Department of Energy
Albuquerque Operations
Los Alamos Area Office
Los Alamos, New Mexico 87544

LANL
VXII

HSWA 90

DEC 1990
RECEIVED
HAZARDOUS WASTE
PROGRAM

Mr. Allyn M. Davis
Director, Hazardous Waste Management Division
U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, Texas 75202-2733

Report

Dear Mr. Davis,

Enclosed are two (2) copies of the Perched Zone Monitoring Wells Analytical Results for the Los Alamos National Laboratory (LANL). The analytical results from the perched zone monitoring wells are submitted under Special Condition Number C.1 of the Hazardous and Solid Waste Amendments (HSWA) module of the LANL's Resource Conservation and Recovery Act (RCRA) permit. In order to meet the requirements of the permit we are submitting the study within 120 days of well installation. The perched wells were installed earlier this year as part of the same permit condition and were completed on August 22, 1990. The analytical results are, therefore, required to be submitted to your office on December 19, 1990.

The deliverable required contains a brief synopsis of the sampling dates and field procedures as well as the analytical results. An electronic copy of the study is also enclosed. Should you need any further assistance, please call Stephen Fong of my staff at (FTS) 855-5534.

Sincerely,

Jerry L. Bellows
Acting Area Manager

Enclosures
cc:
Kathleen Sisnercs, New Mexico Environmental Improvement Division, Hazardous Waste Bureau, Harold Runnels Building, 1190 St. Francis, Santa Fe, NM 87503, (2) copies enc.
R. Sena, AL, MS-A906, wo/enc.
A. Tiedman, ADO, MS-A120, wo/enc.
B. Vocke, HSE-13, MS-K481, wo/enc.

document in magazine file

8035

TC

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Document Title:

- Perched Zone Monitoring Wells - Analytical Results December 19, 1990

Name: Ronald L. Stanford for Date 12/14/90
Deputy Division Leader
Health, Safety, and Environment
Los Alamos National Laboratory

Name: Gordon Gallegos acting for PAUL SCHUMANN Date 12-17-90
Chief
Environment, Safety, and Health Branch
Los Alamos Area Office - DOE

LA-UR:90-4300

PERCHED ZONE MONITORING WELLS ANALYTICAL RESULTS

ENVIRONMENTAL RESTORATION PROGRAM

December 19, 1990

PERCHED ZONE MONITORING WELLS ANALYTICAL RESULTS

Module VIII of the Hazardous and Solid Waste Permit includes the requirement of Perched Zone Monitoring under Section C.1. In conformance with those requirements, new monitoring wells were installed in several of the canyons. The installation and construction of those wells was previously documented (Perched Zone Monitoring Well Installation, Los Alamos National Laboratory document LA-UR-90-3230, September 1990).

The special condition further requires: "Within 90 days of the installation of wells, the Permittee shall sample each well for Appendix IX constituents. Analytical results from those samples shall be sent to the administrative authority within 120 days of well installation."

In accord with these requirements, the new wells that contained water were sampled on September 11 and 12, 1990. The new wells sampled include MCO-4B, MCO-6B, and MCO-7A in Mortandad Canyon, LAO-3A and LAO-4.5C in Los Alamos Canyon, and APCO-1 in Pueblo Canyon. The samples were submitted to the Los Alamos National Laboratory Environmental and Health Chemistry Group, HSE-9, for analysis of radionuclides, most Appendix IX constituents, and some additional general chemical parameters. These samples were collected and analyzed in accordance with sampling procedures and QA/QC program elements documented in previous submissions to EPA under Special Permit Conditions C.2 and C.7.

At the same time, samples were collected from adjacent older wells in Mortandad and Los Alamos canyons to permit comparison of the results from those wells with results from the new wells constructed in accord with the permit conditions. (The older wells include MCO-4, MCO-6, and MCO-7 in Mortandad Canyon, and LAO-3 and LAO-4 in Los Alamos Canyon.) These older wells have long been monitored under the routine Environmental Surveillance program and data from them have been published annually in the Environmental Surveillance Reports which have been previously submitted to EPA and are now required by Special Permit Condition C.2.

The new wells were also sampled by the International Technology Corporation (IT) on November 1 and 2, 1990, for analysis of the entire Appendix IX list of constituents, including some analyses not presently performed by the Los Alamos Group HSE-9. The IT procedures and QA/QC program are documented in the attached report.

The results of the laboratory analyses are summarized in four attached tables:

Table I summarizes Radiochemical Analyses for Gross Gamma, Gross Alpha, ^{241}Am, Total U, ^{3}H, ^{137}Cs, ^{238}Pu, and $^{239,240}Pu$. All of the constituents were present in locations and amounts expected from the results of the long term monitoring program.

Table II summarizes the Appendix IX Inorganic Constituents. Most of the metals were found in concentrations above detection limits in some or all of the samples, and in general, fit expectations of occurrence based on results of the long term monitoring program. Barium and lead levels were higher than previously observed. Sulfides were found in all the new wells at levels from 1 to 2.8 milligrams/L. Results from the two laboratories were comparable considering possible variation because of approximately seven weeks difference in sampling dates.

Table III summarizes the Appendix IX Organic Compounds Detected. The only Appendix IX organics detected that could not be attributed to minor analytical laboratory contamination included diethylphthalate (1800 micrograms/L) in the sample from one of the old wells (MCO-4.5) and the possible presence of N-nitrosomorpholine (3 micrograms/Liter) in two of the new wells (MCO-4B and MCO-6B) but at levels less than one-third of the reporting limit (10 micrograms/L) for the analytical method.

Table IV summarizes the general chemical parameters analyzed. These results indicate generally good comparability between the paired old and new wells.

All of the detailed analytical laboratory documentation is included as appendixes. The first appendix contains Los Alamos National Laboratory Environmental and Health Chemistry Group (HSE-9) documentation. The documentation is grouped with all radiochemical results first, all organic results second, and all inorganic results third. The second appendix contains the report of results obtained for Los Alamos by International Technology Corporation.

TABLE I

SUMMARY OF RADIOCHEMICAL ANALYSES OF SAMPLES FROM PERCHED ZONE MONITORING WELLS

		PARAMETER (pCi/L except where noted, +/- value is analytical standard deviation)								
WELL	LAB[1]	^{3}H	^{238}Pu	$^{239,240}Pu$	^{137}Cs	^{241}Am	Gross Alpha	Gross Beta (cm/L)	Gross Gamma	Total U (mg/L)
MCO-4B	HSE-9	67000±7000	0.0529±0.0213	0.112±0.027	28±69	1.47±0.10	9±3	120±10	110±80	6.4±0.1
MCO-4	HSE-9	43000±4000	0.371±0.042	1.42±0.92	101±70	4.14±0.19	8±3	160±20	80±80	1.5±0.1
MCO-6B	HSE-9	130000±10000	0.0187±0.0148	0.0327±0.0169	163±73	2.27±0.13	34±8	59±6	10±80	18.1±0.4
MCO-6	HSE-9	100000±10000	1.12±0.01	3.18±0.20	90±71	2.52±0.13	10±3	100±10	180±80	5.9±0.1
MCO-7A	HSE-9	21000±2000	0.0172±0.0106	0.0344±0.0137	20±70	0.375±0.042	7±2	18±2	20±80	6.5±0.2
MCO-7	HSE-9	13000±1000	0.0178±0.0154	0.444±0.0155	87±70	0.216±0.034	3±1	12±1	210±80	1.4±0.1
APCO-1	HSE-9	0±300	0.0038±0.0085	0.152±0.026	46±71	0.0584±0.0178	23±6	18±2	80±80	1.7±0.2
LAO-3A	HSE-9	1100±300	0.0047±0.0081	0.0094±0.0094	0±83	0.0389±0.0168	5±2	130±10	10±80	0.1±0.1
LAO-3	HSE-9	1300±300	0.0089±0.0089	0.0045±0.0077	11±63	0.0635±0.0203	5±2	130±10	20±80	6.6±0.7
LAO-4.5C	HSE-9	700±300	0.039±0.0184	0.0742±0.0197	83±70	0.098±0.216	4±1	9±1	120±80	0.3±0.1
LAO-4.5	HSE-9	700±300	0.0084±0.0103	0.0126±0.0094	2±64	0.171±0.0306	2.4±0.9	7.5±0.9	280±80	0.1±0.1

Notes:

[1] Entry indicates particular sampling date and analytical laboratory performing analyses.

HSE-9 samples collected on September 11 (MCO-4B, MCO-4, MCO-6B, MCO-7A, and MCO-7) or September 12, 1990 (MCO-6, APCO-1, LAO-3A, LAO-3, LAO-4.5C, and LAO-4.5) and analyzed by Los Alamos National Laboratory, Environmental and Health Chemistry Group, HSE-9.

TABLE II

SUMMARY OF APPENDIX IX INORGANIC ANALYSES ON SAMPLES FROM PERCHED ZONE MONITORING WELLS

		PARAMETER (micrograms/L)																		
WELL	LAB[1]	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Ni	Se	Ag	Tl	Sn	V	Zn	CN (mg/L)	Sulfides (mg/L)
MCO-4B	IT	<30	<40	190	<1	<5	<10	<20	10	<30	<1	<20	<60	<5	<40	<20	<10	81	0.01	2.0
	HSE-9	0.5	15.1	337	2.1	0.9	17.3		16.5	42.3	<0.2	10.9	2.5	0.3	0.4		171	72	0.041	
MCO-4	HSE-9	0.7	19.1	128	<0.1	0.9	15.9		17	2.8	<0.2	14.8	2.4	0.2	0.2		215	20	0.036	
MCO-6B	IT	<30	<40	690	4	<5	30	<20	30	70	<1	<20	<60	<5	<40	<20	30	150	<0.01	1.0
	HSE-9	<0.5	12.7	1670	8.3	0.7	22.5		17	163	<0.2	17.3	2.2	1.3	2.1		155	149	0.046	
MCO-6	HSE-9	<0.5	17.7	231	0.4	0.6	19.8		12.3	16.2	<0.2	16.3	2.6	<0.2	0.2		185	43	0.046	
MCO-7A	IT	<30	<40	420	3	<5	20	<20	30	50	<1	30	<60	<5	<40	<20	40	100	<0.01	1.6
	HSE-9	<0.5	15.8	820	4.7	0.7	28		21.2	94	<0.2	20.3	1	0.4	0.8		147	107	0.026	
MCO-7	HSE-9	<0.5	15.6	254	0.9	<0.5	15.8		49.7	16.8	<0.2	10.3	1	0.6	0.2		126	74	0.026	
APCO-1	IT	<30	<40	970	4	<5	30	40	120	80	<1	50	<60	<5	<40	<20	70	200	<0.01	1.6
	HSE-9	0.5	3.5	301	2.1	1.1	29.5		33	10.6	<0.2	37	1.	1.0	0.5		91	123	0.26	

TABLE II (continued)

		PARAMETER (micrograms/L)																		
WELL	LAB[1]	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Ni	Se	Ag	Tl	Sn	V	Zn	CN (mg/L)	Sulfides (mg/L)
LAO-3A	IT	<30	<40	180	2	<5	20	<20	30	40	<1	<20	<60	<5	<40	<20	10	54	<0.01	2.8
	HSE-9	<0.5	<1	96.1	<0.1	0.6	1.9		<1	<0.5	<0.2	3.4	1.7	<0.2	<0.2		<1	<5	0.015	
LAO-4.5C	IT	<30	<40	95	<1	<5	10	<20	30	<30	<1	<20	<60	<5	<40	<20	<10	52	<0.01	2.2
	HSE-9	<0.5	<1	46.5	0.2	0.6	3.2		3	2	<0.2	4.1	<1.	<0.2	<0.2		4.1	20	0.01	
LAO-4.5	HSE-9	<0.5	<1	41.7	0.4	<0.5	14.4		38	<0.5	<0.2	7.3	1.	<0.2	<0.2		100	34	0.01	

Notes:
[1] Entry indicates particular sampling date and analytical laboratory performing analyses.

IT samples collected on November 1,1990, and analyzed by IT Corporation.

HSE-9 samples collected on September 11 (MCO-4B, MCO-4, MCO-6B, MCO-7A, and MCO-7) or September 12, 1990 (MCO-6, APCO-1, LAO-3A, LAO-3, LAO-4.5C, and LAO-4.5) and analyzed by Los Alamos National Laboratory, Environmental and Health Chemistry Group, HSE-9.

TABLE III

SUMMARY OF APPENDIX IX ORGANIC ANALYSES (COMPOUNDS DETECTED) ON SAMPLES FROM PERCHED ZONE MONITORING WELLS[1]

WELL	LAB[2]	RESULTS
MCO-4B	IT HSE-9	N-Nitrosomorpholine, estimated at 3 ug/l, noted by laboratory as below reporting limit of10 ug/L for method.
MCO-4	HSE-9	Diethyl phthalate, 18 ug/L; also found in blank at 13.7 ug/L, analyst judges to be from laboratory contamination.
MCO-6B	IT HSE-9	N-Nitrosomorpholine, estimated at 2 ug/L, noted by laboratory as below reporting limit of 10 ug/L for method Methylene chloride 6 ug/L, analyst judges to be from sample preparation or storage.
MCO-6	HSE-9	
MCO-7A	IT HSE-9	Organophosphorus pesticide sample fraction exceeded holding time one day, nothing detected; resampled on Nov. 30 for reanalysis
MCO-7	HSE-9	1,1,2-Trichloro-1,2,2-trifluoroethane 6 ug/L, analyst judges to be from sample preparation or storage.
APCO-1	IT HSE-9	Carbon disulfide (same level as laboratory blank, about 35 ug/L; analyst judges to be laboratory contamination)
LAO-3A	IT HSE-9	Carbon disulfide (same level as laboratory blank, about 35 ug/L; analyst judges to be laboratory contamination)

TABLE III (continued)

WELL	LAB[2]	RESULTS
LAO-3	HSE-9	Carbon disulfide (same level as laboratory blank, about 35 ug/L; analyst judges to be laboratory contamination)
LAO-4.5C	IT	
	HSE-9	Carbon disulfide (same level as laboratory blank, about 35 ug/L; analyst judges to be laboratory contamination)
LAO-4.5	HSE-9	Carbon disulfide (same level as laboratory blank, about 35 ug/L; analyst judges to be laboratory contamination). Diethylphthalate, 1800 ug/L; 13.7 ug/l in lab blank.

Notes:
[1] This table notes compounds detected and summarizes related interpretations.
See the detailed appendixes of analytical laboratory reports for details on all compounds all compounds analyzed, limits of quantification, and quality assurance information.

[2] Entry indicates particular sampling date and analytical laboratory performing analyses.
IT samples collected on November 1,1990, and analyzed by IT Corporation.

HSE-9 samples collected on September 11 (MCO-4B, MCO-4, MCO-6B, MCO-7A, and MCO-7) or September 12, 1990 (MCO-6, APCO-1, LAO-3A, LAO-3, LAO-4.5C, and LAO-4.5) and analyzed by Los Alamos National Laboratory, Environmental and Health Chemistry Group, HSE-9.

TABLE IV

SUMMARY OF GENERAL CHEMICAL PARAMETER ANALYSES OF SAMPLES FROM PERCHED ZONE MONITORING WELLS

		PARAMETER (mg/L except where noted)													
WELL	LAB[1]	Ca	Mg	K	Na	P	SO4	Cl	NO3-N	Al	Fe	Mn	TDS	pH (pH)	Cond. (µmho/cm)
MCO-4B	HSE-9	55.4	5.66	45.1	209	0.361	46.5	<0.5	50.2	15	–	0.518	712	7.54	717
MCO-4	HSE-9	55.4	3.64	46.5	142	0.276	40.9	19.2	40.5	1.5	–	0.030	568	7.47	635
MCO-6B	HSE-9	53	10.2	32.8	278	0.876	54.9	34.4	15	113	–	2.56	834	7.31	905
MCO-6	HSE-9	57.6	6.61	54.9	268	0.333	49.4	29.3	70.1	8.3	–	0.265	884	7.37	894
MCO-7A	HSE-9	25	5.78	11.3	112.6	0.924	22.9	28.1	18.8	57.4	–	1.62	220	6.96	220
MCO-7	HSE-9	26.9	5.42	8.90	89.6	0.566	21.6	<0.5	13.7	280	–	0.206	280	7.06	300
APCO-1	HSE-9	22.4	3.43	14.8	103	6.12	40	17.3	4.52	448	2.9	1.05	448	7.04	304
LAO-3A	HSE-9	29.1	5.55	12.1	47.9	0.317	20	17.5	1.16	58	<0.02	0.015	274	7.0	257
LAO-3	HSE-9	29.4	5.67	11.7	47.2	0.328	20.3	17.3	1.05	116	15	0.412	234	7.08	294
LAO-4.5C	HSE-9	18.4	5.16	5.93	46	0.146	20.5	13.3	0.094	2.6	0.037	0.011	188	7.01	185
LAO-4.5	HSE-9	4.12	5.05	5.51	46.8	0.161	17.4	13.5	0.073	2.5	<0.02	0.002	154	7.12	201

Notes:
[1] Entry indicates particular sampling date and analytical laboratory performing analyses.

HSE-9 samples collected on September 11 (MCO-4B, MCO-4, MCO-6B, MCO-7A, and MCO-7) or September 12, 1990 (MCO-6, APCO-1, LAO-3A, LAO-3, LAO-4.5C, and LAO-4.5) and analyzed by Los Alamos National Laboratory, Environmental and Health Chemistry Group, HSE-9.

APPENDIX 1.

HSE-9
RADIOCHEMICAL RESULTS

REPORT NUMBER: 8476

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CB on 19-Oct-1990

ANALYSIS: H-3 REQUEST NUMBER: 10762 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

ANALYTICAL TECHNIQUE: LS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
MCO-4	90.17256	43000.	4000.	PCI/L	10/11/90	
MCO-4B	90.17257	67000.	7000.	PCI/L	10/11/90	
MCO-6B	90.17258	130.	10.	NCI/L	10/11/90	
MCO-7	90.17259	13000.	1000.	PCI/L	10/11/90	
MCO-7A	90.17260	21000.	2000.	PCI/L	10/11/90	
MCO-6	90.17261	100.	10.	NCI/L	10/11/90	

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REPORT NUMBER: 8476 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 19-Oct-1990

REQUEST NUMBER: 10762 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
00.20292	00.20292	16000.	2000.	PCI/L	19255.	870.	10/18/90	UNDER CONTROL
00.20292	00.20292	17000.	2000.	PCI/L	19255.	870.	10/18/90	UNDER CONTROL
00.20303	00.20303	400.	300.	PCI/L	0.0		10/18/90	UNDER CONTROL
00.20303	00.20303	300.	300.	PCI/L	0.0		10/18/90	UNDER CONTROL

Analyst	Section Leader	QA Officer
RJP	D Knab	maq
26 Nov 90	11-26-90	11-26-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 8844

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CB on 15-Nov-1990

ANALYSIS: PU-238 REQUEST NUMBER: 10762 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: [illegible]

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: [illegible]

ANALYTICAL TECHNIQUE: RAS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
MCO-4	90.17256	0.371	0.0424	PCI/L	11/15/90	
MCO-4B	90.17257	0.0529	0.0213	PCI/L	11/15/90	
MCO-6B	90.17258	0.0187	0.0148	PCI/L	11/15/90	
MCO-7	90.17259	0.0178	0.0154	PCI/L	11/15/90	
MCO-7A	90.17260	0.0172	0.0106	PCI/L	11/15/90	
MCO-6	90.17261	1.12	0.0103	PCI/L	11/15/90	

OK

****

REPORT NUMBER: 8844 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 15-Nov-1990

REQUEST NUMBER: 10762 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

___✓ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

REPORT NUMBER: 8844			
	RJP	D Kurat	mag
	Analyst	Section Leader	QA Officer
	3 Dec 90	12-3-90	12-3-90
	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8845

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CB on 15-Nov-1990

ANALYSIS: PU-239 REQUEST NUMBER: 10762 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: [illegible]

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: [illegible]

ANALYTICAL TECHNIQUE: RAS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
MCO-4	90.17256	1.42	0.0916	PCI/L	11/15/90	
MCO-4B	90.17257	0.112	0.0273	PCI/L	11/15/90	
MCO-6B	90.17258	0.0327	0.0169	PCI/L	11/15/90	
MCO-7	90.17259	0.0444	0.0155	PCI/L	11/15/90	
MCO-7A	90.17260	0.0344	0.0137	PCI/L	11/15/90	
MCO-6	90.17261	3.18	0.196	PCI/L	11/15/90	

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REPORT NUMBER: 8845 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 15-Nov-1990

REQUEST NUMBER: 10762 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: [illegible]

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following [illegible]

___ Only qualitative data requested

___ Only Blind QC samples run with this sample batch.

✓ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within HSE-9

REPORT NUMBER: 8845

RJP	D Kuset	mag
Analyst	Section Leader	QA Officer
3 Dec 90	12-3-90	12-3-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8766

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: YIG on 8-Nov-1990

ANALYSIS: CS-137 REQUEST NUMBER: 10762 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: [illegible]

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: [illegible]

ANALYTICAL TECHNIQUE: G ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
MCO-4	90.17256	101.	70.4	PCI/L	10/25/90	
MCO-4B	90.17257	28.	69.4	PCI/L	10/25/90	
MCO-6B	90.17258	163.	73.2	PCI/L	10/25/90	
MCO-7	90.17259	86.9	70.	PCI/L	10/25/90	
MCO-7A	90.17260	20.5	70.1	PCI/L	10/25/90	
MCO-6	90.17261	90.3	71.	PCI/L	10/25/90	

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REPORT NUMBER: 8766 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: YIG on 8-Nov-1990

REQUEST NUMBER: 10762 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: [illegible]

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: [illegible]

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
00.00639	00.00639	1070.	183.	PCI/L	1020.	50.	10/25/90	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
90.17262	645.	115.	PCI/L	600.	60.	10/25/90	UNDER CONTROL

REPORT NUMBER: 8766

Analyst	Section Leader	QA Officer
11/8/90		11/9/90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 8914

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CB on 26-Nov-1990

ANALYSIS: AM-241 REQUEST NUMBER: 10762 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

ANALYTICAL TECHNIQUE: RAS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
MCO-4	90.17256	4.14	0.191	PCI/L	11/26/90	
MCO-4B	90.17257	1.47	0.0951	PCI/L	11/26/90	
MCO-6B	90.17258	2.27	0.134	PCI/L	11/26/90	
MCO-7	90.17259	0.216	0.0336	PCI/L	11/26/90	
MCO-7A	90.17260	0.375	0.0421	PCI/L	11/26/90	
MCO-6	90.17261	2.52	0.132	PCI/L	11/26/90	

****

REPORT NUMBER: 8914 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 26-Nov-1990

REQUEST NUMBER: 10762 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: [illegible]

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

REPORT NUMBER: 8914

RJP	D Kuch	mag
Analyst	Section Leader	QA Officer
3 Dec 90	12-3-90	12-3-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 9063

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: YIG on 7-Dec-1990

REQUEST NUMBER: 10762 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
MCO-4	90.17256	ALPHA	8.	3.	PCI/L	10/24/90	
MCO-4	90.17256	BETA	160.	20.	PCI/L	10/24/90	
MCO-4B	90.17257	ALPHA	9.	3.	PCI/L	10/24/90	
MCO-4B	90.17257	BETA	120.	10.	PCI/L	10/24/90	
MCO-6B	90.17258	ALPHA	34.	8.	PCI/L	10/24/90	
MCO-6B	90.17258	BETA	59.	6.	PCI/L	10/24/90	
MCO-7	90.17259	ALPHA	3.	1.	PCI/L	10/24/90	
MCO-7	90.17259	BETA	12.	1.	PCI/L	10/24/90	
MCO-7A	90.17260	ALPHA	7.	2.	PCI/L	10/24/90	
MCO-7A	90.17260	BETA	18.	2.	PCI/L	10/24/90	
MCO-6	90.17261	ALPHA	10.	3.	PCI/L	10/24/90	
MCO-6	90.17261	BETA	100.	10.	PCI/L	10/24/90	

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REPORT NUMBER: 8384

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: YIG on 10-Oct-1990

ANALYSIS: GAMMA REQUEST NUMBER: 10762 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

ANALYTICAL TECHNIQUE: NAI ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM		RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
MCO-4	90.17256	-	80.	80.	CPM/L	10/09/90	
MCO-4B	90.17257	-	110.	80.	CPM/L	10/09/90	
MCO-6B	90.17258	-	10.	80.	CPM/L	10/09/90	
MCO-7	90.17259	-	210.	80.	CPM/L	10/09/90	
MCO-7A	90.17260	-	20.	80.	CPM/L	10/09/90	
MCO-6	90.17261	-	180.	80.	CPM/L	10/09/90	

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REPORT NUMBER: 8384 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: YIG on 10-Oct-1990

REQUEST NUMBER: 10762 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

Analyst	Section Leader	QA Officer
10/11/90	10-12-90	10-12-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 8384

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: YIG on 10-Oct-1990

ANALYSIS: GAMMA REQUEST NUMBER: 10762 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

ANALYTICAL TECHNIQUE: NAI ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM		RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
MCO-4	90.17256	-	80.	80.	CPM/L	10/09/90	
MCO-4B	90.17257	-	110.	80.	CPM/L	10/09/90	
MCO-6B	90.17258	-	10.	80.	CPM/L	10/09/90	
MCO-7	90.17259	-	210.	80.	CPM/L	10/09/90	
MCO-7A	90.17260	-	20.	80.	CPM/L	10/09/90	
MCO-6	90.17261	-	180.	80.	CPM/L	10/09/90	

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REPORT NUMBER: 8384 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: YIG on 10-Oct-1990

REQUEST NUMBER: 10762 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

Analyst	D Kuo Section Leader	mag QA Officer
Date	12-4-90 Date	12-4-90 Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 8342

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: ROBINSON on 5-Oct-1990

ANALYSIS: U REQUEST NUMBER: 10763 MATRIX: WW ANALYST: Richard Robinson PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

ANALYTICAL TECHNIQUE: ICPMS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
MCO-4	90.17256	1.5	0.1	UG/L	10/04/90	TOT REC
MCO-4B	90.17257	6.4	0.1	UG/L	10/04/90	TOT REC
MCO-6B	90.17258	18.1	0.4	UG/L	10/04/90	TOT REC
MCO-7	90.17259	1.4	0.1	UG/L	10/04/90	TOT REC
MCO-7A	90.17260	6.5	0.2	UG/L	10/04/90	TOT REC
MCO-6	90.17261	5.9	0.1	UG/L	10/04/90	TOT REC

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REPORT NUMBER: 8342 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: ROBINSON on 5-Oct-1990

REQUEST NUMBER: 10763 MATRIX: WW ANALYST: Richard Robinson PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA-1

