



Environmental
Science &
Engineering, Inc.

ENVIRONMENTAL
PROTECTION

97 FEB 32 AM 9:39

February 24, 1997

Mr. Ondrej Kojnok
Tri Star Partnership
2 North Second Street, #1390
San Jose, CA 95113

**SUBJECT: FOURTH QUARTER 1996 GROUND WATER MONITORING REPORT
AUTOPRO FACILITY
5200 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA
ESE PROJECT NO. 65-95-219**

Dear Mr. Kojnok:

Environmental Science & Engineering, Inc. (ESE) is pleased to present the results of fourth quarter 1996 ground water monitoring activities for the Autopro Facility (site) located at 5200 Telegraph Avenue in Oakland, California (Figure 1 - Location Map). These activities were mandated by the Alameda County Health Care Services Agency (ACHCSA) in a letter dated September 13, 1995. Ground water monitoring activities were completed at the downgradient former Chevron site on December 11, 1996 by Blaine Tech Services, Inc. (Blaine). The following report describes the activities completed and the results.

FIELD ACTIVITIES

On December 11, 1996, ESE personnel performed ground water monitoring activities at the site. Depths to ground water were measured using an electronic water level meter in four on-site ground water monitoring wells (Figure 2 - Site Map). No evidence of free-product was found in any of the four on-site wells. A minimum of three volumes of ground water was removed from each well using a pre-cleaned disposable bailer and new nylon cord. Temperature, pH, and electrical conductivity parameters were recorded during the well-purging process. Ground water samples were collected from the well following the purge process. Ground water sample collection logs, documenting the collected parameters and other information, is presented as an attachment. Ground water was decanted from the disposable bailer into laboratory-supplied glassware. The samples were then labelled and placed in a cooler on ice under proper chain-of-custody documentation for transport to a State-certified analytical laboratory.

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The samples were analyzed by McCampbell Analytical Inc. (McCampbell) for Total Petroleum Hydrocarbons as gasoline (TPH-G), as diesel (TPH-D), and as motor oil (TPH-MO); benzene, toluene, ethylbenzene, and total xylenes (BTEX); and methyl tertiary butyl ether (MTBE) by Environmental Protection Agency (EPA) methods 8015, 8015M, 8015M, 8020, and 8020, respectively. Laboratory reports and chain-of-custody documentation are included as an attachment.

Purge water and equipment rinseate was stored on-site in properly labelled Department of Transportation (DOT)-rated 55-gallon drums pending analysis and proper disposal/recycling.

RESULTS

Depth to ground water in the four on-site wells ranged from 8.17 feet to 9.95 feet below top of casing. Ground water elevations were calculated and are presented in Table 1 - Historical Ground Water Data. Ground water elevation contours were plotted on Figure 3 - Ground Water Elevation Contour Map, December 1996. Ground water was found to flow towards the southwest at an approximate gradient of 0.011 foot per foot (58.08 feet per mile).

TPH-G was detected in wells MW-1, MW-3, and MW-4 at concentrations of 520 $\mu\text{g/L}$, 6,700 $\mu\text{g/L}$, and 4,000 $\mu\text{g/L}$, respectively.

TPH-D was detected in wells MW-1, MW-3, and MW-4 at concentrations of 300 $\mu\text{g/L}$, 2,900 $\mu\text{g/L}$, and 2,400 $\mu\text{g/L}$, respectively.

TPH-MO was not detected above reporting limit at all the wells.

BTEX were detected at concentrations ranging from 0.59 $\mu\text{g/L}$ to 44 $\mu\text{g/L}$ in wells MW-1, MW-3, and MW-4. MTBE was detected in wells MW-3 and MW-4 at concentrations of 70 $\mu\text{g/L}$ and 22 $\mu\text{g/L}$, respectively.

Table 2 - Historical Ground Water Analytical Data is a tabular summary of the laboratory report for this quarter and previous quarters. Figures 4 through 7 graphically depict the estimated extents of TPH-G, TPH-D, TPH-MO, benzene, and MTBE in ground water for the site during this quarter.

CONCLUSIONS

Based on the results of the fourth quarter 1996 ground water monitoring activities, ESE concludes the following:

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- Ground water flow direction (to the southwest at a gradient of 0.011 ft/ft) compares with previously obtained data for the site.
- Petroleum hydrocarbon-impacted ground water has migrated offsite to the south west (in the general direction of ground water flow) and appears to have affected the downgradient former Chevron site. Technical data presented in this report for the former Chevron site wells were obtained from Blaine.
- There is no evidence for a source of petroleum hydrocarbon contamination upgradient of the site.

CLOSURE

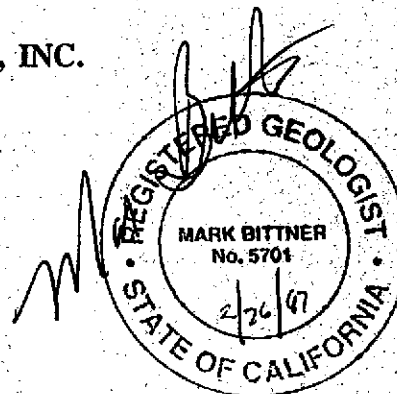
This report has been prepared by Environmental Science & Engineering, Inc. (ESE) for the exclusive use by Mr. Ondrej M. Kojnok, Attorney at Law, and Mr. George Tuma of Autopro, as it pertains to their site located at 5200 Telegraph Avenue in Oakland, California. Our professional services have been performed using that degree of care and skill ordinarily exercised under similar circumstances by other geologists and engineers practicing in this field. No other warranty, expressed or implied, is made as to professional advice in this report.

Sincerely,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.



Mark F. Bittner, R.G.
Senior Staff Scientist
California R.G. No. 5701



- Attachments:
- Figure 1 - Location Map
 - Figure 2 - Site Map
 - Figure 3 - Ground Water Elevation Contour Map, December 1996
 - Figure 4 - Estimated Extent of TPH-G in Ground Water, December 1996
 - Figure 5 - Estimated Extent of TPH-D in Ground Water, December 1996
 - Figure 6 - Estimated Extent of Benzene in Ground Water, December 1996
 - Figure 7 - Estimated Extent of MTBE in Ground Water, December 1996
 - Table 1 - Historical Ground Water Elevation Data
 - Table 2 - Historical Ground Water Analytical Data

