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April 26, 1999

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Mr. Barney M. Chan
Alameda County
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Tony's Express Auto Services
3609 E. 14th Street, Oakland, California

Dear Mr. Chan:

Enclosed for you review is the 1st Quarter Monitoring Report 1999, prepared by Western Geo-Engineers, for the property listed above.

Please advise me of your conclusions to this report. If you have any questions or comments, please call me at (925) 244-6600.

Sincerely,

Mansour Sepehr, Ph.D.,P.E.
Principal Hydrogeologist

MS/jb

Enclosure

QUARTERLY REPORT JANUARY-MARCH 1999

TONY'S EXPRESS AUTO SERVICE
3609 EAST 14TH STREET
OAKLAND, CALIFORNIA

FOR

Mr. ABOLGHASSEM RAZI
TONY'S EXPRESS AUTO SERVICE
3609 EAST 14TH STREET
OAKLAND, CA 94601

BY

WESTERN GEO-ENGINEERS
1386 EAST BEAMER STREET
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1 INTRODUCTION

The following Report documents the performance of a groundwater monitoring round at Tony's Express Auto Services, 3609 East 14th Street, Oakland, California. The property is primarily used as a service station. Also included in this report is a workplan for the addition of more wells to the air sparging system.

During the groundwater monitoring round the following information and samples were gathered; with the results presented in this report.

1. Depth to water.

2. Groundwater samples for TPHg and MBTEX, certified analysis.

2 SITE HISTORY

In July 1993, Alpha Geo Services removed three fuel tanks and a waste oil tank from the site. During the tank pull, Soil Tech Engineering Inc. (STE) collected soil samples from the tank excavation area and the old piping associated with the tanks. Soil samples from the tank area were taken at approximately 12 feet below the surface and range in TPHg concentration from 2.1 to 640 mg/kg . The soil samples from the beneath the old piping, 2 to 5 feet below grade, range in concentration from 75 to 4,100 mg/kg TPHg. No gasoline range hydrocarbons were found in the sample from the waste oil tank excavation.

Since the initial tank pull, STE installed 11 groundwater monitor wells including MW09, which was destroyed (see figure 3 for location of wells). MW09 was destroyed to allow for construction.

In addition to the borings completed as monitor wells, a number of other soil borings have been performed in order to determine the extent of contaminated soil at the site.

3 SITE ACTIVITY January- March, 1998/9

3.1 GROUNDWATER MONITORING ROUND

A groundwater monitoring round was preformed on March 16, 1999, see Appendix A for methods and procedures. All of the monitor wells were purged and water samples for TPHg/MBTEX were collected.

4 RESULTS

4.1 DEPTH TO WATER, GROUNDWATER GRADIENT.

The groundwater at this site is shallow and unconfined. During the initial construction of monitor wells MW01, MW02 and MW03, groundwater was encountered at 15 feet below the surface. The current depth to groundwater in the wells is between 7.00 and 8.81 feet below the surface and the groundwater gradient is to the south, see Figure 4. The average groundwater elevation has increased from the December 16, 1998 monitor round of 86.50 feet to 89.64 feet on March 16, 1999, see Figure 5.

4.2 WATER SAMPLES

4.2.1 TPHg/MBTEX

The water samples from all of the wells contained significant levels of TPHg and MBTEX, see Table 2.

4.2.2 Electron Acceptors

During the December 16, 1998 monitor round the acceptors were sampled, dissolved Oxygen, O_2, and Ferrous iron, Fe^{++}, were present in all of the monitor wells, see Table 3.

5 DISCUSSION

5.1 HYDROCARBONS

Significant levels of TPHg and BTEX continue to exist at this site. The benzene and TPHg plumes continue offsite, see Figures 6 and 7.

5.2 BIOREMEDIATION

The results of the December 30, 1997, bioremediation sampling indicated that natural attenuation/bioremediation is active at this site. This continued to be the case in the December 16, 1998 sampling.

All of the tested wells have reduced levels of dissolved oxygen. Six of the ~~nine wells had~~ less than 0.1 mg/l of dissolve oxygen in the December 97 sampling. During the December 16, 1998, monitor round all of the wells contained low levels of dissolved Oxygen.

The presence of Ferrous iron in the wells indicates that biodegradation has progressed to the point that the system is oxygen deficient and the bacteria have started to reduce the iron to provide

Fe^{+3} to Fe^{++}

oxygen for the degradation. With the increase of dissolved oxygen in the wells the amount of Ferrous iron has deceased in a majority of the wells, see table 3.

In December biodegradation in MW02, which is in the heart of the plume, had consumed all of the available electron acceptors. With the start-up of airsparging into P4 and LW1there has been an increase in the amount of dissolved oxygen in the vicinity of MW02.

The levels of electron acceptors present and the presence of the reaction products, carbon dioxide, methane and ferrous iron indicate that the bacteria in the soil and the electron acceptors in the groundwater have the capability to consume a significant amount of hydrocarbons.

Introducing ambient air (O_2) into the system during vapor vacuum extraction and/or sparging will greatly increase this bioactivity. The oxygen levels over a greater part of the plume need to be increased and it would be beneficial to increase the number of air sparging wells.

6 CONCLUSIONS AND RECOMENDATIONS

1. Continue to add sodium hexametaphosphate and ammonium sulfate to the groundwater monitoring wells, in order increase the nutrition level.

2. Continue air sparging to increase Oxygen levels in the groundwater plume.

3. Hook up more wells to the airsparging system, see workplan below.

4. Since water recovery/treatment is no longer a viable alternative remediation tool for this site, continue working with Robert Cave of the Bay Area Air Quality Management District and school district to expedite permitting soil venting, ie. vapor extraction in order to remove the hydrocarbon contamination remaining in the soil, and to further increase the amount of oxygen available in the groundwater.

7 WORKPLAN FOR THE ADDITION OF FURTHER AIRSPARGING

Currently, airsparging is active only in MW3. With the extent and elevated concentration of the hydrocarbon plume, it would be beneficial to add additional wells to the airsparging system. We propose to add the following wells to the system: MW1, MW4, MW6 and MW8. MW1, MW8 and MW 6 currently contain the highest concentrations of hydrocarbons and along with MW4 are the onsite down gradient wells.

The wells will be sparged with air from the current sparging compressor. The air will be delivered from the compressor to the wells through 3/8" polyethylene tubing. The tubing will be run in1/2" by 2" deep groves cut into the pavement. A bed of epoxy compound shall be placed into the grove then the tubing will be pressed into place after which the epoxy will be used to fill the crack to the surface. MW1 and MW8 will be served by tubing fromMW3 and MW6, and MW4 will be served by tubing from the compressor vault. Approximately, 140 feet of grove will be cut by concrete sawing contractor with a sawing machine, see figure 12. A rotohammer will be used to drill a 1/2" hole from the end of the sawed slots to and into the traffic boxes.

The air will be injected into the wells with 3/8" tubing set 10 feet into the top of water. Flowmeters shall be set in the compressor vault and the MW3 vault in order to regulate the airflow.

8 HYDROCARBON CONTAMINATION

The primary mass of hydrocarbon contamination at this site was found in the soil (1126 pounds) with significant amounts to be found in the groundwater (142 pounds). The soil contamination is present in three phases; absorbed onto the soil, vapor and free phase. The free phase product has been found either coating the sand grains or as a floating product layer. Presently there is no significant floating product plume at this site. With the increase in groundwater elevation at the site currently approximately 580 pound of the soil contamination is beneath the top of groundwater.

The amount bound to the soil (1126 pounds) was found by contouring the results of the soil samples taken during test borings to find the resulting areas and volumes, see table 4.

The mass in groundwater (142 pounds) was found by contouring the March 16, 1999 groundwater results and calculating the volume of contaminated water, as shown in table 4.

9 CONCERNED PARTIES

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10 LIMITATIONS

This report is based upon the following:

- The observations of field personnel.
- The results of laboratory analyses performed by a state certified laboratory.
- Referenced documents.
- Our understanding of the regulations of the State of California and Alameda County, Hazardous Materials Section and/or City of Oakland, California.

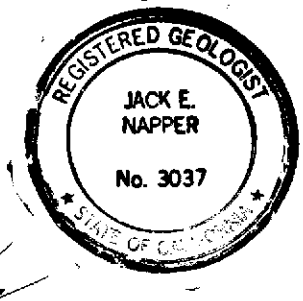
Changes in groundwater conditions can occur due to variations in rainfall, temperature, local and regional water usage and local construction practices. In addition, variations in the soil and groundwater conditions could exist beyond the points explored in this investigation.

State certified analytical results are included in this report. This laboratory follows EPA and State of California approved procedures; however, WEGE is not responsible for errors in these laboratory results.

The services performed by Western Geo-Engineers, a corporation, under California Registered Geologist #3037 and/or Contractors License #513857, have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the State of California and the Woodland area. Our work and/or supervision of remediation and/or abatement operations, active or preliminary, at this site is in no way meant to imply that we are owners or operators of this site. Please note that known contamination of soil and/or groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.

If you have any questions concerning this report or if we can be of further assistance, please don't hesitate to contact us at (530) 668-5300.

Respectfully,



Roy Butler
Project Geologist

Jack E. Napper
Registered Geologist #3037

Table 1, Tony's Express, Groundwater Elevations							
	DEPTH TO TOP SLOTS	DEPTH TO WATER	DEPTH TO WATER	DEPTH TO WATER	DEPTH TO WATER	DEPTH TO WATER	DEPTH TO WATER
DATE		12/30/97	03/04/98	06/30/98	09/29/98	12/16/98	03/16/99
MW01	10	9.3	7.53	10.62	13.58	11.10	7.90
MW02	10	9.05	7.44	10.58	13.58	10.94	7.60
MW03	10	9.74	8.21	11.13	14.68	11.55	8.44
MW04	7	9.43	7.96	10.72	13.64	11.13	8.46
MW05	6	9.15	7.53	10.85	13.82	11.20	7.73
MW06	6	9.3	8.30	11.26	14.10	11.60	8.40
MW07	6	8.65	6.93	10.22	13.09	10.52	7.00
MW08	7	8.95	7.38	10.33	13.02	10.75	7.58
MW09	8	DESTROYED					
MW10	8	8.78	7.23	9.52	11.93	10.19	7.30
MW11	8	10.2	8.81	11.02	13.24	11.58	8.81
	CASING ELEVATION	GROUND-WATER ELEVATION	GROUND-WATER ELEVATION	GROUND-WATER ELEVATION	GROUND-WATER ELEVATION	GROUND-WATER ELEVATION	GROUND-WATER ELEVATION
MW01	97.99	88.69	90.46	87.37	84.41	86.89	90.09
MW02	98.58	89.53	91.14	88	85	87.64	90.98
MW03	97.78	88.04	89.57	86.65	83.1	86.23	89.34
MW04	97.85	88.42	89.89	87.13	84.21	86.72	89.39
MW05	99.04	89.89	91.51	88.19	85.22	87.84	91.31
MW06	98.77	89.47	90.47	87.51	84.67	87.17	90.37
MW07	97.83	89.18	90.9	87.61	84.74	87.31	90.83
MW08	97.25	88.3	89.87	86.92	84.23	86.5	89.67
MW09	95.94						
MW10	94.54	85.76	87.31	85.02	82.61	84.35	87.24
MW11	95.94	85.74	87.13	84.92	82.7	84.36	87.13
Avg	97.41	88.30	89.83	86.93	84.09	86.50	89.64

