HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

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Massachusetts
New York
Maryland

ENVIRONMENTAL PROTECTION

98 JUN 22 PM 1:49

June 17, 1998

7-285.1

Mr. Larry Seto
Alameda County
Health Care Services Agency
Environmental Protection Division
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502

Re: 2415 Mariner Square Drive, Alameda, California

Dear Mr. Seto:

Enclosed please find a copy of Hydro-Environmental Technologies, Inc.'s (HETI's) Quarterly Monitoring Report, Second Quarter 1998 for sampling conducted on May 8, 1998 at the above-referenced site. The report includes the data for the MW-6 excavation. This report represents the fourth consecutive quarter of monitoring and sampling at the site.

If you have any questions or require additional information, please feel free to call me at (510) 521-2684.

Sincerely,
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

Gary M. Pischke
Senior Geologist

enclosure

cc: Mr. John Beery, Mariner Square & Associates

HYDRO
ENVIRONMENTAL
TECHNOLOGIES, INC.

QUARTERLY MONITORING REPORT, Second Quarter 1998

2415 Mariner Square Drive
Alameda, California 94501

Sampling Date: May 8, 1998

Prepared for:

Mariner Square & Associates
2900 Main Street, Suite 100
Alameda, California 94501

Union Pacific Lines, Inc.
One Market Plaza
San Francisco, California

Phillips Petroleum Company
4th and Keeler Avenue
Bartlesville, Oklahoma 74004

Texaco, Inc.
10 Universal City Plaza, Suite 830
Universal City, California 91608-7812

Prepared by:

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.
2394 Mariner Square Drive, Suite 2
Alameda, CA 94501
HETI Job No. 7-285.1

June 12, 1998

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

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1.0 INTRODUCTION

This report presents the results of work conducted in the Second quarter of 1998 by Hydro-Environmental Technologies, Inc. (HETI) at 2415 Mariner Square Drive in Alameda, California (Figure 1). This monitoring event is the fourth consecutive quarter that ground water data was collected, evaluated and submitted to the local agencies. All work was performed in accordance with California State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board (Regional Board) recommended guidelines and procedures. A copy of HETI 's standard sampling protocols were submitted previously in HETI's Quarterly Monitoring Report, Fourth Quarter 1996 dated January 15, 1997.

2.0 BACKGROUND

The subject site is located in an area of commercial, light manufacturing and military usage immediately adjacent to and east of the Fleet Industrial Supply Center, Alameda Annex and south of the Oakland Inner Harbor. The site was reclaimed from marshlands in the late 1920's. Available maps indicate tidal channels were present in the former marshland covered by the site (Figure 2). In the past, the site was used for bulk fuel storage and distribution of refined oils, motor lubricants and fuel oils for use by ships until 1972.

Currently, the site is occupied by railroad boxcars which have been converted to offices, a restaurant and several buildings housing companies catering to the marine industry such as boat sales, storage, repairs, painting and sail manufacturing. The site no longer has bulk oils or fuel storage.

Proposed plans for the site include dividing the property into two parcels. A hotel and parking lot may be constructed on the eastern half parcel. A dry boat storage facility and parking would be constructed on the western half parcel. The western half parcel would include the existing monitoring wells and related environmental responsibility which would remain under Mariner Square and Associates.

The local geology consists primarily of clayey to silty sand (hydraulic fill) from approximately 7 to 17 feet below ground surface (bgs). Below the hydraulic fill, which was mechanically placed prior to the development of this portion of Alameda, the sediment consists of olive-grey sandy to silty clay with sand lenses, shells and organic matter from approximately 13 to 30 feet bgs (bay mud). Regional ground water flow is predominantly westerly, towards San Francisco Bay.

On November 25, 1991, AllWest Environmental, Inc. (AllWest) performed a Phase I Site Assessment of the property. AllWest recommended a soil and ground water investigation related to the fuel and oil storage, refining and distribution, and for contaminants related to boat maintenance, painting and repair. For complete details see AllWest's *Environmental Assessment* report dated December 3, 1991.

In April 1992, AllWest supervised the installation of 24 geoprobes and collecting and analyzing 23 soil samples and four ground water samples. Elevated concentrations of petroleum hydrocarbons were detected in 20 of the soil samples and two of the ground water samples with maximum concentrations of 13,000 parts per million (ppm) and 1,200 ppm, respectively. For complete details see AllWest's *Subsurface Investigation Report* dated May 1, 1992.

In 1992, Subsurface Consultants, Inc. (SCI) supervised the drilling of six soil borings and the installation of six two-inch diameter monitoring wells designated MW-1 through MW-6. Petroleum hydrocarbon concentrations were detected in all soil samples collected and analyzed from the soil borings (Subsurface Consultants, Inc., *Quarterly Groundwater Monitoring Report*, dated December 23, 1992).

On June 14, 1994, McLaren/Hart supervised the drilling of 13 soil borings, collecting and analyzing 28 soil samples and the installation of three four-inch diameter monitoring wells designated MW-7, MW-8, and MW-9. In the past, hydrocarbons were detected in ground water samples collected from wells MW-1 through MW-6, and vinyl chloride and Freon-113 were detected in ground water samples collected from wells MW-2 and MW-4 (McLaren/Hart, *Supplemental Site Investigation and Limited Feasibility Study Report*, dated March 31, 1995). All monitoring well locations are shown on Figure 2, the Site Plan.

On August 6, 1997, the two underground storage tanks were removed. Soil and ground water samples were collected by HETI from the tank excavations. Laboratory results indicated hydrocarbons were present in both soil and ground water (HETI, *Tank Removal Report*, dated November 5, 1997).

In a letter from Ms. Juliet Shin, Alameda County Health Care Services Agency (ACHCSA), dated December 26, 1995, the County required a minimum of four quarterly ground water monitoring events to delineate the plume and assure that migration is not occurring off-site or into the San Francisco Bay. Two monitoring events were performed in 1996.

In a subsequent letter and in the meeting of October 16, 1997, Ms. Juliet Shin, Mr. Larry Seto, and Ms. Madhulla Logan of the ACHCSA discussed the requirements for closure of the site. This Quarterly Monitoring Report presents the results of the fourth sampling event; the first event was the third quarter of 1997, as agreed by ACHCSA. One additional quarter of monitoring and sampling may be required to evaluate the residual risk from hydrocarbons in ground water at the site. Hydropunch testing is requested by the ACHCSA at the location of MW-6.

Closure of the site may be possible using the Regional Board's evaluation of the risk assessment for the Ecological Protection Zone (EPZ), applicable to sites within 300 feet of waters of the San Francisco Bay, performed by the Consolidated Tenant Group at the San Francisco International Airport (SFIA). The sites at SFIA have

similar conditions of fill over Bay Mud and hydrocarbon concentrations. The Regional Board has used the EPZ levels for site cleanup and closure evaluation at SFIA and proposes to use them for other locations around the Bay Area.

3.0 FIELD ACTIVITIES

3.1 Ground Water Monitoring and Sampling

On May 8, 1998, the site monitoring wells were gauged for depth to first encountered ground water to the nearest hundredth of a foot using an electronic water sounder. Following gauging, all monitoring wells were purged of a minimum of three well volumes or purged dry while pH, temperature and conductivity measurements were monitored for stabilization.

Purged water was stored on-site in two 55-gallon DOT drums with tight fitting lids. Gauging and purging data are included in Table 1 and Appendix A.

Following recovery of the water levels to at least 80% of their static level, ground water samples were collected from the monitoring wells using dedicated polyethylene bailers. Samples were then labeled, documented on a chain-of-custody form, and stored in a chilled cooler for transport to the analytical laboratory.

Ground water samples were analyzed for the following:

- total petroleum hydrocarbons as diesel (TPHd), motor oil (TPHmo) and gasoline (TPHg) by GC-FID using EPA Method 3510 for extraction, and EPA 3630M for silica gel cleanup and filtration;
- benzene, toluene, ethylbenzene and total xylenes (BTEX), and methyl-tert butyl ether (MTBE) using EPA method 8020;
- polynuclear aromatics (PNAs) by EPA Method 8310; and
- vinyl chloride by EPA Method 8010.

The sample analyses were performed by American Environmental Network (AEN), a state of California DHS-certified laboratory located in Pleasant Hill, California.

Well MW-6 was destroyed during excavation of adjacent soil on April 28, 1998, prior to the quarterly event. A ground water grab sample was collected from the excavation after the destruction of the well.

During the three previous monitoring events, separate phase hydrocarbons (SPH) was detected in well MW-6. A PetroTrap™ was installed in MW-6 on February 16, 1998. The amount of SPH recovered from the PetroTrap™ is summarized in Table 3. The PetroTrap™ was removed on April 28, 1998, prior to destruction of the well.

3.2 MW-6 Excavation Soil and Ground water Sampling

The area south of MW-6 was excavated to evaluate a water main leak and the extent of hydrocarbons in soil. The excavation was performed to remove hydrocarbon-bearing soil adjacent to MW-6, which historically has had SPH. The excavation was performed on April 28 and completed on May 4, 1998. The area of excavation is shown on Figure 2.

Soil samples were collected on April 28, 1998 from the excavation sidewalls and from the area with the most staining and observable contamination. Additional soil samples were collected on May 4, 1998 at the request of ACHCSA after review of the initial sample results. A ground water grab sample was collected from water ponded in the excavation.

The soil samples were analyzed for the following:

- total petroleum hydrocarbons as diesel (TPHd), motor oil (TPHmo) and gasoline (TPHg) by GC-FID using EPA Method 3510 for extraction, and EPA 3630M for silica gel cleanup and filtration; and
- benzene, toluene, ethylbenzene and total xylenes (BTEX), and methyl-tert butyl ether (MTBE) using EPA method 8020.

The grab ground water sample was analyzed for the following:

- total petroleum hydrocarbons as diesel (TPHd), motor oil (TPHmo) and gasoline (TPHg) by GC-FID using EPA Method 3510 for extraction, and EPA 3630M for silica gel cleanup and filtration;
- benzene, toluene, ethylbenzene and total xylenes (BTEX), and methyl-tert butyl ether (MTBE) using EPA method 8020;
- polynuclear aromatics (PNAs) by EPA Method 8310; and
- vinyl chloride by EPA Method 8010.

The sample analyses were performed by American Environmental Network (AEN), a state of California DHS-certified laboratory located in Pleasant Hill, California.

4.0 RESULTS

4.1 Ground Water Elevation

On May 8, 1998, depth to first encountered ground water in the wells ranged between 3.47 to 5.30 feet below the top of the well casing. Depth to water measurements and calculated ground water elevations in the wells are presented on Table 1. The depth to water measurements and the wellhead elevation data were used to calculate ground water elevation contours. These contours are shown on Figure 3, the Ground Water Contour Map. Figure 3 shows that ground water flows towards the southeast and east, with a ground water gradient of 1.02% to 1.12%.

4.2 Ground Water Sample Analytical Results

The analytical results indicated that dissolved TPHd was present in the ground water samples collected from only one of the eight wells sampled, MW-9 at 130 µg/L. In the grab ground water sample collected from the excavation adjacent to MW-6 on April 28, 1998, TPHd was also detected at 920 µg/L. The analytical results are summarized in Tables 1 and 2, and a copy of the laboratory report is included in Appendix B.

TPHmo was not detected above the indicated laboratory method detection limit in the ground water samples collected from the eight wells or from the MW-6 ground water grab sample.

TPHg was detected above the indicated laboratory method detection limit in the ground water samples collected from five of the eight wells in concentrations ranging from 70 (MW-9) to 3,900 µg/L (MW-5). TPHg was detected at 800 µg/L in the MW-6 ground water grab sample. TPHg was not detected above the laboratory method detection limit in wells MW-1, MW-3 and MW-8. These results are shown on Figure 4, the TPHg Isoconcentration Map.

Benzene was detected above the indicated laboratory method detection limit in the ground water samples collected from five of the eight wells in concentrations ranging from 0.6 (MW-3) to 8 µg/L (MW-5). Benzene was not detected in the MW-6 ground water grab sample. These results are shown on Figure 5, the Benzene Isoconcentration Map.

MTBE was detected above the indicated laboratory method detection limit in the ground water samples collected from three of the eight wells in concentrations ranging from 16 (MW-9) to 34 µg/L (MW-7). MTBE was not detected in the MW-6 ground water grab sample

Vinyl chloride was not detected above the indicated laboratory method detection limit in any of the wells sampled or the MW-6 ground water grab sample.

Concentrations of polynuclear aromatics (PNAs) were not detected above the indicated laboratory method detection limits in the ground water samples collected from the wells or the MW-6 ground water grab sample. These results are shown on Figure 6, The Polynuclear Aromatics Distribution Map.

The California Department of Health Services (DHS) and the U.S. Environmental Protection Agency's (EPA) Drinking Water Standards, primary maximum contaminant levels (MCLs) for benzene are 1 µg/l and 5 µg/l, respectively. The state and federal MCLs for vinyl chloride are 0.5 µg/l and 2 µg/l, respectively. There are no state or federal MCLs for TPHd, TPHmo, or TPHg. The MCLs are listed on Tables

1 and 2 for comparison purposes. The DHS MCL, 1 µg/l, for benzene, was equaled or exceeded in three wells (MW-1, MW-5 and MW-7).

As a comparison, the risk-based standards for TPHg, TPHd, BTEX and vinyl chloride in ground water from San Francisco International Airport are included on Table 1. The standard shown is for the EPZ sites within 300 feet of waters of the San Francisco Bay. The present EPZ value for TPHg, 100 µg/l, was exceeded in four wells. The revised EPZ value for TPHg, 9,150 µg/l, was not exceeded in any of the eight wells or the MW-6 ground water grab sample. The EPZ value for benzene, 71 µg/l, was not exceeded in any of the eight wells sampled or the MW-6 ground water grab sample.

The U.S. EPA National Ambient Water Quality Criteria for Saltwater Aquatic Life Protection are included in Table 2 for the evaluation of PNAs. The PNAs were reported as non-detect. None of the Water Quality Criteria were exceeded.

4.3 MW-6 Excavation Soil Sample Analytical Results

The initial soil sample analytical results indicated TPHmo at concentrations ranging from 41 milligrams per kilogram (mg/kg) to 24,000 mg/kg. The follow-up soil samples' results indicated concentrations of TPHmo ranging from non-detectable (less than 5 mg/kg) to 8 mg/kg. The soil sample results are summarized in Table 4. Sample locations are shown on Figure 7. Overexcavation was performed after initial sampling.

TPHd was reported in the initial excavation samples at concentrations ranging from non-detectable (less than 9 mg/kg) to 3,200 mg/kg. The follow-up soil samples' results were non-detectable (less than 1 mg/kg) for TPHd.

No TPHg, BTEX, or MTBE was reported above the detection limit in either set of samples.

As a comparison, the risk-based standards for TPHg, TPHd, BTEX and TPHmo from San Francisco International Airport are included on Table 4. The standard shown is for the EPZ sites within 300 feet of waters of the San Francisco Bay. The April 28, 1998 initial sample results had concentrations above the present and revised EPZ values for TPHd and TPHmo. The May 4, 1998 follow-up samples results had concentrations less than the present and revised EPZ values.

5.0 SUMMARY AND CONCLUSIONS

- The general ground water flow direction across the site is towards the southeast and east with an approximate ground water gradient ranging from 1.02% to 1.12%.

- TPHmo was not detected in any of the eight wells sampled or in the MW-6 ground water grab sample. TPHd was detected in one of the eight wells sampled

and in the MW-6 ground water grab sample. TPHg was detected in five of the eight wells sampled and in the MW-6 ground water grab sample.

- Benzene was detected in five of the eight wells sampled and met or exceeded the state MCL in three of the samples. Benzene was not detected in the MW-6 ground water grab sample.

- Vinyl chloride was not detected in any of the eight wells sampled or the MW-6 ground water grab sample.

- PNAs were not detected in any of the eight wells sampled or the MW-6 ground water grab sample.

- SPH was present in well MW-6 during the previous events ranging from a sheen to 0.55 feet. A PetroTrap™ was installed in the well on February 1998 and removed on April 28, 1998. The PetroTrap™ recovered 4.7 liters or approximately 1.2 gallons of SPH.

- Well MW-6 was destroyed on April 28, 1998, prior to this quarter's monitoring and sampling. The well was destroyed during the excavation of hydrocarbon-bearing soil encountered during the search for a water main leak. The PetroTrap™ was removed prior to the well destruction.

- Initial soil sample results from the MW-6 excavation indicated concentrations of TPHmo ranging up to 24,000 mg/kg. Follow-up soil sample results ranged from non-detect to 8 mg/kg TPHmo. Initial TPHd results indicated concentrations ranging up to 3,200 mg/kg. Follow-up sample results were non detect. Soil results from both sample sets for TPHg, BTEX and MTBE were non-detect.

- The ground water flow direction and laboratory results from this sampling event are generally consistent with the results noted in the Quarterly Monitoring Report for the First Quarter 1998, dated March 24, 1998.

- Based upon the four quarters of ground water sampling, the hydrocarbon concentrations in ground water appear to be stable or declining. The present quarter is the fourth consecutive event required by the ACHCSA. One additional event may be necessary and could be concurrent with the hydropunch sampling required by the ACHCSA for the former MW-6 area.

- The concentrations of hydrocarbons in ground water are currently above the existing EPZ levels, but are below the proposed revised EPZ levels. With the revised levels, a request for risk-based closure should be warranted for the site.

- Based upon the requests in the ACHCSA letter dated November 10, 1997, a workplan for excavation of the pipelines adjacent to MW-5 will be submitted for review.

HYDRO ENVIRONMENTAL TECHNOLOGIES, INC.

6.0 CERTIFICATION

This report was prepared under the supervision of a registered geologist. All statements, conclusions and recommendations are based solely upon field observations and analytical analyses performed by a state-certified laboratory related to the work performed by Hydro-Environmental Technologies, Inc.

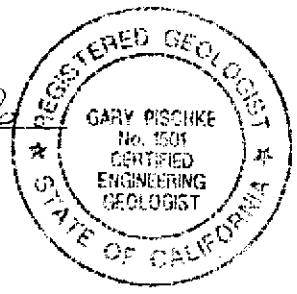
It is possible that variations in the soil or ground water conditions exist beyond the points explored in this investigation. Also, site conditions are subject to change at some time in the future due to variations in rainfall, temperature, regional water usage, or other factors.

The service performed by Hydro-Environmental Technologies, Inc. has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Hydro-Environmental Technologies, Inc. includes in this report chemical analytical data from a state-certified laboratory. These analyses are performed according to procedures suggested by the U.S. EPA and the State of California. Hydro-Environmental Technologies, Inc. is not responsible for laboratory errors in procedure or result reporting.