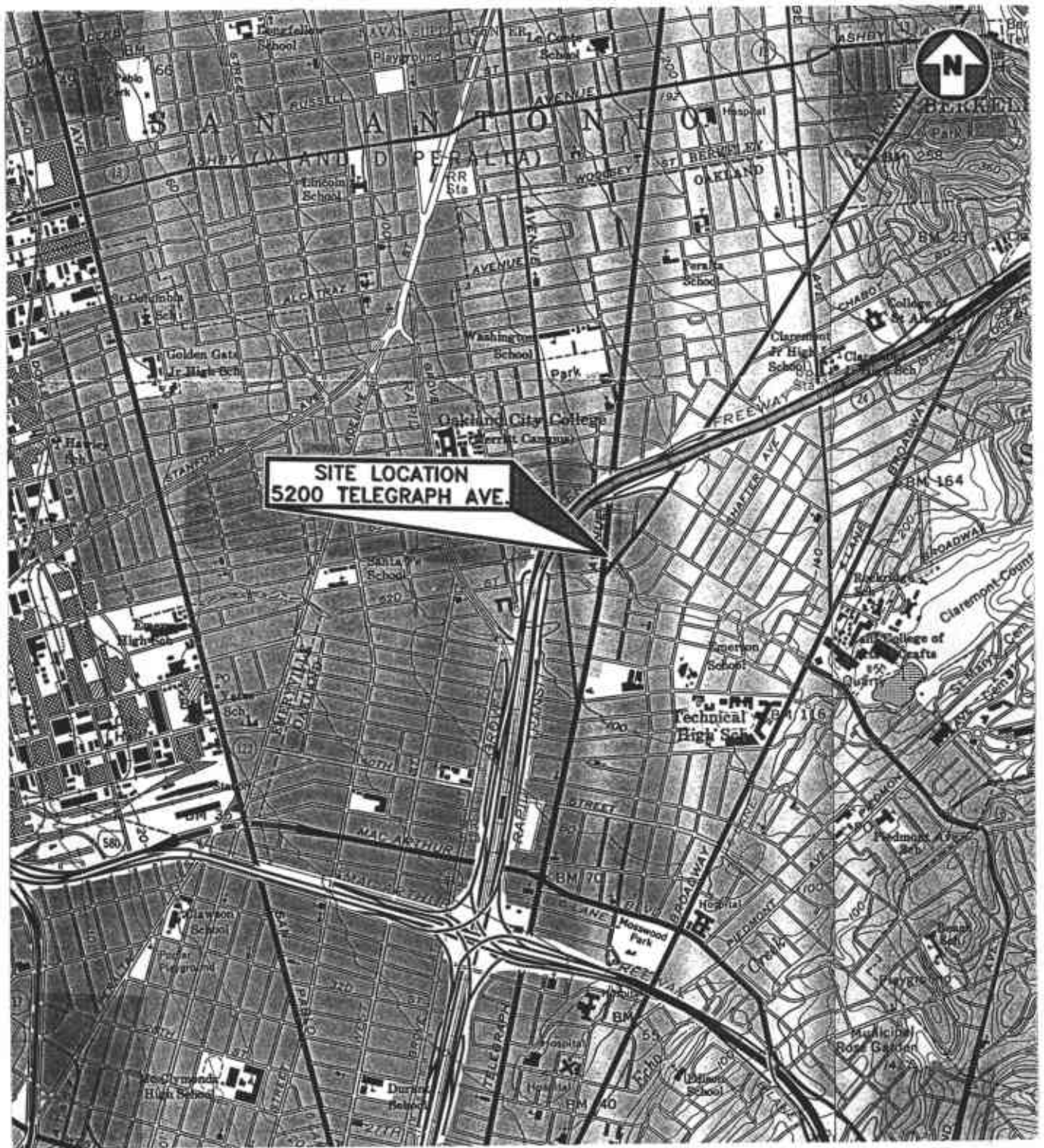
Mr. Ondrej Kojnok/Tri Star Partnership

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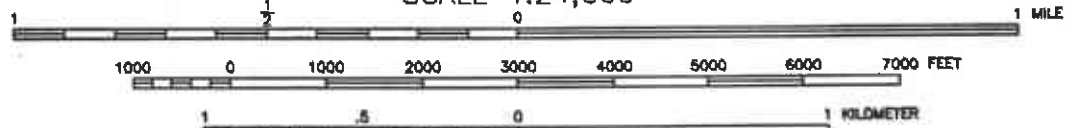
Ground Water Sample Collection Logs
Laboratory Reports and Chain-of-Custody Documentation

cc w/attachments: Mr. George Tuma, Autopro
Ms. Susan Hugo, ACHCSA
Mr. Kevin Graves, RWQCB-SF Bay Region



**SITE LOCATION
5200 TELEGRAPH AVE.**

SCALE 1:24,000



ADAPTED FROM U.S.G.S. OAKLAND EAST AND OAKLAND WEST, CALIFORNIA, 7.5 MINUTE TOPO QUADRANGLE, 1959, PHOTOREVISED 1980



**Environmental
Science &
Engineering, Inc.**

DATE
10/14/96

REVISED

CAD FILE
65521901

LOCATION MAP

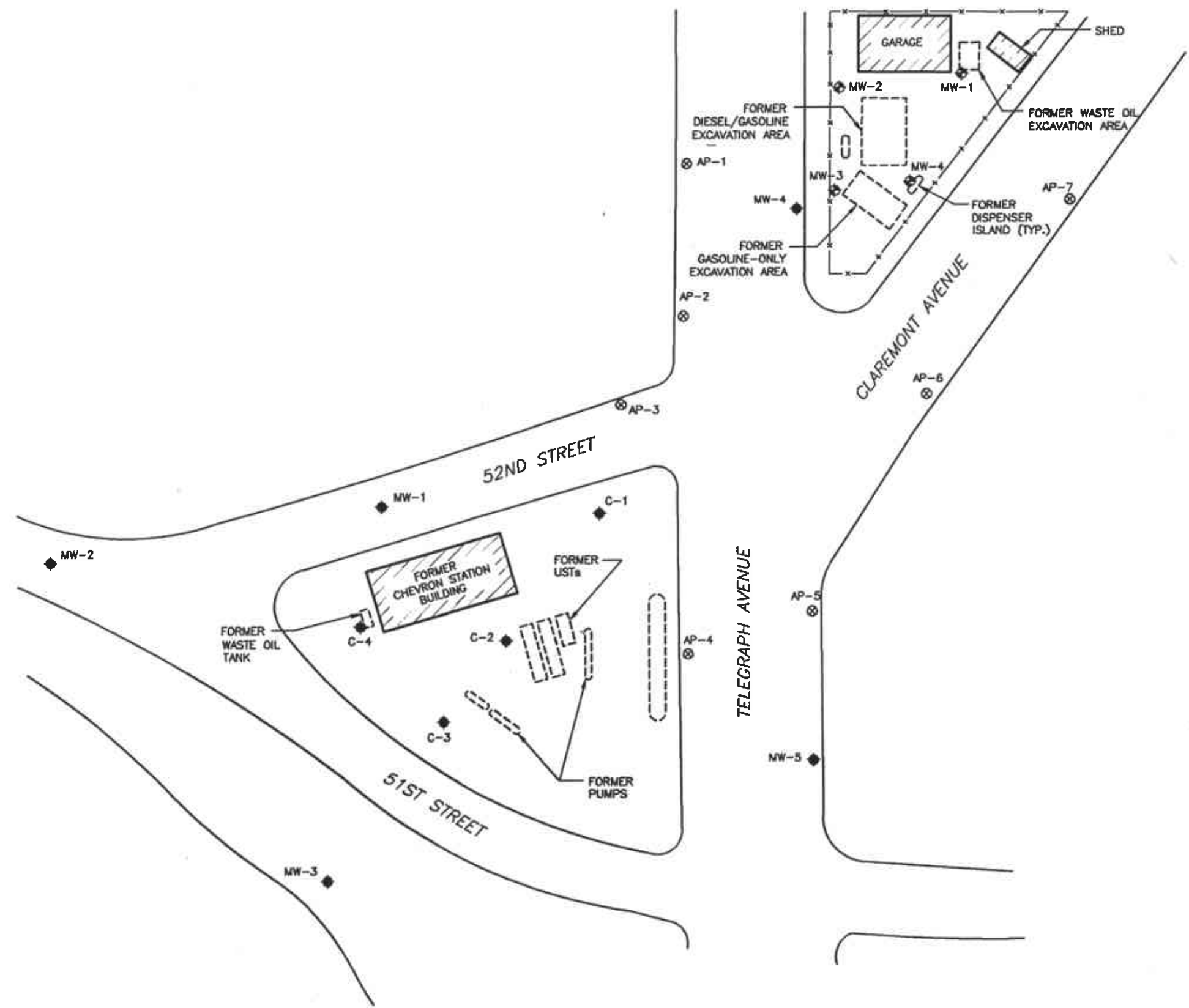
**AUTOPRO
5200 TELEGRAPH AVENUE
OAKLAND, CALIFORNIA**

FIGURE NO.