Table 2, ug/l, Gasoline Range Hydrocarbons in Groundwater											
DATE	10/5/93	12/2/94	3/6/95	6/5/95	10/2/95	1/3/96	4/3/96	9/12/96	12/9/96	4/10/97	12/30/97
MW1 Product	sheen	sheen	sheen	sheen	sheen	sheen	sheen			sheen	
MW01, TPHg	320000	80000	32000	21000	5900	30000	31000				27000
MW01, Benzene	24000	3800	190	950	140	71	98				2300
MW01, Toluene	21000	6600	150	650	130	73	120				2100
MW01, Ethylbenzene	2600	2300	150	570	140	50	63				1400
MW01, Xylene	15000	11000	490	1500	390	120	170				5100
MW01, MTBE											
MW02, TPHg	260000	42000	490	8000	46000	3400	27000	19000	6200	53000	35000
MW02, Benzene	17000	1700	3.2	220	160	7.6	100	210	110	150	4900
MW02, Toluene	19000	2200	2.6	330	130	13	92	220	6.6	110	4900
MW02, Ethylbenzene	570	1200	1.6	350	93	7.4	44	110	2.1	37	1600
MW02, Xylene	15000	3600	5.9	660	240	26	130	400	14	1120	7000
MW02, MTBE										<0.5	
MW03					sheen	sheen	sheen			sheen	film
MW03, TPHg	3000000	250000	21000	350000	15000	19000	70000	66000	54000	54000	
MW03, Benzene	190000	19000	80	20000	510	290	310	430	320	130	
MW03, Toluene	740000	22000	73	42000	410	270	260	420	280	120	
MW03, Ethylbenzene	310000	4400	35	5800	210	97	89	210	90	38	
MW03, Xylene	13000	28000	130	36000	650	890	280	510	250	120	
MW03, MTBE										<0.5	
MW04, TPHg					9300	1100	1900	2100	4000	<50	2300
MW04, Benzene					23	4	12	46	14	<0.5	410
MW04, Toluene					11	1.3	7.5	24	6.3	<0.5	270
MW04, Ethylbenzene					9.9	0.9	5.2	31	4.2	<0.5	100
MW04, Xylene					29	3.3	14	73	12	<0.5	1500
MW04, MTBE										<0.5	
MW05, TPHg					1500	830	780				790
MW05, Benzene					1.1	<0.5	1.3				82
MW05, Toluene					1.3	<0.5	1				66
MW05, Ethylbenzene					3.9	1.3	4.8				59
MW05, Xylene					5.3	2.2	3.8				160
MW05, MTBE											
MW06, Product						sheen	sheen	sheen	sheen		
MW06, TPHg					12000	68000	48000	23000	57000	29000	36000
MW06, Benzene					350	60	140	150	480	60	660
MW06, Toluene					310	61	110	160	450	70	7600
MW06, Ethylbenzene					200	27	62	110	160	24	1500
MW06, Xylene					610	180	170	310	460	71	7700
MW06, MTBE										<0.5	
MW07, Product					sheen						
MW07, TPHg					3300	1500	1900				1400
MW07, Benzene					8.9	1.5	2.1				130
MW07, Toluene					12	0.9	2.6				98
MW07, Ethylbenzene					17	3	5.1				75
MW07, Xylene					45	4.1	6.9				200
MW7, MTBE											
MW08, Product					sheen	sheen	sheen				
MW08, TPHg					94000	23000	58000	46000	27000	24000	28000
MW08, Benzene					310	19	250	210	88	86	6000
MW08, Toluene					250	12	170	150	43	55	1600
MW08, Ethylbenzene					180	8.8	140	160	44	50	2100
MW08, Xylene					480	47	330	360	80	100	4700
MW08, MTBE										<0.5	
MW10, TPHg								26000	3000	1000	10000
MW10, Benzene								98	8.1	21	5300
MW10, Toluene								37	2.2	9.3	76
MW10, Ethylbenzene								63	1.5	3.3	1100
MW10, Xylene								99	5.1	33	780
MW10, MTBE										<0.5	
MW11, TPHg								2300	650	<50	710
MW11, Benzene								7	1.8	<0.5	66
MW11, Toluene								7.2	0.5	<0.5	97
MW11, Ethylbenzene								12	0.8	<0.5	59
MW11, Xylene								31	0.42	<0.5	190
MW11, MTBE										<0.5	

Table 2, ug/l, Gasoline Range Hydrocarbons in Groundwater					
DATE	3/4/98	6/30/98	9/29/98	12/16/98	3/16/99
MW1 Product	sheen	sheen	sheen		
MW01, TPHg				65000	17000
MW01, Benzene				2500	480
MW01, Toluene				2400	860
MW01, Ethylbenzene				2300	850
MW01, Xylene				9500	3000
MW01, MTBE				160	190
MW02, TPHg	51000	25000	2900	26000	7600
MW02, Benzene	4200	2000	290	1400	730
MW02, Toluene	6000	2000	180	1600	830
MW02, Ethylbenzene	1600	1300	160	880	610
MW02, Xylene	8800	4300	360	9500	1900
MW02, MTBE			<0.5	<5	55
MW03					
MW03, TPHg	150000	33000	83000	51000	45000
MW03, Benzene	7100	2000	35000	5700	4100
MW03, Toluene	9500	1900	8800	3900	6400
MW03, Ethylbenzene	2700	900	2600	1200	1000
MW03, Xylene	12000	4600	1400	6300	6100
MW03, MTBE			450	410	470
MW04, TPHg	2000	1700	6200	1400	600
MW04, Benzene	600	780	910	590	200
MW04, Toluene	950	160	77	33	35
MW04, Ethylbenzene	100	54	68	28	19
MW04, Xylene	500	200	200	94	56
MW04, MTBE			18	24	11
MW05, TPHg	400	400	270	1400	650
MW05, Benzene	3	<5	2	1	3
MW05, Toluene	<0.5	<5	1	0.6	0.6
MW05, Ethylbenzene	14	15	3	<0.5	16
MW05, Xylene	5	<10	3	2	2
MW05, MTBE			<0.5	<0.5	9.5
MW06, Product			sheen		
MW06, TPHg	65000	28000		54000	37000
MW06, Benzene	6100	3100		3800	3900
MW06, Toluene	11000	4300		4600	4300
MW06, Ethylbenzene	1800	1300		1400	1600
MW06, Xylene	9900	4900		6400	7000
MW06, MTBE				360	180
MW07, Product					
MW07, TPHg	800	620	1800	990	300
MW07, Benzene	25	4	1	5	3
MW07, Toluene	47	<5	0.6	10	0.7
MW07, Ethylbenzene	22	9	1	5	1
MW07, Xylene	76	<10	2	20	1
MW7, MTBE			68	160	62
MW08, Product			Film		
MW08, TPHg	70000	54000		61000	22000
MW08, Benzene	8400	4600		6300	1800
MW08, Toluene	3500	2800		1700	470
MW08, Ethylbenzene	3700	3500		2200	2000
MW08, Xylene	11000	7300		4400	2000
MW08, MTBE				1300	820
MW10, TPHg	9000	8900	9900	8700	4100
MW10, Benzene	2600	3700	5400	3800	15
MW10, Toluene	1200	60	66	51	28
MW10, Ethylbenzene	1300	980	970	790	420
MW10, Xylene	3400	420	620	420	250
MW10, MTBE			2600	1800	2800
MW11, TPHg	1800	1100	170	650	710
MW11, Benzene	160	45	7	27	30
MW11, Toluene	31	24	0.6	4	6
MW11, Ethylbenzene	120	71	4	25	53
MW11, Xylene	250	100	9	33	84
MW11, MTBE			22	<0.5	8

Table 3. Bioremediation Sampling

WELL	Date	TPHg	Dissolved Oxygen	Nitrate as Nitrogen	Ferrous Iron	Sulfate
UNITS		mg/l	mg/l	mg/l	mg/l	mg/l
MW01	12/30/97	27	0.5	<0.1	3.04	<1
MW01	6/30/98	FLOATING PRODUCT NOT SAMPLED				
MW01	12/16/98	65	0.5	<0.1	3.25	<1
MW02	12/30/97	35	<0.1	<0.1	>3.30	<1
MW02	6/30/98	25	3.2	<0.1	0.50	14
MW02	12/16/98	26	2.5	<0.1	0.80	24
MW03	12/30/97	FLOATING PRODUCT NOT SAMPLED				
MW03	6/30/68	33	2	0.1	0.37	77
MW03	12/16/98	51	5.3	0.1	0.30	77
MW04	12/30/97	2.3	<0.1	4.5	0.39	42
MW04	6/30/98	1.7	1.3	0.9	0.93	7
MW04	12/16/98	1.4	2	0.7	1.00	27
MW05	12/30/97	0.79	<0.1	0.3	0.94	18
MW05	6/30/98	0.4	0.6	1.6	0.50	6
MW05	6/30/98	1.4	1	1.4	0.50	10
MW06	12/30/97	36	<0.1	<0.1	0.30	5
MW06	6/30/98	28	2.5	0.7	0.40	4
MW06	12/16/98	54	1.8	<0.1	0.40	10
MW07	12/30/97	1.4	1.2	0.2	0.23	32
MW07	6/30/98	0.62	1	0.5	0.78	4
MW07	12/16/98	0.99	1	0.5	0.58	34
MW08	12/30/97	28	2.5	0.1	>3.30	0
MW08	6/30/98	54	1.3	<0.1	2.82	3
MW08	12/16/98	61	1	<01.1	3.00	5
MW09	12/30/97	WELL DESTROYED				
MW10	12/30/97	10	<0.1	0.3	2.21	<1
MW10	6/30/98	8.9	0.9	<0.1	0.38	<1
MW10	12/16/98	8.7	1	<0.1	1.30	<1
MW11	12/30/97	0.71	<0.1	3.5	0.32	35
MW11	6/30/98	1.1	2.2	1.2	0.15	6
MW11	12/16/98	0.65	2.3	1.0	0.10	20

Table 4 Pounds TPHg in soil and in groundwater.								
Pounds TPHg in Soil								
		soil density=	1.9					
Square	Thickness	Cubic	Upper	Lower	Average co	kg Soil	mg	pounds
Feet		feet	mg/kg	mg/kg	mg/kg		TPHg	TPHg
117	5	585	1300	1000	1150	31474.35	36195497	79.8
1178	5	5890	1000	1	500.5	316895.5	1.59E+08	349.7
855	5	4275	460	1	230.5	230004.8	53016114	116.9
408	5	2040	120	100	110	109756.7	12073236	26.6
143	5	715	1000	100	550	38468.64	21157754	46.6
300	5	1500	220	100	160	80703.45	12912552	28.5
1494	5	7470	100	1	50.5	401903.2	20296111	44.7
180	5	900	630	100	365	48422.07	17674056	39.0
285	5	1425	1800	200	1000	76668.28	76668278	169.0
123	5	615	500	100	300	33088.41	9926524	21.9
1283	5	6415	200	100	150	345141.8	51771263	114.1
2986	5	14930	100	1	50.5	803268.3	40565051	89.4
Total pounds TPHg in Soil								1126.3

Ident agree w/ this code

MASS GROUNDWATER CONTAMINATION								
6.25		PORES	0.3					
Square	Thickness	Cubic	Upper	Lower	Average con	LITERS	mg	pounds
Feet		feet	mg/l	mg/l	mg/l	water	TPHg	TPHg
12110.371	17	205876.3124	45	10	27.5	1748940	48095846	106.034
20930	17	355810	10	1	5.5	3022642	16624528	36.651
Total Calculated Mass TPHg in Groundwater								142.685

estimate area $40 \times 80 \times 10 \approx 32000\,ft^3 \times 1.9 \times \frac{760}{454 \times 10^3} \approx 102$ ~~#~~

