



Customer-Focused Solutions

Transmittal Form

TO: Mr. Don Hwang
 Alameda County Environmental Health Dept
 1131 Harbor Bay Parkway
 Alameda, CA 94502

DATE: 4-19-06 PROJECT NO. 41023317
 RE: 76 Station #3135 figures

WE ARE SENDING YOU:

COPIES	DESCRIPTION
1	Figures 1 - 7


1006 APR 20 PM 2:41

THESE ARE TRANSMITTED AS CHECKED BELOW:

- | | | |
|--|---|--|
| <input type="checkbox"/> For Approval | <input type="checkbox"/> Approved as submitted | <input type="checkbox"/> Overnight |
| <input checked="" type="checkbox"/> For your use | <input type="checkbox"/> Approved as noted | <input checked="" type="checkbox"/> Regular Mail |
| <input type="checkbox"/> As requested | <input type="checkbox"/> Returned for corrections | <input type="checkbox"/> Fax |
| <input type="checkbox"/> For review and comment | <input type="checkbox"/> For Your Signature | |
| <input type="checkbox"/> For distribution | | |

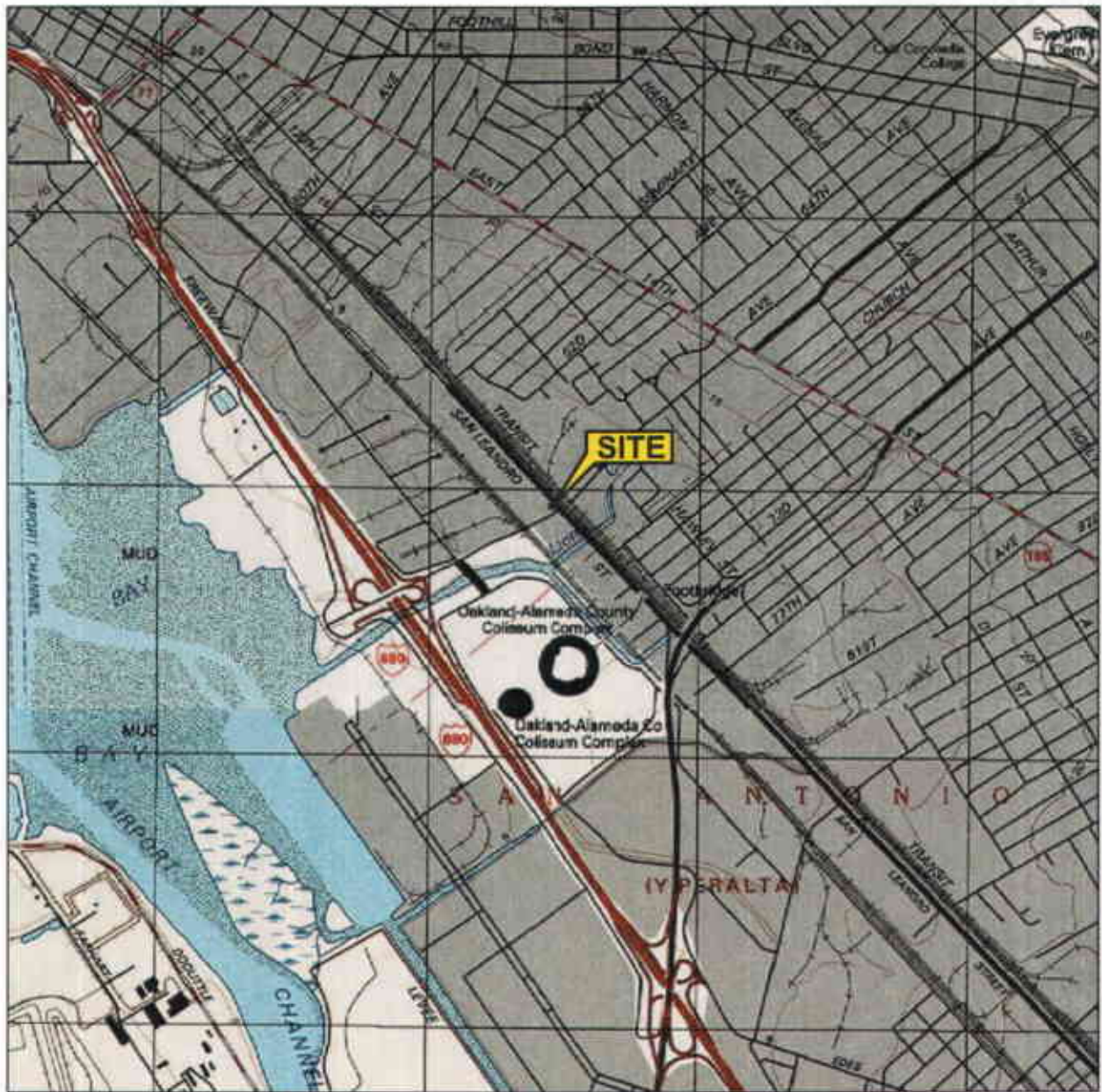
REMARKS:

SIGNED:


 Steve Kernitz
 Project Scientist

Enclosures





1 MILE 3/4 1/2 1/4 0 1 MILE



SCALE 1 : 24,000



SOURCE:

United States Geological Survey
7.5 Minute Topographic Maps:
Oakland East and San Leandro
Quadrangles
California

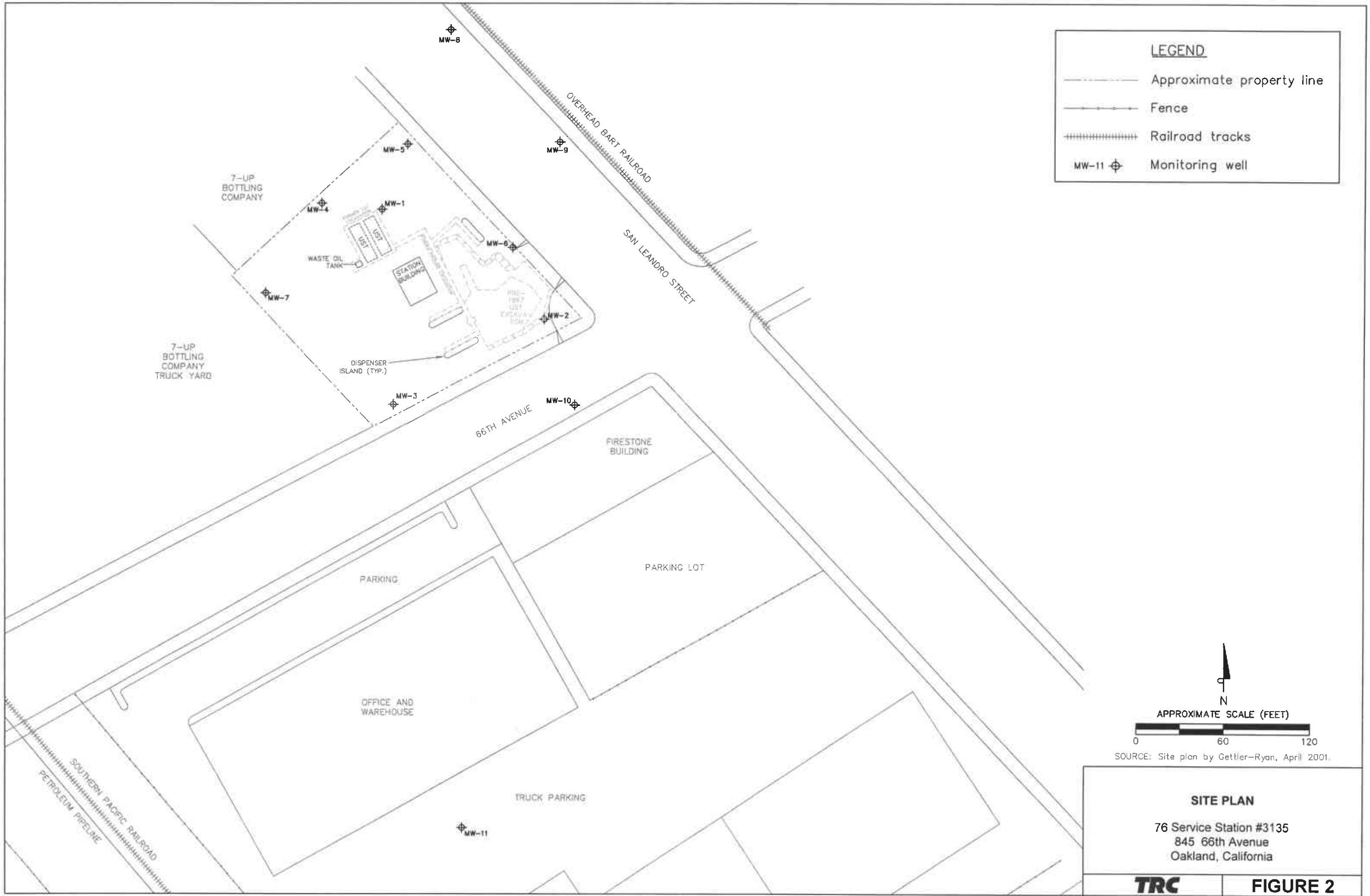


VICINITY MAP

76 Service Station #3135
845 66th Avenue
Oakland, California

TRC

FIGURE 1



LEGEND

- Approximate property line
- Fence
- ===== Railroad tracks
- MW-11 ⊕ Monitoring well

