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AnalytiKEM *An American NuKEM Company*

AnalytiKEM Inc.
28 Springdale Road
Cherry Hill, NJ 08003
609 751-1122
215 923-2068

December 30, 1987

EPA Region 5 Records Ctr.
224041

ThermalKEM, Inc.
454 S. Anderson Road, BTC 532
Rock Hill, SC 29730

Attention: Randy Planck

Reference: Test Report No. A15220
Project: IJ Recycling/USEPA # IN500

This report covers the analysis of fourteen (14) samples submitted to AnalytiKEM on December 12, 1987.

cc: Mr. Ken Theisen
USEPA

Mr. Fred Walker
MAECORP

NJ Certification No. NJ 04012

NY Certification No. NY 10815

SC Certification No. SC 94004

Signature Michael Shmookler

Name Michael Shmookler, Ph.D.

Title Technical Director

Rec'd
01-08-88

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

CHAIN OF CUSTODY RECORD

A/5220

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

PROJ. NO.: IN 500

PROJECT NAME: IJ RECYCLING

AIRBILL # 2580644494
CUSTODY SEAL # 05787

SAMPLERS: (Signature) Rick Verstraete

STA. NO.	DATE 1987	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS 1 QT	DISPOSAL ANALYSIS						REMARKS
C-48	12/10		X		ORGANIC, FLAMMABLE SOLID	1	X						
C-49	12/10		X		STRONG BASE	1	X						
C-50	12/10		X		STRONG BASE	1	X						
C-54	12/11		X		STRONG BASE	1	X						
C-60	12/11		X		CYANIDE								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Rick Verstraete	12/11/87	Melody Sullivan	Melody Sullivan	12/11/87 1700	Bernadette Fini 12/12
Relinquished by: (Signature) Bernadette Fini	Date / Time 12/14/87 1800	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks ANALYTICON 28 SPRINGDALE ROAD BUILDING 21 CHERRY HILL, N.J. 08003 ATTN: B. FINI	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: IN 500
PROJECT NAME: I J RECYCLING
SAMPLERS: (Signature) Rick VanStrate

AIRBILL # 2580644485
CUSTODY SEAL # 05779

STA. NO.	DATE 1987	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS 1QT	DISPOSAL ANALYSIS							REMARKS
C-11	12/10		X		ORGANICS	1	X							
C-51	12/10		X		ACIDS CHLORINATED	1	X							
C-52	12/10		X		ACIDS	1	X							
C-53	12/10		X		ACIDS	1	X							
C-54	12/10		X		OXIDIZER	1	X							
C-55	12/10		X		ACIDS	1	X							

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Rick VanStrate	12/11/87	Melody Sullivan	Melody Sullivan	12/11/87 1430	Bernadette Fini 12/12
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bernadette Fini	12/14/87 1800				
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	

Remarks: ANALYTICOM
28 SPRINGDALE RD BUILDING 21
CHERRY HILL, N.J. 08003
ATTN: B. FINI

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

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I. Definition of Terms

Term	Definition
D	Detected; result must be greater than zero.
DI	Deionized Water
J	Compound was detected at levels below the practical quantitation limit. The level reported is approximate.
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	Analysis not applicable to the sample matrix.
ND	Not Detected
NR	Not Requested
NTU	Nephelometric Turbidity Units
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
TON	Threshold Odor Number
U	Compound was analyzed for but not detected. The preceding number is the practical quantitation limit for the compound.
ppb	Parts-per-billion; may be converted to ppm by dividing by 1,000.
ppm	Parts-per-million; may be converted to ppb by multiplying by 1,000.
ug/l	Micrograms of constituent per liter of sample; equivalent to parts-per-billion.
ug/kg	Micrograms of constituent per kilogram of sample; equivalent to parts-per-billion.
ug/kg dw	Micrograms of constituent per kilogram of sample reported on a dry weight basis.
CCC	Calibration Check Compound; used to verify the precision of a GC/MS calibration curve.
SPCC	System Performance Check Compound; used to verify the correct operation of a GC/MS instrument.
PQL	Practical Quantitation Limit; the minimum level at which compounds can be dependably quantitated.

II. Methodology

Volatiles

Aqueous

- Method 624, Purgeables, Federal Register, Vol 49, No. 209, October 26, 1984.

Nonaqueous Medium Level

- Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, USEPA, November 1986.

- Method 8240, Gas Chromatography/Mass Spectrometry for Volatile Organics, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, USEPA, November 1986.

Semivolatiles

Aqueous

- Method 625, Base/Neutrals and Acids, Federal Register, Vol. 49, No. 209, October 26, 1984.

Nonaqueous

- Method 3550, Sonication Extraction, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, USEPA, November 1986.

- Method 8270, Gas Chromatography/Mass Spectrometry for Semivolatile Organics: Capillary Column Technique, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, Third Edition, USEPA, November 1986.

II. Methodology (Cont'd)

Polychlorinated Biphenyls

Aqueous

- Method 608, Organochlorine Pesticides and PCBs, Federal Register, Vol. 49, No. 209, October 26, 1984.

Nonaqueous

- Method 3550, Sonication Extraction, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Sw-846, Third Edition, USEPA, November 1986.

- Method 8080, Organochlorine Pesticides and PCBs, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, Third Edition, USEPA, November 1986.

II. Methodology (Cont'd)

Metals

Nonaqueous

Test Method for Evaluating Solid Waste, Physical/Chemical Methods, SW846, Third Edition, USEPA, November 1986.

Sample Preparation Methods

- Method 3050: Acid Digestion of Sediments, Sludges, and Soils.

Sample Analysis Methods

- Method 6010: Inductively Coupled Plasma Atomic Emission Spectroscopy.
- Method 7041: Antimony (Atomic Absorption, Furnace Technique).
- Method 7060: Arsenic (Atomic Absorption, Furnace Technique).
- Method 7421: Lead (Atomic Absorption, Furnace Technique).
- Method 7471: Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique).
- Method 7610: Potassium (Atomic Absorption, Direct Aspiration).
- Method 7740: Selenium (Atomic Absorption, Furnace Technique).
- Method 7841: Thallium (Atomic Absorption, Furnace Technique).

II. Methodology (Cont'd)

General Chemistry

Cyanide, total and amenable

- Test Methods for Evaluating Solid Waste, USEPA, SW-846, Third Edition, Method 9012, November 1986.

Flashpoint

- Test Methods for Evaluating Solid Waste, USEPA, SW-846, Third Edition, Method 1010, November 1986.

Phenolics, total

- Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, USEPA, Method 420.2, March 1983.

Specific Gravity

- 1980 Annual Book of ASTM Standards, Method 1480-62, 1980.

Total Organic Carbon, nonpurgeable

- OI Corporation Model 524C TOC Analyzer Manual, January 1983.

Water

- 1980 Annual Book of ASTM Standards, Method D1744-64, 1980.