1

4090 NELSON AVENUE, SUITE J
CONCORD, CA 94520

PROJ. NO.
65-95-219



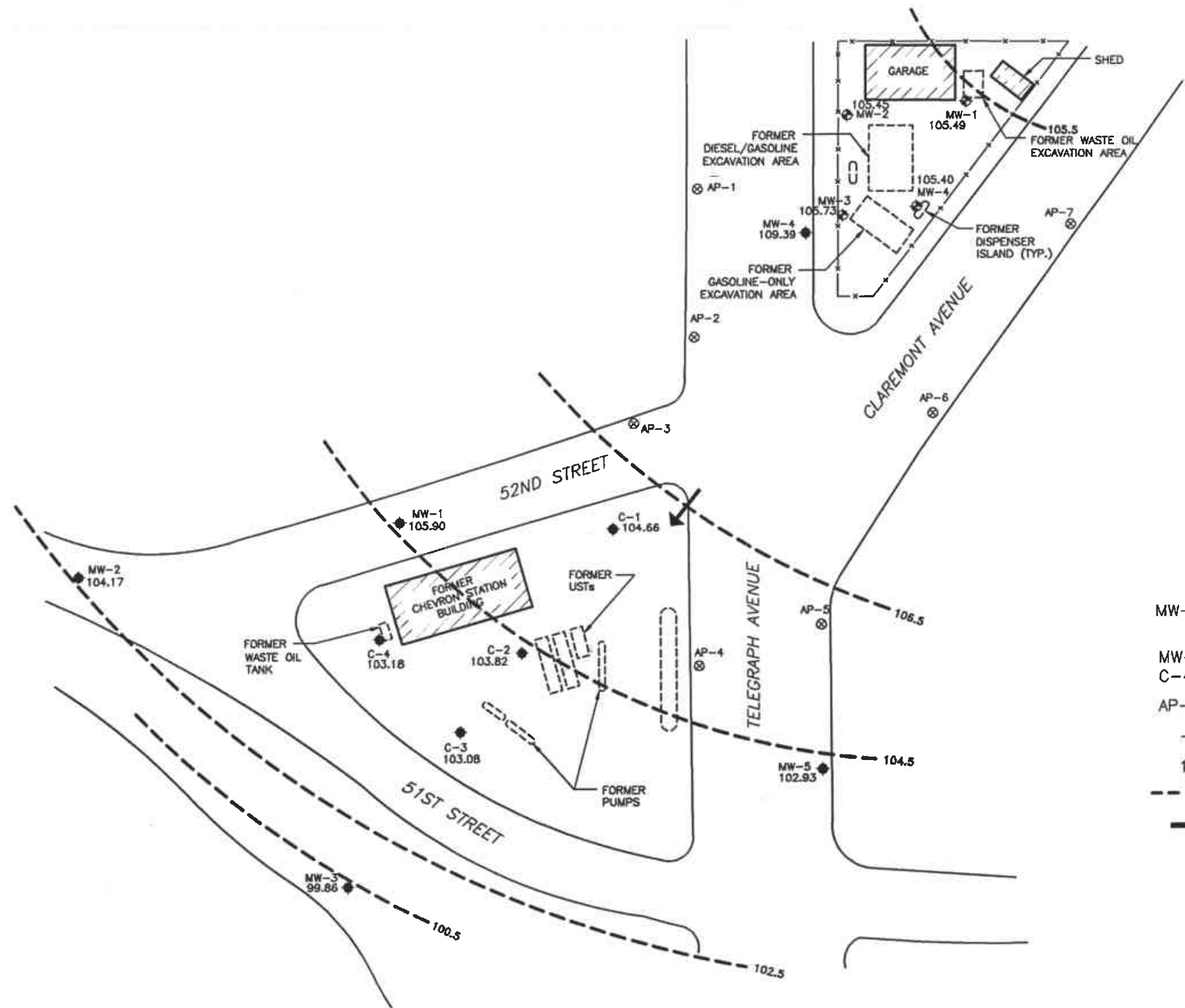
LEGEND

- MW-3 GROUND WATER MONITORING WELLS INSTALLED BY ESE
- MW-5 GROUND WATER MONITORING WELLS INSTALLED FOR CHEVRON
- C-4 GROUND WATER MONITORING WELLS INSTALLED FOR CHEVRON
- AP-7 SOIL BORING
- x- FENCE



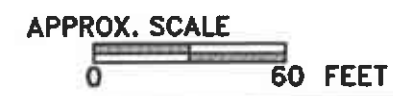
CHEVRON SITE BASE MAP FROM CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.

Environmental Science & Engineering, Inc. 4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	DATE 2/12/96	SITE MAP	FIGURE NO. 2
	REVISED 8/29/96		AUTOPRO 5200 TELEGRAPH AVENUE OAKLAND, CALIFORNIA
	CAD FILE 65521902		




