



TANK PROTECT ENGINEERING
of Northern California, Inc.

ENVIRONMENTAL
PROTECTION
97 JAN 22 AM 9:21

January 10, 1997

#2116

Messrs. Aaron and Stanley Wong
2200 E. 12th Street
Oakland, CA 94606

Re: Fourth Quarter Report, 1996, Credit World Auto Sales, 2345 E. 14th Street,
Oakland, CA 94601

Dear Messrs. Wong:

Tank Protect Engineering of Northern California, Inc. (TPE) is pleased to submit this quarterly letter report of environmental services conducted at the subject site. Previous work conducted prior to January 1, 1996 is summarized in TPE's Fourth Quarter Report, 1995, Credit World Auto Sales, 2345 E. 14th Street, Oakland, CA 94601. Work conducted after January 1, 1996 is summarized, and work conducted during the subject quarter is presented in detail below.

Work performed by TPE during first quarter, 1996:

- February 14, 1996 - Submitted a Fourth Quarter Report, 1995, Credit World Auto Sales, 2345 E. 14th Street, Oakland, CA 94601 to Messrs. Wong for their approval and delivery to the Alameda County Health Care Services Agency (ACHCSA).
- March 20, 1996 - Loosened well caps on all wells to allow depth-to-groundwater to stabilize to atmospheric pressure for groundwater gradient determination.
- March 22, 1996 - Measured depth-to-groundwater and free product thickness in wells MW-1 through TMW-5 for evaluation of groundwater

flow direction and gradient and collected 5 groundwater samples for analysis for total petroleum hydrocarbons as gasoline (TPHG), and methyl t-butyl ether, benzene, toluene, ethylbenzene, and xylenes (MBTEX). Additionally, a trip blank was analyzed for TPHG and MBTEX.

Work performed by TPE during second quarter, 1996:

- . May 6, 1996 - Submitted a First Quarter Report, 1996, Credit World Auto Sales, 2345 E. 14th Street, Oakland, CA 94601 to Messrs. Wong for their approval and delivery to the ACHCSA.
- . May 21, 1996 through June 7, 1996 - Backfilled excavation with remediated onsite material, overexcavation of contaminated soil and remediation of stockpiled soil.
- . June 18, 1996 - Loosened well caps on all wells to allow depth-to-groundwater to stabilize to atmospheric pressure for groundwater gradient determination.
- . June 20, 1996 - Measured depth-to-groundwater and free product thickness in wells MW-1 through TMW-4 for evaluation of groundwater flow direction and gradient and collected groundwater samples from wells MW-1 through TMW-4 for analysis for TPHG and MBTEX. Additionally, a trip blank was analyzed for TPHG and MBTEX.
- . June 24, 1996 - Redeveloped well TMW-5 for sampling.
- . June 26, 1996 - Sampled well TMW-5 for analysis for TPHG and MBTEX.

Work performed by TPE during third quarter, 1996:

- . July 30, 1996 - Submitted a Second Quarter Report, 1996, Credit World Auto Sales, 2345 E. 14th Street, Oakland, CA 94601 to Messrs. Wong for their approval and delivery to the ACHCSA.

- July 1, 1996 through September 30, 1996 - Conducted excavation, soil remediation and backfilling activities.
- September 23, 1996 - Loosened well caps on wells MW-1, MW-3, and TMW-4 to allow depth-to groundwater to stabilize to atmospheric pressure for groundwater gradient determination. Wells MW-2 and MW-5 were inaccessible.
- September 24, 1996 - Measured depth-to-groundwater and free product thickness in wells MW-1, MW-3, and TMW-4 for evaluation of groundwater flow direction and gradient and collected groundwater samples from wells MW-1 through TMW-4 for analysis for TPHG and MBTEX. Additionally, a trip blank was analyzed for TPHG and MBTEX.
- September 30, 1996 - Measured depth-to-groundwater and free product thickness in wells MW-2 and TMW-5 for evaluation of groundwater flow direction and gradient, and collected groundwater samples from both wells for analysis for TPHG and MBTEX. Additionally, a trip blank sample was analyzed for TPHG and MBTEX. Supervised the removal of about 545 gallons of hydrocarbon contaminated groundwater and petroleum products.

WORK PERFORMED BY TPE DURING FOURTH QUARTER, 1996

- October 1 through 4, 1996 - TPE conducted stockpile soil remediation and verification sampling
- October 3, 1996 - ACHCSA issues a letter titled Status of Subsurface Investigation at 2345 E. 14th St. Oakland, CA 94601, Former Taxi, Taxi.
- October 28, 1996 - Backfilled the excavation to grade.

- November 26 and December 9 and 13, 1996 - Repair and redevelop TMW-5.
- December 27, 1996 - Measured depth-to-groundwater and free product thickness in wells MW-1 through TMW-5 for evaluation of groundwater flow direction and gradient and collected groundwater samples from wells MW-1 through TMW-5 for analysis for TPHG and MBTEX. Additionally, a trip blank was analyzed for TPHG and MBTEX.

Details of work conducted during the fourth quarter are presented below.

Site Activities

On October 3, 1996 ACHCSA issued the above letter requesting no further soil excavation be conducted until the offsite investigation is completed (see attached).

During the this quarter, TPE conducted stockpile soil remediation verification soil sampling and backfilled the remaining excavation to grade. An interim report of remediation activities will be presented to Messrs. Wong and to ACHCSA in the near future.

Monitoring well TMW-5 was damaged during backfill activities that took place in May, 1996. On September 30, 1996 the well was uncovered again and found to be about one-half silted full. On November 26 and December 9 and 13, 1996 TPE repaired and redeveloped TMW-5 (see attached Records of Well Development).

Groundwater Gradient

Due to the large amount of precipitation received during the month of December 1996, well caps were not loosened prior to making depth-to-groundwater measurements for evaluation of groundwater flow direction and gradient.

On December 27, 1996 depth-to-groundwater was measured from the top of casing (TOC) in wells MW-1, MW-3, and TMW-4 to the nearest 0.01 foot using an electronic Keck Instrument, Inc., KIR-89 interface probe. A minimum of 3 repetitive measurements were made for each level determination to ensure accuracy. Depth-to-groundwater was subtracted from the TOC elevation, measured relative to mean sea level, to calculate the elevation of the groundwater level in each well (see attached Table 1). When floating product was present, the groundwater elevation was corrected by multiplying the floating product thickness by a density of .75 and adding the resultant value to the groundwater elevation.

Attached Figure 1 is a groundwater gradient map constructed from the data collected on December 27, 1996. Groundwater flow direction was to the north and northwest with a gradient about 0.024 and 0.029 feet per foot, respectively. Average groundwater elevations, changes in average groundwater elevations, groundwater gradients, and groundwater flow directions are tabulated in attached Table 2.

Groundwater Sampling and Analytical Results

On December 27, 1996 groundwater samples were collected from groundwater monitoring wells MW-1 through TMW-5. Before sampling, the wells were purged of about 25 to 46 liters of water with dedicated polyethylene bailers and until the temperature, conductivity, and pH of the water in the wells had stabilized (see attached Records of Water Sampling). Since dedicated bailers were used for each well sampled, no decontamination was necessary between sampling events. The water samples were collected in laboratory provided, sterilized, 40-milliliter glass vials having Teflon-lined screw caps; measured for turbidity and labeled with project name, date, time collected, sample number, and sampler name. The samples were immediately stored in an iced-cooler for transport to California State Department of Health Services (DHS) certified Entech Analytical Labs, Inc., located in Sunnyvale, California accompanied by chain-of-custody documentation. All groundwater samples and a trip blank sample, MW-6, were analyzed for TPHG by the United States Environmental Protection Agency (EPA) Method 8015M and for MBTEX by the Modified EPA Method 8020.

Floating product was observed in wells MW-1, MW-2, and MW-3; with thicknesses of .09 feet, 7.57 feet, and 0.06 feet respectively. Attached Table 3 summarizes the thickness of floating product measured in each well. The floating product was removed by purging at the time of sampling. Hydrocarbon odor and/or sheen were observed in all wells except TMW-4.

Purge water is stored on site in 55-gallon drums labeled to show material stored, known or suspected chemical contaminant, date filled, expected removal date, company name, contact person, and telephone number.

See attached protocols for TPE's sample handling, groundwater monitoring well sampling, and quality assurance and quality control procedures.

