERVICE
 CASING DIA. 4 IN. SLOT SIZE 0.02"
 INITIAL WATER LEVEL _____ FINAL WATER LEVEL _____
 BOREHOLE DIA. 10 IN. TOTAL DEPTH 29'





PROJECT QUIK STOP #47
 PROJECT NO. 93-221-1088
 LOCATION 6001 MACARTHER, OAKLAND, CA
 DATE/TIME DRILLED 5/26/93
 SCREEN TYPE PVC INTERVAL 8-28'
 FILTER PACK TYPE 2/12 SAND INTERVAL 6-28'
 SURFACE SEAL TYPE BENT. CHIPS INTERVAL 5-6'

LOGGED BY HERB HIRSCHFELD
 DRILLING METHOD 10" HS AUGERS/CME-55
 SAMPLING METHOD MOD. CALIFORNIA SPLIT SPOON
 DRILLING CO./FOREMAN SOILS EXPLORATION SERVICE
 CASING DIA. 4 IN. SLOT SIZE 0.02"
 INITIAL WATER LEVEL _____ FINAL WATER LEVEL _____
 BOREHOLE DIA. 10 IN. TOTAL DEPTH 29'

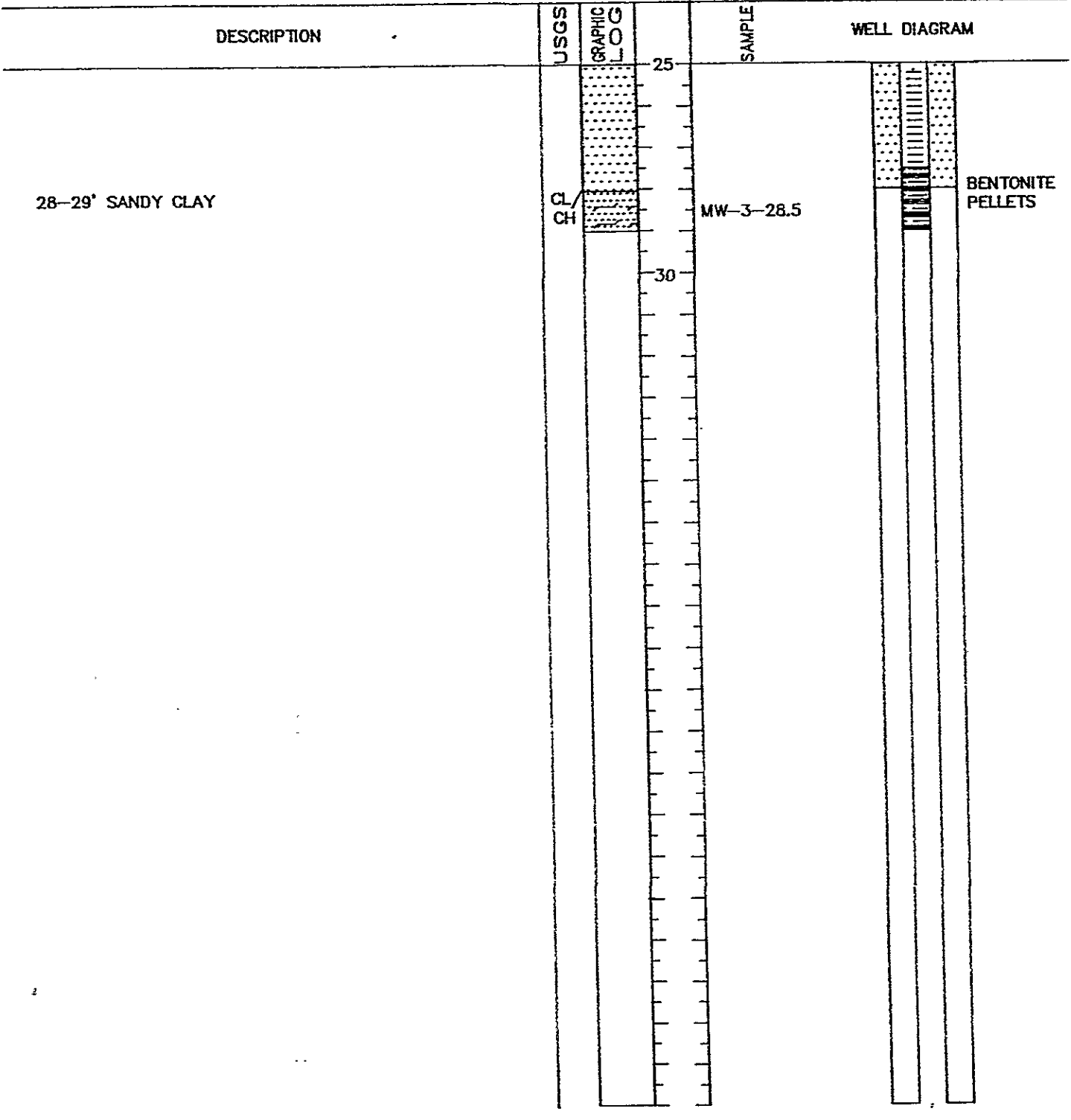


Table 2
Groundwater Monitoring Well Analytical Results
Quik Stop Market #47
6001 MacArthur Boulevard, Oakland, CA

