



ENVIRONMENTAL
PROTECTION
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Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

QUARTERLY GROUNDWATER SAMPLING REPORT

(Sampled May 1, 1996)

**MATHESON TRUCKING
2500 Poplar Street
Oakland, CA**

May 28, 1996

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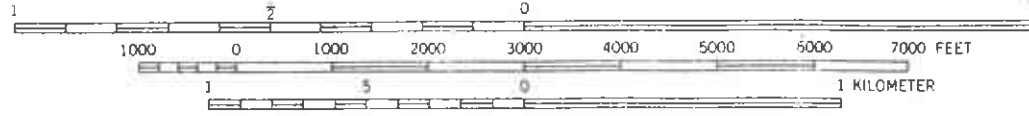
I. INTRODUCTION

The site location is the Matheson Trucking facility located at 2500 Poplar Street in Oakland, California. It has been maintained as a truck maintenance, fueling, dispatch facility for a number of years. The location of the site is shown in Figure 1.

On August 2, 1994, three underground storage tanks were removed from the site by CNC Services of Antioch, California. The tanks consisted of one 1,000-gallon single-wall steel tank and two 4,000-gallon single-wall steel tanks. According to information presented in the Underground Tank Closure Plan, filed with the Alameda County Division of Hazardous Materials in July 1994, none of the three underground storage tanks had ever been used by Matheson since they became occupants of the property in 1972. It is assumed that the tanks had contained either Gasoline or Diesel fuel..

Representatives of the Oakland Fire Prevention Bureau and the Alameda County Environmental Health Department were present at the site during the tank removal project. At the time of the underground tank removals, CNC Services performed the required soil sampling activities. Diesel and Gasoline were found to be present in the native soil beneath the 4,000-gallon tank nearest to Poplar Street at concentrations of 44 mg/Kg (ppm) and 1,360 mg/Kg (ppm), respectively.

Diesel and Gasoline were found to be present in the native soil beneath the 1,000-gallon tank, located along Union Street, at concentrations of 22 mg/Kg (ppm) and 550 mg/Kg (ppm), respectively.



