ATC ASSOCIATES INC.

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4610

8 January 1998
61137.0002

Mr. Tommy A. Conner, Esq.
Law Offices of Tommy A. Conner
444 De Haro Street, Suite 121
San Francisco, California 94107

SUBJECT: FOURTH QUARTER 1997, GROUNDWATER MONITORING REPORT, 3927 EAST 14TH STREET, OAKLAND, CALIFORNIA

Dear Tommy:

ATC Associates Inc. (ATC) is pleased to submit this report summarizing the results of the fourth quarter 1997 groundwater monitoring activities conducted on 26 November 1997 at the New Genico facility located at 3927 East 14th Street in Oakland, California (site, Figure 1). The work was conducted in general accordance with Proposal No. SJ960103 dated 19 February 1997, between ATC and Mr. Ruben Hausauer. The work was conducted, at your request and authorization, to interpret the groundwater flow direction and to assess the concentrations of petroleum hydrocarbons at the New Genico site.

It is the understanding of ATC that Mr. Ruben Hausauer has been required to conduct quarterly groundwater monitoring by the Alameda County Department of Environmental Health (ACDEH) and the Regional Water Quality Control Board (RWQCB) in response to a release from a former 550-gallon underground storage tank (UST). The ACDEH has requested that Mr. Hausauer coordinate sampling activities with Motor Partners. The information contained herein is based on samples collected concurrent with Motor Partners.

OBJECTIVES

The objectives were to interpret the groundwater flow direction and to assess the concentrations of petroleum hydrocarbons in groundwater.

VATC ASSOCIATES INC.
ENVIRONMENTAL, GEOTECHNICAL AND MATERIALS PROFESSIONALS
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LETTER OF TRANSMITTAL

61137.0002

DATE: 1/13/98	ATC. JOB NO.: ~~61137.0011~~
ATTENTION: Tommy Conner	
RE:	

TO The Law Offices of Tommy Conner
444 De Haro Street, Suite 121
San Francisco, CA 94107

We are sending you ☑ Attached ☐ Under separate cover via: _____ the following items:

☑ Report ☐ Plans ☐ _____
☐ Copy of Letter ☐ Contract Documents ☐ _____
☐ Specifications ☐ Samples ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	Jan 8/98		4th QTR. 1997 GW monitoring Rpt.
			3927 - East 14th Street
			Oakland, CA.

THESE ARE TRANSMITTED as check below:
☐ For Approval ☑ For Your Use ☐ As Requested ☐ For Review and Comment

REMARKS:

cc: Ms. Ruba Hanssen - 6017 East 14th Street
Ms. Barney Chan - Alameda County Health
Ms. Kevin Graves - RWQCB, Oakland

COPY TO Files

SIGNED

GROUNDWATER MONITORING

Groundwater monitoring during the fourth quarter 1997 sampling event (conducted on 26 November 1997) included the measurement of groundwater levels, and the collection and analysis of groundwater samples from three monitoring wells (Figure 2). Historical groundwater elevations and sample analytical results from previous reports are included in Tables 1 and 2, respectively.

To assess the piezometric conditions at the site, the groundwater levels in each of the monitoring wells were measured within an approximate 15-minute period, prior to the initiation of groundwater sampling. Groundwater levels were measured using a Solinst water level indicator which measures to one-hundredth of an inch. Groundwater elevations from the current sampling event and historic groundwater piezometric elevations are presented in Table 1. Groundwater elevations from the current sampling event for the Motor Partners Site are presented in Table 1. Groundwater elevations have increased in the three gauged wells (HMW1, HMW2 and HMW3) an average of 1.31 feet since they were last measured on 2 September 1997.

Water elevations were calculated from depth to groundwater data and top of casing (TOC) elevations, as surveyed by Kier & Wright Civil Engineers & Surveyors, Inc. (Kier & Wright) on 22 August 1996. Depth to water measurements were recorded by both ATC and Gary Rogers, Ph.D., for the New Genico site and the Motor Partners facility (located across 40th Avenue), respectively. The recently surveyed TOC elevations for both sites (by Kier & Wright), were used to calculate groundwater elevations, which were used to interpret the hydraulic gradient and direction. Depth to groundwater measurements for the 1234 - 40th Avenue, Oakland, California property, as measured by Gary Rogers, were obtained by ATC from him.

Based on the resulting groundwater elevations calculated for the area proximate to both sites, a predominantly southerly to southeasterly groundwater gradient has been interpreted by ATC. Piezometric groundwater levels as measured on 26 November 1997, and an interpretation of the groundwater flow direction (as indicated by contours), are presented in Figure 2. The groundwater elevation data suggests a hydraulic gradient of 0.02 foot per foot (ft/ft) for the 26 November 1997 sampling event. The reported groundwater flow direction, as indicated by the groundwater flow map, is similar to historic patterns.

Groundwater samples were collected from New Genico's two on-site and one off-site monitoring wells following measurement of groundwater levels and purging of approximately four to five casing volumes of water from HMW1, HMW2 and HMW3. Measurements of pH, temperature, and specific conductivity were taken during the purging of the wells, and the data was recorded on groundwater collection logs (Appendix A). Groundwater sampling was conducted using procedures developed by ATC that are in general accordance with RWQCB guidelines. A summary of the field procedures used to monitor and sample groundwater is presented in Appendix B. The purged groundwater was placed into labeled 55-gallon drums for temporary storage on-site, pending proper disposal.

A Teflon bailer was used to purge and sample groundwater and to allow for observations of sheen or floating product in the well. Petroleum odors from purged wells HMW1 and HMW2 were documented on groundwater collection logs. Groundwater samples were transferred from the bailer to laboratory-provided containers appropriate for the respective analyses to be performed, labeled for identification purposes, and stored on ice in an insulated cooler for delivery to the laboratory for analysis.

Groundwater samples were analyzed in the field for pH, specific conductance, temperature and dissolved oxygen. Results are presented in Table 3.

LABORATORY ANALYSIS

Groundwater samples collected during the fourth quarter 1997 sampling event were transported to American Environmental Network, a State-certified hazardous waste laboratory, for analysis using chain-of-custody procedures. Samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) benzene, toluene, ethylbenzene and xylenes (BTEX) and Methyl tert-Butyl Ether using Environmental Protection Agency (EPA) Method 8020; and for total petroleum hydrocarbons as diesel (TPHd) and motor oil (TPHmo) using EPA Method 3510 (gas chromatogram). Groundwater analytical results are summarized in Table 2 and the laboratory report has been included as Appendix C.