Chemical analyses detected TPHG and some or all MBTEX chemicals in all wells except well TMW-4. TPHG was detected in wells MW-1, MW-2, MW-3, and TMW-5 at concentrations of 24,000 parts per billion (ppb), 29,000 ppb, 5,800 ppb and 78,000 ppb, respectively. The reader is referred to attached Table 4 for a summary of MBTEX concentrations detected in the wells.

Well TMW-4 and the trip blank sample (MW-6) were nondetectable for TPHG and MBTEX.

All analytical results are summarized in attached Table 4 and documented in an attached certified analytical report and a chain-of-custody.

RECOMMENDATIONS

Messrs. Aaron and Stanley Wong are currently waiting on approval from the California Underground Storage Tank Fund to begin the offsite investigation.

TPE recommends that quarterly groundwater sampling of all 5 groundwater monitoring wells be continued to evaluate gradient, monitor contaminant concentrations and to continue removal of free product from the wells. During the subject quarter,

concentrations of TPHG and MBTEX fluctuated in all wells except TMW-4 which was nondetectable.

The next sampling event is due on about March 21, 1997.

An additional copy of this report has been included for your delivery to:

Mr. Barney Chan
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6577

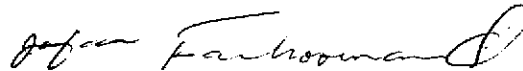
TPE recommends that this quarterly report be submitted with a signed cover letter from Messrs. Aaron and Stanley Wong.

If you have any questions, please call TPE at (510) 429-8088.

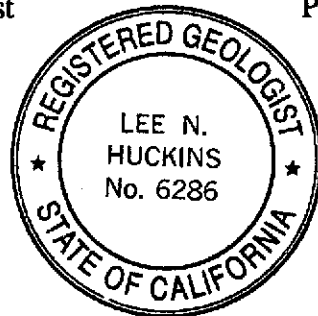
Sincerely,



Lee Huckins
Registered Geologist



Jeff Farhoomand, M.S.
Principal Engineer



Expiration Date 5/31/97

TABLE 1
GROUNDWATER ELEVATION

Well Name	Date	TOC ¹ Elevation (Feet MSL ⁴)	Depth-to-Water From TOC (Feet)	Depth to Product From TOC (Feet)	Corrected ³ Groundwater Elevation (Feet MSL)
MW-1	08/23/91 ⁵	100.00 ²	15.42	NA ⁹	84.58
	04/16/92 ⁶	27.33 ⁷	16.66	11.54	14.51 ⁸
	06/11/93		12.61	12.60	14.73
	08/17/93		14.40	13.63	13.50 ⁷
	03/31/94		12.64	ND	14.69
	06/27/94		14.32	13.16	13.88
	09/16/94		15.86	13.64	13.14
	03/31/95		11.82	9.48	17.27
	06/28/95		13.50	12.60	14.51
	09/28/95		14.27	13.96	13.29
	12/26/95		11.77	11.62	15.67
	03/22/96		10.52	10.44	16.87
	06/20/96		13.38	12.49	14.63
	09/24/96		14.60	13.40	13.63
12/27/96		9.17	9.08	18.23	
MW-2	08/23/91 ⁵	98.585 ²	13.77	NA	84.815
	04/16/92 ⁶	25.92 ⁷	15.38	12.57	12.65 ⁸
	06/11/93		13.185	ND ¹⁰	12.74
	08/17/93		14.04	14.03	11.89
	03/31/94		13.61	13.07	12.72 ⁸
	06/27/94		14.24	13.44	12.28
	09/16/94		17.82	13.36	11.45
	03/31/95		16.72	9.28	14.78
	06/28/95		13.50	12.77	12.97
	09/28/95		14.63	14.09	11.70
	12/26/95		12.58	11.68	14.01
	03/22/96		11.46	11.31	14.57
06/20/96		13.08	12.71	13.12	

TABLE 1
GROUNDWATER ELEVATION

Well Name	Date	TOC ¹ Elevation (Feet MSL ⁴)	Depth-to-Water From TOC (Feet)	Depth to Product From TOC (Feet)	Corrected ³ Groundwater Elevation (Feet MSL)
MW-2	09/30/96		16.67	12.92	12.06
	12/27/96		15.74	8.17	15.86
MW-3	08/23/91 ⁵	99.25 ²	15.07	NA	84.18
	04/16/92 ⁶	27.57 ⁷	14.14	13.98	13.55 ⁸
	06/11/93		14.275	ND	13.30
	08/17/93		15.77	ND	11.80
	03/31/94		14.35	ND	13.22
	06/27/94		14.77	ND	12.80
	09/16/94		15.42	15.37	12.19
	03/31/95		12.98	12.52	14.94
	06/28/95		14.20	14.15	13.41
	09/28/95		15.17	ND	12.40
	12/26/95		13.33	13.27	14.28
	03/22/96		12.81	12.77	14.79
	06/20/96		13.95	13.88	13.67
	09/24/96		14.86	14.82	12.74
	12/27/96		11.04	10.98	16.58
TMW-4	08/17/93	26.50 ⁷	13.26	ND	13.24
	03/31/94		12.40	ND	14.10
	06/27/94		12.84	ND	13.66
	09/16/94		13.58	ND	12.92
	03/31/95		10.23	ND	16.27
	06/28/95		12.21	ND	14.29
	09/28/95		13.38	ND	13.12
	12/26/95		11.32	ND	15.18
	03/22/96		10.54	ND	15.96
	06/20/96		12.14	ND	14.36
	09/24/96		13.01	ND	13.49

**TABLE 1
GROUNDWATER ELEVATION**

Well Name	Date	TOC ¹ Elevation (Feet MSL ⁴)	Depth-to-Water From TOC (Feet)	Depth to Product From TOC (Feet)	Corrected ³ Groundwater Elevation (Feet MSL)
TMW-4	12/27/96		9.51	ND	16.99
TMW-5	08/17/93	26.51 ⁷	12.98	12.95	13.55
	03/31/94		11.39	ND	15.12
	06/27/94		12.24	ND	14.27
	09/16/94		13.02	12.97	13.53
	03/31/95		7.38	ND	19.13
	06/28/95		11.31	11.25	15.25
	09/28/95		14.42	ND	12.09
	12/26/95		10.16	10.11	16.38
	03/22/96		7.59	7.54	18.96
	06/26/96 ¹¹		7.12	ND	NA
	09/30/96 ¹¹		7.42	ND ¹⁰	NA ⁹
	12/27/96 ¹¹		6.38	ND	NA

¹ TOP-OF-CASING.

² RELATIVE TO SITE DATUM ESTABLISHED BY ESE.

³ ELEVATION CORRECTED FOR FLOATING PRODUCT USING 0.75 DENSITY FOR GASOLINE.

⁴ MEAN SEA LEVEL.

⁵ WATER LEVEL MEASUREMENTS BY ESE.

⁶ WATER LEVEL MEASUREMENTS BY NKJ.

⁷ TOC SURVEYED 8/10/93 BY PROFESSIONAL ENGINEER.

⁸ CORRECTED GROUNDWATER ELEVATION BY TANK PROTECT ENGINEERING

⁸ CORRECTED GROUNDWATER ELEVATION BY TANK PROTECT ENGINEERING.

⁹ NOT AVAILABLE.

¹⁰ NOT DETECTED.

¹¹ WELL TOP DESTROYED DURING REMEDIATION

TABLE 2
GROUNDWATER GRADIENTS, FLOW DIRECTIONS,
AND ELEVATION DATA

Date	Average Groundwater Elevation (Feet-MSL ¹)	Change in Average Groundwater Elevation (Feet)	Groundwater Gradient	Groundwater Flow Direction
04/16/92	13.57	---	.021	NW
06/11/93	13.59	0.02	.026	NW
08/17/93	12.80	-0.79	.029	RADIAL
03/31/94	13.97	+1.17	.050	RADIAL
06/27/94	13.38	-0.59	.020	RADIAL
09/16/94	12.65	-0.73	.0179-.0411	RADIAL
03/31/95	16.48	+3.83	.075	RADIAL
06/28/95	14.09	-2.39	.025-.053	RADIAL
09/28/95	12.52	-1.57	.025	NW
12/26/95	15.09	+2.57	.048	RADIAL
03/22/96	16.23	+1.14	.034-.132	RADIAL
06/20/96 ²	13.95	-2.28	.016	NW
09/30/96 ²	12.98	-0.97	.019	NW
12/27/96 ²	16.41	+3.43	.024-.029	N-NW

¹ MEAN SEA LEVEL.