CONTOUR INTERVAL 20 FEET
 DOTTED LINES REPRESENT 5 FOOT CONTOURS
 NATIONAL GEODETIC VERTICAL DATUM OF 1929

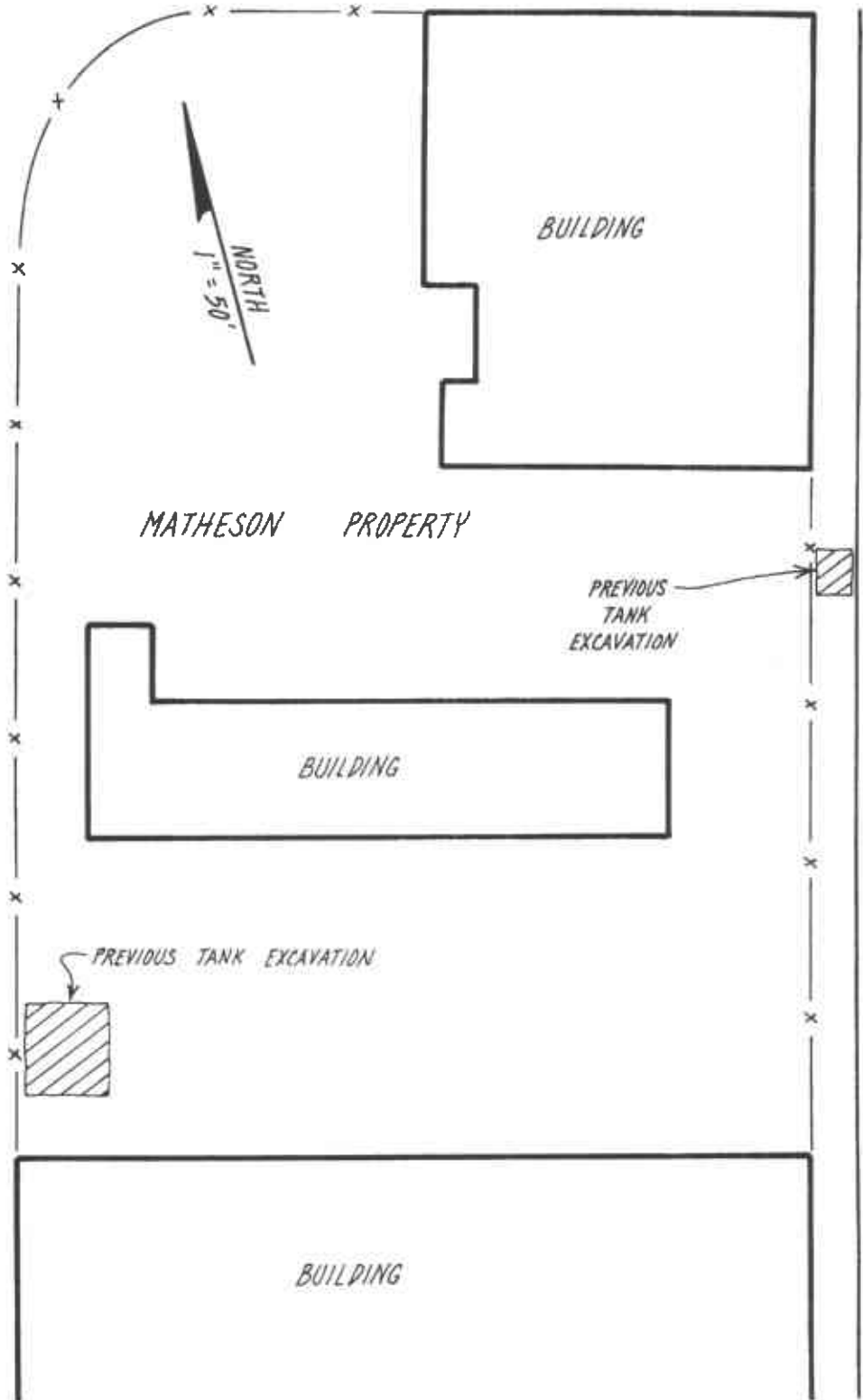


FIGURE 1. Site Location Map

D A

FINDLEY ADHESIVES
WAREHOUSE

POPLAR STREET



UNION STREET

FIGURE 2.

SITE MAP.

On May 1, 1996, the two (2) on-site monitoring wells were sampled for the laboratory analysis for dissolved petroleum constituents. This groundwater sampling "round" has been conducted as part of a quarterly groundwater monitoring program at the site, as required by the Alameda County Environmental Health Department and the California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region.

II. FIELD WORK

Monitoring Well Sampling

On May 1, 1996, groundwater samples were collected from each of the on-site monitoring wells (MW-1 and MW-2). The location of the monitoring wells are shown on Figure 2 (Site Map). Prior to the groundwater sampling, each well was purged by bailing approximately 10 casing volumes of water. Field conductivity, temperature, and pH meters were present on-site during the monitoring well sampling. As the purging process proceeded, the three parameters were monitored. Purging continued until readings appeared to have reasonably stabilized. After the water level in the well had attained 80% or more of the original static water level, a groundwater sample was collected using a clean teflon bailer. The water samples were placed inside appropriate 40 mL VOA vials and 1-liter amber bottles free from any head space. The samples were immediately placed on ice, then transported under chain-of-custody to the laboratory at the end of the work day.

At the time each monitoring well was sampled, the following information was recorded in the field: 1) depth-to-water prior to purging, using an electrical well sounding tape, 2) identification of any floating product, sheen, or odor prior to purging, using a clear teflon bailer, 3) sample pH, 4) sample temperature, and 5) specific conductance of the sample.

It should be noted that the groundwater elevation in an additional well on neighboring property was measured. The location of this well is shown on Figure 2.

Copies of the well sampling logs are included as Attachment A.

Wastewater Generation

All water removed from the wells during development and purging was drummed and stored on-site until the results of the laboratory analyses were obtained. Based upon these results, the water should be transported as a hazardous liquid waste under proper manifest to an appropriated TSD facility for treatment and disposal.

The disposal of wastewater is the responsibility of the property owner (waste generator), and is beyond the scope of work as described in this report.

III. RESULTS OF WATER LEVEL MEASUREMENTS

Shallow Groundwater Flow Direction

Shallow water table elevations were measured on March 1, 1996. These measurements are shown in Table 1. Figure 3 presents a contour map for the shallow groundwater table beneath the site. As shown in this figure, the data from these monitoring wells indicate that the shallow groundwater flow beneath the site was in the south easterly direction during the most recent round of groundwater sampling.

