ATC

6666 Owens Drive
Pleasanton, California 94588
(510) 460-5300 FAX (510) 463-2559

LETTER OF TRANSMITTAL

DATE 11/19/97	ATC JOB NO 61137.0002
ATTENTION	
RE	

TO

1131 Harbor Bay Parkway

Alameda, CA 94502

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	11/19/97		Third quarter 1997 - GW Monitoring
			3927 East 14th Street, Oakland, CA.

THESE ARE TRANSMITTED as check below:

☐ For Approval ☑ For Your Use ☐ As Requested ☐ For Review and Comment

REMARKS:

Via: US Post

COPY TO: Tommy Conner, Esq.
Debra Sheldon, ATC.

SIGNED: [signature]

FORMS/LI/TRNSMTL

ATC ASSOCIATES INC.

ENVIRONMENTAL, GEOTECHNICAL AND MATERIALS PROFESSIONALS

#4610

11 November 1997
61137.0002

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

Attention: Mr. Tommy A. Conner, Esq.

SUBJECT: THIRD 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 third quarter 1997 groundwater monitoring activities conducted on 2 September 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.

GROUNDWATER MONITORING

Groundwater monitoring during the third quarter 1997 sampling event (conducted on 2 September 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 decreased in the three gauged wells an average of 0.9 feet since they were last measured in May 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 his report entitled "Quarterly Monitoring Report, 3rd Quarter 1997" dated 12 September 1997. Based on the resulting groundwater elevations calculated for the area proximate to both sites, a predominantly southerly to southwesterly groundwater gradient has been interpreted by ATC. Piezometric groundwater levels as measured on 2 September 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 2 September 1997 sampling event. The reported groundwater flow direction, as indicated by the groundwater flow map, is somewhat anomalous compared to historic patterns. Upon examination of the groundwater elevation data, ATC notes that Motor Partners MW3 is anomalously low in comparison to Motor Partners wells MW2 and MW4, insofar as historic differences in elevations between these wells. The observed change in the groundwater flow pattern is hense, suspect, as a result of the anomolously low groundwater elevation in MW3.

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 HMW2 and HMW3. Well HMW1 was purged of approximately four gallons until the well was dry. The groundwater sample from HMW1 was collected following recharge of the well to approximately 80% of its original water level. 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 are 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. Small globules of non-aqueous phase liquid (NAPL) were observed in the water from HMW1. Petroleum odors from purged wells HMW1 through HMW3 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 third 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 laboratory report forms have 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 Alameda County Department of Environmental Health from the Law Offices of Tommy Conner. Samples were analyzed on a seven-day "turnaround" time by the laboratory with the exception of oxidation-reduction potential which was analyzed within the 24 hour required holding time. Bioremediation parameter results are summarized in Table 3 and laboratory report forms have been included as Appendix C.

Laboratory analysis of groundwater samples indicated TPHg concentrations ranging from 140 micrograms per liter (μg/L) to 8,000 μg/L in HMW3 and HMW2, respectively. Benzene concentrations were reported in groundwater samples collected from HMW1 and HMW2 at 460 μg/L and 210 μg/L, respectively. Benzene was not reported above reporting limits in HMW3. Toluene was reported in HMW1 and HMW2 at concentrations of 40 μg/L and 30 μg/L, respectively. Ethylbenzene was reported above reporting limits in all three wells and concentrations ranged from 2.1 μg/L (HMW3) to 200 μg/L (HMW1). Xylenes were reported in HMW1 and HMW2 at concentrations of 100 μg/L and 90 μg/L, respectively. Toluene and xylenes were below reporting limits in HMW3.

Analysis by EPA Method 8020 indicated that MtBE was present above reporting limits in HMW2 at a concentration of 260 μg/L. Because MtBE analysis using EPA Method 8060 can result in false positive results, the sample from HMW2 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 HMW2.

