



Monterey Apartments Ground Water Monitoring, October 1995 – November 1997

Summary

Ground water samples were collected from October 1995 to November 1997 from seven monitoring wells at the Monterey Apartments project site, which is located in the Queen Anne District of northwest Seattle. These samples were collected to define the current distribution and concentrations of a petroleum plume resulting from a past contaminant release.

Samples from monitoring wells MW-10, MW-9, VP-8, VP-7, MW-4, RW-2 and MW-6 (Figure 1) were collected and analyzed for benzene, toluene, ethylbenzene and xylene (BTEX), total petroleum hydrocarbons as gasoline (TPH-G), volatile organics (VOAs), as well as total recoverable lead. High BTEX concentrations were detected in six of the seven wells sampled. Well MW-6 was not sampled past January 1997 because it consistently contained a layer of free product floating on the ground water surface.

A summary of all results from October 1995 to November 1997 are shown in the attached table. Overall, concentrations are similar for most of the wells over the monitoring period. High BTEX concentrations were detected in six of the seven wells ranging in average concentration from 3,620 ppb (MW-9) to 45,000 ppb (MW-4). BTEX was also detected in well MW-10, which is the upgradient well for this project, but at concentrations near the method detection limit. The highest BTEX concentrations occurred in wells VP-7 and MW-4, with average concentrations of 24,000 ppb and 45,000 ppb, respectively. These wells are located about 180 feet from the former tank area and are the farthest downgradient wells for this project. TPH-G concentrations correlate with BTEX concentrations, ranging from an average concentration of 0.7 ppm (MW-10) to 98 ppm (MW-4). Lead was also detected in all of the wells. Lead concentrations over the monitoring period ranged from being near the detection limit in MW-10 to a high of 48 µg/L in RW-2.

Samples were also collected for volatile organics from select wells to assess possible migration of non-petroleum contaminants onto the project site. 1,3,5-Trimethylbenzene and 1,2,4-trimethylbenzene are the only volatile organics, other than BTEX, that were regularly detected in four of the sampled wells. High concentrations of both contaminants were detected in wells MW-9, MW-6, RW-2 and VP-8. Wells VP-7 and MW-4 were not sampled for volatile organics. Tetrachloroethene, trichloroethene and cis-1,2-dichloroethene were detected primarily in well VP-8. Concentrations in VP-8 ranged from not detected to maximum concentrations of 167 µg/L (PCE), 106 µg/L (TCE) and 483 µg/L (cis-1,2-DCE).

Background

In 1986 Ecology was notified that residents of Monterey and Del Roy Apartments in the Queen Anne District of northwest Seattle had experienced problems from petroleum vapors since the late 1970s. Ecology conducted an initial investigation, which identified the adjacent Express filling station as the most probable source of the vapors (Figure 1). A two-foot thick layer of fuel was discovered floating on the shallow ground water beneath the Express station site. In response to the initial investigation, two recovery wells were installed. Due to poor product recovery the wells were shut down. In 1993 all underground tanks were removed and a spray aeration vapor extraction system was installed. Ground water monitoring was conducted from October 1995 to November 1997 to define the current distribution and concentrations of the petroleum plume. Samples were also collected for volatile organics to assess possible migration of non-petroleum contaminants onto the project site.

The project area, as determined by drilling logs, is underlain by an average of one to eight feet of construction-related fill material, overlying about 15 to 20 feet of sand, silty sand, and sandy silt. These units lie above an undetermined thickness (greater than 23 feet) of gray, silty clay. Depth to the ground water table beneath the Monterey Apartments project site ranges from approximately 10 to 20 feet below ground surface. The saturated zone exists within the sand unit above the clay which locally acts as a basal confining unit to vertical ground water flow, thereby creating a perched ground water condition. The ground water flow is to the west-southwest, in the direction of Puget Sound (Ecology & Environment 1991).

Results

Field Observations

Over the monitoring program ground water samples were collected from seven monitoring wells: MW-10, MW-9, VP-8, VP-7, MW-4, RW-2 and MW-6. Well MW-6 was not sampled past January 1997 because it consistently contained a layer of free product floating on the ground water surface. Over the sampling period petroleum product thickness averaged one foot, with a

maximum thickness of three feet in April 1997. A small amount of product was bailed from MW-10 in October 1995. Product was not present in this well in subsequent sampling. Depth-to-water measurements, purge volume, pH, specific conductance, and temperature results for the monitoring period are listed in Table 1.

Table 1: Summary of Field Parameters Results for October 1995 to November 1997

	<i>MW-10</i>	<i>MW-9</i>	<i>RW-2</i>	<i>VP-8</i>	<i>VP-7</i>	<i>MW-4</i>	<i>MW-6</i>
Total Depth (feet)	29.26	28.07	21.52	17.99	17.38	17.58	28.43
Depth to Water (feet)	12.6-14.02	18.37-21.13	7.46-13.15	9.55-12.81	8.53-10.67	10.2-12.24	20.4-21.32
pH (standard units)	6.4-7.4	6.4-7.1	6.3-6.7	6.5-7.1	6.5-7.2	6.5-7.1	6.7-7.1
Spec. Conductance (umhos/cm)	420-720	675-1050	202-400	212-380	490-700	650-880	800-870
Temperature (°C)	14.2-17.6	14.3-17.7	10.4-14.5	11.3-16	12.4-16.4	13.4-17.0	12.8-14.8
Purge Volume (gal)	8	3-5	12-55	2-4	3-8	3-5	3-4.5

All wells exhibited slight to strong hydrocarbon odors. Water levels in wells MW-10, MW-9 and VP-8 dropped moderately (3-feet) while purging. VP-8 was purged dry in April 1997. The water level dropped substantially (as much as 10 feet) in RW-2 when purged with a submersible pump. These wells are screened in fine sandy silts and silty clay. Purge water from some of the wells had an oily sheen and more viscose appearance. A PVC sleeve was placed over the cracked well casing of VP-8 to prevent surface runoff collecting in the outer protective casing from seeping into the well. In January, a gelatinous material was removed from this well during purging. Ground water removed from this well in subsequent sampling had a cleaner physical appearance.

Analytical Results

A summary of all results from October 1995 to November 1997 are shown in Table 2. For comparison, results from March 1991 and July 1993 have also been included in Table 3. Laboratory reporting sheets and the quality assurance review for the November 1997 results are presented in Appendix A to complete the data set.

Overall, concentrations are similar for most of the wells over the monitoring period. Average BTEX concentrations from October 1995 to November 1997 were 11 ppb (MW-10), 3,620 ppb (MW-9), 24,000 ppb (VP-7), and 45,000 ppb (MW-4). BTEX concentrations in wells VP-8 and RW-2 were more inconsistent over the sampling period, with concentrations ranging from 23 ug/L to 3,284 ug/L in well VP-8 and from 100 ug/L to 9,850 ug/L in RW-2.

TPH-G concentrations correlate with BTEX concentrations. Average TPH-G concentrations for the monitoring period were 0.7 ppm (MW-10), 4.8 ppm (MW-9), 42 ppm (VP-7), and 98 ppm (MW-4). As with BTEX, TPH-G concentrations had a larger range in wells VP-8 and RW-2, from 0.8 mg/L to 18 mg/L and from 0.4 mg/L to 24 mg/L, respectively.

Lead was also detected in all of the wells. Lead concentrations ranged from not detected to 4.9 ug/L (MW-10), 3.3 ug/L to 8.6(J) ug/L (MW-9); 3.4(P) ug/L to 37 ug/L (VP-8), 3.4 ug/L to 9.3 ug/L (VP-7), 16.2 ug/L to 36.5 ug/L (MW-4), and 11 ug/L to 47.5 ug/L (RW-2).

Samples for volatile organics were collected from MW-10, MW-9, VP-8, RW-2 and MW-6. Volatile organic results are listed in Table 2. 1,3,5-Trimethylbenzene and 1,2,4-trimethylbenzene are the only volatile organics, other than BTEX, that were regularly detected in four of the wells that were sampled. 1,3,5-Trimethylbenzene concentrations ranged from 18 µg/L to 69 µg/L (MW-9); 6 µg/L to 170 µg/L (VP-8); 17 µg/L to 255 µg/L (RW-2) and 334 µg/L to 3,710 µg/L (MW-6). 1,2,4-Trimethylbenzene concentrations ranged from 116 µg/L to 425 µg/L (MW-9); 19 µg/L to 290 µg/L (VP-8); 8 µg/L to 681 µg/L (RW-2) and 1,070 µg/L to 1,140 µg/L (MW-6). Tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (cis-1,2-DCE) were detected primarily in well VP-8. Concentrations in VP-8 ranged from not detected to maximum concentrations of 167 µg/L (PCE), 106 µg/L (TCE) and 483 µg/L (cis-1,2-DCE). All three contaminants were detected near the quantitation limit in the October 1995 sample from MW-6. TCE was also detected in MW-10 below the quantitation limit of 1 µg/L in October.

Discussion and Conclusions

Overall, concentrations from October 1995 to November 1997 are similar for most of the wells. High BTEX concentrations were detected in six of the seven wells ranging in average concentration from 3,620 ppb (MW-9) to 45,000 ppb (MW-4). BTEX was also detected in well MW-10, which is considered the upgradient well for this project, but at concentrations near the method detection limit. The highest BTEX concentrations occurred in wells VP-7 and MW-4, with average concentrations of 24,000 ppb and 45,000 ppb, respectively. These wells are located about 180 feet from the former tank area and are the farthest downgradient wells for this project.

BTEX results from RW-2 continue to be surprisingly low considering that RW-2 is located between wells MW-6 and MW-4. Well MW-6 consistently had a layer of product and MW-4 had an average total BTEX concentration of 45,000 ppb. BTEX results from RW-2 did increase from 100 ppb in January to 9,850 in July 1997. Lower BTEX concentrations could be due to the wells close proximity to the vapor extraction system.

The PVC sleeve placed over the cracked well casing of VP-8 to prevent surface runoff collecting in the outer protective casing from seeping into the well appears to be working. In January, a gelatinous material was removed from this well during purging. Ground water removed from this

well in subsequent sampling had a cleaner physical appearance. Because of the potential influence of surface runoff, data from this well should still be used with caution.

Methods

Ground Water Sampling

Ground water samples were collected five times over a two-year period to define the current distribution and concentrations of the petroleum plume. Samples were collected for the gasoline components of benzene, toluene, ethylbenzene, xylene (BTEX), total lead and total petroleum hydrocarbons as gasoline (TPH-G) from seven monitoring wells. Samples were also collected for volatile organics analysis from five monitoring wells.

Prior to sampling, static water level measurements were obtained from monitoring wells using an electric water level probe. The probe was rinsed with deionized water and wiped clean between measurements. All wells, with the exception of RW-2, were purged and sampled with decontaminated teflon bailers. Well RW-2 was purged with a submersible pump and sampled with a clean bailer. Wells were purged until pH, specific conductance and temperature readings stabilized (changes of 10% or less between well volumes), and a minimum of three well volumes had been removed. All purge water was collected and processed through the SAVE system.

All samples were collected using decontaminated, bottom-emptying teflon bailers. Bailers were pre-cleaned with sequential washes of Liquinox®, hot tap water, 10% nitric acid, distilled-deionized water and pesticide-grade acetone. After cleaning, bailers were air-dried and wrapped in aluminum foil. Samples for BTEX, TPH-G and VOAs were collected free of headspace in three 40-mL glass vials with teflon-lined septa lids and preserved with 1:1 hydrochloric acid. Samples for total lead were collected in 1L polyethylene bottles and acidified with nitric acid to a pH < 2.