Shallow Water Table Hydraulic Gradient

Figure 3 presents the contour map for the shallow groundwater table beneath the site. As shown in this figure, the shallow groundwater table through the center of the site appears to have a calculated hydraulic gradient of $dH/dL = 1'/57' = 0.018$.

Historical Water Level Measurements

Several measurements of the shallow water table elevations have been conducted in an attempt to establish a record of water table contours at the site. Some of these water table elevation measurements have occurred independent of sampling "rounds". Table 2 presents the results of all water level measurements collected between February 2, 1996 and the present time. Water table contour maps from measurements taken independent of sampling "rounds" are presented in Attachment B.

TABLE 1.

**Shallow Water Table Elevations
May 1, 1996**

Well	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW-1	8.16	5.58	2.58
MW-2	8.03	5.20	2.83
FINDLEY MW-3	7.51	3.45	4.06

Datum is FINDLEY MW-2 Top-of-Casing set at 7.51 feet MSL by ERM West, Inc.

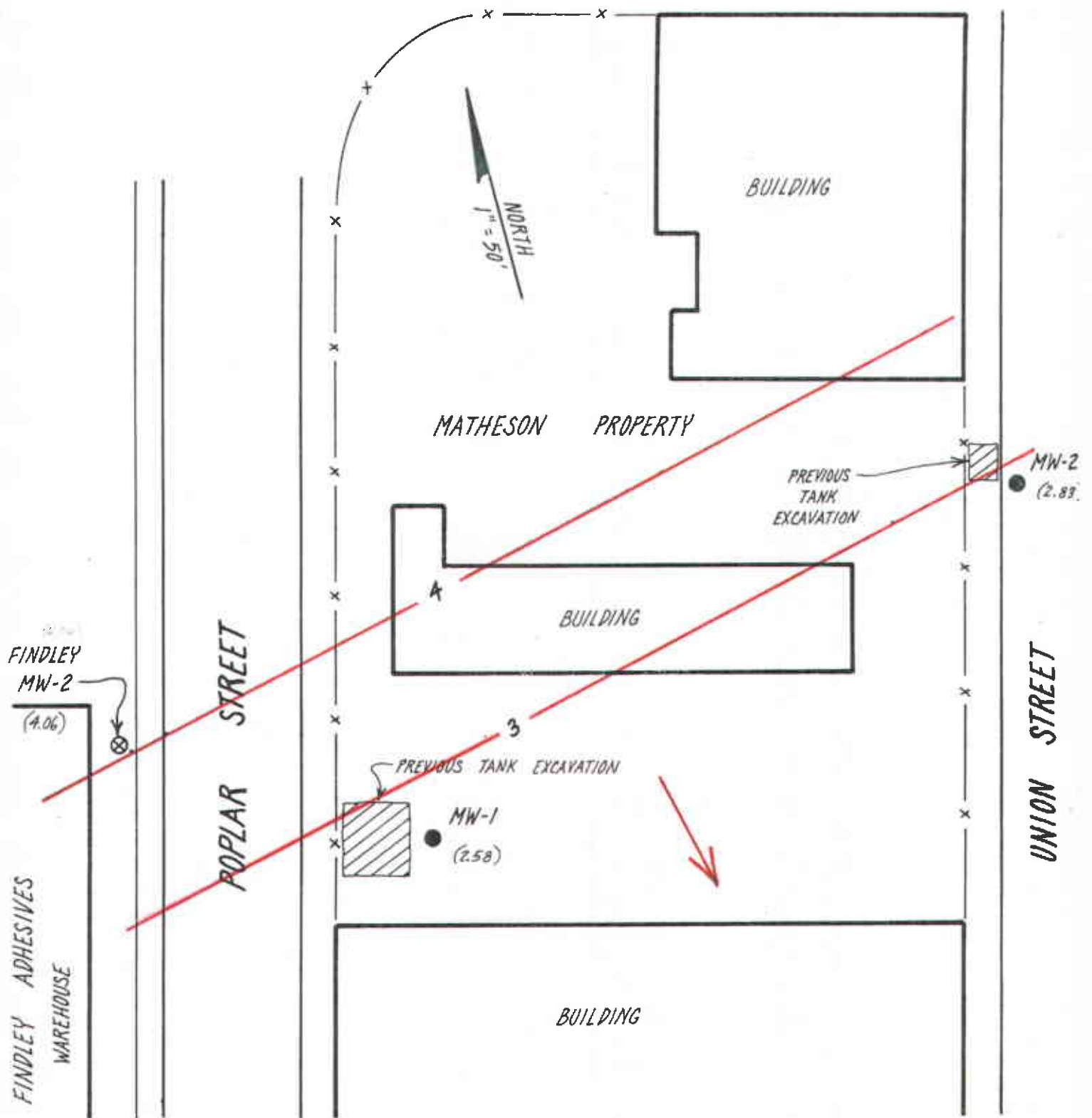


FIGURE 3. Shallow Groundwater Table Contour Map, measured May 1, 1996.