Laboratory analysis of groundwater samples indicated that TPHd concentrations ranged from below reporting limits in HMW3 to a concentration of 8,700 μg/L in HMW1. TPHmo concentrations ranged from below reporting limits in HMW2 and HMW3 to a concentration of 3,700 μg/L in HMW1.

Dissolved oxygen concentrations ranged from 0.24 mg/L (HMW1) to 0.88 mg/L (HMW3). Oxidation-reduction potential concentrations ranged from -14.4 mV (HMW1) to +98.6 mV (HMW3). Sulfate concentrations ranged from 0.5 mg/L (HMW2) to 53 mg/L (HMW3). Nitrate was reported in HMW1 and HMW3 at concentrations of 2 mg/L and 2.2 mg/L, respectively. Ferrous iron concentrations ranged from 0.03 mg/L (HMW3) to 4.20 mg/L (HMW1).

DISCUSSION

Water levels in each of the three monitoring wells have decreased since last quarter. The hydraulic gradient for the 2 September 1997 sampling event is estimated to be 0.02 ft/ft with groundwater flow direction predominantly south to southwest when using depth to groundwater measurements collected by Gary Rogers Ph.D., ATC and Kier & Wright's TOC elevations. The current flow pattern is not characteristic of the historical flow direction, and is judged likely to be the result of an anomalously low elevation reported for Motor Partners' well MW3.

The following analytical trends have occurred since the last quarterly sampling event: TPHg concentrations have increased in monitoring well HMW2 and HMW3 and have decreased in HMW1, benzene concentrations have increased in HMW2, decreased in HMW1, and remain unchanged in HMW3, MtBE concentrations decreased in HMW1 and HMW2 to below reporting limits (though confirmation of last quarters' results from analyses by EPA Method 8020, by analyzing the sample by EPA Method 8260, was not performed) and have remained below reporting

limits in HMW3; TPHd concentrations have increased in HMW1 and HMW2 and remain non-detect in HMW3; TPHmo concentrations have increased in HMW1, decreased in HMW2 to non-detect, and remained below reporting limits in HMW3.

The significant increase in concentrations of TPHd and TPHmo in HMW1 concurrent with a decrease in TPHg and BTEX concentrations cannot readily be explained, but could possibly be related to a new source or re-mobilization of an old source of petroleum in the subsurface proximate to HMW1.

Monitoring well HMW3 was below reporting limits for all constituents except for low concentrations of TPHg and ethylbenzene.

Bioremediation parameters suggest a fairly reduced environment (suggestive of anaerobic biodegradation) in the vicinity of HMW1. In addition, the ferrous iron and dissolved oxygen concentrations in the vicinity of HMW1 suggest that anaerobic biodegradation may be occurring in the area of the plume. However, the oxidation-reduction potential increases in the samples from HMW2 and HMW3 which suggests an oxygenated environment in down-gradient portions of the plume and up- to cross-gradient of the plume. In addition, the decrease in ferrous iron concentrations in the samples from HMW2 and HMW3 further suggests a more oxygenated environment in these portions of the plume. Dissolved oxygen concentrations also increase in the up- to cross- and down-gradient directions, but the concentrations of dissolved oxygen indicate that aerobic biodegradation could be occurring in the down-gradient portion of the plume.

The judgments, conclusions, and recommendations described in this report pertain to the conditions judged to be present or applicable at the time the work was performed. The future conditions may differ from those described herein and this report is not intended for use in future evaluations of the site unless an update is conducted by a consultant familiar with environmental assessments and/or subsurface investigations. Use of this report is provided to Mr. Ruben Hausauer solely for his exclusive use and shall be subject to the terms and conditions in the applicable contract between Mr. Ruben Hausauer and ATC. Any third party use of this report shall also be subject to the terms 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 2 September 1997, is estimated to be 0.002 ft/ft. Groundwater flows in a general south to southwesterly 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 not characteristic of the historical flow direction.