III. Analytical Results

Volatile Organics

Constituent	Sample Designation: Method Blank 1	Method Blank 2	Method Blank 3	A15220-1 C-48
Chloromethane	< 10	< 10	< 10	< 120
Bromomethane	< 10	< 10	< 10	< 120
Vinyl Chloride	< 10	< 10	< 10	< 120
Chloroethane	< 10	< 10	< 10	< 120
Methylene Chloride	< 10	< 10	< 10	500
1,1-Dichloroethene	< 10	< 10	< 10	< 120
1,1-Dichloroethane	< 10	< 10	< 10	< 120
trans-1,2-Dichloroethene	< 10	< 10	< 10	< 120
Chloroform	< 10	< 10	< 10	< 120
1,2-Dichloroethane	< 10	< 10	< 10	< 120
1,1,1-Trichloroethane	< 10	< 10	< 10	220
Carbon Tetrachloride	< 10	< 10	< 10	< 120
Bromodichloromethane	< 10	< 10	< 10	< 120
1,2-Dichloropropane	< 10	< 10	< 10	< 120
trans-1,3-Dichloropropene	< 10	< 10	< 10	< 120
Trichloroethene	< 10	< 10	< 10	120
Dibromochloromethane	< 10	< 10	< 10	< 120
1,1,2-Trichloroethane	< 10	< 10	< 10	< 120
Benzene	< 10	< 10	< 10	< 120
cis-1,3-Dichloropropene	< 10	< 10	< 10	< 120
2-Chloroethyl Vinyl Ether	< 10	< 10	< 10	< 120
Bromoform	< 10	< 10	< 10	< 120
Tetrachloroethene	< 10	< 10	< 10	85
1,1,2,2-Tetrachloroethane	< 10	< 10	< 10	< 120
Toluene	< 10	< 10	< 10	12,000
Chlorobenzene	< 10	< 10	< 10	< 120
Ethylbenzene	< 10	< 10	< 10	3,800
m-Xylene	< 10	< 10	< 10	11,000
o,p-Xylenes	< 10	< 10	< 10	8,000
Units	(ppm)	(ppm)	(ppm)	(ppm)

III. Analytical Results (Cont'd)

Volatile Organics

Constituent	A15220-2 C-49	A15220-3 C-50	A15220-4 C-56	A15220-5 C-11
	Sample Designation			
Chloromethane	< 10	< 10	< 10	< 790
Bromomethane	< 10	< 10	< 10	< 790
Vinyl Chloride	15	< 10	< 10	< 790
Chloroethane	< 10	< 10	< 10	< 790
Methylene Chloride	27	< 10	280	44,000
1,1-Dichloroethene	< 10	< 10	< 10	< 790
1,1-Dichloroethane	150	< 10	< 10	< 790
trans-1,2-Dichloroethene	< 10	< 10	< 10	< 790
Chloroform	< 10	< 10	< 10	< 790
1,2-Dichloroethane	< 10	< 10	< 10	< 790
1,1,1-Trichloroethane	< 10	< 10	20	790
Carbon Tetrachloride	< 10	< 10	< 10	< 790
Bromodichloromethane	< 10	< 10	< 10	< 790
1,2-Dichloropropane	< 10	< 10	< 10	< 790
trans-1,3-Dichloropropene	< 10	< 10	< 10	< 790
Trichloroethene	< 10	< 10	< 10	18,000
Dibromochloromethane	< 10	< 10	< 10	< 790
1,1,2-Trichloroethane	< 10	< 10	< 10	< 790
Benzene	< 10	< 10	< 10	< 790
cis-1,3-Dichloropropene	< 10	< 10	< 10	< 790
2-Chloroethyl Vinyl Ether	< 10	< 10	< 10	< 790
Bromoform	< 10	< 10	< 10	< 790
Tetrachloroethene	< 10	< 10	78	4,100
1,1,2,2-Tetrachloroethane	< 10	< 10	< 10	< 790
Toluene	24	< 10	22	9,200
Chlorobenzene	< 10	< 10	< 10	< 790
Ethylbenzene	< 10	< 10	< 10	< 790
m-Xylene	< 10	< 10	23	2,200
o,p-Xylenes	< 10	< 10	18	< 790
Units	(ppm)	(ppm)	(ppm)	(ppm)

III. Analytical Results (Cont'd)

Volatile Organics

Constituent	A15220-6 C-51	A15220-7 C-55	A15220-8 C-57	A15220-9 C-58
	Sample Designation			
Chloromethane	< 10	< 79	< 14	< 50
Bromomethane	< 10	< 79	< 14	< 50
Vinyl Chloride	< 10	< 79	< 14	< 50
Chloroethane	< 10	< 79	< 14	< 50
Methylene Chloride	2,300	< 79	< 14	560
1,1-Dichloroethene	< 10	< 79	< 14	< 50
1,1-Dichloroethane	10	< 79	< 14	< 50
trans-1,2-Dichloroethene	< 10	< 79	< 14	< 50
Chloroform	< 10	< 79	130	< 50
1,2-Dichloroethane	< 10	< 79	< 14	< 50
1,1,1-Trichloroethane	< 10	< 79	< 14	53
Carbon Tetrachloride	< 10	< 79	< 14	< 50
Bromodichloromethane	< 10	< 79	< 14	< 50
1,2-Dichloropropane	< 10	< 79	< 14	< 50
trans-1,3-Dichloropropene	< 10	< 79	< 14	< 50
Trichloroethene	< 10	< 79	< 14	< 50
Dibromochloromethane	< 10	< 79	< 14	< 50
1,1,2-Trichloroethane	< 10	< 79	< 14	< 50
Benzene	< 10	< 79	< 14	< 50
cis-1,3-Dichloropropene	< 10	< 79	< 14	< 50
2-Chloroethyl Vinyl Ether	< 10	< 79	< 14	< 50
Bromoform	< 10	< 79	< 14	< 50
Tetrachloroethene	< 10	560	< 14	38
1,1,2,2-Tetrachloroethane	< 10	< 79	< 14	< 50
Toluene	< 10	520	< 14	1,000
Chlorobenzene	< 10	< 79	< 14	< 50
Ethylbenzene	< 10	54	< 14	< 50
m-Xylene	< 10	330	< 14	< 50
o,p-Xylenes	< 10	180	< 14	< 50
Units	(ppm)	(ppm)	(ppm)	(ppm)

III. Analytical Results (Cont'd)

Volatile Organics

Constituent	Sample Designation A15220-10 C-59
Chloromethane	< 71
Bromomethane	< 71
Vinyl Chloride	< 71
Chloroethane	< 71
Methylene Chloride	1,200
1,1-Dichloroethene	< 71
1,1-Dichloroethane	< 71
trans-1,2-Dichloroethene	< 71
Chloroform	< 71
1,2-Dichloroethane	< 71
1,1,1-Trichloroethane	67
Carbon Tetrachloride	< 71
Bromodichloromethane	< 71
1,2-Dichloropropane	< 71
trans-1,3-Dichloropropene	< 71
Trichloroethene	< 71
Dibromochloromethane	< 71
1,1,2-Trichloroethane	< 71
Benzene	< 71
cis-1,3-Dichloropropene	< 71
2-Chloroethyl Vinyl Ether	< 71
Bromoform	< 71
Tetrachloroethene	< 71
1,1,2,2-Tetrachloroethane	< 71
Toluene	6,900
Chlorobenzene	< 71
Ethylbenzene	590
m-Xylene	1,300
o,p-Xylenes	810
Units	(ppm)

Analytical Results (Cont'd)

Semivolatile Organics (Page 1 of 2)

