

ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

PHASE II INVESTIGATION

Tuxedo Waste Disposal Site Site No. 336035
Tuxedo Orange County

DATE: March 1989

Volume III - Appendices C,D,E, and F



Prepared for:
New York State
Department of
Environmental Conservation

50 Wolf Road, Albany, New York 12233
Thomas C. Jorling, *Commissioner*

Division of Hazardous Waste Remediation
Michael J. O'Toole, Jr. P.E., *Director*

By:
Lawler, Matusky & Skelly Engineers

ENGINEERING INVESTIGATIONS AT
INACTIVE HAZARDOUS WASTE SITES
IN THE STATE OF NEW YORK
PHASE II INVESTIGATIONS

Tuxedo Waste Disposal Site
Town of Tuxedo, Orange County
NYSDEC I.D. No. 336035

Volume III - Appendices C, D, E, and F

Prepared for

DIVISION OF HAZARDOUS WASTE REMEDIATION
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road
Albany, New York 12233-0001

Prepared by

LAWLER, MATUSKY & SKELLY ENGINEERS
Environmental Science & Engineering Consultants
One Blue Hill Plaza
Pearl River, New York 10965

March 1989

LMSE-89/0123&576/018

APPENDIX C
OTHER DATA

APPENDIX C

OTHER DATA REFERENCES

- [1] 17, 18 November 1987 NYSDEC Data
- [2] 16 October 1987 cover material analysis
- [3] 27 October 1988 NYSDEC Data
- [4] 28 April 1988 Johnson Antiques Well Sample
- [5] 23 March and 16 June 1988 NYSDOH air samples
- [6] EA report letters
- [7] TSCA PCB spill cleanup policy
- [8] EA testimony on OVA results
- [9] New Jersey District Water Supply Commission Results
- [10] Abex Corp. Data
- [11] Ward Stone data

REFERENCE 1

119.

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233



Thomas C. Jorling
Commissioner

January 13, 1988

Helene Goldberger
Assistant Attorney General
Environmental Protection Bureau
120 Broadway
New York, NY 10271

Dear Ms. Goldberger:

Enclosed please find a complete set of sampling results both air samples and soil samples taken by the Department at Tuxedo Park, C&D Landfill on November 17, 18, 1987.

If you have any questions, please feel free to contact me.

Sincerely,

Warren P. Reiss
Assistant Counsel

Enclosure

cc: R. Gardineer (w/encl.)
R. Tramontano (w/encl.) ✓

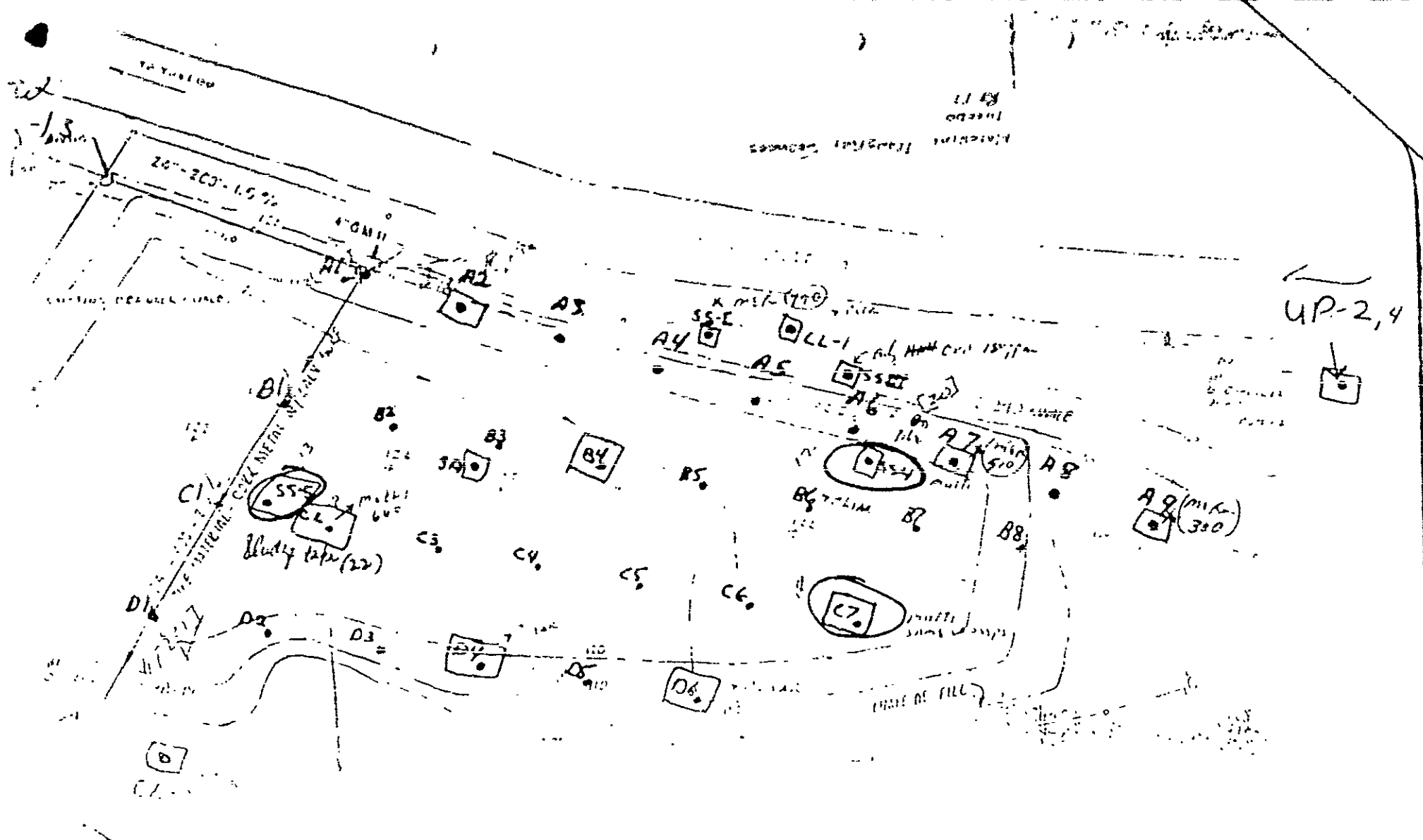
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BUREAU OF ENVIRONMENTAL
EXPOSURE INVESTIGATION

Tuxedo Park C&D Site
Sample Key

<u>DEC I.D.</u>	<u>DOH Accession No.</u>	<u>Sampling Point</u>
P-387-D24-01	875404	Downwind 1 ambient air
P-387-D24-02	875405	Upwind 1 ambient air
P-387-D24-03	875406	Downwind 2 ambient air
P-387-D24-04	875407	Upwind 2 ambient air
P-387-D25-05	875408	Site air ambient air
P-387-D24-06	875409	Blank
P-387-D24-07	875410	SSI Vent
P-387-D24-08	875411	CL-1 Culvert
P-387-D24-09	875412	SS-4 Vent
P-387-D24-10	875413	SS-5 Vent
P-387-D24-11	875414	A-2 Boring
P-387-D24-12	875415	CL-2 Culvert
P-387-D24-13	875416	D-4 Boring
P-387-D24-14	875417	C-2 Boring
P-387-D24-15	875418	C-7 Boring
P-387-D24-16	875419	D-6 Boring
P-387-D24-17	875420	B-4 Boring
P-387-D24-18	875421	A-7 Boring
P-387-D24-19	875422	A-9 Boring
P-387-C07-20		Debris Pile
P-387-C07-21		Soil Pit
P-387-C07-22		Sludge



11 43
 11:40
 11:45
 11:50
 11:55
 12:00

UP-2,4



20-200-1.5%

20-200-1.5%

X MET (110)
 SS-E
 LL-1

Bluddy take (22)
 SS-E

A7 (min 510)
 A8

A9 (min 330)
 A9

D6

LINE OF FILL

NEW YORK STATE DEPARTMENT OF HEALTH
 MADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION INTERIM REPORT

SAMPLE ID: 875404 SAMPLE RECEIVED: 87/11/28/ CHARGE: 0.00
 PROGRAM: 5500-DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 8565
 POLITICAL SUBDIVISION: TUNEGO COUNTY: ORANGE
 ALTITUDE: LONGITUDE: .UP-1 Z DIRECTION:
 LOCATION: TU EGO PARK AT 17 LANDFILL
 DESCRIPTION: 0111491A, 111492B, SAMPLING POINT UP-1, P-367-C24-01
 REPORTING LAB: TOX. LAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 624AIR: VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 800-OTHER AIR RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 87/11/28 10:14 TO 87/11/28 11:04 LAST ACTION DATE: 88/01/12

ANALYSIS: 624AIR VOLATILE COMPOUNDS IN AIR - GC/MS
 DATA INCOMPLETE INTERIM REPORT

PARAMETER	RESULT
T01002 METHANETHANE	(NE)
T41002 VINYL CHLORIDE	(NE)
T21002 ETHYLENE	(NE)
T23002 METHYLENE CHLORIDE (DICHLOROMETHANE 2700)	NOG. CUM.
T50002 1,1-DICHLOROETHANE	(NE)
T61002 BROMOMETHANE	(NE)
T01202 TRANS-1,2-DICHLOROETHENE	(NE)
T51002 1,1-DICHLOROETHANE	(NE)
T50002 1,2-DICHLOROETHANE	(NE)
T29002 CHLOROFORM	(NE)
T20002 1,1,1-TRICHLOROETHANE	(NE)
T61702 TRICHLOROFLUOROMETHANE (FREGON-11)	(NE)
T00002 CARBON TETRACHLORIDE	(NE)
T38902 BROMODICHLOROMETHANE	(NE)
T30002 BENZENE	(NE)
T39202 TOLUENE	(NE)
T51002 ETHYLBENZENE	(NE)
T61502 TRANS-1,3-DICHLOROPROPENE	(NE)
T61402 CIS-1,3-DICHLOROPROPENE	(NE)
T61302 1,2-DICHLOROPROPANE	(NE)
T40002 CHLOROBENZENE	(NE)
T41102 TRICHLOROETHENE	(NE)
T51702 1,1,1,2-TRICHLOROETHANE	(NE)
T41202 TETRACHLOROETHENE	(NE)
T51002 1,1,2,2-TETRACHLOROETHANE	(NE)
T44902 DIBROMOCHLOROMETHANE	(NE)
T42102 BROMOFORM	(NE)
T00300 AIR VOLUME	0.1180 CUM.

*** END OF REPORT ***

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NEW YORK STATE DEPARTMENT OF HEALTH
 WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875405 SAMPLE RECEIVED: 87/11/23/ CHARGE: 0.00
 PROGRAM: 5600-DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 8565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: .0W-1 Z DIRECTION:
 LOCATION: TUXEDO PARK AT 27 LANDFILL
 DESCRIPTION: #111403A, 111494E, SAMPLING POINT #1, P-387-D24-02
 REPORTING LAB: TSC - LAB FOR ORGANIC & ANALYTICAL CHEMISTRY
 TEST PATTERN: 624-MF VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 227-57-50 AIR RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 07 11 15 00:00 TO 07 11 15 11:37 LAST ACTION DATE: 88.01.12

ANALYSIS: 624-AIR VOLATILE COMPOUNDS IN AIR - GC/MS
 DATA INCOMPLETE INTERIM REPORT

ELEMENTS	RESULT
700002 CHLOROPHENE	(NE)
700002 CHLOROPHENE	(NE)
700002 CHLOROPHENE	(NE)
700002 METHYLENE CHLORIDE 1,1-DICHLOROETHANE	(NE)
700002 1,1-DICHLOROETHANE	(NE)
700002 BROMOMETHANE	(NE)
700002 TRANS-1,2-DICHLOROETHANE	(NE)
700002 1,1-DICHLOROETHANE	(NE)
700002 1,2-DICHLOROETHANE	(NE)
700002 CHLOROFORM	(NE)
700002 1,1,1-TRICHLOROETHANE	(NE)
700002 TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
700002 CARBON TETRACHLORIDE	(NE)
700002 BROMOCHLOROMETHANE	(NE)
700002 BENZENE	(NE)
700002 TOLUENE	(NE)
700002 ETHYLBENZENE	(NE)
700002 TRANS-1,3-DICHLOROPROPENE	(NE)
700002 CIS-1,3-DICHLOROPROPENE	(NE)
700002 1,2-DICHLOROPROPANE	(NE)
700002 CHLOROBENZENE	(NE)
700002 TRICHLOROETHENE	(NE)
700002 1,1,1-TRICHLOROETHANE	(NE)
700002 TETRACHLOROETHENE	(NE)
700002 1,1,1,2-TETRACHLOROETHANE	(NE)
700002 DIBROMOCHLOROMETHANE	(NE)
700002 BROMOFORM	(NE)
700000 AIR VOLUME	0.0198 CU.M.

*** END OF REPORT ***

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SUBMITTED TO: DEC 23 1987

NEW YORK STATE DEPARTMENT OF HEALTH
 WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION INTERIM REPORT

SAMPLE ID: S75406 SAMPLE RECEIVED: 07/11/23/ CHARGE: 0.00
 PROGRAM: 500-DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: GRANGE
 LATITUDE: LONGITUDE: . UP-2 Z DIRECTION:
 LOCATION: TUXEDO PARK RT 17 LANDFILL
 DESCRIPTION: #111479A, #111480B. SAMPLING POINT UP-2, P-387-DE4-03
 REPORTING LAB: TO HEAD FOR ORGANIC ANALYTIC CHEMISTS
 TEST PATTERN: 62441R: VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 204-OTHER AIR RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 07-11-16 12: TO 07/11/18 14: LAST ACTION DATE: 02 01 12

ANALYSIS: 62441R VOLATILE COMPOUNDS IN AIR & GC'S
 DATA INCOMPLETE INTERIM REPORT

PARAMETER	RESULT
T0002 CARBON DIOXIDE	(NE)
T0102 VINYL CHLORIDE	(NE)
T0102 CHLOROETHENE	(NE)
T0102 METHYLENE CHLORIDE (DICHLOROMETHANE)	(NE)
T0102 CIS-1,2-DICHLOROETHENE	(NE)
T0132 BROMOMETHANE	(NE)
T0132 TRANS-1,2-DICHLOROETHENE	(NE)
T0132 1,1-DICHLOROETHANE	(NE)
T0132 1,2-DICHLOROETHANE	(NE)
T0132 CHLOROFORM	(NE)
T0132 1,1,1-TRICHLOROETHANE	(NE)
T0172 TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
T0202 CARBON TETRACHLORIDE	(NE)
T0302 BROMODICHLOROMETHANE	(NE)
T0402 BENZENE	(NE)
T0922 TOLUENE	(NE)
T0102 ETHYLBENZENE	(NE)
T0152 TRANS-1,3-DICHLOROPROPENE	(NE)
T0142 CIS-1,3-DICHLOROPROPENE	(NE)
T0132 1,2-DICHLOROPROPANE	(NE)
T4092 CHLOROBENZENE	(NE)
T4112 TRICHLOROETHENE	(NE)
T0172 1,1,2-TRICHLOROETHANE	(NE)
T4122 TETRACHLOROETHENE	(NE)
T0192 1,1,2,2-TETRACHLOROETHANE	(NE)
T4492 DIBROMOCHLOROMETHANE	(NE)
T4202 BROMOFORM	(NE)
T0030 AIR VOLUME	0.0207 CU.M.

**** END OF REPORT ****

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 * SUBMITTED 8:50 PM 07/11/23

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875407 SAMPLE RECEIVED: 87/11/23/ CHARGE: 0.00
 PROGRAM: 5600 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 LATITUDE: LONGITUDE: DW2 Z DIRECTION:
 LOCATION: 74-550 PARK AT 17 LANDFILL
 DESCRIPTION: 111481A, 111482B, SAMPLING POINT ON 2.P-387-024-04
 REPORTING LAB: TOX-LAB FOR ORGANIC ANALYTICAL CHEMISTS
 TEST PATTERN: 624AIR: VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 990 OTHER AIR RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 87-11-16 13:13 TO 87-11-16 14:13 LAST ACTION DATE: 22-01-12

ANALYSIS: 624AIR VOLATILE COMPOUNDS IN AIR - GC/MS DATA INCOMPLETE INTERIM REPORT

PARAMETER	RESULT
70002 CHLOROMETHANE	(NE)
71002 VINYL CHLORIDE	(NE)
72002 1,1-DICHLOROETHANE	(NE)
73002 METHYLENE CHLORIDE	(NE)
74002 1,1,1-TRICHLOROETHANE	(NE)
75002 BROMOMETHANE	(NE)
76002 TRANS-1,2-DICHLOROETHANE	(NE)
77002 1,1-DICHLOROETHANE	(NE)
78002 1,2-DICHLOROETHANE	(NE)
79002 CHLOROFORM	(NE)
80002 1,1,1-TRICHLOROETHANE	(NE)
81702 TRICHLOROFLUOROMETHANE	(NE)
82002 CARBON TETRACHLORIDE	(NE)
83002 BROMOCHLOROMETHANE	(NE)
84402 BENZENE	(NE)
85202 TOLUENE	(NE)
86102 ETHYLBENZENE	(NE)
87502 TRANS-1,3-DICHLOROPROPENE	(NE)
88402 CIS-1,3-DICHLOROPROPENE	(NE)
89302 1,2-DICHLOROPROPANE	(NE)
90202 CHLOROBENZENE	(NE)
91102 TRICHLOROETHENE	(NE)
92002 1,1,2-TRICHLOROETHANE	(NE)
93202 TETRACHLOROETHENE	(NE)
94002 1,1,1,2-TETRACHLOROETHANE	(NE)
94902 DIBROMOCHLOROMETHANE	(NE)
95002 BROMOFORM	(NE)
96300 AIR VOLUME	0.0228 CU.M.

**** END OF REPORT ****

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**NEW YORK STATE DEPARTMENT OF HEALTH
ROSWORTH CENTER FOR LABORATORIES AND RESEARCH**

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875409 SAMPLE RECEIVED: 87/11/23/ CHARGE: 0.00
PROGRAM: 5040 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3865
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TUXEDO PARK ST 17 LANDFILL
DESCRIPTION: 111425A, 111476B, SAMPLING POINT T.E.P-367-D24-06
REPORTING LAB: TOX-LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: 624AIR VOLATILE COMPOUNDS IN AIR
SAMPLE TYPE: 900-OTHER AIR-25, TEE 9-15-88
REASONS FOR SUBMISSION: TASTE/ODOR
TIME OF SAMPLING: 87/11/19 TO 87/11/19 LAST ACTION DATE: 88/01/12

ANALYSIS: 624AIR VOLATILE COMPOUNDS IN AIR - GC-MS INTERIM REPORT
DATA INCOMPLETE

PARAMETER	RESULT
T2102 CHLOROPETROLENE	(NE)
T2102 VINYL CHLORIDE	(NE)
T2102 CHLOROETHYLENE	(NE)
T2302 METHYLENE CHLORIDE DICHLOROMETHANE	(NE)
T2302 1,1-DICHLOROETHYLENE	(NE)
T21302 BROMOMETHANE	(NE)
T61302 TRANS-1,2-DICHLOROETHYLENE	(NE)
T51302 1,1-DICHLOROETHANE	(NE)
T53002 1,1,2-DICHLOROETHANE	(NE)
T39002 CHLOROFORM	(NE)
T33002 1,1,1-TRICHLOROETHANE	(NE)
T61702 TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
T36002 CFC-113 TETRACHLORIDE	(NE)
T36302 BROMOCHLOROMETHANE	(NE)
T34402 BENZENE	(NE)
T39202 TOLUENE	(NE)
T51302 ETHYLBENZENE	(NE)
T31502 TRANS-1,3-DICHLOROPROPENE	(NE)
T31482 CIS-1,3-DICHLOROPROPENE	(NE)
T61302 1,2-DICHLOROPROPANE	(NE)
T40502 CHLOROBENZENE	(NE)
T41102 TRICHLOROETHYLENE	(NE)
T41732 1,1,2-TRICHLOROETHYLENE	(NE)
T41202 TETRACHLOROETHYLENE	(NE)
T41302 1,1,1,2-TETRACHLOROETHANE	(NE)
T44302 DIBROMOCHLOROMETHANE	(NE)
T42202 BROMOFORM	(NE)
T00300 AIR VOLUME	NONE

*** END OF REPORT ***

NO TEST SENT FOR ...

NEW YORK STATE DEPARTMENT OF HEALTH
HADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

INTERIM REPORT

PAGE 2

SAMPLE ID: 875410

SAMPLE RECEIVED: 07 11 23

CHARGE: C.C.C.

COUNT: 0.00

POLITICAL SUBDIVISION: TUNED

LOCATION: TU EDD HWY AT 17 LANDFILL

TIME OF SAMPLING: 07 11 10 00:10 TO 07 11 10 10:26 LAST ACTION DATE: 08 01 11

PARAMETER
TOC100 WIF VOLUME

RESULT
0.0136 C.U.M.

*** END OF REPORT ***

NEW YORK STATE DEPARTMENT OF HEALTH
 WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875411 SAMPLE RECEIVED: 87/11/28/ CHARGE: C.00
 PROGRAM: 5000-DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL JURISDICTION: TUNEGO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: TUNEGO PARK AT 17 LANDELL
 DESCRIPTION: #111403A, 111404B, SAMPLING POINT CL-1, P-387-124-08
 REPORTING LAB: TUNEGO FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 624AIR: VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 999-OTHER AIR RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 87/11/19 10:45 TO 87/11/19 11:30 LAST ACTIVITY DATE: 88/01/12

ANALYSIS: 624AIR VOLATILE COMPOUNDS IN AIR - GC/MS
 DATA INCOMPLETE INTERIM REPORT

-----PARAMETER-----

-----RESULT-----

T21002	ACETONE	(NE)
T21012	AMYL CHLORIDE	(NE)
T21002	BENZENE	(NE)
T21002	METHYLENE CHLORIDE (DICHLOROMETHANE)	(NE)
T21002	1,1-DICHLOROETHANE	(NE)
T21002	BROMOMETHANE	(NE)
T21002	TRANS-1,2-DICHLOROETHENE	(NE)
T21002	1,1-DICHLOROETHANE	(NE)
T21002	1,1,2-DICHLOROETHANE	(NE)
T21002	CHLOROFORM	(NE)
T21002	1,1,1,2-TETRACHLOROETHANE	(NE)
T21012	TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
T21012	PERCEN TETRAFLUORIDE	(NE)
T21002	BROMOCHLOROMETHANE	(NE)
T21002	BENZENE	(NE)
T21002	TOLUENE	(NE)
T21002	ETHYLBENZENE	(NE)
T21002	TRANS-1,3-DICHLOROPROPENE	(NE)
T21002	CIS-1,3-DICHLOROPROPENE	(NE)
T21002	1,2-DICHLOROPROPANE	(NE)
T21002	ETHYLBENZENE	(NE)
T41102	TRICHLOROETHENE	(NE)
T21002	1,1,1,2-TETRACHLOROETHANE	(NE)
T41202	TETRACHLOROETHENE	(NE)
T21002	1,1,1,2,2-PENTACHLOROETHANE	(NE)
T44002	DIBROMOCHLOROMETHANE	(NE)
T21002	BROMOFORM	(NE)
T00300	AIR VOLUME	0.0151 CUM.

*** END OF REPORT ***

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PREPARED BY: ED PERKINS

NEW YORK STATE DEPARTMENT OF HEALTH
 NORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION INTERIM REPORT

SAMPLE ID: 875412 SAMPLE RECEIVED: 6/7/11/23 CHARGE: 0.00
 PROGRAM: 5609-DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: SHEET REF CODE: 3885
 POLITICAL SUBDIVISION: TUNEDO COUNTY: CE 113F
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: TUNEDO PARK AT 47 LANEILL
 DESCRIPTION: 111477A, 111478B, SAMPLING POINT 88-4, F-327-024-02
 REPORTING LAB: FOR LAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 62441R VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 300-OTVCA AIR RELATED SAMPLES
 PHONE FOR SUBMISSION: TASTE: 000P
 TIME OF SAMPLING: 07:11:19 TO 07:11:19 11:02 EST ACTION DATE: 6/6/11

METHYL ETHYL KETONE = 776. MIB. CUM.
 METHYL ISOBUTYL KETONE = 630. MIB. CUM.
 TOTAL LEVELS = 1,406. MIB. CUM.

62441R VOLATILE COMPOUNDS IN AIR - 300-OTVCA INTERIM REPORT

NO.	NAME	RESULT
78002	CHLOROMETHANE	(NE)
78002	METHYL CHLORIDE	(NE)
78002	CHLOROETHANE	(NE)
78002	METHYLENE CHLORIDE (DICHLOROMETHANE)	(NE)
78102	1,1-DICHLOROETHENE	(NE)
78102	BROMOETHANE	(NE)
78102	TRANS-1,2-DICHLOROETHENE	(NE)
78102	1,1-DICHLOROETHANE	(NE)
78102	1,2-DICHLOROETHANE	(NE)
78102	CHLOROFORM	(NE)
78202	1,1,1-TRICHLOROETHANE	(NE)
78202	TRICHLOROFLUOROMETHANE (TRICHLOROFLUORIDE)	(NE)
78302	CARBON TETRACHLORIDE	(NE)
78302	BROMOCHLOROMETHANE	(NE)
78402	BENZENE	(NE)
78402	TOLUENE	10,000. MIB. CUM.
78102	ETHYLBENZENE	2200. MIB. CUM.
78102	TRANS-1,3-DICHLOROPROPENE	(NE)
781402	CIS-1,3-DICHLOROPROPENE	(NE)
781502	1,2-DICHLOROPROPANE	(NE)
781502	CHLOROBENZENE	(NE)
781602	TRICHLOROETHENE	(NE)
781702	1,1,2-TRICHLOROETHANE	(NE)
781802	TETRACHLOROETHENE	(NE)

*** CONTINUED ON NEXT PAGE ***

FOR USE BY THE LABORATORY ONLY
 ANALYST: [illegible]
 REVIEWER: [illegible]
 DATE: [illegible]

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

DE 2

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875412 SAMPLE RECEIVED: 87/11/23/ CHARGE: 0.00
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LOCATION: TUXEDO PARK RT 17 LANDFILL
TIME OF SAMPLING: 87/11/23 10:17 TO 87/11/23 11:02 LAST ACTION DATE: 88/01/17

PARAMETER	RESULT
T51802 1,1,2,2-TETRACHLOROETHANE	[NE]
T44302 DIBENZOCHLOROMETHANE	[NE]
T42102 BROMOFORM	[NE]
T00300 AIR VOLUME	0.0148 CU M

**** END OF REPORT ****

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875419 SAMPLE RECEIVED: 87-11-23/ CHARGE: C.00
 PROGRAM: 5600: DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 5565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: DIRECTION:
 LOCATION: TUXEDO PARK AT 17 LANDFILL
 DESCRIPTION: #111407A, 111402B, SAMPLING POINT 38-S, P-387-014-10
 REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTS
 TEST PATTERN: 624AIR: VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 930: OTHER AIR-RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 87/11/23 11:18 TO 87/11/23 12:03 LAST ACTION DATE: 88 01 30

01 METHYL ISOBUTYL KETONE = 4,000. MCG./CU.M.
 02 METHYL BUTYL KETONE = 1,600. MCG./CU.M.
 03 TOTAL XYLENES = 42,000. MCG. CU.M.

TEST PATTERN: 624AIR VOLATILE COMPOUNDS IN AIR - GC MS
 DATA INCOMPLETE

PARAMETER	RESULT
T62002 CHLOROMETHANE	(NE)
T41002 VINYL CHLORIDE	(NE)
T61802 CHLOROETHANE	(NE)
T23002 METHYLENE CHLORIDE (DICHLOROMETHANE)	(NE)
T50902 1,1-DICHLOROETHENE	(NE)
T61202 BROMOMETHANE	(NE)
T61202 TRANS-1,2-DICHLOROETHENE	(NE)
T51902 1,1-DICHLOROETHANE	(NE)
T50902 1,2-DICHLOROETHANE	(NE)
T39002 CHLOROFORM	(NE)
T23202 1,1,1-TRICHLOROETHANE	(NE)
T61702 TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
T38202 CARBON TETRACHLORIDE	(NE)
T36902 BROMODICHLOROMETHANE	(NE)
T34402 BENZENE	(NE)
T39202 TOLUENE	11,000. MCG/CU.M.
T51002 ETHYLBENZENE	3,900. MCG/CU.M.
T61502 TRANS-1,3-DICHLOROPROPENE	(NE)
T61402 CIS-1,3-DICHLOROPROPENE	(NE)
T61302 1,2-DICHLOROPROPANE	(NE)
T40902 CHLOROBENZENE	(NE)
T41102 TRICHLOROETHENE	(NE)
T61702 1,1,2-TRICHLOROETHANE	(NE)
T41202 TETRACHLOROETHENE	5,700. MCG CU.M.
T51902 1,1,2,2-TETRACHLOROETHANE	(NE)

*** CONTINUED ON NEXT PAGE ***

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RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875413 SAMPLE RECEIVED: 87/11/23/ CHARGE: 0.00
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LOCATION: TUXEDO PARK RT 17 LANDFILL
TIME OF SAMPLING: 87/11/12 11:18 TO 87.11.19 12:06 LAST ACTION DATE: 88 01 12

PARAMETER	RESULT
T44902 DIBROMOCHLOROMETHANE	(NE)
T42102 BROMOFORM	(NE)
T00300 AIR VOLUME	0.0106 CU.M.

**** END OF REPORT ****

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 075416 SAMPLE RECEIVED: 07/11/23/ CHARGE: 0.00
 PROGRAM: 5600: DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: TUXEDO PARK AT 17 LANDFILL
 DESCRIPTION: #111497A, 111498B, SAMPLING POINT D-4, P-387-024-13
 REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 624AIR: VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 990: OTHER AIR-RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 07/11/19 12:46 TO 07/11/19 13:29 LAST ACTION DATE: 03 01 12

ANALYSIS: 624AIR VOLATILE COMPOUNDS IN AIR - GC/MS
 DATA INCOMPLETE INTERIM REPORT

PARAMETER	RESULT
T62002 CHLOROMETHANE	(NE)
T41002 VINYL CHLORIDE	(NE)
T40002 CHLOROETHANE	(NE)
T20002 METHYLENE CHLORIDE (DICHLOROMETHANE)	(NE)
T50002 1,1-DICHLOROETHYLENE	(NE)
T61302 BROMOMETHANE	(NE)
T61002 TRANS-1,2-DICHLOROETHENE	(NE)
T51902 1,1-DICHLOROETHANE	(NE)
T50002 1,2-DICHLOROETHANE	(NE)
T39002 CHLOROFORM	(NE)
T23602 1,1,1-TRICHLOROETHANE	(NE)
T61702 TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
T35602 CARBON TETRACHLORIDE	(NE)
T38902 BROMODICHLOROMETHANE	(NE)
T34402 BENZENE	(NE)
T29202 TOLUENE	(NE)
T51002 ETHYLBENZENE	(NE)
T61502 TRANS-1,3-DICHLOROPROPENE	(NE)
T61402 CIS-1,3-DICHLOROPROPENE	(NE)
T61302 1,2-DICHLOROPROPANE	(NE)
T40902 CHLOROBENZENE	(NE)
T41102 TRICHLOROETHENE	(NE)
T51702 1,1,2-TRICHLOROETHANE	(NE)
T41202 TETRACHLOROETHENE	(NE)
T51802 1,1,2,2-TETRACHLOROETHANE	(NE)
T44902 DIBROMOCHLOROMETHANE	(NE)
T42102 BROMOFORM	(NE)
T00300 AIR VOLUME	0.0136 CU.M.

*** END OF REPORT ***

COPIES SENT TO: CO(2), SO(), LPHE(), FED(), INFO-P(), INFO-L()

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NEW YORK STATE DEPARTMENT OF HEALTH
 MADSWORTH CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875417 SAMPLE RECEIVED: 87/11/23/ CHARGE: C.C.
 PROGRAM: 3600: DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3587
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: E DIRECTION:
 LOCATION: TUXEDO PARK RT 17 LANDFILL
 DESCRIPTION: #111495A, 111496B, SAMPLING POINT C-2, P-387-024-14
 REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 624AIR: VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 990: OTHER AIR-RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 87/11/19 12:09 TO 87/11/19 13:50 LAST ACT: ON DATE: 88-01-0

ANALYSIS: 624AIR VOLATILE COMPOUNDS IN AIR - GC/MS
 DATA INCOMPLETE

INTERIM REPORT

PARAMETER	RESULT
T82002 CHLOROMETHANE	(NE)
T41102 VINYL CHLORIDE	(NE)
T81202 CHLOROETHANE	(NE)
T23502 METHYLENE CHLORIDE (DICHLOROMETHANE, 1,1-DICHLOROETHANE)	(NE)
T58902 1,1-DICHLOROETHANE	(NE)
T61202 BROMOMETHANE	(NE)
T61202 TRANS-1,2-DICHLOROETHENE	(NE)
T51902 1,1-DICHLOROETHANE	(NE)
T50202 1,2-DICHLOROETHANE	(NE)
T29002 CHLOROFORM	(NE)
T23602 1,1,1-TRICHLOROETHANE	(NE)
T61702 TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
T35202 CARBON TETRACHLORIDE	(NE)
T38902 BROMODICHLOROMETHANE	(NE)
T24402 BENZENE	(NE)
T39202 TOLUENE	(NE)
T51002 ETHYLBENZENE	(NE)
T61502 TRANS-1,3-DICHLOROPROPENE	(NE)
T61402 CIS-1,3-DICHLOROPROPENE	(NE)
T61302 1,2-DICHLOROPROPANE	(NE)
T40902 CHLOROBENZENE	(NE)
T41102 TRICHLOROETHENE	(NE)
T51702 1,1,2-TRICHLOROETHANE	(NE)
T41202 TETRACHLOROETHENE	(NE)
T51202 1,1,2,2-TETRACHLOROETHANE	(NE)
T44902 DIBROMOCHLOROMETHANE	(NE)
T42102 BROMOFORM	(NE)
T00300 AIR VOLUME	0.0150 CU.M.

*** END OF REPORT ***

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PRINTED BY: [illegible]

NEW YORK STATE DEPARTMENT OF HEALTH
 LABORATORY CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875418 SAMPLE RECEIVED: 87/11/23/ CHARGE: 0.00
 PROGRAM: 5600: DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: E DIRECTION:
 LOCATION: TUXEDO PARK RT 17 LANDFILL
 DESCRIPTION: #111411A, 111412B, SAMPLING POINT C-7, P-387-224-15
 REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 6241R: VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 890: OTHER AIR-RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 87/11/19 14:20 TO 87/11/19 15:10 LAST ACTION DATE: 88/01/12

- (1) METHYL ISOBUTYL KETONE = 390. MCG./CU.M.
- (2) METHYL BUTYL KETONE = 340. MCG./CU.M.
- (3) TOTAL XYLENES = 2,400. MCG./CU.M.

ANALYSIS: 6241R VOLATILE COMPOUNDS IN AIR - 61 MS
 CRT - INCOMPLETE INTERIM REPORT

PARAMETER	RES
T22002 CHLOROMETHANE	(NE)
T41002 VINYL CHLORIDE	(NE)
T21002 CHLOROETHANE	(NE)
T23802 METHYLENE CHLORIDE (1,1-DICHLOROMETHANE)	(NE)
T50902 1,1-DICHLOROETHANE	(NE)
T61802 BROMOMETHANE	(NE)
T61202 TRANS-1,2-DICHLOROETHENE	1,300. MCG./CU.M.
T51902 1,1-DICHLOROETHANE	270. MCG./CU.M.
T58802 1,2-DICHLOROETHANE	(NE)
T39002 CHLOROFORM	(NE)
T23202 1,1,1-TRICHLOROETHANE	(NE)
T61702 TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
T32202 CARBON TETRACHLORIDE	(NE)
T38902 BROMODICHLOROMETHANE	(NE)
T33502 BENZENE	750. MCG./CU.M.
T39202 TOLUENE	4,100. MCG./CU.M.
T51002 ETHYLBENZENE	750. MCG./CU.M.
T61502 TRANS-1,3-DICHLOROPROPENE	(NE)
T61402 CIS-1,3-DICHLOROPROPENE	(NE)
T61302 1,2-DICHLOROPROPANE	(NE)
T40902 CHLOROBENZENE	(NE)
T41102 TRICHLOROETHENE	2,700. MCG./CU.M.
T51702 1,1,2-TRICHLOROETHANE	(NE)
T41202 TETRACHLOROETHENE	550. MCG./CU.M.
T51802 1,1,2,2-TETRACHLOROETHANE	(NE)

*** CONTINUED ON NEXT PAGE ***

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ELIMATED 1 TEST RESULTS

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875418 SAMPLE RECEIVED: 97/11/23/ CHARGE: 0.00
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LOCATION: TUXEDO PARK RT 17 LANDFILL
TIME OF SAMPLING: 87/11/19 14:20 TO 87/11/19 15:10 LAST ACTION DATE: 98 04 12

PARAMETER	RESULT
T4902 DIBROMOCHLOROMETHANE	(NE)
T49102 BROMOFORM	(NE)
T00300 AIR VOLUME	0.0320 CU.M.

**** END OF REPORT ****

RESULTS OF EXAMINATION

INTERIM REPORT

ID: 075420 SAMPLE RECEIVED: 87/11/23/ CHARGE: 0.00
 DIVISION: 5600: DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3525
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: TUXEDO PARK RT 17 LANDFILL
 DESCRIPTION: #111499A, 111500B, SAMPLING POINT B-4, P-357-024-17
 REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 624AIR: VOLATILE COMPOUNDS IN AIR
 SAMPLE TYPE: 990: OTHER AIR-RELATED SAMPLES
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 87/11/19 14:50 TO 87/11/19 15:35 LAST ACTION DATE: 88/01/12

ANALYSIS: 624AIR VOLATILE COMPOUNDS IN AIR - GC/MS
 DATA INCOMPLETE INTERIM REPORT

PARAMETER	RESULT
T6302 CHLOROMETHANE	(NE)
T4102 VINYL CHLORIDE	(NE)
T6102 CHLOROETHANE	(NE)
T23202 METHYLENE CHLORIDE (DICHLOROMETHANE)	(NE)
T5102 1,1-DICHLOROETHANE	(NE)
T61302 BROMOMETHANE	(NE)
T61202 TRANS-1,2-DICHLOROETHENE	(NE)
T61902 1,1-DICHLOROETHANE	(NE)
T50202 1,2-DICHLOROETHANE	(NE)
T39002 CHLOROFORM	(NE)
T23502 1,1,1-TRICHLOROETHANE	(NE)
T61702 TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
T23202 CARBON TETRACHLORIDE	(NE)
T33902 BROMODICHLOROMETHANE	(NE)
T4402 BENZENE	(NE)
T39202 TOLUENE	(NE)
T51002 ETHYLBENZENE	(NE)
T61502 TRANS-1,3-DICHLOROPROPENE	(NE)
T61402 CIS-1,3-DICHLOROPROPENE	(NE)
T61302 1,2-DICHLOROPROPANE	(NE)
T40902 CHLOROBENZENE	(NE)
T41102 TRICHLOROETHENE	(NE)
T51702 1,1,2-TRICHLOROETHANE	(NE)
T41202 TETRACHLOROETHENE	(NE)
T51802 1,1,2,2-TETRACHLOROETHANE	(NE)
T44902 DIBROMOCHLOROMETHANE	(NE)
T42102 BROMOFORM	(NE)
T09300 AIR VOLUME	0.028 CU.M.

**** END OF REPORT ****

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SUBMITTED BY: JEC FEB 1988

RESULTS OF EXAMINATION

INTERIM REPORT

SAMPLE ID: 875421 SAMPLE RECEIVED: 87/11/23/ CHARGE: 0.00
PROGRAM: 5600: DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TUXEDO PARK RT 17 LANDFILL
DESCRIPTION: #111415A, 111416B, SAMPLING POINT A-7, P-387-024-18
REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: 624AIR: VOLATILE COMPOUNDS IN AIR
SAMPLE TYPE: 990: OTHER AIR-RELATED SAMPLES
REASONS FOR SUBMISSION: TASTE/ODOR
TIME OF SAMPLING: 87/11/19 15:20 TO 87/11/19 16:04 LAST ACTION DATE: 88/01/12

ANALYSIS: 624AIR VOLATILE COMPOUNDS IN AIR - GC/MS
DATA INCOMPLETE INTERIM REPORT

PARAMETER	RESULT
T2202 CHLOROMETHANE	[NE]
T4102 VINYL CHLORIDE	[NE]
T6102 CHLOROETHANE	[NE]
T2202 METHYLENE CHLORIDE (D:CHLOROMETHANE)	[NE]
T50302 1,1-DICHLOROETHENE	[NE]
T61202 BROMOMETHANE	[NE]
T61202 TRANS-1,2-DICHLOROETHENE	[NE]
T51302 1,1-DICHLOROETHANE	[NE]
T50802 1,2-DICHLOROETHANE	[NE]
T39002 CHLOROFORM	[NE]
T23602 1,1,1-TRICHLOROETHANE	[NE]
T61702 TRICHLOROFLUOROMETHANE (FREON-11)	[NE]
T36602 CARBON TETRACHLORIDE	[NE]
T38902 BROMODICHLOROMETHANE	[NE]
T34402 BENZENE	[NE]
T39202 TOLUENE	[NE]
T51002 ETHYL BENZENE	[NE]
T61502 TRANS-1,3-DICHLOROPROPENE	[NE]
T61402 CIS-1,3-DICHLOROPROPENE	[NE]
T61302 1,2-DICHLOROPROPANE	[NE]
T40902 CHLOROBENZENE	[NE]
T41102 TRICHLOROETHENE	[NE]
T51702 1,1,2-TRICHLOROETHANE	[NE]
T41202 TETRACHLOROETHENE	[NE]
T51802 1,1,2,2-TETRACHLOROETHANE	[NE]
T44902 DIBROMOCHLOROMETHANE	[NE]
T42102 BROMOFORM	[NE]
T00300 AIR VOLUME	0.0277 CU.M.

*** END OF REPORT ***

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SUBMITTED BY: ED REARICK

RESULTS OF EXAMINATION

INTERIM REPORT

075422 SAMPLE RECEIVED: 07/11/19 CHARGE: 0.00

5624 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC

SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 8565
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE

LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TUXEDO PARK RT 17 LANDFILL

DESCRIPTION: #111417A, 111418B, SAMPLING POINT A-9, F-387-024-19
REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY

TEST PATTERN: 624AIR: VOLATILE COMPOUNDS IN AIR
SAMPLE TYPE: 990: OTHER AIR-RELATED SAMPLES

REASONS FOR SUBMISSION: TASTE/ODOR
TIME OF SAMPLING: 07/11/19 15:35 TO 07/11/19 16:25 LAST ACTION DATE: 08/01 10

0 METHYL ETHYL KETONE = 380. MCG./CU.M.

ANALYSIS: 624AIR VOLATILE COMPOUNDS IN AIR - GC/MS
DATA INCOMPLETE INTERIM REPORT

PARAMETER	RESULT
T2002 CHLOROMETHANE	(NE)
T41002 VINYL CHLORIDE	(NE)
T2302 CHLOROETHANE	(NE)
T23902 METHYLENE CHLORIDE (DICHLOROMETHANE)	(NE)
T50902 1,1-DICHLOROETHENE	(NE)
T61902 BROMOMETHANE	(NE)
T21202 TRANS-1,2-DICHLOROETHENE	(NE)
T51902 1,1-DICHLOROETHANE	(NE)
T50302 1,2-DICHLOROETHANE	(NE)
T39002 CHLOROFORM	(NE)
T23602 1,1,1-TRICHLOROETHANE	(NE)
T61702 TRICHLOROFLUOROMETHANE (FREON-11)	(NE)
T35502 CARBON TETRACHLORIDE	(NE)
T38902 BROMODICHLOROMETHANE	(NE)
T34402 BENZENE	(NE)
T39202 TOLUENE	(NE)
T51002 ETHYLBENZENE	(NE)
T61502 TRANS-1,3-DICHLOROPROPENE	(NE)
T61402 CIS-1,3-DICHLOROPROPENE	(NE)
T61302 1,2-DICHLOROPROPANE	(NE)
T40902 CHLOROBENZENE	(NE)
T41102 TRICHLOROETHENE	(NE)
T51702 1,1,2-TRICHLOROETHANE	(NE)
T41202 TETRACHLOROETHENE	(NE)
T51602 1,1,2,2-TETRACHLOROETHANE	(NE)
T44902 DIBROMODICHLOROMETHANE	(NE)
T42102 BROMOFORM	(NE)

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CENTER FOR LABORATORIES AND RESEARCH

RESULTS OF EXAMINATION

INTERIM REPORT

875422 SAMPLE RECEIVED: 87/11/23/ CHARGE: 0.00
 SUBDIVISION: TUXEDO COUNTY: ORANGE
 TUXEDO PARK RT 17 LANDFILL
 SAMPLING: 87/11/19 15:35 TO 87/11/19 16:25 LAST ACTION DATE: 88/01/12

-----PARAMETER-----	-----RESULT-----
T00300 AIR VOLUME	0.0324 CU.M.
**** END OF REPORT ****	

R E P O R T T O

NYSDEC
Room 317
50 Wolf Road
Albany, New York 12233-0001
Attn: Mr. Jack Ryan

Work ID: P-387-C07-20,-21,-22
P.O. No.: C001299
Work Order: 87-11-235

Cambridge Analytical Associates
Environmental Division
1106 Commonwealth Avenue
Boston MA 02215

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CONTRACT LAB SAMPLE INFORMATION SHEET



SUBMITTED BY Ed Perkins/Wurster TELEPHONE NUMBER (518) 457-4346 REGION NO 3

CONTRACT LAB Cambridge Analytical SAMPLING DATE 11/19/87 TIME 9:50 AM 2

SAMPLING POINT (Pie of Doaris) COUNTY ORANGE Co.

NEEDED FOR DIVISION OF WATER PROGRAMS
 SPDES Number _____ Outfall Number _____ Flow _____ MGD _____

DEC ID NUMBER (Contract Reference Code Custodian) P-387-C07-20 TYPE OF SAMPLE Grab Composite Term _____ hrs

SAMPLE MATRIX
 Air Soil/Sediment Groundwater Surface Water Wastewater Other (Specify) _____

CHECK THE BOX PRECEDING THE REQUESTED ANALYSIS

PRIORITY POLLUTANTS (Water Part 136)
 1 All (SPDES)—includes 2-8 2 Metals (SPDES) 3 Volatiles—USEPA 624 (SPDES)
 4 Acids (SPDES) 5 Base/Neutrals (SPDES) 6 Cyanide (SPDES)
 7 Pesticides/PCBs (SPDES) 8 PCBs only (SPDES)

9. USEPA 503.1—Water 10 USEPA 601—Water 11 USEPA 602—Water
 12 Sid WWTP BOD COD SOLIDS pH 13 Extended WWTP 10 parms + N&P

CONTRACT LABORATORY PROTOCOLS
 14 (ALL)—Water—INCLUDES 14-18 19 (ALL) Soil/Sediments—INCLUDES 19-23
 15 Inorganic—Water 20. Inorganic—Soil/Sediment
 16. Base Neutral Acids (BNA)—Water 21 BNA—Soil/Sediment
 17 Volatile Organic Analysis (VOA)—Water 22 VOA—Soil/Sediment
 18 Pesticides/PCBs—Water 23. Pesticides/PCBs—Soil/Sediment

only one jar delivered **HSL COMPOUNDS + SULFIDE CYANIDE**

HAZARDOUS WASTES
 24. EP Toxicity 25. EP Toxicity (Metals Only) 26 Ignitability
 27 Corrosivity 28. VOA—8240 29 BNA—8270

30. MUNICIPAL SLUDGE
 RSG8-01 RSSR-01 RSRI-01 (EP Toxicity-Metals only + RSRR-01
 RSR0-01 RSR1-01 RSR2-01 RSG8-01 RSRR-01
 31 Other (Specify) _____

Fill in the above information for each sample submitted to a contract laboratory. When completed, send Part 1 of this form to New York State Department of Environmental Conservation, 50 Wolf Road, Room 317, Albany, New York 12233-0001. Telephone: (518) 457-7470. Send Part 2 of this form to the contract lab with the sample. Retain Part 3 for your record.

CAUTION (check if applicable)
 Lab Personnel are expected to use caution when handling DEC samples, however, please use special precautions when handling this sample since it is believed to contain significant concentrations of hazardous and/or toxic material(s).

Place QA Label Here

ORANGE COUNTY

PAGE 5
Received: 11/24/87

REPORT
Test Methodology

Work Order # 87-11-25
Continued From Above

TEST CODE SLVD_1 NAME Sulfide-soil-EPA 176.1

Washington, DC. Method 427.

EPA/COE. 1981. Procedures for Handling and Chemical Analysis of Sediment and Water Samples. EPA/COE Technical Committee on Criteria for Dredged and Fill Material, EPA/COE, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MI.

Method Description: A sample of soil or sediment is placed in a distillation flask and oxygen is purged from the sample using a stream of nitrogen. After addition of hydrochloric acid, the sample is distilled into an impinger containing zinc acetate solution. Sulfide is determined titrimetrically or colorimetrically on the zinc acetate impinger solution.

Page 4
Received: 11/24/87

REPORT
Test Methodology

Work Order # 81

TEST CODE CNT 5 NAME Total cyanide-EPA 335.3

Method Reference: EPA. 1979. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020 (Revised March 1983). EPA/EMSL, Cincinnati, Ohio. Method 335.2-Cyanide, total (spectrophotometric). Method 335.3-cyanide, total (colorimetric, automated UV).

Additional References: EPA. 1982. Test Methods for Evaluating Solid Waste-Physical/Chemical Methods. SW-846 (second edition). EPA/Office of Solid Waste and Emergency Response, Washington, DC. 9010.

APHA. 1985. Standard Methods for the Examination of Water and Wastewater. 16th edition. American Public Health Association, Washington, DC. Method 412.

Method Description: Cyanide as hydrocyanic acid (HCN) is released from cyanide complexes by means of a reflux-distillation operation and absorbed in a scrubber containing sodium hydroxide solution. Cyanide ion in the absorbing solution is determined colorimetrically. Cyanide is converted to cyanogen chloride by reaction with chloramine-T at a pH less than 8 without hydrolyzing to cyanate. After the reaction is complete, color is formed by addition of pyridine-barbituric acid reagent. Absorbance is read at 578 nm. Colorimetric determinations are made using a Technicon AutoAnalyzer II.

QC Procedures: The spectrophotometer is calibrated using a blank and four working standards. Accuracy of the working standards is verified by analysis of an independent check standard. A procedural blank is run with each batch of samples, and duplicates and matrix spikes are run at a frequency of 10 %.

TEST CODE SLPD 5 NAME Sulfide-soil-EPA 376.1

Method Reference: EPA. 1979. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020 (revised March 1983). EPA/EMSL, Cincinnati, Ohio. Method 376.1-sulfide, titrimetric, iodine.

Additional references: EPA. 1982. Test Methods for Evaluating Solid Waste-Physical/Chemical Methods. SW-846 (second edition). EPA/Office of Solid Waste and Emergency Response, Washington, DC. Method 9030.

APHA. 1985. Standard Methods for Examination of the Examination of Water and Wastewater. 16th edition. American Public Health Association,



Page 1
 Received: 11/24/87

12/28/87 11:35:51

REPORT NYSDEC
 TO Room 117
 50 Wolf Road
 Albany, New York 12233-0001
 ATTN Mr. Jack Ryan

PREPARED Cambridge Analytical Assoc.
 BY Environmental Division
 1106 Commonwealth Avenue
 Boston, MA 02215

Edward A. Lawler
 CERTIFIED BY

ATTEN
 PHONE 617-232-2207

CONTACT LAHLER

CLIENT NYSDEC SAMPLES 1
 COMPANY NYSDEC
 FACILITY Bur. of Tech. Services & Res.

This report is approved for release by the following staff:

Laboratory Director: *J. J. ...*

Inorganic Laboratory:

Organic Laboratory:

WORK ID P-387-C07-20, -21, -22
 TAKEN by E. Perkins & B. Wurster
 TRANS by Federal Ex #1394778884
 TYPE Environmental
 P.O. # C001299
 INVOICE under separate cover

This report summarizes the results of any inorganic or conventional sample analyses. Results for metals or organic analyses are reported in separate EPA CLP format reports where applicable. These CLP reports are attached.

TEST CODES and NAMES used on this report

SAMPLE IDENTIFICATION

01	P-387-C07-20
02	P-387-C07-21
02	P-387-C07-21 DUPLICATE
02	P-387-C07-21 LCS
02	P-387-C07-21 MS
02	P-387-C07-21 MSD
02	P-387-C07-21 SPIKE
03	P-387-C07-22

CNT S	Total cyanide-EPA 335.1
ECLPPE	Pest/PCB ext-ag-CLP
EXCL S	A/B/N extraction-soil-CLP
MSCLPS	Semi-volatiles-CLP
SLFD S	Sulfide-soil-EPA 376.1

Page 1
Received: 11/24/87

REPORT
Results by Sample

Work Order # 87-11-239

SAMPLE ID P-387-C07-20 SAMPLE # 01 FRACTIONS: A,B,C,D
Date & Time Collected 11/19/87 Category SOIL

CNT_S 1.9 ECLPPE 12/02/87 EXCL_S 12/02/87 SLFD_S 11
ug/g (dry wt) extraction date extraction date ug/g (dry wt)

SAMPLE ID P-387-C07-21 SAMPLE # 02 FRACTIONS: A,D,G,J
Date & Time Collected 11/19/87 Category SOIL

CNT_S 0.64 ECLPPE 12/02/87 EXCL_S 12/02/87 SLFD_S <5.4
ug/g (dry wt) extraction date extraction date ug/g (dry wt)

SAMPLE ID P-387-C07-21 DUPLICATE SAMPLE # 02 FRACTIONS: L
Date & Time Collected 11/19/87 Category SOIL

CNT_S <0.64 SLFD_S <5.4
ug/g (dry wt) ug/g (dry wt)

SAMPLE ID P-387-C07-21 LCS SAMPLE # 02 FRACTIONS: M
Date & Time Collected 11/19/87 Category SOIL

CNT_S 110% SLFD_S N/A
% Recovery % Recovery

SAMPLE ID P-387-C07-21 MS SAMPLE # 02 FRACTIONS: B,E,H
Date & Time Collected 11/19/87 Category SOIL

ECLPPE 12/02/87 EXCL_S 12/02/87
extraction date extraction date

SAMPLE ID P-387-C07-21 MSD SAMPLE # 02 FRACTIONS: C,F,I
Date & Time Collected 11/19/87 Category SOIL

ECLPPE 12/02/87 EXCL_S 12/02/87
extraction date extraction date



pg 2
Received: 11/24/87

REPORT
Results by Sample

Work Order # 87-11-235

SAMPLE ID P-387-C07-21 SPIKE

SAMPLE # Q2 FRACTIONS: K
Date & Time Collected 11/19/87

Category SOIL

WT_S 1143 SLFD_S N/A
% Recovery % Recovery

SAMPLE ID P-387-C07-22

SAMPLE # Q1 FRACTIONS: A,B,C,D
Date & Time Collected 11/19/87

Category SOIL

WT_S 0.69 ECLPPE 12/02/87 EXCL_S 12/02/87 SLFD_S <7.0
ug/g (dry wt) extraction date extraction date ug/g (dry wt)

Received: 11/24/87

Test Methodology

TEST CODE CNT 5 NAME Total cyanide-EPA 335.1

Method Reference: EPA. 1979. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020 (Revised March 1983). EPA/EMSL, Cincinnati, Ohio. Method 335.2-Cyanide, total (spectrophotometric). Method 335.3-cyanide, total (colorimetric, automated UV).

Additional References: EPA. 1982. Test Methods for Evaluating Solid Waste-Physical/Chemical Methods. SW-846 (second edition). EPA/Office of Solid Waste and Emergency Response, Washington, DC. 9010.

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Method Description: Cyanide as hydrocyanic acid (HCN) is released from cyanide complexes by means of a reflux-distillation operation and absorbed in a scrubber containing sodium hydroxide solution. Cyanide ion in the absorbing solution is determined colorimetrically. Cyanide is converted to cyanogen chloride by reaction with chloramine-T at a pH less than 8 without hydrolyzing to cyanate. After the reaction is complete, color is formed by addition of pyridine-barbituric acid reagent. Absorbance is read at 578 nm. Colorimetric determinations are made using a Technicon AutoAnalyzer II.

QC Procedures: The spectrophotometer is calibrated using a blank and four working standards. Accuracy of the working standards is verified by analysis of an independent check standard. A procedural blank is run with each batch of samples, and duplicates and matrix spikes are run at a frequency of 10 %.

TEST CODE SLFD 5 NAME Sulfide-soil-EPA 376.1

Method Reference: EPA. 1979. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020 (revised March 1983). EPA/EMSL, Cincinnati, Ohio. Method 376.1-sulfide, titrimetric, iodine.

Additional references: EPA. 1982. Test Methods for Evaluating Solid Waste-Physical/Chemical Methods. SW-846 (second edition). EPA/Office of Solid Waste and Emergency Response, Washington, DC. Method 9030.

APHA. 1985. Standard Methods for Examination of the Examination of Water and Wastewater. 16th edition. American Public Health Association,

Page 5
Received: 11/24/87

REPORT
Test Methodology

Work Order # 87-11-235
Continued From Above

TEST CODE SLFD 8 NAME Sulfide-soil-EPA 376.1

Washington, DC. Method 427.

EPA/COE. 1981. Procedures for Handling and Chemical Analysis of Sediment and Water Samples. EPA/COE Technical Committee on Criteria for Dredged and Fill Material, EPA/COE, U.S. Army Engineers Waterways Experiment Station, Vicksburg, MI.

Method Description: A sample of soil or sediment is placed in a stillation flask and oxygen is purged from the sample using a stream of nitrogen. After addition of hydrochloric acid, the sample is distilled into an impinger containing zinc acetate solution. Sulfide is determined titrimetrically or colorimetrically on the zinc acetate impinger solution.

REPORT NYSDEC
TO Room 117
50 Wolf Road
Albany, New York 12231-0001
ATTN Mr. Jack Ryan

PREPARED Cambridge Analytical Assoc.
BY Environmental Division
1106 Commonwealth Avenue
Boston, MA 02215

Edward A. Fowler
CERTIFIED BY

ATTEN _____
PHONE 617-232-2207

CONTACT LAWLER

CLIENT NYSDEC SAMPLES 1
COMPANY NYSDEC
FACILITY Bur. of Tech. Services & Res.

This report is approved for release by the following staff:
Laboratory Director: _____
Inorganic Laboratory: _____
Organic Laboratory: _____

WORK ID P-187-C07-20, -21, -22
TAKEN by E. Perkins & B. Wurster
TRANS by Federal Ex #1394778884
TYPE Environmental
P.O. # C001299
INVOICE under separate cover

This report summarizes the results of any inorganic or conventional sample analyses. Results for metals or organic analyses are reported in separate EPA CLP format reports where applicable. These CLP reports are attached.

SAMPLE IDENTIFICATION

TEST CODES and NAMES used on this report

- 01 P-187-C07-20
- 02 P-187-C07-21
- 02 P-187-C07-21 DUPLICATE
- 02 P-187-C07-21 LCS
- 02 P-187-C07-21 MS
- 02 P-187-C07-21 MSD
- 02 P-187-C07-21 SPIKE
- 01 P-187-C07-22

- CNT_S Total cyanide-EPA 335.3
- ECLPPE Pest/PCB ext-aq-CLP
- EXCL_S A/B/N extraction-soil-CLP
- MSCLPS Semi-volatiles-CLP
- SLFD_S Sulfide-soil-EPA 376.1

Sample Number

20

Organics Analysis Data Sheet
(Page 1)

Laboratory Name Cambridge Analytical
 Lab Sample ID No 87N235-01
 Sample Matrix Soil
 Data Release Authorized By J. Hawley

Case No P-387-007
 OC Report No _____
 Contract No 66-01-9978 CO01299
 Date Sample Received 11/24/87

Volatile Compounds

Concentration Low Medium (Circle One)
 Date Extracted/Prepared: 12/1/87
 Date Analyzed 12/1/87
 Conc/Dil Factor 1.5 pH N/A
 Percent Moisture (Not Decanted) 34

CAS Number		ug/l or ug/kg (Circle One)
74-87-3	Chloromethane	500
74-83-9	Bromomethane	500
75-01-4	Vinyl Chloride	500
75-00-3	Chloroethane	500
75-09-2	Methylene Chloride	210 B
67-64-1	Acetone	500
75-15-0	Carbon Disulfide	250
75-35-4	1,1-Dichloroethene	250
75-34-3	1,1-Dichloroethane	250
156-60-5	Trans-1,2-Dichloroethene	250
67-66-3	Chloroform	250
107-06-2	1,2-Dichloroethane	250
78-93-3	2-Butanone	500
71-55-8	1,1,1-Trichloroethane	250
56-23-5	Carbon Tetrachloride	250
108-05-4	Vinyl Acetate	500
75-27-4	Bromodichloromethane	250

CAS Number		ug/l or ug/kg (Circle One)
78-87-5	1,2-Dichloropropane	250
10061-02-6	Trans-1,3-Dichloropropene	250
79-01-6	Trichloroethene	250
124-48-1	Dibromochloromethane	250
79-00-5	1,1,2-Trichloroethane	250
71-43-2	Benzene	250
10061-01-5	cis-1,3-Dichloropropene	250
110-75-8	2-Chloroethylvinylether	500
75-25-2	Bromoform	250
591-78-6	4-Methyl-2-Pentanone	500
108-10-1	2-Hexanone	500
127-18-4	Tetrachloroethene	250
79-34-5	1,1,2,2-Tetrachloroethane	250
108-88-3	Toluene	250
108-90-7	Chlorobenzene	250
100-41-4	Ethylbenzene	250
100-42-5	Styrene	250
	Total Xylenes	250

Data Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

- Value** If the result is \geq the greater than or equal to the detection limit, report the value.
- U** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- J** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g. 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

- C** This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides \geq 10 ng/l in the final extract should be confirmed by GC/MS.
- B** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- Other** Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name Cambridge Analytical Associates
 Case No P35707

Sample Number
20

Organics Analysis Data Sheet
 (Page 2)

Semivolatile Compounds

Concentration Low Medium (Circle One)
 Date Extracted/Prepared 12/02/87
 Date Analyzed 12/14/87
 Conc'Dil Factor 50
 Percent Moisture (Decanted) 34

GPC Cleanup Yes No
 Separatory Funnel Extraction Yes
 Continuous Liquid-Liquid Extraction Yes

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	11500u
111-44-4	Di-2-Chloroethyl Ether	11500u
95-57-8	2-Chlorophenol	11500u
541-73-1	1,3-Dichlorobenzene	11500u
106-46-7	1,4-Dichlorobenzene	11500u
100-51-6	Benzyl Alcohol	11500u
95-50-1	1,2-Dichlorobenzene	11500u
95-48-7	2-Methylphenol	11500u
33638-32-9	bis(2-chloroisopropyl) Ether	11500u
106-44-5	4-Methylphenol	11500u
821-64-7	N-Nitroso-Di-n-Propylamine	11500u
67-72-1	Hexachloroethane	11500u
98-95-3	Nitrobenzene	11500u
78-59-1	Isophorone	11500u
98-75-5	2-Nitrophenol	11500u
105-67-9	2,4-Dimethylphenol	11500u
65-85-0	Benzoic Acid	11500u
111-91-1	bis(2-Chloroethoxy)Methane	11500u
120-83-2	2,4-Dichlorophenol	11500u
120-82-1	1,2,4-Trichlorobenzene	11500u
91-20-3	Naphthalene 1,900	11500u
106-47-8	4-Chloroaniline	11500u
87-68-3	Hexachlorobutadiene	11500u
59-50-7	4-Chloro-3-Methylphenol	11500u
91-57-6	2-Methylnaphthalene 4000	11500u
77-47-4	Hexachlorocyclopentadiene	11500u
88-06-2	2,4,6-Trichlorophenol	11500u
95-95-4	2,4,5-Trichlorophenol	11500u
91-58-7	2-Chloronaphthalene	11500u
88-74-4	2-Nitroaniline	11500u
131-11-3	Dimethyl Phthalate	11500u
208-98-8	Acenaphthylene	11500u
99-09-2	3-Nitroaniline	11500u

CAS Number		ug/l or ug/Kg (Circle One)
83-32-6	Acenaphthene 13000	11500u
51-28-5	2,4-Dinitrophenol	11500u
100-02-7	4-Nitrophenol	11500u
132-64-9	Dibenzofuran 7000	11500u
121-14-2	2,4-Dinitrotoluene	11500u
606-20-2	2,6-Dinitrotoluene	11500u
84-66-2	Dienylphthalate 15000 JB	11500u
7005-72-3	4-Chlorophenyl-phenyl ether	11500u
86-73-7	Fluorene 12000 J	11500u
100-01-6	4-Nitroaniline	11500u
534-52-1	4,6-Dinitro-2-Methylphenol	11500u
86-30-6	4-Nitrosodiphenylamine (1)	11500u
101-55-3	4-Bromophenyl-phenyl ether	11500u
118-74-1	Hexachlorobenzene	11500u
87-86-5	Pentachlorophenol	11500u
85-01-8	Phenanthrene 67000	11500u
120-12-7	Anthracene 20000	11500u
84-74-2	Di-n-Butylphthalate	11500u
206-44-0	Fluoranthene 92000	11500u
129-00-0	Pyrene 74000	11500u
85-68-7	Butylbenzylphthalate 13000	11500u
91-94-1	3,3-Dichlorobenzidine	11500u
56-55-3	Benz[a]Anthracene 45000	11500u
117-81-7	bis(2-Ethylhexyl)Phthalate	11500u
218-01-5	Chrysene 42000	11500u
117-84-0	Di-n-Octyl Phthalate	11500u
205-99-2	Benz[b]Fluoranthene	11500u
207-08-9	Benz[k]Fluoranthene 70000	11500u
50-32-8	Benz[a]Pyrene 40000	11500u
193-39-5	Indenol, 2,3-cdPyrene	11500u 2400C
53-70-3	Dibenz[a,h]Anthracene	11500u
191-24-2	Benzog h i Perylene 13000	11500u 2100C

+ unresolved benzo Fluoranthene also
 (1) Cannot be separated from diphenylamine

Laboratory Name Cambridge Analytical Associates

Case No _____

Sample Number

20

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: (Low) Medium (Circle One)

Date Extracted/Prepared: 12/2/67

Date Analyzed: 12/10/67

Conc/Dil Factor: 50

Percent Moisture (decanted): 34

GPC Cleanup Yes No

Separatory Funnel Extraction Yes

Continuous Liquid-Liquid Extraction Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha-BHC	400u
319-85-7	Beta-BHC	400u
319-86-8	Delta-BHC	400u
58-89-9	Gamma-BHC (Lindane)	400u
75-44-8	Heptachlor	400u
309-00-2	Aldrin	400u
1024-57-3	Heptachlor Epoxide	400u
959-98-8	Endosulfan I	400u
60-57-1	Dieldrin	500u
72-55-9	4,4'-DDE	500u
72-20-8	Endrin	500u
33213-85-9	Endosulfan II	500u
72-54-8	4,4'-DDD	500u
1031-07-8	Endosulfan Sulfate	500u
50-29-3	4,4'-DDT	500u
72-43-5	Methoxychlor	500u
53494-70-5	Endrin Ketone	500u
57-74-9	Chlordane	500u
8001-35-2	Toxaphene	500u
12874-11-2	Aroclor-1016	4000u
11104-28-2	Aroclor-1221	3000u
11141-16-5	Aroclor-1232	4000u
53469-21-9	Aroclor-1242	4000u
12672-29-6	Aroclor-1248	4000u
11097-69-1	Aroclor-1254	5000u
11096-82-5	Aroclor-1260	5000u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 31.0 V_i 10,000 ul V_t 3 ul

Organics Analysis Data Sheet
(Page 1)

Laboratory Name Cambridge Analytical
 Lab Sample ID No 8711235-02
 Sample Matrix soil
 Data Release Authorized By J. Fowler

Case No P-387-C07
 QC Report No _____
 Contract No 68-01-7778 CCG1299
 Date Sample Received 11/24/87

Volatile Compounds

Concentration. Low Medium (Circle One)
 Date Extracted/Prepared 12/1/87
 Date Analyzed: 12/1/87
 Conc/Dil Factor. 1.5 pH N/A
 Percent Moisture (Not Decanted) 34%

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	50.0
74-83-9	Bromomethane	50.0
75-01-4	Vinyl Chloride	50.0
75-00-3	Chloroethane	50.0
75-09-2	Methylene Chloride	21 JB
67-64-1	Acetone	50.0
75-15-0	Carbon Disulfide	50.0
75-35-4	1, 1-Dichloroethane	50.0
75-34-3	1, 1-Dichloroethane	50.0
156-60-5	Trans-1, 2-Dichloroethane	50.0
67-58-3	Chloroform	50.0
107-06-2	1, 2-Dichloroethane	50.0
78-93-3	2-Butanone	50.0
71-55-6	1, 1, 1-Trichloroethane	50.0
58-23-5	Carbon Tetrachloride	50.0
108-05-4	Vinyl Acetate	50.0
75-27-4	Bromodichloromethane	50.0

CAS Number		ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	50.0
10061-02-6	Trans-1, 3-Dichloropropane	50.0
79-01-6	Trichloroethene	50.0
124-48-1	Dibromochloromethane	50.0
79-00-5	1, 1, 2-Trichloroethane	50.0
71-43-2	Benzene	50.0
10061-01-5	cis-1, 3-Dichloropropane	50.0
110-75-8	2-Chloroethylvinylether	50.0
75-25-2	Bromoform	50.0
591-78-6	4-Methyl-2-Pentanone	50.0
108-10-1	2-Hexanone	50.0
127-18-4	Tetrachloroethene	36
79-34-5	1, 1, 2, 2-Tetrachloroethane	50.0
108-88-3	Toluene	10.5
108-90-7	Chlorobenzene	50.0
100-41-4	Ethylbenzene	50.0
100-42-5	Styrene	50.0
	Total Xylenes	50.0

Reporting Qualifiers

For reporting results to EPA, the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

- Value If the result is a value greater than or equal to the detection limit, report the value.
- U indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g. 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- J indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than 20% (e.g. 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.