² DOES NOT INCLUDE DATA FOR TMW-5; WELL TOP DESTROYED DURING REMEDIATION ACTIVITIES.

TABLE 3
SUMMARY OF FLOATING PRODUCT THICKNESS

Well Name	Date	Depth-to-Water From TOC ¹ (Feet)	Depth-to-Product From TOC (Feet)	Product Thickness (Feet)
MW-1	04/16/92 ²	16.66	11.54	5.12
	06/11/93	12.61	12.60	0.01
	08/17/93	14.40	13.63	0.77
	03/31/94	12.64	ND	---
	06/27/94	14.32	13.16	1.16
	09/16/94	15.86	13.64	2.22
	03/31/95	11.82	9.48	2.34
	06/28/95	13.50	12.60	0.90
	09/28/95	14.27	13.96	0.31
	12/26/95	11.77	11.62	0.15
	03/22/96	10.52	10.44	0.08
	06/20/96	13.38	12.49	0.089
	09/24/96	14.60	13.40	1.20
	12/27/96	9.17	9.08	0.09
	MW-2	04/16/92 ²	15.38	12.57
06/11/93		13.185	ND ³	---
08/17/93		14.04	14.03	0.01
03/31/94		13.61	13.07	0.54
06/27/94		14.24	13.44	0.80
09/16/94		17.82	13.36	4.46
03/31/95		16.72	9.28	7.44
06/28/95		13.50	12.77	0.73
09/28/95		14.63	14.09	0.54
12/26/95		12.58	11.68	0.90
03/22/96		11.46	11.31	0.15
06/20/96		13.08	12.71	0.37
09/30/96	16.67	12.92	3.75	

**TABLE 3
SUMMARY OF FLOATING PRODUCT THICKNESS**

Well Name	Date	Depth-to-Water From TOC ¹ (Feet)	Depth-to-Product From TOC (Feet)	Product Thickness (Feet)
MW-2	12/27/96	15.74	8.17	7.57
MW-3	04/16/92 ²	14.14	13.98	0.16
	06/11/93	14.275	ND	---
	08/17/93	15.77	ND	---
	03/31/94	14.35	ND	---
	06/27/94	14.77	ND	
	09/16/94	15.42	15.37	
	03/31/95	12.98	12.52	0.46
	06/28/95	14.20	14.15	0.05
	09/28/95	15.7	ND	--
	12/26/95	13.33	13.27	0.06
	03/22/96	12.81	12.77	0.04
	06/20/96	13.95	13.88	0.07
	09/24/96	14.86	14.82	0.04
	12/27/96	11.04	10.98	0.06
TMW-4	08/17/93	13.26	ND	---
	03/31/94	12.40	ND	---
	06/27/94	12.84	ND	---
	09/16/94	13.58	ND	---
	03/31/95	10.23	ND	---
	06/28/95	12.21	ND	---
	09/28/95	13.38	ND	---
	12/26/95	11.32	ND	---
	03/22/96	10.54	ND	---
	06/20/96	12.14	ND	---
	09/24/96	13.01	ND	---
	12/27/96	9.51	ND	---
TMW-5	08/17/93	12.98	12.95	0.03

TABLE 3
SUMMARY OF FLOATING PRODUCT THICKNESS

Well Name	Date	Depth-to-Water From TOC ¹ (Feet)	Depth-to-Product From TOC (Feet)	Product Thickness (Feet)
TMW-5	03/31/94	11.39	ND	---
	06/27/94	12.24	ND	---
	09/16/94	13.02	12.97	0.05
	03/31/95	7.38	ND	---
	06/28/95	11.31	11.25	0.06
	09/28/95	14.42	ND	---
	12/26/95	10.16	10.11	0.05
	03/22/96	7.59	7.54	0.05
	06/20/96 ¹¹	7.12	ND	---
	09/30/96 ¹¹	7.42	ND	---
	12/27/96	6.38	ND	---

¹ TOP-OF-CASING.

² RELATIVE TO SITE DATUM ESTABLISHED BY ESE.

³ ELEVATION CORRECTED FOR FLOATING PRODUCT USING 0.75 DENSITY FOR GASOLINE.

⁴ MEAN SEA LEVEL

⁵ WATER LEVEL MEASUREMENTS BY ESE.

⁶ WATER LEVEL MEASUREMENTS BY NKJ.

⁷ TOC SURVEYED 8/10/93 BY PROFESSIONAL ENGINEER.

⁸ CORRECTED GROUNDWATER ELEVATION BY TANK PROTECT ENGINEERING.

⁹ NOT AVAILABLE.

¹⁰ NOT DETECTED.

¹¹ WELL TOP DESTROYED DURING REMEDIATION

TABLE 4
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
(ppb¹)

Sample ID Name	Date	TPHG	Methyl t-Butyl Ether	Benzene	Toluene	Ethyl-benzene	Xylenes
MW-1	08/17/93	110,000	NA ²	270	690	730	3,100
	03/28/94	34,000	NA	4,900	1,800	1,200	4,000
	06/27/94	21,000	NA	12,000	810	760	2,500
	09/16/94	37,000	NA	7,900	2,400	1,300	3,300
	03/31/95	43,000	NA	8,100	1,900	1,000	4,200
	06/28/95	80,000	NA	7,900	3,200	1,800	7,300
	09/28/95	24,000	<1,200	4,900	470	470	1,700
	12/26/95	61,000	<1,200	12,000	4,200	1,500	5,500
	03/22/96	19,000	<2,500	6,000	47	260	<750
	06/20/96	15,000	910	2,900	100	240	98
	09/24/96	20,000	340	4,800	220	300	770
	12/27/96	24,000	<5.0	5,900	440	310	740
MW-2	08/17/93	49,000	NA	94	240	250	980
	03/28/94	14,000	NA	4,200	<250	910	1,400
	06/27/94	24,000	NA	4,400	72	1,100	1,700
	09/16/94	40,000	NA	2,300	250	2,000	4,100
	03/31/95	28,000	NA	4,000	<120	1,100	1,400
	06/28/95	40,000	NA	2,700	130	1,700	2,900
	09/28/95	7,500	<62	420	14	250	190
	12/26/95	22,000	<250	1,300	88	950	1,800
	03/22/96	9,800	<1,200	2,200	<120	400	<380
	06/20/96	35,000	550	770	<0.50	240	<0.50
	09/30/96	58,000	<5.0	1,600	230	2,200	4,000
	12/27/96	29,000	<5.0	2,100	<0.50	1,200	1,800
MW-3	08/17/93	9,600	NA	4.1	17	28	54
	03/28/94	8,400	NA	2,400	56	67	200
	06/27/94	9,900	NA	3,300	<22	<25	73
	09/16/94	16,000	NA	2,300	80	620	240

TABLE 4
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
(ppb¹)

Sample ID Name	Date	TPHG	Methyl t-butyl ether	Benzene	Toluene	Ethylbenzene	Xylenes
MW-3	03/31/95	16,000	NA	2,800	70	<25	920
	06/28/95	11,000	NA	2,300	32	81	240
	09/28/95	6,300	<420	1,900	<42	200	<120
	12/26/95	25,000	<250	3,800	97	94	1,600
	03/22/96	16,000	250	3,100	75	69	350
	06/20/96	8,500	220	1,400	28	140	15
	09/24/96	12,000	<5.0	2,400	87	340	110
	12/27/96	5,800	240	1,700	28	<0.50	42
	TMW-4	08/17/93	150	NA	<0.50	0.8	1.4
03/28/94		<50	NA	<0.50	<0.50	<0.50	<1.5
06/27/94		<50	NA	<0.50	<0.50	<0.50	<1.5
09/16/94		<50	NA	<0.50	<0.50	<0.50	<1.5
03/31/95		<50	NA	<0.50	<0.50	<0.50	<1.5
06/28/95		<50	NA	<0.50	<0.50	<0.50	<1.5
09/28/95		<50	<5.0	<0.50	<0.50	<0.50	<1.5
12/26/95		<50	<5.0	<0.50	<0.50	<0.50	<1.5
03/22/96		<50	<5.0	<0.50	<0.50	<0.50	<1.5
06/20/96		<50	<5.0	<0.50	<0.50	<0.50	<0.50
09/24/96		<50	<5.0	<0.50	<0.50	<0.50	<0.50
12/27/96	<50	<5.0	<0.50	<0.50	<0.50	<0.50	
TMW-5	08/17/93	120,000	NA	340	730	790	3,600
	03/28/94	70,000	NA	23,000	1,500	4,100	15,000
	06/28/94	56,000	NA	26,000	940	5,500	26,000
	09/16/94	96,000	NA	17,000	720	3,500	12,000
	03/31/95	64,000	NA	13,000	470	2,800	6,100
	06/28/95	65,000	NA	9,000	240	2,600	5,300
	09/28/95	79,000	<1,200	17,000	1,800	2,700	7,000
	12/26/95	110,000	<1,200	24,000	2,300	4,100	10,000
	03/22/96	56,000	<2,500	11,000	800	2,300	4,500