Constituent	Method Blank 1	Method Blank 2	A15220-1 C-48	A15220-2 C-49
	Sample Designation			
N-Nitrosodimethylamine	< 10	< 10	< 100	< 10
Phenol	< 10	< 10	< 100	< 10
Bis(2-chloroethyl) Ether	< 10	< 10	< 100	< 10
2-Chlorophenol	< 10	< 10	< 100	< 10
1,3-Dichlorobenzene	< 10	< 10	< 100	< 10
1,4-Dichlorobenzene	< 10	< 10	< 100	< 10
Benzyl Alcohol	< 10	< 10	< 100	< 10
1,2-Dichlorobenzene	< 10	< 10	< 100	< 10
2-Methylphenol	< 10	< 10	< 100	< 10
Bis(2-chloroisopropyl) Ether	< 10	< 10	< 100	< 10
4-Methylphenol	< 10	< 10	< 100	< 10
N-Nitrosodipropylamine	< 10	< 10	< 100	< 10
Hexachloroethane	< 10	< 10	< 100	< 10
Nitrobenzene	< 10	< 10	< 100	< 10
Isophorone	< 10	< 10	240	< 10
2-Nitrophenol	< 10	< 10	< 1,000	< 10
2,4-Dimethylphenol	< 10	< 10	< 100	< 10
Benzoic Acid	< 10	< 10	< 500	< 50
Bis(2-chloroethoxy)methane	< 10	< 10	< 100	< 10
2,4-Dichlorophenol	< 10	< 10	< 100	< 10
1,2,4-Trichlorobenzene	< 10	< 10	< 100	< 10
Naphthalene	< 10	< 10	260	< 10
4-Chloroaniline	< 10	< 10	< 100	< 10
Hexachlorobutadiene	< 10	< 10	< 100	< 10
4-Chloro-3-methylphenol	< 10	< 10	< 100	59
2-Methylnaphthalene	< 10	< 10	68	< 10
Hexachlorocyclopentadiene	< 10	< 10	< 100	< 10
2,4,6-Trichlorophenol	< 10	< 10	< 100	< 10
2,4,5-Trichlorophenol	< 10	< 10	< 500	< 50
2-Chloronaphthalene	< 10	< 10	< 100	< 10
2-Nitroaniline	< 10	< 10	< 500	< 50
Dimethyl Phthalate	< 10	< 10	< 100	< 10
Acenaphthylene	< 10	< 10	< 100	< 10
3-Nitroaniline	< 10	< 10	< 500	< 50
Acenaphthene	< 10	< 10	< 100	< 10
2,4-Dinitrophenol	< 10	< 10	< 500	< 50
Units	(ppm)	(ppm)	(ppm)	(ppm)

III. Analytical Results (Cont'd)

Semivolatile Organics (Page 2 of 2)

Constituent	Method Blank 1	Method Blank 2	A15220-1 C-48	A15220-2 C-49
	Sample Designation			
4-Nitrophenol	< 10	< 10	< 500	< 50
Dibenzofuran	< 10	< 10	< 100	< 10
2,4-Dinitrotoluene	< 10	< 10	< 100	< 10
2,6-Dinitrotoluene	< 10	< 10	< 100	< 10
Diethyl Phthalate	< 10	< 10	< 100	< 10
4-Chlorophenyl Phenyl Ether	< 10	< 10	< 100	< 10
Fluorene	< 10	< 10	< 100	< 10
4-Nitroaniline	< 10	< 10	< 500	< 50
4,6-Dinitro-2-methylphenol	< 10	< 10	< 500	< 50
N-Nitrosodiphenylamine	< 10	< 10	190	< 10
4-Bromophenyl Phenyl Ether	< 10	< 10	< 100	< 10
Hexachlorobenzene	< 10	< 10	< 100	< 10
Pentachlorophenol	< 10	< 10	110	< 50
Phenanthrene	< 10	< 10	< 100	< 10
Anthracene	< 10	< 10	< 100	< 10
Dibutyl Phthalate	< 10	< 10	< 100	< 10
Fluoranthene	< 10	< 10	< 100	< 10
Benzidine	< 10	< 10	< 1,000	< 100
Pyrene	< 10	< 10	< 100	< 10
Butylbenzyl Phthalate	< 10	< 10	56	< 10
3,3'-Dichlorobenzidine	< 10	< 10	< 200	< 20
Benzo(a)anthracene	< 10	< 10	< 100	< 10
Bis(2-ethylhexyl) Phthalate	< 10	< 10	2,700	< 10
Chrysene	< 10	< 10	< 100	< 10
Dioctyl Phthalate	< 10	< 10	110	< 10
Benzo(b)fluoranthene	< 10	< 10	< 100	< 10
Benzo(k)fluoranthene	< 10	< 10	< 100	< 10
Benzo(a)pyrene	< 10	< 10	< 100	< 10
Indeno(1,2,3-cd)pyrene	< 10	< 10	< 100	< 10
Dibenzo(a,h)anthracene	< 10	< 10	< 100	< 10
Benzo(g,h,i)perylene	< 10	< 10	< 100	< 10
Units	(ppm)	(ppm)	(ppm)	(ppm)

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III. Analytical Results (Cont'd)

Semivolatile Organics (Page 1 of 2)

Constituent	A15220-3 C-50	A15220-4 C-56	A15220-5 C-11	A15220-6 C-51
	Sample Designation			
N-Nitrosodimethylamine	< 10	< 10	< 10	< 10
Phenol	< 10	< 10	< 10	< 10
Bis(2-chloroethyl) Ether	< 10	< 10	< 10	< 10
2-Chlorophenol	< 10	< 10	< 10	< 10
1,3-Dichlorobenzene	< 10	< 10	< 10	< 10
1,4-Dichlorobenzene	< 10	< 10	< 10	< 10
Benzyl Alcohol	< 10	< 10	< 10	< 10
1,2-Dichlorobenzene	< 10	< 10	1,700	< 10
2-Methylphenol	< 10	< 10	900	< 10
Bis(2-chloroisopropyl) Ether	< 10	< 10	< 10	< 10
4-Methylphenol	< 10	< 10	230	< 10
N-Nitrosodipropylamine	< 10	< 10	< 10	< 10
Hexachloroethane	< 10	< 10	< 10	< 10
Nitrobenzene	< 10	< 10	< 10	< 10
Isophorone	150	< 10	24	160
2-Nitrophenol	< 10	< 10	< 10	< 10
2,4-Dimethylphenol	< 10	< 10	< 10	< 10
Benzoic Acid	< 50	< 50	< 50	< 50
Bis(2-chloroethoxy)methane	< 10	< 10	< 10	< 10
2,4-Dichlorophenol	< 10	< 10	< 10	< 10
1,2,4-Trichlorobenzene	< 10	< 10	< 10	< 10
Naphthalene	< 10	< 10	360	< 10
4-Chloroaniline	< 10	< 10	< 10	< 10
Hexachlorobutadiene	< 10	< 10	< 10	< 10
4-Chloro-3-methylphenol	< 10	< 10	< 10	< 10
2-Methylnaphthalene	< 10	< 10	430	< 10
Hexachlorocyclopentadiene	< 10	< 10	< 10	< 10
2,4,6-Trichlorophenol	< 10	< 10	< 10	< 10
2,4,5-Trichlorophenol	< 50	< 50	< 50	< 50
2-Chloronaphthalene	< 10	< 10	< 10	< 10
2-Nitroaniline	< 50	< 50	< 50	< 50
Dimethyl Phthalate	< 10	< 10	< 10	< 10
Acenaphthylene	< 10	< 10	< 10	< 10
3-Nitroaniline	< 50	< 50	< 50	< 50
Acenaphthene	< 10	< 10	< 10	< 10
2,4-Dinitrophenol	< 50	< 50	< 50	< 50
Units	(ppm)	(ppm)	(ppm)	(ppm)

AnalytiKEM

III. Analytical Results (Cont'd)

Semivolatile Organics (Page 2 of 2)