Well Number	Date Collected	Groundwater Flow Direction	Well Elevation	Depth to Water	Water Elevation	TPH-D µg/L	TPH-G µg/L	Benzene µ/L	Toluene µg/L	Ethyl Benzene µg/L	Xylenes µg/L	Total Oil and Grease mg/L
MW-1	6/08/93	N 70° W	90.84	8.78	82.06	240	ND	ND	ND	ND	ND	ND
	*7/29/93	NC		10.5	80.34	*140	ND	ND	ND	ND	ND	ND
	9/29/93	S 86° W		10.8	80.04	200	ND	ND	ND	ND	ND	ND
	*10/7/93	NC		10.86	79.98	*200	NA	NA	NA	NA	NA	NA
	12/20/93	N 68° W		8.84	82.00	220	ND	ND	ND	ND	ND	ND
	4/04/94	N 65° W		9.05	81.79	75	ND	ND	ND	ND	ND	ND
	07/06/94	N 80° W		9.96	80.88	ND	ND	ND	ND	ND	ND	ND
MW-2	6/08/93		91.89	9.46	82.43	300	73	ND	ND	0.62	0.94	ND
	*7/29/93			9.80	82.09	*190	ND	ND	ND	ND	ND	ND
	9/29/93			11.43	80.46	200	ND	ND	ND	ND	ND	ND
	*10/7/93			11.52	80.37	*190	NA	NA	NA	NA	NA	NA
	12/20/93			9.47	82.42	140	ND	ND	ND	ND	ND	ND
	4/04/94			9.57	82.32	77	ND	ND	ND	ND	ND	ND
	07/06/94			10.51	81.38	ND	ND	ND	ND	ND	ND	ND
MW-3	6/08/93		91.80	9.36	82.44	ND	ND	ND	ND	ND	ND	ND
	9/29/93			11.48	80.32	ND	ND	ND	ND	ND	ND	ND
	12/20/93			9.35	82.45	ND	ND	ND	ND	ND	ND	ND
	4/04/94			9.41	82.39	ND	ND	ND	ND	ND	ND	ND
	07/06/94			10.48	81.32	ND	ND	ND	ND	ND	ND	ND
Detection Limits						50	50	0.5	0.5	0.5	0.5	5
**California MCL's Primary						None	None	1.0	None	680	1750	None
**California MCL's Secondary						None	None	None	40	30	20	None

* RESULTS FROM RESAMPLING GROUNDWATER AFTER REMOVING APPROXIMATELY 750 GALLONS OF WATER FROM WELLS MW-1 AND MW-2.

** Marshack, J., B., 1991, A Compilation of Water Quality Goals, Staff Report, California Regional Water Quality Control Board, Central Valley Region
Elevations in feet above mean sea level (MSL)
ND = Not Detected, NA = Not Analyzed, NC = Not Calculated

TABLE 1

Well Construction Data

6001 MacArthur Boulevard, Oakland, CA

Well	Diameter (Inches)	Date Drilled	Total Boring Depth (Feet)	Top of Casing Elevation*	Screened Interval (feet below grade)
MW-1	4	5/25/93	27.50	90.84	10-26
MW-2	4	5/25/93	29.00	91.89	8-27
MW-3	4	5/26/93	29.00	91.80	8-28

Table 4

**Analytical Results for Soil Sample Associated
With the Waste Oil Tank
Quik Stop Market #47
6001 MacArthur Boulevard, Oakland, CA**

Sample Number	Date Collected	Sample Location	TPH-G mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Xylenes mg/Kg	TPH-D mg/Kg	Total Oil and Grease mg/Kg	VOCs ug/Kg	Cadmium mg/Kg	Chromium mg/Kg	Lead mg/Kg	Nickel mg/Kg	Zinc mg/Kg
QS85-1	8/5/92	1' below tank bottom	66	0.020	0.081	0.094	0.20	370	3000	ND	2.6	35	21	53	66

TABLE 5
 COMPLETION SOIL SAMPLE ANALYTICAL RESULTS
 QUIK STOP MARKET #47
 6001 MACARTHUR BOULEVARD
 OAKLAND, CA

Date Collected	Sample Number	Depth Below Ground Surface	Location	TPH-G mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Xylene mg/Kg	Total Lead mg/Kg	Description
7/14/92	QS-714-2	16.0'	E. Side Wall	ND	ND	ND	ND	ND	NA	clayey gravel
7/14/92	QS-714-3	14.0'	E. Side Wall	ND	ND	ND	ND	ND	NA	gravelly clay
7/14/92	QS-714-4	16.0'	Bottom	ND	ND	ND	ND	ND	NA	clayey gravel
7/15/92	QS-715-1	8.5'	E. Side Wall	0.9	ND	ND	ND	0.014	NA	lean clay
7/15/92	QS-715-2	15.85'	E. Side Wall	ND	ND	ND	ND	0.014	NA	clayey gravel
7/15/92	QS-715-3	15.5'	Bottom	ND	ND	ND	0.005	0.020	NA	clayey gravel
7/15/92	QS-715-4	14.0'	E. Side Wall	6.0	ND	ND	ND	0.010	NA	gravelly lean clay
7/15/92	QS-715-5	15.0'	Bottom	ND	ND	ND	ND	0.015	NA	clayey gravel
7/15/92	QS-715-6	16.0'	Bottom	ND	ND	ND	ND	0.012	NA	clayey gravel
7/15/82	QS-715-7	16.0'	Bottom	ND	ND	ND	ND	0.015	NA	clayey gravel
7/17/92	QS-717-1	22.0'	Bottom	ND	0.014	0.014	0.006	0.015	NA	gravelly clay
7/17/92	QS-717-2	21.0'	Bottom	ND	0.006	0.006	ND	0.008	NA	gravelly clay
7/21/92	QS-721-1	11.5'	N. Side Wall	670.0	0.4	0.2	0.2	ND	NA	clayey gravel
7/21/92	QS-721-2	14.5'	E. Side Wall	140.0	ND	ND	ND	ND	NA	clayey gravel
7/21/92	QS-721-3	13.0'	E. Side Wall	10.0	0.006	ND	ND	0.005	NA	gravelly clay
7/22/92	QS-722-1	19.0'	Bottom	ND	ND	ND	ND	ND	NA	clayey gravel
Detection Limits				1.0	0.005	0.005	0.005	0.005		