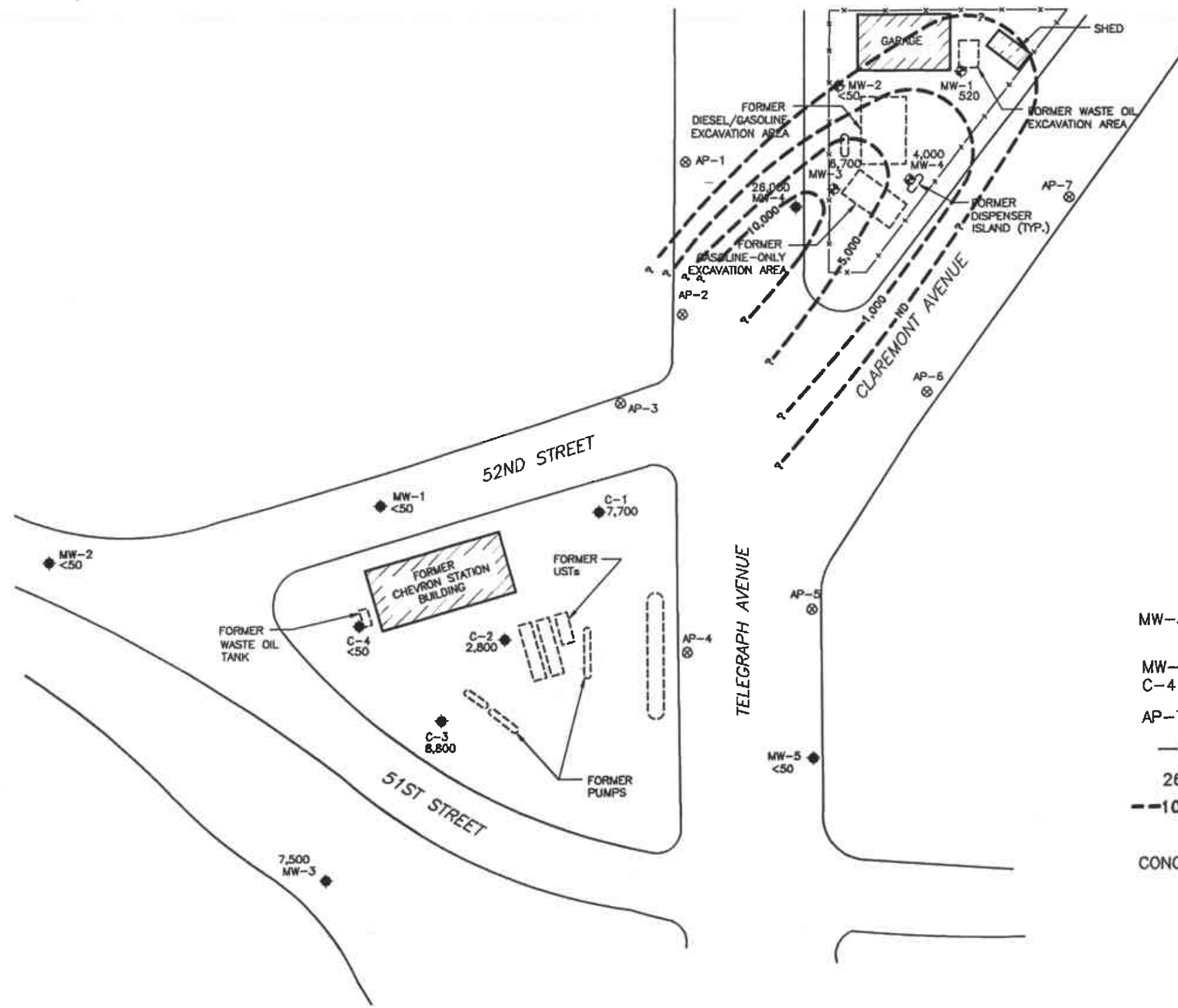
LEGEND

- MW-3 ⊕ GROUND WATER MONITORING WELLS INSTALLED BY ESE
- MW-5 ● GROUND WATER MONITORING WELLS INSTALLED FOR CHEVRON
- C-4 ●
- AP-7 ⊕ SOIL BORING
- x- FENCE
- 109.93 GROUND WATER ELEVATION
- - - 106.5 - - - GROUND WATER ELEVATION CONTOUR
- ➔ ESTIMATED GROUND WATER FLOW DIRECTION



CHEVRON SITE BASE MAP FROM CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.
 CHEVRON SITE GROUND WATER ELEVATIONS FROM BLAINE TECH SERVICES, INC.
 GROUND WATER ELEVATIONS FOR AUTOPRO SITE ARE DERIVED FROM AN ASSUMED DATUM.

 Environmental Science & Engineering, Inc.	DATE 8/8/96	GROUND WATER ELEVATION CONTOUR MAP, DECEMBER 1996	FIGURE NO. 3
	REVISED 02/05/97		AUTOPRO 5200 TELEGRAPH AVENUE OAKLAND, CALIFORNIA
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 65521903		



LEGEND

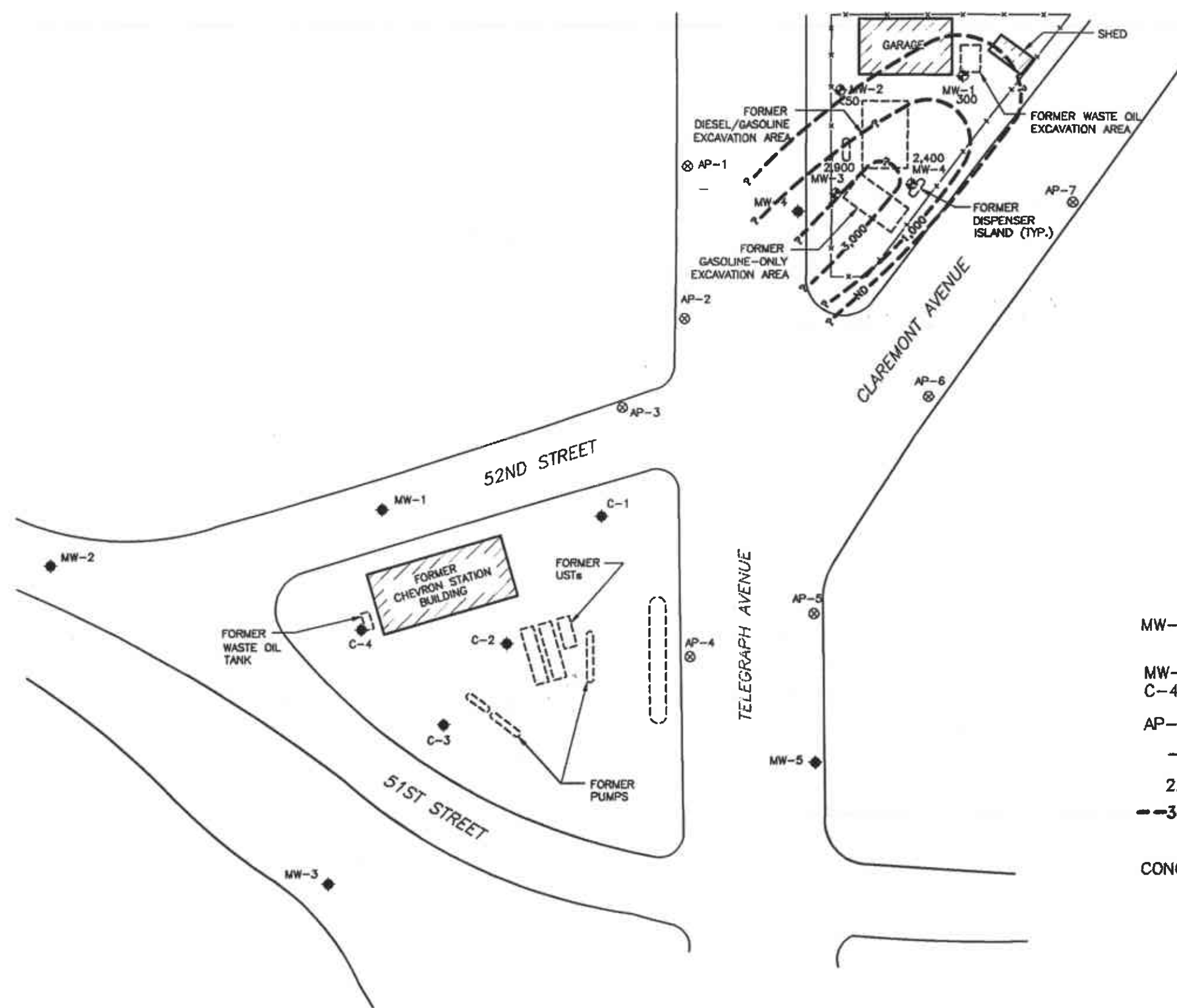
- MW-3 GROUND WATER MONITORING WELLS INSTALLED BY ESE
- MW-5 GROUND WATER MONITORING WELLS INSTALLED FOR CHEVRON
- C-4 GROUND WATER MONITORING WELLS INSTALLED FOR CHEVRON
- AP-7 SOIL BORING WITH GRAB GROUND WATER SAMPLE
- x- FENCE
- 26,000 CONCENTRATION OF TPH-G IN GROUND WATER
- 10,000-- CONCENTRATION ISOPLETH

CONCENTRATIONS IN MICROGRAMS PER LITER (ug/L) or PARTS PER BILLION (ppb).