Chain-of-custody procedures were followed in accordance with Manchester Laboratory protocol (Ecology, 1994). The Ecology/EPA Laboratory in Manchester analyzed all samples.

Quality Assurance

In general, the quality of the data is acceptable for use for all sample rounds. Quality control samples collected in the field consisted of blind duplicate samples. In January, a duplicate sample was collected from MW-9 (MW-9A) and in July and November 1997 from VP-7 (MW-7A). Duplicate samples provide an estimate of combined sampling and laboratory precision. The numeric comparison of duplicate results is expressed as the relative percent difference or RPD. RPDs are the ratio of the difference and the mean of the duplicate results expressed as a

percentage. The RPDs for all analytes in January were within 5% and in July within 10%. RPDs for November 1997 were higher with BTEX within 25% and TPH-G at 38%. In addition to field quality control samples, surrogate compound recoveries, matrix spikes, and matrix spike duplicates were performed in the laboratory. Low levels of common laboratory solvents were detected in some of the laboratory blanks. However, these analytes were not detected in the field samples. Overall, surrogate recoveries were within acceptable limits of 50-150% for water samples. High levels of hydrocarbons in some samples did interfere with accurate quantitation of some surrogates. Matrix spike and spike duplicate recoveries were within acceptable limits of +/-25%.

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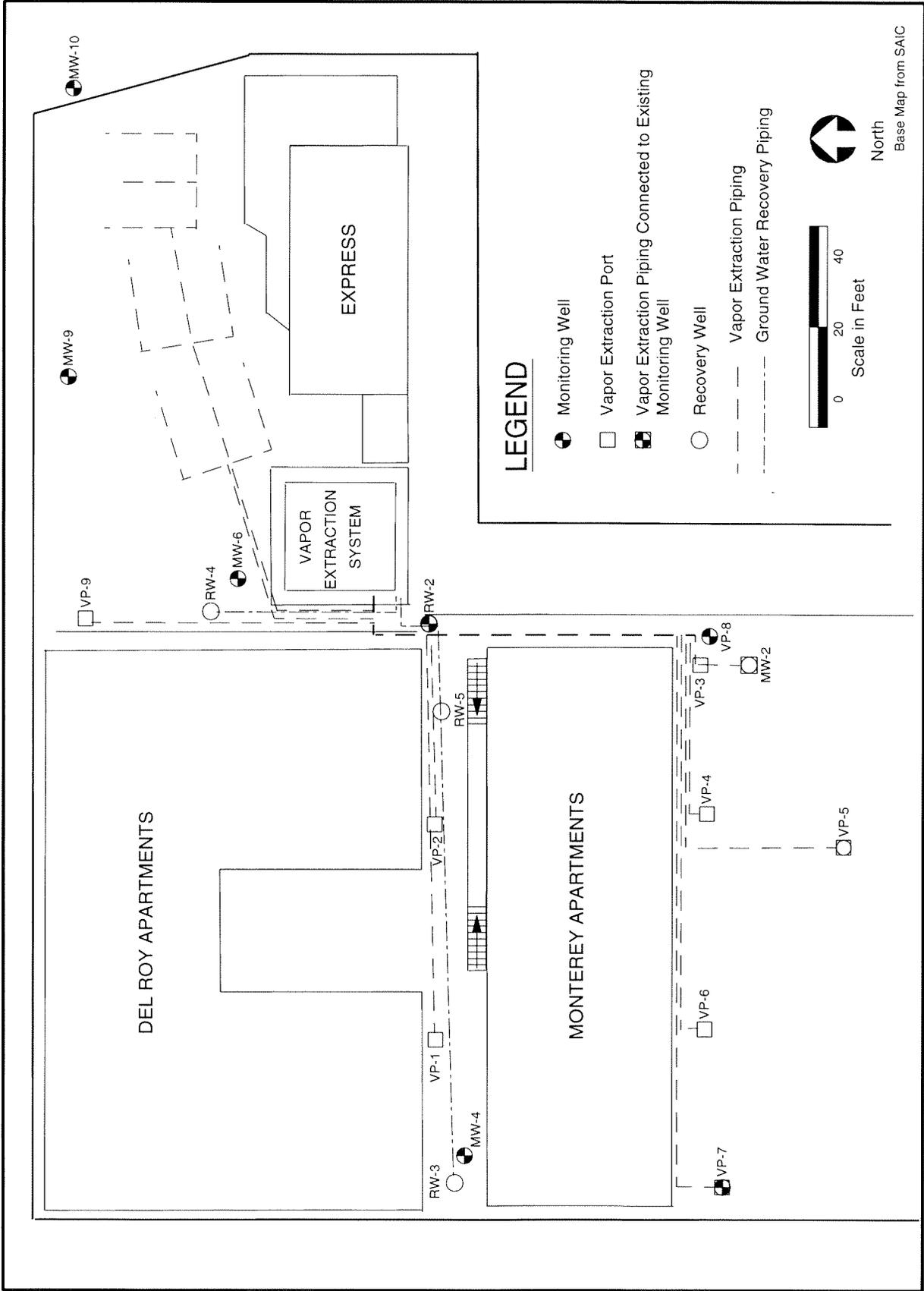


Figure 1: Monterey Apartments Ground Water Sample Locations

Table 2: Summary of Analytes Detected in Samples Collected in October 1995, January, April, July and November 1997

Monitoring Well	MW-10				MW-9				RW-2						
	Oct-95	Jan-97	Apr-97	Jul-97	Nov-97	Oct-95	Jan-97	Apr-97	Jul-97	Nov-97	Oct-95	Jan-97	Apr-97	Jul-97	Nov-97
<u>Volatile Organics: (ug/L)</u>															
Benzene	1.8	1.5	5.1	10	4.2	3520	2600	2980	2680	2010	--	31	189	4230	3140
Toluene	2.9	1 U	1.0	2.1	2.0	70 J	53	173	127	80	--	14	243	2490	1200
Ethylbenzene	0.82 J	1 U	1 U	2.4	4.8	200 U	310	413	460	334	--	6	99	398	338
Total Xylene m & p-Xylene	5.6	2 U	2.0 J	3.8	1.6	312 J		554	561	356	--	31	540	1960	1670
o-Xylene	1 U	1 U	1.4 U	0.54 J	0.6 J	15	120	59 J	44	44	--	18	203	772	595
Total BTEX	11.1	1.5	8.1	18.8	13.2	3902	3248	4240	3887	2824	--	100	1274	9850	6943
Tetrachloroethene	1 U	--	--	--	--	--	--	1 U	100 U	1 U	--	1 U	1 U	25 U	1 U
Trichloroethene	0.7 J	--	--	--	--	--	--	1 U	100 U	1 U	--	1 U	1 U	25 U	1 U
cis-1,2-Dichloroethene	1 U	--	--	--	--	--	--	1 U	200 U	1 U	--	1 U	1 U	50 U	1 U
1,3,5-Trimethylbenzene	1 U	--	--	--	--	--	--	68.6 J	18 J	24	--	17	150	255	246
1,2,4-Trimethylbenzene	1 U	--	--	--	--	--	--	425 J	287	116	--	7.6	364	681	671
2-Butanone	2 U	--	--	--	--	--	--	2 U	99 J		--	2 U	2 U	50 U	
4-Methyl-2-Pentanone	2 U	--	--	--	--	--	--	2 U	400 U	1.4 J	--	2 U	2 U	100 U	2 U
TPH-G (mg/L)	0.78	0.18	0.42	1.1	1.0	3.4	4.4	9.1	2.2 J	5.0	--	0.39	11	24	4.4
<u>Metals: (ug/L)</u>															
Lead	1 U	--	1 U	1.2 J	4.9	4.6 P	--	6.8	8.6 J	3.3	--	11	18.2	47.5	15.4

E = The concentration of the associated value exceeds the known calibration range.

U = The analyte was not detected at or above the reported value.

J = The analyte was positively identified. The associated numerical result is an estimate.

P = The analyte was detected above the instrument detection limit but below the established minimum quantitation limit.

-- = Not Tested

Table 2: Summary of Analytes Detected continued.

Monitoring Well	VP-8 (MW-7)			VP-7 (MW-3)			MW-4				MW-6						
	Oct-95	Jan-97	Apr-97	Jul-97	Nov-97	Oct-95	Jan-97	Apr-97	Jul-97	Nov-97	Oct-95	Jan-97					
<u>Volatile Organics: (ug/L)</u>																	
Benzene	2.5	816	605	96	5.6	11700	12400	11100	11000	15900	19600E	12900	14300	19600	17500	12000E	7290
Toluene	1.2	824	786	246	7	2330	5200	4800	3700	3600	12000	12400	14500	19700	16000	13800E	12400
Ethylbenzene	3	26	119	52	11	1070	990	1400	1500	1500	2070	1400	1700	2100	1900	920	2340
Total Xylene m & p-Xylene	16	412	1260	706	23	4130	3700	5400	5200	4800	10800	7500	7800	9300	8800	4170	14200
o-Xylene	182	514	274	9.6			1500	2200	1900	1800	3100	3200	3800	3400	1520	5600	5600
Total BTEX	23	2260	3284	1374	56.2	19230	23790	24900	23300	27600	44470	37300	41500	54500	47600	32410	41830
Tetrachloroethene	167	10 U	10 U	53	120	--	--	--	--	--	--	--	--	--	--	1.6	1000 U
Trichloroethene	69	10 U	10 U	80	106	--	--	--	--	--	--	--	--	--	--	2.3	1000 U
cis-1,2-Dichloroethene	26	10 U	5.1 J	483	135	--	--	--	--	--	--	--	--	--	--	2.9	1000 U
1,3,5-Trimethylbenzene	6.2	111	170	143	15	--	--	--	--	--	--	--	--	--	--	334	3710
1,2,4-Trimethylbenzene	19	109	290	282	27	--	--	--	--	--	--	--	--	--	--	1140	1070
2-Butanone	2 U	21	13 J	8.6		--	--	--	--	--	--	--	--	--	--	15 J	2000 U
4-Methyl-2-Pentanone	2 U	7.1 J	7 J	10 U	2 U	--	--	--	--	--	--	--	--	--	--	2 U	2000 U
TPH-G (mg/L)	3.1	8	18	9.1 J	0.83 J	33	51	53	37	34	95	88	100	120	89	62	54
<u>Metals: (ug/L)</u>																	
Lead	3.4 P	37	24.6	23	12.7	5.6 P	9.3	3.4	4.3 J	5.0	30.6	36.5	20.7	19.5	16.2	33.3	61.9

E = The concentration of the associated value exceeds the known calibration range.

U = The analyte was not detected at or above the reported value.

J = The analyte was positively identified. The associated numerical result is an estimate.

P = The analyte was detected above the instrument detection limit but below the established minimum quantitation limit.

-- = Not Tested

Table 3: Summary of Analytes Detected in Samples Collected in March 1991 and July 1993

Monitoring Well	MW-10		MW-9		RW-2		VP-8 (MW-7)		VP-7 (MW-3)		MW-4		MW-6	
	Mar-91	Jul-93	Mar-91	Jul-93	Mar-91	Jul-93	Mar-91	Jul-93	Mar-91	Jul-93	Mar-91	Jul-93	Mar-91	Jul-93
Benzene	5 U	13	1,600	--	19,000	--	280	220	3,700	4,700	10,000	--	25,000	--
Toulene	5 U	5 U	2,900	--	46,000	--	510	210	1,600	2,000	12,000	--	29,000	--
Ethylbenzene	5 U	11	250 U	--	2,500	--	130	61	740	910	500	--	2,500	--
Xylene	5 U	24	3,100	--	120,000	--	1,100	480	3,500	3,600	9,800	--	19,000	--
Total BTEX	ND	48	7,600	--	187,500	--	2,020	971	9,540	11,210	32,300	--	75,500	--
Trichloroethene	5 U	--	250 U	--	--	--	170	--	67 J	--	--	--	--	--
Tetrachloroethene	5 U	--	250 U	--	--	--	140	--	29 J	--	--	--	--	--
Carbon Disulfide	5 U	--	1,600 J	--	--	--	50 U	--	120 U	--	--	--	--	--
Acetone	10 U	--	500 UJ	--	--	--	100 UJ	--	310 J	--	--	--	--	--
Hexane	7 J	--	ND	--	--	--	ND	--	200 J	--	--	--	--	--
1,2-Dichloroethene	5 U	--	250 U	--	--	--	50 U	--	470	--	--	--	--	--

U = The analyte was not detected at or above the reported value.