- C This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides 210 ng/lut in the final extract should be confirmed by GC/MS.
- B This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- Other Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

Laboratory Name Cambridge Analytical Associates
 Case No P387 C07

Sample Number
21

Organics Analysis Data Sheet
 (Page 2)

Semivolatiles Compounds

Concentration (Low) Medium (Circle One)
 Date Extracted / Prepared 12/02/87
 Date Analyzed 12/14/87
 Conc / Dil Factor 15
 Percent Moisture (Decanted) 3

GPC Cleanup Yes No
 Separatory Funnel Extraction Yes
 Continuous Liquid-Liquid Extraction Yes

BN only

CAS Number		ug/l or ug/Kg (Circle One)
108-95-2	Phenol	4950 u
111-44-4	Bis-2-Chlorophenyl Ether	4950 u
95-57-8	2-Chlorophenol	4950 u
541-73-1	1,3-Dichlorobenzene	4950 u
106-45-7	1,4-Dichlorobenzene	4950 u
100-51-6	Benzyl Alcohol	4950 u
95-50-1	1,2-Dichlorobenzene	4950 u
95-48-7	2-Methylphenol	4950 u
39438-32-9	Bis-2-chloroisopropyl Ether	4950 u
106-44-5	4-Methylphenol	4950 u
621-64-7	N-Nitroso Di-n-Propylamine	4950 u
67-72-1	Hexachloroethane	4950 u
93-85-3	Hexobenzene	4950 u
78-59-1	Isophorone	4950 u
38-75-5	2-Nitrophenol	4950 u
106-57-9	2,4-Dimethylphenol	4950 u
65-85-0	Benzoic Acid	4950 u
111-91-1	Bis-2-ChlorophenoxyMethane	4950 u
120-83-2	2,4-Dichlorophenol	4950 u
120-82-1	1,2,4-Trichlorobenzene	4950 u
91-20-3	Naphthalene	4950 u
106-47-8	4-Chloroaniline	4950 u
87-68-3	Hexachlorocyclopentadiene	4950 u
59-50-7	4-Chloro-3-Methylphenol	4950 u
91-57-6	2-Methylnaphthalene	4950 u
77-47-4	Hexachlorocyclopentadiene	4950 u
88-06-2	2,4,6-Trichlorophenol	4950 u
95-95-4	2,4,5-Trichlorophenol	4950 u
91-58-7	2-Chloronaphthalene	4950 u
88-74-4	2-Nitroaniline	4950 u
131-11-3	Dimethyl Phthalate	4950 u
208-96-9	Acenaphthylene	4950 u
99-09-2	3-Nitroaniline	4950 u

CAS Number		ug/l or ug K. (Circle One)
83-32-8	Acenaphthene	4950 u
51-28-5	2,4-Dinitrophenol	4950 u
100-02-7	4-Nitrophenol	4950 u
132-64-9	Dibenzofuran	4950 u
121-14-2	2,4-Dinitrofluorene	4950 u
606-20-2	2,6-Dinitrofluorene	4950 u
84-86-2	Diethylphthalate 2400-8	4950 u
7005-72-3	4-Chlorophenyl phenyl ether	4950 u
86-73-7	Fluorene	4950 u
100-01-6	4-Nitroaniline	4950 u
534-52-1	4,6-Dinitro-2-Methylphenol	4950 u
66-30-6	N-Nitroso-N-Propylamine (1)	4950 u
101-55-3	4-Bromophenyl phenyl ether	4950 u
118-74-1	Hexachlorobenzene	4950 u
87-85-5	Pentachlorophenol	4950 u
85-31-8	Phenanthrene 4500 J	4950 u
120-12-7	Anthracene 1400 J	4950 u
84-74-2	Di-n-Butylphthalate	4950 u
206-44-0	Fluoranthene 6500	4950 u
129-00-0	Pyrene 8000	4950 u
85-68-7	Butylbenzylphthalate 52000	4950 u
91-94-1	3,3-Dichlorobenzidine	4950 u
56-55-3	Benz[a]Anthracene 4900	4950 u
117-81-7	Bis(2-Ethylhexyl)Phthalate 2400-5200	4950 u
218-01-9	Chrysene 5000	4950 u
117-84-0	Di-n-Octyl Phthalate	4950 u
205-99-2	Dibenzofluoranthene 4300	4950 u
207-08-9	Benzofluoranthene	4950 u
50-32-8	Benz[a]Pyrene 5200	4950 u
193-39-5	Indenol 2,3-cdipyrene	4950 u
63-70-3	Dibenz[a,h]Anthracene	4950 u
191-24-2	Benz[ghi]Perylene	4950 u

* Unresolved benzo(bk)fluoranthenes
 (1) Cannot be separated from diphenylamine

Laboratory Name Cambridge Analytical Associates

Sample Number

21

Case No _____

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration Low Medium (Circle One)
 Date Extracted/Prepared 12/2/67
 Date Analyzed 12/10/67
 Conc/Dil Factor 50
 Percent Moisture (decanted) 3

GPC Cleanup Yes No
 Separatory Funnel Extraction Yes
 Continuous Liquid - Liquid Extraction Yes

CAS Number		ug/l or ug/Kg (Circle One)
319-84-6	Alpha BHC	400u
319-85-7	Beta BHC	400u
319-86-8	Delta BHC	400u
58-89-2	Gamma BHC (Lindane)	400u
75-44-8	Meprochlor	400u
309-50-2	Aldrin	400u
1074-57-3	Meprochlor Epoxide	400u
959-28-8	Endosulfan I	400u
60-57-1	Dieldrin	500u
72-55-8	4-4-DDE	400u
72-20-8	Endrin	500u
33213-65-9	Endosulfan II	500u
72-54-8	4-4-DDD	400u
1031-07-6	Endosulfan Sulfate	500u
50-29-3	4-4-DDT	500u
72-43-5	Methoxychlor	400u
53494-70-5	Endrin Ketone	500u
57-74-9	Chlordane	400u
8001-35-2	Toxaphene	500u
12674-11-2	Aroclor-1016	4000u
11104-28-2	Aroclor-1221	4000u
11141-18-5	Aroclor-1232	4000u
53469-21-9	Aroclor-1242	4000u
12672-29-6	Aroclor-1248	4000u
11097-69-1	Aroclor-1254	5000u
11096-82-5	Aroclor-1260	5000u

V_i = Volume of extract injected (ul)

V_s = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_s _____ or W_s 30.4 V_i 10 000 ul V_t 3ul

Sample Number

22

Organics Analysis Data Sheet
(Page 1)

Laboratory Name Cambridge Analytical Assoc. Case No P. 387-CC7
 Lab Sample ID No 8711235-03 OC Report No. _____
 Sample Matrix: ~~Water~~ Soil Contract No. 68-01-7278-24 C001299
 Date Release Authorized By: A. Fowler Date Sample Received 11/24/87

Volatile Compounds

Concentration: Low Medium (Circle One)
 Date Extracted/Prepared: 12/01/87
 Date Analyzed: 12/01/87
 Conc/Dil Factor: 1:100 pH _____
 Percent Moisture: (Not Decanted) 28

CAS Number	Compound	Concentration (ug/Kg) (Circle One)
74-87-3	Chloromethane	1000 u
74-83-9	Bromomethane	1000 u
75-01-4	Vinyl Chloride	1000 u
75-00-3	Chloroethane	1000 u
75-09-2	Methylene Chloride <u>7468</u>	500 u
67-64-1	Acetone <u>2400</u>	1000 u
75-15-0	Carbon Disulfide <u>330J</u>	500 u
75-35-4	1, 1-Dichloroethane	500 u
75-34-3	1, 1-Dichloroethane	500 u
156-60-5	Trans-1, 2-Dichloroethane	500 u
67-66-3	Chloroform	500 u
107-06-2	1, 2-Dichloroethane	500 u
78-93-3	2-Butanone	1000 u
71-55-6	1, 1, 1-Trichloroethane	500 u
56-23-5	Carbon Tetrachloride	500 u
108-05-4	Vinyl Acetate	1000 u
75-27-4	Bromodichloromethane	500 u

CAS Number	Compound	Concentration (ug/Kg) (Circle One)
78-87-5	1, 2-Dichloropropane	500 u
10061-02-6	Trans-1, 3-Dichloropropane	500 u
79-01-6	Trichloroethene	500 u
124-48-1	Dibromochloromethane	500 u
79-00-5	1, 1, 2-Trichloroethane	500 u
71-43-2	Benzene	500 u
10061-01-5	cis-1, 3-Dichloropropane	500 u
110-75-8	2-Chloroethylvinylether	1000 u
75-25-2	Bromoform	500 u
108-10-1	4-Methyl-2-Pentanone	1000 u
591-78-6	2-Hexanone	1000 u
127-18-4	Tetrachloroethene <u>650</u>	500 u
79-34-5	1, 1, 2, 2-Tetrachloroethane	500 u
108-89-3	Toluene <u>760</u>	500 u
108-90-7	Chlorobenzene	500 u
100-41-4	Ethylbenzene <u>630</u>	500 u
100-42-5	Styrene	500 u
	Total Xylenes <u>4700</u>	500 u

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be copied.

- Value** If the result is a value greater than or equal to the detection limit, report the value.
- U** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read: U-Compound was analyzed for but not detected. The number is the minimum detection limit for the sample.
- J** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero to e.g., 10U. If limit of detection is 10 ug/l and a
- C** This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/l in the final extract should be confirmed by GC/MS.
- B** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible probable blank contamination and warns the data user to take appropriate action.
- Other** Other specific flags and footnotes may be required to properly define the results. If used they must be fully described and such definition attached to the data summary report.

Organics Analysis Data Sheet
(Page 2)

Semivolatile Compounds

Concentration Low Medium (Circle One)
 Date Extracted / Prepared 12/2/87
 Date Analyzed 12/14/87
 Conc. Dil Factor 15
 Percent Moisture (Decanted) 28

GPC Cleanup Yes No
 Separatory Funnel Extraction Yes
 Continuous Liquid-Liquid Extraction Yes

BN only

CAS Number	Compound	ug/l or ug/kg (Circle One)
108-95-2	Phenol	7000
111-44-4	bis-2-Chloroethyl Ether	4950u
95-57-8	2-Chlorophenol	4950u
541-73-1	1,3-Dichlorobenzene	4950u
105-49-7	1,4-Dichlorobenzene	4950u
100-91-6	Benzyl Alcohol	4950u
95-51-1	1,2-Dichlorobenzene	4950u
95-49-7	2-Methylphenol	4950u
39534-32-9	bis-2-chloroisopropyl Ether	4950u
106-43-5	4-Methylphenol	4200 J
621-66-7	N-Nitroso-Di-n-Propylamine	4950u
67-72-1	Hexachlorocyclohexane	4950u
98-97-3	Nitrobenzene	4950u
78-59-1	Isophorone	4950u
58-75-5	2-Nitrophenol	4950u
105-97-9	2,4-Dimethylphenol	4950u
65-85-0	Benzoic Acid	2500u
111-21-1	bis-2-Chloroethoxyethane	4950u
120-83-2	2,4-Dichlorophenol	4950u
120-82-1	1,2,4-Trichlorobenzene	4950u
91-27-3	Naphthalene	69000 4950u sol
106-47-8	4-Chloroaniline	4950u
87-68-3	Hexachlorobutadiene	4950u
59-51-7	4-Chloro-3-Methylphenol	4950u
91-57-6	2-Methylnaphthalene	2500 4950u sol
77-47-4	Hexachlorocyclopentadiene	4950u
88-06-2	2,4,6-Trichlorophenol	4950u
95-95-4	2,4,5-Trichlorophenol	4950u
91-54-7	2-Chloronaphthalene	4950u
88-74-4	2-Nitroaniline	4950u
131-11-3	O-Methyl Phenolate	4950u
208-95-9	Acenaphthylene	1200 J 4950u sol
91-01-2	3-Nitroaniline	4950u

CAS Number	Compound	ug/l or ug/kg (Circle One)
83-32-9	Acenaphthene	34000
51-28-5	2,4-Dinitrophenol	4950u
100-02-7	4-Nitrophenol	4950u
132-64-9	Dibenzofuran	16000
121-14-2	2,4-Dinitrochlorobenzene	4950u
604-20-2	2,6-Dinitrotoluene	4950u
84-66-2	Dibenzophenone	3700 SE 4950u
7005-72-3	4-Chlorophenylphenyl ether	4950u
86-73-7	Fluorene	22000
100-01-6	4-Nitroaniline	4950u
534-52-1	4,6-Dinitro-2-Methylphenol	4950u
85-30-6	N-Nitrosodiphenylamine (I)	4950u
101-55-3	4-Bromophenylphenyl ether	4950u
118-74-1	Hexachlorobenzene	4950u
87-86-5	Pentachlorophenol	4950u
85-01-8	Phenanthrene	46000
120-12-7	Anthracene	11000
84-74-2	Di-n-Butylphthalate	9900
206-44-0	Fluoranthene	27000
129-00-0	Pyrene	26000
85-68-7	Butylbenzylphthalate	4600 4950u sol
91-94-1	3,3-Dichlorobenzidine	9900u
56-55-3	Benz(a)Anthracene	12000
117-81-7	bis(2-Ethylhexyl)phthalate	14000
218-01-9	Chrysene	14000
117-84-0	Di-n-Octyl Phthalate	4950u
205-99-2	Benz(b)Fluoranthene	2300
207-08-9	Benz(a)Fluoranthene	4950u
50-32-8	Benz(a)Pyrene	1200
193-39-5	Indeno(1,2,3-cd)Pyrene	2300
53-70-3	Dibenz(a,h)Anthracene	4950u
191-24-2	Benz(g,h)Perylene	4950u

* Unresolved benzo(bk)fluoranthenes
 (I) Cannot be separated from diphenylamine

Laboratory Name Cambridge Analytical Associates

Case No _____

Sample Number

22

Organics Analysis Data Sheet
(Page 3)

Pesticide/PCBs

Concentration: Low Medium (Circle One)
 Date Extracted/Prepared 12/02/87
 Date Analyzed 12/10/87
 Conc/Dil Factor: 50
 Percent Moisture (decanted) 26

GPC Cleanup Yes No
 Separatory Funnel Extraction Yes
 Continuous Liquid-Liquid Extraction Yes

CAS Number		ug/l or <u>ug/Kg</u> (Circle One)
31984-8	Alpha BHC	LOU
31985-7	Beta-BHC	LOU
31986-8	Delta BHC	LOU
5289-9	Gamma BHC (Lindane)	LOU
7544-8	Heptachlor	LOU
30900-2	Aldrin	LOU
102457-3	Heptachlor Epoxide	LOU
95998-8	Endosulfan I	LOU
6057-1	Dieldrin	LOU
7255-9	4,4-DDE	LOU
7220-8	Endrin	LOU
33213-65-9	Endosulfan II	LOU
7254-8	4,4-DDD	LOU
1031-07-8	Endosulfan Sulfate	LOU
5029-3	4,4-DDT	LOU
7243-5	Methoxychlor	LOU
53494-70-5	Endrin Ketone	LOU
5774-9	Chlordane	LOU
8001-35-2	Toxaphene	LOU
12574-11-2	Aroclor-1016	LOU
11104-28-2	Aroclor-1221	LOU
11141-16-5	Aroclor-1232	LOU
53469-21-9	Aroclor-1242	LOU
12672-29-6	Aroclor-1248	LOU
11097-69-1	Aroclor-1254	LOU
11096-82-5	Aroclor-1260	LOU

V_i = Volume of extract injected (ul)

V_w = Volume of water extracted (ml)

W_s = Weight of sample extracted (g)

V_t = Volume of total extract (ul)

V_i _____ or W_s 31.4 V_t ¹⁵ / 10000 ul V_w 3ul

Laboratory Name CAA
 Case No P 387-007

Sample Number
22

Organics Analysis Data Sheet
 (Page 4)

Tentatively Identified Compounds

CAS Number	Compound Name	Fraction	RT or Scan Number	Estimated Concentration (ug/l or ug/kg)
1.	unknown	VOA	24.41	3200 J
2.	trimethyl benzene isomer		27.70	4100 J
3.	bicyclo [2.2.1] hept-2-ene, 1,7,7-trimethyl		27.29	23,000 J
4.	1-ethyl-4-methyl benzene		24.67	4800 J
5.	dimethyl, 1,3,6-detatriene		26.26	10,000 J
6.	bicyclo [3.1.1] hept-2-ene, trimethyl isomer		22.17	15,000 J
7.	bicyclo [3.1.1] hept-2-ene, trimethyl	BN	7.69	15,000 J
8.	benzene methyl (methyl ethyl) isomer		9.63	9300 J
9.	bicyclo hept-2-ene, trimethyl isomer		9.72	24000 J
10.	tetramethyl benzene isomer		10.21	10,000 J
11.	unknown alkane		10.40	7300 J
12.	undecane		11.05	4600 J
13.	unknown		11.84	2600 J
14.	cyclohexene-1-methanol isomer	✓	12.65	6600 J
15.	tridecane		12.74	
16.	1-methyl naphthalene	BN	14.51	4600 J
17.	1,1' biphenyl		15.48	9300 J
18.	tetradecane		15.71	9300 J
19.	dimethyl naphthalene isomer		15.86	8600 J
20.	"		16.07	12000 J
21.	1,1' biphenyl-4-carboxaldehyde		18.89	9300 J
22.	octacosane		23.83	18000 J
23.	pentacosane		25.68	13000 J
24.	unknown		26.55	11,000 J
25.	eicosane		28.97	5300 J
26.	dimethyl hexadecane isomer	✓	30.66	32000 J
27.				
28.				
29.				
30.				

Sample Number
MB1

Organics Analysis Data Sheet
(Page 1)

Laboratory Name Cambridge Analytical Assoc. Case No P. 387-C07
 Lab Sample ID No DW Blank OC Report No _____
 Sample Matrix Water Contract No 68-01-7278a 000,299
 Data Release Authorized By A. Lawler Date Sample Received 12/1/87

Volatile Compounds

Concentration: Low Medium (Circle One)
 Date Extracted/Prepared 12/1/87
 Date Analyzed: 12/1/87
 Conc/Dil Factor: 1 pH 7
 Percent Moisture (Not Decanted) N/A

CAS Number		ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10u
74-83-9	Bromomethane	10u
75-01-4	Vinyl Chloride	10u
75-00-3	Chloroethane	10u
75-09-2	Methylene Chloride	5 u
67-64-1	Acetone	10u
75-15-0	Carbon Disulfide	5 u
75-35-4	1, 1-Dichloroethene	5 u
75-34-3	1, 1-Dichloroethane	5 u
156-60-5	Trans-1, 2-Dichloroethene	5 u
67-66-3	Chloroform	5 u
107-06-2	1, 2-Dichloroethane	5 u
78-93-3	2-Butanone	10u
71-55-8	1, 1, 1-Trichloroethane	5 u
56-23-5	Carbon Tetrachloride	5 u
108-05-4	Vinyl Acetate	10u
75-27-4	Bromodichloroethane	5 u

CAS Number		ug/l or ug/Kg (Circle One)
76-87-5	1, 2-Dichloropropane	5 u
10061-02-6	Trans-1, 3-Dichloropropene	5 u
79-01-8	Trichloroethene	5 u
124-48-1	Dibromochloromethane	5 u
79-00-5	1, 1, 2-Trichloroethane	5 u
71-43-2	Benzene	5 u
10061-01-5	cis-1, 3-Dichloropropene	5 u
110-75-8	2-Chloroethylvinylether	10u
75-25-2	Bromoform	5 u
108-10-1	4-Methyl-2-Pentanone	5 u 6J
591-78-6	2-Hexanone	5 u 9J
127-18-4	Tetrachloroethene	5 u
79-34-5	1, 1, 2, 2-Tetrachloroethane	5 u
108-88-3	Toluene	5 u
108-90-7	Chlorobenzene	5 u
100-41-4	Ethylbenzene	5 u
100-42-5	Styrene	5 u
	Total Xylenes	5 u

Data Reporting Qualifiers

For reporting results to EPA the following results qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be added.

- Value** If the result is a value greater than or equal to the detection limit report the value.
- U** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U to g, 10U based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read U-Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- J** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3J.
- C** This flag applies to pesticide parameters where the identification has been confirmed by GC-MS. Single component pesticides ≥ 10 ng/l in the final extract should be confirmed by GC-MS.
- B** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible (probable) blank contamination and warns the data user to take appropriate action.
- Other** Other specific flags and footnotes may be required to describe defining the results. If used, they must be fully described and such description attached to the data summary report.

00306

Sample Number

MB-2

Organics Analysis Data Sheet
(Page 1)Laboratory Name Cambridge Analytical Assoc.Case No P-387-007Lab Sample ID No DW Blank

QC Report No _____

Sample Matrix WaterContract No 66-01-7278-000299Data Release Authorized By A. RawlerDate Sample Received 11/30/87

Volatile Compounds

Concentration: Low Medium (Circle One)Date Extracted/Prepared 11/30/87Date Analyzed 11/30/87Conc/Dil Factor: 1 pH 7Percent Moisture (Not Decanted) N/A

CAS Number	Compound	ug/l or ug/Kg (Circle One)
74-87-3	Chloromethane	10u
74-83-9	Bromomethane	10u
75-01-4	Vinyl Chloride	10u
75-00-3	Chloroethane	10u
75-09-2	Methylene Chloride	10u 45
67-64-1	Acetone	10u
75-15-0	Carbon Disulfide	5 u
75-35-4	1, 1-Dichloroethene	5 u
75-34-3	1, 1-Dichloroethane	5 u
156-60-5	Trans-1, 2-Dichloroethene	5 u
67-66-3	Chloroform	5 u
107-06-2	1, 2-Dichloroethane	5 u
78-93-3	2-Butanone	10u
71-55-6	1, 1, 1-Trichloroethane	5 u
56-23-5	Carbon Tetrachloride	5 u
108-05-4	Vinyl Acetate	10u
75-27-4	Bromodichloromethane	5 u

CAS Number	Compound	ug/l or ug/Kg (Circle One)
78-87-5	1, 2-Dichloropropane	5 u
10061-02-6	Trans-1, 3-Dichloropropane	5 u
79-01-6	Trichloroethene	5 u
124-48-1	Dibromochloromethane	5 u
79-00-5	1, 1, 2-Trichloroethane	5 u
71-43-2	Benzene	5 u
10061-01-5	cis-1, 3-Dichloropropane	5 u
110-75-8	2-Chloroethylvinylether	10u
75-25-2	Bromoform	5 u
105-10-1	4 Methyl-2-Pentanone	10u
591-78-6	2-Hexanone	10u
127-18-4	Tetrachloroethene	5 u
79-34-5	1, 1, 2, 2-Tetrachloroethane	5 u
108-88-3	Toluene	5 u
108-90-7	Chlorobenzene	5 u
100-41-4	Ethylbenzene	5 u
100-42-5	Styrene	5 u
	Total Xylenes	5 u

Data Reporting Guidelines

For reporting results to EPA, the following result qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

- Value** If the result is a value greater than or equal to the detection limit report the value.
- U** Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution action. (This is not necessarily the instrument detection limit.) The footnote should read U. Compound was analyzed for but not detected. The number is the minimum detectable detection limit for the sample.
- J** Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10U). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, report as 3U.
- C** This flag applies to pesticide parameters where the detection has been confirmed by GC-MS. Single component pesticides 2:10 ug/l in the final extract should be confirmed by GC-MS.
- B** This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- Other** Other specific flags and footnotes may be required to describe and define the results. If used, they must be fully described and such definition attached to the data summary report.

00312

SAMPLING TRIP REPORT
DIVISION OF ENVIRONMENTAL ENFORCEMENT

SITE NAME: Tuxedo Park, NY 10987, Landfill east side Rt. 17
 ENFORCEMENT CATEGORY: (Active/Inactive)
 SAMPLING DATE & TIME: 11/18 - 11/19/87

SAMPLING KEY

DEC'S ID#	PRP'S ID# (Splits)	TYPE	COMMENT
P-387-D24-(01 thru 04)	None	Air	Offsite up-wind and down-wind
P-387-D24-05	None	Air	Site ambient
P-387-D24-(06 thru 19)	None	Air	Soil gas samples
P-387-607-(20 thru 22)	None	Soil	Pile of debris

PERSONNEL ON SITE

NAME	ORGANIZATION	DUTIES ON SITE
E. Perkins	NYSDEC DEE	Sampling
W. Wurster	" "	Sampling
D. Ashline	" "	Sampling
S. Mo	NYSDEC Air	Off-site Sampling
D. Hershey	" "	Off-site sampling
J. Trossbach	" "	"

CHAIN OF CUSTODY (YES/NO) ENFORCED (AIRBILL #1394778884)

SAFETY REQUIREMENTS:

Wet Wear
 Boots
 Gloves
 Decontamination: Solution of IPA/Aiconox - Scrub and Rinse

WEATHER CONDITIONS: Clear 50's, winds 10-15 mph

Comments and Observations

- MSA tubes determined H₂S at less than 1 ppm, at points of seepage.
- OVA - reading at seepage point was approximately 150 ppm.
- HNU had no readings at seepage points.

Report by: Douglas Ashline
 Date: November 19, 1987

REFERENCE 2

Exhibit A

Exhibit B

Exhibit D

SAMPLING TRIP REPORT
DIVISION OF ENVIRONMENTAL ENFORCEMENT

SITE NAME: Tuxedo Park, NY 10987, Landfill East Side Rt. 17.

ENFORCEMENT CATEGORY: Inactive

SAMPLING DATE: 10/16/87 (11:30 am - 4:45 pm)

SAMPLING KEY

DEC'S ID#	PRP'S ID#	TYPE	COMMENT
P-387-C23-(01,02,03,04,06,07)	None	Soil	See attached map for exact location.
P-387-C23-05	None	Leachate	
P-387-D20-(01,02,03,04,06,07,09)	None	Soil	

SAMPLING PERSONNEL

NAME	ORGANIZATION	DUTIES ON SITE
E. Perkins	NYSDEC DEE	Sampling
W. Wurster	" "	
D. Ashline	" "	Site survey prior to sampling.
R. Gardineer	NYSDEC Reg. 3	

SAFETY REQUIREMENTS:

Wet Wear, Tyrex Suit

Boots

Gloves

Decontamination: Solution of IPA/Alconox - Scrub and Rinse

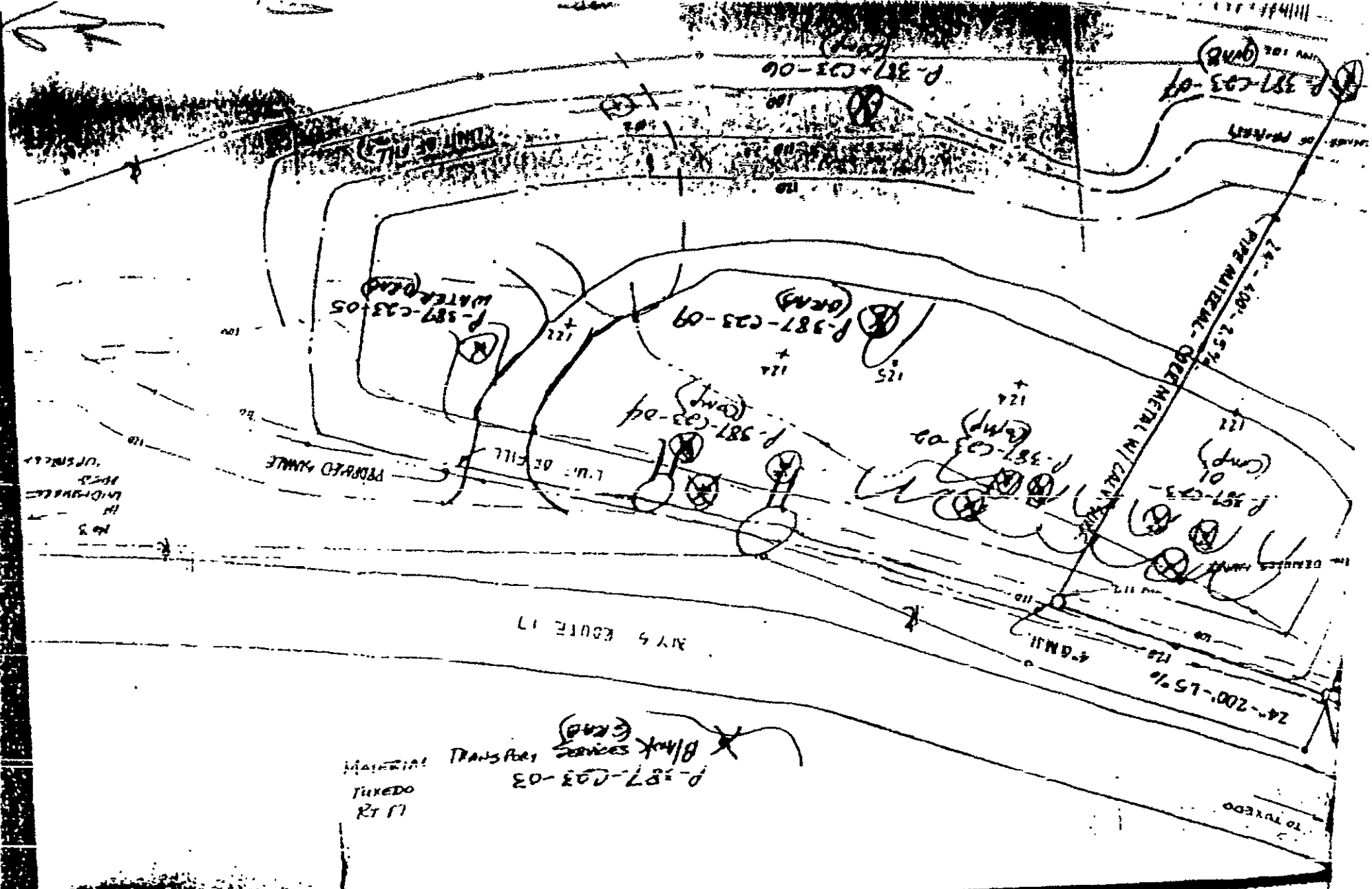
WEATHER CONDITIONS: Clear, sunny, temp. 65-70°F.

Comments and Observations

- 1) Fill was being brought to site.
- 2) Fill was being withdrawn from site.
- 3) Strong odor permeated site.
- 4) HNU reading taken at sampling location, results negative.

Report Prepared by: W. Wurster
Date: 10/22/87

- cc: J. Periconi
W. Reiss
V. Bryant
E. Perkins
D. Ashline



MATERIAL TRANSFER
 TUXEDO
 Rt 11
 P-387-C23-03
 Blank canvas
 (Camp)

MY 5 ROUTE 17

24-200-1.5%
 4-6MI

24-400-2.5%
 PINE MATERIAL - GREEN METAL W/ GALVANIZED

P-387-C23-05
 WATER TANK

P-387-C23-09
 (Camp)

P-387-C23-04
 (Camp)

P-387-C23-02
 (Camp)

P-387-C23-01
 (Camp)

TO TUXEDO

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION PENDING APPROVAL

SAMPLE ID: 874731 SAMPLE RECEIVED: 87/10/19/ CHARGE: 16.50
 PROGRAM: 5600 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: TUXEDO PARK RT 17 LANDFILL
 DESCRIPTION: P-387-020-01
 REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: PCB'S: PCB'S IN SOLIDS - STEAM DISTILLED
 SAMPLE TYPE: 6001801L, SAND
 REASONS FOR SUBMISSION: TASTE/ODCR
 TIME OF SAMPLING: 87/10/16 13150 DATE OF FINAL: 87/10/22

ANALYSIS: PCB5 PCB'S IN SOLIDS-STEAM DISTILLED (DES 312-2)
 DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T39803 PCB, AROCLOR 1221	< 0.01 MCG/G
T38003 PCB, AROCLOR 1016/1242	0.36 MCG/G
T52203 PCB, AROCLOR 1248	< 0.01 MCG/G
T38103 PCB, AROCLOR 1254	0.11 MCG/G
T41603 PCB, AROCLOR 1260	< 0.01 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: 6105 POLYNUCLEAR AROMATIC HYDROCARBONS - SOIL/SEDIMENT
 DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T65603 NAPHTHALENE	0.10 MCG/G [PL]
T63103 ACENAPHTHYLENE	0.10 MCG/G [PL]
T63003 ACENAPHTHENE	0.10 MCG/G [PL]
T65203 FLUORENE	0.10 MCG/G [PL]
T66103 PHENANTHRENE	0.90 MCG/G
T63203 ANTHRACENE	0.15 MCG/G
T68003 FLUORANTHENE	0.90 MCG/G
T66203 PYRENE	1.0 MCG/G
T63303 BENZO(A)ANTHRACENE	0.15 MCG/G
T64203 CHRYSENE	0.22 MCG/G
T63403 BENZO(B)FLUORANTHENE	< 0.10 MCG/G
T63503 BENZO(K)FLUORANTHENE	< 0.10 MCG/G
T63603 BENZO(A)PYRENE	< 0.10 MCG/G
T64303 DIBENZO(A,H)ANTHRACENE	< 0.10 MCG/G
T63703 BENZO(GHI)PERYLENE	< 0.10 MCG/G
T65403 INDENO(1,2,3-CD)PYRENE	< 0.10 MCG/G

*** END OF REPORT ***

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PAGE 1 RESULTS OF EXAMINATION PENDING APPROVAL

SAMPLE ID: 074732 SAMPLE RECEIVED: 07/10/19/ CHARGE: 16.30
PROGRAM: 5600 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3365
POLITICAL SUBDIVISION: TOXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TOXEDO PARK RT 17 LANDFILL
DESCRIPTION: P-387-020-03-02
REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: PCBs: PCB'S IN SOLIDS - STEAM DISTILLED
SAMPLE TYPE: 600 SOIL, SAND
REASONS FOR SUBMISSION: TASTE/OODR
TIME OF SAMPLING: 07/10/16 14:20 DATE OF FINAL: 07/10/22

ANALYST: PCBs PCB'S IN SOLIDS-STEAM DISTILLED (DES 312-2)
DATE COMPLETED: 07/10/21 PENDING APPROVAL

PARAMETER	RESULT
T39003 PCB, AROCLOR 1221	< 0.002 MCG/G
T39003 PCB, AROCLOR 1016/1242	0.03 MCG/G [SU]
T52203 PCB, AROCLOR 1248	< 0.002 MCG/G
T39103 PCB, AROCLOR 1254	< 0.002 MCG/G
T41603 PCB, AROCLOR 1260	< 0.002 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYST: 6105 POLYNUCLEAR AROMATIC HYDROCARBONS - SOIL/SEDIMENT
DATE COMPLETED: 07/10/21 PENDING APPROVAL

PARAMETER	RESULT
T65603 NAPHTHALENE	0.10 MCG/G [PL]
T63103 ACENAPHTHYLENE	< 0.10 MCG/G
T63003 ACENAPHTHENE	0.10 MCG/G [PL]
T65203 FLUORENE	0.10 MCG/G [PL]
T66103 PHENANTHRENE	0.36 MCG/G
T63203 ANTHRACENE	0.12 MCG/G
T68003 FLUORANTHRENE	0.90 MCG/G
T66203 PYRENE	1.1 MCG/G
T63303 BENZO(A)ANTHRACENE	0.19 MCG/G
T64203 CHRYSENE	0.30 MCG/G
T63403 BENZO(B)FLUORANTHRENE	0.16 MCG/G
T63503 BENZO(K)FLUORANTHRENE	< 0.1 MCG/G
T63603 BENZO(A)PYRENE	< 0.10 MCG/G
T64303 DIBENZO(A,H)ANTHRACENE	< 0.10 MCG/G
T63703 BENZO(GHI)PERYLENE	< 0.10 MCG/G
T63403 INDENO(1,2,3-CD)PYRENE	< 0.10 MCG/G

*** END OF REPORT ***

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PAGE 1 RESULTS OF EXAMINATION PENDING APPROVAL

SAMPLE ID: 874739 SAMPLE RECEIVED: 87/10/19/ CHARGE: 16.50
PROGRAM: 5600 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
POLITICAL SUBDIVISION: TOXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TOXEDO PARK RT 17 LANDFILL
DESCRIPTION: P-387-020-03
REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: PCBs: PCB'S IN SOLIDS - STEAM DISTILLED
SAMPLE TYPE: 6001 SOIL, SAND
REASONS FOR SUBMISSION: TASTE/ODOR
TIME OF SAMPLING: 87/10/16 14120 DATE OF FINACT: 87/10/22

ANALYST: PCBs PCB'S IN SOLIDS-STEAM DISTILLED (DES 312-2)
DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T39803 PCB, AROCLOR 1221	< 0.001 MCG/G
T39803 PCB, AROCLOR 1016/1242	< 0.001 MCG/G
T52203 PCB, AROCLOR 1248	< 0.001 MCG/G
T38103 PCB, AROCLOR 1254	< 0.001 MCG/G
T41603 PCB, AROCLOR 1260	< 0.001 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: 6105 POLYNUCLEAR AROMATIC HYDROCARBONS - SOIL/SEDIMENT
DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T65603 NAPHTHALENE	< 0.10 MCG/G
T63103 ACENAPHTHYLENE	< 0.10 MCG/G
T65603 ACENAPHTHENE	< 0.10 MCG/G
T65203 FLUORENE	< 0.10 MCG/G
T66103 PHENANTHRENE	0.10 MCG/G [PL]
T63203 ANTHRACENE	0.10 MCG/G [PL]
T68003 FLUORANTHENE	0.10 MCG/G [PL]
T66203 PYRENE	0.10 MCG/G [PL]
T63303 BENZO(A)ANTHRACENE	< 0.10 MCG/G
T64203 CHRYSENE	< 0.10 MCG/G
T63403 BENZO(B)FLUORANTHENE	< 0.10 MCG/G
T63503 BENZO(K)FLUORANTHENE	< 0.10 MCG/G
T63603 BENZO(A)PYRENE	< 0.10 MCG/G
T64303 DIBENZO(A,H)ANTHRACENE	< 0.10 MCG/G
T63703 BENZO(GHI)PERYLENE	< 0.10 MCG/G
T65403 INDENO(1,2,3-CD)PYRENE	< 0.10 MCG/G

*** END OF REPORT ***

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PAGE 1 RESULTS OF EXAMINATION PENDING APPROVAL

SAMPLE ID: 874734 SAMPLE RECEIVED: 87/10/19/ CHARGE: 16.50
PROGRAM: 56001 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE 13565
POLITICAL SUBDIVISION: TOXEDU COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TOXEDU PARK RT 17 LANDFILL
DESCRIPTION: P-387-020-04
REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: PCB'S: PCB'S IN SOLIDS - STEAM DISTILLED
SAMPLE TYPE: 6001501L, SAND
REASONS FOR SUBMISSION: TASTE/ODOR
TIME OF SAMPLING: 87/10/16 14130 DATE OF FINAL: 87/10/22

ANALYST: PCB'S PCB'S IN SOLIDS - STEAM DISTILLED (DES 312-2)
DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T39803 PCB, AROCLOR 1221	1.04 MCG/G
T36003 PCB, AROCLOR 1016/1242	< 0.02 MCG/G
T32203 PCB, AROCLOR 1248	< 0.02 MCG/G
T38103 PCB, AROCLOR 1254	0.16 MCG/G
T41603 PCB, AROCLOR 1260	< 0.02 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYST: BIOS POLYNUCLEAR AROMATIC HYDROCARBONS - SOIL/SEDIMENT
DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T63603 NAPHTHALENE	0.10 MCG/G [PC]
T63103 ACENAPHTHYLENE	0.10 MCG/G [PL]
T63003 ACENAPHTHENE	0.13 MCG/G
T65203 FLUORENE	0.13 MCG/G
T66103 PHENANTHRENE	1.3 MCG/G
T63203 ANTHRACENE	0.22 MCG/G
T68003 FLUORANTHENE	1.2 MCG/G
T66203 PYRENE	1.5 MCG/G
T63303 BENZO(A)ANTHRACENE	0.20 MCG/G
T64203 CHRYSENE	0.31 MCG/G
T63403 BENZO(B)FLUORANTHENE	0.11 MCG/G
T63503 BENZO(K)FLUORANTHENE	< 0.10 MCG/G
T63603 BENZO(A)PYRENE	< 0.10 MCG/G
T64303 DIBENZO(A,H)ANTHRACENE	< 0.10 MCG/G
T63703 BENZO(GHI)PERYLENE	< 0.10 MCG/G
T65403 INDENO(1,2,3-CD)PYRENE	< 0.10 MCG/G

**** END OF REPORT ****

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PAGE 1 RESULTS OF EXAMINATION PENDING APPROVAL

SAMPLE ID: 874735 SAMPLE RECEIVED: 8/7/10/19/ CHARGE: 16.50
 PROGRAM: 5600 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: TUXEDO PARK RT 17 LANDFILL
 DESCRIPTION: P-397-020-6
 REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: PCBs; PCB'S IN SOLIDS - STEAM DISTILLED
 SAMPLE TYPE: 6001 SOIL, SAND
 REASONS FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 8/7/10/16 15: DATE OF FINAL: 8/7/10/22

ANALYST: PCBs PCB'S IN SOLIDS - STEAM DISTILLED (DES 312-2)
 DATE COMPLETED: 8/7/10/21 PENDING APPROVAL

PARAMETER	RESULT
T39803 PCB, AROCLOR 1221	< 0.005 MCG/G
T38003 PCB, AROCLOR 1016/1242	0.05 MCG/G (SU)
T52203 PCB, AROCLOR 1248	< 0.005 MCG/G
T39103 PCB, AROCLOR 1254	< 0.005 MCG/G
T41603 PCB, AROCLOR 1260	< 0.005 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYST: 6109 POLYNUCLEAR AROMATIC HYDROCARBONS - SOIL/SEDIMENT
 DATE COMPLETED: 8/7/10/21 PENDING APPROVAL

PARAMETER	RESULT
T65603 NAPHTHALENE	0.10 PL MCG/G (MS)
T63103 ACENAPHTHYLENE	0.10 PL MCG/G (MS)
T63003 ACENAPHTHENE	0.11 MCG/G (MS)
T65203 FLUORENE	0.24 MCG/G (MS)
T66109 PHENANTHRENE	1.4 MCG/G (MS)
T63203 ANTHRACENE	0.33 MCG/G (MS)
T68003 FLUORANTHRENE	1.4 MCG/G (MS)
T66203 PYRENE	2.0 MCG/G (MS)
T63303 BENZO(A)ANTHRACENE	0.19 MCG/G (MS)
T64203 CHRYSENE	0.30 MCG/G (MS)
T63403 BENZO(B)FLUORANTHRENE	0.10 PL MCG/G (MS)
T63503 BENZO(K)FLUORANTHRENE	< 0.10 MCG/G
T63603 BENZO(A)PYRENE	0.10 PL MCG/G (MS)
T64303 DIBENZO(A,H)ANTHRACENE	< 0.10 MCG/G
T63703 BENZO(GHI)PERYLENE	< 0.10 MCG/G
T65403 INDENO(1,2,3-CD)PYRENE	< 0.10 MCG/G

*** END OF REPORT ***

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION PENDING APPROVAL

SAMPLE ID: 874736 SAMPLE RECEIVED: 87/10/19/ CHARGE: 16.50
PROGRAM: 5600 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEL
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
POLITICAL SUBDIVISION: TOXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TOXEDO PARK RT 17 LANDFILL
DESCRIPTION: P-397-D20-07
REPORTING LAB: TOX, LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: PCB'S IN SOLIDS - STEAM DISTILLED
SAMPLE TYPE: 600 ISOL, SAND
REASONS FOR SUBMISSION: TASTE/ODOR
TIME OF SAMPLING: 87/10/16 15:45 DATE OF FINAL: 87/10/22

ANALYST: PCB'S IN SOLIDS-STEAM DISTILLED (DES 312-2)
DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T39803 PCB, AROCLOR 1221	0.19 MCG/G [SD]
T38003 PCB, AROCLOR 1016/1242	< 0.001 MCG/G
T52203 PCB, AROCLOR 1248	< 0.001 MCG/G
T38103 PCB, AROCLOR 1254	< 0.001 MCG/G
T41603 PCB, AROCLOR 1260	< 0.001 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYST: 6105 POLYNUCLEAR AROMATIC HYDROCARBONS - SOIL/SEDIMENT
DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T65603 NAPHTHALENE	0.10 MCG/G [PL]
T63103 ACENAPHTHYLENE	0.10 MCG/G [PL]
T65803 ACENAPHTHENE	0.10 MCG/G [PL]
T65203 FLUORENE	0.10 MCG/G [PL]
T66103 PHENANTHRENE	0.29 MCG/G
T63203 ANTHRACENE	0.10 MCG/G [PL]
T68003 FLUORANTHRENE	0.21 MCG/G
T66203 PYRENE	0.20 MCG/G
T63303 BENZO(A)ANTHRACENE	< 0.10 MCG/G
T64203 CHRYSENE	< 0.10 MCG/G
T63403 BENZO(B)FLUORANTHRENE	< 0.10 MCG/G
T63503 BENZO(K)FLUORANTHRENE	< 0.10 MCG/G
T63603 BENZO(A)PYRENE	< 0.10 MCG/G
T64303 DIBENZO(A,H)ANTHRACENE	< 0.10 MCG/G
T63703 BENZO(GHI)PERYLENE	< 0.10 MCG/G
T65403 INDENO(1,2,3-CD)PYRENE	< 0.10 MCG/G

**** END OF REPORT ****

0007

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PAGE 1

RESULTS OF EXAMINATION

PENDING APPROVAL

SAMPLE ID: 874757 SAMPLE RECEIVED: 87/10/19/ CHARGE: 16.50
 PROGRAM: 5800 DIVISION OF ENVIRONMENTAL ENFORCEMENT - DEC
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TOXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: TOXEDO PARK AT 17 LANDFILL
 DESCRIPTION: P-387-020-09
 REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: PCB'S; PCB'S IN SOLIDS - STEAM DISTILLED
 SAMPLE TYPE: 500 SOIL, SAND
 REASON FOR SUBMISSION: TASTE/ODOR
 TIME OF SAMPLING: 87/10/16 14145 DATE OF FINAL: 87/10/22
 ANALYST: PCB'S PCB'S IN SOLIDS - STEAM DISTILLED (DES 312-2)
 DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T39803 PCB, AROCLOR 1221	< 0.01 MCG/G
T38003 PCB, AROCLOR 1016/1242	0.04 MCG/G [SU]
T52203 PCB, AROCLOR 1248	< 0.01 MCG/G
T38103 PCB, AROCLOR 1254	< 0.01 MCG/G
T41603 PCB, AROCLOR 1260	< 0.01 MCG/G

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYST: 6105 POLYNUCLEAR AROMATIC HYDROCARBONS - SOIL/SEDIMENT
 DATE COMPLETED: 87/10/21 PENDING APPROVAL

PARAMETER	RESULT
T65603 NAPHTHALENE	0.10 MCG/G [PL]
T63103 ACENAPHTHYLENE	0.10 MCG/G [PL]
T63003 ACENAPHTHENE	0.10 MCG/G [PL]
T63203 FLUORENE	0.10 MCG/G [PL]
T66103 PHENANTHRENE	0.42 MCG/G
T63203 ANTHRACENE	0.10 MCG/G [PL]
T68003 FLUORANTHENE	0.73 MCG/G
T66203 PYRENE	1.0 MCG/G
T63303 BENZO(A)ANTHRACENE	0.16 MCG/G
T64203 CHRYSENE	0.27 MCG/G
T63403 BENZO(B)FLUORANTHENE	< 0.10 MCG/G
T63503 BENZO(K)FLUORANTHENE	< 0.10 MCG/G
T63603 BENZO(A)PYRENE	< 0.10 MCG/G
T64303 DIBENZO(A,H)ANTHRACENE	< 0.10 MCG/G
T63703 BENZO(GHI)PERYLENE	< 0.10 MCG/G
T65403 INDENO(1,2,3-CD)PYRENE	< 0.10 MCG/G

END OF REPORT

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SUBMITTED 8/13/87

Analytical results are listed by parameter descriptions which include units of measurement. At times, numerical results include a two digit notation to supplement, explain or qualify the quantity reported. A notation, if present, follows the units of measurement. The following is a list of "official" notations and their interpretation.

BD Heavy bacterial growth

BM Spreading growth

CC Calculated result

EE Estimated result

FB Value in doubt because field blank indicated collection procedure out of control

II Insufficient information provided by collector

LA Laboratory accident

MI Mat growth, test for coliform organisms inconclusive

MP Mat growth, test for coliform organisms positive

NA Not analyzed

NC Not confirmed (analyte may or may not be present)

ND Not detectable and no minimum number available

NR* Not required* (or Not Requested for analysis)

PL Present but less than the usual minimum reportable value

PR Present

RC Result confirmed (generally by Mass Spectrometry or 2nd column GC or other analytical techniques)

CR Confirmed Result by 2nd column gas chromatography

MS Confirmed Result by Mass Spectrometry

SC Aliquot was not provided

SD Not analyzed; sample deteriorated in transit due to improper preservation

SG Sample over maximum holding time (with a result)

- SI Not analyzed: insufficient quantity
- SL Not analyzed: sample lost or leaked in transit
- SN Not analyzed: sample over maximum holding time
- SR or SU Suspicious result
- UI Unknown interference **

The NR notation is suppressed on data sheets distributed outside the laboratory. (Lab file copies will include this notation.)

* In addition to this notation, there are cases where analytical results are qualified due to interferences and abbreviations are entered in the result field. Examples are as follows: INT or INTER or INTERF

Analytical results may include a symbol preceding the number which qualifies the result reported. There are four possible symbols which are depicted and described below. Previous computer-generated data (some 1983 and before) required that the four symbols were presented as a two digit notation (following the number). For reference, the previously used data notations are also listed below in parentheses.

- > Greater than (GT)
- >= Greater than or equal to (GE)
- < Less than (LT)
- <= Less than or equal to (LE)

REFERENCE 3

New York State Department of Environmental Conservation
21 South Platt Corners Road
New Paltz, New York 12561
914-255-5453



Henry G. Williams
Commissioner

telex
sent
11:00
1/27/88

TO: JOHN PROUDFIT
Telex NO. 212-406-1437

DATE: JAN 27, 1988

FROM: Rich Gardner

NUMBER OF PAGES: 6 & COVER

OUR TELECOPIER: 914-255-5453 ext. 300

OS Organic Form 1
Organics Analysis Data Sheet

Page 11

Laboratory Name Ecology + Environment Inc.

Case No. R387-54

Lab Sample ID No. 11504

OS Report No. _____

Sample Matrix: WATER

Contract No. 0001425

Date Release Authorized By: [Signature]

Date Sample Received 10-27-87

Volatile Compounds

Concentration Low Medium (Circle One)

Date Extracted/Prepared: _____

Date Analyzed: 10-30-87

Conc./Oil Factor: 1 1 1

Percent Moisture: _____

Percent Moisture (Discounted): _____

OS Number

10/27/87
(Circle One)

74-87-3	Chloroethane	10	U
74-87-9	Bromoethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	0	B
67-64-1	Acetone	7	
75-15-0	Carbon disulfide	5	U
75-35-4	1,1-Dichloroethane	5	U
75-35-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethane	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	22	B
71-45-4	1,1,1-Trichloroethane	5	U
56-23-5	Carbon tetrachloride	5	U
168-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloroethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-02-6	trans-1,3-Dichloropropane	5	U
79-01-6	Trichloroethane	5	U
124-48-1	Dibromochloroethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-01-5	cis-1,3-Dichloropropane	5	U
110-75-8	2-Chloroethylvinyl ether	10	U
75-25-2	Bromoform	5	U
591-78-6	4-methyl-2-pentanone	10	U
108-10-1	2-Hexanone	10	U
127-18-4	Tetrachloroethane	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
106-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Benzene	5	U
	Total Xlenes	5	U

Laboratory Name Ecology & Environment, Inc.

MYSDIC Sample Number R387-54-01

Case No. R387-54

U.S. Organic Pests I
ORGANICS ANALYSIS DATA SHEET
(Page 2)

Semi-volatile Compounds

Concentration: Low Medium (Circle One)
Date Extracted/Prepared: 11-1-87
Date Analyzed: 11-13-87
Conc/Dil Factor: 2

GPC Cleanup Yes No
Separatory Funnel
Extraction Yes No
Continuous Liquid-Liquid
Extraction Yes No

OS
Number

10 µg/L or µg/kg
(Circle One)

108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl)ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl)ether	10	U
106-44-5	4-Methylphenol	12	
621-64-7	N-Nitrosodimethylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isoclorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic acid	50	U
111-91-1	Bis(2-Chloroethoxy)methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-methylphenol (p-chloro-m-cresol)	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U

(continued)

Laboratory Name Ecology & Environment Inc.

PROJECT Sample Number R387.54-01

Case No. R387.54

CE Organic Part I
 ORGANICS ANALYSIS DATA SHEET
 (Page 3)

CAS Number		Wt % of (Total Oil)	Wt % of (Total Oil)
131-11-3	Dimethylphthalate	10	U
208-96-8	Acenaphthylene	10	U
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
91-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
606-20-2	2,6-Dinitrotoluene	10	U
84-56-2	Diethylphthalate	2	BJ
7005-72-3	4-Chlorophenyl phenyl ether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
543-52-1	4,6-Dinitro-2-methylphenol	50	U
86-30-6	N-nitroso-diphenylamine (1)	10	U
101-55-3	4-Bromophenyl phenyl ether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-butylphthalate	8	BJ
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3-Dichlorobenzidine	20	U
56-55-3	Benzo (a) anthracene	10	U
117-81-7	bis (2-ethylhexyl) phthalate	2	BJ
218-01-9	Chrysene	10	U
117-84-0	Di-n-octylphthalate	18	B
205-99-2	Benzo (b) fluoranthene	10	U
207-88-9	Benzo (k) fluoranthene	10	U
50-32-8	Benzo (a) pyrene	10	U
193-39-5	Indeno (1,2,3-cd) pyrene	10	U
53-70-3	Dibenz (a,h) anthracene	10	U
191-24-2	Benzo (g,h,i) perylene	10	U

(1) - Cannot be separated from diphenylamine

Laboratory Name ECOLOGICAL AND ENVIRONMENTAL, INC.
 Case No. R387-54

Sample Number
R387-54-01

Organics Analysis Data Sheet
 (Page 3)

Pesticide/PCBs

Concentration Low Medium (Circle One)
 Date Extracted/Prepared 11-1-87
 Date Analyzed 11-11-87
 Conc/Dil Factor 2
 Percent Moisture (decanted) _____

GPC Cleanup Yes No
 Separatory Funnel Extraction Yes
 Continuous Liquid-Liquid Extraction Yes

CAS Number		ug/l or ug/Kg (Circle One)
319 84-6	Alpha BHC	0.10 u
319 85-7	Beta-BHC	0.10 u
319 86-8	Delta BHC	0.10 u
58 89-9	Gamma BHC (Lindane)	0.10 u
75-44-8	Heptachlor	0.10 u
309-00-2	Aldrin	0.10 u
1024-57-3	Heptachlor Epoxide	0.10 u
953 98 8	Endosulfan I	0.10 u
60 57-1	Dieldrin	0.20 u
72-55-9	4,4-DDE	0.20 u
72-20-8	Endrin	0.20 u
33213-65-9	Endosulfan II	0.20 u
72-54-8	4,4-DDD	0.20 u
1031-07-8	Endosulfan Sulfate	0.20 u
50-29-3	4,4-DDT	0.20 u
72-43-5	Methoxychlor	1.0 u
53494-70-5	Endrin Ketone	0.20 u
57-74 9	Chlordane	1.0 u
8001-35-2	Toxaphene	2.0 u
12674-11-2	Aroclor-1016	1.0 u
11104-28-2	Aroclor-1221	1.0 u
11141-16-5	Aroclor-1232	1.0 u
53489 21-9	Aroclor-1242	1.0 u
12672-29-6	Aroclor-1248	1.0 u
11097-89-1	Aroclor-1254	2.0 u
11096-82-5	Aroclor-1260	2.0 u

V_i = Volume of extract injected (ul)
 V_s = Volume of water extracted (ml)
 W_s = Weight of sample extracted (g)
 V_t = Volume of total extract (ul)

V_s 1,000 or W_s _____ V_i 10,000 V_t 4

Laboratory Name Ecology & Environment Lab. NYSDC Sample Number R387-54-01
 Case No. R387-54

GC Organic Part 1

ORGANICS ANALYSIS DATA SHEET
 (Page 5, Part B)

Tentatively Identified Compounds

OS Number	Compound Name	Fraction	Ret. Time (min)	Estimated Concentration (ng/L or ug/kg)
1.	<i>No Volatile Compounds Found</i>			
2.				
3.				
4.				
5.	99047 3-Methyl Benzoic Acid	BVA	15.49	48 J
6.	Unknown		16.87	56 J
7.	Unknown Aromatic		17.40	15 J
8.	Unknown		26.29	26 J
9.	Unknown Hydrocarbon		26.78	20 J B
10.	Unknown Phthalate		32.08	10 J
11.	Unknown Amide		34.38	52 J @
12.	Unknown Phthalate		35.01	19 J B
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
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25.				
26.				
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28.				
29.				
30.				

AM

DATA REPORTING QUALIFIERS

For reporting results to the NYSED, the following protocol specific qualifiers are to be used. The four qualifiers defined below are not subject to modification by the laboratory. Additional flags or footnotes explaining results are encouraged. However, the definition of such flags or footnotes must be explicit.

- Value - If the result is a value greater than or equal to the detection limit, report the value.
- U - Indicates compound was analyzed for but not detected. Report the minimum detection limit for the sample with the U (e.g., 10U) based on necessary concentration/dilution actions. (This is not necessarily the instrument detection limit.) The footnote should read: U - Compound was analyzed for but not detected. The number is the minimum attainable detection limit for the sample.
- J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 µg/L and a concentration of 3 µg/L is calculated, report as 3J.
- C - This flag applies to pesticide parameters where the identification has been confirmed by GC/MS. Single component pesticides > 10 ng/µL in the final extract should be confirmed by GC/MS.
- B - This flag is used when the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- Other - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the data summary report.

REFERENCE 4



STATE OF NEW YORK DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany New York 12237

MK - last

David Axelrod M.C.
Commissioner

June 6, 1988

RECEIVED

JUN 09 1988

Mr. Michael Komoroske
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation
NYS Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF
HAZARDOUS WASTE REMEDIATION

RE: Tuxedo Park C&D Site
(T) Tuxedo, Orange County
ID No. 336035

Dear Mr. Komoroske:

Enclosed please find the organic analytical results for the well sample collected on April 28, 1988 from the Country Collector Antique Store located just north of the Tuxedo C&D Landfill. Results reveal that all compounds with the exception of chloroform were less than the method detection limit.

Chloroform was detected at 1 MCG/L just above the detection limit of 0.5 MCG/L. However, chloroform was also identified in the field blank at 0.5 MCG/L indicating possible sample container or laboratory contamination. The chloroform result is considered suspicious.

Inorganic data will be forwarded to you as it becomes available. If you have any comments or questions, please feel free to contact me or Steve Bates at (518) 458-6306.

Sincerely,

Edward G. Fahrenkopf
Program Research Specialist II
Bureau of Environmental Exposure
Investigation

EF/tjl

Enclosure

cc: Mr. Tramontano
Mr. Bates
Mr. Chen
Mr. Gardineer

1 copy

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 861351 SAMPLE RECEIVED: 88/04/29/ CHARGE: 8.00
 PROGRAM: 110: STATE SUPERFUND ANALYTICAL SERVICES - HRI Contract 814-2245/
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: FIELD BLANK-TUXEDO C&D SITE
 DESCRIPTION: WITH SAMPLE #861350 DATE PREPARED 4/27/88
 REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: VHS021: VOLATILE HALOGENATED INDICATORS
 SAMPLE TYPE: 297: FIELD BLANK / TRIP BLANK
 TIME OF SAMPLING: 88/04/28 DATE PRINTED: 88/05/24

ANALYSIS: VHS021 VOLATILE HALOGENATED INDICATORS-EPA METHOD 502.1
 DATE PRINTED: 88/05/24 FINAL REPORT

-----PARAMETER-----	-----RESULT-----
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUOROMETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROPROPANE	0.5 MCG/L [PL]
1,2-DICHLOROETHANE	< 0.5 MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROMETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROMETHANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE	< 0.5 MCG/L
2-CHLOROETHYL VINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

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RONALD TRAMONTANO, PE
 BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
 NY STATE DEP'T. HEALTH
 II UNIVERSITY PLACE
 ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY: BATES

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 2

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: WF1351 SAMPLE RECEIVED: 88/04/29/ CHARGE: 8.00
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LOCATION: FIELD BLANK-TUXEDO C&D SITE
TIME OF SAMPLING: 88/04/28 ; DATE PRINTED: 88/05/24

-----PARAMETER-----	-----RESULT-----
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
ORTHO-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

**** END OF REPORT ****

RESULTS OF EXAMINATION

SAMPLE ID: ~~001350~~ SAMPLE RECEIVED: 08/04/29
 PROGRAM: 110: STATE SUPERFUND ANALYTICAL SERVICES
 SOURCE ID: DRAINAGE BASIN: GAZETTEER
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORA
 LATITUDE: LONGITUDE: Z DIRECTIO
 LOCATION: TUXEDO C60 SITE #336035- ANTIQUE STOPE BOA 507
 DESCRIPTION: FLORENCE GOLDBLATT- BATHROOM SINK TAP
 REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: GC-FID: PRIORITY POLLUTANTS - GC/FID RESULTS
 SAMPLE TYPE: 120: PRIVATE WATER SUPPLY - DRILLED WELL
 TIME OF SAMPLING: 88/04/28 DATE PR.