TABLE 4
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
(ppb¹)

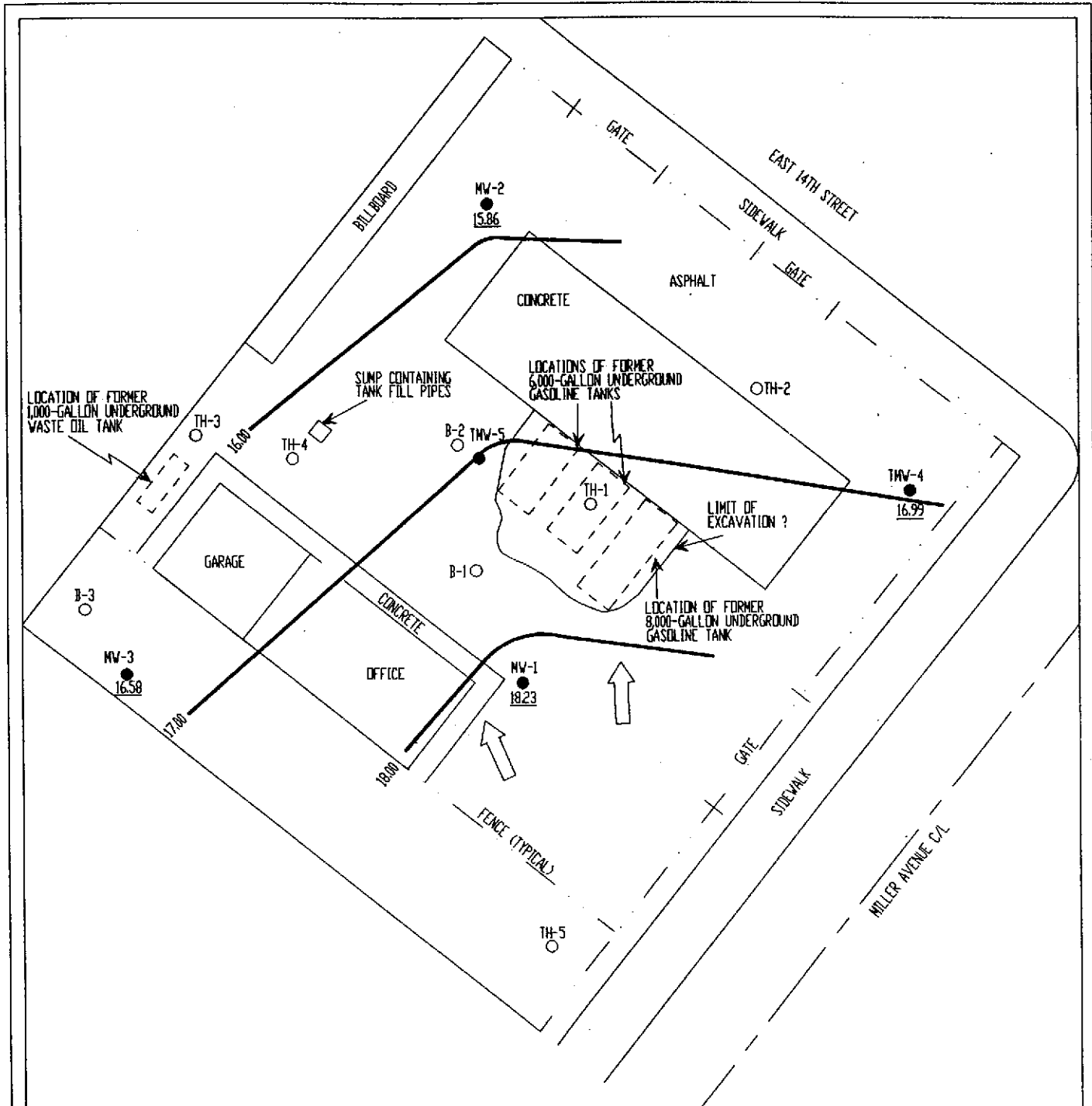
Sample ID Name	Date	TPHG	Methyl t-butyl ether	Benzene	Toluene	Ethyl-benzene	Xylenes
TMW-5	06/26/96	30,000	830	4,000	180	1,500	2,500
	09/30/96	6,900	<5.0	1,600	79	130	370
	12/27/96	78,000	<5.0	12,000	1,900	2,900	9,700
MW-6 ³	03/22/96	<50	<5.0	<0.50	<0.50	<0.50	<1.5
	06/20/96	<50	<5.0	<0.50	<0.50	<0.50	<0.50
	12/27/96	<50	<5.0	<0.50	<0.50	<0.50	<0.50
TMW-6 ⁴	08/17/93	<50	NA	<0.50	<0.50	<0.50	<0.50
	03/28/94	<50	NA	<0.50	<0.50	<0.50	<1.5
	06/27/94	<50	NA	<0.50	<0.50	<0.50	<1.5
	09/16/94	<50	NA	<0.50	<0.50	<0.50	<1.5
	03/31/95	<50	NA	<0.50	<0.50	<0.50	<1.5
	06/28/95	<50	<5.0	<0.50	<0.50	<0.50	<1.5
	09/28/95	<50	NA	<0.50	<0.50	<0.50	<1.5
	12/26/95	<50	<5.0	<0.50	<0.50	<0.50	<1.5
	09/24/96	<50	<5.0	<0.50	<0.50	<0.50	<0.50
	09/30/96	<50	<5.0	<0.50	<0.50	<0.50	<0.50

¹ PARTS PER BILLION.

² NOT ANALYZED.

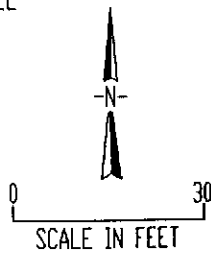
³ SAME AS TMW-6 (TRIP BLANK).

⁴ TRIP BLANK.



LEGEND

- MW-4 NAME AND LOCATION OF MONITORING WELL INSTALLED BY TPE
- MW-1 NAME AND LOCATION OF MONITORING WELL INSTALLED BY OTHERS
- B-1 NAME AND APPROXIMATE LOCATION OF SOIL BORING DRILLED BY OTHERS
- 18.23 POTENTIOMETRIC ELEVATION
- 18.00- POTENTIOMETRIC CONTOUR
- ← GROUNDWATER FLOW DIRECTION



TANK PROTECT ENGINEERING

SITE PLAN:
GROUNDWATER GRADIENT MAP (12/27/96)

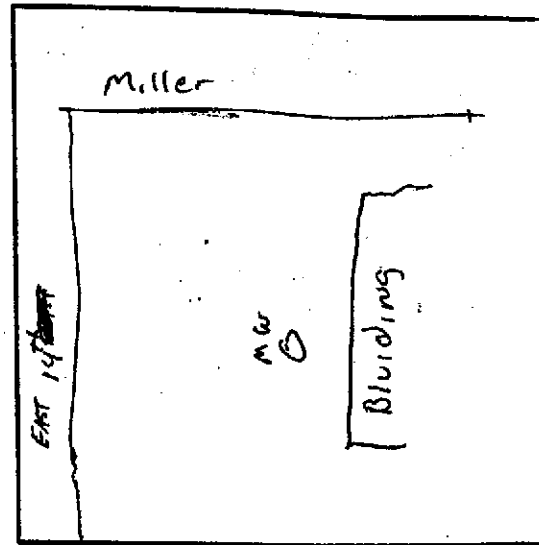
CREDIT WORLD AUTO SALES
2345 E. 14TH STREET
OAKLAND, CA 94601