N

APPROXIMATE SCALE (FEET)

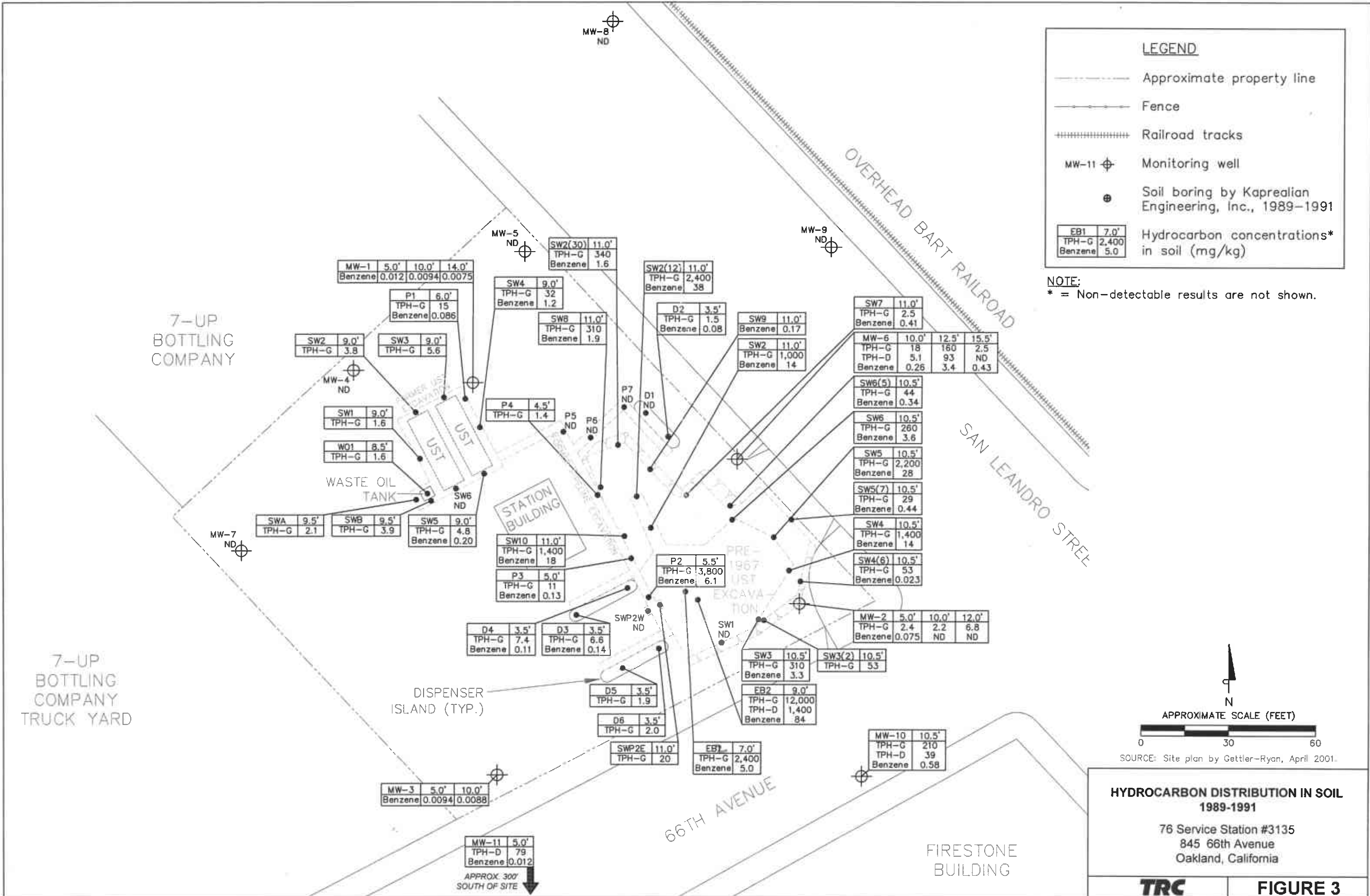
0 60 120

SOURCE: Site plan by Gettler-Ryan, April 2001.

SITE PLAN

76 Service Station #3135
845 66th Avenue
Oakland, California

TRC **FIGURE 2**



LEGEND

- Approximate property line
- ===== Fence
- +++++ Railroad tracks
- MW-11 Monitoring well
- ⊕ Soil boring by Kaprealian Engineering, Inc., 1989-1991

EB1	7.0'	Hydrocarbon concentrations* in soil (mg/kg)
TPH-G	2,400	
Benzene	5.0	

NOTE:
* = Non-detectable results are not shown.

N

APPROXIMATE SCALE (FEET)

SOURCE: Site plan by Gettler-Ryan, April 2001.

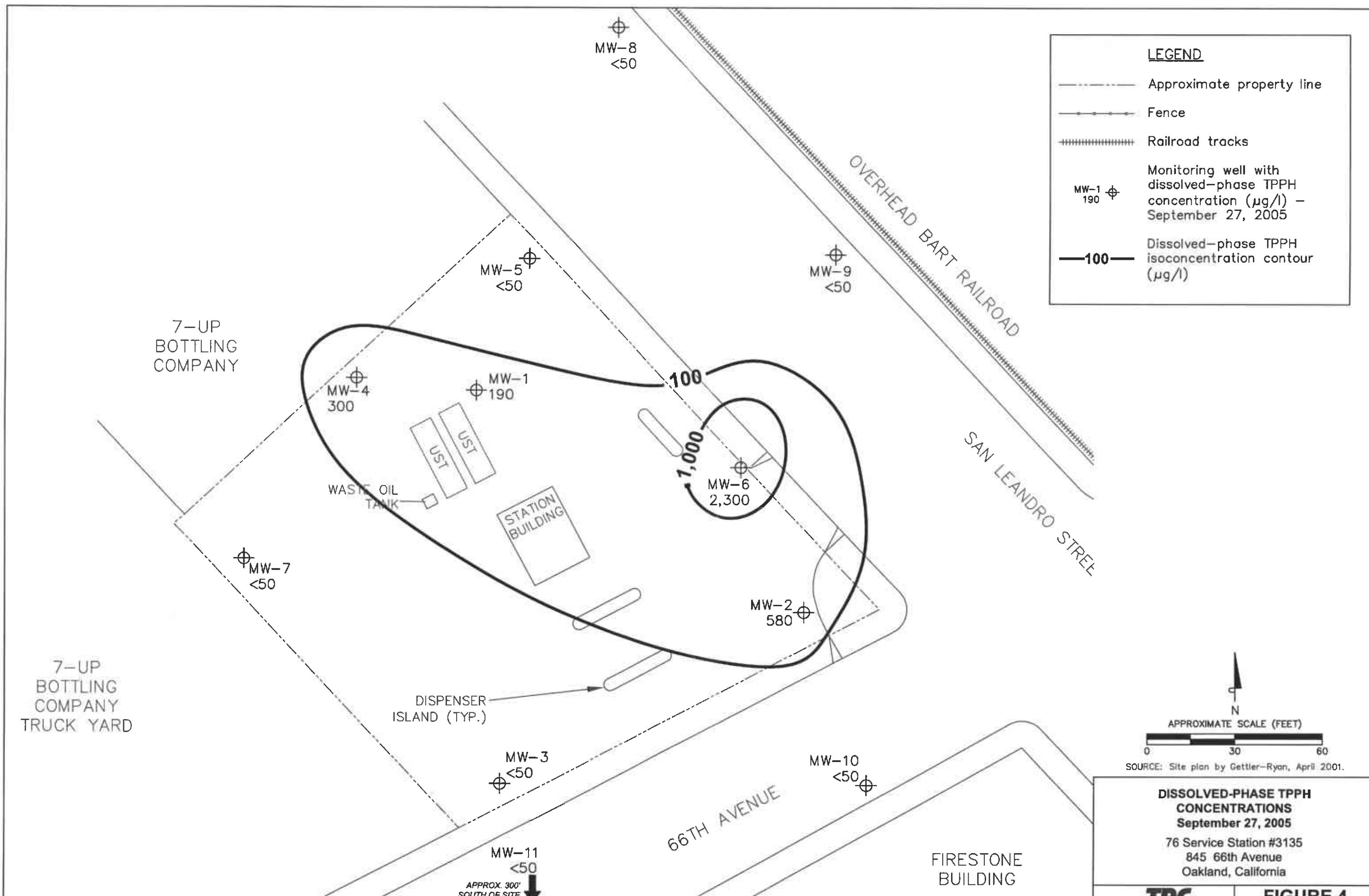
**HYDROCARBON DISTRIBUTION IN SOIL
1989-1991**