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
00.98625	00.98625	90.8	1.8	UG/L	100.	10.	10/04/90	UNDER CONTROL
00.98625	00.98625	111.	2.2	UG/L	100.	10.	10/04/90	UNDER CONTROL
00.98625	00.98625	103.7	2.	UG/L	100.	10.	10/04/90	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
90.17319	11.5	0.2	UG/L	60.	6.	10/04/90	OUT OF CONTROL

Analyst — Section Leader — QA Officer

10/10/90 — 10-11-90 — 10-12-90

Date — Date — Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8474

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CB on 19-Oct-1990

ANALYSIS: H-3 REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

ANALYTICAL TECHNIQUE: LS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
APCO-1	90.17401	0.0	300.	PCI/L	10/11/90	
LAO-3	90.17402	1300.	300.	PCI/L	10/11/90	
LAO-3A	90.17403	1100.	300.	PCI/L	10/11/90	
LAO-4.5	90.17404	700.	300.	PCI/L	10/11/90	
LAO-4.5C	90.17405	700.	300.	PCI/L	10/11/90	

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REPORT NUMBER: 8474 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 19-Oct-1990

REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
00.20292	00.20292	17000.	2000.	PCI/L	19255.	870.	10/18/90	UNDER CONTROL
00.20292	00.20292	16000.	2000.	PCI/L	19255.	870.	10/18/90	UNDER CONTROL
00.20303	00.20303	400.	300.	PCI/L	0.0		10/18/90	UNDER CONTROL
00.20303	00.20303	300.	300.	PCI/L	0.0		10/18/90	UNDER CONTROL

batch with 10762

RJP	D Knab	mag
Analyst	Section Leader	QA Officer
25 Oct 90	11-1-90	11-5-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 8408

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CB on 11-Oct-1990

ANALYSIS: PU-238 REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

ANALYTICAL TECHNIQUE: RAS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
APCO-1	90.17401 -	0.0038	0.0085	PCI/L	10/11/90	
LAO-3	90.17402	0.0089	0.0089	PCI/L	10/11/90	
LAO-3A	90.17403 -	0.0047	0.0081	PCI/L	10/11/90	
LAO-4.5	90.17404	0.0084	0.0103	PCI/L	10/11/90	
LAO-4.5C	90.17405	0.039	0.0184	PCI/L	10/11/90	

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REPORT NUMBER: 8408 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 11-Oct-1990

REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

Batched with 10762

RJP	D Knab	mag
Analyst	Section Leader	QA Officer
22 Oct 90	11-16-90	11-19-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8409

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CB on 11-Oct-1990

ANALYSIS: PU-239 REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

ANALYTICAL TECHNIQUE: RAS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
APCO-1	90.17401	0.152	0.0256	PCI/L	10/11/90	
LAO-3	90.17402	0.0045	0.0077	PCI/L	10/11/90	
LAO-3A	90.17403	0.0094	0.0094	PCI/L	10/11/90	
LAO-4.5	90.17404	0.0126	0.0094	PCI/L	10/11/90	
LAO-4.5C	90.17405	0.0742	0.0197	PCI/L	10/11/90	

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REPORT NUMBER: 8409 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 11-Oct-1990

REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

batched with 10762

[illegible]	O Knab	mag
Analyst	Section Leader	QA Officer
22 Oct 90	11-16-90	11-19-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8764

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: YIG on 8-Nov-1990

ANALYSIS: CS-137 REQUEST NUMBER: 10775 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: [illegible]

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: [illegible]

ANALYTICAL TECHNIQUE: G ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
APCO-1	90.17401	- 46.1	71.1	PCI/L	10/25/90	
LAO-3	90.17402	10.7	62.9	PCI/L	10/25/90	
LAO-3A	90.17403	- 0.281	83.2	PCI/L	10/25/90	
LAO-4.5	90.17404	1.68	64.3	PCI/L	10/25/90	
LAO-4.5C	90.17405	82.8	70.2	PCI/L	10/25/90	

REPORT NUMBER: 8764 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: YIG on 8-Nov-1990

REQUEST NUMBER: 10775 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: M2[illegible]

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: A[illegible]

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
00.00638	00.00638	1080.	182.	PCI/L	1020.	50.	10/25/90	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
90.17262	636.	116.	PCI/L	600.	60.	10/25/90	UNDER CONTROL

REPORT NUMBER: 8764

Yig		maq
Analyst	Section Leader	QA Officer
11/8/90		11/9/90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8915

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CB on 26-Nov-1990

ANALYSIS: AM-241 REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

ANALYTICAL TECHNIQUE: RAS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
APCO-1	90.17401	0.0584	0.0178	PCI/L	11/26/90	
LAO-3	90.17402	0.0635	0.0203	PCI/L	11/26/90	
LAO-3A	90.17403	0.0389	0.0168	PCI/L	11/26/90	
LAO-4.5	90.17404	0.171	0.0306	PCI/L	11/26/90	
LAO-4.5C	90.17405	0.098	0.0216	PCI/L	11/26/90	

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REPORT NUMBER: 8915 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: CB on 26-Nov-1990

REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reason :

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

REPORT NUMBER: 8915

12 11	D Kuch	mag
Analyst	Section Leader	QA Officer
3 Dec 90	12-3-90	12-3-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8357

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: YIG on 9-Oct-1990

REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
APCO-1	90.17401	ALPHA	23.	6.	PCI/L	10/01/90	
APCO-1	90.17401	BETA	18.	2.	PCI/L	10/01/90	
LAO-3	90.17402	ALPHA	5.	2.	PCI/L	10/01/90	
LAO-3	90.17402	BETA	130.	10.	PCI/L	10/01/90	
LAO-3A	90.17403	ALPHA	5.	2.	PCI/L	10/01/90	
LAO-3A	90.17403	BETA	130.	10.	PCI/L	10/01/90	
LAO-4.5	90.17404	ALPHA	2.4	0.9	PCI/L	10/01/90	
LAO-4.5	90.17404	BETA	7.5	0.9	PCI/L	10/01/90	
LAO-4.5C	90.17405	ALPHA	4.	1.	PCI/L	10/01/90	
LAO-4.5C	90.17405	BETA	9.	1.	PCI/L	10/01/90	

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REPORT NUMBER: 8357 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: YIG on 9-Oct-1990

REQUEST NUMBER: 10775 MATRIX: WW ANALYST: Richard Peters PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

YIG	D Knab	mag
Analyst	Section Leader	QA Officer
10/9/90	10 10 90	10-10-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8383

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: YIG on 10-Oct-1990

ANALYSIS: GAMMA REQUEST NUMBER: 10775 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

ANALYTICAL TECHNIQUE: NAI ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
APCO-1	90.17401	- 80.	80.	CPM/L	10/09/90	
LAO-3	90.17402	- 20.	80.	CPM/L	10/09/90	
LAO-3A	90.17403	- 10.	80.	CPM/L	10/09/90	
LAO-4.5	90.17404	280.	80.	CPM/L	10/09/90	
LAO-4.5C	90.17405	- 120.	80.	CPM/L	10/09/90	

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REPORT NUMBER: 8383 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: YIG on 10-Oct-1990

REQUEST NUMBER: 10775 MATRIX: WW ANALYST: George Brooks PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

Analyst	Section Leader	QA Officer
10/11/90	10-12-90	10-12-90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 8349

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: ROBINSON on 5-Oct-1990

ANALYSIS: U REQUEST NUMBER: 10774 MATRIX: WW ANALYST: Richard Robinson PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

ANALYTICAL TECHNIQUE: ICPMS ANALYTICAL PROCEDURE :

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT
APCO-1	90.17401	1.7	0.2	UG/L	10/04/90	TOT REC
LAO-3	90.17402	6.6	0.7	UG/L	10/04/90	TOT REC
LAO-3A	90.17403	0.1	0.1	UG/L	10/04/90	TOT REC
LAO-4.5	90.17404	0.1	0.1	UG/L	10/04/90	TOT REC
LAO-4.5C	90.17405	0.3	0.1	UG/L	10/04/90	TOT REC

****

REPORT NUMBER: 8349 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT *********

Prepared by: ROBINSON on 5-Oct-1990

REQUEST NUMBER: 10774 MATRIX: WW ANALYST: Richard Robinson PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

CUSTOMER NUM	SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
00.21596	00.21596	49.7	5.	UG/L	45.	4.	10/04/90	UNDER CONTROL
00.21596	00.21596	48.6	4.9	UG/L	45.	4.	10/04/90	UNDER CONTROL
00.21596	00.21596	50.3	5.	UG/L	45.	4.	10/04/90	UNDER CONTROL

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT
90.17319	38.5	3.9	UG/L	60.	6.	10/05/90	OUT OF CONTROL

Analyst — Section Leader — QA Officer

10/10/90 — 10-11-90 — 10/12/90

Date — Date — Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 8548

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4	90.17256	94757	< 0.26		UG/L	10/24/90		2,4-D
MCO-4	90.17256	93765	< 0.05		UG/L	10/24/90		2,4,5-T
MCO-4	90.17256	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

REPORT NUMBER: 8548

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4B	90.17257	94757	< 0.26		UG/L	10/24/90		2,4-D
MCO-4B	90.17257	93765	< 0.05		UG/L	10/24/90		2,4,5-T
MCO-4B	90.17257	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

REPORT NUMBER: 8548

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-6B	90.17258	94757	< 0.26		UG/L	10/24/90		2,4-D
MCO-6B	90.17258	93765	< 0.05		UG/L	10/24/90		2,4,5-T
MCO-6B	90.17258	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

REPORT NUMBER: 8548

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7	90.17259	94757	< 0.26		UG/L	10/24/90		2,4-D
MCO-7	90.17259	93765	< 0.05		UG/L	10/24/90		2,4,5-T
MCO-7	90.17259	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

REPORT NUMBER: 8548

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7A	90.17260	94757	< 0.26		UG/L	10/24/90		2,4-D
MCO-7A	90.17260	93765	< 0.05		UG/L	10/24/90		2,4,5-T
MCO-7A	90.17260	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

REPORT NUMBER: 8548

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-6	90.17261	94757	< 0.26		UG/L	10/24/90		2,4-D
MCO-6	90.17261	93765	< 0.05		UG/L	10/24/90		2,4,5-T
MCO-6	90.17261	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

****

REPORT NUMBER: 8548 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
90.17415	94757	0.63	0.44	UG/L	0.54	0.05	10/24/90	UNDER CONTROL	2,4-D
90.17415	93721	0.31	0.22	UG/L	0.29	0.03	10/24/90	UNDER CONTROL	2,4,5-TP

REPORT NUMBER: 8548

Analyst	Section Leader	QA Officer
10/28/90	10/30/90	
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

REPORT NUMBER: 8204

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: DMS on 19-Sep-1990

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Dee Seitz PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

SUMMARY of TOTAL PCB's for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4	90.17256	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
MCO-4B	90.17257	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
MCO-6B	90.17258	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
MCO-7	90.17259	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
MCO-7A	90.17260	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
MCO-6	90.17261	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor

DETAILED PCB DATA for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4	90.17256	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
MCO-4	90.17256	53469219	< 0.4		UG/L	9/19/90		Aroclor 1242
MCO-4	90.17256	11097691	< 0.4		UG/L	9/19/90		Aroclor 1254
MCO-4	90.17256	11096825	< 0.4		UG/L	9/19/90		Aroclor 1260
MCO-4B	90.17257	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
MCO-4B	90.17257	53469219	< 0.4		UG/L	9/19/90		Aroclor 1242
MCO-4B	90.17257	11097691	< 0.4		UG/L	9/19/90		Aroclor 1254
MCO-4B	90.17257	11096825	< 0.4		UG/L	9/19/90		Aroclor 1260
MCO-6B	90.17258	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor

MCO-6B	90.17258	53469219	< 0.4	UG/L	9/19/90	Aroclor 1242
MCO-6B	90.17258	11097691	< 0.4	UG/L	9/19/90	Aroclor 1254
MCO-6B	90.17258	11096825	< 0.4	UG/L	9/19/90	Aroclor 1260
MCO-7	90.17259	1336363	< 0.4	UG/L	9/19/90	Mixed-Aroclor
MCO-7	90.17259	53469219	< 0.4	UG/L	9/19/90	Aroclor 1242
MCO-7	90.17259	11097691	< 0.4	UG/L	9/19/90	Aroclor 1254
MCO-7	90.17259	11096825	< 0.4	UG/L	9/19/90	Aroclor 1260
MCO-7A	90.17260	1336363	< 0.4	UG/L	9/19/90	Mixed-Aroclor
MCO-7A	90.17260	53469219	< 0.4	UG/L	9/19/90	Aroclor 1242
MCO-7A	90.17260	11097691	< 0.4	UG/L	9/19/90	Aroclor 1254
MCO-7A	90.17260	11096825	< 0.4	UG/L	9/19/90	Aroclor 1260
MCO-6	90.17261	1336363	< 0.4	UG/L	9/19/90	Mixed-Aroclor
MCO-6	90.17261	53469219	< 0.4	UG/L	9/19/90	Aroclor 1242
MCO-6	90.17261	11097691	< 0.4	UG/L	9/19/90	Aroclor 1254
MCO-6	90.17261	11096825	< 0.4	UG/L	9/19/90	Aroclor 1260

****

REPORT NUMBER: 8204 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT **********

Prepared by: DMS on 19-Sep-1990

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Dee Seitz PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

X Only Blind QC samples run with this sample batch.

___ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within HSE-9

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
90.17414	1336363	2.8	0.6	UG/L	1.89	0.45	9/19/90	UNDER CONTROL	Mixed-Aroclor
90.17414	53469219	2.8	0.6	UG/L	1.89	0.45	9/19/90	UNDER CONTROL	Aroclor 1242
90.17414	11097691	< 0.4		UG/L			9/19/90	UNDER CONTROL	Aroclor 1254
90.17414	11096825	< 0.4		UG/L			9/19/90	UNDER CONTROL	Aroclor 1260

Analyst	Section Leader	QA Officer
9/20/90	10/1/90	
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

****

DEC 4, 1990

TO: Max Maes, MS 490, 7-0817

FROM: Peter Del Mar, 7-6011

THRU: Chris Leibman, Section Leader, 7-5889 CL

SUBJECT: Final Report, Request Number 10760 for Pesticides

Attached is the final report for request number 10760.Six water samples were analyzed using Solid Phase Extraction, with analysis by GC/ECD. No target compounds were detected in these samples and holding times were met. Please contact me if you have any questions.

Attachments:

Report Number 8992.

Well Monitoring

REPORT NUMBER: 8992

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17256

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/14/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4	90.17256	309002	< 0.06		UG/L	12/04/90		Aldrin
MCO-4	90.17256	319846	< 0.02		UG/L	12/04/90		alpha-BHC
MCO-4	90.17256	319857	< 0.1		UG/L	12/04/90		beta-BHC
MCO-4	90.17256	319868	< 0.12		UG/L	12/04/90		delta-BHC
MCO-4	90.17256	57749	< 0.25		UG/L	12/04/90		Chlordane
MCO-4	90.17256	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
MCO-4	90.17256	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
MCO-4	90.17256	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
MCO-4	90.17256	60571	< 0.04		UG/L	12/04/90		Dieldrin
MCO-4	90.17256	959988	< 0.05		UG/L	12/04/90		Endosulfan I
MCO-4	90.17256	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
MCO-4	90.17256	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
MCO-4	90.17256	72208	< 0.03		UG/L	12/04/90		Endrin
MCO-4	90.17256	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
MCO-4	90.17256	76448	< 0.03		UG/L	12/04/90		Heptachlor
MCO-4	90.17256	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
MCO-4	90.17256	58899	< 0.03		UG/L	12/04/90		Lindane
MCO-4	90.17256	72435	< 0.08		UG/L	12/04/90		Methoxychlor
MCO-4	90.17256	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17256

none

Customer Sample Duplicate Results for Sample # 90.17256

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17256

none

REPORT NUMBER: 8992

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17257

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/14/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4B	90.17257	309002	< 0.06		UG/L	12/04/90		Aldrin
MCO-4B	90.17257	319846	< 0.02		UG/L	12/04/90		alpha-BHC
MCO-4B	90.17257	319857	< 0.1		UG/L	12/04/90		beta-BHC
MCO-4B	90.17257	319868	< 0.12		UG/L	12/04/90		delta-BHC
MCO-4B	90.17257	57749	< 0.25		UG/L	12/04/90		Chlordane
MCO-4B	90.17257	72548	< 0.08		UG/L	12/04/90		p,p'-DDD
MCO-4B	90.17257	72559	< 0.08		UG/L	12/04/90		p,p'-DDE
MCO-4B	90.17257	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
MCO-4B	90.17257	60571	< 0.08		UG/L	12/04/90		Dieldrin
MCO-4B	90.17257	959988	< 0.05		UG/L	12/04/90		Endosulfan I
MCO-4B	90.17257	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
MCO-4B	90.17257	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
MCO-4B	90.17257	72208	< 0.06		UG/L	12/04/90		Endrin
MCO-4B	90.17257	7421934	< 0.62		UG/L	12/04/90		Endrin aldehyde
MCO-4B	90.17257	76448	< 0.06		UG/L	12/04/90		Heptachlor
MCO-4B	90.17257	1024573	< 0.08		UG/L	12/04/90		Heptachlor epoxide
MCO-4B	90.17257	58899	< 0.06		UG/L	12/04/90		Lindane
MCO-4B	90.17257	72435	< 0.16		UG/L	12/04/90		Methoxychlor
MCO-4B	90.17257	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17257

none

Customer Sample Duplicate Results for Sample # 90.17257

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17257

none

REPORT NUMBER: 8992

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17258

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/14/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-6B	90.17258	309002	< 0.06		UG/L	12/04/90		Aldrin
MCO-6B	90.17258	319846	< 0.02		UG/L	12/04/90		alpha-BHC
MCO-6B	90.17258	319857	< 0.1		UG/L	12/04/90		beta-BHC
MCO-6B	90.17258	319868	< 0.12		UG/L	12/04/90		delta-BHC
MCO-6B	90.17258	57749	< 0.25		UG/L	12/04/90		Chlordane
MCO-6B	90.17258	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
MCO-6B	90.17258	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
MCO-6B	90.17258	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
MCO-6B	90.17258	60571	< 0.04		UG/L	12/04/90		Dieldrin
MCO-6B	90.17258	959988	< 0.05		UG/L	12/04/90		Endosulfan I
MCO-6B	90.17258	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
MCO-6B	90.17258	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
MCO-6B	90.17258	72208	< 0.03		UG/L	12/04/90		Endrin
MCO-6B	90.17258	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
MCO-6B	90.17258	76448	< 0.03		UG/L	12/04/90		Heptachlor
MCO-6B	90.17258	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
MCO-6B	90.17258	58899	< 0.03		UG/L	12/04/90		Lindane
MCO-6B	90.17258	72435	< 0.08		UG/L	12/04/90		Methoxychlor
MCO-6B	90.17258	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17258

none

Customer Sample Duplicate Results for Sample # 90.17258

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17258

none

REPORT NUMBER: 8992

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17259

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/14/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7	90.17259	309002	< 0.06		UG/L	12/04/90		Aldrin
MCO-7	90.17259	319846	< 0.02		UG/L	12/04/90		alpha-BHC
MCO-7	90.17259	319857	< 0.1		UG/L	12/04/90		beta-BHC
MCO-7	90.17259	319868	< 0.12		UG/L	12/04/90		delta-BHC
MCO-7	90.17259	57749	< 0.25		UG/L	12/04/90		Chlordane
MCO-7	90.17259	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
MCO-7	90.17259	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
MCO-7	90.17259	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
MCO-7	90.17259	60571	< 0.04		UG/L	12/04/90		Dieldrin
MCO-7	90.17259	959988	< 0.05		UG/L	12/04/90		Endosulfan I
MCO-7	90.17259	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
MCO-7	90.17259	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
MCO-7	90.17259	72208	< 0.03		UG/L	12/04/90		Endrin
MCO-7	90.17259	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
MCO-7	90.17259	76448	< 0.03		UG/L	12/04/90		Heptachlor
MCO-7	90.17259	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
MCO-7	90.17259	58899	< 0.03		UG/L	12/04/90		Lindane
MCO-7	90.17259	72435	< 0.08		UG/L	12/04/90		Methoxychlor
MCO-7	90.17259	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17259

none

Customer Sample Duplicate Results for Sample # 90.17259

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17259

none

REPORT NUMBER: 8992

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17260

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/14/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7A	90.17260	309002	< 0.06		UG/L	12/04/90		Aldrin
MCO-7A	90.17260	319846	< 0.02		UG/L	12/04/90		alpha-BHC
MCO-7A	90.17260	319857	< 0.1		UG/L	12/04/90		beta-BHC
MCO-7A	90.17260	319868	< 0.12		UG/L	12/04/90		delta-BHC
MCO-7A	90.17260	57749	< 0.25		UG/L	12/04/90		Chlordane
MCO-7A	90.17260	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
MCO-7A	90.17260	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
MCO-7A	90.17260	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
MCO-7A	90.17260	60571	< 0.04		UG/L	12/04/90		Dieldrin
MCO-7A	90.17260	959988	< 0.05		UG/L	12/04/90		Endosulfan I
MCO-7A	90.17260	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
MCO-7A	90.17260	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
MCO-7A	90.17260	72208	< 0.03		UG/L	12/04/90		Endrin
MCO-7A	90.17260	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
MCO-7A	90.17260	76448	< 0.03		UG/L	12/04/90		Heptachlor
MCO-7A	90.17260	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
MCO-7A	90.17260	58899	< 0.03		UG/L	12/04/90		Lindane
MCO-7A	90.17260	72435	< 0.08		UG/L	12/04/90		Methoxychlor
MCO-7A	90.17260	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17260

none

Customer Sample Duplicate Results for Sample # 90.17260

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17260

none

REPORT NUMBER: 8992

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17261

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/14/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-6	90.17261	309002	< 0.06		UG/L	12/04/90		Aldrin
MCO-6	90.17261	319846	< 0.02		UG/L	12/04/90		alpha-BHC
MCO-6	90.17261	319857	< 0.1		UG/L	12/04/90		beta-BHC
MCO-6	90.17261	319868	< 0.12		UG/L	12/04/90		delta-BHC
MCO-6	90.17261	57749	< 0.25		UG/L	12/04/90		Chlordane
MCO-6	90.17261	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
MCO-6	90.17261	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
MCO-6	90.17261	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
MCO-6	90.17261	60571	< 0.04		UG/L	12/04/90		Dieldrin
MCO-6	90.17261	959988	< 0.05		UG/L	12/04/90		Endosulfan I
MCO-6	90.17261	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
MCO-6	90.17261	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
MCO-6	90.17261	72208	< 0.03		UG/L	12/04/90		Endrin
MCO-6	90.17261	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
MCO-6	90.17261	76448	< 0.03		UG/L	12/04/90		Heptachlor
MCO-6	90.17261	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
MCO-6	90.17261	58899	< 0.03		UG/L	12/04/90		Lindane
MCO-6	90.17261	72435	< 0.08		UG/L	12/04/90		Methoxychlor
MCO-6	90.17261	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17261

none

Customer Sample Duplicate Results for Sample # 90.17261

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17261

none

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REPORT NUMBER: 8992 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

none

Blank Spike Results

none

Blank Spike Duplicate Results

none

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 90.17416

Date Collected: 9/12/90 Date Received: 9/13/90 Date Extracted: 9/14/90 Date Analyzed: 10/05/90

SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
90.17416	309002	< 0.06		UG/L	0.0		12/04/90	UNDER CONTROL	Aldrin
90.17416	319846	< 0.02		UG/L	0.0		12/04/90	UNDER CONTROL	alpha-BHC
90.17416	319857	< 0.1		UG/L	0.0		12/04/90	UNDER CONTROL	beta-BHC
90.17416	319868	< 0.12		UG/L	0.0		12/04/90	UNDER CONTROL	delta-BHC
90.17416	57749	< 0.25		UG/L	0.0		12/04/90	UNDER CONTROL	Chlordane
90.17416	72548	< 0.04		UG/L	0.0		12/04/90	UNDER CONTROL	p,p'-DDD
90.17416	72559	0.17	0.08	UG/L	0.25	0.02	12/04/90	UNDER CONTROL	p,p'-DDE
90.17416	50293	< 0.06		UG/L	0.0		12/04/90	UNDER CONTROL	p,p'-DDT
90.17416	60571	< 0.04		UG/L	0.0		12/04/90	UNDER CONTROL	Dieldrin
90.17416	959988	< 0.05		UG/L	0.0		12/04/90	UNDER CONTROL	Endosulfan I
90.17416	33213659	< 0.08		UG/L	0.0		12/04/90	UNDER CONTROL	Endosulfan II
90.17416	1031078	< 0.09		UG/L	0.0		12/04/90	UNDER CONTROL	Endosulfan sulfate
90.17416	72208	< 0.03		UG/L	0.0		12/04/90	UNDER CONTROL	Endrin
90.17416	7421934	< 0.31		UG/L	0.0		12/04/90	UNDER CONTROL	Endrin aldehyde

90.17416	76448	< 0.03		UG/L		0.0		12/04/90	UNDER CONTROL	Heptachlor
90.17416	1024573	0.22	0.1	UG/L		0.23	0.02	12/04/90	UNDER CONTROL	Heptachlor epoxide
90.17416	58899	0.15	0.07	UG/L	*	0.18	0.02	12/04/90	UNDER CONTROL	Lindane
90.17416	72435	0.68	0.34	UG/L		0.68	0.07	12/04/90	UNDER CONTROL	Methoxychlor
90.17416	8001352	< 2.5		UG/L		0.0		12/04/90	UNDER CONTROL	Toxaphene

Surrogate results for EPA PESTICIDES

Dibutyl chlorendate (CAS # = 96); EPA Range Limits: Water = **-*** %, Soil = **-*** %

SAMPLE NUMBER	RESULT	UNITS	COMPLETION DATE	COMMENT
90.17256	0.0	NOSURR	12/04/90	
90.17257	0.0	NOSURR	12/04/90	
90.17258	0.0	NOSURR	12/04/90	
90.17259	0.0	NOSURR	12/04/90	
90.17260	0.0	NOSURR	12/04/90	
90.17261	0.0	NOSURR	12/04/90	
90.17416	0.0	NOSURR	12/04/90	

REPORT NUMBER: 8992

Analyst	Reviewer	Section Leader	QA Officer
12/4/90	12/4/90	12/4/90	
Date	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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SEPTEMBER 19, 1990

TO: MAX MAES
THRU: CHRIS LEIBMAN
FROM: LAURA TSIAGKOURIS
REQUEST #: 10760

The following water samples were analyzed for Volatile Organic Components (VOC's) using a SW 846 Purge & Trap (P/T) GC/MS method 8260 of analysis:

90.17256 MCO-4	90.17257 MCO 4B	90.17258 MCO-6B
90.17259 MCO-7	90.17260 MCO-7A	90.17261 MCO-6
90.17400		

Since the final results are <u>not</u> blank subtracted, the results from the associated method blanks (samples 90.17436 and 90.17560) have been included in the report. **The 14 day holding time for preserved water samples was satisfied.**

<u>RESULTS:</u>

As indicated on the **FINAL** report, the analysis of samples 90.17256, 90.17257, 90.17260, 90.17261 and 90.17400 (#90.17400 is the trip blank) did not detect any of the target VOC's at or above the level of quantitation (LOQ). The detection of low level VOC's in samples 90.17258 and 90.17259 is most likely due to contamination from storage and/or preparation of the samples. The samples did not contain any non-target VOC's at a significant level. The surrogate recoveries were within the control limit for all samples except for sample 90.17400. 1,2-Dichloroethane-d4 was above the upper control limit in sample 90.17400.