- A significant increase in concentrations of TPHd and TPHmo 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.

- TPHg concentrations in monitoring well HMW1 have decreased from the previous sampling on 28 May 1997; concentrations in HMW2 and HMW3 have increased.

- Benzene concentrations have increased in HMW2, decreased in HMW1 and remained below reporting limits in HMW3 since the previous sampling event.

- Toluene concentrations have decreased in HMW1 and HMW2, and remain unchanged in HMW3 since last quarter. Ethylbenzene concentrations have decreased in HMW1 and HMW2 and increased in HMW3 since the previous sampling event. Xylene concentrations have increased in HMW2, decreased in HMW1, and remained below reporting limits in HMW3.

- Concentrations of MtBE were present above reporting limits in MW2 using EPA Method 8020. However, re-analysis of samples 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 HMW1 and HMW2 and remained below reporting limits in HMW3 since last quarter. TPHmo concentrations have increased in HMW1, decreased in HMW2, and remained below reporting limits in HMW3.

- With the exception of low concentrations of TPHg and ethylbenzene, analyses performed for monitoring well HMW3 were below reporting limits.

- Bioremediation parameters monitored during the third quarter indicated that anaerobic biodegradation was likely occurring in the vicinity of HMW1. Furthermore, the parameters suggest that aerobic biodegradation is likely occurring in the down-gradient portions of the plume.

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.

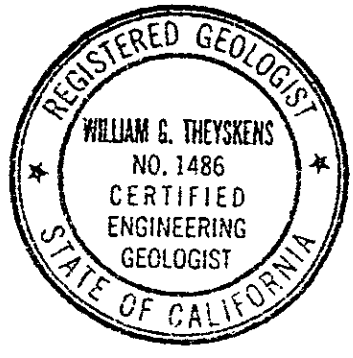
It continues to be a pleasure working with you on this project. If you have any questions regarding this report, please feel free to contact either of us at your convenience at (510) 460-5300.

Very truly yours,
ATC ASSOCIATES INC.