J = The analyte was positively identified. The associated numerical result is an estimate.

-- = Not Tested

APPENDIX A

Analytical Results
Monterey Apartments
November 18-19, 1997

Manchester Environmental Laboratory

7411 Beach Drive E, Port Orchard Washington 98366

CASE NARRATIVE

December 4, 1997

Subject: Monterey Apts.
Samples: 167597
Project ID: 97478041 through 97478043
Project Officer: Pam Marti
By: Karin Feddersen KF

VOLATILE ORGANIC ANALYSIS

SUMMARY:

High concentrations (exceeding the calibration range) of some analytes were detected. in

Use the dilution analysis (DIL1) of sample 9748041 for Benzene, Toluene, Ethylbenzene, m,p- Xylene, 1,2,4-Trimethylbenzene and Naphthalene. Use the results from the original analysis for all other analytes.

Use the dilution (DIL1) analysis results of sample 9748042 for cis-1,2-Dichloroethene, Trichloroethene and Tetrachloroethene. Use the results from the original analysis for all other analytes.

Use the value from the first dilution (DIL1) analysis results of 9748043 for Toluene, Ethylbenzene, m,p- Xylene, o-Xylene, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene and Naphthalene. Use the second dilution analysis results (DIL2) for Benzene. Use the original results for all other analytes.

The data is usable as reported.

ANALYTICAL METHODS:

Volatile organic compounds were analyzed using the Manchester modification of the EPA Method 8260 purge-trap procedure with capillary GC/MS analysis. Routine QA/QC procedures were performed.

BLANKS:

Low levels of certain target compounds were detected in the laboratory blanks. If the on-column concentrations of the compounds in a sample are at least five times greater than the on-column concentrations of the same compounds detected in the associated method blank, they are considered native to the sample.

SURROGATES:

Surrogate recoveries were within acceptable limits for the samples.

HOLDING TIMES:

The samples were analyzed within the recommended 14 day holding time.

MATRIX SPIKE AND MATRIX SPIKE DUPLICATE:

Matrix spikes recoveries were within acceptable limits for all analytes with one exception which does not affect the results.

DATA QUALIFIER CODES:

- U - The analyte was not detected at or above the reported value.
- J - The analyte was positively identified. The associated numerical value is an estimate.
- UJ - The analyte was not detected at or above the reported estimated result.
- REJ - The data are unusable for all purposes.
- NAF - Not analyzed for.
- N - There is evidence the analyte is present in the sample.
- NJ - There is evidence that the analyte is present. The associated numerical result is an estimate.
- E - This qualifier is used when the concentration of the associated value exceeds the known calibration range. The associated numerical result is an estimate.
- bold** - The analyte was present in the sample. (Visual Aid to locate detected compounds on report sheet.)

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478041

Date Received: 11/20/97

Method: SW8260

Field ID: MW-9

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Chloroacetonitrile	5	U
Chloromethane	1	U	Cis-1,3-Dichloropropene	1.1	U
Vinyl Chloride	1	U	4-Methyl-2-Pentanone	1.4	J
Bromomethane	1	U	1,1-Dichloropropanone	1	U
Chloroethane	1	U	Toluene	92	E
Trichlorofluoromethane	1	U	Trans-1,3-Dichloropropene	.94	U
Ethyl Ether	1	U	Ethylmethacrylate	1	U
1,1,2 Trichlorotrifluoroethane	1	U	1,1,2-Trichloroethane	1	U
1,1-Dichloroethene	2	U	1,3-Dichloropropane	1	U
Acetone	4	U	2-Hexanone	2	U
Methyl Iodide	1	U	Tetrachloroethene	1	U
Carbon Disulfide	2	U	Dibromochloromethane	1	U
Allyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Methylene Chloride	1	U	Chlorobenzene	1	U
Acrylonitrile	5	U	1,1,1,2-Tetrachloroethane	1	U
2-Methoxy-2-Methylpropane	1	U	Ethylbenzene	322	E
Trans-1,2-Dichloroethene	1	U	m & p-Xylene	407	E
1,1-Dichloroethane	1	U	o-Xylene	44	
2-Butanone	2	U	Styrene	1	U
Cis-1,2-Dichloroethene	1	U	Bromoform	1	U
2,2-Dichloropropane	1	U	Isopropylbenzene (Cumene)	19	
Methyl acrylate	1	U	1,1,2,2-Tetrachloroethane	1	U
Methacrylonitrile	1	U	Trans-1,4-Dichloro-2-butene	2	U
Bromochloromethane	1	U	1,2,3-Trichloropropane	1	U
Chloroform	1	U	Bromobenzene	1	U
Tetrahydrofuran	5	U	n-Propylbenzene	37	
1,1,1-Trichloroethane	1	U	2-Chlorotoluene	1	U
1-Chlorobutane	1	U	1,3,5-Trimethylbenzene	24	
1,1-Dichloropropene	1	U	4-Chlorotoluene	1	U
Carbon Tetrachloride	1	U	Tert-Butylbenzene	1	U
1,2-Dichloroethane	1	U	1,2,4-Trimethylbenzene	153	E
Benzene	826	E	Pentachloroethane	1	U
Trichloroethene	1	U	Sec-Butylbenzene	1	U
1,2-Dichloropropane	1	U	p-Isopropyltoluene	6.1	
Methyl Methacrylate	1	U	1,3-Dichlorobenzene	1	U
Dibromomethane	1	U	1,4-Dichlorobenzene	1	U
Bromodichloromethane	1	U	n-Butylbenzene	1	U
2-Nitropropane	1	U	1,2-Dichlorobenzene	1	U

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478041

Date Received: 11/20/97

Method: SW8260

Field ID: MW-9

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Analyte	Result	Qualifier
Hexachloroethane	1	U
1,2-Dibromo-3-Chloropropane	5	U
1,2,4-Trichlorobenzene	1	U
Hexachlorobutadiene	1	U
Naphthalene	145	E
1,2,3-Trichlorobenzene	1	U

Surrogate Recoveries

1,2-Dichloroethane-D4	101	%
1,4-Difluorobenzene	106	%
Toluene-D8	95	%
p-Bromofluorobenzene	105	%
1,2-Dichlorobenzene-D4	99	%

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478041

Date Received: 11/20/97

Method: SW8260

Field ID: MW-9

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Tentatively Identified Compounds

CAS Number	Analyte Description	Result	Qualifier
*3005001	Unknown Hydrocarbon 01	94	NJ
109682	2-Pentene	644	NJ
107835	Pentane, 2-Methyl-	300	NJ
287923	Cyclopentane(Dot)	364	NJ
96140	Pentane, 3-Methyl-	189	NJ
110543	Hexane(Dot)	90	NJ
625274	2-Pentene, 2-methyl	109	NJ
616126	2-Pentene, 3-Methyl-, (E)-	57	NJ
922623	2-Pentene, 3-methyl-, (Z)-	116	NJ
96377	Cyclopentane-Methyl	507	NJ
1759815	Cyclopentene, 4-Methyl-	122	NJ
110827	Cyclohexane	352	NJ
611143	Benzene, 1-Ethyl-2-Methyl-	99	NJ
620144	Benzene, 1-Ethyl-3-Methyl-	96	NJ
526738	Benzene, 1,2,3-Trimethyl-	75	NJ
27133933	2,3-Dihydro-1-methylindene	70	NJ
824226	1h-Indene, 2,3-Dihydro-4-Methyl-	75	NJ

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.		LIMS Project ID: 1675-97
Sample: 97478041 (Dilution - DIL1)	Date Received: 11/20/97	Method: SW8260
Field ID: MW-9		Matrix: Water
Project Officer: P. Marti	Date Analyzed: 11/25/07	Units: ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	100	U	Chloroacetonitrile	250	UJ
Chloromethane	50	U	Cis-1,3-Dichloropropene	53	U
Vinyl Chloride	50	U	4-Methyl-2-Pentanone	100	U
Bromomethane	50	UJ	1,1-Dichloropropanone	50	U
Chloroethane	50	UJ	Toluene	80	
Trichlorofluoromethane	50	U	Trans-1,3-Dichloropropene	47	U
Ethyl Ether	50	U	Ethylmethacrylate	50	U
1,1,2 Trichlorotrifluoroethane	50	U	1,1,2-Trichloroethane	50	U
1,1-Dichloroethene	100	U	1,3-Dichloropropane	50	U
Acetone	317	U	2-Hexanone	100	U
Methyl Iodide	50	U	Tetrachloroethene	50	U
Carbon Disulfide	100	U	Dibromochloromethane	50	U
Allyl Chloride	50	U	1,2-Dibromoethane (EDB)	50	U
Methylene Chloride	55	U	Chlorobenzene	50	U
Acrylonitrile	250	U	1,1,1,2-Tetrachloroethane	50	U
2-Methoxy-2-Methylpropane	50	U	Ethylbenzene	334	
Trans-1,2-Dichloroethene	50	U	m & p-Xylene	356	
1,1-Dichloroethane	50	U	o-Xylene	32	J
2-Butanone	100	U	Styrene	50	U
Cis-1,2-Dichloroethene	50	U	Bromoform	50	U
2,2-Dichloropropane	50	U	Isopropylbenzene (Cumene)	19	J
Methyl acrylate	50	U	1,1,2,2-Tetrachloroethane	50	U
Methacrylonitrile	50	U	Trans-1,4-Dichloro-2-butene	100	U
Bromochloromethane	50	U	1,2,3-Trichloropropane	50	U
Chloroform	50	U	Bromobenzene	50	U
Tetrahydrofuran	250	U	n-Propylbenzene	41	J
1,1,1-Trichloroethane	50	U	2-Chlorotoluene	50	U
1-Chlorobutane	50	U	1,3,5-Trimethylbenzene	22	J
1,1-Dichloropropene	50	U	4-Chlorotoluene	50	U
Carbon Tetrachloride	50	U	Tert-Butylbenzene	50	U
1,2-Dichloroethane	50	U	1,2,4-Trimethylbenzene	116	
Benzene	2010		Pentachloroethane	50	U
Trichloroethene	50	U	Sec-Butylbenzene	50	U
1,2-Dichloropropane	50	U	p-Isopropyltoluene	50	U
Methyl Methacrylate	50	U	1,3-Dichlorobenzene	50	U
Dibromomethane	50	U	1,4-Dichlorobenzene	50	U
Bromodichloromethane	50	U	n-Butylbenzene	50	U
2-Nitropropane	50	U	1,2-Dichlorobenzene	50	U

Authorized By:

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478041 (Dilution - DIL1)

Date Received: 11/20/97

Method: SW8260

Field ID: MW-9

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Analyte	Result	Qualifier
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Hexachloroethane	50	U
1,2-Dibromo-3-Chloropropane	250	U
1,2,4-Trichlorobenzene	50	U
Hexachlorobutadiene	50	U
Naphthalene	118	
1,2,3-Trichlorobenzene	50	U