Prepared by:

Gary Pischke, C.E.G.
Senior Geologist



Reviewed by:

Michael Zimmerman, P.E.
Western Regional Manager

Table 1

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Well I.D. #	Sample Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHmo (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Vinyl Cl (µg/L)
MW-1	7/30/92	5.08	6.41	-1.33	--	--	--	--	--	--	--	--	--
(SCI)	7/31/92	5.08	6.41	-1.33	--	--	--	--	--	--	--	--	--
	8/3/92	5.08	6.50	-1.42	580	ND<5000	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--
	8/5/92	5.08	6.50	-1.42	--	--	--	--	--	--	--	--	--
	11/20/92	5.08	6.23	-1.15	600	ND<5000	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	ND<2
	6/13/94	11.99	5.69	6.30	--	--	--	--	--	--	--	--	--
	9/27/94	11.99	5.64	6.35	530	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--
	10/25/94	11.99	5.86	6.13	--	--	--	--	--	--	--	--	--
	6/28/96	11.99	5.34	6.65	ND<50	ND<200 (1)	ND<100	ND<0.5	ND<1.0	ND<1.0	ND<2.0	--	ND<0.5
	10/31/96	11.99	5.38	6.61	93	ND<200	ND<100	ND<0.5	ND<1.0	ND<1.0	ND<2.0	ND<10	ND<1.0
	9/30/97	11.99	5.08	6.91	ND<50	ND<200	120	4.7	ND<1.0	3.7	21	ND<10	ND<0.8
	12/12/97	11.99	4.16	7.83	ND<50	ND<200	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<5	ND<2
	2/18/98	11.99	2.97	9.02	ND<50	ND<200	ND<50	1.5	0.6	1.8	8	ND<5	ND<2
	5/8/98	11.99	4.55	7.44	ND<50	ND<200	ND<50	1.0	ND<0.5	0.7	5	ND<5	ND<2
MW-2	7/30/92	8.30	5.98	2.32	--	--	--	--	--	--	--	--	--
(SCI)	7/31/92	8.30	6.07	2.23	--	--	--	--	--	--	--	--	--
	8/3/92	8.30	6.11	2.19	2,200	ND<5000	--	ND<0.5	6.5	3.2	5.3	--	--
	8/5/92	8.30	6.18	2.12	--	--	--	--	--	--	--	--	--
	11/20/92	8.30	6.42	1.88	2,100	ND<5000	340	ND<0.5	ND<0.5	ND<0.5	2.4	--	ND<2
	6/13/94	15.21	5.92	9.29	--	--	--	--	--	--	--	--	--
	9/26/94	15.21	6.51	8.70	ND<50	240	320	ND<3.0	ND<3.0	ND<3.0	ND<3.0	--	--
	10/25/94	15.21	6.67	8.54	--	--	--	--	--	--	--	--	--
	6/28/96 (2)	15.21	5.68	9.53	100 (3,4)	ND<200 (1)	980	0.5	ND<1.0	2.3	3.1	--	ND<0.5
	10/31/96	15.21	6.37	8.84	180	ND<200	220	ND<0.5	ND<1.0	ND<1.0	ND<2.0	ND<10	ND<1.0
	9/30/97	15.21	6.17	9.04	150 (8)	ND<200	900	0.8	ND<1.0	2	6.2	ND<10	ND<0.8
	12/12/97	15.21	5.18	10.03	ND<50	ND<200	360	1.1	ND<0.5	2.2	3	ND<5	ND<2
	2/18/98	15.21	3.96	11.25	ND<50	ND<200	90	ND<0.5	ND<0.5	1.1	2	ND<5	ND<2

Table 1

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Well I.D. #	Sample Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHmo (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Vinyl Cl (µg/L)
MW-2	5/8/98	15.21	4.82	10.39	ND<50	ND<200	170	ND<0.5	ND<0.5	1.7	3	ND<5	ND<2
MW-3	7/30/92	7.28	4.97	2.31	--	--	--	--	--	--	--	--	--
(SCI)	7/31/92	7.28	5.05	2.23	--	--	--	--	--	--	--	--	--
	8/3/92	7.28	4.43	2.85	1,000	ND<5000	--	ND<0.5	1	ND<0.5	2.4	--	--
	8/5/92	7.28	5.06	2.22	--	--	--	--	--	--	--	--	--
	11/20/92	7.28	5.27	2.01	2,000	ND<5000	98	ND<0.5	ND<0.5	0.9	1	--	ND<2
	6/13/94	14.19	4.91	9.28	--	--	--	--	--	--	--	--	--
	9/27/94	14.19	5.29	8.90	720	ND<50	ND<50	ND<3.0	ND<0.3	ND<0.3	ND<0.3	--	--
	10/25/94	14.19	5.42	8.77	--	--	--	--	--	--	--	--	--
	6/28/96	14.19	4.69	9.50	120 (3)	ND<200 (1)	ND<100	ND<0.5	ND<1.0	ND<1.0	ND<2.0	--	ND<0.5
	10/31/96	14.19	5.24	8.95	160	ND<200	ND<100	ND<0.5	ND<1.0	ND<1.0	ND<2.0	ND<10	ND<1.0
	9/30/97	14.19	5.04	9.15	70 (8)	ND<200	ND<100	0.8	ND<1.0	ND<1.0	3.3	ND<10	ND<0.8
	12/12/97	14.19	4.32	9.87	ND<50	ND<200	80	0.7	ND<0.5	0.7	4	9	ND<2
	2/18/98	14.19	2.97	11.22	ND<50	ND<200	60	ND<0.5	ND<0.5	ND<0.5	4	7	ND<2
	5/8/98	14.19	3.85	10.34	ND<50	ND<200	ND<50	0.6	ND<0.5	0.5	4	ND<5	ND<2
MW-4	7/30/92	7.05	4.81	2.24	--	--	--	--	--	--	--	--	--
(SCI)	7/31/92	7.05	4.88	2.17	--	--	--	--	--	--	--	--	--
	8/5/92	7.05	4.96	2.09	1,300	ND<5000	--	16	2.6	0.6	2.7	--	9
	11/20/92	7.05	5.13	1.92	2,400	ND<5000	330	31	5.2	0.7	2	--	13
	6/13/94	13.95	4.50	9.45	--	--	--	--	--	--	--	--	--
	9/27/94	13.95	5.39	8.56	890	ND<50	ND<50	12	0.43	ND<0.3	ND<0.3	--	--
	10/25/94	13.95	5.55	8.40	--	--	--	--	--	--	--	--	--
	6/28/96	13.95	4.25	9.70	170 (3,4)	ND<200 (1)	180	4	ND<1.0	ND<1.0	ND<2.0	--	2.5
	10/31/96	13.95	5.05	8.90	330	ND<200	110	6.2	ND<1.0	ND<1.0	ND<2.0	ND<10	4.3
	9/30/97	13.95	4.73	9.22	170 (8)	ND<200	650	3.9	ND<1.0	ND<1.0	ND<2.0	460	3.1
	12/12/97	13.95	3.65	10.30	ND<50	ND<200	260	4.9	0.9	ND<0.5	ND<2.0	320	3

Table 1

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Well I.D. #	Sample Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHmo (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Vinyl Cl (µg/L)
MW-4	2/18/98	13.95	2.38	11.57	ND<50	ND<200	240	7.9	1.1	2.1	10	290	2
	5/8/98	13.95	3.47	10.48	ND<50	ND<200	90	0.9	0.5	0.8	5	30	ND<2
MW-5	7/30/92	7.68	5.30	2.38	--	--	--	--	--	--	--	--	--
(SCI)	7/31/92	7.68	5.42	2.26	--	--	--	--	--	--	--	--	--
	8/3/92	7.68	5.40	2.28	2,200	ND<5000	--	9	6	49	11	--	--
	8/5/92	7.68	5.47	2.21	--	--	--	--	--	--	--	--	--
	11/20/92	7.68	5.74	1.94	1,500	ND<5000	4,800	7.6	12	5.8	26	--	ND<2
	6/13/94	14.60	5.30	9.30	--	--	--	--	--	--	--	--	--
	9/26/94	14.60	5.82	8.78	780	ND<500	3,100	7.9	11	8.7	14	--	--
	10/25/94	14.60	5.95	8.65	--	--	--	--	--	--	--	--	--
	6/28/96	14.60	5.04	9.56	610 (3,4)	790 (1)	5,000	1.2	6.8	21	14	--	ND<0.5
	10/31/96	14.60	5.73	8.87	4,900	860	6,800	20	5.9	15	19	ND<10	ND<1.0
	9/30/97	14.60	5.45	9.15	4100 (8)	520	9,000	35	5.3	36	32	12	ND<0.8
	12/12/97	14.60	4.71	9.89	90	ND<200	3,400	26	4.6	5.9	13	11	ND<2
	2/18/98	14.60	3.10	11.50	ND<50	ND<200	3,200	7.9	1.4	14	12	ND<5	ND<2
	5/8/98	14.60	4.13	10.47	ND<50	ND<200	3,900	8	22	19	10	ND<5	ND<2
MW-6	5/25/93	--	--	--	2,700,000	--	460	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	ND<10
	6/13/94	14.81	5.96	8.85	--	--	--	--	--	--	--	--	--
	9/27/94	14.81	5.90	8.91	9,900	3,200	1,100	ND<3.0	ND<3.0	ND<3.0	ND<3.0	--	--
	10/7/94	14.81	5.82	8.99	--	--	--	--	--	--	--	--	--
	10/14/94	14.81	5.89	8.92	--	--	--	--	--	--	--	--	--
	10/21/94	14.81	5.90	8.91	--	--	--	--	--	--	--	--	--
	10/25/94	14.81	5.99	8.82	--	--	--	--	--	--	--	--	--
	6/28/96	14.81	5.33	9.48	SPH (0.16')	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	10/31/96	14.81	5.17	9.64	SPH (0.02')	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	9/30/97	14.81	5.58	9.23	Sheen	--	--	--	--	--	--	--	--

Table 1

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS
Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Well I.D. #	Sample Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHmo (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Vinyl Cl (µg/L)
SPH (0.39')	12/12/97	14.81	4.84	9.97	1,900,000	430,000	**21,000**	**5**	ND<0.5	8	19	ND<50	ND<2
SPH (0.55')	2/18/98	14.81	3.70	11.11	ND<50	ND<200	**70,000**	**20**	20	20	70	ND<100	ND<2
MW-6	4/28/98	-- (9)	--	--	920	ND<200	800	ND<0.5	ND<0.5	ND<0.5	ND<2	ND<5	ND<2
MW-7	9/27/94	13.61	5.95	7.66	1,800	ND<250	ND<250	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--
	10/25/94	13.61	6.09	7.52	--	--	--	--	--	--	--	--	--
	6/28/96	13.61	5.42	8.19	490 (3,4)	ND<200 (1)	560	0.6	ND<1.0	ND<1.0	2.7	--	ND<0.5
	10/31/96	13.61	5.90	7.71	420	ND<200	200	**1.1**	ND<1.0	ND<1.0	ND<2.0	ND<10	ND<1.0
	9/30/97	13.61	5.71	7.90	190 (8)	ND<200	750	**8.1**	5.3	ND<1.0	6.9	ND<10	ND<0.8
	12/12/97	13.61	4.58	9.03	ND<50	ND<200	420	**7.9**	ND<0.5	ND<0.5	5	ND<5	ND<2
	2/18/98	13.61	3.21	10.40	ND<50	ND<200	650	**9.5**	0.6	ND<0.5	6	16	ND<2
(10)	5/8/98	13.61	4.49	9.12	ND<50	ND<200	710	**3.4**	4.8	0.8	7	34	ND<2
MW-8	9/27/94	12.64	6.06	6.58	320	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--
	10/25/94	12.64	6.26	6.38	--	--	--	--	--	--	--	--	--
	6/28/96	12.64	6.00	6.64	58 (3)	ND<200 (1)	ND<100	ND<0.5	ND<1.0	ND<1.0	ND<2.0	--	ND<0.5
	10/31/96	12.64	5.85	6.79	120	ND<200	ND<100	ND<0.5	ND<1.0	ND<1.0	ND<2.0	ND<10	ND<1.0
	9/30/97	12.64	5.60	7.04	70 (8)	ND<200	110	**4.2**	ND<1.0	3.4	16	ND<10	ND<0.8
	12/12/97	12.64	4.87	7.77	ND<50	ND<200	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<2.0	15	ND<2
	2/18/98	12.64	3.80	8.84	ND<50	ND<200	ND<50	0.9	ND<0.5	0.8	3	ND<5	ND<2
	5/8/98	12.64	5.30	7.34	ND<50	ND<200	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<5	ND<2
MW-9	9/26/94	14.92	5.88	9.04	2,200	ND<500	ND<500	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--
	10/25/94	14.92	6.04	8.88	--	--	--	--	--	--	--	--	--
	6/28/96	14.92	5.14	9.78	550 (3,4)	ND<200 (1)	390	5.2	ND<1.0	ND<1.0	ND<2.0	--	ND<0.5
	10/31/96	14.92	6.37	8.55	590	720	300	5.9	ND<1.0	ND<1.0	ND<2.0	ND<10	ND<1.0
	9/30/97	14.92	5.59	9.33	460 (8)	ND<200	150	0.6	ND<1.0	ND<1.0	2.7	ND<10	ND<0.8
	12/12/97	14.92	4.53	10.39	ND<50	ND<200	180	ND<0.5	ND<0.5	ND<0.5	ND<2.0	ND<5	ND<2

Table 1

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Well I.D. #	Sample Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHmo (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Vinyl Cl (µg/L)
MW-9	2/18/98	14.92	3.12	11.80	ND<50	ND<200	100	ND<0.5	0.5	ND<0.5	ND<2.0	6	ND<2
	5/8/98	14.92	4.20	10.72	130	ND<200	70	ND<0.5	ND<0.5	ND<0.5	ND<2.0	16	ND<2
CA Primary MCL (5)					--	--	--	1	100 (7)	680	1,750	35 (7)	0.5
Federal Primary MCL (6)					--	--	--	5	1,000	700	10,000	--	2
Saltwater Ecological Protection Zone Tier 1 (SFIA)					100	--	100	71	43	5000	2,200	--	17
Saltwater Ecological Protection Zone 1997 (SFIA)					393	site specific	9,150	71	86	5000	2,200	--	17

Table 1

GROUND WATER ELEVATIONS AND SAMPLE ANALYTICAL RESULTS

Mariner Square & Associates

2415 Mariner Square Drive

Alameda, CA

Well I.D. #	Sample Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHd (µg/L)	TPHmo (µg/L)	TPHg (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	Vinyl Cl (µg/L)

Notes:

TOC : Top of well casing referenced to mean sea level. Survey conducted by a state-licensed surveyor.

DTW : Depth to water.

GWE : Ground water elevation.

TPHg : Total petroleum hydrocarbons as gasoline by EPA Method 8015 (modified).

BTEX : Benzene, toluene, ethylbenzene and total xylenes by EPA Method 8020.

TPHd : Total petroleum hydrocarbons as diesel by EPA Method 8015 (modified).

TPHmo : Total Petroleum Hydrocarbons as lubricating oil by Cal LUFT manual DHS method with EPA 3630 (modified)- silica gel cleanup.

Vinyl Cl : Vinyl chloride by EPA Method 524.2.

µg/L : Micrograms per Liter.

--- : Not analyzed/sampled.

ND : Not detected above the indicated laboratory method detection limit.

(SPH) : Separate phase hydrocarbons - No sample collected.

(1) : Lubricating oil can not be qualitatively identified by type of oil because of chromatographic likeness of different oil types. Due to non-volatility of certain oils, much of the oil present may never be quantified by this gas chromatographic method. Quantitation obtained for lubricating oil by this method should, therefore, be treated as an estimate. This method quantifies lubricating oil against 10-W-40 standards. For the most accurate analysis of lubricating oil, an infrared method is recommended.

(2) : Water sample collected from MW-2 was analyzed for Freon 113 by EPA Method 8010A. Results were below the detection limit of 1.0 µg/L.

(3) : Qualitative identification is uncertain because the material present does not match laboratory standards.

(4) : Quantitation uncertain due to matrix interferences.

(5) : Drinking Water Standards, California Department of Health Services, Primary Maximum Contaminant Level (MCL).

(6) : Drinking Water Standards, U.S. Environmental Protection Agency, Primary Maximum Contaminant Level (MCL).

(7) : California State Action Level, Department of Health Services.

(8): Qualitative identification of diesel fuel is uncertain because the material present does not match laboratory standards.

(9): Well destroyed during excavation for free product source; ground water grab sample from excavation.

(10): EPA 8010 Result: 0.9 µg/L Tetrachloroethene reported by lab. on vinyl chloride sample unedited run.

SFIA San Francisco International Airport standards from Board Order 95-136 and modifications by Consolidated Tenant Group and Regional Board.

[ ] = The analytical result is greater than the CA Primary MCL value, or EPZ limit

Table 2
POLYNUCLEAR AROMATICS SAMPLE ANALYTICAL RESULTS
Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Well No.	Sample Date	Naph-thalene µg/L	Acenaph-thylene µg/L	Acenaph-thene µg/L	Fluorene µg/L	Phenan-threne µg/L	Anthra-cene µg/L	Fluoran-thene µg/L	Pyrene µg/L
MW-1	6/28/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	10/31/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	9/30/97	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	12/12/97	0.6	ND<1.0	ND<0.5	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	2.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0
MW-2	6/28/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	0.82	0.77
	10/31/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	9/30/97	ND<2.0	12.0	3.3	ND<2.0	ND<1.0	ND<1.0	1.0	1.1
	12/12/97	ND<0.5	ND<1.0	ND<0.5	ND<0.1	ND<0.1	ND<0.1	0.2	0.3
	2/18/98	ND<1.0	8.0	5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0
MW-3	6/28/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	10/31/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	9/30/97	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	12/12/97	0.6	ND<1.0	ND<0.5	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0
MW-4	6/28/96	ND<2.0	2.5	2.3	ND<2.0	ND<1.0	ND<1.0	1.8	2.1
	10/31/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	0.92	1.6
	9/30/97	ND<2.0	ND<2.0	3.7	ND<2.0	ND<1.0	ND<1.0	1.5	1.9
	12/12/97	0.8	ND<1.0	ND<0.5	ND<0.1	ND<1.0	ND<0.1	0.4	0.4
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0

Table 2
POLYNUCLEAR AROMATICS SAMPLE ANALYTICAL RESULTS
Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Well No.	Sample Date	Naph-thalene µg/L	Acenaph-thylene µg/L	Acenaph-thene µg/L	Fluorene µg/L	Phenan-threne µg/L	Anthra-cene µg/L	Fluoran-thene µg/L	Pyrene µg/L
MW-5	6/28/96	2.0	96 (1)	3.0	ND<2.0	9.5	2.3	8.6	8.4
	10/31/96	ND<2.0	150	8.3	2.4	14	2.9	11	15
	9/30/97	2.6	100.0	11.0	5.0	15.0	3.9	15.0	16.0
	12/12/97	ND<0.5	ND<1.0	1.0	0.8	2.9	0.6	1.7	1.2
	2/18/98	ND<1.0	150.0	170.0	6.0	3.0	2.0	11.0	7.0
	5/8/98	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0
MW-6	6/28/96	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	10/31/96	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	9/30/97	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	12/12/97	ND<100	ND<200	ND<100	90.0	80.0	ND<20	250.0	40.0
	2/18/98	ND<20	ND<20	ND<20	ND<20	ND<20	ND<20	90.0	110.0
Destroyed	4/28/98	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
MW-7	6/28/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	10/31/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	9/30/97	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	12/12/97	1.0	ND<1.0	ND<0.5	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0
MW-8	6/28/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	10/31/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	9/30/97	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	ND<0.5
	12/12/97	0.6	ND<1.0	ND<0.5	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0

Table 2
POLYNUCLEAR AROMATICS SAMPLE ANALYTICAL RESULTS
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Well No.	Sample Date	Naph-thalene µg/L	Acenaph-thylene µg/L	Acenaph-thene µg/L	Fluorene µg/L	Phenan-threne µg/L	Anthra-cene µg/L	Fluoran-thene µg/L	Pyrene µg/L
MW-9	6/28/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	0.73	ND<0.5
	10/31/96	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	0.69	1.10
	9/30/97	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<1.0	ND<1.0	ND<0.5	0.56
	12/12/97	1.4	ND<1.0	ND<0.5	0.2	ND<0.1	0.2	0.6	0.3
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0
CA Primary MCLs (2)		--	--	--	--	--	--	--	--
EPA Primary MCLs (3)		--	--	--	--	--	--	--	--
EPA Saltwater Tox. (4)		2350.0	300.0	500.0	300.0	300.0	300.0	16.0	300.0

Table 2
POLYNUCLEAR AROMATICS SAMPLE ANALYTICAL RESULTS
Mariner Square & Associates
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Well No.	Sample Date	Benzo[a]-anthracene µg/L	Chrysene µg/L	Benzo[b]fluor-anthene µg/L	Benzo[k]fluor-anthene µg/L	Benzo[a]-pyrene µg/L	Dibenzo[a,h]-anthracene µg/L	Benzo[g,h,i]-perylene µg/L	Indeno[1,2,3-cd]-pyrene µg/L
MW-1	6/28/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/31/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	9/30/97	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/12/97	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0
MW-2	6/28/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/31/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	9/30/97	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/12/97	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0
MW-3	6/28/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/31/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	9/30/97	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/12/97	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0
MW-4	6/28/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/31/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	9/30/97	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/12/97	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0

Table 2
POLYNUCLEAR AROMATICS SAMPLE ANALYTICAL RESULTS
Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Well No.	Sample Date	Benzo[a]-anthracene µg/L	Chrysene µg/L	Benzo[b]fluor-anthene µg/L	Benzo[k]fluor-anthene µg/L	Benzo[a]-pyrene µg/L	Dibenzo[a,h]-anthracene µg/L	Benzo[g,h,i]-perylene µg/L	Indeno[1,2,3-cd]-pyrene µg/L
MW-5	6/28/96	1.0	0.68	ND<0.5	ND<0.5	0.78	ND<0.5	0.57	ND<0.5
	10/31/96	1.9	1.8	0.51	ND<0.5	0.84	ND<0.5	ND<0.5	ND<0.5
	9/30/97	2.1	2.5	ND<0.5	ND<0.5	1.1	ND<0.5	ND<0.5	ND<0.5
	12/12/97	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	1.0	2.0	ND<1.0	ND<1.0	1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0
MW-6	6/28/96	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	10/31/96	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	9/30/97	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	12/12/97	25.0	ND<20	ND<20	ND<20	ND<20	ND<20	ND<20	ND<20
	2/18/98	ND<20	190.0	130.0	ND<20	70.0	62.0	23.0	ND<20
Destroyed	4/28/98	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10
MW-7	6/28/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/31/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	9/30/97	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/12/97	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0	ND<6.0
MW-8	6/28/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/31/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	9/30/97	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/12/97	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0

Table 2
POLYNUCLEAR AROMATICS SAMPLE ANALYTICAL RESULTS
Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Well No.	Sample Date	Benzo[a]-anthracene µg/L	Chrysene µg/L	Benzo[b]fluor-anthene µg/L	Benzo[k]fluor-anthene µg/L	Benzo[a]-pyrene µg/L	Dibenzo[a,h]-anthracene µg/L	Benzo[g,h,i]-perylene µg/L	Indeno[1,2,3-cd]-pyrene µg/L
MW-9	6/28/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/31/96	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	9/30/97	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/12/97	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
	2/18/98	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0
	5/8/98	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0	ND<3.0
CA Primary MCLs (2)		--	--	--	--	--	--	--	--
EPA Primary MCLs (3)		0.1	0.2	0.2	0.2	0.2	0.3	--	0.4
EPA Saltwater Tox. (4)		300.0	300.0	300.0	300.0	300.0	300.0	--	300.0

Notes:

Polynuclear Aromatics: Polynuclear Aromatics by EPA Method 8310.
Well No. : Well identification number used by HETI.
Date: Date ground water sample was collected.
µg/L : Micrograms per liter (ppb).
ND : Not detected in concentrations exceeding the laboratory method detection limit.
(1) : The qualitative identification for Acenaphthylene is uncertain due to matrix interferences.
(2) : Drinking Water Standards, California Department of Health Services, Primary Maximum Contaminant Level (MCL).
(3) : Drinking Water Standards, U.S. Environmental Protection Agency, Primary Maximum Contaminant Level (MCL).
(4) : National Ambient Water Quality Criteria, U.S. Environmental Protection Agency, Saltwater Aquatic Life Protection, Additional Tox.
SPH : Separate phase hydrocarbons - No sample collected.
[ ] = The analytical result is greater than the MCL value.