Kathleen Racke
Staff Geologist

Dabra I. Sheldon
Senior Hydrogeologist

William G. Theyskens, CEG, CHG
Environmental/Geosciences Program Manager



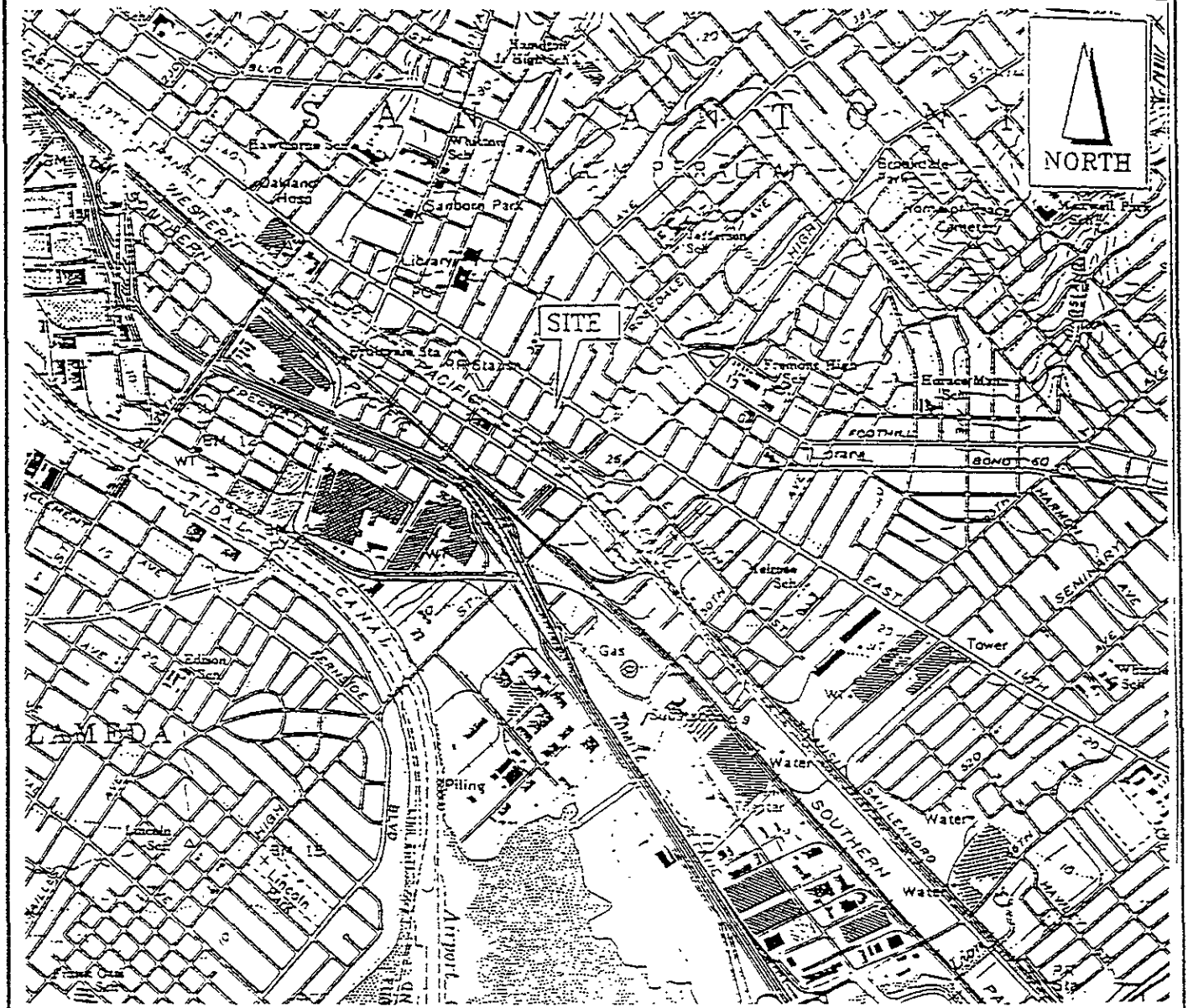
cc: Mr. Ruben Hausauer

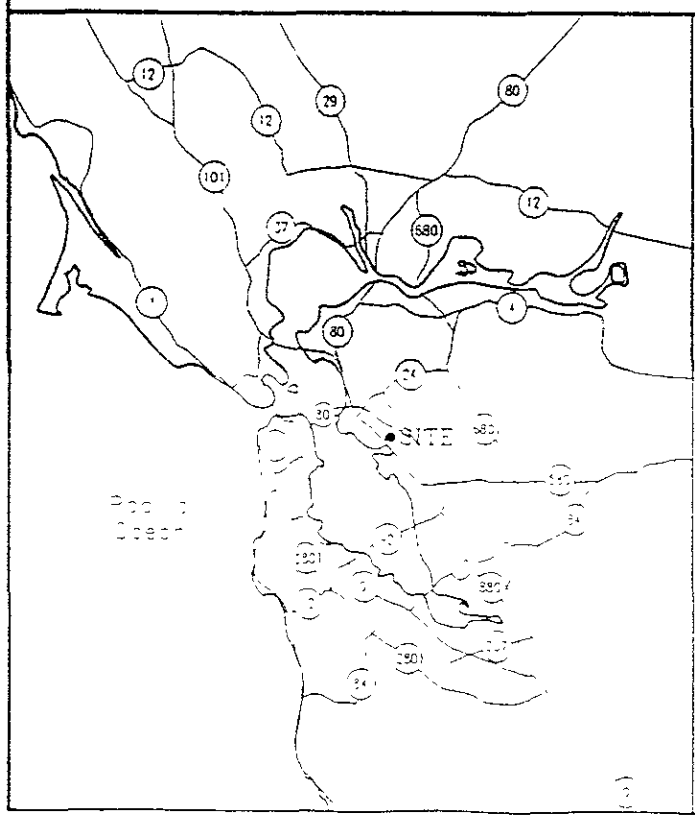
REFERENCES

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.