Surrogate Recoveries

1,2-Dichloroethane-D4	100	%
1,4-Difluorobenzene	108	%
Toluene-D8	95	%
p-Bromofluorobenzene	99	%
1,2-Dichlorobenzene-D4	100	%

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478041 (Dilution - DIL1)

Date Received: 11/20/97

Method: SW8260

Field ID: MW-9

Matrix: Water

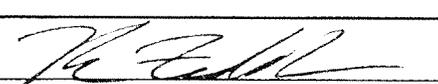
Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Tentatively Identified Compounds

CAS Number	Analyte Description	Result	Qualifier
*3005001	Unknown Hydrocarbon 01	275	NJ
513359	2-Butene, 2-Methyl	173	NJ
109682	2-Pentene	90	NJ
563462	1-Butene, 2-methyl-	773	NJ
287923	Cyclopentane(Dot)	476	NJ
96140	Pentane, 3-Methyl-	229	NJ
110543	Hexane(Dot)	102	NJ
625274	2-Pentene, 2-methyl	119	NJ
922623	2-Pentene, 3-methyl-, (Z)-	107	NJ
*3005002	Unknown Hydrocarbon 02	729	NJ
108872	Cyclohexane, Methyl-	163	NJ
611143	Benzene, 1-Ethyl-2-Methyl-	71	NJ
620144	Benzene, 1-Ethyl-3-Methyl-	77	NJ
526738	Benzene, 1,2,3-Trimethyl-	84	NJ
496117	Indan	172	NJ
767588	1H-Indene, 2,3-dihydro-1-me	71	NJ

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.	LIMS Project ID: 1675-97
Sample: 97478042	Date Received: 11/20/97
Field ID: VP-8	Method: SW8260
Project Officer: P. Marti	Matrix: Water
	Date Analyzed: 11/25/07
	Units: ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Chloroacetonitrile	5	U
Chloromethane	1	U	Cis-1,3-Dichloropropene	1.1	U
Vinyl Chloride	1	U	4-Methyl-2-Pentanone	2	U
Bromomethane	1	U	1,1-Dichloropropanone	1	U
Chloroethane	1	U	Toluene	7	
Trichlorofluoromethane	1	U	Trans-1,3-Dichloropropene	.94	U
Ethyl Ether	1	U	Ethylmethacrylate	1	U
1,1,2-Trichlorotrifluoroethane	1	U	1,1,2-Trichloroethane	1	U
1,1-Dichloroethene	2	U	1,3-Dichloropropane	1	U
Acetone	4	U	2-Hexanone	2	U
Methyl Iodide	1	U	Tetrachloroethene	208	E
Carbon Disulfide	2	U	Dibromochloromethane	1	U
Allyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Methylene Chloride	1	U	Chlorobenzene	1	U
Acrylonitrile	5	U	1,1,1,2-Tetrachloroethane	1	U
2-Methoxy-2-Methylpropane	1	U	Ethylbenzene	11	
Trans-1,2-Dichloroethene	1	U	m & p-Xylene	23	
1,1-Dichloroethane	1	U	o-Xylene	9.6	
2-Butanone	2	U	Styrene	1	U
Cis-1,2-Dichloroethene	83	E	Bromoform	1	U
2,2-Dichloropropane	1	U	Isopropylbenzene (Cumene)	1.4	
Methyl acrylate	1	U	1,1,2,2-Tetrachloroethane	1	U
Methacrylonitrile	1	U	Trans-1,4-Dichloro-2-butene	2	U
Bromochloromethane	1	U	1,2,3-Trichloropropane	1	U
Chloroform	1	U	Bromobenzene	1	U
Tetrahydrofuran	5	U	n-Propylbenzene	4.6	
1,1,1-Trichloroethane	1	U	2-Chlorotoluene	1	U
1-Chlorobutane	1	U	1,3,5-Trimethylbenzene	15	
1,1-Dichloropropene	1	U	4-Chlorotoluene	1	U
Carbon Tetrachloride	1	U	Tert-Butylbenzene	1	U
1,2-Dichloroethane	1	U	1,2,4-Trimethylbenzene	27	
Benzene	5.6		Pentachloroethane	1	U
Trichloroethene	164	E	Sec-Butylbenzene	1	U
1,2-Dichloropropane	1	U	p-Isopropyltoluene	.54	J
Methyl Methacrylate	1	U	1,3-Dichlorobenzene	1	U
Dibromomethane	1	U	1,4-Dichlorobenzene	1	U
Bromodichloromethane	1	U	n-Butylbenzene	1	U
2-Nitropropane	1	U	1,2-Dichlorobenzene	1	U

Authorized By:

Release Date: 12/4/97

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Department of Ecology

Analysis Report for Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478042

Date Received: 11/20/97

Method: SW8260

Field ID: VP-8

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Analyte	Result	Qualifier
Hexachloroethane	1	U
1,2-Dibromo-3-Chloropropane	5	U
1,2,4-Trichlorobenzene	1	U
Hexachlorobutadiene	1	U
Naphthalene	6.9	
1,2,3-Trichlorobenzene	1	U

Surrogate Recoveries

1,2-Dichloroethane-D4	102	%
1,4-Difluorobenzene	108	%
Toluene-D8	96	%
p-Bromofluorobenzene	100	%
1,2-Dichlorobenzene-D4	101	%

Authorized By: 

Release Date: 12/4/97

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Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478042

Date Received: 11/20/97

Method: SW8260

Field ID: VP-8

Matrix: Water

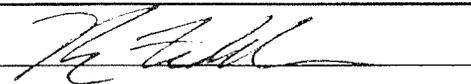
Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Tentatively Identified Compounds

CAS Number	Analyte Description	Result	Qualifier
*3005001	Unknown Hydrocarbon 01	8.5	NJ
107835	Pentane, 2-Methyl-	35	NJ
110543	Hexane(Dot)	13	NJ
96377	Cyclopentane-Methyl	40	NJ
2452995	Cyclopentane, 1,2-dimethyl	8.1	NJ
589537	Heptane, 4-methyl-	10	NJ
611143	Benzene, 1-Ethyl-2-Methyl-	9.9	NJ
622968	Benzene, 1-Ethyl-4-Methyl-	12	NJ
526738	Benzene, 1,2,3-Trimethyl-	15	NJ
620144	Benzene, 1-Ethyl-3-Methyl-	13	NJ
1074175	Benzene, 1-Methyl-2-Propyl-	6.3	NJ
1758889	Benzene, 2-Ethyl-1,4-Dimethyl-	16	NJ
535773	Benzene, 1-Methyl-3-(1-Methylethyl)-	10	NJ
27133933	2,3-Dihydro-1-methylindene	9.3	NJ
488233	Benzene, 1,2,3,4-Tetramethyl-	8.6	NJ
767588	1H-Indene, 2,3-dihydro-1-me	11	NJ

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478042 (Dilution - DIL1)

Date Received: 11/20/97

Method: SW8260

Field ID: VP-8

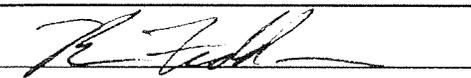
Date Analyzed: 11/25/07

Matrix: Water

Project Officer: P. Marti

Units: ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	100	U	Chloroacetonitrile	250	UJ
Chloromethane	50	U	Cis-1,3-Dichloropropene	53	U
Vinyl Chloride	50	U	4-Methyl-2-Pentanone	100	U
Bromomethane	50	UJ	1,1-Dichloropropanone	50	U
Chloroethane	50	UJ	Toluene	26	J
Trichlorofluoromethane	50	U	Trans-1,3-Dichloropropene	47	U
Ethyl Ether	50	U	Ethylmethacrylate	50	U
1,1,2 Trichlorotrifluoroethane	50	U	1,1,2-Trichloroethane	50	U
1,1-Dichloroethene	100	U	1,3-Dichloropropane	50	U
Acetone	200	U	2-Hexanone	100	U
Methyl Iodide	50	U	Tetrachloroethene	120	
Carbon Disulfide	100	U	Dibromochloromethane	50	U
Allyl Chloride	50	U	1,2-Dibromoethane (EDB)	50	U
Methylene Chloride	50	U	Chlorobenzene	50	UJ
Acrylonitrile	250	U	1,1,1,2-Tetrachloroethane	50	U
2-Methoxy-2-Methylpropane	50	U	Ethylbenzene	38	J
Trans-1,2-Dichloroethene	50	U	m & p-Xylene	66	J
1,1-Dichloroethane	50	U	o-Xylene	22	J
2-Butanone	100	U	Styrene	50	U
Cis-1,2-Dichloroethene	135		Bromoform	50	U
2,2-Dichloropropane	50	U	Isopropylbenzene (Cumene)	50	U
Methyl acrylate	50	U	1,1,2,2-Tetrachloroethane	50	U
Methacrylonitrile	50	U	Trans-1,4-Dichloro-2-butene	100	U
Bromochloromethane	50	U	1,2,3-Trichloropropane	50	U
Chloroform	50	U	Bromobenzene	50	U
Tetrahydrofuran	250	U	n-Propylbenzene	12	J
1,1,1-Trichloroethane	50	U	2-Chlorotoluene	50	U
1-Chlorobutane	50	U	1,3,5-Trimethylbenzene	38	J
1,1-Dichloropropene	50	U	4-Chlorotoluene	50	U
Carbon Tetrachloride	50	U	Tert-Butylbenzene	50	U
1,2-Dichloroethane	50	U	1,2,4-Trimethylbenzene	73	
Benzene	18	J	Pentachloroethane	50	U
Trichloroethene	106		Sec-Butylbenzene	50	U
1,2-Dichloropropane	50	U	p-Isopropyltoluene	50	U
Methyl Methacrylate	50	U	1,3-Dichlorobenzene	50	U
Dibromomethane	50	U	1,4-Dichlorobenzene	50	U
Bromodichloromethane	50	U	n-Butylbenzene	50	U
2-Nitropropane	50	U	1,2-Dichlorobenzene	50	U

Authorized By: 

Release Date: 12/4/97

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Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478042 (Dilution - DIL1)

Date Received: 11/20/97

Method: SW8260

Field ID: VP-8

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

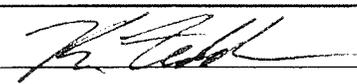
Units: ug/L

Analyte	Result	Qualifier
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Hexachloroethane	50	U
1,2-Dibromo-3-Chloropropane	250	U
1,2,4-Trichlorobenzene	50	U
Hexachlorobutadiene	50	U
Naphthalene	50	U
1,2,3-Trichlorobenzene	50	U

Surrogate Recoveries

1,2-Dichloroethane-D4	97	%
1,4-Difluorobenzene	107	%
Toluene-D8	96	%
p-Bromofluorobenzene	99	%
1,2-Dichlorobenzene-D4	99	%

Authorized By: 

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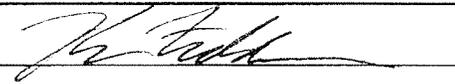
Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts. LIMS Project ID: 1675-97
Sample: 97478042 (Dilution - DIL1) Date Received: 11/20/97 Method: SW8260
Field ID: VP-8 Matrix: Water
Project Officer: P. Marti Date Analyzed: 11/25/07 Units: ug/L