TABLE 2.**Historical Water Table Elevations
(feet)**

WELL	Date of Measurement							
	02-01-96	04-10-96	04-19-96	04-27-96	05-01-96			
MW-1	2.68	3.34	3.12	0.40	2.58			
MW-2	3.52	3.14	3.03	2.62	2.83			
FINDLEY MW-2	4.44	4.02	4.19	4.12	4.06			
Flow Direction	SE	SE	SE	SE	SE			
Hydraulic Gradient	0.0220	0.0070	0.0120	0.050	0.018			

IV. SHALLOW GROUNDWATER SAMPLING RESULTS

Laboratory Analysis

All analyses were conducted by a California State DOHS certified laboratory in accordance with EPA recommended procedures (Priority Environmental Laboratory, Milpitas, CA).

All shallow groundwater samples were analyzed for 1) total extractable petroleum hydrocarbons as Diesel (EPA method 8015), 2) total petroleum hydrocarbons as Gasoline (EPA method 8015) and 3) Benzene, Toluene, Ethylbenzene, and Total Xylenes (EPA method 602).

Results of Laboratory Analysis

Table 3 presents the results of the laboratory analysis of the groundwater samples collected from monitoring wells MW-1 and MW-2. For this round of quarterly sampling, dissolved Gasoline was detected in samples collected from shallow groundwater monitoring wells MW-1 and MW-2 at concentrations of 240 $\mu\text{g/L}$ (ppb) and 1000 $\mu\text{g/L}$ (ppb), respectively.

As shown in Table 3, Ethylbenzene was detected in samples collected from shallow groundwater monitoring wells MW-1 and MW-2 at concentrations of 2.3 $\mu\text{g/L}$ (ppb) and 0.5 $\mu\text{g/L}$ (ppb), respectively.

As shown in Table 3, Total Xylenes were detected in samples collected from shallow groundwater monitoring wells MW-1 and MW-2 at concentrations of 2.8 $\mu\text{g/L}$ (ppb) and 3.1 $\mu\text{g/L}$ (ppb), respectively.

TABLE 3.

Shallow Groundwater Sampling Results

Well	Date	TPH as Diesel (ug/L)	TPH as Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl- benzene (ug/L)	Total Xylenes (ug/L)
MW-1	02-02-96	140	120	ND	1.5	0.5	5.5
	05-01-96	ND	240	ND	ND	2.3	2.8
MW-2	02-02-96	350	230	0.6	0.9	1.2	3.0
	05-01-96	ND	1,000	ND	ND	0.5	3.1
Detection Limit		50	50	0.5	0.5	0.5	0.5

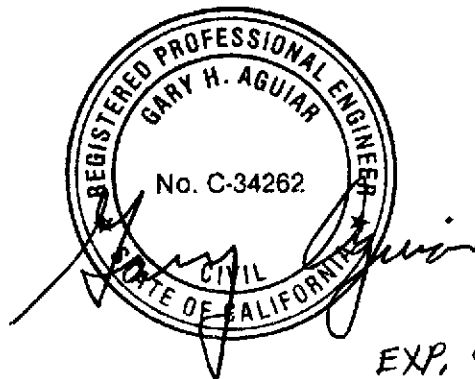
ND = Not Detected

Data presented in Table 3 indicates that **no detectable** concentrations of Diesel, Benzene, or Toluene were found in samples collected from shallow groundwater monitoring wells MW-1 and MW-2.

A copy of the laboratory certificate for the water sample analyses is included as Attachment C.

QUARTERLY GROUNDWATER SAMPLING REPORT
MATHESON TRUCKING
2500 Poplar Street, Oakland, CA.