TABLE 5
 COMPLETION SOIL SAMPLE ANALYTICAL RESULTS
 QUIK STOP MARKET #47
 6001 MACARTHUR BOULEVARD
 OAKLAND, CA

Date Collected	Sample Number	Depth Below Ground Surface	Location	TPH-G mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Xylene mg/Kg	Total Lead mg/Kg	Description
7/22/92	QS-722-2	12.33'	S. Side Wall	150	ND<0.05	0.31	0.57	ND<0.05	NA	gravelly clay
7/22/92	QS-722-3	13.5'	E. Side Wall	ND	ND	ND	ND	ND	NA	gravelly clay
7/22/92	QS-722-4	8.75'	E. Side Wall	2.2	ND	ND	0.033	0.016	NA	lean clay
7/22/92	QS-722-5	9.0'	S. Side Wall	3.1	ND	ND	0.027	0.014	NA	lean clay
7/22/92	QS-722-6	13.75'	E. Side Wall	460	ND<0.1	1.3	1.8	ND<0.1	NA	gravelly clay
7/24/92	QS-724-1	5.0'	S. Side Wall	130	ND<0.05	0.11	0.026	0.16	NA	gravelly clay
7/24/92	QS-724-2	1.0'	S. Side Wall	780	0.51	1.7	3.0	1.8	NA	gravelly clay
7/27/92	QS-727-1	21.0'	Bottom	ND	ND	ND	ND	ND	NA	gravelly clay
7/27/92	QS-727-2	9.0'	N. Side Wall	6.9	0.008	ND	0.047	0.025	NA	lean clay
7/27/92	QS-727-3	18.0'	N. Side Wall	ND	ND	ND	ND	ND	NA	clayey gravel
7/27/92	QS-727-4	9.75'	N. Side Wall	1.7	ND	ND	ND	0.010	NA	lean clay
7/27/92	QS-727-5	15.5'	N. Side Wall	ND	ND	ND	ND	ND	NA	clayey gravel
7/28/92	QS-728-1	9.0'	N. Side Wall	8.0	ND	ND	ND	0.010	NA	lean clay
7/28/92	QS-728-2	14.0'	N. Side Wall	670.0	1.9	1.5	1.3	4.4	7.3	clayey gravel
7/28/92	QS-728-3	20.0'	Bottom	ND	ND	ND	ND	ND	NA	gravelly clay
Detection Limits				1.0	0.005	0.005	0.005	0.005		