Bioremediation parameters including dissolved oxygen, oxidation-reduction potential, sulfate, nitrate and ferrous iron were analyzed in accordance with a letter dated 12 August 1997 directed ~~to~~ from Alameda County Department of Environmental Health ~~from~~ the Law Offices of Tommy Conner. Bioremediation parameter results are summarized in Table 3 and laboratory report forms have been included as Appendix C.

Laboratory analysis of groundwater samples from HMW1, HMW2 and HMW3 indicated TPHg concentrations ranging from 70 micrograms per liter (µg/L), in HMW3, to 7,500 µg/L, in HMW1. Benzene concentrations ranged from 0.6 µg/L, in HMW3, to 1,000 µg/L, in HMW1. Toluene concentrations ranged from 0.8 µg/L, in HMW3 to 120 µg/L, in HMW1. Ethylbenzene concentrations ranged from below reporting limits in HMW3 to 270 µg/L in HMW1. Xylene concentrations ranged from below reporting limits in HMW3 to 320 µg/L in HMW1.

Analysis by EPA Method 8020 indicated that MtBE was present above reporting limits in HMW2 and HMW1 at concentrations of 31 µg/L and 88 µg/L, respectively. Because MtBE analysis using EPA Method 8020 can result in false positive results, the sample from HMW1 was re-analyzed for MtBE using EPA Method 8260. Confirmation analysis for MtBE by EPA Method 8260 indicated that MtBE was not present above the reporting limit for HMW1.

Laboratory analysis of groundwater samples indicated that TPHd concentrations ranged from 50 µg/L in HMW3 to 4700 µg/L in HMW1. TPHmo concentrations ranged from below reporting limits in HMW2 and HMW3 to a concentration of 3,000 µg/L in HMW1.
Dissolved oxygen concentrations ranged from 1.4 mg/L (HMW3) to 2.5 mg/L (HMW2). Oxidation-reduction potential concentrations ranged from 52 mV (HMW2) to 105 mV (HMW1). Sulfate concentrations ranged from below reporting limits (HMW1 and HMW2) to 50 mg/L (HMW3). Nitrate was reported in HMW1 and HMW3 at concentrations of 0.6 mg/L and 3.5 mg/L, respectively. Ferrous iron concentrations ranged from below reporting limits (HMW1) to 0.03 mg/L (HMW2).

DISCUSSION

Water levels in each of the three monitoring wells have increased since last quarter. The hydraulic gradient for the 26 November 1997 sampling event is estimated to be 0.02 ft/ft, with groundwater flow direction predominantly south to southeast when using depth to groundwater measurements collected by Gary Rogers Ph.D., ATC and Kier & Wright's TOC elevations.

The following analytical trends have occurred since the last quarterly sampling event: TPHg concentrations have increased in monitoring well HMW1 and have decreased in HMW2 and HMW3; benzene concentrations have increased in HMW1, decreased in HMW2 and increased slightly in HMW3; MtBE concentrations remained below reporting limits in HMW1, decreased in HMW2 and have remained below reporting limits in HMW3; TPHd concentrations have decreased in HMW1 and HMW2 and increased in HMW3; TPHmo concentrations have decreased in HMW1 and remained below reporting limits in HMW2 and HMW3.

During the 2 September 1997 sampling event, a partially full small container of motor oil was observed on the ground adjacent to HMW1. It is possible that the increase in TPHmo and TPHd observed in well HMW1 beginning in September 1997 may be the result of tampering with the well. Regardless of the source, the concentrations of both TPHmo and TPHd in HMW1 have significantly decreased between 2 September and 26 November 1997.

Bioremediation parameters suggest a fairly oxygenated environment in the vicinity of HMW1, HMW2 and HMW3. Furthermore, the measured concentrations of dissolved oxygen suggests that the petroleum hydrocarbons could be biodegraded by aerobic bacteria.

Could use higher O_2 conc

and conditions governing the work in the contract between Mr. Ruben Hausauer and ATC. Any unauthorized release or misuse of this report shall be without risk or liability to ATC.

Certain information contained in this report may have been rightfully provided to ATC by third parties or other outside sources. ATC does not make any warranties or representations, whether expressed or implied, regarding the accuracy of such information, and shall not be held accountable or responsible in the event that any such inaccuracies are present.

CONCLUSIONS

Based on the information presented in this report, current regulatory guidelines, and the judgment of ATC, the following conclusions are presented:

- The hydraulic gradient on-site, as interpreted by water elevations based on groundwater level measurements on 26 November 1997, is estimated to be 0.02 ft/ft. Groundwater flows in a general south to southeasterly direction in the immediate vicinity of the site when using groundwater elevation data from both sites and the recent Kier & Wright surveying data for both sites. The flow pattern is similar to the historical flow direction.

- A significant increase in concentrations of TPHg was observed this quarter in the sample collected from HMW1. It is possible that this is a result of a new or a re-mobilized source of petroleum in the subsurface proximate to this well.

- TPHd concentrations in HMW1 and HMW2 have significantly decreased, and have increased in HMW3, from the previous sampling on 26 November 1997.

- Benzene concentrations have increased in HMW1 and HMW3 and decreased in HMW2.

- Toluene concentrations have increased in HMW1 and HMW3 and decreased in HMW2 since last quarter.

- Ethylbenzene concentrations have increased in HMW1 and decreased in HMW2 and HMW3 since the previous sampling event.

- Xylene concentrations have increased in HMW1, decreased in HMW2, and remained below reporting limits in HMW3.

- Concentrations of MtBE were present above reporting limits in HMW1 and HMW2 using EPA Method 8020. However, re-analysis of the sample from HMW1 reported to contain MtBE by EPA Method 8020 analysis was performed by EPA Method 8260 to confirm the presence of MtBE. MtBE was not reported by the EPA Method 8260 analysis, indicating the 8020 analysis yielded a false positive.

- TPHd concentrations have increased in HMW3 and decreased in HMW1 and HMW2 since the last quarter.

- TPHmo concentrations have decreased in HMW1 and remained below reporting limits in HMW2 and HMW3.

- Bioremediation parameters monitored during the fourth quarter indicated that groundwater in the vicinity of the wells is fairly oxygenated and aerobic biodegradation.

RECOMMENDATIONS

Based on the data and conclusions presented in this report, and the judgment by ATC, the following recommendations are presented for your consideration:

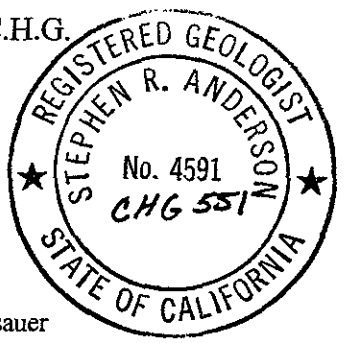
- Continue quarterly groundwater monitoring as required by the ACDEH and the RWQCB.

