AD-A190 443 INSTALLATION RESTORATION PROGRAM PHASE 2 1/6
CONFIRMATION/QUANTIFICATION STAG..(U) RADIAN CORP
AUSTIN TX DEC 87 F31615-83-D-4001

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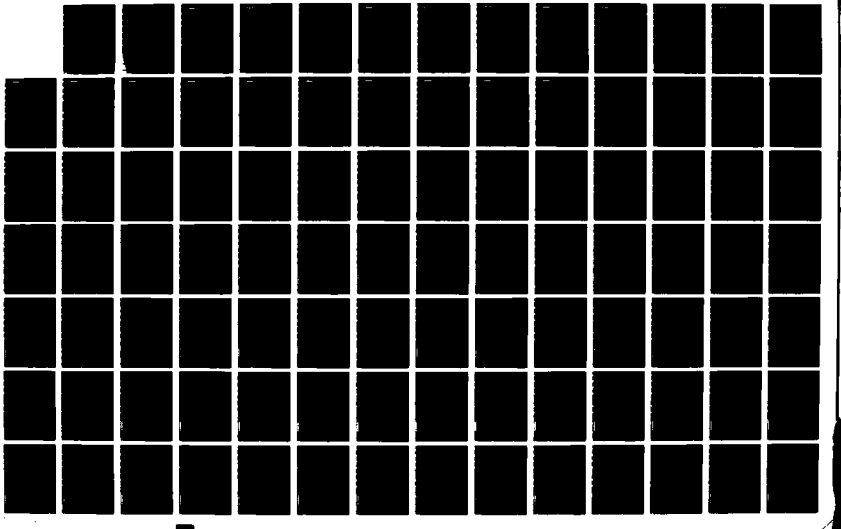

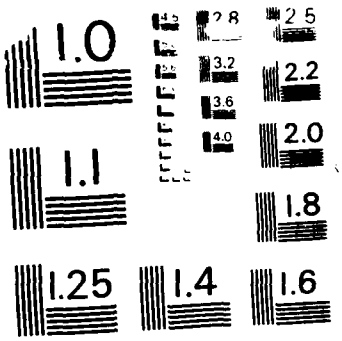

MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AD-A190 443

DCN 87-212-027-27-01

INSTALLATION RESTORATION PROGRAM
PHASE II - CONFIRMATION/QUANTIFICATION
STAGE 1

FINAL REPORT
FOR
AIR FORCE PLANT 4
FORT WORTH, TEXAS

VOLUME 3. APPENDIX A-1 (CONTINUED)

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FEB 0 4 1988
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HEADQUARTERS AERONAUTICAL SYSTEMS DIVISION
FACILITIES MANAGEMENT DIVISION (ASD/PMDA)
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433-6503

AND

HEADQUARTERS, AIR FORCE SYSTEMS COMMAND
COMMAND BIOENVIRONMENTAL ENGINEER (AFSC/SGPB)
ANDREWS AIR FORCE BASE, DC 20334-5000

DECEMBER 1987

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RADIAN CORPORATION
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RADIAN CONTRACT NO. 212-027-27

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UNITED STATES AIR FORCE
OCCUPATIONAL & ENVIRONMENTAL HEALTH LABORATORY (USAFOEHL)
BROOKS AIR FORCE BASE, TEXAS 78235-5501

88 1 28 047

RADIAN
CORPORATION

This report contains data [illegible] water quality and environmental protection.

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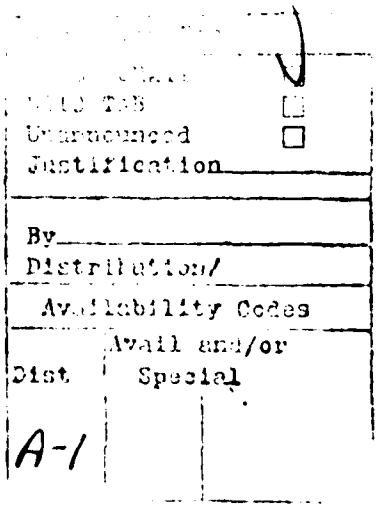

RADIAN CORPORATION

APPENDIX A-1 (Continued)

Groundwater Analytical Data

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TABLE A.1-3. DUPLICATE OF TABLE A.1-1 OF INDEX OF ANALYTICAL REPORTS, BY WORK ORDER NUMBER

Volume 2	Volume 3	Volume 4
86-01-239	86-02-067	86-02-169
86-01-240	86-02-070	86-02-176
86-01-242	86-02-075	86-02-179
86-02-001	86-02-078	86-02-197
86-02-004	86-02-079	86-02-198
86-02-015	86-02-087	86-03-002
86-02-016	86-02-091	86-03-003
86-02-019	86-02-100	86-03-004
86-02-030	86-02-109	86-03-018
86-02-031	86-02-113	86-03-021
86-02-038	86-02-120	86-04-069
86-02-041	86-02-122	86-04-070
86-02-044	86-02-123	86-04-084
86-02-047	86-02-132	86-04-085
86-02-058	86-02-138	86-04-135
86-02-060	86-02-139	86-04-164
	86-02-152	86-07-086
	86-02-159	86-07-088
		86-07-095
		86-08-034
		86-08-058
		86-08-078
		86-08-092
		86-08-093
		86-08-094
		86-08-095
		86-08-096

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TABLE A. 1-4. GROUNDWATER AND SURFACE WATER SAMPLE LOG AND CROSS-REFERENCE TABLE

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-2	860184	2/20/86	Hydrogenated vols. (601)	86-02-138			
			Aromatic vols. (602)	86-02-138			
			Pesticides & PCBs (608)	86-02-132	2/24/86	3/6/86	
			B/N & Acid Semi-vols. (625)	86-02-132	2/24/86	3/6/86	
			Metals	86-02-139			
HM-5	860152	2/12/86	Hydrogenated vols. (601)	86-02-075			
			Aromatic vols. (602)	86-02-075			
			Pesticides & PCBs (608)	86-02-078	2/13/86	2/27/86	
			B/N & Acid Semi-vols. (625)	86-02-078	2/13/86	2/27/86	
			Metals	86-02-079			
HM-7	860162	2/13/86	Hydrogenated vols. (601)	86-02-087			
			Aromatic vols. (602)	86-02-087			
			Pesticides & PCBs (608)	86-02-091	2/17/86	3/5/86	
			B/N & Acid Semi-vols. (625)	86-02-091	2/17/86	3/5/86	
			Metals	86-02-087			
HM-8	860161	2/13/86	Hydrocarbon Fuels	86-02-087			
HM-9	860206	2/27/86	Hydrogenated vols. (601)	86-02-197			
			Aromatic vols. (602)	86-02-197			
			Pesticides & PCBs (608)	86-02-198	3/3/86	3/13/86	
			B/N & Acid Semi-vols. (625)	86-02-198	3/3/86	3/13/86	
			Metals	86-02-197			
HM-10	860137	2/7/86	Halogenated vols. (601)	86-02-047			
			Aromatic vols. (602)	86-02-047			
			Pesticides & PCBs (608)	86-02-044	2/10/86	2/25/86	
			B/N & Acid Semi-vols. (625)	86-02-044	2/10/86	2/25/86	
			Metals	86-02-047			
HM-11	860146	2/10/86	Hydrogenated vols. (601)	86-02-060			
			Aromatic vols. (602)	86-02-060			
			Pesticides & PCBs (608)	86-02-058	2/12/86	2/26/86	
			B/N & Acid Semi-vols. (625)	86-02-058	2/12/86	2/26/86	
			Metals	86-02-060			
HM-12	860165	2/14/86	Hydrogenated vols. (601)	86-02-100			
			Aromatic vols. (602)	86-02-100			
			Pesticides & PCBs (608)	86-02-109	2/18/86	3/5/86	
			B/N & Acid Semi-vols. (625)	86-02-109	2/18/86	3/5/86	
			Metals	86-02-100			
HM-13	860178	2/19/86	Hydrogenated vols. (601)	86-02-120			
			Aromatic vols. (602)	86-02-120			
			Pesticides & PCBs (608)	86-02-122	2/20/86	3/5/86	
			B/N & Acid Semi-vols. (625)	86-02-122	2/20/86	3/5/86	
			Metals	86-02-120			
HM-14	860177	2/19/86	Hydrocarbon Fuels	86-02-120			
HM-15	860193	2/25/86	Hydrogenated vols. (601)	86-02-159			
			Aromatic vols. (602)	86-02-159			

(continued)

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-16	860147	2/11/86	Hydrogenated vols. (601)	86-02-067			
			Aromatic vols. (602)	86-02-067			
			Pesticides & PCBs (608)	86-02-070	2/12/86	2/27/86	
			B/N & Acid Semi-vols. (625)	86-02-070	2/12/86	2/27/86	
			Metals	86-02-067			
HM-17	860149	2/11/86	Hydrogenated vols. (601)	86-02-067			
			Aromatic vols. (602)	86-02-067			
			Pesticides & PCBs (608)	86-02-070	2/12/86	2/27/86	
			B/N & Acid Semi-vols. (625)	86-02-070	2/12/86	2/27/86	
			Metals	86-02-067			
HM-18	860150	2/11/86	Hydrogenated vols. (601)	86-02-067			
			Aromatic vols. (602)	86-02-067			
			Pesticides & PCBs (608)	86-02-070	2/12/86	2/27/86	
			B/N & Acid Semi-vols. (625)	86-02-070	2/12/86	2/27/86	
			Metals	86-02-067			
HM-19	860217	3/1/86	Hydrogenated vols. (601)	86-03-003			
			Aromatic vols. (602)	86-03-003			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			
HM-20	860109	1/31/86	Halogenated vols. (601)	86-02-001			
			Aromatic vols. (602)	86-02-001			
			Pesticides & PCBs (608)	86-02-004	2/3/86	2/12/86	
			B/N & Acid Semi-vols. (625)	86-02-004	2/3/86	2/12/86	
			Metals	86-02-001			
HM-21	860138	2/7/86	Halogenated vols. (601)	86-02-047			
			Aromatic vols. (602)	86-02-047			
			Pesticides & PCBs (608)	86-02-044	2/10/86	2/25/86	
			B/N & Acid Semi-vols. (625)	86-02-044	2/10/86	2/25/86	
			Metals	86-02-047			
HM-22	860181	2/20/86	Hydrogenated vols. (601)	86-02-138			
			Aromatic vols. (602)	86-02-138			
			Pesticides & PCBs (608)	86-02-132	2/24/86	3/6/86	
			B/N & Acid Semi-vols. (625)	86-02-132	2/24/86	2/6/86	
			Metals				
HM-23	860174	2/18/86	Oil and Grease	86-02-113			
			Hydrocarbon Fuels	86-02-113			
HM-24	860176	2/19/86	Hydrogenated vols. (601)	86-02-120			
			Aromatic vols. (602)	86-02-120			
			Pesticides & PCBs (608)	86-02-122	2/20/86	3/6/86	
			B/N & Acid Semi-vols. (625)	86-02-122	2/20/86	3/6/86	
			Metals	86-02-120			
HM-25	860148	2/11/86	Hydrogenated vols. (601)	86-02-067			
			Aromatic vols. (602)	86-02-067			
			Pesticides & PCBs (608)	86-02-070	2/12/86	2/27/86	
			B/N & Acid Semi-vols. (625)	86-02-070	2/12/86	2/27/86	
			Metals	86-02-067			

(continued)

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-26	860112	1/31/86	Halogenated vols. (601)	86-02-001			
			Aromatic vols. (602)	86-02-001			
			Pesticides & PCBs (608)	86-02-004	2/3/86	2/11/86	
			Pesticides & PCBs(608)	86-02-016	2/4/86	2/14/86	Duplicate analysis
			B/N & Acid Semi-vols. (625)	86-02-004	2/3/86	2/11/86	
			B/N & Acid Semi-vols. (625)	86-02-016	2/4/86	2/14/86	Duplicate analysis
			Metals	86-02-001			
HM-27	860113	1/31/86	Halogenated vols. (601)	86-02-001			
			Aromatic vols. (602)	86-02-001			
			Pesticides & PCBs (608)	86-02-016	2/4/86	2/14/86	
			B/N & Acid Semi-vols. (625)	86-02-016	2/4/86	2/14/86	
			Metals	86-02-001			
HM-28	860132	2/6/86	Halogenated vols. (601)	86-02-041			
			Aromatic vols. (602)	86-02-041			
			Pesticides & PCBs (608)	86-02-038	2/10/86	2/24/86	
			B/N & Acid Semi-vols. (625)	86-02-038	2/10/86	2/24/86	
			Metals	86-02-041			
HM-28	860133	2/6/86	Pesticides and PCBs (608)	86-02-038	2/10/86	2/25/86	Duplicate of 860132
			B/N & Acid Semi-vol. (625)	86-02-038			
HM-29	860189	2/21/86	Hydrogenated vols. (601)	86-02-138			
			Aromatic vols. (602)	86-02-138			
			Pesticides & PCBs (608)	86-02-152	2/25/86	3/11/86	
			B/N & Acid Semi-vols. (625)	86-02-152	2/25/86	3/11/86	
			Metals	86-02-139			
			Oil and Grease	86-02-139			
			Hydrocarbon Fuels	86-02-139			
HM-30	860163	2/13/86	Hydrogenated vols. (601)	86-02-087			
			Aromatic vols. (602)	86-02-087			
			Pesticides & PCBs (608)	86-02-091	2/17/86	3/5/86	
			B/N & Acid Semi-vols. (625)	86-02-091	2/17/86	3/5/86	
			Metals	86-02-087			
HM-31	860166	2/14/86	Hydrogenated vols. (601)	86-02-100			
			Aromatic vols. (602)	86-02-100			
			Pesticides & PCBs (608)	86-02-109	2/18/86	3/5/86	
			B/N & Acid Semi-vols. (625)	86-02-109	2/18/86	3/5/86	
			Metals	86-02-100			
			Oil and Grease	86-02-100			
			Hydrocarbon Fuels	86-02-100			
HM-32	860164	2/14/86	Hydrogenated vols. (601)	86-02-100			
			Aromatic vols. (602)	86-02-100			
			Pesticides & PCBs (608)	86-02-109	2/18/86	3/5/86	
			B/N & Acid Semi-vols. (625)	86-02-109	2/18/86	3/5/86	
			Metals	86-02-100			
HM-33	860207	2/28/86	Hydrogenated vols. (601)	86-03-002			
			Aromatic vols. (602)	86-03-002			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			

(continued)

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	ORHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-33	860208	2/28/86	Hydrogenated vols. (601)	86-03-002			Duplicate of 860207
			Aromatic vols. (602)	86-03-002			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			
HM-34	860204	2/27/86	Hydrogenated vols. (601)	86-02-197			
			Aromatic vols. (602)	86-02-197			
			Pesticides & PCBs (608)	86-02-198	3/3/86	3/13/86	
			B/N & Acid Semi-vols. (625)	86-02-198	3/3/86	3/13/86	
			Metals	86-02-197			
HM-34	860205	2/27/86	Hydrogenated vols. (601)	86-02-197			Duplicate of 860204
			Aromatic vols. (602)	86-02-197			
			Pesticides & PCBs (608)	86-02-198	3/3/86	3/13/86	
			B/N & Acid Semi-vols. (625)	86-02-198	3/3/86	3/13/86	
			Metals	86-02-197			
HM-35	860203	2/27/86	Hydrogenated vols. (601)	86-02-197			
			Aromatic vols. (602)	86-02-197			
			Pesticides & PCBs (608)	86-02-198	3/3/86	3/13/86	
			B/N & Acid Semi-vols. (625)	86-02-198	3/3/86	3/13/86	
			Metals	86-02-197			
HM-36	860202	2/27/86	Hydrogenated vols. (601)	86-02-197			
			Aromatic vols. (602)	86-02-197			
			Pesticides & PCBs (608)	86-02-198	3/3/86	3/13/86	
			B/N & Acid Semi-vols. (625)	86-02-198	3/3/86	3/13/86	
			Metals	86-02-197			
HM-37	860114	1/31/86	Halogenated vols. (601)	86-02-001			
			Aromatic vols. (602)	86-02-001			
			Pesticides & PCBs (608)	86-02-004	2/3/86	2/12/86	
			B/N & Acid Semi-vols. (625)	86-02-004	2/3/86	2/12/86	
			Metals	86-02-001			
HM-38	860188	2/21/86	Hydrogenated vols. (601)	86-02-138			
			Aromatic vols. (602)	86-02-138			
			Pesticides & PCBs (608)	86-02-152	2/25/86	3/10/86	
			B/N & Acid Semi-vols. (625)	86-02-152	2/25/86	3/10/86	
HM-39	860201	2/27/86	Hydrogenated vols. (601)	86-02-197			
			Aromatic vols. (602)	86-02-197			
			Pesticides & PCBs (608)	86-02-198	3/3/86	3/13/86	
			B/N & Acid Semi-vols. (625)	86-02-198	3/3/86	3/13/86	
			Metals	86-02-197			
HM-40	860194	2/25/86	Hydrogenated vols. (601)	86-02-159			
			Aromatic vols. (602)	86-02-159			
			Pesticides & PCBs (608)	86-02-169	2/27/86	3/12/86	
			B/N & Acid Semi-vols. (625)	86-02-169	2/27/86	3/11/86	
			Metals	86-02-159			
HM-41	860192	2/25/86	Hydrogenated vols. (601)	86-02-159			
			Aromatic vols. (602)	86-02-159			
			Pesticides & PCBs (608)	86-02-169	2/27/86	3/12/86	
			B/N & Acid Semi-vols. (625)	86-02-169	2/27/86	3/12/86	
			Metals	86-02-159			

TABLE A.1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-42	860183	2/20/86	Hydrogenated vols. (601)	86-02-138			
			Aromatic vols. (602)	86-02-138			
			Pesticides & PCBs (608)	86-02-132	2/24/86	3/6/86	
			B/N & Acid Semi-vols. (625)	86-02-132	2/24/86	3/6/86	
			Metals	86-02-139			
HM-43	860182	2/20/86	Hydrogenated vols. (601)	86-02-138			
			Aromatic vols. (602)	86-02-138			
			Pesticides & PCBs (608)	86-02-132	2/24/86	3/6/86	
			B/N & Acid Semi-vols. (625)	86-02-132	2/24/86	3/6/86	
			Metals	86-02-139			
HM-44	860190	2/25/86	Hydrogenated vols. (601)	86-02-159			
			Aromatic vols. (602)	86-02-159			
			Pesticides & PCBs (608)	86-02-169	2/27/86	3/12/86	
			B/N & Acid Semi-vols. (625)	86-02-169	2/20/86	3/12/86	
			Metals	86-02-159			
HM-45	860191	2/25/86	Hydrogenated vols. (601)	86-02-159			
			Aromatic vols. (602)	86-02-159			
			Pesticides & PCBs (608)	86-02-169	2/27/86	3/12/86	
			B/N & Acid Semi-vols. (625)	86-02-169	2/27/86	3/12/86	
			Metals	86-02-159			
HM-46	860185	2/20/86	Hydrogenated vols. (601)	86-02-138			
			Aromatic vols. (602)	86-02-138			
			Pesticides & PCBs (608)	86-02-132	2/24/86	3/6/86	
			B/N & Acid Semi-vols. (625)	86-02-132	2/24/86	3/6/68	
			Metals	86-02-139			
HM-47	860130	2/6/86	Halogenated vols. (601)	86-02-041			
			Aromatic vols. (602)	86-02-041			
			Metals	86-02-041			
			Oil and Grease	86-02-041			
			Hydrocarbon Fuels	86-02-041			
HM-47	860131	2/6/86	Halogenated vols. (601)	86-02-041			Duplicate of 860130
			Aromatic vols. (602)	86-02-041			
			Metals	86-02-041			
			Oil and Grease	86-02-041			
			Hydrocarbon Fuels	86-02-041			
HM-48	860167	2/14/86	Hydrogenated vols. (601)	86-02-100			
			Aromatic vols. (602)	86-02-100			
			Chromium	86-02-100			
HM-49	860156	2/12/86	Hydrogenated vols. (601)	86-02-075			
			Aromatic vols. (602)	86-02-075			
			Oil and Grease	86-02-079			
			Hydrocarbon Fuels	86-02-079			
HM-50	860157	2/12/86	Hdyrogenated vols. (601)	86-02-075			
			Aromatic vols. (602)	86-02-075			
			Oil and Grease	86-02-079			
			Hydrocarbon Fuels	86-02-079			

(continued)

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-51	860151	2/11/86	Hydrogenated vols. (601)	86-02-067			
			Aromatic vols. (602)	86-02-067			
			Oil and Grease	86-02-067			
			Hydrocarbon Fuels	86-02-067			
HM-52	860141	2/10/86	Halogenated vols. (601)	86-02-060			
			Aromatic vols. (602)	86-02-060			
			Pesticides & PCBs (608)	86-02-058	2/12/86	2/26/86	
			B/N & Acid Semi-vols. (625)	86-02-058	2/12/86	2/26/86	
			Metals	86-02-060			
			Oil and Grease	86-02-060			
			Hydrocarbon Fuels	86-02-060			
HM-52	860142	2/10/86	Halogenated vols. (601)	86-02-060			Duplicate of 860141
			Aromatic vols. (602)	86-02-060			
			Metals	86-02-060			
			Oil and Grease	86-02-060			
			Hydrocarbon Fuels	86-02-060			
HM-53	860145	2/10/86	Hydrocarbon Fuels	86-02-060			
HM-54	860143	2/10/86	Halogenated vols. (601)	86-02-060			
			Aromatic vols. (602)	86-02-060			
			Pesticides & PCBs (608)	86-02-058	2/12/86	2/26/86	
			B/N & Acid Semi-vols. (625)	86-02-058	2/12/86	2/26/86	
			Metals	86-02-060			
			Oil and Grease	86-02-060			
			Hydrocarbon Fuels	86-02-060			
HM-54	860144	2/10/86	Pesticides and PCBs (608)	86-02-058	2/12/86	2/26/86	Duplicate of 860143
			B/N & Acid Semi-vols. (625)	86-02-058	2/12/86	2/26/86	
HM-55	860119	2/4/86	Hydrocarbon Fuels	86-02-123			
			Oil and Grease	86-02-019			
HM-56	860186	2/21/86	Hydrogenated vols. (601)	86-02-138			
			Aromatic vols. (602)	86-02-138			
			Pesticides & PCBs (608)	86-02-152	2/25/86	3/10/86	
			B/N & Acid Semi-vols. (625)	86-02-152	2/25/86	3/10/86	
			Metals	86-02-139			
			Hydrocarbon Fuels	86-02-139			
			Purgeables (624)	86-02-152			
HM-57	860200	2/26/86	Hydrogenated vols. (601)	86-02-176			
			Aromatic vols. (602)	86-02-176			
			Pesticides & PCBs (608)	86-02-179	2/28/86	3/12/86	
			B/N & Acid Semi-vols. (625)	86-02-179	2/28/86	3/12/86	
			Metals	86-02-176			
			Oil and Grease	86-02-176			
			Hydrocarbon Fuels	86-02-176			
HM-58	860195	2/26/86	Hydrogenated vols. (601)	86-02-176			
			Aromatic vols. (602)	86-02-176			
			Pesticides & PCBs (608)	86-02-179	2/28/86	3/12/86	
			B/N & Acid Semi-vols. (625)	86-02-179	2/28/86	3/12/86	
			Metals	86-02-176			
			Oil and Grease	86-02-176			
			Hydrocarbon Fuels	86-02-176			

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-58	860196	2/26/86	Hydrogenated vols. (601)	86-02-176			Duplicate of 860195
			Aromatic vols. (602)	86-02-176			
			Pesticides & PCBs (608)	86-02-179			
			B/N & Acid Semi-vols. (625)	86-02-179			
			Metals	86-02-176			
			Oil and Grease	86-02-176			
			Hydrocarbon Fuels	86-02-176			
HM-59	860113	2/3/86	Halogenated vols. (601)	86-02-015			
			Aromatic vols. (602)	86-02-015			
			Pesticides & PCBs (608)	86-02-016	2/4/86	2/14/86	
			B/N & Acid Semi-vols. (625)	86-02-016	2/4/86	2/14/86	
			Metals	86-02-015			
			Oil and Grease	86-02-015			
			Hydrocarbon Fuels	86-02-015			
HM-60	860134	2/6/86	Halogenated vols. (601)	86-02-041			
			Aromatic vols. (602)	86-02-041			
			Pesticides & PCBs (608)	86-02-038	2/10/86	2/25/86	
			B/N & Acid Semi-vols. (625)	86-02-038	2/10/86	2/25/86	
			Metals	86-02-041			
HM-61	860198	2/26/86	Hydrogenated vols. (601)	86-02-176			
			Aromatic vols. (602)	86-02-176			
			Metals	86-02-176			
			Oil and Grease	86-02-176			
			Hydrocarbon Fuels	86-02-176			
HM-62	860216	3/1/86	Hydrogenated vols. (601)	86-03-003			
			Aromatic vols. (602)	86-03-003			
			Pesticides & PCBs (608)	86-03-021	3/5/86	3/24/86	
			B/N & Acid Semi-vols. (625)	86-03-021	3/5/86	3/24/86	
			Metals	86-03-004			
HM-63	860138	2/7/86	Halogenated vols. (601)	86-02-047			
			Aromatic vols. (602)	86-02-047			
			Pesticides & PCBs (608)	86-02-044	2/10/86	2/25/86	
			B/N & Acid Semi-vols. (625)	86-02-044	2/10/86	2/25/86	
			Metals	86-02-047			
HM-64	860197	2/26/86	Hydrogenated vols. (601)	86-02-176			
			Aromatic vols. (602)	86-02-176			
			Pesticides & PCBs (608)	86-02-179	2/28/86	3/12/86	
			B/N & Acid Semi-vols. (625)	86-02-179	2/28/86	3/12/86	
			Metals	86-02-176			
			Oil and Grease	86-02-176			
			Hydrocarbon Fuels	86-02-176			
HM-65	860158	2/12/86	Hydrogenated vols. (601)	86-02-075			
			Aromatic vols. (602)	86-02-075			
			Oil and Grease	86-02-079			
			Hydrocarbon Fuels	86-02-079			

(continued)

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-66	860159	2/13/86	Hydrogenated vols. (601)	86-02-087			
			Aromatic vols. (602)	86-02-087			
			Oil and Grease	86-02-087			
			Hydrocarbon Fuels	86-02-087			
HM-68	860209	2/28/86	Hydrogenated vols. (601)	86-03-002			
			Aromatic vols. (602)	86-03-002			
			Pesticides & PCBs (608)	86-03-018	3/6/86	3/24/86	
			B/N & Acid Semi-vols. (625)	86-03-018	3/6/86	3/24/86	
			Metals	86-03-004			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			
HM-69	860187	2/21/86	Hydrogenated vols. (601)	86-02-138			
			Aromatic vols. (602)	86-02-138			
			Metals	86-02-139			
			Oil and Grease	86-02-139			
			Hydrocarbon Fuels	86-02-139			
HM-70	860179	2/19/86	Hydrogenated vols. (601)	86-02-120			
			Aromatic vols. (602)	86-02-120			
			Metals	86-02-120			
			Oil and Grease	86-02-120			
			Hydrocarbon Fuels	86-02-120			
			Purgeables (624)	86-02-152			
HM-70	860180	2/19/86	Hydrogenated vols. (601)	86-02-120			Duplicate of 860179
			Aromatic vols. (602)	86-02-120			
			Metals	86-02-120			
			Oil and Grease	86-02-120			
			Hydrocarbon Fuels	86-02-120			
HM-71	860116	2/3/86	Halogenated vols. (601)	86-02-015			
			Aromatic vols. (602)	86-02-015			
			Pesticides & PCBs (608)	86-02-016	2/4/86	2/14/86	
			B/N & Acid Semi-vols. (625)	86-02-016	2/4/86	2/14/86	
			Metals	86-02-015			
			Oil and Grease	86-02-015			
			Hydrocarbon Fuels	86-02-015			
HM-72	860168	2/14/86	Oil and Grease	86-02-100			
			Xylene	86-02-100			
			Methyl ethyl ketone	9/8/86 memo			
HM-73	860199	2/26/86	Oil and Grease	86-02-176			
			Xylene	86-02-176			
			Methyl ethyl ketone	9/8/86 memo			
HM-74	860129	2/5/86	Oil and Grease	86-02-031			
			Xylene	86-02-031			
			Methyl ethyl ketone	9/8/86 memo			
HM-75	860173	2/18/86	Oil and Grease	86-02-113			
			Xylene	86-02-113			
			Methyl ethyl ketone	9/8/86 memo			

(continued)