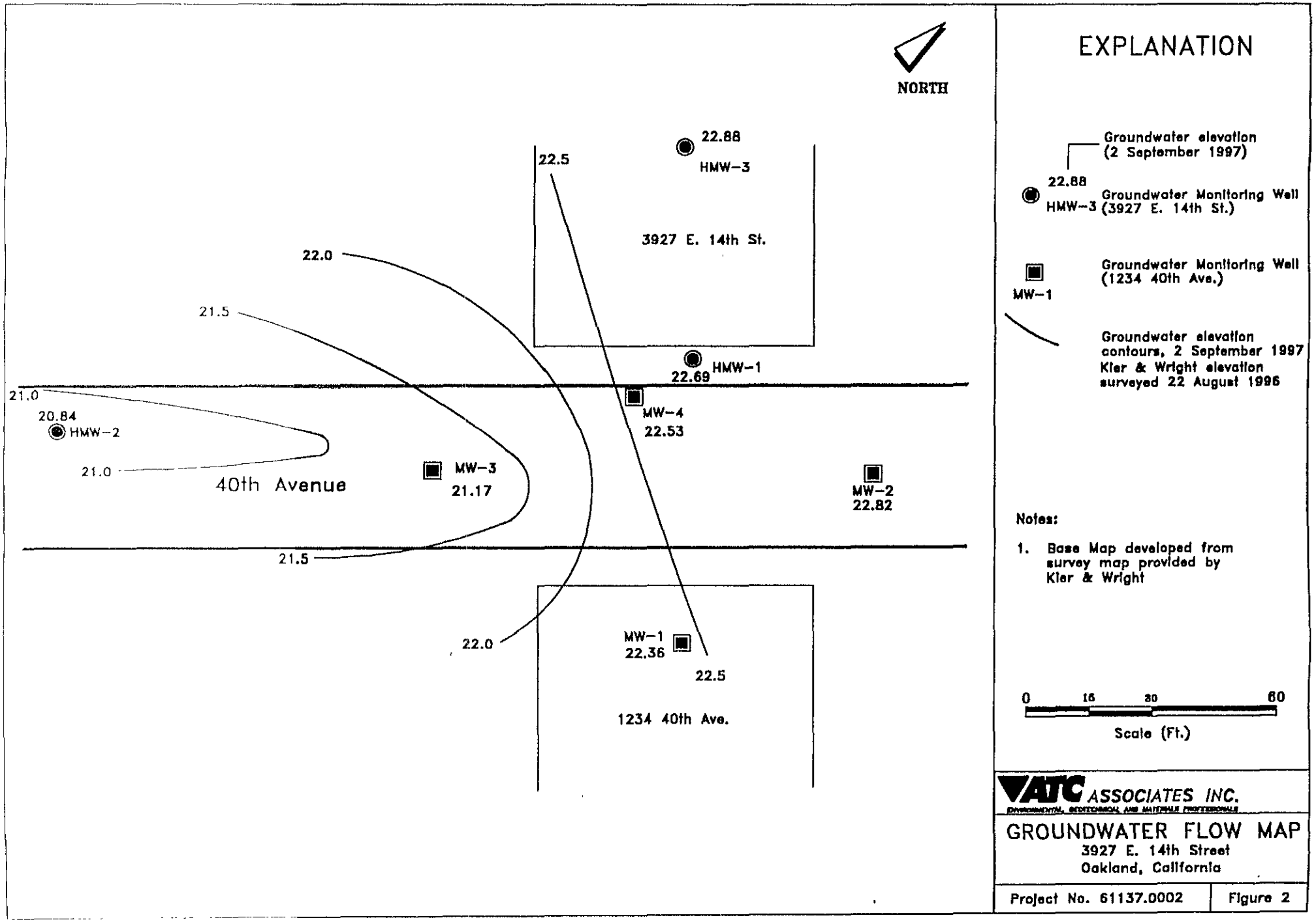
2) Base map from USGS Oakland East (1961) Quadrangle, 7.5 Minute Series Topographic. Photorevised in 1980.