76 Service Station #3135
845 66th Avenue
Oakland, California

TRC **FIGURE 3**

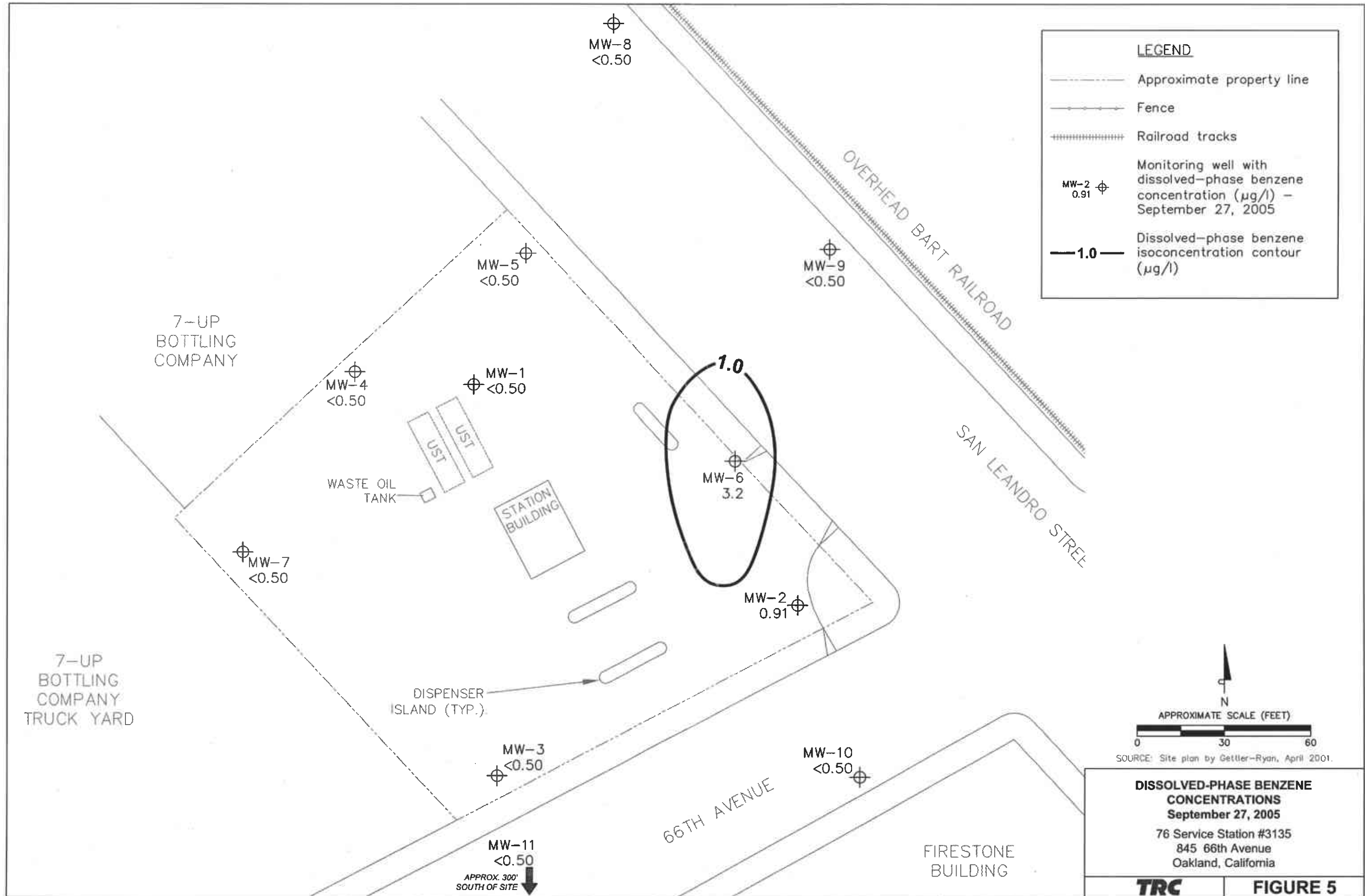
MW-1	5.0'	10.0'	14.0'	Benzene 0.012	0.0094	0.0075
MW-2	5.0'	10.0'	12.0'	TPH-G 2.4	2.2	6.8
MW-3	5.0'	10.0'	Benzene 0.0094	0.0088		
MW-4	ND					
MW-5	ND					
MW-6	10.0'	12.5'	15.5'	TPH-G 18	160	2.5
MW-7	ND					
MW-8	ND					
MW-9	ND					
MW-10	10.5'	TPH-G 210	TPH-D 39	Benzene 0.58		
MW-11	5.0'	TPH-D 79	Benzene 0.012			
P1	6.0'	TPH-G 15	Benzene 0.086			
P2	5.5'	TPH-G 3,800	Benzene 6.1			
P3	5.0'	TPH-G 11	Benzene 0.13			
P4	4.5'	TPH-G 1.4				
P5	ND					
P6	ND					
P7	ND					
D1	ND					
D2	3.5'	TPH-G 1.5	Benzene 0.08			
D3	3.5'	TPH-G 6.6	Benzene 0.14			
D4	3.5'	TPH-G 7.4	Benzene 0.11			
D5	3.5'	TPH-G 1.9				
D6	3.5'	TPH-G 2.0				
D7	ND					
D8	ND					
D9	ND					
D10	ND					
D11	ND					
D12	ND					
D13	ND					
D14	ND					
D15	ND					
D16	ND					
D17	ND					
D18	ND					
D19	ND					
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D87	ND					
D88	ND					
D89	ND					
D90	ND					
D91	ND					
D92	ND					
D93	ND					
D94	ND					
D95	ND					
D96	ND					
D97	ND					
D98	ND					
D99	ND					
D100	ND					

APPROX. 300' SOUTH OF SITE



DISSOLVED-PHASE TPH CONCENTRATIONS
September 27, 2005
 76 Service Station #3135
 845 66th Avenue
 Oakland, California

TRC | **FIGURE 4**



MW-8
<0.50

MW-9
<0.50

MW-5
<0.50

MW-4
<0.50

MW-1
<0.50

MW-6
3.2

MW-7
<0.50

MW-2
0.91

DISPENSER ISLAND (TYP.)