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-76	860160	2/13/86	Hydrogenated vols. (601)	86-02-087			
			Aromatic vols. (602)	86-02-087			
			Oil and Grease	86-02-087			
			Hydrocarbon Fuels	86-02-087			
HM-77	860135	2/6/86	Halogenated vols. (601)	86-02-041			
			Aromatic vols. (602)	86-02-041			
			Pesticides & PCBs (608)	86-02-038	2/10/86	2/25/86	
			B/N & Acid Semi-vols. (625)	86-02-038	2/10/86	2/25/86	
			Metals	86-02-041			
			Oil and Grease	86-02-100			
			Hydrocarbon Fuels	86-02-100			
HM-78	860127	2/5/86	Halogenated vols. (601)	86-02-031			
			Aromatic vols. (602)	86-02-031			
			Hydrocarbon Fuels	86-02-031			
HM-79	860117	2/3/86	Halogenated vols. (601)	86-02-015			
			Aromatic vols. (602)	86-02-015			
			Pesticides & PCBs (608)	86-02-016			
			B/N & Acid Semi-vols. (625)	86-02-016	2/4/86	2/14/86	
			Metals	86-02-015	2/4/86	2/14/86	
			Oil and Grease	86-02-015			
			Hydrocarbon Fuels	86-02-015			
HM-80	860128	2/5/86	Halogenated vols. (601)	86-02-031			
			Aromatic vols. (602)	86-02-031			
			Hydrocarbon Fuels	86-02-031			
HM-81	860140	2/7/86	Halogenated vols. (601)	86-02-047			
			Aromatic vols. (602)	86-02-047			
			Pesticides & PCBs (608)	86-02-044	2/10/86	2/25/86	
			B/N & Acid Semi-vols. (625)	86-02-044	2/10/86	2/25/86	
			Metals	86-02-047			
			Oil and Grease	86-02-047			
			Hydrocarbon Fuels	86-02-047			
HM-82	860121	2/4/86	Halogenated vols. (601)	86-02-019			
			Aromatic vols. (602)	86-02-019			
			Pesticides & PCBs (608)	86-02-030	2/6/86	2/16/86	
			B/N & Acid Semi-vols. (625)	86-02-030	2/6/86	2/16/86	
			Metals	86-02-019			
			Oil and Grease	86-02-019			
			Hydrocarbon Fuels	86-02-019			
HM-83	860258	8/21/86	Hydrogenated vols. (601)	86-08-093			
			Aromatic vols. (602)	86-08-093			
			Pesticides & PCBs (608)	86-08-034			
			B/N & Acid Semi-vols. (625)	86-08-034			
			Metals	86-08-095			
			Oil and Grease	86-08-095			
			Hydrocarbon Fuels	86-08-095			
			Alpha	86-08-096			
			Beta	86-08-096			
			Gamma	86-08-096			

TABLE A.1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-84	860261	8/21/86	Hydrogenated vols. (601)	86-08-093			
			Aromatic vols. (602)	86-08-093			
			Pesticides & PCBs (608)	86-08-034			
			B/N & Acid Semi-vols. (625)	86-08-034			
			Metals	86-08-095			
			Oil and Grease	86-08-095			
			Hydrocarbon Fuels	86-08-095			
			Alpha	86-08-096			
			Beta	86-08-096			
			Gamma	86-08-096			
HM-85	860259	8/21/86	Hydrogenated vols. (601)	86-08-093			
			Aromatic vols. (602)	86-08-093			
			Pesticides & PCBs (608)	86-08-034			
			B/N & Acid Semi-vols. (625)	86-08-034			
			Metals	86-08-095			
			Oil and Grease	86-08-095			
			Hydrocarbon Fuels	86-08-095			
			Alpha	86-08-096			
			Beta	86-08-096			
			Gamma	86-08-096			
HM-85	860260	8/21/86	Pesticides & PCBs (608)	86-08-034			Duplicate of 860259
			B/N & Acid Semi-vols. (625)	86-08-034			
			Metals	86-08-095			
			Alpha	86-08-096			
			Beta	86-08-096			
			Gamma	86-08-096			
HM-100	860226	4/11/86	Hydrocarbon Fuels	86-04-084			
HM-101	860228	4/18/86	Hydrogenated vols. (601)	86-04-164			
			Aromatic vols. (602)	8o-04-164			
			Pesticides & PCBs (608)	86-04-135	4/23/86	4/28/86	
			B/N & Acid Semi-vols. (625)	86-04-135	4/23/86	4/28/86	
			Metals	86-04-164			
HM-102	860220	4/9/86	Hydrogenated vols. (601)	86-04-069			
			Aromatic vols. (602)	86-04-069			
			Oil and Grease	86-04-069			
			Hydrocarbon Fuels	86-04-069			
HM-103	860224	4/10/86	Hydrogenated vols. (601)	86-04-084			
			Aromatic vols. (602)	86-04-084			
			Chromium	86-04-084			

(continued)

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
HM-104	860222	4/10/86	Hydrogenated vols. (601)	86-04-084			
			Aromatic vols. (602)	86-04-084			
			Metals	86-04-084			
			Oil and Grease	86-04-084			
			Hydrocarbon Fuels	86-04-084			
HM-105	860230	8/19/86	Oil and Grease	86-08-078			
			Hydrocarbon Fuels	86-08-078			
HM-107	860229	4/19/86	Oil and Grease	86-08-078			
			Hydrocarbon Fuels	86-08-078			
HM-108	860256	8/20/86	Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
P-1	860126	2/6/86	Halogenated vols. (601)	86-02-041			
			Aromatic vols. (602)	86-02-041			
			Pesticides & PCBs (608)	86-02-038	2/10/86	2/24/86	
			B/N & Acid Semi-vols. (625)	86-02-038	2/10/86	2/24/86	
			Metals	86-02-041			
P-2	860175	2/19/86	Hydrogenated vols. (601)	86-02-120			
			Aromatic vols. (602)	86-02-120			
			Pesticides & PCBs (608)	86-02-122	2/20/86	3/6/86	
			B/N & Acid Semi-vols. (625)	86-02-122	2/20/86	3/6/86	
			Metals	86-02-120			
P-3	860123	2/4/86	Halogenated vols. (601)	86-02-019			
			Aromatic vols. (602)	86-02-019			
			Pesticides & PCBs (608)	86-02-030	2/6/86	2/16/86	
			B/N & Acid Semi-vols. (625)	86-02-030	2/6/86	2/16/86	
			Oil and Grease	86-02-019			
			Hydrocarbon Fuels	86-02-019			
P-4	860108	1/30/86	Halogenated vols. (601)	86-01-239			
			Aromatic vols. (602)	86-01-239			
			Pesticides & PCBs (608)	86-01-242	1/31/86	2/11/86	
			B/N & Acid Semi-vols. (625)	86-01-242	1/31/86	2/11/86	
P-5u	860111	1/31/86	Halogenated vols. (601)	86-02-001			
			Aromatic vols. (602)	86-02-001			
			Pesticides & PCBs (608)	86-02-004	2/3/86	2/11/86	
			B/N & Acid Semi-vols. (625)	86-02-004	2/3/86	2/11/86	
			Metals	86-02-001			
			Oil and Grase	86-02-001			
			Hydrocarbon Fuels	86-02-001			
P-5m	860110	1/31/86	Halogenated vols. (601)	86-02-001			
			Aromatic vols. (602)	86-02-001			
			Pesticides & PCBs (608)	86-02-004	2/3/86	2/11/86	
			B/N & Acid Semi-vols. (625)	86-02-004	2/3/86	2/11/86	
			Metals	86-02-001			
			Oil and Grease	86-02-001			
			Hydrocarbon Fuels	86-02-001			
P6u	860122	2/5/86	Hydrocarbon Fuels	86-02-123			
			Oil and Grease	86-02-031			

(continued)

TABLE A.1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
P-6m	860118	2/4/86	Hydrocarbon Fuels	86-02-123			
			Oil and Grease	86-02-019			
P-7u	860104	1/30/86	Halogenated vols. (601)	86-01-239			
			Aromatic vols. (602)	86-01-239			
			Pesticides & PCBs (608)	86-01-242	1/31/86	2/11/86	
			B/N & Acid Semi-vols. (625)	86-01-242	1/31/86	2/11/86	
			Metals	86-01-240			
P-7m	860103	1/30/86	Halogenated vols. (601)	86-01-239			
			Aromatic vols. (602)	86-01-239			
			Pesticides & PCBs (608)	86-01-242	1/31/86	2/7/86	
			B/N & Acid Semi-vols. (625)	86-01-242	1/31/86	2/7/86	
			Metals	86-01-240			
P-8u	860136	2/7/86	Halogenated vols. (601)	86-02-047			
			Aromatic vols. (602)	86-02-047			
			Pesticides & PCBs (608)	86-02-044	2/10/86	2/25/86	
			B/N & Acid Semi-vols. (625)	86-02-044	2/10/86	2/24/86	
			Metals	86-02-047			
			Oil and Grease	86-02-047			
			Hydrocarbon Fuels	86-02-047			
P-8m	860120	2/4/86	Halogenated vols. (601)	86-02-019			
			Aromatic vols. (602)	86-02-019			
			Pesticides & PCBs (608)	86-02-030	2/6/86	2/16/86	
			B/N & Acid Semi-vols. (625)	86-02-030	2/6/86	2/16/86	
			Metals	86-02-019			
			Oil and Grease	86-02-019			
			Hydrocarbon Fuels	86-02-019			
P-9u	860125	2/5/86	Halogenated vols. (601)	86-02-031			
			Aromatic vols. (602)	86-02-031			
			Pesticides & PCBs (608)	86-02-030	2/6/86	2/16/86	
			B/N & Acid Semi-vols. (625)	86-02-030	2/6/86	2/16/86	
			Metals	86-02-031			
			Oil and Grease	86-02-031			
			Hydroarbon Fuels	86-02-031			
P-9m	860124	2/5/86	Halogenated vols. (601)	86-02-031			
			Aromatic vols. (602)	86-02-031			
			Pesticides & PCBs (608)	86-02-030	2/6/86	2/16/86	
			B/N & Acid Semi-vols. (625)	86-02-030	2/6/86	2/21/86	
			Metals	86-02-031			
			Oil and Grease	86-02-031			
			Hydrocarbon Fuels	86-02-031			
			Metals	86-01-240			
P-10u	860169	2/14/86	Hydrogenated vols. (601)	86-02-113			
			Aromatic vols. (602)	86-02-113			
			Pesticides & PCBs (608)	86-02-116	2/24/86	3/6/86	
			B/N & Acid Semi-vols. (625)	86-02-116	2/24/86	3/6/86	
			Metals	86-02-113			
			Oil and Grease	86-02-113			
			Hydrocarbon Fuels	86-02-113			

TABLE A.1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
P-10u	860172	2/18/86	Hydrogenated vols. (601)	86-02-113			Duplicate of 860169
			Aromatic vols. (602)	86-02-113			
			Pesticides & PCBs (608)	86-02-116	2/20/86	3/7/86	
			B/N & Acid Semi-vols. (625)	86-02-116	2/20/86	3/7/86	
			Metals	86-02-113			
			Oil and Grease	86-02-113			
			Hydrocarbon Fuels	86-02-113			
P-10m	860170	2/18/86	Hydrogenated vols. (601)	86-02-113			
			Aromatic vols. (602)	86-02-113			
			Pesticides & PCBs (608)	86-02-116	2/24/86	3/4/86	
			B/N & Acid Semi-vols. (625)	86-02-116	2/24/86	3/6/86	
			Metals	86-02-113			
			Oil and Grease	86-02-113			
			Hydrocarbon Fuels	86-02-113			
P-10m	860171	2/18/86	Hydrogenated vols. (601)	86-02-113			Duplicate of 860170
			Aromatic vols. (602)	86-02-113			
			Pesticides & PCBs (608)	86-02-116	2/24/86	3/6/86	
			B/N & Acid Semi-vols. (625)	86-02-116	2/24/86	3/6/86	
			Metals	86-02-113			
			Oil and Grease	86-02-113			
			Hydrocarbon Fuels	86-02-113			
P-11u	860210	2/28/86	Hydrogenated vols. (601)	86-03-002			
			Aromatic vols. (602)	86-03-002			
			Pesticides & PCBs (608)	86-03-018	3/6/86	3/24/86	
			B/N & Acid Semi-vols. (625)	86-03-018	3/6/86	3/24/86	
			Metals	86-03-004			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			
P-11m	860212	2/28/86	Hydrogenated vols. (601)	86-03-002			
			Aromatic vols. (602)	86-03-002			
			Pesticides & PCBs (608)	86-03-018	3/6/86	3/24/86	
			B/N & Acid Semi-vols. (625)	86-03-018	3/6/86	3/24/86	
			Metals	86-03-004			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			
P-11m	860211	2/28/86	Hydrogenated vols. (601)	86-03-002			Duplicate of 860212
			Aromatic vols. (602)	86-03-002			
			Pesticides & PCBs (608)	86-03-018	3/6/86	3/24/86	
			B/N & Acid Semi-vols. (625)	86-03-018	3/6/86	3/24/86	
			Metals	86-03-004			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			
P-12u	860213	3/1/86	Hydrogenated vols. (601)	86-03-003			
			Aromatic vols. (602)	86-03-003			
			Pesticides & PCBs (608)	86-03-021	3/5/86	3/24/86	
			B/N & Acid Semi-vols. (625)	86-03-021	3/5/86	3/24/86	
			Metals	86-03-004			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			

TABLE A.1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
P-12m	860214	3/1/86	Hydrogenated vols. (601)	86-03-003			
			Aromatic vols. (602)	86-03-003			
			Pesticides & PCBs (608)	86-03-021	3/5/86	3/24/86	
			B/N & Acid Semi-vols. (625)	86-03-021	3/5/86	3/24/86	
			Metals	86-03-004			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			
P-12m	860215	3/1/86	Hydrogenated vols. (601)	86-03-003			Duplicate of 860214
			Aromatic vols. (602)	86-03-003			
			Pesticides & PCBs (608)	86-03-021	3/5/86	3/24/86	
			B/N & Acid Semi-vols. (625)	86-03-021	3/5/86	3/24/86	
			Metals	86-03-004			
			Oil and Grease	86-03-004			
			Hydrocarbon Fuels	86-03-004			
P-20m	860218	4/9/86	Hydrogenated vols. (601)	86-04-069			
			Aromatic vols. (602)	86-04-069			
			Pesticides & PCBs (608)	86-04-070	4/10/86	4/23/86	
			B/N & Acid Semi-vols. (625)	86-04-070	4/10/86	4/23/86	
			Metals	86-04-069			
P-20m	860219	4/9/86	Hydrogenated vols. (601)	86-04-069			Duplicate of 860218
			Aromatic vols. (602)	86-04-069			
			Pesticides & PCBs (608)	86-04-070	4/10/86	4/23/86	
			B/N & Acid Semi-vols. (625)	86-04-070	4/10/86	4/23/86	
			Metals	86-04-069			
P-21u	860221	4/10/86	Hydrogenated vols. (601)	86-04-084			
			Aromatic vols. (602)	86-04-084			
			Pesticides & PCBs (608)	86-04-085	4/14/86	4/24/86	
			B/N & Acid Semi-vols. (625)	86-04-085	4/14/86	4/24/86	
			Metals	86-04-084			
P-22u	860223	4/10/86	Hydrogenated vols. (601)	86-04-084			
			Aromatic vols. (602)	86-04-084			
			Pesticides & PCBs (608)	86-04-085	4/14/86	4/22/86	
			B/N & Acid Semi-vols. (625)	86-04-085	4/14/86	4/22/86	
			Metals	86-04-084			
P-23u	860225	4/8/86	Hydrogenated vols. (601)	86-04-164			
			Aromatic vols. (602)	86-04-164			
			Pesticides & PCBs (608)	86-04-135	4/23/86	4/28/86	
			B/N & Acid Semi-vols. (625)	86-04-135	4/23/86	4/28/86	
			Metals	86-04-164			
P-23u	860257	8/21/86	Hydrogenated vols. (601)	86-08-093			
			Aromatic vols. (602)	86-08-093			
			Pesticides & PCBs (608)	86-08-034			
			B/N & Acid Semi-vols. (625)	86-08-034			
			Metals	86-08-095			
C-1	860100	1/29/86	Halogenated vols. (601)	86-01-239			
			Aromatic vols. (602)	86-01-239			
			Pesticides & PCBs (608)	86-01-242	1/31/86	2/7/86	
			B/N & Acid Semi-vols. (625)	86-01-242	1/31/86	2/7/86	
			Metals	86-01-240			

[continued]

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
C-2	860102	1/29/86	Halogenated vols. (601)	86-01-239			
			Aromatic vols. (602)	86-01-239			
			Pesticides & PCBs (608)	86-01-242	1/31/86	2/7/86	
			B/N & Acid Semi-vols. (625)	86-01-242	1/31/86	2/7/86	
			Metals	86-01-240			
C-3	860105	1/30/86	Halogenated vols. (601)	86-01-239			
			Aromatic vols. (602)	86-01-239			
			Pesticides & PCBs (608)	86-01-242	1/31/86	2/11/86	
			B/N & Acid Semi-vols. (625)	86-01-242	1/31/86	2/11/86	
			Metals	86-01-240			
C-4	860107	1/30/86	Halogenated vols. (601)	86-01-239			
			Aromatic vols. (602)	86-01-239			
			Pesticides & PCBs (608)	86-01-242	1/31/86		
			B/N & Acid Semi-vols. (625)	86-01-242	1/31/86		
			Metals	86-01-240			
C-5	860101	1/29/86	Halogenated vols. (601)	86-01-239			
			Aromatic vols. (602)	86-01-239			
			Pesticides & PCBs (608)	86-01-242	1/31/86	2/7/86	
			B/N & Acid Semi-vols. (625)	86-01-242	1/31/86	2/7/86	
			Metals	86-01-240			
Creek Seep	860106	1/30/86	Halogenated vols. (601)	86-01-239			
			Aromatic vols. (602)	86-01-239			
			Pesticides & PCBs (608)	86-01-242	1/31/86	2/7/86	
			B/N & Acid Semi-vols. (625)	86-01-242	1/31/86	2/7/86	
			Metals	86-01-240			
Drain Pipe	860153	2/12/86	Hydrogenated vols. (601)	86-02-075			
			Aromatic vols. (602)	86-02-075			
			Pesticides & PCBs (608)	86-02-078	2/13/86	2/27/86	
			B/N & Acid Semi-vols. (625)	86-02-078	2/13/86	2/27/86	
			Metals	86-02-079			
French Drain 1	860154	2/12/86	Hydrogenated vols. (601)	86-02-075			
			Aromatic vols. (602)	86-02-075			
			Pesticides & PCBs (608)	86-02-078	2/13/86	2/28/86	
			B/N & Acid Semi-vols. (625)	86-02-078	2/13/86	2/28/86	
			Metals	86-02-079			
French Drain 2	860155	2/12/86	Hydrogenated vols. (601)	86-02-085			
			Aromatic vols. (602)	86-02-075			
			Pesticides & PCBs (608)	86-02-078	2/13/86	2/28/86	
			B/N & Acid Semi-vols. (625)	86-02-078	2/13/86	2/28/86	
			Metals	86-02-079			
Outfall #1	860246	8/20/86	Hydrogenated vols. (601)	86-08-092			(1030)
			Aromatic vols. (602)	86-08-092			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
Outfall #1	860247	8/20/86	Hydrogenated vols. (601)	86-08-092			(1130)
			Aromatic vols. (602)	86-08-092			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			

TABLE A. 1-4. (Continued)

Well or Soil Boring Number	OEHL Number	Date Sampled	Analyses Performed	RAS Work Order Number	Date Extracted	Date Analyzed	Comments
Outfall #1	860248	8/20/86	Hydrogenated vols. (601)	86-08-092			(1230)
			Aromatic vols. (602)	86-08-092			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
Outfall #1	860249	8/20/86	Hydrogenated vols. (601)	86-08-092			(1330)
			Aromatic vols. (602)	86-08-092			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
Outfall #1	860250	8/20/86	Oil and Grease	86-08-094			
			Hydrocarbon Fuels	82-08-094			
Outfall #1	860251	8/20/86	Hydrogenated vols. (601)	86-08-092			(1530)
			Aromatic vols. (602)	86-08-092			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
Outfall #1	860252	8/20/86	Hydrogenated vols. (601)	86-08-092			(1630)
			Aromatic vols. (602)	86-08-092			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
Outfall #1	860253	8/20/86	Hydrogenated vols. (601)	86-08-092			(1730)
			Aromatic vols. (602)	86-08-092			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
Outfall #1	860254	8/20/86	Hydrogenated vols. (601)	86-08-092			Composite (1030-1730)
			Aromatic vols. (602)	86-08-092			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
Outfall #1	860255	8/20/86	Hydrogenated vols. (601)	86-08-092			(1730) Duplicate of 860254
			Aromatic vols. (602)	86-08-092			
			Oil and Grease	86-08-094			
			Hydrocarbon Fuels	86-08-094			
Outfall #5	860237	8/20/86	Oil and Grease	86-08-094			(0930)
			Hydrocarbon Fuels	86-08-094			
Outfall #5	860238	8/20/86	Oil and Grease	86-08-094			(Composite 0930-0530)
			Hydrocarbon Fuels	86-08-094			
Outfall #5	860239	8/20/86	Oil and Grease	86-08-094			(1130)
			Hydrocarbon Fuels	86-08-094			
Outfall #5	860240	8/20/86	Oil and Grease	86-08-094			(1230)
			Hydrocarbon Fuels	86-08-094			
Outfall #5	860241	8/20/86	Oil and Grease	86-08-094			(1330)
			Hydrocarbon Fuels	86-08-094			
Outfall #5	860242	8/20/86	Oil and Grease	86-08-094			(1430)
			Hydrocarbon Fuels	86-08-094			
Outfall #5	860243	8/20/86	Oil and Grease	86-08-094			(1530)
			Hydrocarbon Fuels	86-08-094			
Outfall #5	860244	8/20/86	Oil and Grease	86-08-094			(1630)
			Hydrocarbon Fuels	86-08-094			
Outfall #5	860245	8/20/86	Oil and Grease	86-08-094			(1730)
			Hydrocarbon Fuels	86-08-094			

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-067

RECEIVED: 02/12/86 02/27/86 18:15:31

REPORT TO: Radian, Bl. 4, Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 6

COMPANY: Plant 4

FACILITY: Carswell AFB (Gen. Dynamics)

WORK ID: groundwater

TAKEN: NR

TRANS: Fed Ex

TYPE:

P.O. #: 212-027-27-40

INVOICE: under separate cover

PREPARED BY: Radian Analytical Services, 8501 MoPac Blvd., P.O. Box 9948, Austin, Texas 78766

ATTEN:

PHONE: (512) 454-4797

CERTIFIED BY

CONTACT CONOVER

^Unknown compound eluting here.
Second column confirmation performed for EPA 601: -01,-02, -03,-05; for EPA 602: -02, -05.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3 001

SAMPLE IDENTIFICATION

01	860147
02	860148
03	860149
04	860150
05	860151
06	trip blank

Analytical Serv TEST CODES and NAMES used on this report

AG E	Silver, ICPES
AS GA	Arsenic, low level
BA E	Barium, ICPES
CD E	Cadmium, ICPES
CR E	Chromium, ICPES
DG3020	Digestion by Method 3020
DG6010	Digestion by Method 6010
GC 601	EPA Method 601/GC
GC 602	EPA Method 602/GC
HC IR	Hydrocarbons in soil
HG CA	Mercury, Cold Vapor
ONG IR	Oil and Grease, Infrared
PB GA	Lead, low level
SE GA	Selenium, low level

RADIAN CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
AG_E ug/ml	<.002	<.002	<.002	<.002	
AS_GA ug/ml	0.038	0.14	<.002@	0.008*	
BA_E ug/ml	0.12	0.47	0.034	0.14	
CD_E ug/ml	<.002	<.002	0.002*	0.002*	
CR_E ug/ml	0.21	<.005	<.005	0.013*	
DG3020 date complete	02/14/86	02/14/86	02/14/86	02/14/86	
DG6010 date complete	02/14/86	02/14/86	02/14/86	02/14/86	
HC_IR ug/g					11.0 mg/L
HG_CA ug/ml	<.0002	<.0002	0.0003*	<.0002	
ONG_IR mg/L					17.0
PB_GA ug/ml	0.10	0.035	0.020	0.037@	
SE_GA ug/ml	0.007*	<.002	<.002	<.002@	

SAMPLE ID 860147 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

DATA FILE B DATE INJECTED 02/13/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT b COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
1	Trichloroethene	10290
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

SAMPLE ID 860147 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860147 FRACTION 01C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/11/86 Category

DATA FILE D DATE INJECTED 02/12/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 005

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

RADIAN CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860148 FRACTION 02A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

DATA FILE B DATE INJECTED 02/14/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR INSTRUMENT b COMPOUNDS DETECTED 6

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
1	Vinyl Chloride	16.1
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
2	trans-1,2-Dichloroethene	90.7^
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
3	1,2-Dichloropropane	12.7
	trans-1,3-Dichloropropene	ND
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
4	Chlorobenzene	4716
	1,3-Dichlorobenzene	ND
5	1,2-Dichlorobenzene	194
6	1,4-Dichlorobenzene	868

RADIAN CORPORATION

PAGE 7 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 860148 FRACTION 02A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 007

RADIAN CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860148 FRACTION 02C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/11/86 Category

DATA FILE D DATE INJECTED 02/12/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 4

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
1	Benzene	468	3	1,4-Dichlorobenzene	733
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND	4	1,2-Dichlorobenzene	371
2	Chlorobenzene	8981			

3 008

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

RADIAN CORPORATION

PAGE 9 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860149 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

DATA FILE B DATE INJECTED 02/13/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT b COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
1	Trichloroethene	15274
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 009

RADIAN CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 860149 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 010

RADIAN CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860149 FRACTION 03C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/11/86 Category

DATA FILE D DATE INJECTED 02/12/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 011

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860150 FRACTION 04A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

DATA FILE B DATE INJECTED 02/14/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR INSTRUMENT b COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 012

SAMPLE ID 860150 FRACTION 04A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

Analytical Serv REPORT LAB # 86-02-067

RECEIVED: 02/12/86

Results by Sample

SAMPLE ID 860150 FRACTION 04C TEST CODE GC 602 NAME EPA Method 602/GC

Date & Time Collected 02/11/86 Category

DATA FILE D DATE INJECTED 02/12/86 ANALYST RP VERIFIED BY MCL

CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.59		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 014

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.

All results reported in ug/L unless otherwise specified.

ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

SAMPLE ID 860151 FRACTION 05A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

DATA FILE G DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR INSTRUMENT q COMPOUNDS DETECTED 4

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	203610
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
2	trans-1,2-Dichloroethene	32300^
	Chloroform	ND
3	1,2-Dichloroethane	27368
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
4	Trichloroethene	415675
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

SAMPLE ID 860151 FRACTION 05A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/11/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 17 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860151 FRACTION 05C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/11/86 Category

DATA FILE D DATE INJECTED 02/13/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	96371		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 017

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

CORPORATION

PAGE 18 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID trip blank FRACTION 06A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

DATA FILE G DATE INJECTED 02/13/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR INSTRUMENT q COMPOUNDS DETECTED 2

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Chloromethane	ND	2	Trichloroethene	0.30
	Bromomethane	ND		Dibromochloromethane *	ND
	Vinyl Chloride	ND		1,1,2-Trichloroethane *	ND
	Chloroethane	ND		cis-1,3-Dichloropropene *	ND
	Methylene Chloride	ND		2-Chloroethylvinyl Ether	ND
1	Trichlorofluoromethane	2.03		Bromoform	ND
	1,1-Dichloroethene	ND		1,1,2,2-Tetrachloroethane #	ND
	1,1-Dichloroethane	ND		Tetrachloroethylene #	ND
	trans-1,2-Dichloroethene	ND		Chlorobenzene	ND
	Chloroform	ND		1,3-Dichlorobenzene	ND
	1,2-Dichloroethane	ND		1,2-Dichlorobenzene	ND
	1,1,1-Trichloroethane	ND		1,4-Dichlorobenzene	ND
	Carbon Tetrachloride	ND			
	Bromodichloromethane	ND			
	1,2-Dichloropropane	ND			
	trans-1,3-Dichloropropene	ND			

3 018

SAMPLE ID trip blank FRACTION 06A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 20 Analytical Serv REPORT LAB # 86-02-067
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID trip blank FRACTION 06A TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected not specified Category

DATA FILE D DATE INJECTED 02/13/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	2.50		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 020

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B	:	DUP601	01D	: DUP602
02B	:	DUP601	02D	: DUP602
03B	:	DUP601	03D	: DUP602
04B	:	DUP601	04D	: DUP602
05B	:	DUP601	05D	: DUP602

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 03/12/86 03/05/86 12:51:40

REPORT TO: Radian Corporation
Larry French
Austin, Texas
ATTN:

CLIENT: PLANT 4 SAMPLES: 5
COMPANY: General Dynamics
FACILITY: GDHL Plant 4, Bldg 4
Austin, Texas

WORK ID: Plant 4 Fort Worth Texas
TAKEN: 2/11/86 Neil Robinson
TRANS: Fed Ex 321175201
TYPE: H20
P O #: 213-027-87-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd
P O Box 9948
Austin, Texas 78766
ATTN:
PHONE: (512) 454-4797

Lucy A Petkovsek
CERTIFIED BY

CONTACT FRENCH

Footnotes and Comments

* Indicates a value less than 5 times the detection limit Potential error for such low values ranges between 50 and 100%

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present

3 022

SAMPLE IDENTIFICATION

01 860147 H20
02 860148 H20
03 860149 H20
04 860150 H20
05 Reagent Blank BW H20

Analytical Serv TEST CODES and NAMES used on this report

EX 625 Extraction only - 625 BN/A
M625 A Method 625 Acid Compounds
M625 B Method 625 Base/Neutrals
MGNS S GCMS Characterization-ABN
MS 608 Pesticides & PCBs by GC/MS

RADIAN
CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
EX_625 date complete	02/12/86	02/12/86	02/12/86	02/12/86	02/12/86

3 023

RADIAN CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample

SAMPLE ID 850147 H20 FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/11/86 Category

DATA FILE 2CU020700C01 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

3 024

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
427	H81	d5-phenol	80%
359	H82	2-fluorophenol	120%
1118	H83	2,4,6-tribromophenol	79%
	H84	d6-phenol	66%

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time of chromatogram
All results reported in ug/l unless otherwise specified

RADIAN CORPORATION

PAGE 4 | Analytical Serv | REPORT | LAB # 86-02-070
RECEIVED: 02/12/86 | Results by Sample | Continued From Above

SAMPLE ID 850147 H2O | FRACTION 01A | TEST CODE M625 A | NAME Method 625 Acid Compounds
Date & Time Collected 02/11/86 | Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84)
BL = detected in reagent blank, background subtraction not performed.
J = estimated value, less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

3 025

RADIAN CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 850147/ H2O FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

DATA FILE 20002070001 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT #2 COMPOUNDS DETECTED 3