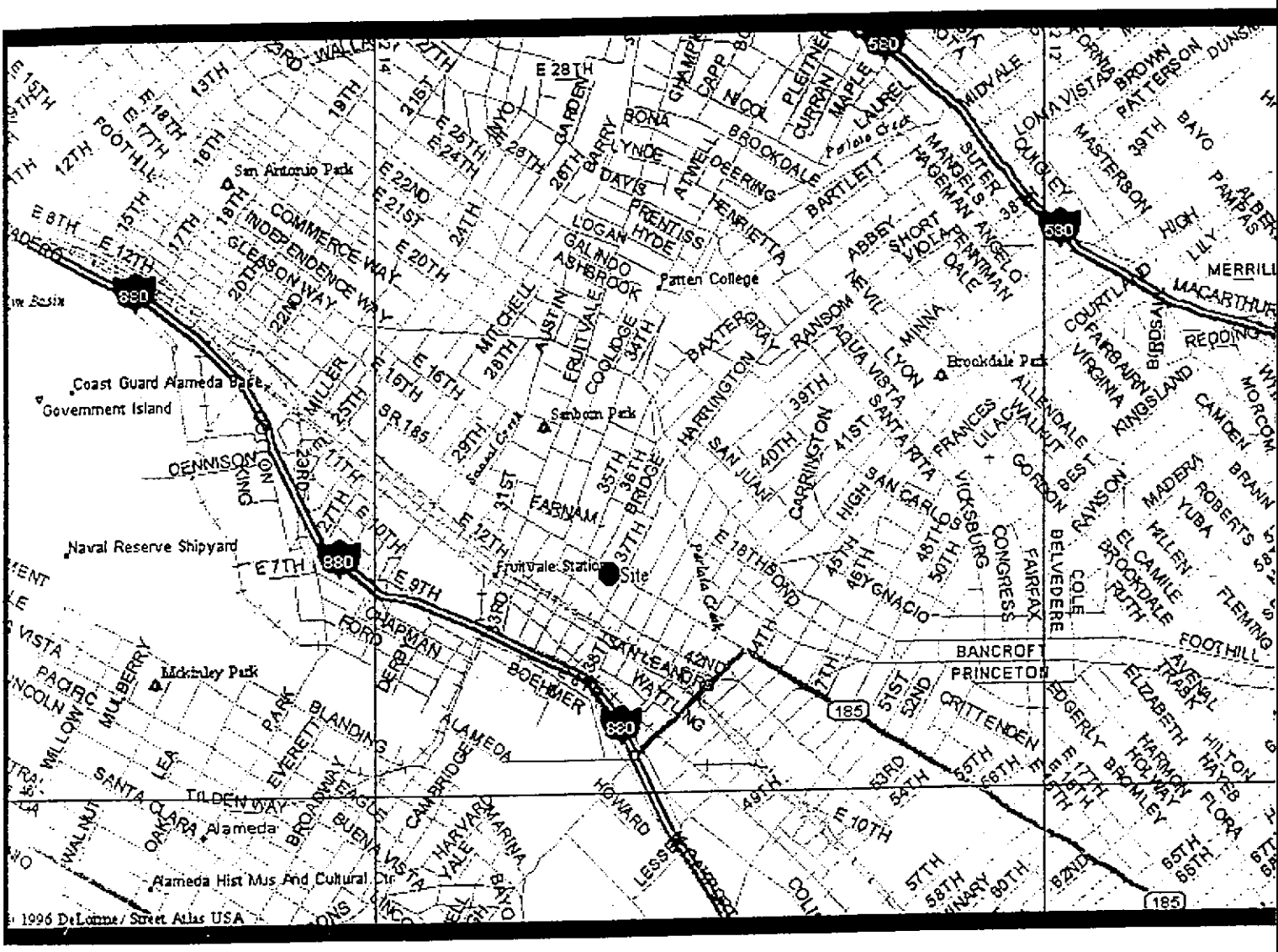
0 - 10' - Soil

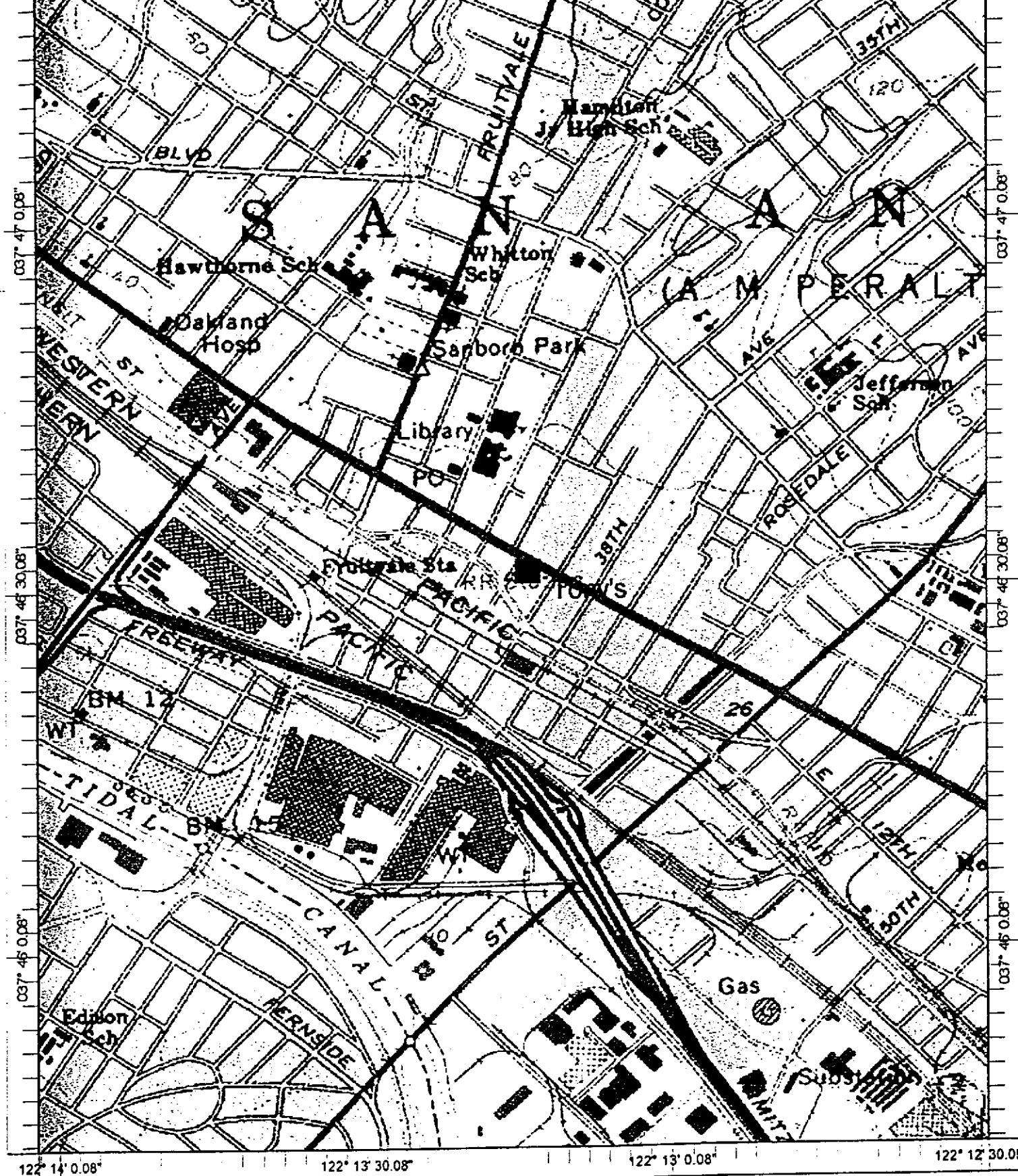
> 10' - GW

US 142# in GW.