Tentatively Identified Compounds

CAS Number	Analyte Description	Result	Qualifier
930187	Cyclopropane, 1,2-Dimethyl-, Cis-	13	NJ
107835	Pentane, 2-Methyl-	75	NJ
*3005001	Unknown Hydrocarbon 01	30	NJ
110543	Hexane(Dot)	18	NJ
558372	1-Butene, 3,3-dimethyl-	8.6	NJ
760214	Pentane, 3-methylene-	9.2	NJ
96377	Cyclopentane-Methyl	75	NJ
108872	Cyclohexane, Methyl-	29	NJ
611143	Benzene, 1-Ethyl-2-Methyl-	28	NJ
620144	Benzene, 1-Ethyl-3-Methyl-	27	NJ
873494	Benzene, cyclopropyl-	30	NJ
535773	Benzene, 1-Methyl-3-(1-Methylethyl)-	14	NJ
27133933	2,3-Dihydro-1-methylindene	9.6	NJ
25155151	Benzene, Methyl(1-Methylethyl)-	12	NJ
874351	1h-Indene, 2,3-Dihydro-5-Methyl-	19	NJ

Authorized By: 

Release Date: 12/4/97

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Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478042 (Matrix Spike - LMX1) Date Received: 11/20/97

Method: SW8260

Field ID: VP-8

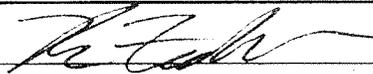
Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: % Recovery

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	103		Chloroacetonitrile	72	
Chloromethane	95		Cis-1,3-Dichloropropene	99	
Vinyl Chloride	99		4-Methyl-2-Pentanone	107	
Bromomethane	80		1,1-Dichloropropanone	120	
Chloroethane	86		Toluene	94	
Trichlorofluoromethane	98		Trans-1,3-Dichloropropene	94	
Ethyl Ether	148		Ethylmethacrylate	108	
1,1,2 Trichlorotrifluoroethane	122		1,1,2-Trichloroethane	102	
1,1-Dichloroethene	111		1,3-Dichloropropane	103	
Acetone	103		2-Hexanone	104	
Methyl Iodide	109		Tetrachloroethene	98	
Carbon Disulfide	87		Dibromochloromethane	108	
Allyl Chloride	104		1,2-Dibromoethane (EDB)	110	
Methylene Chloride	90		Chlorobenzene	92	
Acrylonitrile	107		1,1,1,2-Tetrachloroethane	102	
2-Methoxy-2-Methylpropane	120		Ethylbenzene	91	
Trans-1,2-Dichloroethene	109		m & p-Xylene	91	
1,1-Dichloroethane	107		o-Xylene	92	
2-Butanone	114		Styrene	91	
Cis-1,2-Dichloroethene	107		Bromoform	122	
2,2-Dichloropropane	89		Isopropylbenzene (Cumene)	99	
Methyl acrylate	120		1,1,2,2-Tetrachloroethane	105	
Methacrylonitrile	120		Trans-1,4-Dichloro-2-butene	90	
Bromochloromethane	114		1,2,3-Trichloropropane	118	
Chloroform	108		Bromobenzene	100	
Tetrahydrofuran	138		n-Propylbenzene	95	
1,1,1-Trichloroethane	97		2-Chlorotoluene	95	
1-Chlorobutane	130		1,3,5-Trimethylbenzene	94	
1,1-Dichloropropene	101		4-Chlorotoluene	88	
Carbon Tetrachloride	101		Tert-Butylbenzene	95	
1,2-Dichloroethane	102		1,2,4-Trimethylbenzene	93	
Benzene	93		Pentachloroethane	103	
Trichloroethene	105		Sec-Butylbenzene	90	
1,2-Dichloropropane	96		p-Isopropyltoluene	92	
Methyl Methacrylate	121		1,3-Dichlorobenzene	92	
Dibromomethane	100		1,4-Dichlorobenzene	91	
Bromodichloromethane	99		n-Butylbenzene	84	
2-Nitropropane	118		1,2-Dichlorobenzene	92	

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478042 (Matrix Spike - LMX1) Date Received: 11/20/97

Method: SW8260

Field ID: VP-8

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

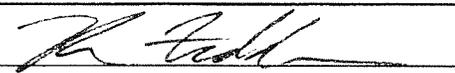
Units: % Recovery

Analyte	Result	Qualifier
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Hexachloroethane	104	
1,2-Dibromo-3-Chloropropane	106	
1,2,4-Trichlorobenzene	92	
Hexachlorobutadiene	98	
Naphthalene	106	
1,2,3-Trichlorobenzene	89	

Surrogate Recoveries

1,2-Dichloroethane-D4	97	%
1,4-Difluorobenzene	106	%
Toluene-D8	95	%
p-Bromofluorobenzene	101	%
1,2-Dichlorobenzene-D4	99	%

Authorized By: 

Release Date: 12/5/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478042 (Matrix Spike - LMX2) Date Received: 11/20/97

Method: SW8260

Field ID: VP-8

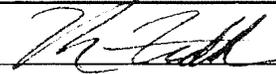
Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: % Recovery

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	105		Chloroacetonitrile	76	
Chloromethane	100		Cis-1,3-Dichloropropene	103	
Vinyl Chloride	104		4-Methyl-2-Pentanone	107	
Bromomethane	81		1,1-Dichloropropanone	109	
Chloroethane	89		Toluene	98	
Trichlorofluoromethane	104		Trans-1,3-Dichloropropene	97	
Ethyl Ether	156		Ethylmethacrylate	110	
1,1,2 Trichlorotrifluoroethane	127		1,1,2-Trichloroethane	106	
1,1-Dichloroethene	116		1,3-Dichloropropane	104	
Acetone	104		2-Hexanone	108	
Methyl Iodide	116		Tetrachloroethene	104	
Carbon Disulfide	87		Dibromochloromethane	111	
Allyl Chloride	110		1,2-Dibromoethane (EDB)	111	
Methylene Chloride	93		Chlorobenzene	97	
Acrylonitrile	111		1,1,1,2-Tetrachloroethane	106	
2-Methoxy-2-Methylpropane	121		Ethylbenzene	97	
Trans-1,2-Dichloroethene	114		m & p-Xylene	96	
1,1-Dichloroethane	111		o-Xylene	96	
2-Butanone	112		Styrene	92	
Cis-1,2-Dichloroethene	113		Bromoform	122	
2,2-Dichloropropane	93		Isopropylbenzene (Cumene)	104	
Methyl acrylate	117		1,1,2,2-Tetrachloroethane	106	
Methacrylonitrile	116		Trans-1,4-Dichloro-2-butene	93	
Bromochloromethane	116		1,2,3-Trichloropropane	121	
Chloroform	111		Bromobenzene	102	
Tetrahydrofuran	140		n-Propylbenzene	100	
1,1,1-Trichloroethane	103		2-Chlorotoluene	100	
1-Chlorobutane	135		1,3,5-Trimethylbenzene	97	
1,1-Dichloropropene	106		4-Chlorotoluene	91	
Carbon Tetrachloride	106		Tert-Butylbenzene	100	
1,2-Dichloroethane	102		1,2,4-Trimethylbenzene	97	
Benzene	96		Pentachloroethane	105	
Trichloroethene	112		Sec-Butylbenzene	95	
1,2-Dichloropropane	98		p-Isopropyltoluene	95	
Methyl Methacrylate	124		1,3-Dichlorobenzene	97	
Dibromomethane	103		1,4-Dichlorobenzene	95	
Bromodichloromethane	102		n-Butylbenzene	88	
2-Nitropropane	118		1,2-Dichlorobenzene	96	

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478042 (Matrix Spike - LMX2) Date Received: 11/20/97

Method: SW8260

Field ID: VP-8

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

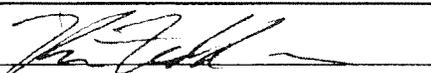
Units: % Recovery

Analyte	Result	Qualifier
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Hexachloroethane	112	
1,2-Dibromo-3-Chloropropane	106	
1,2,4-Trichlorobenzene	98	
Hexachlorobutadiene	104	
Naphthalene	112	
1,2,3-Trichlorobenzene	96	

Surrogate Recoveries

1,2-Dichloroethane-D4	97	%
1,4-Difluorobenzene	107	%
Toluene-D8	95	%
p-Bromofluorobenzene	101	%
1,2-Dichlorobenzene-D4	100	%

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478043

Date Received: 11/20/97

Method: SW8260

Field ID: RW-2

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Chloroacetonitrile	5	U
Chloromethane	1	U	Cis-1,3-Dichloropropene	1.1	U
Vinyl Chloride	1	U	4-Methyl-2-Pentanone	2	U
Bromomethane	1	U	1,1-Dichloropropanone	1	U
Chloroethane	1	U	Toluene	653	E
Trichlorofluoromethane	1	U	Trans-1,3-Dichloropropene	.94	U
Ethyl Ether	1	U	Ethylmethacrylate	1	U
1,1,2 Trichlorotrifluoroethane	1	U	1,1,2-Trichloroethane	1	U
1,1-Dichloroethene	2	U	1,3-Dichloropropane	1	U
Acetone	4	U	2-Hexanone	2	U
Methyl Iodide	1	U	Tetrachloroethene	1	U
Carbon Disulfide	2	U	Dibromochloromethane	1	U
Allyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Methylene Chloride	1	U	Chlorobenzene	1	U
Acrylonitrile	5	U	1,1,1,2-Tetrachloroethane	1	U
2-Methoxy-2-Methylpropane	1	U	Ethylbenzene	314	E
Trans-1,2-Dichloroethene	1	U	m & p-Xylene	726	E
1,1-Dichloroethane	1	U	o-Xylene	484	E
2-Butanone	2	U	Styrene	1	U
Cis-1,2-Dichloroethene	1	U	Bromoform	1	U
2,2-Dichloropropane	1	U	Isopropylbenzene (Cumene)	17	
Methyl acrylate	1	U	1,1,2,2-Tetrachloroethane	1	U
Methacrylonitrile	1	U	Trans-1,4-Dichloro-2-butene	2	U
Bromochloromethane	1	U	1,2,3-Trichloropropane	1	U
Chloroform	1	U	Bromobenzene	1	U
Tetrahydrofuran	5	U	n-Propylbenzene	58	
1,1,1-Trichloroethane	1	U	2-Chlorotoluene	1	U
1-Chlorobutane	1	U	1,3,5-Trimethylbenzene	215	E
1,1-Dichloropropene	1	U	4-Chlorotoluene	1	U
Carbon Tetrachloride	1	U	Tert-Butylbenzene	1	U
1,2-Dichloroethane	1	U	1,2,4-Trimethylbenzene	398	E
Benzene	969	E	Pentachloroethane	1	U
Trichloroethene	1	U	Sec-Butylbenzene	1	U
1,2-Dichloropropane	1	U	p-Isopropyltoluene	4.5	
Methyl Methacrylate	1	U	1,3-Dichlorobenzene	1	U
Dibromomethane	1	U	1,4-Dichlorobenzene	1	U
Bromodichloromethane	1	U	n-Butylbenzene	1	U
2-Nitropropane	1	U	1,2-Dichlorobenzene	1	U

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478043

Date Received: 11/20/97

Method: SW8260

Field ID: RW-2

Matrix: Water

Project Officer: P. Marti

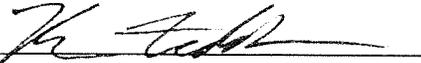
Date Analyzed: 11/25/07

Units: ug/L

Analyte	Result	Qualifier
Hexachloroethane	1	U
1,2-Dibromo-3-Chloropropane	5	U
1,2,4-Trichlorobenzene	1	U
Hexachlorobutadiene	1	U
Naphthalene	133	E
1,2,3-Trichlorobenzene	1	U

Surrogate Recoveries

1,2-Dichloroethane-D4	92	%
1,4-Difluorobenzene	107	%
Toluene-D8	102	%
p-Bromofluorobenzene	108	%
1,2-Dichlorobenzene-D4	99	%

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478043

Date Received: 11/20/97

Method: SW8260

Field ID: RW-2

Matrix: Water

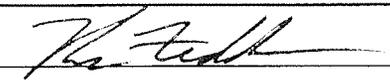
Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Tentatively Identified Compounds