DATE	1/6/97
FIGURE	1
FILE #	267-25N
DRAWN BY	VK
CHECKED BY	LNH

RECORD OF WELL DEVELOPMENT

PROJECT NO.: 247 DATE: 12-9-96
 PROJECT NAME: Credit World
 PROJECT LOCATION: _____
 DEVELOPER: James Bender
 WELL DEPTH (from construction detail): 25 FT
 WELL DEPTH (measured): 18.01 FT SOFT BOTTOM?: yes
 DEPTH TO WATER: ~~6 FT~~ 6.92 FT TIME: 1:50 PM
 PRESSURE (circle one): YES OR NO
 IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WELL NO.: JML-5
 WELL DIAMETER: 2 IN
 TOC ELEV: _____
 LOCK NO.: _____



LOCATION MAP

WATER VOLUME IN WELL: _____
 [2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78L]

DEVELOPMENT METHOD: Air pump

FLOATING PRODUCT PRESENT: YES NO
 SHEEN PRESENT: YES NO
 ODOR PRESENT: YES NO

FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol (Gal)	Clarity (NTU'S)	Remarks
2:20	6.92 FT	15 gal	Muddy	
3:15	10.01 FT	20	more muddy	

TOTAL VOLUME DEVELOPED (GAL): 20 (L): _____ WATER VOL. IN DRUM: NO
 SIGNATURE: James Bender NEED NEW DRUM?: NO

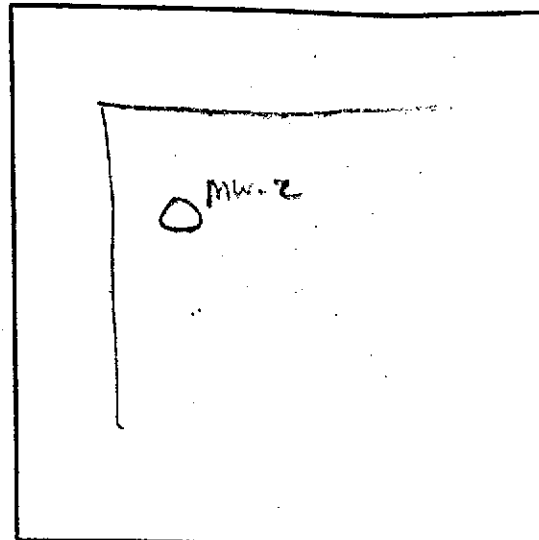
RECORD OF WELL DEVELOPMENT

PROJECT NO.: 267 DATE: 12-13-96
 PROJECT NAME: Credit World
 PROJECT LOCATION: 2345 TE 14th
 DEVELOPER: James Bender

WELL NO.: MW-2
 WELL DIAMETER: 2" N
 TOC ELEV: _____
 LOCK NO.: _____

WELL DEPTH (from construction detail): _____
 WELL DEPTH (measured): 19.60 SOFT BOTTOM?: YES
 DEPTH TO WATER: 7.00 TIME: —
 PRESSURE (circle one?): YES OR NO
 IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 2.016
 [2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78L]



LOCATION MAP

DEVELOPMENT METHOD: Hand Pump & Air Pump

FLOATING PRODUCT PRESENT: YES NO
 SHEEN PRESENT: YES NO
 ODOR PRESENT: YES NO

FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol (Gal)	Clarity (NTU'S)	Remarks
<u>1500</u>		<u>35</u>	<u>clear</u>	<u>Odor</u>

TOTAL VOLUME DEVELOPED (GAL): 55 (L): _____

WATER VOL. IN DRUM: NO

SIGNATURE: James J Bender

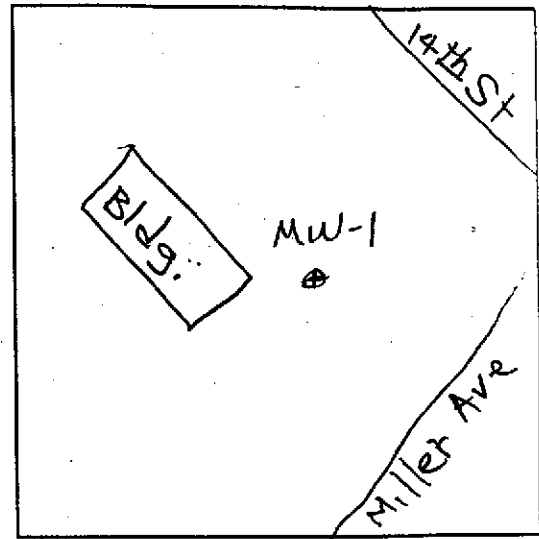
NEED NEW DRUM?: NO

RECORD OF WATER SAMPLING

PROJECT NO.: 267 DATE: FRI 12/27/96
 PROJECT NAME: CREDIT WORLD
 PROJECT LOCATION: 2345 E. 14th St
 SAMPLER: L. HUCKINS, B. TRANTHAM
 ANALYSES: TPHG, BTEX

WELL NO.: MW-1
 WELL DIAMETER: 2"
 TOC ELEV: _____
 LOCK NO.: _____

WELL DEPTH (from construction detail): _____
FLOATING PRODUCT 9.06, 9.10, 9.14, 9.08
 WELL DEPTH (measured): 34.34 SOFT BOTTOM?: Yes
 DEPTH TO WATER: 14.81, 14.73 TIME: 11:26, 11:27
 PRESSURE (circle one?): YES OR NO
 IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?



WATER VOLUME IN WELL: 4.0 GAL
 [2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78 L]

CALCULATED PURGE VOL. (GAL): 12.0 (L): 45.7 ACTUAL PURGE VOL. (GAL): _____ (L): 46
 PURGE METHOD: Poly Bailor SAMPLE METHOD: Poly Bailor

FIELD MEASUREMENTS

Floating Product on bailer top was 0.05'

Time	Depth to Water (FT)	Vol (L)	Temp (Deg. F)	pH	EC	Clarity	Turbidity (NTU)	Remarks
11:36		1				clear		Mod Gas Odor
11:55		41	65.5	6.92	1270			Strong odor
11:56		42	66.6	6.95	1370		Slight Cloudy	"
11:57		43	67.0	6.91	1370		"	"
11:58		44	67.1	6.87	1320		"	"
11:59		45	67.3	6.86	1310		"	"
12:00		46	67.4	6.85	1350		"	"
12:05	well sampled							
12:05							200 Sample 144.3	Sampled Well

SIGNATURE: C J Lantham

WATER VOL. IN DRUM: FULL
 NEED NEW DRUM?: _____

RECORD OF WATER SAMPLING

PROJECT NO.: 267 DATE: FRI 12/27/96

WELL NO.: MW-2

PROJECT NAME: CREDIT WORLD

WELL DIAMETER: 2"

PROJECT LOCATION: 2345 E. 14th St.

TOC ELEV: _____

SAMPLER: L. Huckins / C Trantham

LOCK NO.: _____

ANALYSES: TPH, BTEX

WELL DEPTH (from construction detail): _____

WELL DEPTH (measured): 33.24 SOFT BOTTOM?: Yes

FLOATING PRODUCT - 8.11, 8.17
DEPTH TO WATER: 15.74 TIME: 10:17, 10:18

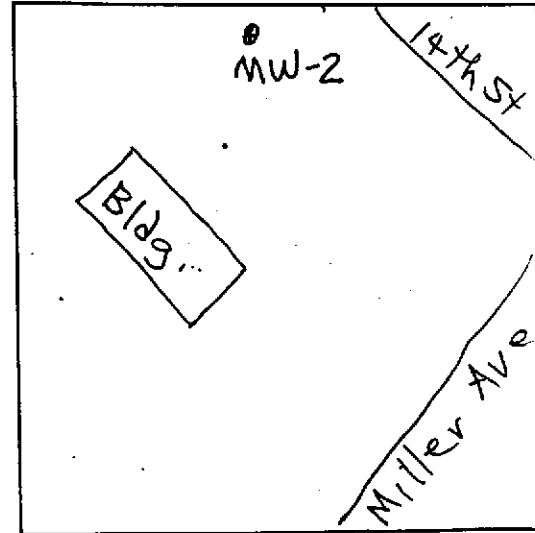
PRESSURE (circle one)? YES OR NO

IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?
33.24 - 10.74 x 0.16 = 2.8