Table 3
Product Recovered from MW-6
Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Date	Amount Recovered	
	liters	gallons
2/23/98	0.7	
2/25/98	0.2	
3/2/98	0.2	
3/11/98	0.1	
3/19/98	0.7	
3/25/98	0.7	
3/30/98	0.7	
4/9/98	0.7	
4/16/98	0.7	
Total:	4.7	1.24

PetroTrap installed on 2/16/98
PetroTrap removed on 4/28/98

TABLE 4

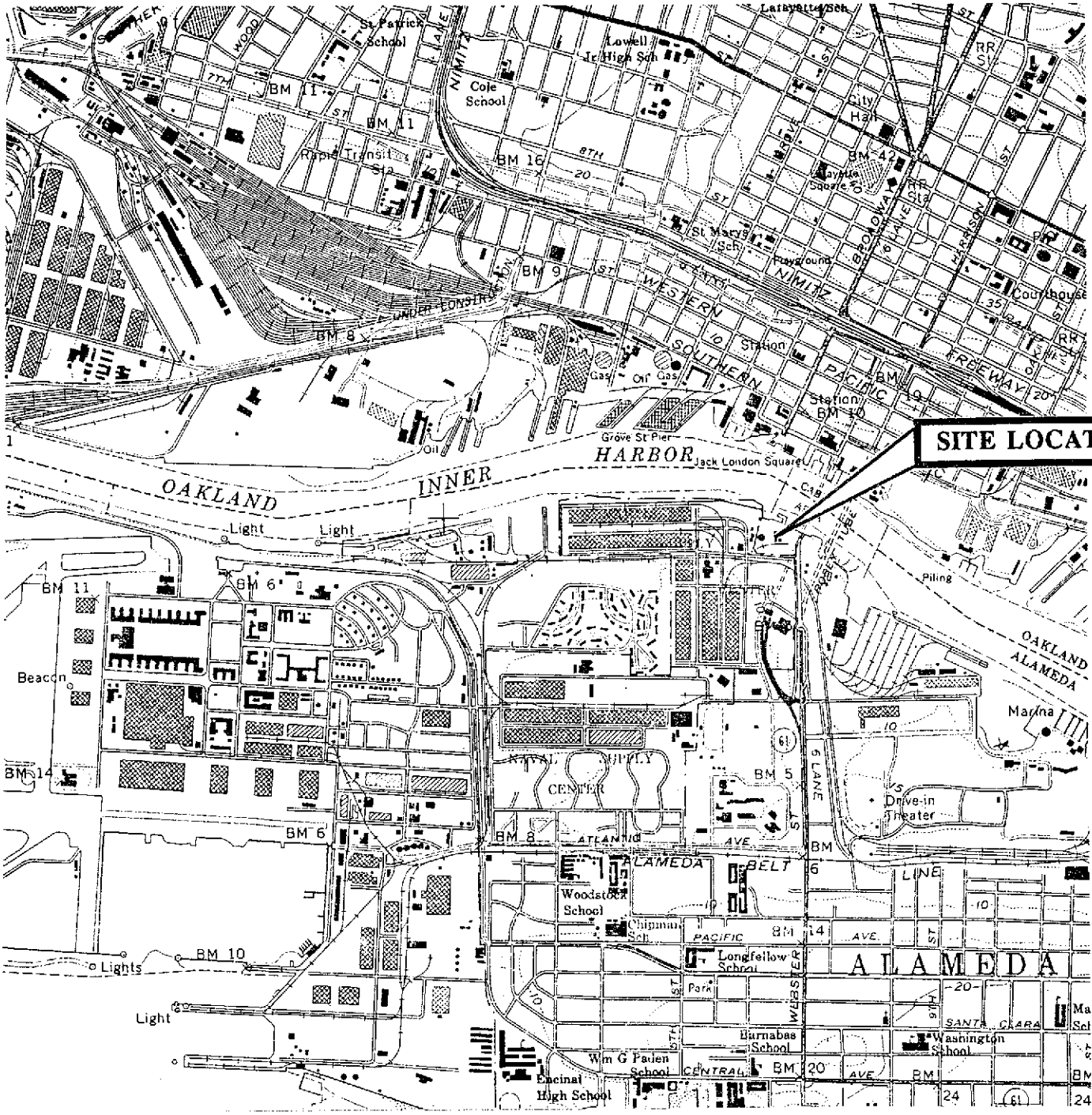
SOIL SAMPLE RESULTS

Mariner Square & Associates
2415 Mariner Square Drive
Alameda, CA

Sample No.	Depth Feet	Sampling Date	TPHg (mg/kg)	B (µg/kg)	T (µg/kg)	E (µg/kg)	X (µg/kg)	MTBE (µg/kg)	TPHd (mg/kg)	TPHmo (mg/kg)
MW-6 Excavation										
MW6-N1	4.5	4/28/98	ND<1	ND<5	ND<5	ND<5	ND<5	ND<50	ND<9	41
MW6-S1	3	4/28/98	ND<1	ND<5	ND<5	ND<5	ND<5	ND<50	3,200	24,000
MW6-W1	3	4/28/98	ND<1	ND<5	ND<5	ND<5	ND<5	ND<50	2,100	6,800
MW6-E1	3	4/28/98	ND<1	ND<5	ND<5	ND<5	ND<5	ND<50	47	380
MW6-W2	3	5/4/98	ND<1	ND<5	ND<5	ND<5	ND<5	ND<50	ND<1	ND<5
MW6-N2	3.5	5/4/98	ND<1	ND<5	ND<5	ND<5	ND<5	ND<50	ND<1	ND<5
MW6-E2	3	5/4/98	ND<1	ND<5	ND<5	ND<5	ND<5	ND<50	ND<1	8
EPZ Current			16	2,700	2,700,000	5,000	990,000	Mon. Only	68	site specific
EPZ Proposed			26	2,700	2,700,000	5,000	990,000	Mon. Only	267	site specific

Notes:

Sample No. :	Sample designation/ depth at which sample was collected.
Sampling Date :	Date sample was collected.
TPHg :	Total petroleum hydrocarbons as gasoline using EPA Method 8015 (modified)- purgeable.
TPHd :	Total petroleum hydrocarbons as diesel using EPA Method 8015 (modified)- extractable.
TPHmo :	Total petroleum hydrocarbons as motor oil using EPA Method 8015 (modified)- extractable.
BTEX :	Benzene, Toluene, Ethylbenzene and total Xylenes using EPA Method 8020 (modified)
MTBE :	Methyl Tert Butyl Ether using EPA Method 8020 (modified)
µg/kg :	Micrograms per kilogram, parts per billion (ppb)
mg/kg :	Milligrams per kilogram, parts per million (ppm)
ND :	Not detected in concentrations exceeding the indicated laboratory method detection limit.
EPZ Current	RWQCB Order No. 95-136 Ecological Protection Zone current values
EPZ Proposed	RWQCB Order No. 95-136 Ecological Protection Zone values proposed by SFIA Consolidated Tenant Group.
10,000	Laboratory results above EPZ value
N.A.	Not analyzed or reported
Mon. Only	Monitor Only
site specific	Regional Board designation: TPHmo usually less than 100 ppm



SOURCE: USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)
TITLED: OAKLAND WEST QUADRANGLE
PHOTOREVISED 1980

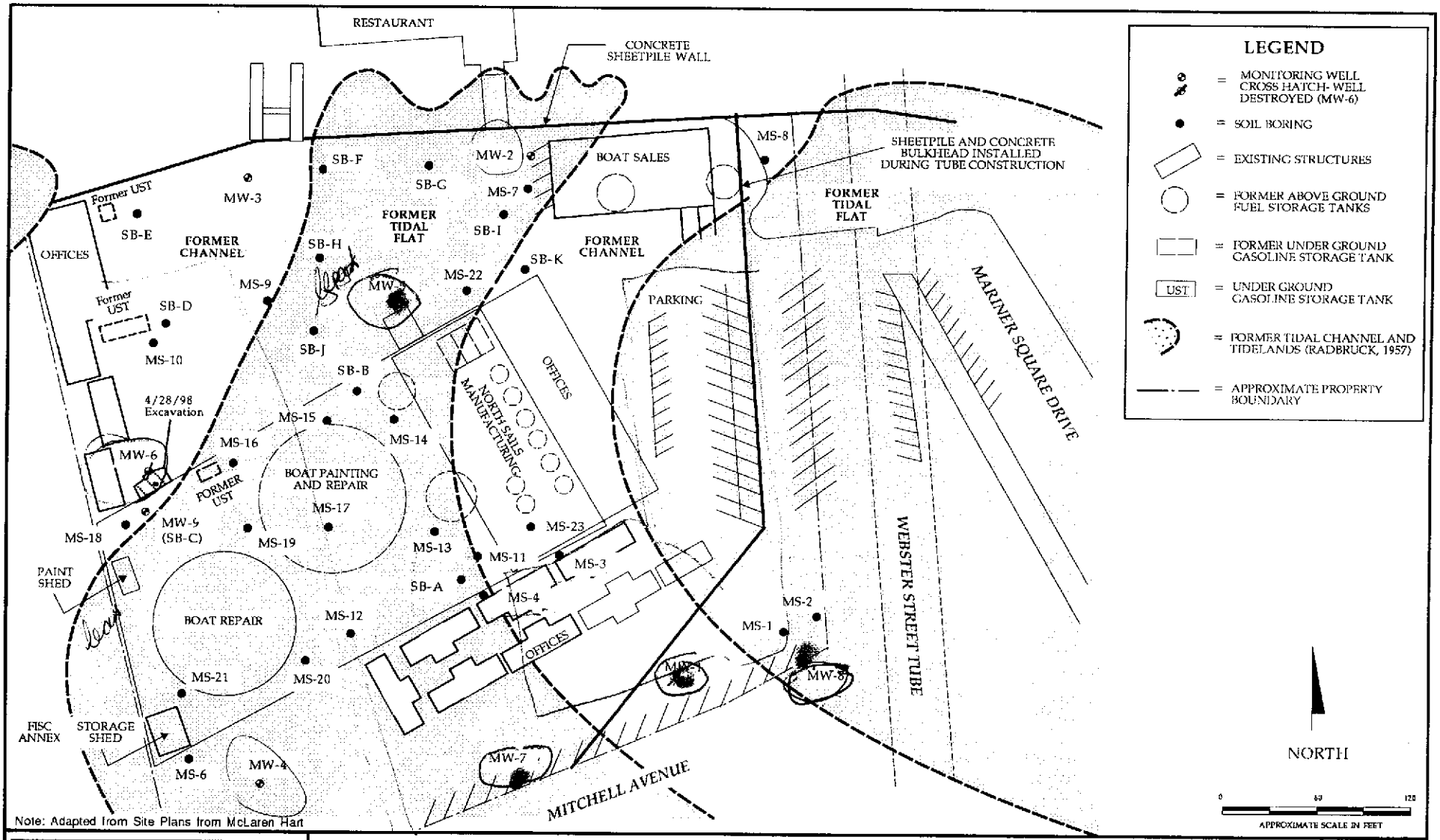
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SITE LOCATION MAP

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 1

7-285 11/96



Note: Adapted from Site Plans from McLaren Hart

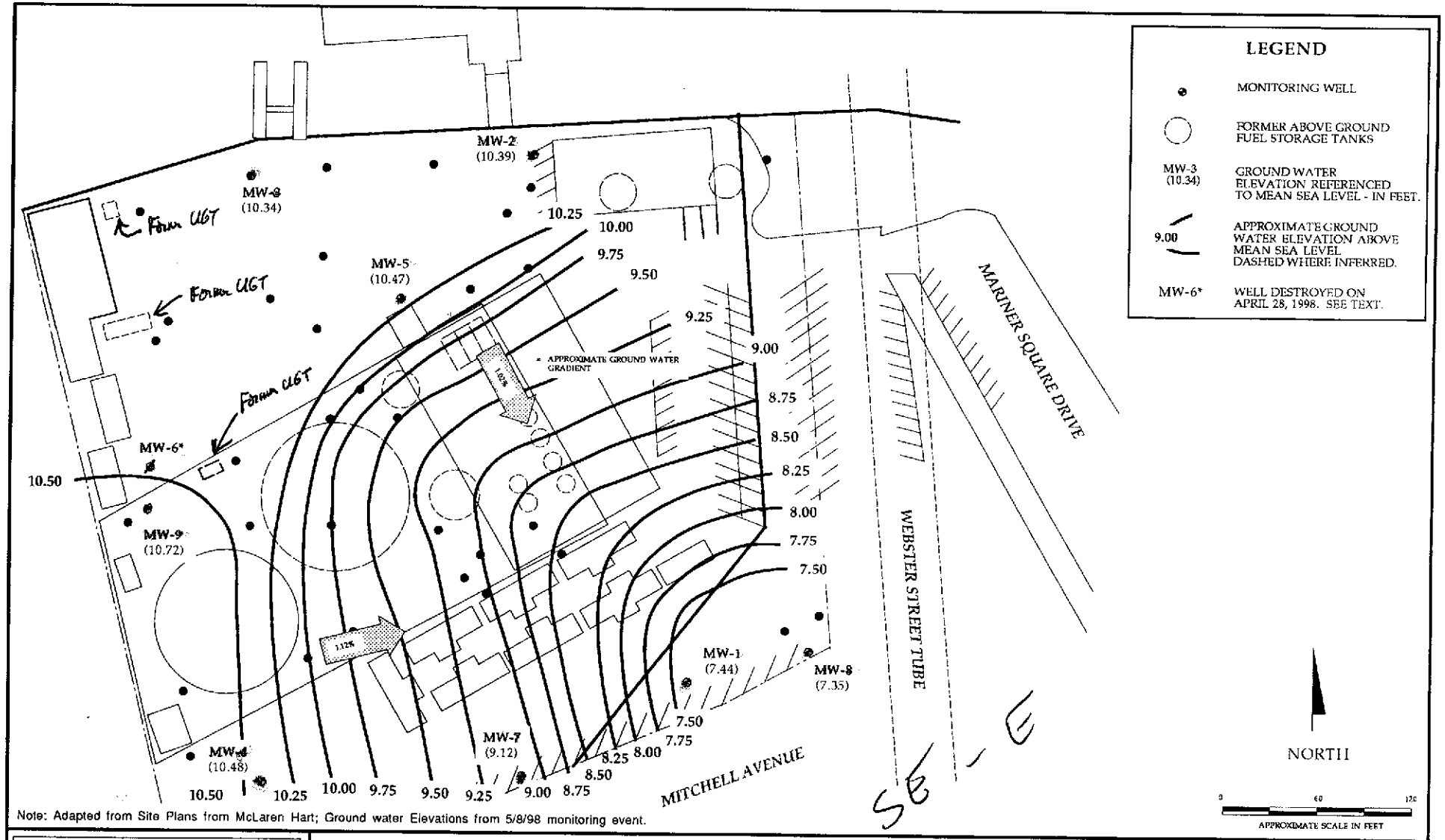
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

SITE PLAN

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 2

7-285.1 6/98



Note: Adapted from Site Plans from McLaren Hart; Ground water Elevations from 5/8/98 monitoring event.