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1671	66B	bis(2-ethylhexyl)phthalate	12 BL
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		16B	bis(2-chloroethyl)ether	ND	26B	1326	68B	di-butyl phthalate	4 BL
16B		20B	2-chloronaphthalene	ND	29B	1800	69B	di-n-octyl phthalate	2
30B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
32B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
37B		28B	3,3'-dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		38B	fluoranthene	ND	12B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene A	ND

3 026

RADIAN CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID E60147 H2O FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

3 027

SUPROGATE RECOVERIES

SCAN	CODE	RESULT	
602	BS1	d5-nitrobenzene	8[illegible]%
832	BS2	2-fluorobiphenyl	68%
1495	BS3	d14-terphenyl	120%
	BS4	d10-biphenyl	[illegible]

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on [illegible] chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit [illegible] method 625, (Federal Register, 10/26/84)
* = benzo(b)fluoranthene and benzo(k)[illegible] co-elute
A = benzo(a)anthracene and chrysene [illegible] high concentration

RADIAN CORPORATION

PAGE 7 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 850147 H2O FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

B = anthracene and phenanthrene co-elute in high concentrations
BL = detected in reagent blank; background subtraction not performed
J = estimated value, less than method detection limit
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

RADIAN CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample

SAMPLE ID 860147 H2O FRACTION 01A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected 02/11/86 Category

CHRO # 2CU02070C1 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/27/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

3 029

RADIAN CORPORATION

PAGE 9 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample

SAMPLE ID 85014/ H2O FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/11/86 Category

DATA FILE 20\02070C01 DATE EXTRACTED 02/13/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/27/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
13P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

3 030

RADIAN CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 86014/ H2O FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/11/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79)

3 031

RADIAN CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample

SAMPLE ID 860148 H2O FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/11/86 Category

DATA FILE 2CU02070C02 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A	497	24A	2-chlorophenol	5	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	478	65A	phenol	4
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
478	[illegible]	[illegible]phenol	7%
[illegible]	[illegible]	[illegible]fluorophenol	[illegible]
111[illegible]	[illegible]	[illegible]tribromophenol	[illegible]
	[illegible]	[illegible]	[illegible]

NOTES AND [illegible]
[illegible]
[illegible]

3 032

RADIAN CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 860148 H2O FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/11/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84)
BL = detected in reagent blank, background subtraction not performed.
J = estimated value, less than method detection limit.
CONC. FACTOR. indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

RADIAN CORPORATION

PAGE 13 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 850148 H2O FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

DATA FILE BCU320702C02 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAB
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 5

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
44B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
30B		9B	hexachlorobenzene	ND	13B	1670	66B	bis(2-ethylhexyl)phthalate	5 BL
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1326	68B	di-butyl phthalate	5 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B	551	25B	1,2-dichlorobenzene	210	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
23B	525	27B	1,4-dichlorobenzene	210	5B		72B	benzo(a)anthracene A	ND
22B		28B	3,3 dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		29B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		30B	2,6-dinitrotoluene	ND	8B		75B	benzo(k)fluoranthene *	ND
32B		31B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		32B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		33B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene *	ND

3 034

RADIAN CORPORATION

RECEIVED 02/12/86

Analytical Serv REPORT
Results by Sample

LAB # 86-02-070
Continued From Above

SAMPLE ID 850148 H2O FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

14B		41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B		42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B		43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
24B		52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B		53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
30B		54B	isophorone	ND	45B	84B	pyrene	ND
39B	714	55B	naphthalene	52				
40B		56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
604	BS1	d5-nitrobenzene	110%
882	BS2	2-fluorobiphenyl	93%
1484	BS3	d14-terphenyl	120%
	BS4	d10-biphenyl	

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number of retention time on chromatogram
All results reported in ___ g/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elut
A = benzo(a)anthracene and chrysene co-elute ___ high concentrations

3 035

RADIAN CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 850148 Rec FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

S = anthracene and phenanthrene co-elute in high concentrations
BL = detected in reagent blank, background subtraction not performed.
J = estimated value, less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

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PAGE 1a Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860148 H2O FRACTION 02A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected 02/11/86 Category

CLP0 # BCV0207002 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/27/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

3 037

RADIAN CORPORATION

PAGE 17 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 850148 H2O FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/11/86 Category

DATA FILE 85U02070C02 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 02/27/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
5P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		93P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
6P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
13P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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PAGE 16 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample Continued From Above

SAMPLE ID 860148 H2O FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/11/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # scan number on chromatogram
All results reported in micrograms/liter unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79)

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PAGE 19 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample

SAMPLE ID 850149 H2O FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/11/86 Category

DATA FILE 20U02070C03 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 0

NPDES SCAN	EPA	COMPOUND	RESULT	NPDES SCAN	EPA	COMPOUND	RESULT
11A	21A	2,4,6-trichlorophenol	ND	7A	58A	4-nitrophenol	ND
8A	22A	4-chloro-3-methylphenol	ND	5A	59A	2,4-dinitrophenol	ND
1A	24A	2-chlorophenol	ND	4A	60A	2-methyl-4,6-dinitrophenol	ND
2A	31A	2,4-dichlorophenol	ND	9A	64A	pentachlorophenol	ND
3A	34A	2,4-dimethylphenol	ND	10A	65A	phenol	ND
6A	57A	2-nitrophenol	ND				

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
4[illegible]	AS1	d5-phenol	[illegible]
35[illegible]	AS2	2-fluorophenol	[illegible]
111[illegible]	AS3	2,4,6-tribromophenol	[illegible]
	AS4	d5-phenol	[illegible]

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified

3 040

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PAGE 20 | Analytical Serv REPORT | LAB # 86-02-070
RECEIVED: 02/12/86 | Results by Sample | Continued From Above

SAMPLE ID SB0149 H2O FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/11/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

3 041

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PAGE 21 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample

SAMPLE ID 850149 MBJ FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

DATA FILE [illegible] DATE EXTRACTED 02/13/86 ANALYST MM VERIFIED BY LAK
DIL FACTOR 1 DATE INJECTED 02/22/86 INSTRUMENT #2 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
4eB		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
2B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
3eB		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		10B	bis(2-chloroethyl)ether	ND	26B	1329	68B	di-butyl phthalate	3 BL
16B		2eB	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
2eB		5B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
7B		4eB	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
5B		7B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
		[illegible]	3,3 dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
		3	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
		1	2,6-dinitrotoluene	ND	8B		75B	benzo(k)fluoranthene *	ND
			[illegible]-triphenylhydrazine	ND	18B		76B	chrysene A	ND
			fluoranthene	ND	9B		77B	acenaphthylene	ND
			[illegible]	NA	3B		78B	anthracene *	ND

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SAMPLE ID 860149 H2O FRACTION: 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
15B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
605	BS1	d5-nitrobenzene	120%
887	BS2	2-fluorobiphenyl	88%
1497	BS3	d14-terphenyl	190%
	BS4	d10-biphenyl	

3 043

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register 10/26/84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute at high concentrations

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PAGE 23 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 850149 H2O FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank, background subtraction not performed.
J = estimated value; less than method detection limit
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor

3 044

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PAGE 24 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample

SAMPLE ID 850149 H2O FRACTION 03A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected 02/11/86 Category

CHRO # 1CU0207003 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/27/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

3 045

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PAGE 25 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample

SAMPLE ID 850149 H2O FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/11/86 Category

DATA FILE 2C002070C03 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/27/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
13P		[illegible]	endosulfan sulfat	[illegible]	22P		110P	PCB-1248	ND
14P		[illegible]	[illegible]	[illegible]	23P		111P	PCB-1260	ND
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	PCB-1016	ND
[illegible]		[illegible]	[illegible]		[illegible]			toxaphene	ND
[illegible]		[illegible]	[illegible]						

3 046

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PAGE 26 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 860149 H2O FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/11/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79)

3 047

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PAGE 27 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 850150 H2O FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/11/86 Category

DATA FILE 20U0207C004 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT #2 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

3 048

SURROGATE RECOVERIES

NPDES	SCAN CODE	COMPOUND	RESULT
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]
[illegible]
All results reported [illegible]

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PAGE 28 | Analytical Serv REPORT | LAB # 86-02-070
RECEIVED: 02/12/86 | Results by Sample | Continued From Above

SAMPLE ID 860150 H20 FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/11/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

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PAGE 29 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860150 H2O FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

DATA FILE 2CU02070C04 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1328	68B	di-butyl phthalate	2 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene P	ND

3 050

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PAGE 30 | Analytical Serv | REPORT | LAB # 86-02-070
RECEIVED: 02/12/86 | Results by Sample | Continued From Above

SAMPLE ID 860150 H2O | FRACTION 04A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 | Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
597	BS1	d5-nitrobenzene	66%
831	BS2	2-fluorobiphenyl	64%
1487	BS3	d14-terphenyl	150%
	BS4	d10-biphenyl	

3 051

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

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PAGE 31 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 860150 H20 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/11/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

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PAGE 32 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 860150 H20 FRACTION 04A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected 02/11/86 Category

CHRO # 2CU02070C4 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/27/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

3 053

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PAGE 33 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID 850150 H20 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/11/86 Category

DATA FILE 20U02070C04 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 02/27/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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PAGE 34 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample Continued From Above

SAMPLE ID 860150 H2O FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/11/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

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PAGE 35 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID Reagent Blank BNA H2O FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE 2C502058C05 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

3 056

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
476	AS1	d5-phenol	61%
357	AS2	2-fluorophenol	64%
1114	AS3	2,4,6-tribromophenol	48%
	AS4	d6-phenol	46

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time of chromatogram
All results reported in ug/l unless otherwise specified

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PAGE 36 | Analytical Serv | REPORT | LAB # 86-02-070
RECEIVED: 02/12/86 | Results by Sample | Continued From Above

SAMPLE ID Reagent Blank BNA H2O FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

RADIAN CORPORATION

RECEIVED: 02/12/86 Results by Sample

SAMPLE ID Reagent Blank BNA H2O FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE 2CB02058C05 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1670	66B	bis(2-ethylhexyl)phthalate	3 BL
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1326	68B	di-butyl phthalate	3 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene "	ND

3 058

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SAMPLE ID Reagent Blank BNA H2O FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
604	8S1	d5-nitrobenzene	86
831	8S2	2-fluorobiphenyl	78
1484	8S3	d14-terphenyl	82
	8S4	d10-biphenyl	

3 059

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register: 10/26/84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
& = benzo(a)anthracene and chrysene co-elute, high concentrations

RADIAN CORPORATION

SAMPLE ID Reagent Blank BNA H2O FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

RADIAN CORPORATION

PAGE 40 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID Reagent Blank BNA H2O FRACTION 05A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected not specified Category

CHRO # 2CB02058C5 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/27/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

3 091

RADIAN CORPORATION

PAGE 41 Analytical Serv REPORT LAB # 86-02-070
RECEIVED: 02/12/86 Results by Sample

SAMPLE ID Reagent Blank BNA H2O FRACTION Q5A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE 2C502058C05 DATE EXTRACTED 02/12/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/27/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
13P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
15P		98P	endrin	ND	23P		111P	PCB-1260	ND
16P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
17P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

3 062

RADIAN CORPORATION

PAGE 42 Analytical Serv REPORT LAB # 86-02-070
RECEIVED 02/12/86 Results by Sample Continued From Above

SAMPLE ID Reagent Blank BNA H2O FRACTION 05A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

3 063

RADIAN
CORPORATION

RECEIVED: 02/12/86 NonReported Work

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B : DUP_NS
02B : DUP_NS
03B : DUP_NS
04B : DUP_NS

3 064

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-075

RECEIVED: 02/13/86 02/20/86 17:02:13

REPORT TO: Radian
Bl 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES 9
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen Dynamics)

WORK ID: groundwater
TAKEN: AM
TRANS: Fed Ex
TYPE:
P.O. #: 212-027 27
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd
P.O. Box 9948
Austin, Texas 78766
ATTEN:
PHONE: (512) 454-4797

Carl Scott
CERTIFIED BY

CONTACT: CONOVER

^Unknown compound eluting here.
Second column confirmation performed for EPA 601: -02, -03, -04, -05, -06; for EPA 602: -02, -03, -08.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

SAMPLE IDENTIFICATION

[illegible]

Analytical Serv TEST CODES and NAMES used on this report

GC 601 EPA Method 601/GC
GC 602 EPA Method 602/GC

3 065

RADIAN CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-075
RECEIVED 02/13/86 Results by Sample

SAMPLE ID 860152 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

DATA FILE G DATE INJECTED 02/14/86 ANALYST MCL VERIFIED BY MCL
DILUTION FACTOR INSTRUMENT 9 COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
1	Trichloroethene	0.16
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 066

RADIAN CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-075
RECEIVED 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860152 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79)
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 067

RADIAN CORPORATION

Analytical Serv REPORT LAB # 86-02-075

RECEIVED 02/13/86 Results by Sample

SAMPLE ID 860152 FRACTION 01C TEST CODE GC 602 NAME EPA Method 602/GC

Date & Time Collected 02/12/86 Category

DATA FILE D DATE INJECTED 02/17/86 ANALYST MCL VERIFIED BY MCL

DILUTION FACTOR INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

[illegible] DEFINITIONS FOR THIS REPORT

[illegible] can number or retention time on [illegible] Chromatogram.

[illegible] results reported in [illegible] ug/L unless otherwise specified

ND [illegible] not detected at EPA detection limit method 602 [illegible]

3 068

RADIAN CORPORATION

Page 3
Printed: 02/13/86

Analytical Serv REPORT LAB # 86-02-075
Results by Sample

SAMPLE ID 860153 FRACTION 02A TEST CODE CC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

FILE G DATE INJECTED 02/14/86 ANALYST MCL VERIFIED BY MCL
DILUTION FACTOR INSTRUMENT 9 COMPOUNDS DETECTED 4

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Chloromethane	ND	3	Trichloroethene	2274
	Bromomethane	ND		Dibromochloromethane *	ND
1	Vinyl Chloride	768		1,1,2-Trichloroethane *	ND
	Chloroethane	ND		cis-1,3-Dichloropropene *	ND
	Methylene Chloride	ND		2-Chloroethylvinyl Ether	ND
	Trichlorofluoromethane	ND		Bromoform	ND
	1,1-Dichloroethene	ND		1,1,2,2-Tetrachloroethane #	ND
	1,1-Dichloroethane	ND	4	Tetrachloroethylene #	150
	trans-1,2-Dichloroethene	26206^		Chlorobenzene	ND
	Chloroform	ND		1,3-Dichlorobenzene	ND
	1,2-Dichloroethane	ND		1,2-Dichlorobenzene	ND
	1,1,1-Trichloroethane	ND		1,4-Dichlorobenzene	ND
	Carbon Tetrachloride	ND			
	Bromodichloromethane	ND			
	1,3-Dichloropropene	ND			
	trans-1,3-Dichloropropene	ND			

3 690

RADIAN CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860153 FRACTION 02A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79)
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 070

RADIAN CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860153 FRACTION 02C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/12/86 Category

DATA FILE D DATE INJECTED 02/14/86 ANALYST MCL VERIFIED BY MCL
DIL FACTOR 1 INSTRUMENT 4 COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	701		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 071

ABBREVIATIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

RADIAN CORPORATION

Analytical Serv REPORT LAB # 86-02-075
Received 02/13/86
Results by Sample

SAMPLE ID 860154 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

DATA FILE B DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
DILUTION INSTRUMENT b COMPOUNDS DETECTED 2

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Chloromethane	ND	3	Trichloroethene	6670
	Bromomethane	ND		Dibromochloromethane *	ND
1	Vinyl Chloride	1202		1,1,2-Trichloroethane *	ND
	Chloroethane	ND		cis-1,3-Dichloropropene *	ND
	Methylene Chloride	ND		2-Chloroethylvinyl Ether	ND
	Trichlorofluoromethane	ND		Bromoform	ND
	1,1-Dichloroethene	ND		1,1,2,2-Tetrachloroethane #	ND
	1,1-Dichloroethane	ND		Tetrachloroethylene #	ND
2	trans-1,2-Dichloroethene	2569?		Chlorobenzene	ND
	Chloroform	ND		1,3-Dichlorobenzene	ND
	1,2-Dichloroethane	ND		1,2-Dichlorobenzene	ND
	1,1,1-Trichloroethane	ND		1,4-Dichlorobenzene	ND
	Carbon Tetrachloride	ND			
	Bromodichloromethane	ND			
	1,2-Dichloropropane	ND			
	trans-1,3-Dichloropropene	ND			

3 072

RADIAN
CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860154 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN - scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
#Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 073

RADIAN CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-079
RECEIVED 02/13/86 Results by Sample

SAMPLE ID 860154 FRACTION 03C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/12/86 Category

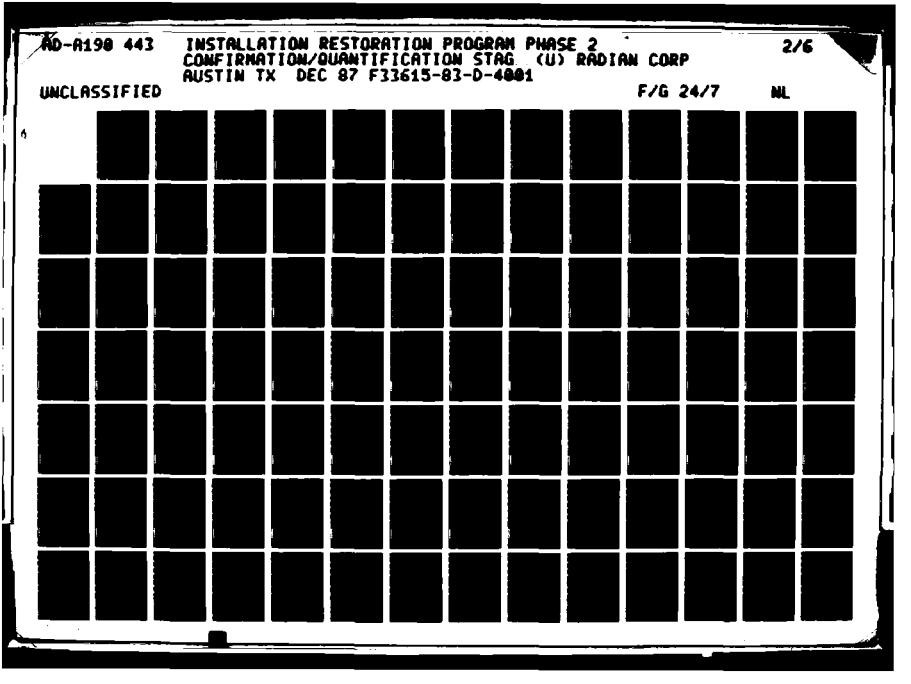
DATA FILE D DATE INJECTED 02/13/86 ANALYST RP VERIFIED BY MCL
DF FACTOR INSTRUMENT 4 COMPOUNDS DETECTED 0

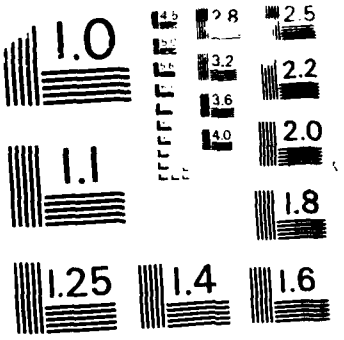
SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	[illegible]benzene	ND			

3 020

AD-A190 443 INSTALLATION RESTORATION PROGRAM PHASE 2 CONFIRMATION/QUANTIFICATION STAG (U) RADIAN CORP AUSTIN TX DEC 87 F33615-83-D-4001 2/6

UNCLASSIFIED F/G 24/7 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS - 1963

RADIAN CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860155 FRACTION 04A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

DATA FILE G DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR INSTRUMENT g COMPOUNDS DETECTED 4

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
1	Vinyl Chloride	32.5
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
2	trans-1,2-Dichloroethene	974^
	Chloroform	ND
	1,2-Dichloroethane	ND
3	1,1,1-Trichloroethane	62.5
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
4	Trichloroethene	2289
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 075

RADIAN
CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860155 FRACTION 04A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute

3 076

RADIAN CORPORATION

PAGE 13 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860155 FRACTION 04C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/12/86 Category

DATA FILE D DATE INJECTED 02/14/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 077

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

RADIAN CORPORATION

PAGE 14 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860156 FRACTION 05A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

DATA FILE G DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR INSTRUMENT 9 COMPOUNDS DETECTED 3

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
1	trans-1,2-Dichloroethene	5.75
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
2	Trichloroethene	1.90
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
3	Tetrachloroethylene #	1.08
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 078

RADIAN
CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860156 FRACTION 05A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860156 FRACTION 05C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/12/86 Category

DATA FILE D DATE INJECTED 02/12/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	1.43		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # scan number or retention time on chromatogram
All results reported in ug/L unless otherwise specified
ND - not detected at EPA detection limit method 602 (Federal Register 10/26/79)

3 080

RADIAN CORPORATION

PAGE 1/ Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860157 FRACTION Q6A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

DATA FILE G DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR 1 INSTRUMENT 9 COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Chloromethane	ND		Trichloroethene	ND
	Bromomethane	ND		Dibromochloromethane *	ND
	Vinyl Chloride	ND		1,1,2-Trichloroethane *	ND
	Chloroethane	ND		cis-1,3-Dichloropropene *	ND
	Methylene Chloride	ND		2-Chloroethylvinyl Ether	ND
	Trichlorofluoromethane	ND		Bromoform	ND
	1,1-Dichloroethene	ND		1,1,2,2-Tetrachloroethane #	ND
	1,1-Dichloroethane	ND		Tetrachloroethylene #	ND
1	trans-1,2-Dichloroethene	3507		Chlorobenzene	ND
	Chloroform	ND		1,3-Dichlorobenzene	ND
	1,2-Dichloroethane	ND		1,2-Dichlorobenzene	ND
	1,1,1-Trichloroethane	ND		1,4-Dichlorobenzene	ND
	Carbon Tetrachloride	ND			
	Bromodichloromethane	ND			
	1,2-Dichloropropane	ND			
	trans-1,3-Dichloropropene	ND			

3 081

RADIAN CORPORATION

PAGE 18 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 86015/ FRACTION 06A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2--trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 082

RADIAN CORPORATION

PAGE 19 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860157 FRACTION 06C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/12/86 Category

DATA FILE D DATE INJECTED 02/13/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR INSTRUMENT 1 COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 083

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602. (Federal Register, 12/3/79)

RADIAN CORPORATION

PAGE 20 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860158 FRACTION 07A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/12/86 Category

DATA FILE G DATE INJECTED 02/15/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR INSTRUMENT 9 COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Chloromethane	ND		Trichloroethene	ND
	Bromomethane	ND		Dibromochloromethane *	ND
	Vinyl Chloride	ND		1,1,2-Trichloroethane *	ND
	Chloroethane	ND		cis-1,3-Dichloropropene *	ND
	Methylene Chloride	ND		2-Chloroethylvinyl Ether	ND
	Trichlorofluoromethane	ND		Bromoform	ND
	1,1-Dichloroethene	ND		1,1,2,2-Tetrachloroethane #	ND
	1,1-Dichloroethane	ND		Tetrachloroethylene #	ND
	trans-1,2-Dichloroethene	ND		Chlorobenzene	ND
	Chloroform	ND		1,3-Dichlorobenzene	ND
	1,2-Dichloroethane	ND		1,2-Dichlorobenzene	ND
	1,1,1-Trichloroethane	ND		1,4-Dichlorobenzene	ND
	Carbon Tetrachloride	ND			
	Bromodichloromethane	ND			
	1,2-Dichloropropene	ND			
	trans-1,3-Dichloropropene	ND			

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PAGE 21 | Analytical Serv | REPORT | LAB # 86-02-075
RECEIVED: 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 860158 | FRACTION 07A | TEST CODE GC 601 | NAME EPA Method 601/GC
Date & Time Collected 02/12/86 | Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79)
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 085

RADIAN CORPORATION

PAGE 22 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860158 FRACTION O/C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/12/86 Category

DATA FILE D DATE INJECTED 02/17/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	1.45		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 086

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

RADIAN CORPORATION

PAGE 23 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID field blank FRACTION 08A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

DATA FILE G DATE INJECTED 02/15/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR INSTRUMENT q COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 087

RADIAN
CORPORATION

SAMPLE ID field blank FRACTION 08A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN - scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79)
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 088

RADIAN CORPORATION

PAGE 25 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID field blank FRACTION 08B TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected not specified Category

DATA FILE _ D DATE INJECTED 02/14/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR _ INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	17.4		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 089

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

RADIAN CORPORATION

PAGE 26 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID trip blank FRACTION 09A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

DATA FILE G DATE INJECTED 02/14/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR INSTRUMENT 9 COMPOUNDS DETECTED 2

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	0.34
2	Trichlorofluoromethane	2.11
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 090

RADIAN CORPORATION

PAGE 27 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID trip blank FRACTION 09A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 091

RADIAN CORPORATION

PAGE 28 Analytical Serv REPORT LAB # 86-02-075
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID trip blank FRACTION 09A TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected not specified Category

DATA FILE D DATE INJECTED 02/14/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 092

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register 12/3/84)

RADIAN CORPORATION

RECEIVED: 02/13/86 NonReported Work

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B	:	DUP601	01D	: DUP602
02B	:	DUP601	02D	: DUP602
03B	:	DUP601	03D	: DUP602
04B	:	DUP601	04D	: DUP602
05B	:	DUP601	05D	: DUP602
06B	:	DUP601	06D	: DUP602
07B	:	DUP601	07D	: DUP602

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 03/06/86 16:30:26

REPORT TO Radian Corporation
Larry French
Austin, Texas

ATTEN

CLIENT PLANT 4 SAMPLES 5
COMPANY General Dynamics
FACILITY OEHL Plant 4, Bldg 4
Austin, Texas

WORK ID General Dynamics Ft. Worth
TAKEN 2/12/86
TRANS Federal 323021134
TYPE H20 (625 only)
P O # 212-027-27-40
INVOICE under separate cover

PREPARED BY Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766
ATTEN
PHONE (512) 454-4797

Lucas A Pettkoon
CERTIFIED BY

CONTACT FRENCH

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3 094

SAMPLE IDENTIFICATION

01 860152
02 860153
03 860154
04 860155
05 860152 Dup Analysis BNA
05 860155 Matrix Spike BNA
05 reagent blank BNA

Analytical Serv TEST CODES and NAMES used on this report

EX 625 Extraction only - 625 BN/A
M625 A Method 625 Acid Compounds
M625 B Method 625 Base/Neutrals
MSNS S GCMS Characterization-ABN
MS 608 Pesticides & PCBs by GC/MS

RADIAN CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
EX_625 date complete	02/13/86	02/13/86	02/13/86	02/13/86	02/13/86 02/13/86 02/13/86

3 095

RADIAN CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860152 FRACTION Q1A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/12/86 Category

DATA FILE 2CU02078C01 DATE EXTRACTED 02/13/86 ANALYST NJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
472	AS1	d5-phenol	69
352	AS2	2-fluorophenol	46
1486	AS3	2,4,6-tribromophenol	72
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified

RADIAN CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860152 FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/12/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

RADIAN CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860152 FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 Category

DATA FILE 2CU02078C01 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1328	68B	di-butyl phthalate	3 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		24B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	3B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	2B		78B	anthracene P	ND

3 098

RADIAN CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860152 FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
13B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
604	BS1	d5-nitrobenzene	66
833	BS2	2-fluorobiphenyl	65
1486	BS3	d14-terphenyl	77
	BS4	d10-biphenyl	

3 099

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN # = scan number or retention time on chromatogram
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit (Method 625, Federal Register, 10/26/84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene co elute
& = benzo(a)anthracene and chrysene co-elute at high concentrations.

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PAGE 7 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 860152 | FRACTION Q1A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 | Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank, background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

3 100

RADIAN CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 850152 FRACTION 01A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected 02/12/86 Category

CHRO # 2U02078C01 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/27/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

3 101

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PAGE 9 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860152 FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/12/86 Category

DATA FILE 20U020780101 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/27/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
13P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

3 102

RADIAN CORPORATION

PAGE 10 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 860152 FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

RADIAN CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860153 FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/12/86 Category

DATA FILE 2CU02078C02 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A	654	31A	2,4-dichlorophenol	4	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	475	65A	phenol	2
6A		57A	2-nitrophenol	ND					

3 104

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
473	AS1	d5-phenol	53
351	AS2	2-fluorophenol	72
834	AS3	2,4,6-tribromophenol	72
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN # scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified

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CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860153 FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/12/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank, background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

RADIAN CORPORATION

PAGE 13 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860153 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 Category

DATA FILE 2CU02078C02 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/27/86 INSTRUMENT f2 COMPOUNDS DETECTED 7

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1673	66B	bis(2-ethylhexyl)phthalate	4
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1329	68B	di-butyl phthalate	4 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B	559	25B	1,2-dichlorobenzene	240	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B	522	27B	1,4-dichlorobenzene	35	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
38B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
39B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B	1434	39B	fluoranthene	2	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene P	ND

3 106

RADIAN CORPORATION

PAGE 14 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 860153 | FRACTION 02A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 | Category

14B		41B	4-bromophenyl phenyl ether	ND	8B		79B	benzo(ghi)perylene	ND
15B		42B	bis(2-chloroisopropyl)ether	ND	32B		80B	fluorene	ND
16B		43B	bis(2-chloroethoxy)methane	ND	44B		81B	phenanthrene B	ND
34B		52B	hexachlorobutadiene	ND	19B		82B	dibenzo(a,h)anthracene	ND
35B		53B	hexachlorocyclopentadiene	ND	37B		83B	indeno(1,2,3-cd)pyrene	ND
36B		54B	isophorone	ND	45B	1461	84B	pyrene	2
39B	715	55B	naphthalene	16					
40B		56B	nitrobenzene	ND					

SURROGATE RECOVERIES

	SCAN	CODE	RESULT
	604	881	d5-nitrobenzene 74
	934	882	2-fluorobiphenyl 65
	1427	883	d14-terphenyl 46
		884	d10-biphenyl

3 107

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26,84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
4 = benzo(a)anthracene and chrysene co-elute, high concentrations

RADIAN CORPORATION

PAGE 15 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED: 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 850153 | FRACTION 02A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 | Category

9 = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value, less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

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RADIAN CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860153 FRACTION 02A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected 02/12/86 Category

C-O # 8U02078C02 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/27/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

RADIAN CORPORATION

PAGE 1 / Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 850153 FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/12/86 Category

DATA FILE 20002078002 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/27/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		69P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
13P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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PAGE 16 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 850153 FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number on chromatogram
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

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PAGE 19 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860154 FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/12/86 Category

DATA FILE 2CU02078C03 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 02/20/86 INSTRUMENT f2 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		32A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A	614	31A	2,4-dichlorophenol	3	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	451	65A	phenol	2
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
449	A01	d5-phenol	67
733	A02	2-fluorophenol	23
1131	A03	2,4,6-tribromophenol	98
	A04	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified

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PAGE 20 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 850154 FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/12/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84)
BL = detected in reagent blank; background subtraction not performed.
J = estimated value, less than method detection limit
CONC FACTOR indicates dilution of sample if greater than one (1) Minimum detection limits should be multiplied by conc. factor.