QC Summary for Request 90.10760

Sample 90.17256 was used as the matrix spike media by adding 10 uL of the matrix spike mix to two separate 5 mL aliquots. The accurancy and precision for all spiked cmponents were within control limits.

REPORT NUMBER: 8264

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 26-Sep-1990

EPA VOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Laura Tsiagkouris PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

Customer Sample Results, Sample # 90.17256

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 9/13/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4	90.17256	67641	< 20.		UG/L	9/21/90		Acetone
MCO-4	90.17256	107028	< 100.		UG/L	9/21/90		Acrolein
MCO-4	90.17256	107131	< 100.		UG/L	9/21/90		Acrylonitrile
MCO-4	90.17256	71432	< 5.		UG/L	9/21/90		Benzene
MCO-4	90.17256	108861	< 5.		UG/L	9/21/90		Bromobenzene
MCO-4	90.17256	74975	< 5.		UG/L	9/21/90		Bromochloromethane
MCO-4	90.17256	75274	< 5.		UG/L	9/21/90		Bromodichloromethane
MCO-4	90.17256	75252	< 5.		UG/L	9/21/90		Bromoform
MCO-4	90.17256	74839	< 10.		UG/L	9/21/90		Bromomethane
MCO-4	90.17256	78933	< 20.		UG/L	9/21/90		2-Butanone
MCO-4	90.17256	104518	< 5.		UG/L	9/21/90		n-Butylbenzene
MCO-4	90.17256	135988	< 5.		UG/L	9/21/90		sec-Butylbenzene
MCO-4	90.17256	98066	< 5.		UG/L	9/21/90		tert-Butylbenzene
MCO-4	90.17256	75150	< 5.		UG/L	9/21/90		Carbon disulfide
MCO-4	90.17256	56235	< 5.		UG/L	9/21/90		Carbon tetrachloride
MCO-4	90.17256	108907	< 5.		UG/L	9/21/90		Chlorobenzene
MCO-4	90.17256	124481	< 5.		UG/L	9/21/90		Chlorodibromomethane
MCO-4	90.17256	75003	< 10.		UG/L	9/21/90		Chloroethane
MCO-4	90.17256	110758	< 50.		UG/L	9/21/90		2-Chloroethylvinyl ether
MCO-4	90.17256	67663	< 5.		UG/L	9/21/90		Chloroform
MCO-4	90.17256	74873	< 10.		UG/L	9/21/90		Chloromethane
MCO-4	90.17256	95498	< 5.		UG/L	9/21/90		o-Chlorotoluene

MCO-4	90.17256	106434	< 5.	UG/L	9/21/90	p-Chlorotoluene
MCO-4	90.17256	96128	< 10.	UG/L	9/21/90	1,2-Dibromo-3-chloropropane
MCO-4	90.17256	106934	< 5.	UG/L	9/21/90	1,2-Dibromoethane
MCO-4	90.17256	74953	< 5.	UG/L	9/21/90	Dibromomethane
MCO-4	90.17256	95501	< 5.	UG/L	9/21/90	o-Dichlorobenzene (1,2)
MCO-4	90.17256	541731	< 5.	UG/L	9/21/90	m-Dichlorobenzene (1,3)
MCO-4	90.17256	106467	< 5.	UG/L	9/21/90	p-Dichlorobenzene (1,4)
MCO-4	90.17256	75718	< 10.	UG/L	9/21/90	Dichlorodifluoromethane
MCO-4	90.17256	75343	< 5.	UG/L	9/21/90	1,1-Dichloroethane
MCO-4	90.17256	107062	< 5.	UG/L	9/21/90	1,2-Dichloroethane
MCO-4	90.17256	75354	< 5.	UG/L	9/21/90	1,1-Dichloroethene
MCO-4	90.17256	156605	< 5.	UG/L	9/21/90	trans-1,2-Dichloroethene
MCO-4	90.17256	156592	< 5.	UG/L	9/21/90	cis-1,2-Dichloroethylene
MCO-4	90.17256	78875	< 5.	UG/L	9/21/90	1,2-Dichloropropane
MCO-4	90.17256	142289	< 5.	UG/L	9/21/90	1,3-Dichloropropane
MCO-4	90.17256	594207	< 5.	UG/L	9/21/90	2,2-Dichloropropane
MCO-4	90.17256	563586	< 5.	UG/L	9/21/90	1,1-Dichloropropene
MCO-4	90.17256	10061015	< 5.	UG/L	9/21/90	cis-1,3-Dichloropropene
MCO-4	90.17256	10061026	< 5.	UG/L	9/21/90	trans-1,3-Dichloropropene
MCO-4	90.17256	100414	< 5.	UG/L	9/21/90	Ethylbenzene
MCO-4	90.17256	87683	< 5.	UG/L	9/21/90	Hexachlorobutadiene
MCO-4	90.17256	591786	< 20.	UG/L	9/21/90	2-Hexanone
MCO-4	90.17256	98828	< 5.	UG/L	9/21/90	Isopropylbenzene
MCO-4	90.17256	99876	< 5.	UG/L	9/21/90	4-Isopropyltoluene
MCO-4	90.17256	74884	< 5.	UG/L	9/21/90	Methyl iodide
MCO-4	90.17256	108101	< 20.	UG/L	9/21/90	4-Methyl-2-pentanone
MCO-4	90.17256	75092	< 5.	UG/L	9/21/90	Methylene chloride
MCO-4	90.17256	91203	< 5.	UG/L	9/21/90	Naphthalene
MCO-4	90.17256	103651	< 5.	UG/L	9/21/90	Propylbenzene
MCO-4	90.17256	100425	< 5.	UG/L	9/21/90	Styrene
MCO-4	90.17256	630206	< 5.	UG/L	9/21/90	1,1,1,2-Tetrachloroethane
MCO-4	90.17256	79345	< 5.	UG/L	9/21/90	1,1,2,2-Tetrachloroethane
MCO-4	90.17256	127184	< 5.	UG/L	9/21/90	Tetrachloroethylene
MCO-4	90.17256	108883	< 5.	UG/L	9/21/90	Toluene
MCO-4	90.17256	76131	< 5.	UG/L	9/21/90	1,1,2-Trichloro-1,2,2-trifluoroethane
MCO-4	90.17256	87616	< 5.	UG/L	9/21/90	1,2,3-Trichlorobenzene
MCO-4	90.17256	120821	< 5.	UG/L	9/21/90	1,2,4-Trichlorobenzene
MCO-4	90.17256	71556	< 5.	UG/L	9/21/90	1,1,1-Trichloroethane
MCO-4	90.17256	79005	< 5.	UG/L	9/21/90	1,1,2-Trichloroethane
MCO-4	90.17256	79016	< 5.	UG/L	9/21/90	Trichloroethene
MCO-4	90.17256	75694	< 5.	UG/L	9/21/90	Trichlorofluoromethane
MCO-4	90.17256	96184	< 5.	UG/L	9/21/90	1,2,3-Trichloropropane
MCO-4	90.17256	95636	< 5.	UG/L	9/21/90	1,2,4-Trimethylbenzene
MCO-4	90.17256	108678	< 5.	UG/L	9/21/90	1,3,5-Trimethylbenzene
MCO-4	90.17256	108054	< 10.	UG/L	9/21/90	Vinyl acetate
MCO-4	90.17256	75014	< 10.	UG/L	9/21/90	Vinyl chloride

MCO-4	90.17256	1330207	< 5.		UG/L	9/21/90	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 90.17256

none

Customer Sample Duplicate Results for Sample # 90.17256

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17256

none

Matrix Spike Results for Sample # 90.17256

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4	90.17256	71432	50.	56.	UG/L	9/21/90		Benzene
MCO-4	90.17256	108907	50.	48.	UG/L	9/21/90		Chlorobenzene
MCO-4	90.17256	75343	50.	50.	UG/L	9/21/90		1,1-Dichloroethane
MCO-4	90.17256	108883	50.	48.	UG/L	9/21/90		Toluene
MCO-4	90.17256	79016	50.	51.	UG/L	9/21/90		Trichloroethene

Matrix Spike Duplicate Results for Sample # 90.17256

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4	90.17256	71432	50.	53.	UG/L	9/21/90		Benzene
MCO-4	90.17256	108907	50.	45.	UG/L	9/21/90		Chlorobenzene
MCO-4	90.17256	75343	50.	50.	UG/L	9/21/90		1,1-Dichloroethane
MCO-4	90.17256	108883	50.	48.	UG/L	9/21/90		Toluene
MCO-4	90.17256	79016	50.	47.	UG/L	9/21/90		Trichloroethene

REPORT NUMBER: 8264

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 26-Sep-1990

EPA VOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Laura Tsiagkouris PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

Customer Sample Results, Sample # 90.17257

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 9/13/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4B	90.17257	67641	< 20.		UG/L	9/21/90		Acetone
MCO-4B	90.17257	107028	< 100.		UG/L	9/21/90		Acrolein
MCO-4B	90.17257	107131	< 100.		UG/L	9/21/90		Acrylonitrile
MCO-4B	90.17257	71432	< 5.		UG/L	9/21/90		Benzene
MCO-4B	90.17257	108861	< 5.		UG/L	9/21/90		Bromobenzene
MCO-4B	90.17257	74975	< 5.		UG/L	9/21/90		Bromochloromethane
MCO-4B	90.17257	75274	< 5.		UG/L	9/21/90		Bromodichloromethane
MCO-4B	90.17257	75252	< 5.		UG/L	9/21/90		Bromoform
MCO-4B	90.17257	74839	< 10.		UG/L	9/21/90		Bromomethane
MCO-4B	90.17257	78933	< 20.		UG/L	9/21/90		2-Butanone
MCO-4B	90.17257	104518	< 5.		UG/L	9/21/90		n-Butylbenzene
MCO-4B	90.17257	135988	< 5.		UG/L	9/21/90		sec-Butylbenzene
MCO-4B	90.17257	98066	< 5.		UG/L	9/21/90		tert-Butylbenzene
MCO-4B	90.17257	75150	< 5.		UG/L	9/21/90		Carbon disulfide
MCO-4B	90.17257	56235	< 5.		UG/L	9/21/90		Carbon tetrachloride
MCO-4B	90.17257	108907	< 5.		UG/L	9/21/90		Chlorobenzene
MCO-4B	90.17257	124481	< 5.		UG/L	9/21/90		Chlorodibromomethane
MCO-4B	90.17257	75003	< 10.		UG/L	9/21/90		Chloroethane
MCO-4B	90.17257	110758	< 50.		UG/L	9/21/90		2-Chloroethylvinyl ether
MCO-4B	90.17257	67663	< 5.		UG/L	9/21/90		Chloroform
MCO-4B	90.17257	74873	< 10.		UG/L	9/21/90		Chloromethane
MCO-4B	90.17257	95498	< 5.		UG/L	9/21/90		o-Chlorotoluene

MCO-4B	90.17257	106434	< 5.	UG/L	9/21/90	p-Chlorotoluene
MCO-4B	90.17257	96128	< 10.	UG/L	9/21/90	1,2-Dibromo-3-chloropropane
MCO-4B	90.17257	106934	< 5.	UG/L	9/21/90	1,2-Dibromoethane
MCO-4B	90.17257	74953	< 5.	UG/L	9/21/90	Dibromomethane
MCO-4B	90.17257	95501	< 5.	UG/L	9/21/90	o-Dichlorobenzene (1,2)
MCO-4B	90.17257	541731	< 5.	UG/L	9/21/90	m-Dichlorobenzene (1,3)
MCO-4B	90.17257	106467	< 5.	UG/L	9/21/90	p-Dichlorobenzene (1,4)
MCO-4B	90.17257	75718	< 10.	UG/L	9/21/90	Dichlorodifluoromethane
MCO-4B	90.17257	75343	< 5.	UG/L	9/21/90	1,1-Dichloroethane
MCO-4B	90.17257	107062	< 5.	UG/L	9/21/90	1,2-Dichloroethane
MCO-4B	90.17257	75354	< 5.	UG/L	9/21/90	1,1-Dichloroethene
MCO-4B	90.17257	156605	< 5.	UG/L	9/21/90	trans-1,2-Dichloroethene
MCO-4B	90.17257	156592	< 5.	UG/L	9/21/90	cis-1,2-Dichloroethylene
MCO-4B	90.17257	78875	< 5.	UG/L	9/21/90	1,2-Dichloropropane
MCO-4B	90.17257	142289	< 5.	UG/L	9/21/90	1,3-Dichloropropane
MCO-4B	90.17257	594207	< 5.	UG/L	9/21/90	2,2-Dichloropropane
MCO-4B	90.17257	563586	< 5.	UG/L	9/21/90	1,1-Dichloropropene
MCO-4B	90.17257	10061015	< 5.	UG/L	9/21/90	cis-1,3-Dichloropropene
MCO-4B	90.17257	10061026	< 5.	UG/L	9/21/90	trans-1,3-Dichloropropene
MCO-4B	90.17257	100414	< 5.	UG/L	9/21/90	Ethylbenzene
MCO-4B	90.17257	87683	< 5.	UG/L	9/21/90	Hexachlorobutadiene
MCO-4B	90.17257	591786	< 20.	UG/L	9/21/90	2-Hexanone
MCO-4B	90.17257	98828	< 5.	UG/L	9/21/90	Isopropylbenzene
MCO-4B	90.17257	99876	< 5.	UG/L	9/21/90	4-Isopropyltoluene
MCO-4B	90.17257	74884	< 5.	UG/L	9/21/90	Methyl iodide
MCO-4B	90.17257	108101	< 20.	UG/L	9/21/90	4-Methyl-2-pentanone
MCO-4B	90.17257	75092	< 5.	UG/L	9/21/90	Methylene chloride
MCO-4B	90.17257	91203	< 5.	UG/L	9/21/90	Naphthalene
MCO-4B	90.17257	103651	< 5.	UG/L	9/21/90	Propylbenzene
MCO-4B	90.17257	100425	< 5.	UG/L	9/21/90	Styrene
MCO-4B	90.17257	630206	< 5.	UG/L	9/21/90	1,1,1,2-Tetrachloroethane
MCO-4B	90.17257	79345	< 5.	UG/L	9/21/90	1,1,2,2-Tetrachloroethane
MCO-4B	90.17257	127184	< 5.	UG/L	9/21/90	Tetrachloroethylene
MCO-4B	90.17257	108883	< 5.	UG/L	9/21/90	Toluene
MCO-4B	90.17257	76131	< 5.	UG/L	9/21/90	1,1,2-Trichloro-1,2,2-trifluoroethane
MCO-4B	90.17257	87616	< 5.	UG/L	9/21/90	1,2,3-Trichlorobenzene
MCO-4B	90.17257	120821	< 5.	UG/L	9/21/90	1,2,4-Trichlorobenzene
MCO-4B	90.17257	71556	< 5.	UG/L	9/21/90	1,1,1-Trichloroethane
MCO-4B	90.17257	79005	< 5.	UG/L	9/21/90	1,1,2-Trichloroethane
MCO-4B	90.17257	79016	< 5.	UG/L	9/21/90	Trichloroethene
MCO-4B	90.17257	75694	< 5.	UG/L	9/21/90	Trichlorofluoromethane
MCO-4B	90.17257	96184	< 5.	UG/L	9/21/90	1,2,3-Trichloropropane
MCO-4B	90.17257	95636	< 5.	UG/L	9/21/90	1,2,4-Trimethylbenzene
MCO-4B	90.17257	108678	< 5.	UG/L	9/21/90	1,3,5-Trimethylbenzene
MCO-4B	90.17257	108054	< 10.	UG/L	9/21/90	Vinyl acetate
MCO-4B	90.17257	75014	< 10.	UG/L	9/21/90	Vinyl chloride

MCO-4B	90.17257	1330207	< 5.	UG/L	9/21/90	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 90.17257

none

Customer Sample Duplicate Results for Sample # 90.17257

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17257

none

Matrix Spike Results for Sample # 90.17257

none

Matrix Spike Duplicate Results for Sample # 90.17257

none

REPORT NUMBER: 8264

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 26-Sep-1990

EPA VOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Laura Tsiagkouris PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

Customer Sample Results, Sample # 90.17258

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/17/90 Date Analyzed: 9/17/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-6B	90.17258	67641	< 20.		UG/L	9/21/90		Acetone
MCO-6B	90.17258	107028	< 100.		UG/L	9/21/90		Acrolein
MCO-6B	90.17258	107131	< 100.		UG/L	9/21/90		Acrylonitrile
MCO-6B	90.17258	71432	< 5.		UG/L	9/21/90		Benzene
MCO-6B	90.17258	108861	< 5.		UG/L	9/21/90		Bromobenzene
MCO-6B	90.17258	74975	< 5.		UG/L	9/21/90		Bromochloromethane
MCO-6B	90.17258	75274	< 5.		UG/L	9/21/90		Bromodichloromethane
MCO-6B	90.17258	75252	< 5.		UG/L	9/21/90		Bromoform
MCO-6B	90.17258	74839	< 10.		UG/L	9/21/90		Bromomethane
MCO-6B	90.17258	78933	< 20.		UG/L	9/21/90		2-Butanone
MCO-6B	90.17258	104518	< 5.		UG/L	9/21/90		n-Butylbenzene
MCO-6B	90.17258	135988	< 5.		UG/L	9/21/90		sec-Butylbenzene
MCO-6B	90.17258	98066	< 5.		UG/L	9/21/90		tert-Butylbenzene
MCO-6B	90.17258	75150	< 5.		UG/L	9/21/90		Carbon disulfide
MCO-6B	90.17258	56235	< 5.		UG/L	9/21/90		Carbon tetrachloride
MCO-6B	90.17258	108907	< 5.		UG/L	9/21/90		Chlorobenzene
MCO-6B	90.17258	124481	< 5.		UG/L	9/21/90		Chlorodibromomethane
MCO-6B	90.17258	75003	< 10.		UG/L	9/21/90		Chloroethane
MCO-6B	90.17258	110758	< 50.		UG/L	9/21/90		2-Chloroethylvinyl ether
MCO-6B	90.17258	67663	< 5.		UG/L	9/21/90		Chloroform
MCO-6B	90.17258	74873	< 10.		UG/L	9/21/90		Chloromethane
MCO-6B	90.17258	95498	< 5.		UG/L	9/21/90		o-Chlorotoluene

MCO-6B	90.17258	106434	< 5.		UG/L	9/21/90	p-Chlorotoluene
MCO-6B	90.17258	96128	< 10.		UG/L	9/21/90	1,2-Dibromo-3-chloropropane
MCO-6B	90.17258	106934	< 5.		UG/L	9/21/90	1,2-Dibromoethane
MCO-6B	90.17258	74953	< 5.		UG/L	9/21/90	Dibromomethane
MCO-6B	90.17258	95501	< 5.		UG/L	9/21/90	o-Dichlorobenzene (1,2)
MCO-6B	90.17258	541731	< 5.		UG/L	9/21/90	m-Dichlorobenzene (1,3)
MCO-6B	90.17258	106467	< 5.		UG/L	9/21/90	p-Dichlorobenzene (1,4)
MCO-6B	90.17258	75718	< 10.		UG/L	9/21/90	Dichlorodifluoromethane
MCO-6B	90.17258	75343	< 5.		UG/L	9/21/90	1,1-Dichloroethane
MCO-6B	90.17258	107062	< 5.		UG/L	9/21/90	1,2-Dichloroethane
MCO-6B	90.17258	75354	< 5.		UG/L	9/21/90	1,1-Dichloroethene
MCO-6B	90.17258	156605	< 5.		UG/L	9/21/90	trans-1,2-Dichloroethene
MCO-6B	90.17258	156592	< 5.		UG/L	9/21/90	cis-1,2-Dichloroethylene
MCO-6B	90.17258	78875	< 5.		UG/L	9/21/90	1,2-Dichloropropane
MCO-6B	90.17258	142289	< 5.		UG/L	9/21/90	1,3-Dichloropropane
MCO-6B	90.17258	594207	< 5.		UG/L	9/21/90	2,2-Dichloropropane
MCO-6B	90.17258	563586	< 5.		UG/L	9/21/90	1,1-Dichloropropene
MCO-6B	90.17258	10061015	< 5.		UG/L	9/21/90	cis-1,3-Dichloropropene
MCO-6B	90.17258	10061026	< 5.		UG/L	9/21/90	trans-1,3-Dichloropropene
MCO-6B	90.17258	100414	< 5.		UG/L	9/21/90	Ethylbenzene
MCO-6B	90.17258	87683	< 5.		UG/L	9/21/90	Hexachlorobutadiene
MCO-6B	90.17258	591786	< 20.		UG/L	9/21/90	2-Hexanone
MCO-6B	90.17258	98828	< 5.		UG/L	9/21/90	Isopropylbenzene
MCO-6B	90.17258	99876	< 5.		UG/L	9/21/90	4-Isopropyltoluene
MCO-6B	90.17258	74884	< 5.		UG/L	9/21/90	Methyl iodide
MCO-6B	90.17258	108101	< 20.		UG/L	9/21/90	4-Methyl-2-pentanone
MCO-6B	90.17258	75092	6.	1.8	UG/L	9/21/90	Methylene chloride
MCO-6B	90.17258	91203	< 5.		UG/L	9/21/90	Naphthalene
MCO-6B	90.17258	103651	< 5.		UG/L	9/21/90	Propylbenzene
MCO-6B	90.17258	100425	< 5.		UG/L	9/21/90	Styrene
MCO-6B	90.17258	630206	< 5.		UG/L	9/21/90	1,1,1,2-Tetrachloroethane
MCO-6B	90.17258	79345	< 5.		UG/L	9/21/90	1,1,2,2-Tetrachloroethane
MCO-6B	90.17258	127184	< 5.		UG/L	9/21/90	Tetrachloroethylene
MCO-6B	90.17258	108883	< 5.		UG/L	9/21/90	Toluene
MCO-6B	90.17258	76131	< 5.		UG/L	9/21/90	1,1,2-Trichloro-1,2,2-trifluoroethane
MCO-6B	90.17258	87616	< 5.		UG/L	9/21/90	1,2,3-Trichlorobenzene
MCO-6B	90.17258	120821	< 5.		UG/L	9/21/90	1,2,4-Trichlorobenzene
MCO-6B	90.17258	71556	< 5.		UG/L	9/21/90	1,1,1-Trichloroethane
MCO-6B	90.17258	79005	< 5.		UG/L	9/21/90	1,1,2-Trichloroethane
MCO-6B	90.17258	79016	< 5.		UG/L	9/21/90	Trichloroethene
MCO-6B	90.17258	75694	< 5.		UG/L	9/21/90	Trichlorofluoromethane
MCO-6B	90.17258	96184	< 5.		UG/L	9/21/90	1,2,3-Trichloropropane
MCO-6B	90.17258	95636	< 5.		UG/L	9/21/90	1,2,4-Trimethylbenzene
MCO-6B	90.17258	108678	< 5.		UG/L	9/21/90	1,3,5-Trimethylbenzene
MCO-6B	90.17258	108054	< 10.		UG/L	9/21/90	Vinyl acetate
MCO-6B	90.17258	75014	< 10.		UG/L	9/21/90	Vinyl chloride

MCO-6B	90.17258	1330207	< 5.	UG/L	9/21/90	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 90.17258

none

Customer Sample Duplicate Results for Sample # 90.17258

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17258

none

Matrix Spike Results for Sample # 90.17258

none

Matrix Spike Duplicate Results for Sample # 90.17258

none

REPORT NUMBER: 8264

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 26-Sep-1990

EPA VOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Laura Tsiagkouris PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

Customer Sample Results, Sample # 90.17259

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/17/90 Date Analyzed: 9/17/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7	90.17259	67641	< 20.		UG/L	9/21/90		Acetone
MCO-7	90.17259	107028	< 100.		UG/L	9/21/90		Acrolein
MCO-7	90.17259	107131	< 100.		UG/L	9/21/90		Acrylonitrile
MCO-7	90.17259	71432	< 5.		UG/L	9/21/90		Benzene
MCO-7	90.17259	108861	< 5.		UG/L	9/21/90		Bromobenzene
MCO-7	90.17259	74975	< 5.		UG/L	9/21/90		Bromochloromethane
MCO-7	90.17259	75274	< 5.		UG/L	9/21/90		Bromodichloromethane
MCO-7	90.17259	75252	< 5.		UG/L	9/21/90		Bromoform
MCO-7	90.17259	74839	< 10.		UG/L	9/21/90		Bromomethane
MCO-7	90.17259	78933	< 20.		UG/L	9/21/90		2-Butanone
MCO-7	90.17259	104518	< 5.		UG/L	9/21/90		n-Butylbenzene
MCO-7	90.17259	135988	< 5.		UG/L	9/21/90		sec-Butylbenzene
MCO-7	90.17259	98066	< 5.		UG/L	9/21/90		tert-Butylbenzene
MCO-7	90.17259	75150	< 5.		UG/L	9/21/90		Carbon disulfide
MCO-7	90.17259	56235	< 5.		UG/L	9/21/90		Carbon tetrachloride
MCO-7	90.17259	108907	< 5.		UG/L	9/21/90		Chlorobenzene
MCO-7	90.17259	124481	< 5.		UG/L	9/21/90		Chlorodibromomethane
MCO-7	90.17259	75003	< 10.		UG/L	9/21/90		Chloroethane
MCO-7	90.17259	110758	< 50.		UG/L	9/21/90		2-Chloroethylvinyl ether
MCO-7	90.17259	67663	< 5.		UG/L	9/21/90		Chloroform
MCO-7	90.17259	74873	< 10.		UG/L	9/21/90		Chloromethane
MCO-7	90.17259	95498	< 5.		UG/L	9/21/90		o-Chlorotoluene