Constituent	A15220-3 C-50	A15220-4 C-56	A15220-5 C-11	A15220-6 C-51
	Sample Designation			
4-Nitrophenol	< 50	< 50	< 50	< 50
Dibenzofuran	< 10	< 10	< 10	< 10
2,4-Dinitrotoluene	< 10	< 10	< 10	< 10
2,6-Dinitrotoluene	< 10	< 10	< 10	< 10
Diethyl Phthalate	< 10	< 10	< 10	< 10
4-Chlorophenyl Phenyl Ether	< 10	< 10	< 10	< 10
Fluorene	< 10	< 10	48	< 10
4-Nitroaniline	< 50	< 50	< 50	< 50
4,6-Dinitro-2-methylphenol	< 50	< 50	< 50	< 50
N-Nitrosodiphenylamine	< 10	< 10	< 10	330
4-Bromophenyl Phenyl Ether	< 10	< 10	< 10	< 10
Hexachlorobenzene	< 10	< 10	< 10	< 10
Pentachlorophenol	< 50	260	< 50	< 50
Phenanthrene	< 10	< 10	81	< 10
Anthracene	< 10	< 10	< 10	< 10
Dibutyl Phthalate	< 10	< 10	1,000	< 10
Fluoranthene	< 10	< 10	< 10	< 10
Benzidine	<100	< 100	< 100	< 100
Pyrene	< 10	< 10	< 10	< 10
Butylbenzyl Phthalate	< 10	< 10	360	< 10
3,3'-Dichlorobenzidine	< 20	< 20	< 20	< 20
Benzo(a)anthracene	< 10	< 10	< 10	< 10
Bis(2-ethylhexyl) Phthalate	< 10	140	290	65
Chrysene	< 10	< 10	< 10	< 10
Dioctyl Phthalate	< 10	< 10	< 10	< 10
Benzo(b)fluoranthene	< 10	< 10	< 10	< 10
Benzo(k)fluoranthene	< 10	< 10	< 10	< 10
Benzo(a)pyrene	< 10	< 10	< 10	< 10
Indeno(1,2,3-cd)pyrene	< 10	< 10	< 10	< 10
Dibenzo(a,h)anthracene	< 10	< 10	< 10	< 10
Benzo(g,h,i)perylene	< 10	< 10	< 10	< 10
Units	(ppm)	(ppm)	(ppm)	(ppm)

AnalytiKEM

III. Analytical Results (Cont'd)

Semivolatile Organics (Page 1 of 2)

Constituent	A15220-7 C-55	A15220-8 C-57	A15220-9 C-58	A15220-10 C-59
	Sample Designation			
N-Nitrosodimethylamine	< 10	< 10	< 10	< 100
Phenol	< 10	< 10	< 10	< 100
Bis(2-chloroethyl) Ether	< 10	< 10	< 10	< 100
2-Chlorophenol	< 10	< 10	< 10	< 100
1,3-Dichlorobenzene	< 10	< 10	< 10	< 100
1,4-Dichlorobenzene	< 10	< 10	< 10	< 100
Benzyl Alcohol	< 10	< 10	< 10	< 100
1,2-Dichlorobenzene	< 10	< 10	< 10	< 100
2-Methylphenol	< 10	< 10	< 10	< 100
Bis(2-chloroisopropyl) Ether	< 10	< 10	< 10	< 100
4-Methylphenol	< 10	< 10	< 10	< 100
N-Nitrosodipropylamine	< 10	< 10	< 10	< 100
Hexachloroethane	< 10	< 10	< 10	< 100
Nitrobenzene	< 10	< 10	< 10	< 100
Isophorone	< 10	180	< 10	< 100
2-Nitrophenol	< 10	< 10	< 10	< 100
2,4-Dimethylphenol	< 10	< 10	< 10	< 100
Benzoic Acid	< 50	< 50	< 50	< 500
Bis(2-chloroethoxy)methane	< 10	< 10	< 10	< 100
2,4-Dichlorophenol	< 10	< 10	< 10	< 100
1,2,4-Trichlorobenzene	< 10	< 10	< 10	< 100
Naphthalene	230	< 10	< 10	1300
4-Chloroaniline	< 10	< 10	< 10	< 100
Hexachlorobutadiene	< 10	< 10	< 10	< 100
4-Chloro-3-methylphenol	< 10	< 10	< 10	< 100
2-Methylnaphthalene	420	< 10	< 10	< 100
Hexachlorocyclopentadiene	< 10	< 10	< 10	< 100
2,4,6-Trichlorophenol	< 10	< 10	< 10	< 100
2,4,5-Trichlorophenol	< 50	< 50	< 50	< 500
2-Chloronaphthalene	< 10	< 10	< 10	< 100
2-Nitroaniline	< 50	< 50	< 50	< 500
Dimethyl Phthalate	< 10	< 10	< 10	< 100
Acenaphthylene	< 10	< 10	< 10	< 100
3-Nitroaniline	< 50	< 50	< 50	< 500
Acenaphthene	< 10	< 10	< 10	< 100
2,4-Dinitrophenol	< 50	< 50	< 50	< 500
Units	(ppm)	(ppm)	(ppm)	(ppm)

AnalytiKEM

III. Analytical Results (Cont'd)

Semivolatile Organics (Page 2 of 2)

Constituent	Sample Designation A15220-7 C-55	A15220-8 C-57	A15220-9 C-58	A15220-10 C-59
4-Nitrophenol	< 50	< 50	< 50	< 500
Dibenzofuran	< 10	< 10	< 10	< 100
2,4-Dinitrotoluene	< 10	< 10	< 10	< 100
2,6-Dinitrotoluene	< 10	< 10	< 10	< 100
Diethyl Phthalate	98	< 10	< 10	< 100
4-Chlorophenyl Phenyl Ether	< 10	< 10	< 10	< 100
Fluorene	69	< 10	< 10	< 100
4-Nitroaniline	< 50	< 50	< 50	< 500
4,6-Dinitro-2-methylphenol	< 50	< 50	< 50	< 500
N-Nitrosodiphenylamine	280	< 10	< 10	< 100
4-Bromophenyl Phenyl Ether	< 10	< 10	< 10	< 100
Hexachlorobenzene	< 10	< 10	< 10	< 100
Pentachlorophenol	< 50	< 50	< 50	< 500
Phenanthrene	72	< 50	< 50	< 100
Anthracene	< 10	< 10	< 10	< 100
Dibutyl Phthalate	50	< 10	< 10	< 100
Fluoranthene	< 10	< 10	< 10	< 100
Benzidine	<100	<100	<100	< 1,000
Pyrene	< 10	< 10	< 10	< 100
Butylbenzyl Phthalate	220	< 10	< 10	< 100
3,3'-Dichlorobenzidine	< 20	< 20	< 20	< 200
Benzo(a)anthracene	< 10	< 10	< 10	< 100
Bis(2-ethylhexyl) Phthalate	360	42	< 10	12,000
Chrysene	< 10	< 10	< 10	< 100
Dioctyl Phthalate	< 10	< 10	< 10	< 100
Benzo(b)fluoranthene	< 10	< 10	< 10	< 100
Benzo(k)fluoranthene	< 10	< 10	< 10	< 100
Benzo(a)pyrene	< 10	< 10	< 10	< 100
Indeno(1,2,3-cd)pyrene	< 10	< 10	< 10	< 100
Dibenzo(a,h)anthracene	< 10	< 10	< 10	< 100
Benzo(g,h,i)perylene	< 10	< 10	< 10	< 100
Units	(ppm)	(ppm)	(ppm)	(ppm)

AnalytiKEM

II. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

No nontargetted compounds were detected in the following samples:

Volatile Method Blank 1
Volatile Method Blank 2
Volatile Method Blank 3
Semivolatile Method Blank 1
Semivolatile Method Blank 2

AnalytiKEM Designation A15220-1

Client Designation C-48

AS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	Unknown Compound	VOA	507	230
	Unknown Compound	VOA	554	260
	Unknown Compound	VOA	614	410
9-34-4	3-Methylhexane	VOA	647	920
	2,4-Dimethylpentane Isomer	VOA	660	520
	Unknown Hydrocarbon	VOA	719	190
	Unknown Hydrocarbon	VOA	759	870
	Unknown Hydrocarbon	VOA	786	2,000
	Unknown Hydrocarbon	VOA	828	340
	Unknown Compound	VOA	850	4,200
8-88-3	Methylbenzene (Toluene)	BNA	257	10,000
	Unknown Compound	BNA	295	1,600
	Unknown Compound	BNA	300	600
	Unknown Compound	BNA	321	1,100
	Unknown Compound	BNA	346	1,300

Note: Estimated concentration is calculated against the nearest eluting internal standard.