ANALYSIS: VHS021 VOLATILE HALOGENATED INDICATORS-EPA #1
 DATE REPORTED: 88/05/24 HEPOL

-----PARAMETER-----	-----RESULT----
CHLOROMETHANE	< 0.5 MCG/L
BROMOMETHANE	< 0.5 MCG/L
VINYL CHLORIDE	< 0.5 MCG/L
DICHLORODIFLUOROMETHANE (FREON-12)	< 0.5 MCG/L
CHLOROETHANE	< 0.5 MCG/L
METHYLENE CHLORIDE (DICHLOROMETHANE)	< 0.5 MCG/L
TRICHLOROFLUOROMETHANE (FREON-11)	< 0.5 MCG/L
1,1-DICHLOROETHENE	< 0.5 MCG/L
1,1-DICHLOROETHANE	< 0.5 MCG/L
TRANS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CIS-1,2-DICHLOROETHENE	< 0.5 MCG/L
CHLOROFORM	< 0.5 MCG/L
1,2-DICHLOROETHANE	1. MCG/L
DIBROMOMETHANE	< 0.5 MCG/L
1,1,1-TRICHLOROETHANE	< 0.5 MCG/L
CARBON TETRACHLORIDE	< 0.5 MCG/L
BROMODICHLOROETHANE	< 0.5 MCG/L
2,3-DICHLOROPROPENE	< 0.5 MCG/L
1,2-DICHLOROPROPANE	< 0.5 MCG/L
TRANS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
TRICHLOROETHENE	< 0.5 MCG/L
1,3-DICHLOROPROPANE	< 0.5 MCG/L
DIBROMOCHLOROETHANE	< 0.5 MCG/L
CIS-1,3-DICHLOROPROPENE	< 0.5 MCG/L
1,1,2-TRICHLOROETHANE	< 0.5 MCG/L
1,2-DIBROMOETHANE	< 0.5 MCG/L
2-CHLOROPHTHYLVINYL ETHER	< 0.5 MCG/L
BROMOFORM	< 0.5 MCG/L
1,1,1,2-TETRACHLOROETHANE	< 0.5 MCG/L
1,2,3-TRICHLOROPROPANE	< 0.5 MCG/L

**** CONTINUED ON NEXT PAGE ****

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RONALD TRAMONTANO, PE
 BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
 NY STATE DEPT. HEALTH
 11 UNIVERSITY PLACE
 ALBANY, NY 12237 INTERAGENCY MAIL

SUBMITTED BY:

PAGE 2

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 081350 SAMPLE RECEIVED: 88/04/29/ CHARGE: 41.50
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LOCATION: TUXEDO C&D SITE #336035- ANTIQUE STORE BOX 507
 TIME OF SAMPLING: 88/04/29 DATE PRINTED: 88/05/25

PARAMETER	RESULT
1,1,2,2-TETRACHLOROETHANE	< 0.5 MCG/L
TETRACHLOROETHENE	< 0.5 MCG/L
PENTACHLOROETHANE	< 0.5 MCG/L
1-CHLOROCYCLOHEXENE-1	< 0.5 MCG/L
CHLOROBENZENE	< 0.5 MCG/L
BIS(2-CHLOROETHYL)ETHER	< 0.5 MCG/L
1,2-DIBROMO-3-CHLOROPROPANE	< 0.5 MCG/L
BROMOBENZENE	< 0.5 MCG/L
ORTHO-CHLOROTOLUENE	< 0.5 MCG/L
BIS(2-CHLOROISOPROPYL)ETHER	< 0.5 MCG/L
1,3-DICHLOROBENZENE	< 0.5 MCG/L
1,2-DICHLOROBENZENE	< 0.5 MCG/L
1,4-DICHLOROBENZENE	< 0.5 MCG/L

ANALYSIS: 5031 AROMATIC PURGEABLES, EPA METHOD 503.1 (DES 310-22)
 DATE REPORTED: 88/05/13 REPORT MAILED OUT

PARAMETER	RESULT
BENZENE	< 0.5 MCG/L
TOLUENE	< 0.5 MCG/L
ETHYLBENZENE	< 0.5 MCG/L
PARA-XYLENE	< 0.5 MCG/L
META-XYLENE	< 0.5 MCG/L
ORTHO-XYLENE	< 0.5 MCG/L
CUMENE	< 0.5 MCG/L
STYRENE	< 0.5 MCG/L
P-BROMOFLUOROBENZENE	< 0.5 MCG/L
N-PROPYLBENZENE	< 0.5 MCG/L
TERI-BUTYLBENZENE	< 0.5 MCG/L
O/P-CHLOROTOLUENE	< 0.5 MCG/L
META-CHLOROTOLUENE	< 0.5 MCG/L
1,3,5-TRIMETHYLBENZENE	< 0.5 MCG/L
1,2,4-TRIMETHYLBENZENE	< 0.5 MCG/L
P-CYME	< 0.5 MCG/L
CYCLOPROPYLBENZENE	< 0.5 MCG/L
SEC-BUTYLBENZENE	< 0.5 MCG/L
N-BUTYLBENZENE	< 0.5 MCG/L
2,3-BENZOFURAN	< 0.5 MCG/L
HEXACHLOROCYCLOHEPTADIENE (C-46)	< 0.5 MCG/L
1,2,4-TRICHLOROBENZENE	< 0.5 MCG/L
NAPHTHALENE	< 0.5 MCG/L
1,2,3-TRICHLOROBENZENE	< 0.5 MCG/L

*** CONTINUED ON NEXT PAGE ***

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 3

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: ~~081350~~ SAMPLE RECEIVED: 08/04/29/ CHARGE: \$1.50
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LOCATION: TUXEDO C&D SITE #336035- ANTIQUE STORE BDX 507
TIME OF SAMPLING: 08/04/28 DATE PRINTED: 08/05/25

ANALYSIS: KET KETONES - PURGE & TRAP TECHNIQUE (DES 310-25)
DATE REPORTED: 08/05/10 REPORT MAILED OUT

PARAMETER	RESULT
METHYL ETHYL KETONE	< 10. MCG/L
METHYL ISOBUTYL KETONE	< 10. MCG/L
ACETONE	< 10. MCG/L

ANALYSIS: XPFST-PCB ORGANOCHEMICAL PESTICIDES & PCB'S (DES310-2)
DATE REPORTED: 08/05/10 REPORT MAILED OUT

PARAMETER	RESULT
HCH, ALPHA	< 0.04 MCG/L
HCH, BETA	< 0.04 MCG/L
HCH, GAMMA (LINDANE)	< 0.04 MCG/L
HCH, DELTA	< 0.04 MCG/L
HEPTACHLOR	< 0.04 MCG/L
ALDRIN	< 0.05 MCG/L
HEPTACHLOR EPOXIDE	< 0.02 MCG/L
ENDOSULFAN I	< 0.05 MCG/L
DDE -PARA, PARA	< 0.05 MCG/L
DIELDRIN	< 0.05 MCG/L
ENDRIN	< 0.02 MCG/L
DDD -PARA, PARA	< 0.02 MCG/L
ENDOSULFAN II	< 0.05 MCG/L
ENDRIN ALDEHYDE	< 0.02 MCG/L
ENDOSULFAN SULFATE	< 0.05 MCG/L
DDT -PARA, PARA	< 0.05 MCG/L
METHOXYCHLOR	< 1. MCG/L
TOXAPHENE	< 1. MCG/L
CHLORDANE	< 0.1 MCG/L
MIREX	< 0.05 MCG/L
PCB, AROCLOR 1271	< 0.05 MCG/L
PCB, AROCLOR 1016/1242	< 0.05 MCG/L
PCB, AROCLOR 1248	< 0.05 MCG/L
PCB, AROCLOR 1254	< 0.05 MCG/L
PCB, AROCLOR 1260	< 0.05 MCG/L

ANALYSIS: 625PP PRIORITY POLLUTANT ANALYSIS
DATE PRINTED: 08/05/25 FINAL REPORT

PARAMETER	RESULT
GC/FID SCAN (date)	08/05/10
**** CONTINUED ON NEXT PAGE ****	

PAGE 4

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: WF1350 SAMPLE RECEIVED: 88/04/29 CHARGE: \$15.50
 POLITICAL SUBDIVISION: TUXEEO COUNTY: ORANGE
 LOCATION: TUXEEO C&D SITE #336035- ANTIQUE STORE BOX 507
 TIME OF SAMPLING: 88/04/28 DATE PRINTED: 88/05/25

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: GC-FID-A PRIORITY POLLUTANTS*ACIDS*GC/FID RESULTS
 DATE REPORTED: 88/05/16 REPORT MAILED OUT

PARAMETER	RESULT
PHENOL	< 10. MCG/L
2-CHLOROPHENOL	< 10. MCG/L
2-NITROPHENOL	< 10. MCG/L
2,4-DIMETHYLPHENOL	< 10. MCG/L
2,4-DICHLOROPHENOL	< 10. MCG/L
4-CHLORO-3-METHYLPHENOL	< 10. MCG/L
2,4,6-TRICHLOROPHENOL	< 10. MCG/L
2,4,5-TRICHLOROPHENOL	< 10. MCG/L
2,4-DINITROPHENOL	< 10. MCG/L
4-NITROPHENOL	< 10. MCG/L
2-METHYL-4,6-DINITROPHENOL	< 10. MCG/L
PENTACHLOROPHENOL	< 10. MCG/L

ANALYSIS: GC-FID-BN PRIORITY POLLUTANTS*BASE/NEUTRALS*GC/FID RESULTS
 DATE REPORTED: 88/05/16 REPORT MAILED OUT

PARAMETER	RESULT
N-NITROSDI-N-PROPYLAMINE	< 10. MCG/L
HEXACHLOROFITANE	< 10. MCG/L
NITROBENZENE	< 10. MCG/L
ISOPHORONE	< 10. MCG/L
BIS(2-CHLOROETHOXY)METHANE	< 10. MCG/L
HEXACHLOROCYCLOPENTADIENE (C-56)	< 10. MCG/L
2-CHLORONAPHTHALENE	< 10. MCG/L
2,6-DINITROTOLUENE	< 10. MCG/L
ACENAPHTHYLENE	< 10. MCG/L
DIMETHYLPHTHALATE	< 10. MCG/L
ACENAPHTHENE	< 10. MCG/L
2,4-DINITROTOLUENE	< 10. MCG/L
DIETHYLPHTHALATE	< 10. MCG/L
FLUORENE	< 10. MCG/L
N-NITROSDIPHENYLAMINE	< 10. MCG/L
1,2-DIPHENYLHYDRAZINE	< 10. MCG/L
4-BROMOPHENYL PHENYL ETHER	< 10. MCG/L
HEXACHLOROPENZENE	< 10. MCG/L
PHENANTHRENE	< 10. MCG/L
ANTHRACENE	< 10. MCG/L
DI-N-BUTYLPHTHALATE	< 10. MCG/L
FLUORANTHENE	< 10. MCG/L
PYRENE	< 10. MCG/L
BENZIDINE	< 30. MCG/L
BUTYL BENZYL PHTHALATE	< 30. MCG/L
BENZO(A)ANTHRACENE	< 10. MCG/L

*** CONTINUED ON NEXT PAGE ***

SAMPLE ID: ---01350 --- SAMPLE RECEIVED: 88/04/29/ --- CHARGE: --- 41.50
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LOCATION: TUXEDO C60 SITE #336035- ANTIQUE STORE BOX 507
TIME OF SAMPLING: 88/04/28 ? DATE PRINTED: 88/05/25

-----PARAMETER-----	-----RESULT-----
3,3'-DICHLOROBENZIDINE	< 30. MCG/L
CHRYSENE	< 30. MCG/L
BIS(2-ETHYLHEXYL)PHTHALATE	< 30. MCG/L
DI-N-OCTYL PHTHALATE	< 30. MCG/L
BENZO(B)FLUORANTHENE	< 20. MCG/L
BENZO(K)FLUORANTHENE	< 20. MCG/L
BENZO(A)PYRENE	< 20. MCG/L
INDENO(1,2,3-CD)PYRENE	< 20. MCG/L
DIBENZO(A,H)ANTHRACENE	< 20. MCG/L
BENZO(GHI)PERYENE	< 20. MCG/L

**** END OF REPORT ****



STATE OF NEW YORK
DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany New York 12237

David Axelrod, M.D.
Commissioner

June 14, 1988

Mr. Michael Komoroske
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation
NYS Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233

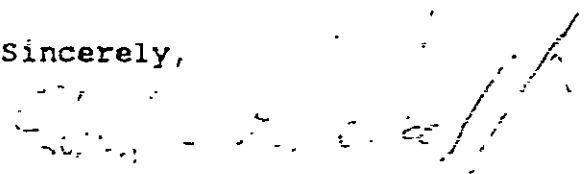
RE: Tuxedo Park C&D Site, (T) Tuxedo,
Orange County, I.D. No. 336035

Dear Mr. Komoroske:

Enclosed please find the inorganic analytical results for the well sample collected on April 28, 1988 from the Country Collector Antique Store. Results reveal that all compounds were below applicable groundwater and drinking water standards.

If you have any questions or comments please feel free to contact me or Steve Bates.

Sincerely,


Edward G. Fahrenkopf
Program Research Specialist II
Bureau of Environmental Exposure
Investigation

EGF:vbh

cc: Mr. Bates
Mr. Tramontano
Mr. Chen
Mr. Pergardia/Mr. Gardineer

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JUN 17 1988

BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 881001417 SAMPLE RECEIVED: 88/04/29/14 CHARGE: 5.75
PROGRAM: 110: STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE Z DIRECTION:
LOCATION: TUXEDO C & D SITE #336035
DESCRIPTION:
REPORTING LAB: 10: LABORATORY OF INORGANIC ANALYTICAL CHEMISTRY - ALBANY
TEST PATTERN: 10-001: SAFE DRINKING WATER ACT - METALS ONLY
SAMPLE TYPE: 120: PRIVATE WATER SUPPLY - DRILLED WELL
TIME OF SAMPLING: 88/04/28 15:00 DATE PRINTED: 88/05/01

SULFURIC ACID PRESERVED FRACTION NOT SUBMITTED FOR
 NITRATE DETERMINATION.

ANALYSIS: ICP-1 ICP GROUPING 1

PARAMETER	RESULT
MERCURY	< 0.2 MCG/L
ARSENIC	< 10. MCG/L
SELENIUM	< 5. MCG/L
LEAD	12. MCG/L
BERYLLIUM	< 1. MCG/L
SILVER	< 10. MCG/L
BARIUM	< 5. MCG/L
CADMIUM	< 5. MCG/L
COBALT	< 5. MCG/L
CHROMIUM	< 5. MCG/L
COPPER	701. MCG/L
IRON	149. MCG/L
MANGANESE	5. MCG/L
NICKEL	< 5. MCG/L
STRONTIUM	82. MCG/L
TITANIUM	< 5. MCG/L
VANADIUM	< 5. MCG/L
ZINC	111. MCG/L
MOLYBDENUM	< 20. MCG/L
ANTIMONY	< 50. MCG/L
LI	< 50. MCG/L
THALLIUM	< 30. MCG/L
ALUMINUM	< 100. MCG/L

**** CONTINUED ON NEXT PAGE ****

(COPIES SENT TO: CO(2), RO(1), LPHE(1), FED(), INFO-P(), INFO-L())

RONALD IRAMONTANO, PE
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT.
NY STATE DEP'T. HEALTH
11 UNIVERSITY PLACE
ALBANY, NY 12207 INTERAGENCY MAIL

SUBMITTED BY: BATES

07/16

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 2

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 001001417 SAMPLE RECEIVED: 88/04/29/14 CHARGE: 5.92
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LOCATION: TUXEDO C. & D SITE #336035
 TIME OF SAMPLING: 88/04/28 16:00 DATE PRINTED 88/06/01

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

PARAMETER	RESULT
PH	6.54
SULFATE AS SO ₄	53. MG/L
NITROGEN, NITRATE (+NO ₂) AS N	[NA]
CHLORIDE	37. MG/L

**** END OF REPORT ****

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REFERENCE 5

1-2-88

STATE OF NEW YORK - DEPARTMENT OF HEALTH
INTEROFFICE MEMORANDUM

TO: Steve Bates - Section Chief, Southern Section
Bureau of Environmental Exposure Investigation

FROM: Edward G. Fahrenkopf, Program Research Specialist II *S.I.F.*
Bureau of Environmental Exposure Investigation

SUBJECT: Hydrogen Sulfide Sampling - Tuxedo Park C&D Landfill
Town of Tuxedo, Grange County - Site I.D. No. 336035

DATE: March 30, 1988

On March 23, 1988, Edward Fahrenkopf and Joseph Crua, BEEI staff, performed air analyses for hydrogen sulfide (H₂S) at the Tuxedo Park C&D landfill. Air samples were collected using portable battery-operated pumps and analyzed by drawing air through H₂S Dräger tubes. Detection limits ranged from 20-30 ppb. Five samples were collected, one background (upwind) and four downwind samples. All sample results with the exception of an on-site vent sample were less than the detection limit. However, a noticeable sulfide odor was present at all sampling stations, winds were blowing at about 15 mph which most likely had a negative effect on Dräger tube performance.

Sample locations and results are summarized below. Sample locations are shown on the attached site sketch map, and complete sample collection data are attached.

<u>Site Location</u>	<u>H₂S Concentration</u>
No. 1 Upgradient - across Rt. 17 (west side) from Wiand residence. Approximately 50 ft. off road	<0.02
No. 2 Vent Sample - 50 ft. east of Rt. 17 on the landfill. Sample collected 6 in. from vent, which was emitting white vapor(s).	4.4 (maximum reading)
No. 3 Located 150 ft. east of Rt. 17 on landfill, about 250 yards north of sample No. 2	<0.02
No. 4 Located on site approximately 70 yards south of Vera Johnson	

Steve Bates - Section Chief, Southern Section

Antique Store about 75 ft east
of Rt 17

<0.02

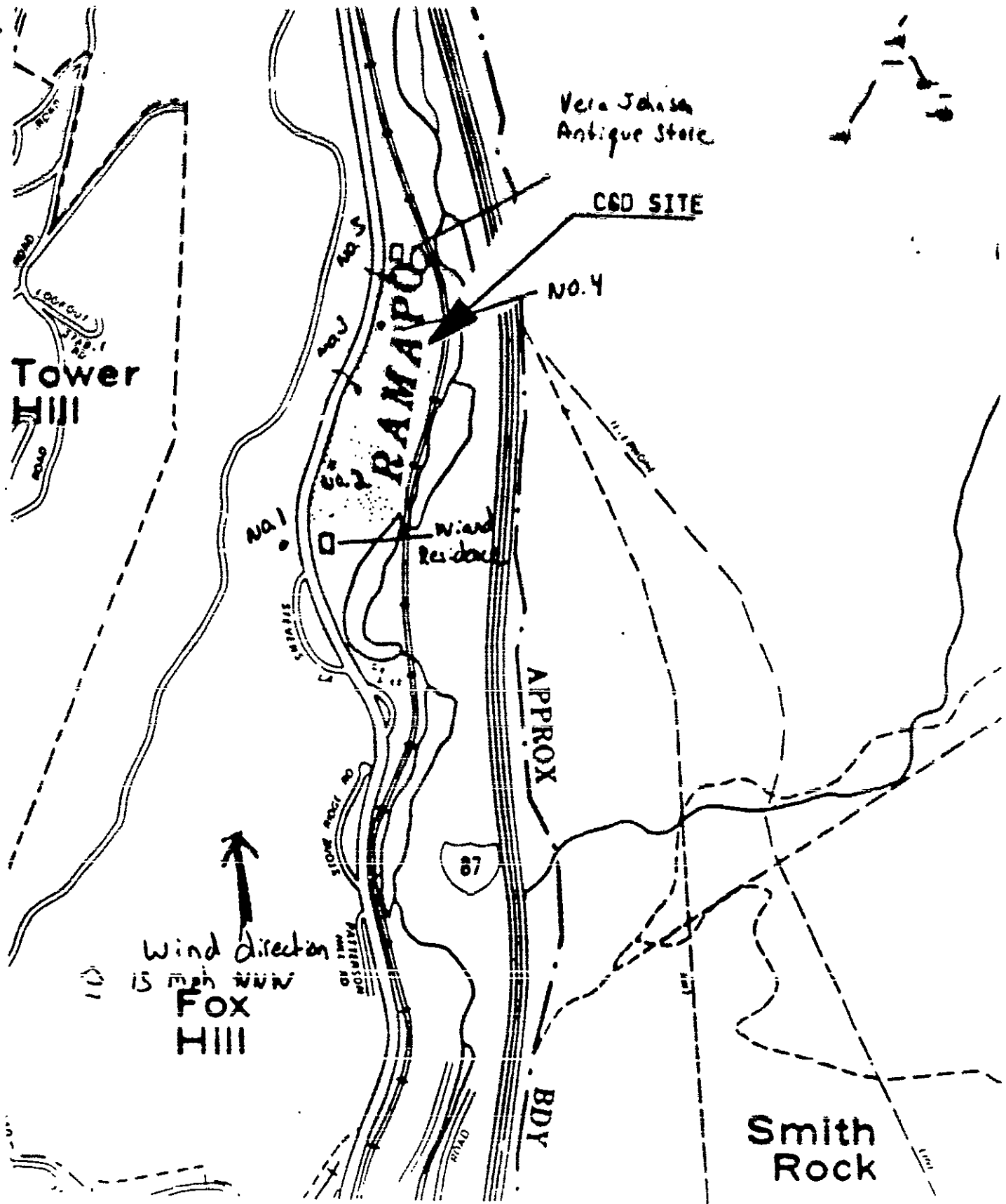
No 5
Sample at Northwest boundary
of landfill, about 50 ft south
of Vera Johnson's Antique Store,
50 ft. east of Rt. 17

<0.03

(80900394)

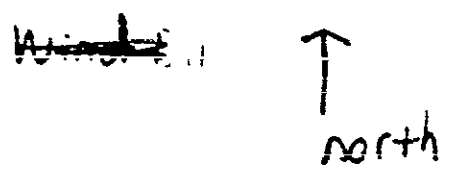
/vbh

cc: Mr. Tramontano



Not to Scale

FIGURE II
TUXEDO PARK CGO SITE
1: 9600



GAS SAMPLE DATA SHEET

BUILDING ID NO. NO. 2 DATE 3 1 77
 NAME OF BUILDING Vent Sample Pump # 1002
 SAMPLE LOCATION (DESCRIBE) Vent sample located 50' East of Pt 17
10' N. of well. Collectd in 6" diam vent
 OPERATIONAL MODE OF AIR HANDLING SYSTEM Automatic to Manual HIGH LOGS _____
 STOP WATCH # _____ ROTAMETER ID # 21410 TEMP. WB _____ DB _____ RH _____
 SAMPLE TAKEN BY _____
 REMARKS: Vent emitting a white vapor

SENT TO LAB _____

DATE

Gas Code Type & ID No.	SUN	TIME	LOCAL TIME	Rotameter Readings		Average Flow Rate (LPM)	Total Air Volume (L) V	Drager Reading R	Correction Factor C	Cunc (ppm) = $\frac{RC}{V}$	Report to Instrument (PPM)
				Initial (COB)	Final (COB)						
CO2 102			5 min						10,000		10
O3 104			30					1.			0.001
CO 103			50					1.			0.1
NO2 101			50					0.5			0.01
SO2 100			60					10			0.01
H2S				20	20	0.3	9L	> 20	1.0	$\frac{20}{9} =$	> 2.2
			1.	20	22	0.322	3.2L	14	1.0	$\frac{14}{3.2} =$	4.37
			5.	20	20	0.3	1.5L	2.2	1.0	$\frac{2.2}{1.5} =$	1.46
							1				

Day

STATE OF NEW YORK - DEPARTMENT OF HEALTH

INTEROFFICE MEMORANDUM

TO: Steve Bates - Chief, Southern Section
Bureau of Environmental Exposure Investigation

FROM: Edward G. Fahrenkopf, Program Research Specialist II
Bureau of Environmental Exposure Investigation

SUBJECT: Tuxedo C&D Landfill, Air Sample Collection (T) Tuxedo,
Orange County I.D. #336035

DATE: July 26, 1988

On June 16, 1988, Joseph Crua and I collected air samples for hydrogen sulfide and volatile organics at the above-referenced site. Three (3) hydrogen sulfide samples and four volatile organic samples were collected in Tedlar bags and Porapak N Cartridges, respectively. Due to a malfunction in sampling equipment only three volatile samples were submitted for analysis. Volatiles were collected and analyzed in duplicate. Sampling key and volatile organic analytical data are summarized in Table One. Complete analytical data are attached. Figure One identifies sampling locations.

Because of a current lack of pure standard, hydrogen sulfide analyses were only semi-quantitative with an approximate detection limit of 10 ppb. All sample results were less than the detection limit. Volatile organic sample No. 2 (~50 feet east of Route 17 near a former vent) exhibited low levels of 1,1,1-trichloroethane, carbon tetrachloride and tetrachloroethene, however, the upwind background sample exhibited low level carbon tetrachloride and tetrachloroethene.

Weather conditions during sampling were as follows: temperature 87° F, relative humidity 58%, light to moderate breeze from the southeast: hazy sunshine.

cc: Mr. Tramontano

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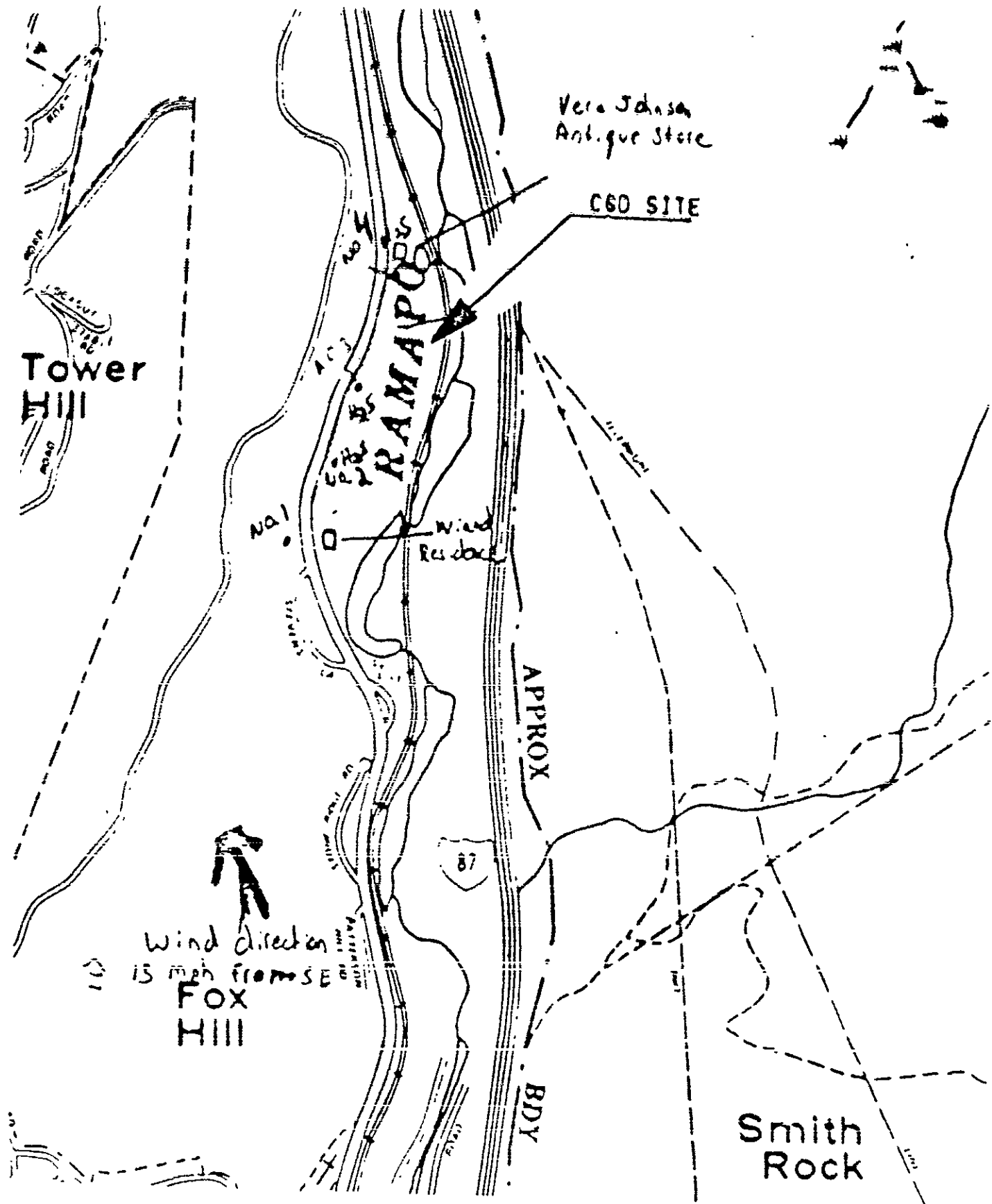
BUREAU OF
HAZARDOUS SITE CONTROL
DIVISION OF HAZARDOUS
WASTE REMEDIATION

TABLE ONE
 Sampling Key and Summary of Analytical Data
 Tuxedo C&D, June 16, 1988

No. 1	Background upwind, west side of Route 17 across street from former Wiand Residence	Carbon tetrachloride 1.0 MCG/CU. M (1.1) Tetrachloroethene 1.0 MCG/CU. M, PL. (1.0, PL.)
No. 2	-50 feet east of Route 17, near former vent	1,1,1-trichloroethane, 5.0 MCG/CU. M., PL. (5.0 PL.) Carbon tetrachloride 1.5 MCG/CU.M. (1.2) Tetrachloroethene, 1.0 MCG/CU. M., PL. (1.0, PL.)
No. 4	-75 feet south of antique store	Non-detect all parameters

*Value in parentheses is duplicate; PL=present but less than the usual minimum reportable value.

(82080253)



Not to scale

FIGURE II
TUXEDO PARK CGO SITE
1: 9600

North
↑
north

File *Transfer to folder*

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 882193 SAMPLE RECEIVED: 88/06/17/ CHARGE: 0.00
PROGRAM: 1101 STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3568
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TUXEDO CTD LANDFILL ID 8344033
DESCRIPTION: KEVLAR BAG STATION # BAG-01
REPORTING LAB: TOX; LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: SPECIAL; SPECIAL ANALYSIS - ORGANIC ANALYTICAL CHEMISTRY
SAMPLE TYPE: 9901 OTHER AIR-RELATED SAMPLES
TIME OF SAMPLING: 88/06/18 12:00 DATE PRINTED: 88/07/27

- <> ANALYST FOUND LESS THAN 1 MICROGRAM/CUBIC METER OF
- <> MERCAPTANS AND DID NOT DETECT ANY HYDROGEN SULFIDE.
- <> DETECTION LIMIT FOR H2S CANNOT BE PROVIDED BECAUSE OF
- <> LACK OF STANDARD.

-----PARAMETER----- -----RESULT-----
SPECIAL ANALYSIS DONE
**** END OF REPORT ****

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ORANGE COUNTY
DEPARTMENT OF HEALTH

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DIRECTOR OF ENVIRONMENTAL SANITATION
ORANGE COUNTY HEALTH DEPT
124 MAIN ST.
GOSHEN, N.Y. 10924

SUBMITTED BY: ED PAHIENK

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 802104 SAMPLE RECEIVED: 08/06/17/ CHARGE: -- 0.00
PROGRAM: 1101 STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TUXEDO CTD LANDFILL ID 0344033
DESCRIPTION: KFYI AR BAG STATION # BAG #2
REPORTING LAB: TOX; LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: SPECIAL; SPECIAL ANALYSIS - ORGANIC ANALYTICAL CHEMISTRY
SAMPLE TYPE: 9901 OTHER AIR-RELATED SAMPLES
TIME OF SAMPLING: 08/06/16 12:00 DATE PRINTED: 08/07/27

- <> ANALYST FOUND LESS THAN 1 MICROGRAM/CUBIC METER OF <>
- <> MERCAPTANS AND DID NOT DETECT ANY HYDROGEN SULFIDE. <>
- <> DETECTION LIMIT FOR H2S CANNOT BE PROVIDED BECAUSE OF <>
- <> LACK OF STANDARD. <>

-----PARAMETER----- -----RESULT-----
SPECIAL ANALYSIS DONE
**** END OF REPORT ****

RECEIVED
AUG 1 1998
ORANGE COUNTY
DEPARTMENT OF HEALTH

COPIES SENT TO: CU(2), RO(1), LPHE(1), FED(), INFO-P(), INFO-L()

DIRECTOR OF ENVIRONMENTAL SANITATION
ORANGE COUNTY HEALTH DEPT.
124 MAIN ST.
GOSHEN, N.Y. 10924

SUBMITTED BY: ED FARIENK

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

4

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 882192 SAMPLE RECEIVED: 88/06/17/ CHARGE: 8.00
 PROGRAM: NY STATE SUPERFUND ANALYTICAL SERVICES
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 13565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: E DIRECTION
 LOCATION: TUXEDO C & D LANDFILL ID#344033
 DESCRIPTION: STATION #1 VOC
 REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 999: NON-SPECIFIC TEST PATTERN - ORGANIC ANALYSIS
 SAMPLE TYPE: 900: AMBIENT AIR
 TIME OF SAMPLING: 88/06/18 12:00 DATE PRINTED: 88/07/19

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: RMV2 VOLATILES IN AIR (DR. R. HARANG METHOD)
 DATE PRINTED: 88/07/15 FINAL REPORT

PARAMETER	RESULT
BENZENE	< 10. MCG/CU.M.
TOLUENE	< 10. MCG/CU.M.
CHLOROBENZENE	< 10. MCG/CU.M.
ETHYLBENZENE	< 10. MCG/CU.M.
META/PARA-XYLENE	< 10. MCG/CU.M.
ORTHO-XYLENE	< 10. MCG/CU.M.
NAPHTHALENE	< 10. MCG/CU.M.
1,1-DICHLOROETHANE	< 50. MCG/CU.M.
CHLOROFORM	< 5.0 MCG/CU.M.
1,2-DICHLOROETHANE	< 50. MCG/CU.M.
1,1,1-TRICHLOROETHANE	< 5.0 MCG/CU.M.
CARBON TETRACHLORIDE	1.1 MCG/CU.M.
TRICHLOROETHENE	< 1.0 MCG/CU.M.
BROMODICHLOROMETHANE	< 1.0 MCG/CU.M.
1,2-DICHLOROPROPANE	< 50. MCG/CU.M.
TRANS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
1,1,2-TRICHLOROETHANE	< 5.0 MCG/CU.M.
DIBROMOCHLOROMETHANE	< 1.0 MCG/CU.M.
TETRACHLOROETHENE	1.0 MCG/CU.M. (PL)
CIS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
BROMOFORM	< 1.0 MCG/CU.M.
1,1,2,2-TETRACHLOROETHANE	< 1.0 MCG/CU.M.
1,3-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,2-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,4-DICHLOROBENZENE	< 5.0 MCG/CU.M.
PHENOL	< 50. MCG/CU.M.
AIR VOLUME	0.020 CU.M.

*** END OF REPORT 88 01 1528

COPIES SENT TO: CO(2), RO(1), LPHE(1), FED() ORANGE COUNTY DEPARTMENT OF HEALTH ()

DIRECTOR OF ENVIRONMENTAL SANITATION
 ORANGE COUNTY HEALTH DEPT.
 124 MAIN ST.
 GOSHEN, N.Y. 10924

SUBMITTED BY: FAHLENK

NEW YORK STATE DEPARTMENT OF HEALTH
 WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: 882193 SAMPLE RECEIVED: 88/06/17/ CHARGE: 8.00
 PROGRAM: NY STATE SUPERFUND ANALYTICAL SERVICES
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: TUXEDO C & D LANDFILL ID#344033
 DESCRIPTION: STATION 91A VOC
 REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 999:NON-SPECIFIC TEST PATTERN - ORGANIC ANALYSIS
 SAMPLE TYPE: 900:AMBIENT AIR
 TIME OF SAMPLING: 88/06/18 12:00 DATE PRINTED: 88/07/15

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: RNV2 VOLATILES IN AIR (DR. R. NARANG METHOD)
 DATE PRINTED: 88/07/15 FINAL REPORT

-----PARAMETER-----	-----RESULT-----
BENZENE	< 10. MCG/CU.M.
TOLUENE	< 10. MCG/CU.M.
CHLOROBENZENE	< 10. MCG/CU.M.
ETHYLBENZENE	< 10. MCG/CU.M.
META/PARA-XYLENE	< 10. MCG/CU.M.
ORTHO-XYLENE	< 10. MCG/CU.M.
NAPHTHALENE	< 10. MCG/CU.M.
1,1-DICHLOROETHANE	< 50. MCG/CU.M.
CHLOROFORM	< 5.0 MCG/CU.M.
1,2-DICHLOROETHANE	< 50. MCG/CU.M.
1,1,1-TRICHLOROETHANE	< 5.0 MCG/CU.M.
CARBON TETRACHLORIDE	1.0 MCG/CU.M.
TRICHLOROETHENE	< 1.0 MCG/CU.M.
BROMODICHLOROMETHANE	< 1.0 MCG/CU.M.
1,2-DICHLOROPROPANE	< 50. MCG/CU.M.
TRANS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
1,1,2-TRICHLOROETHANE	< 5.0 MCG/CU.M.
DIBROMOCHLOROMETHANE	< 1.0 MCG/CU.M.
TETRACHLOROETHENE	1.0 MCG/CU.M. (PL)
CIS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
BROMOFORM	< 1.0 MCG/CU.M.
1,1,2,2-TETRACHLOROETHANE	< 1.0 MCG/CU.M.
1,3-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,2-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,4-DICHLOROBENZENE	< 5.0 MCG/CU.M.
PHENOL	< 50. MCG/CU.M.
AIR VOLUME	0.020 CU.M.

**** END OF REPORT ****
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SUBMITTED BY: FAHLENK

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1

RESULTS OF EXAMINATION

FINAL REPORT

SAMPLE ID: BR2194 SAMPLE RECEIVED: 08/06/17/ CHARGE: 0.00
 PROGRAM: 1101 STATE SUPERFUND ANALYTICAL SERVICES
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z-DIRECTION:
 LOCATION: TUXEDO C & D LANDFILL ID: 0344033
 DESCRIPTION: STATION #2 VOC
 REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 999: NON-SPECIFIC TEST PATTERN - ORGANIC ANALYSIS
 SAMPLE TYPE: 900: AMBIENT AIR
 TIME OF SAMPLING: 08/06/16 12:00 DATE PRINTED: 08/07/15

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: RNY2 VOLATILES IN AIR (DR. R. NARANG METHOD)
 DATE PRINTED: 08/07/15 FINAL REPORT

-----PARAMETER-----	-----RESULT-----
BENZENE	< 10. MCG/CU.M.
TOLUENE	< 10. MCG/CU.M.
CHLOROBENZENE	< 10. MCG/CU.M.
ETHYLBENZENE	< 10. MCG/CU.M.
META/PARA-XYLENE	< 10. MCG/CU.M.
ORTHO-XYLENE	< 10. MCG/CU.M.
NAPHTHALENE	< 10. MCG/CU.M.
1,1-DICHLOROETHANE	< 50. MCG/CU.M.
CHLOROFORM	< 5.0 MCG/CU.M.
1,2-DICHLOROETHANE	< 50. MCG/CU.M.
1,1,1-TRICHLOROETHANE	5.0 MCG/CU.M. (PL)
CARBON TETRACHLORIDE	1.2 MCG/CU.M.
TRICHLOROETHENE	< 1.0 MCG/CU.M.
BROMODICHLOROMETHANE	< 1.0 MCG/CU.M.
1,2-DICHLOROPROPANE	< 50. MCG/CU.M.
TRANS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
1,1,2-TRICHLOROETHANE	< 5.0 MCG/CU.M.
DIBROMOCHLOROMETHANE	< 1.0 MCG/CU.M.
TETRACHLOROETHENE	1.0 MCG/CU.M. (PL)
CIS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
BROMOFORM	< 1.0 MCG/CU.M.
1,1,2,2-TETRACHLOROETHANE	< 1.0 MCG/CU.M.
1,3-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,2-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,4-DICHLOROBENZENE	< 5.0 MCG/CU.M.
PHENOL	< 5.0 MCG/CU.M.
AIR VOLUME	0.020 CU.M.

*** END OF REPORT ***

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WADSWORTH CENTER FOR LABORATORIES AND RESEARCH

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 882195 SAMPLE RECEIVED: 08/06/17/ CHARGE: 8.00
PROGRAM: STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TUXEDO C & D LANDFILL ID#344033
DESCRIPTION: STATION 12A VOC
REPORTING LAB: TOXILAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: 999: NON-SPECIFIC TEST PATTERN - ORGANIC ANALYSIS
SAMPLE TYPE: 900: AMBIENT AIR
TIME OF SAMPLING: 08/06/18 12:00 DATE PRINTED: 08/07/18

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: RV2 VOLATILES IN AIR (DK. R. HARANG METHOD)
DATE PRINTED: 08/07/18 FINAL REPORT

PARAMETER	RESULT
BENZENE	< 10. MCG/CU.M.
TOLUENE	< 10. MCG/CU.M.
CHLOROBENZENE	< 10. MCG/CU.M.
ETHYLBENZENE	< 10. MCG/CU.M.
META/PARA-XYLENE	< 10. MCG/CU.M.
ORTHO-XYLENE	< 10. MCG/CU.M.
NAPHTHALENE	< 10. MCG/CU.M.
1,1-DICHLOROETHANE	< 50. MCG/CU.M.
CHLOROFORM	< 5.0 MCG/CU.M.
1,2-DICHLOROETHANE	< 50. MCG/CU.M.
1,1,1-TRICHLOROETHANE	5.0 MCG/CU.M. (PL)
CARBON TETRACHLORIDE	1.5 MCG/CU.M.
TRICHLOROETHENE	< 1.0 MCG/CU.M.
BROMODICHLOROMETHANE	< 1.0 MCG/CU.M.
1,2-DICHLOROPROPANE	< 50. MCG/CU.M.
TRANS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
1,1,2-TRICHLOROETHANE	< 5.0 MCG/CU.M.
DIBROMOCHLOROMETHANE	< 1.0 MCG/CU.M.
TETRACHLOROETHENE	1.0 MCG/CU.M. (PL)
CIS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
BROMOFORM	< 1.0 MCG/CU.M.
1,1,2,2-TETRACHLOROETHANE	< 1.0 MCG/CU.M.
1,3-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,2-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,4-DICHLOROBENZENE	< 5.0 MCG/CU.M.
PHENOL	50. MCG/CU.M.
AIR VOLUME	0.020 CU.M.

**** END OF REPORT ****

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ORANGE COUNTY
DEPARTMENT OF HEALTH

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NEW YORK STATE DEPARTMENT OF HEALTH
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PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 882196 SAMPLE RECEIVED: 88/06/17/ CHARGE: 8.00
PROGRAM: 1101 STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: DRAINAGE BASIN: GAZETTE#K CODE: 3363
POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
LATITUDE: LONGITUDE: Z DIRECTION:
LOCATION: TUXEDO C & D LANDFILL ID# 344033
DESCRIPTION: STATION #4 VOC
REPORTING LAB: TOXLAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: 999; NON-SPECIFIC TEST PATTERN - ORGANIC ANALYSIS
SAMPLE TYPE: 900; AMBIENT AIR
TIME OF SAMPLING: 88/06/18 12:00 DATE PRINTED: 08/07/15

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: RNV2 VOLATILES IN AIR (DR. R. NARANG METHOD)
DATE PRINTED: 88/07/15 FINAL REPORT

PARAMETER	RESULT
BENZENE	< 10. MCG/CU.M.
TOLUENE	< 10. MCG/CU.M.
CHLOROBENZENE	< 10. MCG/CU.M.
ETHYLBENZENE	< 10. MCG/CU.M.
META/PARA-XYLENE	< 10. MCG/CU.M.
ORTHO-XYLENE	< 10. MCG/CU.M.
NAPHTHALENE	< 10. MCG/CU.M.
1,1-DICHLOROETHANE	< 50. MCG/CU.M.
CHLOROFORM	< 5.0 MCG/CU.M.
1,2-DICHLOROETHANE	< 50. MCG/CU.M.
1,1,1-TRICHLOROETHANE	< 5.0 MCG/CU.M.
CARBON TETRACHLORIDE	< 1.0 MCG/CU.M.
TRICHLOROETHENE	< 1.0 MCG/CU.M.
BROMODICHLOROMETHANE	< 1.0 MCG/CU.M.
1,2-DICHLOROPROPANE	< 50. MCG/CU.M.
TRANS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
1,1,2-TRICHLOROETHANE	< 5.0 MCG/CU.M.
DIBROMOCHLOROMETHANE	< 1.0 MCG/CU.M.
TETRACHLOROETHENE	< 1.0 MCG/CU.M.
CIS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
BROMOFORM	< 1.0 MCG/CU.M.
1,1,2,2-TETRACHLOROETHANE	< 1.0 MCG/CU.M.
1,3-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,2-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,4-DICHLOROBENZENE	< 5.0 MCG/CU.M.
PHENOL	< 50. MCG/CU.M.
AIR VOLUME	0.020 CU.M.

**** END OF REPORT ****

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PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 992197 SAMPLE RECEIVED: 88/06/17/ CHARGE: 9.00
 PROGRAM: NY STATE SUPERFUND ANALYTICAL SERVICES
 SOURCE ID: DRAINAGE BASIN: GAZETTEER CODE: 3565
 POLITICAL SUBDIVISION: TUXEDO COUNTY: ORANGE
 LATITUDE: LONGITUDE: Z DIRECTION:
 LOCATION: TUXEDO C & D LANDFILL 109344033
 DESCRIPTION: STATION 14A VOC
 REPORTING LAB: TOXICS FOR ORGANIC ANALYTICAL CHEMISTRY
 TEST PATTERN: 999: NON-SPECIFIC TEST PATTERN - ORGANIC ANALYSIS
 SAMPLE TYPE: 900: AMBIENT AIR
 TIME OF SAMPLING: 88/06/16 12:00 DATE PRINTED: 88/07/15

FOLLOWING PARAMETERS NOT PART OF TEST PATTERN

ANALYSIS: RNV2 VOLATILES IN AIR (DR. R. NARANG METHOD) DATE PRINTED: 88/07/15 FINAL REPORT

PARAMETER	RESULT
BENZENE	< 10. MCG/CU.M.
TOLUENE	< 10. MCG/CU.M.
CHLOROBENZENE	< 10. MCG/CU.M.
ETHYLBENZENE	< 10. MCG/CU.M.
META/PARA-XYLENE	< 10. MCG/CU.M.
ORTHO-XYLENE	< 10. MCG/CU.M.
NAPHTHALENE	< 10. MCG/CU.M.
1,1-DICHLOROETHANE	< 50. MCG/CU.M.
CHLOROFORM	< 5.0 MCG/CU.M.
1,2-DICHLOROETHANE	< 50. MCG/CU.M.
1,1,1-TRICHLOROETHANE	< 5.0 MCG/CU.M.
CARBON TETRACHLORIDE	< 1.0 MCG/CU.M.
TRICHLOROETHENE	< 1.0 MCG/CU.M.
BROMODICHLOROMETHANE	< 1.0 MCG/CU.M.
1,2-DICHLOROPROPANE	< 50. MCG/CU.M.
TRANS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
1,1,2-TRICHLOROETHANE	< 5.0 MCG/CU.M.
DIBROMOCHLOROMETHANE	< 1.0 MCG/CU.M.
TETRACHLOROETHENE	< 1.0 MCG/CU.M.
CIS-1,3-DICHLOROPROPENE	< 5.0 MCG/CU.M.
BROMOFORM	< 1.0 MCG/CU.M.
1,1,2,2-TETRACHLOROETHANE	< 1.0 MCG/CU.M.
1,3-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,2-DICHLOROBENZENE	< 5.0 MCG/CU.M.
1,4-DICHLOROBENZENE	< 5.0 MCG/CU.M.
PHENOL	< 50. MCG/CU.M.
AIR VOLUME	0.020 CU.M.

**** END OF REPORT ****

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SUBMITTED BY: FAHIENK

REFERENCE 6



EA SCIENCE AND
TECHNOLOGY

A Division of EA Engineering, Science and Technology, Inc.

R D 2, Box 81 • Goshen Twp. • Middletown, New York 10840
Telephone (914) 652-6706

2 November 1987

Judge Renard A. Barone
P.O. Box 656
Tuxedo, New York 10987

RE: EA's Evaluation of New York State Department of
Environmental Conservation (NYSDEC) Data
EA Project FSL-81A

Dear Judge Barone:

Pursuant to your request, EA has examined the data which the NYSDEC has generated from soil samples that they collected on 16 October 1987 from the Tuxedo Park C&D Landfill at sampling locations P-387-D20 (01, 02, 03, 04, 06, 07, 09). Mr. D. Ashline from the Albany office of the NYSDEC Division of Environmental Enforcement has been contacted regarding the exact location of the aforementioned samples. The hand-drawn sampling map included in the data summary package does in fact indicate the approximate sampling locations for all samples. We have been informed that NYSDEC collected soil samples and then "split" them. The P-387-C23 series was sent by NYSDEC to a contract laboratory, and the P-387-D20 series was analyzed by the State Health Department.

The NYSDEC has had soil samples analyzed for Polychlorinated Biphenyls (PCB) and Polynuclear Aromatic Hydrocarbons (PAH). In the majority of cases, PCB and PAH concentrations were below detectable limits. PCB levels of 50 ppm are generally considered hazardous to human health and would be considered to be in violation of New York State standards. No soil sample obtained from within the landfill had a PCB value exceeding 1.04 ppm.

No regulatory standards for PAH in soils have currently been established. Instead, U.S. EPA has developed the concept of Multimedia Environmental Goals (MEGs). The MEG value or limit may be defined as a soil concentration of a material which is a goal for the protection of human health. Table 1 below indicates the range of PAH values (above detection limits only) for the six sampling locations within the landfill perimeter, as well as the appropriate MEG value.



03 was sample west
side of Rt 17 clean

Judge Renard A. Barone
Town of Tuxedo

2 November 1987
Page-----2

TABLE 1 PAH VALUES ABOVE DETECTION LIMITS FOR SOIL SAMPLES
P-387-D20 (01, 02, 04, 06, 07, 09)

Parameter	PAH Range (ppm)	No. of Samples	MEG Value (ppm)
Acenaphthene	0.11-0.13	2	4,800
Fluorene	0.13-0.24	2	140,000
Phenanthrene	0.28-1.4	6	4,800
Anthracene	0.12-0.33	4	170,000
Fluoranthene	0.21-1.4	6	280,000
Pyrene	0.20-1.5	6	690,000
Benzo(a)anthracene	0.15-0.20	5	134
Chrysene	0.22-0.31	5	6,600
Benzo(b)fluoranthene	0.11-0.16	2	4,900

for the samples

As you can see, the PAH values reported for the landfill are far below the MEG values. Furthermore, it is not unusual to find low concentrations of PAH in soils from urban areas or along heavily traveled roads such as Route 17. The PAH present in such circumstances may be attributable to anthropogenic sources (i.e., automobiles), generally related to the inefficient or incomplete combustion of hydrocarbons. Presented in Table 2 below are various background environmental PAH concentrations that have been reported in the scientific literature.

none on other side of 17?

TABLE 2 ENVIRONMENTAL PAH CONCENTRATIONS

Compound Name	Soil (mg/kg) Concentration	Comment	Source
Phenanthrene	0.033	---	5
Anthracene	0.008-0.170	---	5
Fluoranthene	5-120	Urban soil	4
	0.11-0.79	---	5
Pyrene	0.1-0.96	---	5
	100	Urban soil	4
Benzo(a)anthracene	1.5	Soil near traffic	---
Chrysene	20	Urban area	4

confirm of sample 10/12/87 taken at C33-03 see sheet P387-020-0.



Judge Renard A. Barone
Town of Tuxedo

2 November 1987
Page-----3

TABLE 2 (Cont.)

<u>Compound Name</u>	<u>Soil (mg/kg) Concentration</u>	<u>Comment</u>	<u>Source</u>
Benzo(b)fluoranthene	10	Urban soil	4
Benzo(a)pyrene	50-75	Urban soil	4
	100	Industrial soil	4
	2.0	Soil near highway	4
Dibenzo(a,b)anthracene	0.35	Airfield	6
Benzo(g,h,i)perylene	100	Urban soil	3

Sources: 3 - Radian Corp. 1983
4 - K.W. Brown & Associates 1983
5 - U.S. EPA 1976
6 - IARC 1973

Soil sample number P-387-D20-03, which was collected on the western side of Route 17 across from the landfill, was found to contain no PCB or PAH above the minimum reportable limits, but the presence of certain PAH compounds was noted.



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Judge Renard A. Barone
Town of Tuxedo

2 November 1987
Page-----4

If you have any further questions about interpretation of these data sheets,
please feel welcome to call.

Sincerely yours,

EA SCIENCE AND TECHNOLOGY

Gerald J. Lauer
Gerald J. Lauer, Ph.D.
Senior Vice President

Martin C. Vodka

Martin C. Vodka
Associate Environmental Chemist

MCV/rlc

EXHIBIT F

SUMMARY OF NYSDEC DATA FOR PAH VALUES ABOVE DETECTION LIMITS
 FOR TUXEDO CONSTRUCTION AND DEMOLITION LANDFILL COVER MATERIAL.
 SAMPLES COLLECTED BY NYSDEC ON 16 OCTOBER 1987

<u>Parameter</u>	<u>PAH Range (ppm)</u>	<u>No. of Samples PAH Detected</u>	<u>MEG Value (ppm)</u>
Naphthalene	ND	-	150,000
Acenaphthylene	ND	-	4,800
Acenaphthene	0.11-0.13	2	4,800
Fluorene	0.13-0.24	2	140,000
Phenanthrene	0.28-1.4	6	4,800
Anthracene	0.12-0.33	4	170,000
Fluoranthene	0.21-1.4	6	280,000
Pyrene	0.20-1.5	6	690,000
Benzo(b)fluoranthene	0.11-0.16	2	4,900
Benzo(k)fluoranthene	ND	-	4,900
Benzo(a)pyrene	ND	-	0.06
Benzo(g,h,i)perylene	ND	-	130
Ideno(1,2,3-cd)pyrene	ND	-	4,800

Note: ND = Not detected in any samples.

(1) MEG - Multimedia Environmental Goal - U.S. EPA Goal for the Protection of Human Health.

EXHIBIT



SUMMARY OF CAMBRIDGE ANALYTICAL ASSOCIATES DATA FOR PAH VALUES ABOVE DETECTION LIMITS FOR TUXEDO CONSTRUCTION AND DEMOLITION LANDFILL COVER MATERIAL. SAMPLES COLLECTED BY NYSDEC ON 16 OCTOBER 1987

<u>Parameter</u>	<u>PAH Range (ppm)</u>	<u>No. of Samples PAH Detected</u>	<u>MEG Value (ppm)⁽¹⁾</u>
Naphthalene	ND	-	150,000
Acenaphthylene	ND	-	4,800
Acenaphthene	ND	-	4,800
Fluorene	ND	-	140,000
Phenanthrene	3.5-17.0	4	4,800
Anthracene	ND	-	170,000
Fluoranthene	4.3-12.0	5	280,000
Pyrene	3.9-7.3	4	690,000
Benzo(b)fluoranthene	(?)	-	4,900
Benzo(k)fluoranthene	(?)	-	4,900
Benzo(a)pyrene	1.1-9.2	5	0.06
DiBenzo(g,h,i)perylene	5.6-10.0	4	130
Ideno(1,2,3-cd)pyrene	5.4-10.0	4	4,800

Note: ND = Not detected in any samples; ? = unresolved data.

(1) MEG = Multimedia Environmental Goal - U.S. EPA Goal for the Protection of Human Health.

EXHIBIT ~~1~~ COMPARISON OF RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUND ANALYSES FROM NYSDEC AND CAMBRIDGE ANALYTICAL ASSOCIATES (CAA), FOR SPLIT SAMPLES OF LANDFILL COVER MATERIAL COLLECTED BY NYSDEC ON 16 OCTOBER 1987

COMPOUND	SAMPLE NUMBER DESIGNATION														
	01		02		03 ^(a)		04		05 ^(b)		06		07		09
	NYSDEC	CAA	NYSDEC	CAA	NYSDEC	CAA	NYSDEC	CAA	NYSDEC	CAA	NYSDEC	CAA	NYSDEC	CAA	NYSDEC
Naphthalene	0.13	0.33	0.13	3.30	0.10	3.30	0.13	0.33	---	.040	0.13	0.33	0.13	0.47	0.13
Acenaphthylene	0.13	3.30	0.10	3.30	0.10	3.30	0.13	3.30	---	.040	0.13	0.33	0.13	0.33	0.13
Acenaphthene	0.13	0.43	0.13	3.30	0.10	3.30	0.13	3.30	---	.040	0.11	1.03	0.13	0.33	0.13
Fluorene	0.13	0.33	0.13	3.30	0.10	3.30	0.13	3.30	---	.040	0.34	3.03	0.13	0.33	0.13
Phenanthrene	0.90	4.6	0.56	3.03	0.13	3.30	1.3	3.5	---	.040	1.4	17.0	0.38	7.3	0.42
Anthracene	0.15	1.03	0.12	0.43	0.13	3.30	0.22	0.743	---	.040	0.33	3.03	0.13	2.03	0.13
Fluoranthene	0.90	6.6	0.90	4.3	0.13	0.43	1.2	5.9	---	.040	1.4	12.0	0.21	0.4	0.73
Pyrene	1.0	3.9	1.1	3.03	0.13	3.30	1.5	4.7	---	.040	2.0	7.3	0.20	6.7	1.0
Benzo(a)anthracene	0.15	3.03	0.10	2.03	0.10	3.30	0.20	3.13	---	.040	0.19	3.03	0.10	3.03	0.16
Chrysene	0.22	3.7	0.30	3.03	0.10	3.30	0.31	3.4	---	.040	0.30	3.03	0.10	4.2	0.27
Benzo(b)fluoranthene	0.10	?	0.16	?	0.10	?	0.11	?	---	.040	0.13	?	0.10	?	0.10
Benzo(k)fluoranthene	0.10	?	0.10	?	0.10	?	0.10	?	---	.040	0.10	?	0.10	?	0.10
Benzo(a)pyrene	0.10	1.1	0.10	9.2	0.10	3.30	0.10	0.3	---	.040	0.13	3.5	0.10	9.0	0.10
Dibenzo(a,h)anthracene	0.10	1.03	0.10	2.03	0.10	3.30	0.10	2.03	---	.040	0.10	3.30	0.10	2.03	0.10
Benzo(g,h,i)perylene	0.10	5.6	0.10	10.0	0.10	3.30	0.10	9.1	---	.040	0.10	2.03	0.10	9.7	0.10
Indeno(1,2,3-cd)pyrene	0.10	5.4	0.10	10.0	0.10	3.30	0.10	9.2	---	.040	0.10	2.03	0.10	9.0	0.10

NOTE: U = Detection limit; J = Below detection limit, but present; ? = unresolved data.
All data expressed as micrograms/gram.

- (a) Background sample collected by NYSDEC from bank on western side of Route 17, across from landfill.
(b) Water sample collected by NYSDEC from northern portion of landfill.

P-387-C23-03
Blank (ORAD)

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NYS ROUTE 17

24'-200'-15%

4" AN.II.

P-387-C23-01
(Comp)

P-387-C23-02
(ORAD)

P-387-C23-04
(ORAD)

P-387-C23-09
(ORAD)

P-387-C23-05
WATER
(ORAD)

200'-200'-25%
PIPE MATERIAL - CORR METAL W/ GALV. LINING

LIGHT DE KILL

PROB'ED DRIVE

P-387-C23-04

P-387-C23-06

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EXHIBIT ENVIRONMENTAL PAH CONCENTRATIONS (SOIL)

<u>Compound Name</u>	<u>Soil (mg/kg) Concentration</u>	<u>Comment</u>	<u>Source</u>
Phenanthrene	0.033	---	3
Anthracene	0.008-0.170	---	3
Fluoranthene	5-120	Urban soil	2
	0.11-0.79	---	3
Pyrene	0.1-0.96	---	3
	100	Urban soil	2
Benzo(a)anthracene	1.5	Soil near traffic	---
Chrysene	20	Urban area	2
Benzo(b)fluoranthene	10	Urban soil	2
Benzo(a)pyrene	50-75	Urban soil	2
	100	Industrial soil	2
	2.0	Soil near highway	2
Dibenzo(a,h)anthracene	0.35	Airfield	4
Benzo(g,h,i)perylene	100	Urban Soil	1

Sources: 1 - Radian Corp. 1983
 2 - K.V. Brown & Associates 1983
 3 - U.S. EPA 1976
 4 - IARC 1973

**EXHIBIT _____ SUMMARY OF DETECTED PCB COMPOUNDS REPORTED BY NYSDOH AND
CAMBRIDGE ANALYTICAL ASSOCIATES (CAA) IN SPLIT SAMPLES OF TUXEDO
CONSTRUCTION AND DEMOLITION COVER MATERIAL COLLECTED BY NYSDEC ON
16 OCTOBER 1987**

NYSDOH⁽¹⁾

<u>NYSDEC ID No.</u>	<u>Detected Compound</u>	<u>Concentration (ug/g)</u>	<u>U.S. EPA⁽²⁾ Soil Removal Standard (ug/g)</u>
P-387-D20-01	Aroclor 1016/1242	0.36	50
	Aroclor 1254	0.11	
P-387-D20-04	Aroclor 1221	1.04	50
	Aroclor 1254	0.16	

CAA⁽³⁾

<u>NYSDEC ID No.</u>	<u>Detected Compound</u>	<u>Concentration (ug/g)</u>	<u>U.S. EPA⁽²⁾ Soil Removal Standard (ug/g)</u>
P-387-C23-01	Aroclor 1254	0.02	50
P-387-C23-04	Aroclor 1254	0.03	50

- (1) Does not include results labeled suspicious.
 (2) 40 CFR 761 Subpart A (Toxic Substances Control Act).
 (3) Preliminary data reported by CAA.



**EA SCIENCE AND
TECHNOLOGY**

A Division of EA Engineering, Science, and Technology, Inc.
R D 2, Box 81 • Goethals Turnpike • Middletown, New York 10940
Telephone (914) 682-6708

31 December 1987

Mr. Paul Jaffe
Greenspan, Jaffe and Rosenblath
Attorneys at Law
180 Post Road
White Plains, New York 10601

RE: State of New York vs. Barone; Test Results on the Cover Material

Dear Mr. Jaffe:

As you requested, we have evaluated the test data provided by New York State Department of Environmental Conservation (NYSDEC) from their sampling of the cover material (total of five samples) and one reference sample (O3) of soil collected across Route 17 from the landfill (see attached map from NYSDEC). As you know, these samples were reportedly split, with one portion of each sample being sent for analysis to the New York State Department of Health (NYSDOH) laboratory and the other to Cambridge Analytical Associates.

General preliminary comments of note are as follows. Detection limits reported by the Cambridge Analytical Associates laboratory for semi-volatile compounds and PCBs were on the order of 30 or more times higher than those reported by the NYSDOH laboratory. Values reported above detection limits from the Cambridge Analytical Associates laboratory were often from 3 up to about 100 times higher than for the same sample and compound reported by the NYSDOH laboratory. Results which differ by that much between laboratories for splits of the same sample should be viewed with considerable skepticism.

Semi-Volatile Compounds

Different methods

To facilitate comparison of the data for PAH compounds from the split samples by the two laboratories, these have been relisted on the attached Table 1.

As indicated by letter of 2 November 1987 to Mr. Barone, data reported from the NYSDOH laboratory (with a detection limit of 0.1 ppm) indicated the presence of a number of PAH compounds at concentrations somewhat higher than that laboratory's detection limit of 0.1 ppm, but grossly lower than U.S. EPA "Multimedia Environmental Goal" (MEG) concentrations for protection of human health. More recently, data on splits of the same samples from the Cambridge Analytical Associates laboratory, which reported detection limits generally about 30 times higher (>3.3 ppm) than the NYSDOH laboratory, also reported PAH in certain samples (e.g. Benzo[a]pyrene in Sample O2) up to 100 times higher than the

BALTIMORE CHICAGO CINCINNATI LINCOLN NEW YORK SAN FRANCISCO



Mr. Paul Jaffe
Greenspan, Jaffe and Rosenblath

31 December 1987
Page-----2

NYSDOH laboratory's detection limit, which reported the same chemical as being undetectable. Although such different findings raise serious questions about interlaboratory precision and accuracy, the higher values reported from the Cambridge Analytical Associates laboratory for the cover soil are still very much lower than the U.S. EPA MEG values.

Metals

The results of analyses reported by the Cambridge Analytical Associates laboratory indicate for metals, none detectable other than low concentrations of the following:

<u>Sample Number</u>	<u>Total Cyanids (ppm)</u>	<u>Sulfide (ppa)</u>
07-P-387-C23-01	ND	ND
07-P-387-C23-02	<2.2	0.43
07-P-387-C23-03*	<3.1*	3.7*
07-P-387-C23-04	<17	2.8
07-P-387-C23-05	ND	0.04
07-P-387-C23-06	<1.6	0.36
07-P-387-C23-07	<1.7	0.46

* Background sample collected by NYSDEC from bank on western side of Route 17, across from landfill (attached map provided by NYSDEC).

It is noteworthy that concentrations of these two "metal" parameters reported in the reference soil sample indicate that the background concentration in the offsite soil sample, although low, were higher than for each and all samples (01, 02, 03, 04, 06, 07) taken by NYSDEC of soil brought to the site for use as fill or cover.

Volatile Organic Compounds

The Cambridge Analytical Associates laboratory reported no volatiles detected in any of the soil samples or in the water sample (No. 05).

Pesticides/PCBs

The Cambridge Analytical Associates laboratory reported no detectable pesticides or PCBs in any of the samples of soil cover material nor in the water sample (No. 05). Soil sample No. 04 was reported to contain PCB Aroclor 1254 (0.073 ppm) but at a concentration approximately 50-fold lower than that



Mr. Paul Jaffe
Greenspan, Jaffe and Rosenblath

31 December 1987
Page-----3

laboratory's detection limit. For that same sample (No. 04), the NYSDOH laboratory reported a similar concentration (0.16 ppm) of Aroclor 1254 but also reported low concentrations of other PCBs, including 1.04 ppm of Aroclor not reported by the Cambridge Analytical Associates laboratory. The 1.04 ppm value is about 50 times lower than the value (50 ppm) defined as hazardous.

Total Petroleum Hydrocarbons

The Cambridge Analytical Associates laboratory reported finding "weathered coal tar" in the samples as follows:

<u>Sample No.</u>	<u>Total PHCs (ppm)</u>
01	190
02	180
03	<1
04	100
05	ND (water)
06	89
07	77

To the best of my knowledge, New York regulations do not contain any HEG type guidelines or numerical threshold limits for either total petroleum hydrocarbons or "weathered coal tar." A concern about petroleum hydrocarbons is that they may contain excessive concentrations of volatile, semi-volatile (PAH), or PCB type compounds. However, the direct analysis of the soil cover for these classes of contaminants by laboratories employed by the NYSDEC reported: no volatile organic compounds above detection limit; PAHs marginally above the background sample (03), and far below U.S. EPA's HEG values for protection of human health; and PCB far lower (about 50-fold) than the soil concentration (50 ppm) defined by the U.S. EPA and NYSDEC regulations as hazardous.

Definition of Clean Fill

Regarding your question about whether the fill is "clean," I offer the following.

Currently, NYSDEC regulations do not contain a definition of "clean fill." A definition will probably be included when the regulations are revised. Absent a definition in the regulations, the issue over the meaning of "clean fill" is subjective and arguable as to how clean is clean. Virtually, all soils can be expected to contain some chemicals on the hazardous waste list,



Mr. Paul Jaffe
Greenspan, Jaffe and Rosenblath

31 December 1987
Page-----4

such as metals and some classes of organic chemicals, which occur naturally in the environment. There are also other classes of chemicals of more anthropogenic origin, such as pesticides and PCB, that are distributed more or less ubiquitously in the environment.

In the absence of an official definition, and considering the ubiquitous distribution of some chemical parameters, it is fairly typical practice to collect data on "background" concentrations as one basis for evaluating the significance of chemical concentrations found in soils from sites suspected of being contaminated. The background composition and amount of chemical constituents may be quite different from place to place, depending on both the difference in geochemical characteristics of soils and the difference in types and intensity of anthropogenic activities. Thus soils from a heavily urbanized area may contain a different "background" of chemicals than soils collected from a rural setting.

Definition of Cover

Cover material is defined in 6 NYCRR Part 360.1(d)(8) as: "Cover material means soil and/or other suitable material acceptable to the department that is used to cover compacted solid waste, including hazardous waste, in a land disposal site."

This definition is broad, vague, and absent of technical specifications needed to provide all interested parties with reasonable, objective, and consistent basis for reaching the same conclusion as to what constitutes acceptable cover material.

Definition of Industrial Waste

NYSDEC's claim that the soil, brought to the landfill site for use as cover, is industrial waste does not appear to be supported by the definition of industrial waste provided at 6 NYCRR Part 360.1(d)(34).

"Industrial waste means waste in liquid, semi-liquid, semi-solid, or solid form that result from industrial or commercial processing, including, but not limited to, factories, processing plants, and repair and cleaning establishments, which wastes include, but are not limited to, sludges, oils, solvents, spent chemicals, and acids."

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EA SCIENCE AND
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Mr. Paul Jaffe
Greenspan, Jaffe and Rosenblath

31 December 1987
Page-----5

It is my understanding that the cover sampled by NYSDEC at the Tuxedo C&D Landfill was soil excavated from a construction site in New Jersey and that it was procured for use as cover at the landfill. That cover looks and feels like soil to me. It was observed to grade and compact like soil. It was characterized as soil, sand by the NYSDOH laboratory, and as soil by the Cambridge Analytical Associates laboratory employed by the NYSDEC. EA's engineer who examined the site and walked on the cover says that it is soil. My conclusion is that the cover material at issue is soil, as distinct from construction and demolition waste and industrial waste, and that it is relatively clean of contaminants (labeled as hazardous when present in excess of defined standards) as judged by comparison with background levels particularly in soils from urban areas.

If you have any further questions about this matter, please feel welcome to call.