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PAGE 21 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 850154 FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 Category

DATA FILE B2U030078C03 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAB
CONC FACTOR 1 DATE INJECTED 02/28/86 INSTRUMENT #2 COMPOUNDS DETECTED 6

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		41B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		42B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
3DB		9B	hexachlorobenzene	ND	13B	1662	66B	bis(2-ethylhexyl)phthalate	17
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1313	68B	di-butyl phthalate	6 BL
16B		20B	2-chloronaphthalene	ND	29B	1797	69B	di-n-octyl phthalate	2
20B	1328	25B	1,2-dichlorobenzene	220	24B		70B	diethyl phthalate	ND
21B		24B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B	1331	27B	1,4-dichlorobenzene	40	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		30B	2,4-dinitrotol...	ND	7B		74B	benzo(b)fluoranthene *	ND
29B		31	2,6-dinitrotoluene	ND	8B		75	benzo(k)fluoranthene *	ND
31B			1,2-diphenylhydra...		10B			chrysene A	ND
33B			fluoranth...		12B			acenaphthylene	ND
37B			4-chlorophenyl phenyl ...		14B			anthracene	ND

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PAGE 22 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED: 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 860154 | FRACTION 03A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 | Category

14B		41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene ND
12B		42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene ND
10B		43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B ND
34B		52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene ND
35B		53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene ND
38B		54B	isophorone	ND	45B	84B	pyrene ND
39B	695	55B	naphthalene	9			
40B		56B	nitrobenzene	ND			

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
593	BS1	d5-nitrobenzene	140
866	BS2	2-fluorobiphenyl	120
1472	BS3	d14-terphenyl	102
	BS4	d10-biphenyl	

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute ( ) high concentrations

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PAGE 23 | Analytical Serv REPORT | LAB # 86-02-078
RECEIVED: 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 860154 FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 Category

B = anthracene and phenanthrene co-elute in high concentrations
BL = detected in reagent blank; background subtraction not performed
J = estimated value; less than method detection limit
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

RADIAN CORPORATION

PAGE 24 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860154 FRACTION 03A TEST CODE MSNS 5 NAME GCMS Characterization-ABN
Date & Time Collected 02/12/86 Category

CHRU # 2002078C03 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/28/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

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PAGE 25 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 850154 FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/12/86 Category

DATA FILE 2CU220780C03 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/28/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
1CP		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
13P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
12P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	44P		112P	PCB-1016	ND
16P			heptachlor	ND	25P			toxaphene	ND
17P		100P	heptachlor epoxide	ND					

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PAGE 26 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 850154 FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # scan number on chromatogram
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

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PAGE 27 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample

SAMPLE ID 850155 FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/12/86 Category

DATA FILE 2C002078C04 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/28/86 INSTRUMENT f2 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	475	65A	phenol	2
6A		57A	2-nitrophenol	ND					

SUPROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
474	AS1	d5-phenol	85
754	AS2	2-fluorophenol	78
1434	AS3	2,4,6-tribromophenol	81
	AS4	d5-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in [illegible] specified

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PAGE 88 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860155 FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/12/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank, background subtraction not performed.
J = estimated value, less than method detection limit
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor

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PAGE 29 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 860155 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 Category

DATA FILE 20U01078C04 DATE EXTRACTED 02/13/86 ANALYST NJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/28/86 INSTRUMENT f2 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1675	66B	bis(2-ethylhexyl)phthalate	2
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1326	68B	di-butyl phthalate	6 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		[illegible]	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		[illegible]	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		[illegible]	benzo(k)fluoranthene *	ND
29B		7B	1,2-diphenylhydrazine	ND	10B		[illegible]	hrysene A	ND
31B		39B	fluoranthene	ND	[illegible]		[illegible]	acenaphthylene	ND
17B		[illegible]	4-chlorophenyl phenyl ether	[illegible]	[illegible]		[illegible]	anthracene [illegible]	ND

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RECEIVED: 02/13/86

Analytical Serv REPORT
Results by Sample

LAB # 86-02-078
Continued From Above

SAMPLE ID 860155 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
602	BS1	d5-nitrobenzene	95
631	BS2	2-fluorobiphenyl	81
1484	BS3	d14-terphenyl	166
	BS4	d10-biphenyl	

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on [illegible] chromatogram
All results reported in [illegible] unless otherwise specified
[illegible] not detected at EPA detection [illegible] 625 [illegible]
[illegible] benzo(b)fluoranthene and [illegible]
A [illegible] benzo(a)anthracene [illegible]

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PAGE 31 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860155 FRACTION Q4A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/12/86 Category

B = anthracene and phenanthrene co-elute in high concentrations
BL = detected in reagent blank; background subtraction not performed
J = estimated value; less than method detection limit
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor

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PAGE 32 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 850155 FRACTION: 04A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected 02/12/86 Category

CLIENT # 4002078C04 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/28/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

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PAGE 33 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample

SAMPLE ID 950155 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/12/86 Category

DATA FILE [illegible] DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/28/86 COMPOUNDS DETECTED 0

NPDES SCAN	EPA	COMPOUND	RESULT	NPDES SCAN	EPA	COMPOUND	RESULT
1P	89P	aldrin	ND	2P	102P	alpha BHC	ND
10P	90P	dieldrin	ND	3P	103P	beta BHC	ND
6P	91P	chlordane	ND	4P	104P	gamma BHC	ND
7P	92P	4,4'-DDT	ND	5P	105P	delta BHC	ND
8P	93P	4,4'-DDE	ND	18P	106P	PCB-1242	ND
9P	94P	4,4'-DDD	ND	19P	107P	PCB-1254	ND
11P	95P	alpha endosulfan	ND	20P	[illegible]	PCB-1221	ND
12P	96P	beta endosulfan	ND	21P	[illegible]	PCB-1232	ND
14P	97P	endosulfan sulfate	ND	22P	110P	PCB-1248	ND
14P	[illegible]	endrin	ND	23P	[illegible]	PCB-1260	ND
15P	[illegible]	endrin aldehyde	ND	24P	[illegible]	PCB-1016	ND
[illegible]	[illegible]	heptachlor	ND	5P	[illegible]	toxaphene	ND
17P	101P	heptachlor epoxide	ND				

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PAGE 34 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02 13/86 Results by Sample Continued From Above

SAMPLE ID 860155 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/12/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # = scan number on chromatogram
All results reported in micrograms/liter unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79)

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PAGE 35 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02 13/86 Results by Sample

SAMPLE ID 860152 Dup Analysis BNA FRACTION 05B TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE 2CD02078C05 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/28/86 INSTRUMENT F2 COMPOUNDS DETECTED 0

NPDES SCAN	EPA	COMPOUND	RESULT	NPDES SCAN	EPA	COMPOUND	RESULT
11A	21A	2,4,6-trichlorophenol	ND	7A	58A	4-nitrophenol	ND
3A	22A	4-chloro-3-methylphenol	ND	5A	59A	2,4-dinitrophenol	ND
1A	24A	2-chlorophenol	ND	4A	60A	2-methyl-4,6-dinitrophenol	ND
2A	31A	2,4-dichlorophenol	ND	9A	64A	pentachlorophenol	ND
[illegible]	34A	2,4-dimethylphenol	ND	10A	65A	phenol	ND
[illegible]	[illegible]	2-nitrophenol	ND				

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
[illegible]	[illegible]	d5-phenol	[illegible]
[illegible]	[illegible]	2-fluorophenol	[illegible]
[illegible]	[illegible]	2,4,6-tribromophenol	[illegible]
	[illegible]	[illegible]	

NOTES AND DEFINITIONS FOR THIS REPORT:
STAN [illegible] number or retention time [illegible] [illegible]
AI [illegible] reported in [illegible] [illegible]

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PAGE 36 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED: 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 860152 Dup Analysis BNA FRACTION: 05B TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank, background subtraction not performed.
J = estimated value; less than method detection limit
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor

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PAGE 3 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample

SAMPLE ID [illegible]152 Dup Analysis BNA FRACTION 05B TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE [illegible]2078C05 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/28/86 INSTRUMENT #2 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		6B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1674	66B	bis(2-ethylhexyl)phthalate	3
35B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1387	68B	di-butyl phthalate	4 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		[illegible]	3,3'-dichlorobenzidine	ND	6B		[illegible]	benzo(a)pyrene	ND
[illegible]		[illegible]	2,4-dinitrotoluene	[illegible]	[illegible]		[illegible]	benzo(b)fluoranthene #	ND
[illegible]		[illegible]	[illegible]		[illegible]		[illegible]	benzo(k)fluoranthene #	ND
[illegible]		[illegible]	[illegible]		[illegible]		[illegible]	chrysene A	ND
31B		[illegible]	fluoranthene	[illegible]	[illegible]		[illegible]	acenaphthylene	ND
17B		[illegible]	4-chlorophenyl phenyl [illegible]	[illegible]	[illegible]		[illegible]	anthracene [illegible]	ND

RADIAN CORPORATION

RECEIVED: 02/13/86

Analytical Serv REPORT
Results by Sample

LAB # 86-02-078
Continued From Above

SAMPLE ID 860152 Dup Analysis BNA FRACTION 05B TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
605	BS1	d5-nitrobenzene	91
833	BS2	2-fluorobiphenyl	84
1484	BS3	d14-terphenyl	184
	BS4	d10-biphenyl	

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ___ by 1 unless otherwise specified
ND = not detected at EPA detection limit (Method 625, Federal Register, 10/26/84)
* = benzo(b)fluoranthene and benzo[illegible] [illegible] [illegible]
A = benzo(a)anthracene and chrysene [illegible] high concentrations

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PAGE 39 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED: 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 860152 Dup Analysis BNA FRACTION 05B TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
B = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

RADIAN CORPORATION

PAGE 40 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample

SAMPLE ID 850152 Dup Analysis BNA FRACTION 05B TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected not specified Category

CHRO # 2D020780O5 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/28/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

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RADIAN CORPORATION

PAGE 41 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 850152 Dup Analysis BNA FRACTION OSB TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE 20D02078C05 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/28/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
13P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

RADIAN CORPORATION

PAGE 43 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 850152 Dup Analysis BNA FRACTION: 05B TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

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RADIAN CORPORATION

PAGE 43 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample

SAMPLE ID 850155 Matrix Spike BNA FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE 2CM02078C05 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
FACTOR 1 DATE INJECTED 02/28/86 INSTRUMENT f2 COMPOUNDS DETECTED 9

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A	870	21A	2,4,6-trichlorophenol	60	7A	1011	58A	4-nitrophenol	61
6A	911	22A	4-chloro-3-methylphenol	64	5A		59A	2,4-dinitrophenol	ND
1A	494	24A	2-chlorophenol	65	4A	1091	60A	2-methyl-4,6-dinitrophenol	32
2A	69[illegible]	31A	2,4-dichlorophenol	55	9A		64A	pentachlorophenol	ND
3A	[illegible]	34A	2,4-dimethylphenol	36	10A	486	65A	phenol	60
6A	655	57A	2-nitrophenol	54					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
[illegible]	A81	4[illegible] phenol	[illegible]
[illegible]	A82	2-fluorophenol	[illegible]
[illegible]	A83	2,4,6-tribromophenol	[illegible]
	[illegible]	4[illegible]-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
[illegible]
[illegible]

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RADIAN
CORPORATION

PAGE 44 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860155 Matrix Spike BNA FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank, background subtraction not performed.
J = estimated value, less than method detection limit.
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

RADIAN CORPORATION

PAGE 45 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID 850155 Matrix Spike BNA FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE 2CM02078C05 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/28/86 INSTRUMENT f2 COMPOUNDS DETECTED 45

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B	935	1B	acenaphthene	77	41B	175	61B	N-nitrosodimethylamine	3
4B	1444	5B	benzidine	140	43B	1096	62B	N-nitrosodiphenylamine	96
46B	705	8B	1,2,4-trichlorobenzene	55	42B	585	63B	N-nitrosodi-n-propylamine	63
33B	1178	9B	hexachlorobenzene	74	13B	1678	66B	bis(2-ethylhexyl)phthalate	98
36B	595	12B	hexachloroethane	63	15B	1574	67B	butyl benzyl phthalate	50
11B	486	18B	bis(2-chloroethyl)ether	60	26B	1329	68B	di-butyl phthalate	81
16B	698	20B	2-chloronaphthalene	68	29B	1813	69B	di-n-octyl phthalate	88
20B	549	25B	1,2-dichlorobenzene	64	24B	1067	70B	diethyl phthalate	80
21B	515	26B	1,3-dichlorobenzene	62	25B	953	71B	dimethyl phthalate	77
22B	522	27B	1,4-dichlorobenzene	61	5B	1661	72B	benzo(a)anthracene A	87
23B	1657	28B	3,3-dichlorobenzidine	91	6B	2001	73B	benzo(a)pyrene	81
27B	1025	35B	2,4-dinitrotoluene	80	7B	1906	74B	benzo(b)fluoranthene *	83
28B	961	36B	2,6-dinitrotoluene	79	9B	1912	75B	benzo(k)fluoranthene *	70
29B		37B	1,2-diphenylhydrazine	80	16B	1669	76B	chrysene A	81
31B	1424	38B	fluoranthene	77	2B	965	77B	acenaphthylene	69
17B	1074	40B	4-chlorophenyl phenyl ether	80	3B	1227	78B	anthracene B	84

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RADIAN CORPORATION

PAGE 46 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED: 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID 860155 Matrix Spike BNA | FRACTION 05A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected not specified | Category

14B	1154	41B	4-bromophenyl phenyl ether	81	88	2585	79B	benzo(ghi)perylene	83
12B	556	42B	bis(2-chloroisopropyl)ether	68	32B	1076	80B	fluorene	79
10B	676	43B	bis(2-chloroethoxy)methane	62	44B	1230	81B	phenanthrene B	81
34B	744	52B	hexachlorobutadiene	56	19B	2468	82B	dibenzo(a,h)anthracene	82
35B	859	53B	hexachlorocyclopentadiene	7	37B	2453	83B	indeno(1,2,3-cd)pyrene	88
38B	642	54B	isophorone	62	45B	1461	84B	pyrene	89
39B	714	55B	naphthalene	61					
40B	606	56B	nitrobenzene	57					

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
603	BS1	d5-nitrobenzene	93
838	BS2	2-fluorobiphenyl	87
1407	BS3	d14-terphenyl	81
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in% Recov unless otherwise specified
ND = not detected at EPA detection limit, method 625, (Federal Register, 10/26/84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute - high concentrations

RADIAN CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860155 Matrix Spike BNA FRACTION BA TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank, background subtraction not performed.
J = estimated value, less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor

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RADIAN CORPORATION

PAGE 48 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample

SAMPLE ID 86Q155 Matrix Spike DNA FRACTION: 05A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE 20M0202BL05 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/20/86 COMPOUNDS DETECTED 0

NPDES SCAN	EPA	COMPOUND	RESULT	NPDES SCAN	EPA	COMPOUND	RESULT
1P	89P	aldrin	ND	2P	102P	alpha BHC	ND
10P	90P	dieldrin	ND	3P	103P	beta BHC	ND
6P	91P	chlordane	ND	4P	104P	gamma BHC	ND
7P	92P	4,4'-DDT	ND	5P	105P	delta BHC	ND
8P	93P	4,4'-DDE	ND	18P	106P	PCB-1242	ND
9P	94P	4,4'-DDD	ND	19P	107P	PCB-1254	ND
11P	95P	alpha endosulfan	ND	20P	108P	PCB-1221	ND
12P	96P	beta endosulfan	ND	21P	109P	PCB-1232	ND
13P	97P	endosulfan sulfate	ND	22P	110P	PCB-1248	ND
14P	98P	endrin	ND	23P	111P	PCB-1260	ND
15P	99P	endrin aldehyde	ND	24P	112P	PCB-1016	ND
16P	100P	heptachlor	ND	25P	113P	toxaphene	ND
17P	101P	heptachlor epoxide	ND				

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RADIAN CORPORATION

PAGE 49 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID 860139 Matrix Spike DNA FRACTION 05A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

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RADIAN CORPORATION

PAGE 50 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID reagent blank BNA FRACTION 05C TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE 5CU02077C03 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/28/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	398	65A	phenol	1
[illegible]		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
[illegible]	AS1	d5-phenol	[illegible]
[illegible]	AS2	2-fluorophenol	[illegible]
[illegible]	AS3	2,4,6-tribromophenol	[illegible]
	AS4	d5-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram.
All results reported in [illegible]

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RADIAN CORPORATION

PAGE 51 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample Continued From Above

SAMPLE ID reagent blank BNA FRACTION OSC TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
DL = detected in reagent blank, background subtraction not performed
J = estimated value, less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor

RADIAN CORPORATION

PAGE 52 Analytical Serv REPORT LAB # 86-02-078
RECEIVED 02/13/86 Results by Sample

SAMPLE ID reagent blank BNA FRACTION OSC TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE ECU02077C03 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 02/20/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B	979	62B	N-nitrosodiphenylamine	6
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	2
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3 dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
37B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
38B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
39B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		3B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		32B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene *	ND

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RADIAN CORPORATION

PAGE 53 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED: 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID reagent blank BNA | FRACTION OSC | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected not specified | Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
513	BS1	d5-nitrobenzene	134
776	BS2	2-Fluorobiphenyl	124
1363	BS3	d14-terphenyl	68
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute at high concentrations

RADIAN CORPORATION

PAGE 54 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample Continued From Above

SAMPLE ID reagent blank BNA FRACTION OSC TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit
CONC. FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

RADIAN CORPORATION

PAGE 55 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID reagent blank BNA FRACTION OSC TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected not specified Category

CHRO # 5002077C03 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 02/28/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's			

RADIAN CORPORATION

PAGE 56 Analytical Serv REPORT LAB # 86-02-078
RECEIVED: 02/13/86 Results by Sample

SAMPLE ID reagent blank BNA FRACTION OSC TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE SCU02077C03 DATE EXTRACTED 02/13/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR DATE INJECTED 02/20/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
13P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
12P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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RADIAN CORPORATION

PAGE 57 | Analytical Serv | REPORT | LAB # 86-02-078
RECEIVED: 02/13/86 | Results by Sample | Continued From Above

SAMPLE ID reagent blank BNA FRACTION OSC TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

RADIAN
CORPORATION

RECEIVED: 02/13/86 NonReported Work

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B	:	DUP_NS
02B	:	DUP_NS
03B	:	DUP_NS
04B	:	DUP_NS

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-079
RECEIVED: 02/13/86 03/18/86 14:05:07

REPORT TO: Radian
Bl. 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 7
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dynamics)

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd
P.O. Box 9948
Austin, Texas 78766

ATTEN:
PHONE: (512) 454-4797

CERTIFIED BY

CONTACT: CONOVER

WORK ID: groundwater
TAKEN: AM
TRANS: Fed Ex
TYPE:
P.O. #: 212-027-27-40
INVOICE: under separate cover

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

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SAMPLE IDENTIFICATION

01	860152
02	860153
03	860154
04	860155
05	860156
06	860157
07	860158

Analytical Serv TEST CODES and NAMES used on this report

AG E	Silver, ICPES
AS GA	Arsenic, low level
BA E	Barium, ICPES
CD E	Cadmium, ICPES
CR E	Chromium, ICPES
DG3020	Digestion by Method 3020
DG6010	Digestion by Method 6010
HC IR	Hydrocarbons
HG CA	Mercury, Cold Vapor
ONG IR	Oil and Grease, Infrared
PB GA	Lead, low level
SE GA	Selenium, low level

LEADMAN CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-079

RECEIVED: 02/13/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
AG_E ug/ml	0.008*	<.002	<.002	<.002	
AS_GA ug/ml	0.011	0.007*	<.002	<.002	
BA_E ug/ml	0.032	0.062	0.068	0.46	
CD_E ug/ml	<.002	<.002	<.002	<.002	
CR_E ug/ml	0.016*	0.008*	0.006*	<.005	
DG3020 date complete	02/17/86	02/17/86	02/17/86	02/17/86	
DG6010 date complete	02/18/86	02/18/86	02/18/86	02/18/86	
HC_IR mg/L					<1
HG_CA ug/ml	<.0002	<.0002	<.0002	<.0002	
ONG_IR mg/L					<1
PB_GA ug/ml	0.048	<.002	<.002	<.002@	
SE_GA ug/ml	<.003	<.003	<.003	<.003@	

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RADIAN CORPORATION

Analytical Serv REPORT

LAB # 86-02-079

RECEIVED: 02/13/86

RESULTS BY TEST

TEST CODE default units	Sample 06 (entered units)	Sample 07 (entered units)
HC_IR mg/L	<1	<1
ONG_IR mg/L	<1	<1

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-087

RECEIVED: 02/14/86 03/19/86 15:05:35

REPORT TO: Radian
Bl. 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 6
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dynamics)

WORK ID: groundwater
TAKEN: NR, AM
TRANS: Fed Ex
TYPE:
P.O. #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766
ATTEN:
PHONE: (512) 454-4797

CERTIFIED BY

CONTACT CONOVER

**Unknown compound eluting here.
Second column confirmation performed for EPA 601 on -01, -04, -05; for EPA 602 on -04.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3 155

SAMPLE IDENTIFICATION

01	860159
02	860160
03	860161
04	860162
05	860163
06	field blank

Analytical Serv TEST CODES and NAMES used on this report

AG E	Silver, ICPES
AS GA	Arsenic, low level
BA E	Barium, ICPES
CD E	Cadmium, ICPES
CR E	Chromium, ICPES
DG3020	Digestion by Method 3020
DG6010	Digestion by Method 6010
GC 601	EPA Method 601/GC
GC 602	EPA Method 602/GC
HC IR	Hydrocarbons
HG CA	Mercury, Cold Vapor
ONG IR	Oil and Grease, Infrared
PB GA	Lead, low level
SE GA	Selenium, low level

RADIAN CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
AG_E ug/ml				0.004*	<.002
AS_GA ug/ml				0.038	<.002
BA_E ug/ml				0.11	0.087
CD_E ug/ml				<.002	<.002
CR_E ug/ml				0.016*	<.005
DG3020 date complete				02/17/86	02/17/86
DG6010 date complete				02/18/86	02/18/86
HC_IR mg/L	<1	<1	<1		
HG_CA ug/ml				<.0002	<.0002
ONG_IR mg/L	<1	<1			
PB_GA ug/ml				0.006*	<.003
SE_GA ug/ml				<.003	<.003

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RADIAN CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860159 FRACTION 01C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/13/86 Category

DATA FILE B DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT b COMPOUNDS DETECTED 2

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
1	trans-1,2-Dichloroethene	0.21**
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
2	Trichloroethene	29.2
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 157

RADIAN CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample Continued From Above

SAMPLE ID 860159 FRACTION 01C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/13/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860159 FRACTION 01E TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/13/86 Category

DATA FILE D DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	1.79		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 159

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

RADIAN CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860160 FRACTION 02C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/13/86 Category

DATA FILE B DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT b COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 160

RADIAN CORPORATION

PAGE 7 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample Continued From Above

SAMPLE ID 860160 FRACTION 02C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/13/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860160 FRACTION 02E TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/13/86 Category

DATA FILE D DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.99		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 162

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

RADIAN CORPORATION

PAGE 9 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860162 FRACTION 04B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/13/86 Category

DATA FILE B DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT b COMPOUNDS DETECTED 5

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
1	Vinyl Chloride	55.6
	Chloroethane	ND
2	Methylene Chloride	2.22
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
3	1,1-Dichloroethane	4.23
4	trans-1,2-Dichloroethene	11.4
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
5	1,2-Dichlorobenzene	16.2
	1,4-Dichlorobenzene	ND

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RADIAN CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample Continued From Above

SAMPLE ID 860162 FRACTION 04B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/13/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860162 FRACTION 04D TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/13/86 Category

DATA FILE D DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 4

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
1	Benzene	60.7		1,4-Dichlorobenzene	ND
2	Toluene	70.7		1,3-Dichlorobenzene	ND
3	Ethyl Benzene	585	4	1,2-Dichlorobenzene	44.0
	Chlorobenzene	ND			

3 165

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

RADIAN CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860163 FRACTION 05B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/13/86 Category

DATA FILE G DATE INJECTED 02/15/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
1	Trichloroethene	177
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

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RADIAN CORPORATION

PAGE 13 | Analytical Serv | REPORT | LAB # 86-02-087
RECEIVED: 02/14/86 | Results by Sample | Continued From Above

SAMPLE ID 860163 FRACTION 05B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/13/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 14 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860163 FRACTION 05D TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/13/86 Category

DATA FILE D DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.78		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 168

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

RADIAN CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID field blank FRACTION 06A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

DATA FILE G DATE INJECTED 02/15/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT q COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Chloromethane	ND		Trichloroethene	ND
	Bromomethane	ND		Dibromochloromethane *	ND
	Vinyl Chloride	ND		1,1,2-Trichloroethane *	ND
	Chloroethane	ND		cis-1,3-Dichloropropene *	ND
	Methylene Chloride	ND		2-Chloroethylvinyl Ether	ND
	Trichlorofluoromethane	ND		Bromoform	ND
	1,1-Dichloroethene	ND		1,1,2,2-Tetrachloroethane #	ND
	1,1-Dichloroethane	ND		Tetrachloroethylene #	ND
	trans-1,2-Dichloroethene	ND		Chlorobenzene	ND
	Chloroform	ND		1,3-Dichlorobenzene	ND
	1,2-Dichloroethane	ND		1,2-Dichlorobenzene	ND
	1,1,1-Trichloroethane	ND		1,4-Dichlorobenzene	ND
	Carbon Tetrachloride	ND			
	Bromodichloromethane	ND			
	1,2-Dichloropropane	ND			
	trans-1,3-Dichloropropene	ND			

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RADIAN CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample Continued From Above

SAMPLE ID field blank FRACTION 06A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

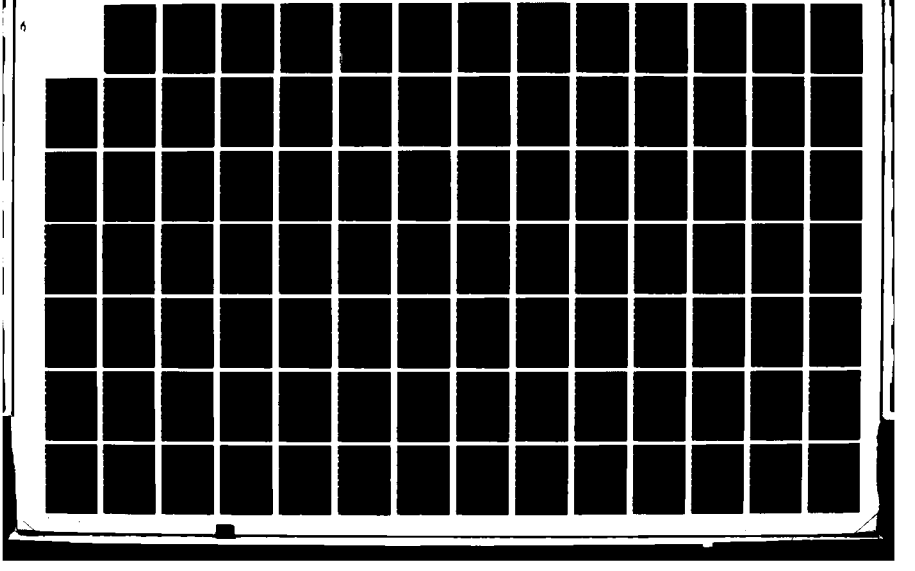
NOTES AND DEFINITIONS FOR THIS REPORT.