AnalytiKEM

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-1 (Cont'd

Client Designation C-48

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
100-41-4	Ethylbenzene	BNA	389	5,800
1330-20-7	Xylenes, total	BNA	402, 419	18,000
	Unknown Compound	BNA	429	1,100
	Unknown Compound	BNA	440	7,600
	Unknown Compound	BNA	454	3,200
	Unknown Compound	BNA	490	1,500
	Unknown Compound	BNA	500	630
103-65-1	Propylbenzene	BNA	523	700
	Substituted Benzene	BNA	534	2,000
	Unknown Compound	BNA	542	850
	Substituted Benzene	BNA	562	710
	Unknown Compound	BNA	582	11,000
	Unknown Compound	BNA	614	1,200
	Unknown Compound	BNA	622	1,000
	Unknown Compound	BNA	632	600
	Substituted Benzene	BNA	659	670
	Substituted Benzene	BNA	669	1,300
	Unknown Compound	BNA	679	740
	Unknown Compound	BNA	717	3,400

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-2

Client Designation C-49

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	Unknown Compound	VOA	85	4.4
	Unknown Compound	VOA	246	5
108-88-3	Methylbenzene (Toluene)	BNA	259	26
	Unknown Compound	BNA	385	85
	Unknown Compound	BNA	403	6.0
	Unknown Compound	BNA	430	3.1
	Unknown Compound	BNA	444	3.7
	Unknown Compound	BNA	453	7.1
	Unknown Compound	BNA	472	6.0
	Unknown Acid	BNA	560	3.0
	Unknown Acid	BNA	685	5.4
	Unknown Acid	BNA	689	1.9
	Unknown Compound	BNA	922	3.5
	Unknown Compound	BNA	1,595	16
	Unknown Compound	BNA	1,739	34
	Unknown Acid	BNA	1,752	9.6

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-2 (Cont'd

Client Designation C-49

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	Unknown Compound	BNA	1,763	4.9
	Unknown Compound	BNA	1,821	2.8
	Unknown Compound	BNA	1,831	2.8
	Unknown Compound	BNA	1,872	11
	Unknown Compound	BNA	1,919	3.7
	Unknown Compound	BNA	1,967	9.7
	Unknown Compound	BNA	2,141	8.1
	Unknown Compound	BNA	2,175	29
	Unknown Compound	BNA	2,497	29
	Unknown Compound	BNA	3,044	19

Note: Estimated concentration is calculated against the nearest eluting internal standard.

AnalytiKEM

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-3

Client Designation C-50

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	None Detected	VOA	--	--
	Unknown Compound	BNA	368	170,000

AnalytiKEM Designation A15220-4

Client Designation C-56

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	Unknown Compound	VOA	248	14
127-18-4	Tetrachloroethene	BNA	315	360
	Unknown Compound	BNA	581	910
	Unknown Compound	BNA	621	470
	Unknown Compound	BNA	716	750
	Unknown Compound	BNA	842	540
	Unknown Compound	BNA	959	600
	Unknown Compound	BNA	1,071	300
	Unknown Compound	BNA	1,374	1,000
	Unknown Compound	BNA	1,549	420
	Unknown Compound	BNA	1,847	450
	Unknown Compound	BNA	1,877	670
	Unknown Compound	BNA	2,132	380
	Unknown Compound	BNA	2,639	450

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-5

Client Designation C-11

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	None Detected	VOA	--	--
	Unknown Compound	BNA	250	860
108-88-3	Methylbenzene (Toluene)	BNA	259	6,400
	Unknown Compound	BNA	297	1,300
127-18-4	Tetrachloroethene	BNA	315	4,400
	Unknown Compound	BNA	323	1,800
100-41-4	Ethylbenzene	BNA	391	1,900
	Xylene Isomer	BNA	403	6,300
	Unknown Compound	BNA	440	1,900
	Unknown Compound	BNA	489	1,700
	Unknown Compound	BNA	528	600
	Substituted Benzene	BNA	535	2,700
	Substituted Benzene	BNA	544	1,400

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-5 (Cont'd)

Client Designation C-11

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	Unknown Compound	BNA	565	1,100
	Unknown Compound	BNA	583	11,000
	Unknown Compound	BNA	614	2,300
	Unknown Compound	BNA	622	1,000
	Unknown Compound	BNA	632	1,100
	Unknown Compound	BNA	664	690
	Unknown Compound	BNA	670	1,300
	Unknown Compound	BNA	717	3,000
	Unknown Compound	BNA	842	1,900
	Unknown Compound	BNA	929	630
	Unknown Compound	BNA	960	1,600
	Unknown Compound	BNA	1,070	1,200
	Unknown Compound	BNA	2,181	22,000

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-6

Client Designation C-51

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	None Detected	VOA	--	--
	Unknown Compound	BNA	254	1,200
	Unknown Compound	BNA	362	1,300
	Unknown Compound	BNA	1,093	24,000
	Unknown Compound	BNA	1,244	940
	Unknown Compound	BNA	1,250	5,600
	Unknown Compound	BNA	1,979	20,000

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-7

Client Designation C-55

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	None Detected	VOA	--	--
127-18-4	Tetrachloroethene	BNA	316	440
	Unknown Aromatic	BNA	536	420
	Unknown Compound	BNA	583	730
	Unknown Compound	BNA	622	400
	Unknown Compound	BNA	670	350
	Unknown Hydrocarbon	BNA	717	870
	Unknown Compound	BNA	807	530
	Unknown Hydrocarbon	BNA	842	610
	Unknown Hydrocarbon	BNA	961	370
	Unknown Hydrocarbon	BNA	1,176	390
	Unknown Hydrocarbon	BNA	1,275	360
	Unknown Compound	BNA	1,778	320
	Unknown Compound	BNA	1,946	1,900
	Unknown Compound	BNA	2,036	1,000
	Unknown Compound	BNA	2,130	1,300
	Unknown Compound	BNA	2,180	520

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-7 (Cont'd)

Client Designation C-55

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
56803-37-3	(1,1-Dimethylethyl)phenyl Diphenyl Ester Phosphoric Acid	BNA	2,190	3,400
	Unknown Compound	BNA	2,235	1,400
	Unknown Compound	BNA	2,244	1,000
	Unknown Compound	BNA	2,259	380
	Unknown Compound	BNA	2,297	1,000
	Unknown Compound	BNA	2,428	1,000
	Unknown Compound	BNA	2,586	830
	Unknown Compound	BNA	2,591	740

Note: Estimated concentration is calculated against the nearest eluting internal standard.