MW-3
<0.50

MW-10
<0.50

MW-11
<0.50

APPROX. 300'
SOUTH OF SITE

7-UP
BOTTLING
COMPANY

7-UP
BOTTLING
COMPANY
TRUCK YARD

UST
UST

STATION
BUILDING

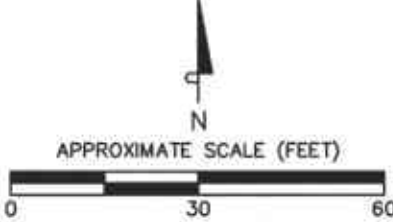
WASTE OIL
TANK

OVERHEAD BART RAILROAD

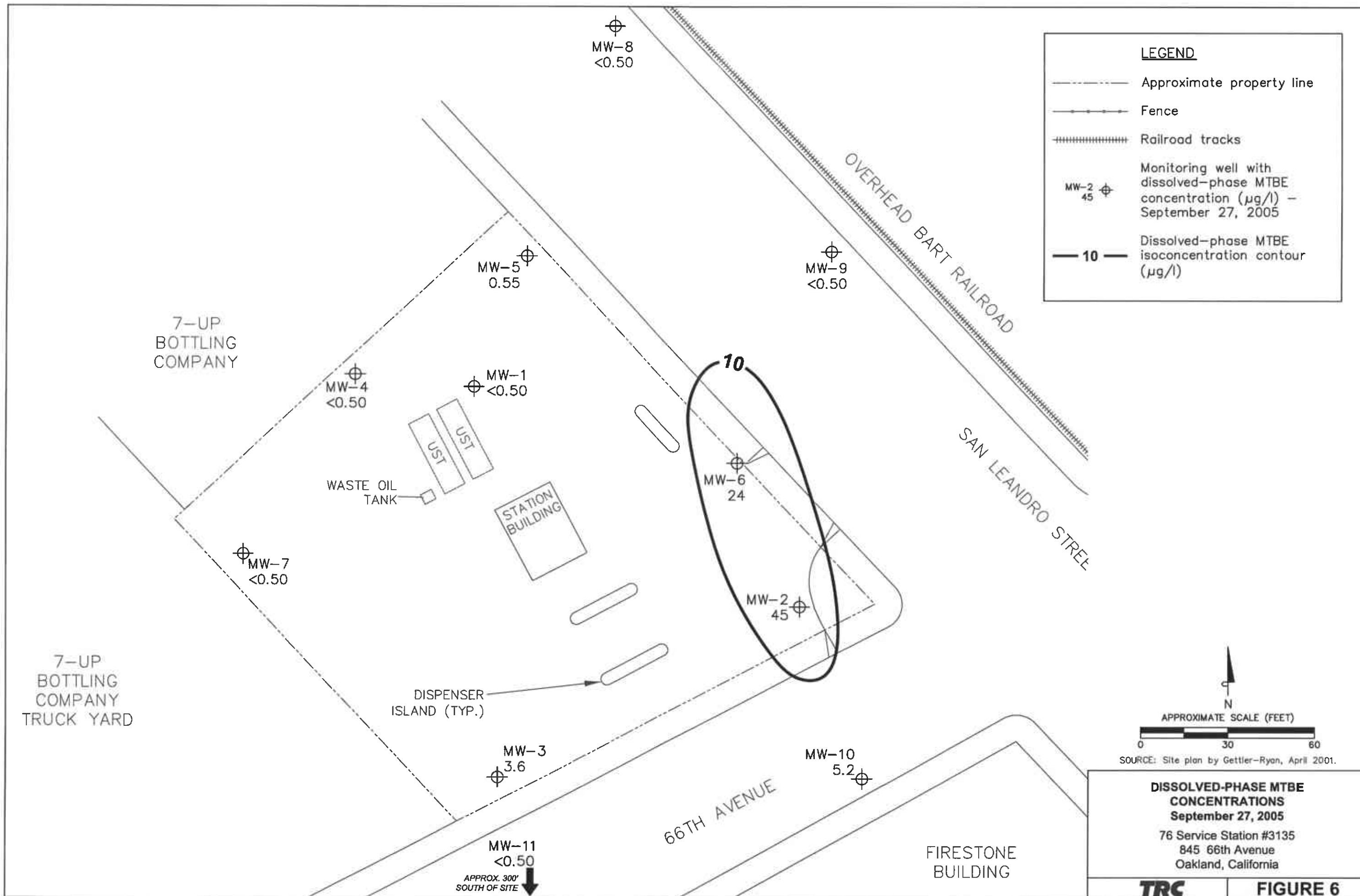
SAN LEANDRO STREET

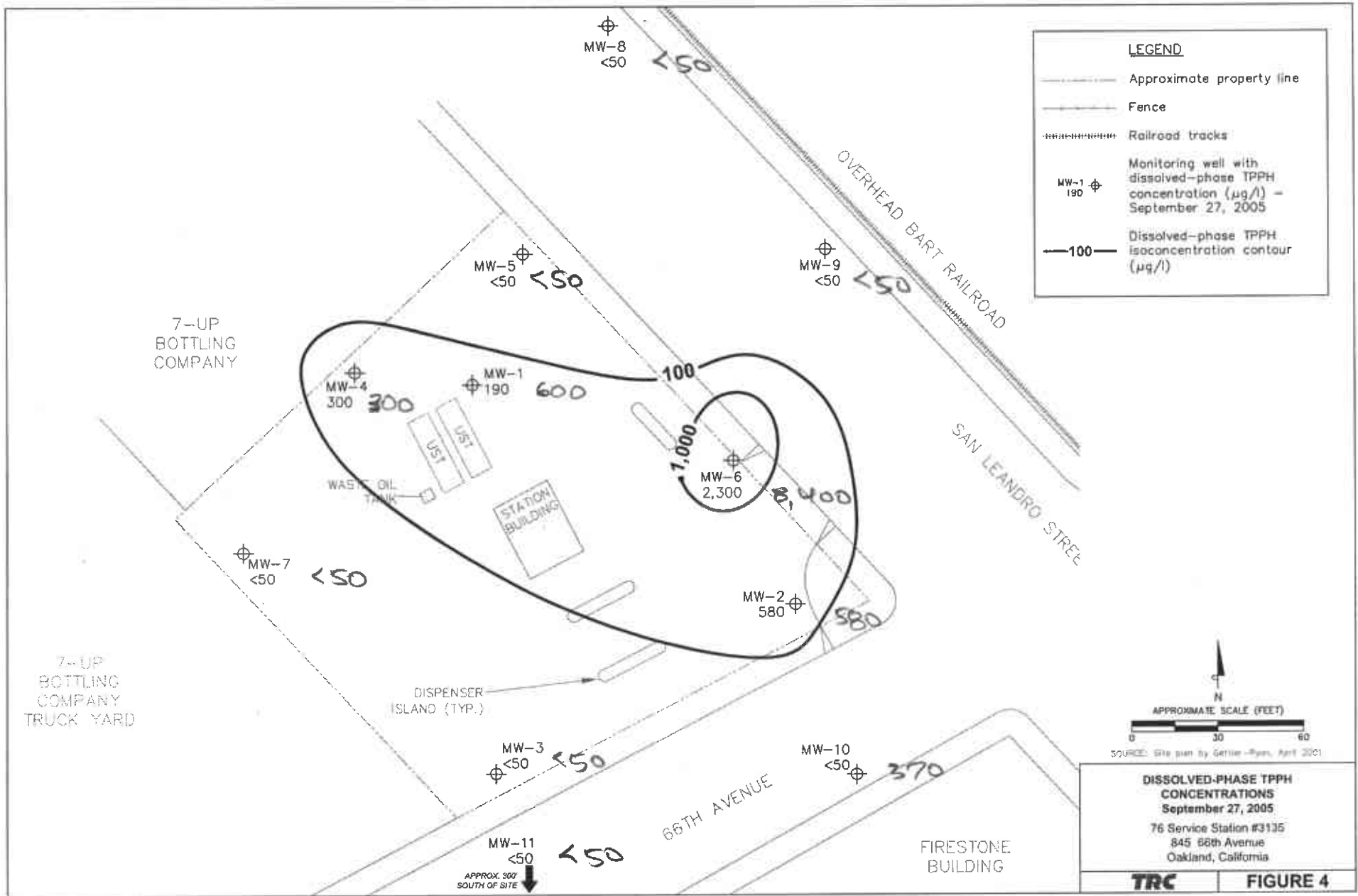