TABLE 5
 COMPLETION SOIL SAMPLE ANALYTICAL RESULTS
 QUIK STOP MARKET #47
 6001 MACARTHUR BOULEVARD
 OAKLAND, CA

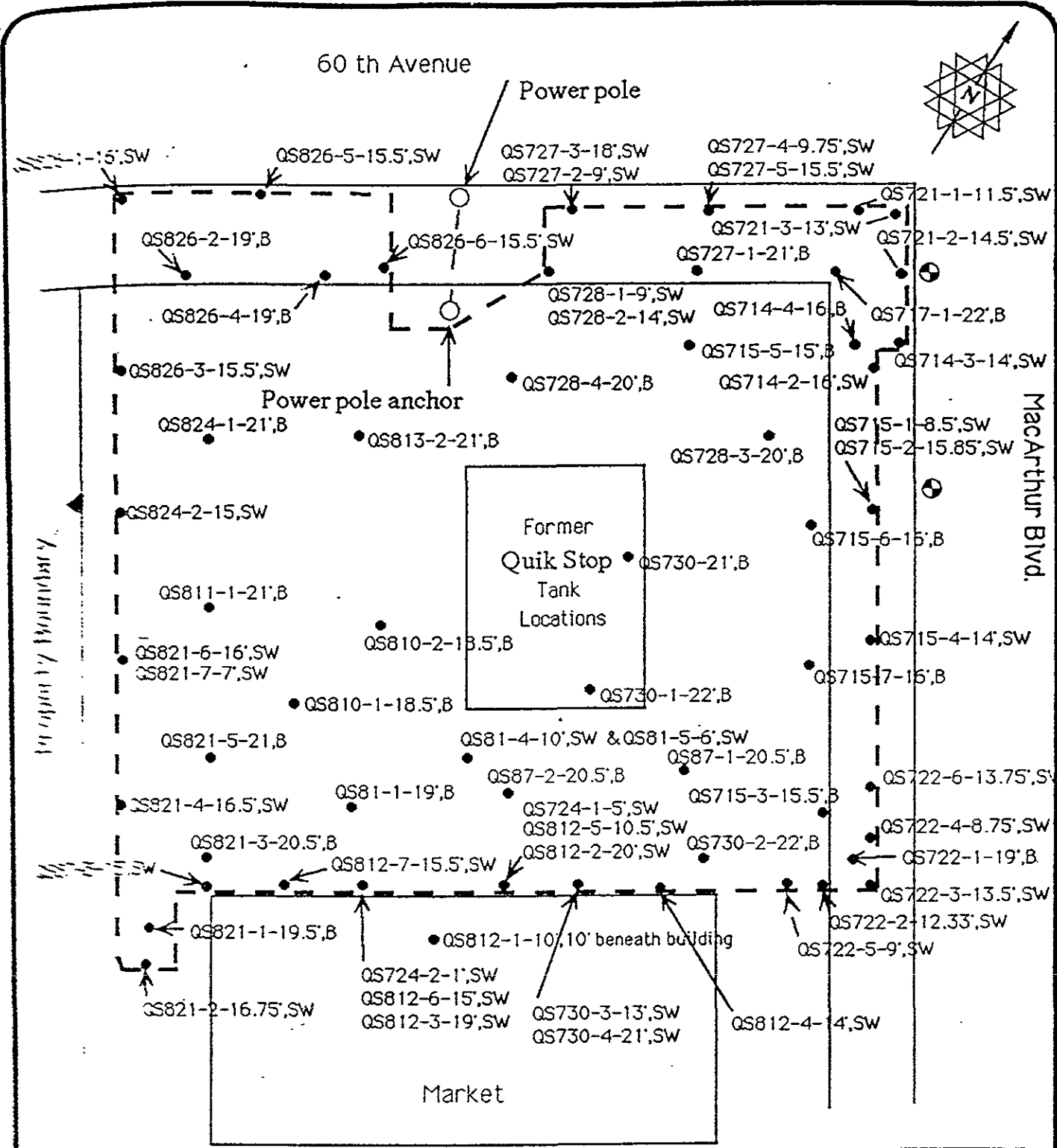
Date Collected	Sample Number	Depth Below Ground Surface	Location	TPH-G mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Xylene mg/Kg	Total Lead mg/Kg	Description
7/28/92	QS-728-4	20.0'	Bottom	ND	ND	ND	ND	ND	NA	gravelly clay
7/30/92	QS-730-1	22.0'	Bottom	ND	ND	ND	ND	ND	NA	gravelly clay
7/30/92	QS-730-2	22.0'	Bottom	ND	ND	ND	ND	ND	8.8	gravelly clay
7/30/92	QS-730-3	13.0'	S. Side Wall	1300.0	0.60	2.6	3.2	3.5	NA	gravelly clay
7/30/92	QS-730-4	21.0'	S. Side Wall	ND	ND	ND	ND	ND	NA	clayey gravel
7/30/92	QS-730-5	21.0'	Bottom	ND	ND	ND	ND	ND	NA	clayey gravel
8/01/92	QS-81-1	19.0'	Bottom	ND	ND	ND	ND	ND	NA	brown clayey gravel
8/01/92	QS-81-2	17.5'	*Side Wall	ND	ND	ND	ND	ND	NA	green clayey gravel
8/01/92	QS-81-3	17.6'	*Side Wall	ND	ND	ND	ND	ND	NA	green clayey gravel
8/01/92	QS-81-4	10.0'	*Side Wall	ND	ND	ND	ND	ND	NA	brown lean clay
8/01/92	QS-81-5	6.0'	*Side Wall	ND	ND	ND	ND	ND	NA	green clayey gravel
8/01/92	QS-81-6	16.5'	*Side Wall	ND	ND	ND	ND	ND	NA	green clayey gravel
8/07/92	QS-87-1	20.5'	Bottom	ND	ND	ND	ND	ND	NA	yellow-brown lean clay
8/07/92	QS-87-2	20.5'	Bottom	ND	ND	ND	ND	ND	NA	yellow-brown lean clay
8/07/92	QS-87-3	15.5'	S. Side Wall	54.0	ND < 0.02 5	0.29	0.37	ND < 0.02 5	NA	green gravelly clay
Detection Limits				1.0	0.005	0.005	0.005	0.005		
8/10/92	QS-810-1	18.51'	Bottom	ND	ND	ND	ND	ND	NA	brown clayey gravel

