CROSBY & OVERTON, INC.
Environmental Management
8430 Amelia Street
Oakland, California 94621
FAX (415) 633-0759
(415) 633-0336 ▪ (800) 821-0424

October 18, 1989

Mega General and Environmental Contracting, Inc.
P.O. Box 462
Pinole, CA 94564
Attn: Mr. Bill Ridle

Re: Groundwater monitoring wells at 5903 Christie Avenue in Emeryville, California.

Dear Mr. Ridle:

Crosby & Overton, Inc. is pleased to submit the following report pertaining to the installation, development, and sampling of two groundwater monitoring wells at 5903 Christie Avenue in Emeryville, California. (see map and site plans)

BACKGROUND

During the excavation and removal of two underground fuel tanks, it was discovered that at least one of the tanks had leaked or had been overfilled, contaminating soil in the vicinity. Pursuant to San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) guidelines, one groundwater monitoring well was installed and sampled (see C & O report dated June 23, 1989). After reviewing that report, Mr. Dennis Byrne of the Alameda County Health Care Services Agency requested the installation, development, and sampling of two additional monitor wells at the site in order to define the groundwater flow direction and gradient to verify that one monitoring well is situated within ten feet of the former tank location in a downgradient direction relative to groundwater flow.

FIELD WORK

On September 27, 1989, Crosby & Overton directed a subcontractor, Datum Exploration, in the drilling, installation and development of two monitoring wells at the site.

A B-61 truck-mounted drilling rig was used to advance 6 inch outer-diameter continuous flight hollow stem augers. Soil samples were obtained from 6.5' below ground surface (bgs) in each borehole. A California split spoon sampler, holding three clean 6" brass tubes was used for sample procurement and lithological logging. Immediately after extraction from the borehole, the middle brass tube ends were sealed by aluminum foil, plastic cap plugs, and duct tape; then labelled, placed on blue ice, and transported under chain of custody documentation to Trace Analysis (a California state certified hazardous materials laboratory) in Hayward, California.

Soils encountered during drilling included asphalt and concrete pads to 4" bgs, fill to 5' bgs, silty/sandy "Bay Mud" clay to 14' bgs, then a tight red clay to a final drilling depth of 20'. A hydrocarbon odor was detected from 5' bgs to 14' bgs in both boreholes.

After completion, the wells were developed by pumping more than 10 well volumes of water (45 gallons from each well) into holding drums. The wells were then allowed to fully recharge, after which aqueous samples were obtained in new 3' long polyethylene bailers. Samples to be analyzed for volatile organics were secured in new 40 ml. voa vials, with no headspace allowed. Other samples were sealed in new 950 ml. amber wide-mouth jars. Immediately after being secured in the containers, samples were labelled, placed on blue ice, and transported under chain of custody documentation to SMC (a California state certified hazardous materials laboratory) in Bakersfield, California. All samples were analyzed for TPH-Diesel, BTXE, and Total Oil and Grease (TOG).

ANALYTICAL RESULTS

Analytical results of the soil sample from MW-2 revealed diesel at 6 parts per million (ppm); TOG at 24 ppm, and below detectable limits for BTXE. The soil sample from MW-3 had below detectable limits for all parameters analyzed for.

All goundwater samples analyzed tested below detectable limits for diesel and BTXE. However, MW-2 had TOG at 1.8 ppm, and MW-3 had TOG at 0.87 ppm.

CONCLUSIONS AND RECOMMENDATIONS

Evidence o fhydrocarbon contamination has been detected on-site. Diesel and TOG contaminated soil was observed in MW-2 from approximately 5' bgs to 14' bgs. In addition, both monitor well aqueous samples had detectable TOG.

Although such contamination was discovered, the levels are sufficiently minimal to indicate that mitigation work in the immediate area of the wells would not be recommended at the present time.

However, Crosby & Overton does recommend quarterly sampling of the three groundwater monitor wells in order to acquire data throughout a full hydrological cycle. Subsequent to that data collection and evaluation, a final determination as to wether groundwater remediation is indicated at the site may be made.