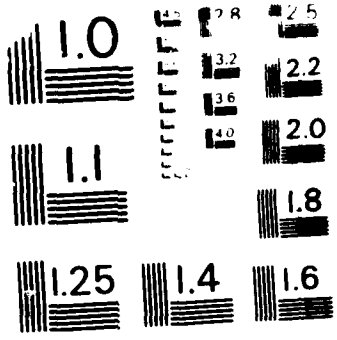
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 170

AD-A190 443 INSTALLATION RESTORATION PROGRAM PHASE 2 1/6
CONFIRMATION/QUANTIFICATION STAG (U) RADIAN CORP
AUSTIN TX DEC 87 F33615-83-D-4001

UNCLASSIFIED F/G 24/7 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS - 1963

RADIAN CORPORATION

PAGE 17 Analytical Serv REPORT LAB # 86-02-087
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID field blank FRACTION 06B TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected not specified Category

DATA FILE D DATE INJECTED 02/14/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	3.33		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 171

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

RADIAN CORPORATION

RECEIVED: 02/14/86 NonReported Work

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01D	:	DUP601	01F	:	DUP602
02D	:	DUP601	02F	:	DUP602
04C	:	DUP601	04E	:	DUP602
05C	:	DUP601	05E	:	DUP602

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-091
RECEIVED 02/14/86 03/12/86 08:59:45

REPORT TO: Radian Corporation, Larry French, Austin, Texas
ATTEN:
CLIENT: PLANT 4 SAMPLES: 3
COMPANY: General Dynamics
FACILITY: OEHL Plant 4, Bldg 4, Austin, Texas
WORK ID: General Dynamics Ft. Worth
TAKEN: 2/13/86
TRANS: Federal 223021112
TYPE: H20 (625 only)
P.O. #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services, 8501 MoPac Blvd, P.O. Box 9948, Austin, Texas 78766
ATTEN:
PHONE: (512) 454-4797

Lucas A Petrosen
CERTIFIED BY

CONTACT FRENCH

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3173

SAMPLE IDENTIFICATION

01 B60162
02 B60163
03 Leagent blank BNA

Analytical Serv TEST CODES and NAMES used on this report

EX 625 Extraction only - 625 BN/A
M625 A Method 625 Acid Compounds
M625 B Method 625 Base/Neutrals
MSNS S GCMS Characterization-ADH
MS 608 Pesticides & PCBs by GC/MS

RADIAN
CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-091
RECEIVED 02/14/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)
EX_625 date complete	02/17/86	02/17/86	02/17/86

CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-091
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860162 FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/13/86 Category

DATA FILE 5CU0291C01 DATE EXTRACTED 02/17/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A	569	34A	2,4-dimethylphenol	68	10A	399	65A	phenol	2
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
397	AS1	d5-phenol	72
292	AS2	2-fluorophenol	67
998	AS3	2,4,6-tribromophenol	121
399	AS4	d3-phenol	2

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-091
RECEIVED: 02/14/86 Results by Sample Continued From Above

SAMPLE ID 860162 FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/13/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-091
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860162 FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/13/86 Category

DATA FILE SCU02091C01 DATE EXTRACTED 02/17/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 6

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B	832	1B	acenaphthene	2	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1533	66B	bis(2-ethylhexyl)phthalate	3 BL
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	1 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B	464	25B	1,2-dichlorobenzene	23	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B	440	27B	1,4-dichlorobenzene	3	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

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CORPORATION

PAGE 6 | Analytical Serv | REPORT | LAB # 86-02-091
RECEIVED: 02/14/86 | Results by Sample | Continued From Above

SAMPLE ID 860162 | FRACTION 01A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/13/86 | Category

14B		41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B		42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B		43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B		52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B		53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B		54B	isophorone	ND	45B	84B	pyrene	ND
39B	615	55B	naphthalene	16				
40B		56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE		RESULT
513	BS1	d5-nitrobenzene	100
776	BS2	2-fluorobiphenyl	86
1353	BS3	d14-terphenyl	40
	BS4	d10-biphenyl	

3 178

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute in high concentrations.

SAMPLE ID 860162 FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/13/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-091
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860162 FRACTION 01A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected 02/13/86 Category

CHRO # 5U02091C01 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 03/05/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's detected			

3 180

SAMPLE ID 860162 FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/13/86 Category

DATA FILE SCU02091C01 DATE EXTRACTED 02/17/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/05/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

SAMPLE ID 860162 FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/13/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

KAUFMAN CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-091
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860163 FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/13/86 Category

DATA FILE 5CU02091C02 DATE EXTRACTED 02/17/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND
8A		22A	4-chloro-3-methylphenol	ND
1A		24A	2-chlorophenol	ND
2A		31A	2,4-dichlorophenol	ND
3A		34A	2,4-dimethylphenol	ND
6A		57A	2-nitrophenol	ND
7A		58A	4-nitrophenol	ND
5A		59A	2,4-dinitrophenol	ND
4A		60A	2-methyl-4,6-dinitrophenol	ND
9A		64A	pentachlorophenol	ND
10A	399	65A	phenol	2

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
398	AS1	d5-phenol	77
274	AS2	2-fluorophenol	77
998	AS3	2,4,6-tribromophenol	111
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

SAMPLE ID 860163 FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/13/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860163 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/13/86 Category

DATA FILE SCU02091C02 DATE EXTRACTED 02/17/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	204	68B	di-butyl phthalate	1 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

SAMPLE ID 860163 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/13/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
513	BS1	d5-nitrobenzene	100
776	BS2	2-fluorobiphenyl	88
1353	BS3	d14-terphenyl	51
	BS4	d10-biphenyl	

3 186

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute in high concentrations.

SAMPLE ID 860163 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/13/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-091
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860163 FRACTION 02A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected 02/13/86 Category

CHRO # SU02091C02 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 03/05/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's detected			

CORPORATION

PAGE 17 Analytical Serv REPORT LAB # 86-02-091
RECEIVED: 02/14/86 Results by Sample

SAMPLE ID 860163 FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/13/86 Category

DATA FILE SCU02091C02 DATE EXTRACTED 02/17/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/05/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

CORPORATION

PAGE 18 Analytical Serv REPORT LAB # 86-02-091
RECEIVED. 02/14/86 Results by Sample Continued From Above

SAMPLE ID 860163 FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/13/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

3 190

SAMPLE ID reagent blank BNA FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE 52B02091C03 DATE EXTRACTED 02/17/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
400	AS1	d5-phenol	71
297	AS2	2-fluorophenol	70
998	AS3	2,4,6-tribromophenol	100
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified.

CORPORATION

PAGE 20 Analytical Serv REPORT LAB # 86-02-091
RECEIVED: 02/14/86 Results by Sample Continued From Above

SAMPLE ID reagent blank BNA FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID reagent blank BNA FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE SCB02091C03 DATE EXTRACTED 02/17/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1531	66B	bis(2-ethylhexyl)phthalate	1
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	1
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

SAMPLE ID reagent blank BNA FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
514	BS1	d5-nitrobenzene	98
776	BS2	2-fluorobiphenyl	80
1353	BS3	d14-terphenyl	54
	BS4	d10-biphenyl	

3 194

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
+ = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute in high concentrations.

SAMPLE ID reagent blank BNA FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID reagent blank BNA FRACTION 03A TEST CODE MSNS S NAME GCMS Characterization-ABN
Date & Time Collected not specified Category

CHRO # 5802091C03 VERIFIED BY LAK
SAMPLE SIZE 1 DATE ANALYZED 03/05/86 UNITS ug/l

SCAN	COMPOUND	RESULT	CONF LEVEL	REF CMPD
	No PCB's detected			

SAMPLE ID reagent blank BNA FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE SCU02091C03 DATE EXTRACTED 02/17/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/05/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

SAMPLE ID reagent blank BNA FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number on chromatogram
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

02B : DUP_NS

CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-100

RECEIVED: 02/17/86 04/02/86 16:56:44

REPORT TO: Radian
Bl 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 7
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dynamics)

WORK ID: groundwater
TAKEN: WJ
TRANS: PAW
TYPE:
P.O. #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd
P.O. Box 9948
Austin, Texas 78766
ATTEN:
PHONE: (512) 454-4797

Carl Sonter
CERTIFIED BY

CONTACT CONOVER

^Unknown compound eluting here.
Second column confirmation performed for EPA 601: -04, -05

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3 200

SAMPLE IDENTIFICATION

01	860135
02	860164
03	860165
04	860166
05	860167
06	860168
07	trip blank

Analytical Serv TEST CODES and NAMES used on this report

AG E	Silver, ICPES
AS GA	Arsenic, low level
BA E	Barium, ICPES
CD E	Cadmium, ICPES
CR E	Chromium, ICPES
DG3020	Digestion by Method 3020
DG6010	Digestion by Method 6010
GC 601	EPA Method 601/GC
GC 602	EPA Method 602/GC
HC IR	Hydrocarbons
HG CA	Mercury, Cold Vapor
ONG IR	Oil and Grease, Infrared
PB GA	Lead, low level
SE GA	Selenium, low level
XYLENE	Xylenes

CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
AG_E ug/ml		0.003*	0.007*	<.002	
AS_GA ug/ml		<.002	0.007*	<.002	
BA_E ug/ml		0.068	0.017	0.031	
CD_E ug/ml		<.002	<.002	<.002	
CR_E ug/ml		<.005	0.008*	<.005	<.005
DG3020 date complete		02/20/86	02/20/86	02/20/86	
DG6010 date complete		02/20/86	02/20/86	02/20/86	02/20/86
HC_IR mg/L	<1			<1	
HG_CA ug/ml		<.0002	<.0002	<.0002	
ONG_IR mg/L	<1			3.9	
PB_GA ug/ml		0.009	0.010	0.004*@	
SE_GA ug/ml		<.003	<.003	<.003	

3-201

CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 RESULTS BY TEST

TEST CODE default units	Sample 06 (entered units)
ONG IR mg/L	<1

3 202

CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID 860164 FRACTION 02B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/14/86 Category

DATA FILE G DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR INSTRUMENT g COMPOUNDS DETECTED 3

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	0.50
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
2	Chloroform	1.14
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
3	Tetrachloroethylene #	0.08
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 203

CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample Continued From Above

SAMPLE ID 860164 FRACTION 02B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/14/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID 860164 FRACTION 02D TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/14/86 Category

DATA FILE D DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	6.10		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 205

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602 (Federal Register 12/3/79)

CORPORATION

PAGE / Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID 860165 FRACTION 03B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/14/86 Category

DATA FILE G DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR INSTRUMENT 9 COMPOUNDS DETECTED 3

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	0.92
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
2	Trichloroethene	0.22
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 206

CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample Continued From Above

SAMPLE ID 860165 FRACTION 03B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/14/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2--trichloroethane and cis-1,3--dichloropropene co-elute.
#1,1,2,2--tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID 860165 FRACTION 03D TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/14/86 Category

DATA FILE D DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT 4 COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	1.19		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 208

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

SAMPLE ID 860166 FRACTION 04D TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/14/86 Category

DATA FILE G DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR INSTRUMENT 9 COMPOUNDS DETECTED 2

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
1	trans-1,2-Dichloroethene	20452
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
2	Trichloroethene	2347
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample Continued From Above

SAMPLE ID 860166 FRACTION Q4D TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/14/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79)
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 210

CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID 860166 FRACTION Q4F TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/14/86 Category

DATA FILE D DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MEL
CONC. FACTOR INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 211

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

CORPORATION

PAGE 13 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID 860167 FRACTION 05B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/14/86 Category

DATA FILE G DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT 9 COMPOUNDS DETECTED 2

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
1	Chloroform	3.02
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
2	Trichloroethene	12.5
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 212

SAMPLE ID 860167 FRACTION 05B TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/14/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID 860167 FRACTION 05D TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/14/86 Category

DATA FILE D DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.83		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 214

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID 860168 FRACTION 06B TEST CODE XYLENE NAME Xylenes
Date & Time Collected 02/14/86 Category

DATA FILE D DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT
	p-xylene	ND
	m-xylene	ND
	o-xylene	ND

3 215

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected.

CORPORATION

PAGE 1/ Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID trip blank FRACTION 07A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

DATA FILE G DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR 1 INSTRUMENT 9 COMPOUNDS DETECTED 2

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Chloromethane	ND		Trichloroethene	ND
	Bromomethane	ND		Dibromochloromethane *	ND
	Vinyl Chloride	ND		1,1,2-Trichloroethane *	ND
	Chloroethane	ND		cis-1,3-Dichloropropene *	ND
1	Methylene Chloride	0.47		2-Chloroethylvinyl Ether	ND
2	Trichlorofluoromethane	2.34		Bromoform	ND
	1,1-Dichloroethene	ND		1,1,2,2-Tetrachloroethane #	ND
	1,1-Dichloroethane	ND		Tetrachloroethylene #	ND
	trans-1,2-Dichloroethene	ND		Chlorobenzene	ND
	Chloroform	ND		1,3-Dichlorobenzene	ND
	1,2-Dichloroethane	ND		1,2-Dichlorobenzene	ND
	1,1,1-Trichloroethane	ND		1,4-Dichlorobenzene	ND
	Carbon Tetrachloride	ND			
	Bromodichloromethane	ND			
	1,2-Dichloropropane	ND			
	trans-1,3-Dichloropropene	ND			

3 216

CORPORATION

PAGE 18 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample Continued From Above

SAMPLE ID trip blank FRACTION 07A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79)
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 217

CORPORATION

PAGE 19 Analytical Serv REPORT LAB # 86-02-100
RECEIVED: 02/17/86 Results by Sample

SAMPLE ID trip blank FRACTION O/A TEST CODE GC 602 NAME EPA Method 602 GC
Date & Time Collected not specified Category

DATA FILE D DATE INJECTED 02/17/86 ANALYST RP VERIFIED BY
CONC FACTOR INSTRUMENT 4 COMPOUNDS DETECTED

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 218

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/84)

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

02C	:	DUP601	02E	:	DUP602
03C	:	DUP601	03E	:	DUP602
04E	:	DUP601	04G	:	DUP602
05C	:	DUP601	05E	:	DUP602
06C	:	DUP_NS			

CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-109

RECEIVED: 02/18/86 03/11/86 17:01:41

REPORT TO Radian Corporation
Larry French
Austin, Texas

ATTEN

CLIENT PLANT 4 SAMPLES 4
COMPANY General Dynamics
FACILITY OEHL Plant 4, Bldg 4
Austin, Texas

WORK ID General Dynamics-Ft. Worth
TAKEN 2/14/86
TRANS Federal 736740812
TYPE H20
P.O. # 212-027-27-40
INVOICE under separate cover

PREPARED BY Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766
ATTEN
PHONE (512) 454-4797

Lucas A Petkovsen
CERTIFIED BY

CONTACT FRENCH

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3 220

SAMPLE IDENTIFICATION

01 860164
02 860165
03 860166
04 reagent blank 625

Analytical Serv TEST CODES and NAMES used on this report

EX 625 Extraction only - 625 BN/A
M625 A Method 625 Acid Compounds
M625 B Method 625 Base/Neutrals
MS 608 Pesticides & PCBs by GC/MS

Analytical Serv REPORT LAB # 86-02-109

RECEIVED: 02/18/86

RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)
EX_625 date complete	02/18/86	02/18/86	02/18/86	02/18/86

SAMPLE ID 860164 FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/14/86 Category

DATA FILE SCU02109C01 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND
8A		22A	4-chloro-3-methylphenol	ND
1A		24A	2-chlorophenol	ND
2A		31A	2,4-dichlorophenol	ND
3A		34A	2,4-dimethylphenol	ND
6A		57A	2-nitrophenol	ND
7A		58A	4-nitrophenol	ND
5A		59A	2,4-dinitrophenol	ND
4A		60A	2-methyl-4,6-dinitrophenol	ND
9A		64A	pentachlorophenol	ND
10A	399	65A	phenol	2

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
378	AS1	d5-phenol	66
274	AS2	2-fluorophenol	64
97%	AS3	2,4,6-tribromophenol	91
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified.

3 222

SAMPLE ID 860164 FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/14/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample

SAMPLE ID 860164 FRACTION Q1A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/14/86 Category

DATA FILE SCU02109C01 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	1
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

SAMPLE ID 860164 FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/14/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
513	BS1	d5-nitrobenzene	77
776	BS2	2-fluorobiphenyl	74
1352	BS3	d14-terphenyl	92
	BS4	d10-biphenyl	

3 225

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
+ = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute in high concentrations.

SAMPLE ID 860164 FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/14/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample

SAMPLE ID 860164 FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/14/86 Category

DATA FILE 2CU02109C01 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/05/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

CORPORATION

PAGE 9 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample Continued From Above

SAMPLE ID 860164 FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/14/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample

SAMPLE ID 850165 FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/14/86 Category

DATA FILE SCU02109C02 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	399	65A	phenol	1
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
398	AS1	d5-phenol	66
893	AS2	2-fluorophenol	67
998	AS3	2,4,6-tribromophenol	104
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample Continued From Above

SAMPLE ID 860165 FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/14/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value, less than method detection limit
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860165 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/14/86 Category

DATA FILE 5CU02109C02 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	2
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		57B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

SAMPLE ID 860165 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/14/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
513	BS1	d5-nitrobenzene	98
776	BS2	2-fluorobiphenyl	90
1352	BS3	d14-terphenyl	72
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute in high concentrations.

SAMPLE ID 860165 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/14/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860165 FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/14/86 Category

DATA FILE SCU02109C02 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 03/05/86 COMPOUNDS DETECTED 0

NPDES	SCAN EPA	COMPOUND	RESULT	NPDES	SCAN EPA	COMPOUND	RESULT
1P	89P	aldrin	ND	2P	102P	alpha BHC	ND
10P	90P	dieldrin	ND	3P	103P	beta BHC	ND
6P	91P	chlordane	ND	4P	104P	gamma BHC	ND
7P	92P	4,4'-DDT	ND	5P	105P	delta BHC	ND
8P	93P	4,4'-DDE	ND	18P	106P	PCB-1242	ND
9P	94P	4,4'-DDD	ND	19P	107P	PCB-1254	ND
11P	95P	alpha endosulfan	ND	20P	108P	PCB-1221	ND
12P	96P	beta endosulfan	ND	21P	109P	PCB-1232	ND
14P	97P	endosulfan sulfate	ND	22P	110P	PCB-1248	ND
14P	98P	endrin	ND	23P	111P	PCB-1260	ND
15P	99P	endrin aldehyde	ND	24P	112P	PCB-1016	ND
16P	100P	heptachlor	ND	25P	113P	toxaphene	ND
17P	101P	heptachlor epoxide	ND				

SAMPLE ID 860165 FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/14/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

KAUFMAN CORPORATION

PAGE 17 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample

SAMPLE ID 860166 FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/14/86 Category

DATA FILE SCU02109C03 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	399	65A	phenol	2
6A		57A	2-nitrophenol	ND					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
397	AS1	d5-phenol	50
394	AS2	2-fluorophenol	54
938	AS3	2,4,6-tribromophenol	96
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

SAMPLE ID 860166 FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/14/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860166 FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/14/86 Category

DATA FILE SCU02107C03 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1533	66B	bis(2-ethylhexyl)phthalate	2
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B		68B	di-butyl phthalate	ND
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
36B		35B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

KAMAN CORPORATION

PAGE 20 | Analytical Serv | REPORT | LAB # 86-02-109
RECEIVED: 02/18/86 | Results by Sample | Continued From Above

SAMPLE ID 860166 | FRACTION 03A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/14/86 | Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE		RESULT
513	BS1	d5-nitrobenzene	78
776	BS2	2-fluorobiphenyl	75
1353	BS3	d14-terphenyl	66
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT:

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
+ = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute in high concentrations.

CORPORATION

PAGE 21 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample Continued From Above

SAMPLE ID 860166 FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/14/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 22 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample

SAMPLE ID 860166 FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/14/86 Category

DATA FILE SCU02109C03 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 03/05/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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SAMPLE ID 850166 FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/14/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

CORPORATION

PAGE 24 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample

SAMPLE ID reagent blank 625 FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE 5CB02109C01 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
378	AS1	d5-phenol	56
293	AS2	2-fluorophenol	52
978	AS3	2,4,6-tribromophenol	83
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

SAMPLE ID reagent blank 625 FRACTION Q4A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 26 Analytical Serv REPORT LAB # 86-02-109
RECEIVED: 02/18/86 Results by Sample

SAMPLE ID reagent blank 625 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE SCB02109C04 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B		68B	di-butyl phthalate	ND
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

SAMPLE ID reagent blank 625 FRACTION Q4A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
514	BS1	d5-nitrobenzene	74
776	BS2	2-fluorobiphenyl	66
1353	BS3	d14-terphenyl	68
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT:

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute in high concentrations.

SAMPLE ID reagent blank 625 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID reagent blank 625 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE SCB02109C04 DATE EXTRACTED 02/18/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 03/05/86 COMPOUNDS DETECTED 0

NPDES	SCAN EPA	COMPOUND	RESULT	NPDES	SCAN EPA	COMPOUND	RESULT
1P	89P	aldrin	ND	2P	102P	alpha BHC	ND
10P	90P	dieldrin	ND	3P	103P	beta BHC	ND
6P	91P	chlordane	ND	4P	104P	gamma BHC	ND
7P	92P	4,4'-DDT	ND	5P	105P	delta BHC	ND
8P	93P	4,4'-DDE	ND	18P	106P	PCB-1242	ND
9P	94P	4,4'-DDD	ND	19P	107P	PCB-1254	ND
11P	95P	alpha endosulfan	ND	20P	108P	PCB-1221	ND
12P	96P	beta endosulfan	ND	21P	109P	PCB-1232	ND
14P	97P	endosulfan sulfate	ND	22P	110P	PCB-1248	ND
14P	98P	endrin	ND	23P	111P	PCB-1260	ND
15P	99P	endrin aldehyde	ND	24P	112P	PCB-1016	ND
16P	100P	heptachlor	ND	25P	113P	toxaphene	ND
17P	101P	heptachlor epoxide	ND				

SAMPLE ID reagent blank 625 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B : DUP_NS
02B : DUP_NS
03B : DUP_NS

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-123

RECEIVED: 02/20/86 04/25/86 15:10:25

REPORT TO: Radian
Bl. 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 3
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dynamics)

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766

ATTEN:
PHONE: (512) 454-4797

Larry K. Mutschler
CERTIFIED BY

CONTACT CONOVER

WORK ID: HC (not done earlier
TAKEN:
TRANS:
TYPE:
P.O. #: 212-027-27-
INVOICE: under separate cover

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

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SAMPLE IDENTIFICATION

01 860118 (8602019-01)
02 860119 (8602019-02)
03 860122 (8602031-01)

Analytical Serv TEST CODES and NAMES used on this report

HC IR Hydrocarbons

CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-123
RECEIVED: 02/20/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)
HC_IR mg/L	<1	<1	<1

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-113

RECEIVED 02/19/86 04/30/86 11:37:25

REPORT TO: Radian
Bl 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 6
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dynamics)

WORK ID: groundwater
TAKEN: WJ,FS
TRANS: Fed Ex
TYPE:
P.O. #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766

ATTEN:
PHONE: (512) 454-4797

CERTIFIED BY

CONTACT CONOVER

**Unknown compound eluting here.
Second column confirmations performed for EPA 601: -01 & -04; EPA 602: -01 and -02.
^Value for HC derived from oil and grease data for same split.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

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SAMPLE IDENTIFICATION

01	860169
02	860170
03	860171
04	860172
05	860173
06	860174

Analytical Serv TEST CODES and NAMES used on this report

AG E	Silver, ICPES
AS GA	Arsenic, low level
BA E	Barium, ICPES
CD E	Cadmium, ICPES
CR E	Chromium, ICPES
DG3020	Digestion by Method 3020
DG6010	Digestion by Method 6010
GC 601	EPA Method 601/GC
GC 602	EPA Method 602/GC
HC IR	Hydrocarbons
HG CA	Mercury, Cold Vapor
ONG IR	Oil and Grease, Infrared
PB GA	Lead, low level
SE GA	Selenium, low level
XYLENE	Xylenes

CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
AG_E ug/ml	0.007*	0.008	0.002*	0.004*	
AS_GA ug/ml	<.002	<.002	<.002	<.002	
BA_E ug/ml	0.041	0.068	0.063	0.043	
CD_E ug/ml	148	<.002	<.002	<.002	
CR_E ug/ml	<.005	<.005	<.005	<.005	
DG3020 date complete	02/20/86	02/20/86	02/20/86	02/20/86	
DG6010 date complete	02/20/86	02/20/86	02/20/86	02/20/86	
HC_IR mg/L	<1	<1	<1	<1	
HG_CA ug/ml	<.0002	<.0002	<.0002	<.0002	
ONG_IR mg/L	<1	<1	<1	<1	<1
PB_GA ug/ml	<.002	<.002	<.002	<.002@	
SE_GA ug/ml	<.003	<.003	<.003	<.003@	

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CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 RESULTS BY TEST

TEST CODE default units	Sample 06 (entered units)
HC_IR mg/L	<1^ ug/g
ONG_IR mg/L	<1

CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860169 FRACTION 01C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/18/86 Category

DATA FILE G DATE INJECTED 02/19/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT g COMPOUNDS DETECTED 4

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
1	Vinyl Chloride	0.20
	Chloroethane	ND
2	Methylene Chloride	48.7
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
3	trans-1,2-Dichloroethene	6.62**
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
4	Trichloroethene	1.01
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID 860169 FRACTION 01C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/18/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860169 FRACTION 01E TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/18/86 Category

DATA FILE D DATE INJECTED 02/20/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

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NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

SAMPLE ID 860170 FRACTION 02C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/18/86 Category

DATA FILE G DATE INJECTED 02/19/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
1	trans-1,2-Dichloroethene	0.30
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID 860170 FRACTION 02C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/18/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

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KAMAN CORPORATION

PAGE 9 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860170 FRACTION 02E TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/18/86 Category

DATA FILE D DATE INJECTED 02/21/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	15.8		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 261

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860171 FRACTION 03C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/18/86 Category

DATA FILE G DATE INJECTED 02/20/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
1	trans-1,2-Dichloroethene	0.25
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

KAMAN CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID 860171 FRACTION 03C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/18/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

KAMAN SCIENCE CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860171 FRACTION Q3E TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/18/86 Category

DATA FILE D DATE INJECTED 02/21/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	2.79		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

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NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

KAMAN CORPORATION

PAGE 13 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860172 FRACTION 04C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/18/86 Category

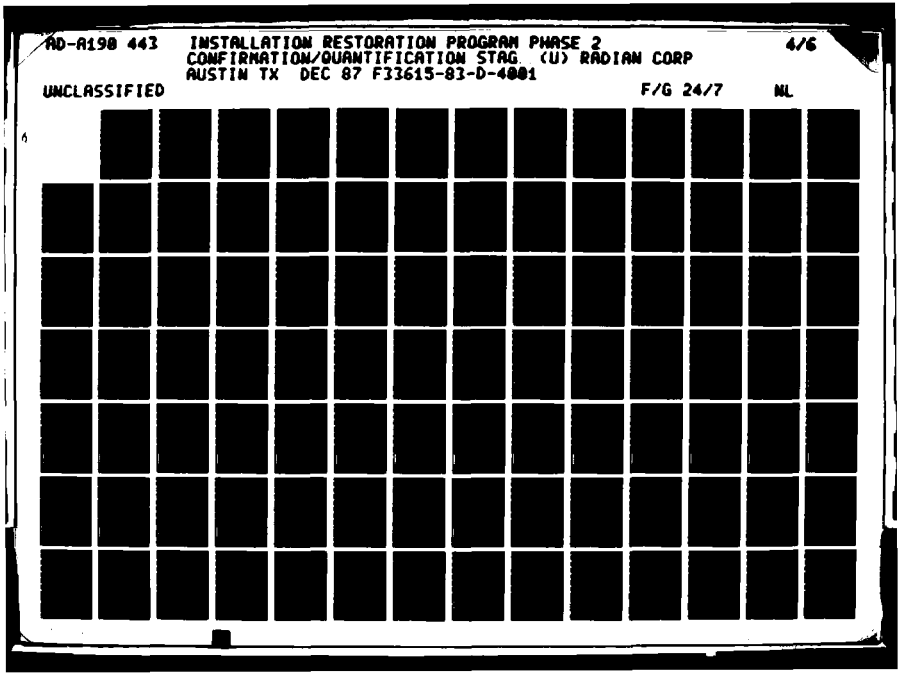
DATA FILE G DATE INJECTED 02/21/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT g COMPOUNDS DETECTED 4

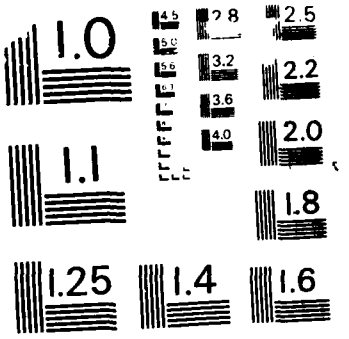
SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
1	Vinyl Chloride	0.74
	Chloroethane	ND
2	Methylene Chloride	91.2
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
3	trans-1,2-Dichloroethene	8.50**
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
4	Trichloroethene	0.82
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

SAMPLE ID 860172 FRACTION 04C TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/18/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.


AD-A190 443 INSTALLATION RESTORATION PROGRAM PHASE 2 4/6
CONFIRMATION/QUANTIFICATION STAG (U) RADIAN CORP
AUSTIN TX DEC 87 F33615-83-D-4001
UNCLASSIFIED F/G 24/7 NL



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-

CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860172 FRACTION 04E TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/18/86 Category

DATA FILE D DATE INJECTED 02/21/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	5.88		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

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NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-113
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860173 FRACTION 05B TEST CODE XYLENE NAME Xylenes
Date & Time Collected 02/18/86 Category

DATA FILE D DATE INJECTED 02/21/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT
	p-xylene	ND
	m-xylene	ND
	o-xylene	ND

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NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected.

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01D	:	DUP601	01F	:	DUP602	01H	: DUP_NS
02D	:	DUP601	02F	:	DUP602	02H	: DUP_NS
03D	:	DUP601	03F	:	DUP602	03H	: DUP_NS
04D	:	DUP601	04F	:	DUP602	04H	: DUP_NS
05C	:	DUP_NS					

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CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-116

RECEIVED: 02/19/86 03/16/86 13:58:53

REPORT TO: Radian Corporation
Larry French
Austin, Texas

ATTEN

CLIENT: PLANT 4 SAMPLES 6
COMPANY: General Dynamics
FACILITY: OEHL Plant 4, Bldg 4
Austin, Texas

WORK ID: General Dynamics-Ft Worth
TAKEN: 2/18/86
TRANS: Federal (no airbill)
TYPE: H20
P O #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd
P.O. Box 9948
Austin, Texas 78766
ATTEN
PHONE: (512) 454-4797

Lucas A Petkovsen
CERTIFIED BY

CONTACT FRENCH

Duplicate analysis 625 performed on -02 (860170);
Matrix spike 625 performed on -01 (860169).