CHEVRON SITE BASE MAP FROM CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.
 CHEVRON WELLS ANALYTICAL DATA FROM BLAINE TECH SERVICES, INC. DATED 12/11/96
 AUTOPRO WELLS ANALYTICAL DATA DATED 12/11/96

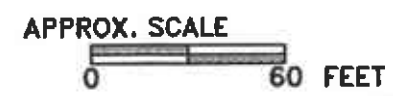
Environmental Science & Engineering, Inc. 4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	DATE 8/8/96	ESTIMATED EXTENT OF TPH-G IN GROUND WATER, DECEMBER 1996	FIGURE NO. 4
	REVISED 02/10/97		PROJ. NO. 65-95-219
CAD FILE 65521904	AUTOPRO 5200 TELEGRAPH AVENUE OAKLAND, CALIFORNIA		




LEGEND

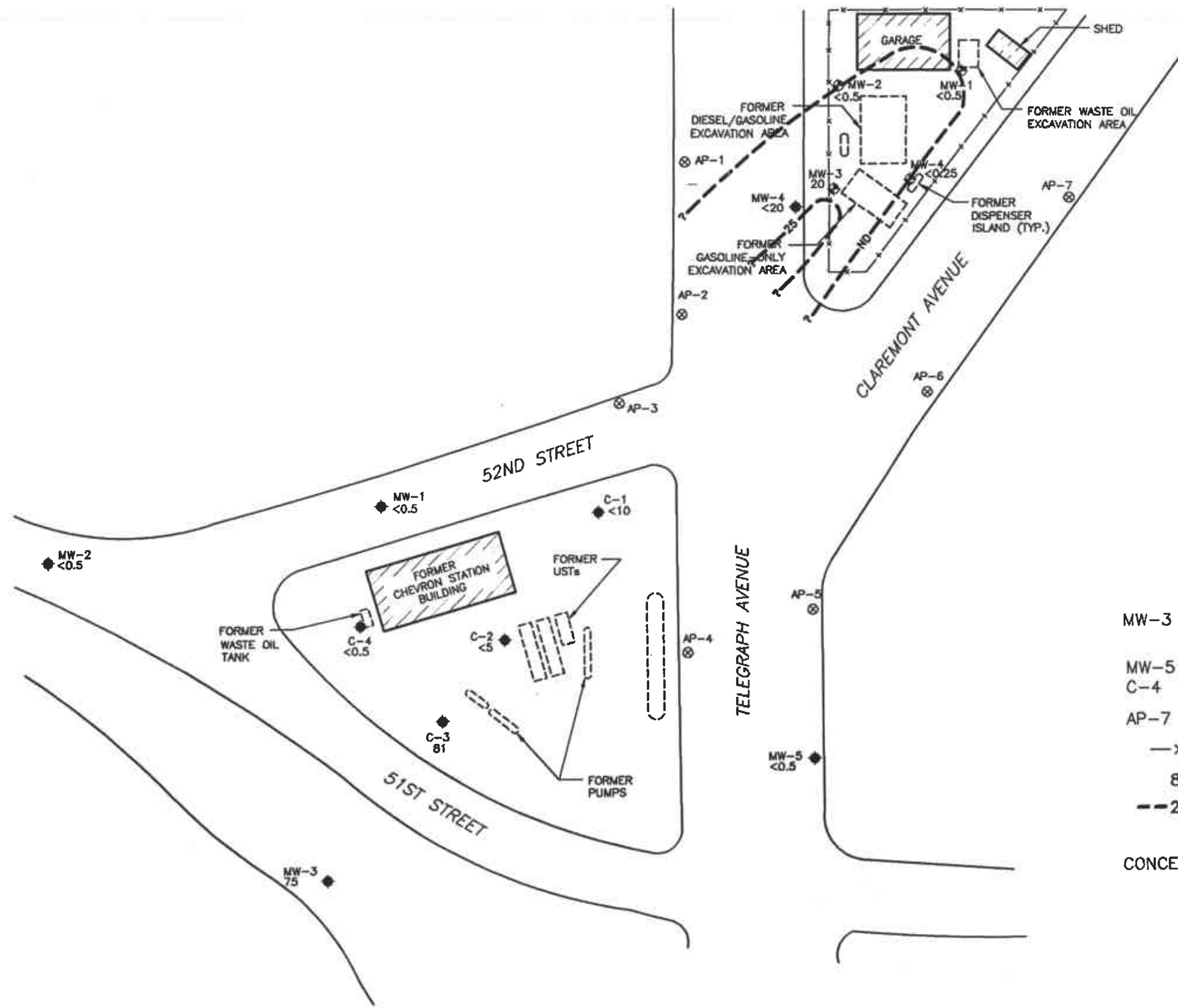
- MW-3 ⊕ GROUND WATER MONITORING WELLS INSTALLED BY ESE
- MW-5 ● GROUND WATER MONITORING WELLS INSTALLED FOR CHEVRON
- C-4 ●
- AP-7 ⊗ SOIL BORING WITH GRAB GROUND WATER SAMPLE
- x- FENCE
- 2,900 CONCENTRATION OF TPH-D IN GROUND WATER
- 3,000-- CONCENTRATION ISOPLETH

CONCENTRATIONS IN MICROGRAMS PER LITER (ug/L) or PARTS PER BILLION (ppb).



CHEVRON SITE BASE MAP FROM CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.
CHEVRON WELLS ANALYTICAL DATA FROM BLAINE TECH SERVICES, INC. DATED 12/11/96
AUTOPRO WELLS ANALYTICAL DATA DATED 12/11/96

 Environmental Science & Engineering, Inc.	DATE 8/8/96	ESTIMATED EXTENT OF TPH-D IN GROUND WATER, DECEMBER 1996	FIGURE NO. 5
	REVISED 02/03/97		PROJ. NO. 65-95-219
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 65521905	AUTOPRO 5200 TELEGRAPH AVENUE OAKLAND, CALIFORNIA	