66TH AVENUE

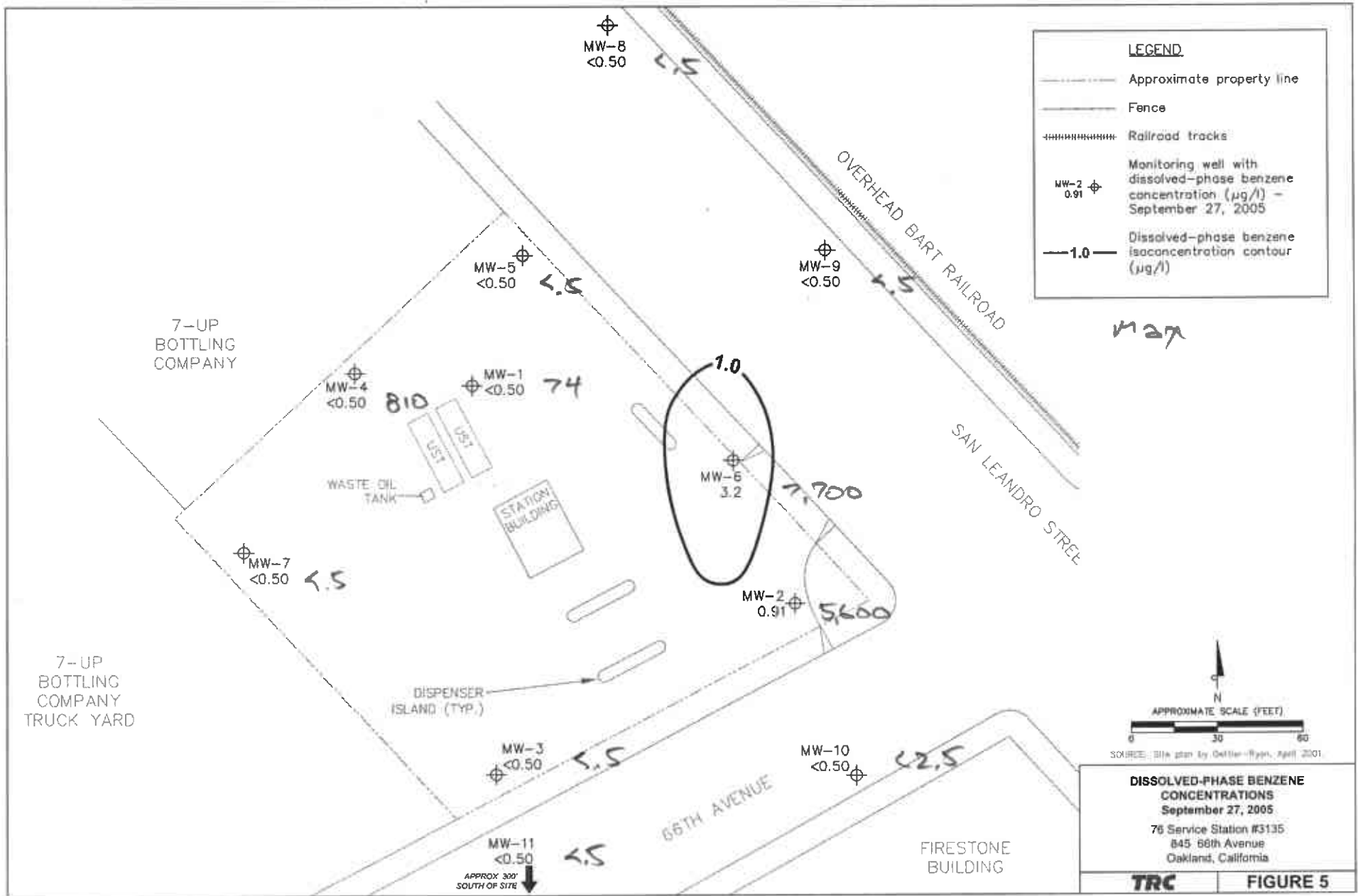
FIRESTONE
BUILDING



SOURCE: Site plan by Gettler-Ryan, April 2001.







DISSOLVED-PHASE BENZENE CONCENTRATIONS
 September 27, 2005
 76 Service Station #3135
 845 66th Avenue
 Oakland, California

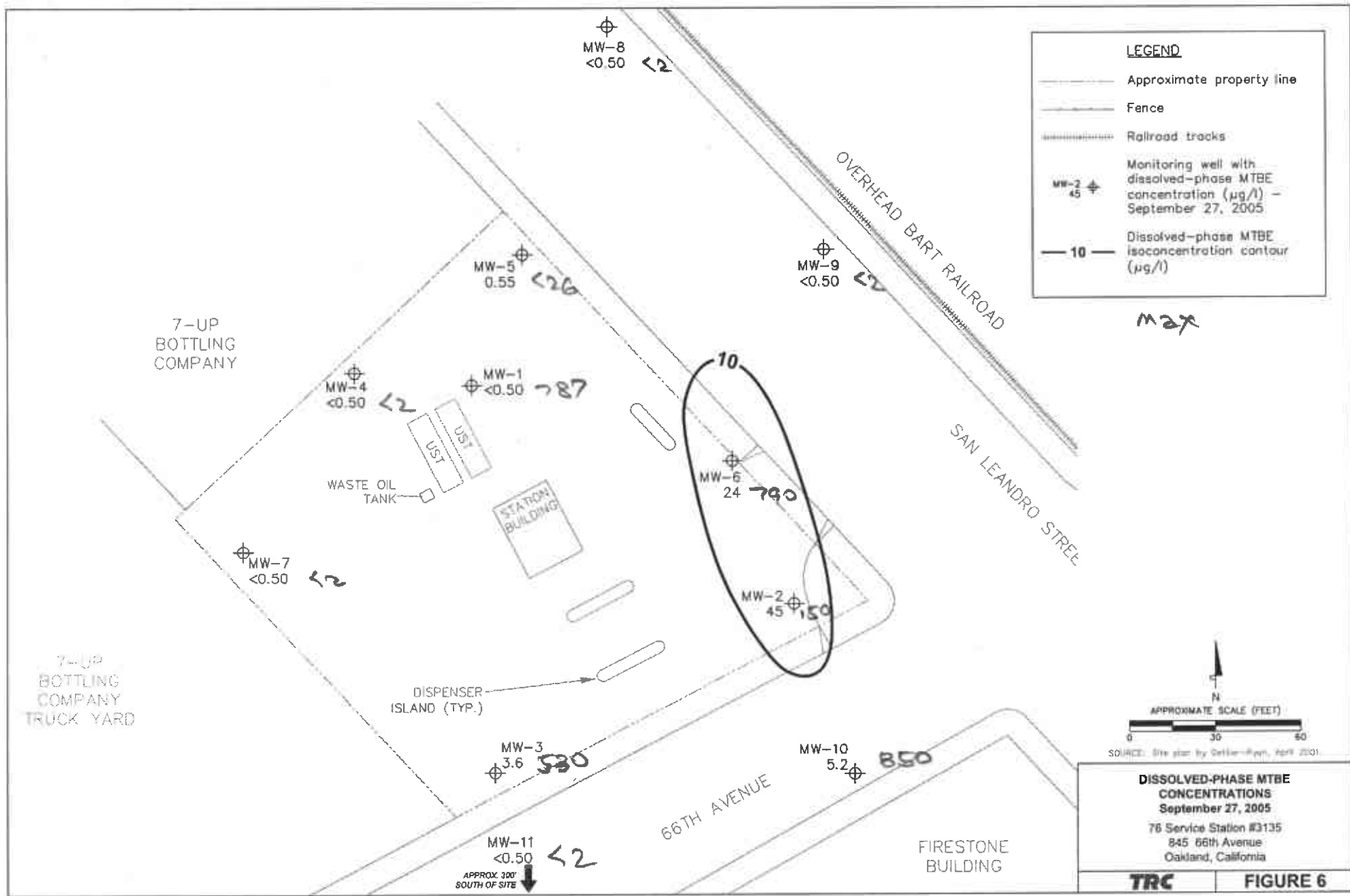
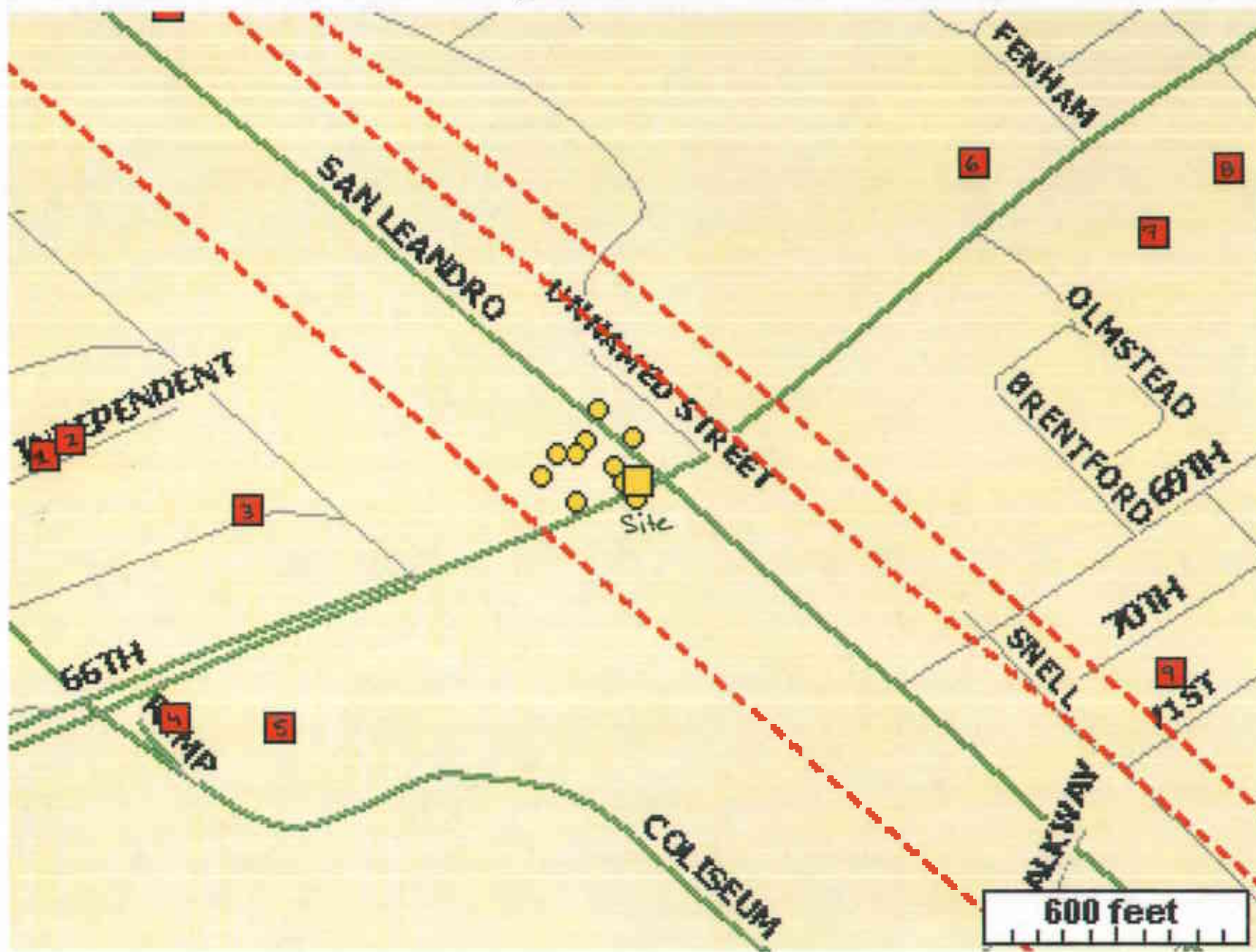