It continues to be a pleasure working with you on this project. If you have any questions regarding this report, please feel free to contact either of us at your convenience at (510) 460-5300.

Very truly yours,

ATC ASSOCIATES INC.

Stephen Anderson, C.H.G.
Staff Geologist



Dabra I. Sheldon
Senior Hydrogeologist

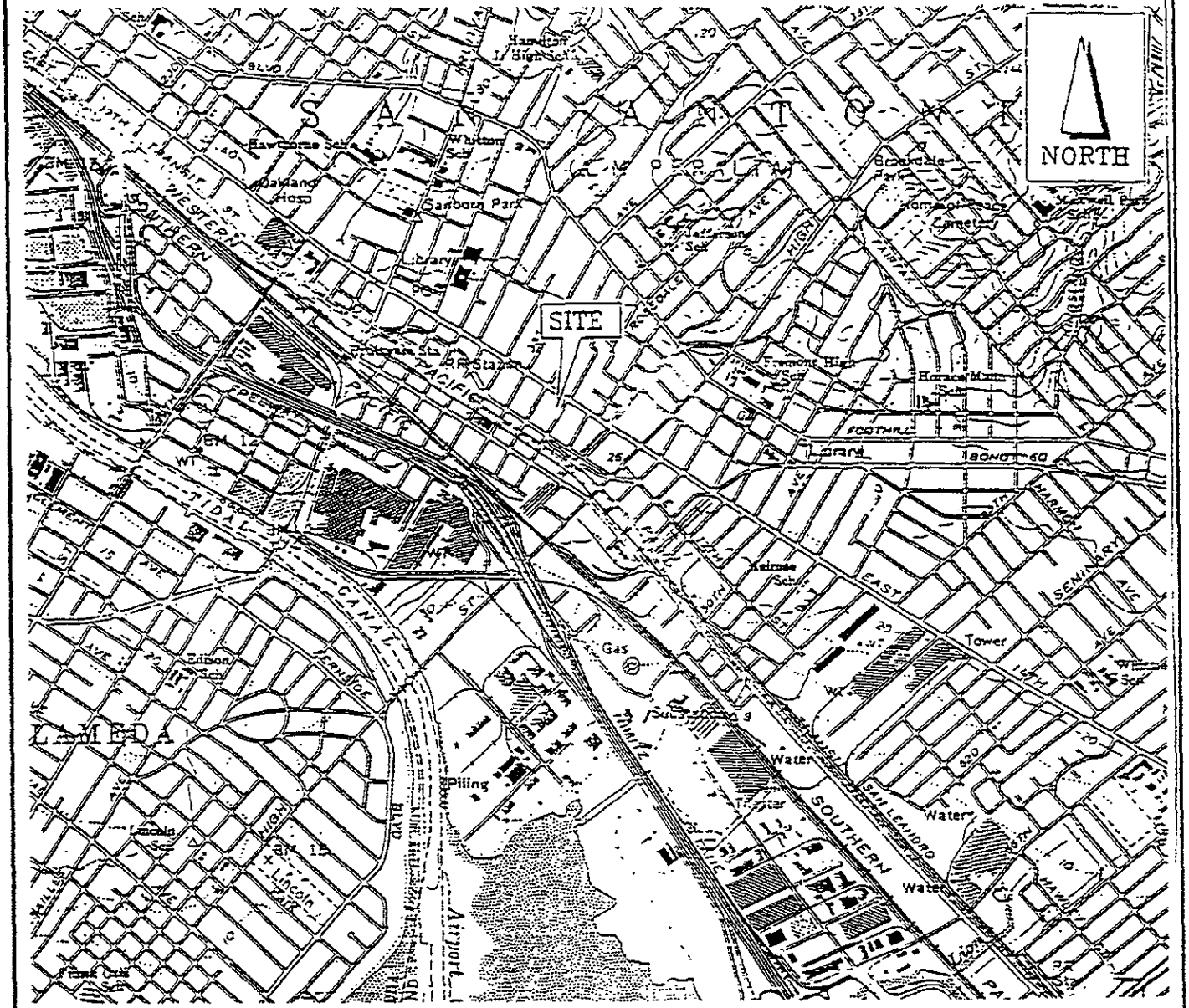
cc: Mr. Ruben Hausauer

REFERENCES

ATC Associates Inc., 1996, Soil and Groundwater Investigation at 3927 East 14th Street, Oakland, California: Dated 19 September 1996.

Kier & Wright Civil Engineers & Surveyors, correspondence dated 22 August 1996.

FIGURES



Notes:

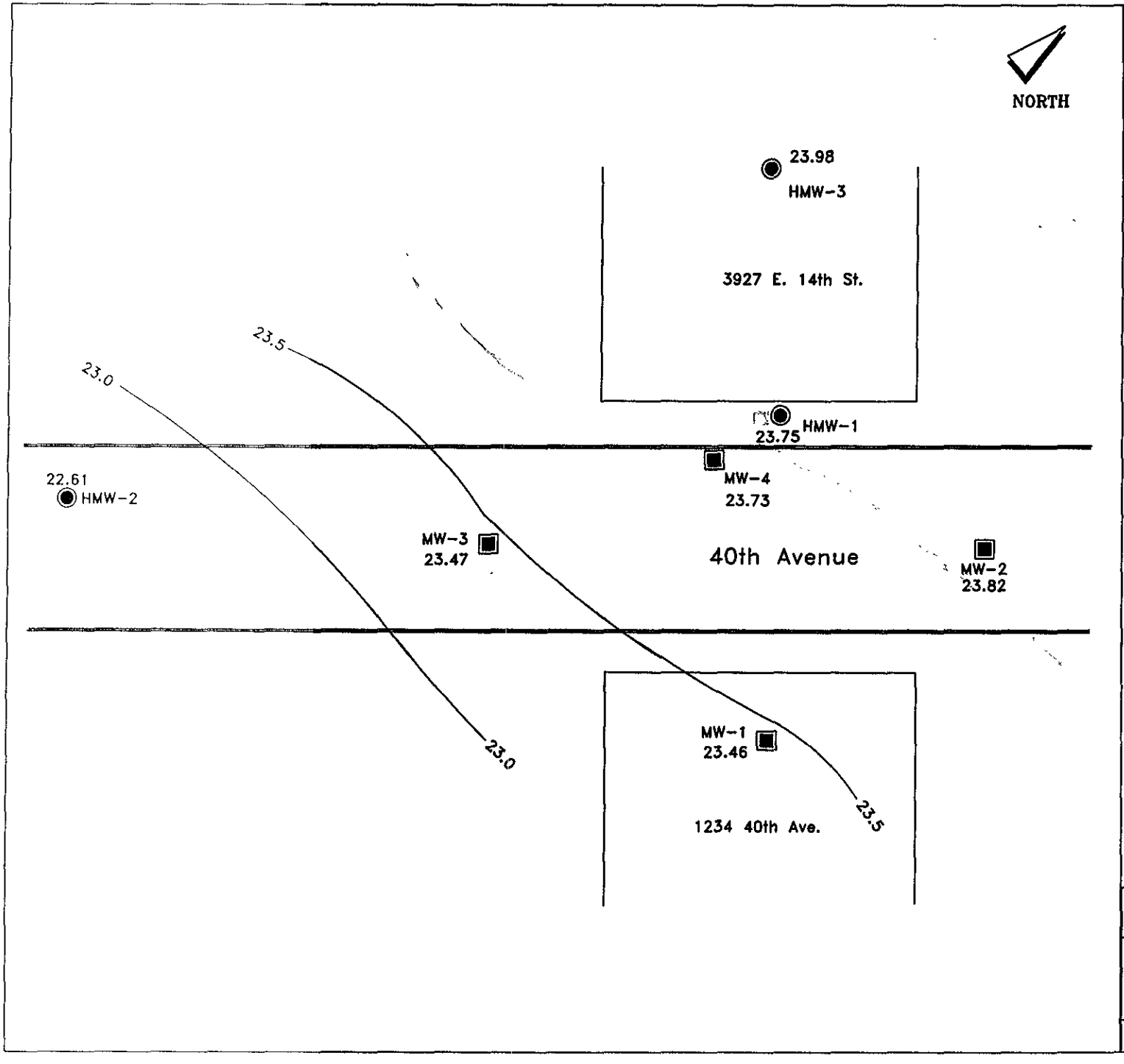
1) All locations and dimensions are approximate.

2) Base map from USGS Oakland East (1961) Quadrangle, 7.5 Minute Series Topographic. Photorevised in 1980.

ATC ASSOCIATES INC.
Environmental, Geotechnical and Materials Professionals

SITE LOCATION MAP
3927 E 14TH STREET
OAKLAND, CALIFORNIA

PROJECT NO. 61137 0002 | FIGURE 1



EXPLANATION

Groundwater elevation (26 November 1997)

22.88 HMW-3 — Groundwater Monitoring Well (3927 E. 14th St.)

MW-1 — Groundwater Monitoring Well (1234 40th Ave.)

Groundwater elevation contours, 26 November 1997 Kier & Wright elevation surveyed 22 August 1996

Notes:

1. Base Map developed from survey map provided by Kier & Wright

0 15 30 60

Scale (Ft.)

VATC ASSOCIATES INC.
ENVIRONMENTAL, GEOTECHNICAL AND MATERIALS PROFESSIONALS

GROUNDWATER FLOW MAP

3927 E. 14th Street
Oakland, California

Project No. 61137.0002 | Figure 2

TABLES

Table 1. Historical Groundwater Gauging Results, New Genico Site, 3927 East 14th Street, Oakland, California, 26 November 1997

Monitoring Well	Sampling Date	Top of Casing Elevation (msl)	Depth to Water (ft)	Groundwater Elevation (msl)
HMW1	8/22/96	31.25	8.01	23.24
	2/25/97		5.95	25.30
	5/28/97		7.65	23.60
	9/2/97		8.56	22.69
	11/26/97		7.50	23.75
HMW2	8/22/96	29.43	8.71	20.72
	2/25/97		6.00	23.43
	5/28/97		7.65	21.78
	9/2/97		8.59	20.84
	11/26/97		6.82	22.61
HMW3	8/22/96	31.48	8.10	23.38
	2/25/97		6.00	25.48
	5/28/97		7.74	23.74
	9/2/97		8.60	22.88
	11/26/97		7.50	23.98

MSL = Mean Sea Level

Table 1. 4th Quarter Groundwater Gauging Results, Motor Partners Site, 1234 - 40th Avenue, Oakland, California, 26 November 1997

Monitoring Well	Top of Casing Elevation (msl)	Depth to Water (ft)	Groundwater Elevation (msl)
MW1	31.44	7.98	23.46
MW2	31.06	7.24	23.82
MW3	30.43	7.06	23.37
MW4	30.37	6.64	23.73

MSL = Mean Sea Level

Table 2. Groundwater Analytical Results, 3927 East 14th Street, Oakland, California, 26 November 1997

Monitoring Well	Sampling Date	Concentrations							
		TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TPHd (µg/L)	TPHmo (µg/L)
HMW1	8/22/96	7,400	1,200	170	530	490	-----	ND	ND
	2/25/97	5,400	760	110	260	260	ND	2,000	ND
	5/28/97	6,600	1,100	100	290	340	130	2,000	600
	9/2/97	4,000	460	40	200	100	ND	8,700	3,700
	11/26/97	7,500	1,000	120	270	320	ND[1]	4,700	3,000
HMW2	8/22/96	6,300	170	57	370	120	-----	7,400	2,100
	2/25/97	8,400	150	35	280	70	ND[1]	90	ND
	5/28/97	6,000	170	35	170	67	150	130	200
	9/2/97	8,000	210	30	160	90	ND[1]	4,502	ND[2]
	11/26/97	1,600	41	7.5	40	10	31[1]	180	ND
HMW3	8/22/96	1,300	3	6	8	12	-----	ND	ND
	2/25/97	150	ND	ND	ND	ND	ND	70	ND
	5/28/97	80	ND	ND	0.60	ND	ND	ND	ND
	9/2/97	140	ND	ND	2.1	ND	ND	ND[2]	ND[2]
	11/26/97	70	0.6	0.8	0.8	ND	ND	50	ND

ND - Not detectable in concentrations greater than the method detection limit.
"-----" - Not analyzed.
* Laboratory notes that the concentration for diesel is estimated, due to overlapping fuel patterns. Hydrocarbons reported as motor oil does not match the pattern of the motor oil standard.
ND[1] - Results using EPA Method 8260 to confirm analytical result.
[2] - Samples collected on 10/03/97.