MCO-7	90.17259	106434	< 5.		UG/L	9/21/90	p-Chlorotoluene
MCO-7	90.17259	96128	< 10.		UG/L	9/21/90	1,2-Dibromo-3-chloropropane
MCO-7	90.17259	106934	< 5.		UG/L	9/21/90	1,2-Dibromoethane
MCO-7	90.17259	74953	< 5.		UG/L	9/21/90	Dibromomethane
MCO-7	90.17259	95501	< 5.		UG/L	9/21/90	o-Dichlorobenzene (1,2)
MCO-7	90.17259	541731	< 5.		UG/L	9/21/90	m-Dichlorobenzene (1,3)
MCO-7	90.17259	106467	< 5.		UG/L	9/21/90	p-Dichlorobenzene (1,4)
MCO-7	90.17259	75718	< 10.		UG/L	9/21/90	Dichlorodifluoromethane
MCO-7	90.17259	75343	< 5.		UG/L	9/21/90	1,1-Dichloroethane
MCO-7	90.17259	107062	< 5.		UG/L	9/21/90	1,2-Dichloroethane
MCO-7	90.17259	75354	< 5.		UG/L	9/21/90	1,1-Dichloroethene
MCO-7	90.17259	156605	< 5.		UG/L	9/21/90	trans-1,2-Dichloroethene
MCO-7	90.17259	156592	< 5.		UG/L	9/21/90	cis-1,2-Dichloroethylene
MCO-7	90.17259	78875	< 5.		UG/L	9/21/90	1,2-Dichloropropane
MCO-7	90.17259	142289	< 5.		UG/L	9/21/90	1,3-Dichloropropane
MCO-7	90.17259	594207	< 5.		UG/L	9/21/90	2,2-Dichloropropane
MCO-7	90.17259	563586	< 5.		UG/L	9/21/90	1,1-Dichloropropene
MCO-7	90.17259	10061015	< 5.		UG/L	9/21/90	cis-1,3-Dichloropropene
MCO-7	90.17259	10061026	< 5.		UG/L	9/21/90	trans-1,3-Dichloropropene
MCO-7	90.17259	100414	< 5.		UG/L	9/21/90	Ethylbenzene
MCO-7	90.17259	87683	< 5.		UG/L	9/21/90	Hexachlorobutadiene
MCO-7	90.17259	591786	< 20.		UG/L	9/21/90	2-Hexanone
MCO-7	90.17259	98828	< 5.		UG/L	9/21/90	Isopropylbenzene
MCO-7	90.17259	99876	< 5.		UG/L	9/21/90	4-Isopropyltoluene
MCO-7	90.17259	74884	< 5.		UG/L	9/21/90	Methyl iodide
MCO-7	90.17259	108101	< 20.		UG/L	9/21/90	4-Methyl-2-pentanone
MCO-7	90.17259	75092	< 5.		UG/L	9/21/90	Methylene chloride
MCO-7	90.17259	91203	< 5.		UG/L	9/21/90	Naphthalene
MCO-7	90.17259	103651	< 5.		UG/L	9/21/90	Propylbenzene
MCO-7	90.17259	100425	< 5.		UG/L	9/21/90	Styrene
MCO-7	90.17259	630206	< 5.		UG/L	9/21/90	1,1,1,2-Tetrachloroethane
MCO-7	90.17259	79345	< 5.		UG/L	9/21/90	1,1,2,2-Tetrachloroethane
MCO-7	90.17259	127184	< 5.		UG/L	9/21/90	Tetrachloroethylene
MCO-7	90.17259	108883	< 5.		UG/L	9/21/90	Toluene
MCO-7	90.17259	76131	6.	1.8	UG/L	9/21/90	1,1,2-Trichloro-1,2,2-trifluoroethane
MCO-7	90.17259	87616	< 5.		UG/L	9/21/90	1,2,3-Trichlorobenzene
MCO-7	90.17259	120821	< 5.		UG/L	9/21/90	1,2,4-Trichlorobenzene
MCO-7	90.17259	71556	< 5.		UG/L	9/21/90	1,1,1-Trichloroethane
MCO-7	90.17259	79005	< 5.		UG/L	9/21/90	1,1,2-Trichloroethane
MCO-7	90.17259	79016	< 5.		UG/L	9/21/90	Trichloroethene
MCO-7	90.17259	75694	< 5.		UG/L	9/21/90	Trichlorofluoromethane
MCO-7	90.17259	96184	< 5.		UG/L	9/21/90	1,2,3-Trichloropropane
MCO-7	90.17259	95636	< 5.		UG/L	9/21/90	1,2,4-Trimethylbenzene
MCO-7	90.17259	108678	< 5.		UG/L	9/21/90	1,3,5-Trimethylbenzene
MCO-7	90.17259	108054	< 10.		UG/L	9/21/90	Vinyl acetate
MCO-7	90.17259	75014	< 10.		UG/L	9/21/90	Vinyl chloride

MCO-7	90.17259	1330207	< 5.	UG/L	9/21/90	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 90.17259

none

Customer Sample Duplicate Results for Sample # 90.17259

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17259

none

Matrix Spike Results for Sample # 90.17259

none

Matrix Spike Duplicate Results for Sample # 90.17259

none

REPORT NUMBER: 8264

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 26-Sep-1990

EPA VOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Laura Tsiagkouris PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

Customer Sample Results, Sample # 90.17260

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/17/90 Date Analyzed: 9/17/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7A	90.17260	67641	< 20.		UG/L	9/21/90		Acetone
MCO-7A	90.17260	107028	< 100.		UG/L	9/21/90		Acrolein
MCO-7A	90.17260	107131	< 100.		UG/L	9/21/90		Acrylonitrile
MCO-7A	90.17260	71432	< 5.		UG/L	9/21/90		Benzene
MCO-7A	90.17260	108861	< 5.		UG/L	9/21/90		Bromobenzene
MCO-7A	90.17260	74975	< 5.		UG/L	9/21/90		Bromochloromethane
MCO-7A	90.17260	75274	< 5.		UG/L	9/21/90		Bromodichloromethane
MCO-7A	90.17260	75252	< 5.		UG/L	9/21/90		Bromoform
MCO-7A	90.17260	74839	< 10.		UG/L	9/21/90		Bromomethane
MCO-7A	90.17260	78933	< 20.		UG/L	9/21/90		2-Butanone
MCO-7A	90.17260	104518	< 5.		UG/L	9/21/90		n-Butylbenzene
MCO-7A	90.17260	135988	< 5.		UG/L	9/21/90		sec-Butylbenzene
MCO-7A	90.17260	98066	< 5.		UG/L	9/21/90		tert-Butylbenzene
MCO-7A	90.17260	75150	< 5.		UG/L	9/21/90		Carbon disulfide
MCO-7A	90.17260	56235	< 5.		UG/L	9/21/90		Carbon tetrachloride
MCO-7A	90.17260	108907	< 5.		UG/L	9/21/90		Chlorobenzene
MCO-7A	90.17260	124481	< 5.		UG/L	9/21/90		Chlorodibromomethane
MCO-7A	90.17260	75003	< 10.		UG/L	9/21/90		Chloroethane
MCO-7A	90.17260	110758	< 50.		UG/L	9/21/90		2-Chloroethylvinyl ether
MCO-7A	90.17260	67663	< 5.		UG/L	9/21/90		Chloroform
MCO-7A	90.17260	74873	< 10.		UG/L	9/21/90		Chloromethane
MCO-7A	90.17260	95498	< 5.		UG/L	9/21/90		o-Chlorotoluene

MCO-7A	90.17260	106434	< 5.	UG/L	9/21/90	p-Chlorotoluene
MCO-7A	90.17260	96128	< 10.	UG/L	9/21/90	1,2-Dibromo-3-chloropropane
MCO-7A	90.17260	106934	< 5.	UG/L	9/21/90	1,2-Dibromoethane
MCO-7A	90.17260	74953	< 5.	UG/L	9/21/90	Dibromomethane
MCO-7A	90.17260	95501	< 5.	UG/L	9/21/90	o-Dichlorobenzene (1,2)
MCO-7A	90.17260	541731	< 5.	UG/L	9/21/90	m-Dichlorobenzene (1,3)
MCO-7A	90.17260	106467	< 5.	UG/L	9/21/90	p-Dichlorobenzene (1,4)
MCO-7A	90.17260	75718	< 10.	UG/L	9/21/90	Dichlorodifluoromethane
MCO-7A	90.17260	75343	< 5.	UG/L	9/21/90	1,1-Dichloroethane
MCO-7A	90.17260	107062	< 5.	UG/L	9/21/90	1,2-Dichloroethane
MCO-7A	90.17260	75354	< 5.	UG/L	9/21/90	1,1-Dichloroethene
MCO-7A	90.17260	156605	< 5.	UG/L	9/21/90	trans-1,2-Dichloroethene
MCO-7A	90.17260	156592	< 5.	UG/L	9/21/90	cis-1,2-Dichloroethylene
MCO-7A	90.17260	78875	< 5.	UG/L	9/21/90	1,2-Dichloropropane
MCO-7A	90.17260	142289	< 5.	UG/L	9/21/90	1,3-Dichloropropane
MCO-7A	90.17260	594207	< 5.	UG/L	9/21/90	2,2-Dichloropropane
MCO-7A	90.17260	563586	< 5.	UG/L	9/21/90	1,1-Dichloropropene
MCO-7A	90.17260	10061015	< 5.	UG/L	9/21/90	cis-1,3-Dichloropropene
MCO-7A	90.17260	10061026	< 5.	UG/L	9/21/90	trans-1,3-Dichloropropene
MCO-7A	90.17260	100414	< 5.	UG/L	9/21/90	Ethylbenzene
MCO-7A	90.17260	87683	< 5.	UG/L	9/21/90	Hexachlorobutadiene
MCO-7A	90.17260	591786	< 20.	UG/L	9/21/90	2-Hexanone
MCO-7A	90.17260	98828	< 5.	UG/L	9/21/90	Isopropylbenzene
MCO-7A	90.17260	99876	< 5.	UG/L	9/21/90	4-Isopropyltoluene
MCO-7A	90.17260	74884	< 5.	UG/L	9/21/90	Methyl iodide
MCO-7A	90.17260	108101	< 20.	UG/L	9/21/90	4-Methyl-2-pentanone
MCO-7A	90.17260	75092	< 5.	UG/L	9/21/90	Methylene chloride
MCO-7A	90.17260	91203	< 5.	UG/L	9/21/90	Naphthalene
MCO-7A	90.17260	103651	< 5.	UG/L	9/21/90	Propylbenzene
MCO-7A	90.17260	100425	< 5.	UG/L	9/21/90	Styrene
MCO-7A	90.17260	630206	< 5.	UG/L	9/21/90	1,1,1,2-Tetrachloroethane
MCO-7A	90.17260	79345	< 5.	UG/L	9/21/90	1,1,2,2-Tetrachloroethane
MCO-7A	90.17260	127184	< 5.	UG/L	9/21/90	Tetrachloroethylene
MCO-7A	90.17260	108883	< 5.	UG/L	9/21/90	Toluene
MCO-7A	90.17260	76131	< 5.	UG/L	9/21/90	1,1,2-Trichloro-1,2,2-trifluoroethane
MCO-7A	90.17260	87616	< 5.	UG/L	9/21/90	1,2,3-Trichlorobenzene
MCO-7A	90.17260	120821	< 5.	UG/L	9/21/90	1,2,4-Trichlorobenzene
MCO-7A	90.17260	71556	< 5.	UG/L	9/21/90	1,1,1-Trichloroethane
MCO-7A	90.17260	79005	< 5.	UG/L	9/21/90	1,1,2-Trichloroethane
MCO-7A	90.17260	79016	< 5.	UG/L	9/21/90	Trichloroethene
MCO-7A	90.17260	75694	< 5.	UG/L	9/21/90	Trichlorofluoromethane
MCO-7A	90.17260	96184	< 5.	UG/L	9/21/90	1,2,3-Trichloropropane
MCO-7A	90.17260	95636	< 5.	UG/L	9/21/90	1,2,4-Trimethylbenzene
MCO-7A	90.17260	108678	< 5.	UG/L	9/21/90	1,3,5-Trimethylbenzene
MCO-7A	90.17260	108054	< 10.	UG/L	9/21/90	Vinyl acetate
MCO-7A	90.17260	75014	< 10.	UG/L	9/21/90	Vinyl chloride

MCO-7A	90.17260	1330207	< 5.	UG/L	9/21/90	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 90.17260

none

Customer Sample Duplicate Results for Sample # 90.17260

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17260

none

Matrix Spike Results for Sample # 90.17260

none

Matrix Spike Duplicate Results for Sample # 90.17260

none

REPORT NUMBER: 8264

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 26-Sep-1990

EPA VOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Laura Tsiagkouris PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

Customer Sample Results, Sample # 90.17261

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/17/90 Date Analyzed: 9/17/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-6	90.17261	67641	< 20.		UG/L	9/21/90		Acetone
MCO-6	90.17261	107028	< 100.		UG/L	9/21/90		Acrolein
MCO-6	90.17261	107131	< 100.		UG/L	9/21/90		Acrylonitrile
MCO-6	90.17261	71432	< 5.		UG/L	9/21/90		Benzene
MCO-6	90.17261	108861	< 5.		UG/L	9/21/90		Bromobenzene
MCO-6	90.17261	74975	< 5.		UG/L	9/21/90		Bromochloromethane
MCO-6	90.17261	75274	< 5.		UG/L	9/21/90		Bromodichloromethane
MCO-6	90.17261	75252	< 5.		UG/L	9/21/90		Bromoform
MCO-6	90.17261	74839	< 10.		UG/L	9/21/90		Bromomethane
MCO-6	90.17261	78933	< 20.		UG/L	9/21/90		2-Butanone
MCO-6	90.17261	104518	< 5.		UG/L	9/21/90		n-Butylbenzene
MCO-6	90.17261	135988	< 5.		UG/L	9/21/90		sec-Butylbenzene
MCO-6	90.17261	98066	< 5.		UG/L	9/21/90		tert-Butylbenzene
MCO-6	90.17261	75150	< 5.		UG/L	9/21/90		Carbon disulfide
MCO-6	90.17261	56235	< 5.		UG/L	9/21/90		Carbon tetrachloride
MCO-6	90.17261	108907	< 5.		UG/L	9/21/90		Chlorobenzene
MCO-6	90.17261	124481	< 5.		UG/L	9/21/90		Chlorodibromomethane
MCO-6	90.17261	75003	< 10.		UG/L	9/21/90		Chloroethane
MCO-6	90.17261	110758	< 50.		UG/L	9/21/90		2-Chloroethylvinyl ether
MCO-6	90.17261	67663	< 5.		UG/L	9/21/90		Chloroform
MCO-6	90.17261	74873	< 10.		UG/L	9/21/90		Chloromethane
MCO-6	90.17261	95498	< 5.		UG/L	9/21/90		o-Chlorotoluene

MCO-6	90.17261	106434	< 5.	UG/L	9/21/90	p-Chlorotoluene
MCO-6	90.17261	96128	< 10.	UG/L	9/21/90	1,2-Dibromo-3-chloropropane
MCO-6	90.17261	106934	< 5.	UG/L	9/21/90	1,2-Dibromoethane
MCO-6	90.17261	74953	< 5.	UG/L	9/21/90	Dibromomethane
MCO-6	90.17261	95501	< 5.	UG/L	9/21/90	o-Dichlorobenzene (1,2)
MCO-6	90.17261	541731	< 5.	UG/L	9/21/90	m-Dichlorobenzene (1,3)
MCO-6	90.17261	106467	< 5.	UG/L	9/21/90	p-Dichlorobenzene (1,4)
MCO-6	90.17261	75718	< 10.	UG/L	9/21/90	Dichlorodifluoromethane
MCO-6	90.17261	75343	< 5.	UG/L	9/21/90	1,1-Dichloroethane
MCO-6	90.17261	107062	< 5.	UG/L	9/21/90	1,2-Dichloroethane
MCO-6	90.17261	75354	< 5.	UG/L	9/21/90	1,1-Dichloroethene
MCO-6	90.17261	156605	< 5.	UG/L	9/21/90	trans-1,2-Dichloroethene
MCO-6	90.17261	156592	< 5.	UG/L	9/21/90	cis-1,2-Dichloroethylene
MCO-6	90.17261	78875	< 5.	UG/L	9/21/90	1,2-Dichloropropane
MCO-6	90.17261	142289	< 5.	UG/L	9/21/90	1,3-Dichloropropane
MCO-6	90.17261	594207	< 5.	UG/L	9/21/90	2,2-Dichloropropane
MCO-6	90.17261	563586	< 5.	UG/L	9/21/90	1,1-Dichloropropene
MCO-6	90.17261	10061015	< 5.	UG/L	9/21/90	cis-1,3-Dichloropropene
MCO-6	90.17261	10061026	< 5.	UG/L	9/21/90	trans-1,3-Dichloropropene
MCO-6	90.17261	100414	< 5.	UG/L	9/21/90	Ethylbenzene
MCO-6	90.17261	87683	< 5.	UG/L	9/21/90	Hexachlorobutadiene
MCO-6	90.17261	591786	< 20.	UG/L	9/21/90	2-Hexanone
MCO-6	90.17261	98828	< 5.	UG/L	9/21/90	Isopropylbenzene
MCO-6	90.17261	99876	< 5.	UG/L	9/21/90	4-Isopropyltoluene
MCO-6	90.17261	74884	< 5.	UG/L	9/21/90	Methyl iodide
MCO-6	90.17261	108101	< 20.	UG/L	9/21/90	4-Methyl-2-pentanone
MCO-6	90.17261	75092	< 5.	UG/L	9/21/90	Methylene chloride
MCO-6	90.17261	91203	< 5.	UG/L	9/21/90	Naphthalene
MCO-6	90.17261	103651	< 5.	UG/L	9/21/90	Propylbenzene
MCO-6	90.17261	100425	< 5.	UG/L	9/21/90	Styrene
MCO-6	90.17261	630206	< 5.	UG/L	9/21/90	1,1,1,2-Tetrachloroethane
MCO-6	90.17261	79345	< 5.	UG/L	9/21/90	1,1,2,2-Tetrachloroethane
MCO-6	90.17261	127184	< 5.	UG/L	9/21/90	Tetrachloroethylene
MCO-6	90.17261	108883	< 5.	UG/L	9/21/90	Toluene
MCO-6	90.17261	76131	< 5.	UG/L	9/21/90	1,1,2-Trichloro-1,2,2-trifluoroethane
MCO-6	90.17261	87616	< 5.	UG/L	9/21/90	1,2,3-Trichlorobenzene
MCO-6	90.17261	120821	< 5.	UG/L	9/21/90	1,2,4-Trichlorobenzene
MCO-6	90.17261	71556	< 5.	UG/L	9/21/90	1,1,1-Trichloroethane
MCO-6	90.17261	79005	< 5.	UG/L	9/21/90	1,1,2-Trichloroethane
MCO-6	90.17261	79016	< 5.	UG/L	9/21/90	Trichloroethene
MCO-6	90.17261	75694	< 5.	UG/L	9/21/90	Trichlorofluoromethane
MCO-6	90.17261	96184	< 5.	UG/L	9/21/90	1,2,3-Trichloropropane
MCO-6	90.17261	95636	< 5.	UG/L	9/21/90	1,2,4-Trimethylbenzene
MCO-6	90.17261	108678	< 5.	UG/L	9/21/90	1,3,5-Trimethylbenzene
MCO-6	90.17261	108054	< 10.	UG/L	9/21/90	Vinyl acetate
MCO-6	90.17261	75014	< 10.	UG/L	9/21/90	Vinyl chloride

MCO-6	90.17261	1330207	< 5.	UG/L	9/21/90	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 90.17261

none

Customer Sample Duplicate Results for Sample # 90.17261

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17261

none

Matrix Spike Results for Sample # 90.17261

none

Matrix Spike Duplicate Results for Sample # 90.17261

none

REPORT NUMBER: 8264

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: EAJ on 26-Sep-1990

EPA VOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Laura Tsiagkouris PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

Customer Sample Results, Sample # 90.17400

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 9/13/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
TRIP BLANK	90.17400	67641	< 20.		UG/L	9/21/90		Acetone
TRIP BLANK	90.17400	107028	< 100.		UG/L	9/21/90		Acrolein
TRIP BLANK	90.17400	107131	< 100.		UG/L	9/21/90		Acrylonitrile
TRIP BLANK	90.17400	71432	< 5.		UG/L	9/21/90		Benzene
TRIP BLANK	90.17400	108861	< 5.		UG/L	9/21/90		Bromobenzene
TRIP BLANK	90.17400	74975	< 5.		UG/L	9/21/90		Bromochloromethane
TRIP BLANK	90.17400	75274	< 5.		UG/L	9/21/90		Bromodichloromethane
TRIP BLANK	90.17400	75252	< 5.		UG/L	9/21/90		Bromoform
TRIP BLANK	90.17400	74839	< 10.		UG/L	9/21/90		Bromomethane
TRIP BLANK	90.17400	78933	< 20.		UG/L	9/21/90		2-Butanone
TRIP BLANK	90.17400	104518	< 5.		UG/L	9/21/90		n-Butylbenzene
TRIP BLANK	90.17400	135988	< 5.		UG/L	9/21/90		sec-Butylbenzene
TRIP BLANK	90.17400	98066	< 5.		UG/L	9/21/90		tert-Butylbenzene
TRIP BLANK	90.17400	75150	< 5.		UG/L	9/21/90		Carbon disulfide
TRIP BLANK	90.17400	56235	< 5.		UG/L	9/21/90		Carbon tetrachloride
TRIP BLANK	90.17400	108907	< 5.		UG/L	9/21/90		Chlorobenzene
TRIP BLANK	90.17400	124481	< 5.		UG/L	9/21/90		Chlorodibromomethane
TRIP BLANK	90.17400	75003	< 10.		UG/L	9/21/90		Chloroethane
TRIP BLANK	90.17400	110758	< 50.		UG/L	9/21/90		2-Chloroethylvinyl ether
TRIP BLANK	90.17400	67663	< 5.		UG/L	9/21/90		Chloroform
TRIP BLANK	90.17400	74873	< 10.		UG/L	9/21/90		Chloromethane
TRIP BLANK	90.17400	95498	< 5.		UG/L	9/21/90		o-Chlorotoluene

TRIP BLANK	90.17400	106434	< 5.	UG/L	9/21/90	p-Chlorotoluene
TRIP BLANK	90.17400	96128	< 10.	UG/L	9/21/90	1,2-Dibromo-3-chloropropane
TRIP BLANK	90.17400	106934	< 5.	UG/L	9/21/90	1,2-Dibromoethane
TRIP BLANK	90.17400	74953	< 5.	UG/L	9/21/90	Dibromomethane
TRIP BLANK	90.17400	95501	< 5.	UG/L	9/21/90	o-Dichlorobenzene (1,2)
TRIP BLANK	90.17400	541731	< 5.	UG/L	9/21/90	m-Dichlorobenzene (1,3)
TRIP BLANK	90.17400	106467	< 5.	UG/L	9/21/90	p-Dichlorobenzene (1,4)
TRIP BLANK	90.17400	75718	< 10.	UG/L	9/21/90	Dichlorodifluoromethane
TRIP BLANK	90.17400	75343	< 5.	UG/L	9/21/90	1,1-Dichloroethane
TRIP BLANK	90.17400	107062	< 5.	UG/L	9/21/90	1,2-Dichloroethane
TRIP BLANK	90.17400	75354	< 5.	UG/L	9/21/90	1,1-Dichloroethene
TRIP BLANK	90.17400	156605	< 5.	UG/L	9/21/90	trans-1,2-Dichloroethene
TRIP BLANK	90.17400	156592	< 5.	UG/L	9/21/90	cis-1,2-Dichloroethylene
TRIP BLANK	90.17400	78875	< 5.	UG/L	9/21/90	1,2-Dichloropropane
TRIP BLANK	90.17400	142289	< 5.	UG/L	9/21/90	1,3-Dichloropropane
TRIP BLANK	90.17400	594207	< 5.	UG/L	9/21/90	2,2-Dichloropropane
TRIP BLANK	90.17400	563586	< 5.	UG/L	9/21/90	1,1-Dichloropropene
TRIP BLANK	90.17400	10061015	< 5.	UG/L	9/21/90	cis-1,3-Dichloropropene
TRIP BLANK	90.17400	10061026	< 5.	UG/L	9/21/90	trans-1,3-Dichloropropene
TRIP BLANK	90.17400	100414	< 5.	UG/L	9/21/90	Ethylbenzene
TRIP BLANK	90.17400	87683	< 5.	UG/L	9/21/90	Hexachlorobutadiene
TRIP BLANK	90.17400	591786	< 20.	UG/L	9/21/90	2-Hexanone
TRIP BLANK	90.17400	98828	< 5.	UG/L	9/21/90	Isopropylbenzene
TRIP BLANK	90.17400	99876	< 5.	UG/L	9/21/90	4-Isopropyltoluene
TRIP BLANK	90.17400	74884	< 5.	UG/L	9/21/90	Methyl iodide
TRIP BLANK	90.17400	108101	< 20.	UG/L	9/21/90	4-Methyl-2-pentanone
TRIP BLANK	90.17400	75092	< 5.	UG/L	9/21/90	Methylene chloride
TRIP BLANK	90.17400	91203	< 5.	UG/L	9/21/90	Naphthalene
TRIP BLANK	90.17400	103651	< 5.	UG/L	9/21/90	Propylbenzene
TRIP BLANK	90.17400	100425	< 5.	UG/L	9/21/90	Styrene
TRIP BLANK	90.17400	630206	< 5.	UG/L	9/21/90	1,1,1,2-Tetrachloroethane
TRIP BLANK	90.17400	79345	< 5.	UG/L	9/21/90	1,1,2,2-Tetrachloroethane
TRIP BLANK	90.17400	127184	< 5.	UG/L	9/21/90	Tetrachloroethylene
TRIP BLANK	90.17400	108883	< 5.	UG/L	9/21/90	Toluene
TRIP BLANK	90.17400	76131	< 5.	UG/L	9/21/90	1,1,2-Trichloro-1,2,2-trifluoroethane
TRIP BLANK	90.17400	87616	< 5.	UG/L	9/21/90	1,2,3-Trichlorobenzene
TRIP BLANK	90.17400	120821	< 5.	UG/L	9/21/90	1,2,4-Trichlorobenzene
TRIP BLANK	90.17400	71556	< 5.	UG/L	9/21/90	1,1,1-Trichloroethane
TRIP BLANK	90.17400	79005	< 5.	UG/L	9/21/90	1,1,2-Trichloroethane
TRIP BLANK	90.17400	79016	< 5.	UG/L	9/21/90	Trichloroethene
TRIP BLANK	90.17400	75694	< 5.	UG/L	9/21/90	Trichlorofluoromethane
TRIP BLANK	90.17400	96184	< 5.	UG/L	9/21/90	1,2,3-Trichloropropane
TRIP BLANK	90.17400	95636	< 5.	UG/L	9/21/90	1,2,4-Trimethylbenzene
TRIP BLANK	90.17400	108678	< 5.	UG/L	9/21/90	1,3,5-Trimethylbenzene
TRIP BLANK	90.17400	108054	< 10.	UG/L	9/21/90	Vinyl acetate
TRIP BLANK	90.17400	75014	< 10.	UG/L	9/21/90	Vinyl chloride