CAS Number	Analyte Description	Result	Qualifier
109682	2-Pentene	226	NJ
107835	Pentane, 2-Methyl-	347	NJ
96140	Pentane, 3-Methyl-	171	NJ
110543	Hexane(Dot)	158	NJ
922623	2-Pentene, 3-methyl-, (Z)-	71	NJ
96377	Cyclopentane-Methyl	314	NJ
693890	Cyclopentene, 1-methyl-	85	NJ
110827	Cyclohexane	163	NJ
589344	Hexane, 3-Methyl-	100	NJ
2738194	2-Hexene, 2-methyl-	51	NJ
611143	Benzene, 1-Ethyl-2-Methyl-	376	NJ
620144	Benzene, 1-Ethyl-3-Methyl-	163	NJ
526738	Benzene, 1,2,3-Trimethyl-	192	NJ
622968	Benzene, 1-Ethyl-4-Methyl-	208	NJ
873494	Benzene, cyclopropyl-	226	NJ
7525624	Benzene, 1-Ethenyl-3-Ethyl-	77	NJ
767588	1H-Indene, 2,3-dihydro-1-me	60	NJ
27133933	2,3-Dihydro-1-methylindene	98	NJ

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.		LIMS Project ID: 1675-97
Sample: 97478043 (Dilution - DIL1)	Date Received: 11/20/97	Method: SW8260
Field ID: RW-2		Matrix: Water
Project Officer: P. Marti	Date Analyzed: 11/25/07	Units: ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	100	U	Chloroacetonitrile	250	UJ
Chloromethane	50	U	Cis-1,3-Dichloropropene	53	U
Vinyl Chloride	50	U	4-Methyl-2-Pentanone	100	U
Bromomethane	50	UJ	1,1-Dichloropropanone	50	U
Chloroethane	50	UJ	Toluene	1200	
Trichlorofluoromethane	50	U	Trans-1,3-Dichloropropene	47	U
Ethyl Ether	50	U	Ethylmethacrylate	50	U
1,1,2 Trichlorotrifluoroethane	50	U	1,1,2-Trichloroethane	50	U
1,1-Dichloroethene	100	U	1,3-Dichloropropane	50	U
Acetone	247	U	2-Hexanone	100	U
Methyl Iodide	50	U	Tetrachloroethene	50	U
Carbon Disulfide	100	U	Dibromochloromethane	50	U
Allyl Chloride	50	U	1,2-Dibromoethane (EDB)	50	U
Methylene Chloride	50	U	Chlorobenzene	50	U
Acrylonitrile	250	U	1,1,1,2-Tetrachloroethane	50	U
2-Methoxy-2-Methylpropane	50	U	Ethylbenzene	338	
Trans-1,2-Dichloroethene	50	U	m & p-Xylene	1670	
1,1-Dichloroethane	50	U	o-Xylene	595	
2-Butanone	100	U	Styrene	50	U
Cis-1,2-Dichloroethene	50	U	Bromoform	50	U
2,2-Dichloropropane	50	U	Isopropylbenzene (Cumene)	18	J
Methyl acrylate	50	U	1,1,2,2-Tetrachloroethane	50	U
Methacrylonitrile	50	U	Trans-1,4-Dichloro-2-butene	100	U
Bromochloromethane	50	U	1,2,3-Trichloropropane	50	U
Chloroform	50	U	Bromobenzene	50	U
Tetrahydrofuran	250	U	n-Propylbenzene	61	
1,1,1-Trichloroethane	50	U	2-Chlorotoluene	50	U
1-Chlorobutane	50	U	1,3,5-Trimethylbenzene	246	
1,1-Dichloropropene	50	U	4-Chlorotoluene	50	U
Carbon Tetrachloride	50	U	Tert-Butylbenzene	50	U
1,2-Dichloroethane	50	U	1,2,4-Trimethylbenzene	671	
Benzene	3070	E	Pentachloroethane	50	U
Trichloroethene	50	U	Sec-Butylbenzene	50	U
1,2-Dichloropropane	50	U	p-Isopropyltoluene	15	J
Methyl Methacrylate	50	U	1,3-Dichlorobenzene	50	U
Dibromomethane	50	U	1,4-Dichlorobenzene	50	U
Bromodichloromethane	50	U	n-Butylbenzene	50	U
2-Nitropropane	50	U	1,2-Dichlorobenzene	50	U

Authorized By:

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478043 (Dilution - DIL1)

Date Received: 11/20/97

Method: SW8260

Field ID: RW-2

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

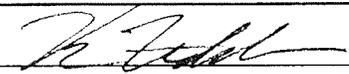
Units: ug/L

Analyte	Result	Qualifier
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Hexachloroethane	50	U
1,2-Dibromo-3-Chloropropane	250	U
1,2,4-Trichlorobenzene	50	U
Hexachlorobutadiene	50	U
Naphthalene	127	
1,2,3-Trichlorobenzene	50	U

Surrogate Recoveries

1,2-Dichloroethane-D4	97	%
1,4-Difluorobenzene	107	%
Toluene-D8	94	%
p-Bromofluorobenzene	99	%
1,2-Dichlorobenzene-D4	100	%

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478043 (Dilution - DIL1)

Date Received: 11/20/97

Method: SW8260

Field ID: RW-2

Matrix: Water

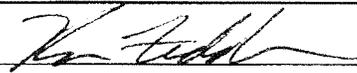
Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Tentatively Identified Compounds

CAS Number	Analyte Description	Result	Qualifier
513359	2-Butene, 2-Methyl	278	NJ
107835	Pentane, 2-Methyl-	665	NJ
110543	Hexane(Dot)	283	NJ
563791	2-Butene, 2,3-Dimethyl-	92	NJ
922623	2-Pentene, 3-methyl-, (Z)-	112	NJ
96377	Cyclopentane-Methyl	486	NJ
693890	Cyclopentene, 1-methyl-	103	NJ
591764	Hexane, 2-Methyl-	108	NJ
108872	Cyclohexane, Methyl-	194	NJ
589537	Heptane, 4-methyl-	93	NJ
611143	Benzene, 1-Ethyl-2-Methyl-	428	NJ
526738	Benzene, 1,2,3-Trimethyl-	185	NJ
933982	Benzene, 1-Ethyl-2,3-Dimethyl-	80	NJ
27133933	2,3-Dihydro-1-methylindene	113	NJ

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478043 (Dilution - DIL2)

Date Received: 11/20/97

Method: SW8260

Field ID: RW-2

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	400	U	Chloroacetonitrile	1000	UJ
Chloromethane	200	U	Cis-1,3-Dichloropropene	212	U
Vinyl Chloride	200	U	4-Methyl-2-Pentanone	400	U
Bromomethane	200	UJ	1,1-Dichloropropanone	200	U
Chloroethane	200	UJ	Toluene	1240	
Trichlorofluoromethane	200	U	Trans-1,3-Dichloropropene	188	U
Ethyl Ether	200	U	Ethylmethacrylate	200	U
1,1,2 Trichlorotrifluoroethane	200	U	1,1,2-Trichloroethane	200	U
1,1-Dichloroethene	400	U	1,3-Dichloropropane	200	U
Acetone	800	U	2-Hexanone	400	U
Methyl Iodide	200	U	Tetrachloroethene	200	U
Carbon Disulfide	400	U	Dibromochloromethane	200	U
Allyl Chloride	200	U	1,2-Dibromoethane (EDB)	200	U
Methylene Chloride	200	U	Chlorobenzene	200	U
Acrylonitrile	1000	U	1,1,1,2-Tetrachloroethane	200	U
2-Methoxy-2-Methylpropane	200	U	Ethylbenzene	344	
Trans-1,2-Dichloroethene	200	U	m & p-Xylene	1720	
1,1-Dichloroethane	200	U	o-Xylene	592	
2-Butanone	400	U	Styrene	200	U
Cis-1,2-Dichloroethene	200	U	Bromoform	200	U
2,2-Dichloropropane	200	U	Isopropylbenzene (Cumene)	200	U
Methyl acrylate	200	U	1,1,2,2-Tetrachloroethane	200	U
Methacrylonitrile	200	U	Trans-1,4-Dichloro-2-butene	400	U
Bromochloromethane	200	U	1,2,3-Trichloropropane	200	U
Chloroform	200	U	Bromobenzene	200	U
Tetrahydrofuran	1000	U	n-Propylbenzene	56	J
1,1,1-Trichloroethane	200	U	2-Chlorotoluene	200	U
1-Chlorobutane	200	U	1,3,5-Trimethylbenzene	257	
1,1-Dichloropropene	200	U	4-Chlorotoluene	200	U
Carbon Tetrachloride	200	U	Tert-Butylbenzene	200	U
1,2-Dichloroethane	200	U	1,2,4-Trimethylbenzene	686	
Benzene	3140		Pentachloroethane	200	U
Trichloroethene	200	U	Sec-Butylbenzene	200	U
1,2-Dichloropropane	200	U	p-Isopropyltoluene	200	U
Methyl Methacrylate	200	U	1,3-Dichlorobenzene	200	U
Dibromomethane	200	U	1,4-Dichlorobenzene	200	U
Bromodichloromethane	200	U	n-Butylbenzene	200	U
2-Nitropropane	200	U	1,2-Dichlorobenzene	200	U

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

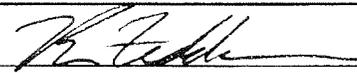
Volatile Organic Analysis

Project Name: Monterey Apts.	LIMS Project ID: 1675-97	
Sample: 97478043 (Dilution - DIL2)	Date Received: 11/20/97	Method: SW8260
Field ID: RW-2	Date Analyzed: 11/25/07	Matrix: Water
Project Officer: P. Marti	Units: ug/L	

Analyte	Result	Qualifier
Hexachloroethane	200	U
1,2-Dibromo-3-Chloropropane	1000	U
1,2,4-Trichlorobenzene	200	U
Hexachlorobutadiene	200	U
Naphthalene	200	U
1,2,3-Trichlorobenzene	200	U

Surrogate Recoveries

1,2-Dichloroethane-D4	97	%
1,4-Difluorobenzene	106	%
Toluene-D8	94	%
p-Bromofluorobenzene	99	%
1,2-Dichlorobenzene-D4	100	%

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73405

Method: SW8260

Blank ID: OKBW7328

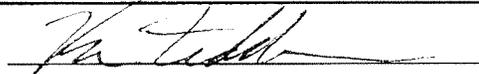
Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/24/07