AnalytiKEM

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-8

Client Designation C-57

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	None Detected	VOA	--	--
	Unknown Compound	BNA	283	53
	Unknown Compound	BNA	309	1,800
	Unknown Alkane	BNA	328	130
	Unknown Compound	BNA	333	110
	Unknown Compound	BNA	338	180
	Unknown Compound	BNA	367	1,800
	Unknown Compound	BNA	388	64
	Unknown Compound	BNA	405	100
	Unknown Compound	BNA	417	100
	Unknown Compound	BNA	426	89
	Unknown Compound	BNA	462	110
	Unknown Compound	BNA	534	140
	Unknown Compound	BNA	581	130
	Unknown Compound	BNA	596	190
	Unknown Compound	BNA	643	270
	Unknown Compound	BNA	660	98
	Unknown Compound	BNA	815	40
	Unknown Compound	BNA	844	320

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-8 (Cont'd

Client Designation C-57

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
99-08-1	1-Methyl-3-nitrobenzene	BNA	855	120
	Unknown Compound	BNA	864	270
	Unknown Compound	BNA	873	110
	Unknown Compound	BNA	1,078	270
	Unknown Compound	BNA	1,105	120
	Unknown Compound	BNA	1,237	74
540-09-0	12-Tricosanone	BNA	1,979	71

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-9

Client Designation C-58

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	None Detected	VOA	--	--
108-88-3	Methylbenzene (Toluene)	BNA	260	84
	Xylene Isomer	BNA	402	18
	Unknown Compound	BNA	441	6.7
	Unknown Compound	BNA	458	150
	Unknown Compound	BNA	469	4.0
	Unknown Compound	BNA	533	4.5
	Unknown Hydrocarbon	BNA	583	16
	Unknown Compound	BNA	590	11
	Unknown Compound	BNA	717	7.5

Note: Estimated concentration is calculated against the nearest eluting internal standard.

AnalytiKEM

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-10

Client Designation C-59

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	Methylcyclopentane Isomer	VOA	438	14,000
	Unknown Compound	VOA	496	1,700
	Unknown Compound	VOA	506	2,400
	Hexane Isomer	VOA	554	3,400
	Unknown Hydrocarbon	VOA	611	1,400
	Unknown Compound	VOA	646	2,900
	Unknown Compound	VOA	660	2,400
	Unknown Compound	VOA	759	1,100
	Unknown Compound	VOA	786	3,000
	Unknown Compound	VOA	801	3,900
	Unknown Hydrocarbon	VOA	848	2,500
	Unknown Compound	BNA	251	2,700
108-88-3	Methylbenzene (Toluene)	BNA	259	15,000
	Unknown Compound	BNA	284	9,200
	Unknown Compound	BNA	297	3,800
	Unknown Compound	BNA	323	2,100
	Unknown Compound	BNA	349	700
100-41-4	Ethylbenzene	BNA	391	2,600
1330-20-7	Xylenes, total	BNA	403-438	8,000
	Unknown Compound	BNA	455	480
	Unknown Compound	BNA	535	2,700
	Unknown Compound	BNA	544	800

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

EPA/NIH/NBS Nontargetted Library Search

AnalytiKEM Designation A15220-10 (Cont'd)

Client Designation C-59

CAS Number	Compound Name	Fraction	Scan Number	Estimated Concentration (ppm)
	Unknown Hydrocarbon	BNA	583	3,900
	Unknown Compound	BNA	614	1,000
	Unknown Compound	BNA	622	650
	Unknown Compound	BNA	641	350
	Unknown Compound	BNA	661	470
	Unknown Compound	BNA	665	440
	Unknown Compound	BNA	670	830
	Unknown Compound	BNA	680	650
	Unknown Compound	BNA	717	1,800
629-97-0	Docosane	BNA	1,778	720
	Unknown Hydrocarbon	BNA	1,851	830
	Unknown Hydrocarbon	BNA	1,919	910
	Unknown Hydrocarbon	BNA	1,985	790

Note: Estimated concentration is calculated against the nearest eluting internal standard.

III. Analytical Results (Cont'd)

Polychlorinated Biphenyls

Constituent	Method Blank 1	Method Blank 2	A15220-1 C-48	A15220-2 C-49
		Sample Designation		
Aroclor 1016	< 2.0	< 2.0	< 3.3	< 2.0
Aroclor 1221	< 2.0	< 2.0	< 3.3	< 2.0
Aroclor 1232	< 2.0	< 2.0	< 3.3	< 2.0
Aroclor 1242	< 2.0	< 2.0	< 3.3	< 2.0
Aroclor 1248	< 2.0	< 2.0	< 3.3	< 2.0
Aroclor 1254	< 2.0	< 2.0	< 3.3	< 2.0
Aroclor 1260	< 2.0	< 2.0	< 3.3	< 2.0
Units	(ppm)	(ppm)	(ppm)	(ppm)

Constituent	A15220-3 C-50	A15220-4 C-56	A15220-5 C-11	A15220-6 C-51
		Sample Designation		
Aroclor 1016	< 3.3	< 2.0	< 3.3	< 33
Aroclor 1221	< 3.3	< 2.0	< 3.3	< 33
Aroclor 1232	< 3.3	< 2.0	< 3.3	< 33
Aroclor 1242	< 3.3	< 2.0	< 3.3	< 33
Aroclor 1248	< 3.3	< 2.0	< 3.3	< 33
Aroclor 1254	< 2.0	< 2.0	< 2.0	< 33
Aroclor 1260	< 2.0	< 2.0	< 2.0	< 33
Units	(ppm)	(ppm)	(ppm)	(ppm)

Constituent	A15220-7 C-55	A15220-8 C-57	A15220-9 C-48	A15220-10 C-49
		Sample Designation		
Aroclor 1016	< 2.0	< 33	< 2.0	< 3.3
Aroclor 1221	< 2.0	< 33	< 2.0	< 3.3
Aroclor 1232	< 2.0	< 33	< 2.0	< 3.3
Aroclor 1242	< 2.0	< 33	< 2.0	< 3.3
Aroclor 1248	< 2.0	< 33	< 2.0	< 3.3
Aroclor 1254	< 2.0	< 3.3	< 2.0	< 2.0
Aroclor 1260	< 2.0	< 3.3	< 2.0	< 2.0
Units	(ppm)	(ppm)	(ppm)	(ppm)

III. Analytical Results (Cont'd)

Metals

Parameter	Method Blank	A15220-1 C-48	A15220-2 C-49	A15220-3 C-50	A15220-4 C-51
		Sample Designation			
Antimony, total	<10	<10	<10	<10	<10
Arsenic, total	<10	<10	<10	<10	<10
Barium, total	<10	210	<10	37	110
Beryllium, total	<10	<10	<10	<10	<10
Cadmium, total	<10	<10	<10	<10	<10
Calcium, total	<10	44,000	120	90,000	300
Chromium, total	<10	470	120	14	1,900
Copper, total	<10	260	<10	160	11
Iron, total	<10	5,900	19	6,800	390
Lead, total	<10	2,400	<10	41	250
Magnesium, total	<10	31,000	<10	3,200	<10
Manganese, total	<10	63	<10	2,900	11
Mercury, total	<10	<10	<10	<10	<10
Nickel, total	<10	<10	<10	<10	12
Potassium, total	<10	<10	3,300	550	1,800
Selenium, total	<10	<10	<10	<10	<10
Silicon, total	<10	<10	<10	<10	<10
Silver, total	<10	<10	<10	<10	<10
Sodium, total	<10	310	110,000	330,000	33,000
Thallium, total	<10	<10	<10	<10	<10
Zinc, total	<10	450	75	33	570
Units	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)

III. Analytical Results (Cont'd)

Metals

Parameter	Method Blank	Sample Designation A15220-5 C-11	A15220-6 C-51	A15220-7 C-55	A15220-8 C-57
Antimony, total	<10	<10	<10	<10	<10
Arsenic, total	<10	<10	<10	<10	<10
Barium, total	<10	32	120	<10	24
Beryllium, total	<10	<10	<10	<10	<10
Cadmium, total	<10	<10	<10	29	<10
Calcium, total	<10	88	2,700	240	180,000
Chromium, total	<10	14	280	1,300	2,400
Copper, total	<10	24	220	76	20
Iron, total	<10	350	11,000	1,200	19,000
Lead, total	<10	29	450	47	820
Magnesium, total	<10	<10	470	<10	2,800
Manganese, total	<10	17	250	30	110
Mercury, total	<10	<10	<10	<10	<10
Nickel, total	<10	<10	1,100	36	<10
Potassium, total	<10	<10	<10	<10	<10
Selenium, total	<10	<10	<10	<10	<10
Silicon, total	<10	<10	<10	<10	<10
Silver, total	<10	<10	<10	<10	<10
Sodium, total	<10	1,300	16,000	1,100	12,000
Thallium, total	<10	<10	<10	<10	<10
Zinc, total	<10	150	7,300	570	3,200
Units	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)