LEGEND

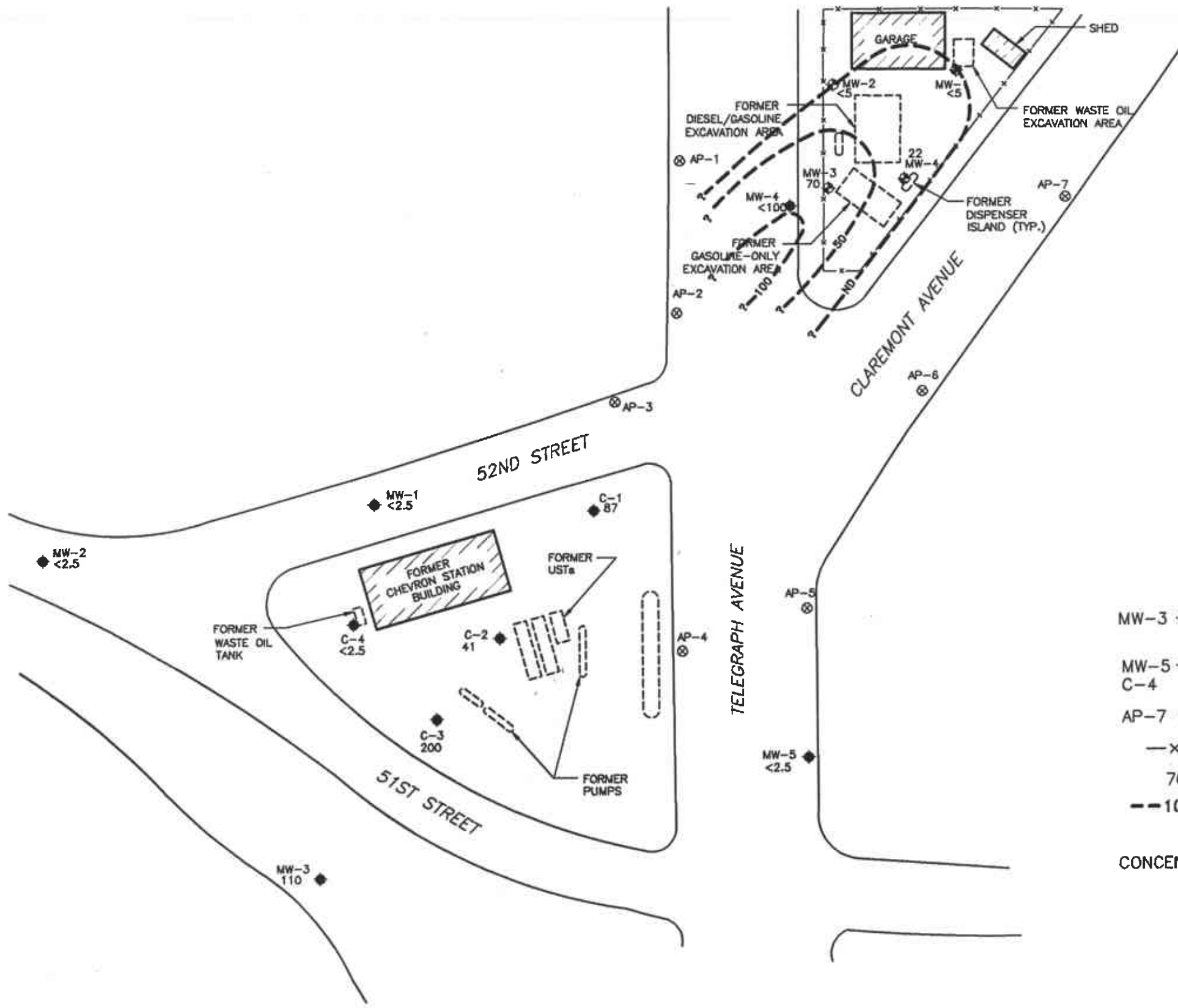
- MW-3 GROUND WATER MONITORING WELLS INSTALLED BY ESE
- MW-5 GROUND WATER MONITORING WELLS INSTALLED FOR CHEVRON
- C-4 GROUND WATER MONITORING WELLS INSTALLED FOR CHEVRON
- AP-7 SOIL BORING WITH GRAB GROUND WATER SAMPLE
- x- FENCE
- 81 CONCENTRATION OF BENZENE IN GROUND WATER
- 25-- CONCENTRATION ISOPLETH

CONCENTRATIONS IN MICROGRAMS PER LITER (ug/L) or PARTS PER BILLION (ppb).



CHEVRON SITE BASE MAP FROM CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.
 CHEVRON WELLS ANALYTICAL DATA FROM BLAINE TECH SERVICES, INC. DATED 12/11/96
 AUTOPRO WELLS ANALYTICAL DATA DATED 12/11/96

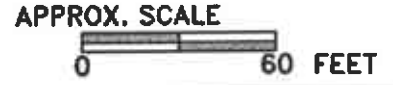
Environmental Science & Engineering, Inc.	DATE 8/8/96	ESTIMATED EXTENT OF BENZENE IN GROUND WATER, DECEMBER 1996	FIGURE NO. 6
	REVISED 02/10/97		AUTOPRO 5200 TELEGRAPH AVENUE OAKLAND, CALIFORNIA
4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 65521906		



LEGEND

- MW-3 ⊕ GROUND WATER MONITORING WELLS INSTALLED BY ESE
- MW-5 ◆ C-4 ◆ GROUND WATER MONITORING WELLS INSTALLED FOR CHEVRON
- AP-7 ⊗ SOIL BORING WITH GRAB GROUND WATER SAMPLE
- x- FENCE
- 70 CONCENTRATION OF MTBE IN GROUND WATER
- 100-- CONCENTRATION ISOPLETH

CONCENTRATIONS IN MICROGRAMS PER LITER (ug/L) or PARTS PER BILLION (ppb).



CHEVRON SITE BASE MAP FROM CAMBRIA ENVIRONMENTAL TECHNOLOGY, INC.
 CHEVRON WELLS ANALYTICAL DATA FROM BLAINE TECH SERVICES, INC. DATED 12/11/96
 AUTOPRO WELLS ANALYTICAL DATA DATED 12/11/96


 Environmental Science & Engineering, Inc.	DATE 8/8/96	ESTIMATED EXTENT OF MTBE IN GROUND WATER, DECEMBER 1996	FIGURE NO. 7
	REVISED 02/03/97		AUTOPRO 5200 TELEGRAPH AVENUE OAKLAND, CALIFORNIA
	4090 NELSON AVENUE, SUITE J CONCORD, CA 94520	CAD FILE 65521907	

TABLE 1

HISTORICAL GROUND WATER ELEVATION DATA

**Tri-Star Partnership
Autopro Facility
5200 Telegraph Avenue
Oakland, California**

Well I.D.	Date	Datum	Depth to Water (feet)	Ground Water Elevation (ft AMSL)
MW-1	04/26/94	115.44	12.69	102.75
	07/20/94		12.39	103.05
	10/21/94		13.06	102.38
	01/18/95		10.14	105.30
	06/26/96		11.90	103.54
	09/24/96		12.53	102.91
	12/11/96		9.95	105.49
MW-2	04/26/94	114.62	11.15	103.47
	07/20/94		11.44	103.18
	10/21/94		12.30	102.32
	01/18/95		9.21	105.41
	06/26/96		11.16	103.46
	09/24/96		11.81	102.81
	12/11/96		9.17	105.45
MW-3	04/26/94	113.90	10.97	102.93
	07/20/94		11.21	102.69
	10/21/94		11.92	101.98
	01/18/95		8.90	105.00
	06/26/96		10.88	103.02
	09/24/96		12.53	101.37
	12/11/96		8.17	105.73
MW-4	04/26/94	114.25	10.97	103.28
	07/20/94		11.16	103.09
	10/21/94		11.68	102.57
	01/18/95		9.02	105.23
	06/26/96		10.77	103.48
	09/24/96		11.51	102.74
	12/11/96		8.85	105.40

Note:

ft AMSL = feet above mean sea level.

TABLE 2

HISTORICAL GROUND WATER ANALYTICAL DATA

Tri-Star Partnership
Autopro Facility
5200 Telegraph Avenue
Oakland, California

Well I.D.	Date Sampled	TPH-D (µg/L)	TPH-MO (µg/L)	TPH-G (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	VOCs (µg/L)	Metals (mg/L)				
											cadmium	chromium	lead	nickel	zinc
MW-1	04/26/94	<50	--	1,400	<0.50	<0.50	4.5	2.1	--	<0.50	0.001	<0.05	<0.005	0.120	<0.10
	07/20/94	100	--	1,200	19	2.5	2.4	1.6	--	--	<0.010	0.220	0.044	0.360	0.350
	10/21/94	130	--	560	8.4	1.1	0.90	1.8	--	--	<0.010	<0.010	<0.020	0.041	0.077
	01/18/95	240	--	620	8.5	2.1	1.3	2.3	--	--	<0.010	0.026	<0.020	0.024	0.067
	06/26/96	56 ^{b,d}	<250	180 ^a	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--	--	--	--
	09/24/96	150 ^d	<250	170 ^{a,b}	3.7	0.92	0.54	0.63	6.5	--	--	--	--	--	--
	12/11/96	300 ^d	<250	520 ^c	<0.5	0.8	0.59	0.81	<5.0	--	--	--	--	--	--
MW-2	04/26/94	<50	--	<50	<0.50	<0.50	<0.50	<0.50	--	<0.50	<0.001	<0.05	<0.005	0.060	<0.10
	07/20/94	<50	--	<50	<0.50	<0.50	<0.50	<0.50	--	--	<0.010	0.022	<0.020	0.045	0.068
	10/21/94	<50	--	<50	<0.50	<0.50	<0.50	<0.50	--	--	<0.010	0.031	<0.020	0.027	0.044
	01/18/95	<50	--	<50	<0.50	<0.50	<0.50	<0.50	--	--	<0.010	0.014	<0.020	0.023	0.045
	06/26/96	<50	<250	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--	--	--	--
	09/24/96	<50	<250	<50	<0.50	<0.50	<0.50	<0.50	9.6	--	--	--	--	--	--
	12/11/96	<50	<250	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--	--	--	--