Figure 7
Nearby Release Sites



	Description	Data Tables	Graphics	Reference	Data Gaps	Work Necessary to fill data gap	Comments
	<p>or above laboratory detection limits in downgradient well MW-10 during the most recent groundwater monitoring event. However, MTBE was detected in MW-10 at 5.2 µg/l.</p>						
	<p>Remediation</p> <p>In 1989, during the UST and product piping removal, approximately 5,000 gallons of groundwater was removed from the UST pit and disposed of offsite. A groundwater sample was collected and analyzed after recharge of the UST pit and contained TPH-g at 7,900 parts per billion (ppb) and benzene at 850 ppb. Figure 2 presents the UST and product piping excavation area.</p> <p>In 1991, approximately 2,000 cubic yards of impacted soil was removed from the vicinity of the pre-1967 USTs and properly disposed. Over-excavation was limited by existing product piping. Confirmation soil samples from the former UST pit indicated low to moderate residual concentrations of TPH-g. Approximately 20,000 gallons of groundwater were pumped from the former UST pit prior to backfilling and properly disposed. Figure 2 presents the pre-1967 overexcavation area.</p> <p>In 1998 Oxygen Releasing Compound (ORC) was installed in monitoring well MW-6 to assist with biological attenuation of hydrocarbon compounds.</p>		<p>Figure 2.pdf</p>				
	<p>RBCA</p> <p>A Tier 2 Risk Based Corrective Action (RBCA) Report was prepared using the RBCA Tool Kit for Chemical Releases, designed by Groundwater Services, Inc. The Tier 2 RBCA Report is attached. RBCA.pdf</p> <p>The RBCA was conducted to evaluate the following exposure pathways:</p> <ul style="list-style-type: none"> • Groundwater ingestion/surface water impact to commercial onsite and residential offsite receptors. • Groundwater discharge to surface water exposure. • Surface soil exposure to commercial onsite construction workers. • Volatilization and particulates to outdoor air inhalation for commercial onsite receptors and residential offsite receptors. • Volatilization to indoor air inhalation for onsite commercial receptors. <p>The Johnson-Ettinger Model was used to evaluate the indoor air volatilization pathway for each source media, using assumed site specific soil, groundwater, and air parameters.</p> <p>The results of the Tier 2 RBCA Model, shows that no Site Specific Target Levels (SSTLs) were exceeded for any COCs in Site groundwater. The SSTL for TPH - Arom >C07-C08 was exceeded in Site soil.</p>			<p>ASTM 1998, Standard Guide for Risk Based Corrective Action, ASTM PS-104.</p> <p>ASTM 1995, Emergency Standard Guide for Risk Based Corrective Action Applied at Petroleum Release Sites, ASTM E-1739.</p>			

	Description	Data Tables	Graphics	Reference	Data Gaps	Work Necessary to fill data gap	Comments
	<p>Site Geology Based on previous subsurface investigations, soils underlying the site are composed of fill materials to approximately 5 fbg underlain by clays with variable amounts of gravel, sand, and silt from 5 to 26 fbg.</p>		<p>MW Boring logs and Well Construction Details .pdf Cross sections .pdf</p>	<p>KEI, (1990) KEI 2, (1990) KEI, (1992) KEI, (1993) Gettler Ryan, (2000) Gettler Ryan, (2001)</p>			
	<p>Site Background The site has been a services station for approximately 53 years. Renovation of the site first occurred in 1967, when the size of the site expanded to its current configuration.</p> <p>1989: Two 10,000-gallon gasoline USTs, one 280-gallon waste oil UST and product piping were removed from the site. Confirmation soil samples collected from the UST pit indicated low residual maximum concentrations of Total Petroleum Hydrocarbons as gasoline (TPH-g), benzene, and Total Oil and Grease (TOG). After confirmation soil sampling, approximately 5,000 gallons of groundwater was removed from the UST pit and disposed offsite. A groundwater sample was collected and analyzed after recharge of the UST pit and contained TPH-g at 7,900 parts per billion (ppb) and benzene at 850 ppb. Confirmation soil samples collected from the product piping trench indicated low maximum residual concentrations of TPH-g and benzene.</p> <p>April 1990: Two shallow soil borings were advanced and three groundwater monitoring wells were installed to depths of approximately 22 fbg.</p> <p>August 1990: Three groundwater-monitoring wells (MW-4 through MW-6) were installed.</p> <p>February 1991: A hydropunch survey was performed at the site.</p> <p>March 1991: The pre-1967 UST pit was over-excavated, and two concrete slabs were removed from depths of approximately 8.5 and 10 fbg. Approximately 2,000 cubic yards of impacted soil was removed from the site and properly disposed. Over-excavation was limited by existing product piping. Confirmation soil samples from the former UST pit indicated low to moderate residual concentrations of TPH-g. Approximately 20,000 gallons of groundwater were pumped from the former UST pit prior to backfilling and properly disposed.</p> <p>September 1992: Three groundwater monitoring wells were installed in the streets adjacent to the site.</p> <p>April 1993: One groundwater monitoring well was installed at the site.</p> <p>August 1998: Oxygen Releasing Compound (ORC) was installed in monitoring well MW-6 to assist with biological attenuation of hydrocarbon compounds. Starting in 1999, the following bio-attenuation parameters have been measured at the site: nitrate, sulfate, ferrous iron, dissolved oxygen, and, oxidation-reduction potential. According to Gettler-Ryan, Inc.'s (GR) Annual Monitoring and Sampling Report dated April 19, 2001, review of these parameters indicates that bio-attenuation is occurring at the site.</p> <p>July 2001: One offsite well was installed to a depth of 20 fbg.</p> <p>October 2003: Site environmental consulting responsibilities were transferred to TRC.</p>			<p>TRC, 2005</p>			

TABLE 1
SUMMARY OF SOIL SAMPLE CHEMICAL ANALYSIS RESULTS
76 Service Station No. 3135
845 66th Avenue, Oakland, California

Sample Location	Date	Sample Depth (fbg)	TPH-G (mg/kg)	TPH-D (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	Ethanol (mg/kg)	TBA (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	1,2-DCA (mg/kg)	TAME (mg/kg)	EDB (mg/kg)	TOG (mg/kg)
MW-1	04/26/90	10.0	ND	--	0.0094	0.024	ND	ND	--	--	--	--	--	--	--	--	--
MW-1	04/26/90	14.0	ND	--	0.0075	0.031	ND	ND	--	--	--	--	--	--	--	--	--
MW-2	04/27/90	5.0	2.4	--	0.075	0.0071	ND	ND	--	--	--	--	--	--	--	--	--
MW-2	04/27/90	10.0	2.2	--	ND	0.017	0.0088	0.018	--	--	--	--	--	--	--	--	--
MW-2	04/27/90	12.0	6.8	--	ND	0.028	0.10	0.015	--	--	--	--	--	--	--	--	--
MW-3	04/26/90	5.0	ND	--	0.0094	0.048	ND	ND	--	--	--	--	--	--	--	--	--
MW-3	04/26/90	10.0	ND	--	0.0088	0.015	ND	ND	--	--	--	--	--	--	--	--	--
MW-4	08/14/90	14.5	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
MW-5	08/14/90	13.0	ND	ND	ND	0.010	ND	ND	--	--	--	--	--	--	--	--	--
MW-6	08/14/90	5.0	ND	ND	ND	0.042	ND	ND	--	--	--	--	--	--	--	--	ND
MW-6	08/14/90	10.0	18	5.1	0.26	0.22	0.34	1.2	--	--	--	--	--	--	--	--	ND
MW-6	08/14/90	12.5	160	93	3.4	12	20	3.6	--	--	--	--	--	--	--	--	200
MW-6	08/14/90	15.5	2.5	ND	0.43	0.41	0.50	0.12	--	--	--	--	--	--	--	--	ND
MW-7	04/28/93	5.0	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
MW-8	09/29/92	5.0	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
MW-8	09/29/92	10.0	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
MW-8	09/29/92	13.0	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
MW-9	09/28/92	5.5	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
MW-9	09/28/92	10.0	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
MW-9	09/28/92	13.0	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
MW-10	09/28/92	5.0	ND	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
MW-10	09/28/92	10.5	210	39	0.58	0.38	4.4	10	--	--	--	--	--	--	--	--	--
MW-10	09/28/92	13.0	ND	ND	ND	ND	0.0090	0.0063	--	--	--	--	--	--	--	--	--
MW-11	07/25/01	5.0	ND	79	0.012	0.021	ND	0.015	ND	--	--	--	--	--	--	--	--