TABLE 5
 COMPLETION SOIL SAMPLE ANALYTICAL RESULTS
 QUIK STOP MARKET #47
 6001 MACARTHUR BOULEVARD
 OAKLAND, CA

Date Collected	Sample Number	Depth Below Ground Surface	Location	TPH-G mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Xylene mg/Kg	Total Lead mg/Kg	Description
8/10/92	QS-810-2	18.5'	Bottom	ND	ND	ND	ND	ND	NA	brown clayey gravel
8/11/92	QS-811-1	21.0'	Bottom	ND	ND	ND	ND	ND	NA	brown clayey gravel
8/12/92	QS-812-1	10.0'	S. Beneath Bld.	200.0	ND < 0.05	0.48	0.62	0.32	3	green gravelly clay
8/12/92	QS-812-2	20.0'	S. Side Wall	ND	ND	ND	ND	ND	NA	brown clayey gravel
8/12/92	QS-812-3	19.0'	S. Side Wall	ND	ND	ND	ND	ND	NA	brown clayey gravel
8/12/92	QS-812-4	14.0'	S. Side Wall	310.0	0.47	1.2	1.4	1.3	NA	green gravelly clay
8/12/92	QS-812-5	10.5'	S. Side Wall	1100.0	0.53	2.4	2.6	4.0	3.7	green gravelly clay
8/12/92	QS-812-6	15.0'	S. Side Wall	230.0	0.14	1.0	1.1	1.1	5.3	green gravelly clay
8/12/92	QS-812-7	15.5'	S. Side Wall	4.4	ND	0.034	0.028	0.019	NA	green gravelly clay
8/13/92	QS-813-2	21.0'	Bottom	ND	ND	ND	ND	ND	NA	brown lean clay
8/21/92	QS-821-1	19.5'	Bottom	ND	ND	ND	ND	ND	NA	yellow-brown lean clay
8/21/92	QS-821-2	16.75'	S. Side Wall	14.0	ND	0.054	0.065	ND	NA	green gravelly clay
8/21/92	QS-821-3	20.5'	Bottom	ND	ND	ND	ND	ND	NA	yellow-brown lean clay
8/21/92	QS-821-4	16.5'	W. Side Wall	3.4	ND	0.024	0.027	0.008	NA	green gravelly clay
Detection Limits				1.0	0.005	0.005	0.005	0.005		

TABLE 5
 COMPLETION SOIL SAMPLE ANALYTICAL RESULTS
 QUIK STOP MARKET #47
 6001 MACARTHUR BOULEVARD
 OAKLAND, CA

Date Collected	Sample Number	Depth Below Ground Surface	Location	TPH-G mg/Kg	Benzene mg/Kg	Toluene mg/Kg	Ethyl Benzene mg/Kg	Xylene mg/Kg	Total Lead mg/Kg	Description
8/21/92	QS-821-5	21.0'	Bottom	ND	ND	ND	ND	ND	NA	yellow-brown lean clay
8/21/92	QS-821-6	16.0'	W. Side Wall	8.6	ND	0.022	0.036	ND	NA	brown lean clay with minor gray streaks
8/21/92	QS-821-7	7.0'	W. Side Wall	110.0	ND<0.05	ND<0.05	0.38	0.28	NA	brown lean clay
8/24/92	QS-824-1	21.0'	Bottom	ND	ND	ND	ND	ND	NA	yellow brown lean clay
8/24/92	QS-824-2	15.0'	W. Side Wall	1.4	ND	0.008	0.007	ND	NA	green gravelly clay
8/26/92	QS-826-1	16.0'	W. Side Wall	ND	ND	ND	ND	0.008	NA	green gravelly clay
8/26/92	QS-826-2	19.0'	W. Bottom	ND	ND	ND	ND	ND	NA	brown clayey gravel
8/26/92	QS-826-3	15.5'	W. Side Wall	ND	ND	ND	ND	ND	NA	light green gravelly clay
8/26/92	QS-826-4	19.0'	Bottom	ND	ND	ND	ND	ND	NA	brown clayey gravel
8/26/92	QS-826-5	15.5'	N. Side Wall	280.0	ND<0.1	0.75	1.3	ND<0.1	5.1	green gravelly clay
8/26/92	QS-826-6	15.5'	N. Side Wall	3.2	0.11	0.016	0.014	0.017	NA	green gravelly clay
Detection Limits				1.0	0.005	0.005	0.005	0.005		



EXPLANATION

- - - - - 5' = Sample Number-Depth Collected (B=bottom, SW=sidewall)
- - - - Excavation Boundary
- ⊕ Existing Springs

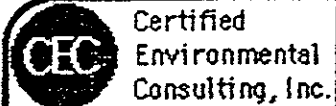
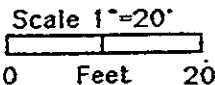