TRIP BLANK	90.17400	1330207	< 5.	UG/L	9/21/90	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Customer Sample # 90.17400

none

Customer Sample Duplicate Results for Sample # 90.17400

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17400

none

Matrix Spike Results for Sample # 90.17400

none

Matrix Spike Duplicate Results for Sample # 90.17400

none

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REPORT NUMBER: 8264 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT **********

Prepared by: EAJ on 26-Sep-1990

EPA VOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Laura Tsiagkouris PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID:

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN

00.20226	90.17436	67641	< 20.		UG/L	9/21/90	UNDER CONTROL	Acetone
00.20226	90.17436	107028	< 100.	•	UG/L	9/21/90	UNDER CONTROL	Acrolein
00.20226	90.17436	107131	< 100.		UG/L	9/21/90	UNDER CONTROL	Acrylonitrile
00.20226	90.17436	71432	< 5.		UG/L	9/21/90	UNDER CONTROL	Benzene
00.20226	90.17436	108861	< 5.		UG/L	9/21/90	UNDER CONTROL	Bromobenzene
00.20226	90.17436	74975	< 5.		UG/L	9/21/90	UNDER CONTROL	Bromochloromethane
00.20226	90.17436	75274	< 5.		UG/L	9/21/90	UNDER CONTROL	Bromodichloromethane
00.20226	90.17436	75252	< 5.		UG/L	9/21/90	UNDER CONTROL	Bromoform
00.20226	90.17436	74839	< 10.		UG/L	9/21/90	UNDER CONTROL	Bromomethane
00.20226	90.17436	78933	< 20.		UG/L	9/21/90	UNDER CONTROL	2-Butanone
00.20226	90.17436	104518	< 5.		UG/L	9/21/90	UNDER CONTROL	n-Butylbenzene
00.20226	90.17436	135988	< 5.		UG/L	9/21/90	UNDER CONTROL	sec-Butylbenzene
00.20226	90.17436	98066	< 5.		UG/L	9/21/90	UNDER CONTROL	tert-Butylbenzene
00.20226	90.17436	75150	< 5.		UG/L	9/21/90	UNDER CONTROL	Carbon disulfide
00.20226	90.17436	56235	< 5.		UG/L	9/21/90	UNDER CONTROL	Carbon tetrachloride
00.20226	90.17436	108907	< 5.		UG/L	9/21/90	UNDER CONTROL	Chlorobenzene
00.20226	90.17436	124481	< 5.		UG/L	9/21/90	UNDER CONTROL	Chlorodibromomethane
00.20226	90.17436	75003	< 10.		UG/L	9/21/90	UNDER CONTROL	Chloroethane
00.20226	90.17436	110758	< 50.		UG/L	9/21/90	UNDER CONTROL	2-Chloroethylvinyl ether
00.20226	90.17436	67663	< 5.		UG/L	9/21/90	UNDER CONTROL	Chloroform
00.20226	90.17436	74873	< 10.		UG/L	9/21/90	UNDER CONTROL	Chloromethane
00.20226	90.17436	95498	< 5.		UG/L	9/21/90	UNDER CONTROL	o-Chlorotoluene
00.20226	90.17436	106434	< 5.		UG/L	9/21/90	UNDER CONTROL	p-Chlorotoluene
00.20226	90.17436	96128	< 10.		UG/L	9/21/90	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20226	90.17436	106934	< 5.		UG/L	9/21/90	UNDER CONTROL	1,2-Dibromoethane
00.20226	90.17436	74953	< 5.		UG/L	9/21/90	UNDER CONTROL	Dibromomethane
00.20226	90.17436	95501	< 5.		UG/L	9/21/90	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20226	90.17436	541731	< 5.		UG/L	9/21/90	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20226	90.17436	106467	< 5.		UG/L	9/21/90	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20226	90.17436	75718	< 10.		UG/L	9/21/90	UNDER CONTROL	Dichlorodifluoromethane
00.20226	90.17436	75343	< 5.		UG/L	9/21/90	UNDER CONTROL	1,1-Dichloroethane
00.20226	90.17436	107062	< 5.		UG/L	9/21/90	UNDER CONTROL	1,2-Dichloroethane
00.20226	90.17436	75354	< 5.		UG/L	9/21/90	UNDER CONTROL	1,1-Dichloroethene
00.20226	90.17436	156605	< 5.		UG/L	9/21/90	UNDER CONTROL	trans-1,2-Dichloroethene
00.20226	90.17436	156592	< 5.		UG/L	9/21/90	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20226	90.17436	78875	< 5.		UG/L	9/21/90	UNDER CONTROL	1,2-Dichloropropane
00.20226	90.17436	142289	< 5.		UG/L	9/21/90	UNDER CONTROL	1,3-Dichloropropane
00.20226	90.17436	594207	< 5.		UG/L	9/21/90	UNDER CONTROL	2,2-Dichloropropane
00.20226	90.17436	563586	< 5.		UG/L	9/21/90	UNDER CONTROL	1,1-Dichloropropene
00.20226	90.17436	10061015	< 5.		UG/L	9/21/90	UNDER CONTROL	cis-1,3-Dichloropropene
00.20226	90.17436	10061026	< 5.		UG/L	9/21/90	UNDER CONTROL	trans-1,3-Dichloropropene
00.20226	90.17436	100414	< 5.		UG/L	9/21/90	UNDER CONTROL	Ethylbenzene
00.20226	90.17436	87683	< 5.		UG/L	9/21/90	UNDER CONTROL	Hexachlorobutadiene
00.20226	90.17436	591786	< 20.		UG/L	9/21/90	UNDER CONTROL	2-Hexanone
00.20226	90.17436	98828	< 5.		UG/L	9/21/90	UNDER CONTROL	Isopropylbenzene

00.20226	90.17436	99876	< 5.	UG/L	9/21/90	UNDER CONTROL	4-Isopropyltoluene
00.20226	90.17436	74884	< 5.	UG/L	9/21/90	UNDER CONTROL	Methyl iodide
00.20226	90.17436	108101	< 20.	UG/L	9/21/90	UNDER CONTROL	4-Methyl-2-pentanone
00.20226	90.17436	75092	< 5.	UG/L	9/21/90	UNDER CONTROL	Methylene chloride
00.20226	90.17436	91203	< 5.	UG/L	9/21/90	UNDER CONTROL	Naphthalene
00.20226	90.17436	103651	< 5.	UG/L	9/21/90	UNDER CONTROL	Propylbenzene
00.20226	90.17436	100425	< 5.	UG/L	9/21/90	UNDER CONTROL	Styrene
00.20226	90.17436	630206	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20226	90.17436	79345	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20226	90.17436	127184	< 5.	UG/L	9/21/90	UNDER CONTROL	Tetrachloroethylene
00.20226	90.17436	108883	< 5.	UG/L	9/21/90	UNDER CONTROL	Toluene
00.20226	90.17436	76131	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20226	90.17436	87616	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2,3-Trichlorobenzene
00.20226	90.17436	120821	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2,4-Trichlorobenzene
00.20226	90.17436	71556	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,1-Trichloroethane
00.20226	90.17436	79005	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,2-Trichloroethane
00.20226	90.17436	79016	< 5.	UG/L	9/21/90	UNDER CONTROL	Trichloroethene
00.20226	90.17436	75694	< 5.	UG/L	9/21/90	UNDER CONTROL	Trichlorofluoromethane
00.20226	90.17436	96184	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2,3-Trichloropropane
00.20226	90.17436	95636	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20226	90.17436	108678	< 5.	UG/L	9/21/90	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20226	90.17436	108054	< 10.	UG/L	9/21/90	UNDER CONTROL	Vinyl acetate
00.20226	90.17436	75014	< 10.	UG/L	9/21/90	UNDER CONTROL	Vinyl chloride
00.20226	90.17436	1330207	< 5.	UG/L	9/21/90	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)
00.20226	90.17560	67641	< 20.	UG/L	9/21/90	UNDER CONTROL	Acetone
00.20226	90.17560	107028	< 100.	UG/L	9/21/90	UNDER CONTROL	Acrolein
00.20226	90.17560	107131	< 100.	UG/L	9/21/90	UNDER CONTROL	Acrylonitrile
00.20226	90.17560	71432	< 5.	UG/L	9/21/90	UNDER CONTROL	Benzene
00.20226	90.17560	108861	< 5.	UG/L	9/21/90	UNDER CONTROL	Bromobenzene
00.20226	90.17560	74975	< 5.	UG/L	9/21/90	UNDER CONTROL	Bromochloromethane
00.20226	90.17560	75274	< 5.	UG/L	9/21/90	UNDER CONTROL	Bromodichloromethane
00.20226	90.17560	75252	< 5.	UG/L	9/21/90	UNDER CONTROL	Bromoform
00.20226	90.17560	74839	< 10.	UG/L	9/21/90	UNDER CONTROL	Bromomethane
00.20226	90.17560	78933	< 20.	UG/L	9/21/90	UNDER CONTROL	2-Butanone
00.20226	90.17560	104518	< 5.	UG/L	9/21/90	UNDER CONTROL	n-Butylbenzene
00.20226	90.17560	135988	< 5.	UG/L	9/21/90	UNDER CONTROL	sec-Butylbenzene
00.20226	90.17560	98066	< 5.	UG/L	9/21/90	UNDER CONTROL	tert-Butylbenzene
00.20226	90.17560	75150	< 5.	UG/L	9/21/90	UNDER CONTROL	Carbon disulfide
00.20226	90.17560	56235	< 5.	UG/L	9/21/90	UNDER CONTROL	Carbon tetrachloride
00.20226	90.17560	108907	< 5.	UG/L	9/21/90	UNDER CONTROL	Chlorobenzene
00.20226	90.17560	124481	< 5.	UG/L	9/21/90	UNDER CONTROL	Chlorodibromomethane
00.20226	90.17560	75003	< 10.	UG/L	9/21/90	UNDER CONTROL	Chloroethane
00.20226	90.17560	110758	< 50.	UG/L	9/21/90	UNDER CONTROL	2-Chloroethylvinyl ether
00.20226	90.17560	67663	< 5.	UG/L	9/21/90	UNDER CONTROL	Chloroform
00.20226	90.17560	74873	< 10.	UG/L	9/21/90	UNDER CONTROL	Chloromethane
00.20226	90.17560	95498	< 5.	UG/L	9/21/90	UNDER CONTROL	o-Chlorotoluene

00.20226	90.17560	106434	< 5.	UG/L	9/21/90	UNDER CONTROL	p-Chlorotoluene
00.20226	90.17560	96128	< 10.	UG/L	9/21/90	UNDER CONTROL	1,2-Dibromo-3-chloropropane
00.20226	90.17560	106934	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2-Dibromoethane
00.20226	90.17560	74953	< 5.	UG/L	9/21/90	UNDER CONTROL	Dibromomethane
00.20226	90.17560	95501	< 5.	UG/L	9/21/90	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20226	90.17560	541731	< 5.	UG/L	9/21/90	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20226	90.17560	106467	< 5.	UG/L	9/21/90	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20226	90.17560	75718	< 10.	UG/L	9/21/90	UNDER CONTROL	Dichlorodifluoromethane
00.20226	90.17560	75343	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1-Dichloroethane
00.20226	90.17560	107062	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2-Dichloroethane
00.20226	90.17560	75354	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1-Dichloroethene
00.20226	90.17560	156605	< 5.	UG/L	9/21/90	UNDER CONTROL	trans-1,2-Dichloroethene
00.20226	90.17560	156592	< 5.	UG/L	9/21/90	UNDER CONTROL	cis-1,2-Dichloroethylene
00.20226	90.17560	78875	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2-Dichloropropane
00.20226	90.17560	142289	< 5.	UG/L	9/21/90	UNDER CONTROL	1,3-Dichloropropane
00.20226	90.17560	594207	< 5.	UG/L	9/21/90	UNDER CONTROL	2,2-Dichloropropane
00.20226	90.17560	563586	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1-Dichloropropene
00.20226	90.17560	10061015	< 5.	UG/L	9/21/90	UNDER CONTROL	cis-1,3-Dichloropropene
00.20226	90.17560	10061026	< 5.	UG/L	9/21/90	UNDER CONTROL	trans-1,3-Dichloropropene
00.20226	90.17560	100414	< 5.	UG/L	9/21/90	UNDER CONTROL	Ethylbenzene
00.20226	90.17560	87683	< 5.	UG/L	9/21/90	UNDER CONTROL	Hexachlorobutadiene
00.20226	90.17560	591786	< 20.	UG/L	9/21/90	UNDER CONTROL	2-Hexanone
00.20226	90.17560	98828	< 5.	UG/L	9/21/90	UNDER CONTROL	Isopropylbenzene
00.20226	90.17560	99876	< 5.	UG/L	9/21/90	UNDER CONTROL	4-Isopropyltoluene
00.20226	90.17560	74884	< 5.	UG/L	9/21/90	UNDER CONTROL	Methyl iodide
00.20226	90.17560	108101	< 20.	UG/L	9/21/90	UNDER CONTROL	4-Methyl-2-pentanone
00.20226	90.17560	75092	< 5.	UG/L	9/21/90	UNDER CONTROL	Methylene chloride
00.20226	90.17560	91203	< 5.	UG/L	9/21/90	UNDER CONTROL	Naphthalene
00.20226	90.17560	103651	< 5.	UG/L	9/21/90	UNDER CONTROL	Propylbenzene
00.20226	90.17560	100425	< 5.	UG/L	9/21/90	UNDER CONTROL	Styrene
00.20226	90.17560	630206	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,1,2-Tetrachloroethane
00.20226	90.17560	79345	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,2,2-Tetrachloroethane
00.20226	90.17560	127184	< 5.	UG/L	9/21/90	UNDER CONTROL	Tetrachloroethylene
00.20226	90.17560	108883	< 5.	UG/L	9/21/90	UNDER CONTROL	Toluene
00.20226	90.17560	76131	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroet
00.20226	90.17560	87616	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2,3-Trichlorobenzene
00.20226	90.17560	120821	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2,4-Trichlorobenzene
00.20226	90.17560	71556	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,1-Trichloroethane
00.20226	90.17560	79005	< 5.	UG/L	9/21/90	UNDER CONTROL	1,1,2-Trichloroethane
00.20226	90.17560	79016	< 5.	UG/L	9/21/90	UNDER CONTROL	Trichloroethene
00.20226	90.17560	75694	< 5.	UG/L	9/21/90	UNDER CONTROL	Trichlorofluoromethane
00.20226	90.17560	96184	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2,3-Trichloropropane
00.20226	90.17560	95636	< 5.	UG/L	9/21/90	UNDER CONTROL	1,2,4-Trimethylbenzene
00.20226	90.17560	108678	< 5.	UG/L	9/21/90	UNDER CONTROL	1,3,5-Trimethylbenzene
00.20226	90.17560	108054	< 10.	UG/L	9/21/90	UNDER CONTROL	Vinyl acetate
00.20226	90.17560	75014	< 10.	UG/L	9/21/90	UNDER CONTROL	Vinyl chloride

00.20226	90.17560	1330207	< 5.	UG/L	9/21/90	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)

Blank Spike Results

none

Blank Spike Duplicate Results

none

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Original Blind QC Results, Sample # 90.17412

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 9/13/90

SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
90.17412	67641	< 20.		UG/L			9/21/90	UNDER CONTROL	Acetone
90.17412	107028	< 100.		UG/L			9/21/90	UNDER CONTROL	Acrolein
90.17412	107131	< 100.		UG/L			9/21/90	UNDER CONTROL	Acrylonitrile
90.17412	71432	79.	23.7	UG/L	75.	8.	9/21/90	UNDER CONTROL	Benzene
90.17412	108861	< 5.		UG/L			9/21/90	UNDER CONTROL	Bromobenzene
90.17412	74975	< 5.		UG/L			9/21/90	UNDER CONTROL	Bromochloromethane
90.17412	75274	< 5.		UG/L			9/21/90	UNDER CONTROL	Bromodichloromethane
90.17412	75252	< 5.		UG/L			9/21/90	UNDER CONTROL	Bromoform
90.17412	74839	< 10.		UG/L			9/21/90	UNDER CONTROL	Bromomethane
90.17412	78933	63.	18.9	UG/L	97.	10.	9/21/90	UNDER CONTROL	2-Butanone
90.17412	104518	< 5.		UG/L			9/21/90	UNDER CONTROL	n-Butylbenzene
90.17412	135988	< 5.		UG/L			9/21/90	UNDER CONTROL	sec-Butylbenzene
90.17412	98066	< 5.		UG/L			9/21/90	UNDER CONTROL	tert-Butylbenzene
90.17412	75150	< 5.		UG/L			9/21/90	UNDER CONTROL	Carbon disulfide
90.17412	56235	< 5.		UG/L			9/21/90	UNDER CONTROL	Carbon tetrachloride
90.17412	108907	56.	16.8	UG/L	76.	8.	9/21/90	UNDER CONTROL	Chlorobenzene
90.17412	124481	< 5.		UG/L			9/21/90	UNDER CONTROL	Chlorodibromomethane
90.17412	75003	< 10.		UG/L			9/21/90	UNDER CONTROL	Chloroethane
90.17412	110758	< 50.		UG/L			9/21/90	UNDER CONTROL	2-Chloroethylvinyl ether
90.17412	67663	< 5.		UG/L			9/21/90	UNDER CONTROL	Chloroform
90.17412	74873	< 10.		UG/L			9/21/90	UNDER CONTROL	Chloromethane
90.17412	95498	< 5.		UG/L			9/21/90	UNDER CONTROL	o-Chlorotoluene
90.17412	106434	< 5.		UG/L			9/21/90	UNDER CONTROL	p-Chlorotoluene

90.17412	96128	< 10.		UG/L			9/21/90	UNDER CONTROL	1,2-Dibromo-3-chloropropane
90.17412	106934	< 5.		UG/L			9/21/90	UNDER CONTROL	1,2-Dibromoethane
90.17412	74953	< 5.		UG/L			9/21/90	UNDER CONTROL	Dibromomethane
90.17412	95501	< 5.		UG/L			9/21/90	UNDER CONTROL	o-Dichlorobenzene (1,2)
90.17412	541731	< 5.		UG/L			9/21/90	UNDER CONTROL	m-Dichlorobenzene (1,3)
90.17412	106467	< 5.		UG/L			9/21/90	UNDER CONTROL	p-Dichlorobenzene (1,4)
90.17412	75718	< 10.		UG/L			9/21/90	UNDER CONTROL	Dichlorodifluoromethane
90.17412	75343	83.	24.9	UG/L	76.	8.	9/21/90	UNDER CONTROL	1,1-Dichloroethane
90.17412	107062	< 5.		UG/L			9/21/90	UNDER CONTROL	1,2-Dichloroethane
90.17412	75354	< 5.		UG/L			9/21/90	UNDER CONTROL	1,1-Dichloroethene
90.17412	156605	< 5.		UG/L			9/21/90	UNDER CONTROL	trans-1,2-Dichloroethene
90.17412	156592	< 5.		UG/L			9/21/90	UNDER CONTROL	cis-1,2-Dichloroethylene
90.17412	78875	< 5.		UG/L			9/21/90	UNDER CONTROL	1,2-Dichloropropane
90.17412	142289	< 5.		UG/L			9/21/90	UNDER CONTROL	1,3-Dichloropropane
90.17412	594207	< 5.		UG/L			9/21/90	UNDER CONTROL	2,2-Dichloropropane
90.17412	563586	< 5.		UG/L			9/21/90	UNDER CONTROL	1,1-Dichloropropene
90.17412	10061015	< 5.		UG/L			9/21/90	UNDER CONTROL	cis-1,3-Dichloropropene
90.17412	10061026	< 5.		UG/L			9/21/90	UNDER CONTROL	trans-1,3-Dichloropropene
90.17412	100414	36.	10.8	UG/L	75.	8.	9/21/90	WARNING 2-3 SIG	Ethylbenzene
90.17412	87683	< 5.		UG/L			9/21/90	UNDER CONTROL	Hexachlorobutadiene
90.17412	591786	84.	25.2	UG/L	100.	10.	9/21/90	UNDER CONTROL	2-Hexanone
90.17412	98828	< 5.		UG/L			9/21/90	UNDER CONTROL	Isopropylbenzene
90.17412	99876	< 5.		UG/L			9/21/90	UNDER CONTROL	4-Isopropyltoluene
90.17412	74884	< 5.		UG/L			9/21/90	UNDER CONTROL	Methyl iodide
90.17412	108101	< 20.		UG/L			9/21/90	UNDER CONTROL	4-Methyl-2-pentanone
90.17412	75092	< 5.		UG/L			9/21/90	UNDER CONTROL	Methylene chloride
90.17412	91203	< 5.		UG/L			9/21/90	UNDER CONTROL	Naphthalene
90.17412	103651	< 5.		UG/L			9/21/90	UNDER CONTROL	Propylbenzene
90.17412	100425	< 5.		UG/L			9/21/90	UNDER CONTROL	Styrene
90.17412	630206	< 5.		UG/L			9/21/90	UNDER CONTROL	1,1,1,2-Tetrachloroethane
90.17412	79345	< 5.		UG/L			9/21/90	UNDER CONTROL	1,1,2,2-Tetrachloroethane
90.17412	127184	50.	15.	UG/L	82.	8.	9/21/90	UNDER CONTROL	Tetrachloroethylene
90.17412	108883	49.	14.7	UG/L	88.	9.	9/21/90	WARNING 2-3 SIG	Toluene
90.17412	76131	< 5.		UG/L			9/21/90	UNDER CONTROL	1,1,2-Trichloro-1,2,2-trifluoroethane
90.17412	87616	< 5.		UG/L			9/21/90	UNDER CONTROL	1,2,3-Trichlorobenzene
90.17412	120821	< 5.		UG/L			9/21/90	UNDER CONTROL	1,2,4-Trichlorobenzene
90.17412	71556	88.	26.4	UG/L	90.	9.	9/21/90	UNDER CONTROL	1,1,1-Trichloroethane
90.17412	79005	< 5.		UG/L			9/21/90	UNDER CONTROL	1,1,2-Trichloroethane
90.17412	79016	< 5.		UG/L			9/21/90	UNDER CONTROL	Trichloroethene
90.17412	75694	< 5.		UG/L			9/21/90	UNDER CONTROL	Trichlorofluoromethane
90.17412	96184	< 5.		UG/L			9/21/90	UNDER CONTROL	1,2,3-Trichloropropane
90.17412	95636	< 5.		UG/L			9/21/90	UNDER CONTROL	1,2,4-Trimethylbenzene
90.17412	108678	< 5.		UG/L			9/21/90	UNDER CONTROL	1,3,5-Trimethylbenzene
90.17412	108054	< 10.		UG/L			9/21/90	UNDER CONTROL	Vinyl acetate
90.17412	75014	< 10.		UG/L			9/21/90	UNDER CONTROL	Vinyl chloride
90.17412	1330207	< 5.		UG/L			9/21/90	UNDER CONTROL	Mixed-Xylenes (o ± m ± p)

Tentatively Identified Compounds in Original Blind QC # 90.17412

none

Blind QC Duplicate Results, Sample # 90.17412

none

Tentatively Identified Compounds in Duplicate Blind QC # 90.17412

none

Blind QC Matrix Spike Results for Sample # 90.17412

none

Blind QC Matrix Spike Duplicate Results for Sample # 90.17412

none

SURROGATE RESULTS FOR EPA VOLATILES

Surrogate 1 = 1,2-Dichloroethane d4 (CAS # = 17060070)
Surrogate 2 = Toluene d8 (CAS # = 2037265)
Surrogate 3 = 4-Bromofluorobenzene (CAS # = 460004)

SAMPLE NUMBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	COMPLETION DATE
90.17256	%	102.06	99.78	101.9	21-Sep-1990
90.17256	%	104.64	100.24	105.16	21-Sep-1990
90.17256	%	96.66	100.6	102.2	21-Sep-1990
90.17257	%	106.44	102.52	104.86	21-Sep-1990
90.17258	%	91.52	92.48	92.1	21-Sep-1990
90.17259	%	94.34	95.32	93.1	21-Sep-1990
90.17260	%	96.62	94.8	96.7	21-Sep-1990
90.17261	%	97.18	93.66	95.38	21-Sep-1990
90.17400	%	127.74	100.24	111.28	21-Sep-1990
90.17412	%	133.48	93.4	107.62	21-Sep-1990
90.17436	%	93.46	103.34	101.04	21-Sep-1990
90.17560	%	88.76	95.36	91.16	21-Sep-1990
EPA Limits:					
Water	%	76 - 114	88 - 110	86 - 115	
Soil	%	70 - 121	81 - 117	74 - 121	

Analyst	Section Leader	QA Officer
9/27/90	10/3/90	10/3/90
Date	Date	Date

CRS for Chris Leibner

CRS Duffy Reviewed 10/3/90

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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HSE-9 SEMIVOLATILE ORGANIC ANALYSIS
SUMMARY OF ANALYTICAL RESULTS

To: Max Mees
From: Martin Koby

Request Number: 10760
Matrix: Water
Summary Date: 11/14/90

Sample ID	Target Compounds Found	Amount (ug/L)	LOQ (ug/L)	TICs (Y/N)
Blank 9/13	Diethyl phthalate	13.7	10.0	N
[illegible] (MCO-4)	Diethyl phthalate	18.0	10.0	Y
[illegible] (MCO-4B)	NONE	NA	[illegible]	Y
90.17258 (MCO-6B)	NONE	NA	[illegible]	Y
90.17259 (MCO-7)	NONE	NA	10.0	Y
90.17260 (MCO-7A)	NONE	NA	10.0	Y
90.17261 (MCO-6)	NONE	NA	10.0	N

Sample preparation was performed by extracting approximately 1.0 L of sample with 250 ml methylene chloride for 18 hours per acid and base/neutral fractions in continuous liquid/liquid extractors. Appropriate surrogate standards were added prior to extraction as a check of method efficiency. Initial extracts were concentrated to a final volume of 1.0 ml by Kuderna-Danish and nitrogen evaporation techniques. Analysis was performed by capillary column GC/MS methods. These methods are consistent with EPA SW-846 protocol.