SCALE MILES

ATC ASSOCIATES INC
Environmental Geotechnical and Materials Professionals

SITE LOCATION MAP
3927 E 14TH STREET
OAKLAND CALIFORNIA

PROJECT NO 61137.0002 | FIGURE 1



EXPLANATION

22.88 HMW-3 — Groundwater elevation (2 September 1997); Groundwater Monitoring Well (3927 E. 14th St.)

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

Groundwater elevation contours, 2 September 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, 2 September 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
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
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

MSL - Mean Sea Level

Table 1. 3rd Quarter Groundwater Gauging Results,Motor Partners Site,
1234 40th Avenue, Oakland, California, 2 September 1997

Monitoring Well	Top of Casing Elevation (msl)	Depth to Water (ft)	Groundwater Elevation (msl)
MW1	31.44	9.08	22.36
MW2	31.06	8.24	22.82
MW3	30.43	9.26	21.17
MW4	30.37	7.84	22.53

MSL - Mean Sea Level

Table 2. Groundwater Analytical Results, 3927 East 14th Street, Oakland, California, 2 September 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)
MW1	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 [2]	3,700 [2]
MW2	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]	450 [2]	ND [2]
MW3	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]

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] - Result using EPA Method 8260 to confirm analytical result.

[2] - Samples collected on 10/03/97

GW vapint from GW tabled:

Residential 10^{-4} 6.9E-3 mg/L

10^{-6} 6.9E-1

→ Benzene .69 mg/L

Table 3. Bioremediation Parameter Results, 3927 East 14th Street, Oakland, California, 2 September 1997

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
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
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

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

"----" - Not analyzed.

APPENDIX A

GROUNDWATER COLLECTION LOGS

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 161137.0002 SAMPLE ID: HMW1

PURGED BY: L. Wahlgren CLIENT NAME: Hausrath

SAMPLED BY: L. Neve 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.): 1.5

DEPTH TO WATER (feet): 9.15 CALCULATED PURGE (gal.): 4.5

DEPTH OF WELL (feet): ___ ACTUAL PURGE VOL (gal.): ~5.0

DATE PURGED: 10/3/97 Start (2400 Hr) 1355 End (2400 Hr) 1400

DATE SAMPLED: 10/3/97 Start (2400 Hr) 1425 End (2400 Hr) 1425

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)
1355	0	7.24	2160	77.8	yellow	moderate
1358	1.5	6.74	2140	76.7	yellow	moderate
Well went dry after 2 casing volumes						

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

ODOR: ___ 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: ___

REMARKS: ___ LOCK #: ___

SIGNATURE: Lata Neve

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 61137.0002 SAMPLE ID: HMW2

PURGED BY: L. Wahlgren CLIENT NAME:

SAMPLED BY: K. Neva LOCATION:

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): 9.1 CALCULATED PURGE (gal.): 5.1

DEPTH OF WELL (feet): ___ ACTUAL PURGE VOL. (gal.): ~5.0

DATE PURGED: 10/3/97 Start (2400 Hr) 1334 End (2400 Hr) 1340

DATE SAMPLED: 10/3/97 Start (2400 Hr) 1340 End (2400 Hr) 1345

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)
1334	0	6.08	1302	76.4	clear	low
1335	1	6.40	1208	76.2	clear	low
1335	2	6.59	1201	78.2	clear	low
1336	3	7.03	1210	79.5	clear	low