TABLE 2

HISTORICAL GROUND WATER ANALYTICAL DATA

Tri-Star Partnership
Autopro Facility
5200 Telegraph Avenue
Oakland, California

Well I.D.	Date Sampled	TPH-D (µg/L)	TPH-MO (µg/L)	TPH-G (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	VOCs (µg/L)	Metals (mg/L)				
											cadmium	chromium	lead	nickel	zinc
MW-3 (Dup)	04/26/94	<3,000	--	10,000	70	40	40	50	--	<30	<0.001	<0.05	0.043	0.100	0.100
	07/20/94	1,400	--	7,500	120	38	36	39	--	--	<0.010	0.099	0.140	0.120	0.250
	10/21/94	1,200	--	6,300	69	37	29	38	--	--	<0.010	<0.010	<0.020	0.036	0.140
	01/18/95	1,600	--	8,000	84	16	48	49	--	--	<0.010	0.046	0.049	0.040	0.110
	06/26/96	2,800 ^{d,f}	<250	6,600 ^a	15	17	23	40	53	--	--	--	--	--	--
	06/26/96	2,700 ^{d,f}	<250	6,600 ^a	14	16	21	37	49	--	--	--	--	--	--
	09/24/96	2,600 ^{b,d}	290	4,800 ^{b,d}	12	11	18	43	42	--	--	--	--	--	--
	12/11/96	2,900 ^d	<250	6,700 ^f	20	19	32	44	70	--	--	--	--	--	--
MW-4 (Dup) (Dup)	04/26/94	<300	--	6,800	<3.0	<3.0	3.0	4.0	--	<3.0	<0.001	<0.05	0.007	0.060	<0.10
	07/20/94	1,500	--	5,600	35	11	12	17	--	--	<0.010	0.023	<0.020	0.048	0.060
	10/21/94	870	--	4,300	26	19	12	20	--	--	<0.010	0.013	<0.020	<0.020	0.092
	01/18/95	1,300	--	5,700	19	15	13	16	--	--	<0.010	0.020	<0.020	0.021	0.036
	06/26/96	2,500 ^{d,f}	<250	4,700 ^{b,d}	<0.25	4.8	11	19	30	--	--	--	--	--	--
	09/24/96	2,200 ^b	<250	5,300 ^{b,d}	<1.0	5.3	8.2	8.3	<35	--	--	--	--	--	--
	09/24/96	2,200 ^b	<250	5,500 ^{b,d}	<1.0	6.6	9.4	8.4	<35	--	--	--	--	--	--
	12/11/96	2,400 ^d	<250	4,000 ^f	<0.25	4	7.6	9.2	22	--	--	--	--	--	--
TRIP	06/26/96	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--	--	--	--
	09/24/96	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--	--	--	--
	12/11/96	--	--	<50	<0.50	<0.50	<0.50	<0.50	<5.0	--	--	--	--	--	--
MCL	--	--	--	--	1	150	700	1,750	35*	--	0.005	0.05	0**	0.1	5***

Notes:

TPH-D = Total Petroleum Hydrocarbons as Diesel.
 TPH-MO = Total Petroleum Hydrocarbons as Motor Oil.
 TPH-G = Total Petroleum Hydrocarbons as Gasoline.
 MTBE = methyl tertiary butyl ether.
 VOCs = Volatile Organic Compounds.
 µg/L = micrograms per liter or parts per billion (ppb).
 mg/L = milligrams per liter or parts per million (ppm).
 < = less than listed detection limits.
 -- = not applicable.

^a = unmodified or weakly modified is significant.

^b = heavier gasoline range compounds are significant (aged gasoline?).

^c = lighter gasoline range compounds (the most mobile fraction) are significant.

^d = gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?

^e = one to a few isolated peaks present.

^f = no recognizable pattern.

MCL = primary Maximum Contaminant Limit as defined by the California Department of Health Services (DHS) Drinking Water Standards.

* = DHS Action Level.

** = regulated by the Federal Lead and Copper Rule.

*** = secondary MCL.

GROUND WATER SAMPLE COLLECTION LOGS



Environmental
Science &
Engineering, Inc.

SAMPLE COLLECTION LOG

PROJECT NAME: TRISIA PARTNERSHIP
PROJECT NO.: 65-95-219
DATE: DEC. 11, 1996

SAMPLE LOCATION I.D.: MW-1
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: GEORGE REID

CASING DIAMETER

2"
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: — (ft.) PRODUCT THICKNESS: — (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 12.53 (ft.) WATER COLUMN: 18.97 (ft.) (3 or 4 WCV): 9.29 (gal)
DEPTH OF WELL: 28.92 (ft.) WELL CASING VOLUME: 3.09 (gal) ACTUAL VOLUME PURGED: 10 (gal)

TIME	Volume (GAL)	pH (Units)	EC (Microhmhos)	Temperature (F°)	Turbid. (NTU)	Other
1010	0	7.73	0.87	63.7	—	Clear
1015	5	7.69	0.79	63.9	—	—
1020	10	7.65	0.77	63.9	—	—

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HYDAC UNIT# 9305 DATE: 12-11-96 TIME: 0800 BY: CHV
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

___ Displacement Pump Other
___ Bailer (Teflon/PVC/SS) ___ Submersible Pump

SAMPLE METHOD

___ Bailer (Teflon/PVC/SS) ___ Dedicated
 Bailer (Disposable) ___ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
	<u>MW-1</u>	<u>1025</u>	<u>12-11-96</u>	<u>M. Smokey</u>	_____
DUPLICATE	_____	_____	_____	_____	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: Chris Valcheff

PROJECT MANAGER: George Reid



Environmental
Science &
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SAMPLE COLLECTION LOG

PROJECT NAME: Tri State Aerogel
PROJECT NO.: 65-95-219
DATE: Dec. 11, 1996

SAMPLE LOCATION I.D.: MW-2
SAMPLER: RUSSELL VARCHOFF
PROJECT MANAGER: GEORGE REID

CASING DIAMETER

2"
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: _____ (ft.) PRODUCT THICKNESS: _____ (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 9.17 (ft.) WATER COLUMN: 15.19 (ft.) ⊕ (or AWCV): 7.44 (gal)
DEPTH OF WELL: 24.36 (ft.) WELL CASING VOLUME: 2.98 (gal) ACTUAL VOLUME PURGED: ⊕ (gal)

TIME	Volume (GAL)	pH (Units)	EC (Microhmhos) ^{x 10⁻⁶}	Temperature (F°)	Turbid. (NTU)	Other
<u>1030</u>	<u>0</u>	<u>7.83</u>	<u>0.91</u>	<u>64.1</u>	<u>-</u>	<u>3 samples</u>
<u>1035</u>	<u>4</u>	<u>7.05</u>	<u>1.03</u>	<u>63.9</u>	<u>-</u>	<u>↓</u>
<u>1040</u>	<u>8</u>	<u>7.07</u>	<u>1.05</u>	<u>63.9</u>	<u>-</u>	<u>↓</u>

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE MDAC UNIT# 9300 DATE: 12-11-96 TIME: 0900 BY: CH
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

____ Displacement Pump Other
____ Bailer (Teflon/PVC/SS) Submersible Pump

SAMPLE METHOD

____ Bailer (Teflon/PVC/SS) Dedicated
 Bailer (Disposable) Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>MW-2</u>	<u>1045</u>	<u>12-11-96</u>	<u>McCampbell</u>	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS: _____

SAMPLER: Ch H. Vahl

PROJECT MANAGER J Reid



Environmental
Science &
Engineering, Inc.