WATER VOLUME IN WELL: 2.8 GAL

[2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]

[6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78L]



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 8.4 (L): 31.8 ACTUAL PURGE VOL. (GAL): _____ (L): 32

PURGE METHOD: Poly Bailer SAMPLE METHOD: Poly Bailer

FIELD MEASUREMENTS

Bail 8'0" of floating product

Time	Depth to Water (FT)	Vol (L)	Temp (Deg. F)	pH	EC	Clarity	Turbidity (NTU)	Remarks
10:28		1	63.7	7.03	1.19	Very Cloudy		Extremely Odiferous
10:40		27	65.0	7.28	1.14			"
10:41		28	65.6	6.95	1.15			"
10:42		29	66.2	6.90	1.18			"
10:43		30	66.5	6.85	1.16			"
10:44		31	66.1	6.80	1.15			"
10:45		32	66.2	6.80	1.17			"
10:50						lightly cloudy	200 300 1.0 103.4	Sampled Well sken

WATER VOL. IN DRUM: FULL
NEED NEW DRUM?: _____

SIGNATURE: C J Trantham

RECORD OF WATER SAMPLING

PROJECT NO.: 267 DATE: FRI 12/27/96
 PROJECT NAME: CREDIT WORLD
 PROJECT LOCATION: 2345 E 14th St
 SAMPLER: L. Huckins / C Trantham
 ANALYSES: TPHG, BTEX

WELL NO.: MW-3
 WELL DIAMETER: 2"
 TOC ELEV: _____
 LOCK NO.: _____

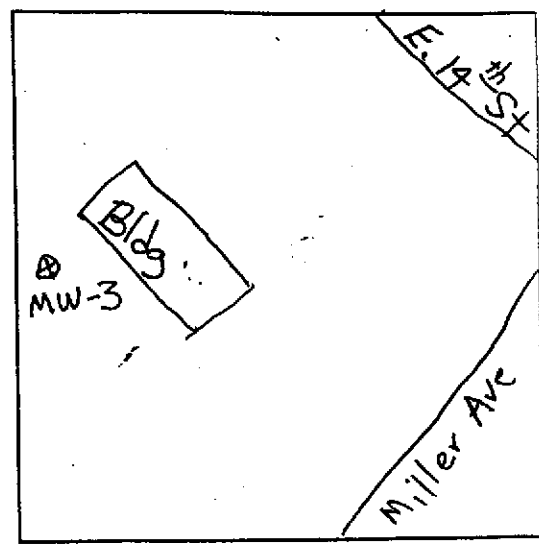
WELL DEPTH (from construction detail): _____
FLOATING PRODUCT - 10.98, 10.98, 10.98
 WELL DEPTH (measured): 35.00 SOFT BOTTOM?: Yes

DEPTH TO WATER: 11:04, 11:09, 11:04 TIME: 12:11
 PRESSURE (circle one)? YES OR NO

IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

$\frac{35.00}{11.04} \times 0.16 = 3.83$
 WATER VOLUME IN WELL: 3.83 GAL

[2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]
 [6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78 L]



CALCULATED PURGE VOL. (GAL): 11.5 (L): 43.5 ACTUAL PURGE VOL. (GAL): _____ (L): 44
 PURGE METHOD: Poly Bailer SAMPLE METHOD: Poly Bailer

FIELD MEASUREMENTS

No floating product in 1st bailer

Time	Depth to Water (FT)	Vol (L)	Temp (Deg. F)	pH	EC	Clarity	Turbidity (NTU)	Remarks
12:15		1	62.8	7.40	1.05	Clear		Very Strong Odor - gas
12:31		39	63.0	7.59	1.06	slightly cloudy		30-stroke on water Very Strong Odor - gas
12:32		40	64.2	7.40	1.06	"		" " " "
12:32		41	64.5	7.37	1.05	"		" " " "
12:33		42	64.7	7.17	1.06	"		" " " "
12:34		43	64.9	7.17	1.05	"		" " " "
12:35		44	65.0	7.17	1.09	"		" " " "
12:40						"	200 Scale 192.0	Sampled Well

WATER VOL. IN DRUM: FULL
 NEED NEW DRUM?: _____

SIGNATURE: C J Trantham

RECORD OF WATER SAMPLING

PROJECT NO.: 267 DATE: FRI 12/27/96

WELL NO.: TMW-4

PROJECT NAME: CREDIT WORLD

WELL DIAMETER: 2"

PROJECT LOCATION: 2345 E 14th St

TOC ELEV: _____

SAMPLER: L. Huckins / C Trantham

LOCK NO.: _____

ANALYSES: TPHG, BTEX

WELL DEPTH (from construction detail): _____

WELL DEPTH (measured): 33.87 SOFT BOTTOM?: Yes

DEPTH TO WATER: 9.51 TIME: 9:35

PRESSURE (circle one): YES OR NO

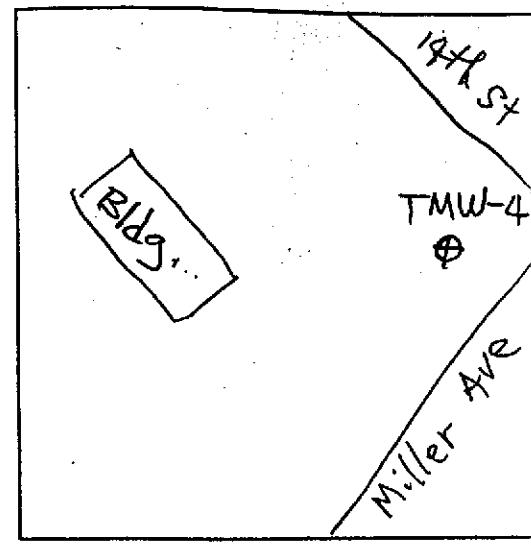
IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

$\frac{33.87 - 9.51}{24.36} \times 0.16 = 3.9$
 WATER VOLUME IN WELL: 3.9 GAL

[2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]

[6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78 L]

$3.9 \times 3 \text{ (Purge Vol)} = 11.7 \text{ GAL}$



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 11.7 (L): 44.2 ACTUAL PURGE VOL. (GAL): _____ (L): 45

PURGE METHOD: Poly Bailer SAMPLE METHOD: Poly Bailer

FIELD MEASUREMENTS

Time	Depth to Water (FT)	Vol (L)	Temp (Deg. F)	pH	EC	Clarity	Turbidity (NTU)	Remarks
9:41		1	63.9	7.16	1.25	Clear		No Odor
10:00		40	63.3	7.09	1.11	mod. cloudy		" "
10:01		41	65.2	6.98	1.09	"		" "
10:02		42	65.9	6.95	1.10	"		" "
10:03		43	66.3	6.95	1.10	"		" "
10:04		44	66.6	6.96	1.09	"		" "
10:05		45	66.6	6.96	1.10	"		" "
10:10							>200	Sampled Well

WATER VOL. IN DRUM: FULL
 NEED NEW DRUM?: _____

SIGNATURE: C J Trantham

RECORD OF WATER SAMPLING

PROJECT NO.: 267 DATE: FRI 12/27/96

WELL NO.: TMW-5

PROJECT NAME: CREDIT WORLD

WELL DIAMETER: 2"

PROJECT LOCATION: 2345 E. 14th St

TOC ELEV: _____

SAMPLER: L. Huckins / C Trantham

LOCK NO.: _____

ANALYSES: TPHG, BTEX

WELL DEPTH (from construction detail): _____

WELL DEPTH (measured): 20.12 SOFT BOTTOM?: YES
FLOATING PRODUCT 6.31 6.39 6.33

DEPTH TO WATER: ~~7.2~~ 6.38 TIME: 10:57

PRESSURE (circle one?): YES OR NO

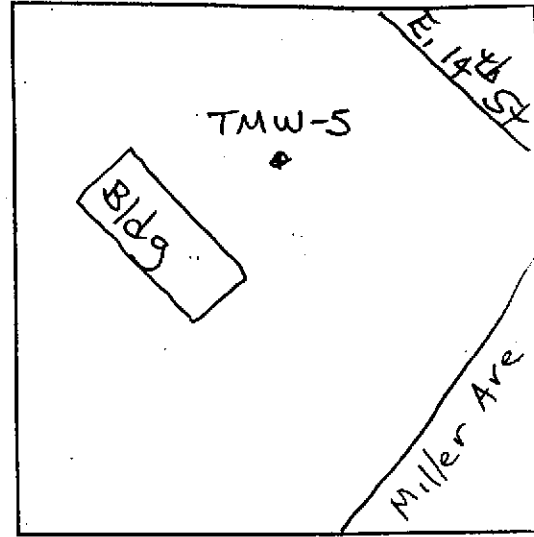
IF YES, WAS PRESSURE (circle one): POSITIVE OR NEGATIVE?