March 28, 1996



Gary Aguiar

EXP. 9-30-99

RCE 34262

Mark Hainsworth
Mark Hainsworth Staff Engineer

ATTACHMENT A

Well Sampling Logs

WELL SAMPLING LOG

Project/No. MATHIESON TRUCKING Page 1 of 2
 Site Location OAKLAND CA Date 5 1 96
 Well No. MW-1 Time Began _____
 Weather SUNNY LOW 80'S Completed _____
 Sampling Personnel J. CONNORS

EVACUATION DATA

Description of Measuring Point (MP) PVC WELL CASING
 Total Sounded Depth of Well Below MP 14.43
 - Depth to Water Below MP 5.58 Diameter of Casing 2"
 = Water Column in Well 8.85
 Gallons in Casing 1.3 + Annular Space (14 x 10) = Total Gallons (5.2)
(30% porosity) 131
 Gallons Pumped Prior to Sampling 15
 Evacuation Method PVC BAILER

SAMPLING DATA / FIELD PARAMETERS

Inspection for Free Product: NONE, CLEAR, ORGANIC ODOUR
 (thickness to 0.1 inch, if any)

Time	<u>11:30</u>	<u>11:40</u>	<u>11:47</u>	_____
Gals Removed	<u>5</u>	<u>10</u>	<u>15</u>	_____
Temperature	<u>68.1</u>	<u>68.1</u>	<u>66.7</u>	_____
Conductivity	<u>990</u>	<u>1140</u>	<u>1120</u>	_____
pH	<u>8.12</u>	<u>8.27</u>	<u>8.14</u>	_____
Color / Odor	<u>BROWN SILT ORGANIC</u>	<u>BROWN SILT SEPTIC</u>	<u>BROWN SILT SEPTIC</u>	_____
Turbidity	<u>HIGH</u>	<u>HIGH</u>	<u>HIGH</u>	_____

Comments: EXCELLENT RECHARGE

WELL SAMPLING LOG

Project/No. MATHESON TRUCKING Page 2 of 2
 Site Location OAKLAND CA. Date 5-1-96
 Well No. MW-2 Time Began _____
 Weather SLUNNY LOW 80's Completed _____
 Sampling Personnel J. CONNORS

EVACUATION DATA

Description of Measuring Point (MP) PVC WELL CASING
 Total Sounded Depth of Well Below MP 1389
 - Depth to Water Below MP 520 Diameter of Casing 2"
 = Water Column in Well 869
 Gallons in Casing 13 + Annular Space ($\frac{x+1}{x-1}$) = Total Gallons ($\frac{52}{131}$)
(30% porosity)
 Gallons Pumped Prior to Sampling 15
 Evacuation Method PVC BAILER

SAMPLING DATA / FIELD PARAMETERS

Inspection for Free Product: NONE SILT ORGANIC OXID
 (thickness to 0.1 inch, if any)

Time	<u>12:15</u>	<u>12:22</u>	<u>12:30</u>
Gals Removed	<u>5</u>	<u>10</u>	<u>15</u>
Temperature	<u>72.1</u>	<u>72.4</u>	<u>72.1</u>
Conductivity	<u>970</u>	<u>900</u>	<u>890</u>
pH	<u>6.95</u>	<u>6.93</u>	<u>6.93</u>
Color / Odor	<u>BROWN SILT ORGANIC</u>	<u>BROWN SILT ORGANIC</u>	<u>BROWN SILT ORGANIC</u>
Turbidity	<u>HIGH</u>	<u>HIGH</u>	<u>HIGH</u>

Comments: EXCELLENT RECHARGE

ATTACHMENT B

**ADDITIONAL SHALLOW GROUNDWATER
CONTOUR MAPS**

**Shallow Water Table Elevations
April 10, 1996**

Well	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW-1	8.16	4.82	3.34
MW-2	8.03	4.89	3.14
FINDLEY MW-2	7.51	3.49	4.02

Datum is FINDLEY MW-2 Top-of-Casing set at 7.51 feet MSL by ERM West, Inc.