Table 3. Bioremediation Parameter Results, 3927 East 14th Street, Oakland, California, 26 November1997

Monitoring Well	Sampling Date	pH	Specific Conductivity (umhos/cm)	Temperature (°F)	Nitrate (mg/L)	Sulfate (mg/L)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Ferrous Iron (mg/L)
HMW1	8/22/96	-----	-----	-----	-----	-----	-----	-----	-----
	2/25/97	4.55	680	75	-----	-----	-----	-----	-----
	5/28/97	7.7	810	70.4	-----	-----	-----	-----	-----
	9/2/97	6.73	1074	73.4	2	12	0.24	-14.4	4.20
	11/26/97	6.93	966	70.0	0.6	ND	2.0	+105	<0.01
HMW2	8/22/96	-----	-----	-----	2,100*	2,100*	-----	-----	-----
	2/25/97	4.65	450	72.1	ND	ND	-----	-----	-----
	5/28/97	7.8	480	69.4	200	200	-----	-----	-----
	9/2/97	6.82	762	74.8	ND	0.5	0.38	+25.2	1.37
	11/26/97	6.99	731	69.8	ND	ND	2.5	+52	0.03
HMW3	8/22/96	-----	-----	-----	ND	ND	-----	-----	-----
	2/25/97	5.87	390	63.3	ND	ND	-----	-----	-----
	5/28/97	8	400	67.6	ND	ND	-----	-----	-----
	9/2/97	6.97	669	70.9	2.2	53	0.88	+98.6	0.03
	11/26/97	6.87	665	67.8	3.5	50	1.4	+102	0.01

ND - Not detectable in concentrations greater than the method detection limit.
"-----" - Not analyzed.

anerob : Nitrate, Sulfate low.
neutral : Redox is moderately oxidative and not consistent with plume
aerobic : Fe^{+2} low
neutral : D.O. is OK / no change without plume

APPENDIX A

GROUNDWATER COLLECTION LOGS

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 61137.0002 SAMPLE ID: HMW1

PURGED BY: L. Wahlgren CLIENT NAME: Hausauer

SAMPLED BY: K. Racke LOCATION: Oakland

TYPE: Ground Water ✓ Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ✓ 3 ___ 4 ___ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): ___ VOLUME IN CASING (gal.): 1.9

DEPTH TO WATER (feet): 7.50 CALCULATED PURGE (gal.): 5.7

DEPTH OF WELL (feet): 19.35 ACTUAL PURGE VOL. (gal.): ___

DATE PURGED: 11/26/97 Start (2400 Hr) ~~1315~~ 1350 End (2400 Hr) ~~1325~~ 1400

DATE SAMPLED: 11/26/97 Start (2400 Hr) ~~1410~~ 1410 End (2400 Hr) 1415

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ___

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1350	0	7.11	8.2	67.2	brown	heavy
1355	2	6.91	961	70.2	brown	moderate
1400	4	7.0	962	70.1	brown	light
14	6	6.93	966	70.0	brown	light

D. O. (ppm): ___ COLOR, COBALT (0 - 100): ___

ODOR: Strong HC TURBIDITY, NTU (0 - 200): ___

Color: Clear, Cloudy, Yellow, Brown _ Turbidity: Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

___ 2" Bladder Pump ___ Bailer (Teflon®)
___ Centrifugal Pump ___ Bailer (PVC)
___ Submersible Pump ___ Bailer (Stainless Steel)
___ Well Wizard™ ___ Dedicated
Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump ✓ Bailer (Teflon®)
___ DDL Sampler ___ Bailer (Stainless Steel)
___ Dipper ___ Submersible Pump
___ Well Wizard™ ___ Dedicated
Other: ___

WELL INTEGRITY: ___

REMARKS: 7.45 Product observed Redox potential = 105
7.50 H_2O
Noticed locking cap & lock were broken
Strong purge water may have been due to lack close to well lid & pressure of car on well lid

LOCK #: ___

SIGNATURE: K. Racke

Observed no globules on surface of purge water

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 61137.0002 SAMPLE ID: HMW2

PURGED BY: L. Wahlgren CLIENT NAME: Hausauer

SAMPLED BY: K. Racke LOCATION: Oakland

TYPE: Ground Water ✓ Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ✓ 3 ___ 4 ___ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): ___ VOLUME IN CASING (gal.): 1.7

DEPTH TO WATER (feet): 6.82 CALCULATED PURGE (gal.): 5.1

DEPTH OF WELL (feet): 17.56 ACTUAL PURGE VOL. (gal.): ___

DATE PURGED: 11/26/97 Start (2400 Hr) 1330 End (2400 Hr) 1340

DATE SAMPLED: 11/26/97 Start (2400 Hr) 1345 End (2400 Hr) 1350

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ___

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
1330	0	7.30	706	67.0	clear	trace
1333	2	7.35	729	67.3	clear	trace
1335	4	7.29	726	68.4	clear	trace
1340	5	6.99	731	69.8	clear	trace

D. O. (ppm): 2.5 COLOR, COBALT (0 - 100): ___

ODOR: moderate TURBIDITY, NTU (0 - 200): ___

Color: Clear, Cloudy, Yellow, Brown ___

Turbidity: Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

___ 2" Bladder Pump
___ Centrifugal Pump
✓ Submersible Pump
___ Well Wizard™
___ Bailer (Teflon®)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
___ Dedicated
Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump
___ DDL Sampler
___ Dipper
___ Well Wizard™
✓ Bailer (Teflon®)
___ Bailer (Stainless Steel)
___ Submersible Pump
___ Dedicated
Other: ___

WELL INTEGRITY: OK

REMARKS: 52 mV = Redox LOCK #: ___

SIGNATURE: K. Racke

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 61131.0002 SAMPLE ID: HMW3

PURGED BY: L. Wahlgren CLIENT NAME: Hausauer

SAMPLED BY: K. Racke LOCATION: Oakland

TYPE: Ground Water ✓ Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER (inches): 2 ✓ 3 ___ 4 ___ 4.5 ___ 6 ___ Other ___

CASING ELEVATION (feet/MSL): ___ VOLUME IN CASING (gal.): 1.3

DEPTH TO WATER (feet): 7.5 CALCULATED PURGE (gal.): 4.0

DEPTH OF WELL (feet): 15.5 ACTUAL PURGE VOL. (gal.): 4.0

DATE PURGED: 11/26/97 Start (2400 Hr) 1245 End (2400 Hr) 1310

DATE SAMPLED: 11/26/97 Start (2400 Hr) 1315 End (2400 Hr) 1320

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ___

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (µmhos/cm @ 25° C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (visual)
	0	5.88	675	67.3	clear	trace
1255	1.3	6.51	670	68.2	clear	trace
1300	2.6	6.71	667	68.3	clear	trace
1305	4.0	6.87	665	67.8	clear	trace