Reportable levels of diethyl phthalate, a common plasticizer and laboratory contaminant, were detected in one sample and the reagent blank. This indicates a high probability that the phthalate was introduced during the analytical process and is not necessarily present in the sample.

Many of the sample extracts contained considerable levels of tentatively identified compounds. The nature of these compounds implicates a source related to the medical, dental, or pharmaceutical industry.

[illegible] NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
[illegible]
MATRIX SPIKE RECOVERIES FOR SEMI-VOLATILES

[illegible]						
RECEIPT #:	[illegible]	[illegible]	[illegible]			
NUMBER OF SAMPLES:	1		SOIL	SAMPLE		LOD [illegible]
SPIKE ID: STARTS W/ [illegible]	[illegible]	SPIKE	1	100	50	1
SPIKE DUP ID: STARTS W/ [illegible]	[illegible]	SPIKE-DUP	1	100	51	1
RAW DATA WITH:	[illegible]					
ANALYST:	MWK					

	SPIKE REC.	SPIKE-DUP REC.	SPIKE % REC.	SPIKE-DUP % REC.	RPD	LOW REC. LIM.	HI REC LIM.	HI LIM.
PHENOL	53	66	53%	66%	5%	12	89	48
2-CHLOROPHENOL	55	58	58%	62%	7%	27	123	[illegible]
1,4-DICHLOROBENZENE	29	30	58%	60%	3%	36	97	38
N-NITROSO-DI-N-PROPYLAMINE	29	30	58%	[illegible]	3%	[illegible]	116	38
1,2,4-TRICHLOROBENZENE	32	32	64%	64%	0%	39	98	28
4-CHLORO-3-METHYLPHENOL	67	68	67%	68%	1%	23	97	[illegible]
ACENAPHTHENE	35	36	70%	72%	3%	46	118	31
4-NITROPHENOL	61	65	61%	65%	6%	10	80	50
2,4-DINITROTOLUENE	36	38	72%	76%	5%	34	96	38
PENTACHLOROPHENOL	69	55	69%	55%	23%	[illegible]	103	50
PYRENE	33	36	66%	72%	9%	36	127	31

* If % Matrix Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By:

CRC CL

LOS ALAMOS NATIONAL LABORATORY
HEALTH, SAFETY AND ENVIRONMENT DIVISION
HSE-9
SURROGATE RECOVERIES FOR SEMI-VOLATILES
IN WATER

REQUEST #: 10761

NUMBER OF SAMPLES: 10
MATRIX: W
ANALYST: MWK
Date: 10/26/90

SURROGATE RECOVERIES

SURROGATE
RECOVERIES IN PERCENT (%)

	SAMPLE NUMBERS	TYPE	2-FLUORO-PHENOL	PHENOL -D6	NITRO-BENZENE -D5	2-FLUORO-BIPHENYL	2,4,6-TRIBROMO-PHENOL	TERPHENYL -D14
1	890.17435	BLANK	64	71	72	74	75	68
2	890.17412	SAMPLE	56	65	61	67	76	70
3	890.17256	SAMPLE	62	75	69	72	85	48
4	890.17257	SAMPLE	62	55	70	67	74	27 *
5	890.17258	SAMPLE	61	84	72	69	58	19 *
6	890.17259	SAMPLE	60	73	71	65	71	20 *
7	890.17260	SAMPLE	57	77	70	69	54	22 *
8	890.17435	BLANK SPIKE	59	72	73	67	68	61
9	890.17435	BLANK SP-DU	64	74	77	66	68	68
10	890.17261	SAMPLE	54	69	67	68	71	61
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
Average % Surrogate Recovery...			60	71	70	68	70	46
Defined Lower QC Limits (%).....			21	10	35	43	10	33
Defined Upper QC Limits (%).....			100	94	114	116	123	141
Observed Lower QC Limits (%)...			54	55	61	65	54	19
Observed Upper QC Limits (%)...			64	84	77	74	85	70

eh

** If % Surrogate Recovery is Followed by a "*", it is out of QC Limits.

Reviewed By:

CRS

REPORT NUMBER: 8964

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CRS on 29-Nov-1990

EPA SEMIVOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Martin Koby PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17256

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 10/04/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4	90.17256	83329	< 10.		UG/L	11/29/90		Acenaphthene
MCO-4	90.17256	208968	< 10.		UG/L	11/29/90		Acenaphthylene
MCO-4	90.17256	62533	< 10.		UG/L	11/29/90		Aniline
MCO-4	90.17256	120127	< 10.		UG/L	11/29/90		Anthracene
MCO-4	90.17256	103333	< 10.		UG/L	11/29/90		Azobenzene
MCO-4	90.17256	92875	< 10.		UG/L	11/29/90		m-Benzidine
MCO-4	90.17256	56553	< 10.		UG/L	11/29/90		Benzo[a]anthracene
MCO-4	90.17256	50328	< 10.		UG/L	11/29/90		Benzo[a]pyrene
MCO-4	90.17256	205992	< 10.		UG/L	11/29/90		Benzo[b]fluoranthene
MCO-4	90.17256	191242	< 10.		UG/L	11/29/90		Benzo[g,h,i]perylene
MCO-4	90.17256	207089	< 10.		UG/L	11/29/90		Benzo[k]fluoranthene
MCO-4	90.17256	65850	< 10.		UG/L	11/29/90		Benzoic acid
MCO-4	90.17256	100516	< 10.		UG/L	11/29/90		Benzyl alcohol
MCO-4	90.17256	111911	< 10.		UG/L	11/29/90		Bis(2-chloroethoxy)methane
MCO-4	90.17256	111444	< 10.		UG/L	11/29/90		Bis(2-chloroethyl)ether
MCO-4	90.17256	108601	< 10.		UG/L	11/29/90		Bis(2-chloroisopropyl)ether
MCO-4	90.17256	117817	< 10.		UG/L	11/29/90		Bis(2-ethylhexyl)phthalate
MCO-4	90.17256	101553	< 10.		UG/L	11/29/90		4-Bromophenylphenyl ether
MCO-4	90.17256	85687	< 10.		UG/L	11/29/90		Butylbenzyl phthalate
MCO-4	90.17256	59507	< 10.		UG/L	11/29/90		4-Chloro-3-methylphenol
MCO-4	90.17256	106478	< 10.		UG/L	11/29/90		4-Chloroaniline
MCO-4	90.17256	91587	< 10.		UG/L	11/29/90		2-Chloronaphthalene

MCO-4	90.17256	95578	< 10.		UG/L	11/29/90	o-Chlorophenol
MCO-4	90.17256	7005723	< 10.		UG/L	11/29/90	4-Chlorophenylphenyl ether
MCO-4	90.17256	218019	< 10.		UG/L	11/29/90	Chrysene
MCO-4	90.17256	84742	< 10.		UG/L	11/29/90	Di-n-butyl phthalate
MCO-4	90.17256	117840	< 10.		UG/L	11/29/90	Di-n-octyl phthalate
MCO-4	90.17256	53703	< 10.		UG/L	11/29/90	Dibenzo[a,h]anthracene
MCO-4	90.17256	132649	< 10.		UG/L	11/29/90	Dibenzofuran
MCO-4	90.17256	95501	< 10.		UG/L	11/29/90	o-Dichlorobenzene (1,2)
MCO-4	90.17256	541731	< 10.		UG/L	11/29/90	m-Dichlorobenzene (1,3)
MCO-4	90.17256	106467	< 10.		UG/L	11/29/90	p-Dichlorobenzene (1,4)
MCO-4	90.17256	91941	< 10.		UG/L	11/29/90	3,3'-Dichlorobenzidine
MCO-4	90.17256	120832	< 10.		UG/L	11/29/90	2,4-Dichlorophenol
MCO-4	90.17256	84662	18.	5.4	UG/L	11/29/90	Diethyl phthalate
MCO-4	90.17256	131113	< 10.		UG/L	11/29/90	Dimethyl phthalate
MCO-4	90.17256	105679	< 10.		UG/L	11/29/90	2,4-Dimethylphenol
MCO-4	90.17256	51285	< 10.		UG/L	11/29/90	2,4-Dinitrophenol
MCO-4	90.17256	121142	< 10.		UG/L	11/29/90	2,4-Dinitrotoluene
MCO-4	90.17256	606202	< 10.		UG/L	11/29/90	2,6-Dinitrotoluene
MCO-4	90.17256	206440	< 10.		UG/L	11/29/90	Fluoranthene
MCO-4	90.17256	86737	< 10.		UG/L	11/29/90	Fluorene
MCO-4	90.17256	118741	< 10.		UG/L	11/29/90	Hexachlorobenzene
MCO-4	90.17256	87683	< 10.		UG/L	11/29/90	Hexachlorobutadiene
MCO-4	90.17256	77474	< 10.		UG/L	11/29/90	Hexachlorocyclopentadiene
MCO-4	90.17256	67721	< 10.		UG/L	11/29/90	Hexachloroethane
MCO-4	90.17256	193395	< 10.		UG/L	11/29/90	Indeno[1,2,3-cd]pyrene
MCO-4	90.17256	78591	< 10.		UG/L	11/29/90	Isophorone
MCO-4	90.17256	534521	< 10.		UG/L	11/29/90	2-Methyl-4,6-dinitrophenol
MCO-4	90.17256	91576	< 10.		UG/L	11/29/90	2-Methylnaphthalene
MCO-4	90.17256	95487	< 10.		UG/L	11/29/90	2-Methylphenol
MCO-4	90.17256	106445	< 10.		UG/L	11/29/90	4-Methylphenol
MCO-4	90.17256	91203	< 10.		UG/L	11/29/90	Naphthalene
MCO-4	90.17256	88744	< 10.		UG/L	11/29/90	2-Nitroaniline
MCO-4	90.17256	99092	< 10.		UG/L	11/29/90	3-Nitroaniline
MCO-4	90.17256	100016	< 10.		UG/L	11/29/90	4-Nitroaniline
MCO-4	90.17256	98953	< 10.		UG/L	11/29/90	Nitrobenzene
MCO-4	90.17256	88755	< 10.		UG/L	11/29/90	2-Nitrophenol
MCO-4	90.17256	100027	< 10.		UG/L	11/29/90	4-Nitrophenol
MCO-4	90.17256	621647	< 10.		UG/L	11/29/90	N-Nitrosodi-n-propylamine
MCO-4	90.17256	62759	< 10.		UG/L	11/29/90	N-Nitrosodimethylamine
MCO-4	90.17256	86306	< 10.		UG/L	11/29/90	N-Nitrosodiphenylamine
MCO-4	90.17256	87865	< 10.		UG/L	11/29/90	Pentachlorophenol
MCO-4	90.17256	85018	< 10.		UG/L	11/29/90	Phenanthrene
MCO-4	90.17256	108952	< 10.		UG/L	11/29/90	Phenol
MCO-4	90.17256	129000	< 10.		UG/L	11/29/90	Pyrene
MCO-4	90.17256	120821	< 10.		UG/L	11/29/90	1,2,4-Trichlorobenzene
MCO-4	90.17256	95954	< 10.		UG/L	11/29/90	2,4,5-Trichlorophenol

MCO-4	90.17256	88062		< 10.		UG/L	11/29/90		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 90.17256

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4	90.17256	171	TI	130.		UG/L	11/29/90		Oxygenated Hydrocarbon

Customer Sample Duplicate Results for Sample # 90.17256

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17256

none

REPORT NUMBER: 8964

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CRS on 29-Nov-1990

EPA SEMIVOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Martin Koby PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17257

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 10/04/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4B	90.17257	83329	< 10.		UG/L	11/29/90		Acenaphthene
MCO-4B	90.17257	208968	< 10.		UG/L	11/29/90		Acenaphthylene
MCO-4B	90.17257	62533	< 10.		UG/L	11/29/90		Aniline
MCO-4B	90.17257	120127	< 10.		UG/L	11/29/90		Anthracene
MCO-4B	90.17257	103333	< 10.		UG/L	11/29/90		Azobenzene
MCO-4B	90.17257	92875	< 10.		UG/L	11/29/90		m-Benzidine
MCO-4B	90.17257	56553	< 10.		UG/L	11/29/90		Benzo[a]anthracene
MCO-4B	90.17257	50328	< 10.		UG/L	11/29/90		Benzo[a]pyrene
MCO-4B	90.17257	205992	< 10.		UG/L	11/29/90		Benzo[b]fluoranthene
MCO-4B	90.17257	191242	< 10.		UG/L	11/29/90		Benzo[g,h,i]perylene
MCO-4B	90.17257	207089	< 10.		UG/L	11/29/90		Benzo[k]fluoranthene
MCO-4B	90.17257	65850	< 10.		UG/L	11/29/90		Benzoic acid
MCO-4B	90.17257	100516	< 10.		UG/L	11/29/90		Benzyl alcohol
MCO-4B	90.17257	111911	< 10.		UG/L	11/29/90		Bis(2-chloroethoxy)methane
MCO-4B	90.17257	111444	< 10.		UG/L	11/29/90		Bis(2-chloroethyl)ether
MCO-4B	90.17257	108601	< 10.		UG/L	11/29/90		Bis(2-chloroisopropyl)ether
MCO-4B	90.17257	117817	< 10.		UG/L	11/29/90		Bis(2-ethylhexyl)phthalate
MCO-4B	90.17257	101553	< 10.		UG/L	11/29/90		4-Bromophenylphenyl ether
MCO-4B	90.17257	85687	< 10.		UG/L	11/29/90		Butylbenzyl phthalate
MCO-4B	90.17257	59507	< 10.		UG/L	11/29/90		4-Chloro-3-methylphenol
MCO-4B	90.17257	106478	< 10.		UG/L	11/29/90		4-Chloroaniline
MCO-4B	90.17257	91587	< 10.		UG/L	11/29/90		2-Chloronaphthalene

MCO-4B	90.17257	95578	< 10.	UG/L	11/29/90	o-Chlorophenol
MCO-4B	90.17257	7005723	< 10.	UG/L	11/29/90	4-Chlorophenylphenyl ether
MCO-4B	90.17257	218019	< 10.	UG/L	11/29/90	Chrysene
MCO-4B	90.17257	84742	< 10.	UG/L	11/29/90	Di-n-butyl phthalate
MCO-4B	90.17257	117840	< 10.	UG/L	11/29/90	Di-n-octyl phthalate
MCO-4B	90.17257	53703	< 10.	UG/L	11/29/90	Dibenzo[a,h]anthracene
MCO-4B	90.17257	132649	< 10.	UG/L	11/29/90	Dibenzofuran
MCO-4B	90.17257	95501	< 10.	UG/L	11/29/90	o-Dichlorobenzene (1,2)
MCO-4B	90.17257	541731	< 10.	UG/L	11/29/90	m-Dichlorobenzene (1,3)
MCO-4B	90.17257	106467	< 10.	UG/L	11/29/90	p-Dichlorobenzene (1,4)
MCO-4B	90.17257	91941	< 10.	UG/L	11/29/90	3,3'-Dichlorobenzidine
MCO-4B	90.17257	120832	< 10.	UG/L	11/29/90	2,4-Dichlorophenol
MCO-4B	90.17257	84662	< 10.	UG/L	11/29/90	Diethyl phthalate
MCO-4B	90.17257	131113	< 10.	UG/L	11/29/90	Dimethyl phthalate
MCO-4B	90.17257	105679	< 10.	UG/L	11/29/90	2,4-Dimethylphenol
MCO-4B	90.17257	51285	< 10.	UG/L	11/29/90	2,4-Dinitrophenol
MCO-4B	90.17257	121142	< 10.	UG/L	11/29/90	2,4-Dinitrotoluene
MCO-4B	90.17257	606202	< 10.	UG/L	11/29/90	2,6-Dinitrotoluene
MCO-4B	90.17257	206440	< 10.	UG/L	11/29/90	Fluoranthene
MCO-4B	90.17257	86737	< 10.	UG/L	11/29/90	Fluorene
MCO-4B	90.17257	118741	< 10.	UG/L	11/29/90	Hexachlorobenzene
MCO-4B	90.17257	87683	< 10.	UG/L	11/29/90	Hexachlorobutadiene
MCO-4B	90.17257	77474	< 10.	UG/L	11/29/90	Hexachlorocyclopentadiene
MCO-4B	90.17257	67721	< 10.	UG/L	11/29/90	Hexachloroethane
MCO-4B	90.17257	193395	< 10.	UG/L	11/29/90	Indeno[1,2,3-cd]pyrene
MCO-4B	90.17257	78591	< 10.	UG/L	11/29/90	Isophorone
MCO-4B	90.17257	534521	< 10.	UG/L	11/29/90	2-Methyl-4,6-dinitrophenol
MCO-4B	90.17257	91576	< 10.	UG/L	11/29/90	2-Methylnaphthalene
MCO-4B	90.17257	95487	< 10.	UG/L	11/29/90	2-Methylphenol
MCO-4B	90.17257	106445	< 10.	UG/L	11/29/90	4-Methylphenol
MCO-4B	90.17257	91203	< 10.	UG/L	11/29/90	Naphthalene
MCO-4B	90.17257	88744	< 10.	UG/L	11/29/90	2-Nitroaniline
MCO-4B	90.17257	99092	< 10.	UG/L	11/29/90	3-Nitroaniline
MCO-4B	90.17257	100016	< 10.	UG/L	11/29/90	4-Nitroaniline
MCO-4B	90.17257	98953	< 10.	UG/L	11/29/90	Nitrobenzene
MCO-4B	90.17257	88755	< 10.	UG/L	11/29/90	2-Nitrophenol
MCO-4B	90.17257	100027	< 10.	UG/L	11/29/90	4-Nitrophenol
MCO-4B	90.17257	621647	< 10.	UG/L	11/29/90	N-Nitrosodi-n-propylamine
MCO-4B	90.17257	62759	< 10.	UG/L	11/29/90	N-Nitrosodimethylamine
MCO-4B	90.17257	86306	< 10.	UG/L	11/29/90	N-Nitrosodiphenylamine
MCO-4B	90.17257	87865	< 10.	UG/L	11/29/90	Pentachlorophenol
MCO-4B	90.17257	85018	< 10.	UG/L	11/29/90	Phenanthrene
MCO-4B	90.17257	108952	< 10.	UG/L	11/29/90	Phenol
MCO-4B	90.17257	129000	< 10.	UG/L	11/29/90	Pyrene
MCO-4B	90.17257	120821	< 10.	UG/L	11/29/90	1,2,4-Trichlorobenzene
MCO-4B	90.17257	95954	< 10.	UG/L	11/29/90	2,4,5-Trichlorophenol

MCO-4B	90.17257	88062		< 10.		UG/L	11/29/90		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 90.17257

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-4B	90.17257	60322	TI	320.		UG/L	11/29/90		6-Amino-Hexanoic Acid

Customer Sample Duplicate Results for Sample # 90.17257

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17257

none

REPORT NUMBER: 8964

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CRS on 29-Nov-1990

EPA SEMIVOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Martin Koby PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17258

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 10/04/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-6B	90.17258	83329	< 10.		UG/L	11/29/90		Acenaphthene
MCO-6B	90.17258	208968	< 10.		UG/L	11/29/90		Acenaphthylene
MCO-6B	90.17258	62533	< 10.		UG/L	11/29/90		Aniline
MCO-6B	90.17258	120127	< 10.		UG/L	11/29/90		Anthracene
MCO-6B	90.17258	103333	< 10.		UG/L	11/29/90		Azobenzene
MCO-6B	90.17258	92875	< 10.		UG/L	11/29/90		m-Benzidine
MCO-6B	90.17258	56553	< 10.		UG/L	11/29/90		Benzo[a]anthracene
MCO-6B	90.17258	50328	< 10.		UG/L	11/29/90		Benzo[a]pyrene
MCO-6B	90.17258	205992	< 10.		UG/L	11/29/90		Benzo[b]fluoranthene
MCO-6B	90.17258	191242	< 10.		UG/L	11/29/90		Benzo[g,h,i]perylene
MCO-6B	90.17258	207089	< 10.		UG/L	11/29/90		Benzo[k]fluoranthene
MCO-6B	90.17258	65850	< 10.		UG/L	11/29/90		Benzoic acid
MCO-6B	90.17258	100516	< 10.		UG/L	11/29/90		Benzyl alcohol
MCO-6B	90.17258	111911	< 10.		UG/L	11/29/90		Bis(2-chloroethoxy)methane
MCO-6B	90.17258	111444	< 10.		UG/L	11/29/90		Bis(2-chloroethyl)ether
MCO-6B	90.17258	108601	< 10.		UG/L	11/29/90		Bis(2-chloroisopropyl)ether
MCO-6B	90.17258	117817	< 10.		UG/L	11/29/90		Bis(2-ethylhexyl)phthalate
MCO-6B	90.17258	101553	< 10.		UG/L	11/29/90		4-Bromophenylphenyl ether
MCO-6B	90.17258	85687	< 10.		UG/L	11/29/90		Butylbenzyl phthalate
MCO-6B	90.17258	59507	< 10.		UG/L	11/29/90		4-Chloro-3-methylphenol
MCO-6B	90.17258	106478	< 10.		UG/L	11/29/90		4-Chloroaniline
MCO-6B	90.17258	91587	< 10.		UG/L	11/29/90		2-Chloronaphthalene

MCO-6B	90.17258	95578	< 10.	UG/L	11/29/90	o-Chlorophenol
MCO-6B	90.17258	7005723	< 10.	UG/L	11/29/90	4-Chlorophenylphenyl ether
MCO-6B	90.17258	218019	< 10.	UG/L	11/29/90	Chrysene
MCO-6B	90.17258	84742	< 10.	UG/L	11/29/90	Di-n-butyl phthalate
MCO-6B	90.17258	117840	< 10.	UG/L	11/29/90	Di-n-octyl phthalate
MCO-6B	90.17258	53703	< 10.	UG/L	11/29/90	Dibenzo[a,h]anthracene
MCO-6B	90.17258	132649	< 10.	UG/L	11/29/90	Dibenzofuran
MCO-6B	90.17258	95501	< 10.	UG/L	11/29/90	o-Dichlorobenzene (1,2)
MCO-6B	90.17258	541731	< 10.	UG/L	11/29/90	m-Dichlorobenzene (1,3)
MCO-6B	90.17258	106467	< 10.	UG/L	11/29/90	p-Dichlorobenzene (1,4)
MCO-6B	90.17258	91941	< 10.	UG/L	11/29/90	3,3'-Dichlorobenzidine
MCO-6B	90.17258	120832	< 10.	UG/L	11/29/90	2,4-Dichlorophenol
MCO-6B	90.17258	84662	< 10.	UG/L	11/29/90	Diethyl phthalate
MCO-6B	90.17258	131113	< 10.	UG/L	11/29/90	Dimethyl phthalate
MCO-6B	90.17258	105679	< 10.	UG/L	11/29/90	2,4-Dimethylphenol
MCO-6B	90.17258	51285	< 10.	UG/L	11/29/90	2,4-Dinitrophenol
MCO-6B	90.17258	121142	< 10.	UG/L	11/29/90	2,4-Dinitrotoluene
MCO-6B	90.17258	606202	< 10.	UG/L	11/29/90	2,6-Dinitrotoluene
MCO-6B	90.17258	206440	< 10.	UG/L	11/29/90	Fluoranthene
MCO-6B	90.17258	86737	< 10.	UG/L	11/29/90	Fluorene
MCO-6B	90.17258	118741	< 10.	UG/L	11/29/90	Hexachlorobenzene
MCO-6B	90.17258	87683	< 10.	UG/L	11/29/90	Hexachlorobutadiene
MCO-6B	90.17258	77474	< 10.	UG/L	11/29/90	Hexachlorocyclopentadiene
MCO-6B	90.17258	67721	< 10.	UG/L	11/29/90	Hexachloroethane
MCO-6B	90.17258	193395	< 10.	UG/L	11/29/90	Indeno[1,2,3-cd]pyrene
MCO-6B	90.17258	78591	< 10.	UG/L	11/29/90	Isophorone
MCO-6B	90.17258	534521	< 10.	UG/L	11/29/90	2-Methyl-4,6-dinitrophenol
MCO-6B	90.17258	91576	< 10.	UG/L	11/29/90	2-Methylnaphthalene
MCO-6B	90.17258	95487	< 10.	UG/L	11/29/90	2-Methylphenol
MCO-6B	90.17258	106445	< 10.	UG/L	11/29/90	4-Methylphenol
MCO-6B	90.17258	91203	< 10.	UG/L	11/29/90	Naphthalene
MCO-6B	90.17258	88744	< 10.	UG/L	11/29/90	2-Nitroaniline
MCO-6B	90.17258	99092	< 10.	UG/L	11/29/90	3-Nitroaniline
MCO-6B	90.17258	100016	< 10.	UG/L	11/29/90	4-Nitroaniline
MCO-6B	90.17258	98953	< 10.	UG/L	11/29/90	Nitrobenzene
MCO-6B	90.17258	88755	< 10.	UG/L	11/29/90	2-Nitrophenol
MCO-6B	90.17258	100027	< 10.	UG/L	11/29/90	4-Nitrophenol
MCO-6B	90.17258	621647	< 10.	UG/L	11/29/90	N-Nitrosodi-n-propylamine
MCO-6B	90.17258	62759	< 10.	UG/L	11/29/90	N-Nitrosodimethylamine
MCO-6B	90.17258	86306	< 10.	UG/L	11/29/90	N-Nitrosodiphenylamine
MCO-6B	90.17258	87865	< 10.	UG/L	11/29/90	Pentachlorophenol
MCO-6B	90.17258	85018	< 10.	UG/L	11/29/90	Phenanthrene
MCO-6B	90.17258	108952	< 10.	UG/L	11/29/90	Phenol
MCO-6B	90.17258	129000	< 10.	UG/L	11/29/90	Pyrene
MCO-6B	90.17258	120821	< 10.	UG/L	11/29/90	1,2,4-Trichlorobenzene
MCO-6B	90.17258	95954	< 10.	UG/L	11/29/90	2,4,5-Trichlorophenol

MCO-6B	90.17258	88062		< 10.		UG/L	11/29/90		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 90.17258

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-6B	90.17258	60322	TI	650.		UG/L	11/29/90		6-Amino-Hexanoic Acid

Customer Sample Duplicate Results for Sample # 90.17258

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17258

none

REPORT NUMBER: 8964

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CRS on 29-Nov-1990

EPA SEMIVOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Martin Koby PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17259