∴ should grnl GW Emphasis for treatment

Figure 1, Location Map

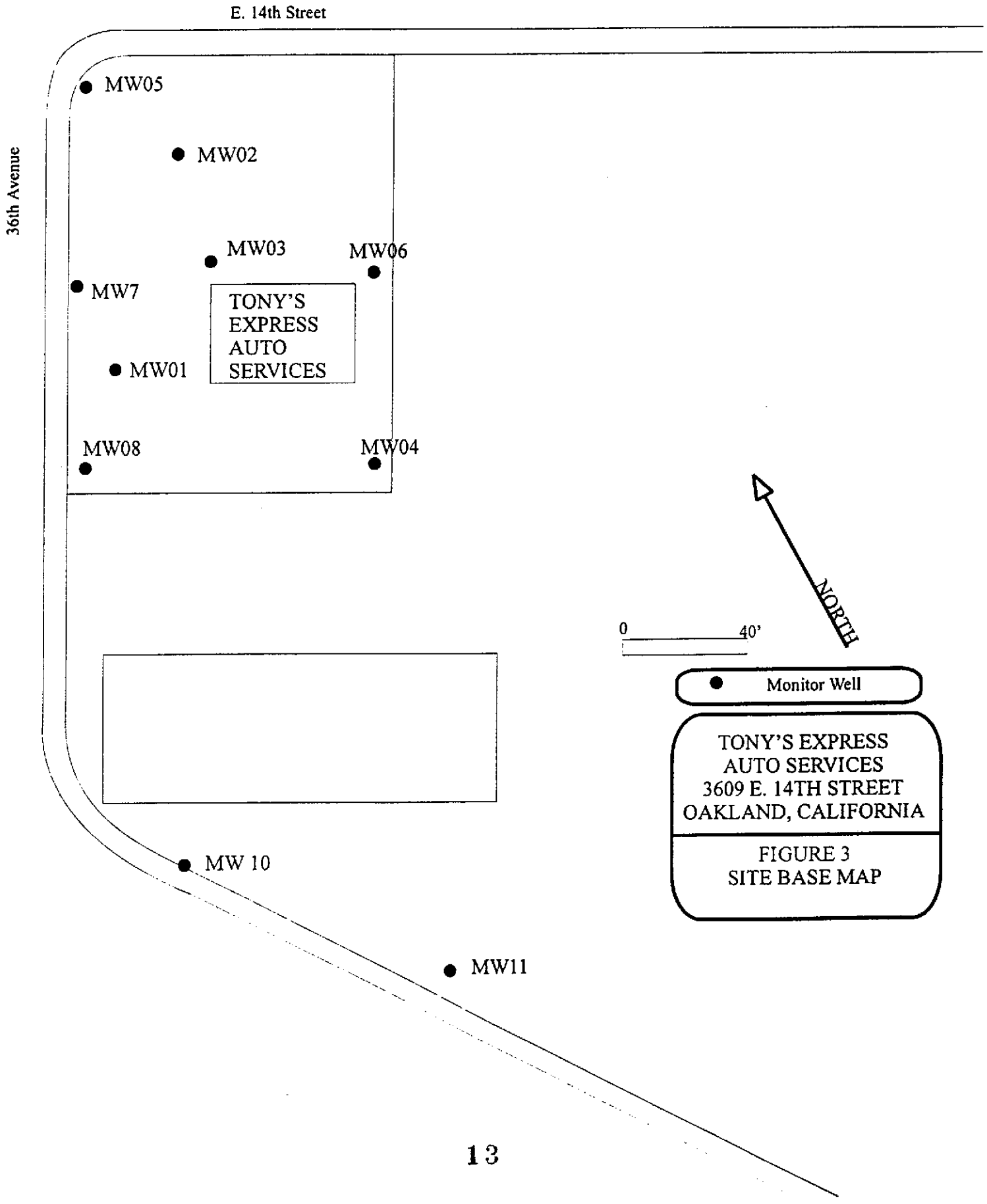


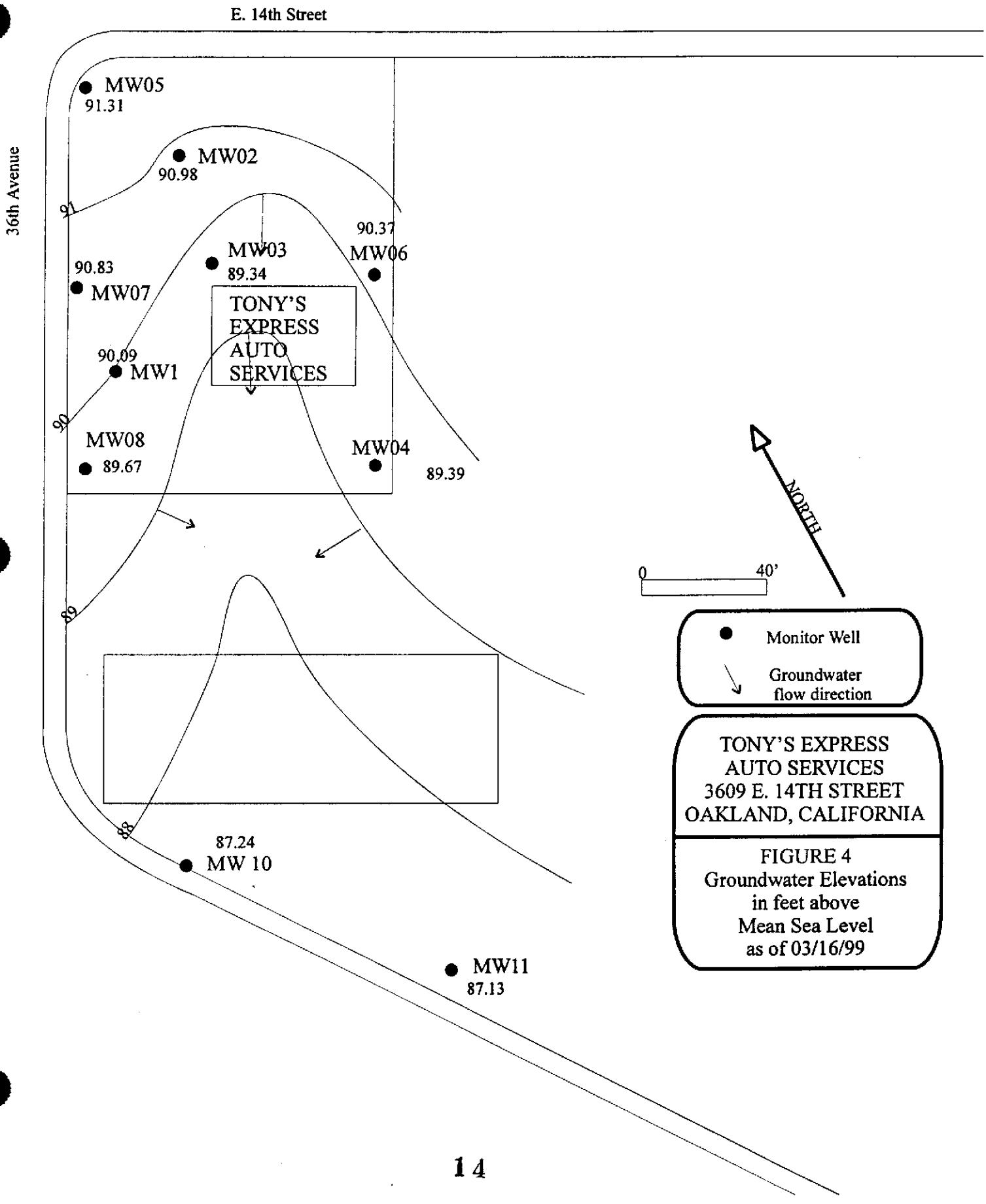


<Default> - 1 Markers, Length = 0 feet

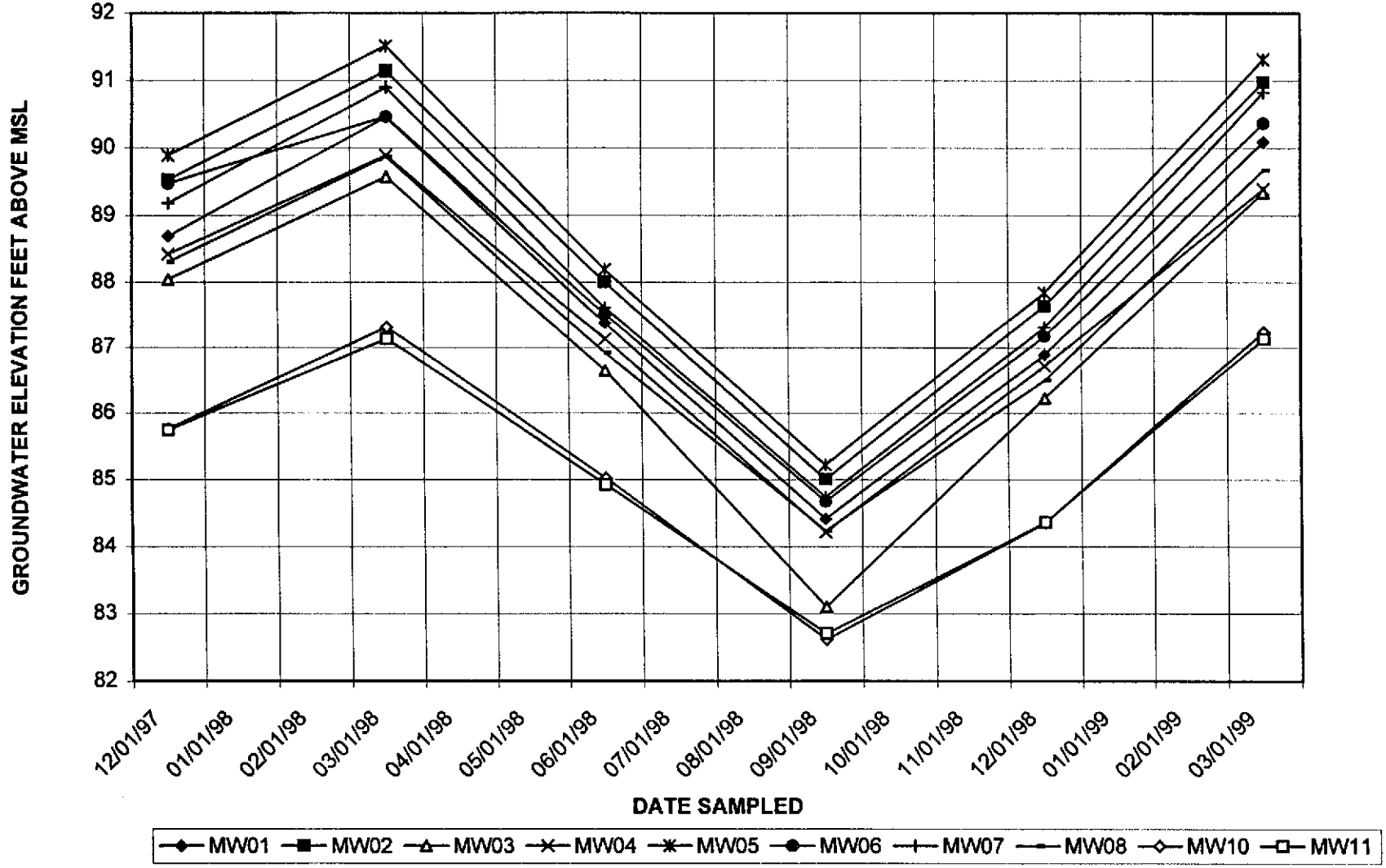
Name: OAKLAND EAST
Date: 5/11/98
Scale: 1 inch equals 1000 feet

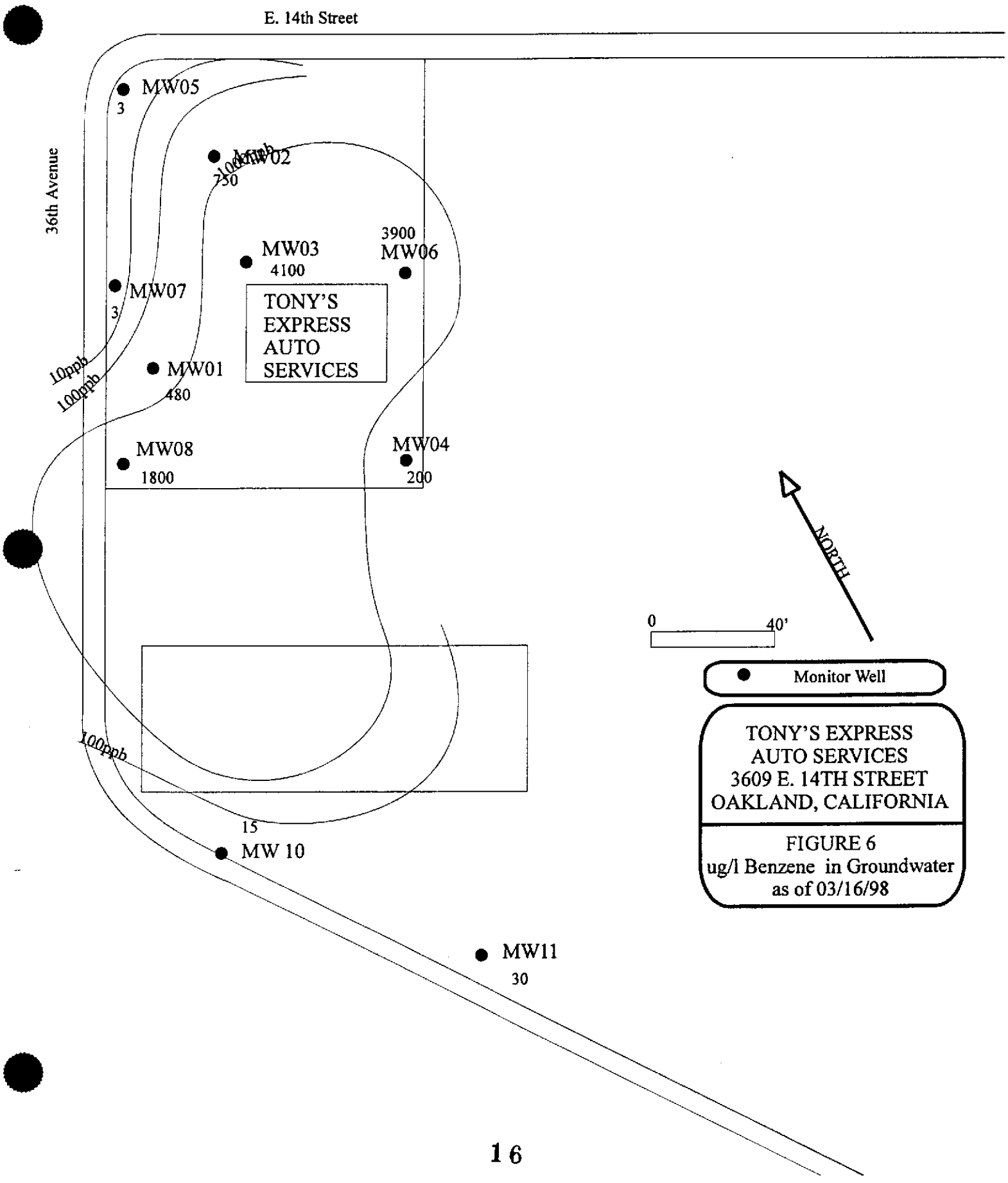
Location: 037° 46' 31.7" N 122° 13' 15.9" W
Caption: Figure 2, USGS Topographic Map


E. 14th Street
36th Avenue
MW05
MW02
MW03
MW06
MW7
TONY'S
EXPRESS
AUTO
SERVICES
MW01
MW08
MW04
MW 10
MW11
NORTH
0
40'
Monitor Well
TONY'S EXPRESS
AUTO SERVICES
3609 E. 14TH STREET
OAKLAND, CALIFORNIA
FIGURE 3
SITE BASE MAP


E. 14th Street
36th Avenue
MW05
91.31
MW02
90.98
91
90.37
MW06
MW03
89.34
90.83
MW07
TONY'S
EXPRESS
AUTO
SERVICES
90.09
MW1
90
MW08
89.67
MW04
89.39
89
88
87.24
MW 10
MW11
87.13
NORTH
0
40'
Monitor Well
Groundwater
flow direction
TONY'S EXPRESS
AUTO SERVICES
3609 E. 14TH STREET
OAKLAND, CALIFORNIA
FIGURE 4
Groundwater Elevations
in feet above
Mean Sea Level
as of 03/16/99