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

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SAMPLE IDENTIFICATION

01 860169
02 860170
03 860171
04 860172
05 duplicate analysis 625
05 matrix spike 625
06 reagent blank 625

Analytical Serv TEST CODES and NAMES used on this report

EX 625 Extraction only - 625 BN/A
M625 A Method 625 Acid Compounds
M625 B Method 625 Base/Neutrals
MS 608 Pesticides & PCBs by GC/MS

CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
EX_625 date complete	02/19/86	02/19/86	02/19/86	02/19/86	02/19/86 02/19/86

TEST CODE default units	Sample 06 (entered units)
EX_625 date complete	02/19/86

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CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860169 FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C01 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	400	65A	phenol	2
6A		57A	2-nitrophenol	ND					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
399	AS1	d5-phenol	54
373	AS2	2-fluorophenol	48
529	AS3	2,4,6-tribromophenol	82
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

SAMPLE ID 860169 FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/18/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR. indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

KAUFMAN CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860169 FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C01 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	1 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		35B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	Fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

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KAUAIAN CORPORATION

SAMPLE ID 860169 FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
514	BS1	d5-nitrobenzene	114
777	BS2	2-fluorobiphenyl	131
1354	BS3	d14-terphenyl	104
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

KAUIAN CORPORATION

PAGE 7 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID 860169 FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

KAMAN CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860169 FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C01 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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KAUFMAN CORPORATION

PAGE 9 | Analytical Serv | REPORT | LAB # 86-02-116
RECEIVED: 02/19/86 | Results by Sample | Continued From Above

SAMPLE ID 860169 FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/18/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

KAUFMAN CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860170 FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C02 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	400	65A	phenol	1
6A		57A	2-nitrophenol	ND					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
378	AS1	d5-phenol	85
372	AS2	2-fluorophenol	80
979	AS3	2,4,6-tribromophenol	135
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified

KAMAN CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID 860170 FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/18/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

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PAGE 12 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860170 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C02 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B		68B	di-butyl phthalate	ND
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

SAMPLE ID 860170 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
514	BS1	d5-nitrobenzene	115
777	BS2	2-fluorobiphenyl	132
1354	BS3	d14-terphenyl	140
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID 860170 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860170 FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C02 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/04/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID 860170 FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/18/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

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PAGE 17 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860171 FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C03 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	401	65A	phenol	2
6A		57A	2-nitrophenol	ND					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
399	AS1	d5-phenol	79
295	AS2	2-Fluorophenol	79
998	AS3	2,4,6-tribromophenol	162
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # scan number or retention time on chromatogram
All results reported in ug\l unless otherwise specified.

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PAGE 18 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID 860171 FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/18/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank, background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

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PAGE 19 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860171 FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C03 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	1 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	Fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

SAMPLE ID 860171 FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
514	BS1	d5-nitrobenzene	55
777	BS2	2-fluorobiphenyl	63
1353	BS3	d14-terphenyl	69
	BS4	d10-biphenyl	

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene co elute
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID 860171 FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

KAUFMAN CORPORATION

PAGE 22 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860171 FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C03 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
13P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

KAUFMAN CORPORATION

PAGE 23 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID 850171 FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/18/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79)

KAMAN SCIENCE CORPORATION

PAGE 24 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860172 FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C04 DATE EXTRACTED 02/20/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/07/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
390	AS1	d5-phenol	52
287	AS2	2-fluorophenol	49
526	AS3	2,4,6-tribromophenol	44
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified

SAMPLE ID 860172 FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/18/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860172 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C04 DATE EXTRACTED 02/20/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/07/86 INSTRUMENT 5100 COMPOUNDS DETECTED 3

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1519	66B	bis(2-ethylhexyl)phthalate	1 BL
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1192	68B	di-butyl phthalate	2 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B	455	25B	1,2-dichlorobenzene	1	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

SAMPLE ID 860172 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
36B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE		RESULT
503	BS1	d5-nitrobenzene	110
764	BS2	2-fluorobiphenyl	122
1340	BS3	d14-terphenyl	132
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

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PAGE 28 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID 860172 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/18/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

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PAGE 29 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID 860172 FRACTION Q4A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/18/86 Category

DATA FILE SCU02116C04 DATE EXTRACTED 02/20/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/07/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

SAMPLE ID 860172 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/18/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

CORPORATION

PAGE 31 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID duplicate analysis 625 FRACTION 05B TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE SCD02116C05 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/07/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	390	65A	phenol	3
6A		57A	2-nitrophenol	ND					

3 300

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
339	AS1	d5-phenol	130
225	AS2	2-Fluorophenol	120
926	AS3	2,4,6-tribromophenol	156
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified.

SAMPLE ID duplicate analysis 625 FRACTION 05B TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank, background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

SAMPLE ID duplicate analysis 625 FRACTION 05B TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE S2102116C05 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/07/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B	967	62B	N-nitrosodiphenylamine	2
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1193	68B	di-butyl phthalate	2 BL
10B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
37B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
38B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
39B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

KADIAN CORPORATION

SAMPLE ID duplicate analysis 625 FRACTION 05B TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
503	BS1	d5-nitrobenzene	148
765	BS2	2-fluorobiphenyl	143
1341	BS3	d14-terphenyl	162
	BS4	d10-biphenyl	

3 303

NOTES AND DEFINITIONS FOR THIS REPORT:

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute @ high concentrations.

SAMPLE ID duplicate analysis 625 FRACTION 05B TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID duplicate analysis 625 FRACTION 05B TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE SCD02116C05 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/07/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

SAMPLE ID duplicate analysis 625 FRACTION: OSB TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN # = scan number on chromatogram
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79)

SAMPLE ID matrix spike 625 FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE SCM02116C05 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/07/86 INSTRUMENT 5100 COMPOUNDS DETECTED 11

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A	752	21A	2,4,6-trichlorophenol	57	7A	889	58A	4-nitrophenol	130
8A	698	22A	4-chloro-3-methylphenol	60	5A	875	59A	2,4-dinitrophenol	54
1A	405	24A	2-chlorophenol	74	4A	961	60A	2-methyl-4,6-dinitrophenol	110
2A	583	31A	2,4-dichlorophenol	54	9A	1070	64A	pentachlorophenol	37
3A	558	34A	2,4-dimethylphenol	29	10A	390	65A	phenol	67
6A	519	57A	2-nitrophenol	78					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
338	AS1	d5-phenol	70
224	AS2	2-fluorophenol	70
925	AS3	2,4,6-tribromophenol	58
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # scan number or retention time on chromatogram
All results reported in% Recov unless otherwise specified

SAMPLE ID matrix spike 625 FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

NO = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID matrix spike 625 FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE SCM02116C05 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/07/86 INSTRUMENT 5100 COMPOUNDS DETECTED 43

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B	869	1B	acenaphthene	110	41B	163	61B	N-nitrosodimethylamine	94
4B		5B	benzidine	ND	43B	961	62B	N-nitrosodiphenylamine	160
46B	596	8B	1,2,4-trichlorobenzene	99	42B	487	63B	N-nitrosodi-n-propylamine	100
33B	1043	9B	hexachlorobenzene	130	13B	1519	66B	bis(2-ethylhexyl)phthalate	110
36B	495	12B	hexachloroethane	110	15B	1423	67B	butyl benzyl phthalate	80
11B	398	18B	bis(2-chloroethyl)ether	110	26B	1192	68B	di-butyl phthalate	110
16B	777	20B	2-chloronaphthalene	120	29B	1613	69B	di-n-octyl phthalate	100
20B	453	25B	1,2-dichlorobenzene	110	24B	941	70B	diethyl phthalate	120
21B	423	26B	1,3-dichlorobenzene	100	25B	832	71B	dimethyl phthalate	60
22B	430	27B	1,4-dichlorobenzene	90	5B	1500	72B	benzo(a)anthracene A	110
23B	1497	28B	3,3'dichlorobenzidine	220	6B	1720	73B	benzo(a)pyrene	95
27B	889	35B	2,4-dinitrotoluene	130	7B	1668	74B	benzo(b)fluoranthene *	110
28B	840	36B	2,6-dinitrotoluene	140	9B	1672	75B	benzo(k)fluoranthene *	100
29B		37B	1,2-diphenylhydrazine	ND	18B	1506	76B	chrysene A	110
31B	1277	39B	fluoranthene	100	2B	840	77B	acenaphthylene	110
17B	948	40B	4-chlorophenyl phenyl ether	120	3B	1099	78B	anthracene B	110

SAMPLE ID matrix spike 625 FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	1022	41B	4-bromophenyl phenyl ether	120	8B	2019	79B	benzo(ghi)perylene	120
12B	459	42B	bis(2-chloroisopropyl)ether	130	32B	946	80B	fluorene	110
10B	571	43B	bis(2-chloroethoxy)methane	100	44B	1092	81B	phenanthrene B	100
34B		52B	hexachlorobutadiene	ND	19B	1957	82B	dibenzo(a,h)anthracene	100
35B	741	53B	hexachlorocyclopentadiene	4	37B	1953	83B	indeno(1,2,3-cd)pyrene	110
38B	538	54B	isophorone	100	45B	1311	84B	pyrene	110
39B	604	55B	naphthalene	100					
40B	505	56B	nitrobenzene	110					

SURROGATE RECOVERIES

SCAN	CODE		RESULT
502	BS1	d5-nitrobenzene	138
764	BS2	2-fluorobiphenyl	134
1339	BS3	d14-terphenyl	110
	BS4	d10-biphenyl	

3 310

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in% Recov. unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID matrix spike 625 FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 43 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID reagent blank 625 FRACTION 06A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE 2CR02116C05 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/07/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
443	AS1	d5-phenol	71
326	AS2	2-fluorophenol	100
1066	AS3	2,4,6-tribromophenol	69
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified.

SAMPLE ID reagent blank 625 FRACTION 06A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BI = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 45 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample

SAMPLE ID reagent blank 625 FRACTION 06A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE 2CB02116C05 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/07/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1615	66B	bis(2-ethylhexyl)phthalate	8
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1278	68B	di-butyl phthalate	3
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

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KAUFMAN CORPORATION

PAGE 46 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID reagent blank 625 FRACTION 06A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE		RESULT
565	BS1	d5-nitrobenzene	118
838	BS2	2-fluorobiphenyl	96
1432	BS3	d14-terphenyl	118
	BS4	d10-biphenyl	

3 315

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
+ = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID reagent blank 625 FRACTION 06A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID reagent blank 625 FRACTION 06A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE 2CB02116C05 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/07/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

KAUFMAN CORPORATION

PAGE 49 Analytical Serv REPORT LAB # 86-02-116
RECEIVED: 02/19/86 Results by Sample Continued From Above

SAMPLE ID reagent blank 625 FRACTION Q6A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B : DUP_NS
02B : DUP_NS
03B : DUP_NS
04B : DUP_NS

KADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-120

RECEIVED: 02/20/86 04/01/86 17:33:52

REPORT TO: Radian
B1 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 6
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dynamics)

WORK ID: groundwater
TAKEN: FS, WJ
TRANS TYPE: Fed Ex
P O #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd
P O Box 9948
Austin, Texas 78766

ATTEN:
PHONE: (512) 454-4797

CERTIFIED BY

CONTACT: CONOVER

Second column confirmation performed for EPA 601: -02, -04, -05, for EPA 602: -01, -02

Footnotes and Comments

# Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3 320

SAMPLE IDENTIFICATION

01	860175
02	860176
03	860178
04	860179
05	860180
06	860177

Analytical Serv TEST CODES and NAMES used on this report

AG E	Silver, ICPES
AS GA	Arsenic, low level
BA E	Barium, ICPES
CD E	Cadmium, ICPES
CR E	Chromium, ICPES
DG3020	Digestion by Method 3020
DG6010	Digestion by Method 6010
GC 601	EPA Method 601/GC
GC 602	EPA Method 602/GC
HC IR	Hydrocarbons
HG CA	Mercury, Cold Vapor
ONG IR	Oil and Grease, Infrared
PB GA	Lead, low level
SE GA	Selenium, low level

KADIAN CORPORATION

 Analytical Serv REPORT LAB # 86-02-120

RECEIVED: 02/20/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
AG_E ug/ml	0.002*	0.013	0.006*	0.010*	0.011
AS_GA ug/ml	<.003	<.003	<.003	<.003	0.062
BA_E ug/ml	0.089	0.090	0.11	0.092	0.082
CD_E ug/ml	<.002	<.002	<.002	<.002	<.002
CR_E ug/ml	0.012*	0.024*	0.021*	0.075	0.064
DG3020 date complete	03/06/86	03/06/86	03/06/86	03/06/86	03/06/86
DG6010 date complete	02/28/86	02/28/86	02/28/86	02/28/86	02/28/86
HC_IR mg/L				<1	<1
HG_CA ug/ml	<.0002	<.0002	<.0002	<.0002	<.0002
ONG_IR mg/L				1*	<1
PB_GA ug/ml	<.001	0.027	0.031	0.040	0.068
SE_GA ug/ml	<.003@	<.003	<.003	<.003	<.003

KAVIAN CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-120

RECEIVED: 02/20/86 RESULTS BY TEST

TEST CODE default units	Sample 06 (entered units)
HC_IR mg/L	<1

3 322

RADIAN CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860175 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

DATA FILE G DATE INJECTED 02/21/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT 9 COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

KADIAN CORPORATION

PAGE 5 | Analytical Serv | REPORT | LAB # 86-02-120
RECEIVED: 02/20/86 | Results by Sample | Continued From Above

SAMPLE ID 860175 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

KADIAN CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860175 FRACTION 01C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/19/86 Category

DATA FILE D DATE INJECTED 02/21/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	10.0		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 325

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

KADIAN CORPORATION

AGE 7 Analytical Serv REPORT LAB # 86-02-120
ECEIVED: 02/20/86 Results by Sample

AMPLE ID 860176 FRACTION 02A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

DATA FILE G DATE INJECTED 02/21/86 ANALYST MCL VERIFIED BY MCL
ONC. FACTOR 1 INSTRUMENT 9 COMPOUNDS DETECTED 5

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	2.54
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
2	Chloroform	36.6
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
3	1,2-Dichloropropane	9.64
	trans-1,3-Dichloropropene	ND
4	Trichloroethene	7.01
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
5	Tetrachloroethylene #	0.98
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

RADIAN CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860176 FRACTION 02A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 9 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860176 FRACTION 02C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/19/86 Category

DATA FILE D DATE INJECTED 02/25/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	22.5		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 328

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

KADIAN CORPORATION

 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860178 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

DATA FILE G DATE INJECTED 02/21/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT q COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
1	Chloroform	0.46
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

RADIAN CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860178 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 330

RADIAN CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860178 FRACTION 03C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/19/86 Category

DATA FILE D DATE INJECTED 02/25/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	2.01		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 331

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l, unless otherwise specified.
ND - not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

RADIAN CORPORATION

PAGE 13 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860179 FRACTION 04A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

DATA FILE G DATE INJECTED 02/24/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR 1000 INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
1	Trichloroethene	10,983
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

RADIAN CORPORATION

RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860179 FRACTION 04A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

RADIAN CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860179 FRACTION 04C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/19/86 Category

DATA FILE D DATE INJECTED 02/25/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1000 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

KADIAN CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860180 FRACTION 05A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

DATA FILE G DATE INJECTED 02/24/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1000 INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
1	Trichloroethene	10,866
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

KADIAN CORPORATION

PAGE 17 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860180 FRACTION 05A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/19/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

KADIAN CORPORATION

PAGE 18 Analytical Serv REPORT LAB # 86-02-120
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860180 FRACTION 05C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/19/86 Category

DATA FILE D DATE INJECTED 02/25/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1000 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B	:	DUP601	01D	:	DUP602		
02B	:	DUP601	02D	:	DUP602		
03B	:	DUP601	03D	:	DUP602		
04B	:	DUP601	04D	:	DUP602	04F :	DUP_NS
05B	:	DUP601	05D	:	DUP602		

CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-122
RECEIVED 02/20/86 03/16/86 14:13:00

REPORT TO: Radian Corporation
Larry French
Austin, Texas

ATTEN:

CLIENT: PLANT 4 SAMPLES: 4
COMPANY: General Dynamics
FACILITY: OEHL Plant 4, Bldg 4
Austin, Texas

WORK ID: Plant 4 Fort Worth Texas
TAKEN: 2/19/86 by Snyder
TRANS: Fed Ex 764773310
TYPE: H20
P O #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd
P O Box 9948
Austin, Texas 78766

ATTEN:
PHONE: (512) 454-4797

Lucas A Petterson
CERTIFIED BY

CONTACT FRENCH

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present

3 336

SAMPLE IDENTIFICATION

01 860178 H20
02 860175 H20
03 860176 H20
04 Reagent Blank 625

Analytical Serv TEST CODES and NAMES used on this report

EX 625 Extraction only - 625 BN/A
M625 A Method 625 Acid Compounds
M625 B Method 625 Base/Neutrals
MS 608 Pesticides & PCBs by GC/MS

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)
EX_625 date complete	02/20/86	02/20/86	02/20/86	02/20/86

CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860178 H2O FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/19/86 Category

DATA FILE S0202122C01 DATE EXTRACTED 02/20/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

3 341

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
579	AS1	d5-phenol	53%
633	AS2	2-Fluorophenol	56%
537	AS3	2,4,6-tribromophenol	80%
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified

KAUFMAN CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860178 H2O FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/19/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed
J = estimated value, less than method detection limit
CONC. FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860178 H2O FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/19/86 Category

DATA FILE 52U02122C01 DATE EXTRACTED 02/20/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/05/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND
4B		5B	benzidine	ND
46B		8B	1,2,4-trichlorobenzene	ND
30B		9B	hexachlorobenzene	ND
36B		12B	hexachloroethane	ND
11B		18B	bis(2-chloroethyl)ether	ND
16B		20B	2-chloronaphthalene	ND
20B		25B	1,2-dichlorobenzene	ND
21B		26B	1,3-dichlorobenzene	ND
22B		27B	1,4-dichlorobenzene	ND
23B		28B	3,3'dichlorobenzidine	ND
37B		35B	2,4-dinitrotoluene	ND
28B		36B	2,6-dinitrotoluene	ND
29B		37B	1,2-diphenylhydrazine	ND
31B		39B	fluoranthene	ND
17B		40B	4-chlorophenyl phenyl ether	ND
41B		61B	N-nitrosodimethylamine	ND
43B		62B	N-nitrosodiphenylamine	ND
42B		63B	N-nitrosodi-n-propylamine	ND
13B	1532	66B	bis(2-ethylhexyl)phthalate	2
15B		67B	butyl benzyl phthalate	ND
26B	1203	68B	di-butyl phthalate	1 BL
29B		69B	di-n-octyl phthalate	ND
24B		70B	diethyl phthalate	ND
25B		71B	dimethyl phthalate	ND
5B		72B	benzo(a)anthracene A	ND
6B		73B	benzo(a)pyrene	ND
7B		74B	benzo(b)fluoranthene *	ND
9B		75B	benzo(k)fluoranthene *	ND
18B		76B	chrysene A	ND
2B		77B	acenaphthylene	ND
3B		78B	anthracene B	ND

KAMAN CORPORATION

PAGE 6 | Analytical Serv | REPORT | LAB # 86-02-122
RECEIVED. 02/20/86 | Results by Sample | Continued From Above

SAMPLE ID 860178 H2O | FRACTION 01A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/19/86 | Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
513	BS1	d5-nitrobenzene	50%
776	BS2	2-fluorobiphenyl	52%
1352	BS3	d14-terphenyl	78%
	BS4	d10-biphenyl	

3 344

NOTES AND DEFINITIONS FOR THIS REPORT:

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID 850178 H2O FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/19/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860178 H2O FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/19/86 Category

DATA FILE SCU02122C01 DATE EXTRACTED 02/20/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/05/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

SAMPLE ID 850178 H2O FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/19/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 850175 H2O FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/19/86 Category

DATA FILE S2W0210202 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
DILUTION FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
PA		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	400	65A	phenol	2
6A		57A	2-nitrophenol	ND					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
398	AS1	d5-phenol	67%
424	AS2	2-fluorophenol	65%
526	AS3	2,4,6-tribromophenol	93%
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified

CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860175 H2O FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/19/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860175 H2O FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/19/86 Category

DATA FILE SCU02122C02 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	1 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
39B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

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SAMPLE ID 860175 H2O FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/19/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
513	BS1	d5-nitrobenzene	72%
777	BS2	2-fluorobiphenyl	70%
1353	BS3	d14-terphenyl	86%
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
+ = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

CORPORATION

PAGE 14 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860175 H20 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/19/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860175 H2O FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/19/86 Category

DATA FILE SCU02122C02 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860175 H2O FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/19/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

SAMPLE ID 860176 H2O FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/19/86 Category

DATA FILE SCU02122C03 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
397	AS1	d5-phenol	9%
292	AS2	2-fluorophenol	32%
998	AS3	2,4,6-tribromophenol	116%
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN # scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified

KAUFMAN CORPORATION

PAGE 18 | Analytical Serv | REPORT | LAB # 86-02-122
RECEIVED: 02/20/86 | Results by Sample | Continued From Above

SAMPLE ID 860176 H20 FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/19/86 Category

NO = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

Analytical Serv REPORT

LAB # 86-02-122

RECEIVED: 02/20/86

Results by Sample

SAMPLE ID 860176 H2O FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals

Date & Time Collected 02/19/86 Category

DATA FILE SC002 22C03 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK

CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 3

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B	980	62B	N-nitrosodiphenylamine	3
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1531	66B	bis(2-ethylhexyl)phthalate	8
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	3 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

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SAMPLE ID 860176 H2O FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/19/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE		RESULT
513	BS1	d5-nitrobenzene	116%
776	BS2	2-fluorobiphenyl	90%
1353	BS3	d14-terphenyl	60%
	BS4	d10-biphenyl	

3 358

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
+ = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

KAISER CORPORATION

PAGE 21 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860176 H2O FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/19/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 22 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID 860176 H20 FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/19/86 Category

DATA FILE SCU02122C03 DATE EXTRACTED 02/20/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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CORPORATION

PAGE 23 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID 860176 H2O FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/19/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

CORPORATION

PAGE 24 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID Reagent Blank 625 FRACTION Q4A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE SCR02122C04 DATE EXTRACTED 02/20/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
372	AS1	d5-phenol	61%
372	AS2	2-fluorophenol	66%
372	AS3	2,4,6-tribromophenol	99%
	AS4	d3-phenol	

[illegible] FOR THIS REPORT
[illegible] number or retention time on chromatogram
[illegible] reported in ug/l unless otherwise specified

AD-A190 443 INSTALLATION RESTORATION PROGRAM PHASE 2 CONFIRMATION/QUANTIFICATION STAG (U) RADIAN CORP AUSTIN TX DEC 87 F33615-83-D-4001 5/6

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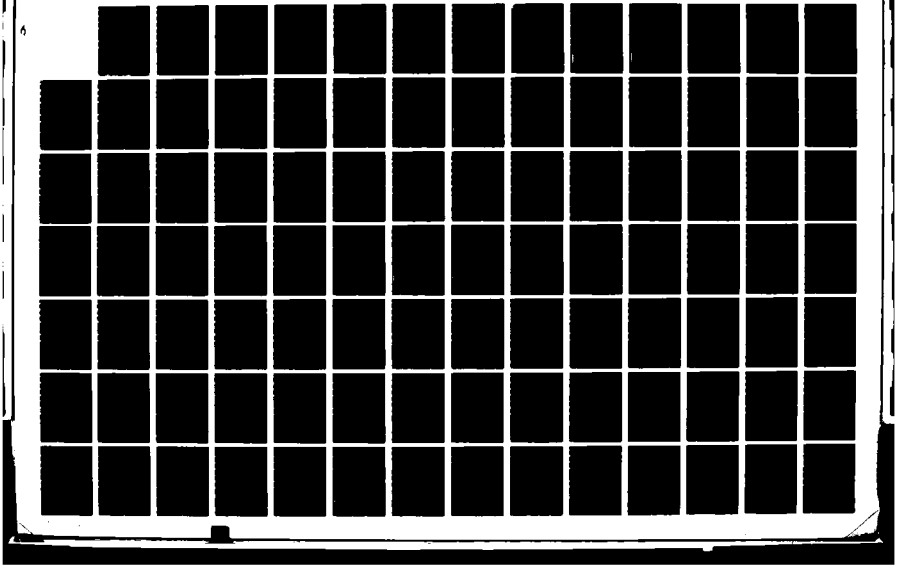

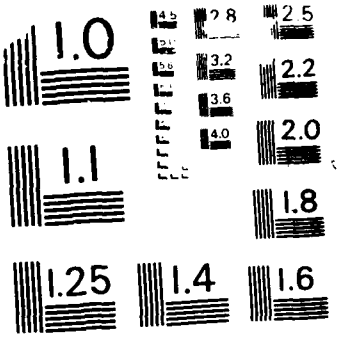

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CORPORATION

PAGE 25 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID Reagent Blank 625 FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID Reagent Blank 625 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE SCB02122C04 DATE EXTRACTED 02/20/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
4&B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
3&B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	2
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

SAMPLE ID Reagent Blank 625 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE		RESULT
514	BS1	d5-nitrobenzene	88%
776	BS2	2-fluorobiphenyl	84%
1353	BS3	d14-terphenyl	72%
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID Reagent Blank 625 FRACTION Q4A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

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PAGE 29 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample

SAMPLE ID Reagent Blank 625 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE SCR02122C04 DATE EXTRACTED 02/20/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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KAUFMAN CORPORATION

PAGE 30 Analytical Serv REPORT LAB # 86-02-122
RECEIVED: 02/20/86 Results by Sample Continued From Above

SAMPLE ID Reagent Blank 625 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B : DUP_NS
02B : DUP_NS
03B : DUP_NS

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-123
RECEIVED: 02/20/86 04/25/86 15:10:25

REPORT TO: Radian
Bl. 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 3
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dunamics)

WORK ID: HC (not done earlier
TAKEN:
TRANS:
TYPE:
P.O. #: 212-027-27-
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766

ATTEN:
PHONE: (512) 454-4797

Larry K. Mutchler
CERTIFIED BY

CONTACT CONOVER

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

-DRAFT-

SAMPLE IDENTIFICATION

01 860118 (8602019-01)
02 860119 (8602019-02)
03 860122 (8602031-01)

Analytical Serv TEST CODES and NAMES used on this report

HC IR Hydrocarbons

3 370

RADIAN CORPORATION

Analytical Serv REPORT LAB # 86-02-123

RECEIVED: 02/20/86

RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)
HC_IR mg/L	<1	<1	<1

-D R A F T-

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 03/16/86 14:28:35

REPORT TO: Radian Corporation
Larry French
Austin, Texas

ATTEN:

CLIENT: PLANT 4 SAMPLES: 6
COMPANY: General Dynamics
FACILITY: GEHL Plant 4, Bldg 4
Austin, Texas

WORK ID: Plant 4 - Fort Worth Texas
TAKEN: 2/20/86
TRANS: Fed Ex 764773236
TYPE: H20
P.O #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766
ATTEN:
PHONE: (512) 454-4797

Lucas A Petrone
CERTIFIED BY

CONTACT FRENCH

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

SAMPLE IDENTIFICATION

01 860181 H20
02 860182 H20
03 860183 H20
04 860184 H20
05 860185 H20
06 Reagent Blank BNA H20

Analytical Serv TEST CODES and NAMES used on this report

EX 625 Extraction only - 625 BN/A
M625 A Method 625 Acid Compounds
M625 B Method 625 Base/Neutrals
MS 608 Pesticides & PCBs by GC/MS

3 372

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
EX_625 date complete	02/24/86	02/24/86	02/24/86	02/24/86	02/24/86

TEST CODE default units	Sample 06 (entered units)
EX_625 date complete	02/24/86

Analytical Serv REPORT LAB # 86-02-132

RECEIVED: 02/21/86

Results by Sample

SAMPLE ID 860181 H2O FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds

Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C01 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK

CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

3 374

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
378	AS1	*d5-phenol*	72%
283	AS2	2-fluorophenol	63%
577	AS3	2,4,6-tribromophenol	107%
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.

All results reported in ug/l unless otherwise specified

CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample Continued From Above

SAMPLE ID 860181 H2O FRACTION 01A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/20/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860181 H2O FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

DATA FILE 52002132C01 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1531	66B	bis(2-ethylhexyl)phthalate	2
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1203	68B	di-butyl phthalate	5 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

3 376

CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample Continued From Above

SAMPLE ID 860181 H2O FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
513	BS1	d5-nitrobenzene	116%
776	BS2	2-fluorobiphenyl	126%
1352	BS3	d14-terphenyl	54%
	BS4	d10-biphenyl	

3 377

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID 860181 H2O FRACTION 01A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860181 H2O FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C01 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

SAMPLE ID 860181 H20 FRACTION 01A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860182 H2O FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C02 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	401	65A	phenol	2
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
379	AS1	d5-phenol	78%
275	AS2	2-fluorophenol	79%
538	AS3	2,4,6-tribromophenol	118%
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

KAUFMAN CORPORATION

PAGE 11 | Analytical Serv | REPORT | LAB # 86-02-132
RECEIVED: 02/21/86 | Results by Sample | Continued From Above

SAMPLE ID 860182 H2O FRACTION 02A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/20/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

KAUFMAN CORPORATION

PAGE 12 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860182 H20 FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C02 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	3 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

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KAUFMAN CORPORATION

PAGE 13 | Analytical Serv | REPORT | LAB # 86-02-132
RECEIVED: 02/21/86 | Results by Sample | Continued From Above

SAMPLE ID 860182 H20 | FRACTION 02A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 | Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
514	BS1	d5-nitrobenzene	98%
776	BS2	2-fluorobiphenyl	92%
1353	BS3	d14-terphenyl	50%
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute - high concentrations.