Sincerely yours,

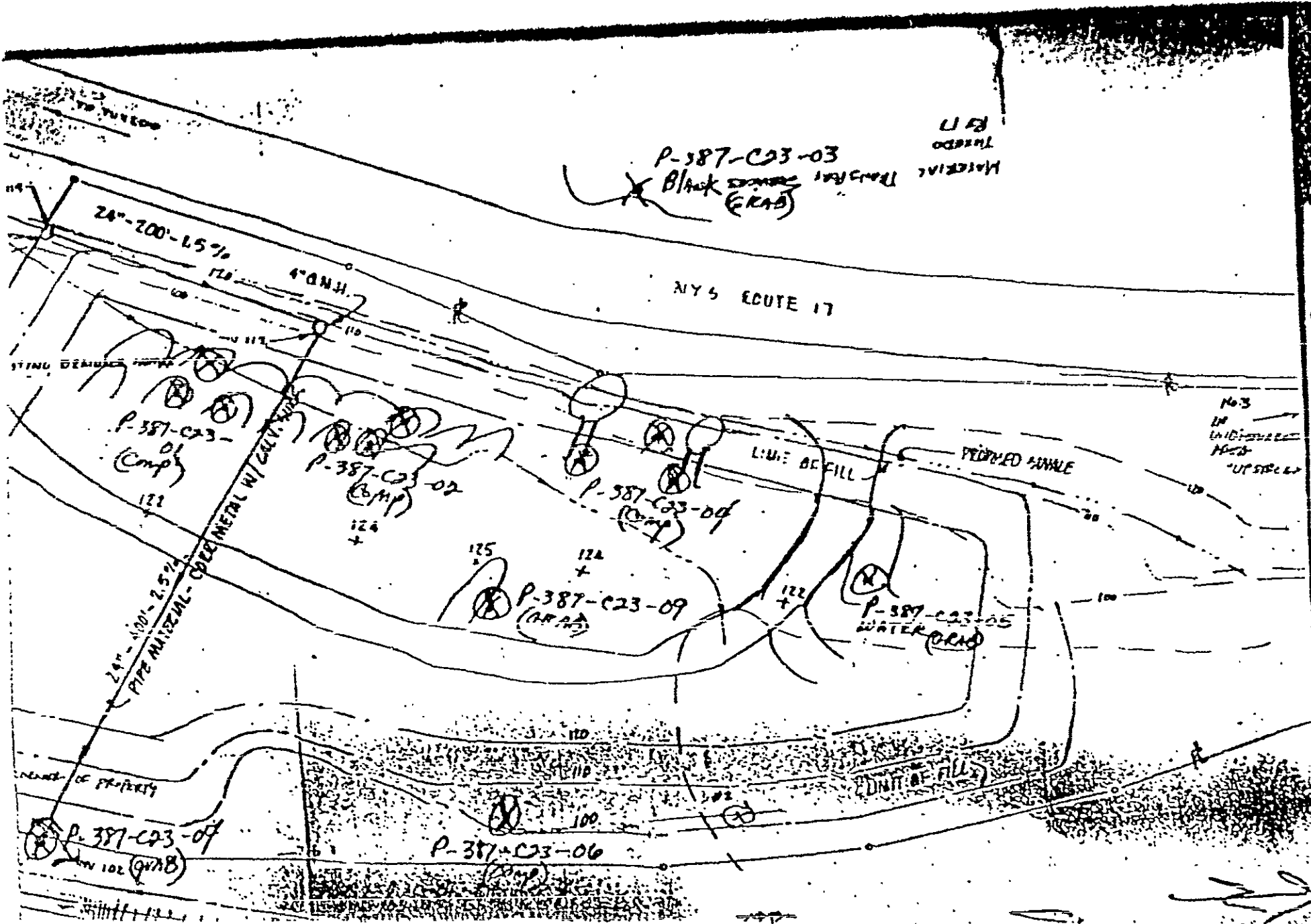
A handwritten signature in cursive script that reads "Gerald J. Lauer".

Gerald J. Lauer, Ph.D.
Senior Environmental Consultant

GJL/cac
Attachments

cc: Renard A. Barone

ATTACHEMENTS



P-387-C23-03
 Material Transfer Point
 Black (CRAB)

U 17
 THRU
 MATERIAL TRANSFER POINT

NY 5 ROUTE 17

No 3
 IN
 WATER
 "UP STREAM"

Figure 1.

EXHIBIT **B** MAXIMUM CONCENTRATIONS OF CHEMICAL CONSTITUENTS REPORTED FOR SOIL VAPOR SAMPLES AND AIR SAMPLES COLLECTED BY NYSDEC FROM THE TUXEDO, NEW YORK CONSTRUCTION AND DEMOLITION LANDFILL COMPARED WITH OSHA (1) REGULATORY EXPOSURE LIMITS AND ACGIH (2) GUIDELINES FOR PROTECTION OF HUMAN HEALTH

Parameter	Soil Vapor (3) Maximum Concentration (ug/m ³)	Ambient Air (4) at Tuxedo C&D site (ug/m ³)	OSHA Regulations 8 hours/day 40-hour week 45 years (ug/m ³)	ACGIH Guidance Industrial Exposure 8 hours/day 40-hour week (ug/m ³)
Benzene	750	ND	3,200	30,000
1,1-Dichloroethane	270	ND	20,000	810,000
Trans 1,2-Dichloroethene	1,300	ND	790,000	790,000
Ethylbenzene	8,800	ND	435,000	435,000
Methyl butyl ketone	1,600	ND	410,000	20,000
Methylene chloride	6,600	2,700	1,750,000	350,000
Methyl ethyl ketone	790	ND	590,000	590,000
Methyl isobutyl ketone	4,000	ND	410,000	205,000
Tetrachloroethene	5,700	ND	670,000	335,000
Toluene	16,000	ND	750,000	375,000
Trichloroethene	2,700	ND	540,000	270,000
Total Xylenes	42,000	ND	435,000	435,000

NOTE: ND = Not detected.

(1) OSHA = Occupational Safety and Health Administration - 29 CFR 1910.

(2) ACGIH = American Conference of Governmental Industrial Hygienists, Inc. - Documentation of the Threshold Limit Values and Biological Exposure Indices for 1987-1988.

(3) Soil vapor samples collected by NYSDEC from probe inserted into landfill. Analyses performed by NYSDOH.

(4) Air samples collected by NYSDEC at two upwind and downwind stations, as well as one sample collected at the southern portion of the landfill property.

REFERENCE 7

Thursday
April 2, 1987

REGISTRATION
REQUIREMENTS

Part III

**Environmental
Protection Agency**

40 CFR Part 761

Polychlorinated Biphenyls Spill Cleanup
Policy; Final Rule

facilities and extremely remote rural locations. (Areas where access is restricted but are less than 0.1 km from a residential/commercial area are considered to be residential/commercial areas.)

"Outdoor electrical substations" means outdoor, fenced-off and restricted access areas used in the transmission and/or distribution of electrical power. Outdoor electrical substations restrict public access by being fenced or walled off as defined under § 761.120(i)(1)(ii). For purposes of this TSCA policy, outdoor electrical substations are defined as being located at least 0.1 km from a residential/commercial area. Outdoor fenced-off and restricted access areas used in the transmission and/or distribution of electrical power which are located less than 0.1 km from a residential/commercial area are considered to be residential/commercial areas.

"PCBs" means polychlorinated biphenyls as defined under § 761.3. As specified under § 761.1(b), no requirements may be avoided through dilution of the PCB concentration.

"Requirements and standards" means:

(1) "Requirements" as used in this policy refers to both the procedural responses and numerical decontamination levels set forth in this policy as constituting adequate cleanup of PCBs.

(2) "Standards" refers to the numerical decontamination levels set forth in this policy.

"Residential/commercial areas" means those areas where people live or reside or where people work in other than manufacturing or farming industries. Residential areas include housing and the property on which housing is located, as well as playgrounds, roadways, sidewalks, parks, and other similar areas within a residential community. Commercial areas are typically accessible to both members of the general public and employees and include public assembly properties, institutional properties, stores, office buildings, and transportation centers.

"Responsible party" means the owner of the PCB equipment, facility, or other source of PCBs or his/her designated agent (e.g., a facility manager or foreman).

"Soil" means all vegetation, soils and other ground media, including but not limited to, sand, grass, gravel, and oyster shells. It does not include concrete and asphalt.

"Spill" means both intentional and unintentional spills, leaks, and other uncontrolled discharges where the

release results in any quantity of PCBs running off or about to run off the external surface of the equipment or other PCB source, as well as the contamination resulting from these releases. This policy applies to spills of 50 ppm or greater PCBs. The concentration of PCBs spilled is determined by the PCB concentration in the material spilled as opposed to the concentration of PCBs in the material onto which the PCBs were spilled. Where a spill of untested mineral oil occurs, the oil is presumed to contain greater than 50 ppm, but less than 500 ppm PCBs and is subject to the relevant requirements of this policy.

"Spill area" means the area of soil on which visible traces of the spill can be observed plus a buffer zone of 1 foot beyond the visible traces. Any surface or object (e.g., concrete sidewalk or automobile) within the visible traces area or on which visible traces of the spilled material are observed is included in the spill area. This area represents the minimum area assumed to be contaminated by PCBs in the absence of precleanup sampling data and is thus the minimum area which must be cleaned.

"Spill boundaries" means the actual area of contamination as determined by postcleanup verification sampling or by precleanup sampling to determine actual spill boundaries. EPA can require additional cleanup when necessary to decontaminate all areas within the spill boundaries to the levels required in this policy (e.g., additional cleanup will be required if postcleanup sampling indicates that the area decontaminated by the responsible party, such as the spill area as defined in this section, did not encompass the actual boundaries of PCB concentration).

"Standard wipe test" means, for spills of high-concentration PCBs on solid surfaces, a cleanup to numerical surface standards and sampling by a standard wipe test to verify that the numerical standards have been met. This definition constitutes the minimum requirements for an appropriate wipe testing protocol. A standard-size template (10 centimeters (cm) x 10 cm) will be used to delineate the area of cleanup; the wiping medium will be a gauze pad or glass wool of known size which has been saturated with hexane. It is important that the wipe be performed very quickly after the hexane is exposed to air. EPA strongly recommends that the gauze (or glass wool) be prepared with hexane in the laboratory and that the wiping medium be stored in sealed glass vials until it is used for the wipe test. Further, EPA

requires the collection and testing of field blanks and replicates.

§ 761.120 Requirements for PCB spill cleanup.

(a) *General.* Unless expressly limited, the reporting, disposal, and precleanup sampling requirements in paragraphs (a) (1) through (3) of this section apply to all spills of PCBs at concentrations of 50 ppm or greater which are subject to decontamination requirements under TSCA, including those spills listed under § 761.120(b) which are excluded from the cleanup standards at paragraphs (b) and (c) of this section.

(1) *Reporting requirements.* The reporting in paragraph (a)(1) (i) through (iv) of this section is required in addition to applicable reporting requirements under the Clean Water Act (CWA) or the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA). For example, under the National Contingency Plan all spills involving 10 pounds or more of PCB material must currently be reported to the National Response Center (1-800-424-8802). The requirements in paragraphs (a)(1) (i) through (iv) of this section are designed to be consistent with existing reporting requirements to the extent possible so as to minimize reporting burdens on governments as well as the regulated community.

(i) Where a spill directly contaminates surface water, sewers, or drinking water supplies, as discussed under § 761.120(d), the responsible party shall notify the appropriate EPA regional office (the Office of Pesticides and Toxic Substances Branch) and obtain guidance for appropriate cleanup measures in the shortest possible time after discovery, but in no case later than 24 hours after discovery.

(ii) Where a spill directly contaminates grazing lands or vegetable gardens, as discussed under § 761.120(d), the responsible party shall notify the appropriate EPA regional office (the Office of Pesticides and Toxic Substances Branch) and proceed with the immediate requirements specified under paragraph (b) or (c) of this section, depending on the source of the spill, in the shortest possible time after discovery, but in no case later than 24 hours after discovery.

(iii) Where a spill exceeds 10 pounds of PCB material (generally 1 gallon of PCB dielectric fluid) and is not addressed in paragraph (a)(1) (i) or (ii) of this section, the responsible party will notify the appropriate EPA regional office and proceed to decontaminate the spill area in accordance with this TSCA policy in the shortest possible time after

(vi) Although this policy requires certain immediate actions, as described in paragraphs (c)(1)(i) through (iv) of this section, EPA is not placing a time limit on completion of the cleanup effort since the time required for completion will vary from case to case. However, EPA expects that decontamination will be achieved promptly in all cases and will consider promptness of completion in determining whether the responsible party made good faith efforts to clean up in accordance with this policy.

(2) *Requirements for decontaminating spills in outdoor electrical substations.* Spills which occur in outdoor electrical substations, as defined under § 761.123, shall be decontaminated in accordance with paragraphs (c)(2)(i) and (ii) of this section. Conformance to the cleanup standards under paragraphs (c)(2)(i) and (ii) of this section shall be verified by post-cleanup sampling as specified under § 761.130. At such times as outdoor electrical substations are converted to another use, the spill site shall be cleaned up to the nonrestricted access requirements under paragraph (c)(4) of this section.

(i) Contaminated solid surfaces (both impervious and non-impervious) shall be cleaned to a PCB concentration of 100 micrograms (μg)/100 square centimeters (cm^2) [as measured by standard wipe tests].

(ii) At the option of the responsible party, soil contaminated by the spill will be cleaned either to 25 ppm PCBs by weight, or to 50 ppm PCBs by weight provided that a label or notice is visibly placed in the area. Upon demonstration by the responsible party that cleanup to 25 ppm or 50 ppm will jeopardize the integrity of the electrical equipment at the substation, the EPA regional office may establish an alternative cleanup method or level and place the responsible party on a reasonably timely schedule for completion of cleanup.

(3) *Requirements for decontaminating spills in other restricted access areas.* Spills which occur in restricted access locations other than outdoor electrical substations, as defined under § 761.123, shall be decontaminated in accordance with paragraph (c)(3)(i) through (v) of this section. Conformance to the cleanup standards in paragraph (c)(3)(i) through (v) of this section shall be verified by postcleanup sampling as specified under § 761.130. At such times as restricted access areas other than outdoor electrical substations are converted to another use, the spill site shall be cleaned up to the nonrestricted access area requirements of paragraph (c)(4) of this section.

(i) High-contact solid surfaces, as defined under § 761.160 shall be cleaned to $10 \mu\text{g}/100 \text{ cm}^2$ (as measured by standard wipe tests).

(ii) Low-contact, indoor, impervious solid surfaces will be decontaminated to $10 \mu\text{g}/100 \text{ cm}^2$.

(iii) At the option of the responsible party, low-contact, indoor, nonimpervious surfaces will be cleaned either to $10 \mu\text{g}/100 \text{ cm}^2$ or to $100 \mu\text{g}/100 \text{ cm}^2$ and encapsulated. The Regional Administrator, however, retains the authority to disallow the encapsulation option for a particular spill situation upon finding that the uncertainties associated with that option pose special concerns at that site. That is, the Regional Administrator would not permit encapsulation if he/she determined that if the encapsulation failed the failure would create an imminent hazard at the site.

(iv) Low-contact, outdoor surfaces (both impervious and nonimpervious) shall be cleaned to $100 \mu\text{g}/100 \text{ cm}^2$.

(v) Soil contaminated by the spill will be cleaned to 25 ppm PCBs by weight.

(4) *Requirements for decontaminating spills in nonrestricted access areas.* Spills which occur in nonrestricted access locations, as defined under § 761.123, shall be decontaminated in accordance with paragraphs (c)(4)(i) through (v) of this section. Conformance to the cleanup standards at paragraphs (c)(4)(i) through (v) of this section shall be verified by postcleanup sampling as specified under § 761.130.

(i) Furnishings, toys, and other easily replaceable household items shall be disposed of in accordance with the provisions of § 761.60 and replaced by the responsible party.

(ii) Indoor solid surfaces and high-contact outdoor solid surfaces, defined as high contact residential/commercial surfaces under § 761.123, shall be cleaned to $10 \mu\text{g}/100 \text{ cm}^2$ (as measured by standard wipe tests).

(iii) Indoor vault areas and low-contact, outdoor, impervious solid surfaces shall be decontaminated to $10 \mu\text{g}/100 \text{ cm}^2$.

(iv) At the option of the responsible party, low-contact, outdoor, nonimpervious solid surfaces shall be either cleaned to $10 \mu\text{g}/100 \text{ cm}^2$ or cleaned to $100 \mu\text{g}/100 \text{ cm}^2$ and encapsulated. The Regional Administrator, however, retains the authority to disallow the encapsulation option for a particular spill situation upon finding that the uncertainties associated with that option pose special concerns at that site. That is, the Regional Administrator would not permit encapsulation if he/she

determined that if the encapsulation failed the failure would create an imminent hazard at the site.

(v) Soil contaminated by the spill will be decontaminated to 10 ppm PCBs by weight provided that soil is excavated to a minimum depth of 10 inches. The excavated soil will be replaced with clean soil, i.e., containing less than 1 ppm PCBs, and the spill site will be restored (e.g., replacement of turf).

(5) *Records.* The responsible party shall document the cleanup with records of decontamination. The records must be maintained for a period of 5 years. The records and certification shall consist of the following:

(i) Identification of the source of the spill, e.g., type of equipment.

(ii) Estimated or actual date and time of the spill occurrence.

(iii) The date and time cleanup was completed or terminated (if cleanup was delayed by emergency or adverse weather; the nature and duration of the delay).

(iv) A brief description of the spill location and the nature of the materials contaminated. This information should include whether the spill occurred in an outdoor electrical substation, other restricted access location, or in a nonrestricted access area.

(v) Precleanup sampling data used to establish the spill boundaries if required because of insufficient visible traces and a brief description of the sampling methodology used to establish the spill boundaries.

(vi) A brief description of the solid surfaces cleaned.

(vii) Approximate depth of soil excavation and the amount of soil removed.

(viii) Postcleanup verification sampling data and, if not otherwise apparent from the documentation, a brief description of the sampling methodology and analytical technique used.

(ix) While not required for compliance with this policy, information on the estimated cost of cleanup (by man-hours, dollars, or both) would be useful if maintained in the records.

§ 761.130 Sampling requirements.

Postcleanup sampling is required to verify the level of cleanup under § 761.125(c) (2) through (4). The responsible party may use any statistically valid, reproducible, sampling scheme (either random samples or grid samples) provided that the requirements of paragraphs (a) and (b) of this section are satisfied.

(a) The sampling area is the greater of (1) an area equal to the area cleaned

REFERENCE 8

THE SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF ORANGE

-----x
STATE OF NEW YORK and THOMAS G. JORLING,
Commissioner of the New York State.
Department of Environmental Conservation,

Plaintiffs,

- against -

RENARD BARONE, FRANK SACCO, LILLIAN SACCO,
MATERIAL TRANSPORT SERVICE SARKIS KHOUROAGIAN,
Defendants.

-----x
TOWN OF TUXEDO,

Plaintiff,

- against -

RENARD BARONE, SAKIS KHOUROUZIAN,
FRANK SACCO and LILLIAN SACCO,

Defendants.

-----x
Orange County Government Center
Goshen, New York
October 9, 1987

B e f o r e :

HON. DAVID S. RITTER,
Supreme Court Justice

1
2 THE COURT: Is that what he called the
3 solvent odor?

4 MR. LAUER: Some odor that may
5 reflect --

6 THE COURT: Do you agree with that?

7 MR. LAUER: Yes, I do.

8 THE COURT: So certainly that site
9 ought to be tested to find out what's there.

10 MR. LAUER: That was my suggestion,
11 really, at the site. I can explain to you
12 what our instrument that we had there can do
13 and what it can't do. We examined that. I
14 would say that that odor, Mr. Gardiner called
15 us over and said, "I smell something over
16 there, and there's some vapor. Would you test
17 it with the machine?" We responded. We did
18 do that. When we first got there the odor
19 wasn't there at that time. We had a little
20 bit of a difficulty finding back the odor
21 emission. It was somewhat intermittent. That
22 may be related to the wind blowing across the
23 street. Eventually we did find it back. I
24 guess I found it. I suggested, I saw this
25 white vapor coming up by a tree trunk, you

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PROCEEDINGS

know, so we said let's test that and see what the machine says. That did appear also to be the source of the odor. There was vapor and odor at that particular location. That was the location where we measured the thousand parts per million response on the instrument.

This might be a good time to tell you what the instrument tells you and what it doesn't tell you. That instrument is capable of telling you that there is an organic vapor; that the vapor has an organic component to it in addition to water particles. And that it can further tell you that it's not methane or ethane. By putting a screen on the orifice, an activated carbon screen, it can screen out all other kinds of vapors, other than methane and ethane.

Methane and ethane are typical short chain carbon gases that are a result of the composition of organic material of whatever nature. And they are typical of landfills and they in fact are also used as fuels when cleaned up. Cook tops and ovens.

THE COURT: If they are present they

REFERENCE 9

NORTH JERSEY DISTRICT WATER SUPPLY COMMISSION

Landfill Inspection Report

Sampler: TP D.T

Physicals: TP D.T

Analyst: _____

Date	Time	Sample No.	Map No.	Site	Flow MGD	Temp °C	Color	Turb	Odor	pH	Cond	Cl Res.	DO	DOB S	Susp Solids	PH ₂	T. Tubs	Total Col.
10-2-8	7:00	J3734	R10	Rarapunga Landfill South		8.118	17	56	1m	7.8	501		11.8					
10-2-8	13:45	J3763	R5	Tuxedo Landfill North		17.114	35	143	1m	2.6	562							
10-2-8	1:00	J3762		Rarapunga Landfill North		8.118	17	67	1m	7.7	510		12.0					
10-2-8	13:00	J3761		TUXEDO LANDFILL SOUTH														

Sample No.	Site	As	Al	Ag	Ba	Cl	Ce	Cu	Fd	Hg	Mn	Ni	Pb	Se	Zn
J3759	RARAPUNGA LANDFILL SOUTH		12.1					2.3	12.3		31.2	57.4	1.5		
J3762	TUXEDO LANDFILL NORTH		16.1					6.15	14.0		71.3	28.5	10.3		
J3762	RARAPUNGA LANDFILL NORTH		17.2					1.2	10.1		71.3	28.5	10.3		
J3761	TUXEDO LANDFILL SOUTH		17.9					5.8	14.3		54.3	51.7	15.1		

*lbs/day as on permit

JWR:el
 ENCL-90-88
 9/15/88

Jerry J. Rotte, Supervisor of Water Quality/Lab Services

NORTH JERSEY DISTRICT WATER SUPPLY COMMISSION

Landfill Inspection Report

Samplers: DT

Physicist: _____

Analyst: _____

Date	Time	Sample No.	Map No.	Site	Flow MGD	Temp °C	Color	Turb	Odor	pH	Cond	Cl Res.	DO	BOD 5	Susp Solids	NH ₃	T. Phos	Total Col.
5/3/88			R10	Essex Landfill														
			R5	Tuxedo Landfill		12.124	52	2.1	IN	7.3	216							
				"		12.124	52	2.4	IN	7.2	217							
4/25/88				"		211	50	3.2	IN	7.6	296		7.0					
				"		211	50	4.1	IN	7.3	301		7.2					
11/25/87				Tux LdF.		25.122	48	7.4	IN	7.5	419		5.4					
8/25/87				"		22.123	50	3.1	IN	8.4	548		2.9					
				"		211	50	4.1	IN	8.4	575		3.9					
				"		11.122	36	1.5	IN	8.2	526		7.6					
				"		12.123	37	1.2	IN	8.0	510		7.6					
				"		1												
				"		1												

Date	Time	Sample No.	Map No.	Site	As	AL	A4	2a	1d	Cr	Cu	Fe	Hg	Mn	Na	Pb	Se	Zn
5/3/88				Tux LdF.	above	216					216	87		142	24.7	6.96		73.1
				"	below	418					75	86		82	25.8	22.7		93
4/25/88				"	above	324					76	358		162	22.8	21.4		82.2
				"	below	313					81	318		152	46.8	15.6		52.5
11/25/87				Tux LdF.		225					-	250		238	41.4	8.9		6.7
8/25/87				"	above	227					43	213		98	15.8	14.9		15.7
				"	below	199					63	293		90	41.0	11.5		11.7
4/25/88				"	above	139					22	60		18	57.2	11.7		7.8
				"	below	114					23	70		13	65.0	12.6		9.8

*lbs/day as on permit

JJS:el
64QL-00-88
9/15/88

Jerry J. Rotta, Supervisor of Water Quality/Lab Services

NORTH JERSEY DISTRICT WATER SUPPLY COMMISSION

Landfill Inspection Report

Samplers: DT
 Physicals: _____
 Analyst: _____

Date	Time	Sample No.	Map No.	Site	Flow Mtd	Temp / °C	Color	Turb	Odor	pH	Cond	Cl Res.	DO	BOD 5	Susp Solids	NH ₃	T. Phos	Total Cal.
1/20/88	12:10	74115 74117	R10 R5	Esopus Landfill Tuxedo Landfill		1 1.9 2.17	1 23 25	40 44	0 0	7.4 7.4	407 411		150 156					
						1												
						1												
						1												
						1												
						1												
						1												
						1												
						1												
						1												
						1												

					As	Al	Ag	Ba	Ca	Cr	Cu	Pb	Hg	Mn	Na	Pb	Se	Co	
				Tux. Landfill		124.6 ppb					0 ppb	127.5 ppb		94.0 ppb	544.5 ppb	214 ppb		39.1 ppb	
				"		150.6 ppb					4 ppb	136.4 ppb		17.7 ppb	73.0 ppb	74 ppb		32.7 ppb	

*lbs/day as on permit

JML:el
 #WQL-90-88
 9/15/89

Jerry J. Nestor, Supervisor of Water Quality/Leak Services

REFERENCE 10

RECEIVED

OEE
5500

NOV 1 1987

NYSDEC
New Paltz

November 9, 1987

Mr. Glen T. Angell,
Senior Geologist
New York State Department
of Environmental Conservation
21 South Platt Corners Road
New Paltz, New York 12561-1696

Dear Mr. Angell:

We are writing to you in response to your telephone conversation on October 20, 1987 with Mr. Richard Pearce, Vice President of Research, and your confirmatory letter to him of that same date. In the conversation and letter, you had requested information concerning a description of certain fill materials which Abex provided to an area which is presently the site of the construction of a Marriot Inn on the west side of Route #17 and adjacent to the Ramapo River in Mahwah, Bergen County, New Jersey ("Construction Site").

In preparing the information you have requested, we note that there are no written company records to confirm the placement of fill materials at the Construction Site, nor are there any records concerning the nature of such materials. Accordingly, the information provided herein is based solely upon the recollection of certain Abex employees who indicate they have personal knowledge of that location.

The Construction Site was an area which, for many years, had been seeking "clean fill". We have been informed that such "clean fill" had always been welcome. Prior to 1980, Abex provided such material from its foundry operations in Mahwah. We believe these solid materials, typically associated with foundry operations, consisted primarily of foundry molding sand with some additional slag, spent refractories, sand fines and dust. The molding sand consists of spent silica sand (95% to 97%), which had been blended with either natural or chemical binders (3% to 5%) to form a mold in which molten iron, steel or aluminum was poured to form a cast article.

11/9/87

-2-

Me. Glen T. Angeli

During the time period in which this "clean fill" was provided to the Construction Site, there were no written records to confirm its characteristics. We believe the "clean fill" was similar in composition to the by-products of casting operations currently conducted by Abex in Mahwah. Under current regulations, however, Abex has analyzed its by-products, including molding sand and baghouse dust. As a result of chemical analysis performed by a New Jersey certified laboratory and forwarded to the New Jersey Department of Environmental Protection for waste classification, a determination has been made and confirmed by the New Jersey Department of Environmental Protection that such materials are non-hazardous. Such non-hazardous by-products are classified by the New Jersey Department of Environmental Protection as industrial waste, Waste Type ID 27. For your convenience, we have enclosed a copy of that analysis.

We trust the foregoing information is responsive to your request. If you have any questions or need additional information please contact me.

Very truly yours,



S.M. Andrichak, Manager
Environmental Engineering

enc.

ADFX CORPORATION - MAHWAH, NEW JERSEY
CORPORATE EXPERIMENTAL FOUNDRY WASTE STREAMS

Sample Description		Experimental Foundry Baghouse Dust	Ladle and Furnace Refractories	Slag Waste	Green Sand	No-Aske Sand	EP Toxicity Criteria
BCN Sample Nos. - Solids:		4300	4569	4570	4571	4572	
- Leachates:		4309	4573	4574	4575	4576	
Date Sampled		05/05/83	05/09/83	05/09/83	05/09/83	05/09/83	
Parameters	Units						
EP Toxicity Metals							
Arsenic	mg/l	0.001	0.003	0.003	0.007	0.004	5.0
Barium	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2	1.0
Cadmium	mg/l	0.0032	0.0005	0.0036	<0.0002	0.0005	1.0
Chromium	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	5.0
Lead	mg/l	0.007	0.002	0.003	0.002	0.055	5.0
Mercury	mg/l	0.0001	<0.0002	<0.0001	<0.0001	<0.0001	0.2
Selenium	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001	1.0
Silver	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02	5.0
Reactivity							
Cyanide	mg/kg	<0.06	<0.06	<0.06	<0.06	<0.06	N/A
Sulfide	mg/kg	29	176	153	19	32	N/A
Polynuclear Aromatic Hydrocarbons							
Acenaphthene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Acenaphthylene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Anthracene	ppm	0.1	<1.9	<2.2	<2.1	<1.8	N/A
Benzo(a)Anthracene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Benzo(a)Pyrene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
3,4-Benzofluoranthene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Benzo(ghi)Perylene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Benzo(k)Fluoranthene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
2-Chloronaphthalene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Chrysene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Dibenzo(a,h)Anthracene	ppm	<1.8	<4.8	<5.5	<5.2	<4.5	N/A
Fluoranthene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Fluorene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Indeno(1,2,3-ad)Pyrene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Naphthalene	ppm	0.1	0.8	<2.2	<2.1	6.7	N/A
Phenanthrene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A
Pyrene	ppm	<0.7	<1.9	<2.2	<2.1	<1.8	N/A

--- Not analyzed

N/A = Not applicable

Source: Betz Converse Murdoch Inc.

REFERENCE 11

MR.

New York State Department of Environmental Conservation

MEMORANDUM

RECEIVED

TO: Frank Ricotta
FROM: Ward Stone
SUBJECT: Tuxedo Data
DATE: November 22, 1988

NOV 28 1988

NOV 28 1988
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

The data we have on Tuxedo does not show anything dramatic. Additional sampling will be carried out in the near future depending fund on availability. We are especially interested in any offsite impact.

Ward Stone
Associate Wildlife Pathologist

WBS:tlc

SITE VISIT REPORT

SITE: ~~XXXXXXXXXX~~ LANDFILL

RECEIVED ✓

TOWN: TUXEDO

COUNTY: ORANGE

NOV 28 1988

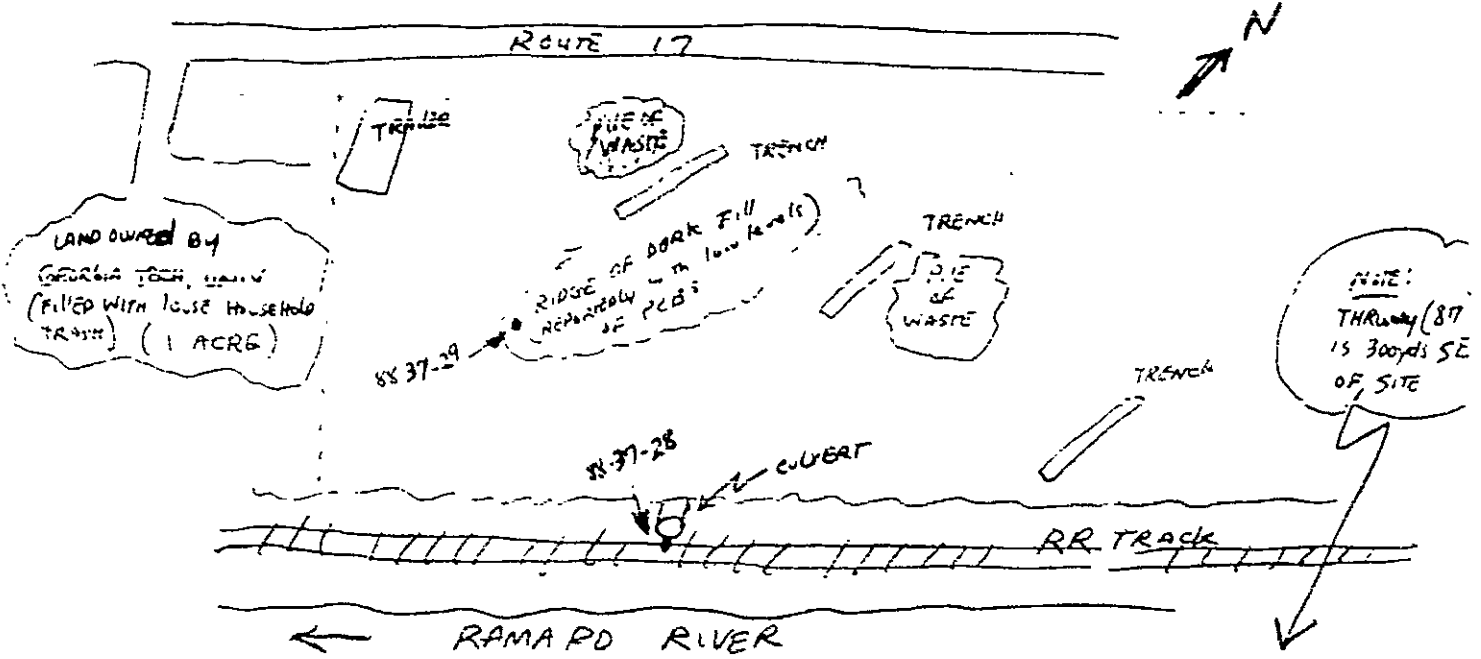
DATE OF VISIT: 10 AUGUST 1988

I ARRIVED AT THE SITE AT APPROX. 1500 HOURS, ACCOMPANIED BY ECO'S STEINGART AND MOLINELLI OF REG. 3 LAW ENF.. THE DAY WAS SUNNY AND TEMP. WAS APPROX. 85°-90° F..

UPON ARRIVAL, WE WERE GREETED BY MICHAEL J. KOMOROSKE (SANITARY ENVR. BUR. OF HAZ. SITE CONTROL ~ DIV. OF SOLID WASTE ~ D.I.C. WOLF ROAD 457-0639) HE WAS SITE SUPERVISOR, SUPERVISING WORK DONE BY A TEAM OF PRIVATE CONSULTANT WORKERS WHO WERE JUST COMPLETING THE EXCAVATION OF THE THIRD OF THREE 3' WIDE (AND 20' DEEP) TRENCHES IN THE CENTER AREA OF THE 11-ACRE LANDFILL.

THE ECO'S LEFT AFTER 10 MINUTES, AND I STAYED TO TAKE SLIDE PICTURES OF THE SITE AND TO TALK WITH MR. KOMOROSKE.

THE SITE LOOKS LIKE THIS:



Sample #	Sample Type/Species	Specimen
88-37-28	SEDIMENT/SOIL	TUXEDO CULVERT
88-37-29	SILT	TUXEDO FILL
88-37-30	SEDIMENT/SOIL	CHESTER SILT
88-37-31	SEDIMENT/SOIL	CHESTER SILT + STAIN

1. The above-listed samples were collected by MICHAEL KALLAJI, a member of the Wildlife Pathology Unit staff on AUGUST 10, 19 88 and returned to the Unit's Wildlife Resources Center Laboratory (Delmar) on August 10, 1988.

Michael Kallaji

2. The above-listed samples were SHIPPED to an analytical services lab, HAZLETON LABS AMERICA (MADISON, WIS.), by me MICHAEL KALLAJI on AUGUST 11, 19 88.

Michael Kallaji

3. The above-listed samples were received for chemical analysis at HAZLETON LABS AMERICA (MADISON, WIS.) from the Wildlife Pathology Unit (NYS Dept. of Environmental Conservation) on AUGUST 12, 19 88.

Michael Kallaji



REPORT OF ANALYSIS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DR. WARD STONE
WILDLIFE RESOURCES CENTER
DELMAR, NY 12054

SAMPLE NUMBER: 80802780
DATE ENTERED: 08/15/88
REPORT PRINTED: 08/24/88

SOIL - TUXEDO FILL: 88-37-29

ASSAY
SOLIDS, TOTAL

ANALYSIS
968000.
UNITS
PPM

ORGANOCHLORINATED PESTICIDE & PCB SCREEN

TOTAL SOLIDS 96.8 %

SAMPLE WEIGHT G (WET BASIS) 24.99 G (DRY BASIS) 24.19

COMPOUND NAME	PPM (WET BASIS)	PPM (DRY BASIS)
DDE	< 0.01	< 0.01
DDD	< 0.01	< 0.01
DDT	< 0.01	< 0.01
HCB	< 0.01	< 0.01
ALPHA-BHC	< 0.01	< 0.01
GAMMA-BHC (LINDANE)	< 0.01	< 0.01
BETA-BHC	< 0.01	< 0.01
HEPTACHLOR	< 0.01	< 0.01
ALDRIN	< 0.01	< 0.01
OCTACHLOROSTYRENE	< 0.01	< 0.01
HEPTACHLOR EPOXIDE	< 0.01	< 0.01
OXYCHLORDANE	< 0.01	< 0.01
GAMMA-CHLORDANE	< 0.01	< 0.01
ALPHA-CHLORDANE	< 0.01	< 0.01
TRANSNONACHLOR	< 0.01	< 0.01
MIREX	< 0.01	< 0.01
DIELDRIN	< 0.01	< 0.01
ENDRIN	< 0.01	< 0.01
METHOXYCHLOR	< 0.01	< 0.01
TOXAPHENE	< 0.1	< 0.1
PCB 1260	< 0.1	< 0.1
PCB 1248	< 0.1	< 0.1

SAMPLE CLEAN UP DID NOT REQUIRE SILICA GEL.



SAMPLE NUMBER: 80802780

PAGE 2

SOIL - TUXEDO FILL: 88-37-29

SIGNED

DATE 08/24/88

BY AND FOR HAZLETON LABORATORIES AMERICA

METHOD REFERENCES

SOLIDS, TOTAL

OFFICIAL METHODS OF ANALYSIS (1984) 14TH EDITION, METHOD 16.259, AOAC, ARLINGTON, VIRGINIA.

ORGANOCHLORINATED PESTICIDE & PCB SCREEN

PESTICIDE MONITORING JOURNAL, 153-164 (1974).

FOOD AND DRUG ADMINISTRATION, PESTICIDE ANALYTICAL MANUAL, VOL. 1, 2ND ED., SECTIONS 211, 311.

SMART, N.A., ET AL, JOURNAL OF ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, 57, 168-172 (1974).

JOURNAL OF ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, 59, 174-187 (1976).

REPORT OF ANALYSIS

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
DR. WARD STONE
WILDLIFE RESOURCES CENTER
DELMAR, NY 12054

SAMPLE NUMBER: 80802784
DATE ENTERED: 08/15/88
REPORT PRINTED: 09/13/88

SOIL - TUXEDO FILL: 88-37-29
(RE-ENTRY OF LIMS # 80802780)

ASSAY
SOLIDS, TOTAL

ANALYSIS UNITS
96.4 %

ICP-ACID EXTRACTION

ELEMENTS	PPM
ALUMINUM	12800.
ARSENIC	<2.6
BARIUM	170.
BERYLLIUM	1.3
CADMIUM	4.8
CALCIUM	19700.
CHROMIUM	38.4
COBALT	11.5
COPPER	88.7
IRON	19300.
LEAD	87.4
MAGNESIUM	8880.
MANGANESE	1720.
NICKEL	97.4
POTASSIUM	519.
SODIUM	<519.
VANADIUM	29.7
ZINC	83.6



SAMPLE NUMBER: 80802784

PAGE 2

SOIL - TUXEDO FILL: 88-37-29
(RE-ENTRY OF LIMS # 80802780)

SIGNED

Samuel Sullivan

DATE 09/13/88

BY AND FOR HAZLETON LABORATORIES AMERICA

METHOD REFERENCES

SOLIDS, TOTAL
OFFICIAL METHODS OF ANALYSIS (1984) 14TH EDITION, METHOD 16.259, AOAC,
ARLINGTON, VIRGINIA.

ICP-ACID EXTRACTION
TEST METHODS FOR EVALUATING SOLID WASTE, EPA PUBLICATION NO. SW-846, SECOND
EDITION, METHODS (3030, 3040 OR 3050) AND 6010, U.S. EPA, WASHINGTON, DC
(REVISED APRIL 1984)



CORRECTED REPORT OF ANALYSIS

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
DR. WARD STONE
WILDLIFE RESOURCES CENTER
DELMAR, NY 12054

SAMPLE NUMBER: 80802779

DATE ENTERED: 08/15/88

REPORT PRINTED: 10/21/88

SEDIMENT/SOIL - TUXEDO CULVERT: 88-37-28

PURCHASE ORDER NUMBER: 291813

ASSAY
SOLIDS, TOTAL

ANALYSIS
704000.

UNITS
PPM

ORGANOCHLORINATED PESTICIDE & PCB SCREEN

TOTAL SOLIDS

70.4 %

G (WET BASIS) G (DRY BASIS)
24.98 17.58
PPM (WET BASIS) PPM (DRY BASIS)

COMPOUND NAME

<u>COMPOUND NAME</u>	<u>G (WET BASIS)</u> <u>24.98</u> <u>PPM (WET BASIS)</u>	<u>G (DRY BASIS)</u> <u>17.58</u> <u>PPM (DRY BASIS)</u>
DDE	< 0.02*	< 0.02*
DDD	< 0.01	< 0.01
DDT	< 0.01	< 0.01
HCB	< 0.01	< 0.01
ALPHA-BHC	0.08	0.11
GAMMA-BHC (LINDANE)	< 0.01	< 0.01
BETA-BHC	< 0.01	< 0.01
HEPTACHLOR	< 0.01	< 0.01
ALDRIN	< 0.01	< 0.01
OCTACHLOROSTYRENE	< 0.01	< 0.01
HEPTACHLOR EPOXIDE	< 0.01	< 0.01
OXYCHLORDANE	< 0.01	< 0.01
GAMMA-CHLORDANE	< 0.01	< 0.01
ALPHA-CHLORDANE	< 0.01	< 0.01
TRANSONACHLOR	< 0.01	< 0.01
MIREX	< 0.01	< 0.01
DIELDRIN	< 0.01	< 0.01
ENDRIN	< 0.01	< 0.01
METHOXYCHLOR	< 0.01	< 0.01
TOXAPHENE	< 0.2*	< 0.2*
PCB 1260	< 0.1	< 0.1
PCB 1248	< 0.1	< 0.1

SAMPLE CLEAN UP DID NOT REQUIRE SILICA GEL.

*ELEVATED LIMIT OF DETECTION DUE TO BACKGROUND INTERFERENCE.



HAZLETON

LABORATORIES AMERICA, INC.

8301 KINSMAN BLVD. • P.O. BOX 7848 • MADISON, WI 53707 • (800) 241-4471 • TLX 793888 HAZRAL MDS UD

SAMPLE NUMBER: 80802779

(CORRECTED REPORT)

PAGE 2

SEDIMENT/SOIL - TUXEDO CULVERT: 88-37-28

SIGNED

DATE 10/21/88

BY AND FOR HAZLETON LABORATORIES AMERICA

METHOD REFERENCES

SOLIDS, TOTAL
OFFICIAL METHODS OF ANALYSIS (1984) 14TH EDITION, METHOD 16.259, AOAC,
ARLINGTON, VIRGINIA.

ORGANOCHLORINATED PESTICIDE & PCB SCREEN
PESTICIDE MONITORING JOURNAL, 153-164 (1974).
FOOD AND DRUG ADMINISTRATION, PESTICIDE ANALYTICAL MANUAL, VOL. 1, 2ND ED.,
SECTIONS 211, 311.
SMART, N.A., ET AL, JOURNAL OF ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS,
57, 168-172 (1974).
JOURNAL OF ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, 59, 174-187 (1976).



REPORT OF ANALYSIS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DR. WARD STONE
WILDLIFE RESOURCES CENTER
DELMAR, NY 12054

SAMPLE NUMBER: 80802779

DATE ENTERED: 08/15/88

REPORT PRINTED: 10/21/88

SEDIMENT/SOIL - TUXEDO CULVERT: 88-37-28

PURCHASE ORDER NUMBER: 291813

ASSAY
SOLIDS, TOTAL

ANALYSIS
704000. UNITS
PPM

ORGANOCHLORINATED PESTICIDE & PCB SCREEN

TOTAL SOLIDS

70.4 %

G (WET BASIS) G (DRY BASIS)
24.98 17.58
PPM (WET BASIS) PPM (DRY BASIS)

COMPOUND NAME

DDE	< 0.02*	< 0.02*
DDD	< 0.01	< 0.01
DDT	< 0.01	< 0.01
HCB	< 0.01	< 0.01
ALPHA-BHC	0.08	0.11
GAMMA-BHC (LINDANE)	< 0.01	< 0.01
BETA-BHC	< 0.01	< 0.01
HEPTACHLOR	< 0.01	< 0.01
ALDRIN	< 0.01	< 0.01
OCTACHLOROSTYRENE	< 0.01	< 0.01
HEPTACHLOR EPOXIDE	< 0.01	< 0.01
OXYCHLORDANE	< 0.01	< 0.01
GAMMA-CHLORDANE	< 0.01	< 0.01
ALPHA-CHLORDANE	< 0.01	< 0.01
TRANSNONACHLOR	< 0.01	< 0.01
MIREX	< 0.01	< 0.01
DIELDRIN	< 0.01	< 0.01
ENDRIN	< 0.01	< 0.01
METHOXYCHLOR	< 0.01	< 0.01
TOXAPHENE	< 0.2*	< 0.2*
PCB 1260	< 0.1	< 0.1
PCB 1248	< 0.1	< 0.1

SAMPLE CLEAN UP DID NOT REQUIRE SILICA GEL.

*ELEVATED LIMIT OF DETECTION DUE TO BACKGROUND INTERFERENCE.



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SAMPLE NUMBER: 80802783

PAGE 2

SEDIMENT/SOIL - TUXEDO CULVERT: 88-37-28
(RE-ENTRY OF LIMS # 80802779)

SIGNED

James Sullivan

DATE 09/13/88

BY AND FOR HAZLETON LABORATORIES AMERICA

METHOD REFERENCES

SOLIDS, TOTAL

OFFICIAL METHODS OF ANALYSIS (1984) 14TH EDITION, METHOD 16.259, AOAC,
ARLINGTON, VIRGINIA.

ICP-ACID EXTRACTION

TEST METHODS FOR EVALUATING SOLID WASTE, EPA PUBLICATION NO. SW-846, SECOND
EDITION, METHODS (3030, 3040 OR 3050) AND 6010, U.S. EPA, WASHINGTON, DC
(REVISED APRIL 1984)



REPORT OF ANALYSIS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DR. WARD STONE
WILDLIFE RESOURCES CENTER
DELMAR, NY 12054

SAMPLE NUMBER: 80802763
DATE ENTERED: 08/15/88
REPORT PRINTED: 09/13/88

SEDIMENT/SOIL - TUXEDO CULVERT: 88-37-28
(RE-ENTRY OF LIMS # 80802779)

ASSAY
SOLIDS, TOTAL

ANALYSIS UNITS
74.8 %

ICP-ACID EXTRACTION

ELEMENTS	PPM
ALUMINUM	13000.
ARSENIC	<3.3
BARIUM	282.
BERYLLIUM	1.2
CADMIUM	5.2
CALCIUM	6990.
CHROMIUM	29.8
COBALT	8.8
COPPER	90.2
IRON	19900.
LEAD	254.
MAGNESIUM	5670.
MANGANESE	293.
NICKEL	25.3
POTASSIUM	949.
SODIUM	<668.
VANADIUM	43.4
ZINC	3990.



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SAMPLE NUMBER: 80802783

PAGE 2

SEDIMENT/SOIL - TUXEDO CULVERT: 88-37-28
(RE-ENTRY OF LIMS # 80802779)

SIGNED

James Sullivan

DATE 09/13/88

BY AND FOR HAZLETON LABORATORIES AMERICA

METHOD REFERENCES

SOLIDS, TOTAL
OFFICIAL METHODS OF ANALYSIS (1984) 14TH EDITION, METHOD 16.259, AOAC,
ARLINGTON, VIRGINIA.

ICP-ACID EXTRACTION
TEST METHODS FOR EVALUATING SOLID WASTE, EPA PUBLICATION NO. SW-846, SECOND
EDITION, METHODS (3030, 3040 OR 3050) AND 6010, U.S. EPA, WASHINGTON, DC
(REVISED APRIL 1984)

APPENDIX C
AUGUST 1988 NYSDEC PHASE II DATA SET

IR
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLING NO.

Lab Name: RECMD

Contract: ~~RECMC~~

Lab Code: R1140

Case No.: LMS

SAS No.:

SOG No.:

Matrix: (soil/water) soil

Lab Sample ID: 871253

Sample wt. (g): 20. (g/mL): 0

Lab File ID: 87151

Level: (low/med) LOW

Date Received: 8/17/86

% Moisture: not dec. 28. dec. 0.

Date Extracted: 8/16/86

Extraction: (SepF/Conc) SUNC

Date Analyzed: 8/29/86

GPC Cleanup: (Y/N) N pH: 7.0

Elution Factor: ~~1.0~~ 10.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		ug/L	ug/g, ug/g
100-95-2	Fluorol	5400	10
111-44-4	bis(2-Chloroethyl) ether	5400	10
85-37-9	2-Chlorophenol	5400	10
541-73-1	1,3-Dichlorobenzene	5400	10
100-46-7	1,4-Dichlorobenzene	5400	10
100-51-8	benzyl alcohol	5400	10
95-50-1	1,2-Dichlorobenzene	5400	10
95-48-0	2-Methylphenol	5400	10
109-60-1	bis(2-Chloroisopropyl) ether	5400	10
106-44-5	4-Methylphenol	5400	10
621-64-7	N-Nitrosodimethylamine	5400	10
67-72-1	Hexachloroethane	5400	10
95-95-3	nitrobenzene	5400	10
78-99-1	isoprene	5400	10
88-75-5	2-Nitrophenol	5400	10
105-67-9	2,4-Dimethylphenol	5400	10
65-85-0	Benzoic acid	27000	10
111-91-1	bis(2-Chloroethyl) methane	5400	10
100-93-2	2,4-dichlorophenol	5400	10
110-92-1	1,2,4-Trichlorobenzene	5400	10
11-20-3	naphthalene	14000	10
106-47-8	4-Chloroaniline	5400	10
117-88-3	Hexachlorobutadiene	5400	10
55-50-7	4-Chloro-3-methylphenol	5400	10
41-57-6	2-Methylnaphthalene	7000	10
77-47-4	Hexachlorocyclopentadiene	5400	10
95-08-2	2,4,5-Trichlorophenol	5400	10
95-95-4	2,4,5-Trichlorophenol	27000	10
91-58-7	2-Chloronaphthalene	5400	10
58-74-4	2-Nitroaniline	27000	10
131-11-3	Dimethylphthalate	5400	10
208-96-9	Acenaphthylene	5400	10
625-26-2	2,6-Dinitrotoluene	5400	10

1076

IL
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1-1 5-A

Lab Name: RECMD

Contract: 600000051

Lab Code: RECMD

Case No.: 1MB3

SAS No.:

SOB No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 8801253

Sample wt/vol: 20. (g/ml) G

Lab File ID: 87151

Level: (low/med) LOW

Date Received: 8/12/89

% Moisture: not dec. 28. dec. W.

Date Extracted: 8/16/89

Extraction: (Soxh/Cent/Sonc) SONC

Date Analyzed: 8/29/89

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution factor:

10.0

CONCENTRATION UNITS:		
Comp No.	COMPOUND	(ug/L or ug/g - ug/g)
09-09-2	3-Nitroaniline	27000.
03-32-9	Acenaphthene	14000.
51-29-5	2,4-Dinitrophenol	27000.
100-01-7	4-Nitrophenol	27000.
02-64-9	Dibenzofuran	5400.
01-14-0	2,4-Dinitrotoluene	5400.
04-66-2	Diethylphthalate	5400.
2005-72-3	1-Chlorophenyl-phenylether	5400.
06-73-7	Fluorene	17000.
100-01-6	4-Nitroaniline	27000.
524-52-1	4,6-Dinitro-2-methylphenol	27000.
08-30-6	11-Nitrodiphenylamine	5400.
101-55-3	4-Bromophenyl-phenylether	5400.
118-74-1	Hexachlorobenzene	5100.
07-26-5	Pentachlorophenol	27000.
05-01-8	Phenanthrene	27000.
110-12-7	Anthracene	7000.
04-74-2	Di-n-butylphthalate	1100.
205-44-0	Fluoranthene	29000.
129-00-0	Pyrene	24000.
05-68-7	Butylbenzylphthalate	2000.
01-94-1	3,3'-Dichlorodiphenylamine	11000.
05-55-3	Benz(a)anthracene	11000.
212-21-9	Terphenyls	11000.
117-81-7	Bis(2-Ethylhexyl)phthalate	7000.
117-94-0	6,7-Dimethylphthalate	7000.
205-99-2	Benz(b)fluoranthene	9000.
207-08-9	Benz(k)fluoranthene	5400.
00-32-8	Benz(a)pyrene	8100.
193-39-5	Indeno(1,2,3-cd)pyrene	4200.
03-70-3	Dibenz(a,h)anthracene	5400.
101-24-2	Benz(g,h,i)perylene	4600.

(1) - Cannot be separated from diphenylamine

1077

IF
 SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

1-1 S-A

Lab Name: RECND

Contract: 60400001

Lab Code: RECND

Case No.: LMS5

SAS No.:

SDS No.:

Matrix: (soil)/water: SOIL

Lab Sample ID: 3301253

Sample wt/vol: 30. (g/mL) G

Lab File ID: 07451

Level: (low/med) LOW

Date Received: 8/12/89

% Moisture: not dec. 38. dec. 0.

Date Extracted: 8/16/89

Extraction: (bepf/Cont/Sonc) SUNC

Date Analyzed: 8/29/89

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: ~~100~~ 100

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number IICs found: 19

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	U
1.	UNKNOWN	3.12	9000.	18J
2.	141-79-07-Pentachloro, 4-methyl-	6.10	20000.	18J A
3.	UNKNOWN	7.07	10000.	18J
4.	UNKNOWN HYDROCARBON	7.64	3000.	J
5.	UNKNOWN	9.02	5000.	J
6.	UNKNOWN HYDROCARBON	10.20	5000.	J
7.	UNKNOWN METHYL-BENZENE ISOME	10.79	3000.	J
8.	UNKNOWN METHYL-NAPHTHALENE	15.80	2000.	J
9.	UNKNOWN HYDROCARBON	16.77	2000.	J
10.	563-41-5-Naphthalene, 1,3-dimethyl-	17.44	4000.	J
11.	UNKNOWN HYDROCARBON	18.44	2000.	J
12.	UNKNOWN HYDROCARBON	20.37	2000.	J
13.	UNKNOWN HYDROCARBON	20.60	3000.	J
14.	UNKNOWN HYDROCARBON	21.87	3000.	J
15.	UNKNOWN HYDROCARBON	26.91	10000.	J
16.	UNKNOWN	26.25	7000.	J
17.	UNKNOWN HYDROCARBON	28.60	10000.	J
18.	UNKNOWN HYDROCARBON	29.54	5000.	J
19.	UNKNOWN HYDROCARBON	30.54	6000.	J
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1078

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: RECMD

Contract: 68W00051

T-1 S-B

Lab Code: RECMD

Case No.: LM85

SAS No.:

SDB No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 9901254

Sample wt/vol: 30. (g/mL) 0

Lab File ID: B7452

Level: (low/mod) LOW

Date Received: 9/12/99

% Moisture: not dec. 18. dec. 9.

Date Extracted: 9/16/99

Extraction: (SopF/Cont/Sonc) SONC

Date Analyzed: 9/28/99

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: 10.00

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG 0

109-95-2	Phenol	1500.	U
111-44-4	bis(2-Chloroethyl) ether	4100.	U
95-57-9	2-Chlorophenol	4100.	U
541-73-1	1,3-Dichlorobenzene	4100.	U
105-46-7	1,4-Dichlorobenzene	540.	U
100-51-6	Benzyl alcohol	4100.	U
95-50-1	1,2-Dichlorobenzene	4100.	U
95-49-7	2-Methylphenol	4100.	U
109-90-1	bis(2-Chloroisopropyl) ether	4100.	U
105-44-5	4-Methylphenol	4100.	U
521-54-7	N-Nitroso-dimethylpropylamine	4100.	U
67-72-1	Hexachlorocyclohexane	4100.	U
39-95-3	Nitrobenzene	4100.	U
78-59-1	Isophorone	4100.	U
99-75-6	2-Nitrophenol	4100.	U
105-57-9	2,4-Dimethylphenol	4100.	U
85-85-0	Benzoic acid	4100.	U
111-91-1	bis(2-Chloroethoxy)methane	20000.	U
120-93-2	2,4-Dichlorophenol	4100.	U
120-92-1	1,2,4-Trichlorobenzene	4100.	U
91-20-3	Naphthalene	7700.	U
105-47-9	4-Chloroaniline	4100.	U
97-59-3	Hexachlorobutadiene	4100.	U
59-50-7	4-Chloro-3-methylphenol	4100.	U
91-57-6	2-Methylnaphthalene	4100.	U
77-47-4	Hexachlorocyclopentadiene	30000.	U
99-05-2	2,4,6-Trichlorophenol	4100.	U
95-95-4	2,4,5-Trichlorophenol	4100.	U
91-59-7	2-Chloronaphthalene	20000.	U
88-74-4	2-Nitroaniline	4100.	U
131-11-3	Dimethylphthalate	20000.	U
209-95-9	Acenaphthylene	4100.	U
505-20-2	2,6-Dinitrotoluene	4100.	U

1122

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T-1 S-2

Lab Name: RECMD

Contract: 60400051

Lab Code: RECMD

Case No.: LMES

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 8801254

Sample wt./vol: 30. (g/mL) G

Lab File ID: 87452

Level: (low/med) LOW

Date Received: 8/12/88

% Moisture: not det. 18. det. 0.

Date Extracted: 8/16/88

Extraction: (SopF/Cont/Sonc) SONC

Date Analyzed: 8/29/88

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 10.00

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG
99-09-2	3-Nitroaniline	20000.	10
83-32-9	Acenaphthene	5000.	
51-28-5	2,4-Dinitrophenol	20000.	10
100-02-7	4-Nitrophenol	20000.	10
132-64-8	Dibenzofuran	4700.	
121-14-2	2,4-Dinitrotoluene	4100.	10
84-66-2	Diethylphthalate	4100.	10
7005-72-3	4-Chlorophenyl-phenylether	4100.	10
95-73-7	Fluorene	9500.	
100-01-6	4-Nitroaniline	20000.	10
534-52-1	4,6-Dinitro-2-methylphenol	20000.	10
95-30-6	N-Nitrosodiphenylamine	4100.	10
101-55-4	4-Bromophenyl-phenylether	4100.	10
119-74-1	Hexachlorobenzene	4100.	10
97-96-6	Pentachlorophenol	20000.	10
95-01-8	Phenanthrene	53000.	
120-12-7	Anthracene	13000.	
84-74-2	Di-n-butylphthalate	1900.	10
206-44-0	Fluoranthene	59000.	
129-00-0	Pyrene	52000.	
95-58-7	Butylbenzylphthalate	2100.	J
91-94-1	3,3'-Dichlorobenzidine	9100.	10
56-55-3	Benzo(a)anthracene	27000.	
219-01-9	Chrysene	27000.	
117-81-7	bis(2-Ethylhexyl)phthalate	9000.	10
117-84-0	Di-n-octylphthalate	3900.	J
205-99-2	Benzo(b)fluoranthene	24000.	
207-08-9	Benzo(k)fluoranthene	4100.	10
50-32-9	Benzo(a)pyrene	23000.	
193-39-5	Indeno(1,2,3-cd)pyrene	12000.	
53-70-3	Dibenz(a,h)anthracene	5900.	
191-24-2	Benzo(g,h,i)perylene	13000.	

(1) - Cannot be separated from diphenylamine

1123

IF
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

T-1 S-8

Lab Name: RECMD

Contract: 60400051

Lab Code: RECMD

Case No.: LM55

SAS No.:

SDG No.:

Matrix: (Soil/water) SOIL

Lab Sample ID: 8801254

Sample wt/vol: 20. (g/ml) G

Lab File ID: B7452

Level: (low/med) LOW

Date Received: 8/12/88

% Moisture: net dcc. 18. dcc. 0.

Date Extracted: 8/16/88

Extraction: (Soxh/Cont/Soxh) SOXC

Date Analyzed: 8/28/88

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 10.00

CONCENTRATION UNITS:

Number TICs found: 20

(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- - UNKNOWN	3.13	50000.	101
2.	141-79-7: 3-Pentan-2-one, 4-methyl-	5.11	200000.	101
3.	- - UNKNOWN	5.52	30000.	101
4.	- - UNKNOWN	7.13	1000000.	101
5.	- - UNKNOWN HYDROCARBON	10.22	30000.	1
6.	- - UNKNOWN DIMETHYL-NAPHTHALENE	17.45	30000.	1
7.	- - UNKNOWN HYDROCARBON	21.85	30000.	1
8.	132-55-0: Dibenzothiophene (9CI9CI)	21.93	30000.	1
9.	- - UNKNOWN	22.91	40000.	1
10.	- - UNKNOWN	23.91	30000.	1
11.	- - UNKNOWN HYDROCARBON	24.02	30000.	1
12.	- - UNKNOWN HYDROCARBON	25.04	40000.	1
13.	- - UNKNOWN HYDROCARBON	25.91	90000.	1
14.	- - UNKNOWN HYDROCARBON	27.91	50000.	1
15.	- - UNKNOWN HYDROCARBON	29.67	1000000.	1
16.	- - UNKNOWN HYDROCARBON	29.55	70000.	1
17.	- - UNKNOWN HYDROCARBON	30.55	500000.	1
18.	- - UNKNOWN HYDROCARBON	31.59	40000.	1
19.	- - UNKNOWN HYDROCARBON	32.91	50000.	1
20.	192-97-2: Benzofalpyrone (9CI9CI)	34.04	50000.	1
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

1124

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRENCH 2

Lab Name: RECMD

Contract: 60400051

Lab Code: RECMD

Case No.: LM88

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 8801208

Sample wt/vol: 30. (g/mL) 0

Lab File ID: B7305

Level: (low/med) LOW

Date Received: 8/ 9/88

% Moisture: not dec. 0. dec. 0.

Date Extracted: 8/12/88

Extraction: (SepF/Cont/Soxh) SOXC

Date Analyzed: 8/18/88

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 5.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg	g
108-95-2	Phenol	1700.	1U
111-44-4	bis(2-Chloroethoxy)methane	1700.	1U
95-57-9	2-Chlorophenol	1700.	1U
941-73-1	1,3-Dichlorobenzene	1700.	1U
105-46-7	1,4-Dichlorobenzene	1700.	1U
100-51-6	Benzyl alcohol	1700.	1U
95-50-1	1,2-Dichlorobenzene	1700.	1U
95-49-7	2-Methylphenol	1700.	1U
108-60-1	bis(2-Chloroisopropyl) ether	1700.	1U
105-44-5	4-Methylphenol	520.	1U
621-64-7	N-Nitroso-di-n-propylamine	1700.	1U
57-72-1	Hexachloroethane	1700.	1U
99-95-3	Nitrobenzene	1700.	1U
79-59-1	Isophorene	1700.	1U
99-75-5	2-Nitrophenol	1700.	1U
105-57-9	2,4-Dimethylphenol	1700.	1U
65-85-0	Benzoic acid	9300.	1U
111-91-1	bis(2-Chloroethoxy)methane	1700.	1U
120-93-2	2,4-Dichlorophenol	1700.	1U
120-92-1	1,2,4-Trichlorobenzene	1700.	1U
91-20-3	Naphthalene	14000.	1U
105-47-8	4-Chloroaniline	1700.	1U
97-69-3	Hexachlorobutadiene	1700.	1U
59-50-7	4-Chloro-3-methylphenol	1700.	1U
91-57-6	2-Methylnaphthalene	4300.	1U
77-47-4	Hexachlorocyclopentadiene	1700.	1U
99-06-2	2,4,5-Trichlorophenol	1700.	1U
95-95-4	2,4,6-Trichlorophenol	5300.	1U
91-59-7	2-Chloronaphthalene	1700.	1U
99-74-4	2-Nitroaniline	9300.	1U
131-11-3	Dimethylphthalate	1700.	1U
208-95-8	Acenaphthylene	1700.	1U
505-20-2	2,6-Dinitrotoluene	1700.	1U

0953

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRENCH 2

Lab Name: RECMD

Contract: 83W00051

Lab Code: RECMD

Case No.: LM85

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 9901229

Sample wt./vol: 50. (g/mL) G

Lab File ID: 87205

Level: (low/med) LOW

Date Received: 8/8/88

% Moisture: not det. 0. det. 0.

Date Extracted: 8/12/88

Extraction: (SopF/Cont/Senz) SONC

Date Analyzed: 8/18/88

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 5.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) USE/KG

CAS NO.

COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) USE/KG	Q
99-09-2	3-Nitroaniline	8300.	U
93-32-9	Acenaphthene	4900.	
51-28-5	2,4-Dinitrophenol	8300.	U
100-02-7	4-Nitrophenol	2300.	U
122-84-9	Dibenzofuran	3400.	
121-14-2	2,4-Dinitrotoluene	1700.	U
84-86-2	Diethylphthalate	1700.	U
7005-72-3	4-Chlorophenyl-phenylether	1700.	U
98-73-7	Fluorene	4100.	
100-01-6	4-Nitroaniline	8300.	U
534-52-1	4,6-Dinitro-2-methylphenol	8300.	U
65-30-6	N-Nitrosodiphenylamine	1700.	U
101-65-3	4-Bromophenyl-phenylether	1700.	U
118-74-1	Hexachlorobenzene	1700.	U
97-85-5	Pentachlorophenol	8300.	U
35-01-9	Phenanthrene	14000.	
120-12-7	Anthracene	3700.	
84-74-2	Di-n-butylphthalate	440.	J
206-44-0	Fluoranthene	15000.	
129-00-0	Pyrene	12000.	
95-69-7	Butylbenzylphthalate	530.	J
91-04-1	3,3'-Dichlorobenzidine	8300.	U
56-65-3	Benzo(a)anthracene	7000.	
218-01-9	Chrysene	7500.	
117-91-7	bis(2-Ethylhexyl)phthalate	2300.	
117-91-0	Di-n-octylphthalate	1700.	U
205-99-2	Benzo(b)fluoranthene	4300.	
207-09-9	Benzo(k)fluoranthene	1700.	U
50-32-9	Benzo(a)pyrene	5200.	
193-39-5	Indeno(1,2,3-cd)pyrene	2900.	
53-70-3	Dibenzo(a,h)anthracene	1500.	J
191-24-2	Benzo(g,h,i)perylene	3000.	

(1) - Cannot be separated from diphenylamine

IF
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRENCH 2

Lab Name: RECMD

Contract: 60400051

Lab Code: RECMD

Case No.: LMBS

SAS No.:

EDS No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 0001226

Sample wt./ol: 30. (g/mL) 6

Lab File ID: 07206

Level: (low/med) LOW

Date Received: 8/ 9/98

% Moisture: wet dec. 0. dec. 0.

Date Extracted: 8/12/98

Extraction: (SoxH/Cont/SoxH) SONC

Date Analyzed: 8/19/98

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 5.00

CONCENTRATION UNITS:

Number TICs found: 20

(ug/L or ug/Kg) UG/UG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	141-79-713-Pentan-2-one, 4-methyl- (9)	6.15	20000.	91 A
2.	- - UNKNOWN	7.04	3000.	1
3.	90-55-91 alpha-Pinene (ACN)	9.07	1000.	1
4.	- - UNKNOWN HYDROCARBON	10.25	1000.	1
5.	- - UNKNOWN	10.93	800.	1
6.	- - UNKNOWN HYDROCARBON	11.33	1000.	1
7.	95-15-91 Benzof(b)thiophene (9C19C1)	14.00	700.	1
8.	- - UNKNOWN	15.75	700.	1
9.	90-12-01 Naphthalene, 1-methyl- (9C19)	16.91	1000.	1
10.	927-54-3 Naphthalene, 2-ethenyl- (9C1)	16.95	800.	1
11.	573-99-9 Naphthalene, 1,2-dimethyl- (1)	17.50	900.	1
12.	- - UNKNOWN	22.95	1000.	1
13.	- - UNKNOWN	23.59	1000.	1
14.	- - UNKNOWN	25.23	1000.	1
15.	- - UNKNOWN HYDROCARBON	26.97	2000.	1
16.	- - UNKNOWN	27.93	3000.	1
17.	- - UNKNOWN HYDROCARBON	28.71	2000.	1
18.	- - UNKNOWN HYDROCARBON	29.61	2000.	1
19.	- - UNKNOWN HYDROCARBON	30.52	1000.	1
20.	192-97-2 Benzof(a)pyrene (9C19C1)	33.03	4000.	1
21.				
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0955

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRENCH 2 DE

Lab Name: RECMD

Contract: 60000051

Lab Code: RECMD

Case No.: TUXEDD

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 0001225

Sample wt/vol: 30. (g/mL) G

Lab File ID: B9401

Level: (low/mod) LOW

Date Received: 8/ 9/88

% Moisture: not det. 0. det. 0.