Additional copies of this report are included herein, and it is recommended that one be forwarded to each of the individuals listed below:

-Mr. Scott Hugenburger
San Francisco Bay Regional Water
Quality Control Board
1111 Jackson Street, Sixth floor
Oakland, CA 94607

-Mr. Dennis Byrne
Alameda County Department of Health Services
80 Swan Way, Room 200
Oakland, CA 94607

Respectfully submitted,

Dave Sadoff
Environmental Geologist

Calif. R.G. # 1801

Roger Nielson
CA Registered Geologist #1801

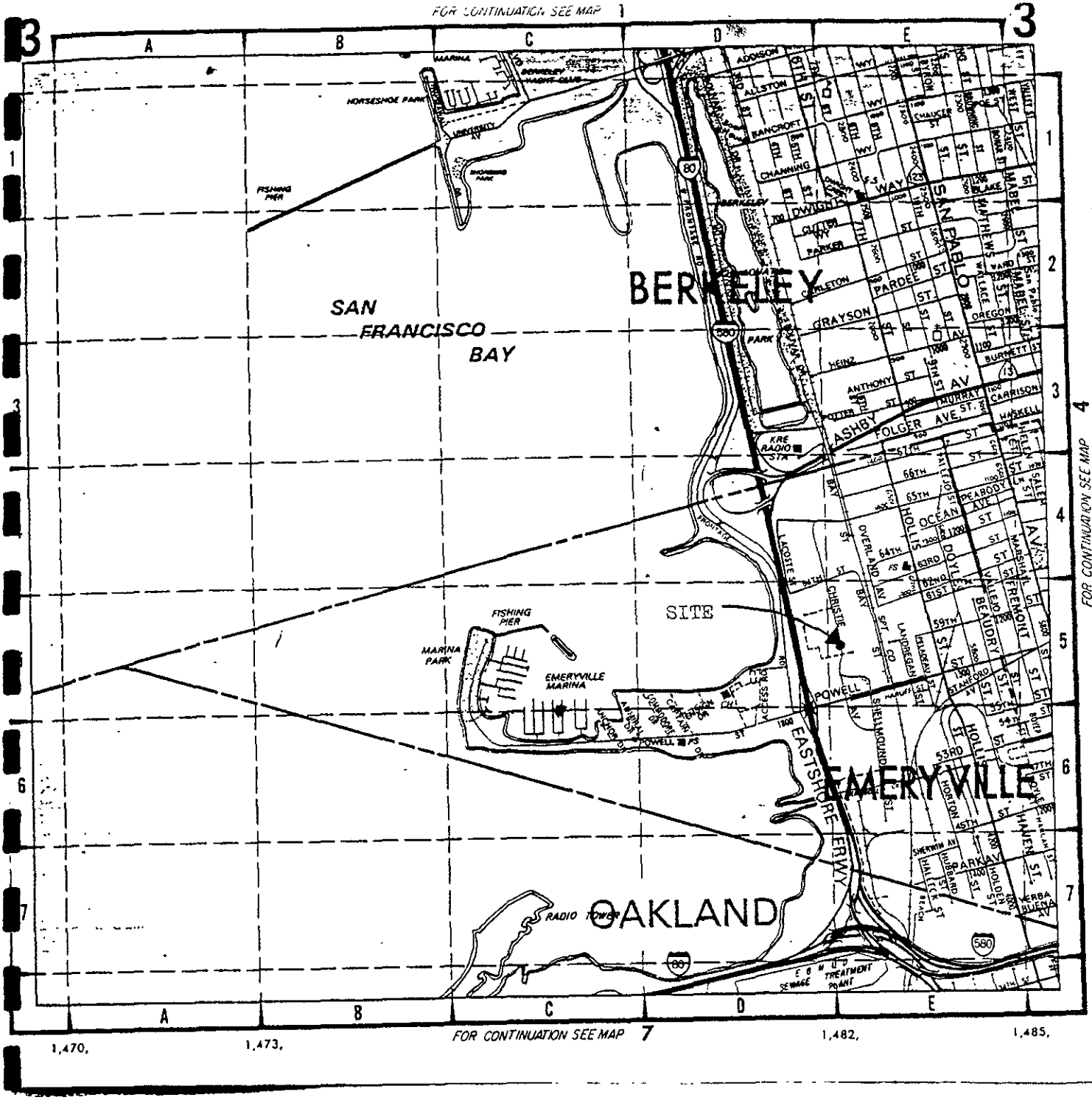
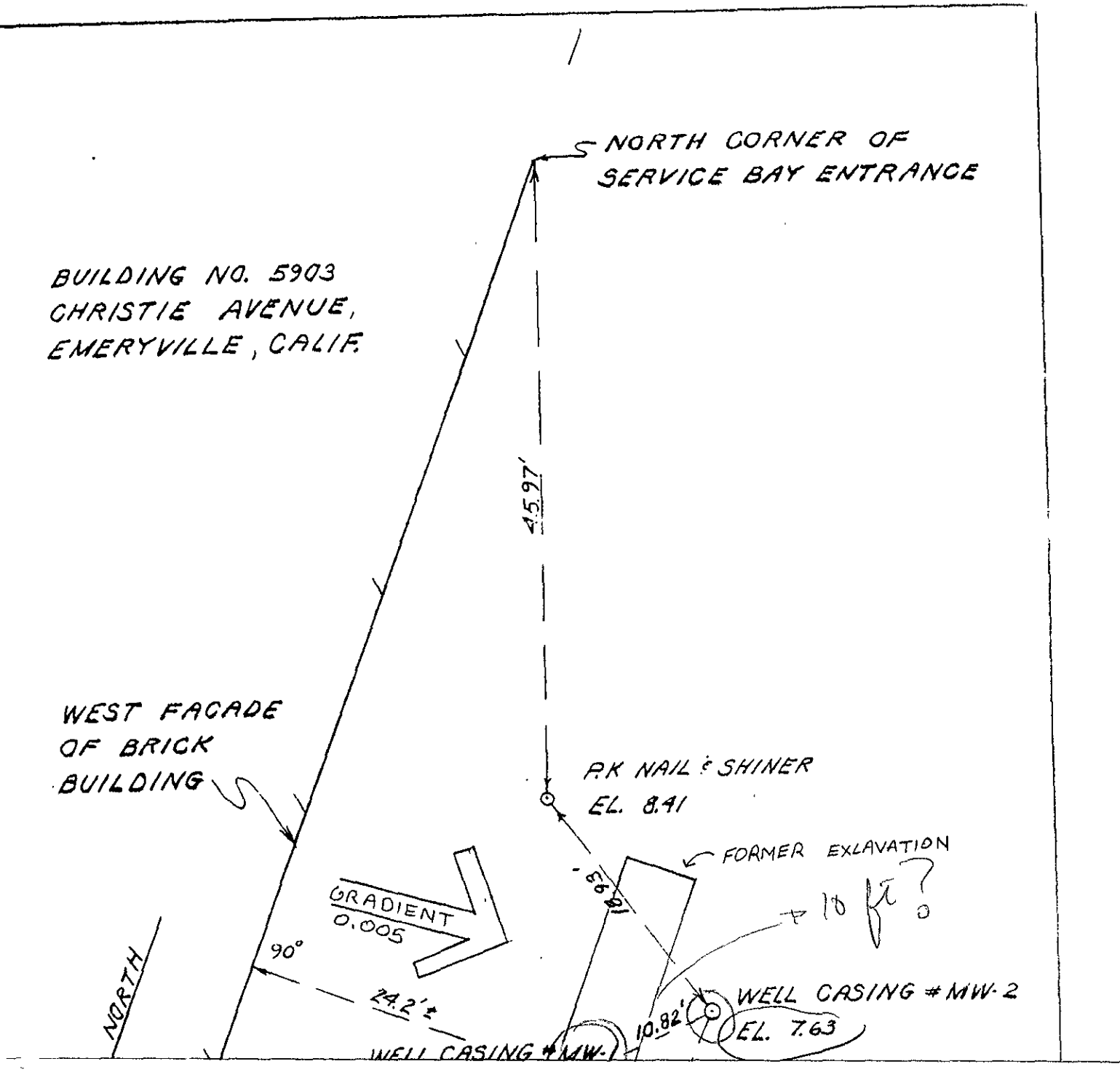