SAMPLE ID 860182 H2O FRACTION 02A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860182 H2O FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C02 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

SAMPLE ID 860182 H2O FRACTION 02A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

CORPORATION

PAGE 1/ Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860183 H2O FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C03 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 2 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND
8A		22A	4-chloro-3-methylphenol	ND
1A		24A	2-chlorophenol	ND
2A		31A	2,4-dichlorophenol	ND
3A		34A	2,4-dimethylphenol	ND
6A		57A	2-nitrophenol	ND
7A		58A	4-nitrophenol	ND
5A		59A	2,4-dinitrophenol	ND
4A		60A	2-methyl-4,6-dinitrophenol	ND
9A		64A	pentachlorophenol	ND
10A	400	65A	phenol	4

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
399	A91	d5-phenol	71%
435	A92	2-fluorophenol	66%
538	A93	2,4,6-tribromophenol	114%
	A94	d5-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN # scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified

SAMPLE ID 860183 H2O FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/20/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 19 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860183 H2O FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C03 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1.2 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1204	68B	di-butyl phthalate	2 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	Fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

3 390

SAMPLE ID 860183 H2O FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
514	BS1	d5-nitrobenzene	98%
777	BS2	2-fluorobiphenyl	108%
1353	BS3	d14-terphenyl	76%
	BS4	d10-biphenyl	

3 391

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute * high concentrations.

SAMPLE ID S60183 H2O FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

S = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank, background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

CORPORATION

PAGE 22 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860183 H2O FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C03 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

SAMPLE ID 860183 H2O FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

SAMPLE ID 850184 H2O FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C04 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	400	65A	phenol	1
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
399	AS1	d5-phenol	75%
249	AS2	2-Fluorophenol	70%
599	AS3	2,4,6-tribromophenol	131%
	AS4	d5 phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/L unless otherwise specified.

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PAGE 25 | Analytical Serv | REPORT | LAB # 86-02-132
RECEIVED: 02/21/86 | Results by Sample | Continued From Above

SAMPLE ID 860184 H2O | FRACTION 04A | TEST CODE M625 A | NAME Method 625 Acid Compounds
Date & Time Collected 02/20/86 | Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank, background subtraction not performed.
J = estimated value, less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

KAUFMAN CORPORATION

PAGE 2b · Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860184 H2O FRACTION Q4A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132Q04 DATE EXTRACTED 02/24/86 ANALYST NM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1532	66B	bis(2-ethylhexyl)phthalate	3
34B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		16B	bis(2-chloroethyl)ether	ND	26B	1205	68B	di-butyl phthalate	3 BL
14B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
32B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3 dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	3B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	2B		78B	anthracene B	ND

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SAMPLE ID 860184 H2O FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
15B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
514	BS1	d5-nitrobenzene	92%
???	BS2	2-fluorobiphenyl	106%
1254	BS3	d14-terphenyl	52%
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute
A = benzo(a)anthracene and chrysene co-elute in high concentrations.

SAMPLE ID 860184 H2O FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
DL = detected in reagent blank, background subtraction not performed.
J = estimated value; less than method detection limit
CONC FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860184 H2O FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C04 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		69P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
15P		98P	endrin	ND	23P		111P	PCB-1260	ND
16P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
18P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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PAGE 30 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample Continued From Above

SAMPLE ID 860184 H2O FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79)

SAMPLE ID 850185 H2O FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/20/86 Category

DATA FILE 52U02132C05 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 2 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
[illegible]	A51	d5 phenol	70%
[illegible]	A52	2-fluorophenol	74%
[illegible]	A53	2,4,6-tribromophenol	133%
	A54	d5-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified

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PAGE 32 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample Continued From Above

SAMPLE ID 860185 H2O FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/20/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
SB = detected in reagent blank, background subtraction not performed.
J = estimated value, less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc factor.

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PAGE 33 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860185 HEU FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

DATA FILE S2102162C05 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		6B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
23B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
24B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		16B	bis(2-chloroethyl)ether	ND	26B	1205	68B	di-butyl phthalate	2 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
21A		36B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		46B	2,6-dinitrotoluene	ND	8B		75B	benzo(k)fluoranthene *	ND
39B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		38B	Fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

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SAMPLE ID 860185 H2O FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
515	BS1	d5-nitrobenzene	102%
778	BS2	2-fluorobiphenyl	126%
1354	BS3	d14-terphenyl	108%
	BS4	d10-biphenyl	

NOTES AND DEFINITIONS FOR THIS REPORT

SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co elute.
A = benzo(a)anthracene and chrysene co elute at high concentrations.

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PAGE 35 | Analytical Serv | REPORT | LAB # 86-02-132
RECEIVED: 02/21/86 | Results by Sample | Continued From Above

SAMPLE ID 860185 H2O | FRACTION 05A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected 02/20/86 | Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 36 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 850185 H2O FRACTION 05A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

DATA FILE SCU02132C05 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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PAGE 37 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample Continued From Above

SAMPLE ID 850185 H2O FRACTION 05A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
(N) = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

KAUFMAN CORPORATION

PAGE 38 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID Reagent Blank BNA H2O FRACTION Q6A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE SCB02132C06 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
[illegible]	AS1	d5-phenol	50%
[illegible]	AS2	2-Fluorophenol	46%
[illegible]	AS3	2,4,6-tribromophenol	69%
	AS4	d6-phenol	

NOTES: [illegible] DEFINITIONS FOR THIS REPORT
SCAN = scan number of [illegible] chromatogram
All results reported in [illegible] unless otherwise specified

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SAMPLE ID Reagent Blank BNA H2O FRACTION OEA TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank, background subtraction not performed.
J = estimated value; less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

KAUFMAN CORPORATION

PAGE 40 Analytical Serv REPORT LAB # 86-02-132
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID Reagent Blank BNA H2O FRACTION Q6A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE SCB02132C06 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR 1 DATE INJECTED 03/06/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
4-B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
3-B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1205	68B	di-butyl phthalate	3
16B		30B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
17B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
3-B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
37B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
38B		3-B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
39B		37B	1,2-diphenylhydrazine	ND	10B		76B	chrysene A	ND
31B		5-B	fluoranthene	ND	8B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

3 411

SAMPLE ID Reagent Blank BNA H2O FRACTION 06A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
514	BS1	d5-nitrobenzene	82%
777	BS2	2-fluorobiphenyl	84%
1353	BS3	d14-terphenyl	80%
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT

SCAN # scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84)
* = benzo(b)fluoranthene and benzo(k)fluoranthene coelute
A = benzo(a)anthracene and chrysene coelute on high concentrations

SAMPLE ID Reagent Blank BNA H2O FRACTION O&A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

S = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank, background subtraction not performed.
J = estimated value, less than method detection limit.
CONC FACTOR indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID Reagent Blank BNA H2O FRACTION 06A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE SCB02132C06 DATE EXTRACTED 02/24/86 ANALYST MM VERIFIED BY LAK
CONC FACTOR DATE INJECTED 03/06/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
13P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

SAMPLE ID Reagent Blank BNA H2O FRACTION O&A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B : DUP_MS
02B : DUP_MS
03B : DUP_MS
04B : DUP_MS
05B : DUP_MS

MARTIN MARIETTA CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-138

RECEIVED: 02/21/86 03/06/86 16:52:50

REPORT TO: Radian
B1 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 9
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dynamics)

WORK ID: groundwater
TAKEN: WJ,FS
TRANS: Fed Ex, WJ/FS
TYPE:
P.O. #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766
ATTEN:
PHONE: (512) 454-4797

CERTIFIED BY

CONTACT CONOVER

^Unknown compound eluting here.
Second column confirmation performed for EPA 601: -07, -08, -09; for EPA 602: -03, -06, -08. Unknown compound eluting at trans-1,2-dichloroethene on sample -08.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3 417

SAMPLE IDENTIFICATION

01 860181
02 860182
03 860183
04 860184
05 860185
06 860186
07 860187
08 860188
09 860189

Analytical Serv TEST CODES and NAMES used on this report

GC 601 EPA Method 601/GC
GC 602 EPA Method 602/GC

CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860181 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/20/86 Category

DATA FILE G DATE INJECTED 02/24/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	0.45
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1--Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2--Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 418

CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample Continued From Above

SAMPLE ID 860181 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 4 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860181 FRACTION 01C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/20/86 Category

DATA FILE D DATE INJECTED 02/25/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.97		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 420

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860182 FRACTION 02A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/20/86 Category

DATA FILE G DATE INJECTED 02/24/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	0.40
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3421

SAMPLE ID 860182 FRACTION 02A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 7 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860182 FRACTION 02C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/20/86 Category

DATA FILE D DATE INJECTED 02/25/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 423

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

Analytical Serv REPORT

LAB # 86-02-138

RECEIVED: 02/21/86

Results by Sample

SAMPLE ID 860183 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC

Date & Time Collected 02/20/86 Category

DATA FILE G DATE INJECTED 02/24/86 ANALYST RP VERIFIED BY MCL

CONC. FACTOR INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	0.65
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

SAMPLE ID 860183 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860183 FRACTION 03C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/20/86 Category

DATA FILE D DATE INJECTED 02/26/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	11.8		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 426

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

CORPORATION

PAGE 11 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860184 FRACTION 04A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/20/86 Category

DATA FILE G DATE INJECTED 02/24/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT q COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	0.57
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3427

SAMPLE ID 860184 FRACTION 04A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 13 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860184 FRACTION 04C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/20/86 Category

DATA FILE D DATE INJECTED 02/26/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.56		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 429

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

CORPORATION

PAGE 14 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860185 FRACTION 05A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/20/86 Category

DATA FILE G DATE INJECTED 02/24/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT g COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 430

CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample Continued From Above

SAMPLE ID 860185 FRACTION 05A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/20/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860185 FRACTION 05C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/20/86 Category

DATA FILE D DATE INJECTED 02/26/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 432

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

CORPORATION

PAGE 17 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860186 FRACTION 06A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/21/86 Category

DATA FILE G DATE INJECTED 02/24/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT 9 COMPOUNDS DETECTED 3

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
1	Vinyl Chloride	0.80
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
2	trans-1,2-Dichloroethene	4.20
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
3	Trichloroethene	0.75
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

SAMPLE ID 860186 FRACTION 06A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/21/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 19 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860186 FRACTION 06C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/21/86 Category

DATA FILE D DATE INJECTED 02/26/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 10 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
1	Benzene	106		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 4 3 5

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

SAMPLE ID 860187 FRACTION 07A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/21/86 Category

DATA FILE G DATE INJECTED 02/24/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT q COMPOUNDS DETECTED 5

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	0.63
2	Trichlorofluoromethane	19.2
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
3	trans-1,2-Dichloroethene	0.72^
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
3	Trichloroethene	3.15
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
4	1,1,2,2-Tetrachloroethane #	0.18
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

KAMAN CORPORATION

PAGE 21 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample Continued From Above

SAMPLE ID 860187 FRACTION 07A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/21/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

3 437

SAMPLE ID 860187 FRACTION 07C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/21/86 Category

DATA FILE D DATE INJECTED 02/26/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

KAMAN SCIENCE CORPORATION

PAGE 23 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860188 FRACTION 08A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/21/86 Category

DATA FILE G DATE INJECTED 02/25/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 10000 INSTRUMENT g COMPOUNDS DETECTED 6

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
1	Methylene Chloride	156503
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
2	trans-1,2-Dichloroethene	117852
	Chloroform	ND
3	1,2-Dichloroethane	24124
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
4	Trichloroethene	447028
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
5	Tetrachloroethylene #	19409
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
6	1,2-Dichlorobenzene	298245
	1,4-Dichlorobenzene	ND

SAMPLE ID 860188 FRACTION 08A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/21/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

KAMAN CORPORATION

PAGE 25 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860188 FRACTION 08C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/21/86 Category

DATA FILE D DATE INJECTED 02/27/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 20000 INSTRUMENT d COMPOUNDS DETECTED 2

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.6%		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND	2	1,2-Dichlorobenzene	596014
	Chlorobenzene	ND			

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

CORPORATION

PAGE 26 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860189 FRACTION 09A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/21/86 Category

DATA FILE G DATE INJECTED 02/25/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 250 INSTRUMENT q COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
1	Trichloroethene	5585
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

3 442

CORPORATION

PAGE 27 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample Continued From Above

SAMPLE ID 860189 FRACTION 09A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/21/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 28 Analytical Serv REPORT LAB # 86-02-138
RECEIVED: 02/21/86 Results by Sample

SAMPLE ID 860189 FRACTION 09C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/21/86 Category

DATA FILE D DATE INJECTED 02/27/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 10 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

3 444

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B	:	DUP601	01D	: DUP602
02B	:	DUP601	02D	: DUP602
03B	:	DUP601	03D	: DUP602
04B	:	DUP601	04D	: DUP602
05B	:	DUP601	05D	: DUP602
06B	:	DUP601	06D	: DUP602
07B	:	DUP601	07D	: DUP602
08B	:	DUP601	08D	: DUP602
09B	:	DUP601	09D	: DUP602

CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-139

RECEIVED: 02/21/86 04/01/86 17:42:41

REPORT TO: Radian
B1 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 8
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dynamics)

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd
P O Box 9948
Austin, Texas 78766

ATTEN:
PHONE: (512) 454-4797

Larry K. Hubble
CERTIFIED BY

CONTACT CONOVER

WORK ID: groundwater
TAKEN: WJ, FS
TRANS: Fed Ex, WJ/FS
TYPE:
P.O. #: 212-027-27-40
INVOICE: under separate cover

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3 446

SAMPLE IDENTIFICATION

01	860181
02	860182
03	860183
04	860184
05	860185
06	860186
07	860187
08	860189

Analytical Serv TEST CODES and NAMES used on this report

AG E	Silver, ICPES
AS GA	Arsenic, low level
BA E	Barium, ICPES
CD E	Cadmium, ICPES
CR E	Chromium, ICPES
DG3020	Digestion by Method 3020
DG6010	Digestion by Method 6010
HC IR	Hydrocarbons
HG CA	Mercury, Cold Vapor
ONG IR	Oil and Grease, Infrared
PB GA	Lead, low level
SE GA	Selenium, low level

CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-139
RECEIVED: 02/21/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
AG_E ug/ml	0.019	0.011	0.003*	0.010	0.017
AS_GA ug/ml	0.015	0.004*	<.003	0.004*	0.047
BA_E ug/ml	0.32	0.067	0.066	0.13	0.48
CD_E ug/ml	<.002	<.002	<.002	<.002	<.002
CR_E ug/ml	0.054	0.028	0.069	0.025	0.093
DG3020 date complete	03/06/86	03/06/86	03/06/86	03/06/86	03/06/86
DG6010 date complete	02/28/86	02/28/86	02/28/86	02/28/86	02/28/86
HG_CA ug/ml	<.0002	<.0002	<.0002	<.0002	<.0002
PB_GA ug/ml	0.014	0.031	0.038	0.035	0.070
SE_GA ug/ml	<.003	<.003	<.003@	<.003	<.003

TEST CODE default units	Sample 06 (entered units)	Sample 07 (entered units)	Sample 08 (entered units)
AG_E ug/ml	0.012	0.011	0.012
AS_GA ug/ml	0.011*	<.003	<.003

CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-139
RECEIVED: 02/21/86 RESULTS BY TEST CONTINUED FROM ABOVE

BA_E ug/ml	0.48	0.054	0.10
CD_E ug/ml	<.002	<.002	<.002
CR_E ug/ml	0.020*	0.032	0.14
DG3020 date complete	03/06/86	03/06/86	03/06/86
DG6010 date complete	02/28/86	02/28/86	02/28/86
HC_IR mg/L	<1	<1	<1
HG_CA ug/ml	<.0002	<.0002	<.0002
ONG_IR mg/L		<1	<1
PB_GA ug/ml	0.007	0.045	<.001
SE_GA ug/ml	<.003	<.003	<.003

RVR 2

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

06B : DUP_NS

RADIAN CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 03/31/86 10:27:27

REPORT TO: Radian Corporation
Larry French
Austin, Texas

ATTEN

CLIENT: PLANT 4 SAMPLES: 8
COMPANY: General Dynamics
FACILITY: OEHL Plant 4, Bldg 4
Austin, Texas

WORK ID: General Dynamics Plant 4
TAKEN: 2/19 and 21/86
TRANS: Fed Ex 736743935
TYPE: H20
P.O. #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766
ATTEN
PHONE: (512) 454-4797

Lucas Petrova
CERTIFIED BY

CONTACT FRENCH

Method Spike (-08) analyzed due to matrix effects on Matrix Spike (-06) for BNA. Recoveries on Method Spike within QC limits.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

3 450

SAMPLE IDENTIFICATION

01	860179 VOA H20
02	860186 VOA H20
03	860186 H20
04	860183 H20
05	860189 H20
06	860189 H20-DUP ANAL.
06	860189 H20-MATRIX SPIKE
06	Reagent Blank 625
07	Reagent Blank 624
08	Method Spike -625

Analytical Serv TEST CODES and NAMES used on this report

EX 625	Extraction only - 625 BN/A
IFB VS	VOA Screen by IFB method
M625 A	Method 625 Acid Compounds
M625 B	Method 625 Base/Neutrals
MS 608	Pesticides & PCBs by GC/MS
MS 624	EPA Method 624/GC-MS

KAMAN CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 04 (entered units)	Sample 05 (entered units)
EX_625 date complete			02/25/86	02/25/86	02/25/86
IFB_VS date complete	02/25/86	02/25/86			

TEST CODE default units	Sample 06 (entered units)
EX_625 date complete	02/25/86
	02/25/86
	02/25/86

KALMAN CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860179 VOA H2O FRACTION 01A TEST CODE MS 624 NAME EPA Method 624/GC-MS
Date & Time Collected 02/19/86 Category

DATA FILE 4CU02152V01 DATE INJECTED 03/04/86 ANALYST REM VERIFIED BY LAK
CONC. FACTOR 10 INSTRUMENT F4 COMPOUNDS DETECTED 1

NPDES SCAN	EPA	COMPOUND	RESULT	NPDES SCAN	EPA	COMPOUND	RESULT
3V	4V	benzene	ND	17V	32V	1,2-dichloropropane	ND
6V	6V	carbon tetrachloride	ND	18V	33V	cis-1,3-dichloropropylene	ND
7V	7V	chlorobenzene	ND	18V	33V	trans-1,3-dichloropropylene	ND
15V	10V	1,2-dichloroethane	ND	19V	38V	ethylbenzene	ND
27V	11V	1,1,1-trichloroethane	ND	22V	44V	methylene chloride	ND
14V	13V	1,1-dichloroethane	ND	21V	45V	methyl chloride	ND
28V	14V	1,1,2-trichloroethane	ND	20V	46V	methyl bromide	ND
23V	15V	1,1,2,2-tetrachloroethane	ND	5V	47V	bromoform	ND
9V	16V	chloroethane	ND	12V	48V	dichlorobromomethane	ND
10V	19V	2-chloroethylvinyl ether	ND	30V	49V	trichlorofluoromethane	ND
11V	23V	chloroform	ND	8V	51V	chlorodibromomethane	ND
16V	29V	1,1-dichloroethylene	ND	24V 270	85V	tetrachloroethylene	6500
26V	30V	1,2-trans-dichloroethylene	ND	25V	86V	toluene	ND
				29V	87V	trichloroethylene	ND
				31V	88V	vinyl chloride	ND

3 452

SAMPLE ID 860179 VOA H2O FRACTION 01A TEST CODE MS 624 NAME EPA Method 624/GC-MS
Date & Time Collected 02/19/86 Category

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
198	VS1	d4-1,2-dichloroethane	116
377	VS2	d8-toluene	96
466	VS3	bromofluorobenzene	105

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 624, (Federal Register, 10/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

Analytical Serv REPORT

LAB # 86-02-152

RECEIVED: 02/25/86

Results by Sample

SAMPLE ID 860186 VOA H2O FRACTION 02A TEST CODE MS 624 NAME EPA Method 624/GC-MS

Date & Time Collected 02/21/86 Category

DATA FILE 4CU02152V02 DATE INJECTED 03/04/86 ANALYST REM VERIFIED BY LAK

CONC. FACTOR 1 INSTRUMENT F4 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT
3V	278	4V	benzene	35
6V		6V	carbon tetrachloride	ND
7V		7V	chlorobenzene	ND
15V		10V	1,2-dichloroethane	ND
27V		11V	1,1,1-trichloroethane	ND
14V		13V	1,1-dichloroethane	ND
28V		14V	1,1,2-trichloroethane	ND
23V		15V	1,1,2,2-tetrachloroethane	ND
9V		16V	chloroethane	ND
10V		19V	2-chloroethylvinyl ether	ND
11V		23V	chloroform	ND
16V		29V	1,1-dichloroethylene	ND
26V	179	30V	1,2-trans-dichloroethylene	4

NPDES	SCAN	EPA	COMPOUND	RESULT
17V		32V	1,2-dichloropropane	ND
18V		33V	cis-1,3-dichloropropylene	ND
18V		33V	trans-1,3-dichloropropylene	ND
19V		38V	ethylbenzene	ND
22V		44V	methylene chloride	ND
21V		45V	methyl chloride	ND
20V		46V	methyl bromide	ND
5V		47V	bromoform	ND
12V		48V	dichlorobromomethane	ND
30V		49V	trichlorofluoromethane	ND
8V		51V	chlorodibromomethane	ND
24V		85V	tetrachloroethylene	ND
25V		86V	toluene	ND
29V		87V	trichloroethylene	ND
31V		88V	vinyl chloride	ND

CORPORATION

PAGE 6 | Analytical Serv | REPORT | LAB # 86-02-152
RECEIVED: 02/25/86 | Results by Sample | Continued From Above

SAMPLE ID 860186 VOA H2O | FRACTION 02A | TEST CODE MS 624 | NAME EPA Method 624/GC-MS
Date & Time Collected 02/21/86 | Category

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
199	VS1	d4-1,2-dichloroethane	106
377	VS2	d8-toluene	100
466	VS3	bromofluorobenzene	108

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 624, (Federal Register, 10/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 7 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860186 H20 FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/21/86 Category

DATA FILE 5CU02152C03 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/10/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	392	65A	phenol	9
6A		57A	2-nitrophenol	ND					

3459

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
390	AS1	d5-phenol	87
286	AS2	2-fluorophenol	80
987	AS3	2,4,6-tribromophenol	148
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
Al esults reported in ug/l unless othery e specified.

CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860186 H20 FRACTION 03A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/21/86 Category

NO = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 9 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860186 H20 FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

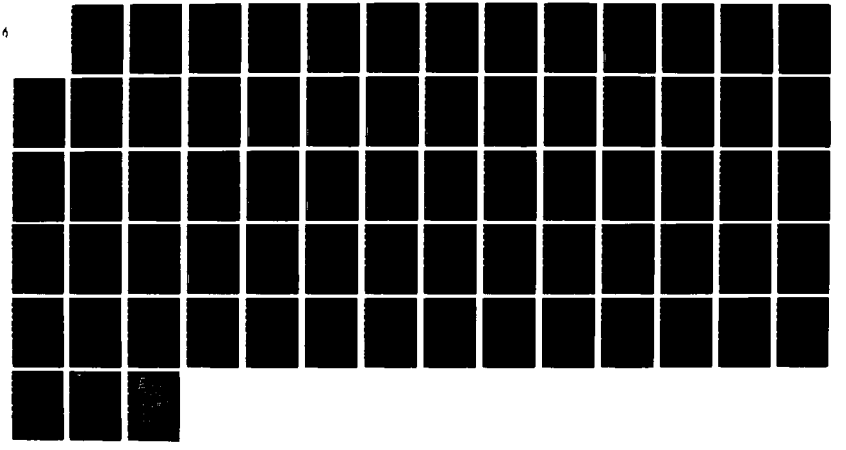
DATA FILE 5CU02152C03 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/10/86 INSTRUMENT 5100 COMPOUNDS DETECTED 3

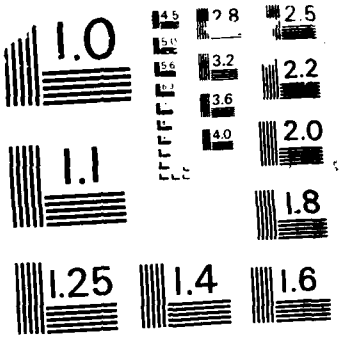
NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1520	66B	bis(2-ethylhexyl)phthalate	1
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1194	68B	di-butyl phthalate	1 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
3		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
		4B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
			2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
			diphenylhydrazine	ND	18B		76B	chrysene A	ND
			fluoranthene	ND	2B		77B	acenaphthylene	ND
			ether	ND	3B		78B	anthracene B	ND

3 45

AD-A190 443 INSTALLATION RESTORATION PROGRAM PHASE 2 6/6
CONFIRMATION/QUANTIFICATION STAG (U) RADIAN CORP
AUSTIN TX DEC 87 F33615-83-D-4001

UNCLASSIFIED F/G 24/7 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS - 1963 -

CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860186 H2O FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

14B		41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B		42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B		43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B		52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B		53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	539	54B	isophorone	2	45B	84B	pyrene	ND
39B		55B	naphthalene	ND				
40B		56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE		RESULT
505	BS1	d5-nitrobenzene	75
766	BS2	2-fluorobiphenyl	88
1342	BS3	d14-terphenyl	55
	BS4	d10-biphenyl	

3 459

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
+ = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID 860186 H20 FRACTION 03A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860186 H20 FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/21/86 Category

DATA FILE 5CU02152C03 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/10/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

KAMAN CORPORATION

PAGE 13 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860186 H20 FRACTION 03A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/21/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

CORPORATION

PAGE 14 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860188 H20 FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/21/86 Category

DATA FILE 5CU02152C04 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 5 DATE INJECTED 03/10/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	395	65A	phenol	35
6A		57A	2-nitrophenol	ND					

3 463

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
392	AS1	d5-phenol	130
287	AS2	2-fluorophenol	45
991	AS3	2,4,6-tribromophenol	40
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

KAUFMAN CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860188 H20 FRACTION 04A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/21/86 Category

NO = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

KAMAN CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860188 H20 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

DATA FILE 5CU02152C04 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 5 DATE INJECTED 03/10/86 INSTRUMENT 5100 COMPOUNDS DETECTED 8

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B	872	1B	acenaphthene	250	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B		62B	N-nitrosodiphenylamine	ND
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B	1528	66B	bis(2-ethylhexyl)phthalate	1200
36B		12B	hexachloroethane	ND	15B	1431	67B	butyl benzyl phthalate	150
11B		18B	bis(2-chloroethyl)ether	ND	26B	1197	68B	di-butyl phthalate	850 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B	433	27B	1,4-dichlorobenzene	4400	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene R	ND

SAMPLE ID 860188 H20 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

14B		41B	4-bromophenyl phenyl ether	ND	8B		79B	benzo(ghi)perylene	ND
12B		42B	bis(2-chloroisopropyl)ether	ND	32B	949	80B	fluorene	190
10B		43B	bis(2-chloroethoxy)methane	ND	44B	1097	81B	phenanthrene B	590
34B		52B	hexachlorobutadiene	ND	19B		82B	dibenzo(a,h)anthracene	ND
35B		53B	hexachlorocyclopentadiene	ND	37B		83B	indeno(1,2,3-cd)pyrene	ND
38B		54B	isophorone	ND	45B		84B	pyrene	ND
39B	609	55B	naphthalene	1400					
40B		56B	nitrobenzene	ND					

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
505	BS1	d5-nitrobenzene	@
767	BS2	2-fluorobiphenyl	130
1349	BS3	d14-terphenyl	100
	BS4	d10-biphenyl	

3 4 99

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
+ = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A benzo(a)anthracene and chrysene co-elute high concentrations.

KAUMAN CORPORATION

PAGE 18 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860188 H20 FRACTION 04A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860188 H20 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/21/86 Category

DATA FILE 5CU02152C04 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/10/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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PAGE 20 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860188 H20 FRACTION 04A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/21/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

Analytical Serv REPORT

LAB # 86-02-152

RECEIVED: 02/25/86

Results by Sample

SAMPLE ID 860189 H2O FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds

Date & Time Collected 02/21/86 Category

DATA FILE 5CU02152C05 DATE EXTRACTED 02/25/86 ANALYST WJL VERIFIED BY LAK

CONC. FACTOR 1 DATE INJECTED 03/11/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A	392	65A	phenol	2
6A		57A	2-nitrophenol	ND					

3 470

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
390	AS1	d5-phenol	79
286	AS2	2-fluorophenol	75
988	AS3	2,4,6-tribromophenol	153
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.

All results reported in ug/l unless otherwise specified.