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 10/04/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7	90.17259	83329	< 10.		UG/L	11/29/90		Acenaphthene
MCO-7	90.17259	208968	< 10.		UG/L	11/29/90		Acenaphthylene
MCO-7	90.17259	62533	< 10.		UG/L	11/29/90		Aniline
MCO-7	90.17259	120127	< 10.		UG/L	11/29/90		Anthracene
MCO-7	90.17259	103333	< 10.		UG/L	11/29/90		Azobenzene
MCO-7	90.17259	92875	< 10.		UG/L	11/29/90		m-Benzidine
MCO-7	90.17259	56553	< 10.		UG/L	11/29/90		Benzo[a]anthracene
MCO-7	90.17259	50328	< 10.		UG/L	11/29/90		Benzo[a]pyrene
MCO-7	90.17259	205992	< 10.		UG/L	11/29/90		Benzo[b]fluoranthene
MCO-7	90.17259	191242	< 10.		UG/L	11/29/90		Benzo[g,h,i]perylene
MCO-7	90.17259	207089	< 10.		UG/L	11/29/90		Benzo[k]fluoranthene
MCO-7	90.17259	65850	< 10.		UG/L	11/29/90		Benzoic acid
MCO-7	90.17259	100516	< 10.		UG/L	11/29/90		Benzyl alcohol
MCO-7	90.17259	111911	< 10.		UG/L	11/29/90		Bis(2-chloroethoxy)methane
MCO-7	90.17259	111444	< 10.		UG/L	11/29/90		Bis(2-chloroethyl)ether
MCO-7	90.17259	108601	< 10.		UG/L	11/29/90		Bis(2-chloroisopropyl)ether
MCO-7	90.17259	117817	< 10.		UG/L	11/29/90		Bis(2-ethylhexyl)phthalate
MCO-7	90.17259	101553	< 10.		UG/L	11/29/90		4-Bromophenylphenyl ether
MCO-7	90.17259	85687	< 10.		UG/L	11/29/90		Butylbenzyl phthalate
MCO-7	90.17259	59507	< 10.		UG/L	11/29/90		4-Chloro-3-methylphenol
MCO-7	90.17259	106478	< 10.		UG/L	11/29/90		4-Chloroaniline
MCO-7	90.17259	91587	< 10.		UG/L	11/29/90		2-Chloronaphthalene

MCO-7	90.17259	95578	< 10.	UG/L	11/29/90	o-Chlorophenol
MCO-7	90.17259	7005723	< 10.	UG/L	11/29/90	4-Chlorophenylphenyl ether
MCO-7	90.17259	218019	< 10.	UG/L	11/29/90	Chrysene
MCO-7	90.17259	84742	< 10.	UG/L	11/29/90	Di-n-butyl phthalate
MCO-7	90.17259	117840	< 10.	UG/L	11/29/90	Di-n-octyl phthalate
MCO-7	90.17259	53703	< 10.	UG/L	11/29/90	Dibenzo[a,h]anthracene
MCO-7	90.17259	132649	< 10.	UG/L	11/29/90	Dibenzofuran
MCO-7	90.17259	95501	< 10.	UG/L	11/29/90	o-Dichlorobenzene (1,2)
MCO-7	90.17259	541731	< 10.	UG/L	11/29/90	m-Dichlorobenzene (1,3)
MCO-7	90.17259	106467	< 10.	UG/L	11/29/90	p-Dichlorobenzene (1,4)
MCO-7	90.17259	91941	< 10.	UG/L	11/29/90	3,3'-Dichlorobenzidine
MCO-7	90.17259	120832	< 10.	UG/L	11/29/90	2,4-Dichlorophenol
MCO-7	90.17259	84662	< 10.	UG/L	11/29/90	Diethyl phthalate
MCO-7	90.17259	131113	< 10.	UG/L	11/29/90	Dimethyl phthalate
MCO-7	90.17259	105679	< 10.	UG/L	11/29/90	2,4-Dimethylphenol
MCO-7	90.17259	51285	< 10.	UG/L	11/29/90	2,4-Dinitrophenol
MCO-7	90.17259	121142	< 10.	UG/L	11/29/90	2,4-Dinitrotoluene
MCO-7	90.17259	606202	< 10.	UG/L	11/29/90	2,6-Dinitrotoluene
MCO-7	90.17259	206440	< 10.	UG/L	11/29/90	Fluoranthene
MCO-7	90.17259	86737	< 10.	UG/L	11/29/90	Fluorene
MCO-7	90.17259	118741	< 10.	UG/L	11/29/90	Hexachlorobenzene
MCO-7	90.17259	87683	< 10.	UG/L	11/29/90	Hexachlorobutadiene
MCO-7	90.17259	77474	< 10.	UG/L	11/29/90	Hexachlorocyclopentadiene
MCO-7	90.17259	67721	< 10.	UG/L	11/29/90	Hexachloroethane
MCO-7	90.17259	193395	< 10.	UG/L	11/29/90	Indeno[1,2,3-cd]pyrene
MCO-7	90.17259	78591	< 10.	UG/L	11/29/90	Isophorone
MCO-7	90.17259	534521	< 10.	UG/L	11/29/90	2-Methyl-4,6-dinitrophenol
MCO-7	90.17259	91576	< 10.	UG/L	11/29/90	2-Methylnaphthalene
MCO-7	90.17259	95487	< 10.	UG/L	11/29/90	2-Methylphenol
MCO-7	90.17259	106445	< 10.	UG/L	11/29/90	4-Methylphenol
MCO-7	90.17259	91203	< 10.	UG/L	11/29/90	Naphthalene
MCO-7	90.17259	88744	< 10.	UG/L	11/29/90	2-Nitroaniline
MCO-7	90.17259	99092	< 10.	UG/L	11/29/90	3-Nitroaniline
MCO-7	90.17259	100016	< 10.	UG/L	11/29/90	4-Nitroaniline
MCO-7	90.17259	98953	< 10.	UG/L	11/29/90	Nitrobenzene
MCO-7	90.17259	88755	< 10.	UG/L	11/29/90	2-Nitrophenol
MCO-7	90.17259	100027	< 10.	UG/L	11/29/90	4-Nitrophenol
MCO-7	90.17259	621647	< 10.	UG/L	11/29/90	N-Nitrosodi-n-propylamine
MCO-7	90.17259	62759	< 10.	UG/L	11/29/90	N-Nitrosodimethylamine
MCO-7	90.17259	86306	< 10.	UG/L	11/29/90	N-Nitrosodiphenylamine
MCO-7	90.17259	87865	< 10.	UG/L	11/29/90	Pentachlorophenol
MCO-7	90.17259	85018	< 10.	UG/L	11/29/90	Phenanthrene
MCO-7	90.17259	108952	< 10.	UG/L	11/29/90	Phenol
MCO-7	90.17259	129000	< 10.	UG/L	11/29/90	Pyrene
MCO-7	90.17259	120821	< 10.	UG/L	11/29/90	1,2,4-Trichlorobenzene
MCO-7	90.17259	95954	< 10.	UG/L	11/29/90	2,4,5-Trichlorophenol

MCO-7	90.17259	88062		< 10.		UG/L	11/29/90		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 90.17259

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7	90.17259	120401	TI	60.		UG/L	11/29/90		N,N-(2-Hydroxyethyl)-Dodecanamide
MCO-7	90.17259	124072	TI	11.		UG/L	11/29/90		Octanoic Acid

Customer Sample Duplicate Results for Sample # 90.17259

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17259

none

REPORT NUMBER: 8964

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CRS on 29-Nov-1990

EPA SEMIVOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Martin Koby PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17260

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 10/04/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7A	90.17260	83329	< 10.		UG/L	11/29/90		Acenaphthene
MCO-7A	90.17260	208968	< 10.		UG/L	11/29/90		Acenaphthylene
MCO-7A	90.17260	62533	< 10.		UG/L	11/29/90		Aniline
MCO-7A	90.17260	120127	< 10.		UG/L	11/29/90		Anthracene
MCO-7A	90.17260	103333	< 10.		UG/L	11/29/90		Azobenzene
MCO-7A	90.17260	92875	< 10.		UG/L	11/29/90		m-Benzidine
MCO-7A	90.17260	56553	< 10.		UG/L	11/29/90		Benzo[a]anthracene
MCO-7A	90.17260	50328	< 10.		UG/L	11/29/90		Benzo[a]pyrene
MCO-7A	90.17260	205992	< 10.		UG/L	11/29/90		Benzo[b]fluoranthene
MCO-7A	90.17260	191242	< 10.		UG/L	11/29/90		Benzo[g,h,i]perylene
MCO-7A	90.17260	207089	< 10.		UG/L	11/29/90		Benzo[k]fluoranthene
MCO-7A	90.17260	65850	< 10.		UG/L	11/29/90		Benzoic acid
MCO-7A	90.17260	100516	< 10.		UG/L	11/29/90		Benzyl alcohol
MCO-7A	90.17260	111911	< 10.		UG/L	11/29/90		Bis(2-chloroethoxy)methane
MCO-7A	90.17260	111444	< 10.		UG/L	11/29/90		Bis(2-chloroethyl)ether
MCO-7A	90.17260	108601	< 10.		UG/L	11/29/90		Bis(2-chloroisopropyl)ether
MCO-7A	90.17260	117817	< 10.		UG/L	11/29/90		Bis(2-ethylhexyl)phthalate
MCO-7A	90.17260	101553	< 10.		UG/L	11/29/90		4-Bromophenylphenyl ether
MCO-7A	90.17260	85687	< 10.		UG/L	11/29/90		Butylbenzyl phthalate
MCO-7A	90.17260	59507	< 10.		UG/L	11/29/90		4-Chloro-3-methylphenol
MCO-7A	90.17260	106478	< 10.		UG/L	11/29/90		4-Chloroaniline
MCO-7A	90.17260	91587	< 10.		UG/L	11/29/90		2-Chloronaphthalene

MCO-7A	90.17260	95578	< 10.	UG/L	11/29/90	o-Chlorophenol
MCO-7A	90.17260	7005723	< 10.	UG/L	11/29/90	4-Chlorophenylphenyl ether
MCO-7A	90.17260	218019	< 10.	UG/L	11/29/90	Chrysene
MCO-7A	90.17260	84742	< 10.	UG/L	11/29/90	Di-n-butyl phthalate
MCO-7A	90.17260	117840	< 10.	UG/L	11/29/90	Di-n-octyl phthalate
MCO-7A	90.17260	53703	< 10.	UG/L	11/29/90	Dibenzo[a,h]anthracene
MCO-7A	90.17260	132649	< 10.	UG/L	11/29/90	Dibenzofuran
MCO-7A	90.17260	95501	< 10.	UG/L	11/29/90	o-Dichlorobenzene (1,2)
MCO-7A	90.17260	541731	< 10.	UG/L	11/29/90	m-Dichlorobenzene (1,3)
MCO-7A	90.17260	106467	< 10.	UG/L	11/29/90	p-Dichlorobenzene (1,4)
MCO-7A	90.17260	91941	< 10.	UG/L	11/29/90	3,3'-Dichlorobenzidine
MCO-7A	90.17260	120832	< 10.	UG/L	11/29/90	2,4-Dichlorophenol
MCO-7A	90.17260	84662	< 10.	UG/L	11/29/90	Diethyl phthalate
MCO-7A	90.17260	131113	< 10.	UG/L	11/29/90	Dimethyl phthalate
MCO-7A	90.17260	105679	< 10.	UG/L	11/29/90	2,4-Dimethylphenol
MCO-7A	90.17260	51285	< 10.	UG/L	11/29/90	2,4-Dinitrophenol
MCO-7A	90.17260	121142	< 10.	UG/L	11/29/90	2,4-Dinitrotoluene
MCO-7A	90.17260	606202	< 10.	UG/L	11/29/90	2,6-Dinitrotoluene
MCO-7A	90.17260	206440	< 10.	UG/L	11/29/90	Fluoranthene
MCO-7A	90.17260	86737	< 10.	UG/L	11/29/90	Fluorene
MCO-7A	90.17260	118741	< 10.	UG/L	11/29/90	Hexachlorobenzene
MCO-7A	90.17260	87683	< 10.	UG/L	11/29/90	Hexachlorobutadiene
MCO-7A	90.17260	77474	< 10.	UG/L	11/29/90	Hexachlorocyclopentadiene
MCO-7A	90.17260	67721	< 10.	UG/L	11/29/90	Hexachloroethane
MCO-7A	90.17260	193395	< 10.	UG/L	11/29/90	Indeno[1,2,3-cd]pyrene
MCO-7A	90.17260	78591	< 10.	UG/L	11/29/90	Isophorone
MCO-7A	90.17260	534521	< 10.	UG/L	11/29/90	2-Methyl-4,6-dinitrophenol
MCO-7A	90.17260	91576	< 10.	UG/L	11/29/90	2-Methylnaphthalene
MCO-7A	90.17260	95487	< 10.	UG/L	11/29/90	2-Methylphenol
MCO-7A	90.17260	106445	< 10.	UG/L	11/29/90	4-Methylphenol
MCO-7A	90.17260	91203	< 10.	UG/L	11/29/90	Naphthalene
MCO-7A	90.17260	88744	< 10.	UG/L	11/29/90	2-Nitroaniline
MCO-7A	90.17260	99092	< 10.	UG/L	11/29/90	3-Nitroaniline
MCO-7A	90.17260	100016	< 10.	UG/L	11/29/90	4-Nitroaniline
MCO-7A	90.17260	98953	< 10.	UG/L	11/29/90	Nitrobenzene
MCO-7A	90.17260	88755	< 10.	UG/L	11/29/90	2-Nitrophenol
MCO-7A	90.17260	100027	< 10.	UG/L	11/29/90	4-Nitrophenol
MCO-7A	90.17260	621647	< 10.	UG/L	11/29/90	N-Nitrosodi-n-propylamine
MCO-7A	90.17260	62759	< 10.	UG/L	11/29/90	N-Nitrosodimethylamine
MCO-7A	90.17260	86306	< 10.	UG/L	11/29/90	N-Nitrosodiphenylamine
MCO-7A	90.17260	87865	< 10.	UG/L	11/29/90	Pentachlorophenol
MCO-7A	90.17260	85018	< 10.	UG/L	11/29/90	Phenanthrene
MCO-7A	90.17260	108952	< 10.	UG/L	11/29/90	Phenol
MCO-7A	90.17260	129000	< 10.	UG/L	11/29/90	Pyrene
MCO-7A	90.17260	120821	< 10.	UG/L	11/29/90	1,2,4-Trichlorobenzene
MCO-7A	90.17260	95954	< 10.	UG/L	11/29/90	2,4,5-Trichlorophenol

MCO-7A	90.17260	88062		< 10.		UG/L	11/29/90		2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 90.17260

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS		RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-7A	90.17260	120401	TI	10.		UG/L	11/29/90		N,N-(2-Hydroxyethyl)-Dodecanamide
MCO-7A	90.17260	60322	TI	1200.		UG/L	11/29/90		6-Amino-Hexanoic Acid

Customer Sample Duplicate Results for Sample # 90.17260

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17260

none

REPORT NUMBER: 8964

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: CRS on 29-Nov-1990

EPA SEMIVOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Martin Koby PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

Customer Sample Results, Sample # 90.17261

Date Collected: 9/11/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 10/04/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
MCO-6	90.17261	83329	< 10.		UG/L	11/29/90		Acenaphthene
MCO-6	90.17261	208968	< 10.		UG/L	11/29/90		Acenaphthylene
MCO-6	90.17261	62533	< 10.		UG/L	11/29/90		Aniline
MCO-6	90.17261	120127	< 10.		UG/L	11/29/90		Anthracene
MCO-6	90.17261	103333	< 10.		UG/L	11/29/90		Azobenzene
MCO-6	90.17261	92875	< 10.		UG/L	11/29/90		m-Benzidine
MCO-6	90.17261	56553	< 10.		UG/L	11/29/90		Benzo[a]anthracene
MCO-6	90.17261	50328	< 10.		UG/L	11/29/90		Benzo[a]pyrene
MCO-6	90.17261	205992	< 10.		UG/L	11/29/90		Benzo[b]fluoranthene
MCO-6	90.17261	191242	< 10.		UG/L	11/29/90		Benzo[g,h,i]perylene
MCO-6	90.17261	207089	< 10.		UG/L	11/29/90		Benzo[k]fluoranthene
MCO-6	90.17261	65850	< 10.		UG/L	11/29/90		Benzoic acid
MCO-6	90.17261	100516	< 10.		UG/L	11/29/90		Benzyl alcohol
MCO-6	90.17261	111911	< 10.		UG/L	11/29/90		Bis(2-chloroethoxy)methane
MCO-6	90.17261	111444	< 10.		UG/L	11/29/90		Bis(2-chloroethyl)ether
MCO-6	90.17261	108601	< 10.		UG/L	11/29/90		Bis(2-chloroisopropyl)ether
MCO-6	90.17261	117817	< 10.		UG/L	11/29/90		Bis(2-ethylhexyl)phthalate
MCO-6	90.17261	101553	< 10.		UG/L	11/29/90		4-Bromophenylphenyl ether
MCO-6	90.17261	85687	< 10.		UG/L	11/29/90		Butylbenzyl phthalate
MCO-6	90.17261	59507	< 10.		UG/L	11/29/90		4-Chloro-3-methylphenol
MCO-6	90.17261	106478	< 10.		UG/L	11/29/90		4-Chloroaniline
MCO-6	90.17261	91587	< 10.		UG/L	11/29/90		2-Chloronaphthalene

MCO-6	90.17261	95578	< 10.	UG/L	11/29/90	o-Chlorophenol
MCO-6	90.17261	7005723	< 10.	UG/L	11/29/90	4-Chlorophenylphenyl ether
MCO-6	90.17261	218019	< 10.	UG/L	11/29/90	Chrysene
MCO-6	90.17261	84742	< 10.	UG/L	11/29/90	Di-n-butyl phthalate
MCO-6	90.17261	117840	< 10.	UG/L	11/29/90	Di-n-octyl phthalate
MCO-6	90.17261	53703	< 10.	UG/L	11/29/90	Dibenzo[a,h]anthracene
MCO-6	90.17261	132649	< 10.	UG/L	11/29/90	Dibenzofuran
MCO-6	90.17261	95501	< 10.	UG/L	11/29/90	o-Dichlorobenzene (1,2)
MCO-6	90.17261	541731	< 10.	UG/L	11/29/90	m-Dichlorobenzene (1,3)
MCO-6	90.17261	106467	< 10.	UG/L	11/29/90	p-Dichlorobenzene (1,4)
MCO-6	90.17261	91941	< 10.	UG/L	11/29/90	3,3'-Dichlorobenzidine
MCO-6	90.17261	120832	< 10.	UG/L	11/29/90	2,4-Dichlorophenol
MCO-6	90.17261	84662	< 10.	UG/L	11/29/90	Diethyl phthalate
MCO-6	90.17261	131113	< 10.	UG/L	11/29/90	Dimethyl phthalate
MCO-6	90.17261	105679	< 10.	UG/L	11/29/90	2,4-Dimethylphenol
MCO-6	90.17261	51285	< 10.	UG/L	11/29/90	2,4-Dinitrophenol
MCO-6	90.17261	121142	< 10.	UG/L	11/29/90	2,4-Dinitrotoluene
MCO-6	90.17261	606202	< 10.	UG/L	11/29/90	2,6-Dinitrotoluene
MCO-6	90.17261	206440	< 10.	UG/L	11/29/90	Fluoranthene
MCO-6	90.17261	86737	< 10.	UG/L	11/29/90	Fluorene
MCO-6	90.17261	118741	< 10.	UG/L	11/29/90	Hexachlorobenzene
MCO-6	90.17261	87683	< 10.	UG/L	11/29/90	Hexachlorobutadiene
MCO-6	90.17261	77474	< 10.	UG/L	11/29/90	Hexachlorocyclopentadiene
MCO-6	90.17261	67721	< 10.	UG/L	11/29/90	Hexachloroethane
MCO-6	90.17261	193395	< 10.	UG/L	11/29/90	Indeno[1,2,3-cd]pyrene
MCO-6	90.17261	78591	< 10.	UG/L	11/29/90	Isophorone
MCO-6	90.17261	534521	< 10.	UG/L	11/29/90	2-Methyl-4,6-dinitrophenol
MCO-6	90.17261	91576	< 10.	UG/L	11/29/90	2-Methylnaphthalene
MCO-6	90.17261	95487	< 10.	UG/L	11/29/90	2-Methylphenol
MCO-6	90.17261	106445	< 10.	UG/L	11/29/90	4-Methylphenol
MCO-6	90.17261	91203	< 10.	UG/L	11/29/90	Naphthalene
MCO-6	90.17261	88744	< 10.	UG/L	11/29/90	2-Nitroaniline
MCO-6	90.17261	99092	< 10.	UG/L	11/29/90	3-Nitroaniline
MCO-6	90.17261	100016	< 10.	UG/L	11/29/90	4-Nitroaniline
MCO-6	90.17261	98953	< 10.	UG/L	11/29/90	Nitrobenzene
MCO-6	90.17261	88755	< 10.	UG/L	11/29/90	2-Nitrophenol
MCO-6	90.17261	100027	< 10.	UG/L	11/29/90	4-Nitrophenol
MCO-6	90.17261	621647	< 10.	UG/L	11/29/90	N-Nitrosodi-n-propylamine
MCO-6	90.17261	62759	< 10.	UG/L	11/29/90	N-Nitrosodimethylamine
MCO-6	90.17261	86306	< 10.	UG/L	11/29/90	N-Nitrosodiphenylamine
MCO-6	90.17261	87865	< 10.	UG/L	11/29/90	Pentachlorophenol
MCO-6	90.17261	85018	< 10.	UG/L	11/29/90	Phenanthrene
MCO-6	90.17261	108952	< 10.	UG/L	11/29/90	Phenol
MCO-6	90.17261	129000	< 10.	UG/L	11/29/90	Pyrene
MCO-6	90.17261	120821	< 10.	UG/L	11/29/90	1,2,4-Trichlorobenzene
MCO-6	90.17261	95954	< 10.	UG/L	11/29/90	2,4,5-Trichlorophenol

MCO-6	90.17261	88062	< 10.	UG/L	11/29/90	2,4,6-Trichlorophenol

Tentatively Identified Compounds in Customer Sample # 90.17261

none

Customer Sample Duplicate Results for Sample # 90.17261

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17261

none

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********** HSE-9 QUALITY ASSURANCE REPORT **********

Prepared by: CRS on 29-Nov-1990

EPA SEMIVOLATILES

REQUEST NUMBER: 10760 MATRIX: WW ANALYST: Martin Koby PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUN
00.20226	90.17435	83329	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Acenaphthene
00.20226	90.17435	208968	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Acenaphthylene
00.20226	90.17435	62533	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Aniline
00.20226	90.17435	120127	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Anthracene
00.20226	90.17435	103333	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Azobenzene
00.20226	90.17435	92875	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	m-Benzidine
00.20226	90.17435	56553	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[a]anthracene
00.20226	90.17435	50328	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[a]pyrene
00.20226	90.17435	205992	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[b]fluoranthene
00.20226	90.17435	191242	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[g,h,i]perylene
00.20226	90.17435	207089	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[k]fluoranthene
00.20226	90.17435	65850	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzoic acid
00.20226	90.17435	100516	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzyl alcohol
00.20226	90.17435	111911	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Bis(2-chloroethoxy)methane
00.20226	90.17435	111444	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Bis(2-chloroethyl)ether
00.20226	90.17435	108601	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Bis(2-chloroisopropyl)ether
00.20226	90.17435	117817	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
00.20226	90.17435	101553	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Bromophenylphenyl ether
00.20226	90.17435	85687	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Butylbenzyl phthalate
00.20226	90.17435	59507	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Chloro-3-methylphenol
00.20226	90.17435	106478	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Chloroaniline
00.20226	90.17435	91587	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Chloronaphthalene
00.20226	90.17435	95578	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	o-Chlorophenol
00.20226	90.17435	7005723	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Chlorophenylphenyl ether
00.20226	90.17435	218019	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Chrysene
00.20226	90.17435	84742	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Di-n-butyl phthalate
00.20226	90.17435	117840	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Di-n-octyl phthalate
00.20226	90.17435	53703	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Dibenzo[a,h]anthracene
00.20226	90.17435	132649	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Dibenzofuran
00.20226	90.17435	95501	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	o-Dichlorobenzene (1,2)
00.20226	90.17435	541731	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	m-Dichlorobenzene (1,3)
00.20226	90.17435	106467	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	p-Dichlorobenzene (1,4)
00.20226	90.17435	91941	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	3,3'-Dichlorobenzidine

00.20226	90.17435	120832	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4-Dichlorophenol
00.20226	90.17435	84662	14.	4.2	UG/L	0.0		11/29/90	~~OUT OF~~ Under CONTROL	Diethyl phthalate
00.20226	90.17435	131113	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Dimethyl phthalate
00.20226	90.17435	105679	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4-Dimethylphenol
00.20226	90.17435	51285	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4-Dinitrophenol
00.20226	90.17435	121142	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4-Dinitrotoluene
00.20226	90.17435	606202	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,6-Dinitrotoluene
00.20226	90.17435	206440	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Fluoranthene
00.20226	90.17435	86737	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Fluorene
00.20226	90.17435	118741	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Hexachlorobenzene
00.20226	90.17435	87683	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Hexachlorobutadiene
00.20226	90.17435	77474	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Hexachlorocyclopentadiene
00.20226	90.17435	67721	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Hexachloroethane
00.20226	90.17435	193395	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
00.20226	90.17435	78591	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Isophorone
00.20226	90.17435	534521	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
00.20226	90.17435	91576	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Methylnaphthalene
00.20226	90.17435	95487	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Methylphenol
00.20226	90.17435	106445	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Methylphenol
00.20226	90.17435	91203	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Naphthalene
00.20226	90.17435	88744	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Nitroaniline
00.20226	90.17435	99092	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	3-Nitroaniline
00.20226	90.17435	100016	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Nitroaniline
00.20226	90.17435	98953	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Nitrobenzene
00.20226	90.17435	88755	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Nitrophenol
00.20226	90.17435	100027	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Nitrophenol
00.20226	90.17435	621647	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	N-Nitrosodi-n-propylamine
00.20226	90.17435	62759	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	N-Nitrosodimethylamine
00.20226	90.17435	86306	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	N-Nitrosodiphenylamine
00.20226	90.17435	87865	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Pentachlorophenol
00.20226	90.17435	85018	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Phenanthrene
00.20226	90.17435	108952	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Phenol
00.20226	90.17435	129000	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Pyrene
00.20226	90.17435	120821	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	1,2,4-Trichlorobenzene
00.20226	90.17435	95954	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4,5-Trichlorophenol
00.20226	90.17435	88062	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4,6-Trichlorophenol

Blank Spike Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND
00.20226	90.17435	83329	50.	35.	UG/L	11/29/90		Acenaphthene
00.20226	90.17435	59507	100.	67.	UG/L	11/29/90		4-Chloro-3-methylphenol
00.20226	90.17435	95578	100.	58.	UG/L	11/29/90		o-Chlorophenol