Units: ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Chloroacetonitrile	5	U
Chloromethane	1	U	Cis-1,3-Dichloropropene	1.1	U
Vinyl Chloride	1	U	4-Methyl-2-Pentanone	2	U
Bromomethane	1	U	1,1-Dichloropropanone	1	U
Chloroethane	1	U	Toluene	1	U
Trichlorofluoromethane	1	U	Trans-1,3-Dichloropropene	.94	U
Ethyl Ether	1	U	Ethylmethacrylate	1	U
1,1,2 Trichlorotrifluoroethane	1	U	1,1,2-Trichloroethane	1	U
1,1-Dichloroethene	2	U	1,3-Dichloropropane	1	U
Acetone	4		2-Hexanone	2	U
Methyl Iodide	1	U	Tetrachloroethene	1	U
Carbon Disulfide	2	U	Dibromochloromethane	1	U
Allyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Methylene Chloride	.6	J	Chlorobenzene	1	U
Acrylonitrile	5	U	1,1,1,2-Tetrachloroethane	1	U
2-Methoxy-2-Methylpropane	1	U	Ethylbenzene	1	U
Trans-1,2-Dichloroethene	1	U	m & p-Xylene	2	U
1,1-Dichloroethane	1	U	o-Xylene	1	U
2-Butanone	2	U	Styrene	1	U
Cis-1,2-Dichloroethene	1	U	Bromoform	1	U
2,2-Dichloropropane	1	U	Isopropylbenzene (Cumene)	1	U
Methyl acrylate	1	U	1,1,2,2-Tetrachloroethane	1	U
Methacrylonitrile	1	U	Trans-1,4-Dichloro-2-butene	2	U
Bromochloromethane	1	U	1,2,3-Trichloropropane	1	U
Chloroform	1	U	Bromobenzene	1	U
Tetrahydrofuran	5	U	n-Propylbenzene	1	U
1,1,1-Trichloroethane	1	U	2-Chlorotoluene	1	U
1-Chlorobutane	1	U	1,3,5-Trimethylbenzene	1	U
1,1-Dichloropropene	1	U	4-Chlorotoluene	1	U
Carbon Tetrachloride	1	U	Tert-Butylbenzene	1	U
1,2-Dichloroethane	1	U	1,2,4-Trimethylbenzene	1	U
Benzene	1	U	Pentachloroethane	1	U
Trichloroethene	1	U	Sec-Butylbenzene	1	U
1,2-Dichloropropane	1	U	p-Isopropyltoluene	1	U
Methyl Methacrylate	1	U	1,3-Dichlorobenzene	1	U
Dibromomethane	1	U	1,4-Dichlorobenzene	1	U
Bromodichloromethane	1	U	n-Butylbenzene	1	U
2-Nitropropane	1	U	1,2-Dichlorobenzene	1	U

Authorized By: 

Release Date: 12/4/92

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73405

Method: SW8260

Blank ID: OKBW7328

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/24/07

Units: ug/L

Analyte	Result	Qualifier
Hexachloroethane	1	U
1,2-Dibromo-3-Chloropropane	5	U
1,2,4-Trichlorobenzene	.15	J
Hexachlorobutadiene	.19	J
Naphthalene	.26	J
1,2,3-Trichlorobenzene	.18	J

Surrogate Recoveries

1,2-Dichloroethane-D4	107	%
1,4-Difluorobenzene	105	%
Toluene-D8	96	%
p-Bromofluorobenzene	101	%
1,2-Dichlorobenzene-D4	99	%

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73405

Method: SW8260

Blank ID: OKBW7328

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/24/07

Units: ug/L

Tentatively Identified Compounds

CAS Number	Analyte Description	Result	Qualifier
541059	Cyclotrisiloxane, Hexamethyl-	.34	NJ

Authorized By: 

Release Date: 12/4/07

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.	LIMS Project ID: 1675-97
Sample: BLN73406	Method: SW8260
Blank ID: OKBW7329	Matrix: Water
Project Officer: P. Marti	Date Analyzed: 11/25/07
	Units: ug/L

Analyte	Result	Qualifier	Analyte	Result	Qualifier
Dichlorodifluoromethane	2	U	Chloroacetonitrile	5	UJ
Chloromethane	1	U	Cis-1,3-Dichloropropene	1.1	U
Vinyl Chloride	1	U	4-Methyl-2-Pentanone	2	U
Bromomethane	1	UJ	1,1-Dichloropropanone	1	U
Chloroethane	1	UJ	Toluene	1	U
Trichlorofluoromethane	1	U	Trans-1,3-Dichloropropene	.94	U
Ethyl Ether	1	U	Ethylmethacrylate	1	U
1,1,2 Trichlorotrifluoroethane	1	U	1,1,2-Trichloroethane	1	U
1,1-Dichloroethene	2	U	1,3-Dichloropropane	1	U
Acetone	2.1	J	2-Hexanone	2	U
Methyl Iodide	1	U	Tetrachloroethene	1	U
Carbon Disulfide	2	U	Dibromochloromethane	1	U
Allyl Chloride	1	U	1,2-Dibromoethane (EDB)	1	U
Methylene Chloride	.43	J	Chlorobenzene	1	UJ
Acrylonitrile	5	U	1,1,1,2-Tetrachloroethane	1	U
2-Methoxy-2-Methylpropane	1	U	Ethylbenzene	1	U
Trans-1,2-Dichloroethene	1	U	m & p-Xylene	.079	J
1,1-Dichloroethane	1	U	o-Xylene	1	U
2-Butanone	2	U	Styrene	1	U
Cis-1,2-Dichloroethene	1	U	Bromoform	1	U
2,2-Dichloropropane	1	U	Isopropylbenzene (Cumene)	1	U
Methyl acrylate	1	U	1,1,2,2-Tetrachloroethane	1	U
Methacrylonitrile	1	U	Trans-1,4-Dichloro-2-butene	2	U
Bromochloromethane	1	U	1,2,3-Trichloropropane	1	U
Chloroform	1	U	Bromobenzene	1	U
Tetrahydrofuran	5	U	n-Propylbenzene	1	U
1,1,1-Trichloroethane	1	U	2-Chlorotoluene	1	U
1-Chlorobutane	1	U	1,3,5-Trimethylbenzene	1	U
1,1-Dichloropropene	1	U	4-Chlorotoluene	1	U
Carbon Tetrachloride	1	U	Tert-Butylbenzene	1	U
1,2-Dichloroethane	1	U	1,2,4-Trimethylbenzene	.086	J
Benzene	.058	J	Pentachloroethane	1	U
Trichloroethene	1	U	Sec-Butylbenzene	1	U
1,2-Dichloropropane	1	U	p-Isopropyltoluene	1	U
Methyl Methacrylate	1	U	1,3-Dichlorobenzene	1	U
Dibromomethane	1	U	1,4-Dichlorobenzene	1	U
Bromodichloromethane	1	U	n-Butylbenzene	.063	J
2-Nitropropane	1	U	1,2-Dichlorobenzene	1	U

Authorized By:

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Volatile Organic Analysis

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73406

Method: SW8260

Blank ID: OKBW7329

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/07

Units: ug/L

Analyte	Result	Qualifier
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Hexachloroethane	1	U
1,2-Dibromo-3-Chloropropane	5	U
1,2,4-Trichlorobenzene	.13	J
Hexachlorobutadiene	1	U
Naphthalene	.35	J
1,2,3-Trichlorobenzene	.19	J

Surrogate Recoveries

1,2-Dichloroethane-D4	97	%
1,4-Difluorobenzene	109	%
Toluene-D8	95	%
p-Bromofluorobenzene	98	%
1,2-Dichlorobenzene-D4	99	%

Authorized By: 

Release Date: 12/4/97

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Manchester Environmental Laboratory

7411 Beach DR E, Port Orchard Washington 98366

CASE NARRATIVE

December 4, 1997

Subject: Monterey Apartments

Samples: 97478040 - 97478046

Case No. 167597

Officer: P. Marti

By: M. Mandjikov *MM*

WTPH-G Analysis of the Monterey Apartment Samples

SUMMARY:

Samples 97478040 - 97478046 were analyzed for gasoline range hydrocarbons. Sample 97478042 was analyzed several times at different dilutions. These repeated analyses gave inconsistent results even when duplicate neat samples were analyzed. The result for this sample is qualified as an estimate.

All data are usable as reported. Please contact me at 360-871-8814 if you have any questions concerning this project.

METHODS:

This sediment sample was analyzed by purge and trap GC-FID. This method is a modification of EPA SW- 846 methods 8000 and 5030.

BLANKS:

No analytes of interest were detected in the blanks.

SURROGATES:

All surrogate recoveries were within the control limits of 50 - 150% with the exception of the samples that contained significant levels of gasoline. This samples contained substances which interfered with the surrogate, elevating the response. The recovery of these samples were not calculated (NC).

DUPLICATE SAMPLES:

Sample 97478040 was analyzed in duplicate to evaluate the precision of this analysis. Because the neat samples were used, this is an analysis of field duplicates as well as laboratory duplicates. The relative percent difference (RPD) between the duplicates is 4.8%. This is acceptable precision for a WTPH-G analysis.

Sample 97478042 was analyzed several times at different dilutions. These repeated analyses gave inconsistent results even when duplicate neat samples were analyzed. There were no apparent problems with the instrumental portion of the analysis.

It appears that the concentration of gasoline in the field duplicates of sample 97478042 is varied. This could be explained if the gasoline contamination of this sample station is not homogeneously distributed throughout the water column. The inconsistency could also be explained by a field error. The result for this sample is qualified as an estimate.

HOLDING TIMES:

The samples were analyzed within the recommended holding times.

DATA QUALIFIERS:

Code	Definition
EXP	The result is equal to the number before EXP times 10 to the power of the number after EXP. As an example 3EXP6 equals 3×10^6 .
E	Reported result is an estimate because it exceeds the calibration.
J	The analyte was positively identified. The associated numerical result is an estimate.
N	There is evidence the analyte is present in this sample.
NJ	There is evidence that the analyte is present. The associated numerical result is an estimate.
NAF	Not analyzed for.
REJ	The data are unusable for all purposes.
U	The analyte was not detected at or above the reported result.
UJ	The analyte was not detected at or above the reported estimated result.
Bold Type	The analyte was present in the sample. Used as a visual aid to locate detected compounds on the report sheet.

Manchester Environmental Laboratory
7411 Beach DR E, Port Orchard Washington 98366

CASE NARRATIVE

December 5, 1997

Subject: Monterey Apartments
Samples: 97478040, 97478044 - 97478046
Case No. 167597
Officer: P. Marti
By: M. Mandjikov *MM*

BTEX Analysis of the Monterey Apartment Samples

SUMMARY:

Samples 97478040, 97478044 - 97478046 were analyzed for BTEX.

The o-xylene results of 97148040 are qualified as estimates because the reported results are less than the method reporting limits. They are included to provide additional information about the samples.

Use DIL1 for samples 97478044 - 97478046 benzene results. Use DIL1 also for the toluene results of sample 97478046.

All data are usable as reported.

METHODS:

These water samples were analyzed by purge and trap GC-PID. This method is a modification of EPA SW- 846 methods 8000 and 5030.

BLANKS:

No analytes of interest were detected in the blanks.

SURROGATES:

The surrogate recoveries were within the control limits of 50 - 150 %, with the exception of sample 97478040. This sample appears to contain either a compound which is

interfering with the surrogate or the surrogate itself. The surrogate recovery is not calculated for this sample (NC).

DUPLICATE SPIKED SAMPLES:

Sample number 97478046 was diluted 1 :2000 and was spiked with the BTEX analytes. Duplicates were prepared from this spiked dilution and then analyzed to evaluate the precision and accuracy of this analysis. The percent relative differences (RPD) between the duplicates is as follows:

Benzene	5.2 %	m & p-xylene	4.1 %
Toluene	4.6 %	o-xylene	3.5 %
Ethylbenzene	5.2 %		

All spike recoveries are within ± 10 % of the theoretical value. The recoveries and RPDs are acceptable for BTEX analysis.

HOLDING TIMES:

The samples were analyzed within the recommended holding times.