SAMPLE COLLECTION LOG

PROJECT NAME: TEL STAR PARTNERSHIP
PROJECT NO.: 65-95-219
DATE: DEC. 11, 1996

SAMPLE LOCATION I.D.: MW-3
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: GEORGE REID

CASING DIAMETER

2"
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: — (ft.) PRODUCT THICKNESS: — (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 8.17 (ft.) WATER COLUMN: 15.91 (ft.) OF 4 WCV: 7.73 (gal)
DEPTH OF WELL: 24.08 (ft.) WELL CASING VOLUME: 259 (gal) ACTUAL VOLUME PURGED: 8.0 (gal)

TIME	Volume (GAL)	pH (Units)	E.C. (Microhmhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1050</u>	<u>0</u>	<u>7.75</u>	<u>0.93</u>	<u>64.3</u>	<u>—</u>	<u>BLACK SILT / 0.002 / 5.000</u>
<u>1055</u>	<u>4</u>	<u>7.51</u>	<u>1.00</u>	<u>64.8</u>	<u>—</u>	<u>—</u>
<u>1100</u>	<u>8</u>	<u>7.55</u>	<u>0.97</u>	<u>64.5</u>	<u>—</u>	<u>—</u>

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE HIDAC UNIT# 9300 DATE: 12-11-96 TIME: 0900 BY: CW
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

___ Displacement Pump Other
___ Bailer (Teflon/PVC/SS) ___ Submersible Pump

SAMPLE METHOD

___ Bailer (Teflon/PVC/SS) ___ Dedicated
 Bailer (Disposable) ___ Other

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>MW-3</u>	<u>1110</u>	<u>12-11-96</u>	<u>H. Campbell</u>	_____
SPLIT	<u>DUP</u>	<u>1110</u>	<u>12-11-96</u>	<u>McCampbell</u>	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS:

SAMPLER: Chris Valcheff

PROJECT MANAGER: George Reid



Environmental
Science &
Engineering, Inc.

SAMPLE COLLECTION LOG

PROJECT NAME: Tel Star Partnership
PROJECT NO.: 65-95-219
DATE: Dec. 11, 1996

SAMPLE LOCATION I.D.: MW-4
SAMPLER: CHRIS VALCHEFF
PROJECT MANAGER: GEORGE REID

CASING DIAMETER

2"
4" _____
Other _____

SAMPLE TYPE

Ground Water
Surface Water _____
Treat. Influent _____
Treat. Effluent _____
Other _____

WELL VOLUMES PER UNIT

Well Casing I.D. (Inches)	Gal/Ft.
2.0	0.1632
4.0	0.6528
6.0	1.4690

DEPTH TO PRODUCT: _____ (ft.) PRODUCT THICKNESS: _____ (ft.) MINIMUM PURGE VOLUME
DEPTH TO WATER: 8.85 (ft.) WATER COLUMN: 19.20 (ft.) (3 or 4 WCV): 7.99 (gal)
DEPTH OF WELL: 29.05 (ft.) WELL CASING VOLUME: 2.45 (gal) ACTUAL VOLUME PURGED: 8 (gal)

TIME	Volume (GAL)	pH (Units)	EC. (Microhmhos)	Temperature (F°)	Turbid. (NTU)	Other
<u>1130</u>	<u>0</u>	<u>7.38</u>	<u>0.57</u>	<u>63.7</u>	<u>-</u>	<u>BAU/SUM/0.02/0.02</u>
<u>1135</u>	<u>4</u>	<u>7.42</u>	<u>0.59</u>	<u>63.2</u>	<u>-</u>	<u>S</u>
<u>1140</u>	<u>8</u>	<u>7.41</u>	<u>0.61</u>	<u>63.5</u>	<u>-</u>	<u>S</u>

INSTRUMENT CALIBRATION

pH/COND./TEMP.: TYPE Hydric UNIT# 4308 DATE: 12-11-96 TIME: 0900 BY: OH
TURBIDITY: TYPE _____ UNIT# _____ DATE: _____ TIME: _____ BY: _____

PURGE METHOD

____ Displacement Pump Other _____
____ Bailer (Teflon/PVC/SS) _____ Submersible Pump _____

SAMPLE METHOD

____ Bailer (Teflon/PVC/SS) _____ Dedicated _____
 Bailer (Disposable) _____ Other _____

SAMPLES COLLECTED

SAMPLE	ID	TIME	DATE	LAB	ANALYSES
DUPLICATE	<u>MW-4</u>	<u>1145</u>	<u>12-11-96</u>	<u>McCampbell</u>	_____
SPLIT	_____	_____	_____	_____	_____
FIELD BLANK	_____	_____	_____	_____	_____

COMMENTS:

SAMPLER: Chris Valcheff

PROJECT MANAGER George Reid

LABORATORY REPORTS AND CHAIN-OF-CUSTODY DOCUMENTATION

QC REPORT FOR HYDROCARBON ANALYSES

Date: 12/11/96

Matrix: Water

Analyte	Concentration (mg/L) Sample (#71885)			Amount Spiked	% Recovery		
	MS	MSD			MS	MSD	RPD
TPH (gas)	0.0	91.5	98.5	100.0	91.5	98.5	7.4
Benzene	0.0	9.8	8.9	10.0	98.0	89.0	9.6
Toluene	0.0	9.6	8.8	10.0	96.0	88.0	8.7
Ethyl Benzene	0.0	9.1	8.8	10.0	91.0	88.0	3.4
Xylenes	0.0	26.5	25.8	30.0	88.3	86.0	2.7
TPH (diesel)	0	143	144	150	95	96	0.7
TRPH (oil & grease)	0	25300	25300	23700	107	107	0.0

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

McCAMPBELL ANALYTICAL INC.

110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 12/12/96

Matrix: Water

Analyte	Concentration (mg/L)			Amount Spiked	% Recovery		
	Sample (#71859)	MS	MSD		MS	MSD	RPD
TPH (gas)	0.0	107.0	103.0	100.0	107.0	103.0	3.9
Benzene	0.0	10.1	9.5	10.0	101.0	95.0	6.1
Toluene	0.0	10.1	9.6	10.0	101.0	96.0	5.1
Ethyl Benzene	0.0	10.2	9.7	10.0	102.0	97.0	5.0
Xylenes	0.0	30.4	28.9	30.0	101.3	96.3	5.1
TPH (diesel)	0	150	149	150	100	99	1.2
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

$$\% \text{ Rec.} = (\text{MS} - \text{Sample}) / \text{amount spiked} \times 100$$

$$\text{RPD} = (\text{MS} - \text{MSD}) / (\text{MS} + \text{MSD}) \times 2 \times 100$$