Date Extracted: 8/12/88

Extraction: (SopF/Conl/Sonc) SONE

Date Analyzed: 8/29/88

EPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) US/KG	G
108-95-2	Phenol	1700.	10
111-44-4	bis(2-Chloroethoxy)methane	1700.	10
95-57-8	2-Chlorophenol	1700.	10
541-73-1	1,3-Dichlorobenzene	1700.	10
105-46-7	1,4-Dichlorobenzene	1700.	10
100-51-6	Benzyl alcohol	1700.	10
95-50-1	1,2-Dichlorobenzene	1700.	10
95-49-7	2-Methylphenol	1700.	10
109-60-1	bis(2-Chloroisopropyl)ether	1700.	10
106-44-6	4-Methylphenol	500.	1
921-64-7	N-Nitroso-di-n-propylamine	1700.	10
67-72-1	Hexachloroethane	1700.	10
98-95-3	Nitrobenzene	1700.	10
78-59-1	Isophorone	1700.	10
99-75-6	2-Nitrophenol	1700.	10
105-67-9	2,4-Dimethylphenol	1700.	10
65-95-0	Benzoic acid	9300.	10
111-91-1	bis(2-Chloroethoxy)methane	1700.	10
120-83-2	2,4-Dichlorophenol	1700.	10
120-92-1	1,2,4-Trichlorobenzene	1700.	10
91-20-3	Naphthalene	15000.	1
105-47-9	4-Chloroaniline	1700.	10
97-69-3	Hexachlorobutadiene	1700.	10
59-50-7	4-Chloro-3-methylphenol	1700.	10
91-57-6	2-Methylnaphthalene	4200.	1
77-47-4	Hexachlorocyclopentadiene	1700.	10
98-05-2	2,4,6-Trichlorophenol	1700.	10
95-95-4	2,4,5-Trichlorophenol	9300.	10
91-59-7	2-Chloronaphthalene	1700.	10
99-74-4	2-Nitroaniline	9300.	10
131-11-3	Dimethylphthalate	1700.	10
209-96-9	Acenaphthylene	1700.	10
505-20-2	2,6-Dinitrotoluene	1700.	10

1001

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TRENCH 2 DE

Lab Name: RECMD

Contract: ~~6420051~~

Lab Code: RECMD

Case No.: TUXSD0 SAE No.:

SDG No.:

Matrix: (Soil/Water) 2016

Lab Sample ID: 880100F

Sample wt/vol: 20. (g/mL) G

Lab File ID: 09401

Level: (Low/med) LOW

Date Received: 8/9/88

% Moisture: not dec. 0. dec. 0.

Date Extracted: 8/12/88

Extraction: (SopF/Cont/5onc) SONG

Date Analyzed: 8/28/88

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 5.00

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	U
99-09-2	3-Nitroaniline	9300.	10
93-72-9	Azobenzene	4800.	1
51-28-5	2,4-Dinitrophenol	9300.	10
120-02-3	4-Nitrophenol	9300.	10
132-84-9	Dibenzofuran	2900.	1
121-14-2	2,4-Dinitrotoluene	1700.	10
94-86-2	Diethylphthalate	1700.	10
7005-72-3	4-Chlorophenyl-phenylether	1700.	10
95-73-7	Fluorene	3700.	1
100-01-5	4-Nitroaniline	9300.	10
934-52-1	4,5-Dinitro-2-methylphenol	9300.	10
95-30-6	N-Nitrosodiphenylamine	1700.	10
101-55-3	4-Bromophenyl-phenylether	1700.	10
119-74-1	Hexachlorobenzene	1700.	10
97-96-6	Pentachlorophenol	9300.	10
95-81-9	Phenanthrene	15000.	1
120-12-7	Anthracene	3700.	1
94-74-2	Di-n-butylphthalate	490.	1
205-44-0	Fluoranthene	14000.	1
129-00-0	Pyrene	11000.	1
95-89-7	Di-ethylbenzylphthalate	590.	1
91-94-1	3,3'-Dichlorobenzidine	3300.	10
58-55-3	Benzo(a)anthracene	7100.	1
210-01-9	Chrysene	9000.	1
117-01-7	Bis(2-ethylhexyl)phthalate	2300.	1
117-94-0	Di-n-octylphthalate	1700.	10
205-99-2	Benzo(b)fluoranthene	5300.	1
207-09-9	Benzo(k)fluoranthene	1700.	10
50-32-9	Benzo(a)pyrene	5500.	1
193-39-5	Indeno(1,2,3-cd)pyrene	2700.	1
53-70-3	Dibenzo(a,h)anthracene	900.	1
191-24-2	Benzo(g,h,i)perylene	2700.	1

(1) - Cannot be separated from diphenylamine

1002

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1-2 5-B U

Lab Name: RECMD

Contract: 60W00051

Lab Code: RECMD

Case No.: TUXEDO

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 8221256

Sample wt/vol: 30. (g/mL) 0

Lab File ID: 82354

Level: (low/med) LOW

Date Received: 8/12/88

% Moisture: not dec. 25. dec. 0.

Date Extracted: 8/15/88

Extraction: (Sepf/Cont/Sonc) 50NC

Date Analyzed: 9/27/88

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 40.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	0
108-95-2	Phenol	18000.	1U
111-44-4	bis(2-Chloroethyl) ether	18000.	1U
95-57-8	2-Chlorophenol	18000.	1U
541-73-1	1,3-Dichlorobenzene	18000.	1U
106-46-7	1,4-Dichlorobenzene	18000.	1U
100-51-6	Benzyl alcohol	18000.	1U
95-50-1	1,2-Dichlorobenzene	18000.	1U
95-48-7	2-Methylphenol	18000.	1U
108-50-1	bis(2-Chloroisopropyl) ether	15000.	1U
106-44-5	4-Methylphenol	18000.	1U
621-64-7	N-Nitroso-di-n-propylamine	18000.	1U
67-72-1	Hexachloroethane	18000.	1U
98-95-3	Nitrobenzene	18000.	1U
78-59-1	Isophorone	18000.	1U
88-75-5	2-Nitrophenol	15000.	1U
105-67-9	2,4-Dimethylphenol	18000.	1U
65-85-0	Benzoic acid	95000.	1U
111-91-1	bis(2-Chloroethoxy)methane	18000.	1U
120-83-2	2,4-Dichlorophenol	18000.	1U
120-82-1	1,2,4-Trichlorobenzene	18000.	1U
91-20-3	Naphthalene	13000.	1J
106-47-8	4-Chloroaniline	18000.	1U
87-68-3	Hexachlorobutadiene	18000.	1U
59-50-7	4-Chloro-3-methylphenol	18000.	1U
91-57-6	2-Methylnaphthalene	7000.	1J
77-47-4	hexachlorocyclopentadiene	18000.	1U
88-95-2	2,4,5-Trichlorophenol	15000.	1U
95-95-4	2,4,5-Trichlorophenol	89000.	1U
91-58-7	2-Chloronaphthalene	18000.	1U
88-74-4	2-Nitroaniline	99000.	1U
131-11-3	Dimethylphthalate	19000.	1U
208-96-8	Acenaphthylene	18000.	1U
606-20-2	2,6-Dinitrotoluene	18000.	1U

1294

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T-2 S-B 1y

Lab Name: RECMD

Contract: 66W0051

Lab Code: RECMD

Case No.: TUXEDO SAS No.:

SOG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 8001256

Sample wt/vol: 30. (g/mL) 6

Lab File ID: 89354

Level: (low/med) LOW

Date Received: 8/12/88

% Moisture: not dec. 25. dec. 0.

Date Extracted: 8/16/88

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 9/27/88

GPC Cleanup: (Y/N) N

pH: 7.8

Dilution Factor: 40.00

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2	3-Nitroaniline	89000.	:U
83-32-9	Acenaphthene	16000.	:J
51-28-5	2,4-Dinitrophenol	89000.	:U
100-02-7	4-Nitrophenol	89000.	:U
132-64-9	O:benzofuran	10000.	:J
121-14-2	2,4-Dinitrotoluene	18000.	:U
84-66-2	Diethylphthalate	18000.	:U
7005-72-3	4-Chlorophenyl-phenylether	18000.	:U
86-73-7	Fluorene	18000.	:
100-01-6	4-Nitroaniline	89000.	:U
534-52-1	4,6-Dinitro-2-methylphenol	89000.	:U
86-30-5	N-Nitrosodiphenylamine	18000.	:U
101-55-3	4-Bromophenyl-phenylether	18000.	:U
118-74-1	Hexachlorobenzene	18000.	:U
87-86-5	Pentachlorophenol	89000.	:U
85-01-8	Phenanthrene	80000.	:
120-12-7	Anthracene	22000.	:
84-74-2	Di-n-butylphthalate	18000.	:U
206-44-0	Fluoranthene	59000.	:
129-00-0	Pyrene	50000.	:
85-68-7	Butylbenzylphthalate	4800.	:J
91-91-1	3,3'-Dichlorobenzidine	35000.	:U
56-55-3	Benzo(a)anthracene	20000.	:
218-01-9	Chrysene	26000.	:
117-81-7	bis(2-Ethylhexyl)phthalate	14000.	:BJ
117-84-0	O:n-octylphthalate	18000.	:U
205-99-2	Benzo(b)fluoranthene	13000.	:J
207-08-9	Benzo(k)fluoranthene	18000.	:U
50-32-8	Benzo(a)pyrene	18000.	:J
193-39-5	Indeno(1,2,3-cd)pyrene	11000.	:J
53-70-3	Dibenzo(a,h)anthracene	18000.	:U
191-24-2	Benzo(g,h,i)perylene	11000.	:J

(1) - Cannot be separated from diphenylamine

1295

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1-2-80

Lab Name: RECMD

Contract: ~~XXXXXXXXXX~~

Lab Code: RECMD

Case No.: LMS

SMS No.:

Site No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 820120X

Sample wt (g): 20. (g/ml) 6

Lab File No: 82056

Level: (low/med) LOW

Date Received: 8/1/79

% Moisture: not det. 25. des. 0.

Date Extracted: 9/16/80

Extraction: (Sep/Cont. Conc) SMC

Date Analyzed: 8/1/80

GPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: ~~100~~ 10.0

CONCENTRATION UNITS:

(NS) NG.

COMPOUND

ug/L or ug/kg: 20 kg

106-95-2	Phenol	4400.	10
114-4	bis(2-Chloroethyl) ether	700.	10
35-42-8	2-Chlorophenol	4400.	10
54-73-1	1,3-Dichlorobenzene	4400.	10
106-95-7	1,4-Dichlorobenzene	4400.	10
10-51-5	Benzyl alcohol	4400.	10
95-50-1	1,2-Dichlorobenzene	4400.	10
95-59-7	2-Methylphenol	4400.	10
102-60-1	bis(2-Chloroisopropyl) ether	4400.	10
106-44-5	4-Methylphenol	4400.	10
87-64-7	4-Nitrosodimethylamine	4400.	10
87-72-1	Hexachloroethane	4400.	10
95-95-3	Nitrobenzene	4400.	10
73-59-1	Isophorone	4400.	10
89-75-5	2-Nitrophenol	4400.	10
105-67-5	2,4-Dimethylphenol	4400.	10
65-85-0	benzoic acid	22000.	10
111-91-1	bis(2-Chloroethyl) methane	4400.	10
100-83-2	2,4-Dichlorophenol	4400.	10
112-82-1	1,2,4-Trichlorobenzene	4400.	10
91-20-3	Napthalene	17000.	10
105-47-8	4-Chloroaniline	4400.	10
87-68-7	Hexachlorocyclopentadiene	4400.	10
93-90-7	4-Chloro-3-methylphenol	670.	10
91-57-6	2-Methylnaphthalene	7100.	10
77-47-4	Hexachlorocyclopentadiene	4400.	10
85-86-2	2,4,6-Trichlorophenol	4400.	10
105-95-4	2,4,5-Trichlorophenol	22000.	10
91-58-7	2-Chloronaphthalene	4400.	10
83-74-4	2-Nitroaniline	22000.	10
131-11-3	Dimethylnthalate	4400.	10
208-35-8	Acenaphthylene	4700.	10
696-20-2	2,6-Dinitrotoluene	4400.	10

1248

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1-2 1-2

Lab Name: RECND

Contract: ~~6000001~~

Lab Code: RECND

Case No.: LM&S

SA: No.:

500 146.3

Matrix: soil/water: S011

Lab Sample ID: 7701271

Sample wt (g): 10. (g/mL): 0

Lab File ID: 1-2156

Level: (low/med) LOW

Date Received: 6/12/89

% Moisture: not dec. 25. dec. 0.

Date Extracted: 2/16/89

Extraction: (Sep/Cont/Sorc) S0NC

Date Analyzed: 5/29/89

EPC Cleanup: (Y/N) N pH: 7.0

Dilution Factor: ~~100~~ 100

CAS NO.	COMPOUND	CONCENTRATION UNIT:	
		ug/L	ug/g
99-09-2	3-Nitroaniline	12000.	10
52-02-9	Acenaphthene	14000.	10
61-29-5	2,4-Dinitrophenol	21000.	10
100-02-7	4-Nitrophenol	21000.	10
21-64-9	Dibenzofuran	10000.	10
21-14-2	2,4-Dinitrotoluene	4100.	10
44-66-2	Diethylphthalate	4400.	10
905-72-3	4-Chlorophenyl-phenylether	4100.	10
66-73-7	Fluorene	18000.	10
100-61-6	4-Nitroaniline	23000.	10
534-52-1	4,6-Dinitro-2-methylphenol	27000.	10
66-30-6	N-Nitrosodiphenylamine	3400.	10
101-55-3	4-Bromophenyl-phenylether	4400.	10
118-74-1	Hexachlorobenzene	4400.	10
87-86-5	Pentachlorophenol	20000.	10
45-01-8	Phenanthrene	70000.	10
120-12-7	Anthracene	20000.	10
24-24-2	Di-n-butylphthalate	1500.	10
206-44-0	Fluoranthene	64000.	10
119-80-0	Pyrene	40000.	10
65-68-7	Butylbenzylphthalate	4000.	10
91-94-1	2,3'-Dichlorodiphenyl ether	3400.	10
68-65-3	Benzo(a)anthracene	21000.	10
119-81-9	Chrysene	21000.	10
117-81-7	Diis(2-Ethylhexyl)phthalate	13000.	10
117-84-0	Di-n-octylphthalate	4400.	10
205-99-2	Benzo(b)fluoranthene	19000.	10
207-08-9	Benzo(k)fluoranthene	4400.	10
50-72-8	Benzo(a)pyrene	18000.	10
135-39-5	Indeno(1,2,3-cd)pyrene	11000.	10
53-70-3	Dibenzo(a,h)anthracene	2600.	10
191-24-2	Benzo(g,h,i)perylene	12000.	10

(1) - Cannot be separated from diphenylamine

1249

IF
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

1-25-8

Lab Name: RECND

Contract: ~~6067001~~

Lab Code: RECND

Case No.: LMS6

SMS No.:

SOC No.:

Matrix: (soil/water) SOIL

Lab Sample ID: ~~880127~~

Sample wt./vol: 20. (g/mL) G

Lab File ID: 17/496

Level: (low/med) LOW

Date Received: 8/12/88

% Moisture: not dec. 25. dec. 0.

Date Extracted: 8/16/88

Extraction: (Soxh/Cox/Sox) SOXC

Date Analyzed: 8/29/88

GPC Cleanup: (Y/N) N pH: 7.0

Dilution factor: ~~100~~ 100

CONCENTRATION UNITS
µg/L or µg/g (US-16)

Number of compounds found: 20

CAS NUMBER	COMPOUND NAME	RT	RET. CONC.	U
1.	141-79-713-Penten-2-one, 4-methyl-	6.05	70000.	J
2.	- - - UNKNOWN	7.07	60000.	J
3.	- - - UNKNOWN	9.07	40000.	J
4.	- - - UNKNOWN HYDROCARBON	10.22	30000.	J
5.	- - - UNKNOWN METHYL-NAPHTHALENE I	15.46	20000.	J
6.	91-52-411,1'-Biphenyl (SO)	16.71	20000.	J
7.	- - - UNKNOWN DIMETHYL-NAPHTHALENE	17.74	20000.	J
8.	- - - UNKNOWN HYDROCARBON	20.07	20000.	J
9.	- - - UNKNOWN	21.12	20000.	J
10.	171-65-0-Dibenzothiophene (SO(SO))	21.86	40000.	J
11.	- - - UNKNOWN	22.81	60000.	J
12.	- - - UNKNOWN HYDROCARBON	26.97	10000.	J
13.	- - - UNKNOWN	27.06	30000.	J
14.	- - - UNKNOWN HYDROCARBON	27.87	40000.	J
15.	- - - UNKNOWN HYDROCARBON	28.85	100000.	J
16.	- - - UNKNOWN HYDROCARBON	29.54	50000.	J
17.	- - - UNKNOWN HYDROCARBON	30.54	20000.	J
18.	- - - UNKNOWN HYDROCARBON	31.56	60000.	J
19.	- - - UNKNOWN HYDROCARBON	33.00	100000.	J
20.	- - - UNKNOWN HYDROCARBON	36.53	60000.	J
21.				
22.				
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18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T-3 S-A

Lab Name: RECMD

Contract: S2100001

Lab Code: RECMD

Date No.: LM85

SAS No.:

SDG No.:

Matrix: (Soil/Water) SOIL

Lab Sample ID: 8801267

Sample wt/vol: 30. (g/mL) 0

Lab File ID: B7452

Level: (low/mod) LOW

Date Received: 8/12/89

% Moisture: not dec. 19. dec. 8.

Date Extracted: 8/16/89

Extraction: (SopF/Cent/Sonc) SONC

Date Analyzed: 8/29/89

SPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 10.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) US/KG Q

CAS NO.	COMPOUND	(ug/L or ug/Kg) US/KG	Q
108-85-2	Phenol	950.	J
111-44-4	bis(2-Chloroethoxy)methane	4100.	U
95-57-8	2-Chlorophenol	4100.	U
541-73-1	1,3-Dichlorobenzene	4100.	U
105-46-7	1,4-Dichlorobenzene	4100.	U
100-51-6	Benzyl alcohol	4100.	U
95-50-1	1,2-Dichlorobenzene	4100.	U
95-49-7	2-Methylphenol	4100.	U
108-60-1	bis(2-Chloroisopropyl)methane	4100.	U
105-44-5	4-Methylphenol	550.	J
621-64-7	N-Nitrosodipropylamine	4100.	U
57-72-1	Hexachloroethane	4100.	U
99-95-3	Nitrobenzene	4100.	U
79-59-1	Isophenone	4100.	U
99-75-5	2-Nitrophenol	4100.	U
105-67-9	2,4-Dimethylphenol	4100.	U
65-95-0	Benzoic acid	1400.	J
111-91-1	bis(2-Chloroethoxy)methane	4100.	U
120-83-2	2,4-Dichlorophenol	4100.	U
120-92-1	1,2,4-Trichlorobenzene	4100.	U
91-20-3	naphthalene	9500.	I
105-47-9	4-Chloroaniline	4100.	U
97-59-3	Hexachlorobutadiene	4100.	U
59-50-7	4-Chloro-3-methylphenol	4100.	U
91-57-6	2-Methylnaphthalene	3000.	J
77-47-4	Hexachlorocyclopentadiene	4100.	U
99-06-2	2,4,6-Trichlorophenol	4100.	U
95-95-4	2,4,6-Trichlorophenol	21000.	U
91-59-7	2-Chloronaphthalene	4100.	U
99-74-4	2-Nitroaniline	21000.	U
131-11-3	Dimethylphthalate	4100.	U
200-95-9	Acenaphthylene	4100.	U
505-20-2	2,5-Dinitrotoluene	4100.	U

1315

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Y-3 S-A

Lab Name: RECMD

Contract: 604000E1

Lab Code: RECMD

Case No.: LM85

SAS No.:

SDS No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 9801257

Sample wt/vol: 20. (g/mL) 0

Lab File ID: 8745Z

Level: (low/med) LOW

Date Received: 8/12/88

% Moisture: not dec. 19. dec. 0.

Date Extracted: 8/16/88

Extraction: (Soxh/Cent/Sonc) SONC

Date Analyzed: 8/29/88

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 10.00

CONCENTRATION UNITS:
(ug/L or ug/kg) US/LS

CAS NO. COMPOUND 9

99-09-2	3-Nitroaniline	21000	10
93-32-9	Acenaphthene	5500	
51-28-6	2,4-Dinitrophenol	21000	10
103-02-7	4-Nitrophenol	21000	10
132-64-9	Dibenzofuran	3700	10
121-14-2	2,4-Dinitrotoluene	4100	10
94-66-2	Diethyl phthalate	4100	10
7009-72-3	4-Chlorophenyl-phenylether	4100	10
96-73-7	Fluorene	5300	
100-01-6	4-Nitroaniline	21000	10
534-52-1	4,5-Dinitro-2-methylphenol	21000	10
96-30-6	N-Nitrosodiphenylamine	4100	10
101-55-3	4-Bromophenyl-phenylether	4100	10
118-74-1	Hexachlorobenzene	4100	10
97-96-5	Pentachlorophenol	21000	10
95-01-9	Phenanthrene	39000	
120-12-7	Anthracene	7300	
94-74-2	Di-n-butylphthalate	5500	10
206-44-0	Fluoranthene	34000	
129-00-0	Pyrene	23000	
95-69-7	Butylbenzylphthalate	9100	
91-94-1	3,3'-Dichlorobenzidine	9700	10
56-55-3	Benzofluoranthene	15300	
218-91-9	Chrysene	17000	
117-91-7	bis(2-Ethylhexyl)phthalate	11000	10
117-94-0	Di-n-octylphthalate	740	10
205-99-2	Benzo(b)fluoranthene	14000	
207-09-9	Benzo(k)fluoranthene	4100	10
50-32-9	Benzo(a)pyrene	14000	
193-39-5	Indeno(1,2,3-cd)pyrene	9400	
53-70-3	Dibenzof(a,h)anthracene	2300	10
191-24-2	Benzof(g,h,i)perylene	9300	

(1) - Cannot be separated from diphenylamine

1316

IF
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

7-2 E-A

Lab Name: RECMD

Contract: ESW0005

Lab Code: RECMD

Case No.: LM65

SAS No.:

DOB No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 0001007

Sample wt/vol: 30. (g/mL) G

Lab File ID: 07493

Level: (low/med) LOW

Date Received: 8/12/89

% Moisture: not doc. 19. doc. 0.

Date Extracted: 8/16/89

Extraction: (Soxh/Cont/Soxh) SOXC

Date Analyzed: 8/20/89

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 10.00

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	- - UNKNOWN	3.10	50000.	101
2.	- - UNKNOWN	3.42	50000.	1
3.	- - UNKNOWN	5.09	1000000.	1
4.	141-79-713-Pentan-2-one, 4-methyl-	5.11	100000.	101
5.	107-92-6:Butanoic acid (901)	5.19	40000.	1
6.	- - UNKNOWN	6.55	50000.	101
7.	- - UNKNOWN	7.14	1000000.	101
8.	- - UNKNOWN DIMETHYL-NAPHTHALENE	17.44	40000.	1
9.	1453-05-1:Benzenebutanoic acid, 2,5-di	19.13	30000.	1
10.	- - UNKNOWN HYDROCARBON	21.85	30000.	1
11.	- - UNKNOWN HYDROCARBON	21.97	30000.	1
12.	- - UNKNOWN	23.65	50000.	1
13.	- - UNKNOWN HYDROCARBON	25.04	40000.	1
14.	- - UNKNOWN HYDROCARBON	25.93	100000.	1
15.	- - UNKNOWN HYDROCARBON	27.81	90000.	1
16.	- - UNKNOWN HYDROCARBON	29.67	200000.	1
17.	- - UNKNOWN HYDROCARBON	29.69	90000.	1
18.	- - UNKNOWN HYDROCARBON	30.66	70000.	1
19.	- - UNKNOWN HYDROCARBON	31.70	50000.	1
20.	- - UNKNOWN HYDROCARBON	32.84	50000.	1
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23.				
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

1-2 S-D RE

Lab Name: RECMD

Contract: 66W20051

Lab Code: RECMD

Case No.: TUXEDO

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 9901255

Sample Wt./vol: 30. (g/mL) G

Lab File ID: 99405

Level: (low/med) LOW

Date Received: 8/12/99

% Moisture: not det. 15. det. 0.

Date Extracted: 8/16/99

Extraction: (Soxh/Cont/Sonc) SONC

Date Analyzed: 8/29/99

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 10.00

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Mg) UG/UG 2

109-95-2	Phenol	2300.	U
111-44-4	bis(2-Chloroethyl) ether	3900.	U
95-57-8	2-Chlorophenol	3900.	U
541-72-1	1,3-Dichlorobenzene	3900.	U
106-46-7	1,4-Dichlorobenzene	3900.	U
100-51-5	Benzyl alcohol	3900.	U
95-50-1	1,2-Dichlorobenzene	3900.	U
95-49-7	2-Methylphenol	3900.	U
109-60-1	bis(2-Chloroisopropyl) ether	3900.	U
105-44-5	4-Methylphenol	2400.	U
521-64-7	N-Nitrosodipropylamine	3900.	U
67-72-1	Hexachlorocyclohexane	3900.	U
99-95-3	Nitrobenzene	3900.	U
79-59-1	Isophorone	3900.	U
99-75-5	2-Nitrophenol	3900.	U
105-67-9	2,4-Dimethylphenol	3900.	U
95-95-0	Benzoic acid	1900.	U
111-91-1	bis(2-Chloroethoxy)methane	3900.	U
120-93-2	2,4-Dichlorophenol	3900.	U
120-92-1	1,2,4-Trichlorobenzene	3900.	U
91-20-3	Naphthalene	15000.	U
106-47-9	4-Chloroaniline	3900.	U
97-59-3	Hexachlorobutadiene	3900.	U
59-50-7	4-Chloro-3-methylphenol	3900.	U
91-57-6	2-Methylnaphthalene	4900.	U
77-17-4	Hexachlorocyclopentadiene	3900.	U
99-06-2	2,4,6-Trichlorophenol	3900.	U
95-95-4	2,4,5-Trichlorophenol	20000.	U
91-59-7	2-Chloronaphthalene	3900.	U
99-74-4	2-Nitroaniline	20000.	U
131-11-3	Dimethylphthalate	3900.	U
209-99-9	Acenaphthylene	3900.	U
606-20-2	2,6-Dinitrotoluene	3900.	U

1221

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T-2 S-D RE

Lab Name: RECMD

Contract: 60W00051

Lab Code: RECMD

Case No.: TUXEDO

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 9901256

Sample weight: 20. (g/mL) g

Lab File ID: 02405

Level: (low/med) LOW

Date Received: 8/12/88

% Moisture: not dec. 15. dec. 0.

Date Extracted: 8/16/88

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 8/29/88

GPC Cleanup: (Y/N) N

pH: 7.8

Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) US/KG	g
99-99-2	3-Nitroaniline	20000.	10
83-32-9	Acenaphthene	9100.	1
51-28-5	2,4-Dinitrophenol	20000.	10
100-02-7	4-Nitrophenol	20000.	10
133-64-9	Dibenzofuran	5700.	1
121-14-2	2,4-Dinitrotoluene	3900.	10
84-88-2	Diethyl phthalate	3800.	10
7226-72-3	4-Chlorophenyl-phen, lother	3500.	10
86-73-7	Fluorene	2800.	1
98-81-6	4-Nitroaniline	20000.	10
534-52-1	4,6-Dinitro-2-nethylphenol	20000.	10
86-38-6	N-Nitrosodiphenylamine	3800.	10
101-55-3	4-Bromophenyl-phenyl ether	3900.	10
118-74-1	Hexachlorobenzene	3900.	10
87-85-6	Pentachlorophenol	20000.	10
85-81-8	Phenanthrene	43000.	1
120-12-7	Anthracene	12000.	1
94-74-2	Di-n-butylphthalate	3200.	10
206-44-0	Fluoranthene	40000.	1
129-00-0	Pyrene	35000.	1
86-88-7	But, benz, phthalate	9200.	1
91-94-1	3,3'-Dichlorobenzidine	7800.	10
56-55-3	Benzo(a)anthracene	20000.	1
219-81-9	Chrysene	32000.	1
117-91-7	Di(2-Ethylhex, 1)phthalate	37000.	18
117-94-0	Di-n-octylphthalate	2100.	1
206-99-2	Benzo(b)fluoranthene	19000.	1
207-08-9	Benzo(k)fluoranthene	3900.	10
50-32-8	Benzo(a)pyrene	18000.	1
193-39-6	Indeno(1,2,3-cd)pyrene	9400.	1
53-70-3	Dibenzo(a,h)anthracene	4300.	1
191-24-2	Benzo(g,h,i)perylene	10000.	1

(1) - Cannot be separated from diphenylamine

1222

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: RECMD

Contract: 6840025

1
1-3 5-8
1

Lab Code: RECMD

Case No.: LM&S

SAS No.:

SDG No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 8801255

Sample wt/vol: 30. (g/mL) G

Lab File ID: 87653

Level: (low/med) LOW

Date Received: 8/12/88

% Moisture: not dec. 15. dec. 0.

Date Extracted: 8/16/88

Extraction: (SoxH/Cont/SoxH) SOXC

Date Analyzed: 9/7/88

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	D
108-95-2	Phenol	1900.	J
111-44-4	bis(2-Chloroethyl) ether	3900.	U
95-57-8	2-Chlorophenol	3900.	U
541-73-1	1,3-Dichlorobenzene	3900.	U
106-46-7	1,4-Dichlorobenzene	3900.	U
100-51-6	Benzyl alcohol	3900.	U
95-50-1	1,2-Dichlorobenzene	3900.	U
95-48-7	2-Methylphenol	3900.	U
108-60-1	bis(2-Chloroisopropyl) ether	3900.	U
106-44-5	4-Methylphenol	2400.	J
621-64-7	N-Nitroso-di-n-propylamine	3900.	U
67-72-1	Hexachloroethane	3900.	U
98-95-3	Nitrobenzene	3900.	U
78-59-1	Isophorone	3900.	U
98-75-5	2-Nitrophenol	3900.	U
105-67-9	2,4-Dimethylphenol	3900.	U
65-85-0	Benzoic acid	20000.	U
111-91-1	bis(2-Chloroethoxy)methane	3900.	U
120-83-2	2,4-Dichlorophenol	3900.	U
120-82-1	1,2,4-Trichlorobenzene	3900.	U
91-20-5	Naphthalene	15000.	U
105-47-8	4-Chloroaniline	3900.	U
87-68-3	Hexachlorobutadiene	3900.	U
55-50-7	4-Chloro-3-methylphenol	3900.	U
91-57-6	2-Methylnaphthalene	4700.	U
77-47-4	Hexachlorocyclopentadiene	3900.	U
88-06-2	2,4,6-Trichlorophenol	3900.	U
95-95-4	2,4,5-Trichlorophenol	20000.	U
91-58-7	2-Chloronaphthalene	3900.	U
88-74-4	2-Nitroaniline	20000.	U
131-11-3	Dimethylphthalate	3900.	U
208-96-8	Acenaphthylene	3900.	U
606-20-2	2,6-Dinitrotoluene	3900.	U

1172

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: RECMD	Contract: 60W00051	T-3 5-B
Lab Code: RECMD	Case No.: LMS5	SAS No.:
		SDG No.:
Matrix: (soil/water) SOIL		Lab Sample ID: 7801255
Sample wt/vol: 30. (g/mL) G		Lab File ID: B7653
Level: (low/med) LOW		Date Received: 8/12/88
% Moisture: not dec. 15. dec. 0.		Date Extracted: 8/16/88
Extraction: (SepF/Cont/Sonc) SONC		Date Analyzed: 9/7/88
GPC Cleanup: (Y/N) N	pH: 7.0	Dilution Factor: 10.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	0
:	:	:	:
:	99-09-2-----3-Nitroaniline	20000.	U
:	83-32-9-----Acenaphthene	5500.	:
:	51-28-5-----2,4-Dinitrophenol	20000.	U
:	100-02-7-----4-Nitrophenol	20000.	U
:	132-64-9-----Dibenzofuran	5500.	:
:	121-14-2-----2,4-Dinitrotoluene	3900.	U
:	84-66-2-----Diethylphthalate	3900.	U
:	7005-72-3-----4-Chlorophenyl-phenylether	3900.	U
:	86-73-7-----Fluorene	8700.	:
:	100-01-6-----4-Nitroaniline	20000.	U
:	534-52-1-----4,6-Dinitro-2-methylphenol	20000.	U
:	86-30-6-----N-Nitrosodiphenylamine	3900.	U
:	101-55-3-----4-Bromophenyl-phenylether	3900.	U
:	118-74-1-----Hexachlorobenzene	3900.	U
:	87-95-5-----Pentachlorophenol	20000.	U
:	85-01-8-----Phenanthrene	43000.	:
:	120-12-7-----Anthracene	11000.	:
:	84-74-2-----Di-n-butylphthalate	2000.	BJ
:	206-44-0-----Fluoranthene	47000.	:
:	129-00-0-----Pyrene	38000.	:
:	85-68-7-----Butylbenzylphthalate	7800.	:
:	91-94-1-----3,3'-Dichlorobenzidine	7800.	U
:	56-55-3-----Benzo(a)anthracene	23000.	:
:	218-01-9-----Chrysene	23000.	:
:	117-81-7-----bis(2-Ethylhexyl)phthalate	32000.	U
:	117-84-0-----Di-n-octylphthalate	1400.	J
:	205-99-2-----Benzo(b)fluoranthene	14000.	:
:	207-08-9-----Benzo(k)fluoranthene	3900.	U
:	50-32-8-----Benzo(a)pyrene	19000.	:
:	193-39-5-----Indeno(1,2,3-cd)pyrene	11000.	:
:	53-70-3-----Dibenzo(a,h)anthracene	3900.	U
:	191-24-2-----Benzo(a,h,i)perylene	11000.	:
:	:	:	:

(1) - Cannot be separated from diphenylamine

1173

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

T-3 S-B

Lab Name: RECMD

Contract: 66W00051

Lab Code: RECMD

Case No.: LMBS

SAS No.:

SDS No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 93012-0

Sample wt/vol: 30. (g/mL) G

Lab File ID: 07653

Level: (low/med) LOW

Date Received: 8/12/88

% Moisture: not dec. 15. dec. 0.

Date Extracted: 8/16/88

Extraction: (Soxh/Cont/Sonc) SONC

Date Analyzed: 9/7/88

GPC Cleanup: (Y/N) N

pH: 7.0

Dilution Factor: 10.00

CONCENTRATION UNITS:
(ug/L or ug/kg) UG/KG

Number TICs found: 20

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	C
1.	- - UNKNOWN	5.34	3000.	J
2.	141-79-7:3-Penten-2-one, 4-methyl- (8:	5.99	10000.	BJ A
3.	- - UNKNOWN	6.99	90000.	J
4.	- - UNKNOWN	7.19	9000.	J
5.	- - UNKNOWN	7.59	5000.	J
6.	107-70-0:2-Pentanone, 4-methoxy-4-me:	8.43	30000.	J
7.	- - UNKNOWN	9.99	5000.	J
8.	- - UNKNOWN HYDROCARBON	10.15	4000.	J
9.	- - UNKNOWN HYDROCARBON	11.36	3000.	J
10.	- - UNKNOWN HYDROCARBON	12.01	6000.	J
11.	90-12-0:Naphthalene, 1-methyl- (8C19:	15.79	2000.	J
12.	- - UNKNOWN HYDROCARBON	16.71	4000.	J
13.	573-98-8:Naphthalene, 1,2-dimethyl- (:	17.38	3000.	J
14.	- - UNKNOWN HYDROCARBON	26.87	10000.	J
15.	- - UNKNOWN HYDROCARBON	27.74	9000.	J
16.	- - UNKNOWN HYDROCARBON	28.60	20000.	J
17.	- - UNKNOWN HYDROCARBON	29.48	10000.	J
18.	- - UNKNOWN HYDROCARBON	30.49	10000.	J
19.	- - UNKNOWN HYDROCARBON	31.61	9000.	J
20.	- - UNKNOWN	32.81	9000.	J
21.				
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30.				

1/10044



RECRA ENVIRONMENTAL, INC.

Chemical Waste Analysis, Prevention and Control

November 14, 1988

Mr. Ed Maikish
Lawler, Matusky and Skelly Engineers
1 Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965-8509

Re: Analytical Results

Dear Mr. Maikish:

Please find enclosed results concerning the analyses of the samples recently submitted by your firm.

Pertinent Information: Contract#: 001918
Site: Tuxedo
Matrix: Soil
Samples Received: 10/29/88
Sample Dates: 8/2-10/88

If you have any questions concerning these data, do not hesitate to contact our Customer Service Representative at (716) 691-2600.

Sincerely,

RECRA ENVIRONMENTAL, INC.

Arun K. Bhattacharya /dkjt

Arun K. Bhattacharya, Ph.D.
Senior Vice President/
Laboratory Director

MLD/AKB/jsm
Enclosure

cc: Mr. John Gaspari
NYTEST Environmental, Inc.
60 Seaview Blvd. Box 1518
Port Washington, NY 11050

I.D. #88-1672
#88-1672A
#8C1301P

1/10044

CASE NARRATIVE

Laboratory Name: Recra Environmental, Inc.

Laboratory Code: RECNY

Case Number: 1672

Contract Number: 001918

Sample Identifications:

SOIL MATRIX

T-1 Site A
T-1 Site B
T-2 Site A
T-2 Site B
T-2 Site B MS
T-2 Site B MSD
T-3 Site A
T-3 Site B

HSL INORGANICS

See inorganic Data Comment Page

EP TOXICITY DATA

Methods used for the EP Toxicity Test procedure as well as the analysis of the resulting extract are presented in U.S. Environmental Protection Agency publication, "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". July 1982, SW-846, Second Edition.

The values reported as "less than" (<) indicate the working detection limit for the particular sample and/or parameter.

Analyses were performed utilizing standard addition techniques.

"Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

AK Bhattacharya/dyt
Dr. Arun K. Bhattacharya J

11/18/88
Date



HSL INORGANIC DATA



REORA ENVIRONMENTAL, INC.

Inorganic Data Comment Page

Lab Name RECRA ENVIRONMENTAL, INC.

ICP interelement and background corrections applied? Yes X No

If yes, corrections applied before X or after generation of raw data.

Footnotes:

NR - Not required by contract at this time

Form I:

Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP), A (for Flame AA) or F (for Furnace AA).

U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

S - Indicates value determined by Method of Standard Addition.

N - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995.

M - Indicates duplicate injection results exceeded control limits.

Indicate method used: P for ICP; A for Flame AA and F for Furnace.

COMMENTS: _____

Sample No.
T-1 SITE A

INORGANIC ANALYSIS DATA SHEET

LAB NAME RECRA ENVIRONMENTAL, INC. CASE NO. 88-1672
 SOW NO. _____ LAB RECEIPT DATE 10/29/88
 LAB SAMPLE ID. NO. 5158, 5215 QC REPORT NO. 88-1672 QC

Elements Identified and Measured

Concentration: Low _____ Medium _____
 Matrix: Water _____ Soil X Sludge _____ Other _____

ug/L or (mg/kg dry weight) (Circle One)

1. Aluminum	4,010	F	13. Magnesium	9,500 *	F
2. Antimony	0.69 U N	F	14. Manganese	151	F
3. Arsenic	4.3	F	15. Mercury	0.35 U *	CV
4. Barium	110 U *	P	16. Nickel	17	F
5. Beryllium	0.64 U N	A	17. Potassium	647	P
6. Cadmium	6.3 U *	P	18. Selenium	0.64 U N	F
7. Calcium	48,200 *	F	19. Silver	1.3 U N	P
8. Chromium	27 *	A	20. Sodium	960 *	P
9. Cobalt	10	P	21. Thallium	0.74 U N	F
10. Copper	53 *	P	22. Vanadium	20 N	P
11. Iron	10,100 *	P	23. Zinc	652	P
12. Lead	473 *	A	Percent Solids (3)	68.5	
Cyanide	1.9 *				

Footnote: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: CV - cold vapor

NOTE: Only lead, cyanide, and percent solids data are accepted by NYSDEC and considered valid. The crossed-out data are not valid or usable.

Sample No.
T-3 SITE B

INORGANIC ANALYSIS DATA SHEET

LAB NAME RECRA ENVIRONMENTAL, INC. CASE NO. 88-1672
 SOW NO. _____ LAB RECEIPT DATE 10/29/88
 LAB SAMPLE ID. NO. 5164, 5221 QC REPORT NO. 88-1672 QC

Elements Identified and Measured

Concentration: Low _____ Medium _____
 Matrix: Water _____ Soil X Sludge _____ Other _____

ug/L or mg/kg dry weight (Circle One)

1. Aluminum	5,320	P	13. Manganese	11,700	P
2. Antimony	3.5 N	F	14. Manganese	2,240	P
3. Arsenic	6.8	P	15. Mercury	0.57 N	CV
4. Barium	660 N *	P	16. Nickel	13	P
5. Beryllium	0.48 U N	A	17. Potassium	1,320	P
6. Cadmium	5.4 N *	P	18. Selenium	6.4 * N	P
7. Calcium	24,100 *	P	19. Silver	1.3 N	P
8. Chromium	95 *	A	20. Sodium	1,190 *	P
9. Cobalt	0.7	P	21. Thallium	0.56 U N	F
10. Copper	97 *	P	22. Vanadium	130 N	P
11. Iron	10,300 *	P	23. Zinc	1,390	P
12. Lead	1,030 *	A	Percent Solids (8)	85.9	
Cyanide	1.9 *				

Footnote: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: CV - cold vapor

NOTE: Only lead, cyanide and percent solids data are accepted by NYSDEC and considered valid. The crossed-out data are not valid or usable.

Sample No.
T-3 SITE A

INORGANIC ANALYSIS DATA SHEET

LAB NAME RECRA ENVIRONMENTAL, INC. CASE NO. 88-1672
 SOW NO. _____ LAB RECEIPT DATE 10/29/88
 LAB SAMPLE ID. NO. 5163, 5220 QC REPORT NO. 88-1672 QC

Elements Identified and Measured

Concentration: Low _____ Medium _____
 Matrix: Water _____ Soil X Sludge _____ Other _____

ug/L or (mg/kg dry weight) (Circle One)

1. Aluminum	6,040	D	13. Manganese	8,920	P
2. Antimony	0.59 U N	F	14. Manganese	705	P
3. Arsenic	9.4	F	15. Mercury	0.82 N	CV
4. Barium	1,640 N *	D	16. Nickel	22	P
5. Beryllium	0.56 U N	A	17. Potassium	1,170	P
6. Cadmium	9.5 N	D	18. Selenium	0.56 N	F
7. Calcium	01,860	P	19. Silver	1.7 N	P
8. Chromium	33	A	20. Sodium	493	P
9. Cobalt	9.6	P	21. Thallium	0.62 U N	P
10. Copper	123 *	P	22. Vanadium	21 N	D
11. Iron	12,600 *	P	23. Zinc	1,980	P
12. Lead	1,170 *	A	Percent Solids (3)	79.8	
Cyanide	3.3 *				

Footnote: For reporting results to F/A, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: CV - cold vapor

NOTE: Only lead, cyanide, and percent solids data are accepted by NYSDEC and considered valid. The crossed-out data are not valid or usable.

Sample No.

T-2 SITE B

INORGANIC ANALYSIS DATA SHEET

LAB NAME RECRA ENVIRONMENTAL, INC.CASE NO. 88-1672

SOW NO. _____

LAB RECEIPT DATE 10/29/88LAB SAMPLE ID. NO. 5161, 5162,
5218, 5219QC REPORT NO. 88-1672 QCElements Identified and Measured

Concentration: Low _____ Medium _____

Matrix: Water _____ Soil X Sludge _____ Other _____ug/L or (mg/kg dry weight) (Circle One)

1. Aluminum	6,000	P	13. Magnesium	15,300 *	P
2. Antimony	0.59 U N C	F	14. Manganese	266	P
3. Arsenic	9.1	P	15. Mercury	0.76 N *	CV
4. Barium	055 N *	P	16. Nickel	22	P
5. Beryllium	0.59 U N	A	17. Potassium	994	P
6. Cadmium	3.6 N *	P	18. Selenium	3.3 U N	F
7. Calcium	62,200 *	P	19. Silver	1.5 N	P
8. Chromium	29	A	20. Sodium	771 *	P
9. Cobalt	6.0	P	21. Thallium	1.2 U N	F
10. Copper	155 *	P	22. Vanadium	36 N	P
11. Iron	14,300 *	P	23. Zinc	1,040	P
12. Lead	655 *	A	Percent Solids	<u>(1)</u> 79.5	
Cyanide	1.8 *				

Footnote: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: CV - cold vapor

NOTE: Only lead, cyanide, and percent solids data are accepted by NYSDEC and considered valid. The crossed-out data are not valid or usable.

Sample No.
T-1 SITE B

INORGANIC ANALYSIS DATA SHEET

LAB NAME RECRA ENVIRONMENTAL, INC.

CASE NO. 88-1672

SOW NO. _____

LAB RECEIPT DATE 10/29/88

LAB SAMPLE ID. NO. 5159, 5216

QC REPORT NO. 88-1672 QC

Elements Identified and Measured

Concentration: Low _____ Medium _____

Matrix: Water _____ Soil X Sludge _____ Other _____

ug/L or (mg/kg dry weight) (Circle One)

1. Aluminum	5,730	P	13. Magnesium	4,420	P
2. Antimony	0.57 U N	F	14. Manganese	241	F
3. Arsenic	9.3 *	F	15. Mercury	0.52 N *	Cl
4. Barium	184 N *	D	16. Nickel	11	D
5. Beryllium	0.60 U N	A	17. Potassium	607	D
6. Cadmium	8.0 N *	F	18. Selenium	0.60 U N	F
7. Calcium	23,800 *	D	19. Silver	1.2 U N	D
8. Chromium	16 *	A	20. Sodium	994 *	D
9. Cobalt	6.2	P	21. Thallium	0.58 U N	F
10. Copper	40 *	D	22. Vanadium	16 N	F
11. Iron	14,100 *	P	23. Zinc	3,100	P
12. Lead	3.2 *	A	Percent Solids (%)	82.2	
Cyanide	1.1 *				

Footnote: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: CV - cold vapor

NOTE: Only lead, cyanide, and percent solids data are accepted by NYSDEC and considered valid. The crossed-out data are not valid or usable.

Sample No.
T-2 SITE A

INORGANIC ANALYSIS DATA SHEET

LAB NAME RECRA ENVIRONMENTAL, INC.

CASE NO. 88-1672

SOW NO. _____

LAB RECEIPT DATE 10/29/88

LAB SAMPLE ID. NO. 5160, 5217

QC REPORT NO. 88-1672 QC

Elements Identified and Measured

Concentration: Low _____ Medium _____

Matrix: Water _____ Soil X Sludge _____ Other _____

ug/L or (mg/kg dry weight) (Circle One)

1. Aluminum	6,750	F	13. Magnesium	0,550 *	P
2. Antimony	0.65 U N	P	14. Manganese	210	P
3. Arsenic	7.9 S	F	15. Mercury	0.36 N *	CV
4. Barium	336 N *	P	16. Nickel	21	P
5. Beryllium	0.36 U N	A	17. Potassium	1,220	P
6. Cadmium	5.8 N *	P	18. Selenium	0.56 U N	P
7. Calcium	87,900 *	P	19. Silver	1.3 N	P
8. Chromium	20 *	A	20. Sodium	1,010 *	P
9. Cobalt	0.4	P	21. Thallium	0.65 U N	F
10. Copper	196 *	P	22. Vanadium	27 N	P
11. Iron	1,450 *	P	23. Zinc	830	P
12. Lead	697 *	A	Percent Solids (%)	73.2	
Cyanide	3.3 *				

Footnote: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: CV - cold vapor

NOTE: Only lead, cyanide, and percent solids data are accepted by NYSDEC and considered valid. The crossed-out data are not valid or usable.

EP TOXICITY DATA



RECRA ENVIRONMENTAL, INC.

EP TOXICITY TEST EXTRACT - METALS

PARAMETER (Units of Measure = mg/l)	ANALYSIS DATE	EPA MAX. CONC.	SAMPLE IDENTIFICATION	
			T-1 Site A	T-1 Site B
Total Arsenic	11/3/88	5.0	0.0071	0.0059
Total Barium	11/4/88	100.0	0.19	0.28
Total Cadmium	11/4/88	1.0	0.006	0.010
Total Chromium	11/3/88	5.0	0.014	<0.01
Total Lead	11/3/88	5.0	1.6	0.99
Total Mercury	11/5/88	0.2	0.0031	0.0047
Total Selenium	11/3/88	1.0	0.0096	<0.005
Total Silver	11/4/88	5.0	<0.005	<0.005

X Standard Addition
 _____ Non-Standard Addition

EP TOXICITY TEST EXTRACT - METALS

PARAMETER (Units of Measure = mg/l)	ANALYSIS DATE	EPA MAX. CONC.	SAMPLE IDENTIFICATION	
			T-2 Site A	T-2 Site B
Total Arsenic	11/3/88	5.0	0.014	0.010
Total Barium	11/4/88	100.0	0.25	0.16
Total Cadmium	11/4/88	1.0	0.022	0.015
Total Chromium	11/3/88	5.0	0.014	0.014
Total Lead	11/3/88	5.0	1.6	1.7
Total Mercury	11/5/88	0.2	0.0061	0.0055
Total Selenium	11/3/88	1.0	<0.005	<0.005
Total Silver	11/4/88	5.0	<0.005	<0.005

X Standard Addition
 _____ Non-Standard Addition



I.D. #88-1672

1/10044.3

EP TOXICITY TEST EXTRACT - METALS

PARAMETER (Units of Measure = mg/l)	ANALYSIS DATE	EPA MAX. CONC.	SAMPLE IDENTIFICATION	
			T-3 Site A	T-3 Site B
Total Arsenic	11/3/88	5.0	0.015	0.015
Total Barium	11/4/88	100.0	0.22	0.13
Total Cadmium	11/4/88	1.0	0.12	0.31
Total Chromium	11/3/88	5.0	0.013	0.020
Total Lead	11/3/88	5.0	2.7	2.1
Total Mercury	11/5/88	0.2	0.0059	0.0037
Total Selenium	11/3/88	1.0	<0.005	<0.005
Total Silver	11/4/88	5.0	<0.005	<0.005

X Standard Addition
— Non-Standard Addition



I.D. #88-1672

1/10044.4

QUALITY CONTROL INFORMATION - PRECISION
EP TOXICITY TEST EXTRACT - METALS

SAMPLE IDENTIFICATION T-2 Site B

PARAMETER (Units of Measure = mg/l)	VALUE 1	VALUE 2	MEAN	STANDARD DEVIATION
Total Arsenic	0.010	0.010	0.010	0
Total Barium	0.15	0.17	0.16	0.014
Total Cadmium	0.014	0.015	0.015	0.00071
Total Chromium	0.015	0.012	0.014	0.0021
Total Lead	1.7	1.7	1.7	0
Total Mercury	0.0053	0.0056	0.0055	0.00021
Total Selenium	<0.005	<0.005	<0.005	-
Total Silver	<0.005	<0.005	<0.005	-

x Standard Addition
— Non-Standard Addition



I.D. #88-1672

QUALITY CONTROL INFORMATION - ACCURACY
EP TOXICITY TEST EXTRACT - METALSSAMPLE IDENTIFICATION T-1 Site A

PARAMETER	µg OF SPIKE	% RECOVERY
Total Arsenic	25 50	95 76
Total Barium	2,500 5,000	94 90
Total Cadmium	250 500	102 102
Total Chromium	250 500	89 88
Total Lead	2,500 5,000	101 102
Total Mercury	0.2 0.4	135 121
Total Selenium	25 50	106 99
Total Silver	250 500	94 97

I.D. #88-1672



1/10044.6

QUALITY CONTROL INFORMATION - ACCURACY
EP TOXICITY TEST EXTRACT - METALS

SAMPLE IDENTIFICATION T-1 Site B

PARAMETER	µg OF SPIKE	% RECOVERY
Total Arsenic	25	79
	50	60
Total Barium	2,500	96
	5,000	98
Total Cadmium	250	102
	500	100
Total Chromium	250	89
	500	90
Total Lead	2,500	102
	5,000	99
Total Mercury	0.2	71
	0.4	106
Total Selenium	25	92
	50	107
Total Silver	250	96
	500	97



I.D. #88-1672

1/10044.7

QUALITY CONTROL INFORMATION - ACCURACY
EP TOXICITY TEST EXTRACT - METALS

SAMPLE IDENTIFICATION T-2 Site A

PARAMETER	ug OF SPIKE	% RECOVERY
Total Arsenic	25	84
	50	88
Total Barium	2,500	90
	5,000	97
Total Cadmium	250	101
	500	103
Total Chromium	250	86
	500	87
Total Lead	2,500	103
	5,000	102
Total Mercury	0.2	61
	0.4	108
Total Selenium	25	80
	50	80
Total Silver	250	98
	500	99



I.D. #88-1672

1/10044.8

QUALITY CONTROL INFORMATION - ACCURACY
EP TOXICITY TEST EXTRACT - METALS

SAMPLE IDENTIFICATION T-2 Site B

PARAMETER	ug OF SPIKE	% RECOVERY
Total Arsenic	25	88
	50	74
Total Barium	2,500	100
	5,000	106
Total Cadmium	250	104
	500	96
Total Chromium	250	89
	500	89
Total Lead	2,500	103
	5,000	102
Total Mercury	0.2	83
	0.4	96
Total Selenium	25	85
	50	95
Total Silver	250	96
	500	96



I.D. #88-1672

QUALITY CONTROL INFORMATION - ACCURACY
EP TOXICITY TEST EXTRACT - METALSSAMPLE IDENTIFICATION T-3 Site A

PARAMETER	µg OF SPIKE	% RECOVERY
Total Arsenic	25	75
	50	79
Total Barium	2,500	92
	5,000	95
Total Cadmium	250	103
	500	100
Total Chromium	250	85
	500	86
Total Lead	2,500	101
	5,000	101
Total Mercury	0.2	121
	0.4	116
Total Selenium	25	95
	50	97
Total Silver	250	99
	500	97



I.D. #88-1672

1/10044.10

QUALITY CONTROL INFORMATION - ACCURACY
EP TOXICITY TEST EXTRACT - METALS

SAMPLE IDENTIFICATION T-3 Site B

PARAMETER	ug Of SPIKE	% RECOVERY
Total Arsenic	25	66
	50	71
Total Barium	2,500	90
	5,000	94
Total Cadmium	250	102
	500	100
Total Chromium	250	88
	500	87
Total Lead	2,500	101
	5,000	102
Total Mercury	0.2	83
	0.4	76
Total Selenium	25	107
	50	80
Total Silver	250	97
	500	96



I.O. #88-1672

IGNITABILITY/REACTIVITY DATA



SOIL MATRIX

PARAMETER *	UNITS OF MEASURE	ANALYSIS DATE	SAMPLE IDENTIFICATION		
			T-1 Site A	T-1 Site B	T-2 Site A
Flash Point	°F	11/9/88	>200	>200	>200
Oxidizer Spot Test	-	11/9/88	Negative	Negative	Negative
Total Available Cyanide	mg/kg	11/9/88	<10	<10	<10
Total Available Sulfide	mg/kg	11/9/88	<10	<10	10.2

SOIL MATRIX

PARAMETER *	UNITS OF MEASURE	ANALYSIS DATE	SAMPLE IDENTIFICATION		
			T-2 Site B	T-3 Site A	T-3 Site B
Flash Point	°F	11/9/88	>200	>200	132
Oxidizer Spot Test	-	11/9/88	Negative	Negative	Negative
Total Available Cyanide	mg/kg	11/9/88	<10	<10	<10
Total Available Sulfide	mg/kg	11/9/88	<10	<10	<10

*Methodology taken from the US EPA "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods". July 1982, SW-846, Second Edition.



I.D. #88-1672

QUALITY CONTROL INFORMATION - PRECISION
SOIL MATRIX

PARAMETER	UNITS OF MEASURE	SAMPLE IDENTIFICATION	VALUE 1	VALUE 2	MEAN	STANDARD DEVIATION
Flash Point	°F	T-2 Site 8	>200	>200	>200	-
Oxidizer Spot Test	-		Negative	Negative	Negative	-
Total Available Cyanide	mg/kg		<10	<10	<10	-
Total Available Sulfide	mg/kg		<10	<10	<10	-

QUALITY CONTROL INFORMATION - ACCURACY
SOIL MATRIX

PARAMETER	SAMPLE IDENTIFICATION	µg OF SPIKE	% RECOVERY
Total Available Cyanide	T-2 Site 8	3,680	23
Total Available Sulfide		9,130	12



I.D. #88-1672

APPENDIX E
NOVEMBER 1988 NYSDEC PHASE II DATA SET

17/NOV/88


COMPUCHEM
LABORATORIES

NEW YORK D.E.C.
ATTN Jack Ryan
50 Wolf Road
Albany, NY 12233

ACCOUNT # 255501

CC#	SAMPLE-ID	RECEIPT DATE
227177	336035-03 Sw-2	11/08/88
227181	336035-05 Sw-3	11/08/88
227188	336035-07 Sw-4	11/08/88
227193	336035-01 Sw-1	11/08/88
227495	336035-10 Aw-2	11/09/88
227496	336035-15 Aw-7	11/09/88
227497	336035-14 Aw-6	11/09/88
227498	336035-09 Aw-1	11/09/88
227499	336035-16 Aw-6 (Su?)	11/09/88
227500	336035-FB	11/09/88
227501	336035-11 Aw-3	11/09/88
227502	336035-12 Aw-4	11/09/88
227503	336035-13 Aw-5	11/09/88

TOTAL NUMBER OF SAMPLES = 13

1. SAMPLE DATA SUMMARY PACKAGE

The Sample Data Summary Package shall contain data for samples in one Sample Delivery Group of the Case, as follows:

1. Case Narrative
2. By fraction (VOA, SV, PEST) and by sample within each fraction - tabulated target compound results (Form I) and tentatively identified compounds (Form I, TIC) (VOA and SV only)
3. By fraction (VOA, SV, PEST) - surrogate spike analysis results (Form II) by matrix (water and/or Soil) and for soil, by concentration (Low or Medium)
4. By fraction (VOA, SV, PEST) - matrix spike/matrix spike duplicate results (Form III)
5. By fraction (VOA, SV, PEST) - blank data (Form IV) and tabulated results (Form I) including tentatively identified compounds (Form I, TIC) (VOA and SV only).

CASE#: 15615 SDG#: 5 SAS# _____

1. Case Narrative

Platinum Case Narrative-Case#15615
Contract No. 10-88-REV SDC No 5
CompuChem Laboratories, Inc

SAMPLES 336035-01, 336035-03, 336035-05, 336035-07, 336035-09, 336035-10
336035-11, 336035-12, 336035-13, 336035-14, 336035-15, 336035-16
336035-FB

Attached are pertinent Quality Assurance notices dealing with the analysis of thirteen(13) water samples associated with case 156155. SDC No 55 These samples were scheduled for low level volatile, semivolatile, and pesticide analysis

The samples were received in good condition in sealed containers on the dates 11-08-88 and 11-09-88. The appropriate chains-of-custody were all in order

This narrative refers only to the volatile fractions associated with this case

VOLATILES

All the volatile fractions associated with this were analyzed within the prescribed holding time requirements. TCL compounds were detected at concentrations all below contract required quantitation limits(CROL). TCL compounds detected included vinyl chloride, methylene chloride, acetone, chloroform, 1,2-dichloroethene, trichloroethene, and tetrachloroethane. The more abundant number of target analytes were detected in sample 336035-12 with five(5). As previously stated, the concentrations were all below CROL. Sample 336035-FB(field blank) was below detection limit for target analytes. There were no tentatively identified compounds present in any of the samples.

QC SUMMARY

All surrogate recovery criteria were met for all volatile samples analyzed for this case. The matrix/matrix spike duplicate data passed QC requirements excellently. The blanks associated with the volatile fractions also met prescribed criteria. A concentration below CROL of methylene chloride was detected in blank VBLKLK. The detection of this target analyte was flagged with the "b" footnote accordingly.

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on the floppy diskette has been authorized by the LABORATORY MANAGER or his designee, as verified by the following signature


TONEY/C. SPRUELL 11-16-88
TECHNICAL REVIEWER

Note. This report is paginated for reference and accountability in decreasing numerical sequence

Platinum Case Narrative-Case#15415
Contract No 10-88-REV SDG No. 5
CompuChem Laboratories, Inc.

SAMPLES 336035-01, 336035-03, 336035-05, 336035-07, 336035-09, 336035-10
336035-11, 336035-12, 336035-13, 336035-14, 336035-15, 336035-16
336035-F8

This narrative refers only to the semivolatile fractions associated with this case

SEMIVOLATILES

All the semivolatile fractions associated with this were analyzed within the prescribed holding time requirements. TCL compounds were detected in only three (3) samples. TCL compounds detected included bis(2-ethylhexyl)phthalate and benzoic acid. The concentrations for both target analytes were below contract required quantitation limits (CRQL). Tentatively identified compounds were found in six (6) of the thirteen (13) fractions in number from 1 to 14. The classifications for these TICs were varied. Samples 336035-12, 336035-13, and 336035-16 required additional extraction and analyses to confirm a matrix problem. This matrix problem effected surrogate recovery criteria. Samples 336035-14 and 336035-15 were analyzed using only 600ml of sample because that was all that was available.

QC SUMMARY

All surrogate recovery criteria were met for all semivolatile fractions with exception. Samples 336035-12, 336035-13, and 336035-16 all had failing surrogate recovery criteria. 2-fluorophenol, 05-phenol, and 2,4,6-tribromophenol failed criteria. 05-nitrobenzene failed surrogate percent recovery in sample 336035-F8. The matrix/matrix spike duplicate data passed QC requirements excellently. All the blanks associated with this case passed QC requirements with one exception. Blank SBLK87 contained an excessive amount of bis(2-ethylhexyl)phthalate. This TCL analyte was not detected in the associated sample. With approval from QA, the blank was not reanalyzed.

Release of the data contained in this hardcopy data package and in the computer-readable data submitted on the floppy diskette has been authorized by the LABORATORY MANAGER or his designee, as verified by the following signature:


TONEY C. SPRUELL 11-17-88
TECHNICAL REVIEWER

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

Case Narrative For 15615
SDG No. 05
Contract: (10-86)REV
Compuchem Laboratories

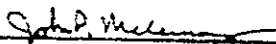
Samples. 336035-01 336035-03 336035-05 336035-07 336035-09 336035-10
336035-11 336035-12 336035-13 336035-14 336035-15 336035-16
336035-FB

This narrative concerns only the pesticide fractions of these samples.

In the pesticide fractions the presence of Target Compound List (TCL) compounds were not confirmed in any of these samples. Please note that there are several outliers present in the XD column of the Form VIII of the sequence included in this SDG. All of these outliers are associated with samples not included in this SDG. All of these fractions were extracted/analyzed within holding time criteria.

Surrogate recovery acceptance criteria were met for all samples with the exception of PBLK07 in which the amount of the surrogate slightly exceeded the QC limit. Since this limit is advisory only and all of the associated samples met the recovery criteria, these data are being reported. Data generated from the QC Matrix Spike/Matrix Spike Duplicate test was acceptable. However, one of the RPD values was outside of the QC limits. Since these data indicate that the analytical process is in control and these limits are advisory only, these data are being reported. All of the initial and continuing calibration criteria were met.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


John P. McConkey 11/16/88
Technical Reviewer

Note: This report is paginated for reference and accountability in decreasing numerical sequence.



COMPUCHEM
LABORATORIES

Quality Assurance Notice for Change to Contract Required Quantitation Limits

CompuChem has been a member of the EPA's Contract Laboratory Program (CLP) for many years. During our involvement with the CLP we, as well as other participating laboratories, have encountered a number of changes to the technical and administrative aspects of the Statement of Work (SOW). The technical changes to the SOW have generally been positive since they have incorporated proven state-of-the-art analytical methodologies for the assessment of environmental contaminants.

The cornerstone of the CLP for organic analyses has been the 600 series of analytical methods, specifically Method 608 for pesticides/PCBs, Method 624 for volatile organics and Method 625 for extractable acid and base-neutral organics. These methods have been modified to accommodate solid matrices and also have been improved upon by incorporating additional Quality Control measures.

The early statements of work employed the 600 series of methods as published in the December 3, 1979 Federal Register. For the work involving Method 625, separate injections were made for the acid and base-neutral fractions generated following that procedure. Subsequently, EPA modified the technique to incorporate a single injection from a combination of the acid and base-neutral fractions. In fact, CompuChem was involved in the study to demonstrate the efficacy of the combined approach.

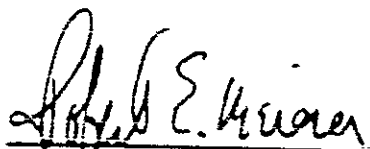
Prior to the change in the SOW which incorporated the combination of the two fractions, EPA had defined certain method detection limit requirements which were based on those presented in the aforementioned December 3, 1979 Federal Register. Those detection limits did not change with the amendment to the SOW which provided for the combination of the two fractions. From that point to the present, CompuChem interpreted the SOW requirements to mean that the combination of the acid and base-neutral fractions was, effectively, a 2 to 1 dilution. For years we have reported results to the EPA with the Contract Required Quantitation Limits (CRQLS) elevated by a factor of two. And, for years, the end users of our data accepted that policy.

Recent communications with our EPA Project Officer, Howard Fribush, have now informed us that the dilution factor resulting from the combination of the acid and base-neutral fractions has been incorporated into the semivolatile aqueous CRQLS. A copy of that letter is attached. Therefore, effective with samples received by CompuChem on October 17, 1988, our policy will incorporate this new directive.

COMPUCHEM
LABORATORIES

A point of clarification is in order regarding data which have been sent prior to October 17, 1988. CLP labs are required to report analytical results below the CRQL if they meet certain qualitative and quantitative criteria. Those results below the CRQL are required to be flagged with a "J," indicating the results to be estimated. Internal laboratory studies, performed at CompuChem, have verified that qualitatively acceptable mass spectra are capable of being produced down to 1-2 nanograms (ng) on-column for the semivolatile compounds. For water samples, this equates to 2-4 ug/L. Therefore, any results that we have reported prior to 10/17/88, flagged with a "J," have been substantiated by including the mass spectra for those compounds. By incorporating the new policy it essentially means that the "J" flag would be removed for those quantitative results reported for semivolatile compounds in water that simultaneously were at or above the EPA CRQLS and at or below twice that level. For example, the CRQL for phenol in water samples is 10 ug/L. Our prior policy, which incorporated the dilution factor of 2, would report a result of 20 U ug/L if phenol was absolutely undetected. With the new policy, if phenol was absolutely undetected we will report 10 U ug/L. With the prior policy and with the new policy, if phenol was detected at a level of 8 ug/L it would be reported as 8 J ug/L. Finally, with the prior policy, if phenol was detected at a level of 15 ug/L we would report 15 J ug/L. Under the new policy we would report 15 ug/L without the "J" flag.

If there are any questions concerning this Quality Assurance Notice or the policy change please contact your Customer Service Representative. Alternatively, you may contact me directly at (919) 248-6406.


Robert E. Meierer
Director of Quality Assurance

REM/dg

Rec'd 10/10/88



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 6 1988

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Robert Meierer, Director
Quality Assurance
CompuChem Laboratories, Inc.
P.O. Box 12652
3308 Chapel Hill/Nelson Highway
Research Triangle Park, NC 27709

Dear Bob:

As you know, Region II has requested that CompuChem resubmit the Form 1s for aqueous semivolatiles analysis showing corrected dilution factors and results for samples in Case 9549. You indicated that you would do so upon receipt of a written statement of our policy for reporting semivolatile target compound CRQLs for aqueous samples.

In the semivolatile aqueous method, a 0.5 ml aliquot from the 1.0 ml base/neutral extract is combined with a 0.5 ml aliquot from the acid extract. This dilution factor has been incorporated into the semivolatile aqueous CRQLs listed in Exhibit C. Therefore, the CRQLs are reported as listed in Exhibit C, when no other dilutions are made.