D. O. (ppm): 1.4 COLOR, COBALT (0 - 100): ___

ODOR: ___ TURBIDITY, NTU (0 - 200): ___

Color: Clear, Cloudy, Yellow, Brown ___

Turbidity: Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

___ 2" Bladder Pump ___ Bailer (Teflon®)

___ Centrifugal Pump ___ Bailer (PVC)

___ Submersible Pump ___ Bailer (Stainless Steel)

___ Well Wizard™ ___ Dedicated

Other: ___

SAMPLING EQUIPMENT

___ 2" Bladder Pump ___ Bailer (Teflon®)

___ DDL Sampler ___ Bailer (Stainless Steel)

___ Dipper ___ Submersible Pump

___ Well Wizard™ ___ Dedicated

Other: ___

WELL INTEGRITY: ___

REMARKS: Redox = 102mV LOCK #: ___

SIGNATURE: K. Racke

APPENDIX B

SUMMARY OF FIELD PROCEDURES

SUMMARY OF FIELD PROCEDURES

The procedures that were used to conduct groundwater monitoring are as follows:

Groundwater Monitoring

- Measurements of depth to groundwater were made from the designated locations on the top of the casings of all wells within as short a time span as feasible, and prior to the initiation of other monitoring activities.

- A disposable, dedicated bailer was used to purge and obtain a sample of groundwater from the uppermost portion of the well to allow for observations of a sheen or floating product.

- Each well was purged a minimum of four to five casing volumes of water, to the extent feasible. Water temperature, pH, specific conductivity, and dissolved oxygen of extracted groundwater were measured. Purging was generally continued until successive measurements of these parameters stabilized to the extent that water being purged was judged similar to the water bearing formation, or until the well was purged dry.

- Following the purging of a minimum of four to five casing volumes of water, or recovery to 80% of the original groundwater level if the well was purged dry, groundwater samples were collected within each of the monitoring wells;

- Water samples and one trip blank for each 10 samples collected or for each day of sampling, were placed into laboratory-provided containers appropriate for the respective analyses to be performed, labeled, and stored on ice in an insulated chest pending delivery to the laboratory for analysis.

- Chain-of-Custody procedures were used to document sample handling and transport from the time of sample collection to delivery within 24 hours of sampling to a State-certified hazardous waste laboratory for analysis.

- Purge water recovered from the monitoring wells was stored on-site in labeled 55-gallon drums. (Disposal of the purge water in accordance with current regulatory guidelines, based on the laboratory results, is the responsibility of the client).

APPENDIX C

LABORATORY ANALYTICAL RESULTS

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

ATC ENVIRONMENTAL INC.
6666 OWENS DRIVE
PLEASANTON, CA 94588

ATTN: DABRA SHELDON
CLIENT PROJ. ID: 61137.0002
CLIENT PROJ. NAME: HAUSAUER

REPORT DATE: 12/16/97
DATE(S) SAMPLED: 11/26/97
DATE RECEIVED: 11/26/97
AEN WORK ORDER: 9711402

PROJECT SUMMARY:

On November 26, 1997, this laboratory received 3 water sample(s).

Client requested sample(s) be analyzed for chemical parameters. Portion for ferrous iron was subcontracted to a DOHS certified laboratory; subcontract report is included. Results of analysis are summarized on the following page(s). Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Client Services at (510) 930-9090.

William Luksi, for
Larry Klein
Laboratory Director

ATC ENVIRONMENTAL INC.

SAMPLE ID: HMWI
AEN LAB NO: 9711402-01
AEN WORK ORDER: 9711402
CLIENT PROJ. ID: 61137.0002

DATE SAMPLED: 11/26/97
DATE RECEIVED: 11/26/97
REPORT DATE: 12/16/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	0.45 um	-		Filtr Date	11/26/97
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	1000 *	3	ug/L	12/07/97
Toluene	108-88-3	120 *	3	ug/L	12/07/97
Ethylbenzene	100-41-4	270 *	3	ug/L	12/07/97
Xylenes, Total	1330-20-7	320 *	10	ug/L	12/07/97
Purgeable HCs as Gasoline	5030/GCFID	7.5 *	0.3	mg/L	12/07/97
Methyl t-Butyl Ether	1634-04-4	88 *	30	ug/L	12/07/97
Alkalinity, Total	EPA 310.1	560 *	2	mg CaCO3/L	12/05/97
#Extraction for TPH	EPA 3510	-		Extrn Date	12/05/97
TPH as Diesel	GC-FID	4.7 *	0.2	mg/L	12/08/97
TPH as Oil	GC-FID	3.0 *	1	mg/L	12/08/97
#Anion Sample Prep.		-		Prep date	11/26/97
Nitrate as Nitrogen	EPA 300	0.6 *	0.5	mg/L	11/26/97
Sulfate	EPA 300	ND	3	mg/L	11/26/97
Methyl t-Butyl Ether	GC/MS	ABSENT	50	ug/L	12/10/97

RLs for DSL & MTBE elevated due to high levels of non-target compounds. RLs for g/BTEX elevated due to high levels of target compounds. Samples run at dilution.

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

ATC ENVIRONMENTAL INC.

SAMPLE ID: HMW2
AEN LAB NO: 9711402-02
AEN WORK ORDER: 9711402
CLIENT PROJ. ID: 61137.0002

DATE SAMPLED: 11/26/97
DATE RECEIVED: 11/26/97
REPORT DATE: 12/16/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	0.45 um	-		Filtr Date	11/26/97
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	41 *	0.5	ug/L	12/07/97
Toluene	108-88-3	7.5 *	0.5	ug/L	12/07/97
Ethylbenzene	100-41-4	40 *	0.5	ug/L	12/07/97
Xylenes, Total	1330-20-7	10 *	2	ug/L	12/07/97
Purgeable HCs as Gasoline	5030/GCFID	1.6 *	0.05	mg/L	12/07/97
Methyl t-Butyl Ether	1634-04-4	31 *	5	ug/L	12/07/97
Alkalinity, Total	EPA 310.1	390 *	2	mg CaCO3/L	12/05/97
#Extraction for TPH	EPA 3510	-		Extrn Date	12/05/97
TPH as Diesel	GC-FID	0.18 *	0.05	mg/L	12/08/97
TPH as Oil	GC-FID	ND	0.2	mg/L	12/08/97
#Anion Sample Prep.		-		Prep date	11/26/97
Nitrate as Nitrogen	EPA 300	ND	0.5	mg/L	11/26/97
Sulfate	EPA 300	ND	3	mg/L	11/26/97

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

ATC ENVIRONMENTAL INC.