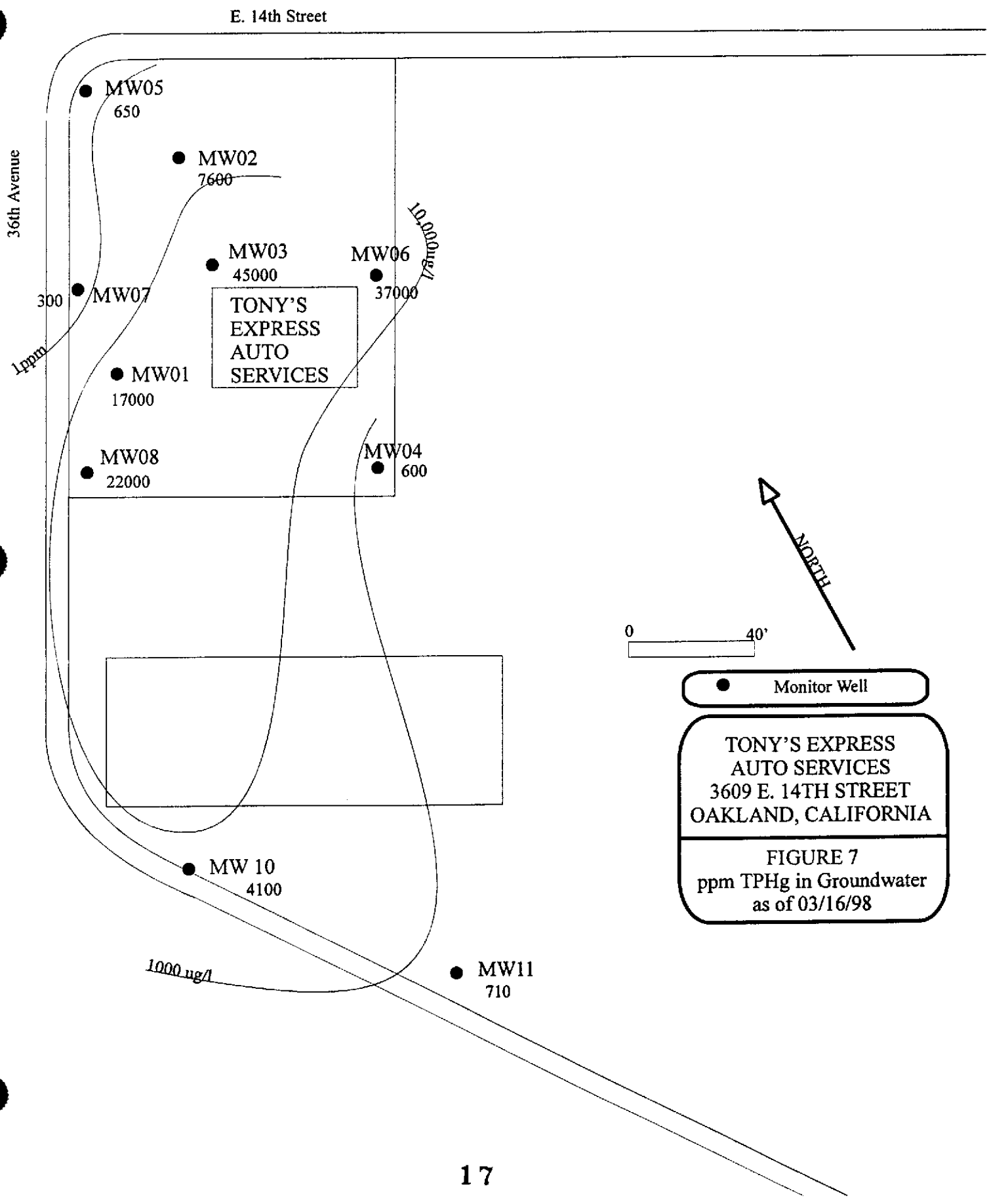
GROUNDWATER ELEVATION
Figure 5

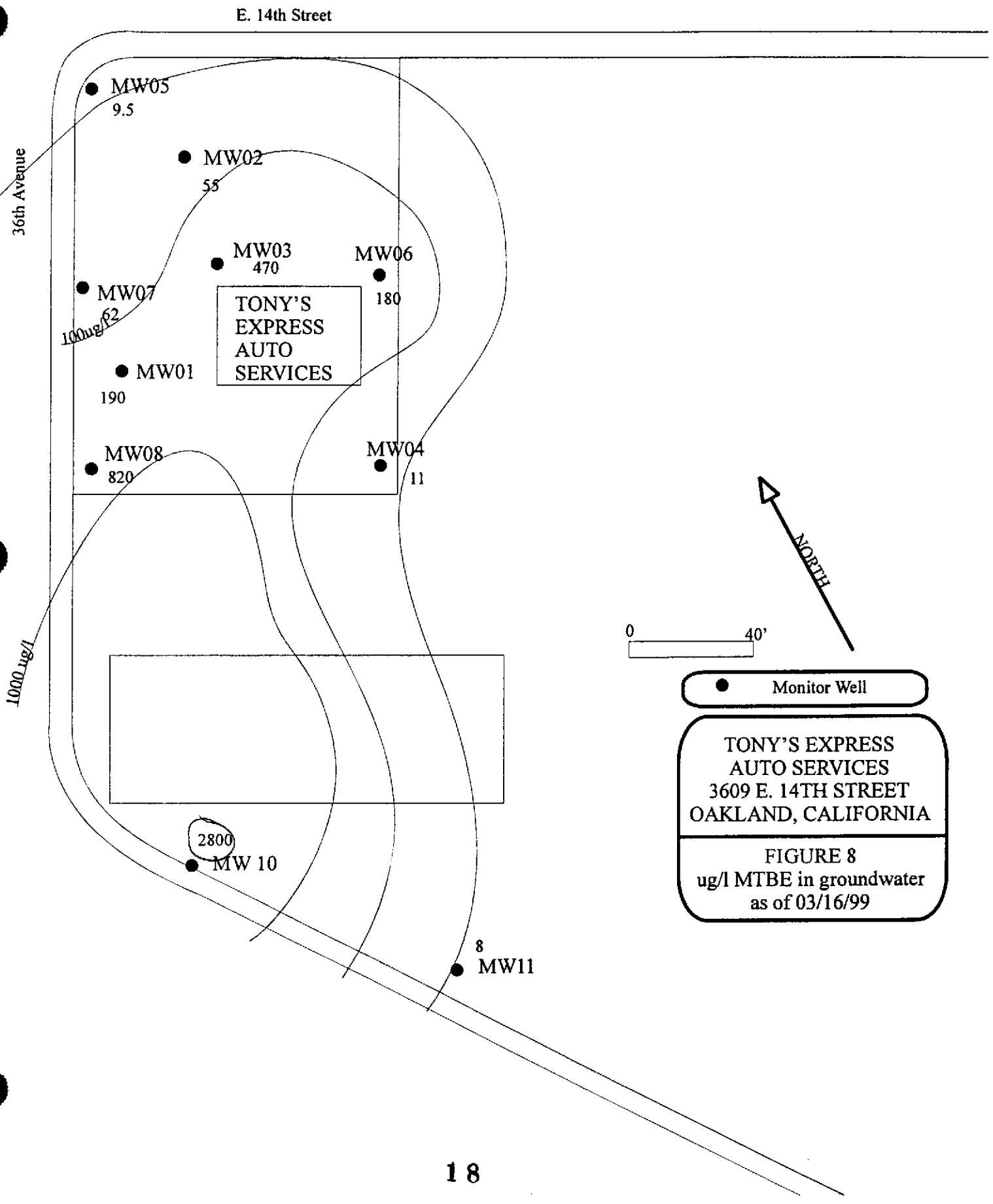




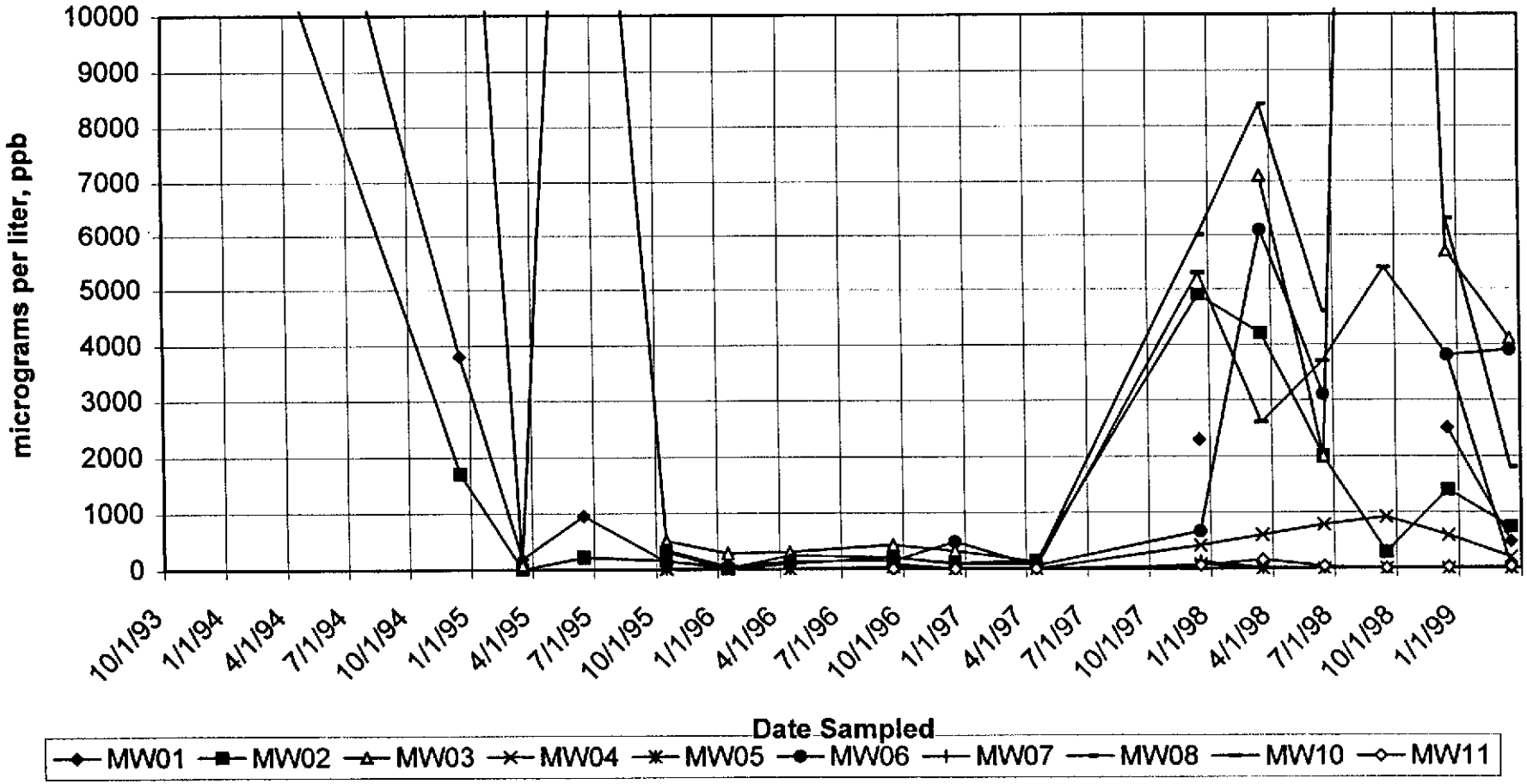
TONY'S EXPRESS
AUTO SERVICES
3609 E. 14TH STREET
OAKLAND, CALIFORNIA

FIGURE 6
ug/l Benzene in Groundwater
as of 03/16/98

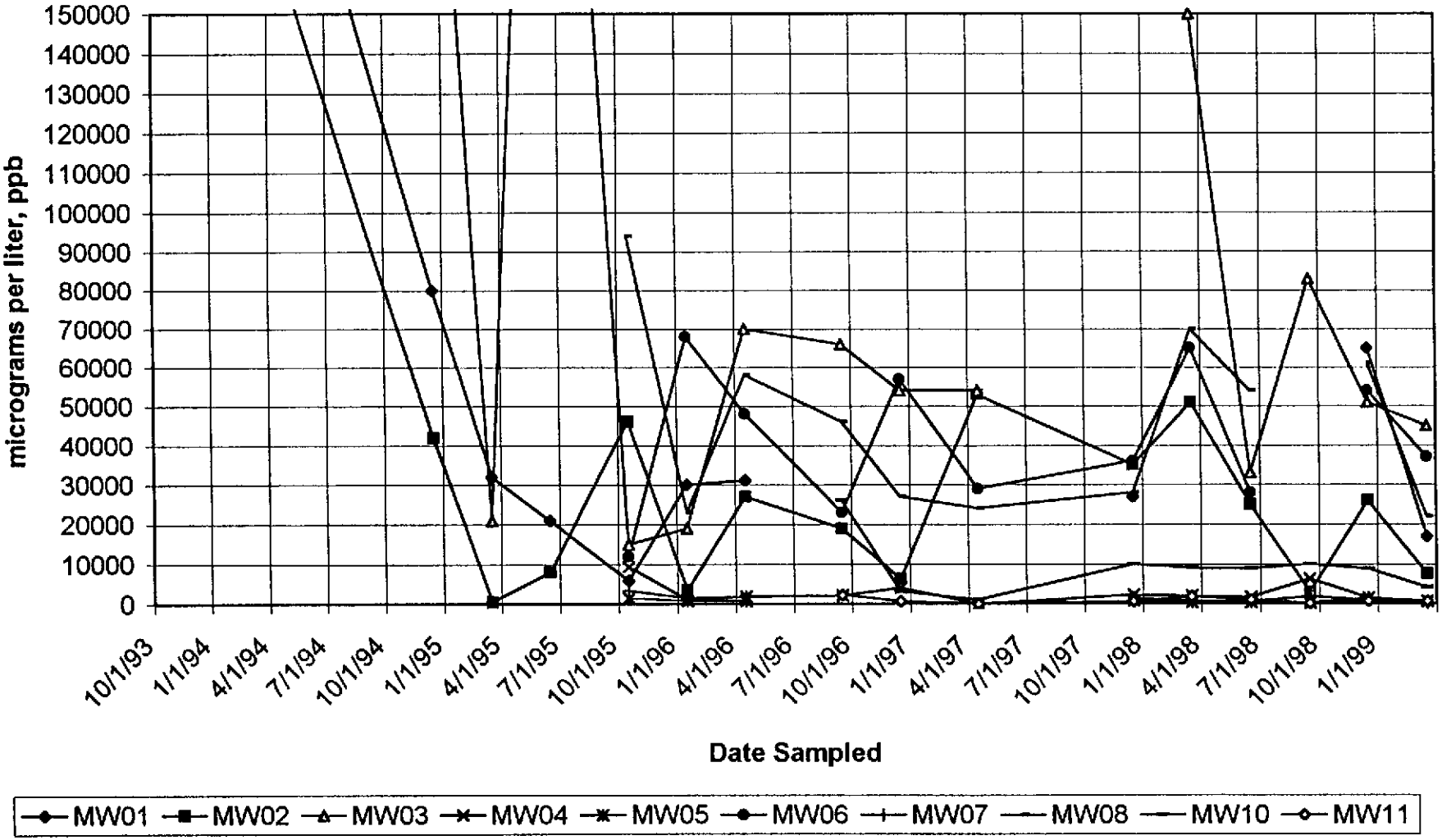

E. 14th Street
36th Avenue
MW05
650
MW02
7600
MW03
45000
MW06
37000
10,000ug/l
MW07
300
1ppm
TONY'S
EXPRESS
AUTO
SERVICES
MW01
17000
MW08
22000
MW04
600
MW 10
4100
1000 ug/l
MW11
710
NORTH
0
40'
Monitor Well
TONY'S EXPRESS
AUTO SERVICES
3609 E. 14TH STREET
OAKLAND, CALIFORNIA
FIGURE 7
ppm TPHg in Groundwater
as of 03/16/98