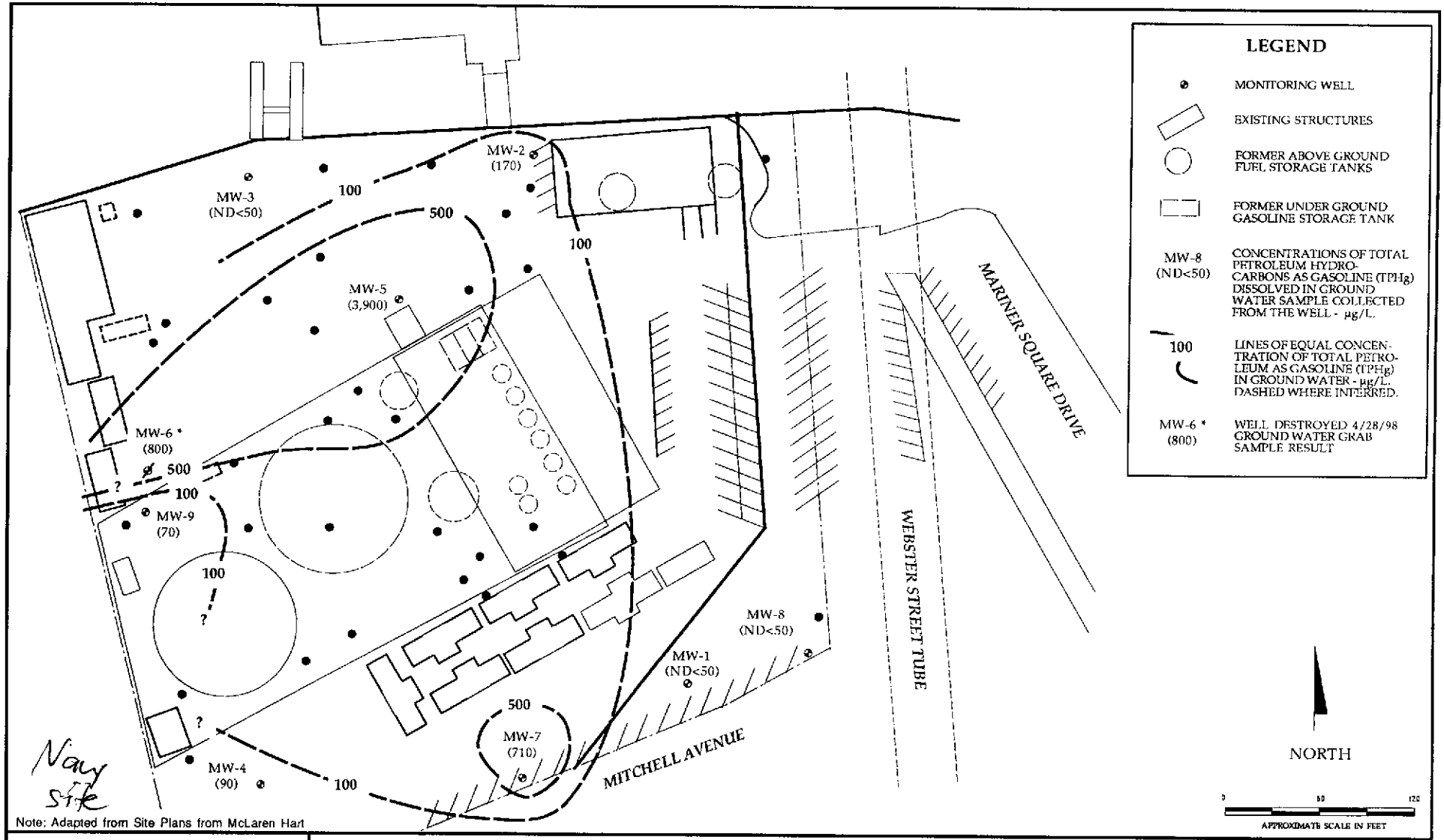
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

GROUND WATER CONTOUR MAP

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 3

7-285.1 5/98



Note: Adapted from Site Plans from McLaren Hart

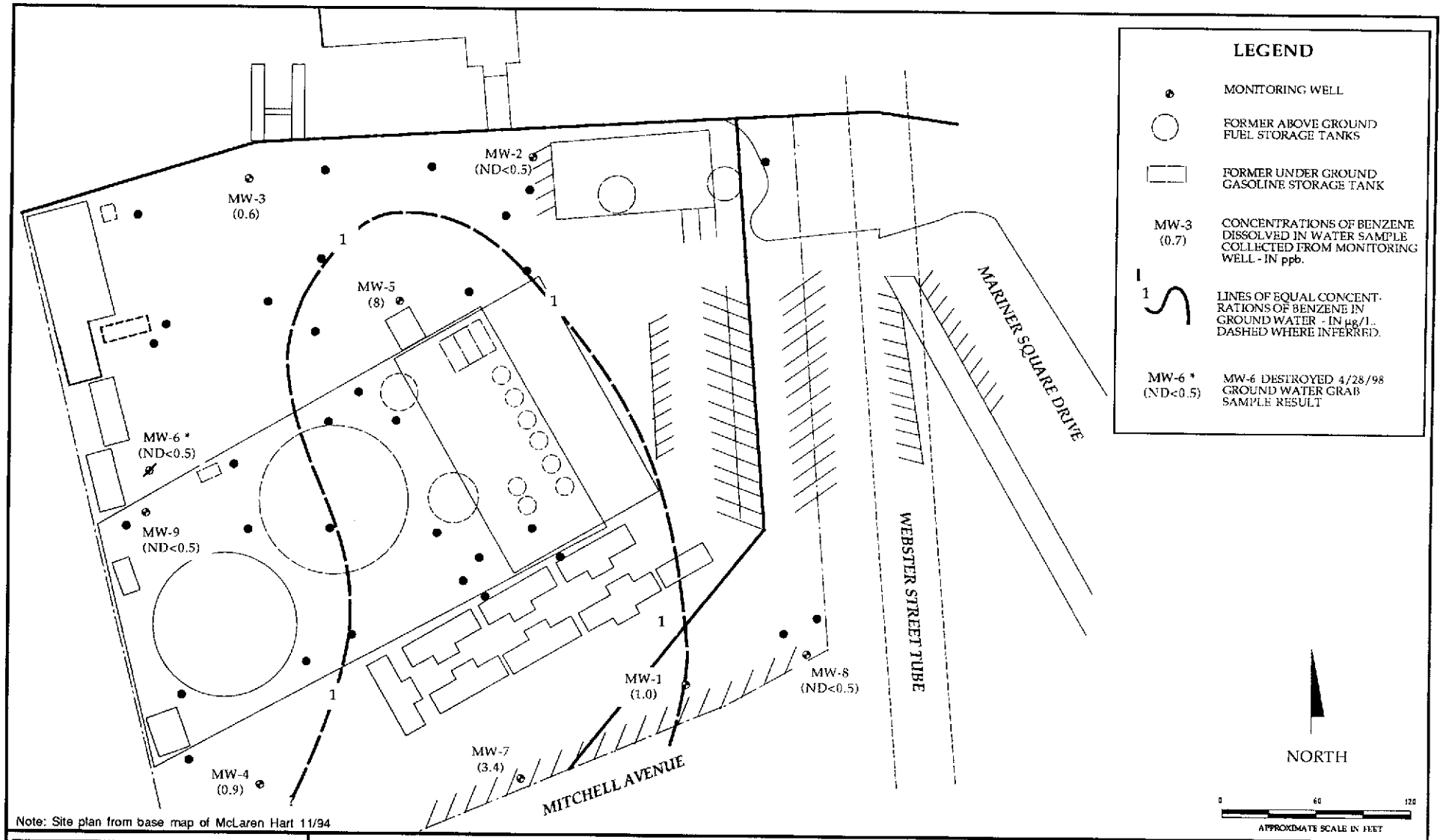
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

TPHg ISOCONCENTRATION MAP

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 4

7-285.1 6/98



Note: Site plan from base map of McLaren Hart 11/94

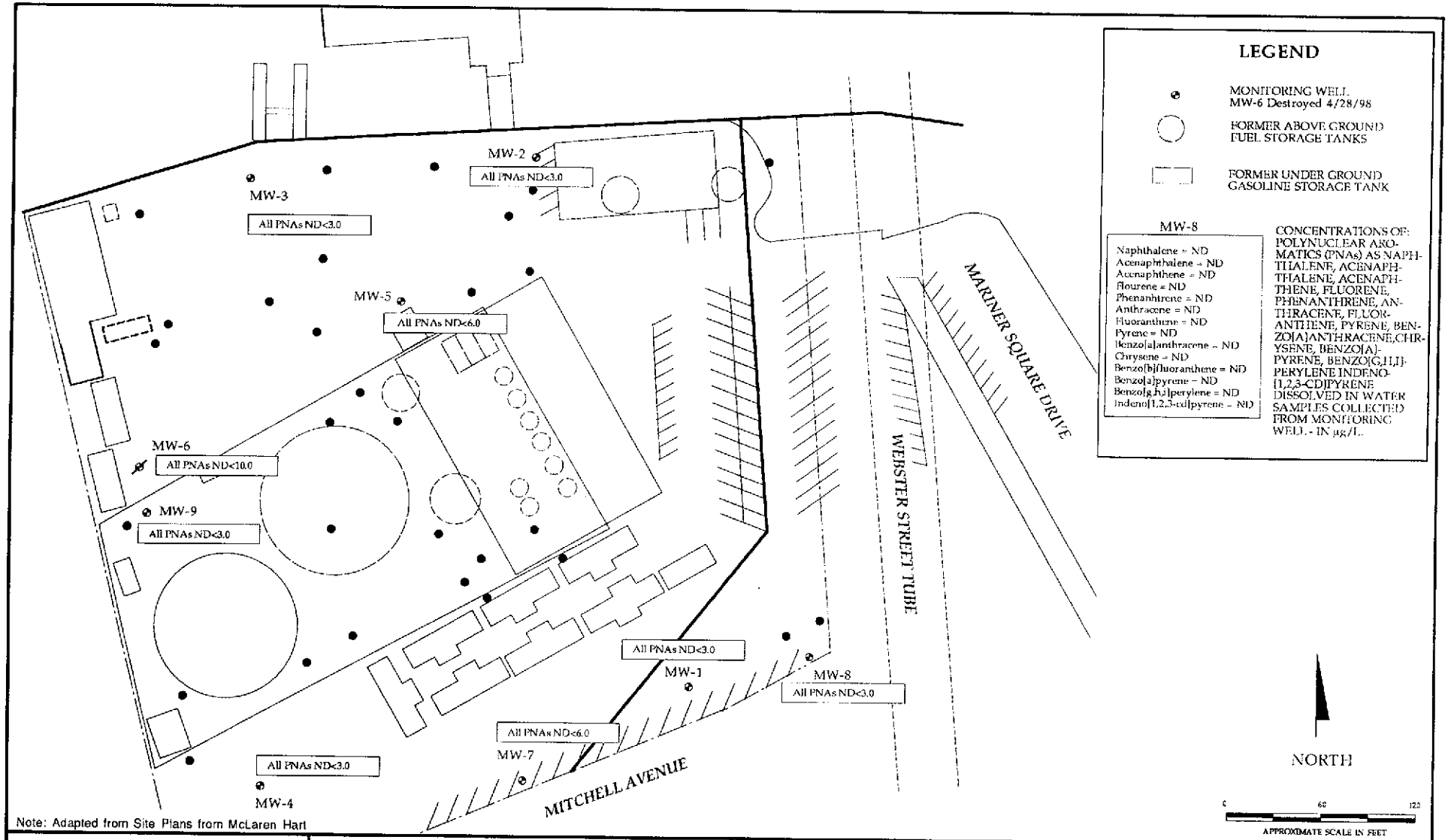
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

BENZENE ISOCONCENTRATION MAP

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 5

7-285.1 6/98



Note: Adapted from Site Plans from McLaren Hart

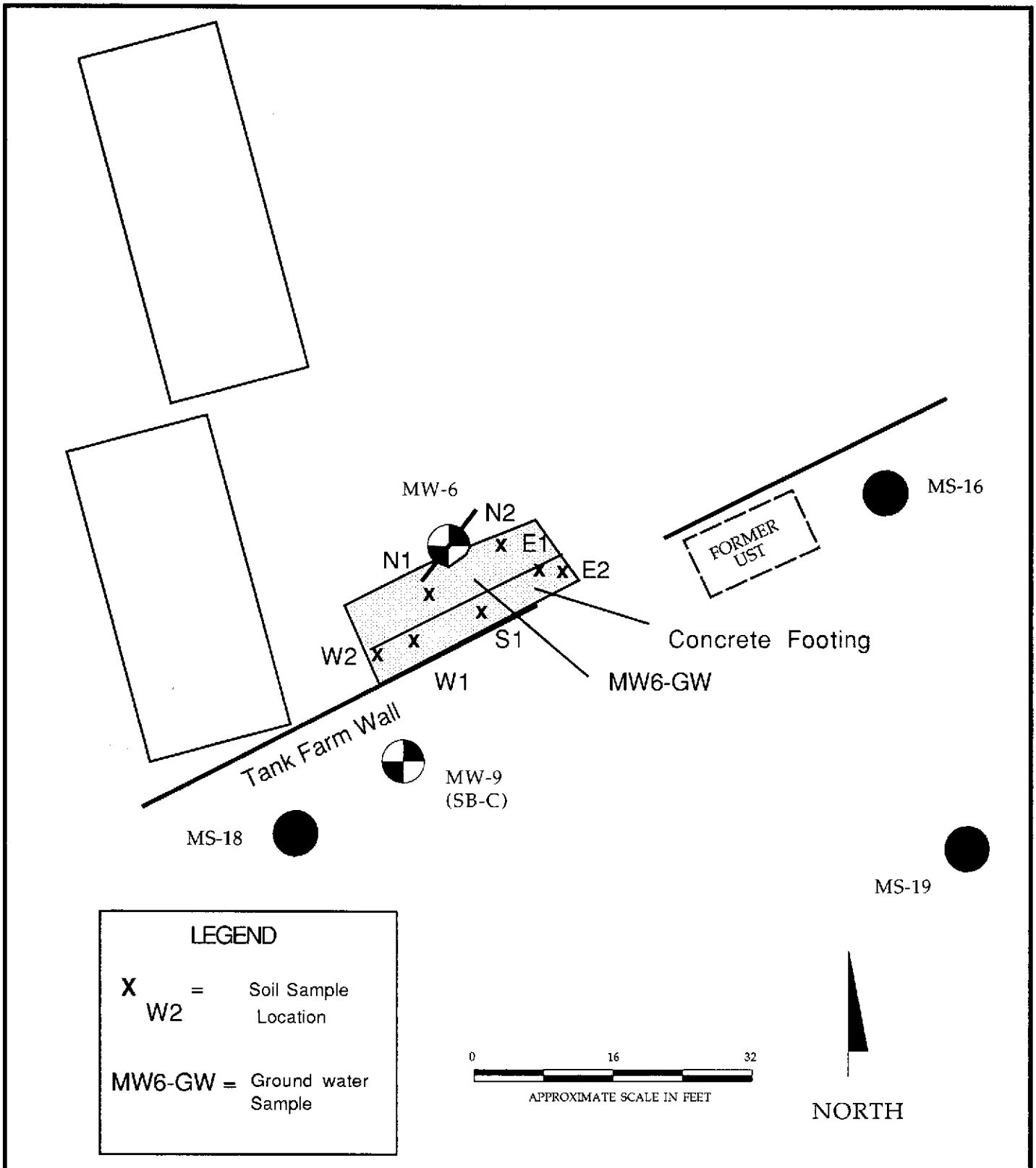
HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

POLYNUCLEAR AROMATICS DISTRIBUTION MAP

Mariner Square
2415 Mariner Square Drive
Alameda, California

Figure 6

7-285.1 6/98



HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

MW6 Excavation
Mariner Square & Associates
2415 Mariner Square Drive
Alameda, California

Figure 7

7-285.1 5/98

MONITORING WELL GAUGING DATA SHEET

GAUGED BY: Gary Pischke DATE: 5/8/98

GAUGED USING: MMC I/P, ORS I/P, Solinst: #1, #2, #3

Monitoring Well I.D.	Depth to Water (feet)	Depth to Bottom (feet)	Separate-phase hydrocarbons thickness (feet)	Replacements		Condition/ Comments
				Lock	Bailer	
MW-1	4.55	11.31	—	✓	✓	ok
MW-2	4.82	13.71	—	✓	✓	ok
MW-3	3.85	11.17	—	✓	✓	ok
MW-4	3.47	12.68	—	✓	✓	stockpiles ok
MW-5	4.13	12.35	—	✓	✓	ok
MW-6	Destroyed					
MW-7	4.49	13.30	—	✓	✓	ok
MW-8	5.30	13.75	—	—	✓	ok
MW-9	4.20	13.17	—	✓	✓	ok

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

LOCATION: 2415 Mariner Square Alameda

Job No. 7-285.

SHEET 1 of 1

PURGED/SAMPLED BY: Gary Pischke DATE: 5/8/98

GAUGING DATA:

Depth to bottom: 11.31 ft.

Depth to water: 4.55 ft.

Saturated Thickness: 6.76 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.08 gallons

volumes to purge x 3 vols.

*Total volume to purge = 3.2 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer / Submersible pump / Suction lift pump / _____ (circle one)

Temp/Conductivity/pH Instrument: Corn

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
10:11a	0	—	—	—
10:13a	2	18.8	2.88	7.37
10:15a	3.2	19.8	>20 ?	7.72
	Sample @ 10:16a			

Color: clear Turbidity: none

Recharge: good SPP Ø ft. Sheen Ø

SAMPLING DATA:

Sampling method: Dedicated bailer / Disposable bailer

Sample for: (circle)

TPHg/BTEX METALS TOG 8010

TPHd O-Pb TEL 8020

TPH mo Total Pb EDB 8240

601 602 Nitrates 8260

Other: MTBE, PNAs, Vinyl Cl.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-1

LOCATION: 2415 Norman Square Dr.

Job No. 7-285.1

SHEET 1 of 8

PURGED/SAMPLED BY: Gary Pischke DATE: 5/8/98

GAUGING DATA:

Depth to bottom: 13.71 ft.

Depth to water: 4.82 ft.

Saturated Thickness: 8.89 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.42 gallons

volumes to purge x 3 vols.

*Total volume to purge = 4.3 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer / (Submersible pump) / Suction lift pump / _____ (circle one)

Temp/Conductivity/pH Instrument: Corning

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
2:12p.	0	—	—	—
2:14p	2	18.6	1864	7.24
2:16p.	4.3	18.3	964	7.46
	Sample @ 2:17p.			

Color: dark brown Turbidity: mod

Recharge: good SPP ∅ ft. Sheen ∅

SAMPLING DATA:

Sampling method: (Dedicated bailer) / Disposable bailer

Sample for: (circle)

(TPHg/BTEX) METALS TOG 8010

(TPHd) O-Pb TEL 8020

(TPHmo) Total Pb EDB 8240

601 602 Nitrates 8260

Other: MTBE, PNAs, Vinyl Cl

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-2

LOCATION: 2415 Mariner Sq. Drive

Job No. 7-285.1

SHEET 2 of 8

PURGED/SAMPLED BY: Gary Pischke DATE: 5/8/98

GAUGING DATA:

Depth to bottom: 11.19 ft.

Depth to water: 3.85 ft.

Saturated Thickness: 7.32 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.17 gallons

volumes to purge x 3 vols.

*Total volume to purge = 3.5 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer / (Submersible pump) Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: Corning

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
1:33	0	—	—	—
1:34	2	19.9	19.99	7.26
1:35	35	19.8	1815	7.06
	Sample @ 1:37 pm.			

Color: brown Turbidity: moderate H_2S odor

Recharge: good SPP ϕ ft. Sheen ϕ

SAMPLING DATA:

Sampling method: (Dedicated bailer) /Disposable bailer

Sample for: (circle)

(TPH$_g$/BTEX) METALS TOG 8010

(TPHd) O-Pb TEL 8021

(TPH mo) Total Pb EDB 8240

601 602 Nitrates 8260

Other: MTBE, PNAs, Vinyl Cl

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-3

LOCATION: 2415 Mariner Sq. Drive

Job No. 7-285

SHEET 3 of 8

PURGED/SAMPLED BY: Gary Pischke DATE: 5/8/98

GAUGING DATA:

Depth to bottom: 12.68 ft.

Depth to water: 3.47 ft.

Saturated Thickness: 9.21 ft.

Conversion	
diam.	gals/ft.
~~2 in.~~	~~x 0.16~~
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.47 gallons

volumes to purge x 3 vols.

*Total volume to purge = 4.4 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer/ ~~Submersible pump~~/ Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: Corning

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
2:57p.	0	——	——	——
2:59	2	18.3	19.99	6.94
3:01	4.4	18.5	1279	7.18
		Sample @	3:03pm	
			3:15p.	

Color: brown Turbidity: mod

Recharge: good SPP 0 ft. Sheen 0

SAMPLING DATA:

Sampling method: Dedicated bailer/ Disposable bailer

Sample for: (circle)

TPHg/BTEX METALS TOC 8010

TPHd O-Pb TCL 8270

TPH mo Total Pb EDB 8240

601 602 Nitrates 8260

Other: MTBE, PNAs, Dmy Cl.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-4

LOCATION: 245 Mariner Sq. Dr.

Job No. 7-285.

SHEET 4 of 8

PURGED/SAMPLED BY: Gary Pischke DATE: 5/8/98

GAUGING DATA:

Depth to bottom: 12.35 ft.

Depth to water: 4.13 ft.

Saturated Thickness: 8.22 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 1.3 gallons

volumes to purge x 3 vols.

*Total volume to purge = 3.9 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer/ Submersible pump / Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: Corning

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
4:44p	0	—	—	—
4:46	2.5	18.9	~~19.99~~ 1909	7.49
4:47	3.9	18.7	1067	7.79
	Sample @ 4:49p			

Color: brown Turbidity: mod

Recharge: good SPP ϕ ft. Sheen ϕ

SAMPLING DATA:

Sampling method: Dedicated bailer / Disposable bailer

Sample for: (circle)

TPHg/BTEX METALS TOG 8010

TPHd O-Pb TCL 8270

TPH ext Total Pb EDB 8240

601 602 Nitrates 8260

Other: ~~TTBE~~ PNAs, Vinyl Cl.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-5

LOCATION: 2415 Hamner Sq. Dr.

Job No. 7-285.1

SHEET 5 of 8

PURGED/SAMPLED BY: Gary Pischke DATE: 5/8/98

GAUGING DATA:

Depth to bottom: 13.30 ft.

Depth to water: 4.49 ft.

Saturated Thickness: 8.81 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 5.7 gallons

volumes to purge x 3 vols.