D. O. (ppm): —

ODOR: strong HC

COLOR, COBALT (0 - 100): ___

TURBIDITY, NTU (0 - 200): ___

Color: Clear, Cloudy, Yellow, Brown ___

Odor: 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: ___

REMARKS: ___ LOCK #: ___

SIGNATURE: Katy Neva

WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 16137.0002 SAMPLE ID: HMW3

PURGED BY: L. Hinkgren CLIENT NAME: Hausauer

SAMPLED BY: K. Klein 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.): 1.13

DEPTH TO WATER (feet): 9.3 CALCULATED PURGE (gal.): 3.41

DEPTH OF WELL (feet): 16.41 ACTUAL PURGE VOL. (gal.): ~4

DATE PURGED: 10/3/97 Start (2400 Hr) 1405 End (2400 Hr) 1407

DATE SAMPLED: 10/3/97 Start (2400 Hr) 1410 End (2400 Hr) 1410

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)
1405	0	8.24	1180	75.5	clear	low
1406	1.5	7.94	1115	73.7	clear	low
1406	3.0	7.89	1111	72.8	clear	low
1407	4.5	7.96	1111	72.7	clear	low

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

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

Color: Clear, Cloudy, Yellow, Brown ___

Odor: 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: ___ LOCK #: ___

REMARKS: ___

SIGNATURE: Katy Klein

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.
2380C QUME DR.
SAN JOSE, CA 95131

REPORT DATE: 10/24/97

DATE(S) SAMPLED: 10/03/97

DATE RECEIVED: 10/03/97

AEN WORK ORDER: 9710039

ATTN: BILL THEYSKENS
CLIENT PROJ. ID: 61137.0002
CLIENT PROJ. NAME: HAUSAUER

PROJECT SUMMARY:

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

Client requested sample(s) be analyzed for chemical parameters. 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.

Larry Klein
Laboratory Director

Analytical Services for the Environment

ATC ENVIRONMENTAL INC.

SAMPLE ID: HMW1
AEN LAB NO: 9710039-01
AEN WORK ORDER: 9710039
CLIENT PROJ. ID: 61137.0002

DATE SAMPLED: 10/03/97
DATE RECEIVED: 10/03/97
REPORT DATE: 10/24/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3510	-		Extrn Date	10/07/97
TPH as Diesel	GC-FID	8.7 *	0.05	mg/L	10/10/97
TPH as Oil	GC-FID	3.7 *	0.2	mg/L	10/10/97

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

ATC ENVIRONMENTAL INC.

SAMPLE ID: HMW2
AEN LAB NO: 9710039-02
AEN WORK ORDER: 9710039
CLIENT PROJ. ID: 61137.0002

DATE SAMPLED: 10/03/97
DATE RECEIVED: 10/03/97
REPORT DATE: 10/24/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3510	-		Extrn Date	10/07/97
TPH as Diesel	GC-FID	0.45 *	0.05	mg/L	10/09/97
TPH as Oil	GC-FID	ND	0.2	mg/L	10/09/97
Methyl t-Butyl Ether	GC/MS	ABSENT	50	ug/L	10/13/97

RLs for MTBE elevated due to high levels of non-target compounds. Sample run at dilution.

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

ATC ENVIRONMENTAL INC.

SAMPLE ID: HMW3
AEN LAB NO: 9710039-03
AEN WORK ORDER: 9710039
CLIENT PROJ. ID: 61137.0002

DATE SAMPLED: 10/03/97
DATE RECEIVED: 10/03/97
REPORT DATE: 10/24/97

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Extraction for TPH	EPA 3510	-		Extrn Date	10/07/97
TPH as Diesel	GC-FID	ND	0.05	mg/L	10/09/97
TPH as Oil	GC-FID	ND	0.2	mg/L	10/09/97

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

ANALYSIS: TPH as Diesel

MATRIX: Water

METHOD BLANK SAMPLES

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

LAB ID: BLNK-1007-1
PREPARED: 10/07/97
ANALYZED: 10/08/97

INSTR RUN: GC C\971007000000/1/
BATCH ID: DSIW100797-1
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)	90.3			100		65	125		