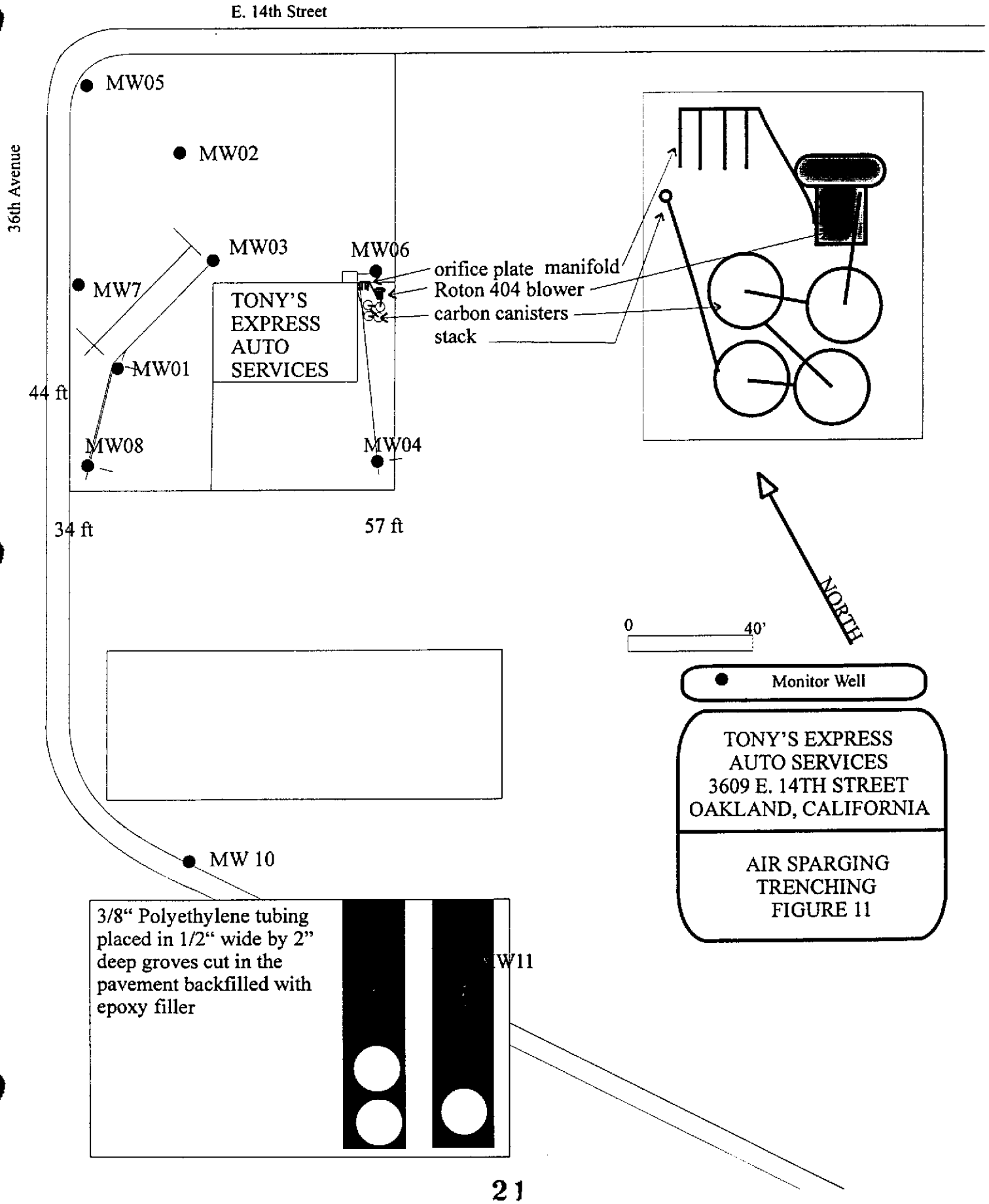

E. 14th Street
36th Avenue
MW05
9.5
MW02
55
MW03
470
MW06
180
MW07
62
100ug/l
TONY'S
EXPRESS
AUTO
SERVICES
MW01
190
MW08
820
MW04
11
1000 ug/l
2800
MW 10
8
MW11
NORTH
0
40'
Monitor Well
TONY'S EXPRESS
AUTO SERVICES
3609 E. 14TH STREET
OAKLAND, CALIFORNIA
FIGURE 8
ug/l MTBE in groundwater
as of 03/16/99

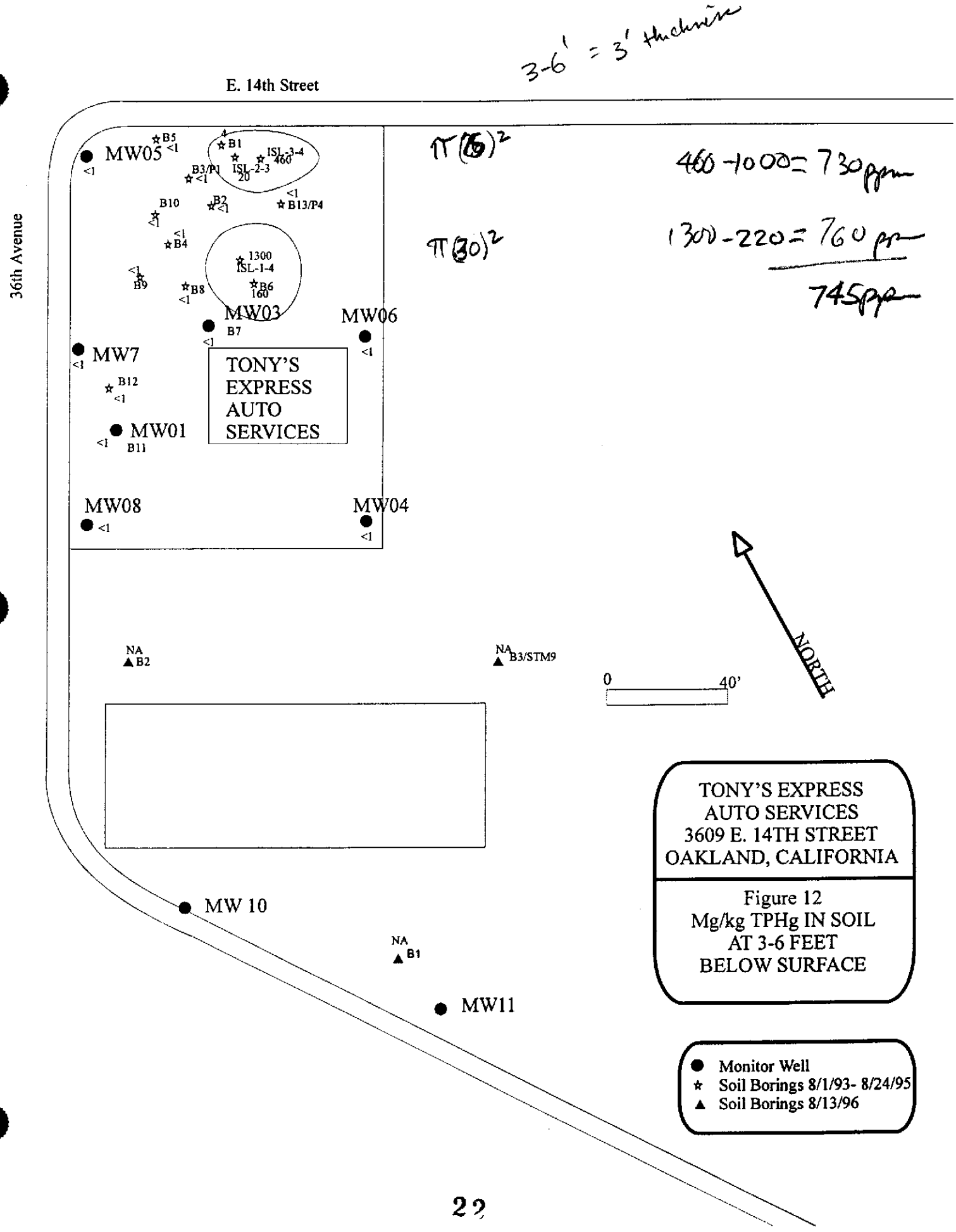
Tony's Express Auto Services, Micrograms per liter Benzene
Figure 9



Tony's Express Auto Services, Micrograms per liter TPHg
Figure 10




E. 14th Street
36th Avenue
MW05
MW02
MW03
MW06
MW7
MW01
MW08
MW04
TONY'S EXPRESS AUTO SERVICES
44 ft
34 ft
57 ft
orifice plate manifold
Roton 404 blower
carbon canisters
stack
NORTH
0
40'
Monitor Well
TONY'S EXPRESS AUTO SERVICES
3609 E. 14TH STREET
OAKLAND, CALIFORNIA
AIR SPARGING TRENCHING
FIGURE 11
MW 10
3/8" Polyethylene tubing placed in 1/2" wide by 2" deep groves cut in the pavement backfilled with epoxy filler
W11