SAMPLE ID: HMW3
AEN LAB NO: 9711402-03
AEN WORK ORDER: 9711402
CLIENT PROJ. ID: 61137.0002

DATE SAMPLED: 11/26/97
DATE RECEIVED: 11/26/97
REPORT DATE: 12/16/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	0.45 um	-		Filtr Date	11/26/97
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	0.6 *	0.5	ug/L	12/08/97
Toluene	108-88-3	0.8 *	0.5	ug/L	12/08/97
Ethylbenzene	100-41-4	0.8 *	0.5	ug/L	12/08/97
Xylenes, Total	1330-20-7	ND	2	ug/L	12/08/97
Purgeable HCs as Gasoline	5030/GCFID	0.07 *	0.05	mg/L	12/08/97
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	12/08/97
Alkalinity, Total	EPA 310.1	300 *	2	mg CaCO3/L	12/05/97
#Extraction for TPH	EPA 3510	-		Extrn Date	12/05/97
TPH as Diesel	GC-FID	0.05 *	0.05	mg/L	12/08/97
TPH as Oil	GC-FID	ND	0.2	mg/L	12/08/97
#Anion Sample Prep.		-		Prep date	11/26/97
Nitrate as Nitrogen	EPA 300	3.5 *	0.1	mg/L	11/26/97
Sulfate	EPA 300	50 *	0.5	mg/L	11/26/97

ND = Not detected at or above the reporting limit
* = Value at or above reporting limit

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9711402
CLIENT PROJECT ID: 61137.0002

Quality Control and Project Summary

All laboratory quality control parameters were found to be within established limits.

Definitions

Laboratory Control Sample (LCS)/Method Spikes(s): Control samples of known composition. LCS and Method Spike data are used to validate batch analytical results.

Matrix Spike(s): Aliquot of a sample (aqueous or solid) with added quantities of specific compounds and subjected to the entire analytical procedure. Matrix spike and matrix spike duplicate QC data are advisory.

Method Blank: An analytical control consisting of all reagents, internal standards, and surrogate standards carried through the entire analytical process. Used to monitor laboratory background and reagent contamination.

Not Detected (ND): Not detected at or above the reporting limit.

Relative Percent Difference (RPD): An indication of method precision based on duplicate analyses.

Reporting Limit (RL): The lowest concentration routinely determined during laboratory operations. The RL is generally 1 to 10 times the Method Detection Limit (MDL). Reporting limits are matrix, method, and analyte dependent and take into account any dilutions performed as part of the analysis.

Surrogates: Organic compounds which are similar to analytes of interest in chemical behavior, but are not found in environmental samples. Surrogates are added to all blanks, calibration and check standards, samples, and spiked samples. Surrogate recovery is monitored as an indication of acceptable sample preparation and instrument performance.

D: Surrogates diluted out.

I: Interference.

*: Indicates result outside of established laboratory QC limits.

ANALYSIS: Major Anions

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: Dionex ion chromatograph
UNITS: mg/L
METHOD:

LAB ID: IC_BLNK
PREPARED:
ANALYZED: 11/26/97

INSTR RUN: IC\971126000000/1/
BATCH ID: IC112697
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Chloride, Cl	ND		0.5						
Nitrate, NO3-N	ND		0.1						
Nitrite, NO2-N	ND		0.1						
Sulfate, SO4	ND		0.5						

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: Dionex ion chromatograph
UNITS: mg/L
METHOD:

LAB ID: IC_LCD
PREPARED:
ANALYZED: 11/26/97

INSTR RUN: IC\971126000000/3/1
BATCH ID: IC112697
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Chloride, Cl	10.3	ND	0.5	10.0	103	80	120		
Nitrate, NO3-N	2.07	ND	0.1	2.00	104	80	120		
Nitrite, NO2-N	1.96	ND	0.1	2.00	98.0	80	120		
Sulfate, SO4	9.46	ND	0.5	10.0	94.6	80	120		

SAMPLE TYPE: Spike-Method/Media blank
INSTRUMENT: Dionex ion chromatograph
UNITS: mg/L
METHOD:

LAB ID: IC_LCS
PREPARED:
ANALYZED: 11/26/97

INSTR RUN: IC\971126000000/2/1
BATCH ID: IC112697
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Chloride, Cl	10.1	ND	0.5	10.0	101	80	120		
Nitrate, NO3-N	2.08	ND	0.1	2.00	104	80	120		
Nitrite, NO2-N	1.97	ND	0.1	2.00	98.5	80	120		
Sulfate, SO4	9.48	ND	0.5	10.0	94.8	80	120		

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Method Spike Sample Duplicate
INSTRUMENT: Dionex ion chromatograph
UNITS: mg/L
METHOD:

LAB ID: IC_LCR
PREPARED:
ANALYZED: 11/26/97

INSTR RUN: IC\971126000000/4/2
BATCH ID: IC112697
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Chloride, Cl	10.3	10.1	0.5					1.96	15
Nitrate, NO3-N	2.07	2.08	0.1					0.482	15
Nitrite, NO2-N	1.96	1.97	0.1					0.509	15
Sulfate, SO4	9.46	9.48	0.5					0.211	15

ANALYSIS: TPH as Diesel

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:

LAB ID: BLNK-1205-1
PREPARED: 12/05/97
ANALYZED: 12/05/97

INSTR RUN: GC C\971205000000/1/
BATCH ID: DSDW120597-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Diesel		ND		0.05						
Motor Oil		ND		0.2						
n-Pentacosane	(surr)	89.7			100		65	125		

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:

LAB ID: LCDW-1205-1
PREPARED: 12/05/97
ANALYZED: 12/05/97

INSTR RUN: GC C\971205000000/3/1
BATCH ID: DSDW120597-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Diesel		2.16	ND	0.05	2.00	108	60	110		
n-Pentacosane	(surr)	90.6	89.7		100	90.6	65	125		

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:

LAB ID: LCSW-1205-1
PREPARED: 12/05/97
ANALYZED: 12/05/97

INSTR RUN: GC C\971205000000/2/1
BATCH ID: DSDW120597-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Diesel		2.05	ND	0.05	2.00	103	60	110		
n-Pentacosane	(surr)	88.8	89.7		100	88.8	65	125		

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:

LAB ID: LCRW-1205-1
PREPARED: 12/05/97
ANALYZED: 12/05/97

INSTR RUN: GC C\971205000000/4/2
BATCH ID: DSDW120597-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Diesel		2.16	2.05	0.05	2030				5.23	15
Motor Oil		ND	ND	0.2	200				0	
n-Pentacosane	(surr)	90.6	88.8			2.01	65	125		

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:

LAB ID: 9711402-01D
PREPARED 12/05/97
ANALYZED 12/08/97

INSTR RUN GC C\971205000000/22/
BATCH ID DSDW120597 1
DILUTION 5 000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	120			100	120	65	125		

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:

LAB ID 9711402-02D
PREPARED 12/05/97
ANALYZED. 12/08/97

INSTR RUN. GC C\971205000000/23/
BATCH ID DSDW120597 1
DILUTION 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	94.8			100	94.8	65	125		

ANALYSIS: TPH as Diesel

MATRIX: Water

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client				LAB ID: 9711402-02D			INSTR RUN: GC C\971205000000/23/			
INSTRUMENT: HP 5890				PREPARED: 12/05/97			BATCH ID: DS□W120597-1			
UNITS: mg/L				ANALYZED: 12/08/97			DILUTION: 1.000000			
METHOD:										
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)	

SAMPLE TYPE: Sample-Client				LAB ID: 9711402-03D			INSTR RUN: GC C\971205000000/24/			
INSTRUMENT: HP 5890				PREPARED: 12/05/97			BATCH ID: DS□W120597-1			
UNITS: mg/L				ANALYZED: 12/08/97			DILUTION: 1.000000			
METHOD:										
ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)	
n-Pentacosane (surr)	97.4			100	97.4	65	125			

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9711402
INSTRUMENT: E
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
12/07/97	HMW1	01	96
12/07/97	HMW2	02	93
12/08/97	HMW3	03	99
QC Limits:			70-130

DATE ANALYZED: 12/07/97
SAMPLE SPIKED: LCS
INSTRUMENT: E

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	100	104	8	70-130	20
Toluene	100	111	7	70-130	20
Ethylbenzene	100	113	9	70-130	20
Total Xylenes	300	108	8	70-130	20

Daily method blanks for all associated analytical runs showed no contamination at or above the reporting limit

*** END OF REPORT ***

E T S
1343 Redwood Way
Petaluma, CA 94954
(707) 795-9605/FAX 795-9384

Environmental Technical Services

Soil, Water & Air Testing & Monitoring
Analytical Labs
Technical Support

Serving people and the environment so that both benefit.

WATER ANALYSIS REPORT

To: Bill Svoboda
American Environmental Network
3440 Vincent Road
Pleasant Hill, CA 94523

Sample of: monitor well water

Date: December 8, 1997
Lab #: 97-12-0025 thru 97-12-0027
Received: December 1, 1997
Tech(s): C. Lawrence
Lab Supervisor: D. Jacobson
Lab Director: G.S. Conrad, Ph.D.
Sample ID(s): HMW1, HMW2 & HMW3

Site Location: northern California; Project ID No. 61137.0002

RESULTS

SAMPLE ID	FERROUS IRON
HMW1	**<0.01 mg/l**
HMW2	**0.03 mg/l**
HMW3	**0.01 mg/l**

COMMENTS

All three samples were very low in ferrous iron. These samples either suggest very low total iron levels; or, alternatively, if total iron were somewhat higher than measured ferrous values, then there must be a high degree of oxidation in the groundwater.

QC DATA - Ferrous Tests 11/10/97

Test	Lab Standard	Result	Percent Recovery
Ferrous Iron*	1.000 mg/l	0.882 mg/l	88.2%

* Ferrous Ammonium Sulfate - $(Fe(NH_4)_2(SO_4)_2 \cdot 6H_2O$, ◦ SMEWW 3580

NOTES:
These tests were done according to the Association for Testing Materials (ASTM), and/or conform to standard and accepted protocols as described in Standard Methods for the Examination of Water and Wastewater, 18th ed., ç 1992: Ferrous Iron (Fe²⁺) - Phenanthroline Method (modified SMEWW 3500-Fe D); Redox - ASTM D 1498.

RSSE
R3S2
1 norg

9711402
(510) 460-5300
(510) 463-2559

T711402

6666 Owens Dr
Pleasanton, CA 94588

~~2380 Qume Drive, Suite C~~
~~San Jose, CA 95131~~
~~Tel (408) 474-0280~~
~~Fax (408) 434-6662~~

ATC ENVIRONMENTAL INC.

Chain of Custody

Project Name: Hausauer

Project Number: 61137.0002

ATC Environmental Inc. Contact: Dabra Sheldon

Laboratory Name: AEN

Turn Around Time

Standard 5 to 10 Business Days [X]

Priority Rush ___ Business Day(s) [ ]

Sample Number	Location	Date	Time	Matrix: Soil	Matrix: Water	Matrix: Other	Preservative	No. of Containers	Type of Containers	TPH as gas/BTEX, EPA (8015/8020)	TPH as diesel, EPA 8015M	VOCs, EPA 8010	VOCs, EPA 8240	VOCs, EPA 8020	VOCs, EPA 8010/8020	SVOCs, EPA 8270	TRPH, SM 5520F	TOG, SM 5520B	Title 22 Metals, EPA	PP (13) Metals, EPA	Pesticides Only, EPA 8080	TPHmo (8015m)	MTBE (8020)	Alkalinity	Sulfate	Nitrate	Ferrous Iron (6010)
HMW1	01A-C	11/26/97			X		HCl	3	VOA	X	X												X				
	D				↓		—	1	amber		X											X					
	~~E~~ 97						~~—~~	~~1~~	~~amber~~													X		X	X	X	
	E						—	1	plastic															X	X	X	
	F				↓		—	1	plastic																		X
HMW2	02A-C	11/26/97			X		HCl	3	VOA	X													X				
	D						—	1	amber		X											X					
							~~—~~	~~1~~	~~amber~~													X					
	E						—	1	plastic															X	X	X	
	F						—	1	plastic																		X
HMW3	03A-C						HCl	3	VOA	X													X				
	D						—	1	amber		X											X					
							~~—~~	~~1~~	~~amber~~													X					
	E						—	1	plastic															X	X	X	
	F						—	1	plastic																		X

Remarks: Please filter ferrous iron immediately upon arrival to lab

Confirm MTBE hits using EPA 8260

Relinquished by	Date	Time	Received by
Relinquished by sampler: A. Racke	11/26/97	1445	
Relinquished by			
Relinquished by			Received by laboratory: Ronald C. Jensen — Date 11/26/97 — Time 15:20