Please send the corrected Form 1s to Ms. Amelia Jackson; USEPA Region II; Woodbridge Avenue; Edison, NJ 08837. I appreciate your cooperation in this matter.

Sincerely,

A handwritten signature in cursive script that reads "Howard M. Fribush".

Howard M. Fribush
Project Officer

cc: Joan Fisk

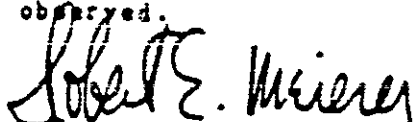


COMPUCHEM
LABORATORIES

Quality Assurance Notice

With the advent of the new organic Statement of Work (SOW 10/86, Revisions: 1/87, 2/87, 7/87, 8/87) participants in EPA's Contract Laboratory Program (CLP) are required to provide hard copy and diskette deliverables. CompuChem employs the Finnigan QA Formaster Program (Format A) to generate these requirements using data files from our analytical instrumentation. Currently, and independently, quantitation reports are generated by the instruments and are used with CompuChem-developed software to calculate results. The GC and GC/MS quantitation routines employ the convention of carrying at least one extra significant figure until the mathematical computations are completed. Then, the quantitative results are rounded to the SOW-required number of significant figures for reporting. In addition, the algorithm used by the Formaster Program is slightly different than that employed in CompuChem's software routines. Therefore, results presented in the supportive data supplied with our deliverables packages may be slightly different than those which appear on the hard copy forms generated via Formaster. CompuChem is proceeding with modifications to eliminate these minor differences.

This notice serves to alert the end users of these data packages as to the reason why slight differences may be observed.




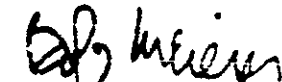
Robert E. Meierer
Director of Quality Assurance

BH:cf
12/21/87

DETECTION LIMIT CALCULATION CLARIFICATION

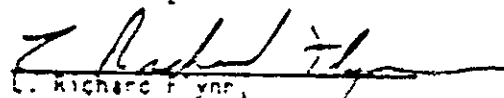
To protect our GC columns from unnecessary contamination, soil samples prepared according to Caucus Protocol methods are routinely diluted 5:1. Through a series of experiments we have determined that our Instrument Detection Limit for pesticides is 5X lower than the EPA Contract Required Quantitation Limit (CROL). We, therefore, only adjust our detection limits if the dilution necessary to analyze the sample is greater than 5:1. If the sample is diluted by a factor of X the detection limit is adjusted by X instead of 5.



Bill Desjardins
Manager, GC Laboratory


Bob Meierer
Director, Quality Assurance

LABORATORY NOTICE

On June 15, 1985 CompuChem Laboratories began adding D3-2,4-Dinitrophenol to all standards and samples. The purpose of this addition is to enable the laboratory to have higher and more consistent analytical sensitivity for the native 2,4-Dinitrophenol. The peak corresponding to the deuterated analog is clearly labeled on each RIC as D3#1 and will not be searched and reported as a tentatively identified compound (TIC). This compound is not being used as an internal or surrogate standard.


L. Richard Flynn,
Development Chemist


Bob Weiser,
Director of Quality Assurance



COMPUCHEM LABORATORIES

Changes to The EPA's Organic Statement of Work (SOW) For the Contract Laboratory Program (CLP)

Effective with samples received at CompuChem Laboratories, Inc., on Monday, October 12, 1987, the new "SOW for Organics Analysis: Multi-Media, Multi-Concentration" will be in effect. The new SOW is dated 10/86, with revisions dated 1/87, 2/87 and 7/87.

EPA introduces modifications to the CLP SOW for a variety of reasons:

- as a result of technical caucuses attended by representatives from EPA regional laboratories and the CLP, new or modified analytical methods are required.
- as a result of analytical data being supplied to the Agency by the CLP laboratories, QC acceptance criteria are updated and made a requirement of the program.
- as a result of requirements by the end users of the data (the EPA regions and the Program Offices), changes to the deliverable requirements of the CLP are necessary.

As a service to our clients utilizing the EPA CLP SOW for their analytical needs, the following information is provided to point out the substantive changes between the new SOW and the previous one.

"Key" Changes to The Organic SOW

1. Hardcopy reports of data are required to be paginated and reported by fraction. Along with hardcopy data, certain deliverables are required to be presented on computer diskettes. Both types of deliverables are due within 40 days of Validated Time of Sample Receipt (VTSR). Data is to be packaged with custody seals.
2. All existing forms have been modified and are fraction specific. A new form (Internal Standard

COMPUCHEM LABORATORIES INC. P.O. Box 12652 3338 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 548-8261

Area Summary: Form VIII VOA and S-V) summarizes all I.S. areas and allows visual comparison to the upper and lower limits from the shift standard.

3. The volatile organic analysis of water and soil samples are required to be completed within 10 days of VTSR. Semivolatile and pesticide analyses are required to be analyzed within 40 days of VTSR, not within 40 days of extraction as in the 7/85 SOW.
4. While the 7/85 SOW characterized the list of analytes as Hazardous Substance List (HSL) compounds, the new SOW identifies the analytes as Target Compound List (TCL) compounds. Similarly, the 7/85 SOW identified Contract Required Detection Limits (CRDL) while the new SOW identifies similar limits as Contract Required Quantitation Limits (CRQL).
5. Relative to the TCL, the following are the differences from the HSL:
 - one volatile compound, 1-chloroethyl vinyl ether is no longer required to be analyzed.
 - 1,2 - dichloroethene (total) replaces the compound trans-1,2-dichloroethene since the "cis" isomer of 1,2-dichloroethene coelutes with the "trans" isomer.
 - the 7/85 SOW required the pesticide compound chlordane to be reported while the new SOW requires the major constituents of technical chlordane, alpha-chlordane and gamma-chlordane, to each be reported.
6. Screening of pesticide extracts should be done by GC/EC.
7. A new term, the Sample Delivery Group (SDG) has been introduced and is defined as:
 - each case of field samples, or
 - each 20 field samples within a case, or
 - each 14-day calendar period during which field samples in a case are received, whichever is most frequent.

The 40 day turnaround requirements (from VTSR) refer to all samples in an SDG from the receipt of the last sample in the SDG. The lowest EPA sample number in a SDG is the SDG number.

8. All samples, matrix spikes, matrix spike duplicates, blanks and standards (including tune standards) are required to be identified with an EPA Sample Number. Conventions to be used are provided in the SOW.
9. A new deliverable concept, the Sample Data Summary Package (SDSP), has been introduced. The SDSP consists of copies of specific items from the sample data packages and immediately precedes them. The SDSP shall contain data for samples in one SDG of a case as follows.
 - By fraction (VOA, semivolatile, pesticide) and by sample within each fraction - tabulated results (Form I) and tentatively identified compounds (Form I, TIC). TICs for VOA and semivolatiles only.
 - By fraction (VOA, semivolatile, pesticide) - surrogate spike analysis results by matrix and, for soil, by concentration (low or medium).
 - By fraction (VOA, semivolatile, pesticide) - matrix spike and matrix spike duplicate results.
 - By fraction (VOA, semivolatile, pesticide) -blank data.
10. Allowances are provided to report a maximum of two analyses due to dilutions and two analyses confirming matrix interferences.
11. Capillary column usage is an option for VOA as long as EPA method 524.2 is used in conjunction with the SOW internal standards, surrogates and performance and acceptance criteria.
12. For mass spectral interpretation, the verification process should favor false positives, rather than false negatives as in the 7/85 SOW.
13. EPA is making a distinction regarding the outcome of re-extractions/re-analyses performed because

surrogates failed in the initial endeavors. If on re-extraction/re-analysis the surrogates pass, the original failure was a lab problem. Only the good data is submitted and is considered the initial analysis. The same philosophy applies to VOAs.

14. Raw samples and sample bottles can be disposed of no earlier than 60 days after data submission. Extracts must be stored at 4 C for a year following data submission. Specific labelling instructions are provided and a storage logbook is required. Tapes and associated logbook have to be stored for a year after data submission.

The above represents information depicting the major changes in the new organic SOW for EPA's CLP. There are, of course, other, minor changes which have not been addressed in this announcement. If, after reading the information presented here or, after receiving data under the new SOW, there are questions, please feel free to contact your Account Administrator at 1-800-833-5097.

Robert E. Meierer
Director of Quality Assurance

REM:cf

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following result qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates compound was analyzed but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to 10 dilution factor, the sample quantitation limit for phenol (330 U) would be corrected to:

$$\frac{330 \text{ U}}{10} \times df \quad \text{where } D = \frac{100 - \% \text{ moisture}}{100}$$

and df = dilution factor

$$\text{at } 24\% \text{ moisture, } D = \frac{100-24}{100} = 0.76$$

$$\frac{330 \text{ U}}{.76} \times 10 = 4300 \text{ U} \quad \text{rounded to the appropriate number of significant figures}$$

For soil sample subjected to GPC clean-up procedures, the QDL is also multiplied by 2, to account for the fact that only half of the extract is recovered.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration is 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form 1.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/u1 in the final extract shall be confirmed by GC/MS.

- B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample and all concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that TIC is a suspected aldol-condensation product.
- X - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. If more than one is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "Y" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

2. By fraction (VOA, SV, PEST) and by sample within each fraction - tabulated target compound results (Form I) and tentatively identified compounds (Form I, TIC) (VOA and SV only)

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEV LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227193
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027193C14
 Level: (low/med) LOW Date Received: 11/08/88
 † Moisture: not dec. _____ Date Analyzed: 11/09/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

336035-01

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	5	U
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethene	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
79-01-5	-----Trichloroethane	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-02-6	-----Trans-1,3-Dichloropropene	5	U
75-25-2	-----Bromoforn	5	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-01

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 2
 Matrix: (soil/water) WATER Lab Sample ID: 227193
 Sample wt/vol: 5.0 (g/mL) NL Lab File ID: CN027193C14
 Level: (low/med) LOW Date Received: 11/08/88
 † Moisture: not dec. _____ Date Analyzed: 11/09/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-03

Lab Name: CONPUCHEM LABS Contract: (10-84)-REV
 Lab Code: CONPU Case No.: 15415 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227177
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027177B14
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ Date Analyzed: 11/08/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	2	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-03

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227177
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027177B11
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ Date Analyzed: 11/08/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227188
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027188B14
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ Date Analyzed: 11/09/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	5	U
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethane	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-02-6	-----Trans-1,3-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-79-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHER LABS Contract: (10-86)-REV 336035-05

Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5

Matrix: (soil/water) WATER Lab Sample ID: 227181

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027181b1a

Level: (low/med) LOW Date Received: 11/08/88

% Moisture: not dec. _____ Date Analyzed: 11/08/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	3	U
75-15-0	Carbon Disulfide	10	U
75-37-4	1,1-Dichloroethene	5	U
75-37-3	1,1-Dichloroethane	5	U
540-39-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	5	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-5	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227181
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027181B14
 Level: (low/med) LOW Date Received: 11/08/88
 † Moisture: not dec. _____ Date Analyzed: 11/08/88
 Column (pack/cap) PACK Dilution Factor: 1.0

326035-05

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336025-07

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227158
 Sample wt/vol: 5.0 (g/mL) NL Lab File ID: CN027188B14
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ Date Analyzed: 11/09/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-09

Lab Name: COMPUKEM LABS Contract: (10-84)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227498
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027498A13
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

335035-09

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227498
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027498A11
 Level: (low/med) LOW Date Received: 11/09/88
 ‡ Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227495
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027495C12
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ Date Analyzed: 11/10/88
 ‡ Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	5	U
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethene	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-02-6	-----Trans-1,3-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Total Xylenes	5	U

FORM I VOA

1/87 Rev.

SAMPLE DATA SUMMARY

128

1E
 VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-10

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227495
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027495C13
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227501
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027501A12
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

336035-11

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	1	U
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethene	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-02-6	-----Trans-1,1-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-11

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227501
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027501A11
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-12

Lab Name: COMPUCHEN LABS Contract: (10-861)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027502A11
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column: (pack/cap) CAP Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	3	J
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	1	B
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	2	J
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	3	J
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	1	J
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-12

Lab Name: COMPUCHEM LAPS Contract: (10-861)-REV
 Lab Code: CONPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027502A11
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column (pack/cap) CAP Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-13

Lab Name: COMPUCHEM LABS Contract: (10-85)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227503
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: UN027503A12
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	2	BJ
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethene	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethene (total)	5	U
67-66-3	-----Chloroform	5	U
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	U
10061-02-6	-----Trans-1,3-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-13

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227503
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027503A13
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-14

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227497
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR027497B11
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	4	J
67-64-1	Acetone	10	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA

1/87 Rev.

SAMPLE DATA SUMMARY

120

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-14

Lab Name: COMPUCHEN LABS Contract: (10-84)-REV
 Lab Code: CCMPU Case No.: 15615 SAS No.: _____ SDG No.: 2
 Matrix: (soil/water) WATER Lab Sample ID: 227497
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CR027497B11
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-15

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227496
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027496C11
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO. CCMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

74-87-3	-----Chloromethane	10	U
74-83-9	-----Bromomethane	10	U
75-01-4	-----Vinyl Chloride	10	U
75-00-3	-----Chloroethane	10	U
75-09-2	-----Methylene Chloride	3	BJ
67-64-1	-----Acetone	10	U
75-15-0	-----Carbon Disulfide	5	U
75-35-4	-----1,1-Dichloroethane	5	U
75-34-3	-----1,1-Dichloroethane	5	U
540-59-0	-----1,2-Dichloroethane (total)	5	U
67-66-3	-----Chloroform	4	J
107-06-2	-----1,2-Dichloroethane	5	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	5	U
56-23-5	-----Carbon Tetrachloride	5	U
108-05-4	-----Vinyl Acetate	10	U
75-27-4	-----Bromodichloromethane	5	U
78-87-5	-----1,2-Dichloropropane	5	U
10061-01-5	-----cis-1,3-Dichloropropene	5	U
79-01-6	-----Trichloroethene	5	U
124-48-1	-----Dibromochloromethane	5	U
79-00-5	-----1,1,2-Trichloroethane	5	U
71-43-2	-----Benzene	5	H
10061-02-6	-----Trans-1,3-Dichloropropene	5	U
75-25-2	-----Bromoform	5	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	5	U
79-34-5	-----1,1,2,2-Tetrachloroethane	5	U
108-88-3	-----Toluene	5	U
108-90-7	-----Chlorobenzene	5	U
100-41-4	-----Ethylbenzene	5	U
100-42-5	-----Styrene	5	U
1330-20-7	-----Total Xylenes	5	U

FORM I VOA

1/87 Rev.

SAMPLE DATA SUMMARY

118

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-15

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: CONFU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227496
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027496C13
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227499
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: C2R27499B11
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	9	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-16

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227499
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: G2R27499B11
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUKEM LABS Contract: (10-86)-REV
 Lab Code: COMPV Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227500
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CNO27500A13
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

326035-F2

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA

1/87 Rev.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV 336035-FB
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227500
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027500A11
 Level: (low/med) LOW Date Received: 11/09/88
 ‡ Moisture: not dec. _____ Date Analyzed: 11/10/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-02MS

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMCU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227185
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027185B14
 Level: (low/med) LOW Date Received: 11/08/88
 ‡ Moisture: not dec. _____ Date Analyzed: 11/08/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	3	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-97-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-16-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM 1 VOA

1/87 Rev.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-03MSD

Lab Name: COMPUCHEN LABS Contract: (10-161)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227186
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN027186B14
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ Date Analyzed: 11/08/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	<u>Q</u>
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
100-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U

FORM I VOA

1/87 Rev.

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-01

Lab Name: COMPUCHEM LABS Contract: (19-861)-REV
 Lab Code: COMFU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227191
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027193C15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
108-95-2	-----Phenol	10		U
111-44-4	-----bis(2-Chloroethyl) Ether	10		U
95-57-8	-----2-Chlorophenol	10		U
541-73-1	-----1,3-Dichlorobenzene	10		U
106-46-7	-----1,4-Dichlorobenzene	10		U
100-51-6	-----Benzyl Alcohol	10		U
95-50-1	-----1,2-Dichlorobenzene	10		U
95-48-7	-----2-Methylphenol	10		U
39638-32-9	-----bis(2-Chloroisopropyl) Ether	10		U
106-44-5	-----4-Methylphenol	10		U
621-64-7	-----N-Nitroso-Di-n-Propylamine	10		U
67-72-1	-----Hexachloroethane	10		U
98-95-3	-----Nitrobenzene	10		U
78-59-1	-----Isophorone	10		U
88-75-5	-----2-Nitrophenol	10		U
105-67-9	-----2,4-Dimethylphenol	10		U
65-85-0	-----Benzoic Acid	10		U
111-91-1	-----bis(2-Chloroethoxy)Methane	50		U
120-83-2	-----2,4-Dichlorophenol	10		U
120-82-1	-----1,2,4-Trichlorobenzene	10		U
91-20-3	-----Naphthalene	10		U
106-47-8	-----4-Chloroaniline	10		U
87-68-3	-----Hexachlorobutadiene	10		U
59-50-7	-----4-Chloro-3-Methylphenol	10		U
91-57-6	-----2-Methylnaphthalene	10		U
77-47-4	-----Hexachlorocyclopentadiene	10		U
88-06-2	-----2,4,6-Trichlorophenol	10		U
95-95-4	-----2,4,5-Trichlorophenol	50		U
91-58-7	-----2-Chloronaphthalene	10		U
88-74-4	-----2-Nitroaniline	50		U
131-11-3	-----Dimethyl Phthalate	10		U
208-96-8	-----Acenaphthylene	10		U
606-20-2	-----2,6-Dinitrotoluene	10		U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227193
 Sample wt/vol: 1000 (g/mL) NL Lab File ID: GH027193C15
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

336035-01

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl) Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

SAMPLE DATA SUMMARY

109

1F
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-01

Lab Name: COMPUCHEM LABS Contract: (12-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227193
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027193C15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. *

336035-03

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227177
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027177B15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl) Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
100-51-6	Benzyl Alcohol	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U	
106-44-5	4-Methylphenol	10	U	
621-64-7	N-Nitroso-Di-n-Propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	U	
65-85-0	Benzoic Acid	50	U	
111-91-1	bis(2-Chloroethoxy) Methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	50	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	50	U	
131-11-3	Dimethyl Phthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227177
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027177B15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

336035-03

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl) Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b) Fluoranthene	10	U
207-08-9	Benzo(k) Fluoranthene	10	U
50-32-8	Benzo(a) Pyrene	10	U
193-39-5	Indeno(1,2,3-cd) Pyrene	10	U
53-70-3	Dibenz(a,h) Anthracene	10	U
191-24-2	Benzo(g,h,i) Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

17
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-03

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227177
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027177B15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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15
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-05

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227181
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027181C15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CONPUCHEN LABS Contract: (10-86)-REV
 Lab Code: CONPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227181
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027181C15
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-71-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl) Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b) Fluoranthene	10	U
207-06-5	Benzo(k) Fluoranthene	10	U
50-32-8	Benzo(a) Pyrene	10	U
193-39-5	Indeno(1,2,3-cd) Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i) Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 2
 Matrix: (soil/water) WATER Lab Sample ID: 227181
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027181C15
 Level: (low/med) LOW Date Received: 11/08/88
 † Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

336035-05

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I SV-TIC

1/87 Rev.

SAMPLE DATA SUMMARY

102

18
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

136035-07

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227188
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027188C15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl) Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
100-51-6	Benzyl Alcohol	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U	
106-44-5	4-Methylphenol	10	U	
621-64-7	N-Nitroso-Di-n-Propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	U	
65-85-0	Benzoic Acid	50	U	
111-91-1	bis(2-Chloroethoxy) Methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	50	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	50	U	
131-11-3	Dimethyl Phthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-07

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227188
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027188C15
 Level: (low/med) LOW Date Received: 11/08/88
 † Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-07

Lab Name: COMPUENEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227188
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027188C10
 Level: (low/med) LOW Date Received: 11/08/88
 ‡ Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 CPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN SUBSTITUTED HYDROCAR	10.20	20	J

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-09

Lab Name: COMPUKEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227498
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ027498A21
 Level: (low/med) LOW Date Received: 11/09/88
 Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SERF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39618-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy) Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-09

Lab Name: COMPUCHEM LABS Contract: (10-84)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227498
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ027498A21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
55-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl) Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b) Fluoranthene	10	U
207-08-9	Benzo(k) Fluoranthene	10	U
50-32-8	Benzo(a) Pyrene	10	U
193-39-5	Indeno(1,2,3-cd) Pyrene	10	U
53-70-3	Dibenz(a,h) Anthracene	10	U
191-24-2	Benzo(g,h,i) Perylene	10	U

(1) - Cannot be separated from Diphenylamine

IF
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-09

Lab Name: COMPUCHEN LABS Contract: (10-861)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227498
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ027498A21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1121-66-0	2-CYCLOHEPTEN-1-ONE	11.02	68	J

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-10

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227495
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ027495A21
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		g
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl) Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
100-51-6	Benzyl Alcohol	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U	
106-44-5	4-Methylphenol	10	U	
621-64-7	N-Nitroso-Di-n-Propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	U	
65-85-0	Benzoic Acid	50	U	
111-91-1	bis(2-Chloroethoxy) Methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
21-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	50	U	
91-59-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	50	U	
131-11-3	Dimethyl Phthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABS Contract: (10-861)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227495
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ027495A21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

336035-10

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl) Phthalate	6	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

IF
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

316035-10

Lab Name: CONPUCKEM LABS Contract: (10-861)-REV
 Lab Code: COMPU Case No.: 15615 GAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227495
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ027495A21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 872-50-4	2-PYRROLIDINONE, 1-METHYL-	6.10	170	J
2. 149-57-5	HEXANOIC ACID, 2-ETHYL-	7.15	50	J
3. 85-60-9	PHENOL, 4,4'-BUTYLIDENE BIS(2	18.89	36	J

FORM I SV-TIC

1/87 Rev.

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227501
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027501B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy) Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-11

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227501
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027501B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPT Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-10-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: <u>COMPUCHEM LABS</u>	Contract: <u>(10-861)-REV</u>	336035-11
Lab Code: <u>COMPU</u>	Case No.: <u>15615</u>	SAS No.: _____ SDG No.: <u>5</u>
Matrix: (soil/water) <u>WATER</u>		Lab Sample ID: <u>227501</u>
Sample wt/vol: <u>1000</u> (g/mL) <u>ML</u>		Lab File ID: <u>GH022501021</u>
Level: (low/med) <u>LOW</u>		Date Received: <u>11/09/88</u>
Moisture: not dec. _____ dec. _____		Date Extracted: <u>11/09/88</u>
Extraction: (SepF/Cont/Sonc) <u>SEPF</u>		Date Analyzed: <u>11/10/88</u>
GPC Cleanup: (Y/N) <u>N</u>	pH: _____	Dilution Factor: <u>1.0</u>

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-12

Lab Name: COMPUCHEN LABS Contract: (10-66)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: G2J27502C21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: net dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/16/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy) Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-12

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: G2J27502C21
 Level: (low/med) LOW Date Received: 11/09/88
 ‡ Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/16/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.48	32	J
2.	UNKNOWN	7.30	10	J

1C
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-12

Lab Name: COMPUCHEM LABS Contract: (10-88)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: G2J27502C21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/16/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
99-09-2	3-Nitroaniline	50	U	
83-32-9	Acenaphthene	10	U	
51-28-5	2,4-Dinitrophenol	50	U	
100-02-7	4-Nitrophenol	50	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	50	U	
534-52-1	4,6-Dinitro-2-Methylphenol	50	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	50	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	20	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-29-2	Benzo(h)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	U	
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-12

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027502B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
21-20-2	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-12

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMFU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027502B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
76-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-12

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15415 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027502E21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.65	32	J
2.	UNKNOWN	5.42	20	J

1B
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-12RE

Lab Name: COMPUCHEN LABS Contract: (10-841)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: G2J27502C21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/14/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/16/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy) Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
27-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV 336035-12RE
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 1000 (g/ml) ML Lab File ID: G2J27502C21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/14/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/16/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenyl-phenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-Butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)Anthracene	10	U
218-01-0-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	10	U
117-84-0-----	Di-n-Octyl Phthalate	10	U
205-99-2-----	Benzo(b)Fluoranthene	10	U
207-08-9-----	Benzo(k)Fluoranthene	10	U
50-32-8-----	Benzo(a)Pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3-----	Dibenz(a,h)Anthracene	10	U
191-24-2-----	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

17
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-12RE

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/Vol: 1000 (g/mL) ML Lab File ID: G2J27502C21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/14/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/16/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 2

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.48	32	J
2.	UNKNOWN	7.30	10	J

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-13

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227503
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027503B21
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-13

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227501
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027501821
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
99-09-2	3-Nitroaniline	50	U	
83-32-9	Acenaphthene	10	U	
51-28-5	2,4-Dinitrophenol	50	U	
100-02-7	4-Nitrophenol	50	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	50	U	
534-52-1	4,6-Dinitro-2-Methylphenol	50	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	50	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	20	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b)Fluoranthene	10	U	
207-08-9	Benzo(k)Fluoranthene	10	U	
50-32-8	Benzo(a)Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i)Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-13

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227503
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027503B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.62	22	J
2.	UNKNOWN	5.40	120	J
3. 10544-50-0	SULFUR, MOL. (S8)	15.20	18	J
4. 85-60-9	PHENOL, 4,4'-BUTYLIDENE BIS(2	18.95	36	J
5.	UNKNOWN	21.27	22	J
6.	UNKNOWN	22.45	24	J

FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABS Contract: (10-85)-REV 336035-13RE

Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5

Matrix: (soil/water) WATER Lab Sample ID: 227503

Sample wt/vol: 1000 (g/mL) ML Lab File ID: G2R27503B21

Level: (low/hed) LOW Date Received: 11/09/88

Moisture: not dec. _____ dec. _____ Date Extracted: 11/14/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/14/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
108-95-2	Phenol	10		U
111-44-4	bis(2-Chloroethyl) Ether	10		U
95-57-8	2-Chlorophenol	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
100-51-6	Benzyl Alcohol	10		U
95-50-1	1,2-Dichlorobenzene	10		U
95-48-7	2-Methylphenol	10		U
39638-32-9	bis(2-Chloroisopropyl) Ether	10		U
106-44-5	4-Methylphenol	10		U
621-64-7	N-Nitroso-Di-n-Propylamine	10		U
67-72-1	Hexachloroethane	10		U
98-95-3	Nitrobenzene	10		U
78-59-1	Isophorone	10		U
88-75-5	2-Nitrophenol	10		U
105-67-9	2,4-Dimethylphenol	10		U
65-85-0	Benzoic Acid	50		U
111-91-1	bis(2-Chloroethoxy) Methane	10		U
120-83-2	2,4-Dichlorophenol	10		U
120-82-1	1,2,4-Trichlorobenzene	10		U
91-20-3	Naphthalene	10		U
106-47-8	4-Chloroaniline	10		U
87-68-3	Hexachlorobutadiene	10		U
59-50-7	4-Chloro-3-Methylphenol	10		U
91-57-6	2-Methylnaphthalene	10		U
77-47-4	Hexachlorocyclopentadiene	10		U
88-06-2	2,4,6-Trichlorophenol	10		U
95-95-4	2,4,5-Trichlorophenol	50		U
91-58-7	2-Chloronaphthalene	10		U
88-74-4	2-Nitroaniline	50		U
131-11-3	Dimethyl Phthalate	10		U
208-96-8	Acenaphthylene	10		U
606-20-2	2,6-Dinitrotoluene	10		U

FORM I SV-1

1/87 Rev.

1C
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

316035-13RE

Lab Name: COMPUCHEM LABS Contract: (10-861)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDS No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227503
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: G2R27503B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/14/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/14/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q
99-09-2	3-Nitroaniline	50	U	
83-12-9	Acenaphthene	10	U	
51-28-5	2,4-Dinitrophenol	50	U	
100-02-7	4-Nitrophenol	50	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	50	U	
534-52-1	4,6-Dinitro-2-Methylphenol	50	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	50	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-68-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	20	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl) Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b) Fluoranthene	10	U	
207-08-9	Benzo(k) Fluoranthene	10	U	
50-32-8	Benzo(a) Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd) Pyrene	10	U	
53-70-3	Dibenz(a,h)Anthracene	10	U	
191-24-2	Benzo(g,h,i) Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
 SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-13RE

Lab Name: COMPUCHEN LABS Contract: (10-861)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227503
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: G2R27503B2i
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/14/88
 Extraction: (SepF/Cont/Sonc) SEPE Date Analyzed: 11/14/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 5

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.57	28	J
2.	UNKNOWN	7.37	110	J
3. 85-60-9	PHENOL, 4,4'-BUTYLIDENE BIS(2	19.44	42	J
4.	UNKNOWN	20.34	24	J
5.	UNKNOWN	20.42	38	J

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-14

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDC No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227497
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GR027497B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/11/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.60

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
59638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy)Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO. 336035-14

Lab Name: COMPUCKEM LABS Contract: (10-85)-REV
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227497
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GR027497B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/11/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.60

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	<u>Q</u>
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
112-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-5	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-14

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227497
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GR027497B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/11/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.60

Number TICs found: 12

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.45	17	J
2.	UNKNOWN HYDROCARBON	5.93	110	J
3.	UNKNOWN HYDROCARBON	7.35	40	J
4.	UNKNOWN HYDROCARBON	8.03	27	J
5.	UNKNOWN	10.60	20	J
6. 143-07-7	DODECANOIC ACID	11.40	110	J
7.	UNKNOWN	11.84	27	J
8.	UNKNOWN	12.50	20	J
9.	UNKNOWN HYDROCARBON	12.97	73	J
10.	UNKNOWN HYDROCARBON	14.40	33	J
11.	UNKNOWN HYDROCARBON	15.60	100	J
12.	UNKNOWN AROMATIC	18.89	20	J

FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-15

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227496
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GR027496B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/11/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
108-95-2	Phenol	17	U
111-44-4	bis(2-Chloroethyl) Ether	17	U
95-57-8	2-Chlorophenol	17	U
541-73-1	1,3-Dichlorobenzene	17	U
106-46-7	1,4-Dichlorobenzene	17	U
100-51-6	Benzyl Alcohol	17	U
95-50-1	1,2-Dichlorobenzene	17	U
95-48-7	2-Methylphenol	17	U
39638-32-9	bis(2-Chloroisopropyl) Ether	17	U
106-44-5	4-Methylphenol	17	U
621-64-7	N-Nitroso-Di-n-Propylamine	17	U
67-72-1	Hexachloroethane	17	U
98-95-3	Nitrobenzene	17	U
78-59-1	Isophorone	17	U
88-75-5	2-Nitrophenol	17	U
105-67-9	2,4-Dimethylphenol	17	U
65-85-0	Benzoic Acid	84	U
111-91-1	bis(2-Chloroethoxy) Methane	17	U
120-83-2	2,4-Dichlorophenol	17	U
120-82-1	1,2,4-Trichlorobenzene	17	U
91-20-3	Naphthalene	17	U
106-47-8	4-Chloroaniline	17	U
87-68-3	Hexachlorobutadiene	17	U
59-50-7	4-Chloro-3-Methylphenol	17	U
91-57-6	2-Methylnaphthalene	17	U
77-47-4	Hexachlorocyclopentadiene	17	U
88-06-2	2,4,6-Trichlorophenol	17	U
95-95-4	2,4,5-Trichlorophenol	84	U
91-58-7	2-Chloronaphthalene	17	U
88-74-4	2-Nitroaniline	84	U
131-11-3	Dimethyl Phthalate	17	U
208-96-8	Acenaphthylene	17	U
606-20-2	2,6-Dinitrotoluene	17	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-15

Lab Name: COMPUCHEN LABS Contract: (19-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227495
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GR027496B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/11/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

99-09-2-----	3-Nitroaniline	84	U
83-32-9-----	Acenaphthene	17	U
51-28-5-----	2,4-Dinitrophenol	84	U
100-02-7-----	4-Nitrophenol	84	U
132-64-9-----	Dibenzofuran	17	U
121-14-2-----	2,4-Dinitrotoluene	17	U
84-66-2-----	Diethylphthalate	17	U
7005-72-3-----	4-Chloropheny-phenylether	17	U
86-73-7-----	Fluorene	17	U
100-01-6-----	4-Nitroaniline	84	U
534-52-1-----	4,6-Dinitro-2-Methylphenol	84	U
86-30-6-----	N-Nitrosodiphenylamine (1)	17	U
101-55-3-----	4-Bromophenyl-phenylether	17	U
118-74-1-----	Hexachlorobenzene	17	U
87-86-5-----	Pentachlorophenol	84	U
85-01-8-----	Phenanthrene	17	U
120-12-7-----	Anthracene	17	U
84-74-2-----	Di-n-Butylphthalate	17	U
206-44-0-----	Fluoranthene	17	U
129-00-0-----	Pyrene	17	U
85-68-7-----	Butylbenzylphthalate	17	U
91-94-1-----	3,3'-Dichlorobenzidine	33	U
56-55-3-----	Benzo(a)Anthracene	17	U
218-01-9-----	Chrysene	17	U
117-81-7-----	bis(2-Ethylhexyl) Phthalate	17	U
117-84-0-----	Di-n-Octyl Phthalate	17	U
205-99-2-----	Benzo(b)Fluoranthene	17	U
207-08-9-----	Benzo(k)Fluoranthene	17	U
50-32-8-----	Benzo(a)Pyrene	17	U
193-39-5-----	Indeno(1,2,3-cd)Pyrene	17	U
53-70-3-----	Dibenz(a,h)Anthracene	17	U
191-24-2-----	Benzo(g,h,i)Perylene	17	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-15

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 2
 Matrix: (soil/water) WATER Lab Sample ID: 227495
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GR027496B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/11/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/11/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-16

Lab Name: COMPUCHEM LABS Contract: (10-85)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227499
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027499B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L G

108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl) Ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl Alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
39638-32-9-----	bis(2-Chloroisopropyl) Ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-Di-n-Propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	50	U
111-91-1-----	bis(2-Chloroethoxy) Methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-Methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethyl Phthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-16

Lab Name: COMPUchem Labs Contract: (10-861)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227499
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027499B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl) Phthalate	3	J
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	U
207-08-9	Benzo(k)Fluoranthene	10	U
50-12-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-16

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227499
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GH027499B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 14

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	4.65	10	J
2.	UNKNOWN	5.43	34	J
3.	UNKNOWN	6.07	50	J
4.	UNKNOWN	7.40	12	J
5. 21368-68-3	BICYCLO[2.2.1]HEPTAN-2-ONE,	7.48	28	J
6.	UNKNOWN	8.15	26	J
7.	UNKNOWN	8.99	8.0	J
8.	UNKNOWN	10.72	14	J
9. 97-78-9	GLYCINE, N-METHYL-N-(1-OXODO	11.47	16	J
10.	UNKNOWN	12.64	16	J
11.	UNKNOWN	13.10	22	J
12.	UNKNOWN	14.52	12	J
13. 85-60-9	PHENOL, 4,4'-BUTYLIDENE BIS[2	19.00	56	J
14.	UNKNOWN	22.50	26	J

FORM I SV-TIC

1/87 Rev.

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227499
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: G2R27492B21
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ dec. _____ Date Extracted: 11/14/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/14/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	
08-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	6	J
111-91-1	bis(2-Chloroethoxy) Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-16RE

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ GDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227499
 Sample wt/vol: 1000 (g/mL) NL Lab File ID: G2R27499B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/14/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/14/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	U
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl) Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b) Fluoranthene	10	U
207-08-9	Benzo(k) Fluoranthene	10	U
50-32-8	Benzo(a) Pyrene	10	U
193-39-5	Indeno(1,2,3-cd) Pyrene	10	U
53-70-3	Dibenz(a,h) Anthracene	10	U
191-24-2	Benzo(g,h,i) Perylene	10	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1F
 SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-16RE

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227499
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: G2R27499B21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/14/88
 Extraction: (SepF/Cont/So.c) SEPF Date Analyzed: 11/14/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 6

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	6.55	16	J
2.	UNKNOWN	7.37	10	J
3.	UNKNOWN	7.85	32	J
4. 21368-68-3	BICYCLO(2.2.1)HEPTAN-2-ONE,	9.12	10	J
5.	UNKNOWN	9.64	10	J
6. 85-60-9	PHENOL, 4,4'-BUTYLIDENE BIS(2	19.42	32	J

FORM I SV-TIC

1/87 Rev.

18
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUKEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227500
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ027500C21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/14/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

336035-FB

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy) Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV 336035-PB

Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5

Matrix: (soil/water) WATER Lab Sample ID: 227500

Sample wt/vol: 1000 (g/mL) ML Lab File ID: G7027500C21

Level: (low/med) LOW Date Received: 11/09/88

% Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/14/88

GPC Cleanup: (Y/N) N pH: _____ Dilution Factor 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q
99-09-2	3-Nitroaniline	50	U	
83-32-9	Acenaphthene	10	U	
51-28-5	2,4-Dinitrophenol	50	U	
100-02-7	4-Nitrophenol	50	U	
132-64-9	Dibenzofuran	10	U	
121-14-2	2,4-Dinitrotoluene	10	U	
84-66-2	Diethylphthalate	10	U	
7005-72-3	4-Chlorophenyl-phenylether	10	U	
86-73-7	Fluorene	10	U	
100-01-6	4-Nitroaniline	50	U	
534-52-1	4,6-Dinitro-2-Methylphenol	50	U	
86-30-6	N-Nitrosodiphenylamine (1)	10	U	
101-55-3	4-Bromophenyl-phenylether	10	U	
118-74-1	Hexachlorobenzene	10	U	
87-86-5	Pentachlorophenol	50	U	
85-01-8	Phenanthrene	10	U	
120-12-7	Anthracene	10	U	
84-74-2	Di-n-Butylphthalate	10	U	
206-44-0	Fluoranthene	10	U	
129-00-0	Pyrene	10	U	
85-88-7	Butylbenzylphthalate	10	U	
91-94-1	3,3'-Dichlorobenzidine	20	U	
56-55-3	Benzo(a)Anthracene	10	U	
218-01-9	Chrysene	10	U	
117-81-7	bis(2-Ethylhexyl) Phthalate	10	U	
117-84-0	Di-n-Octyl Phthalate	10	U	
205-99-2	Benzo(b) Fluoranthene	10	U	
207-08-9	Benzo(k) Fluoranthene	10	U	
50-32-8	Benzo(a) Pyrene	10	U	
193-39-5	Indeno(1,2,3-cd) Pyrene	10	U	
53-70-3	Dibenz(a,h) Anthracene	10	U	
191-24-2	Benzo(g,h,i) Perylene	10	U	

(1) - Cannot be separated from Diphenylamine

1F
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

336035-FB

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227500
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: GJ027500C21
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/14/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-02MS

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMFU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227178
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GH027178C15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
108-95-2	Phenol	10	U	
111-44-4	bis(2-Chloroethyl) Ether	10	U	
95-57-8	2-Chlorophenol	10	U	
541-73-1	1,3-Dichlorobenzene	10	U	
106-46-7	1,4-Dichlorobenzene	10	U	
100-51-6	Benzyl Alcohol	10	U	
95-50-1	1,2-Dichlorobenzene	10	U	
95-48-7	2-Methylphenol	10	U	
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U	
106-44-5	4-Methylphenol	10	U	
621-64-7	N-Nitroso-Di-n-Propylamine	10	U	
67-72-1	Hexachloroethane	10	U	
98-95-3	Nitrobenzene	10	U	
78-59-1	Isophorone	10	U	
88-75-5	2-Nitrophenol	10	U	
105-67-9	2,4-Dimethylphenol	10	U	
65-85-0	Benzoic Acid	50	U	
111-91-1	bis(2-Chloroethoxy) Methane	10	U	
120-83-2	2,4-Dichlorophenol	10	U	
120-82-1	1,2,4-Trichlorobenzene	10	U	
91-20-3	Naphthalene	10	U	
106-47-8	4-Chloroaniline	10	U	
87-68-3	Hexachlorobutadiene	10	U	
59-50-7	4-Chloro-3-Methylphenol	10	U	
91-57-6	2-Methylnaphthalene	10	U	
77-47-4	Hexachlorocyclopentadiene	10	U	
88-06-2	2,4,6-Trichlorophenol	10	U	
95-95-4	2,4,5-Trichlorophenol	50	U	
91-58-7	2-Chloronaphthalene	10	U	
88-74-4	2-Nitroaniline	50	U	
131-11-3	Dimethyl Phthalate	10	U	
208-96-8	Acenaphthylene	10	U	
606-20-2	2,6-Dinitrotoluene	10	U	

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUchem LABS Contract: (10-861-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227178
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GH027178C15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
99-09-2	3-Nitroaniline	50		U
83-32-9	Acenaphthene	10		U
51-28-5	2,4-Dinitrophenol	50		U
100-02-7	4-Nitrophenol	50		U
132-64-9	Dibenzofuran	10		U
121-14-2	2,4-Dinitrotoluene	10		U
84-66-2	Diethylphthalate	10		U
7005-72-3	4-Chlorophenyl-phenylether	10		U
86-73-7	Fluorene	10		U
100-01-6	4-Nitroaniline	50		U
534-52-1	4,6-Dinitro-2-Methylphenol	50		U
86-30-6	N-Nitrosodiphenylamine (1)	10		U
101-55-3	4-Bromophenyl-phenylether	10		U
118-74-1	Hexachlorobenzene	10		U
87-86-5	Pentachlorophenol	50		U
85-01-8	Phenanthrene	10		U
120-12-7	Anthracene	10		U
84-74-2	Di-n-Butylphthalate	10		U
206-44-0	Fluoranthene	10		U
129-00-0	Pyrene	10		U
85-68-7	Butylbenzylphthalate	10		U
91-94-1	3,3'-Dichlorobenzidine	20		U
56-55-3	Benzo(a)Anthracene	10		U
218-01-9	Chrysene	10		U
117-81-7	bis(2-Ethylhexyl) Phthalate	10		U
117-84-0	Di-n-Octyl Phthalate	10		U
205-99-2	Benzo(b) Fluoranthene	10		U
207-08-9	Benzo(k) Fluoranthene	10		U
50-32-8	Benzo(a) Pyrene	10		U
193-39-5	Indeno(1,2,3-cd) Pyrene	10		U
53-70-3	Dibenz(a,h) Anthracene	10		U
191-24-2	Benzo(g,h,i) Perylene	10		U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

1B
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-03MSD

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227172
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GH027179C15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

108-95-2	Phenol	10	U
111-44-4	bis(2-Chloroethyl) Ether	10	U
95-57-8	2-Chlorophenol	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
100-51-6	Benzyl Alcohol	10	U
95-50-1	1,2-Dichlorobenzene	10	U
95-48-7	2-Methylphenol	10	U
39638-32-9	bis(2-Chloroisopropyl) Ether	10	U
106-44-5	4-Methylphenol	10	U
621-64-7	N-Nitroso-Di-n-Propylamine	10	U
67-72-1	Hexachloroethane	10	U
98-95-3	Nitrobenzene	10	U
78-59-1	Isophorone	10	U
88-75-5	2-Nitrophenol	10	U
105-67-9	2,4-Dimethylphenol	10	U
65-85-0	Benzoic Acid	50	U
111-91-1	bis(2-Chloroethoxy) Methane	10	U
120-83-2	2,4-Dichlorophenol	10	U
120-82-1	1,2,4-Trichlorobenzene	10	U
91-20-3	Naphthalene	10	U
106-47-8	4-Chloroaniline	10	U
87-68-3	Hexachlorobutadiene	10	U
59-50-7	4-Chloro-3-Methylphenol	10	U
91-57-6	2-Methylnaphthalene	10	U
77-47-4	Hexachlorocyclopentadiene	10	U
88-06-2	2,4,6-Trichlorophenol	10	U
95-95-4	2,4,5-Trichlorophenol	50	U
91-58-7	2-Chloronaphthalene	10	U
88-74-4	2-Nitroaniline	50	U
131-11-3	Dimethyl Phthalate	10	U
208-96-8	Acenaphthylene	10	U
606-20-2	2,6-Dinitrotoluene	10	U

FORM I SV-1

1/87 Rev.

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-03MSD

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227179
 Sample wt/vol: 500 (g/mL) ML Lab File ID: GH027179C15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	<u>Q</u>
99-09-2	3-Nitroaniline	50	U
83-32-9	Acenaphthene	10	U
51-28-5	2,4-Dinitrophenol	50	U
100-02-7	4-Nitrophenol	50	U
132-64-9	Dibenzofuran	10	U
121-14-2	2,4-Dinitrotoluene	10	U
84-66-2	Diethylphthalate	10	U
7005-72-3	4-Chlorophenyl-phenylether	10	U
86-73-7	Fluorene	10	U
100-01-6	4-Nitroaniline	50	U
534-52-1	4,6-Dinitro-2-Methylphenol	50	U
86-30-6	N-Nitrosodiphenylamine (1)	10	U
101-55-3	4-Bromophenyl-phenylether	10	U
118-74-1	Hexachlorobenzene	10	C
87-86-5	Pentachlorophenol	50	U
85-01-8	Phenanthrene	10	U
120-12-7	Anthracene	10	U
84-74-2	Di-n-Butylphthalate	10	U
206-44-0	Fluoranthene	10	U
129-00-0	Pyrene	10	U
85-69-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	20	U
56-55-3	Benzo(a)Anthracene	10	U
218-01-9	Chrysene	10	U
117-81-7	bis(2-Ethylhexyl)Phthalate	10	U
117-84-0	Di-n-Octyl Phthalate	10	U
205-99-2	Benzo(b)Fluoranthene	10	C
207-08-9	Benzo(k)Fluoranthene	10	U
50-32-8	Benzo(a)Pyrene	10	U
193-39-5	Indeno(1,2,3-cd)Pyrene	10	U
53-70-3	Dibenz(a,h)Anthracene	10	U
191-24-2	Benzo(g,h,i)Perylene	10	U

(1) - Cannot be separated from Diphenylamine

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-01

Lab Name: COMPUCHEN LABORATORIES Contract: (10-85)-REV
 Lab Code: COMPU Case No.: 13615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227193
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/08/88
 † Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPE Date Analyzed: 11/09/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxida	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-03

Lab Name: COMPUCHEM LABORATORIES Contract: (10-26)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227177
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPT Date Analyzed: 11/09/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

1/87 Rev.

10
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABORATORIES Contract: (10-86)-REV 336035-05
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227181
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/05/88
 Moisture: not dec. _____ dec. _____ Date Extracted: 11/05/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/09/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11057-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-07

Lab Name: COMPUCHEM LABORATORIES Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227188
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/09/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
319-84-6	alpha-BHC	0.050	U	
319-85-7	beta-BHC	0.050	U	
319-86-8	delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	U	
309-00-2	Aldrin	0.050	U	
1024-57-3	Heptachlor epoxide	0.050	U	
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	U	
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	U	
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	U	
5103-71-9	alpha-Chlordane	0.50	U	
5103-74-2	gamma-Chlordane	0.50	U	
8001-35-2	Toxaphene	1.0	U	
12674-11-2	Aroclor-1016	0.50	U	
11104-28-2	Aroclor-1221	0.50	U	
11141-16-5	Aroclor-1232	0.50	U	
53469-21-9	Aroclor-1242	0.50	U	
12672-29-6	Aroclor-1248	0.50	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

10
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

136035-09

Lab Name: COMPUCHEM LABORATORIES Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227498
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		Q
319-84-6	alpha-BHC	0.050	U	
319-85-7	beta-BHC	0.050	U	
319-86-8	delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	U	
309-00-2	Aldrin	0.050	U	
1024-57-1	Heptachlor epoxide	0.050	U	
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	U	
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	U	
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	U	
5103-71-9	alpha-Chlordane	0.50	U	
5103-74-2	gamma-Chlordane	0.50	U	
8001-35-2	Toxaphene	1.0	U	
12674-11-2	Aroclor-1016	0.50	U	
11104-28-2	Aroclor-1221	0.50	U	
11141-16-5	Aroclor-1232	0.50	U	
53469-21-9	Aroclor-1242	0.50	U	
12672-29-6	Aroclor-1248	0.50	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

FORM I PEST

1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-10

Lab Name: COMPUCHEM LABORATORIES Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227495
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 † Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53474-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

10
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-11

Lab Name: COMPUCHEN LABORATORIES Contract: (10-861)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227501
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336036-12

Lab Name: COMPUCHEM LABORATORIES Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227502
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-13

Lab Name: COMPUCHEM LABORATORIES Contract: (10-56)-REV
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227503
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/L Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-14

Lab Name: COMPUCHEM LABORATORIES Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227497
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1015	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABORATORIES Contract: (10-86)-REV 336035-15
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227496
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
319-84-6	alpha-BHC	0.050	U	
319-85-7	beta-BHC	0.050	U	
319-86-8	delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	U	
309-00-2	Aldrin	0.050	U	
1024-57-3	Heptachlor epoxide	0.050	U	
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	U	
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	U	
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	U	
5103-71-9	alpha-Chlordane	0.50	U	
5103-74-2	gamma-Chlordane	0.50	U	
8001-35-2	Toxaphene	1.0	U	
12674-11-2	Aroclor-1016	0.50	U	
11104-28-2	Aroclor-1221	0.50	U	
11141-16-5	Aroclor-1232	0.50	U	
53469-21-9	Aroclor-1242	0.50	U	
12672-29-6	Aroclor-1248	0.50	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

FORM I PEST

1-87 Rev.

SAMPLE DATA SUMMARY

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-16

Lab Name: COMPUCHEM LABORATORIES Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227429
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
75-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

1,87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-FB

Lab Name: COMPUCHEM LABORATORIES Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227500
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-05MS

Lab Name: COMPUCHEM LABORATORIES Contract: (10-86)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227182
 Sample wt/vol: 500 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/09/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>		Q
319-84-6	alpha-BHC	0.050	U	
319-85-7	beta-BHC	0.050	U	
319-86-8	delta-BHC	0.050	U	
58-89-9	gamma-BHC (Lindane)	0.050	U	
76-44-8	Heptachlor	0.050	U	
309-00-2	Aldrin	0.050	U	
1024-57-3	Heptachlor epoxide	0.050	U	
959-98-8	Endosulfan I	0.050	U	
60-57-1	Dieldrin	0.10	U	
72-55-9	4,4'-DDE	0.10	U	
72-20-8	Endrin	0.10	U	
33213-65-9	Endosulfan II	0.10	U	
72-54-8	4,4'-DDD	0.10	U	
1031-07-8	Endosulfan sulfate	0.10	U	
50-29-3	4,4'-DDT	0.10	U	
72-43-5	Methoxychlor	0.50	U	
53494-70-5	Endrin ketone	0.10	U	
5103-71-9	alpha-Chlordane	0.50	U	
5103-74-2	gamma-Chlordane	0.50	U	
8001-35-2	Toxaphene	1.0	U	
12674-11-2	Aroclor-1016	0.50	U	
11104-28-2	Aroclor-1221	0.50	U	
11141-16-5	Aroclor-1232	0.50	U	
53469-21-9	Aroclor-1242	0.50	U	
12672-29-6	Aroclor-1248	0.50	U	
11097-69-1	Aroclor-1254	1.0	U	
11096-82-5	Aroclor-1260	1.0	U	

FORM I PEST

1/87 Rev.

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABORATORIES Contract: (10-86)-REV 336035-05MSD
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 5
 Matrix: (soil/water) WATER Lab Sample ID: 227183
 Sample wt/vol: 500 (g/mL) ML Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. _____ dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 11/09/88
 GPC Cleanup: (Y/N) N pH: _____ Dilution Factor: 0.50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	Q
319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
109-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin ketone	0.10	U
5103-71-9	alpha-Chlordane	0.50	U
5103-74-2	gamma-Chlordane	0.50	U
8001-35-2	Toxaphene	1.0	U
12674-11-2	Aroclor-1016	0.50	U
11104-28-2	Aroclor-1221	0.50	U
11141-16-5	Aroclor-1232	0.50	U
53469-21-9	Aroclor-1242	0.50	U
12672-29-6	Aroclor-1248	0.50	U
11097-69-1	Aroclor-1254	1.0	U
11096-82-5	Aroclor-1260	1.0	U

FORM I PEST

1/87 Rev.

3. By fraction (VDA, SV, PEST) - surrogate spike analysis results (Form II) by matrix (Water and/or Soil) and for soil, by concentration (Low or Medium)

17/NOV/88

COMPUCHEM
LABORATORIES

NEW YORK D.E.C.
ATTN: Jack Ryan
50 Wolf Road
Albany, NY 12233

ACCOUNT #: 255501

CC#	SAMPLE-ID	RECEIPT DATE
227177	336035-03	11/08/88
227181	336035-05	11/08/88
227188	336035-07	11/08/88
227193	336035-01	11/08/88
227495	336035-10	11/09/88
227496	336035-15	11/09/88
227497	336035-14	11/09/88
227498	336035-09	11/09/88
227499	336035-16	11/09/88
227500	336035-FB	11/09/88
227501	336035-11	11/09/88
227502	336035-12	11/09/88
227503	336035-13	11/09/88

TOTAL NUMBER OF SAMPLES = 13

Case Summary Narrative: New York DEC
(15615A)
CompuChem Laboratories Inc.

This portion of case 15615A was received in good condition on November 8, 1988 with the appropriate chain-of-custody documents. The case consists of thirteen water samples for the analysis of complete HSL metals and cyanide. The enclosed cover page reflects both New York DEC and CompuChem identifiers.

The associated quality control sample spike, 336035/CC# 227189, was outside the control limits for zinc, therefore the value was flagged with an 'N' in all of the samples. The associated quality control duplicate, 336035/CC#227190, was within the control limits for all of the analytes.

A serial dilution was done on sample 336035/CC#227503. The adjusted sample concentration of zinc was not within 10% of its original value, therefore the value was flagged with an 'E' in all of the samples. The remaining elements were within 10% of their original concentrations for all of those tested whose uncorrected serial dilution was greater than ten times the Instrument Detection Limit (IDL).

Selenium is flagged with an 'E' in the following samples to indicate interference: 336035-15/CC#227496, 336035-14/CC#227947, 336035-16/CC#227499, 336035-11/CC#227501, and 336035-16/CC#227503.

In one or more of the samples the concentrations of aluminum, calcium, chromium, copper, iron, lead, magnesium, sodium, and zinc were above the Contract Required Detection Limits (CRDL). The concentrations of barium, beryllium, cobalt, nickel, and vanadium were fell between the IDL and the CRDL, while the remaining analytes had concentrations below the IDL.

This report is paginated for reference and accountability in decreasing numerical sequence.



Jeanne C. Alston
Technical Reviewer
November 17, 1988

CompuChem Laboratories
 P.O. Box 12652
 3308 Chapel Hill/Nelson Highway
 Research Triangle Park, NC 27709

Date 11/10/88

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name Inorganics Laboratory

Case No. 255501 15615

SOW No. 785

Q.C. Report No. 15615A

Lab Receipt Date 11/09/88

Sample Numbers

<u>Client ID No.</u>	<u>Lab ID No.</u>	<u>Client ID No.</u>	<u>Lab ID No.</u>
<u>336035-03</u>	<u>227177</u>	<u>336035-16</u>	<u>227499</u>
<u>336035-05</u>	<u>227181</u>	<u>336035-PB</u>	<u>227500</u>
<u>336035-07</u>	<u>227188</u>	<u>336035-11</u>	<u>227501</u>
<u>336035-01</u>	<u>227193</u>	<u>336035-12</u>	<u>227502</u>
<u>336035-10</u>	<u>227495</u>	<u>336035-13</u>	<u>227503</u>
<u>336035-15</u>	<u>227496</u>	<u>PBW</u>	<u>227742</u>
<u>336035-14</u>	<u>227497</u>	<u>PBW.CN</u>	<u>227744</u>
<u>336035-09</u>	<u>227498</u>		

Comments: 227189 SS(227177) 227195 LCS
227190 D(227181)
227191 LCS
227192 SS(227177)
227194 D(227181)

ICP interelement and background corrections applied? Yes No
 If yes, corrections applied before or after generation of raw data.

Footnotes:

NR - Not required by contract at this time

Form I:

- Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract-required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP), A (for Flame AA), or F (for Furnace AA).
- U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value (e.g., 100).
- E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.
- S - Indicates value determined by method of Standard Addition.
- N - Indicates spike sample recovery is not within control limits.
- * - Indicates duplicate analysis is not within control limits.
- + - Indicates the correlation coefficient for method of standard addition is less than 0.995
- M - Indicates duplicate injection results exceeded control limits.

Indicate method used: P for ICP; A for Flame AA and F for Furnace.

FORM I

Client Sample No.
336035-03

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/08/88

LAB SAMPLE ID. NO. 227177

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	223	P	13. Magnesium	[4730]	P
2. Antimony	430	P	14. Manganese	48	P
3. Arsenic	[1.9]	F	15. Mercury	.200	CV
4. Barium	[14]	P	16. Nickel	240	P
5. Beryllium	[1.8]	P	17. Potassium	23600	P
6. Cadmium	4.30	P	18. Selenium	[3.4]	F
7. Calcium	17000	P	19. Silver	4.30	P
8. Chromium	5.00	P	20. Sodium	24400	P
9. Cobalt	[4.0]	P	21. Thallium	2.00	F
10. Copper	32	P	22. Vanadium	2.30	P
11. Iron	369	P	23. Zinc	125 EN	P
12. Lead	[2.4]	F			

Cyanide 100 Percent Solids(%)

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLOUDY, COLORLESS

LAB MANAGER B. M. [Signature]

FORM I

Client Sample No.
336035-05

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/08/88

LAB SAMPLE ID. NO. 227181

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	[99]	P	13. Magnesium	8100	P
2. Antimony	43U	P	14. Manganese	102	P
3. Arsenic	1.6U	F	15. Mercury	.20U	CV
4. Barium	[15]	P	16. Nickel	24U	P
5. Beryllium	1.1U	P	17. Potassium	2380U	P
6. Cadmium	4.3U	P	18. Selenium	2.1U	F
7. Calcium	3040U	F	19. Silver	4.3U	P
8. Chromium	5.0U	P	20. Sodium	3290U	P
9. Cobalt	[2.8]	P	21. Thallium	2.0U	F
10. Copper	30	P	22. Vanadium	2.3U	P
11. Iron	341	P	23. Zinc	63 EN	P
12. Lead	[3.2]	F			

Cyanide 10U Percent Solids(%) _____

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLOUDY, COLORLESS

LAB MANAGER B. B. [Signature]

C

FORM I

Client Sample No.
336035-07

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/08/88

LAB SAMPLE ID. NO. 227188

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS:ug/l

1. Aluminum	(169)	P	13. Magnesium	(5000)	P
2. Antimony	430	P	14. Manganese	43	P
3. Arsenic	1.60	P	15. Mercury	.200	CV
4. Barium	(15)	F	16. Nickel	240	P
5. Beryllium	1.10	P	17. Potassium	23600	P
6. Cadmium	4.30	P	18. Selenium	(2.5)	F
7. Calcium	17000	P	19. Silver	4.30	P
8. Chromium	5.00	P	20. Sodium	23700	P
9. Cobalt	(3.0)	P	21. Thallium	2.00	F
10. Copper	32	P	22. Vanadium	2.30	P
11. Iron	321	P	23. Zinc	136	EN P
12. Lead	(1.3)	F			

Cyanide 10U

Percent Solids(%)

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLOUDY, COLORLESS

LAB MANAGER

D. J. [Signature]

C

FORM 1

Client Sample No.
336035-01

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/08/88

LAB SAMPLE ID. NO. 227193

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	[135]	P	13. Magnesium	[4660]	P
2. Antimony	430	F	14. Manganese	53	P
3. Arsenic	1.60	F	15. Mercury	.200	CV
4. Barium	[14]	P	16. Nickel	240	P
5. Beryllium	1.10	P	17. Potassium	23600	P
6. Cadmium	4.30	F	18. Selenium	2.10	F
7. Calcium	17100	P	19. Silver	4.30	F
8. Chromium	5.00	P	20. Sodium	23800	P
9. Cobalt	[2.7]	P	21. Thallium	2.00	F
10. Copper	32	P	22. Vanadium	2.30	P
11. Iron	294	P	23. Zinc	47 EN	P
12. Lead	[1.1]	F			

Cyanide 10U

Percent Solids(%) _____

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLOUDY. COLORLESS

LAB MANAGER

[Signature]

Client Sample No.
336035-10

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/09/88

LAB SAMPLE ID. NO. 227495

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	5430	P	13. Magnesium	6000	P
2. Antimony	43U	P	14. Manganese	482	P
3. Arsenic	1.6U	F	15. Mercury	.20U	CV
4. Barium	[71]	P	16. Nickel	[28]	F
5. Beryllium	[1.8]	P	17. Potassium	2350U	P
6. Cadmium	4.3U	P	18. Selenium	2.1U	F
7. Calcium	11100	P	19. Silver	4.3U	P
8. Chromium	10	P	20. Sodium	18300	P
9. Cobalt	[22]	P	21. Thallium	2.0U	F
10. Copper	64	P	22. Vanadium	[18]	P
11. Iron	9160	P	23. Zinc	129 EN	P
12. Lead	5.1	F			

Cyanide 10U Percent Solids(%) _____

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLOUDY, COLORLESS

LAB MANAGER BH Pollock

C

FORM 3

Client Sample No.
336035-15

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/09/88

LAB SAMPLE ID. NO. 227496

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	2970	P	13. Magnesium	55500	P
2. Antimony	430	P	14. Manganese	1460	P
3. Arsenic	[1.8]	F	15. Mercury	.200	CV
4. Barium	[75]	P	16. Nickel	240	P
5. Beryllium	[2.7]	P	17. Potassium	23600	P
6. Cadmium	4.30	P	18. Selenium	10	E F
7. Calcium	172000	P	19. Silver	4.30	P
8. Chromium	5.00	P	20. Sodium	80400	P
9. Cobalt	[5.4]	P	21. Thallium	2.00	F
10. Copper	27	P	22. Vanadium	[11]	P
11. Iron	5390	P	23. Zinc	144	EN P
12. Lead	[1.5]	F			

Cyanide 10U Percent Solids(%) _____

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLOUDY, COLORLESS

LAB MANAGER *[Signature]*

C

Client Sample No.
136035-14

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/09/88

LAB SAMPLE ID. NO. 227497

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____
 MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	(187)	P	13. Magnesium	76500	P
2. Antimony	43U	P	14. Manganese	12300	P
3. Arsenic	26	P	15. Mercury	.20U	CV
4. Barium	(167)	P	16. Nickel	24U	P
5. Beryllium	1.1U	P	17. Potassium	25400	P
6. Cadmium	4.3U	P	18. Selenium	21U E	F
7. Calcium	221000	P	19. Silver	4.3U	P
8. Chromium	5.0U	P	20. Sodium	104000	P
9. Cobalt	(6.2)	P	21. Thallium	2.0U	F
10. Copper	33	P	22. Vanadium	(12)	P
11. Iron	34400	P	23. Zinc	115 EN	P
12. Lead	.91U	F			

Cyanide 10U Percent Solids(%) _____

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLOUDY, COLORLESS

LAB MANAGER *D. K. Patinbach*

C

FORM 1

Client Sample No.
336035-09

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/09/88

LAB SAMPLE ID. NO. 227498

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____
 MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS:ug/l

1. Aluminum	[47]	P	13. Magnesium	[2530]	P
2. Antimony	430	P	14. Manganese	[13]	P
3. Arsenic	[2.9]	F	15. Mercury	.200	CV
4. Barium	[4.6]	P	16. Nickel	240	P
5. Beryllium	1.10	P	17. Potassium	23600	P
6. Cadmium	4.30	P	18. Selenium	2.10	F
7. Calcium	9430	P	19. Silver	4.30	P
8. Chromium	5.00	P	20. Sodium	44500	P
9. Cobalt	[6.3]	P	21. Thallium	2.00	F
10. Copper	32	P	22. Vanadium	[5.8]	P
11. Iron	162	P	23. Zinc	53 EN	P
12. Lead	[1.2]	F			

Cyanide 100

Percent Solids(%)

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLOUDY, COLORLESS

LAB MANAGER B. B. B. B. B.

Client Sample No.
336035-16

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/09/88

LAB SAMPLE ID. NO. 227499

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS:ug/l

1. Aluminum	(122)	P	13. Magnesium	72900	P
2. Antimony	430	F	14. Manganese	11800	P
3. Arsenic	23	F	15. Mercury	.200	CV
4. Barium	(160)	F	16. Nickel	240	P
5. Beryllium	1.10	P	17. Potassium	23900	P
6. Cadmium	4.30	F	18. Selenium	210 E	F
7. Calcium	211000	P	19. Silver	4.30	F
8. Chromium	5.00	F	20. Sodium	99900	P
9. Cobalt	(6.0)	P	21. Thallium	2.00	F
10. Copper	46	F	22. Vanadium	(11)	P
11. Iron	33000	F	23. Zinc	80 EN	P
12. Lead	.910	F			

Cyanide 10U

Percent Solids(%) _____

Footnotes: For reporting results; standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLOUDY, COLORLESS

LAB MANAGER *[Signature]*

C

FORM 1

Client Sample No.
336035-PB

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/09/88

LAB SAMPLE ID. NO. 227500

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	25U	P	13. Magnesium	(251)	P
2. Antimony	43U	P	14. Manganese	1.7U	P
3. Arsenic	1.6U	F	15. Mercury	.20U	CV
4. Barium	.85U	P	16. Nickel	24U	P
5. Beryllium	1.1U	P	17. Potassium	2360U	P
6. Cadmium	191	P	18. Selenium	2.1U	F
7. Calcium	(80)	P	19. Silver	4.3U	P
8. Chromium	5.0U	P	20. Sodium	(2460)	P
9. Cobalt	(5.6)	P	21. Thallium	2.0U	F
10. Copper	32	P	22. Vanadium	(4.2)	P
11. Iron	(5.8)	P	23. Zinc	(9.6)	EN P
12. Lead	.91U	F			

Cyanide 10U Percent Solids(%) _____

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLEAR. COLORLESS

LAB MANAGER *B. H. [Signature]*

C

FORM 1

Client Sample No.
336035-11

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/09/88

LAB SAMPLE ID. NO. 227501

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	484	P	13. Magnesium	69900	P
2. Antimony	430	P	14. Manganese	8420	P
3. Arsenic	(1.7)	F	15. Mercury	.200	CV
4. Barium	(85)	F	16. Nickel	240	P
5. Beryllium	1.10	P	17. Potassium	23600	F
6. Cadmium	4.30	P	18. Selenium	210 E	F
7. Calcium	197000	P	19. Silver	4.30	P
8. Chromium	5.00	P	20. Sodium	64300	P
9. Cobalt	(8.8)	F	21. Thallium	2.00	F
10. Copper	32	P	22. Vanadium	(6.9)	P
11. Iron	804	P	23. Zinc	139 EN	P
12. Lead	4.60	F			

Cyanide 100

Percent Solids(%) _____

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLEAR, COLORLESS

LAB MANAGER

B. H. K. Bach

C

FORM 1

Client Sample No.
336035-12

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/09/88

LAB SAMPLE ID. NO. 227502

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	948	P	13. Magnesium	33300	P
2. Antimony	430	F	14. Manganese	4970	P
3. Arsenic	[2.1]	F	15. Mercury	.200	CV
4. Barium	[78]	F	16. Nickel	240	P
5. Beryllium	1.10	F	17. Potassium	23600	P
6. Cadmium	4.30	F	18. Selenium	[24]	F
7. Calcium	126000	P	19. Silver	4.30	P
8. Chromium	5.00	P	20. Sodium	31800	P
9. Cobalt	[4.0]	P	21. Thallium	2.00	F
10. Copper	32	P	22. Vanadium	[6.5]	P
11. Iron	2130	F	23. Zinc	191	EN P
12. Lead	.910	F			

Cyanide 10U

Percent Solids(%) _____

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLEAR, COLORLESS

LAB MANAGER

[Signature]

C

FORM 1

Client Sample No.
336035-13

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/09/88

LAB SAMPLE ID. NO. 227503

QC REPORT NO 15615A

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER XXX SOIL _____ SLUDGE _____ OTHER _____

UNITS: ug/l

1. Aluminum	200	P	13. Magnesium	101000	P
2. Antimony	430	F	14. Manganese	10200	P
3. Arsenic	[3.8]	F	15. Mercury	.20U	CV
4. Barium	[87]	F	16. Nickel	24U	F
5. Beryllium	1.1U	P	17. Potassium	20100	F
6. Cadmium	4.3U	F	18. Selenium	21U E	F
7. Calcium	315000	P	19. Silver	4.3U	F
8. Chromium	5.0U	P	20. Sodium	70500	P
9. Cobalt	[8.8]	F	21. Thallium	2.0U	F
10. Copper	64	P	22. Vanadium	[5.9]	P
11. Iron	3120	P	23. Zinc	148 EN	P
12. Lead	.91U	F			

Cyanide 12 Percent Solids(%) _____

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: CLEAR, COLORLESS

LAB MANAGER *[Signature]*

C

18/NOV/88

COMPUCHEM
LABORATORIES

NEW YORK D E C.-
ATTN Jack Ryan
50 Wolf Road
Albany, NY 12233

ACCOUNT # 255501

CC#	SAMPLE-ID	RECEIPT DATE
227196	336035-02 <i>RS-1</i>	11/08/88
227197	336035-08 <i>RS-4</i>	11/08/88
227204	336035-04 <i>RS-2</i>	11/08/88
227208	336035-06 <i>SW-3</i>	11/08/88

TOTAL NUMBER OF SAMPLES = 4

I. SAMPLE DATA SUMMARY PACKAGE

The Sample Data Summary Package shall contain data for samples in one Sample Delivery Group of the Case, as follows:

1. Case Narrative
2. By fraction (VOA, SV, PEST) and by sample within each fraction - tabulated target compound results (Form I) and tentatively identified compounds (Form I, TIC) (VOA and SV only)
3. By fraction (VOA, SV, PEST) - surrogate spike analysis results (Form II) by matrix (Water and/or Soil) and for soil, by concentration (Low or Medium)
4. By fraction (VOA, SV, PEST) - matrix spike/matrix spike duplicate results (Form III)
5. By fraction (VOA, SV, PEST) - blank data (Form IV) and tabulated results (Form I) including tentatively identified compounds (Form I, TIC) (VOA and SV only).