Notes:

TPH-G = total petroleum hydrocarbons as gasoline
TPH-D = total petroleum hydrocarbons as diesel
mg/kg = milligrams per kilogram
ND = not detected at or above laboratory detection limits
-- = not analyzed
TBA = tert-Butyl alcohol
fbg = feet below grade

MTBE = methyl tert butyl ether
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
1,2-DCA = 1,2-Dichloroethane
TAME = tert-amyl methyl ether
EDB = Ethylene Dibromide
TOG = Total oil and grease

TABLE 1
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76 Service Station No. 3135
845 66th Avenue, Oakland, California

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SW1	11/29/89	9.0	1.6	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
SW2	11/29/89	9.0	3.8	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
SW3	11/29/89	9.0	5.6	--	ND	ND	0.42	2.3	--	--	--	--	--	--	--	--	--
SW4	11/29/89	9.0	32	--	1.2	ND	2.1	1.0	--	--	--	--	--	--	--	--	--
SW5	11/29/89	9.0	4.8	--	0.20	ND	ND	0.11	--	--	--	--	--	--	--	--	--
SW6	11/29/89	8.0	ND	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
D1	12/05/89	3.5	ND	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
D2	12/05/89	3.5	1.5	--	0.08	ND	ND	ND	--	--	--	--	--	--	--	--	--
D3	12/05/89	3.5	6.6	--	0.14	ND	ND	0.31	--	--	--	--	--	--	--	--	--
D4	12/05/89	3.5	7.4	--	0.11	ND	ND	0.1	--	--	--	--	--	--	--	--	--
D5	12/05/89	3.5	1.9	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
D6	12/05/89	3.5	2.0	--	ND	0.17	ND	0.25	--	--	--	--	--	--	--	--	--
P1	11/29/89	6.0	15	--	0.086	ND	0.18	8.5	--	--	--	--	--	--	--	--	--
P2	12/29/89	5.5	3,800	--	6.1	290	140	750	--	--	--	--	--	--	--	--	--
P2	01/09/90	12.0	ND	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
P3	12/29/89	5.0	11	--	0.13	ND	0.18	1.3	--	--	--	--	--	--	--	--	--
P4	12/29/89	4.5	1.4	--	ND	ND	ND	0.23	--	--	--	--	--	--	--	--	--
P5	12/29/89	4.5	ND	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
P6	01/10/90	3.0	ND	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
P7	01/10/90	4.0	ND	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
SWP2E	01/09/90	11.0	20	--	ND	0.16	3.1	0.50	--	--	--	--	--	--	--	--	--
SWP2W	01/09/90	11.0	ND	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
WO1	11/29/89	8.5	1.6	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
SWA	11/29/89	9.5	2.1	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
SWB	11/29/89	9.5	3.9	ND	ND	ND	ND	ND	--	--	--	--	--	--	--	--	--
EB1	04/26/90	7.0	2,400	--	5.0	16	62	230	--	--	--	--	--	--	--	--	--
EB2	04/26/90	9.0	12,000	1,400	84	12	360	860	--	--	--	--	--	--	--	--	7,000
SW1	03/19/91	10.5	ND	--	ND	ND	ND	ND	--	--	--	--	--	--	--	--	ND
SW2	03/19/91	11.0	1,000	--	14	65	19	98	--	--	--	--	--	--	--	--	58
SW2 (12)	03/22/91	11.0	2,400	--	38	180	54	280	--	--	--	--	--	--	--	--	ND
SW2 (30)	04/11/91	11.0	340	--	1.6	1.2	9.9	21	--	--	--	--	--	--	--	--	--
SW3	03/21/91	10.5	310	--	3.3	4.8	6.5	26	--	--	--	--	--	--	--	--	ND
SW3 (2)	04/05/91	10.5	5.3	--	ND	ND	0.13	0.14	--	--	--	--	--	--	--	--	ND
SW4	03/21/91	10.5	1,400	--	14	41	30	110	--	--	--	--	--	--	--	--	160
SW4 (6)	04/05/91	10.5	53	--	0.023	1.4	0.85	4.1	--	--	--	--	--	--	--	--	ND
SW5	03/22/91	10.5	2,200	--	28	140	52	260	--	--	--	--	--	--	--	--	85
SW5 (7)	04/03/91	10.5	29	--	0.44	0.052	0.89	2.8	--	--	--	--	--	--	--	--	ND
SW6	03/22/91	10.5	260	--	3.6	7.5	7.2	29	--	--	--	--	--	--	--	--	ND
SW6 (5)	04/11/91	10.5	44	--	0.34	0.32	1.1	2.5	--	--	--	--	--	--	--	--	--
SW7	04/04/91	11.0	2.5	--	0.41	0.0070	0.15	0.018	--	--	--	--	--	--	--	--	ND
SW8	04/11/91	11.0	310	--	1.9	2.9	2.8	8.1	--	--	--	--	--	--	--	--	ND
SW9	04/11/91	11.0	ND	--	0.17	ND	0.0062	0.0052	--	--	--	--	--	--	--	--	ND
SW10	04/05/91	11.0	1,400	--	18	130	36	200	--	--	--	--	--	--	--	--	60
MW-1	04/26/90	5.0	ND	--	0.012	0.16	ND	ND	--	--	--	--	--	--	--	--	--

	Description	Data Tables	Graphics	Reference	Data Gaps	Work Necessary to fill data gap	Comments
	<p>Source Area The distribution of hydrocarbons in soil is shown in Figure 3. The highest concentrations of TPH-G (12,000 mg/kg), TPH-D (1,400 mg/kg), and benzene (84 mg/kg) were detected in soil sample EB-2 at 9 fbg. EB-2 was located in the vicinity of the pre-1967 UST pit. As stated above, in March 1991 approximately 2,000 cubic yards of impacted soil was removed from the pre-1967 UST pit and properly disposed, including soils in the vicinity of EB-1 and EB-2. Analytical results from sidewall samples collected during excavation activities indicate TPH-G concentrations ranging from 29 mg/kg (SW5 at 10.5 fbg) to 2,400 mg/kg (SW2 at 11 fbg), and benzene concentrations ranging from 1.9 mg/kg (SW8 at 11 fbg) to 38 mg/kg (SW2 at 11 fbg). Excavation boundaries were limited by existing product piping. Historical soil data is presented in Table 1.</p> <p>Soil samples exhibiting high hydrocarbon concentrations were typically collected from 5.5 to 10.5 fbg. In those samples with high hydrocarbon concentrations, groundwater was observed to fluctuate above the level of samples collection in the years following monitoring well installation. It is likely that hydrocarbons in soil collected from the sidewalls of the excavation area do not reflect source contaminants, but are instead the product of adsorption to soil particles from the dissolved phase.</p>	<p>Table 1.xls</p>	<p>Figure 3 HC in Soil.pdf</p>				
	<p>Dissolved Plume Gasoline range hydrocarbons, benzene, and MTBE are present in groundwater at the site. TPH-G and benzene have been detected since 1990 as far upgradient as MW-4 and as far downgradient as MW-10 (located approximately 50 feet south of the site). A summary of groundwater analytical results is provided in Table 2. Isoconcentration contours of dissolved-phase hydrocarbons from the September 27, 2005 monitoring event are presented in Figures 4 through 6.</p> <p>The results of groundwater monitoring data indicate:</p> <ul style="list-style-type: none"> The maximum historic dissolved-phase TPH-G concentration was detected in MW-4 at 140,000 µg/l (1991). Recent data (Sept. 2005) indicates a TPPH concentration of 300 µg/l in well MW-4. During the most recent monitoring event (Sept. 2005) the maximum TPPH concentration was detected in MW-6 at 2,300 µg/l. The maximum historic dissolved-phase benzene concentration was detected in MW-6 at 7,700 µg/l (1995). During the most recent monitoring event (Sept. 2005) the maximum benzene concentration was detected in MW-6 at 3.2 µg/l. The maximum dissolved -phase MTBE concentration was detected in MW-6 at 2,800 µg/l (1998). Recent data (Sept. 2005) indicates a MTBE concentration of 24 µg/l in well MW-6. During the most recent monitoring event (Sept. 2005) the maximum MTBE concentration was detected in MW-2 at 45 µg/l. <p>The distribution of hydrocarbon concentrations in groundwater indicates that the majority of the dissolved phase contaminants have remained onsite in the vicinity of the pre-1967 UST pit over excavation area. TPPH and benzene were not detected at</p>	<p>Table 2.XLS</p>	<p>Figure 4 Diss-TPPH_Sept05.pdf</p> <p>Figure 5 Diss-Benzene_Sept05.pdf</p> <p>Figure 6 Diss-MTBE_Sept05.pdf</p>				