FINDLEY
MW-2
(4.02)

FINDLEY ADHESIVES
WAREHOUSE

POPLAR STREET

MATHESON PROPERTY

BUILDING

BUILDING

PREVIOUS TANK EXCAVATION

MW-1
(3.34)

PREVIOUS
TANK
EXCAVATION

MW-2
(3.14)

UNION STREET



3.5

BUILDING

4-10-96

**Shallow Water Table Elevations
April 19, 1996**

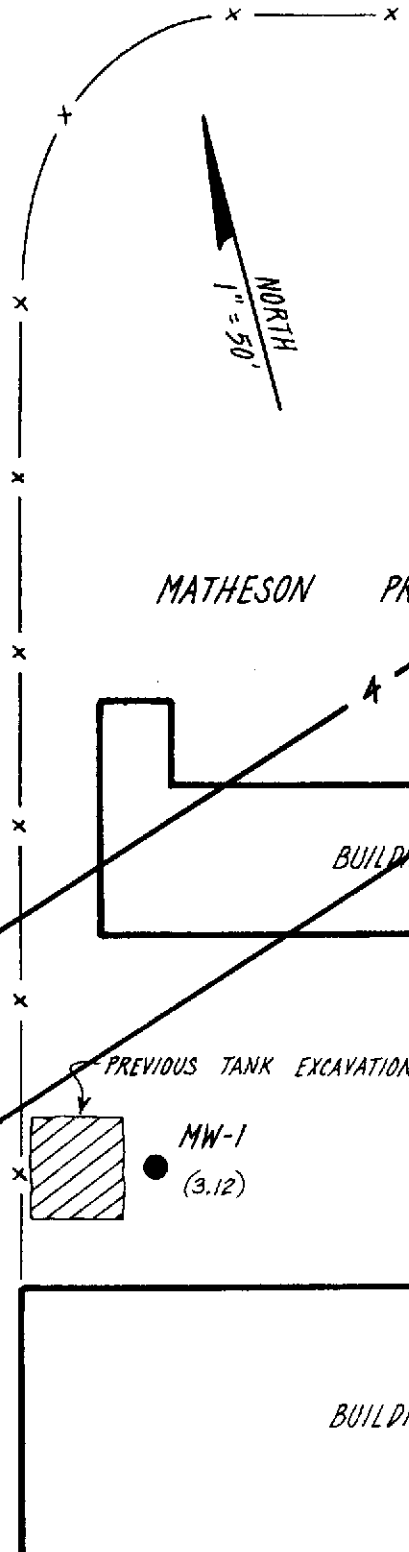
Well	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW-1	8.16	5.04	3.12
MW-2	8.03	5.00	3.03
FINDLEY MW-2	7.51	3.32	4.19

Datum is FINDLEY MW-2 Top-of-Casing set at 7.51 feet MSL by ERM West, Inc.

FINDLEY
MW-2
(4.19)

FINDLEY ADHESIVES
WAREHOUSE

POPLAR STREET



MATHESON PROPERTY

BUILDING

BUILDING

BUILDING

PREVIOUS
TANK
EXCAVATION

PREVIOUS TANK EXCAVATION

MW-1
(3.12)

MW-2
(3.03)

UNION STREET

4-19-96

Shallow Water Table Elevations
April 27, 1996

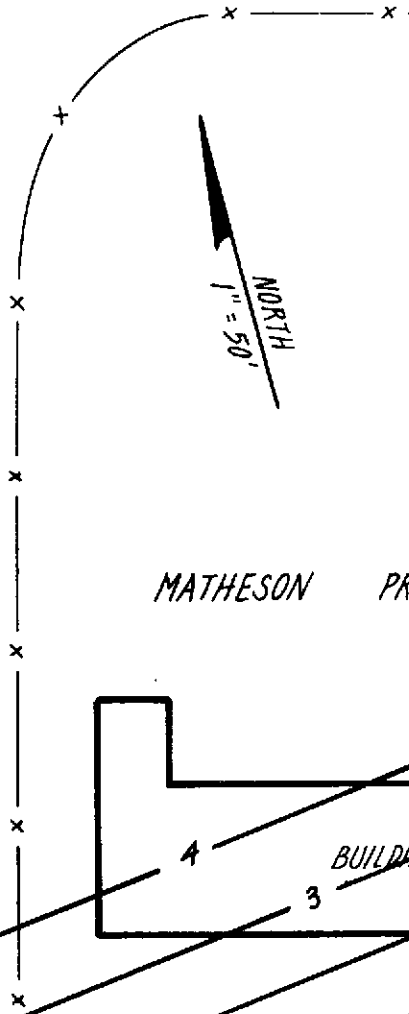
Well	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Table Elevation (feet)
MW-1	8.16	7.76	0.40
MW-2	8.03	5.41	2.62
FINDLEY MW-2	7.51	3.39	4.12

Datum is FINDLEY MW-2 Top-of-Casing set at 7.51 feet MSL by ERM West, Inc.