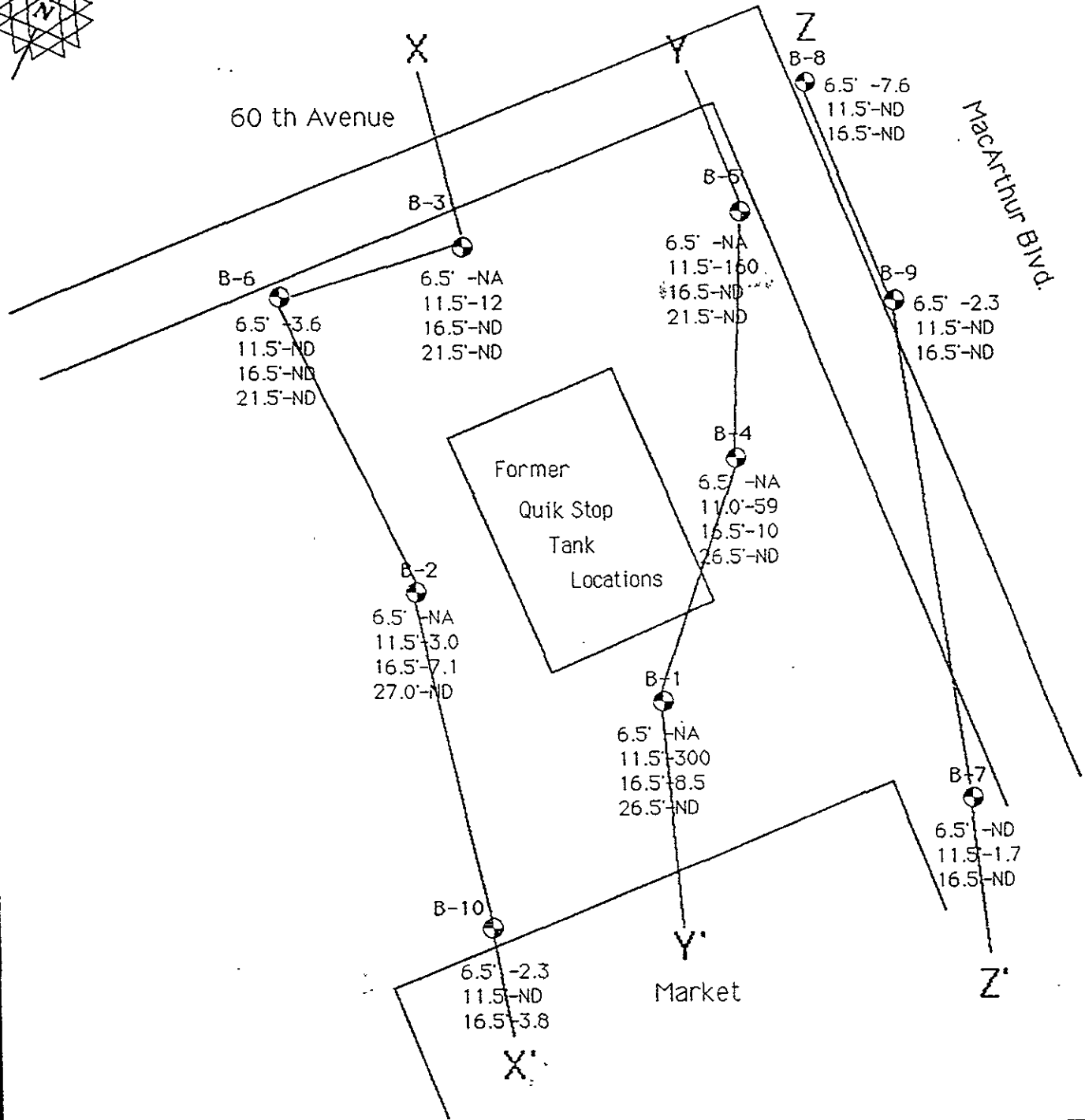
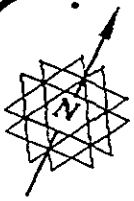
FIGURE 5

DETAILED SITE MAP SHOWING COMPLETION SOIL SAMPLING LOCATIONS

QUIK STOP MARKET #47
 6001 MacArthur Blvd.
 Oakland, CA

Job # 92-221-791

DWJ 12-92



EXPLANATION

X ——— X' Cross section Lines

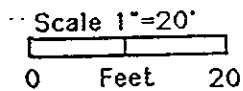
⊕ = Existing Borings, Depth samples collected, TPH-G concentrations in ppm