FIGURE 1. SITE MAP


NORTH CORNER OF
SERVICE BAY ENTRANCE
BUILDING NO. 5903
CHRISTIE AVENUE,
EMERYVILLE, CALIF.
45.97'
WEST FACADE
OF BRICK
BUILDING
P.K NAIL & SHINER
EL. 8.41
FORMER EXLAVATION
10.98'
10 ft ?
GRADIENT
0.005
90°
NORTH
24.2'±
WELL CASING # MW-1
10.82'
WELL CASING # MW-2
EL. 7.63

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FIELD DRILL / LITHOLOGIC LOG

BORING/WELL NUMBER MW-2

PROJECT MEGA/WEATHERFORD BMW — OWNER
LOCATION 5903 CHRISTIE, EMERYVILLE — PROJECT NUMBER 5107-S
DATED DRILLED 9/27/89 — TOTAL DEPTH OF HOLE 20'
SURFACE ELEVATION 7.63' — DEPTH TO WATER 7.5'
SCREEN: DIA. 2" — LENGTH 15' — SLOT SIZE 0.002"
CASING: DIA. 2" — LENGTH 5' — TYPE PVC
DRILLING COMPANY DATUM — DRILL METHOD HSA
DRILLER JIM — LOG BY D. SADOFF

DEPTH (FEET)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
1–5								2" ASPHALT, 2" CONCRETE FINE TO MEDIUM-GRAINED SANDY FILL
6–14				S1		1 2 3		CL SILTY/SANDY CLAY (BAY MUD). STRONG HYDROCARBON ODOR. OUT OF CONTAMINATION (?)
15–20								CL RED CLAY, TIGHT, LOW TRANSMISSIVITY. NO HYDROCARBON ODOR.
–								BORING TERMINATED

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FIELD DRILL / LITHOLOGIC LOG

BORING/WELL NUMBER MW-3

PROJECT MEGA/WEATHERFORD BMW OWNER
LOCATION 5903 CHRISTIE, EMERYVILLE PROJECT NUMBER 5107-S
DATED DRILLED 9-27-89 TOTAL DEPTH OF HOLE
SURFACE ELEVATION 7.34' DEPTH TO WATER 7.5'
SCREEN: DIA. 2" LENGTH 15' SLOT SIZE 0.02
CASING: DIA. 2" LENGTH 5' TYPE PVC
DRILLING COMPANY DATUM DRILL METHOD HSA
DRILLER JIM LOG BY D. SADOFF

DEPTH (FEET)	WELL CONST. PIPE	WELL CONST. FILL	PID (PPM)	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES BLOW	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
								2" ASPHALT, 2" CONCRETE
1								ROOFING TAR FILL
2								FINE TO MEDIUM GRAINED SANDY FILL
3								
4								
5								
6						2		CL SILTY/SANDY CLAY (BAY MUD) SLIGHT HYDROCARBON ODOR
7				S2		3		
8						3		
9								
10								STRONG HYDROCARBON ODOR
11								
12								
13								
14								SLIGHT HYDROCARBON ODOR (?)
15								CL TIGHT RED CLAY, LOW TRANSMISSIVITY. NO HYDROCARBON ODOR.
16								
17								
18								
19								
20								BORING TERMINATED

SMC Laboratory

Analytical Chemistry

Client Name: Crosby & Overton, Inc.
Address : 8430 Amelia Street
Oakland, California 94621

Date samples received : 9-29-89
Date analysis completed: 10-06-89
Date of report : 10-12-89

Laboratory No. 2694 and 2695

Project No. 5107-S

Purchase Order No. 1010-89-1

RESULTS OF ANALYSIS

#2694 ID: S-3 (MW-3)	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Diesel)	ND	100

Oil & Grease	0.87	(mg/L)

Method of Analysis for BTX: 5030/8020
Method of Analysis for TPH (Diesel): 3510/8020 (~~FID~~)
Method of Analysis for Oil & Grease: 413.1 water
→ includes animal & vegetable fats
MDL = Minimum Detection Level
TPH = Total Petroleum Hydrocarbons
ugm/L = micrograms per liter
mg/L = milligrams per liter
ND = Not detected