3-6' = 3' thickness

$\pi(15)^2$

460 - 1000 = 730 ppm

$\pi(30)^2$

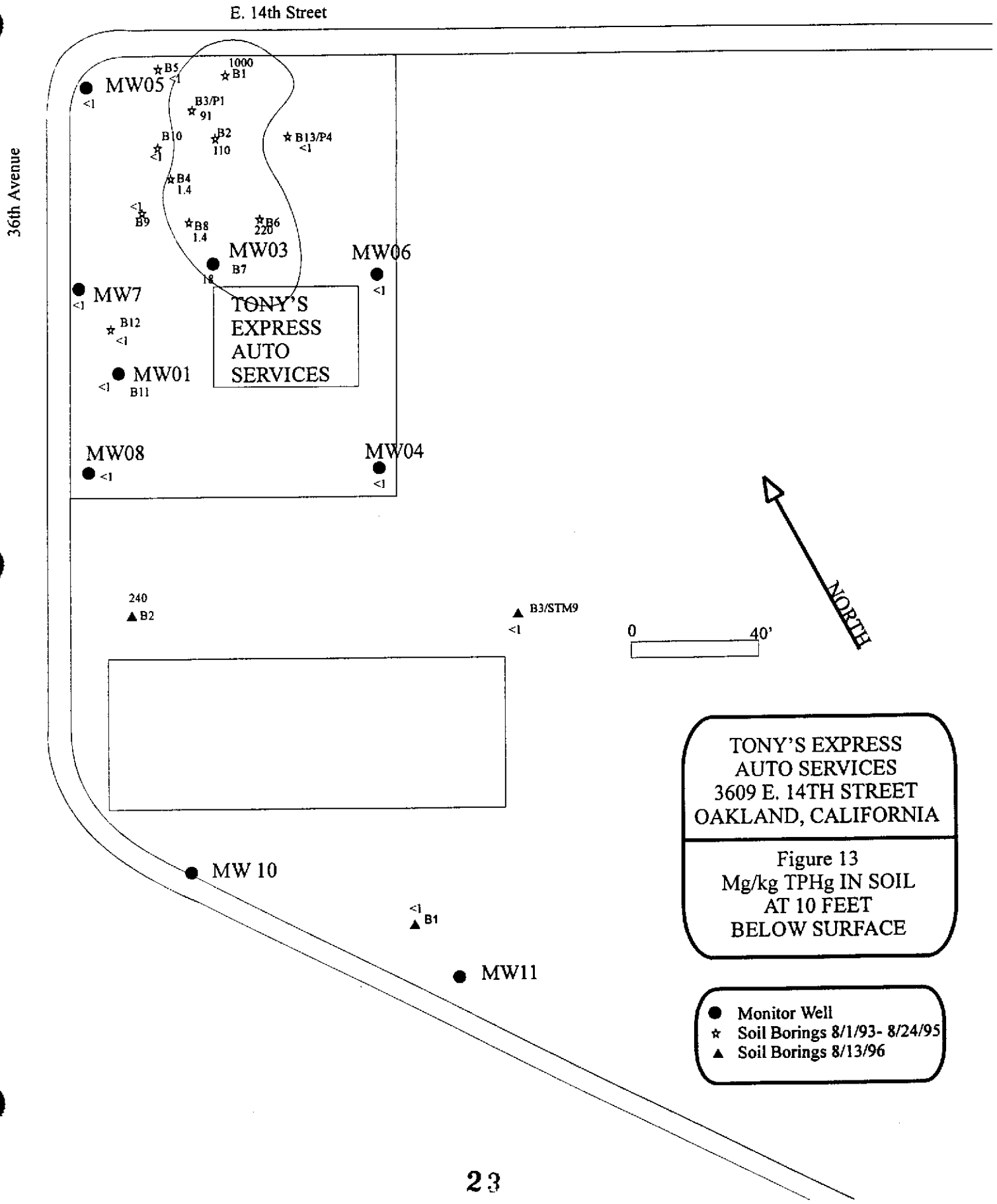
1300 - 220 = 760 ppm

745 ppm

TONY'S EXPRESS
AUTO SERVICES
3609 E. 14TH STREET
OAKLAND, CALIFORNIA

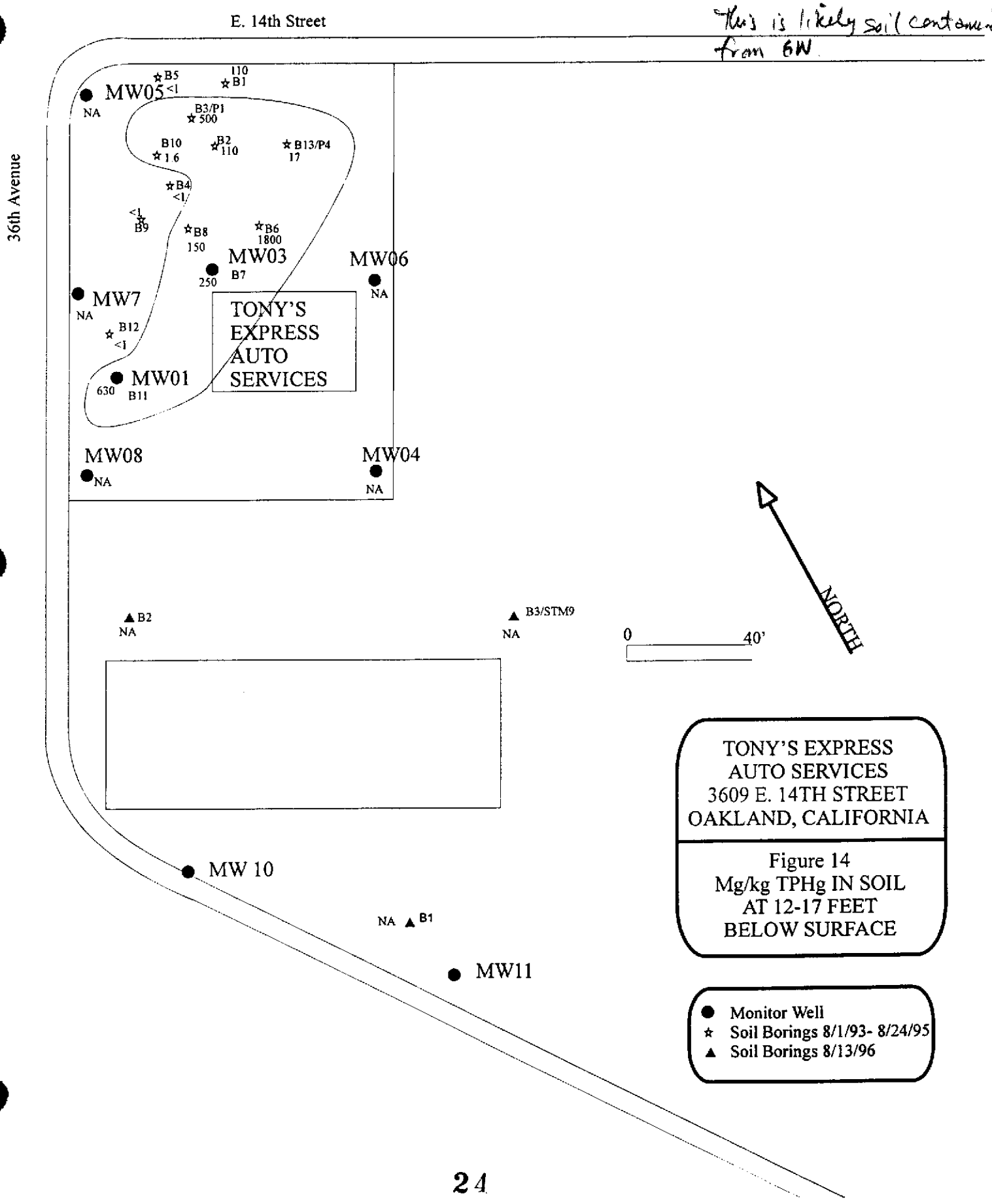
Figure 12
Mg/kg TPHg IN SOIL
AT 3-6 FEET
BELOW SURFACE

- ● Monitor Well
- ☆ Soil Borings 8/1/93- 8/24/95
- ▲ Soil Borings 8/13/96



TONY'S EXPRESS
AUTO SERVICES
3609 E. 14TH STREET
OAKLAND, CALIFORNIA

Figure 13
Mg/kg TPHg IN SOIL
AT 10 FEET
BELOW SURFACE


This is likely soil contaminated from GW
E. 14th Street
36th Avenue
MW05
NA
B5 <1
110
B1
B3/P1 500
B10 1.6
B2 110
B13/P4 17
B4 <1
B9 <1
B8 150
B6 1800
MW03
250
B7
MW06
NA
MW7
NA
B12 <1
TONY'S EXPRESS AUTO SERVICES
MW01
630
B11
MW08
NA
MW04
NA
B2
NA
B3/STM9
NA
0
40'
NORTH
MW 10
NA
B1
MW11
TONY'S EXPRESS AUTO SERVICES
3609 E. 14TH STREET
OAKLAND, CALIFORNIA
Figure 14
Mg/kg TPHg IN SOIL
AT 12-17 FEET
BELOW SURFACE
Monitor Well
Soil Borings 8/1/93- 8/24/95
Soil Borings 8/13/96

APPENDIX A

METHODS AND PROCEDURES
QA/QC

APPENDIX A:
METHODS AND PROCEDURES
QA/QC

This Appendix documents the specific methods, procedures, and materials used to collect and analyze groundwater samples.

GAUGING AND MEASURING MONITOR WELLS

Prior to sampling a well, WEGE personnel obtain three measurements:

1. the depth to groundwater (DTW);
2. the product thickness using a battery powered depth to water-product interface probe and/or by using a specially designed bailer;
3. the total depth of casing, to calculate the total water volume in the well.

The DTW-product interface probe is lowered into the well casing until the instrument signals when the top of free phase floating product (if present) and/or the top of water is reached. The distance from the top of free phase floating product and/or water to the top of casing is read from the tape that is attached to the probe. The probe is then lowered to the bottom of the well and the tape is read again. The tape is calibrated in 0.01-foot intervals for accuracy to 0.01 foot. The measured distance is subtracted from the established elevation at the top of casing to determine the elevation of groundwater with respect to mean sea level and the difference between the top of groundwater and the base of the well is noted to establish water volume in the well. The probe and tape is washed with TSP (Tri Sodium Phosphate) and rinsed in distilled water before each measurement. WEGE has designed and built bailers that will collect a sample of the contents of a well to show the exact thickness of any floating product.

Some of the abbreviations used in water sampling and or measuring or monitoring are: BGS, Below Ground Surface; DTW, Depth to Water (from surface reference i.e. usually TOC); TOC, Top of Casing; MSL, Mean Sea Level; AMSL and BMSL, Above and Below MSL; BS, Below Surface; TOW, Top of Water; TSP, Tri Sodium Phosphate.

PURGING STANDING WATER FROM MONITOR WELLS

If no product is present, WEGE personnel purge the well by removing groundwater until the water quality parameters (temperature, pH, and conductivity) stabilize, or until the well is emptied of water. Periodic measurements of groundwater temperature, pH, and conductivity are taken with a Hydac Monitor or other meter and recorded along with the volume of groundwater removed from the well. Purging is done by one or more methods singularly or in combination. Bailers, pneumatic or electric sample pumps, or vacuum pump tanks or trucks may be used. The usual amount of water removed is three borehole volumes, unless otherwise stated.

$$BV = (7.48/4) \times (CD2+P\ (BD2-CD)\ 2) \times (WD-GW)$$

BV borehole volume (gallons)
CD casing diameter (feet)
GW depth to groundwater (feet)
BD borehole diameter (feet)
WD well depth (feet)
P porosity of the gravel pack, 25%

Table of Common Boring and Casing Diameters

Boring diameter inches	Casing diameter inches	Volume gallons/ foot	3 VolumesX (WD-GW) gallons /foot
4	1	0.042	0.126
6	1	0.082	0.246
6	2	0.173	0.519
8	2	0.277	0.831
8	4	0.671	2.013
10	2	0.572	1.716
10	4	0.844	2.532

EXAMPLE: An 8 inch boring with 2 inch casing requires removal of 0.831 gallons of water per foot of water column.

The water collected during purging is either safely stored on- site in 55 gallon DOT 17H drums for later disposition, transported to an approved on-site/off-site treatment facility or to a sewer discharge system.

COLLECTION OF WATER SAMPLE FOR ANALYSIS

The groundwater in the well is allowed to recover to at least 80% of its volume prior to purging, if practical, before the groundwater sample is collected.

$$\text{Percent Recovery} = (1 - \frac{\text{Residual drawdown}}{\text{Maximum drawdown}}) \times 100.$$

A fresh bailer is used to collect enough water for the requirements of the laboratory for the analyses needed or required. The water samples are decanted from the bailer into the appropriate number and size containers. These containers are furnished pre-cleaned to exact EPA protocols, with and without preservatives added, by the analytical laboratory or a chemical supply company. The bottles are filled, with no headspace, and then capped with plastic caps with teflon liners.

The vials or bottles containing the groundwater samples are labeled with site name, station, date, time, sampler, and analyses to be performed, and documented on a chain of custody form. They are placed in ziplock bags and stored in a chest cooled to 4 °C with

ice. The preserved samples are COC (chain of custody) delivered to the chosen laboratory.

ANALYTICAL RESULTS

TPH is the abbreviations used for Total Petroleum Hydrocarbons used by the laboratories for water and soil analyses. The letter following TPH indicates a particular distinction or grouping for the results. The letters "g", "d", "k", or "o" indicate gasoline, diesel, kerosene, or oil, respectively, i.e. TPH-d for diesel ranges TPH.

BTEX or MTBE are acronyms or abbreviations used for Benzene, Toluene, Ethylbenzene and all of the Xylenes (BTEX) and Methyl tertiary-Butyl Ether (MTBE), respectively. MBTEX is the designation for the combination of the above five compounds.

Laboratory lower detection limits unless otherwise noted, due to matrix interference or elevated concentrations of target compounds, are as follows:

TPHg	50 ug/L	MTBE	0.5 ug/L
Benzene	0.5 ug/L	Toluene	0.5 ug/L
Ethyl Benzene	0.5 ug/L	Total Xylenes	1.0 ug/L

The less than symbol, <, used with a "parts per value" indicates the lower detection limit for a given analytical result and the level, if present, of that particular analyte is below or less than that lower detection limit.

Other abbreviations commonly used are ppm, ppb, mg/Kg, ug/Kg, ml/l and ul/l are parts per million, parts per billion, milligrams per kilogram, micrograms per kilogram, milliliters per liter, microliters per liter, respectively.

CHAIN OF CUSTODY DOCUMENTATION

All water samples that are collected by WEGE and transported to a certified analytical laboratory are accompanied by chain-of- custody (COC) documentation. This documentation is used to record the movement and custody of a sample from collection in the field to final analysis and storage. Samples to be analyzed at the certified laboratory were logged on the COC sheet provided by the laboratory. The same information provided on the sample labels (site name, sample location, date, time, and analysis to be performed) is also noted on the COC form. Each person relinquishing custody of the sample set signs the COC form indicating the date and time of the transfer to the recipient. A copy of the COC follows the samples or their extracts throughout the laboratory to aid the analyst in identifying the samples and to assure analysis within holding times. Copies of the COC documentation are included with the laboratory results in Appendix B of the sampling report.

APPENDIX B

CERTIFIED ANALYTICAL
LABORATORY REPORT

COC DOCUMENTATION

North State Environmental
Chemical Waste Disposal · Trucking · Consulting

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 99-0383
Client: Western Geo-Engineers
Project: Tony's

Date Reported: 04/05/99

Gasoline,BTEX and MTBE by Methods 8015M and 8020

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 99-0383-01 Client ID: MW1				03/16/99	WATER
Gasoline	8015M	17000	ug/L		03/26/99
Benzene	8020	480	ug/L		
Ethylbenzene	8020	850	ug/L		
MTBE	8020	190	ug/L		
Toluene	8020	860	ug/L		
Xylenes	8020	3000	ug/L		
Sample: 99-0383-02 Client ID: MW2				03/16/99	WATER
Gasoline	8015M	7600	ug/L		03/26/99
Benzene	8020	730	ug/L		
Ethylbenzene	8020	610	ug/L		
MTBE	8020	*55	ug/L		
Toluene	8020	830	ug/L		
Xylenes	8020	1900	ug/L		
Sample: 99-0383-03 Client ID: MW3				03/16/99	WATER
Gasoline	8015M	45000	ug/L		03/30/99
Benzene	8020	4100	ug/L		
Ethylbenzene	8020	1000	ug/L		
MTBE	8020	470	ug/L		
Toluene	8020	6400	ug/L		
Xylenes	8020	6100	ug/L		

*Confirmed by GC/MS method 8260.

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North State Environmental
Chemical Waste Disposal · Trucking · Consulting

C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 99-0383
Client: Western Geo-Engineers
Project: Tony's

Date Reported: 04/05/99

Gasoline,BTEX and MTBE by Methods 8015M and 8020

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 99-0383-04 Client ID: MW4				03/16/99	WATER
Gasoline	8015M	600	ug/L		03/26/99
Benzene	8020	200	ug/L		
Ethylbenzene	8020	19	ug/L		
MTBE	8020	11	ug/L		
Toluene	8020	35	ug/L		
Xylenes	8020	56	ug/L		
Sample: 99-0383-05 Client ID: MW5				03/16/99	WATER
Gasoline	8015M	650	ug/L		03/26/99
Benzene	8020	3	ug/L		
Ethylbenzene	8020	16	ug/L		
MTBE	8020	9.5	ug/L		
Toluene	8020	0.6	ug/L		
Xylenes	8020	2	ug/L		
Sample: 99-0383-06 Client ID: MW6				03/16/99	WATER
Gasoline	8015M	37000	ug/L		03/26/99
Benzene	8020	3900	ug/L		
Ethylbenzene	8020	1600	ug/L		
MTBE	8020	180	ug/L		
Toluene	8020	4300	ug/L		
Xylenes	8020	7000	ug/L		

*Confirmed by GC/MS method 8260.