LABORATORY CONTROL SAMPLES

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

LAB ID: LCDW-1007-1
PREPARED: 10/07/97
ANALYZED: 10/08/97

INSTR RUN: GC C\971007000000/3/1
BATCH ID: DSIW100797-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.75	ND	0.05	2.00	87.5	60	110		
n-Pentacosane	(surr)	88.6	90.3		100	88.6	65	125		

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

LAB ID: LCSW-1007-1
PREPARED: 10/07/97
ANALYZED: 10/08/97

INSTR RUN: GC C\971007000000/2/1
BATCH ID: DSIW100797-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.76	ND	0.05	2.00	88.0	60	110		
n-Pentacosane	(surr)	90.7	90.3		100	90.7	65	125		

LABORATORY CONTROL DUPLICATES

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

LAB ID: LCRW-1007-1
PREPARED: 10/07/97
ANALYZED: 10/08/97

INSTR RUN: GC C\971007000000/4/2
BATCH ID: DSIW100797-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.75	1.76	0.05	2030				0.570	15
Motor Oil		ND	ND	0.2	200				0	
n-Pentacosane	(surr)	88.6	90.7			2.34	65	125		

SAMPLE SURROGATES

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

LAB ID: 9710039-01A
PREPARED: 10/07/97
ANALYZED: 10/10/97

INSTR RUN: GC C\971007000000/17/
BATCH ID: DSIW100797-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	110			100	110	65	125		

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

LAB ID: 9710039-02A
PREPARED: 10/07/97
ANALYZED: 10/09/97

INSTR RUN: GC C\971007000000/18/
BATCH ID: DSIW100797-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	96.3			100	96.3	65	125		

ANALYSIS: TPH as Diesel

MATRIX: Water

SAMPLE SURROGATES

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

LAB ID: 9710039-02A
PREPARED: 10/07/97
ANALYZED: 10/09/97

INSTR RUN: GC C\971007000000/18/
BATCH ID: DSLW100797-1
DILUTION: 1.000000

ANALYTE	RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)

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

LAB ID: 9710039-03A
PREPARED: 10/07/97
ANALYZED: 10/09/97

INSTR RUN: GC C\971007000000/19/
BATCH ID: DSLW100797-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	91.2			100	91.2	65	125		

---------- End of Quality Control Report ----------

RISA
R352

Katy (510) 460-5308

ATC ENVIRONMENTAL INC.

Chain of Custody

9710039

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

Project Name: Hallauer
Project Number: 101137.002
ATC Environmental Inc Contact: Bill Meystrens | Katy Neva
Laboratory Name: AEN

Sample Number	Location	Date	Time	Matrix: Soil	Matrix: Water	Matrix: Other	Preservative	No. of Containers	Type of Containers	TPH as gas/BTEX, EPA	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	+ PH as motor oil	MTBE (8240)
HMW1	[illegible]	10/3/97	1325		X		—	1	amber		X											X	
↓	[illegible]		↓				HCl	3	VOAs														X
HMW2	[illegible]		1210				—	1	amber		X											X	
↓	[illegible]		↓				HCl	3	VOAs														X
HMW3	[illegible]		1310				—	1	amber		X											X	
↓	[illegible]		↓		↓		HCl	3	VOAs														X

Turn Around Time

Standard 5 to 10 Business Days: X

Priority Rush ___ Business Day(s): ☐

Remarks

* Confirmation of MTBE by 8260 only

Sample HMW-2 only - B.L 10/2/97

Relinquished by sampler: Katy Neva	Date: 10/3/97	Time: 1410	Received by	
Relinquished by	Date	Time	Received by	
Relinquished by	Date	Time	Received by laboratory: Anna Gillespie	Date: 10-3-97 Time: 1410