Stan Comer
Stan Comer

3155 Pegasus Drive • Bakersfield, CA 93308 • (805) 393-3597
P.O. Box 80835 • Bakersfield, CA 93380 • FAX (805) 393-3623

Laboratory No. 2694 and 2695 Project No. 5107-S

Purchase Order No. 1010-89-1

RESULTS OF ANALYSIS

#2695 ID: S-4 (MW-2)	ugm/L	MDL, ugm/L
Benzene	ND	0.5
Toluene	ND	0.5
Ethylbenzene	ND	0.5
p-Xylene	ND	0.5
m-Xylene	ND	0.5
o-Xylene	ND	0.5
Isopropylbenzene	ND	0.5
TPH (Diesel)	ND	100
Oil & Grease	1.8	(mg/L)

Stan Comer

Stan Comer

Trace Analysis Laboratory, Inc.
3423 Investment Boulevard, #8 • Hayward, California 94545 *(415) 783-6960*

TAL

DATE: 10/10/89

LOG NO.: 7887

DATE SAMPLED: 9/27/89

DATE RECEIVED: 9/28/89

CUSTOMER: Crosby and Overton, Inc.

REQUESTER: Dave Sadoff

PROJECT: No. 5107-5, Mega Construction

		Sample Type: Soil			
		S-1		S-2	
Method and Constituent	Units	Concentration	Detection Limit	Concentration	Detection Limit
DHS Method:					
Total Petroleum Hydrocarbons as Diesel	ug/kg	6,000	1,000	< 1,000	1,000
Modified EPA Method 8020:					
Benzene	ug/kg	< 7	7	< 7	7
Toluene	ug/kg	< 9	9	< 9	9
Xylenes	ug/kg	< 40	40	< 40	40
Ethyl Benzene	ug/kg	< 10	10	< 10	10
Standard Method 503E, Hydrocarbons:					
Oil and Grease	ug/kg	24,000	10,000	< 10,000	10,000

Stephen D Boyle

Stephen D. Boyle
Supervisory Chemist

SDB:vls

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME	P.O. NO
5107-5	MEGA CONSTRUCTION	7752

SAMPLERS: Signature: Mark Stryker

Send report attention to: D. SADOFF

STA NO	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO OF CONTAINERS	TPH-D	5031	BTXE	REMARKS
S-1	9/27/89	10:52		X	MW-2 6.5' bgs	1	X	X	X	
S-2	9/27/89	1:37		X	MW-3 6.5' bgs	1	X	X	X	

Relinquished by: Signature	Date/Time	Received by: Signature	Date/Time
Mark Stryker	12:57 9/28/89		
Relinquished by: Signature	Date/Time	Received by: Signature	Date/Time
		Krystyna Nowicka	9/28/89 12:58
Relinquished by: Signature	Date/Time	Received by: Signature	Date/Time

REMARKS:
NORMAL T.A.T.

Company Name
Address

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T.A.L.

PROJ. NO.	PROJECT NAME	P.O. NO	NO OF CONTAINERS
5107-5	MEGA CONTRACTING	1010-89-	1

SAMPLERS: Signature: Dave Sadoff

Send report attention to; DAVE SADOFF @ address on form.

STA NO	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO OF CONTAINERS	TPH-D	BTXE	TOG	REMARKS / SMO#
S-3	9/27/89	3:00		X	MW-3	4				2694
S-4	9/27/89	3:09		X	MW-2	4				2695

Relinquished by:Signature	Date/Time	Received by:Signature	Date/Time
Dave Sadoff	9:15 9/28/89	Mark Ungate	9:16 9/28/89
Relinquished by:Signature	Date/Time	Received by:Signature	Date/Time
Mark Ungate	12:04 9/28/89	Suzanne Tosta	12:04 9/28/89
Relinquished by:Signature	Date/Time	Received by:Signature	Date/Time
	9/29/89 11:00 am	Karla Henry	

REMARKS: 9/29 Large mw-3 (1of2) Bottle broken. No packing material in box. (KH)

Company Name
Address

9/29 Dave Sadoff says to Bill Mega Environ.

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