CASE#: SG15 SDG#: 01 SAS# _____

1. Case Narrative

Case Narrative for 15615
SDG No. 01
Contract: (10-86)REV
Compuchem Laboratories

Samples 336035-02 336035-04 336035-06 336035-08

Attached are pertinent Quality Assurance notices dealing with the analysis of four (4) soil samples associated with Case 15615, SDG No 01. These samples were received on Nov. 8th in good condition. The shipping courier was Federal Express, the shipping containers arrived sealed but no tags were received with this shipment. These samples were logged into Compuchem's Laboratory Management System, scheduled for the analysis of the volatile, semivolatile and pesticide fractions with quick turnaround time, and stored at 4C. The pH values ranged from 5.6 to 6.5. The undecanted percent moisture of 336035-02 was 41%; for 336035-04 the undecanted percent moisture was 83% and the decanted percent moisture was 73%. Please note that there is a discrepancy involving the decanted and undecanted percent moisture of 336035-06 and 336035-08: the decanted percent moisture is greater than the undecanted percent moisture. While efforts were made to get a representative aliquot, the results indicate this was not possible. This may be due to the large amount of water in these samples. The results are: 336035-06, undecanted = 75% and decanted = 81%, 336035-08, undecanted = 30% and decanted = 40%.

In the volatile fractions Target Compound List (TCL) compounds were present in all of these samples; the number per fraction ranged from two to three. These TCL compounds were present in amount from below the quantitation limit to well above. The TCL compounds Methylene Chloride and Acetone were present in the method blank in amounts well within the EPA protocol specified QA/QC contamination criteria. These TCL compounds were present in all of the associated fractions, in comparison, the amounts present in the fractions ranged from similar to 15X the amounts present in the blank. In addition, an early eluting peak was present in the method blank and all of the associated fractions. This peak is believed to consist of water and atmospheric gases and should not be considered to be a sample constituent. The spectra of these peaks will be provided but these will not be included in the required library searches. Excluding these peaks, no Tentatively Identified Compounds were present in these fractions. All of these fractions were analyzed within holding time criteria.

In the semivolatile fractions TCL compounds were present in three fractions, the number per fraction ranged from nine to twelve. These TCL compounds were present in amount from below the quantitation limit to slightly above. The X qualifier denotes the presence of indistinguishable isomers. Contaminants were present in the method blank and the associated fractions. These contaminants are early eluting peaks believed to be present in the solvent used in the extraction procedure or aldol condensation products. These should not be considered to be sample constituents and are being assessed as blank contaminants or aldols, as appropriate. Excluding these peaks, Tentatively Identified Compounds were present in all of these fractions, the number per fraction ranged from four to eighteen. All of these fractions were extracted/analyzed within holding time criteria.

In the pesticide fractions the presence of TCL compounds were not confirmed in any of these samples. Please note that there is one outlier present in the XD column of the Form VIII of one of the sequences included in this SDG. This outlier is associated with a sample not included in this SDG. All of

these 7 actions were extracted/analyzed within holding time criteria

Surrogate recovery acceptance criteria were met for all fractions of all samples. Data generated from the GC Matrix Spike/Matrix Spike Duplicate test was acceptable with the recovery and RPD values within the GC Limits. All of the initial and continuing calibration criteria were met.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by following signature.



John P. McConney 11/17/88
Technical Reviewer

Note: This report is paginated for reference and accountability in decreasing numerical sequence.

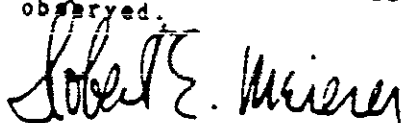


COMPUCHEM
LABORATORIES

Quality Assurance Notice

With the advent of the new organics Statement of Work (SOW 10/86, Revisions: 1/87, 2/87, 7/87, 8/87) participants in EPA's Contract Laboratory Program (CLP) are required to provide hard copy and diskette deliverables. CompuChem employs the Finnigan QA Formaster Program (Format A) to generate these requirements using data files from our analytical instrumentation. Currently, and independently, quantitation reports are generated by the instruments and are used with CompuChem-developed software to calculate results. The GC and GC/MS quantitation routines employ the convention of carrying at least one extra significant figure until the mathematical computations are completed. Then, the quantitative results are rounded to the SOW-required number of significant figures for reporting. In addition, the algorithm used by the Formaster Program is slightly different than that employed in CompuChem's software routines. Therefore, results presented in the supportive data supplied with our deliverables packages may be slightly different than those which appear on the hard copy forms generated via Formaster. CompuChem is proceeding with modifications to eliminate these minor differences.

This notice serves to alert the end users of these data packages as to the reason why slight differences may be observed.



Robert E. Meierer
Director of Quality Assurance


BH:cf
12/21/87


COMPUCHEM LABORATORIES, INC. P.O. Box 12652 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27709 (919) 549-8283

SAMPLE DATA SUMMARY

DETECTION LIMIT CALCULATION CLARIFICATION

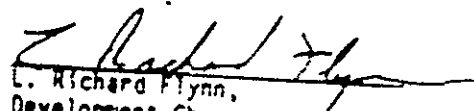
To protect our GC columns from unnecessary contamination, soil samples prepared according to Caucus Protocol methods are routinely diluted 5:1. Through a series of experiments we have determined that our Instrument Detection Limit for pesticides is 5X lower than the EPA Contract Required Quantitation Limit (CROL). We, therefore, only adjust our detection limits if the dilution necessary to analyze the sample is greater than 5:1. If the sample is diluted by a factor of X the detection limit is adjusted by $\frac{X}{5}$ instead of X.

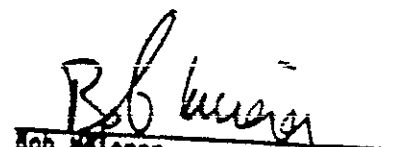

Bill DesJardins
Manager, GC Laboratory


Bob Peterer
Director, Quality Assurance

LABORATORY NOTICE

On June 15, 1985 CompuChem Laboratories began adding D3-2,4-Dinitrophenol to all standards and samples. The purpose of this addition is to enable the laboratory to have higher and more consistent analytical sensitivity for the native 2,4-Dinitrophenol. The peak corresponding to the deuterated analog is clearly labeled on each RIC as D301 and will not be searched and reported as a tentatively identified compound (TIC). This compound is not being used as an internal or surrogate standard.


L. Richard Flynn,
Development Chemist


Bob Hefner,
Director of Quality Assurance

COMPUCHEM LABORATORIES

Changes to The EPA's Organic Statement of Work (SOW) For the Contract Laboratory Program (CLP)

Effective with samples received at CompuChem Laboratories, Inc., on Monday, October 12, 1987, the new "SOW for Organics Analysis; Multi-Media, Multi-Concentration" will be in effect. The new SOW is dated 10/86, with revisions dated 1/87, 2/87 and 7/87.

EPA introduces modifications to the CLP SOW for a variety of reasons:

- as a result of technical caucuses attended by representatives from EPA regional laboratories and the CLP, new or modified analytical methods are required.
- as a result of analytical data being supplied to the Agency by the CLP laboratories, QC acceptance criteria are updated and made a requirement of the program.
- as a result of requirements by the end users of the data (the EPA regions and the Program Office), changes to the deliverable requirements of the CLP are necessary.

As a service to our clients utilizing the EPA CLP SOW for their analytical needs, the following information is provided to point out the substantive changes between the new SOW and the previous (7/85) one.

"Key" Changes to The Organic SOW

1. Hardcopy reports of data are required to be paginated and reported by fraction. Along with hardcopy data, certain deliverables are required to be presented on computer diskettes. Both types of deliverables are due within 40 days of Validated Time of Sample Receipt (VTSR). Data is to be packaged with custody seals.
2. All existing forms have been modified and are fraction specific. A new form (Internal Standard

COMPUCHEM LABORATORIES, INC. P.O. Box 12832 3308 Chapel Hill/Nelson Highway Research Triangle Park, NC 27706 (919) 548-8283

Area Summary: Form VIII VOA and S-V) summarizes all I.S. areas and allows visual comparison to the upper and lower limits from the shift standard.

3. The volatile organic analysis of water and soil samples are required to be completed within 10 days of VTSR. Semivolatile and pesticide analyses are required to be analyzed within 40 days of VTSR, not within 40 days of extraction as in the 7/85 SOW.
4. While the 7/85 SOW characterized the list of analytes as Hazardous Substance List (HSL) compounds, the new SOW identifies the analytes as Target Compound List (TCL) compounds. Similarly, the 7/85 SOW identified Contract Required Detection Limits (CRDL) while the new SOW identifies similar limits as Contract Required Quantitation Limits (CRQL).
5. Relative to the TCL, the following are the differences from the HSL:
 - one volatile compound, 2-chloroethyl vinyl ether is no longer required to be analyzed.
 - 1,2 - dichloroethene (total) replaces the compound trans-1,2-dichloroethene since the "cis" isomer of 1,2-dichloroethene coelutes with the "trans" isomer.
 - the 7/85 SOW required the pesticide compound chlordane to be reported while the new SOW requires the major constituents of technical chlordane, alpha-chlordane and gamma-chlordane, to each be reported.
6. Screening of pesticide extracts should be done by GC/EC.
7. A new term, the Sample Delivery Group (SDG) has been introduced and is defined as:
 - each case of field samples, or
 - each 20 field samples within a case, or
 - each 14-day calendar period during which field samples in a case are received, whichever is most frequent.

The 40 day turnaround requirements (from VTSR) refer to all samples in an SDG from the receipt of the last sample in the SDG. The lowest EPA sample number in a SDG is the SDG number.

8. All samples, matrix spikes, matrix spike duplicates, blanks and standards (including tune standards) are required to be identified with an EPA Sample Number. Conventions to be used are provided in the SOW.
9. A new deliverable concept, the Sample Data Summary Package (SDSP), has been introduced. The SDSP consists of copies of specific items from the sample data packages and immediately precedes them. The SDSP shall contain data for samples in one SDG of a case as follows,
 - By fraction (VOA, semivolatile, pesticide) and by sample within each fraction - tabulated results (Form I) and tentatively identified compounds (Form I, TIC). TICs for VOA and semivolatiles only.
 - By fraction (VOA, semivolatile, pesticide) - surrogate spike analysis results by matrix and, for soil, by concentration (low or medium),
 - By fraction (VOA, semivolatile, pesticide) - matrix spike and matrix spike duplicate results,
 - By fraction (VOA, semivolatile, pesticide) - blank data.
10. Allowances are provided to report a maximum of two analyses due to dilutions and two analyses confirming matrix interferences.
11. Capillary column usage is an option for VOA as long as EPA method 524.2 is used in conjunction with the SOW internal standards, surrogates, and performance and acceptance criteria.
12. For mass spectral interpretation, the verification process should favor false positives, rather than false negatives as in the 7/85 SOW.
13. EPA is making a distinction regarding the outcome of re-extractions/re-analyses performed because

surrogates failed in the initial endeavors. If on re-extraction/re-analysis the surrogates pass, the original failure was a lab problem. Only the good data is submitted and is considered the initial analysis. The same philosophy applies to VOAs.

14. Raw samples and sample bottles can be disposed of no earlier than 60 days after data submission. Extracts must be stored at 4 C for a year following data submission. Specific labelling instructions are provided and a storage logbook is required. Tapes and associated logbook have to be stored for a year after data submission.

The above represents information depicting the major changes in the new organic SOW for EPA's CLP. There are, of course, other, minor changes which have not been addressed in this announcement. If, after reading the information presented here or, after receiving data under the new SOW, there are questions, please feel free to contact your Account Administrator at 1-800-833-5097.

Robert E. Meierer
Director of Quality Assurance

REM:cf

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following result qualifiers are used. Additional flags or footnotes explaining results are encouraged. However, the definition of each flag must be explicit.

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

- U - Indicates compound was analyzed but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to 10 dilution factor, the sample quantitation limit for phenol would be corrected to:

$$\frac{100}{.76} \times 10 \text{ where } 0 = \frac{100 - \% \text{ moisture}}{100}$$

and 10 = dilution factor

at 24% moisture, $0 = \frac{100 - 24}{100} = 0.76$

$$\frac{1000}{.76} \times 10 = 4300 \text{ rounded to the appropriate number of significant figures}$$

For soil sample subjected to GPC clean-up procedures, the GPC is also multiplied by 2, to account for the fact that only half of the extract is recovered.

- J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration is 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form I.

- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/L in the final extract shall be confirmed by GC/MS.

- B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TOC compound.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "D" suffix appended to the sample number.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "D" suffix is appended to the sample number on the Form I for the diluted sample and all concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that TIC is a suspected aldol-condensation product.
- X - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. If more than one is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

2. By fraction (VOA, SV, PEST) and by sample within each fraction - tabulated target compound results (Form I) and tentatively identified compounds (Form J, TIC) (VOA and SV only)

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CONDUCHEN LABS Contract: (10-86)-REV
 Lab Code: CONDU Case No.: 15415 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227195
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH027195C1
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. 41 Date Analyzed: 11/09/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	
74-87-3	Chloromethane	17	U
74-83-9	Bromomethane	17	U
75-01-4	Vinyl Chloride	17	U
75-00-3	Chloroethane	17	U
75-09-2	Methylene Chloride	17	U
67-64-1	Acetone	16	B
75-15-0	Carbon Disulfide	23	B
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	8	U
67-66-3	Chloroform	8	U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	8	U
71-55-6	1,1,1-Trichloroethane	17	U
56-23-5	Carbon Tetrachloride	8	U
108-05-4	Vinyl Acetate	8	U
75-27-4	Bromodichloromethane	17	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethane	8	U
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	Trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-Pentanone	8	U
591-78-6	2-Hexanone	17	U
127-18-4	Tetrachloroethene	17	U
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-89-3	Toluene	8	U
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	8	U
100-42-5	Styrene	8	U
1330-20-7	Total Xylenes	8	U

FORM I VOA

1/87 Per.

SAMPLE DATA SUMMARY

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CONTECHEN LABS Contract: (10-86)-REV 336035-C2
 Lab Code: CONTEH Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227196
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH027196C1C
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 41 Date Analyzed: 11/09/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	INSTRUMENT ARTIFACT	0.80	25	BJ

FORM I VOA-TIC

1/87 Rev.

SAMPLE DATA SUMMARY

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Lab Name: COMPUchem LABS Contract: (10-86)-REV 336035-04
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227204
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH027204A1
 Level: (low/med) LOW Date Received: 11/08/88
 † Moisture: not dec. 01 Date Analyzed: 11/09/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	
74-87-3	Chloromethane	59	U
74-83-9	Bromomethane	59	U
75-01-4	Vinyl Chloride	59	U
75-00-3	Chloroethane	59	U
75-09-2	Methylene Chloride	49	B
67-64-1	Acetone	150	B
75-15-0	Carbon Disulfide	29	U
75-35-4	1,1-Dichloroethene	29	U
75-34-3	1,1-Dichloroethane	29	U
540-59-0	1,2-Dichloroethene (total)	29	U
67-66-3	Chloroform	29	U
107-06-2	1,2-Dichloroethane	29	U
78-93-3	2-Butanone	29	U
71-55-6	1,1,1-Trichloroethane	59	U
56-23-5	Carbon Tetrachloride	29	U
108-05-4	Vinyl Acetate	29	U
75-27-4	Bromodichloromethane	59	U
78-87-5	1,2-Dichloropropane	29	U
10061-01-5	cis-1,3-Dichloropropene	29	U
79-01-6	Trichloroethene	29	U
124-48-1	Dibromochloromethane	29	U
79-00-5	1,1,2-Trichloroethane	29	U
71-43-2	Benzene	29	U
10061-02-6	Trans-1,3-Dichloropropane	29	U
75-25-2	Bromoform	29	U
108-10-1	4-Methyl-2-Pentanone	29	U
591-78-6	2-Hexanone	59	U
127-18-4	Tetrachloroethene	59	U
79-34-5	1,1,2,2-Tetrachloroethane	29	U
108-88-3	Toluene	29	U
108-90-7	Chlorobenzene	29	U
100-41-4	Ethylbenzene	29	U
100-42-5	Styrene	29	U
1330-20-7	Total Xylenes	29	U

FORM I VOA

1/87 Rev.

SAMPLE DATA SUMMARY

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV 336035-04
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227204
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH027204A1C
 Level: (low/med) LOW Date Received: 11/08/88
 † Moisture: not dec. 83 Date Analyzed: 11/09/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	INSTRUMENT ARTIFACT	0.30	53	BJ

FORM I VOA-TIC

1.87 Rev.

SAMPLE DATA SUMMARY

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV 336035-06
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDS No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227208
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH027208110
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 75 Date Analyzed: 11/09/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>		Q
74-87-3	Chloromethane	40		U
74-83-9	Bromomethane	40		U
75-01-4	Vinyl Chloride	40		U
75-00-3	Chloroethane	40		U
75-09-2	Methylene Chloride	41		B
67-64-1	Acetone	38		B
75-15-0	Carbon Disulfide	20		U
75-35-4	1,1-Dichloroethene	20		U
75-34-3	1,1-Dichloroethane	20		U
540-59-0	1,2-Dichloroethene (total)	20		U
67-66-3	Chloroform	20		U
107-06-2	1,2-Dichloroethane	20		U
78-93-3	2-Butanone	40		U
71-55-6	1,1,1-Trichloroethane	20		U
56-23-5	Carbon Tetrachloride	20		U
108-05-4	Vinyl Acetate	40		U
75-27-4	Bromodichloromethane	20		U
78-87-5	1,2-Dichloropropane	20		U
10061-01-5	cis-1,3-Dichloropropene	20		U
79-01-6	Trichloroethene	20		U
124-48-1	Dibromochloromethane	20		U
79-00-5	1,1,2-Trichloroethane	20		U
71-43-2	Benzene	20		U
10061-02-6	Trans-1,3-Dichloropropene	20		U
75-25-2	Bromoform	20		U
108-10-1	4-Methyl-2-Pentanone	40		U
591-78-6	2-Hexanone	40		U
127-18-4	Tetrachloroethene	20		U
79-34-5	1,1,2,2-Tetrachloroethane	20		U
108-88-3	Toluene	20		U
108-90-7	Chlorobenzene	20		U
100-41-4	Ethylbenzene	20		U
100-42-5	Styrene	20		U
1330-20-7	Total Xylenes	20		U

FORM I VOA

1/87 Rev

SAMPLE DATA SUMMARY

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV 336035-00
 Lab Code: COMPU Case No.: 15613 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227205
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH027205C19
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. 75 Date Analyzed: 11/02/88
 Column (pack/csp) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	C
1.	INSTRUMENT ARTIFACT	0.80	110	BJ

FORM I VCA-TIC

1/87 Rev

SAMPLE DATA SUMMARY

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV 336035-02
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227197
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH02719701
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. 10 Date Analyzed: 11/09/88
 Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.
1.	INSTRUMENT ARTIFACT	0.80	26 BJ

FORM I VOA-TIC

1/87 Rev.

SAMPLE DATA SUMMARY

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV EPA SAMPLE NO. 336038-08
 Lab Code: COMPU Case No.: 15415 SAS No.: _____ SDG No.: Q1
 Matrix: (soil/water) SOIL Lab Sample ID: 227197
 Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH027197CA9
 Level: (low/med) LOW Date Received: 11/08/88
 † Moisture: not dec. 10 Date Analyzed: 11/09/88
 Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	-----Chloromethane	14	U
74-83-9	-----Bromomethane	14	U
75-01-4	-----Vinyl Chloride	14	U
75-00-3	-----Chloroethane	14	U
75-09-2	-----Methylene Chloride	14	U
67-64-1	-----Acetone	12	B
75-15-0	-----Carbon Disulfide	42	B
75-35-4	-----1,1-Dichloroethene	7	U
75-34-3	-----1,1-Dichloroethane	7	U
540-59-0	-----1,2-Dichloroethene (total)	7	U
67-66-3	-----Chloroform	7	U
107-06-2	-----1,2-Dichloroethane	7	U
78-93-3	-----2-Butanone	7	U
71-55-6	-----1,1,1-Trichloroethane	14	U
56-23-5	-----Carbon Tetrachloride	7	U
108-05-4	-----Vinyl Acetate	7	U
75-27-4	-----Bromodichloromethane	14	U
78-87-5	-----1,2-Dichloropropane	7	U
10061-01-5	-----cis-1,3-Dichloropropene	7	U
79-01-6	-----Trichloroethene	7	U
124-48-1	-----Dibromochloromethane	7	U
79-00-5	-----1,1,2-Trichloroethane	7	U
71-43-2	-----Benzene	7	U
10061-02-6	-----Trans-1,3-Dichloropropene	3	J
75-25-2	-----Bromoform	7	U
108-10-1	-----4-Methyl-2-Pentanone	7	U
591-78-6	-----2-Hexanone	14	U
127-18-4	-----Tetrachloroethene	14	U
79-34-5	-----1,1,2,2-Tetrachloroethane	7	U
108-88-3	-----Toluene	7	U
108-90-7	-----Chlorobenzene	7	U
100-41-4	-----Ethylbenzene	7	U
100-42-5	-----Styrene	7	U
1330-20-7	-----Total Xylenes	7	U

FORM I VOA

1/87 Rev.

SAMPLE DATA SUMMARY

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Lab Name: COMPUCHEM LABS Contract: (10-86)-REV 336015-0686

Lab Code: COMPU Case No.: 15415 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) SOIL Lab Sample ID: 227198

Sample wt/vol: 3.0 (g/mL) G Lab File ID: GH027198C1G

Level: (low/med) LOW Date Received: 11/05/88

% Moisture: not dec. 75 Date Analyzed: 11/09/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	-----Chloromethane	40	U
74-83-9	-----Bromomethane	40	U
75-01-4	-----Vinyl Chloride	40	U
75-00-3	-----Chloroethane	40	U
75-09-2	-----Methylene Chloride	40	U
67-64-1	-----Acetone	41	B
75-15-0	-----Carbon Disulfide	66	B
75-35-4	-----1,1-Dichloroethene	20	U
75-34-3	-----1,1-Dichloroethane	20	U
540-59-0	-----1,2-Dichloroethene (total)	20	U
67-66-3	-----Chloroform	20	U
107-06-2	-----1,2-Dichloroethane	20	U
78-93-3	-----2-Butanone	20	U
71-55-6	-----1,1,1-Trichloroethane	40	U
56-23-5	-----Carbon Tetrachloride	20	U
108-05-4	-----Vinyl Acetate	20	U
75-27-4	-----Bromodichloromethane	40	U
78-87-5	-----1,2-Dichloropropane	20	U
10061-01-5	-----cis-1,3-Dichloropropene	20	U
79-01-6	-----Trichloroethene	20	U
124-48-1	-----Dibromochloromethane	20	U
79-00-5	-----1,1,2-Trichloroethane	20	U
71-43-2	-----Benzene	20	U
10061-02-6	-----Trans-1,3-Dichloropropene	20	U
75-25-2	-----Bromoform	20	U
108-10-1	-----4-Methyl-2-Pentanone	20	U
591-78-6	-----2-Hexanone	40	U
127-18-4	-----Tetrachloroethane	40	U
79-34-5	-----1,1,2,2-Tetrachloroethane	20	U
108-88-3	-----Toluene	20	U
108-90-7	-----Chlorobenzene	20	U
100-41-4	-----Ethylbenzene	20	U
100-42-5	-----Styrene	20	U
1330-20-7	-----Total Xylenes	20	U

FORM I VOA

1/87 Rev.

SAMPLE DATA SUMMARY

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV 336036-06M3

Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) SOIL Lab Sample ID: 227129

Sample wt/vol: 5.0 (g/mL) G Lab File ID: GH027129C12

Level: (low/med) LOW Date Received: 11/05/88

Moisture: not dec. 75 Date Analyzed: 11/09/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
74-87-3	Chloromethane	40	U
74-83-9	Bromomethane	40	U
75-01-4	Vinyl Chloride	40	U
75-00-3	Chloroethane	40	U
75-09-2	Methylene Chloride	60	B
67-64-1	Acetone	92	B
75-15-0	Carbon Disulfide	20	U
75-35-4	1,1-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	20	U
540-59-0	1,2-Dichloroethane (total)	20	U
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
78-93-3	2-Butanone	20	U
71-55-6	1,1,1-Trichloroethane	40	U
56-23-5	Carbon Tetrachloride	20	U
108-05-4	Vinyl Acetate	40	U
75-27-4	Bromodichloromethane	40	U
78-87-5	1,2-Dichloropropane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
79-01-6	Trichloroethene	20	U
124-48-1	Dibromochloromethane	20	U
79-00-5	1,1,2-Trichloroethane	20	U
71-43-2	Benzene	20	U
10061-02-6	Trans-1,3-Dichloropropene	20	U
75-25-2	Bromoform	20	U
108-10-1	4-Methyl-2-Pentanone	40	U
591-78-6	2-Hexanone	40	U
127-18-4	Tetrachloroethene	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	U
108-88-3	Toluene	20	U
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
100-42-5	Styrene	20	U
1330-20-7	Total Xylenes	20	U

FORM I VOA

1 87 88

SAMPLE DATA SUMMARY

43

18
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV 336033-03
 Lab Code: COMPU Case No.: 15415 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227196
 Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH027126A15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. 11 dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG		Q
108-95-2	Phenol			
111-44-4	bis(2-Chloroethyl) Ether	560		U
95-57-8	2-Chlorophenol	560		U
541-73-1	1,3-Dichlorobenzene	560		U
106-46-7	1,4-Dichlorobenzene	560		U
100-51-6	Benzyl Alcohol	560		U
95-50-1	1,2-Dichlorobenzene	560		U
95-48-7	2-Methylphenol	560		U
39638-32-9	bis(2-Chloroisopropyl) Ether	560		U
106-44-5	4-Methylphenol	560		U
621-64-7	N-Nitroso-Di-n-Propylamine	560		U
67-72-1	Hexachloroethane	560		U
98-95-3	Nitrobenzene	560		U
78-59-1	Isophorone	560		U
88-75-5	2-Nitrophenol	560		U
105-67-9	2,4-Dimethylphenol	560		U
65-85-0	Benzoic Acid	560		U
111-91-1	bis(2-Chloroethoxy) Methane	2700		U
120-83-2	2,4-Dichlorophenol	560		U
120-82-1	1,2,4-Trichlorobenzene	560		U
91-20-3	Naphthalene	560		U
106-47-8	4-Chloroaniline	86		J
87-68-3	Hexachlorobutadiene	560		U
59-50-7	4-Chloro-3-Methylphenol	560		U
91-57-6	2-Methylnaphthalene	560		U
77-47-4	Hexachlorocyclopentadiene	76		J
88-06-2	2,4,6-Trichlorophenol	560		U
95-95-4	2,4,5-Trichlorophenol	560		U
91-58-7	2-Chloronaphthalene	2700		U
88-74-4	2-Nitroaniline	560		U
131-11-3	Dimethyl Phthalate	2700		U
208-96-8	Acenaphthylene	560		U
606-20-2	2,6-Dinitrotoluene	560		U

FORM I SV-1

1/87 Rev.

SAMPLE DATA SUMMARY

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABS Contract: (10-861)-REV 336039-09
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227134
 Sample wt/vol: 10.0 (g/mL) G Lab File ID: GH027196A1E
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 41 dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>		
99-09-2	3-Nitroaniline	2700		U
83-32-9	Acenaphthene	560		U
51-28-5	2,4-Dinitrophenol	2700		U
100-02-7	4-Nitrophenol	2700		U
132-64-9	Dibenzofuran	63		J
121-14-2	2,4-Dinitrotoluene	560		U
84-66-2	Diethylphthalate	560		U
7005-72-3	4-Chlorophenyl-phenylether	560		U
86-73-7	Fluorene	560		U
100-01-6	4-Nitroaniline	560		U
534-52-1	4,6-Dinitro-2-Methylphenol	2700		U
86-30-6	N-Nitrosodiphenylamine (1)	2700		U
101-55-3	4-Bromophenyl-phenylether	560		U
118-74-1	Hexachlorobenzene	560		U
97-86-5	Pentachlorophenol	560		U
85-01-8	Phenanthrene	2700		U
120-12-7	Anthracene	280		J
84-74-2	Di-n-Butylphthalate	560		U
206-44-6	Fluoranthene	560		U
129-00-0	Pyrene	560		U
85-68-7	Butylbenzylphthalate	450		J
91-94-1	3,3'-Dichlorobenzidine	560		U
56-55-3	Benzo(a)Anthracene	1100		U
218-01-9	Chrysene	350		J
117-81-7	bis(2-Ethylhexyl) Phthalate	490		J
117-84-0	Di-n-Octyl Phthalate	130		J
205-99-2	Benzo(b) Fluoranthene	560		U
207-08-9	Benzo(k) Fluoranthene	750		X
50-32-8	Benzo(a) Pyrene	750		X
193-39-5	Indeno(1,2,3-cd) Pyrene	260		J
53-70-3	Dibenzo(a,h) Anthracene	560		U
191-24-2	Benzo(g,h,i) Perylene	560		U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1, 87 Rev.

SAMPLE DATA SUMMARY

1P
 SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: CONFUCHEM LABS Contract: (10-86)-REV 334035-02
 Lab Code: CONPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227196
 Sample wt/vol: 10.0 (g/mL) G Lab File ID: GH027196A1:
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 41 dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: 5.5 Dilution Factor: 1.00

Number TICs found: 2

CONCENTRATION UNITS:
 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BLANK CONTAMINANT	5.28	1200	BJ
2.	UNKNOWN ALDOL	6.00	680	AJ
3.	UNKNOWN ALDOL	6.17	1300	AJ
4.	BLANK CONTAMINANT	6.45	450	BJ
5.	UNKNOWN HYDROCARBON	7.20	680	J
6.	UNKNOWN HYDROCARBON	7.25	230	J
7.	UNKNOWN HYDROCARBON	19.50	140	J
8. 192-97-2	BENZO[E]PYRENE	19.77	230	J
9.	UNKNOWN	23.25	510	J

FORM I SV-TIC

1/87 Rev.

SAMPLE DATA SUMMARY

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Name: CONPUCHEN LABS

Contract: (10-84)-REV

335035-04

Code: CONPU

Case No.: 15415

SAS No.:

SDG No.: 01

Matrix: (soil/water) SOIL

Lab Sample ID: 227204

Sample wt/vol: 10.0 (g/mL) g

Lab File ID: GH027204A15

Level: (low/med) LOW

Date Received: 11/08/88

Moisture: not dec. 81 dec. 71

Date Extracted: 11/08/88

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 11/10/88

GPC cleanup: (Y/N) N PH: 6.4

Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1200	U
111-44-4	bis(2-Chloroethyl) Ether	1200	U
95-57-8	2-Chlorophenol	1200	U
541-73-1	1,3-Dichlorobenzene	1200	U
106-46-7	1,4-Dichlorobenzene	1200	U
100-51-6	Benzyl Alcohol	1200	U
95-50-1	1,2-Dichlorobenzene	1200	U
95-48-7	2-Methylphenol	1200	U
29638-32-9	bis(2-Chloroisopropyl) Ether	1200	U
106-44-5	4-Methylphenol	1200	U
621-64-7	N-Nitroso-Di-n-Propylamine	1200	U
67-72-1	Hexachloroethane	1200	U
98-95-3	Nitrobenzene	1200	U
78-59-1	Isophorone	1200	U
88-75-5	2-Nitrophenol	1200	U
105-67-9	2,4-Dimethylphenol	1200	U
65-85-0	Benzoic Acid	1200	U
111-91-1	bis(2-Chloroethoxy)Methane	5900	U
120-83-2	2,4-Dichlorophenol	1200	U
120-82-1	1,2,4-Trichlorobenzene	1200	U
91-20-3	Naphthalene	1200	U
106-47-8	4-Chloroaniline	1200	U
87-68-3	Hexachlorobutadiene	1200	U
59-50-7	4-Chloro-3-Methylphenol	1200	U
91-57-6	2-Methylnaphthalene	1200	U
77-47-4	Hexachlorocyclopentadiene	1200	U
88-06-2	2,4,6-Trichlorophenol	1200	U
95-95-4	2,4,5-Trichlorophenol	1200	U
91-58-7	2-Chloronaphthalene	5900	U
88-74-4	2-Nitroaniline	1200	U
131-11-3	Dimethyl Phthalate	5900	U
208-96-8	Acenaphthylene	1200	U
606-20-2	2,6-Dinitrotoluene	1200	U

FORM I SV-1

1/87 Rev.

SAMPLE DATA SUMMARY

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

336035-04

Lab Name: COMPUCHEN LABS Contract: (10-85)-REV
 Code: CONPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227204
 Sample wt/vol: 10.0 (g/mL) G Lab File ID: GH027204A15
 Levels: (low/med) LOW Date Received: 11/09/88
 Moisture: not dec. 81 dec. 71 Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88
 Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
99-09-2	3-Nitroaniline	5900	U
83-32-9	Acenaphthene	1200	U
51-28-5	2,4-Dinitrophenol	5900	U
100-02-7	4-Nitrophenol	5900	U
122-64-9	Dibenzofuran	1200	U
121-14-2	2,4-Dinitrotoluene	1200	U
84-66-2	Diethylphthalate	1200	U
7005-72-3	4-Chlorophenyl-phenylether	1200	U
86-73-7	Fluorene	1200	U
100-01-6	4-Nitroaniline	5900	U
534-52-1	4,6-Dinitro-2-Methylphenol	5900	U
86-30-6	N-Nitrosodiphenylamine (1)	1200	U
101-55-3	4-Bromophenyl-phenylether	1200	U
118-74-1	Hexachlorobenzene	1200	U
87-86-5	Pentachlorophenol	1200	U
85-01-8	Phenanthrene	5900	U
120-12-7	Anthracene	180	J
84-74-2	Di-n-Butylphthalate	1200	U
206-44-0	Fluoranthene	1200	U
129-00-0	Pyrene	400	J
85-68-7	Butylbenzylphthalate	400	J
91-94-1	3,3'-Dichlorobenzidine	1200	U
56-55-3	Benzo(a)Anthracene	2400	U
218-01-9	Chrysene	230	J
117-81-7	Bis(2-Ethylhexyl)Phthalate	480	J
117-84-0	Di-n-Octyl Phthalate	680	J
205-99-2	Benzo(b)Fluoranthene	1200	U
207-08-9	Benzo(k)Fluoranthene	390	JX
50-32-8	Benzo(a)Pyrene	390	JX
193-39-5	Indeno(1,2,3-cd)Pyrene	230	J
53-70-3	Dibenzo(a,h)Anthracene	1200	U
191-24-2	Benzo(g,h,i)Perylene	1200	U
		1200	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

SAMPLE DATA SUMMARY

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

Name: COMPUCHEN LABS Contract: (10-86)-REV 336035-04
 Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227204
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: GH027204A15
 Levels: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 33 dec. 73 Date Extracted: 11/09/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

Number TICs found: 14

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BLANK CONTAMINANT	5.32	1800	BJ
2. 20278-85-7	HEPTANE, 2,3,5-TRIMETHYL-	5.40	3000	J
3.	UNKNOWN ALDOL	6.20	1800	AJ
4.	BLANK CONTAMINANT	6.47	740	BJ
5.	UNKNOWN HYDROCARBON	13.82	990	J
6.	UNKNOWN HYDROCARBON	14.70	2600	J
7.	UNKNOWN HYDROCARBON	15.60	490	J
8.	UNKNOWN HYDROCARBON	16.54	1600	J
9.	UNKNOWN HYDROCARBON	17.79	2700	J
10.	UNKNOWN HYDROCARBON	19.00	2000	J
11.	UNKNOWN HYDROCARBON	19.60	4800	J
12.	UNKNOWN HYDROCARBON	22.35	1700	J
13.	UNKNOWN HYDROCARBON	22.40	2300	J
14.	UNKNOWN	23.35	5400	J

FORM I SV-TIC

1/87 Rev.

SAMPLE DATA SUMMARY

37

18
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV 336035-06
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227205
 Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH027208A15
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. 75 dec. 81 Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol		
111-44-4	bis(2-Chloroethyl) Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
39638-32-9	bis(2-Chloroisopropyl) Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	1700	U
111-91-1	bis(2-Chloroethoxy) Methane	8400	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	1700	U
91-58-7	2-Chloronaphthalene	8400	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethyl Phthalate	8400	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

FORM I SV-1

1/87 Rev.

SAMPLE DATA SUMMARY

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Lab Name: COMPUCHEN LABS Contract: 110-261-REV 336035-06

Lab Code: CONFG Case No.: 15615 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) SOIL Lab Sample ID: 227208

Sample wt/vol: 10.0 (g/mL) g Lab File ID: GH027208A15

Level: (low/med) LOW Date Received: 11/05/88

Moisture: not dec. 75 dec. 81 Date Extracted: 11/05/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/19/88

GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO. COMPOUND CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG Q

99-09-2	3-Nitroaniline	8400	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8400	U
100-02-7	4-Nitrophenol	8400	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	1700	U
534-52-1	4,6-Dinitro-2-Methylphenol	8400	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8400	U
85-01-8	Phenanthrene	1700	U
120-12-7	Anthracene	490	U
84-74-2	Di-n-Butylphthalate	1700	U
206-44-0	Fluoranthene	820	U
129-00-0	Pyrene	850	U
85-68-7	Butylbenzylphthalate	1700	U
91-94-1	3,3'-Dichlorobenzidine	3500	U
56-55-3	Benzo(a)Anthracene	480	U
218-01-9	Chrysene	600	U
117-81-7	bis(2-Ethylhexyl)Phthalate	650	U
117-84-0	Di-n-Octyl Phthalate	1700	U
205-99-2	Benzo(b)Fluoranthene	820	JX
207-08-9	Benzo(k)Fluoranthene	820	JX
50-32-8	Benzo(a)Pyrene	420	J
193-39-5	Indeno(1,2,3-cd)Pyrene	1700	U
53-70-3	Dibenzo(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

SAMPLE DATA SUMMARY

1F
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

Lab Name: CONVUCHEM LABS Contract: (10-86)-REV 336035-06

Lab Code: CONFU Case No.: 15615 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) SOIL Lab Sample ID: 227208

Sample wt/vol: 10.0 (g/mL) G Lab File ID: GH027208A15

Level: (low/med) LOW Date Received: 11/08/88

Moisture: not dec. 75 dec. 81 Date Extracted: 11/08/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88

CPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

Number TICs found: 22

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BLANK CONTAMINANT	5.22		
2.	BLANK CONTAMINANT	5.30	880	BJ
3.	20278-85-7	5.38	3000	BJ
4.	HEPTANE, 2,3,5-TRIMETHYL-	5.38	4700	J
5.	UNKNOWN ALDOL	6.18	2300	AJ
6.	BLANK CONTAMINANT	6.45	1100	BJ
7.	UNKNOWN HYDROCARBON	7.22	1800	J
8.	UNKNOWN HYDROCARBON	15.59	1100	J
9.	UNKNOWN	16.10	700	J
10.	UNKNOWN	16.39	2100	J
11.	UNKNOWN HYDROCARBON	16.50	1900	J
12.	UNKNOWN	16.62	880	J
13.	UNKNOWN HYDROCARBON	17.74	3500	J
14.	UNKNOWN	17.85	1200	J
15.	UNKNOWN HYDROCARBON	18.94	1400	J
16.	UNKNOWN HYDROCARBON	19.52	6300	J
17.	UNKNOWN	22.24	3900	J
18.	UNKNOWN	23.29	3700	J
19.	UNKNOWN	23.45	1900	J
20.	UNKNOWN	25.47	1200	J
21.	UNKNOWN	26.22	1800	J
22.	UNKNOWN HYDROCARBON	26.42	350	J
	UNKNOWN	26.67	2600	J

FORM I SV-TIC

1/87 Rev.

SAMPLE DATA SUMMARY

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Name: COMPUKEM LABS Contract: (10-85)-REV 336035-08

Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) SOIL Lab Sample ID: 227197

Sample wt/vol: 10.0 (g/mL) G Lab File ID: GH027197A15

Level: (low/med) LOW Date Received: 11/08/88

Moisture: not dec. 10 dec. 40 Date Extracted: 11/08/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/19/88

GFC Cleanup: (Y/N) N pH: 5.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	<u>Q</u>
108-95-2	Phenol		
111-44-4	bis(2-Chloroethyl) Ether	550	U
95-57-8	2-Chlorophenol	550	U
541-73-1	1,3-Dichlorobenzene	550	U
106-46-7	1,4-Dichlorobenzene	550	U
100-51-6	Benzyl Alcohol	550	U
95-50-1	1,2-Dichlorobenzene	550	U
95-48-7	2-Methylphenol	550	U
J9638-12-9	bis(2-Chloroisopropyl) Ether	550	U
106-44-5	4-Methylphenol	550	U
621-64-7	N-Nitroso-Di-n-Propylamine	550	U
67-72-1	Hexachloroethane	550	U
98-95-3	Nitrobenzene	550	U
78-59-1	Isophorone	550	U
88-75-5	2-Nitrophenol	550	U
105-67-9	2,4-Dimethylphenol	550	U
65-85-0	Benzoic Acid	550	U
111-91-1	bis(2-Chloroethoxy)Methane	2700	U
120-83-2	2,4-Dichlorophenol	550	U
120-82-1	1,2,4-Trichlorobenzene	550	U
91-20-3	Naphthalene	550	U
106-47-8	4-Chloroaniline	550	U
87-68-3	Hexachlorobutadiene	550	U
59-50-7	4-Chloro-3-Methylphenol	550	U
91-57-6	2-Methylnaphthalene	550	U
77-47-4	Hexachlorocyclopentadiene	550	U
88-06-2	2,4,6-Trichlorophenol	550	U
95-95-4	2,4,5-Trichlorophenol	550	U
91-58-7	2-Chloronaphthalene	2700	U
88-74-4	2-Nitroaniline	550	U
131-11-3	Dimethyl Phthalate	2700	U
208-96-8	Acenaphthylene	550	U
606-20-2	2,6-Dinitrotoluene	550	U

FORM I SV-1

1/87 Rev.

SAMPLE DATA SUMMARY

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Name: COMPUCHEM LABS Contract: (10-86)-REV 336035-09
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227197
 Sample wt/vol: 10.0 (g/mL) G Lab File ID: GH027197A13
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 10 dec. 40 Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: 5.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	
99-09-2	1-Nitroaniline	2700	U
83-32-9	Acenaphthene	550	U
51-28-5	2,4-Dinitrophenol	2700	U
100-02-7	4-Nitrophenol	2700	U
132-64-9	Dibenzofuran	550	U
121-14-2	2,4-Dinitrotoluene	550	U
84-66-2	Diethylphthalate	550	U
7005-72-3	4-Chlorophenyl-phenylether	550	U
86-73-7	Fluorene	550	U
100-01-6	4-Nitroaniline	550	U
534-52-1	4,6-Dinitro-2-Methylphenol	2700	U
86-30-6	N-Nitrosodiphenylamine (1)	2700	U
101-55-3	4-Bromophenyl-phenylether	550	U
118-74-1	Hexachlorobenzene	550	U
87-86-5	Pentachlorophenol	550	U
85-01-8	Phenanthrene	2700	U
120-12-7	Anthracene	550	U
84-74-2	Di-n-Butylphthalate	550	U
206-44-0	Fluoranthene	550	U
129-00-0	Pyrene	550	U
85-68-7	Butylbenzylphthalate	550	U
91-94-1	3,3'-Dichlorobenzidine	550	U
56-55-3	Benzo(a)Anthracene	1100	U
218-01-9	Chrysene	550	U
117-81-7	bis(2-Ethylhexyl) Phthalate	550	U
117-84-0	Di-n-Octyl Phthalate	550	U
205-99-2	Benzo(b) Fluoranthene	550	U
207-08-9	Benzo(k) Fluoranthene	550	U
50-32-8	Benzo(a) Pyrene	550	U
193-39-5	Indeno(1,2,3-cd) Pyrene	550	U
53-70-3	Dibenzo(a,h)Anthracene	550	U
191-24-2	Benzo(g,h,i) Perylene	550	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

SAMPLE DATA SUMMARY

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

Name: COMPUCHEN LABS

Contract: 110-881-REV

336035-03

Code: COMPU

Case No.: 15615

SAS No.: _____

SDG No.: 01

Matrix: (soil/water) SOIL

Lab Sample ID: 227197

Sample wt/vol: 10.0 (g/mL) g

Lab File ID: GH027197A15

Sl: (low/med) LOW

Date Received: 11/08/88

Moisture: not dec. 10 dec. 40

Date Extracted: 11/08/88

Extraction: (SepF/Cont/Song) SONG

Date Analyzed: 11/10/88

Cleanup: (Y/N) N pH: 5.6

Dilution Factor: 1.00

Number TICs found: 9

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	BLANK CONTAMINANT	5.22	560	BJ
2.	BLANK CONTAMINANT	5.30	1200	BJ
3.	UNKNOWN ALDOL	6.20	1400	AJ
4.	BLANK CONTAMINANT	6.45	390	BJ
5.	UNKNOWN ALDOL	6.65	830	AJ
6.	UNKNOWN HYDROCARBON	7.12	560	J
7.	UNKNOWN HYDROCARBON	7.23	440	J
8.	UNKNOWN HYDROCARBON	19.52	440	J
9.	UNKNOWN HYDROCARBON	22.29	1600	J

FORM I SV-TIC

1/87 Rev.

SAMPLE DATA SUMMARY

31

15
SEMI-VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Name: COMPUCHEN LABS Contract: (10-161-REV) EPA SAMPLE NO: 336035-05MS
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227201
 Sample wt/vol: 10.0 (g/mL) G Lab File ID: GH027201A13
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 75 dec. 51 Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl) Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
39638-32-9	bis(2-Chloroisopropyl) Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	1700	U
111-91-1	bis(2-Chloroethoxy) Methane	8400	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
35-95-4	2,4,5-Trichlorophenol	1700	U
91-58-7	2-Chloronaphthalene	8400	U
88-74-4	2-Nitroaniline	1700	U
131-11-3	Dimethyl Phthalate	8400	U
200-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

FORM I SV-1

1/87 Rev.

SAMPLE DATA SUMMARY

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

*
EPA SAMPLE NO

Name: COMPUCHEM LABS Contract: (10-86)-REV 336035-06MS

Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01

Matrix: (soil/water) SOIL Lab Sample ID: 227201

Sample wt/vol: 30.0 (g/mL) G Lab File ID: GH027201A15

Level: (low/med) LOW Date Received: 11/08/88

Moisture: not dec. 75 dec. 81 Date Extracted: 11/08/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88

GC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	<u>Q</u>
99-09-2	3-Nitroaniline	8400	U
83-32-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8400	U
100-02-7	4-Nitrophenol	8400	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	8400	U
534-52-1	4,6-Dinitro-2-Methylphenol	8400	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	8400	U
85-01-8	Phenanthrene	350	J
120-12-7	Anthracene	1700	U
84-74-2	Di-n-Butylphthalate	1700	U
206-44-0	Fluoranthene	690	J
129-00-0	Pyrene	1700	U
85-68-7	Butylbenzylphthalate	1700	U
91-94-1	3,3'-Dichlorobenzidine	3500	U
56-55-3	Benzo(a)Anthracene	370	J
218-01-9	Chrysene	430	J
117-81-7	bis(2-Ethylhexyl) Phthalate	190	J
117-84-0	Di-n-Octyl Phthalate	1700	U
205-99-2	Benzo(b) Fluoranthene	670	JX
207-08-9	Benzo(k) Fluoranthene	340	J
50-32-8	Benzo(a) Pyrene	1700	U
193-39-5	Indeno(1,2,3-cd) Pyrene	1700	U
53-70-3	Dibenzo(a,h) Anthracene	1700	U
141-24-2	Benzo(g,h,i) Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

SAMPLE DATA SUMMARY

18
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

Lab Name: COMPUCHEN LABS Contract: (10-86)-REV 336035-96MSE
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227292
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: GH027202A15
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 75 dec. 51 Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/10/88
 GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	1700	U
111-44-4	bis(2-Chloroethyl) Ether	1700	U
95-57-8	2-Chlorophenol	1700	U
541-73-1	1,3-Dichlorobenzene	1700	U
106-46-7	1,4-Dichlorobenzene	1700	U
100-51-6	Benzyl Alcohol	1700	U
95-50-1	1,2-Dichlorobenzene	1700	U
95-48-7	2-Methylphenol	1700	U
39638-32-9	bis(2-Chloroisopropyl) Ether	1700	U
106-44-5	4-Methylphenol	1700	U
621-64-7	N-Nitroso-Di-n-Propylamine	1700	U
67-72-1	Hexachloroethane	1700	U
98-95-3	Nitrobenzene	1700	U
78-59-1	Isophorone	1700	U
88-75-5	2-Nitrophenol	1700	U
105-67-9	2,4-Dimethylphenol	1700	U
65-85-0	Benzoic Acid	8400	U
111-91-1	bis(2-Chloroethoxy) Methane	1700	U
120-83-2	2,4-Dichlorophenol	1700	U
120-82-1	1,2,4-Trichlorobenzene	1700	U
91-20-3	Naphthalene	1700	U
106-47-8	4-Chloroaniline	1700	U
87-68-3	Hexachlorobutadiene	1700	U
59-50-7	4-Chloro-3-Methylphenol	1700	U
91-57-6	2-Methylnaphthalene	1700	U
77-47-4	Hexachlorocyclopentadiene	1700	U
88-06-2	2,4,6-Trichlorophenol	1700	U
95-95-4	2,4,5-Trichlorophenol	8400	U
91-58-7	2-Chloronaphthalene	1700	U
88-74-4	2-Nitroaniline	8400	U
131-11-3	Dimethyl Phthalate	1700	U
208-96-8	Acenaphthylene	1700	U
606-20-2	2,6-Dinitrotoluene	1700	U

FORM I SV-1

1/87 Rev

SAMPLE DATA SUMMARY

10
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CONTECH LABS Contract: (10-86)-REV
 Lab Code: CONTECH Case No.: 15515 SAS No.: _____ SDG No.: 01
 Matrix: (soil/water) SOIL Lab Sample ID: 227202
 Sample wt/vol: 39.0 (g/mL) G Lab File ID: GH027202A15
 Levels: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 75 dec. 81 Date Extracted: 11/08/88
 Extraction: (SepF/Cent/Sonc) SONC Date Analyzed: 11/10/88
 HPLC Cleanup: (Y/N) N pH: 5.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	<u>Q</u>
99-09-2	3-Nitroaniline	8400	U
83-12-9	Acenaphthene	1700	U
51-28-5	2,4-Dinitrophenol	8400	U
100-02-7	4-Nitrophenol	8400	U
132-64-9	Dibenzofuran	1700	U
121-14-2	2,4-Dinitrotoluene	1700	U
84-66-2	Diethylphthalate	1700	U
7005-72-3	4-Chlorophenyl-phenylether	1700	U
86-73-7	Fluorene	1700	U
100-01-6	4-Nitroaniline	8400	U
534-52-1	4,6-Dinitro-2-Methylphenol	8400	U
86-30-6	N-Nitrosodiphenylamine (1)	1700	U
101-55-3	4-Bromophenyl-phenylether	1700	U
118-74-1	Hexachlorobenzene	1700	U
87-86-5	Pentachlorophenol	1700	U
85-01-8	Phenanthrene	8400	U
120-12-7	Anthracene	300	J
84-74-2	Di-n-Butylphthalate	1700	U
206-44-0	Fluoranthene	1700	U
129-00-0	Pyrene	720	J
85-68-7	Butylbenzylphthalate	1700	U
91-94-1	3,3'-Dichlorobenzidine	1700	U
56-55-3	Benzo(a)Anthracene	3500	U
218-01-9	Chrysene	390	J
117-81-7	bis(2-Ethylhexyl)Phthalate	480	J
117-84-0	Di-n-Octyl Phthalate	330	J
205-99-2	Benzo(b)Fluoranthene	1700	U
207-08-9	Benzo(k)Fluoranthene	490	J
50-32-8	Benzo(a)Pyrene	260	J
193-39-5	Indeno(1,2,3-cd)Pyrene	390	J
53-70-3	Dibenzo(a,h)Anthracene	1700	U
191-24-2	Benzo(g,h,i)Perylene	1700	U

(1) - Cannot be separated from Diphenylamine

FORM I SV-2

1/87 Rev.

SAMPLE DATA SUMMARY

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABORATORIES Contract: (10-88)-REV 336035-02
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) SOIL Lab Sample ID: 227194
 Sample wt/vol: 10.0 (g/mL) G Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. 41 dec. _____ Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/15/88
 GPC Cleanup: (Y/N) N pH: 6.5 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
319-84-6	alpha-BHC	14.	U
319-85-7	beta-BHC	14.	U
319-86-8	delta-BHC	14.	U
58-89-9	gamma-BHC (Lindane)	14.	U
76-44-8	Heptachlor	14.	U
309-00-2	Aldrin	14.	U
1024-57-3	Heptachlor epoxide	14.	U
959-98-8	Endosulfan I	14.	U
60-57-1	Dieldrin	14.	U
72-55-9	4,4'-DDE	27.	U
72-20-8	Endrin	27.	U
33213-65-9	Endosulfan II	27.	U
72-54-8	4,4'-DDD	27.	U
1031-07-8	Endosulfan sulfate	27.	U
50-29-3	4,4'-DDT	27.	U
72-43-5	Methoxychlor	27.	U
53494-70-5	Endrin ketone	140	U
5103-71-9	alpha-Chlordane	27.	U
5103-74-2	gamma-Chlordane	140	U
8001-35-2	Toxaphene	140	U
12674-11-2	Aroclor-1016	270	U
11104-28-2	Aroclor-1221	140	U
11141-16-5	Aroclor-1232	140	U
53469-21-9	Aroclor-1242	140	U
12672-70-6	Aroclor-1248	140	U
11097-69-1	Aroclor-1254	140	U
11096-82-5	Aroclor-1260	270	U
		270	U

FORM I PEST

1 87 Rev.

SAMPLE DATA SUMMARY

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABORATORIES Contract: 110-861-REV 336035-04

Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 227204

Sample wt/vol: 10.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 11/08/88

Moisture: not dec. 43 dec. 71 Date Extracted: 11/08/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/15/88

GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg)	UG/KG	Q
119-84-6	alpha-BHC	30.		U
119-85-7	beta-BHC	30.		U
119-86-8	delta-BHC	30.		U
58-89-9	gamma-BHC (Lindane)	30.		U
76-44-8	Heptachlor	30.		U
109-00-2	Aldrin	30.		U
1024-57-3	Heptachlor epoxida	30.		U
959-98-8	Endosulfan I	30.		U
60-57-1	Dieldrin	59.		U
72-55-9	4,4'-DDE	59.		U
72-20-8	Endrin	59.		U
13213-65-9	Endosulfan II	59.		U
72-54-8	4,4'-DDD	59.		U
1031-07-8	Endosulfan sulfate	59.		U
50-29-3	4,4'-DDT	59.		U
72-43-5	Methoxychlor	300		U
51494-70-5	Endrin ketone	59.		U
5103-71-9	alpha-Chlordane	300		U
5103-74-2	gamma-Chlordane	300		U
8001-35-2	Toxaphene	590		U
12674-11-2	Aroclor-1016	300		U
11104-28-2	Aroclor-1221	300		U
11141-16-5	Aroclor-1232	300		U
51469-21-9	Aroclor-1242	300		U
12672-29-6	Aroclor-1248	300		U
11097-69-1	Aroclor-1254	590		U
11096-82-5	Aroclor-1260	590		U

FORM I PEST

1 87 Rev.

SAMPLE DATA SUMMARY

10
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CONFUCHEM LABORATORIES Contract: (10-86)-REV 336033-06
 Lab Code: CONFU Case No.: 12615 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) SOIL Lab Sample ID: 227208
 Sample wt/vol: 30.0 (g/mL) g Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/08/88
 Moisture: not dec. 75 dec. 81 Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/15/88
 SPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	<u>Q</u>
319-84-6	alpha-BHC	42.	U
319-85-7	beta-BHC	42.	U
319-86-8	delta-BHC	42.	U
58-89-9	gamma-BHC (Lindane)	42.	U
76-44-8	Heptachlor	42.	U
309-00-2	Aldrin	42.	U
1024-57-3	Heptachlor epoxide	42.	U
959-98-8	Endosulfan I	42.	U
60-57-1	Dieldrin	42.	U
72-55-9	4,4'-DDE	84.	U
72-20-8	Endrin	84.	U
33213-65-9	Endosulfan II	84.	U
72-54-8	4,4'-DDD	84.	U
1031-07-8	Endosulfan sulfate	84.	U
50-29-3	4,4'-DDT	84.	U
72-43-5	Methoxychlor	84.	U
53494-70-5	Endrin ketone	420	U
5103-71-9	alpha-Chlordane	84.	U
5103-74-2	gamma-Chlordane	420	U
8001-35-2	Toxaphene	420	U
12674-11-2	Aroclor-1016	840	U
11104-28-2	Aroclor-1221	420	U
11141-16-5	Aroclor-1232	420	U
53469-21-9	Aroclor-1242	420	U
12672-29-6	Aroclor-1248	420	U
11097-69-1	Aroclor-1254	420	U
11096-82-5	Aroclor-1260	840	U
		840	U

FORM I PEST

1 37 Rev.

SAMPLE DATA SUMMARY

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABORATORIES Contract: (10-861-REV) 336036-08
 Lab Code: COMPU Case No.: 15515 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) SOIL Lab Sample ID: 227197
 Sample wt/vol: 50.0 (g/mL) g Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/09/88
 % Moisture: not dec. 10 dec. 40 Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/15/88
 GPC Cleanup: (Y/N) N pH: 5.6 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>		<u>Q</u>
319-84-6	alpha-BHC	13.		U
319-85-7	beta-BHC	13.		U
319-86-8	delta-BHC	13.		U
58-89-9	gamma-BHC (Lindane)	13.		U
76-44-8	Heptachlor	13.		U
309-00-2	Aldrin	13.		U
1024-57-3	Heptachlor epoxide	13.		U
959-98-8	Endosulfan I	13.		U
60-57-1	Dieldrin	13.		U
72-55-9	4,4'-DDE	27.		U
72-20-8	Endrin	27.		U
33213-65-9	Endosulfan II	27.		U
72-54-8	4,4'-DDD	27.		U
1031-07-8	Endosulfan sulfate	27.		U
50-29-3	4,4'-DDT	27.		U
72-43-5	Methoxychlor	27.		U
53494-70-5	Endrin ketone	130		U
5103-71-9	alpha-Chlordane	27.		U
5103-74-2	gamma-Chlordane	130		U
8001-35-2	Toxaphene	130		U
12674-11-2	Aroclor-1016	270		U
11104-28-2	Aroclor-1221	130		U
11141-16-5	Aroclor-1232	130		U
53469-21-9	Aroclor-1242	130		U
12672-29-6	Aroclor-1248	130		U
11097-69-1	Aroclor-1254	130		U
11096-82-5	Aroclor-1260	270		U
		270		U

FORM I PEST

1 87 Rev.

SAMPLE DATA SUMMARY

10
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEN LABORATORIES Contract: (10-84)-REV
 Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) SOIL Lab Sample ID: 227205
 Sample wt/vol: 30.0 (g/mL) G Lab File ID: _____
 Level: (low/med) LOW Date Received: 11/08/88
 % Moisture: not dec. 75 dec. 81 Date Extracted: 11/08/88
 Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/15/88
 GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/KG</u>	Q
319-84-6	alpha-BHC	42.	U
319-85-7	beta-BHC	42.	U
319-86-8	delta-BHC	42.	U
58-89-9	gamma-BHC (Lindane)	42.	U
76-44-8	Heptachlor	42.	U
309-00-2	Aldrin	42.	U
1024-57-3	Heptachlor epoxide	42.	U
959-98-8	Endosulfan I	42.	U
60-57-1	Dieldrin	42.	U
72-55-9	4,4'-DDE	84.	U
72-20-8	Endrin	84.	U
33213-65-9	Endosulfan II	84.	U
72-54-8	4,4'-DDD	84.	U
1031-07-8	Endosulfan sulfate	84.	U
50-29-3	4,4'-DDT	84.	U
72-43-5	Methoxychlor	84.	U
53494-70-5	Endrin ketone	420	U
5103-71-9	alpha-Chlordane	84.	U
5103-74-2	gamma-Chlordane	420	U
8001-35-2	Toxaphene	420	U
12674-11-2	Aroclor-1016	840	U
11104-28-2	Aroclor-1221	420	U
11141-16-5	Aroclor-1232	420	U
53469-21-9	Aroclor-1242	420	U
12672-29-6	Aroclor-1248	420	U
11097-69-1	Aroclor-1254	420	U
11096-82-5	Aroclor-1260	840	U
		840	U

FORM I PEST

1/87 Rev.

SAMPLE DATA SUMMARY

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM LABORATORIES CONTRACT: (10-86)-REV 336035-06MSD

Lab Code: COMPU Case No.: 15615 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) SOIL Lab Sample ID: 225206

Sample wt/vol: 10.0 (g/mL) G Lab File ID: _____

Level: (low/med) LOW Date Received: 11/08/88

† Moisture: not dec. 75 dec. 81 Date Extracted: 11/08/88

Extraction: (SepF/Cont/Sonc) SONC Date Analyzed: 11/15/88

GPC Cleanup: (Y/N) N pH: 6.4 Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS; (ug/L or ug/Kg) <u>UG/KG</u>		Q
319-84-6	alpha-BHC	42.		U
319-85-7	beta-BHC	42.		U
319-86-8	delta-BHC	42.		U
58-89-9	gamma-BHC (Lindane)	42.		U
76-44-8	Heptachlor	42.		U
309-00-2	Aldrin	42.		U
1024-57-3	Heptachlor epoxide	42.		U
959-98-8	Endosulfan I	42.		U
60-57-1	Dieldrin	42.		U
72-55-9	4,4'-DDE	84.		U
72-20-8	Endrin	84.		U
33213-65-9	Endosulfan II	84.		U
72-54-8	4,4'-DDD	84.		U
1031-07-8	Endosulfan sulfate	84.		U
50-29-3	4,4'-DDT	84.		U
72-43-5	Methoxychlor	84.		U
53494-70-5	Endrin ketone	420		U
5103-71-9	alpha-Chlordane	84.		U
5103-74-2	gamma-Chlordane	420		U
8001-35-2	Toxaphene	420		U
12674-11-2	Aroclor-1016	840		U
11104-28-2	Aroclor-1221	420		U
11141-16-5	Aroclor-1232	420		U
53469-21-9	Aroclor-1242	420		U
12672-29-6	Aroclor-1248	420		U
11097-69-1	Aroclor-1254	420		U
11096-82-5	Aroclor-1260	840		U
		840		U

FORM I PEST

1/87 Rev.

SAMPLE DATA SUMMARY

3. By fraction (VGA, SV, PEST) - surrogate spike analysis results (Form II) by matrix (Water and/or Soil) and for soil, by concentration (Low or Medium)

SAMPLE DATA SUMMARY

18/NOV/88


COMPU-CHEM
LABORATORIES

NEW YORK D E C.-
ATTN: Jack Ryan
50 Wolf Road
Albany, NY 12233

RECEIVED

NOV 21 1988

ACCOUNT #. 255501

CC#	SAMPLE-ID	RECEIPT DATE
227196	336035-02	11/08/88
227197	336035-03	11/08/88
227204	336035-04	11/08/88
227208	336035-06	11/08/88

TOTAL NUMBER OF SAMPLES = 4

RECEIVED

Case Summary Narrative New York DEC
(15615B)
CompuChem Laboratories Inc

NOV 21 1988


The samples were received in good condition on November 8 and 9, 1988 with the appropriate chain-of-custody documents. The case consists of four soil samples for the analysis of complete HSL metals and cyanide. The enclosed cover page reflects both New York DEC and CompuChem identifiers.

The associated quality control sample spike, 336035-02/CC#227209, was outside the control limit for selenium and silver, therefore the data were flagged with an 'N' in all of the samples. The associated quality control duplicate, 336035-02/CC#227210, was outside the control limits for aluminum, copper, and lead, therefore the values were flagged with an 'e' in all of the samples.

A serial dilution was done on sample 336035-06/CC#227208. The adjusted sample concentration of magnesium was not within 10% of its original value, therefore the data were flagged with an 'E' in all of the samples. The remaining analytes were within 10% of their original values for those tested whose uncorrected serial dilutions were greater than 10 times the Instrument Detection Limits (IDL).

In one or more samples the concentrations of aluminum, arsenic, barium, calcium, chromium, iron, lead, manganese, and zinc were above the Contract Required Detection Limits (CRDL). The concentrations of beryllium, cobalt, magnesium, and vanadium fell between the IDL and the CRDL, while the remaining analytes had concentrations below the IDL.

This report is paginated for reference and accountability in decreasing numerical sequence.



Jeanne C. Aiston
Technical Reviewer
November 17, 1988

CompuChem Laboratories
 P.O. Box 12652
 3308 Chapel Hill/Nelson Highway
 Research Triangle Park, NC 27709

Date 11/10/88

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name Inorganics Laboratory
 SOW No. 785

Case No. 255501 15615
 Q.C. Report No. 15615B

Lab Receipt Date 11/08/88

Sample Numbers

<u>Client ID No.</u>	<u>Lab ID No.</u>	<u>Client ID No.</u>	<u>Lab ID No.</u>
<u>336035-02</u>	<u>227196</u>		
<u>336035-08</u>	<u>227197</u>		
<u>336035-04</u>	<u>227204</u>		
<u>336035-06</u>	<u>227208</u>		
<u>PBS</u>	<u>227729</u>		

Comments: 227209 SS(227196) 227214 LCS
227210 D(227196)
227211 LCS
227212 SS(227196)
227213 D(227196)

ICP interelement and background corrections applied? Yes X No
 If yes, corrections applied before X or after generation of raw data.

Footnotes:

- NR - Not required by contract at this time
- Form I:
- Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract-required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with F (for ICP), A (for Flame AA), or F (for Furnace AA).
- U - Indicates element was analyzed for but not detected. Report with the instrument detection limit value (e.g., 10U).
- E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.
- S - Indicates value determined by Method of Standard Addition.
- N - Indicates spike sample recovery is not within control limits.
- * - Indicates duplicate analysis is not within control limits.
- + - Indicates the correlation coefficient for method of standard addition is less than 0.995
- M - Indicates duplicate injection results exceeded control limits.