III. Analytical Results (Cont'd)

Metals

Parameter	Method Blank	A15220-9 C-58	A15220-10 C-59	A15220-11 C-52	A15220-1 C-53
		Sample Designation			
Antimony, total	<10	<10	<10	<10	<10
Arsenic, total	<10	<10	<10	<10	<10
Barium, total	<10	19	<10	<10	<10
Beryllium, total	<10	<10	<10	<10	<10
Cadmium, total	<10	<10	<10	<10	720
Calcium, total	<10	1,400	1,300	86	210
Chromium, total	<10	40,000	24	<10	160,000
Copper, total	<10	330	<10	9,500	32,000
Iron, total	<10	790	290	18	4,100
Lead, total	<10	<10	21	<10	<10
Magnesium, total	<10	65	96	<10	160
Manganese, total	<10	1,800	16	5,100	110
Mercury, total	<10	<10	<10	<10	<10
Nickel, total	<10	190	25	240	680
Potassium, total	<10	10,000	<10	<10	<10
Selenium, total	<10	<10	<10	<10	<10
Silicon, total	<10	<10	<10	<10	<10
Silver, total	<10	<10	<10	<10	<10
Sodium, total	<10	3,100	1,200	28,000	270
Thallium, total	<10	<10	<10	<10	<10
Zinc, total	<10	180	580	85	47
Units	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)

III. Analytical Results (Cont'd)

Metals

Parameter	Method Blank	A15220-13 C-54	A15220-14 C-60
	Sample Designation		
Antimony, total	<10	<10	<10
Arsenic, total	<10	<10	<10
Barium, total	<10	<10	<10
Beryllium, total	<10	<10	<10
Cadmium, total	<10	<10	<10
Calcium, total	<10	2,500	<10
Chromium, total	<10	97	<10
Copper, total	<10	<10	140
Iron, total	<10	24	440
Lead, total	<10	<10	<10
Magnesium, total	<10	59	<10
Manganese, total	<10	15,000	<10
Mercury, total	<10	<10	<10
Nickel, total	<10	<10	22
Potassium, total	<10	6,100	<10
Selenium, total	<10	<10	<10
Silicon, total	<10	<10	<10
Silver, total	<10	<10	<10
Sodium, total	<10	340	50,000
Thallium, total	<10	<10	<10
Zinc, total	<10	<10	<10
Units	(ppm)	(ppm)	(ppm)

III. Analytical Results (Cont'd)

General Chemistry

Sample Designation

Parameter	Method Blank	A15220-1 C-48	A15220-2 C-59	A15220-3 C-50	A15220-4 C-51
Cyanide, Total, ppm	<10	<10	<10	<10	<10
Water, %	1.0 U	47	57	37	62

Sample Designation

Parameter	A15220-5 C-11	A15220-6 C-51	A15220-7 C-55	A15220-8 C-57	A15220-9 C-58
Cyanide, Total, ppm	<10	<10	<10	<10	<10
Water, %	63	67	58	31	80

Sample Designation

Parameter	A15220-10 C-59	A15220-11 C-52	A15220-12 C-53	A15220-13 C-54	A15220-14 C-55
Cyanide, Total, ppm	21	<10	<10	<10	3,000
Water, %	83	59	51	89	94

III. Analytical Results (Cont'd)

General Chemistry

Parameter	Method Blank	A15220-11 C-48	A15220-12 C-59
	Sample Designation		
Phenolics, total, ppm	< 10	< 10	< 10
Flashpoint, Closed cup, °F	--	151	> 180
Total Organic Carbon, ppm	< 10	6,600	92
Specific Gravity	--	1.16	1.43

Parameter	A15220-13 C-50	A15220-14 C-51
	Sample Designation	
Phenolics, total, ppm	< 10	< 10
Flashpoint, Closed cup, °F	> 180	> 180
Total Organic Carbon, ppm	1,000	12,000
Specific Gravity	1.02	1.06

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QA/QC APPROVED ✓
DATE 01-11-88
SIGNED Freddie Walker

IV. Quality Control Data

Volatile Organics

Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A15198-3

Constituent	Method Blank	Amount of Spike	Recovery MS	Recovery MSD	RPD
Chloromethane	< 10	0.25	106	103	2
Bromomethane	< 10	0.25	97	118	19
Vinyl Chloride	< 10	0.25	98	107	9
Chloroethane	< 10	0.25	96	107	11
Methylene Chloride	< 10	0.25	70	93	28
1,1-Dichloroethene	< 10	0.25	91	105	15
1,1-Dichloroethane	< 10	0.25	118	113	4
trans-1,2-Dichloroethene	< 10	0.25	118	118	0
Chloroform	< 10	0.25	113	131	15
1,2-Dichloroethane	< 10	0.25	108	127	17
1,1,1-Trichloroethane	< 10	0.25	74	73	1
Carbon Tetrachloride	< 10	0.25	98	110	12
Bromodichloromethane	< 10	0.25	108	115	6
1,2-Dichloropropane	< 10	0.25	91	108	16
trans-1,3-Dichloropropene	< 10	0.25	96	103	7
Trichloroethene (TCE)	< 10	0.25	58	62	6
Dibromochloromethane	< 10	0.25	102	110	8
1,1,2-Trichloroethane	< 10	0.25	100	108	7
Benzene	< 10	0.25	102	111	8
cis-1,3-Dichloropropene	< 10	0.25	97	101	4
2-Chloroethyl Vinyl Ether	< 10	0.25	106	113	7
Bromoform	< 10	0.25	95	115	18
Tetrachloroethene	< 10	0.25	50	62	21
1,1,2,2-Tetrachloroethane	< 10	0.25	94	108	13
Toluene	< 10	0.25	98	104	6
Chlorobenzene	< 10	0.25	97	108	11
Ethylbenzene	< 10	0.25	105	110	4
o-Xylene	< 10	0.25	125	124	1
Units	(ppm)	(ug)	(%)	(%)	(%)

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IV. Quality Control Data (Cont'd)

Volatile Organics

Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A15220-2

Constituent	Method Blank	Amount of Spike	Recovery MS	MSD	RPD
Chloromethane	< 10	0.25	116	128	10
Bromomethane	< 10	0.25	108	115	6
Vinyl Chloride	< 10	0.25	109	121	10
Chloroethane	< 10	0.25	120	120	1
Methylene Chloride	< 10	0.25	178	174	2
1,1-Dichloroethene	< 10	0.25	90	91	1
1,1-Dichloroethane	< 10	0.25	44	70	46
trans-1,2-Dichloroethene	< 10	0.25	88	89	1
Chloroform	< 10	0.25	93	102	9
1,2-Dichloroethane	< 10	0.25	106	121	13
1,1,1-Trichloroethane	< 10	0.25	100	97	2
Carbon Tetrachloride	< 10	0.25	98	89	9
Bromodichloromethane	< 10	0.25	94	89	5
1,2-Dichloropropane	< 10	0.25	88	90	2
trans-1,3-Dichloropropene	< 10	0.25	91	96	6
Trichloroethene (TCE)	< 10	0.25	151	151	0
Dibromochloromethane	< 10	0.25	99	89	11
1,1,2-Trichloroethane	< 10	0.25	98	87	12
Benzene	< 10	0.25	94	93	2
cis-1,3-Dichloropropene	< 10	0.25	103	90	13
2-Chloroethyl Vinyl Ether	< 10	0.25	94	93	1
Bromoform	< 10	0.25	98	90	8
Tetrachloroethene	< 10	0.25	98	94	5
1,1,2,2-Tetrachloroethane	< 10	0.25	26	33	24
Toluene	< 10	0.25	109	92	16
Chlorobenzene	< 10	0.25	95	90	5
Ethylbenzene	< 10	0.25	101	95	6
o-Xylene	< 10	0.25	86	93	8
Units	(ppm)	(ug)	(%)	(%)	(%)