WATER VOLUME IN WELL: 2.2

[2-INCH CASING = 0.16 GAL/FT] [4-INCH CASING = 0.65 GAL/FT]

[6-INCH CASING = 1.47 GAL/FT] [1 GAL = 3.78L]

8.3 X 3



LOCATION MAP

CALCULATED PURGE VOL. (GAL): 6.6 (L): 24.9 ACTUAL PURGE VOL. (GAL): _____ (L): 25

PURGE METHOD: Poly Bailer SAMPLE METHOD: Poly Bailer

FIELD MEASUREMENTS

No floating product in bailer

Time	Depth to Water (FT)	Vol (L)	Temp (Deg. F)	pH	EC	Clarity	Turbidity (NTU)	Remarks
11:02		1	62.6	7.37	1.33	clear		slight Gas odor
11:10		20	64.7	7.36	1.36	"		" " "
11:11		21	66.0	7.21	1.40	"		" " "
11:12		22	66.1	7.29	1.37	"		" " "
11:12		23	66.2	7.20	1.37	"		" " "
11:13		24	66.1	7.16	1.39	"		" " "
11:14		25	66.0	7.18	1.38	"		" " "
11:15						"	^{200 scale} 62.4	Sampled Well

WATER VOL. IN DRUM: FULL
 NEED NEW DRUM?: _____

SIGNATURE: C D Trantham

ALAMEDA COUNTY
HEALTH CARE SERVICES



AGENCY

DAVID J. KEARS, Agency Director

October 3, 1996
StID # 2116

Mr. Stanley Wong
2200 E. 12th St.
Oakland CA 94606

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

Re: Status of Subsurface Investigation at 2345 E. 14th St.,
Oakland CA 94601, Former Taxi Taxi

Dear Mr. Wong:

This letter serves to recount a recent conversation with Mr. Lee Huckins of Tank Protect Engineering (TPE). Among the items discussed was the continued offsite investigation at the above site. The overexcavation activities has delayed the offsite investigation proposed in TPE's August 4, 1995 workplan. I would like to inform you of the significant items of our conversation as well approve and request implementation of the offsite investigation.

At this time, no further soil excavation is requested. I am aware that soil contamination may still exist in the northern portion of the property, however, offsite investigation should be performed prior to any additional soil excavation.

Monitoring well TMW-5 was being considered for closure since it had been damaged during the excavation activities. It was decided that this well should remain since it is nearest the source of the release and could be used in future remediation.

Your consultant was requested to investigate the various options for free product removal and implement an appropriate one. Several of the monitoring wells have consistently detected free product, therefore, a removal system must be implemented as soon as possible.

In regards to the previously proposed offsite investigation, the proposal to install up to nine offsite borings is accepted by our office. Please be aware that since the August 1995 proposal date, additional boring techniques are commonly in use. Therefore, you are encouraged to use any of the rapid site assessment techniques ie Geoprobe, Hydropunch etc. In addition, you should begin your offsite investigation radially outward from the former tank pit area. The extreme borings on E. 14th St. and Miller Ave. should be done only if necessary. Based on the boring locations, permits will be required to gain drilling access. Please initiate the permit procedures as soon as possible. You should also be aware that offsite monitoring wells

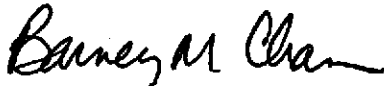
Mr. Stanley Wong
StID # 2116
2345 E. 14th St.
October 3, 1996
Page 2.

will be required to determine the extent of the groundwater plume. You may want to consider installing permanent wells immediately after the initial investigation so this could be done under the same permit.

Please include a status of the above items in your future quarterly monitoring reports.

You may contact me at (510) 567-6765 if you have any questions.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

c: Mr. L. Huckins, TPE, 2821 Whipple Rd., Union City, CA 94587
B. Chan, files

ssi2345

SAMPLE HANDLING PROCEDURES

Soil and groundwater samples will be packaged carefully to avoid breakage or contamination and will be delivered to the laboratory in an iced-cooler. The following sample packaging requirements will be followed.

- . Sample bottle/sleeve lids will not be mixed. All sample lids will stay with the original containers and have custody seals affixed to them.
- . Samples will be secured in coolers to maintain custody, control temperature and prevent breakage during transportation to the laboratory.
- . A chain-of-custody form will be completed for all samples and accompany the sample cooler to the laboratory.
- . Ice, blue ice or dry ice (dry ice will be used for preserving soil samples collected for the Alameda County Water District) will be used to cool samples during transport to the laboratory.
- . Water samples will be cooled with crushed ice. In the Alameda County Water District, water samples will be buried in the crushed ice with a thermometer, and the laboratory will be requested to record thermometer temperature at the time of receipt.
- . Each sample will be identified by affixing a pressure sensitive, gummed label or standardized tag on the container(s). This label will contain the site identification, sample identification number, date and time of sample collection and the collector's initials.
- . Soil samples collected in brass tubes will be preserved by covering the ends with Teflon tape and capping with plastic end-caps. The tubes will

be labeled, sealed in quart size bags and placed in an iced-cooler for transport to the laboratory.

All groundwater sample containers will be precleaned and will be obtained from a State Department of Health Services certified analytical laboratory.

Sample Control/Chain-of-Custody: All field personnel will refer to this workplan to verify the methods to be employed during sample collection. All sample gathering activities will be recorded in the site file; all sample transfers will be documented in the chain-of-custody; samples will be identified with labels; all sample bottles will be custody-sealed. All information is to be recorded in waterproof ink. All TPE field personnel are personally responsible for sample collection and the care and custody of collected samples until the samples are transferred or properly dispatched.

The custody record will be completed by the field technician or professional who has been designated by the TPE project manager as being responsible for sample shipment to the appropriate laboratory. The custody record will include, among other things, the following information: site identification, name of person collecting the samples, date and time samples were collected, type of sampling conducted (composite/grab), location of sampling station, number and type of containers used and signature of the TPE person relinquishing samples to a non-TPE person with the date and time of transfer noted. The relinquishing individual will also put all the specific shipping data on the custody record.

Records will be maintained by a designated TPE field employee for each sample: site identification, sampling location, station number, date, time, sampler's name, designation of the sample as a grab or composite, notation of the type of sample (e.g., groundwater, soil boring, etc.), preservatives used, onsite measurement data and other observations or remarks.

GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

Groundwater monitoring wells will not be sampled until at least 24 to 72 hours (according to local regulatory guidelines) after well development. Groundwater samples will be obtained using a bladder pump, clear Teflon bailer or dedicated polyethylene bailer. Prior to collecting samples, the sampling equipment will be thoroughly decontaminated to prevent introduction of contaminants into the well and to avoid cross-contamination. Monitoring wells will be sampled after 3 to 10 wetted casing volumes of groundwater have been evacuated and pH, electrical conductivity and temperature have stabilized as measured with a Hydac Digital Tester. If the well is emptied before 3 to 10 well volumes are removed, the sample will be taken when the water level in the well recovers to 80% or more of its initial water level.

When a water sample is collected, turbidity of the water will be measured and recorded with a digital turbidimeter. Degree of turbidity will be measured and recorded in nephelometric turbidity units (NTU).

TPE will also measure the thickness of any floating product in the monitoring wells using an interface probe or clear Teflon or polyethylene bailer. The floating product will be measured after well development but prior to the collection of groundwater samples. If floating product is present in the well, TPE will recommend to the client that product removal be commenced immediately and reported to the appropriate regulatory agency.

Unless specifically waived or changed by the local, prevailing regulatory agency, water samples will be handled and preserved according to the latest United States Environmental Protection Agency methods as described in the Federal Register (Volume 44, No. 233, Page 69544, Table II) for the type of analysis to be performed.