CORPORATION

PAGE 22 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860189 H2O FRACTION 05A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/21/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 23 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860189 H20 FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

DATA FILE 5CU02152C05 DATE EXTRACTED 02/25/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/11/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B	970	62B	N-nitrosodiphenylamine	11 BL
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1195	68B	di-butyl phthalate	2 BL
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

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PAGE 24 | Analytical Serv REPORT | LAB # 86-02-152
RECEIVED: 02/25/86 | Results by Sample | Continued From Above

SAMPLE ID 860189 H20 FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE		RESULT
505	BS1	d5-nitrobenzene	120
766	BS2	2-fluorobiphenyl	126
1343	BS3	d14-terphenyl	48
	BS4	d10-biphenyl	

3 473

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID 860189 H20 FRACTION 05A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

KADIAN CORPORATION

PAGE 26 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860189 H20 FRACTION 05A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/21/86 Category

DATA FILE 5CU02152C05 DATE EXTRACTED 02/25/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/11/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

KAMAN CORPORATION

PAGE 27 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860189 H20 FRACTION 05A TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/21/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

KAUFMAN CORPORATION

PAGE 28 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860189 H20-DUP ANAL. FRACTION 06B TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/21/86 Category

DATA FILE 5CD02152C06 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 2 DATE INJECTED 03/11/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
375	AS1	d5-phenol	101
272	AS2	2-fluorophenol	106
970	AS3	2,4,6-tribromophenol	143
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

KAUFMAN CORPORATION

PAGE 29 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID B60189 H2O-DUP ANAL. FRACTION 06B TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/21/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID 860189 H2O-DUP ANAL. FRACTION 06B TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

DATA FILE 5CD02152C06 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 2 DATE INJECTED 03/11/86 INSTRUMENT 5100 COMPOUNDS DETECTED 1

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B	952	62B	N-nitrosodiphenylamine	14 BL
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B		68B	di-butyl phthalate	ND
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

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PAGE 31 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860189 H2O-DUP ANAL. FRACTION 06B TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
488	BS1	d5-nitrobenzene	89
749	BS2	2-fluorobiphenyl	81
1325	BS3	d14-terphenyl	62
	BS4	d10-biphenyl	

3 480

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A benzo(a)anthracene and chrysene co-elute high concentrations.

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PAGE 32 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860189 H2O-DUP ANAL. FRACTION 06B TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

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PAGE 33 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860189 H20-DUP ANAL. FRACTION 06B TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/21/86 Category

DATA FILE 5CD02152C06 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/11/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

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PAGE 34 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860189 H2O-DUP ANAL. FRACTION 06B TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected 02/21/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

CORPORATION

PAGE 35 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860189 H2O-MATRIX SPIKE FRACTION 06A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/21/86 Category

DATA FILE 5CM02152C06 DATE EXTRACTED 02/25/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/11/86 INSTRUMENT 5100 COMPOUNDS DETECTED 8

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A	738	21A	2,4,6-trichlorophenol	3	7A	885	58A	4-nitrophenol	10
8A	675	22A	4-chloro-3-methylphenol	79	5A		59A	2,4-dinitrophenol	ND
1A	393	24A	2-chlorophenol	25	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A	570	31A	2,4-dichlorophenol	20	9A		64A	pentachlorophenol	ND
3A	545	34A	2,4-dimethylphenol	49	10A	379	65A	phenol	47
6A	536	57A	2-nitrophenol	11					

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SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
377	AS1	d5-phenol	46
276	AS2	2-fluorophenol	7
970	AS3	2,4,6-tribromophenol	11
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in% Recov. unless otherwise specified.

CORPORATION

PAGE 36 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID 860189 H2O-MATRIX SPIKE FRACTION 06A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected 02/21/86 Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

KAUMAN CORPORATION

PAGE 37 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID 860189 H2O-MATRIX SPIKE FRACTION 06A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

DATA FILE 5CM02152C06 DATE EXTRACTED 02/25/86 ANALYST WJL VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/11/86 INSTRUMENT 5100 COMPOUNDS DETECTED 46

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B	854	1B	acenaphthene	83	41B	160	61B	N-nitrosodimethylamine	17
4B		5B	benzidine	NA	43B	952	62B	N-nitrosodiphenylamine	267
46B	592	8B	1,2,4-trichlorobenzene	74	42B	474	63B	N-nitrosodi-n-propylamine	74
33B	1028	9B	hexachlorobenzene	117	13B	1506	66B	bis(2-ethylhexyl)phthalate	101
36B	481	12B	hexachloroethane	70	15B	1409	67B	butyl benzyl phthalate	64
11B	387	18B	bis(2-chloroethyl)ether	70	26B	1179	68B	di-butyl phthalate	100
16B	763	20B	2-chloronaphthalene	87	29B	1600	69B	di-n-octyl phthalate	82
20B	441	25B	1,2-dichlorobenzene	72	24B	927	70B	diethyl phthalate	89
21B	411	26B	1,3-dichlorobenzene	73	25B	818	71B	dimethyl phthalate	41
22B	417	27B	1,4-dichlorobenzene	61	5B	1484	72B	benzo(a)anthracene A	99
23B	1483	28B	3,3'dichlorobenzidine	415	6B	1702	73B	benzo(a)pyrene	88
27B	685	35B	2,4-dinitrotoluene	103	7B	1652	74B	benzo(b)fluoranthene *	79
28B	826	36B	2,6-dinitrotoluene	106	9B	1656	75B	benzo(k)fluoranthene *	92
29B		37B	1,2-diphenylhydrazine	NA	18B	1490	76B	chrysene A	111
31B	1262	39B	fluoranthene	94	2B	826	77B	acenaphthylene	80
17B	934	40B	4-chlorophenyl phenyl ether	104	3B	1084	78B	anthracene B	103

SAMPLE ID 860189 H2O-MATRIX SPIKE FRACTION 06A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

14B	1007	41B	4-bromophenyl phenyl ether	114	8B	1985	79B	benzo(ghi)perylene	91
12B	457	42B	bis(2-chloroisopropyl)ether	71	32B	931	80B	fluorene	93
10B	558	43B	bis(2-chloroethoxy)methane	66	44B	1077	81B	phenanthrene B	94
34B	619	52B	hexachlorobutadiene	78	19B	1927	82B	dibenzo(a,h)anthracene	89
35B	726	53B	hexachlorocyclopentadiene	30	37B	1923	83B	indeno(1,2,3-cd)pyrene	84
38B	524	54B	isophorone	72	45B	1296	84B	pyrene	108
39B	589	55B	naphthalene	63					
40B	491	56B	nitrobenzene	64					

SURROGATE RECOVERIES

SCAN	CODE		RESULT
489	BS1	d5-nitrobenzene	91
750	BS2	2-fluorobiphenyl	100
1325	BS3	d14-terphenyl	54
	BS4	d10-biphenyl	

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in% Recov. unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

SAMPLE ID 860189 H2O-MATRIX SPIKE FRACTION 06A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected 02/21/86 Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

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KAUFMAN CORPORATION

PAGE 40 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID Reagent Blank 625 FRACTION 06C TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

DATA FILE 5CB02152C06 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/11/86 INSTRUMENT 5100 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A		21A	2,4,6-trichlorophenol	ND	7A		58A	4-nitrophenol	ND
8A		22A	4-chloro-3-methylphenol	ND	5A		59A	2,4-dinitrophenol	ND
1A		24A	2-chlorophenol	ND	4A		60A	2-methyl-4,6-dinitrophenol	ND
2A		31A	2,4-dichlorophenol	ND	9A		64A	pentachlorophenol	ND
3A		34A	2,4-dimethylphenol	ND	10A		65A	phenol	ND
6A		57A	2-nitrophenol	ND					

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
376	AS1	d5-phenol	81
274	AS2	2-fluorophenol	82
970	AS3	2,4,6-tribromophenol	107
	AS4	d3-phenol	

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.

KAMAN CORPORATION

PAGE 41 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID Reagent Blank 625 FRACTION 06C TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category

ND = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID Reagent Blank 625 FRACTION 06C TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

DATA FILE 5CB02152C06 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/11/86 INSTRUMENT 5100 COMPOUNDS DETECTED 2

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B		1B	acenaphthene	ND	41B		61B	N-nitrosodimethylamine	ND
4B		5B	benzidine	ND	43B	952	62B	N-nitrosodiphenylamine	5
46B		8B	1,2,4-trichlorobenzene	ND	42B		63B	N-nitrosodi-n-propylamine	ND
33B		9B	hexachlorobenzene	ND	13B		66B	bis(2-ethylhexyl)phthalate	ND
36B		12B	hexachloroethane	ND	15B		67B	butyl benzyl phthalate	ND
11B		18B	bis(2-chloroethyl)ether	ND	26B	1178	68B	di-butyl phthalate	1
16B		20B	2-chloronaphthalene	ND	29B		69B	di-n-octyl phthalate	ND
20B		25B	1,2-dichlorobenzene	ND	24B		70B	diethyl phthalate	ND
21B		26B	1,3-dichlorobenzene	ND	25B		71B	dimethyl phthalate	ND
22B		27B	1,4-dichlorobenzene	ND	5B		72B	benzo(a)anthracene A	ND
23B		28B	3,3'dichlorobenzidine	ND	6B		73B	benzo(a)pyrene	ND
27B		35B	2,4-dinitrotoluene	ND	7B		74B	benzo(b)fluoranthene *	ND
28B		36B	2,6-dinitrotoluene	ND	9B		75B	benzo(k)fluoranthene *	ND
29B		37B	1,2-diphenylhydrazine	ND	18B		76B	chrysene A	ND
31B		39B	fluoranthene	ND	2B		77B	acenaphthylene	ND
17B		40B	4-chlorophenyl phenyl ether	ND	3B		78B	anthracene B	ND

KAUFMAN CORPORATION

PAGE 43 | Analytical Serv | REPORT | LAB # 86-02-152
RECEIVED: 02/25/86 | Results by Sample | Continued From Above

SAMPLE ID Reagent Blank 625 FRACTION 06C TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

14B	41B	4-bromophenyl phenyl ether	ND	8B	79B	benzo(ghi)perylene	ND
12B	42B	bis(2-chloroisopropyl)ether	ND	32B	80B	fluorene	ND
10B	43B	bis(2-chloroethoxy)methane	ND	44B	81B	phenanthrene B	ND
34B	52B	hexachlorobutadiene	ND	19B	82B	dibenzo(a,h)anthracene	ND
35B	53B	hexachlorocyclopentadiene	ND	37B	83B	indeno(1,2,3-cd)pyrene	ND
38B	54B	isophorone	ND	45B	84B	pyrene	ND
39B	55B	naphthalene	ND				
40B	56B	nitrobenzene	ND				

SURROGATE RECOVERIES

SCAN	CODE	RESULT	
489	BS1	d5-nitrobenzene	90
750	BS2	2-fluorobiphenyl	95
1325	BS3	d14-terphenyl	58
	BS4	d10-biphenyl	

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NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

CORPORATION

PAGE 44 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID Reagent Blank 625 FRACTION 06C TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

CORPORATION

PAGE 45 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID Reagent Blank 625 FRACTION 06C TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

DATA FILE 5CB02152C06 DATE EXTRACTED 02/25/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR DATE INJECTED 03/11/86 COMPOUNDS DETECTED 0

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1P		89P	aldrin	ND	2P		102P	alpha BHC	ND
10P		90P	dieldrin	ND	3P		103P	beta BHC	ND
6P		91P	chlordane	ND	4P		104P	gamma BHC	ND
7P		92P	4,4'-DDT	ND	5P		105P	delta BHC	ND
8P		93P	4,4'-DDE	ND	18P		106P	PCB-1242	ND
9P		94P	4,4'-DDD	ND	19P		107P	PCB-1254	ND
11P		95P	alpha endosulfan	ND	20P		108P	PCB-1221	ND
12P		96P	beta endosulfan	ND	21P		109P	PCB-1232	ND
14P		97P	endosulfan sulfate	ND	22P		110P	PCB-1248	ND
14P		98P	endrin	ND	23P		111P	PCB-1260	ND
15P		99P	endrin aldehyde	ND	24P		112P	PCB-1016	ND
16P		100P	heptachlor	ND	25P		113P	toxaphene	ND
17P		101P	heptachlor epoxide	ND					

CORPORATION

PAGE 46 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID Reagent Blank 625 FRACTION 06C TEST CODE MS 608 NAME Pesticides & PCBs by GC/MS
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number on chromatogram.
All results reported in micrograms/liter unless otherwise specified.
ND = not detected at EPA detection limit method 625, (Federal Register, 12/3/79).

SAMPLE ID Reagent Blank 624 FRACTION 07A TEST CODE MS 624 NAME EPA Method 624/GC-MS
Date & Time Collected not specified Category

DATA FILE 4EB0304V000 DATE INJECTED 03/04/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 INSTRUMENT F4 COMPOUNDS DETECTED 0

NPDES SCAN	EPA	COMPOUND	RESULT	NPDES SCAN	EPA	COMPOUND	RESULT
3V	4V	benzene	ND	17V	32V	1,2-dichloropropane	ND
6V	6V	carbon tetrachloride	ND	18V	33V	cis-1,3-dichloropropylene	ND
7V	7V	chlorobenzene	ND	18V	33V	trans-1,3-dichloropropylene	ND
15V	10V	1,2-dichloroethane	ND	19V	38V	ethylbenzene	ND
27V	11V	1,1,1-trichloroethane	ND	22V	44V	methylene chloride	ND
14V	13V	1,1-dichloroethane	ND	21V	45V	methyl chloride	ND
28V	14V	1,1,2-trichloroethane	ND	20V	46V	methyl bromide	ND
23V	15V	1,1,2,2-tetrachloroethane	ND	5V	47V	bromoform	ND
9V	16V	chloroethane	ND	12V	48V	dichlorobromomethane	ND
10V	19V	2-chloroethylvinyl ether	ND	30V	49V	trichlorofluoromethane	ND
11V	23V	chloroform	ND	8V	51V	chlorodibromomethane	ND
16V	29V	1,1-dichloroethylene	ND	24V	85V	tetrachloroethylene	ND
26V	30V	1,2-trans-dichloroethylene	ND	25V	86V	toluene	ND
				29V	87V	trichloroethylene	ND
				31V	88V	vinyl chloride	ND

CORPORATION

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RECEIVED: 02/25/86

Analytical Serv REPORT
Results by Sample

LAB # 86-02-152
Continued From Above

SAMPLE ID Reagent Blank 624 FRACTION 07A TEST CODE MS 624 NAME EPA Method 624/GC-MS
Date & Time Collected not specified Category

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
200	VS1	d4-1,2-dichloroethane	101
377	VS2	d8-toluene	95
466	VS3	bromofluorobenzene	102

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 624, (Federal Register, 10/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

KAUFMAN CORPORATION

PAGE 49 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample

SAMPLE ID Method Spike -625 FRACTION 08A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category QC

DATA FILE 5CM03052C05 DATE EXTRACTED 03/10/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/27/86 INSTRUMENT 5100 COMPOUNDS DETECTED 11

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
11A	717	21A	2,4,6-trichlorophenol	100	7A	858	58A	4-nitrophenol	79
8A	656	22A	4-chloro-3-methylphenol	90	5A	841	59A	2,4-dinitrophenol	39
1A	374	24A	2-chlorophenol	73	4A	924	60A	2-methyl-4,6-dinitrophenol	90
2A	551	31A	2,4-dichlorophenol	95	9A	1030	64A	pentachlorophenol	99
3A	527	34A	2,4-dimethylphenol	49	10A	361	65A	phenol	62
6A	516	57A	2-nitrophenol	97					

3 4 98

SURROGATE RECOVERIES

SCAN	CODE	COMPOUND	RESULT
360	AS1	d5-phenol	57
258	AS2	2-fluorophenol	55
946	AS3	2,4,6-tribromophenol	94
	AS4	d3-phenol	NA

NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in% Recov. unless otherwise specified.

SAMPLE ID Method Spike -625 FRACTION 08A TEST CODE M625 A NAME Method 625 Acid Compounds
Date & Time Collected not specified Category QC

NO = not detected at EPA detection limit method 625, (Federal Register, 11/26/84).
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

SAMPLE ID Method Spike -625 FRACTION 08A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category QC

DATA FILE 5CM03052C05 DATE EXTRACTED 03/10/86 ANALYST MM VERIFIED BY LAK
CONC. FACTOR 1 DATE INJECTED 03/27/86 INSTRUMENT 5100 COMPOUNDS DETECTED 46

NPDES	SCAN	EPA	COMPOUND	RESULT	NPDES	SCAN	EPA	COMPOUND	RESULT
1B	831	1B	acenaphthene	81	41B	153	61B	N-nitrosodimethylamine	25
4B		5B	benzidine	NA	43B	929	62B	N-nitrosodiphenylamine	97
46B	562	8B	1,2,4-trichlorobenzene	83	42B	455	63B	N-nitrosodi-n-propylamine	67
33B	1003	9B	hexachlorobenzene	116	13B	1477	66B	bis(2-ethylhexyl)phthalate	73
36B	462	12B	hexachloroethane	60	15B	1381	67B	butyl benzyl phthalate	35
11B	369	18B	bis(2-chloroethyl)ether	58	26B	1153	68B	di-butyl phthalate	83
16B	741	20B	2-chloronaphthalene	84	29B	1568	69B	di-n-octyl phthalate	82
20B	422	25B	1,2-dichlorobenzene	66	24B	904	70B	diethyl phthalate	77
21B	392	26B	1,3-dichlorobenzene	67	25B	796	71B	dimethyl phthalate	48
22B	398	27B	1,4-dichlorobenzene	64	5B	1454	72B	benzo(a)anthracene A	90
23B	1454	28B	3,3'dichlorobenzidine	125	6B	1661	73B	benzo(a)pyrene	89
27B	863	35B	2,4-dinitrotoluene	89	7B	1615	74B	benzo(b)fluoranthene *	101
28B	804	36B	2,6-dinitrotoluene	86	9B	1619	75B	benzo(k)fluoranthene *	94
29B		37B	1,2-diphenylhydrazine	NA	18B	1460	76B	chrysene A	84
31B	1234	39B	fluoranthene	97	2B	803	77B	acenaphthylene	77
17B	910	40B	4-chlorophenyl phenyl ether	97	3B	1058	78B	anthracene B	97

3500

KAUAI CORPORATION

PAGE 52 | Analytical Serv | REPORT | LAB # 86-02-152
RECEIVED: 02/25/86 | Results by Sample | Continued From Above

SAMPLE ID Method Spike -625 | FRACTION 08A | TEST CODE M625 B | NAME Method 625 Base/Neutrals
Date & Time Collected not specified | Category QC

14B	1234	41B	4-bromophenyl phenyl ether	97	8B	1918	79B	benzo(ghi)perylene	90
12B	455	42B	bis(2-chloroisopropyl)ether	67	32B	907	80B	fluorene	83
10B	539	43B	bis(2-chloroethoxy)methane	77	44B	1051	81B	phenanthrene B	89
34B	599	52B	hexachlorobutadiene	102	19B	1865	82B	dibenzo(a,h)anthracene	97
35B		53B	hexachlorocyclopentadiene	NA	37B	1863	83B	indeno(1,2,3-cd)pyrene	98
38B	505	54B	isophorone	79	45B	1267	84B	pyrene	70
39B	569	55B	naphthalene	76					
40B	473	56B	nitrobenzene	72					

SURROGATE RECOVERIES

SCAN	CODE		RESULT
470	BS1	d5-nitrobenzene	72
729	BS2	2-fluorobiphenyl	72
1297	BS3	d14-terphenyl	44
	BS4	d10-biphenyl	NA

3 501

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in % Rec. unless otherwise specified.
NO = not detected at EPA detection limit method 625, (Federal Register, 10/26/84).
* = benzo(b)fluoranthene and benzo(k)fluoranthene co-elute.
A = benzo(a)anthracene and chrysene co-elute at high concentrations.

KAUIAN CORPORATION

PAGE 53 Analytical Serv REPORT LAB # 86-02-152
RECEIVED: 02/25/86 Results by Sample Continued From Above

SAMPLE ID Method Spike -625 FRACTION 08A TEST CODE M625 B NAME Method 625 Base/Neutrals
Date & Time Collected not specified Category QC

B = anthracene and phenanthrene co-elute in high concentrations.
BL = detected in reagent blank; background subtraction not performed.
J = estimated value; less than method detection limit.
CONC. FACTOR: indicates dilution of sample if greater than one (1). Minimum detection limits should be multiplied by conc. factor.

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

05B : DUP_NS

CORPORATION

PAGE 1 Analytical Serv REPORT LAB # 86-02-159

RECEIVED: 02/26/86 04/02/86 16:46:26

REPORT TO: Radian
Bl. 4
Austin

ATTEN: Larry French

CLIENT: PLANT4 SAMPLES: 7
COMPANY: Plant 4
FACILITY: Carswell AFB (Gen. Dynamics)

WORK ID: groundwater
TAKEN: WJ
TRANS TYPE: Fed Ex
P.O. #: 212-027-27-40
INVOICE: under separate cover

PREPARED BY: Radian Analytical Services
8501 MoPac Blvd.
P.O. Box 9948
Austin, Texas 78766
ATTEN:
PHONE: (512) 454-4797

CERTIFIED BY

CONTACT: CONOVER

^Unknown compound eluting here.
Second column confirmations for EPA 601: -02, -03, -04; for EPA 602: -02.

Footnotes and Comments

* Indicates a value less than 5 times the detection limit. Potential error for such low values ranges between 50 and 100%.

@ Indicates that spike recovery for this analysis on the specific matrix was not within acceptable limits indicating an interferent present.

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SAMPLE IDENTIFICATION

01	860190
02	860191
03	860192
04	860193
05	860194
06	field blank
07	trip blank

Analytical Serv TEST CODES and NAMES used on this report

AG_E	Silver, ICPES
AS_GA	Arsenic, low level
BA_E	Barium, ICPES
CD_E	Cadmium, ICPES
CR_E	Chromium, ICPES
DG3020	Digestion by Method 3020
DG6010	Digestion by Method 6010
GC_601	EPA Method 601/GC
GC_602	EPA Method 602/GC
HG_CA	Mercury, Cold Vapor
PB_GA	Lead, low level
SE_GA	Selenium, low level

CORPORATION

PAGE 2 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 RESULTS BY TEST

TEST CODE default units	Sample 01 (entered units)	Sample 02 (entered units)	Sample 03 (entered units)	Sample 05 (entered units)
AG_E ug/ml	0.005*	0.006*	0.004*	0.004*
AS_GA ug/ml	<.002	0.009*	<.002	0.029
BA_E ug/ml	0.074	0.095	0.11	0.13
CD_E ug/ml	<.002	<.002	<.002	<.002
CR_E ug/ml	0.012*	0.024*	<.005	0.022*
DG3020 date complete	03/12/86	03/12/86	03/12/86	03/12/86
DG6010 date complete	03/18/86	03/18/86	03/18/86	03/18/86
HG_CA ug/ml	<.0002	<.0002	0.0002*	<.0002
PB_GA ug/ml	0.006	0.009	<.001	0.013
SE_GA ug/ml	<.003	<.003	<.003	<.003

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CORPORATION

PAGE 3 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID 860190 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

DATA FILE G DATE INJECTED 02/26/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR 1 INSTRUMENT g COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Chloromethane	ND		Trichloroethene	ND
	Bromomethane	ND		Dibromochloromethane *	ND
	Vinyl Chloride	ND		1,1,2-Trichloroethane *	ND
	Chloroethane	ND		cis-1,3-Dichloropropene *	ND
	Methylene Chloride	ND		2-Chloroethylvinyl Ether	ND
	Trichlorofluoromethane	ND		Bromoform	ND
	1,1-Dichloroethene	ND		1,1,2,2-Tetrachloroethane #	ND
	1,1-Dichloroethane	ND		Tetrachloroethylene #	ND
	trans-1,2-Dichloroethene	ND		Chlorobenzene	ND
	Chloroform	ND		1,3-Dichlorobenzene	ND
	1,2-Dichloroethane	ND		1,2-Dichlorobenzene	ND
	1,1,1-Trichloroethane	ND		1,4-Dichlorobenzene	ND
	Carbon Tetrachloride	ND			
	Bromodichloromethane	ND			
	1,2-Dichloropropane	ND			
	trans-1,3-Dichloropropene	ND			

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PAGE 4 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample Continued From Above

SAMPLE ID 860190 FRACTION 01A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

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CORPORATION

PAGE 5 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID 860190 FRACTION 01C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/25/86 Category

DATA FILE D DATE INJECTED 02/27/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.73		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

CORPORATION

PAGE 6 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID 860191 FRACTION 02A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

DATA FILE G DATE INJECTED 02/26/86 ANALYST MCL VERIFIED BY MCL
CONC FACTOR 10 INSTRUMENT 9 COMPOUNDS DETECTED 5

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
1	1,1-Dichloroethene	32.1
	1,1-Dichloroethane	ND
2	trans-1,2-Dichloroethene	48.4^
	Chloroform	ND
	1,2-Dichloroethane	ND
3	1,1,1-Trichloroethane	10.4
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
4	Trichloroethene	133
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
5	Tetrachloroethylene #	3.01
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

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CORPORATION

PAGE 7 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample Continued From Above

SAMPLE ID 860191 FRACTION 02A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 8 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID 860191 FRACTION 02C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/25/86 Category

DATA FILE D DATE INJECTED 02/27/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT 1 COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

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NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

CORPORATION

PAGE 9 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID 860192 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

DATA FILE G DATE INJECTED 02/26/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT 4 COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
1	Trichloroethene	2.69
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

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CORPORATION

PAGE 10 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample Continued From Above

SAMPLE ID 860192 FRACTION 03A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

SAMPLE ID 860192 FRACTION 03C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/25/86 Category

DATA FILE D DATE INJECTED 02/27/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.84		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

SAMPLE ID 860193 FRACTION Q4A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

DATA FILE G DATE INJECTED 02/26/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 250 INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND
1	Trichloroethene	5902
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

SAMPLE ID 860193 FRACTION 04A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 14 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID 860193 FRACTION 04C TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/25/86 Category

DATA FILE D DATE INJECTED 02/27/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 50 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

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NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79).

CORPORATION

PAGE 15 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID 860194 FRACTION Q5A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

DATA FILE G DATE INJECTED 02/26/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT g COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
1	Tetrachloroethylene #	0.05
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

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CORPORATION

PAGE 16 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample Continued From Above

SAMPLE ID 860194 FRACTION 05A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/l unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 17 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID 860194 FRACTION OSC TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/25/86 Category

DATA FILE D DATE INJECTED 02/27/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.61		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

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NOTES AND DEFINITIONS FOR THIS REPORT.
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

CORPORATION

PAGE 18 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID field blank FRACTION 06A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

DATA FILE G DATE INJECTED 02/26/86 ANALYST RP VERIFIED BY MCL
CONC FACTOR 1 INSTRUMENT 9 COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

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CORPORATION

PAGE 19 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample Continued From Above

SAMPLE ID field blank FRACTION 06A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected 02/25/86 Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 20 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID field blank FRACTION 06B TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected 02/25/86 Category

DATA FILE D DATE INJECTED 02/27/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 1

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
1	Toluene	0.54		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

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NOTES AND DEFINITIONS FOR THIS REPORT:
SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

CORPORATION

PAGE 21 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID trip blank FRACTION 07A TEST CODE GC 601 NAME EPA Method 601/GC
Date & time Collected not specified Category

DATA FILE G DATE INJECTED 02/26/86 ANALYST RP VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT 9 COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT
	Chloromethane	ND
	Bromomethane	ND
	Vinyl Chloride	ND
	Chloroethane	ND
	Methylene Chloride	ND
	Trichlorofluoromethane	ND
	1,1-Dichloroethene	ND
	1,1-Dichloroethane	ND
	trans-1,2-Dichloroethene	ND
	Chloroform	ND
	1,2-Dichloroethane	ND
	1,1,1-Trichloroethane	ND
	Carbon Tetrachloride	ND
	Bromodichloromethane	ND
	1,2-Dichloropropane	ND
	trans-1,3-Dichloropropene	ND

SCAN	COMPOUND	RESULT
	Trichloroethene	ND
	Dibromochloromethane *	ND
	1,1,2-Trichloroethane *	ND
	cis-1,3-Dichloropropene *	ND
	2-Chloroethylvinyl Ether	ND
	Bromoform	ND
	1,1,2,2-Tetrachloroethane #	ND
	Tetrachloroethylene #	ND
	Chlorobenzene	ND
	1,3-Dichlorobenzene	ND
	1,2-Dichlorobenzene	ND
	1,4-Dichlorobenzene	ND

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CORPORATION

PAGE 22 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample Continued From Above

SAMPLE ID trip blank FRACTION 07A TEST CODE GC 601 NAME EPA Method 601/GC
Date & Time Collected not specified Category

NOTES AND DEFINITIONS FOR THIS REPORT.

SCAN = scan number or retention time on chromatogram.
All results reported in ug/L unless otherwise specified.
ND = not detected at EPA detection limit method 601, (Federal Register, 12/3/79).
*Dibromochloromethane, 1,1,2-trichloroethane and cis-1,3-dichloropropene co-elute.
#1,1,2,2-tetrachloroethane and tetrachloroethylene co-elute.

CORPORATION

PAGE 23 Analytical Serv REPORT LAB # 86-02-159
RECEIVED: 02/26/86 Results by Sample

SAMPLE ID trip blank FRACTION 07A TEST CODE GC 602 NAME EPA Method 602/GC
Date & Time Collected not specified Category

DATA FILE D DATE INJECTED 03/05/86 ANALYST MCL VERIFIED BY MCL
CONC. FACTOR 1 INSTRUMENT d COMPOUNDS DETECTED 0

SCAN	COMPOUND	RESULT	SCAN	COMPOUND	RESULT
	Benzene	ND		1,4-Dichlorobenzene	ND
	Toluene	ND		1,3-Dichlorobenzene	ND
	Ethyl Benzene	ND		1,2-Dichlorobenzene	ND
	Chlorobenzene	ND			

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NOTES AND DEFINITIONS FOR THIS REPORT
SCAN = scan number or retention time on chromatogram
All results reported in ug/l unless otherwise specified
ND = not detected at EPA detection limit method 602, (Federal Register, 12/3/79)

FRACTION AND TEST CODES FOR WORK NOT REPORTED ELSEWHERE

01B	:	DUP601	01D	:	DUP602
02B	:	DUP601	02D	:	DUP602
03B	:	DUP601	03D	:	DUP602
04B	:	DUP601	04D	:	DUP602
05B	:	DUP601	05D	:	DUP602

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