FINDLEY
MW-2
(4.12)

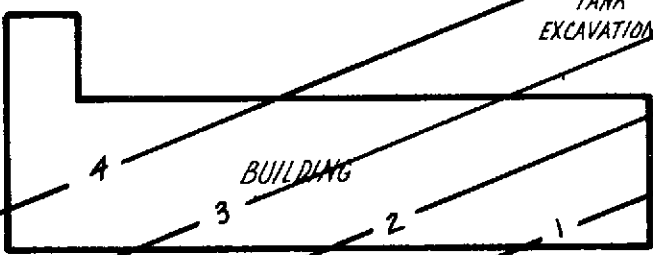
FINDLEY ADHESIVES
WAREHOUSE

POPLAR STREET



MATHESON PROPERTY

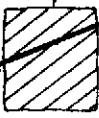
BUILDING



PREVIOUS
TANK
EXCAVATION

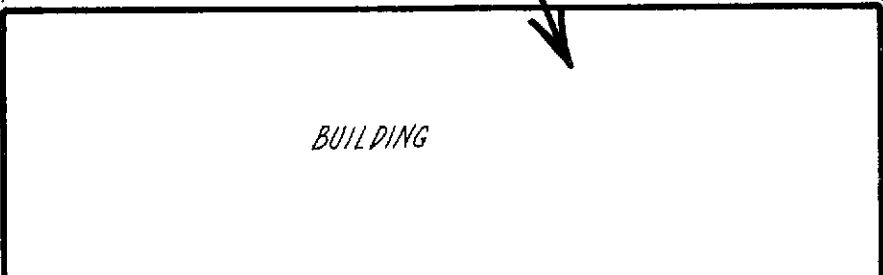
MW-2
(2.62)

PREVIOUS TANK EXCAVATION



MW-1
(0.40)

UNION STREET



BUILDING

4-27-96

ATTACHMENT C

ANALYTICAL RESULTS: GROUNDWATER



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

May 04, 1996

PEL # 9605004

HAGEMAN - AGUIAR, INC.

Attn: Mark Hainsworth

Re: Two water samples for Gasoline/BTEX and Diesel analyses.

Project name: Matheson Trucking


Project location: 2500 Poplar St., - Oakland, CA.

Date sampled: May 01, 1996 ✓
Date extracted: May 02-03, 1996

Date submitted: May 02, 1996
Date analyzed: May 02-03, 1996

RESULTS:



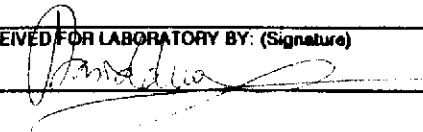
SAMPLE I.D.	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
MW-1	240	N.D.	N.D.	N.D.	2.3	2.8
MW-2	1000	N.D.	N.D.	N.D.	0.5	3.1
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	84.5%	87.9%	90.8%	88.0%	86.4%	111.3%
Detection limit	50	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	3510 / 8015	602	602	602	602


David Duong
Laboratory Director

PEL # 9605004

INV # 26966

CHAIN OF CUSTODY RECORD

PROJECT NAME AND ADDRESS: MATHESON TRUCKING 2500 POPLAR STREET OAKLAND, CA					SAMPLER: (Signature)  HAGEMAN - AGUIAR, INC. 3732 Mt. Diablo Blvd., Suite 372 Lafayette, CA 94549 (415)284-1661 (415)284-1664 (FAX)					ANALYSIS REQUESTED <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">TPH</div> <div style="border: 1px solid black; padding: 2px;">GAS</div> <div style="border: 1px solid black; padding: 2px;">BIKE</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 2px;">DIESEL</div> </div>				
CROSS REFERENCE NUMBER	DATE	TIME	SOIL	WATER	STATION LOCATION						REMARKS			
MW-1	5-1-90			X	MONITORING WELL # 1	X	X					NORM TAT		
MW-2	5-1-90			X	" " # 2	X	X							
RELINQUISHED BY: (Signature) 					DATE TIME 5:29 8:51	RECEIVED BY: (Signature) 					DATE TIME 5/02/90 9:55 AM			
RELINQUISHED BY: (Signature)					DATE TIME	RECEIVED BY: (Signature)					DATE TIME			
RELINQUISHED BY: (Signature)					DATE TIME	RECEIVED BY: (Signature)					DATE TIME			
RELINQUISHED BY: (Signature)					DATE TIME	RECEIVED FOR LABORATORY BY: (Signature)					DATE TIME			