Development and/or purge water will be stored on site in labeled containers. The disposal of the containers and development and/or purge water is the responsibility of the client.

MEASUREMENTS

Purged Water Parameter: During purging, discharged water will be measured for the following parameters.

<u>Parameter</u>	<u>Units of Measurement</u>
pH	None
Electrical Conductivity	Micromhos
Temperature	Degrees F or C
Depth to Water	Feet/Hundredths
Volume of Water Discharged	Gallons
Turbidity	NTU

Documentation: All parameter measurements will be documented in writing on TPE development logs.

QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The overall objectives of the field sampling program include generation of reliable data that will support development of a remedial action plan. Sample quality will be checked by the use of proper sampling, handling and testing methods. Additional sample quality control methods may include the use of background samples, equipment rinsate samples and trip and field blanks. Chain-of-custody forms, use of a qualified laboratory, acceptable detection limits and proper sample preservation and holding times also provide assurance of accurate analytical data.

TPE will follow a quality assurance and quality control (QA/QC) program in the field to ensure that all samples collected and field measurements taken are representative of actual field and environmental conditions and that data obtained are accurate and reproducible. These activities and laboratory QA/QC procedures are described below.

Field Samples: Additional samples may be taken in the field to evaluate both sampling and analytical methods. Three basic categories of QA/QC samples that may be collected are trip blanks, field blanks and duplicate samples.

Trip blanks are a check for cross-contamination during sample collection, shipment, and laboratory analysis. They are water samples that remain with the collected samples during transportation and are analyzed along with the field samples to check for residual contamination. Analytically confirmed organic-free water will be used for organic parameters and deionized water for metal parameters. Blanks will be prepared by the laboratory supplying the sample containers. The blanks will be numbered, packaged and sealed in the same manner as the other samples. One trip blank will be used for each sample set of less than 20 samples. At least 5% blanks will be used for sets greater than 20 samples. The trip blank is not to be opened by either the sample collectors or the handlers.

The field blank is a water sample that is taken into the field and is opened and exposed at the sampling point to detect contamination from air exposure. The water

sample is poured into appropriate containers to simulate actual sampling conditions. Contamination due to air exposure can vary considerably from site to site.

The laboratory will not be informed about the presence of trip and field blanks, and false identifying numbers will be put on the labels. Full documentation of these collection and decoy procedures will be made in the site log book.

Duplicate samples are identical sample pairs (collected in the same place and at the same time), placed in identical containers. For soils, adjacent sample liners will be analyzed. For the purpose of data reporting, one is arbitrarily designated the sample, and the other is designated as a duplicate sample. Both sets of results are reported to give an indication of the precision of sampling and analytical methods.

The laboratory's precision will be assessed without the laboratory's knowledge by labeling one of the duplicates with false identifying information. Data quality will be evaluated on the basis of the duplicate results.

Laboratory QA/QC: Execution of a strict QA/QC program is an essential ingredient in high-quality analytical results. By using accredited laboratory techniques and analytical procedures, estimates of the experimental values can be very close to the actual value of the environmental sample. The experimental value is monitored for its precision and accuracy by performing QC tests designed to measure the amount of random and systematic errors and to signal when correction of these errors is needed.

The QA/QC program describes methods for performing QC tests. These methods involve analyzing method blanks, calibration standards, check standards (both independent and the United States Environmental Protection Agency-certified standards), duplicates, replicates and sample spikes. Internal QC also requires adherence to written methods, procedural documentation and the observance of good laboratory practices.

Entech Analytical Labs, Inc.

CA ELAP# 1369

525 Del Rey Avenue, Suite E • Sunnyvale, CA 94086 • (408) 735-1550 • Fax (408) 735-1554

Tank Protect Engineering
2821 Whipple Road
Union City, CA 94587-1233
Attn: Lee Huckins

Date:	1/2/97
Date Received:	12/30/96
Date Analyzed:	1/1/97
Project:	267122796
Sampled By:	Client

Certified Analytical Report

Water Sample Analysis:

Test	MW-1	MW-2	MW-3	MW-4	Units	PQL	EPA Method #
Sample Matrix	Water	Water	Water	Water			
Sample Date	12/27/96	12/27/96	12/27/96	12/27/96			
Sample Time	12:05	10:50	12:40	10:10			
Lab #	C18172	C18173	C18174	C18175			
DF-Gas/BTEX	200	200	20	1			
TPH-Gas	24,000	29,000	5,800	ND	µg/liter	50.0 µg/l	8015M
MTBE	ND	ND	240	ND	µg/liter	5.0 µg/l	8020
Benzene	5,900	2,100	1,700	ND	µg/liter	0.5 µg/l	8020
Toluene	440	ND	28	ND	µg/liter	0.5 µg/l	8020
Ethyl Benzene	310	1,200	ND	ND	µg/liter	0.5 µg/l	8020
Xylenes	740	1,800	42	ND	µg/liter	0.5 µg/l	8020

- DLR=DF x PQL
- Analysis performed by Entech Analytical Labs, Inc. (CAELAP #1369)


Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above DLR

Environmental Analysis Since 1983

Entech Analytical Labs, Inc.

CA ELAP# 1369

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Tank Protect Engineering
2821 Whipple Road
Union City, CA 94587-1233
Attn: Lee Huckins

Date:	1/2/97
Date Received:	12/30/96
Date Analyzed:	12/30-12/31/96
Project:	267122796
Sampled By:	Client

Certified Analytical Report

Water Sample Analysis:

Test	MW-5	MW-6	Units	PQL	EPA Method #
Sample Matrix	Water	Water			
Sample Date	12/27/96	12/27/96			
Sample Time	11:15	12:40			
Lab #	C18176	C18177			
DF-Gas/BTEX	400	1			
TPH-Gas	78,000	ND	µg/liter	50.0 µg/l	8015M
MTBE	ND	ND	µg/liter	5.0 µg/l	8020
Benzene	12,000	ND	µg/liter	0.5 µg/l	8020
Toluene	1,900	ND	µg/liter	0.5 µg/l	8020
Ethyl Benzene	2,900	ND	µg/liter	0.5 µg/l	8020
Xylenes	9,700	ND	µg/liter	0.5 µg/l	8020

1. DLR=DF x PQL
2. Analysis performed by Entech Analytical Labs, Inc. (CAELAP #1369)



Michael N. Golden, Lab Director

DF=Dilution Factor
DLR=Detection Reporting Limit

PQL=Practical Quantitation Limit
ND=None Detected at or above DLR

Environmental Analysis Since 1983



TANK PROTECT ENGINEERING
of Northern California, Inc
2821 Whipple Rd., Union City, CA 94587-1233

(510) 429-8088 ■ (800) 523-8088 ■ Fax (510) 429-8089

LAB: ENTECH ANALYTICAL LABS, INC
TURNAROUND: 48 hr
P.O. #: 1371

PAGE 1 OF 1

CHAIN OF CUSTODY

PROJECT NO.		SITE NAME & ADDRESS				(1) TYPE OF CON- TAINER	ANALYTICALS REQUESTED							REMARKS
267122796		CREDIT WORLD 2345 E 14th St Oakland, CA					TOTAL LIGHT BC	AROMATIC BC	TOTAL HEAVY BC	OIL & GREASE	PCB SCAM (24's)	OTHER	RUSH	
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER														
L.N. Hockins / C I Trantham 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088														
ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION									
MW-1	12/27	12:05		X		2-40 ml VOAS	X	X					C18172	
MW-2	12/27	10:50		X		"	X	X					C18173	
MW-3	12/27	12:40		X		"	X	X					C18174	
MW-4	12/27	10:10		X	Sample 50 IS TMW-4	"	X	X					C18175	
MW-5	12/27	11:15		X	Sample 50 IS TMW-5	"	X	X					C18176	
MW-6	12/27	12:40		X	(TB)	"	X	X					C18177	
Relinquished by : (Signature)		Date / Time		Received by : (Signature)		Relinquished by : (Signature)		Date / Time		Received by : (Signature)				
C I Trantham		12/27/11:35		[Signature]										
Relinquished by : (Signature)		Date / Time		Received by : (Signature)		Relinquished by : (Signature)		Date / Time		Received by : (Signature)				
Relinquished by : (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks						

DATE: _____