*Total volume to purge = 17.2 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer/ Submersible pump/ Suction lift pump/ _____ (circle one)

Temp/Conductivity/pH Instrument: Corny

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
3:52p	0	—	—	—
3:55p	4	19.3	1.87 ~~8.95~~	7.04
3:57p	8	19.4	19.99	7.17
4:00p	12	19.4	19.99	6.94
4:03p	16	19.3	19.99	6.83
4:04p	17.2	19.3	19.99	6.78
		sample @	4:06 pm	
			4:18 pm	

Color: brown - clear Turbidity: mod - slight

Recharge: good SPP Ø ft. Sheen Ø

SAMPLING DATA:

Sampling method: Dedicated bailer /Disposable bailer

Sample for: (circle)

TPHg/BTEX METALS TOG 5010

TPHd O-Pb TEL 8020

TPH ext Total Pb EDB 8240

601 602 Nitrates 8260

Other: MTBE, PNAs, diesel cl.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-7

LOCATION: 2415 Homer Sq. Dr.

Job No. 7-285.

SHEET 6 of 8

PURGED/SAMPLED BY: Cory Pischke DATE: 5/8/98

GAUGING DATA:

Depth to bottom: 13.75 ft.

Depth to water: 5.30 ft.

Saturated Thickness: 8.45 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 5.5 gallons

volumes to purge x 3 vols.

*Total volume to purge = 16.5 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer / Submersible pump / Suction lift pump / _____ (circle one)

Temp/Conductivity/pH Instrument: Corning

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH
9:20a	0	—	—	—
9:23a	4	16.8	711	9.74
9:26a	8	17.1	780	8.91
9:28a	12	17.1	741	8.25
9:31	16.5	17.2	714	7.75
	9:33am Sample			

Color: clear Turbidity: low

Recharge: good SPP Ø ft. Sheen Ø

SAMPLING DATA:

Sampling method: Dedicated bailer / Disposable bailer

Sample for: (circle)

TPHg/BTEX METALS TOG 5010

TPHd O-Pb TEL 8020

TPH ext Total Pb EDB 8240

601 602 Nitrates 8260

Other: MTBE, PNAs, Ethyl Cl

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-8

LOCATION: 2415 Mariner Sq. Dr.

Job No. 7-285.1

SHEET 7 of 8

PURGED/SAMPLED BY: Gary Pischke DATE: 5/8/98

GAUGING DATA:

Depth to bottom: 13.12 ft.

Depth to water: 4.20 ft.

Saturated Thickness: 8.97 ft.

Conversion	
diam.	gals/ft.
2 in.	x 0.16
4 in.	x 0.65
6 in.	x 1.44

Well casing volume 5.83 gallons

volumes to purge x 3 vols.

*Total volume to purge = 17.5 gallons

* unless chemical parameters do not stabilize

PURGING DATA:

Purge method: PVC bailer/ ~~Submersible pump~~ / Suction lift pump / _____ (circle one)

Temp/Conductivity/pH Instrument: Corning

Time	Volume (gallons)	Temp. (°F)	Conductivity (mS/cm)	pH	
10:48a	0	—	—	—	
10:55a	4	17.1	450	8.05	
10:58a	8	12.5	444	7.47	
11:01	12	17.6	456	7.34	ran dry.
11:04	16	17.7	492	7.11	
11:08	17.5	17.5	486	7.17	
	Sample @ 11:10 a.				

Color: brown Turbidity: mod.

Recharge: mod - poor SPP ϕ ft. Sheen ϕ

SAMPLING DATA:

Sampling method: ~~Dedicated bailer~~ / Disposable bailer

Sample for: (circle)

TPHg/BTEX METALS TOG 8010

TPHd C-Pb TEL 8270

TPH mo. Total Pb EDB 8240

601 602 Nitrates 8250

Other: MTBE, PNAs, Vinyl Cl.

HYDRO-ENVIRONMENTAL TECHNOLOGIES, INC.

PURGE/SAMPLE DATA SHEET

WELL # MW-9

LOCATION: 2415 Mariner Sq. Dr.

Job No. 7-285.

SHEET 8 of 8

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

HYDRO ENVIRONMENTAL TECH
2394 MARINER SQUARE DR. STE 2
ALAMEDA, CA 94501

ATTN: GARY PISCHKE
CLIENT PROJ. ID: 7-285.1
CLIENT PROJ. NAME: MARINER SQUARE

REPORT DATE: 05/21/98

DATE(S) SAMPLED: 04/28/98

DATE RECEIVED: 04/28/98

AEN WORK ORDER: 9804272

PROJECT SUMMARY:

On April 28, 1998, this laboratory received 5 (1 water and 4 soil) 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.

Reviewed by:

William Sowder

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW6-GW
AEN LAB NO: 9804272-01
AEN WORK ORDER: 9804272
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 04/28/98
DATE RECEIVED: 04/28/98
REPORT DATE: 05/21/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	04/28/98
Toluene	108-88-3	ND	0.5	ug/L	04/28/98
Ethylbenzene	100-41-4	ND	0.5	ug/L	04/28/98
Xylenes, Total	1330-20-7	ND	2	ug/L	04/28/98
Purgeable HCs as Gasoline	5030/GCFID	0.8 *	0.05	mg/L	04/28/98
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	04/28/98
#Extraction for TPH	EPA 3510	-		Extrn Date	04/29/98
TPH as Diesel	GC-FID	0.92 *	0.05	mg/L	04/29/98
TPH as Oil	GC-FID	ND	0.2	mg/L	04/29/98
#Extraction for PNAs	EPA 3520	-		Extrn Date	05/05/98
PNAs by EPA 8270	EPA 8270				
Acenaphthene	83-32-9	ND	10	ug/L	05/10/98
Acenaphthylene	208-96-8	ND	10	ug/L	05/10/98
Anthracene	120-12-7	ND	10	ug/L	05/10/98
Benzo(a)anthracene	56-55-3	ND	10	ug/L	05/10/98
Benzo(b)fluoranthene	205-99-2	ND	10	ug/L	05/10/98
Benzo(k)fluoranthene	207-08-9	ND	10	ug/L	05/10/98
Benzo(g,h,i)perylene	191-24-2	ND	10	ug/L	05/10/98
Benzo(a)pyrene	50-32-8	ND	10	ug/L	05/10/98
Chrysene	218-01-9	ND	10	ug/L	05/10/98
Dibenzo(a,h)anthracene	53-70-3	ND	10	ug/L	05/10/98
Fluoranthene	206-44-0	ND	10	ug/L	05/10/98
Fluorene	86-73-7	ND	10	ug/L	05/10/98
Indeno(1,2,3-cd)pyrene	193-39-5	ND	10	ug/L	05/10/98
Naphthalene	91-20-3	ND	10	ug/L	05/10/98
Phenanthrene	85-01-8	ND	10	ug/L	05/10/98
Pyrene	129-00-0	ND	10	ug/L	05/10/98
EPA 8010 - Water matrix	EPA 8010				
Vinyl Chloride	75-01-4	ND	0.5	ug/L	05/12/98

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW6-N1
AEN LAB NO: 9804272-02
AEN WORK ORDER: 9804272
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 04/28/98
DATE RECEIVED: 04/28/98
REPORT DATE: 05/21/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	04/28/98
Toluene	108-88-3	ND	5	ug/kg	04/28/98
Ethylbenzene	100-41-4	ND	5	ug/kg	04/28/98
Xylenes, Total	1330-20-7	ND	5	ug/kg	04/28/98
Purgeable HCs as Gasoline	5030/GCFID	ND	1	mg/kg	04/28/98
Methyl t-Butyl Ether	1634-04-4	ND	50	ug/kg	04/28/98
#Extraction for TPH	EPA 3550	-		Extrn Date	04/28/98
TPH as Diesel	GC-FID	ND	9	mg/kg	04/29/98
TPH as Oil	GC-FID	41 *	5	mg/kg	04/29/98

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW6-S1
AEN LAB NO: 9804272-03
AEN WORK ORDER: 9804272
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 04/28/98
DATE RECEIVED: 04/28/98
REPORT DATE: 05/21/98

ANALYTE	METHOD/ CAS#	RESULT		REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020					
Benzene	71-43-2	ND		5	ug/kg	04/28/98
Toluene	108-88-3	ND		5	ug/kg	04/28/98
Ethylbenzene	100-41-4	ND		5	ug/kg	04/28/98
Xylenes, Total	1330-20-7	ND		5	ug/kg	04/28/98
Purgeable HCs as Gasoline	5030/GCFID	ND		1	mg/kg	04/28/98
Methyl t-Butyl Ether	1634-04-4	ND		50	ug/kg	04/28/98
#Extraction for TPH	EPA 3550	-			Extrn Date	04/28/98
TPH as Diesel	GC-FID	3,200	*	200	mg/kg	04/29/98
TPH as Oil	GC-FID	24,000	*	1000	mg/kg	04/29/98

Reporting limits for diesel elevated due to high levels of target compounds. Sample run at dilution.

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW6-W1
AEN LAB NO: 9804272-04
AEN WORK ORDER: 9804272
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 04/28/98
DATE RECEIVED: 04/28/98
REPORT DATE: 05/21/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	04/28/98
Toluene	108-88-3	ND	5	ug/kg	04/28/98
Ethylbenzene	100-41-4	ND	5	ug/kg	04/28/98
Xylenes, Total	1330-20-7	ND	5	ug/kg	04/28/98
Purgeable HCs as Gasoline	5030/GCFID	ND	1	mg/kg	04/28/98
Methyl t-Butyl Ether	1634-04-4	ND	50	ug/kg	04/28/98
#Extraction for TPH	EPA 3550	-		Extrn Date	04/28/98
TPH as Diesel	GC-FID	2,100 *	100	mg/kg	04/29/98
TPH as Oil	GC-FID	6,800 *	500	mg/kg	04/29/98

Reporting limits for diesel elevated due to high levels of target compounds. Sample run at dilution.

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW6-E1
AEN LAB NO: 9804272-05
AEN WORK ORDER: 9804272
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 04/28/98
DATE RECEIVED: 04/28/98
REPORT DATE: 05/21/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	04/28/98
Toluene	108-88-3	ND	5	ug/kg	04/28/98
Ethylbenzene	100-41-4	ND	5	ug/kg	04/28/98
Xylenes, Total	1330-20-7	ND	5	ug/kg	04/28/98
Purgeable HCs as Gasoline	5030/GCFID	ND	1	mg/kg	04/28/98
Methyl t-Butyl Ether	1634-04-4	ND	50	ug/kg	04/28/98
#Extraction for TPH	EPA 3550	-		Extrn Date	04/28/98
TPH as Diesel	GC-FID	47 *	5	mg/kg	04/29/98
TPH as Oil	GC-FID	380 *	20	mg/kg	04/29/98

Reporting limits for diesel elevated due to high levels of target compounds. Sample run at dilution.

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

ANALYSIS: Extractable TPH

MATRIX: Water

METHOD BLANK SAMPLES

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

LAB ID: BLKW-0429-1
PREPARED: 04/29/98
ANALYZED: 04/29/98

INSTR RUN: GC C\980401000000/478/
BATCH ID: DSCW042998-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		ND		0.05						
Motor Oil		ND		0.2						
n-Pentacosane	(surr)	106.2			100	106	60	130		

LABORATORY CONTROL SAMPLES

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

LAB ID: LCDW-0429-1
PREPARED: 04/29/98
ANALYZED: 04/29/98

INSTR RUN: GC C\980401000000/480/478
BATCH ID: DSCW042998-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.85	ND	0.05	2.00	92.5	60	130		
n-Pentacosane	(surr)	103.2	106.2		100	103	60	130		

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

LAB ID: LCSW-0429-1
PREPARED: 04/29/98
ANALYZED: 04/29/98

INSTR RUN: GC C\980401000000/479/478
BATCH ID: DSCW042998-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.90	ND	0.05	2.00	95.0	60	130		
n-Pentacosane	(surr)	107.7	106.2		100	108	60	130		

SAMPLE SURROGATES

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

LAB ID: 9804272-01G
PREPARED: 04/29/98
ANALYZED: 04/29/98

INSTR RUN: GC C\980401000000/477/
BATCH ID: DSCW042998-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	80.9			100	80.9	60	130		

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

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

LAB ID: BLKS-0428-1
PREPARED: 04/28/98
ANALYZED: 04/28/98

INSTR RUN: GC C\980401000000/452/
BATCH ID: DSCS042898-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		ND		1						
Motor Oil		ND		5						
n-Pentacosane	(surr)	91.8			100	91.8	55	130		

ANALYSIS: Extractable TPH

MATRIX: Soil/Bulk

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: LCSS-0428-1
PREPARED: 04/28/98
ANALYZED: 04/28/98
INSTR RUN: GC C\980401000000/453/452
BATCH ID: DSCS042898-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		34.30	ND	1	40.0	85.8	55	130		
n-Pentacosane	(surr)	104.8	91.8		100	105	55	130		

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:
LAB ID: LCRW-0429-1
PREPARED: 04/29/98
ANALYZED: 04/29/98
INSTR RUN: GC C\980401000000/488/479
BATCH ID: DSCW042998-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.85	1.90						2.67	
Motor Oil		ND	ND						0	
n-Pentacosane	(surr)	103.2	107.7			4.267				

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: 9804272-02A
PREPARED: 04/28/98
ANALYZED: 04/29/98
INSTR RUN: GC C\980401000000/472/
BATCH ID: DSCS042898-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	118.3			100	118	55	130		

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: 9804272-03A
PREPARED: 04/28/98
ANALYZED: 04/29/98
INSTR RUN: GC C\980401000000/474/
BATCH ID: DSCS042898-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	D			100	0 !	55	130		

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: 9804272-04A
PREPARED: 04/28/98
ANALYZED: 04/29/98
INSTR RUN: GC C\980401000000/473/
BATCH ID: DSCS042898-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	D			100	0 !	55	130		

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: 9804272-05A
PREPARED: 04/28/98
ANALYZED: 04/29/98
INSTR RUN: GC C\980401000000/484/
BATCH ID: DSCS042898-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	99.5			100	99.5	55	130		

ANALYSIS: PNAs by EPA 8270

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: BLNK 0505
PREPARED: 05/05/98
ANALYZED: 05/10/98

INSTR RUN: GCMS10\980505080000/1/
BATCH ID: BNAW050598
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	86.5			100	86.5	58	109		
2-Fluorobiphenyl	(surr)	89.8			100	89.8	62	133		
Terphenyl-d14	(surr)	86.8			100	86.8	59	135		
Acenaphthene		ND								
Pyrene		ND								
Acenaphthylene		ND								
Anthracene		ND								
Benzo(a)anthracene		ND								
Benzo(b)fluoranthene		ND								
Benzo(k)fluoranthene		ND								
Benzo(g,h,i)perylene		ND								
Benzo(a)pyrene		ND								
Chrysene		ND								
Dibenzo(a,h)anthracene		ND								
Fluoranthene		ND								
Fluorene		ND								
Indeno(1,2,3-cd)pyrene		ND								
Naphthalene		ND								
Phenanthrene		ND								

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCD 0505
PREPARED: 05/05/98
ANALYZED: 05/10/98

INSTR RUN: GCMS10\980505080000/3/1
BATCH ID: BNAW050598
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	79.8	86.5		100	79.8	58	109		
2-Fluorobiphenyl	(surr)	88.6	89.8		100	88.6	62	133		
Terphenyl-d14	(surr)	94.5	86.8		100	94.5	59	135		
Acenaphthene		80.5	ND		100	80.5	58	139		
Pyrene		59.4	ND		100	59.4	40	130		

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCS 0505
PREPARED: 05/05/98
ANALYZED: 05/10/98

INSTR RUN: GCMS10\980505080000/2/1
BATCH ID: BNAW050598
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	83.1	86.5		100	83.1	58	109		
2-Fluorobiphenyl	(surr)	84.4	89.8		100	84.4	62	133		
Terphenyl-d14	(surr)	85.8	86.8		100	85.8	59	135		
Acenaphthene		80.2	ND		100	80.2	58	139		
Pyrene		70.0	ND		100	70.0	40	130		

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCR 0505
PREPARED: 05/05/98
ANALYZED: 05/10/98

INSTR RUN: GCMS10\980505080000/4/2
BATCH ID: BNAW050598
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	79.8	83.1		100	79.8	58	109		

QUALITY CONTROL REPORT

ANALYSIS: PNAs by EPA 8270

MATRIX: Water

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCR 0505
PREPARED: 05/05/98
ANALYZED: 05/10/98

INSTR RUN: GCMS10\980505080000/4/2
BATCH ID: BNAW050598
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
2-Fluorobiphenyl	(surr)	88.6	84.4		100	88.6	62	133		
Terphenyl-d14	(surr)	94.5	85.8		100	94.5	59	135		
Acenaphthene		80.5	80.2		100				0.373	30
Pyrene		59.4	70.0		100				16.4	30

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: 9804272-01H
PREPARED: 05/05/98
ANALYZED: 05/10/98

INSTR RUN: GCMS10\980505080000/5/
BATCH ID: BNAW050598
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	94.8			100	94.8	58	109		
2-Fluorobiphenyl	(surr)	93.8			100	93.8	62	133		
Terphenyl-d14	(surr)	88.5			100	88.5	59	135		

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9804272
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery: Bromochloromethane	Percent Recovery: 1-Bromo-3-chloropropane
05/12/98	MW6-GW	01	92	97
QC Limits:			70-130	70-130

DATE ANALYZED: 05/12/98
SAMPLE SPIKED: LCS
INSTRUMENT: G

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits: Percent Recovery	QC Limits: RPD
1,1-Dichloroethene	25	82	2	70-130	20
Trichloroethene	25	98	4	70-130	20
Chlorobenzene	25	80	5	70-130	20

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

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9804272
INSTRUMENT: H
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
04/28/98	MW6-GW	01	99
QC Limits:			70-130

DATE ANALYZED: 04/28/98
SAMPLE SPIKED: LCS
INSTRUMENT: H

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	200	92	9	70-130	20
Toluene	200	89	10	70-130	20
Ethylbenzene	200	88	9	70-130	20
Total Xylenes	600	88	10	70-130	20

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

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9804272
INSTRUMENT: H
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
04/28/98	MW6-N1	02	102
04/28/98	MW6-S1	03	119
04/28/98	MW6-W1	04	122
04/28/98	MW6-E1	05	108
QC Limits:			70-130

DATE ANALYZED: 04/28/98
SAMPLE SPIKED: 9804272-05
INSTRUMENT: H

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/kg)	Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	200	106	2	65-135	30
Toluene	200	100	4	65-135	30
Ethylbenzene	200	91	2	65-135	30
Total Xylenes	600	91	5	65-135	30

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

*** END OF REPORT ***

Reporting Information:

1. Client: Hydro Enviro.
Address: 2394 Mariner Sq Dr #2 Alameda
Contact: Gary Pischke
Alt. Contact:

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

R-1,5-A
R-3,5-3
R-4,5-6

AEN

Page ____ of ____

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 9804272
Lab Destination:
Date Samples Shipped:
Lab Contact:
Date Results Required: 4/29 end of day
Date Report Required: 4/30
Client Phone No.: 510-521-2684
Client FAX No.: 510-521-5078

Address Report To:

2. Hydro Enviro. Tech.

Send Invoice To:

3. Mariner Square Assoc. c/o Hydro Enviro.

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: ____ Client Project I.D. No.: 7-285.1

Sample Team Member (s): GP

Lab Number	Client Sample Identification 4/28/98	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	TPHg BTEX MTBE	Vinyl Chloride	TPHd 8015 mod	PNAs	Comments / Hazards
01A	MW6-GW		4/28 10:30	GW	HCL	6	VOA	X	(X)		(X)	MW6-GW 96 hold 5/4/98 Shmoo
02A	MW6 GW		4/28 11:00	GW	N/A	2	Liter			X	X	Hold on PNAs.
02A	MW6-W1		4/28 10:40	5	—	1	Tube	X		X	X	" " "
03A	MW6-S1		4/28 10:00	5	—	2	jars	X		X	X	run as composite " " " 24 hr turn around
04A	MW-6-W1		4/28 10:30	5	—	1	Tube	X		X		
05A	MW-6-E1		4/28 10:35	5	—	1	Tube	X		X		

ANALYSIS

ok'd to run 8270 for PNAs

per Gary Pischke Vinyl Chloride on hold until further notice GM 4/28/98

		DATE	TIME			DATE	TIME
Relinquished by: (Signature)	Gary Pischke	4/28/98	12:49pm	Received by: (Signature)	Rich Gilmore	4-28-98	12:49
Relinquished by: (Signature)	Rich Gilmore	4-28-98	13:35	Received by: (Signature)	Ronald C. Jensen	4/28/98	13:35
Relinquished by: (Signature)		DATE	TIME	Received by: (Signature)		DATE	TIME
Method of Shipment				Lab Comments			

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other 11) Other

COPIES: WHITE - JOB FILE YELLOW - PROJECT FILE PINK - CLIENT

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

RECEIVED MAY 2 2 1998

HYDRO ENVIRONMENTAL TECH
2394 MARINER SQUARE DR. STE 2
ALAMEDA, CA 94501

ATTN: GARY PISCHKE
CLIENT PROJ. ID: 7-285.1
CLIENT PROJ. NAME: MARINER SQUARE

REPORT DATE: 05/19/98

DATE(S) SAMPLED: 05/04/98

DATE RECEIVED: 05/04/98

AEN WORK ORDER: 9805030

PROJECT SUMMARY:

On May 4, 1998, this laboratory received 3 soil 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.