	Description	Data Tables	Graphics	Reference	Data Gaps	Work Necessary to fill data gap	Comments
	<p>or above laboratory detection limits in downgradient well MW-10 during the most recent groundwater monitoring event. However, MTBE was detected in MW-10 at 5.2 µg/l.</p>						
	<p>Remediation</p> <p>In 1989, during the UST and product piping removal, approximately 5,000 gallons of groundwater was removed from the UST pit and disposed of offsite. A groundwater sample was collected and analyzed after recharge of the UST pit and contained TPH-g at 7,900 parts per billion (ppb) and benzene at 850 ppb. Figure 2 presents the UST and product piping excavation area.</p> <p>In 1991, approximately 2,000 cubic yards of impacted soil was removed from the vicinity of the pre-1967 USTs and properly disposed. Over-excavation was limited by existing product piping. Confirmation soil samples from the former UST pit indicated low to moderate residual concentrations of TPH-g. Approximately 20,000 gallons of groundwater were pumped from the former UST pit prior to backfilling and properly disposed. Figure 2 presents the pre-1967 overexcavation area.</p> <p>In 1998 Oxygen Releasing Compound (ORC) was installed in monitoring well MW-6 to assist with biological attenuation of hydrocarbon compounds.</p>		<p>Figure 2.pdf</p>				
	<p>RBCA</p> <p>A Tier 2 Risk Based Corrective Action (RBCA) Report was prepared using the RBCA Tool Kit for Chemical Releases, designed by Groundwater Services, Inc. The Tier 2 RBCA Report is attached. RBCA.pdf</p> <p>The RBCA was conducted to evaluate the following exposure pathways:</p> <ul style="list-style-type: none"> • Groundwater ingestion/surface water impact to commercial onsite and residential offsite receptors. • Groundwater discharge to surface water exposure. • Surface soil exposure to commercial onsite construction workers. • Volatilization and particulates to outdoor air inhalation for commercial onsite receptors and residential offsite receptors. • Volatilization to indoor air inhalation for onsite commercial receptors. <p>The Johnson-Ettinger Model was used to evaluate the indoor air volatilization pathway for each source media, using assumed site specific soil, groundwater, and air parameters.</p> <p>The results of the Tier 2 RBCA Model, shows that no Site Specific Target Levels (SSTLs) were exceeded for any COCs in Site groundwater. The SSTL for TPH - Arom >C07-C08 was exceeded in Site soil.</p>			<p>ASTM 1998, Standard Guide for Risk Based Corrective Action, ASTM P5-104.</p> <p>ASTM 1995, Emergency Standard Guide for Risk Based Corrective Action Applied at Petroleum Release Sites, ASTM E-1739.</p>			

	Description	Data Tables	Graphics	Reference	Data Gaps	Work Necessary to fill data gap	Comments
	<p>Nearby Release Sites</p> <ol style="list-style-type: none"> 1) Huntington Laboratories (Oakland) 700 Kevin Court Oakland, CA RWQCB - San Francisco Bay (Case #01-1914) Status: Closed 2) Western Union (Oakland) 732 Kevin Court Oakland, CA RWQCB - San Francisco Bay (Case #01-1669) Status: Closed 3) Mauck Sheet Metal (Oakland) 755 Independence Road Oakland, CA RWQCB - San Francisco Bay (Case #01-0948) Status: Closed 4) Schwartz & Lindheim Property (Oakland) 6345 Coliseum Way Oakland, CA RWQCB - San Francisco Bay (Case #01-1308) Status: Closed 5) Peck & Hills Company (Oakland) 701 66th Ave. Oakland, CA RWQCB - San Francisco Bay (Case #01-1145) Status: Closed 6) Pacific Electric Motor Company (Oakland) 1009 66th Ave. Oakland, CA RWQCB - San Francisco Bay (Case #01-2124) Status: Open 7) Oakland Fire Station #29 (Oakland) 1016 66th Ave. Oakland, CA RWQCB - San Francisco Bay (Case #01-0630) Status: Closed 8) Acts Full Gospel Church (Oakland) 1034 66th Ave. Oakland, CA RWQCB - San Francisco Bay (Case #01-2213) Status: Closed 9) Silva Associated Roofing Company (Oakland) 814 69th Ave. Oakland, CA RWQCB - San Francisco Bay (Case #01-1390) Status: Closed 		<p>Figure 7 Nearby Release Sites.pdf</p>	<p>http://geotracker.swrcb.ca.gov/SCRIPTS/ESRIMAP.DLL?NAME=MOSERVER&ZIL=2.1&ZOL=2&cmd=ID&IDT=id05&5=on&1=on&2=on&3=on&ms=1&Site=ALL&Distance=Any&MCX=-122.200961125&MCY=37.756806548&QueryString=&MW=1.0000000000477E-02&MH=7.48110831237625E-03&MAP_SIZE=1&REGUSER=True&x=384&y=49</p>			
Site Setting	<p>Site Description The subject site is situated on the northwest corner of San Leandro Street and 66th Avenue in Oakland, California (Figure 1). Station facilities currently include two gasoline underground storage tanks (USTs), 550-gallon waste oil UST, three dispenser islands, and a service station building. Eleven groundwater monitoring wells are present on and in the vicinity of the site (Figure 2).</p>		<p>Figure 1 Vicinity Map.pdf</p> <p>Figure 2 Site Plan.pdf</p>	<p>Gettler-Ryan (2000)</p> <p>TRC, (2005)</p>			

Site Conceptual Model - Addendum
76 Service Station No. 3135
845 66th Avenue, Oakland, CA
Date Submitted: February 27, 2006
[3135 SCM Add_cvrltr.pdf](#)
[COP Perjury Statement.pdf](#)

	Description	Data Tables	Graphics	Reference	Data Gaps	Work Necessary to fill data gap	Comments
Regional Setting	<p>Geology/Stratigraphy The San Francisco Bay Plain Basin is underlain by Pleistocene Age Older Alluvium and Franciscan bedrock to approximately 1,100 feet below grade (fbg). Overlying the Older Alluvium are alluvial, fluvial, and estuarine deposits known as Young Bay Mud. The upper 20 feet to 300 feet consists of Holocene Age Shallow Marine and estuarine deposits. The shallow subsurface of the Site is characterized by approximately 30 feet of clay with variable amounts of gravel, sand, and silt.</p>			<p><u>DWR Bulletin 118-1 Appendix A: Geology, August 1967</u></p> <p><u>DWR Bulletin 118-1 Volume II: Additional Fremont Study Area, August 1973.</u></p>			
	<p>Hydrogeology Shallow perched groundwater is present beneath the Site at depths ranging from approximately 4 to 11 fbg within the sandy/gravelly/silty clay above the Bay Mud. Historically, groundwater beneath the site flows south-southeast at a gradient of 0.005 to 0.01 feet per foot.</p>			<p><u>DWR Bulletin 118-1 Appendix A: Geology, August 1967</u></p> <p><u>DWR Bulletin 118-1 Volume II: Additional Fremont Study Area, August 1973.</u></p>			
	<p>Preferential Pathways A Sensitive Receptor Survey Report was prepared to identify domestic and municipal wells within one-half mile of the Site and evaluate nearby surface water bodies as possible sensitive receptors. The Sensitive Receptor Survey Report is attached. <u>3135 SRS Report.pdf</u></p> <p>No water supply wells were identified within one-half mile radius of the Site. Two surface water bodies, Damon Slough and Lion Creek, were identified as possible sensitive receptors.</p>			<p><u>TRC, 2005</u></p>			