00.20226	90.17435	106467	50.	29.	UG/L	11/29/90		p-Dichlorobenzene (1,4)
00.20226	90.17435	121142	50.	36.	UG/L	11/29/90		2,4-Dinitrotoluene
00.20226	90.17435	100027	100.	61.	UG/L	11/29/90		4-Nitrophenol
00.20226	90.17435	621647	50.	29.	UG/L	11/29/90		N-Nitrosodi-n-propylamine
00.20226	90.17435	87865	100.	69.	UG/L	11/29/90		Pentachlorophenol
00.20226	90.17435	108952	100.	63.	UG/L	11/29/90		Phenol
00.20226	90.17435	129000	50.	33.	UG/L	11/29/90		Pyrene
00.20226	90.17435	120821	50.	32.	UG/L	11/29/90		1,2,4-Trichlorobenzene

Blank Spike Duplicate Results

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	AMOUNT SPIKED	AMOUNT RECOVERED	UNITS	COMPLETION DATE	COMMENT	COMPOUND
00.20226	90.17435	83329	50.	36.	UG/L	11/29/90		Acenaphthene
00.20226	90.17435	59507	100.	68.	UG/L	11/29/90		4-Chloro-3-methylphenol
00.20226	90.17435	95578	100.	62.	UG/L	11/29/90		o-Chlorophenol
00.20226	90.17435	106467	50.	30.	UG/L	11/29/90		p-Dichlorobenzene (1,4)
00.20226	90.17435	121142	50.	38.	UG/L	11/29/90		2,4-Dinitrotoluene
00.20226	90.17435	100027	100.	65.	UG/L	11/29/90		4-Nitrophenol
00.20226	90.17435	621647	50.	30.	UG/L	11/29/90		N-Nitrosodi-n-propylamine
00.20226	90.17435	87865	100.	55.	UG/L	11/29/90		Pentachlorophenol
00.20226	90.17435	108952	100.	66.	UG/L	11/29/90		Phenol
00.20226	90.17435	129000	50.	36.	UG/L	11/29/90		Pyrene
00.20226	90.17435	120821	50.	32.	UG/L	11/29/90		1,2,4-Trichlorobenzene

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 90.17413

Date Collected: 9/13/90 Date Received: 9/13/90 Date Extracted: 9/13/90 Date Analyzed: 10/04/90

SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
90.17413	83329	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Acenaphthene
90.17413	208968	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Acenaphthylene
90.17413	62533	110.	33.	UG/L	130.	10.	11/29/90	UNDER CONTROL	Aniline
90.17413	120127	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Anthracene
90.17413	103333	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Azobenzene
90.17413	92875	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	m-Benzidine

90.17413	56553	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[a]anthracene
90.17413	50328	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[a]pyrene
90.17413	205992	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[b]fluoranthene
90.17413	191242	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[g,h,i]perylene
90.17413	207089	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Benzo[k]fluoranthene
90.17413	65850	< 10.		UG/L	150.	20.	11/29/90	OUT OF CONTROL	Benzoic acid
90.17413	100516	94.	28.2	UG/L	130.	10.	11/29/90	UNDER CONTROL	Benzyl alcohol
90.17413	111911	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Bis(2-chloroethoxy)methane
90.17413	111444	73.	21.9	UG/L	120.	10.	11/29/90	UNDER CONTROL	Bis(2-chloroethyl)ether
90.17413	108601	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Bis(2-chloroisopropyl)ether
90.17413	117817	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Bis(2-ethylhexyl)phthalate
90.17413	101553	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Bromophenylphenyl ether
90.17413	85687	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Butylbenzyl phthalate
90.17413	59507	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Chloro-3-methylphenol
90.17413	106478	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Chloroaniline
90.17413	91587	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Chloronaphthalene
90.17413	95578	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	o-Chlorophenol
90.17413	7005723	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Chlorophenylphenyl ether
90.17413	218019	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Chrysene
90.17413	84742	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Di-n-butyl phthalate
90.17413	117840	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Di-n-octyl phthalate
90.17413	53703	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Dibenzo[a,h]anthracene
90.17413	132649	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Dibenzofuran
90.17413	95501	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	o-Dichlorobenzene (1,2)
90.17413	541731	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	m-Dichlorobenzene (1,3)
90.17413	106467	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	p-Dichlorobenzene (1,4)
90.17413	91941	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	3,3'-Dichlorobenzidine
90.17413	120832	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4-Dichlorophenol
90.17413	84662	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Diethyl phthalate
90.17413	131113	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Dimethyl phthalate
90.17413	105679	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4-Dimethylphenol
90.17413	51285	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4-Dinitrophenol
90.17413	121142	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4-Dinitrotoluene
90.17413	606202	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,6-Dinitrotoluene
90.17413	206440	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Fluoranthene
90.17413	86737	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Fluorene
90.17413	118741	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Hexachlorobenzene
90.17413	87683	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Hexachlorobutadiene
90.17413	77474	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Hexachlorocyclopentadiene
90.17413	67721	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Hexachloroethane
90.17413	193395	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Indeno[1,2,3-cd]pyrene
90.17413	78591	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Isophorone
90.17413	534521	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Methyl-4,6-dinitrophenol
90.17413	91576	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Methylnaphthalene
90.17413	95487	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Methylphenol
90.17413	106445	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Methylphenol

90.17413	91203	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Naphthalene
90.17413	88744	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Nitroaniline
90.17413	99092	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	3-Nitroaniline
90.17413	100016	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Nitroaniline
90.17413	98953	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Nitrobenzene
90.17413	88755	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2-Nitrophenol
90.17413	100027	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	4-Nitrophenol
90.17413	621647	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	N-Nitrosodi-n-propylamine
90.17413	62759	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	N-Nitrosodimethylamine
90.17413	86306	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	N-Nitrosodiphenylamine
90.17413	87865	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Pentachlorophenol
90.17413	85018	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Phenanthrene
90.17413	108952	74.	22.2	UG/L	130.	10.	11/29/90	WARNING 2-3 SIG	Phenol
90.17413	129000	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	Pyrene
90.17413	120821	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	1,2,4-Trichlorobenzene
90.17413	95954	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4,5-Trichlorophenol
90.17413	88062	< 10.		UG/L	0.0		11/29/90	UNDER CONTROL	2,4,6-Trichlorophenol

SURROGATE RESULTS FOR EPA SEMIVOLATILES

Surrogate 1 = 2-Fluorophenol (CAS # = 367124)
Surrogate 2 = Phenol-d5 (CAS # = 4165622)
Surrogate 3 = Nitrobenzene-d5 (CAS # = 4165600)
Surrogate 4 = 2-Fluorobiphenyl (CAS # = 321608)
Surrogate 5 = 2,4,6-Tribromophenol (CAS # = 118796)
Surrogate 6 = p-Terphenyl-d14 (CAS # =)

SAMPLE NUMBER	UNITS	Surrogate 1	Surrogate 2	Surrogate 3	Surrogate 4	Surrogate 5	Surrogate 6	COMPLETION DATE
90.17256	%	62.36	74.92	69.26	72.46	85.28	48.28	29-Nov-1990
90.17257	%	61.71	55.31	70.1	67.04	73.72	27.36	29-Nov-1990
90.17258	%	61.28	83.8	71.98	69.12	58.47	18.66	29-Nov-1990
90.17259	%	59.55	72.93	70.68	64.6	71.49	19.86	29-Nov-1990
90.17260	%	56.98	77.48	69.88	68.6	53.63	21.82	29-Nov-1990
90.17261	%	54.42	69.08	66.86	67.58	71.2	60.5	29-Nov-1990
90.17413	%	55.5	64.62	61.46	66.72	75.62	69.82	29-Nov-1990
90.17435	%	59.08	71.97	72.62	66.84	68.3	60.86	29-Nov-1990
90.17435	%	63.79	74.12	76.7	66.	68.42	67.52	29-Nov-1990
90.17435	%	64.31	70.29	72.48	73.86	74.53	67.54	29-Nov-1990
EPA Limits:								
Water	%	21 - 100	10 - 94	35 - 114	43 - 116	10 - 123	33 - 141	
Soil	%	25 - 121	24 - 113	23 - 120	30 - 115	19 - 122	18 - 137	

REPORT NUMBER: 8964

Analyst	Reviewer	Section Leader	QA Officer
11/29/90	11/29/90	12/4/90	12/4/90
Date	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8550

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
APCO-1	90.17401	94757	< 0.26		UG/L	10/24/90		2,4-D
APCO-1	90.17401	93765	< 0.05		UG/L	10/24/90		2,4,5-T
APCO-1	90.17401	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

ACID - Pueblo Canyon

REPORT NUMBER: 8550

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
LAO-3	90.17402	94757	< 0.26		UG/L	10/24/90		2,4-D
LAO-3	90.17402	93765	< 0.05		UG/L	10/24/90		2,4,5-T
LAO-3	90.17402	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

REPORT NUMBER: 8550

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
LAO-3A	90.17403	94757	< 0.26		UG/L	10/24/90		2,4-D
LAO-3A	90.17403	93765	< 0.05		UG/L	10/24/90		2,4,5-T
LAO-3A	90.17403	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

REPORT NUMBER: 8550

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
LAO-4.5	90.17404	94757	< 0.26		UG/L	10/24/90		2,4-D
LAO-4.5	90.17404	93765	< 0.05		UG/L	10/24/90		2,4,5-T
LAO-4.5	90.17404	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

REPORT NUMBER: 8550

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
LAO-4.5C	90.17405	94757	< 0.26		UG/L	10/24/90		2,4-D
LAO-4.5C	90.17405	93765	< 0.05		UG/L	10/24/90		2,4,5-T
LAO-4.5C	90.17405	93721	< 0.06		UG/L	10/24/90		2,4,5-TP

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REPORT NUMBER: 8550 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT **********

Prepared by: HEMBERGER on 24-Oct-1990

EPA HERBICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Barbara Hemberger PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this sample batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
90.17415	94757	0.63	0.44	UG/L	0.54	0.05	10/24/90	UNDER CONTROL	2,4-D
90.17415	93721	0.31	0.22	UG/L	0.29	0.03	10/24/90	UNDER CONTROL	2,4,5-TP

REPORT NUMBER: 8550

Analyst	Section Leader	QA Officer
10/25/90	10/30/90	
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8238

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: DMS on 25-Sep-1990

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Dee Seitz PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

SUMMARY of TOTAL PCB's for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
APCO-1	90.17401	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
LAO-3	90.17402	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
LAO-3A	90.17403	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
LAO-4.5	90.17404	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
LAO-4.5C	90.17405	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor

DETAILED PCB DATA for customer samples on this report

CUSTOMER NUM	SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
APCO-1	90.17401	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
APCO-1	90.17401	53469219	< 0.4		UG/L	9/19/90		Aroclor 1242
APCO-1	90.17401	11097691	< 0.4		UG/L	9/19/90		Aroclor 1254
APCO-1	90.17401	11096825	< 0.4		UG/L	9/19/90		Aroclor 1260
LAO-3	90.17402	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor
LAO-3	90.17402	53469219	< 0.4		UG/L	9/19/90		Aroclor 1242
LAO-3	90.17402	11097691	< 0.4		UG/L	9/19/90		Aroclor 1254
LAO-3	90.17402	11096825	< 0.4		UG/L	9/19/90		Aroclor 1260
LAO-3A	90.17403	1336363	< 0.4		UG/L	9/19/90		Mixed-Aroclor

LAO-3A	90.17403	53469219	< 0.4	UG/L	9/19/90	Aroclor 1242
LAO-3A	90.17403	11097691	< 0.4	UG/L	9/19/90	Aroclor 1254
LAO-3A	90.17403	11096825	< 0.4	UG/L	9/19/90	Aroclor 1260
LAO-4.5	90.17404	1336363	< 0.4	UG/L	9/19/90	Mixed-Aroclor
LAO-4.5	90.17404	53469219	< 0.4	UG/L	9/19/90	Aroclor 1242
LAO-4.5	90.17404	11097691	< 0.4	UG/L	9/19/90	Aroclor 1254
LAO-4.5	90.17404	11096825	< 0.4	UG/L	9/19/90	Aroclor 1260
LAO-4.5C	90.17405	1336363	< 0.4	UG/L	9/19/90	Mixed-Aroclor
LAO-4.5C	90.17405	53469219	< 0.4	UG/L	9/19/90	Aroclor 1242
LAO-4.5C	90.17405	11097691	< 0.4	UG/L	9/19/90	Aroclor 1254
LAO-4.5C	90.17405	11096825	< 0.4	UG/L	9/19/90	Aroclor 1260

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REPORT NUMBER: 8238 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT **********

Prepared by: DMS on 25-Sep-1990

POLYCHLORINATED BIPHENYLS

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Dee Seitz PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

___ Only qualitative data requested

X Only Blind QC samples run with this sample batch.

___ No QC samples run with this sample batch.

___ No QC samples for this constituent and matrix type available within HSE-9

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
90.17414	1336363	2.8	0.6	UG/L	1.89	0.45	9/19/90	UNDER CONTROL	Mixed-Aroclor
90.17414	53469219	2.8	0.6	UG/L	1.89	0.45	9/19/90	UNDER CONTROL	Aroclor 1242
90.17414	11097691	< 0.4		UG/L			9/19/90	UNDER CONTROL	Aroclor 1254
90.17414	11096825	< 0.4		UG/L			9/19/90	UNDER CONTROL	Aroclor 1260

Analyst	Section Leader	QA Officer
9/25/90	9/27/90	10/1/90
Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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REPORT NUMBER: 8993

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

Customer Sample Results, Sample # 90.17401

Date Collected: 9/12/90 Date Received: 9/12/90 Date Extracted: 9/13/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
APCO-1	90.17401	309002	< 0.06		UG/L	12/04/90		Aldrin
APCO-1	90.17401	319846	< 0.02		UG/L	12/04/90		alpha-BHC
APCO-1	90.17401	319857	< 0.1		UG/L	12/04/90		beta-BHC
APCO-1	90.17401	319868	< 0.12		UG/L	12/04/90		delta-BHC
APCO-1	90.17401	57749	< 0.25		UG/L	12/04/90		Chlordane
APCO-1	90.17401	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
APCO-1	90.17401	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
APCO-1	90.17401	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
APCO-1	90.17401	60571	< 0.08		UG/L	12/04/90		Dieldrin
APCO-1	90.17401	959988	< 0.05		UG/L	12/04/90		Endosulfan I
APCO-1	90.17401	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
APCO-1	90.17401	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
APCO-1	90.17401	72208	< 0.03		UG/L	12/04/90		Endrin
APCO-1	90.17401	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
APCO-1	90.17401	76448	< 0.03		UG/L	12/04/90		Heptachlor
APCO-1	90.17401	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
APCO-1	90.17401	58899	< 0.03		UG/L	12/04/90		Lindane
APCO-1	90.17401	72435	< 0.08		UG/L	12/04/90		Methoxychlor
APCO-1	90.17401	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17401

none

Customer Sample Duplicate Results for Sample # 90.17401

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17401

none

REPORT NUMBER: 8993

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

Customer Sample Results, Sample # 90.17402

Date Collected: 9/12/90 Date Received: 9/12/90 Date Extracted: 9/13/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
LAO-3	90.17402	309002	< 0.06		UG/L	12/04/90		Aldrin
LAO-3	90.17402	319846	< 0.02		UG/L	12/04/90		alpha-BHC
LAO-3	90.17402	319857	< 0.1		UG/L	12/04/90		beta-BHC
LAO-3	90.17402	319868	< 0.12		UG/L	12/04/90		delta-BHC
LAO-3	90.17402	57749	< 0.25		UG/L	12/04/90		Chlordane
LAO-3	90.17402	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
LAO-3	90.17402	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
LAO-3	90.17402	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
LAO-3	90.17402	60571	< 0.04		UG/L	12/04/90		Dieldrin
LAO-3	90.17402	959988	< 0.05		UG/L	12/04/90		Endosulfan I
LAO-3	90.17402	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
LAO-3	90.17402	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
LAO-3	90.17402	72208	< 0.03		UG/L	12/04/90		Endrin
LAO-3	90.17402	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
LAO-3	90.17402	76448	< 0.03		UG/L	12/04/90		Heptachlor
LAO-3	90.17402	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
LAO-3	90.17402	58899	< 0.03		UG/L	12/04/90		Lindane
LAO-3	90.17402	72435	< 0.08		UG/L	12/04/90		Methoxychlor
LAO-3	90.17402	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17402

none

Customer Sample Duplicate Results for Sample # 90.17402

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17402

none

REPORT NUMBER: 8993

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

Customer Sample Results, Sample # 90.17403

Date Collected: 9/12/90 Date Received: 9/12/90 Date Extracted: 9/13/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
LAO-3A	90.17403	309002	< 0.06		UG/L	12/04/90		Aldrin
LAO-3A	90.17403	319846	< 0.02		UG/L	12/04/90		alpha-BHC
LAO-3A	90.17403	319857	< 0.1		UG/L	12/04/90		beta-BHC
LAO-3A	90.17403	319868	< 0.12		UG/L	12/04/90		delta-BHC
LAO-3A	90.17403	57749	< 0.25		UG/L	12/04/90		Chlordane
LAO-3A	90.17403	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
LAO-3A	90.17403	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
LAO-3A	90.17403	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
LAO-3A	90.17403	60571	< 0.04		UG/L	12/04/90		Dieldrin
LAO-3A	90.17403	959988	< 0.05		UG/L	12/04/90		Endosulfan I
LAO-3A	90.17403	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
LAO-3A	90.17403	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
LAO-3A	90.17403	72208	< 0.03		UG/L	12/04/90		Endrin
LAO-3A	90.17403	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
LAO-3A	90.17403	76448	< 0.03		UG/L	12/04/90		Heptachlor
LAO-3A	90.17403	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
LAO-3A	90.17403	58899	< 0.03		UG/L	12/04/90		Lindane
LAO-3A	90.17403	72435	< 0.08		UG/L	12/04/90		Methoxychlor
LAO-3A	90.17403	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17403

none

Customer Sample Duplicate Results for Sample # 90.17403

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17403

none

REPORT NUMBER: 8993

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

Customer Sample Results, Sample # 90.17404

Date Collected: 9/12/90 Date Received: 9/12/90 Date Extracted: 9/13/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
LAO-4.5	90.17404	309002	< 0.06		UG/L	12/04/90		Aldrin
LAO-4.5	90.17404	319846	< 0.02		UG/L	12/04/90		alpha-BHC
LAO-4.5	90.17404	319857	< 0.1		UG/L	12/04/90		beta-BHC
LAO-4.5	90.17404	319868	< 0.12		UG/L	12/04/90		delta-BHC
LAO-4.5	90.17404	57749	< 0.25		UG/L	12/04/90		Chlordane
LAO-4.5	90.17404	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
LAO-4.5	90.17404	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
LAO-4.5	90.17404	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
LAO-4.5	90.17404	60571	< 0.04		UG/L	12/04/90		Dieldrin
LAO-4.5	90.17404	959988	< 0.05		UG/L	12/04/90		Endosulfan I
LAO-4.5	90.17404	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
LAO-4.5	90.17404	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
LAO-4.5	90.17404	72208	< 0.03		UG/L	12/04/90		Endrin
LAO-4.5	90.17404	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
LAO-4.5	90.17404	76448	< 0.03		UG/L	12/04/90		Heptachlor
LAO-4.5	90.17404	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
LAO-4.5	90.17404	58899	< 0.03		UG/L	12/04/90		Lindane
LAO-4.5	90.17404	72435	< 0.08		UG/L	12/04/90		Methoxychlor
LAO-4.5	90.17404	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17404

none

Customer Sample Duplicate Results for Sample # 90.17404

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17404

none

REPORT NUMBER: 8993

********** HSE-9 ANALYTICAL REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

Customer Sample Results, Sample # 90.17405

Date Collected: 9/12/90 Date Received: 9/12/90 Date Extracted: 9/13/90 Date Analyzed: 10/05/90

CUSTOMER NUMBER	SAMPLE NUMBER	ANALYSIS	RESULT	UNCERTAINTY	UNITS	COMPLETION DATE	COMMENT	COMPOUND NAME
LAO-4.5C	90.17405	309002	< 0.06		UG/L	12/04/90		Aldrin
LAO-4.5C	90.17405	319846	< 0.02		UG/L	12/04/90		alpha-BHC
LAO-4.5C	90.17405	319857	< 0.1		UG/L	12/04/90		beta-BHC
LAO-4.5C	90.17405	319868	< 0.12		UG/L	12/04/90		delta-BHC
LAO-4.5C	90.17405	57749	< 0.25		UG/L	12/04/90		Chlordane
LAO-4.5C	90.17405	72548	< 0.04		UG/L	12/04/90		p,p'-DDD
LAO-4.5C	90.17405	72559	< 0.04		UG/L	12/04/90		p,p'-DDE
LAO-4.5C	90.17405	50293	< 0.06		UG/L	12/04/90		p,p'-DDT
LAO-4.5C	90.17405	60571	< 0.04		UG/L	12/04/90		Dieldrin
LAO-4.5C	90.17405	959988	< 0.05		UG/L	12/04/90		Endosulfan I
LAO-4.5C	90.17405	33213659	< 0.08		UG/L	12/04/90		Endosulfan II
LAO-4.5C	90.17405	1031078	< 0.09		UG/L	12/04/90		Endosulfan sulfate
LAO-4.5C	90.17405	72208	< 0.03		UG/L	12/04/90		Endrin
LAO-4.5C	90.17405	7421934	< 0.31		UG/L	12/04/90		Endrin aldehyde
LAO-4.5C	90.17405	76448	< 0.03		UG/L	12/04/90		Heptachlor
LAO-4.5C	90.17405	1024573	< 0.04		UG/L	12/04/90		Heptachlor epoxide
LAO-4.5C	90.17405	58899	< 0.03		UG/L	12/04/90		Lindane
LAO-4.5C	90.17405	72435	< 0.08		UG/L	12/04/90		Methoxychlor
LAO-4.5C	90.17405	8001352	< 2.5		UG/L	12/04/90		Toxaphene

Tentatively Identified Compounds in Customer Sample # 90.17405

none

Customer Sample Duplicate Results for Sample # 90.17405

none

Tentatively Identified Compounds in Customer Sample Duplicates for Sample # 90.17405

none

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REPORT NUMBER: 8993 (continued)

********** HSE-9 QUALITY ASSURANCE REPORT **********

Prepared by: PDM on 4-Dec-1990

EPA PESTICIDES

REQUEST NUMBER: 10773 MATRIX: WW ANALYST: Peter Del Mar PROGRAM CODE: M211

OWNER: Max Maes GROUP: HSE-8 MAIL-STOP: K490 PHONE: 7-0817 TASK-ID: ALLA1

SUMMARY OF CONTROL STATUS OF OPEN (NON-BLIND) QA SAMPLES RUN WITH THIS BATCH

There were no open (non-blind) Quality Control materials run with the samples reported above for one of the following reasons:

____ Only qualitative data requested

____ Only Blind QC samples run with this batch.

____ No QC samples run with this sample batch.

____ No QC samples for this constituent and matrix type available within HSE-9

SUMMARY OF CONTROL STATUS OF BLANK QC SAMPLES RUN WITH THIS BATCH

Blank Results

none

Blank Spike Results

none

Blank Spike Duplicate Results

none

SUMMARY OF CONTROL STATUS OF BLIND QA SAMPLES RUN WITH THIS BATCH

Blind QC Results, Sample # 90.17416

SAMPLE NUM	ANALYSIS	RESULT	UNCERTAINTY	UNITS	CERTIFIED VALUE	CERTIFIED VALUE UNCERTAINTY	COMPLETION DATE	COMMENT	COMPOUND-NAME
90.17416	309002	< 0.06		UG/L	0.0		12/04/90	UNDER CONTROL	Aldrin
90.17416	319846	< 0.02		UG/L	0.0		12/04/90	UNDER CONTROL	alpha-BHC
90.17416	319857	< 0.1		UG/L	0.0		12/04/90	UNDER CONTROL	beta-BHC
90.17416	319868	< 0.12		UG/L	0.0		12/04/90	UNDER CONTROL	delta-BHC
90.17416	57749	< 0.25		UG/L	0.0		12/04/90	UNDER CONTROL	Chlordane
90.17416	72548	< 0.04		UG/L	0.0		12/04/90	UNDER CONTROL	p,p'-DDD
90.17416	72559	0.17	0.08	UG/L	0.25	0.02	12/04/90	UNDER CONTROL	p,p'-DDE
90.17416	50293	< 0.06		UG/L	0.0		12/04/90	UNDER CONTROL	p,p'-DDT
90.17416	60571	< 0.04		UG/L	0.0		12/04/90	UNDER CONTROL	Dieldrin
90.17416	959988	< 0.05		UG/L	0.0		12/04/90	UNDER CONTROL	Endosulfan I
90.17416	33213659	< 0.08		UG/L	0.0		12/04/90	UNDER CONTROL	Endosulfan II
90.17416	1031078	< 0.09		UG/L	0.0		12/04/90	UNDER CONTROL	Endosulfan sulfate
90.17416	72208	< 0.03		UG/L	0.0		12/04/90	UNDER CONTROL	Endrin
90.17416	7421934	< 0.31		UG/L	0.0		12/04/90	UNDER CONTROL	Endrin aldehyde
90.17416	76448	< 0.03		UG/L	0.0		12/04/90	UNDER CONTROL	Heptachlor
90.17416	1024573	0.22	0.1	UG/L	0.23	0.02	12/04/90	UNDER CONTROL	Heptachlor epoxide

90.17416	58899	0.15	0.07	UG/L	0.18	0.02	12/04/90	UNDER CONTROL	Lindane
90.17416	72435	0.68	0.34	UG/L	0.68	0.07	12/04/90	UNDER CONTROL	Methoxychlor
90.17416	8001352	< 2.5		UG/L	0.0		12/04/90	UNDER CONTROL	Toxaphene

Surrogate results for EPA PESTICIDES

Dibutyl chlorendate (CAS # = 96); EPA Range Limits: Water = **-*** %, Soil = **-*** %

SAMPLE NUMBER	RESULT	UNITS	COMPLETION DATE	COMMENT
90.17401	0.0	NOSURR	12/04/90	
90.17402	0.0	NOSURR	12/04/90	
90.17403	0.0	NOSURR	12/04/90	
90.17404	0.0	NOSURR	12/04/90	
90.17405	0.0	NOSURR	12/04/90	
90.17416	0.0	NOSURR	12/04/90	

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Analyst	Reviewer	Section Leader	QA Officer
12/4/90	12/4/90	12/4/90	
Date	Date	Date	Date

The control status of the preceeding data was evaluated using the standard statistical criteria set forth in 'Quality Assurance for Health and Environmental Chemistry: 1986,' LA-11114-MS, pp. 3-4.

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