B-1 - B-6 drilled 4/29/92

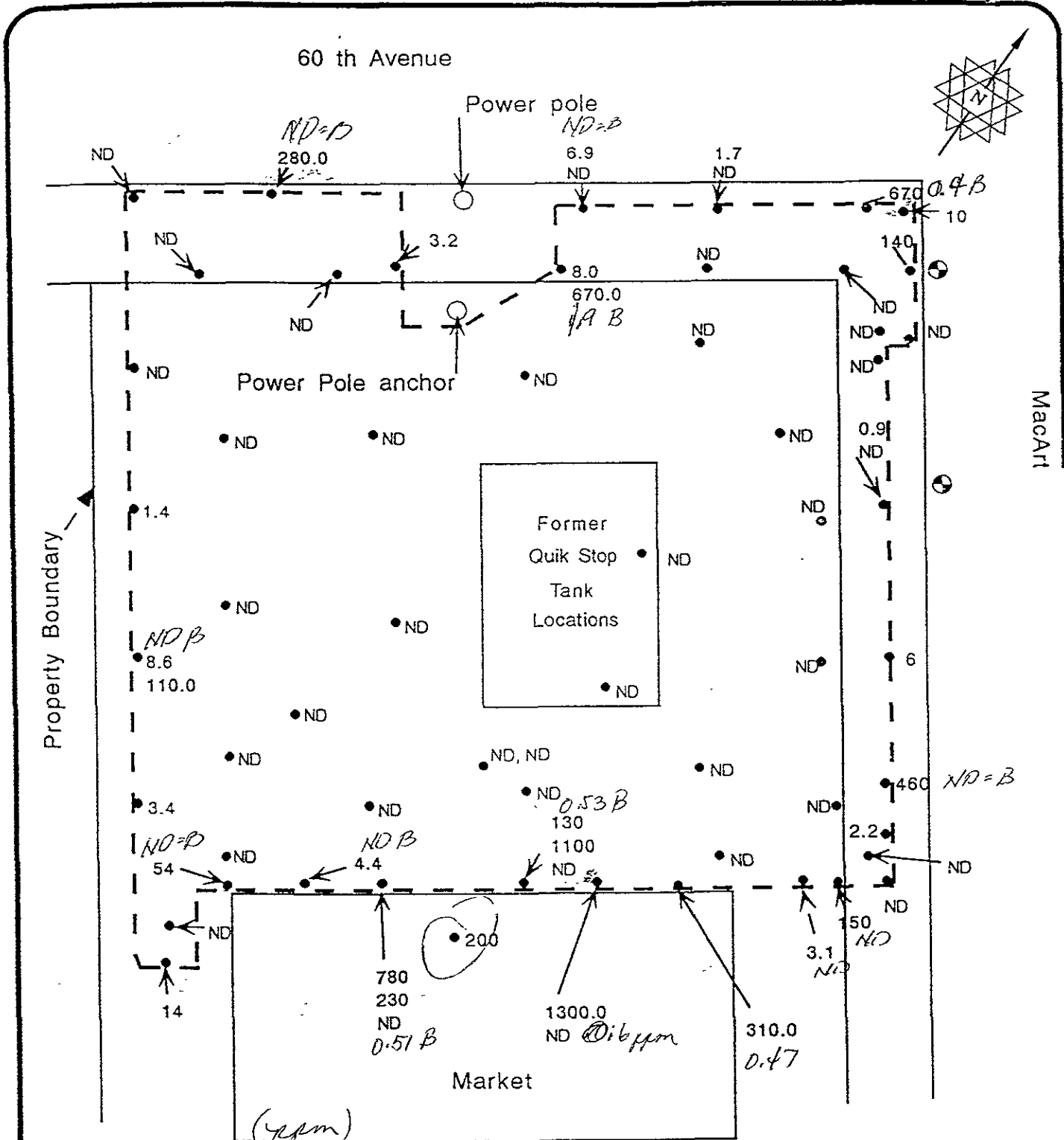
B-7 - B-10 drilled 5/21/92

NA = Not Analyzed

ND = Not Detected



	Certified Environmental Consulting, Inc.	Figure 3
	DETAILED SITE MAP SHOWING CROSS SECTION LOCATIONS QUIK STOP MARKET #47 6001 MacArthur Blvd. Oakland, CA	
Job # 92-221-791		DWJ 6-92



EXPLANATION

- TOTAL PETROLEUM HYDROCARBON (TPH-G) CONCENTRATIONS IN Mg/Kg (ppm)
- - - Excavation Boundary
- ⊙ = Existing Borings