IV. Quality Control Data (Cont'd)

Volatile Organics

Surrogate Recovery Data

Sample Designation	1,2-Dichloroethane-d_4 (0.25 ug Added)	Surrogate Recovery: Toluene-d_8 (0.25 ug Added)	Surrogate Recovery: 4-Bromofluorobenzene (0.25 ug Added)
Method Blank 1	110	107	99
Method Blank 2	108	119	116
Method Blank 3	98	107	106
A15198-3 Spike	107	103	93
A15198-3 Spike Dup.	116	101	89
A15220-2 Spike	108	115	107
A15220-2 Spike Dup.	128	105	110
A15220-1	101	100	96
A15220-2	113	103	99
A15220-3	110	93	88
A15220-4	113	109	86
A15220-5	116	130	132
A15220-6	126	117	92
A15220-7	131	108	112
A15220-8	110	108	126
A15220-9	103	119	102
A15220-10	119	113	108
Units	(%)	(%)	(%)

IV. Quality Control Data (Cont'd)

Semivolatile Organics

Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked DI Water

Constituent	Method Blank	Amount of Spike	Recovery MS	Recovery MSD	RPD
1,4-Dichlorobenzene	< 10	100	100	109	9
N-Nitrosodipropylamine	< 10	100	72	82	13
1,2,4-Trichlorobenzene	< 10	100	125	107	16
Acenaphthene	< 10	100	81	86	6
2,4-Dinitrotoluene	< 10	100	11	7	44
Pyrene	< 10	100	103	140	31
Phenol	< 10	200	66	66	0
2-Chlorophenol	< 10	200	92	105	13
4-Chloro-3-methylphenol	< 10	200	92	60	42
4-Nitrophenol	< 10	200	19	14	28
Pentachlorophenol	< 10	200	55	54	2
Units	(ppm)	(ug)	(%)	(%)	(%)

IV. Quality Control Data (Cont'd)

Semivolatile Organics

Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked A15117-6

Constituent	Method Blank	Amount of Spike	Recovery MS	MSD	RPD
1,4-Dichlorobenzene	< 10 U	100	95	102	7
N-Nitrosodipropylamine	< 10 U	100	79	84	6
1,2,4-Trichlorobenzene	< 10 U	100	92	100	8
Acenaphthene	< 10 U	100	87	98	12
2,4-Dinitrotoluene	< 10 U	100	90	85	6
Pyrene	< 10 U	100	83	111	29
Phenol	< 10 U	200	88	88	0
2-Chlorophenol	< 10 U	200	99	101	2
4-Chloro-3-methylphenol	< 10 U	200	104	104	0
4-Nitrophenol	< 50 U	200	105	94	11
Pentachlorophenol	< 50 U	200	106	113	6
Units	(ppm)	(ug)	(%)	(%)	(%)

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IV. Quality Control Data (Cont'd)

Semivolatile Organics

Surrogate Recovery Data

Sample Designation	2-Fluorophenol (100 ug Added)	Surrogate Recovery: Phenol-d_5 (100 ug Added)	2,4,6-Tribromophenol (100 ug Added)
Method Blank 1	62	50	71
Method Blank 2	85	90	64
DI Water Spike	102	67	99
DI Water Spike Dup.	79	94	87
A15117-6 Spike	94	108	121
A15117-6 Spike Dup.	99	108	89
A15220-1	92	94	80
A15220-2	79	66	30
A15220-3	19	74	31
A15220-4	21	54	56
A15220-5	104	120	61
A15220-6	37	64	3
A15220-7	105	122	89
A15220-8	11	38	*
A15220-9	45	28	25
A15220-10	107	121	81
Units	(%)	(%)	(%)

*Not recovered due to matrix interference.

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IV. Quality Control Data (Cont'd)

Semivolatile Organics

Surrogate Recovery Data

Sample Designation	Surrogate Recovery: Nitrobenzene-d_5 (50 ug Added)	2-Fluorobiphenyl (50 ug Added)	Terphenyl-d_{14} (50 ug Added)
Method Blank 1	90	102	113
Method Blank 2	64	82	90
DI Water Spike	54	82	112
DI Water Spike Dup.	42	62	140
A15117-6 Spike	100	86	53
A15117-6 Spike Dup.	103	91	55
A15220-1	93	93	108
A15220-2	103	101	115
A15220-3	54	79	91
A15220-4	87	98	134
A15220-5	46	97	118
A15220-6	88	84	109
A15220-7	94	108	124
A15220-8	79	75	83
A15220-9	147	83	116
A15220-10	89	102	103
Units	(%)	(%)	(%)

IV. Quality Control Data (Cont'd)

Polychlorinated Biphenyls

Matrix Spike/Matrix Spike Duplicate Recovery Data

PCB Sample Spiked DI Water

Constituent	Method Blank	Amount of Spike	Recovery MS	MSD	RPD
Aroclor 1260	<2.0	8.0	151	140	8
Units	(ppm)	(ug)	(%)	(%)	(%)

IX. Quality Control Data (Cont'd)

Polychlorinated Biphenyls

Surrogate Recovery Data and Retention Time Shift

Sample Designation	Dibutylchlorendate (1.0 ug Added) Recovery	Retention Time Shift
Method Blank 1	76	0.1
Method Blank 2	100	0.8
DI Water Spike	98	0.6
DI Water Spike Dup.	91	0.3
A15220-1	*	--
A15220-2	63	1.2
A15220-3	46	0.3
A15220-4	106	0.4
A15220-5	53	0.4
A15220-6	**	--
A15220-7	91	0.6
A15220-8	**	--
A15220-9	97	0.2
A15220-10	*	--
Units	(%)	(%)

* Not recovered due to matrix interference.

** Not recovered due to dilution.

IV. Quality Control Data (Cont'd)

Metals

Matrix Spike/Matrix Spike Duplicate Recovery Data

Sample Spiked DI Water

Constituent	Method Blank	Amount of Spike	Recovery MS
Barium	<10	500	108
Beryllium	<10	500	107
Cadmium	<10	500	105
Calcium	<10	1,000	96
Chromium	<10	500	104
Copper	<10	500	105
Iron	<10	500	105
Lead	<10	500	114
Magnesium	<10	1,000	103
Manganese	<10	500	101
Nickel	<10	500	108
Potassium	<10	1,000	109
Silver	<10	500	86
Sodium	<10	1,000	80
Zinc	<10	500	112
Units	(ppm)	(ug)	(%)

IV. Quality Control Data (Cont'd)

General Chemistry

Matrix Spike/Matrix Spike Duplicate Recovery Data

Constituent	Method Blank	Amount of Spike	Recovery MS	Recovery MSD	RPD
Cyanide	<10	30	82	91	10
Phenolics	<10	10	96	93	3
Total Organic Carbon	<10	50	94	92	2
Water	<10	1,000	90	100	10
Units	(ppm)	(ug)	(%)	(%)	(%)