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478040

Date Received: 11/20/97

Method: WTPH-G

Field ID: MW-10

Date Prepared: 11/24/97

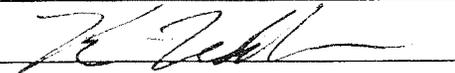
Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/26/97

Units: mg/L

Analyte	Result	Qualifier
Gasoline	1.0	
Surrogate Recoveries		
1,4-Difluorobenzene		NC

Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478040 (Duplicate - LDP1)

Date Received: 11/20/97

Method: WTPH-G

Field ID: MW-10

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/26/97

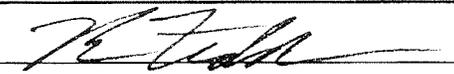
Units: mg/L

Analyte	Result	Qualifier
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Gasoline	1.0	
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Surrogate Recoveries

1,4-Difluorobenzene	NC
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478041

Date Received: 11/20/97

Method: WTPH-G

Field ID: MW-9

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/26/97

Units: mg/L

Analyte	Result	Qualifier
Gasoline	5.0	
Surrogate Recoveries		
1,4-Difluorobenzene		NC

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478042

Date Received: 11/20/97

Method: WTPH-G

Field ID: VP-8

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/26/97

Units: mg/L

Analyte	Result	Qualifier
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Gasoline	0.83	J
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Surrogate Recoveries

1,4-Difluorobenzene	129	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478043

Date Received: 11/20/97

Method: WTPH-G

Field ID: RW-2

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/24/97

Units: mg/L

Analyte	Result	Qualifier
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Gasoline	4.4	
----------	-----	--

Surrogate Recoveries

1,4-Difluorobenzene	117	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478044

Date Received: 11/20/97

Method: WTPH-G

Field ID: VP-7

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/24/97

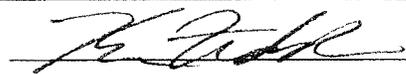
Units: mg/L

Analyte	Result	Qualifier
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Gasoline	34	
----------	----	--

Surrogate Recoveries

1,4-Difluorobenzene	112	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478045

Date Received: 11/20/97

Method: WTPH-G

Field ID: MW-7A

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/24/97

Units: mg/L

Analyte	Result	Qualifier
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Gasoline	50	
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Surrogate Recoveries

1,4-Difluorobenzene	105	%
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Authorized By: _____



Release Date: _____

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478046

Date Received: 11/20/97

Method: WTPH-G

Field ID: MW-4

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/24/97

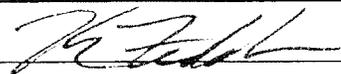
Units: mg/L

Analyte	Result	Qualifier
---------	--------	-----------

Gasoline	89	
----------	----	--

Surrogate Recoveries

1,4-Difluorobenzene	111	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73373

Method: WTPH-G

Blank ID: OBW7329A1

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/97

Units: mg/L

Analyte	Result	Qualifier
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Gasoline	0.12	U
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Surrogate Recoveries

1,4-Difluorobenzene	107	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73421

Method: WTPH-G

Blank ID: OBW7330A1

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/26/97

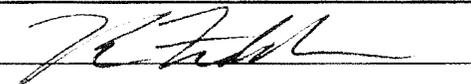
Units: mg/L

Analyte	Result	Qualifier
---------	--------	-----------

Gasoline	0.12	U
----------	------	---

Surrogate Recoveries

1,4-Difluorobenzene	97	%
---------------------	----	---

Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

TPH as Gasoline

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73372

Method: WTPH-G

Blank ID: OBW7328A1

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/24/97

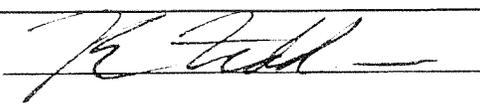
Units: mg/L

Analyte	Result	Qualifier
---------	--------	-----------

Gasoline	0.12	U
----------	------	---

Surrogate Recoveries

1,4-Difluorobenzene	100	%
---------------------	-----	---

Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478040

Date Received: 11/20/97

Method: SW8020

Field ID: MW-10

Date Prepared: 11/25/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/97

Units: ug/L

Analyte	Result	Qualifier
---------	--------	-----------

Benzene	4.2	
Toluene	2.0	
Ethylbenzene	4.8	
m & p-Xylene	1.6	
o-Xylene	0.60	J

Surrogate Recoveries

1,4-Difluorobenzene	NC
---------------------	----

Authorized By: 

Release Date: 12/18/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478044

Date Received: 11/20/97

Method: SW8020

Field ID: VP-7

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/97

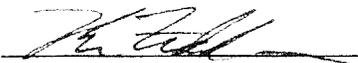
Units: ug/L

Analyte	Result	Qualifier
---------	--------	-----------

Benzene		NC
Toluene	3600	
Ethylbenzene	1500	
m & p-Xylene	4800	
o-Xylene	1800	

Surrogate Recoveries

1,4-Difluorobenzene	97	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478044 (Dilution - DIL1)

Date Received: 11/20/97

Method: SW8020

Field ID: VP-7

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/97

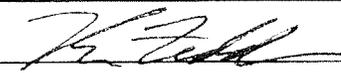
Units: ug/L

Analyte	Result	Qualifier
---------	--------	-----------

Benzene	15900	
Toluene		NC
Ethylbenzene		NC
m & p-Xylene		NC
o-Xylene		NC

Surrogate Recoveries

1,4-Difluorobenzene	102	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478045

Date Received: 11/20/97

Method: SW8020

Field ID: MW-7A

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/97

Units: ug/L

Analyte	Result	Qualifier
---------	--------	-----------

Benzene		NC
Toluene	4700	
Ethylbenzene	1700	
m & p-Xylene	6000	
o-Xylene	2300	

Surrogate Recoveries

1,4-Difluorobenzene	95	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478045 (Dilution - DIL1)

Date Received: 11/20/97

Method: SW8020

Field ID: MW-7A

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/97

Units: ug/L

Analyte	Result	Qualifier
---------	--------	-----------

Benzene	14500	
Toluene		NC
Ethylbenzene		NC
m & p-Xylene		NC
o-Xylene		NC

Surrogate Recoveries

1,4-Difluorobenzene	107	%
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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478046

Date Received: 11/20/97

Method: SW8020

Field ID: MW-4

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/26/97

Units: ug/L

Analyte	Result	Qualifier
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Benzene		NC
Toluene		NC
Ethylbenzene	1900	
m & p-Xylene	8800	
o-Xylene	3400	

Surrogate Recoveries

1,4-Difluorobenzene	94	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478046 (Dilution - DIL1)

Date Received: 11/20/97

Method: SW8020

Field ID: MW-4

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/26/97

Units: ug/L

Analyte	Result	Qualifier
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Benzene	17500	
Toluene	16000	
Ethylbenzene		NC
m & p-Xylene		NC
o-Xylene		NC

Surrogate Recoveries

1,4-Difluorobenzene	113	%
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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts. LIMS Project ID: 1675-97
Sample: 97478046 (Matrix Spike - LMX1) Date Received: 11/20/97 Method: SW8020
Field ID: MW-4 Date Prepared: 11/24/97 Matrix: Water
Project Officer: P. Marti Date Analyzed: 11/26/97 Units: % Recovery

Analyte	Result	Qualifier
Benzene	107	
Toluene	104	
Ethylbenzene	103	
m & p-Xylene	103	
o-Xylene	103	

Surrogate Recoveries

1,4-Difluorobenzene	109	%
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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: 97478046 (Matrix Spike - LMX2) Date Received: 11/20/97 Method: SW8020

Field ID: MW-4 Date Prepared: 11/24/97 Matrix: Water

Project Officer: P. Marti Date Analyzed: 11/26/97 Units: % Recovery

Analyte	Result	Qualifier
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Benzene	92	
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Toluene	92	
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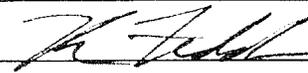
Ethylbenzene	96	
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m & p-Xylene	97	
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o-Xylene	98	
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Surrogate Recoveries

1,4-Difluorobenzene	109	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73372

Method: SW8020

Blank ID: OBW7328A1

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

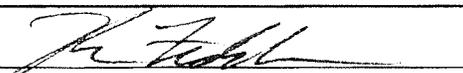
Date Analyzed: 11/24/97

Units: ug/L

Analyte	Result	Qualifier
Benzene	1.0	U
Toluene	1.0	U
Ethylbenzene	1.0	U
m & p-Xylene	2.0	U
o-Xylene	1.0	U

Surrogate Recoveries

1,4-Difluorobenzene	96	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73373

Method: SW8020

Blank ID: OBW7329A1

Date Prepared: 11/24/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/25/97

Units: ug/L

Analyte	Result	Qualifier
Benzene	1.0	U
Toluene	1.0	U
Ethylbenzene	1.0	U
m & p-Xylene	2.0	U
o-Xylene	1.0	U

Surrogate Recoveries

1,4-Difluorobenzene	104	%
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Authorized By: 

Release Date: 12/8/97

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Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Benzene, Ethylbenzene, Toluene, Xylenes

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Sample: BLN73421

Method: SW8020

Blank ID: OBW7330A1

Date Prepared: 11/26/97

Matrix: Water

Project Officer: P. Marti

Date Analyzed: 11/26/97

Units: ug/L

Analyte	Result	Qualifier
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Benzene	1.0	U
Toluene	1.0	U
Ethylbenzene	1.0	U
m & p-Xylene	2.0	U
o-Xylene	1.0	U

Surrogate Recoveries

1,4-Difluorobenzene	99	%
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January 7, 1998

To: P. Marti
From: Randy Knox, ^{RK}Metals Chemist
Subject: Monterey Apts. Water

QUALITY ASSURANCE SUMMARY

Data quality for this project is excellent. No significant quality assurance issues are noted with the data.

SAMPLE INFORMATION

The samples from the Monterey Apts. Project were received by the Manchester Laboratory on 11/20/97 in good condition.

HOLDING TIMES

All analyses were performed within the USEPA Contract Laboratory Program (CLP) holding times for metals analysis (28 days for mercury, 180 days for all other metals).

INSTRUMENT CALIBRATION

Instrument calibration was performed before each analytical run and checked by initial calibration verification standards and blanks. Continuing calibration standards and blanks were analyzed at a frequency of 10% during the run and again at the end of the analytical run. All initial and continuing calibration verification standards were within the relevant USEPA (CLP) control limits. AA calibration gave a correlation coefficient (r) of 0.995 or greater, also meeting CLP calibration requirements.

PROCEDURAL BLANKS

The procedural blanks associated with these samples show no analytically significant levels of analyte.

SPIKED SAMPLES ANALYSIS

Spiked and duplicate spiked sample analyses were performed on this data set. All spike recoveries are within the CLP acceptance limits of +/- 25%.

PRECISION DATA

The results of the spiked and duplicate spiked samples are used to evaluate precision on this sample set. The relative percent difference (RPD) for all analytes is within the 20% CLP acceptance window for duplicate analysis.

LABORATORY CONTROL SAMPLE (LCS) ANALYSIS

LCS analyses are within the windows established for each parameter.

Please call Randy Knox at SCAN 360-871-8811 or Jim Ross at SCAN 360-871-8808 to further discuss this project.

RLK:rlk

Manchester Environmental Laboratory

Department of Ecology

Analysis Report for

Lead, Total Recoverable

Project Name: Monterey Apts.

LIMS Project ID: 1675-97

Project Officer: P. Marti
Date Reported: 06-JAN-98

Method: EPA239.2
Matrix: Water
Analyte: Lead

Sample	QC	Field ID	Result	Qualifier	Units	Received	Analyzed
97478040		MW-10	4.9		ug/L	11/20/97	12/26/97
97478040	Matrix Spike		96 %			11/20/97	12/26/97
97478040	Matrix Spike		87 %			11/20/97	12/26/97
97478041		MW-9	3.3		ug/L	11/20/97	12/26/97
97478042		VP-8	12.7		ug/L	11/20/97	12/26/97
97478043		RW-2	15.4		ug/L	11/20/97	12/26/97
97478044		VP-7	5.0		ug/L	11/20/97	12/26/97
97478045		MW-7A	4.4		ug/L	11/20/97	12/26/97
97478046		MW-4	16.2		ug/L	11/20/97	12/26/97
BLN73594		M7358WB1	1.0	U	ug/L		12/26/97
LCS73595		M7358WL1	105 %				12/26/97

Authorized By: Sally Tull

Release Date: 1/6/98

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