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C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 99-0383
Client: Western Geo-Engineers
Project: Tony's

Date Reported: 04/05/99

Gasoline,BTEX and MTBE by Methods 8015M and 8020

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 99-0383-07 Client ID: MW7				03/16/99	WATER
Gasoline	8015M	300	ug/L		03/26/99
Benzene	8020	3	ug/L		
Ethylbenzene	8020	1	ug/L		
MTBE	8020	62	ug/L		
Toluene	8020	0.7	ug/L		
Xylenes	8020	1	ug/L		
Sample: 99-0383-08 Client ID: MW8				03/16/99	WATER
Gasoline	8015M	22000	ug/L		03/26/99
Benzene	8020	1800	ug/L		
Ethylbenzene	8020	2000	ug/L		
MTBE	8020	820	ug/L		
Toluene	8020	470	ug/L		
Xylenes	8020	2000	ug/L		
Sample: 99-0383-09 Client ID: MW10				03/16/99	WATER
Gasoline	8015M	4100	ug/L		03/26/99
Benzene	8020	15	ug/L		
Ethylbenzene	8020	420	ug/L		
MTBE	8020	*2800	ug/L		
Toluene	8020	28	ug/L		
Xylenes	8020	250	ug/L		

*Confirmed by GC/MS method 8260.

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North State Environmental
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C E R T I F I C A T E O F A N A L Y S I S

Lab Number: 99-0383
Client: Western Geo-Engineers
Project: Tony's

Date Reported: 04/05/99

Gasoline,BTEX and MTBE by Methods 8015M and 8020

Analyte	Method	Result	Unit	Date Sampled	Date Analyzed
Sample: 99-0383-10 Client ID: MW11				03/16/99	WATER
Gasoline	8015M	710	ug/L		03/26/99
Benzene	8020	30	ug/L		
Ethylbenzene	8020	53	ug/L		
MTBE	8020	8	ug/L		
Toluene	8020	6	ug/L		
Xylenes	8020	84	ug/L		

*Confirmed by GC/MS method 8260.

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North State Environmental
Chemical Waste Disposal · Trucking · Consulting

CERTIFICATE OF ANALYSIS

Quality Control/Quality Assurance

Lab Number: 99-0383
Client: Western Geo-Engineers
Project: Tony's

Date Reported: 04/05/99

Gasoline,BTEX and MTBE by Methods 8015M and 8020

Analyte	Method	Reporting Limit	Unit	Blank	MS/MSD Recovery	RPD
Gasoline	8015M	50	ug/L	ND	92	5
Benzene	8020	0.5	ug/L	ND	78	6
Ethylbenzene	8020	0.5	ug/L	ND	98	6
Toluene	8020	0.5	ug/L	ND	93	7
Xylenes	8020	1.0	ug/L	ND	97	7
MTBE	8020	0.5	ug/L	ND	71	12

ELAP Certificate NO:1753
Reviewed and Approved

John A.Murphy,Laboratory Director

P. O. Box 5624 • South San Francisco, California 94083 • 650-588-2838 FAX 588-1950

99-03[illegible]3

North State Environmental Analytical Laboratory

90 South Spruce Avenue, Suite W, South San Francisco, CA 94080
Phone: (650) 266-4563 Fax: (650) 266-4560

Chain of Custody / Request for Analysis
Lab Job No.:_____Page___of___

Client: TONY S	Report to: Ray BUTTKER	Phone: 530-661-5300	Turnaround Time
Mailing Address: Western Geo-Engineers 1386 E. Beamer St Woodland, CA 95776	Billing to: SAME	Fax: 530-662-0273	
		PO# / Billing Reference:	Date: 3-16-99
			Sampler: BRANDUM

Project / Site Address:

Analysis Requested

	Sample ID	Sample Type	Container No. / Type	Pres.	Sampling Date / Time	TPHg BTEX	MTBE							Comments / Hazards
1	MW1	H2O	2 VOAS	HCL	3 16 99 11:49									
2	MW2				10:01									
3	MW3				11:24									
4	MW4				10:17									
5	MW5				9:37									
6	MW6				13 25									
7	MW7				10:21									
8	MW8				1343									
9	MW10				9:10									
10	MW11				8:42									

Relinquished by: [signature]	Date: 3/18/99	Time: 11-00	Received by: Rob #319	Lab Comments
Relinquished by: Rob #319	Date: 3/18/99	Time: 12-40	Received by: [signature] NSE	
Relinquished by:	Date:	Time:	Received by:	

APPENDIX C

MONITOR WELL
SAMPLING DATA SHEETS

WESTERN GEO-ENGINEERS
1386 EAST BEAMER
WOODLAND, CALIFORNIA 95695
(916) 668-5300, FAX (916) 662-0273

WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16-99	TIME 1135
WELL MW-1	SAMPLED BY.	Becedi ~~M~~ J
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 9.91		DTB: 29.70
FLUID ELEVATION		
BAILER TYPE Disposable Bailer		
PUMP David ~~LTF~~		

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
1140	1st bailer	64.5	6.90	6.18 x1000
1144	10 gal	64.9	7.10	1.27
1145	1	6.5.8	7.15	1.00
1146	1	66.1	7.18	9.76 x1000
1147	1	66.3	7.17	9.73

FINAL VOLUME PURGED	13 gal
TIME SAMPLED	1149
SAMPLE ID.	MW-1
SAMPLE CONTAINERS	2/ VOAs
ANALYSIS TO BE RUN	TPHg / BTEX / MTBE
LABORATORY	NSE
NOTES:	1st bailer Floating Sheen Strong Odor
VAC. =	PRES =

WESTERN GEO-ENGINEERS
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WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16-99	TIME 0946
WELL MW-2	SAMPLED BY.	Beardsley

WELL ELEVATION
PRODUCT THICKNESS
DEPTH TO WATER DTW: 7.60 DTB: 30.0
FLUID ELEVATION
BAILER TYPE Disposable Bailer
PUMP David ~~EFF~~

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
0948	1st bailer	65.7	7.20	16.60 x1000
0953	40 gal	66.6	7.33	9.74
0954	1	69.0	7.34	9.39
0955	1	70.0	7.31	9.68
0957	1	70.6	7.25	10.33
0959	1	70.6	7.25	10.35

FINAL VOLUME PURGED 44 gal
TIME SAMPLED 1001
SAMPLE ID. MW-2
SAMPLE CONTAINERS 2/ VOAs
ANALYSIS TO BE RUN TPHg / BTEX / MTBE
LABORATORY NSE
NOTES: 1st bailer Clear No Odor

VAC. = PRES =

2b.

WESTERN GEO-ENGINEERS
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WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16-99	TIME 1110
WELL MW-3	SAMPLED BY.	Beaudway
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 8.44		DTB: 29.75
FLUID ELEVATION		
BAILER TYPE Disposable Bailer		
PUMP David LFF		

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
1113	1st bailer	65.9	7.38	9.58 x1000
1118	40 gal	67.0	7.51	1054
1120	1	68.7	7.53	10.01
1121	1	69.4	7.58	10.18
1122	1	69.1	7.59	10.14

FINAL VOLUME PURGED	43 gal
TIME SAMPLED	1124
SAMPLE ID.	MW-3
SAMPLE CONTAINERS	2/ VOAs
ANALYSIS TO BE RUN	TPHg / BTEX / MTBE
LABORATORY	NSE
NOTES:	1st bailer Turbid Particles Smelly
Vac =	Pres =

2b1

WESTERN GEO-ENGINEERS
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WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16-00	TIME 1035
WELL MW-4	SAMPLED BY.	Broadway
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 8.46	DTB: 24.34	
FLUID ELEVATION		
BAILER TYPE Disposable Bailer		
PUMP David LTF		

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
1037	1st bailer	62.6	6.38	12.09 x1000
1041	8 gal	64.7	6.70	1.67
1042	1	67.1	6.90	1.01
1044	1	66.8	7.00	.90
1045	1	67.0	7.01	8.89 x100

FINAL VOLUME PURGED	11 gal
TIME SAMPLED	1047
SAMPLE ID.	MW-4
SAMPLE CONTAINERS	2/ VOAs
ANALYSIS TO BE RUN	TPHg/BTEX/MTBE
LABORATORY	NSE
NOTES:	1st bailer CLEAR No Odor
VAC =	PRES =

2 of 1

WESTERN GEO-ENGINEERS
1386 EAST BEAMER
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WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16-00	TIME 923
WELL MW-5	SAMPLED BY.	Beardsley
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	DTW: 7.73	DTB: 26.08
FLUID ELEVATION		
BAILER TYPE	Disposable Bailer	
PUMP	David ~~EFF~~	

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
0925	1st bailer	64.6	6.80	4.49 x1000
0928	10 gal	66.5	7.08	1.21
0930	1	67.9	7.19	9.66
0933	1	69.0	7.22	9.62
0935	1	69.7	7.23	9.63

FINAL VOLUME PURGED	13 gal
TIME SAMPLED	937
SAMPLE ID.	MW-5
SAMPLE CONTAINERS	2/ VOAs
ANALYSIS TO BE RUN	TPHg / BTEX / MTBE
LABORATORY	NSE
NOTES:	1st bailer Cloudy, No Odor
VAC =	PRES =

WESTERN GEO-ENGINEERS
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WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16-99	TIME 1310
WELL MW-6	SAMPLED BY.	Broadway
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER	DTW: 8.4	DTB: 24.54
FLUID ELEVATION		
BAILER TYPE	Disposable Bailer	
PUMP	David LFF	

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
1316	1st bailer	67.7	6.87	5.99 x1000
1319	9 gal	68.0	7.04	1.84
1320	1	68.9	6.94	2.83
1322	1	69.1	6.94	3.17
1324	1	69.2	6.95	3.16

FINAL VOLUME PURGED	12 gal
TIME SAMPLED	1325
SAMPLE ID.	MW-6
SAMPLE CONTAINERS	2/ VOAs
ANALYSIS TO BE RUN	TPHg/BTEX/MTBE
LABORATORY	NSE
NOTES:	1st bailer Turbid Bactiria Some Odor
VAC =	PRES =

2b1

WESTERN GEO-ENGINEERS
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WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16-99	TIME 1004
WELL MW-7	SAMPLED BY.	Broadway
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 2.1		DTB: 24.6
FLUID ELEVATION		
BAILER TYPE Disposable Bailer		
PUMP David ~~EFF~~		

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
1012	1st bailer	63.3	7.05	3.35 x1000
1015	9 gal	65.4	7.22	7.96 1000
1017	1	67.2	7.28	6.41
1020	1	67.3	7.29	6.37

FINAL VOLUME PURGED	11 gal
TIME SAMPLED	1021
SAMPLE ID.	MW-7
SAMPLE CONTAINERS	2/ VOAs
ANALYSIS TO BE RUN	TPHg/BTEX/MTBE
LABORATORY	NSE
NOTES:	1st bailer CLEAR No Odor
VAC =	PRES=

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WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16-99	TIME 1333
WELL MW-8	SAMPLED BY.	Broadway
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 7.58		DTB: 26.34
FLUID ELEVATION		
BAILER TYPE Disposable Bailer		
PUMP David LTF		

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
1337	1st bailer	69.0	6.98	2.62 x1000
1339	10 gal	67.6	7.11	1.33
1340	1	67.1	7.15	1.31
1341	1	67.0	7.16	1.31

FINAL VOLUME PURGED	12 gal
TIME SAMPLED	1343
SAMPLE ID.	MW-8
SAMPLE CONTAINERS	3/ VOAs
ANALYSIS TO BE RUN	TPHg / BTEX / MTBE
LABORATORY	NSE
NOTES:	1st bailer Sheen Bad Odor
VAC =	PRES =

2b1

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WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16 99	TIME 0849
WELL MW-10	SAMPLED BY.	Beardsley
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 9.30		DTB: 24.35
FLUID ELEVATION		
BAILER TYPE Disposable Bailer		
PUMP David ~~ETF~~		

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
0853	1st bailer	65.2	7.24	7.85 x1000
0858	9 gal	65.3	7.27	8.84
0900	1	65.9	7.26	8.94
0905	1	66.7	7.24	9.18
0907	1	67.8	7.25	9.36
0909	1	67.9	7.25	9.38

FINAL VOLUME PURGED	13 gal
TIME SAMPLED	0910
SAMPLE ID.	MW-10
SAMPLE CONTAINERS	3/ VOAs
ANALYSIS TO BE RUN	TPHg/BTEX/MTBE
LABORATORY	NSE
NOTES:	1st bailer Clear, NO Odor
VAC =	PRES =

2b1

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WELL SAMPLING DATA SHEET

SITE Tony's	DATE 3-16-00	TIME 8:5
WELL MW-11	SAMPLED BY.	Broadway
WELL ELEVATION		
PRODUCT THICKNESS		
DEPTH TO WATER DTW: 8.21		DTB: 24.3
FLUID ELEVATION		
BAILER TYPE Disposable Bailer		
PUMP David PITTMAN		

WELL PURGING RECORD

TIME	VOLUME REMOVED	TEMP.	pH	COND.
821	1st bailer	60.7	6.73	4.72 x1000
829	8 gal	64.1	6.99	9.64
831	1	64.3	7.11	8.40
833	1	66.1	7.10	9.26
835	1	66.8	7.11	8.21
840	1	66.9	7.11	8.20

FINAL VOLUME PURGED	12 gal
TIME SAMPLED	0842
SAMPLE ID.	MW-11
SAMPLE CONTAINERS	2/VOAs
ANALYSIS TO BE RUN	TPHg/BTEX/MTBE
LABORATORY	NSE
NOTES:	1st bailer Clear No Odor
VAC. =	PRES =

2 to 1