NOTE: Refer to Figure 5 For Sample Number and Depth Collected

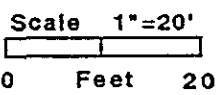


Figure 6

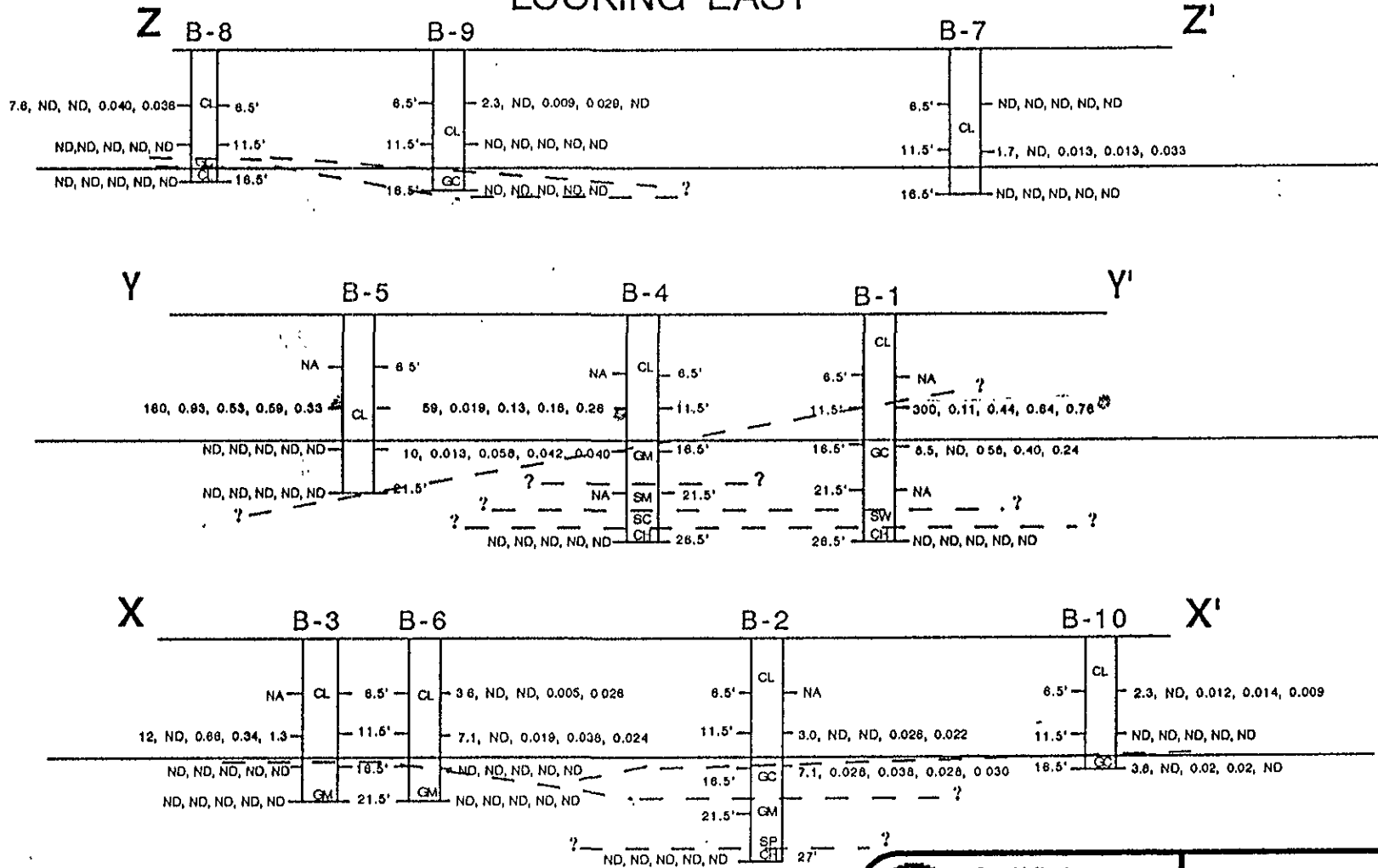
COMPLETION SAMPLE LOCATIONS AND TPH-G CONCENTRATIONS

QUIK STOP MARKET #47
6001 MacArthur Blvd.
Oakland, CA

Job # 92-221-791

OWJ 12-92

LOOKING EAST



EXPLANATION

- CL** Lean Clay
- GC** Clayey Gravel
- GM** Silty Gravel
- SP** Sand with Gravel
- CH** Fat Clay

- SC** Clayey Sand
- SW** Gravelly Sand
- SM** Silty Sand

— — Water Depth During Drilling
 - - - Approximate Geologic Contact

Values in ppm
 TPH-G, B, T, E, X
 NA Not Analyzed
 ND Not Detected

Scale 1" = Approximately 20'

SOILS CLASSIFICATION BASED ON UNIFIED SOILS CLASSIFICATION SYSTEM



Certified
 Environmental
 Consulting, Inc.

Figure 4

**BORE HOLE
 GEOLOGIC CROSS SECTIONS**
 QUIK STOP MARKET #47
 6001 MacArthur Blvd.
 Oakland, CA

Job # 92-221-791

DWJ 6-92

Table 1.
Groundwater Monitoring Well Analytical Results for
Quik Stop Market #47
6001 MacArthur Boulevard, Oakland, CA

Well Number	Date Collected	Groundwater Flow Direction	Well Elevation	Depth to Water	Water Elevation	TPH-D ug/L	TPH-G ug/L	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Xylenes ug/L	Total Oil and Grease mg/L
MW-1	6/08/93	N 70° W	90.84	8.78	82.06	240	ND	ND	ND	ND	ND	ND
	*7/29/93	NC		10.5	81.04	*140	ND	ND	ND	ND	ND	ND
	9/29/93	S 86° W		10.8	90.84	200	ND	ND	ND	ND	ND	ND
	*10/7/93	NC		10.86	79.98	*200	NA	NA	NA	NA	NA	NA
	12/20/93	N 68° W		8.84	82.00	220	ND	ND	ND	ND	ND	ND
	4/04/94	N 65° W		9.05	81.79	75	ND	ND	ND	ND	ND	ND
MW-2	6/08/93		91.89	9.46	82.43	300	73	ND	ND	0.62	0.94	ND
	*7/29/93			9.80	81.39	*190	ND	ND	ND	ND	ND	ND
	9/29/93			11.43	91.89	200	ND	ND	ND	ND	ND	ND
	*10/7/93			11.52	80.37	*190	NA	NA	NA	NA	NA	NA
	12/20/93			9.47	82.42	140	ND	ND	ND	ND	ND	ND
	4/04/94			9.57	82.32	77	ND	ND	ND	ND	ND	ND
MW-3	6/08/93		91.80	9.36	82.44	ND	ND	ND	ND	ND	ND	ND
	9/29/93			11.48	91.80	ND	ND	ND	ND	ND	ND	ND
	12/20/93			9.35	82.45	ND	ND	ND	ND	ND	ND	ND
	4/04/94			9.41	82.39	ND	ND	ND	ND	ND	ND	ND
Detection Limits						50	50	0.5	0.5	0.5	0.5	5
**California MCL's Primary						None	None	1.0	None	680	1750	None
**California MCL's Secondary						None	None	None	40	30	20	None

* RESULTS FROM RESAMPLING GROUNDWATER AFTER REMOVING APPROXIMATELY 750 GALLONS OF WATER FROM WELLS MW-1 AND MW-2.

** Marshack, J., B., 1991, A Compilation of Water Quality Goals, Staff Report, California Regional Water Quality Control Board, Central Valley Region

Elevations in feet above mean sea level (MSL)

ND = Not Detected, NA = Not Analyzed, NC = Not Calculated