Reviewed by:

William Luboda

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW6-W2
AEN LAB NO: 9805030-01
AEN WORK ORDER: 9805030
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/04/98
DATE RECEIVED: 05/04/98
REPORT DATE: 05/19/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	05/12/98
Toluene	108-88-3	ND	5	ug/kg	05/12/98
Ethylbenzene	100-41-4	ND	5	ug/kg	05/12/98
Xylenes, Total	1330-20-7	ND	5	ug/kg	05/12/98
Purgeable HCs as Gasoline	5030/GCFID	ND	1	mg/kg	05/12/98
Methyl t-Butyl Ether	1634-04-4	ND	50	ug/kg	05/12/98
#Extraction for TPH	EPA 3550	-		Extrn Date	05/13/98
TPH as Diesel	GC-FID	ND	1	mg/kg	05/14/98
TPH as Oil	GC-FID	ND	5	mg/kg	05/14/98

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW6-E2
AEN LAB NO: 9805030-02
AEN WORK ORDER: 9805030
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/04/98
DATE RECEIVED: 05/04/98
REPORT DATE: 05/19/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	05/11/98
Toluene	108-88-3	ND	5	ug/kg	05/11/98
Ethylbenzene	100-41-4	ND	5	ug/kg	05/11/98
Xylenes, Total	1330-20-7	ND	5	ug/kg	05/11/98
Purgeable HCs as Gasoline	5030/GCFID	ND	1	mg/kg	05/11/98
Methyl t-Butyl Ether	1634-04-4	ND	50	ug/kg	05/11/98
#Extraction for TPH	EPA 3550	-		Extrn Date	05/13/98
TPH as Diesel	GC-FID	ND	1	mg/kg	05/14/98
TPH as Oil	GC-FID	8 *	5	mg/kg	05/14/98

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW6-N2
AEN LAB NO: 9805030-03
AEN WORK ORDER: 9805030
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/04/98
DATE RECEIVED: 05/04/98
REPORT DATE: 05/19/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	5	ug/kg	05/11/98
Toluene	108-88-3	ND	5	ug/kg	05/11/98
Ethylbenzene	100-41-4	ND	5	ug/kg	05/11/98
Xylenes, Total	1330-20-7	ND	5	ug/kg	05/11/98
Purgeable HCs as Gasoline	5030/GCFID	ND	1	mg/kg	05/11/98
Methyl t-Butyl Ether	1634-04-4	ND	50	ug/kg	05/11/98
#Extraction for TPH	EPA 3550	-		Extrn Date	05/13/98
TPH as Diesel	GC-FID	ND	1	mg/kg	05/14/98
TPH as Oil	GC-FID	ND	5	mg/kg	05/14/98

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

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9805030
CLIENT PROJECT ID: 7-285.1

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 behaviour, 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: Extractable TPH

MATRIX: Soil/Bulk

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: BLKS-0513-1
PREPARED: 05/13/98
ANALYZED: 05/14/98
INSTR RUN: GC C\980501000000/218/
BATCH ID: DSCS051398-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		ND		1						
Motor Oil		ND		5						
n-Pentacosane	(surr)	97.9			100	97.9	55	130		

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: LCSS-0513-1
PREPARED: 05/13/98
ANALYZED: 05/14/98
INSTR RUN: GC C\980501000000/219/218
BATCH ID: DSCS051398-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		37.53	ND	1	40.0	93.8	55	130		
n-Pentacosane	(surr)	109.4	97.9		100	109	55	130		

MATRIX SPIKE SAMPLES

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: MD05030-03A
PREPARED: 05/13/98
ANALYZED: 05/14/98
INSTR RUN: GC C\980501000000/221/223
BATCH ID: DSCS051398-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		41.31	ND	1	40.0	103	55	130		
n-Pentacosane	(surr)	102.4	ND		100	102	55	130		

SAMPLE TYPE: Spike-Sample/Matrix
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: MS05030-03A
PREPARED: 05/13/98
ANALYZED: 05/14/98
INSTR RUN: GC C\980501000000/220/223
BATCH ID: DSCS051398-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		40.64	ND	1	40.0	102	55	130		
n-Pentacosane	(surr)	102.4	ND		100	102	55	130		

MATRIX SPIKE DUPLICATES

SAMPLE TYPE: Spiked Sample Duplicate
INSTRUMENT: HP 5890
UNITS: mg/kg
METHOD:
LAB ID: MD05030-03A
PREPARED: 05/13/98
ANALYZED: 05/14/98
INSTR RUN: GC C\980501000000/222/220
BATCH ID: DSCS051398-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		41.31	40.64	1	40.0				1.635	30
Motor Oil		ND	ND	5					0	
n-Pentacosane	(surr)	102.4	102.4		100	102	55	130		

ANALYSIS: Extractable TPH

MATRIX: Soil/Bulk

SAMPLE SURROGATES

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

LAB ID: 9805030-01A
PREPARED: 05/13/98
ANALYZED: 05/14/98

INSTR RUN: GC C\980501000000/225/
BATCH ID: DSCS051398-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	89.9			100	89.9	55	130		

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

LAB ID: 9805030-02A
PREPARED: 05/13/98
ANALYZED: 05/14/98

INSTR RUN: GC C\980501000000/226/
BATCH ID: DSCS051398-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	93.3			100	93.3	55	130		

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

LAB ID: 9805030-03A
PREPARED: 05/13/98
ANALYZED: 05/14/98

INSTR RUN: GC C\980501000000/224/
BATCH ID: DSCS051398-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	102.4			100	102	55	130		

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9805030
INSTRUMENT: H
MATRIX: SOIL

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
05/12/98	MW6-W2	01	97
05/11/98	MW6-E2	02	99
05/11/98	MW6-N2	03	98
QC Limits:			70-130

DATE ANALYZED: 05/12/98
SAMPLE SPIKED: 9805030-02
INSTRUMENT: H

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/kg)	Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	200	94	4	65-135	30
Toluene	200	91	4	65-135	30
Ethylbenzene	200	90	3	65-135	30
Total Xylenes	600	90	4	65-135	30

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

*** END OF REPORT ***

Reporting Information:

1. Client: Hydro Environ.
Address: 2394 Mariner Sq. Suite 2 Alameda
Contact: Gary Pischke
Alt. Contact:

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

R-9.5-J

AEN

Page 1 of 1

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: (page 9805034) 9805030
Lab Destination:
Date Samples Shipped:
Lab Contact:
Date Results Required: May 12) Standard
Date Report Required: May 17
Client Phone No.: 510/521-2684
Client FAX No.: 510-521-5078

Address Report To:

2. Same

Send Invoice To:

3. Mariner Square
c/o Hydro Environ. Tech
2394 Mariner Sq. Dr. #2
Alameda, CA 94501

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: Client Project I.D. No.: Y.285.1

Sample Team Member (s) Gary Pischke

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: TPH as GTEX (mod.)	TPH as Diesel	TPH as Motor Oil	Comments / Hazards
1A	HW6 - W2		5/4 11:11a	Soil	—	1	Brass Tube	X	X	X	5 day turnaround
2A	HW6 - E2		5/4 11:10a	Soil	—	1		X	X	X	
3A	HW6 - N2		5/4 11:19a	Soil	—	1		X	X	X	
											5/4/98 Client notified W2 and not abl2

2nd Qtr '98

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

HYDRO ENVIRONMENTAL TECH
2394 MARINER SQUARE DR. STE 2
ALAMEDA, CA 94501

ATTN: GARY PISCHKE
CLIENT PROJ. ID: 7-285.1
CLIENT PROJ. NAME: MARINER SQUARE

REPORT DATE: 06/09/98

DATE(S) SAMPLED: 05/08/98

DATE RECEIVED: 05/11/98

AEN WORK ORDER: 9805102

RECEIVED JUN 12 1998

PROJECT SUMMARY:

On May 11, 1998, 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.

Reviewed by:

William Sobota

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-1
AEN LAB NO: 9805102-01
AEN WORK ORDER: 9805102
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/09/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	GFF 0.7 um	-		Filtr Date	05/12/98
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	1.0 *	0.5	ug/L	05/18/98
Toluene	108-88-3	ND	0.5	ug/L	05/18/98
Ethylbenzene	100-41-4	0.7 *	0.5	ug/L	05/18/98
Xylenes, Total	1330-20-7	5 *	2	ug/L	05/18/98
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	05/18/98
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	05/18/98
#Silica gel Cleanup	EPA 3630M	-		Cleanup	05/21/98
#Extraction for TPH	EPA 3510	-		Extrn Date	05/20/98
TPH as Diesel	GC-FID	ND	0.05	mg/L	05/22/98
TPH as Oil	GC-FID	ND	0.2	mg/L	05/22/98
#Extraction for PNAs	EPA 3520	-		Extrn Date	05/12/98
PNAs by EPA 8270	EPA 8270				
Acenaphthene	83-32-9	ND	3	ug/L	05/19/98
Acenaphthylene	208-96-8	ND	3	ug/L	05/19/98
Anthracene	120-12-7	ND	3	ug/L	05/19/98
Benzo(a)anthracene	56-55-3	ND	3	ug/L	05/19/98
Benzo(b)fluoranthene	205-99-2	ND	3	ug/L	05/19/98
Benzo(k)fluoranthene	207-08-9	ND	3	ug/L	05/19/98
Benzo(g,h,i)perylene	191-24-2	ND	3	ug/L	05/19/98
Benzo(a)pyrene	50-32-8	ND	3	ug/L	05/19/98
Chrysene	218-01-9	ND	3	ug/L	05/19/98
Dibenzo(a,h)anthracene	53-70-3	ND	3	ug/L	05/19/98
Fluoranthene	206-44-0	ND	3	ug/L	05/19/98
Fluorene	86-73-7	ND	3	ug/L	05/19/98
Indeno(1,2,3-cd)pyrene	193-39-5	ND	3	ug/L	05/19/98
Naphthalene	91-20-3	ND	3	ug/L	05/19/98
Phenanthrene	85-01-8	ND	3	ug/L	05/19/98
Pyrene	129-00-0	ND	3	ug/L	05/19/98
EPA 8010 - Water matrix	EPA 8010				
Vinyl Chloride	75-01-4	ND	2	ug/L	05/19/98

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-1
AEN LAB NO: 9805102-01
AEN WORK ORDER: 9805102
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/09/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-2
AEN LAB NO: 9805102-02
AEN WORK ORDER: 9805102
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/09/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	GFF 0.7 um	-		Filtr Date	05/12/98
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	05/18/98
Toluene	108-88-3	ND	0.5	ug/L	05/18/98
Ethylbenzene	100-41-4	1.7 *	0.5	ug/L	05/18/98
Xylenes, Total	1330-20-7	3 *	2	ug/L	05/18/98
Purgeable HCs as Gasoline	5030/GCFID	0.17 *	0.05	mg/L	05/18/98
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	05/18/98
#Silica gel Cleanup	EPA 3630M	-		Cleanup	05/21/98
#Extraction for TPH	EPA 3510	-		Extrn Date	05/20/98
TPH as Diesel	GC-FID	ND	0.05	mg/L	05/22/98
TPH as Oil	GC-FID	ND	0.2	mg/L	05/22/98
#Extraction for PNAs	EPA 3520	-		Extrn Date	05/12/98
PNAs by EPA 8270	EPA 8270				
Acenaphthene	83-32-9	ND	3	ug/L	05/19/98
Acenaphthylene	208-96-8	ND	3	ug/L	05/19/98
Anthracene	120-12-7	ND	3	ug/L	05/19/98
Benzo(a)anthracene	56-55-3	ND	3	ug/L	05/19/98
Benzo(b)fluoranthene	205-99-2	ND	3	ug/L	05/19/98
Benzo(k)fluoranthene	207-08-9	ND	3	ug/L	05/19/98
Benzo(g,h,i)perylene	191-24-2	ND	3	ug/L	05/19/98
Benzo(a)pyrene	50-32-8	ND	3	ug/L	05/19/98
Chrysene	218-01-9	ND	3	ug/L	05/19/98
Dibenzo(a,h)anthracene	53-70-3	ND	3	ug/L	05/19/98
Fluoranthene	206-44-0	ND	3	ug/L	05/19/98
Fluorene	86-73-7	ND	3	ug/L	05/19/98
Indeno(1,2,3-cd)pyrene	193-39-5	ND	3	ug/L	05/19/98
Naphthalene	91-20-3	ND	3	ug/L	05/19/98
Phenanthrene	85-01-8	ND	3	ug/L	05/19/98
Pyrene	129-00-0	ND	3	ug/L	05/19/98
EPA 8010 - Water matrix	EPA 8010				
Vinyl Chloride	75-01-4	ND	2	ug/L	05/19/98

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-2
AEN LAB NO: 9805102-02
AEN WORK ORDER: 9805102
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/09/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-3
AEN LAB NO: 9805102-03
AEN WORK ORDER: 9805102
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/09/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	GFF 0.7 um	-		Filtr Date	05/12/98
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	0.6 *	0.5	ug/L	05/19/98
Toluene	108-88-3	ND	0.5	ug/L	05/19/98
Ethylbenzene	100-41-4	0.5 *	0.5	ug/L	05/19/98
Xylenes, Total	1330-20-7	4 *	2	ug/L	05/19/98
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	05/19/98
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	05/19/98
#Silica gel Cleanup	EPA 3630M	-		Cleanup	05/21/98
#Extraction for TPH	EPA 3510	-		Extrn Date	05/20/98
TPH as Diesel	GC-FID	ND	0.05	mg/L	05/22/98
TPH as Oil	GC-FID	ND	0.2	mg/L	05/22/98
#Extraction for PNAs	EPA 3520	-		Extrn Date	05/12/98
PNAs by EPA 8270	EPA 8270				
Acenaphthene	83-32-9	ND	3	ug/L	05/19/98
Acenaphthylene	208-96-8	ND	3	ug/L	05/19/98
Anthracene	120-12-7	ND	3	ug/L	05/19/98
Benzo(a)anthracene	56-55-3	ND	3	ug/L	05/19/98
Benzo(b)fluoranthene	205-99-2	ND	3	ug/L	05/19/98
Benzo(k)fluoranthene	207-08-9	ND	3	ug/L	05/19/98
Benzo(g,h,i)perylene	191-24-2	ND	3	ug/L	05/19/98
Benzo(a)pyrene	50-32-8	ND	3	ug/L	05/19/98
Chrysene	218-01-9	ND	3	ug/L	05/19/98
Dibenzo(a,h)anthracene	53-70-3	ND	3	ug/L	05/19/98
Fluoranthene	206-44-0	ND	3	ug/L	05/19/98
Fluorene	86-73-7	ND	3	ug/L	05/19/98
Indeno(1,2,3-cd)pyrene	193-39-5	ND	3	ug/L	05/19/98
Naphthalene	91-20-3	ND	3	ug/L	05/19/98
Phenanthrene	85-01-8	ND	3	ug/L	05/19/98
Pyrene	129-00-0	ND	3	ug/L	05/19/98
EPA 8010 - Water matrix	EPA 8010				
Vinyl Chloride	75-01-4	ND	2	ug/L	05/19/98

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-3
AEN LAB NO: 9805102-03
AEN WORK ORDER: 9805102
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/09/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

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

ANALYSIS: Extractable TPH

MATRIX: Water

METHOD BLANK SAMPLES

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

LAB ID: BLKW-0520-1
PREPARED: 05/20/98
ANALYZED: 05/21/98

INSTR RUN: GC_C\980501000000/336/
BATCH ID: DSLW052098-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		ND		0.05						
Motor Oil		ND		0.2						
n-Pentacosane	(surr)	108.3			100	108	60	130		

LABORATORY CONTROL SAMPLES

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

LAB ID: LCDW-0520-1
PREPARED: 05/20/98
ANALYZED: 05/21/98

INSTR RUN: GC_C\980501000000/338/336
BATCH ID: DSLW052098-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.87	ND	0.05	2.00	93.5	60	130		
n-Pentacosane	(surr)	109.0	108.3		100	109	60	130		

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

LAB ID: LCSW-0520-1
PREPARED: 05/20/98
ANALYZED: 05/21/98

INSTR RUN: GC_C\980501000000/337/336
BATCH ID: DSLW052098-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.62	ND	0.05	2.00	81.0	60	130		
n-Pentacosane	(surr)	99.3	108.3		100	99.3	60	130		

LABORATORY CONTROL DUPLICATES

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

LAB ID: LCRW-0520-1
PREPARED: 05/20/98
ANALYZED: 05/21/98

INSTR RUN: GC_C\980501000000/339/337
BATCH ID: DSLW052098-1
DILUTION: 1.000000

ANALYTE		RESULT	REF. RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.87	1.62	0.05					14.3	20
Motor Oil		ND	ND	0.2					0	
n-Pentacosane	(surr)	109.0	99.3		100	109	60	130		

SAMPLE SURROGATES

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

LAB ID: 9805102-01G
PREPARED: 05/20/98
ANALYZED: 05/22/98

INSTR RUN: GC_C\980501000000/378/
BATCH ID: DSLW052098-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	104.7			100	105	60	130		

ANALYSIS: Extractable TPH

MATRIX: Water

SAMPLE SURROGATES

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

LAB ID: 9805102-02G
PREPARED: 05/20/98
ANALYZED: 05/22/98

INSTR RUN: GC_C\980501000000/379/
BATCH ID: DSLW052098-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	100.2			100	100	60	130		

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

LAB ID: 9805102-03G
PREPARED: 05/20/98
ANALYZED: 05/22/98

INSTR RUN: GC_C\980501000000/380/
BATCH ID: DSLW052098-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	99.2			100	99.2	60	130		

ANALYSIS: PNAs by EPA 8270

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: BLNK 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/1/
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	80.4			100	80.4	58	109		
2-Fluorobiphenyl	(surr)	86.1			100	86.1	62	133		
Terphenyl-d14	(surr)	89.6			100	89.6	59	135		
Acenaphthene		ND								
Pyrene		ND								
Acenaphthylene		ND								
Anthracene		ND								
Benzo(a)anthracene		ND								
Benzo(b)fluoranthene		ND								
Benzo(k)fluoranthene		ND								
Benzo(g,h,i)perylene		ND								
Benzo(a)pyrene		ND								
Chrysene		ND								
Dibenzo(a,h)anthracene		ND								
Fluoranthene		ND								
Fluorene		ND								
Indeno(1,2,3-cd)pyrene		ND								
Naphthalene		ND								
Phenanthrene		ND								

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCD 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/3/1
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	88.4	80.4		100	88.4	58	109		
2-Fluorobiphenyl	(surr)	89.7	86.1		100	89.7	62	133		
Terphenyl-d14	(surr)	84.4	89.6		100	84.4	59	135		
Acenaphthene		91.1	ND		100	91.1	58	139		
Pyrene		81.9	ND		100	81.9	40	130		

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCS 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/2/1
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	91.2	80.4		100	91.2	58	109		
2-Fluorobiphenyl	(surr)	93.2	86.1		100	93.2	62	133		
Terphenyl-d14	(surr)	90.0	89.6		100	90.0	59	135		
Acenaphthene		89.2	ND		100	89.2	58	139		
Pyrene		76.9	ND		100	76.9	40	130		

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCR 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/4/2
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	88.4	91.2		100	88.4	58	109		

ANALYSIS: PNAs by EPA 8270

MATRIX: Water

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:
LAB ID: LCR 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98
INSTR RUN: GCMS10\980512080000/4/2
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
2-Fluorobiphenyl	(surr)	89.7	93.2		100	89.7	62	133		
Terphenyl-d14	(surr)	84.4	90.0		100	84.4	59	135		
Acenaphthene		91.1	89.2		100				2.11	30
Pyrene		81.9	76.9		100				6.30	30

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:
LAB ID: 9805102-01H
PREPARED: 05/12/98
ANALYZED: 05/19/98
INSTR RUN: GCMS10\980512080000/5/
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	86.9			100	86.9	58	109		
2-Fluorobiphenyl	(surr)	89.4			100	89.4	62	133		
Terphenyl-d14	(surr)	87.4			100	87.4	59	135		

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:
LAB ID: 9805102-02H
PREPARED: 05/12/98
ANALYZED: 05/19/98
INSTR RUN: GCMS10\980512080000/6/
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	82.5			100	82.5	58	109		
2-Fluorobiphenyl	(surr)	84.3			100	84.3	62	133		
Terphenyl-d14	(surr)	85.0			100	85.0	59	135		

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:
LAB ID: 9805102-03H
PREPARED: 05/12/98
ANALYZED: 05/19/98
INSTR RUN: GCMS10\980512080000/7/
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	86.2			100	86.2	58	109		
2-Fluorobiphenyl	(surr)	87.8			100	87.8	62	133		
Terphenyl-d14	(surr)	85.1			100	85.1	59	135		

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9805102
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Bromochloro-methane	Percent Recovery 1-Bromo-3-chloro-propane
05/19/98	MW-1	01	81	107
05/19/98	MW-2	02	117	125
05/19/98	MW-3	03	94	110
QC Limits			70-130	70-130

DATE ANALYZED: 05/18/98
SAMPLE SPIKED: LCS
INSTRUMENT: G

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
1,1-Dichloroethene	25	84	8	70-130	20
Trichloroethene	25	108	7	70-130	20
Chlorobenzene	25	86	9	70-130	20
Benzene	25	110	4	70-130	20
Toluene	25	109	4	70-130	20

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

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9805102
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
05/18/98	MW-1	01	97
05/18/98	MW-2	02	90
05/19/98	MW-3	03	94
QC Limits:			70-130

DATE ANALYZED: 05/18/98
SAMPLE SPIKED: LCS
INSTRUMENT: F

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	200	112	3	70-130	20
Toluene	200	115	4	70-130	20
Ethylbenzene	200	117	4	70-130	20
Total Xylenes	600	116	4	70-130	20

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

*** END OF REPORT ***

Reporting Information:

1. Client: Hydro Environ Tech
Address: 2394 Mariner Sq. #2
Alameda Cal. 94501
Contact: Gary Pischke
Alt. Contact:

Address Report To:

2. Hydro Environ Tech

Send Invoice To: R-3 S-1 R-5 S-N

3. Mariner Square Assoc.
C/O Hydro Environ Tech

Send Report To: 1 or 2 (Circle one)

Client P.O. No.: Client Project I.D. No.: 7-285.1

Sample Team Member (s) Gary Pischke

American Environmental Network

3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 9805102
Lab Destination:
Date Samples Shipped:
Lab Contact:
Date Results Required: 5/20/98
Date Report Required: 5/22/98
Client Phone No.: 510-521-2684
Client FAX No.: 510-521-5078

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: TPHg/BTEX/MTBE	TPHd	TPHmo	PNA's	Cl/Cl Chloride	Comments / Hazards
1ABCDEF	MW-1		5/8 10:27a	7	HCL	6	VOA	X			X		Notes:
GH	MW-1		5/8 10:16a	7	[illegible]	2	Amb		X	X	X		TPHd use Filtration & Silica gel
2ABCDEF	MW-2		5/8 2:26p	7	HCL	6	VOA	X			X		
GH	MW-2		5/8 2:15p	7	—	2	Amb		X	X	X		
3ABCDEF	MW-3		5/8 1:51p	7	HCL	6	VOA	X			X		
GH	MW-3		5/8 1:37p	7	[illegible]	2	Amb		X	X	X		
[illegible]	per 5/11 MW-4		5/8 3:15p	7	HCL	6	VOA	X			X		
M	MW-4		5/8 3:03p	7	[illegible]	2	Amb		X	X	X		
O	MW-5		5/8 5:03p	7	HCL	6	VOA	X			X		
[illegible]	MW-5		5/8 4:49p	7	—	2	Amb		X	X	X		
[illegible]	MW-7		5/8 4:18p	7	HCL	6	VOA	X			X		
[illegible]	MW-7		5/8 4:06p	7	—	2	Amb		X	X	X		
9	MW-8		5/8 9:41a	7	HCL	6	VOA	X			X		
	MW-8		5/8 9:33a	7	—	2	Amb		X	X	X		

		DATE	TIME			DATE	TIME
Relinquished by: (Signature)	Gary Pischke	5/11/98	10:52a	Received by: (Signature)	Rick Gilmore	5-11-98	10:52
Relinquished by: (Signature)	Rick Gilmore	5-11-98	13:20	Received by: (Signature)	Paul C Richards	5/11/98	1320
Relinquished by: (Signature)		DATE	TIME	Received by: (Signature)		DATE	TIME
Method of Shipment				Lab Comments			

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. _____ pore size _____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other _____ 11) Other _____

Reporting Information: [redacted]

1. Client: Hydro Enviro Tech
Address: 2394 Mariner Sq. #2
Alameda Cal. 94501
Contact: Gary Pischke
Alt. Contact:

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

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REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 9805104
Lab Destination:
Date Samples Shipped:
Lab Contact:
Date Results Required: 5/20/98
Date Report Required: 5/22/98
Client Phone No.: 510-521-2684
Client FAX No.: 510-521-5278

Address Report To:

2. Hydro Enviro Tech

Send Invoice To: R-3 S-1 R-5 S-N

3. Mariner Square Assoc
c/o Hydro Enviro Tech

Send Report To: 1 or 2 (Circle one)

Client P.O. No.: Client Project I.D. No.: 7-285.1

Sample Team Member (s) Gary Pischke

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: TPH gas/BTEX/MTBE	TPHd	TPHmo	PAHs	VOCs (Halogenated)	Comments / Hazards
1ABCDEF	MW-9		5/8 11:19a	7	HCl	6	VOA	X				X	Note: TPHd use filtration & silica gel
1GH	MW-9		5/8 11:10a	7	—	2	Amb		X	X	X		

Relinquished by: (Signature) Gary Pischke	DATE 5/11/98	TIME 10:52am	Received by: (Signature) Rich Gilmore	DATE 5-11-98	TIME 10:52
Relinquished by: (Signature) Rich Gilmore	DATE 5-11-98	TIME 13:20	Received by: (Signature) Paul C Richek	DATE 5/11/98	TIME 1320
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)	DATE	TIME
Method of Shipment			Lab Comments		

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

2nd Qtr '98

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

HYDRO ENVIRONMENTAL TECH
2394 MARINER SQUARE DR. STE 2
ALAMEDA, CA 94501

ATTN: GARY PISCHKE
CLIENT PROJ. ID: 7-285.1 <
CLIENT PROJ. NAME: MARINER SQUARE

REPORT DATE: 06/10/98

DATE(S) SAMPLED: 05/08/98

DATE RECEIVED: 05/11/98

AEN WORK ORDER: 9805103

RECEIVED JUN 12 1998

PROJECT SUMMARY:

On May 11, 1998, this laboratory received 4 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.

Reviewed by:

William Luksch

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-4
AEN LAB NO: 9805103-01
AEN WORK ORDER: 9805103
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	GFF 0.7 um	-		Filtr Date	05/12/98
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	0.9 *	0.5	ug/L	05/18/98
Toluene	108-88-3	0.5 *	0.5	ug/L	05/18/98
Ethylbenzene	100-41-4	0.8 *	0.5	ug/L	05/18/98
Xylenes, Total	1330-20-7	5 *	2	ug/L	05/18/98
Purgeable HCs as Gasoline	5030/GCFID	0.09 *	0.05	mg/L	05/18/98
Methyl t-Butyl Ether	1634-04-4	30 *	5	ug/L	05/18/98
#Silica gel Cleanup	EPA 3630M	-		Cleanup	05/26/98
#Extraction for TPH	EPA 3510	-		Extrn Date	05/21/98
TPH as Diesel	GC-FID	ND	0.05	mg/L	05/27/98
TPH as Oil	GC-FID	ND	0.2	mg/L	05/27/98
#Extraction for PNAs	EPA 3520	-		Extrn Date	05/12/98
PNAs by EPA 8270	EPA 8270				
Acenaphthene	83-32-9	ND	3	ug/L	05/20/98
Acenaphthylene	208-96-8	ND	3	ug/L	05/20/98
Anthracene	120-12-7	ND	3	ug/L	05/20/98
Benzo(a)anthracene	56-55-3	ND	3	ug/L	05/20/98
Benzo(b)fluoranthene	205-99-2	ND	3	ug/L	05/20/98
Benzo(k)fluoranthene	207-08-9	ND	3	ug/L	05/20/98
Benzo(g,h,i)perylene	191-24-2	ND	3	ug/L	05/20/98
Benzo(a)pyrene	50-32-8	ND	3	ug/L	05/20/98
Chrysene	218-01-9	ND	3	ug/L	05/20/98
Dibenzo(a,h)anthracene	53-70-3	ND	3	ug/L	05/20/98
Fluoranthene	206-44-0	ND	3	ug/L	05/20/98
Fluorene	86-73-7	ND	3	ug/L	05/20/98
Indeno(1,2,3-cd)pyrene	193-39-5	ND	3	ug/L	05/20/98
Naphthalene	91-20-3	ND	3	ug/L	05/20/98
Phenanthrene	85-01-8	ND	3	ug/L	05/20/98
Pyrene	129-00-0	ND	3	ug/L	05/20/98
EPA 8010 - Water matrix	EPA 8010				
Vinyl Chloride	75-01-4	ND	2	ug/L	05/19/98

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-4
AEN LAB NO: 9805103-01
AEN WORK ORDER: 9805103
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

MTBE included in gasoline result.

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-5
AEN LAB NO: 9805103-02
AEN WORK ORDER: 9805103
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	GFF 0.7 um	-		Filtr Date	05/12/98
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	8.0 *	0.5	ug/L	05/18/98
Toluene	108-88-3	22 *	0.5	ug/L	05/18/98
Ethylbenzene	100-41-4	19 *	0.5	ug/L	05/18/98
Xylenes, Total	1330-20-7	10 *	2	ug/L	05/18/98
Purgeable HCs as Gasoline	5030/GCFID	3.9 *	0.05	mg/L	05/18/98
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	05/18/98
#Silica gel Cleanup	EPA 3630M	-		Cleanup	05/26/98
#Extraction for TPH	EPA 3510	-		Extrn Date	05/21/98
TPH as Diesel	GC-FID	ND	0.05	mg/L	05/27/98
TPH as Oil	GC-FID	ND	0.2	mg/L	05/27/98
#Extraction for PNAs	EPA 3520	-		Extrn Date	05/12/98
PNAs by EPA 8270	EPA 8270				
Acenaphthene	83-32-9	ND	6	ug/L	05/21/98
Acenaphthylene	208-96-8	ND	6	ug/L	05/21/98
Anthracene	120-12-7	ND	6	ug/L	05/21/98
Benzo(a)anthracene	56-55-3	ND	6	ug/L	05/21/98
Benzo(b)fluoranthene	205-99-2	ND	6	ug/L	05/21/98
Benzo(k)fluoranthene	207-08-9	ND	6	ug/L	05/21/98
Benzo(g,h,i)perylene	191-24-2	ND	6	ug/L	05/21/98
Benzo(a)pyrene	50-32-8	ND	6	ug/L	05/21/98
Chrysene	218-01-9	ND	6	ug/L	05/21/98
Dibenzo(a,h)anthracene	53-70-3	ND	6	ug/L	05/21/98
Fluoranthene	206-44-0	ND	6	ug/L	05/21/98
Fluorene	86-73-7	ND	6	ug/L	05/21/98
Indeno(1,2,3-cd)pyrene	193-39-5	ND	6	ug/L	05/21/98
Naphthalene	91-20-3	ND	6	ug/L	05/21/98
Phenanthrene	85-01-8	ND	6	ug/L	05/21/98
Pyrene	129-00-0	ND	6	ug/L	05/21/98
EPA 8010 - Water matrix	EPA 8010				
Vinyl Chloride	75-01-4	ND	2	ug/L	05/19/98

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-5
AEN LAB NO: 9805103-02
AEN WORK ORDER: 9805103
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

Reporting limits for PNAs 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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-7
AEN LAB NO: 9805103-03
AEN WORK ORDER: 9805103
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	GFF 0.7 um	-		Filtr Date	05/12/98
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	3.4 *	0.5	ug/L	05/18/98
Toluene	108-88-3	4.8 *	0.5	ug/L	05/18/98
Ethylbenzene	100-41-4	0.8 *	0.5	ug/L	05/18/98
Xylenes, Total	1330-20-7	7 *	2	ug/L	05/18/98
Purgeable HCs as Gasoline	5030/GCFID	0.71 *	0.05	mg/L	05/18/98
Methyl t-Butyl Ether	1634-04-4	34 *	5	ug/L	05/18/98
#Silica gel Cleanup	EPA 3630M	-		Cleanup	05/26/98
#Extraction for TPH	EPA 3510	-		Extrn Date	05/21/98
TPH as Diesel	GC-FID	ND	0.05	mg/L	05/27/98
TPH as Oil	GC-FID	ND	0.2	mg/L	05/27/98
#Extraction for PNAs	EPA 3520	-		Extrn Date	05/12/98
PNAs by EPA 8270	EPA 8270				
Acenaphthene	83-32-9	ND	6	ug/L	05/20/98
Acenaphthylene	208-96-8	ND	6	ug/L	05/20/98
Anthracene	120-12-7	ND	6	ug/L	05/20/98
Benzo(a)anthracene	56-55-3	ND	6	ug/L	05/20/98
Benzo(b)fluoranthene	205-99-2	ND	6	ug/L	05/20/98
Benzo(k)fluoranthene	207-08-9	ND	6	ug/L	05/20/98
Benzo(g,h,i)perylene	191-24-2	ND	6	ug/L	05/20/98
Benzo(a)pyrene	50-32-8	ND	6	ug/L	05/20/98
Chrysene	218-01-9	ND	6	ug/L	05/20/98
Dibenzo(a,h)anthracene	53-70-3	ND	6	ug/L	05/20/98
Fluoranthene	206-44-0	ND	6	ug/L	05/20/98
Fluorene	86-73-7	ND	6	ug/L	05/20/98
Indeno(1,2,3-cd)pyrene	193-39-5	ND	6	ug/L	05/20/98
Naphthalene	91-20-3	ND	6	ug/L	05/20/98
Phenanthrene	85-01-8	ND	6	ug/L	05/20/98
Pyrene	129-00-0	ND	6	ug/L	05/20/98
EPA 8010 - Water matrix	EPA 8010				
Vinyl Chloride	75-01-4	ND	2	ug/L	05/19/98

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-7
AEN LAB NO: 9805103-03
AEN WORK ORDER: 9805103
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

Reporting limits for PNAs elevated due to high levels of non-target compounds. Sample run at dilution.
MTBE included in gasoline result.

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

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-8
AEN LAB NO: 9805103-04
AEN WORK ORDER: 9805103
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	GFF 0.7 um	-		Filtr Date	05/12/98
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	05/19/98
Toluene	108-88-3	ND	0.5	ug/L	05/19/98
Ethylbenzene	100-41-4	ND	0.5	ug/L	05/19/98
Xylenes, Total	1330-20-7	ND	2	ug/L	05/19/98
Purgeable HCs as Gasoline	5030/GCFID	ND	0.05	mg/L	05/19/98
Methyl t-Butyl Ether	1634-04-4	ND	5	ug/L	05/19/98
#Silica gel Cleanup	EPA 3630M	-		Cleanup	05/26/98
#Extraction for TPH	EPA 3510	-		Extrn Date	05/21/98
TPH as Diesel	GC-FID	ND	0.05	mg/L	05/27/98
TPH as Oil	GC-FID	ND	0.2	mg/L	05/27/98
#Extraction for PNAs	EPA 3520	-		Extrn Date	05/12/98
PNAs by EPA 8270	EPA 8270				
Acenaphthene	83-32-9	ND	3	ug/L	05/20/98
Acenaphthylene	208-96-8	ND	3	ug/L	05/20/98
Anthracene	120-12-7	ND	3	ug/L	05/20/98
Benzo(a)anthracene	56-55-3	ND	3	ug/L	05/20/98
Benzo(b)fluoranthene	205-99-2	ND	3	ug/L	05/20/98
Benzo(k)fluoranthene	207-08-9	ND	3	ug/L	05/20/98
Benzo(g,h,i)perylene	191-24-2	ND	3	ug/L	05/20/98
Benzo(a)pyrene	50-32-8	ND	3	ug/L	05/20/98
Chrysene	218-01-9	ND	3	ug/L	05/20/98
Dibenzo(a,h)anthracene	53-70-3	ND	3	ug/L	05/20/98
Fluoranthene	206-44-0	ND	3	ug/L	05/20/98
Fluorene	86-73-7	ND	3	ug/L	05/20/98
Indeno(1,2,3-cd)pyrene	193-39-5	ND	3	ug/L	05/20/98
Naphthalene	91-20-3	ND	3	ug/L	05/20/98
Phenanthrene	85-01-8	ND	3	ug/L	05/20/98
Pyrene	129-00-0	ND	3	ug/L	05/20/98
EPA 8010 - Water matrix	EPA 8010				
Vinyl Chloride	75-01-4	ND	2	ug/L	05/19/98

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-8
AEN LAB NO: 9805103-04
AEN WORK ORDER: 9805103
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

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

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9805103
CLIENT PROJECT ID: 7-285.1

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 behaviour, 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: Extractable TPH

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:
LAB ID: BLKW-0521-1
PREPARED: 05/21/98
ANALYZED: 05/26/98
INSTR RUN: GC_C\980501000000/389/
BATCH ID: DSLW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		ND		0.05						
Motor Oil		ND		0.2						
n-Pentacosane	(surr)	109.0			100	109	60	130		

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:
LAB ID: LCDW-0521-1
PREPARED: 05/21/98
ANALYZED: 05/26/98
INSTR RUN: GC_C\980501000000/391/389
BATCH ID: DSLW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.55	ND	0.05	2.00	77.5	60	130		
n-Pentacosane	(surr)	104.7	109.0		100	105	60	130		

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:
LAB ID: LCSW-0521-1
PREPARED: 05/21/98
ANALYZED: 05/26/98
INSTR RUN: GC_C\980501000000/390/389
BATCH ID: DSLW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.71	ND	0.05	2.00	85.5	60	130		
n-Pentacosane	(surr)	106.8	109.0		100	107	60	130		

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:
LAB ID: LCRW-0521-1
PREPARED: 05/21/98
ANALYZED: 05/26/98
INSTR RUN: GC_C\980501000000/392/390
BATCH ID: DSLW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.55	1.71	0.05					9.82	20
Motor Oil		ND	ND	0.2					0	
n-Pentacosane	(surr)	104.7	106.8		100	105	60	130		

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP 5890
UNITS: mg/L
METHOD:
LAB ID: 9805103-01G
PREPARED: 05/21/98
ANALYZED: 05/27/98
INSTR RUN: GC_C\980501000000/411/
BATCH ID: DSLW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	97.6			100	97.6	60	130		

ANALYSIS: Extractable TPH

MATRIX: Water

SAMPLE SURROGATES

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

LAB ID: 9805103-02G
PREPARED: 05/21/98
ANALYZED: 05/27/98

INSTR RUN: GC C\980501000000/412/
BATCH ID: DSCW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	97.9			100	97.9	60	130		

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

LAB ID: 9805103-03G
PREPARED: 05/21/98
ANALYZED: 05/27/98

INSTR RUN: GC C\980501000000/413/
BATCH ID: DSCW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	92.6			100	92.6	60	130		

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

LAB ID: 9805103-04G
PREPARED: 05/21/98
ANALYZED: 05/27/98

INSTR RUN: GC C\980501000000/414/
BATCH ID: DSCW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	98.9			100	98.9	60	130		

ANALYSIS: PNAs by EPA 8270

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: BLNK 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/1/
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	80.4			100	80.4	58	109		
2-Fluorobiphenyl	(surr)	86.1			100	86.1	62	133		
Terphenyl-d14	(surr)	89.6			100	89.6	59	135		
Acenaphthene		ND								
Pyrene		ND								
Acenaphthylene		ND								
Anthracene		ND								
Benzo(a)anthracene		ND								
Benzo(b)fluoranthene		ND								
Benzo(k)fluoranthene		ND								
Benzo(g,h,i)perylene		ND								
Benzo(a)pyrene		ND								
Chrysene		ND								
Dibenzo(a,h)anthracene		ND								
Fluoranthene		ND								
Fluorene		ND								
Indeno(1,2,3-cd)pyrene		ND								
Naphthalene		ND								
Phenanthrene		ND								

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCD 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/3/1
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	88.4	80.4		100	88.4	58	109		
2-Fluorobiphenyl	(surr)	89.7	86.1		100	89.7	62	133		
Terphenyl-d14	(surr)	84.4	89.6		100	84.4	59	135		
Acenaphthene		91.1	ND		100	91.1	58	139		
Pyrene		81.9	ND		100	81.9	40	130		

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCS 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/2/1
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	91.2	80.4		100	91.2	58	109		
2-Fluorobiphenyl	(surr)	93.2	86.1		100	93.2	62	133		
Terphenyl-d14	(surr)	90.0	89.6		100	90.0	59	135		
Acenaphthene		89.2	ND		100	89.2	58	139		
Pyrene		76.9	ND		100	76.9	40	130		

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCR 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/4/2
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	88.4	91.2		100	88.4	58	109		

ANALYSIS: PNAs by EPA 8270

MATRIX: Water

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCR 0512
PREPARED: 05/I2/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/4/2
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
2-Fluorobiphenyl	(surr)	89.7	93.2		100	89.7	62	133		
Terphenyl-d14	(surr)	84.4	90.0		100	84.4	59	135		
Acenaphthene		91.1	89.2		100				2.11	30
Pyrene		81.9	76.9		100				6.30	30

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: 9805103-01H
PREPARED: 05/12/98
ANALYZED: 05/20/98

INSTR RUN: GCMS10\980512080000/9/
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	82.6			100	82.6	58	109		
2-Fluorobiphenyl	(surr)	88.2			100	88.2	62	133		
Terphenyl-d14	(surr)	83.6			100	83.6	59	135		

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: 9805103-02H
PREPARED: 05/12/98
ANALYZED: 05/21/98

INSTR RUN: GCMS10\980512080000/12/
BATCH ID: BNAW051298
DILUTION: 2.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	99.4			100	99.4	58	109		
2-Fluorobiphenyl	(surr)	89.4			100	89.4	62	133		
Terphenyl-d14	(surr)	85.2			100	85.2	59	135		

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: 9805103-03H
PREPARED: 05/12/98
ANALYZED: 05/20/98

INSTR RUN: GCMS10\980512080000/10/
BATCH ID: BNAW051298
DILUTION: 2.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	92.7			100	92.7	58	109		
2-Fluorobiphenyl	(surr)	92.4			100	92.4	62	133		
Terphenyl-d14	(surr)	93.7			100	93.7	59	135		

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: 9805103-04H
PREPARED: 05/12/98
ANALYZED: 05/20/98

INSTR RUN: GCMS10\980512080000/11/
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	88.9			100	88.9	58	109		
2-Fluorobiphenyl	(surr)	90.9			100	90.9	62	133		
Terphenyl-d14	(surr)	88.3			100	88.3	59	135		

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9805103
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery: Bromochloro-methane	Percent Recovery: 1-Bromo-3-chloro-propane
05/19/98	MW-4	01	97	117
05/19/98	MW-5	02	91	103
05/19/98	MW-7	03	91	99
05/19/98	MW-8	04	90	92
QC Limits			70-130	70-130

DATE ANALYZED: 05/18/98
SAMPLE SPIKED: LCS
INSTRUMENT: G

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits: Percent Recovery	QC Limits: RPD
1,1-Dichloroethene	25	84	8	70-130	20
Trichloroethene	25	108	7	70-130	20
Chlorobenzene	25	86	9	70-130	20
Benzene	25	110	4	70-130	20
Toluene	25	109	4	70-130	20

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

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9805103
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
05/18/98	MW-4	01	94
05/18/98	MW-5	02	95
05/18/98	MW-7	03	97
05/19/98	MW-8	04	94
QC Limits:			70-130

DATE ANALYZED: 05/18/98
SAMPLE SPIKED: 9805103-02
INSTRUMENT: F

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	200	96	8	70-130	20
Toluene	200	99	8	70-130	20
Ethylbenzene	200	100	9	70-130	20
Total Xylenes	600	100	8	70-130	20

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

*** END OF REPORT ***

Reporting Information:

1. Client: Hydro Environ Tech.
Address: 2394 Mariner Sq. #2
Alameda Cal. 94501
Contact: Gary Pischke
Alt. Contact:

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

Page 1 of 2

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: ~~9805102 BB~~ 9805103
Lab Destination:
Date Samples Shipped:
Lab Contact:
Date Results Required: 5/20/98
Date Report Required: 5/22/98
Client Phone No.: 510-521-2684
Client FAX No.: 510-521-5078

Address Report To:

2. Hydro Environ Tech.

Send Invoice To: R-3 S-1 R-5 S-N

3. Mariner Square Assoc.
c/o Hydro Environ Tech.

Send Report To: (1) or 2 (Circle one)

Client P.O. No.: _____ Client Project I.D. No.: 7-285.1

Sample Team Member (s) Gary Pischke

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: TPHg (BTEX/MTBE)	TPHd	TPHmo	PNAs	Oxy's Chlorides	Comments / Hazards
9805102	MW-1		5/8 10:27a	7	HCL	6	VOA	X				X	Notes:
	MW-1		5/8 10:16a	7	~~HCL~~	2	Amb		X	X	X		TPHd use
	MW-2		5/8 2:26p	7	HCL	6	VOA	X				X	Filtration &
	MW-2		5/8 2:15p	7	—	2	Amb		X	X	X		Silica gel
	MW-3		5/8 1:51p	7	HCL	6	VOA	X				X	
	MW-3		5/8 1:37p	7	~~HCL~~	2	Amb		X	X	X		
	MW-4 1ABCDEF		5/8 3:15p	7	HCL	6	VOA	X				X	
	MW-4 1GH		5/8 3:03p	7	~~HCL~~	2	Amb		X	X	X		
	MW-5 2ABCDEF		5/8 5:03p	7	HCL	6	VOA	X				X	
	MW-5 2GH		5/8 4:49p	7	—	2	Amb		X	X	X		
	MW-7 3ABCDEF		5/8 4:18p	7	HCL	6	VOA	X				X	
	MW-7 3GH		5/8 4:06p	7	—	2	Amb		X	X	X		
	MW-8 4ABCDEF		5/8 9:41a	7	HCL	6	VOA	X				X	
	MW-8 4GH		5/8 9:33a	7	—	2	Amb		X	X	X		

Relinquished by: (Signature) Gary Pischke	DATE 5/11/98	TIME 10:52a	Received by: (Signature) Rick Gilmore
Relinquished by: (Signature) Rick Gilmore	DATE 5-11-98	TIME 13:20	Received by: (Signature) Paul C Ridole
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)
Method of Shipment			Lab Comments

	DATE	TIME
Received by: (Signature) Rick Gilmore	5-11-98	10:52
Received by: (Signature) Paul C Ridole	5/11/98	1320
Received by: (Signature)	DATE	TIME

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. _____ pore size _____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other _____ 11) Other _____

2nd Qtr '98

American Environmental Network

Certificate of Analysis

DOHS Certification: 1172 AIHA Accreditation: 11134

RECEIVED JUN 1 2 1998

HYDRO ENVIRONMENTAL TECH
2394 MARINER SQUARE DR. STE 2
ALAMEDA, CA 94501

ATTN: GARY PISCHKE
CLIENT PROJ. ID: 7-285.1 <
CLIENT PROJ. NAME: MARINER SQUARE

REPORT DATE: 06/10/98
DATE(S) SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
AEN WORK ORDER: 9805104

PROJECT SUMMARY:

On May 11, 1998, this laboratory received 1 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.

Reviewed by:

William Sabatka

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-9
AEN LAB NO: 9805104-01
AEN WORK ORDER: 9805104
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED
#Sample Filtration	GFF 0.7 um	-		Filtr Date	05/12/98
BTEX & Gasoline HCs	EPA 8020				
Benzene	71-43-2	ND	0.5	ug/L	05/19/98
Toluene	108-88-3	ND	0.5	ug/L	05/19/98
Ethylbenzene	100-41-4	ND	0.5	ug/L	05/19/98
Xylenes, Total	1330-20-7	ND	2	ug/L	05/19/98
Purgeable HCs as Gasoline	5030/GCFID	0.07 *	0.05	mg/L	05/19/98
Methyl t-Butyl Ether	1634-04-4	16 *	5	ug/L	05/19/98
#Silica gel Cleanup	EPA 3630M	-		Cleanup	05/26/98
#Extraction for TPH	EPA 3510	-		Extrn Date	05/21/98
TPH as Diesel	GC-FID	0.13 *	0.05	mg/L	05/27/98
TPH as Oil	GC-FID	ND	0.2	mg/L	05/27/98
#Extraction for PNAs	EPA 3520	-		Extrn Date	05/12/98
PNAs by EPA 8270	EPA 8270				
Acenaphthene	83-32-9	ND	6	ug/L	05/19/98
Acenaphthylene	208-96-8	ND	6	ug/L	05/19/98
Anthracene	120-12-7	ND	6	ug/L	05/19/98
Benzo(a)anthracene	56-55-3	ND	6	ug/L	05/19/98
Benzo(b)fluoranthene	205-99-2	ND	6	ug/L	05/19/98
Benzo(k)fluoranthene	207-08-9	ND	6	ug/L	05/19/98
Benzo(g,h,i)perylene	191-24-2	ND	6	ug/L	05/19/98
Benzo(a)pyrene	50-32-8	ND	6	ug/L	05/19/98
Chrysene	218-01-9	ND	6	ug/L	05/19/98
Dibenzo(a,h)anthracene	53-70-3	ND	6	ug/L	05/19/98
Fluoranthene	206-44-0	ND	6	ug/L	05/19/98
Fluorene	86-73-7	ND	6	ug/L	05/19/98
Indeno(1,2,3-cd)pyrene	193-39-5	ND	6	ug/L	05/19/98
Naphthalene	91-20-3	ND	6	ug/L	05/19/98
Phenanthrene	85-01-8	ND	6	ug/L	05/19/98
Pyrene	129-00-0	ND	6	ug/L	05/19/98
EPA 8010 - Water matrix	EPA 8010				
Vinyl Chloride	75-01-4	ND	2	ug/L	05/19/98

HYDRO ENVIRONMENTAL TECH

SAMPLE ID: MW-9
AEN LAB NO: 9805104-01
AEN WORK ORDER: 9805104
CLIENT PROJ. ID: 7-285.1

DATE SAMPLED: 05/08/98
DATE RECEIVED: 05/11/98
REPORT DATE: 06/10/98

ANALYTE	METHOD/ CAS#	RESULT	REPORTING LIMIT	UNITS	DATE ANALYZED

Reporting limits for PNAs 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

AEN (CALIFORNIA)
QUALITY CONTROL REPORT

AEN JOB NUMBER: 9805104
CLIENT PROJECT ID: 7-285.1

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 behaviour, 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.

QUALITY CONTROL REPORT

ANALYSIS: Extractable TPH

MATRIX: Water

METHOD BLANK SAMPLES

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

LAB ID: BLKW-0521-1
PREPARED: 05/21/98
ANALYZED: 05/26/98

INSTR RUN: GC C\980501000000/389/
BATCH ID: DSCW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		ND		0.05						
Motor Oil		ND		0.2						
n-Pentacosane	(surr)	109.0			100	109	60	130		

LABORATORY CONTROL SAMPLES

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

LAB ID: LCDW-0521-1
PREPARED: 05/21/98
ANALYZED: 05/26/98

INSTR RUN: GC C\980501000000/391/389
BATCH ID: DSCW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.55	ND	0.05	2.00	77.5	60	130		
n-Pentacosane	(surr)	104.7	109.0		100	105	60	130		

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

LAB ID: LCSW-0521-1
PREPARED: 05/21/98
ANALYZED: 05/26/98

INSTR RUN: GC C\980501000000/390/389
BATCH ID: DSCW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.71	ND	0.05	2.00	85.5	60	130		
n-Pentacosane	(surr)	106.8	109.0		100	107	60	130		

LABORATORY CONTROL DUPLICATES

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

LAB ID: LCRW-0521-1
PREPARED: 05/21/98
ANALYZED: 05/26/98

INSTR RUN: GC C\980501000000/392/390
BATCH ID: DSCW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF. RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Diesel		1.55	1.71	0.05					9.82	20
Motor Oil		ND	ND	0.2					0	
n-Pentacosane	(surr)	104.7	106.8		100	105	60	130		

SAMPLE SURROGATES

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

LAB ID: 9805104-01G
PREPARED: 05/21/98
ANALYZED: 05/27/98

INSTR RUN: GC C\980501000000/415/
BATCH ID: DSCW052198-1
DILUTION: 1.000000

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
n-Pentacosane	(surr)	102.9			100	103	60	130		

ANALYSIS: PNAs by EPA 8270

MATRIX: Water

METHOD BLANK SAMPLES

SAMPLE TYPE: Blank-Method/Media blank
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: BLNK 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/1/
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	80.4			100	80.4	58	109		
2-Fluorobiphenyl	(surr)	86.1			100	86.1	62	133		
Terphenyl-d14	(surr)	89.6			100	89.6	59	135		
Acenaphthene		ND								
Pyrene		ND								
Acenaphthylene		ND								
Anthracene		ND								
Benzo(a)anthracene		ND								
Benzo(b)fluoranthene		ND								
Benzo(k)fluoranthene		ND								
Benzo(g,h,i)perylene		ND								
Benzo(a)pyrene		ND								
Chrysene		ND								
Dibenzo(a,h)anthracene		ND								
Fluoranthene		ND								
Fluorene		ND								
Indeno(1,2,3-cd)pyrene		ND								
Naphthalene		ND								
Phenanthrene		ND								

LABORATORY CONTROL SAMPLES

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCD 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/3/1
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	88.4	80.4		100	88.4	58	109	.	
2-Fluorobiphenyl	(surr)	89.7	86.1		100	89.7	62	133		
Terphenyl-d14	(surr)	84.4	89.6		100	84.4	59	135		
Acenaphthene		91.1	ND		100	91.1	58	139		
Pyrene		81.9	ND		100	81.9	40	130		

SAMPLE TYPE: Laboratory Control Spike
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCS 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/2/1
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	91.2	80.4		100	91.2	58	109		
2-Fluorobiphenyl	(surr)	93.2	86.1		100	93.2	62	133		
Terphenyl-d14	(surr)	90.0	89.6		100	90.0	59	135		
Acenaphthene		89.2	ND		100	89.2	58	139		
Pyrene		76.9	ND		100	76.9	40	130		

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCR 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/4/2
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	REC LIMITS (%) HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	88.4	91.2		100	88.4	58	109		

ANALYSIS: PNAs by EPA 8270

MATRIX: Water

LABORATORY CONTROL DUPLICATES

SAMPLE TYPE: Laboratory Control Sample Duplicate
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: LCR 0512
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/4/2
BATCH ID: BNAW051298
DILUTION: 1.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
2-Fluorobiphenyl	(surr)	89.7	93.2		100	89.7	62	133		
Terphenyl-d14	(surr)	84.4	90.0		100	84.4	59	135		
Acenaphthene		91.1	89.2		100				2.11	30
Pyrene		81.9	76.9		100				6.30	30

SAMPLE SURROGATES

SAMPLE TYPE: Sample-Client
INSTRUMENT: HP-5890 for Semi-volatiles
UNITS: ug/L
METHOD:

LAB ID: 9805104-01H
PREPARED: 05/12/98
ANALYZED: 05/19/98

INSTR RUN: GCMS10\980512080000/8/
BATCH ID: BNAW051298
DILUTION: 2.00

ANALYTE		RESULT	REF RESULT	REPORTING LIMIT	SPIKE VALUE	RECOVERY (%)	REC LIMITS (%) LOW	HIGH	RPD (%)	RPD LIMIT (%)
Nitrobenzene-d5	(surr)	98.2			100	98.2	58	109		
2-Fluorobiphenyl	(surr)	104			100	104	62	133		
Terphenyl-d14	(surr)	101			100	101	59	135		

QUALITY CONTROL DATA

METHOD: EPA 8010

AEN JOB NO: 9805104
INSTRUMENT: G
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Bromochloro-methane	Percent Recovery 1-Bromo-3-chloro-propane
05/19/98	MW-9	01	88	128
QC Limits			70-130	70-130

DATE ANALYZED: 05/18/98
SAMPLE SPIKED: LCS
INSTRUMENT: G

Laboratory Control Sample Recovery

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
1,1-Dichloroethene	25	84	8	70-130	20
Trichloroethene	25	108	7	70-130	20
Chlorobenzene	25	86	9	70-130	20
Benzene	25	110	4	70-130	20
Toluene	25	109	4	70-130	20

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

QUALITY CONTROL DATA

METHOD: EPA 8020, 5030 GCFID

AEN JOB NO: 9805104
INSTRUMENT: F
MATRIX: WATER

Surrogate Standard Recovery Summary

Date Analyzed	Client Id.	Lab Id.	Percent Recovery Fluorobenzene
05/19/98	MW-9	01	95
QC Limits:			70-130

DATE ANALYZED: 05/19/98
SAMPLE SPIKED: 9805104-01
INSTRUMENT: F

Matrix Spike Recovery Summary

Analyte	Spike Added (ug/L)	Percent Recovery	RPD	QC Limits Percent Recovery	QC Limits RPD
Benzene	200	93	7	70-130	20
Toluene	200	96	7	70-130	20
Ethylbenzene	200	97	6	70-130	20
Total Xylenes	600	98	7	70-130	20

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

*** END OF REPORT ***

[redacted]ling [redacted]ation:

1. Client: Hydro Enviro Tech
Address: 2394 Mariner Sq. #2
Alameda Cal. 94501
Contact: Gary Pischke
Alt. Contact:

Address Report To:

2. Hydro Enviro Tech

Send Invoice To: R-3 S-1 R-5 S-N

3. Mariner Square Assoc
c/o Hydro Enviro Tech

Send Report To: 1 or 2 (Circle one)

Client P.O. No.: _____ Client Project I.D. No.: 7-285.1

Sample Team Member (s) Gary Pischke

American Environmental Network
3440 Vincent Road, Pleasant Hill, CA 94523
Phone (510) 930-9090
FAX (510) 930-0256

AEN

REQUEST FOR ANALYSIS / CHAIN OF CUSTODY

Lab Job Number: 9805104
Lab Destination:
Date Samples Shipped:
Lab Contact:
Date Results Required: 5/20/98
Date Report Required: 5/22/98
Client Phone No.: 510-521-2684
Client FAX No.: 510-521-5278

Lab Number	Client Sample Identification	Air Volume	Date/ Time Collected	Sample Type*	Pres.	No. of Cont.	Type of Cont.	ANALYSIS: TPH g BTEX (8020)	TPH d	TPH mo	PNAs	Vinyl Chloride	Comments / Hazards
1ABCDEF	MW-9		5/8 11:19a	7	HCl	6	VOA	X				X	Note: TPH d use filtration & silica gel
1GH	MW-9		5/8 11:10a	7	—	2	Amb		X	X	X		

Relinquished by: (Signature) Gary Pischke	DATE 5/11/98	TIME 10:52a	Received by: (Signature) Rich Gilmore
Relinquished by: (Signature) Rich Gilmore	DATE 5-11-98	TIME 13:20	Received by: (Signature) Paul C Richde
Relinquished by: (Signature)	DATE	TIME	Received by: (Signature)
Method of Shipment			Lab Comments

DATE	TIME
5-11-98	10:52
5/11/98	1320
DATE	TIME

*Sample type (Specify): 1) 37mm 0.8 µm MCEF 2) 25mm 0.8 µm MCEF 3) 25mm 0.4 µm polycarb. filter
4) PVC filter, diam. ____ pore size ____ 5) Charcoal tube 6) Silica gel tube 7) Water 8) Soil 9) Bulk Sample
10) Other ____ 11) Other ____

COPIES: WHITE - LAB FILE YELLOW - PROJECT FILE