Indicate method used: P for ICP; A for Flame AA and F for Furnace.

FORM 1

Client Sample No.
336035-32

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/08/88

LAB SAMPLE ID. NO. 227196

QC REPORT NO 15615B

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____
 MATRIX: WATER _____ SOIL XXX SLUDGE _____ OTHER _____

UNITS: mg/kg

1. Aluminum	4320	• P	13. Magnesium	[1630]	E P
2. Antimony	14U	P	14. Manganese	215	P
3. Arsenic	6.8	F	15. Mercury	.19	CV
4. Barium	72	P	16. Nickel	[11]	P
5. Beryllium	[.70]	P	17. Potassium	785U	F
6. Cadmium	1.4U	P	18. Selenium	.66U	N F
7. Calcium	2180	F	19. Silver	1.4U	N P
8. Chromium	8.1	P	20. Sodium	629U	P
9. Cobalt	[3.6]	P	21. Thallium	.63U	F
10. Copper	57	• P	22. Vanadium	[15]	P
11. Iron	24200	P	23. Zinc	81	P
12. Lead	42	• F			

Cyanide .93U

Percent Solids(%) 60

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: BLACK, GRANULAR & ROCKY

LAB MANAGER *[Signature]*

C

FORM I

Client Sample No.
336035-08

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/08/88

LAB SAMPLE ID. NO. 227197

QC REPORT NO 15615B

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER _____ SOIL XXX SLUDGE _____ OTHER _____

UNITS: mg/kg

1. Aluminum	16100	* P	13. Magnesium	3380	E P
2. Antimony	120	F	14. Manganese	192	P
3. Arsenic	[2.8]	F	15. Mercury	.100	CV
4. Barium	[45]	F	16. Nickel	14	P
5. Beryllium	[.60]	P	17. Potassium	6430	P
6. Cadmium	1.20	P	18. Selenium	.590	N F
7. Calcium	[1280]	P	19. Silver	1.20	N P
8. Chromium	25	P	20. Sodium	[552]	P
9. Cobalt	[5.4]	P	21. Thallium	.570	F
10. Copper	15	* P	22. Vanadium	38	P
11. Iron	29400	P	23. Zinc	74	P
12. Lead	12	* F			

Cyanide .710

Percent Solids(%) 70

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: LIGHT BROWN, FINE

LAB MANAGER BH Rabeck

C

FORM 1

Client Sample No.
336035-04

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/08/88

LAB SAMPLE ID. NO. 227204

QC REPORT NO 15615B

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER _____ SOIL XXX SLUDGE _____ OTHER _____

UNITS: mg/kg

1. Aluminum	23900	* P	13. Magnesium	5950	E P
2. Antimony	47U	P	14. Manganese	626	P
3. Arsenic	(7.1)	P	15. Mercury	1.8	CV
4. Barium	(181)	P	16. Nickel	(41)	P
5. Beryllium	(2.3)	P	17. Potassium	25700	P
6. Cadmium	4.7U	P	18. Selenium	2.4U	N F
7. Calcium	5680	P	19. Silver	4.7U	N P
8. Chromium	34	P	20. Sodium	(2510)	P
9. Cobalt	(15)	P	21. Thallium	2.3U	F
10. Copper	95	* P	22. Vanadium	(45)	P
11. Iron	31100	P	23. Zinc	414	P
12. Lead	91	* P			

Cyanide 2.9U

Percent Solids(%) 17

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: BLACK, FINE

LAB MANAGER Btko

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FORM I

Client Sample No.
336035-06

DATE 11/16/88

INORGANIC ANALYSIS DATA SHEET

LAB NAME: CompuChem Laboratories

CASE NO: 255501 15615

SOW NO: 785

Lab Receipt Date 11/08/88

LAB SAMPLE ID. NO. 227208

QC REPORT NO 15615B

ELEMENTS IDENTIFIED AND MEASURED

CONCENTRATION: LOW XXX MEDIUM _____

MATRIX: WATER _____ SOIL XXX SLUDGE _____ OTHER _____

UNITS: mg/kg

1. Aluminum	17200	* P	13. Magnesium	4360	E P
2. Antimony	330	P	14. Manganese	154	P
3. Arsenic	(8.5)	F	15. Mercury	1.9	CV
4. Barium	(96)	P	16. Nickel	(26)	P
5. Beryllium	(1.8)	P	17. Potassium	18000	F
6. Cadmium	3.30	P	18. Selenium	1.70	N P
7. Calcium	8030	P	19. Silver	3.30	N P
8. Chromium	25	P	20. Sodium	14400	P
9. Cobalt	(12)	P	21. Thallium	1.60	F
10. Copper	95	= F	22. Vanadium	41	F
11. Iron	22500	P	23. Zinc	328	P
12. Lead	82	* F			

Cyanide 2.00 Percent Solids(%) 25

Footnotes: For reporting results, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definitions of such flags must be explicit and contained on Cover Page, however.

Comments: BLACK, FINE

LAB MANAGER Beth Robinson

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APPENDIX F
QA/QC REVIEW

APPENDIX F

By contract, all samples and analyses in a Phase II investigation are required to pass quality assurance and quality control (QA/QC) procedures. All samples were collected in accordance with:

Guidance for Preparation of Combined Work/Quality Assurance
Project Plans for Water Monitoring
Office of Water Regulations and Standards
U.S. Environmental Protection Agency
Washington, DC 20460

27 May 1983

and

Lawler, Matusky & Skelly Engineers
Standard Operating Procedures Manual (Approved by NYSDEC)

Laboratory analyses were required to pass NYSDEC Contract Laboratory Protocol (CLP). The NYSDEC CLP specifically details the necessary steps and documentation required by the laboratory. It is the intent and belief of NYSDEC that these steps and documentation be followed extremely closely in order to generate a valid set of data for adequate site characterization.

In the initial sampling program (August-September 1988) LMS was the sample collector, RECRA Environmental, Inc., was the analytical laboratory, and NYTEST Environmental was the independent QA/QC reviewer. For the resample in November 1988 and test pits in December 1988 LMS was the sample collector, Compuchem Laboratories was the analytical laboratory, and NYSDEC was the QA/QC reviewer.

The data validation process and results are summarized below.

August-September 1988 Sampling

1. Original QA/QC documentation was transmitted from the contract lab, RECRA Environmental, to NYSDEC and to the independent reviewer, NYTEST Environmental.

2. Both NYTEST and NYSDEC conducted their own review and validation process. This duplicate review was intended as a check on NYTEST.
3. NYTEST returned the Data Validation Report to LMS and NYSDEC. Upon receipt, LMS and NYSDEC prepared a response to RECRA Environmental that detailed the necessary documents needed for resubmittal and other required actions.
4. After receipt of the resubmittal and responses to noncompliant items, NYSDEC reached a final opinion on the validity and usability of the data set.

As stated in the attached documentation and summarized in Table F-1, it was the opinion of NYSDEC, NYTEST, and LMS that the data from the original sampling events, in part, cannot be considered valid because the laboratory did not comply with the necessary analytical procedures outlined in CLP. Specifically, the laboratory did not calibrate instruments, prepare samples, carry out analysis, or report the raw and/or finished data in an appropriate manner. While any one of these mistakes on a single sample may be correctable, many mistakes on a large number of samples are not correctable. Therefore, the data collected and reported for the samples must be rejected and considered invalid. The "Rejected Sample List" summarized in Table F-1 details the samples that were removed from the Draft Phase II Investigation Report for the Tuxedo WD Site. These data and sample results are not included in this report nor will they be included in any subsequent report.

The semivolatiles analyses on the trench samples were not in compliance with CLP; however, the data can be used qualitatively and must be indicated as "estimated."

It should be noted that these data were deemed invalid and unusable solely on the basis of noncompliance with the required CLP procedures. In no way were the data deemed invalid or unusable because

TABLE F-1

REJECTED SAMPLE LIST

Tuxedo WD Site NYSDEC I.D. No. 336035

<u>SAMPLE I.D.</u>	<u>DATA GROUP</u>	<u>REASON FOR REJECTION</u>
All trench samples	Volatiles	Surrogate recoveries outside QC limits
Trench samples - all	Pesticides/ PCBs	Interferences were not corrected during sample analysis
Trench samples - all	All inorganics except lead, cyanide, total phenols, and hazardous waste characteristics	Results were noncompliant with any and all versions of NYSDEC CLP
All groundwater, surface water, and surface water sediment samples	All data	Results were noncompliant with 1987 version of NYSDEC CLP

of the interpretation of or meaning of the contaminant concentrations.

Explicit explanation of the individual violations of the CLP protocol are attached in the NYTEST Data Validation Reports. Summaries of these Data Validation Reports and the responses by both the laboratory and NYSDEC are also attached here.

November-December 1988 Sampling

All analyses on these samples were in compliance with CLP. A summary QA/QC report by NYSDEC is attached.

New York State Department of Environmental Conservation

MEMORANDUM

TO: Mike Komproske, Eastern Investigation Section
 FROM: John Rankin, Quality Assurance Officer J.M.R.
 SUBJECT: QA/QC Review of the Tuxedo Data Package
 DATE: November 4, 1988

The data package submitted by Recra Environmental concerning the analysis of samples collected at the Tuxedo Landfill was reviewed by Martha McEwen, George Momberger and myself. The data produced under the Phase II contracts must comply with the 1987 NYSDEC CLP, analysis and reporting and deliverables. In addition, the analytical tracking forms were to accompany each data package. Analytical cleanups are mandatory, not optional, when matrix interferences are noted.

It is with these above mentioned facts in mind that the data package was reviewed. The data package consists of the following sample numbers:

<u>Sample No.</u>	<u>Matrix</u>	<u>Date Collected</u>
RS-1	soil/sed.	8/4/88
RS-2	"	"
RS-4	"	"
SWS-3	"	"
T-2 SA	"	8/2/88
SW-1	surface water	8/4/88
SW-2	"	"
SW-3	"	"
SW-4	"	"
T-1 SA	soil/sed.	8/9/88
T-1 SB	"	"
T-3 SB	"	8/10/88
T-2 SB	"	"
T-3 SA	"	"
MW-8	groundwater	9/1/88
MW-1	"	"
MW-7	"	"
MW-6	"	"
MW-5	"	"
MW-4	"	"
Field Blank	water	"
Trip Blank	"	"
MW-3	groundwater	9/2/88
MW-2	"	"
Trip Blank	water	"
SW-5	surface water	9/12/88

I. Data Completeness

- 1. Package does not include the sample and analytical tracking forms as requested at meeting on June 6, 1988 attended by Roger Clark and Jim Stachowski, of RECRA at LMS.
- 2. The case narrative does not state year of protocol used nor does it summarize the corrective action taken when surrogate recoveries and internal standard areas were out of control (p. B-8, p. E-23-24, 37-38, 41-42).
- 3. Sample Data Summary Package - not submitted (p. B-7-8).

A. Volatile Review:

- 1. Sample holding times - All samples were run within 7 days of receipt except:

T-2 SB (soil) Rec'd 8/12 ran 8/22
 T-3 SB (soil) Rec'd 8/12 reanalysis 8/22
 T-3 SA (soil) Rec'd 8/12 reanalysis 8/22

- 2. GC/MS Tuning - Acceptable

- 3. Calibration - For the continuing calibrations of 8/12/88 at 12:43 and 8/15/88 at 9:18, no initial calibration was submitted from 8/5/88 (p. B-11, p. E-12-17).

- 4. Surrogate Recoveries:

Sample (soils)	Toluene-d8 (81-117)	BFB (74-121)	1,2 Dichloroethane (70-121)
Trench 2	122*	118	90
Trench 2 RE	118*	98	89
T-3 SA RE	121*	71*	80
T-3 SA	109	0*	95
T-3 SB	109	0*	89
T-3 SB RE	94	56*	89
T-2 SB	94	64*	100
V BLK (8/19)	93	90	68*

* outside QC limits

All above samples were reanalyzed as required except T-2 SB. The field blank had a recovery of 33% for 1,2 Di-chloroethane (76-114) and was not reanalyzed (p. E-18-21).

Blank analysis - The contaminants present in the method blanks were within acceptable limits except for the soil method blank of 8/18/88 (file ID C7300). Chloroform was found at 10 ug/kg; the CRQL is 5. Sample T-1 SA and T-1 SB were run under this blank. Neither were reanalyzed, both showed hits for chloroform (p. E-17-18).

- 6. Matrix Spike/Matrix Spike Duplicate - The lab ran 3 MS/MSD's for the groundwaters, surface waters and soil sediments. This data is acceptable.

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a. Internal Standards Area Summary Sheet (Form VIII VOA) not found for SW-1, SW-2.

7. Internal Standard Evaluation - There seems to be a problem with the analytical system for Instrument ID 70633. The internal standards for several samples had consistently low area counts. As compared to areas of the 12 hour standard, the responses were less than 50%. All the affected samples were reanalyzed except RS-2. The reanalyses again showed low responses. The lab does not address this problem in the case narrative (p. E-23-24).

The soil samples requiring reanalysis were T-2 SA, T-2 SB, T-3 SA, T-3 SB and RS-2. Sample RS-2 was not reanalyzed. Water samples SW-3, SW-4 and soil samples RS-1 and RS-4 were run on this instrument prior to the samples requiring reanalysis. T-1 SA and T-1 SB were also analyzed on this instrument; their internal area responses were within limits, however the method blank internals were all above the upper limits.

8. Sample Analysis:

- a. For soil samples RS-1, RS-2, SWS-3, Trench 2 no % moisture was reported. The results for these samples are in wet not dry weight (p. B-34), D-11-26, 33).
- b. Reconstructed total ion chromatograms of RS-1, RS-2, MW-8, -7, -6, -5, -1 are not normalized to the largest non-solvent peak (p. B-10).
- c. No quantitation report was submitted for SW-2 (p. B-10-12).
- d. The following were incorrectly flagged:
Trench-2, RS-2 2-Butanone should be flagged with BJ
RS-3 1,2-Dichloroethene (Total) should be flagged with a J only, no B.
- e. For soil samples T-1 SA, T-1 SB, T-3 SB, and T-3 SA, the lab reports levels in at least 1 component that exceeds the calibration range. These are flagged with an "E". The protocol requires that these samples be diluted and reanalyzed (p. E-24).
- f. For soil samples T-1 SA, T-1 SB, T-3 SB and T-3 SA, my calculations for total xylenes do not match the lab's results.
- g. For T-1 SB chloromethane, 1,1,2,2-tetrachloroethane and chlorobenzene should not be reported as hits on the sample's Organics Form I. On the quant report these were marked as non-hits by the spectral interpreter. Likewise for T-2 SB, chlorobenzene and 1,1,2,2-tetrachloroethane should not be hits nor should chlorobenzene be included as found in T-3 SA.

B. Sample Analysis

- a. As with the volatile analyses, samples RS-1, RS-2, SWS-3, Trench 2 show no reported % moisture. Results are in wet weight.
- b. For sample RS-4, 4-Bromophenyl phenyl ether is reported. No mass spectral data was submitted for comparison. This component was listed on several of the other sample's quant. reported and crossed out by the spectral interpreter.
- c. For T-2 S-B, Bis(2-chloroethyl)ether, 4-chloro-3-methylphenol and acenaphthylene were reported on the sample's Organics Form I but crossed out the quant. report.
- d. For MW-8, 4-chloro-3-methylphenol is listed on the quant. report as a hit (3J) but not on the sample's Organic Form I.

C. Inorganics:

This review covers three inorganics data packages submitted by Recra Environmental, Inc., which contain results for TCL metals, cyanide and total phenolics on groundwater samples MW-1, -2, -3, -4, -5, -6, -7, -8 and surface water samples SW-1, -2, -3, -4, and -5. My review of these data found that the lab has not followed the 1987 protocol. The laboratory not only, did not follow the assigned protocol, the analysis was performed incorrectly under the 1986 protocol as well.

Data Completeness:

- A. The first package (cover letter October 17, 1988) contains data reporting the results for total recoverable phenolics on SW-5 and is acceptable as submitted.
- B. The second data package (cover letter October 18, 1988) containing results for SW-1, -2, -3, and -4 is missing these required QC data sheets (p.8-21-24, 50-71).
 1. CRQL Standard for AA and Linear Range Analysis for ICP [Form II (Part 2) -IN].
 2. ICP Interference Check Sample [Inorganic Form IV- IN].
 3. Spike Sample Recovery [Inorganic Form V (Part 1) - IN].
 4. Post Digest Spike Sample Recovery [Form V (Part 2) - IN]
 5. Duplicates [Form VI-IN]

6. Standard Addition Results [Form VIII-IN].
7. ICP Serial Dilutions [Form IX - IN]
8. Instrument detection limits [Inorganic Form XI - IN].
9. ICP Interelement Correction Factors [Inorganic Form XII (Part 1, Part 2)].
10. ICP Linear Ranges [Inorganic Form XIII - IN].

(The other QC Summary forms submitted are from the 1986 protocol).

Because the above QA/QC documentation was not submitted no further review of the package was done.

The third data package (cover letter October 24, 1988) contains the results for the groundwater samples. The following QC summary sheets are missing from this package.

1. CRQL standard for AA and Linear Range Analysis for ICP [Form II (part 2) - IN].
2. Post Digest Spike Sample Recovery [Form V (Part 2) - IN].
3. Standard Addition Results [Form VIII - IN].
4. ICP Serial Dilutions [Form IX - IN]
5. ICP Interelement Correction Factors [Inorganic Form XIII (Part 1, Part 2)].
6. ICP Linear Ranges [Inorganic Form XIII - IN].

(The other reporting forms are from the '86 protocol).

- C. I could not find raw data for the mercury analysis on sample SW-5. For the groundwater, the chromium data is from ICP analysis not flame AA as indicated on the samples Inorganics Analysis Data sheets (Inorganic Form I-IN).
- D. No data was submitted for the analysis of samples RS-1, RS-2, RS-4, SWS-3, T-2 SA, T-1 SA, T-1 SB, T-3 SB, T-2 SB, T-3 SA. These are all soil samples.

Quality Control Procedures:

1. Instrument calibration - The lab does not report multiple initial calibration verifications when recalibration was necessary (as with the arsenic data) nor are they reporting all applicable continuing calibration verifications (p. B-55-56, E-71-72).

2. Calibration blanks were not run at the frequency prescribed in the protocol (p. E-73,74) for Mn, Ni, K, Ag on sample SW-5, nor were they appropriate for Ba, Al, Sb, Be, Cd, Ca, Pb and Mg analyses on the groundwaters. The prep blank analysis of sample SW-5 found aluminum at 270 ug/l. The CRQL is 200. This blank is out of control (p. E-74).

3. Spike Recoveries - The following are out of control (75-125% rec)

MW-3	SW-5
Fe - 185%	Cd - 24%
Se - 0	Cu - 72
Ag - 0	Pb - 69
Tl - 73	Se - 0

4. Duplicates - The following are out of control (\pm 20% diff)

MW-3	SW-5
Ba - 42%	Al - 31
Cr - 21	As - 51
Fe - 42	Ba - 37
Mn - 39	Cu - 30
Na - 26	Pb - 32
Zn - 33	

5. Arsenic results for MW-5 and -8 should be flagged with a S indicating MSA was required.

6. Selenium results for MW-3, -4, -5, -6, -7, -8 should be reported at 10uN not at 5uN. These samples had an analytical spike recovery of less than 40% at a 1:2 dilution.

7. Magnesium results reported on the samples Inorganics Form I do not correspond with the instrument printouts.

This data is not presented in a manner that facilitates a contract compliance review. In Exhibit B, the protocol specifically defines our deliverables requirements - among these are legible data and raw data labelled identifying ICV's, CCV's, ICB's, CCB's, etc. The lab has apparently not taken these under consideration.

D. Pest/PCB:

The data package presented by Recra for the Tuxedo Park Site is unacceptable due to the incomplete reporting of QA/QC standards and the deviation from CLP requirements.

- (1) The data for water samples SW-1, SW-2, SW-3 and SW-4 cannot be validated due to the lack of standards data in the package.

For the primary/quantification analyses conducted on 8/8-8/10/88 Forms VIII-Post-2 and IX are not included. The confirmation sequence was conducted on 8/9-8/10 and Form VIII Post 1 was not included in the package.

- (2) The data for soil samples RS-1, RS-2, RS-4, SWS-3, Trench-2, T1SA, T1SB, T3SB, T2SB and T3SA is both incomplete and unacceptable.

- a) Form IX is missing for the primary/quantification analyses sequence conducted on 8/23 through 8/24, and for the confirmation run conducted on 8/29 through 8/30.
- b) Evaluation mix B was not analyzed after the 5th sample in the confirmation sequence as required by CLP. (Exhibit E, pg. E61, paragraph 4.5.6) to evaluate Endrin/4,4'-DDT breakdown.
- c) The percent breakdown for 4,4'-DDT in Evaluation Mix B run 8/23/88 at 23:08 on mixed is 67%. the CLP maximum allowed is 20%. CLP Exhibit E, pg. E-54, paragraph 4.4.4 requires corrective action to be taken when the % breakdown exceeds 20% as per Exhibit E, pg. E-55, paragraph 4.3.3.8 prior to further analyses.

There is no data to indicate any corrective action therefore the results for sample run in this sequence cannot be validated.

- d) Samples T1SA, T1SB, T3SB, T2SB and T3SA were extracted on 8/17/88. The data package includes no data for the blank extracted on 8/17/88. (Exhibit E, pg. E46, paragraph 1.1.1).
- e) The chromatograms for these soil samples all display a large peak at the beginning (< 10 min for mixed phase column, <5min for 3% OV-1) which would preclude pattern recognition of earlier eluting arochlors, and in the instance of T3SA the earlier eluting Matrix Spike compounds (BHC, heptachlor, aldrin, and endrin) were not detected in the MS and MSD fractions due to this large peak.

GPC cleanup was not performed on these soil samples and there is no indication of any other cleanup procedures having been conducted.

- (3) The chromatograms for water samples MW-1 and MW-7 both have baselines which project below the graph scale.

- (4) Water sample MW-3 has large peak at the beginning (<5min) of the chromatogram which could preclude pattern recognition of the earlier eluting arachnids. No cleanup performed.
- (5) The data for water samples MW-1, MW-5, MW-2, MW-3 and SW-5 was confirmed on 10/5-10/6. The data for this confirmation analytical sequence is incomplete, the following forms are not included in the package: VIII Pest-1, VIII Pest-2 and IX. Therefore the presence or absence of TCL's in these samples cannot be addressed.
- (6) Data for water sample SW-5 is invalid due to %D <15% for standards in Ind. mixes A and B run on primary/quantification column

III. Conclusions:

It is my opinion that this data package was generated in a manner that is inconsistent with the contract protocols and Recra's own Environmental SOP manual (p. 42-48).

cc: M. Serafini
M. Chen
F. Ricotta

101

11/11

II. The following chart demonstrates the data usability for the individual fractions of each sample.

Tuxedo

	<u>VOA</u>	<u>BNA</u>	<u>Pest/PCB</u>	<u>Metals</u>	<u>all analyses performed under '86 protocols</u>
RS-1	No	No	No	not submitted	
RS-2	No	No	No	not submitted	
RS-4	No	No	No	not submitted	
SWS-3	No	No	No	not submitted	
T-2 SA	No	No	No	not submitted	
SW-1	ok	ok	No	No	
SW-2	No	ok	No	No	
SW-3	ok	ok	No	No	
SW-4	ok	ok	No	No	
T-1 SA	No	ok	No	not submitted	
T-1 SB	No	ok	No	not submitted	
T-3 SB	No	ok	No	not submitted	
T-2 SB	No	No	No	not submitted	
T-3 SA	No	ok	No	not submitted	
MW-8	No	No	ok	No	
MW-1	No	No	No	No	
MW-7	No	ok	ok	No	
MW-6	No	No	ok	No	
MW-5	No	No	No	No	
MW-4	ok	No	ok	No	
Field Blank	No	ok	ok	No	
Trip Blank	ok	not analyzed	not analyzed	not analyzed	
MW-3	ok	ok	No	No	
MW-2	ok	ok	No	No	
Trip Blank	ok	not analyzed	not analyzed	not analyzed	
SW-5	ok	ok	No	No	



nytest environmental inc

November 17, 1988

Mr. Ed Maikish
Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965-8509

Re: Data Validation Report - Tuxedo Site

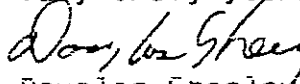
Dear Mr. Maikish:

Enclosed please find our formal Data Validation Report for the first data package on the Tuxedo Site

Also enclosed is a copy of our first draft (hand written) of our Data Validation Report on the organics data for the first submittal on the Metro North data package. As we discussed on November 10, 1988, we would stop any additional work on Metro North, but would send you what we had to date.

If you have any questions concerning this report, please call me at 516-625-5500.

Very truly yours,


Douglas Shreeley
Laboratory Director

cc: Maureen Serafini
NYSDEC
50 Wolf Rd.
Albany, NY 12233



DATA VALIDATION REPORT - TUXEDO DATA PACKAGE

Prepared for : Lawler, Matusky & Skelly Engineers

This review of the data package submitted by Recra Environmental is divided in four (4) sections, consisting of Inorganics, VOA, BNA, and Pesticide analyses.

A. Inorganics

The inorganics data were received in two submissions.

Samples: SW-1, SW-2, SW-3, SW-4; sampled 8/4/88; samples rec'd 8/9/88

1. The following forms are missing:
5A and 5B; 6; 12; 13
2. Form 7 has no LCS for mercury
3. Can not read many pages to verify data (i.e. page 19)
4. For barium there is no raw data for tray position 16-20, and position 20 is a standard.
5. The mercury raw data does not have a calibration.
6. No raw data on calibration for cyanide and phenols.
6. CCV missing for As.

Samples: MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, Field Blank, SW-5; samples rec'd 9/7/88

1. No calibration raw data for cyanide and phenols.
2. Many cross outs that are not initialed.
3. Difficult to read many copies of the raw data.

B. Pesticide/PCB

We have invalidated all of the Pesticide/PCB data in this delivery group. A detailed table explaining the specific defects for each sample is attached. The following is an overview of our conclusions.

1. Samples RS-1, RS-2, RS-3, RS-4, SWS-3, and Trench-2 are extracted outside the NYSDEC holding times.
2. All forms have missing or incorrect header information.
3. Missing form 9, and form 8E is incomplete.
4. Percent moisture and pH are missing.
5. Form 2 surrogate recoveries are flagged incorrectly when OBC is diluted out.
6. Handwritten corrections on report forms, chromatograms have hand written area counts that are not initialed.
7. Target compounds that are not confirmed are labelled.
8. The package is not arranged in correct order. Samples are not arranged in increasing sample ID and standard packages are not arranged by standard type (i.e. Eval's, IndA/IndB ect.).
10. Endrin Ketone/OBC has less than 25% resolution in ICal.

nytest environmental inc

C. Volatiles

A detailed table explaining defects for each sample is attached. Some key points are listed below.

1. No percent moisture.
2. Missing initial calibration.
3. Wrong reference spectra.

D. Semivolatiles

1. Surrogate recovery:

- a. T-2-sb RE recoveries not reported.
- b. MW-1, 2,4,6-tribromophenol recovery high and sample was not rerun.
- c. MW-4, MW-5, MW-6, MW-8 acid surrogate are almost "0".
- d. Trench-2 is not properly labelled as a rerun.
- e. T-1S-8 two surrogate recoveries are high, and sample was not rerun.

2. MS/MSD

The reproducibility of results is poor. For T-3S-A, 9 out of 11 RPD are out, and for SW-5 6 of 11 RPD are out. Sample MW-3 MS/MSD contain no matrix spiking compounds.

3. DFTPP

- a. Trench-2 analyzed on 8/18/88 outside 12 hours.
- b. Trench-2 analyzed on 9/28/88 not correctly labelled as a rerun.
- c. The DFTPP on 10/09/88 for instrument 700202, m/e 441 is not present. This invalidates data for field blank, MW-2, MW-7, MW-4, MW-8, MW-6, and MW-5.
- d. T-2S-8 analyzed on 9/27/88 is not correctly labelled as a rerun.

4. Semivolatile sample results

- a. No percent moisture, and the header information is incorrect.
- b. RS-1 benzo(a)anthracene and chrysene are not positive hits.
- c. RS-1 RE chrysene is not a positive hit.
- d. RS-4 benzo(a)anthracene is not a positive hit. No spectra is provided for 4-bromophenyl ether.
- e. SWS-3 4-methylphenol and bis(2-ethyl hexyl)phthalate are not positive hits.
- f. Trench-2, Trench-2RE, T-1S-8, T-3S-8, T-3S-8R have benzo(k)fluoranthene found as a TIC, and T-3S-8 has chrysene reported that is not positive, T-3S-8RE also has benzoic acid and chrysene that are not positive.
- g. T-2S-8 no spectra for all hits.
- h. T-2S-8DL analyzed outside 40 days.
- i. T-3S-A benzoic acid and diethylphthalate are not positive.

CONTRACT COMPLIANCE SCREENING FOR ORGANIC PESTICIDES / 1503

CASE: LMS1 SDE 101
 LAB NAME: RECMD

SAMPLES:

DATE: 4/6/88 LOG NO. _____
 PREPARED BY: JOHN GASAW

SAMPLE NO.	CM	DATE		COLUMN 1 SP2250/SP2401		COLUMN 2 3:6 DU-1		NO. OF TESTS	CODE	PROBLEMS
		RECO.	EXT.	ANALYSIS DATE TIME	ASSOCIATE BLANK	CALIBRATION TIME	COEF			
T1SA		8/12/88	8/17/88	8/24/88 01:25	8/24/88 00:39			0	B2 B5 E5 E6	E9, E1
T1SB		8/12/88	8/17/88	8/24/88 02:11	8/24/88			1	B2 B5 E1 E5	E9, DDD <D.L
T2SB		8/12/88	8/17/88	8/24/88 09:44	8/24/88			4	B2 B5 E1 E5	E9, DDD <D.L in correct RT window page 2043
T3SA		8/12/88	8/17/88	8/24/88 10:30	8/24/88			1	B2 B5 E1 E5	E9, DDT <D.L
T3SB		8/12/88	8/17/88	8/24/88 08:11	8/24/88			1	B2 B5 E1 E5	E9, DDD <D.L
T3SA MS		8/12/88	8/17/88	8/24/88 11:16	8/24/88			1	B5 E1 E5 H1	DDD <D.L
T3SA MSD		8/12/88	8/17/88	8/24/88 12:07	8/24/88			1	B5 E1 E5 H1	DDD <D.L

Code
 Column 1 *
 1) F1
 2) F2
 3) I1 - Page 2184, 2186, 2198, 2194
 4) I2 - INDB
 5) I4 - INDA, INDB (end of the sequence)
 6) J2

Column 2 **
 1) F2
 2) I4 (8/24/88 20:08, 20:40)
 3) I6
 4) J2

*** %D for DDC not reported on Form 8E for T2SB Page 2101

CONTRACT COMPLIANCE SCREENING FOR ORGANIC PESTICIDES / PCBs

PAGE 1 OF 3

CASE: SDG NO: SAMPLES:
 LAB NAME: RECMD

DATE: 11/07/88 LOG NO.
 PREPARED BY: JOHN EASOW

SAMPLE NO.	DATE			COLUMN 1 <u>SP2250/SP21101</u>		COLUMN 2 <u>3% OV-1</u>		NO. OF HITS	C O D E	PROBLEMS
	CAT	RECO.	EXT.	CALIBRATION		CALIBRATION				
				ANALYSIS DATE TIME	ASSO-CIATE BLANK	ANALYSIS DATE TIME	ASSO-CIATE BLANK			
MW-1	9/7/88	9/10/88	9/28/88	9/27/88	10/5/88	-	-	0	B2 E5	* **
			00:00	22:28	21:52	-	-			
MW-2	9/7/88	9/10/88	9/28/88	9/21/88	10/5/88	-	-	0	B2 E5	*
			05:19		11:02					
MW-3	9/7/88	9/10/88	9/28/88	9/21/88	10/5/88	-	-	0	B2 E5	* **
			06:05		11:37					
MW-4	9/7/88	9/10/88	9/28/88	9/27/88	10/5/88	-	-	0	E5	*
			03:48		10:29					
MW-5	9/7/88	9/10/88	9/28/88	9/27/88	-	-	-	0	B2 DE 4118 E5	* **
			03:02							
MW-6	9/7/88	9/10/88	9/28/88	9/27/88	-	-	-	0	E5	*
			4:31							
MW-7	9/7/88	9/10/88	9/28/88	9/27/88	-	-	-	0	E5	*
			00:45							

CODE

Column 1 *

F2

I1 = Page 2255 to 2264

I2 (INDB)

I6

J1 (Page 2108)

Column 2 **

F3,

I5

J2

CONTRACT COMPLIANCE SCREENING FOR ORGANIC PESTICIDES / MCGS

PAGE: 2 OF 2

CASE:

SOC NO:

SAMPLES:

DATE: _____ LOG NO. _____

PREPARED BY: _____

LAB NAME: **RECMD**

SAMPLE NO.	C/M	O. A. T. E.		COLUMN 1 <u>SP2250</u>		COLUMN 2 <u>SP2250</u>		COLUMN 3 <u>39.00-1</u>		CALIBRATION NO. OF TITS	C O D E	PROBLEMS
		RECO.	EXT.	CALIBRATION		ANALYSIS		ASSOCIATE				
		DATE	TIME	DATE	BLANK	DATE	BLANK	DATE	BLANK			
MW-8		9/7/88	9/10/88	9/22/88	9/27/88					0	E5	*
				23:14								
FIELD BLANK		9/7/88	9/10/88	9/22/88	9/27/88					0	E5	*
				04:33								
MW-3MS		9/7/88	9/10/88	9/22/88	9/27/88					0	E5	*
				07:37								
MW-3MSD		9/7/88	9/10/88	9/22/88	9/27/88					0	E5	*
				08:22								

Code
 Column 1 *
 0 F2
 0 I1 = Page (225 to 226)
 0 I2 (IND B)
 0 I3
 0 J1 (Page 210)

CONTRACT COMPLIANCE SCREENING FOR ORGANIC PESTICIDES / PCBs

CASE: NYDEC 506 107

SAMPLES:

DATE: 11/01/88 LOG NO. _____

PREPARED BY: JOHN E. ARLOW

LAB NAME: RECMD

SAMPLE NO.	CM	DATE		COLUMN 1: SP2250/SP2104		COLUMN 2: 3% OV-1		CALORATION	NO. OF TITS	C O D E	PROBLEMS	
		RECO.	EXT.	ANALYSIS DATE TIME	ASSOCIATE BLANK	INIT	CONT					ANALYSIS DATE TIME
SW-1		8/9/88	8/10/88	8/10/88	8/10/88			18:56	18:21	0	ES	* **
SW-2		8/9/88	8/10/88	8/10/88	8/10/88			20:07	8/10/88	0	ES	* **
SW-3		8/9/88	8/10/88	8/10/88	8/10/88			20:43	8/10/88	0	ES	* **
SW-4		8/9/88	8/10/88	8/10/88	8/10/88			21:19	8/10/88	0	ES	* **

Code

Column 1 *
 ① F.2
 ② I₁ Page 214, 2128, 2130, 2132, 213 and 214
 ③ I₂ - (IND B)
 ④ I₅
 ⑤ J₂

Column 2 **
 ① F₃
 ② I₁ Page 2126
 ③ J₁ Page 21
 ④ J₂ (8/10/88)

CONTRACT COMPLIANCE SCREENING FOR ORGANIC PESTICIDES / PCBs

PAGE: 1 OF 1

CASE:

506 101

SAMPLES:

DATE: 11/22/88

LOG NO.:

PREPARED BY: JOHN EASOW

LAB NAME: RECMO

SAMPLE NO.	CM	O. & T. E.		COLUMN 1				COLUMN 2				NO. OF NETS	C O D E	PROBLEMS
		RECD.	EXT.	ANALYSTS DATE TIME	ASSOCIATE BLANK	CALIBRATION		ANALYSTS DATE TIME	ASSOCIATE BLANK	CALIBRATION				
						INIT	CONT			INIT	CONT			
SW-5		9/14/88	9/14/88	10/6/88 16:25	10/6/88 15:39	-	-	10/4/88 10:13	-	-	-	0	B21 E51	* **
SW-5 MS		9/14/88	9/14/88	10/7/88 14:11	10/6/88	-	-	-	-	-	-	0	E51	
SW-5 MSD		9/14/88	9/14/88	10/21/88 14:56	10/6/88	-	-	-	-	-	-	0	E51	

Code
Column 1 *

1) F2
2) I1 Page
2114, 2126, 2128
2132, 2134, 2148

3) I2, INOB
4) I6 Page 2104
5) J2

Column 2 **

1) F3
2) I5
3) J2

Additional Comments:

- 2) For Forms 2, 3 & 4, header information is missing or incorrect.
- 1) For Form 2 surrogate recoveries are flagged incorrectly when diluted out.
- 3) Hand written corrections on reporting Forms, chromatogram/area counts are not initialed and dated.
- 4) Target compounds that are not confirmed are labelled.
- 5) In general, package is not arranged in correct order. Samples are not arranged in increasing sample ID and standard packages are not arranged by standard type (i.e. EVAL'S, INDA/INDS etc)

JE
11/7/88

PDFS: Pesticides / PCB's

- T = outside extraction holding time
- A = outside analysis holding time
- B₁ = incorrect detection limits for blank
- B₂ = blank not run with sample confirmation analysis
- B₃ = blank surrogate RT outside window
- B₄ = missing blank
- B₅ = Blank Raw GC data missing
- C = DDT RT time
- D = standard outside RT window
- E₁ = sample analysis
- E₂ = incorrect dilution factor / sample ID
- E₃ = incorrect detection limits
- E₄ = confirmation analysis at different dilution than primary
- E₅ = chromatogram missing sample ID
- E₆ = missing / incorrect header information
- E₇ = Form I missing / not required for negative compounds
- E₈ = missing confirmation
- E₉ = date / time Form I / IV don't match chromatogram
- E₁₀ = Aliquot of a dilution 10 fold more concentrated not analysed
- F₁ = degradation outside GC
- F₂ = degradation reported incorrectly
- F₃ = Form 8D missing
- F₄ = Form 8D incomplete
- G₁ = surrogate RT outside GC
- H₁ = not required to report as TCL compounds on Form I
- H₂ = MS/MSD at different dilution / level
- H₃ = missing MS/MSD

- ~~I₁ = improper/missing concentration Data SE 11/18/88~~
- I₂ = Endrin Ketone / DBC 25% resolution ICAL
- ~~I₃ = Methoxyella / DBC 25% resolution Table SE 11/18/88~~

- * J₂ = continuous calibration
- J₁ = % difference outside QC
- J₂ = missing Form IX
- J₃ = missing continuous calibration
- J₄ = sequence not ended with INDA / INDB
- J₅ = Quant Y/N reported incorrectly on Form IX
- J₆ = improper/missing concentration

= no % moisture
 # = no pH

- I₁ = Improper/missing concentration on standard chromatograms
- I₄ = standard chromatogram missing
- I₅ = Form SE missing
- I₆ = Form SE incomplete

C.D.L = < Detection Limit

J.E
 11/18/88

CONTRACT COMPLIANCE SCREENING FOR ORGANIC VOA

PAGE: 1 OF 5

CASE:

800 170:

SAMPLES: VOA

DATE: 10/21/88 LOG NO. _____

LAB NAME: RECRA ENVIRONMENTAL INC.

PREPARED BY: P. K. Shah

SAMPLE NO	CM	DATE		ANALYSIS TIME	ASSOC. DATE		CALIBRATION			HEPS			NO. OF	SUM OF	C O O C	PROBLEMS
		RECEIVED	INITIALS		DATE	DATE	HEET	CONF	IS	CL	TIC	SPEC				
RS-1		8/9	8/12	18:17	Z7100	C7103	-	✓	✓	6	1	7	-		M, I ₁ , I ₂ , T ₁	C ₁
AS-2		8/9				C7103				9	1				I ₁ , T ₁	T ₄
RS-4		8/9	8/12	14:51	Z7100	C7106	-	✓	✓	5	1	6	-		M, I ₁ , I ₂ , T ₁	C ₁
SWS-3		8/9	8/15	12:53		C7151	-	✓		7	1	8	-		I ₁ , I ₃ , T ₁	
Trench-2		8/9	8/15	13:30		C7151		✓		3	13	6	19	1	T ₁ , T ₂	T ₂
Trench-3	RE	8/9	8/15	16:56		C7151				2	14	5	19	1	M, T ₁	T ₃
SW-1	W	8/9	8/15	16:20			✓	-		14	5	0	7		C ₂ , I ₄ , T ₂	
SW-2	W	8/9	8/15				✓	-			5	0	6		C ₂ , I ₄	missing page 169

- M₁ - NO % available
- I₁ - missing Initial calibration
- I₂ - Incomplete limits form IV
- T₁ - Wrong Reference Spectra
- C₁ - Chromatograms normalised to solvent peak.
- I₃ - Wrong Sample II or missing sample on form VIII
- T₂ - Xylene not reported total
- T₃ - TIC calculated < 10 %
- T₄ - TIC > 10 % not reported
- I₄ - missing form VIII

CASE:

SOG NO:

SAMPLES: VOA

DATE: _____ LOG NO. _____

LAB NAME:

PREPARED BY: _____

SAMPLE NO	C/M	DATE		ANALYSIS TIME	ASSOC-DATE	ASSOC-DATE	CALIBRATION		NETS	NO. DUR	C O E	PROBLEMS			
		RECEIVED	ANALYST		TIME	BLANK	INIT	CONT	IS	CL			IS	SPC	
MW-8		9/7	9/14	1505	X6200	AO200	-	✓	✓	4	0	5	0	I ₁ C ₁	
MW-1		9/7	9/14	1541			-	✓	✓	13	2	15	0	I ₁ C ₁	
MW-7		9/7	9/14	1676			-	✓	✓	6	0	7	0	I ₁ C ₁	
MW-6		9/7		1652			-	✓	✓	6	0	6	0	I ₁ C ₁	
MW-5		9/7		1737			-	✓	✓	4	0	4	0	I ₁ C ₁	
MW-4		9/7		1802			-	✓	✓	6	95	6	0	I ₁ C ₁	
F-B 9/1		9/7					-	✓	✓	1	3	4		I ₁ S ₁	Surrogate out ← NG

CONTRACT COMPLIANCE SCREENING FOR ORGANIC VOA

PAGE: 5 of 5

SAMPLES: VOA

DATE: _____ LOG NO. _____

PREPARED BY: _____

USE: _____
AD NAME: _____

SAMPLE NO	C/M	DATE		ANALYSIS TIME	ASSOC-	ASSOC-	CALIBRATION		HESS	NOISE	C O D C	PROBLEMS
		RECEIVED	ANALYSIS		DATE TUNE	DATE BLANK	INLET	CONT	IS	CL		
Blank	S	8/15	11-24	27150	-	-	-	-	-	0	I ₁ T ₁	
					✓	✓	-	-	6	0	I ₂ I ₄ T ₁	

T5 - Wrong identification of target spectra

T-2	SITE B	NO	NO	NO			
T-3	SITE A	NO	NO	NO			
WF-8		NO	NO	NO	R	R	R

NR = NOT REQUESTED

NO = NOT VALID

R = RESUBMIT

<u>GROUP #</u>	<u>SAMPLE #</u>	<u>MATRIX</u>	<u>VOA</u>	<u>BNA</u>	<u>PEST PCB</u>	<u>CN</u>	<u>TOTAL PHENOLS</u>	<u>METALS</u>
	RS-1		NO	NO	NO			
	RS-2		NO	NO	NO			
	RS-4		NO	NO	NO			
	SW5-3		NO	NO	NO			
	TRENCH 2		NO	NO	NO			
	SW-1		NO	NO	NO	R	R	R
	SW-2		NO	NO	NO	R	R	R
	SW-3		NO	NO	NO	R	R	R
	SW-4		NO	NO	NO	R	R	R
	T-1 SITE A		NO	NO	NO			
	T-1 SITE B		NO	NO	NO			
	T-3 SITE B		NO	NO	NO			
	T-2 SITE B		NO	NO	NO			
	T-3 SITE A		NO	NO	NO			
	WW-8		NO	NO	NO	R	R	R

NR = NOT REQUESTED

NO= NOT VALID

R= RESUBMIT

SITE: TMDPO

<u>GROUP #</u>	<u>SAMPLE #</u>	<u>MATRIX</u>	<u>VOA</u>	<u>BNA</u>	<u>PEST PCB</u>	<u>CN</u>	<u>TOTAL PHENOLS</u>	<u>METALS</u>
	MW-1		NO	NO	NO	R	R	R
	MW-7		NO	NO	NO	R	R	R
	MW-6		NO	NO	NO	R	R	R
	MW-5		NO	NO	NO	R	R	R
	MW-4		NO	NO	NO	R	R	R
	FB (9-1)		NO	NO	NO	R	R	R
	TB (9-1)		NO	-	NR	NR	NR	NR
	MW-2		NO	NO	NO	R	R	R
	MW-3		NO	NO	NO	R	R	R
	TB (9-2)		NO	-	NR	NR	NR	NR
	SW-5		NO	NO	NO	R	R	R

NR = NOT REQUESTED

NO= NOT VALID

R=RESUBMIT

**RECRA ENVIRONMENTAL, INC.**

Chemical Waste Analysis, Prevention and Control

November 29, 1988

Mr. Ed Maikish
Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
Pearl River, NY

Re: Tuxedo Data Package

Dear Mr. Maikish:

Please find attached the revised Tuxedo Data Package. This submission represents the analyses of water and solid samples for Hazardous Substance List Organics via CLP protocols. The Inorganic Hazardous Substances List results were previously submitted. Only the inorganic analyses for river sediment samples remain outstanding for this particular site. This final set of data will be submitted by December 6, 1988.

To the greatest extent possible, the specific concerns addressed in John Rankin's Memorandum of November 4, 1988 and our joint meeting with the New York State Department of Environmental Conservation on November 10, 1988 have been included in this submission.

The following are the specific laboratory responses/corrective actions relative to the QA/QC comments on the Tuxedo data by the State of New York Department of Environmental Conservation. The items below are referenced to QA/QC comment numbers as in John Rankin's memo.

i. Data Completeness

Item #1: Data package does not include sample analytical tracking forms.

RESPONSE: Sample analytical tracking forms have been prepared and are included. Further data packages will include these forms.

Item #2: Case narrative does not include year of protocol used or corrective actions taken when surrogate recoveries are out of the QC range.

RESPONSE: The laboratory was using the current EPA IFB DOCUMENT (February 1987). All future work will reference

November 1987 NYSCLP. Detailed case narratives including corrective action(s) as appropriate will be included.

Item #3: Sample data summary package not submitted.

RESPONSE: Data summary package has been prepared and is included in the submission. All future data submissions will include the data summary package.

A. Volatile Review

Item #1: Three samples analyzed outside seven day holding time.

RESPONSE: CLP holding time for VOA, per EPA procedures is ten days. Three samples in question were analyzed within seven days and re-analyzed in ten days to establish matrix effect. All future analysis will be initially analyzed within seven days as per NYSCLP protocol.

Item #2: GC/MS Tuning.

RESPONSE: Data acceptable to DEC.

Item #3: Calibration

RESPONSE: Initial calibration data for 8/15 is enclosed in submission.

Item #4: Surrogate recoveries.

RESPONSE: - Sample Trench 2 was re-analyzed with similar results establishing matrix effect.

- In case of Sample T3-SA both analysis and re-analysis had surrogate recovery problems due to matrix effect and late eluting peaks with surrogate toluene-d8 and BFB. The surrogate recovery problem is due to matrix effect and high concentration of late eluting compounds not appropriate for the CLP protocol.

- Sample Numbers T3-SB and T2-SB were both re-analyzed but again, showed the same problems as above due to late eluting interfering peaks affecting the surrogate recovery. Sample T2-SB was analyzed twice. The data for the second analysis is being enclosed in resubmission. T2-SBRE was medium level analysis method and all QC requirements were within limits.

- Volatile blank of 9/9 had surrogate 1,2-dichloroethene-d4 recovery within 2% of the accep-



table QC limit. It is an inadvertent oversight of the analyst. However, the two samples associated with this blank have very high concentrations of acetone 600 and 5000 ppb in T3-SA and T3-Sb respectively and therefore not affecting data quality for practical purposes.

- The field blank re-analysis was not done in order to insure meeting holding times for other samples. The extremely dirty samples with late eluting peaks required several re-runs and caused various instrumental problems. The choice was made to run initial samples within holding time as opposed to re-running the field blank and possibly missing holding time on some un-analyzed samples.

Item #5: Blank analysis.

RESPONSE: Methylene chloride and acetone contamination of the laboratory DI water on 8/18 was observed. The analyst subsequently used Fisher brand HPLC grade water which contained chloroform. Re-analysis of the associated two samples, T1-SA and T1-SB, would have been passed holding time and therefore the blank was not done. The fact that the source of 10 ppb chloroform in the blank (added constituent to HPLC grade water) is known, the data for these two samples are usable.

Item #6: MS/MSD Data.

RESPONSE: Data is acceptable to reviewers. The internal standard area for SW-1 and SW-2 is being submitted (Form VIII-V).

Item #7: Internal standard area.

RESPONSE: Standards, blanks and samples run on system #70033 from 8/11 to 8/15 had acceptable internal standard areas. Samples which were run on 8/15/(Trench 2 and RS-2) did have internal standard areas outside acceptable range. However, these samples were re-run and proved to have matrix effect. Samples T3-SA, T3-SB and T1 SA/MS-MSD were run on 8/19/88. On this day there appeared to be a problem with internal standard areas. The standard and the samples had a low internal standard area on this day. The blank had a high internal standard area (p. 588). However, these samples were repeated on 8/22/88 which again showed unacceptable internal standard areas for the sample. The standard and blank for 8/22/88 showed excellent internal standard areas which indicates that the instrument was under control on that day. Even under these conditions, the sample runs on this day had unacceptable internal standard areas across the board.



November 29, 1988

This obviously demonstrates the matrix effect seen in these samples.

Sample RS-2 was re-analyzed; results are included in the resubmitted data package.

Item #8a: Moisture data missing for four samples.

RESPONSE: Corrected data with moisture information (Form 1) is enclosed in resubmitted data.

Item #8b: Total ion chromatogram (TIC) for seven samples not normalized to largest non-solvent peak.

RESPONSE: Normalized TIC's are included in resubmission.

Item #8c: Missing quantitation report for one sample.

RESPONSE: Quantitation report is being submitted for Sample SW-2.

Item #8d: Two compounds in the data package incorrectly flagged.

RESPONSE: Corrected forms enclosed in submission. However, there is no Sample RS-3 in this group of samples as mentioned by the reviewers.

Item #8e: Four samples had one compound reported above calibration range requiring re-run.

RESPONSE: Samples T1-SA, T1-SB, T3-SB, and T3-SA were not re-run only to insure that the other samples in this case were analyzed within the holding time. These highly contaminated samples with late eluting compounds, not compatible with the method, took several times longer to analyze and significantly increased instrument down-times. The laboratory decided to run other samples for the first time within the holding time as opposed to re-running the above samples because one of the compounds was outside the calibration range. Because of the high concentration of these compounds, it is felt the data can still be used for its' intended purpose.

Item #8f: Xylene concentration.

RESPONSE: The xylene concentration on the quantitation table is correct and was transferred to data sheets within the resubmission.

Item #8g: Discrepancy for three samples between quantable and data sheet for some compounds.



November 29, 1988

RESPONSE: Corrected data is included for Samples T2-SB and T3-SB. Also included is corrected data for Sample T3-SBRE not mentioned by the reviewer.

Item #8h: Poor mass spectral match for 4-methyl-2-pentanone and 2-hexanone.

RESPONSE: Ketones in general can have poor purging efficiency causing low response and the possibility of poor mass spectra. These are methodology related problems beyond the general control of the laboratory.

B. BNA Data Review.

Item #1: Re-analysis of 4 extracts after 40 days.

RESPONSE: Reviewers approve of extraction within 4 days and first analysis within 40 days for all the samples. The 4 samples in question were re-runs between 40-46 days of extraction which did not correct the initial problem, thereby establishing the matrix effect. In this case, the initial data within 40 days is considered acceptable.

Item #2: Analysis of one sample after 12 hours of GC MS tuning and its re-analysis after 40 days of extraction.

RESPONSE: No corrective action or resubmission possible. However, the above discrepancy is not believed to have any impact on the data quality because both sets of results are "identical" including quantitative values within 10%.

Item #3: Calibration.

RESPONSE: Data acceptable to DEC.

Item #4: Surrogate recoveries.

RESPONSE: Acid surrogate recovery for 4 samples are out of QC limits. These samples could not be re-extracted as insufficient sample volume remained after first analysis. Recovery of 2-fluorophenol is less than 10% (not 0%) for MW-5 which is corrected and enclosed in the resubmission.

Item #5: Blank analysis.

RESPONSE: Data acceptable to DEC.

Item #6: MS/MSD data.

RESPONSE: In case of groundwater MW-3, none of the matrix compounds are seen due to inadvertant mistake of extraction



chemist in spiking. There was insufficient sample volume left for re-extraction for MS/MSD. However, the data quality should be acceptable because the sample itself had been analyzed three times. In case of Sample SW-5, the analysis of MS and MSD on two different dates using different calibration standards is within the contract limitation. In case of Sample T3-SA, the recovery of matrix compound, pyrene, was impacted by the presence of this compound in unspiked sample at 23,300 ug/kg. This necessitated analysis of sample, MS, and MSD at 1:10 dilution leading to "strange" (indeterminate) recovery as mentioned by reviewers. The difficulties with homogenization of the sample (i.e. inability to obtain representative subsamples) also needs to be considered in this regard.

Item #7: Internal standard area for two samples outside QC limits.

RESPONSE: Insufficient sample volumes remained for re-extraction; however, the data quality is not impacted since only phthalates are present in the sample MW-1 and MW-5 at trace levels (much below the 5 times CRCLs allowed in blank under the CLP criteria).

Item #8a: Moisture data missing for four samples.

RESPONSE: Corrected data with moisture information is enclosed in resubmission, pp. 785-787, 824-826, 857-858, 868-870, 903-905, 939-940, 953-955, and 1001-1002.

Item #8b: 4-bromophenyl phenyl ether reported for Sample RS-4.

RESPONSE: The surrogate compound 2,4,6-tribromophenol is commonly misidentified by computer as 4-bromophenyl phenyl ether and is therefore corrected by mass spectral interpretation specialist on the quant report. Corrected form for RS-4 is enclosed, pp. 868-870.

Item #8c: Compounds reported for Sample T2-SB.

RESPONSE: The compounds in question were misidentified by computer and were corrected by mass spectral interpretation specialist on the quant report. Corrected form for T2-SB is enclosed, pp. 1248-1250.

Item #8d: Compound identification not identical for Sample MW-8 on quant report and organic data sheet.

RESPONSE: The corrected organic data sheet is being resubmitted, pg. 1371. This compound is now scratched on the quant report all the way instead of only on the left side as was the case in the original submission.



C. Inorganics.

Inorganic analyses were completed using the 1986 NYSCLP protocols as indicated in sections of Recra's contract with LMS. All future analyses are being completed in accordance with 1987 protocols. To the extent possible, all of the forms that could be filled out have been submitted under separate cover with the resubmitted data package. As is obvious based upon the differences in the 1986 and 1987 protocols, not all forms could be submitted.

With regard to specific questions on inorganic data please find the following responses:

DATA COMPLETENESS

Item C: Raw data for mercury analysis; chromium data.

RESPONSE: Raw data for Mercury is included in the resubmission. Chromium data from groundwater samples was based upon the Flame AA results; analysis was done by ICP also.

Item D: Missing soils metals data.

RESPONSE: Metals data for all samples except RS-1, RS-2, RS-4 and SWS-3 have been submitted. Later results will be submitted by December 8, 1988.

QUALITY CONTROL PROCEDURES

Item #1: Initial Calibration.

RESPONSE: All calibration data is included with raw data. Resubmission of report more clearly presents these data.

Item #2: Calibration blanks; aluminum in prep. blank.

RESPONSE: Calibration blanks were run at a frequency of 10% consistent with protocol. Prep blank analyzed did find aluminum at 270 ug/l, however concentration in sample SW-5 is sufficiently high to contractually permit levels of 10 times CRQL's; data acceptable.

Item #5: Improperly flagged arsenic values.

RESPONSE: Corrected with resubmission of inorganic data package.

Item #6: Selenium results.

RESPONSE: Corrected with resubmission of inorganic data package.

Item #7: Magnesium results.



RESPONSE: Wrong data originally submitted; corrected with resubmission of inorganic data package.

D. Pesticides/PCBs Data Review.

Item #1a: The data for water sample SW-1, SW-2, SW-3 and SW-4 cannot be validated due to the lack of standards data in the package.

RESPONSE: Standard data were submitted in the data package. Page 2150, 2182, of the data package contains standards analyzed on 8/10/88 18:21 (HP-2) and pp. 2112-2149 standards analyzed on 8/10/88 20:15 (HP-1). Therefore, data for water samples SW-1, SW-2, SW-3 and SW-4 is valid since the associated standards data was included in the original package.

Item #1b: For the primary/quantification analyses conducted on 8/8-10/88 Forms VIII-Pest-2 and IX are not included. The confirmation sequence was conducted on 8/9-10/88 and Form VIII Pest 1 was not included in the package.

RESPONSE: Form VII Pest-2 and IX is being resubmitted for the primary/quantification analysis conducted on 8/8-10/88 (pp. 2095, 2104A, 2104B). For confirmation analysis conducted on 8/9-10/88, Form VII is being enclosed (p. 2095A).

Item #2a: Form IX is missing for the primary/quantification analyses sequence conducted on 8/23/through 8/24, and for the confirmation run conducted on 8/29 through 8/30.

RESPONSE: Form IX is being enclosed for primary/quantification analysis of 8/23-24/88 and for the confirmation analysis conducted on 8/20-30/88 (pp. 2111A, 2111B, 2111C, and 2111D). Missing standards for confirmation run conducted on 8/29-30/88 are being submitted.

Item #2b: Evaluation Mix B was not analyzed after the fifth sample in the confirmation sequence as required by CLP (Exhibit E, p. E61, paragraph 4.5.5) to evaluate Endrin: 4,4'-DDT breakdown.

RESPONSE Evaluation Mix B was analyzed after the fifth sample in the confirmation sequence as required by CLP (pp. 2222 and 2233 of original data package. It was entered on Form VIII Pest-1 on 11/8/88, p. 2097). Standard summary form with Eval B information is being submitted (p.2102A).

Item #2c: The percent breakdown for 4,4'-DDT in Evaluation Mix B run 8/23/88 at 23:08 on mixed is 67%. The CLP maximum allowed is 20%. CLP Exhibit E, p. E-54, paragraph 4.4.4



November 29, 1988

requires corrective action to be taken when the % breakdown exceeds 20% as per Exhibit E, p E-55, paragraph 4.3.3.8 prior to further analyses.

RESPONSE: Percent breakdown for DDT/Endrin is influenced by peaks "ghosting" from previous injection (SWS-3, pp. 1994 and 1995 of report). There is no evidence of DDT/Endrin breakdown in the succeeding or preceding analyses of Eval Mix B (p. 2218).

Item #2d: Samples T1-SA, T1-SB, T3-Sb, T2-SB, and T3-SA were extracted on 8/17/88. The data package includes no data for the blank extracted on 8/17/88 (Exhibit E, pg. E46, paragraph 1.1.1).

RESPONSE: The blank for Samples T1-SA, T1-SB, T3-SB, T2-SB, and T3-SA was extracted on 8/17/88 and data included in the package. The PBLK chromatogram on p. 2325 is the blank for these soils. Form I was missing. It has now been generated and is resubmitted as p. 2324B. Form IV PBLK summary was enclosed in the original packet (p. 1970).

Item #2e: The chromatograms for these soil samples all display a large peak at the beginning (<20 minutes for mixed phase column, <5 minutes for 3% OV-1) which would preclude pattern recognition of earlier eluting arochlors, and in the instance of T3-SA, the earlier eluting Matrix Spike compounds (BHC, heptachlor, aldrin, and endrin) were not detected in the MS and MSD fractions due to this large peak.

RESPONSE: The chromatograms for these soils were analyzed by reproduction attenuated within 100 fold range to bring plot to scale as allowed per CLP protocol. Hard copies of these replots are enclosed in the resubmission.

For Sample: RS-1, pp. 1979A, 1979B
 RS-2, pp. 1985A, 1985B
 RS-4, pp. 1991A, 1991B
 SWS-3, pp. 1997A, 1997B
 Trench 2, pp. 2003A, 2003B
 T1-SA, pp. 2029A, 2029B
 T1-SB, pp. 2035A, 2035B
 T2-SB, pp. 2047A, 2047B
 T3-SA, pp. 2053A, 2053B
 T3-SB, pp. 2041A, 2041B

No early-eluding pesticides or arochlors were seen on these chromatograms. In future data packages evidence of GPC cleanup will be provided for all soil samples.

Item #3: The chromatograms for water samples MW-1 and MW-7 both have baselines which project below the graph scale.



November 29, 1988

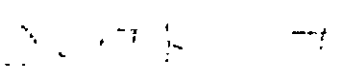
RESPONSE: The chromatograms for water samples MW-1 (pp. 2060A, 2060B) and MW-7 (pp. 2063A, 2063B) have been replotted to bring them on scale and are enclosed in resubmission.

We appreciate the opportunity to respond to the questions that have been raised regarding these data. We further hope that the resubmitted data package will provide the information/data upon which significantly more of the data can be found acceptable and be used in the Phase I investigation of the Tuxedo Site.

Recra also recognizes that there may be some additional questions associated with the data summarized within this report and that some data will continue to be non-compliant and possibly incomplete. We have worked diligently to address your questions and respond to the inquiries you have made. Please feel free to contact me at your convenience regarding any subsequent questions and/or comments.

Sincerely,

RECRA ENVIRONMENTAL, INC.


Robert K. Wyeth
Executive Vice President
Corporate QA Officer

RKW/ndc
Attachment
cc: NY Testing
John Rankin, NYSDEC



RECRA ENVIRONMENTAL, INC.



TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

December 2, 1988

Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, N.Y. 10965-8509

Attention: Mr. Ed Maikish
Reference: Data Validation Report - Tuxedo Site

Dear Mr. Maikish:

Enclosed please find our Data Validation Report for the Tuxedo Trench Soil Samples dated November 18, 1988.

If you have any questions concerning this report, please call me at 516/625-5500.

Very truly yours,

Nytest Environmental Inc.

Douglas Sheeley
Laboratory Manager

DS:gd
Enc.

cc: Maureen Serafini
NYSDEC
50 Wolf Road
Albany, NY 12233

Robert Wyeth
RECRA Env.
10 Hazelwood Dr.
Suite No. 106
Amherst, NY 14150

nytest environmental inc

DATA VALIDATION REPORT - TUXEDO DATA

PREPARED FOR: LAWLER, MATUSKY & SKELLY ENGINEERS

This review of the data package submitted by RCRA Environmental consisted of the Inorganic Data for the following samples:

T-1 Site A
T-1 Site B
T-2 Site A
T-2 Site B
T-2 Site B MS
T-2 Site B MSD
T-3 Site A
T-3 Site B

The data in this report package does not conform to 1987 NYSDEC CLP (see attached pages). At a minimum, in order to better facilitate a contract compliance review, the following must be provided:

- *Digestion Logs
- *Corrected Form I's
- *Legible photocopies of the raw data
- *Raw data labelled with all pertinent information (B-22-B-23)
- *Corrected LCS Form VII
- *Report should be page numbered

Please note the following specific comments.

The letters in brackets by the comments indicate sections of NYSCLP.

SITE: TUXEDO TRENCH SOILS - SUBMITTED 11/18/98

<u>GROUP #</u>	<u>SAMPLE #</u>	<u>MATRIX</u>	<u>VOA</u>	<u>DNA</u>	<u>PEST PCB</u>	<u>CN</u>	<u>TOTAL PHENOLS</u>	<u>METALS</u>
	T-1	SA				OK	OK	R
	T-1	SB				OK	OK	R
	T-2	SA				OK	OK	R
	T-2	SB				OK	OK	R
	T-2	SB MS				OK	OK	R
	T-2	SB MSD				OK	OK	R
	T-3	SA				OK	OK	R
	T-3	SB				OK	OK	R

R = RESUBMIT

NR = NOT REQUESTED

INORGANICS DATA

DATA COMPLETENESS:

Inorganic Analysis Data Sheet [Form I - IN]

Sample No. T - 1 SITE B

1. Value for zinc, reported at 3,180, should be 318.
2. Value for lead, reported at 3.2, should be 320.

Sample No. T - 2 SITE A

1. Value for Iron, reported at 1,450, should be 14,500.

Sample No. T - 2 SITE B

Final values inconsistent with raw data. Suspect incorrect application of percent solid correction factor.

Data reported on this form does not match sample values reported on Duplicates Form VI.

Sample No. T - 3 SITE A

Percent solids calculation factor inconsistently applied.

Sample No. T - 3 SITE B

Final values inconsistent with raw data. Values corrected for percent solids determination are less than the original (raw data) values.

Initial and Continuing Calibration Verification [Form II(Part 1)]

1. ICV's for zinc and cadmium differ from raw data values. Reported values are from the first and last CCVs.

Percent recoveries for these two parameters are outside the acceptable control limits [90% - 110%].

<u>Parameter</u>	<u>True Value</u>	<u>Found</u>	<u>%R</u>
Zinc	500	565	113
Copper	500	559	111

Initial and Continuing Calibration Verification [Form II] cont'd

2. Final CCV's for Co and Cd not reported. The percent recovery value for the final CCV for cobalt is 87%. This is outside the acceptable control limit of 90% - 110%.

CRQL Standard for AA and ICP [Form II (Part 2) - IN]

* CRQL NOT RUN.

ICP Interference Check Sample [Form IV - IN]

* ICS NOT RUN.

Spike Sample Recovery [Form V (Part 1) - IN]

1. Duplicate and sample values were averaged for spike calculations (E-76) for the following: Pb, V, Cu, Ni, and As.
2. Chromium sample results (SR) do not appear on the raw data submitted.
3. For cadmium and cobalt, sample results (SR) are not identical to raw data values, and are not the averages of duplicate and sample values.

Post Digest Spike Sample Recovery [Form V (Part 2) - IN]

* Post digestion spike not reported in correct format (B-62 - B-63).

Duplicates [Form VI - IN]

1. Sample (S) values reported do not match values reported on Form I.

Laboratory Control Sample [Form VII - IN]

1. Instrument Detection Limits Form combined with LCS form.
2. True values and percent recoveries for laboratory control sample not reported.
3. Laboratory control sample not labelled on raw data.
4. Laboratory control sample not run for Sb, Ba, Be, Se and Tl.

ICP Serial Dilutions [Form IX - IN]

- * Serial dilutions not performed.

ICP Interelement Correction Factors (Quarterly) [Form XII(part 1)]

- * Interelement correction factors not reported.

QUALITY CONTROL PROCEDURES:

- * Recalibration often performed during a run, frequently just prior to a continuing calibration verification. This renders the previously obtained sample values invalid (E-73 - E-74).

- * Baseline corrections (autozeros) incorrectly applied (E-71).

- * Baseline corrections used as continuing calibration blanks.

- * Continuing calibration blanks and verifications not run at prescribed frequency (10% or every two hours during an analysis run) or final CCV or CCB missing (E-72).

See: Pb, Be, Ca, Mg, Na, and K.

- * Standardization data for Hg analysis not included.

- * ICV and CCV follow one another directly in the cyanide run. (They were not analyzed " at the beginning of the run and after the last analytical sample" [E-72]).

- * Raw data illegible for Be, Cr, Pb, Se, and Tl.

New York State Department of Environmental Conservation

MEMORANDUM

TO: Mike Komoroske, Eastern Investigation Section
FROM: Maureen Serafini, Quality Assurance Section
SUBJECT: QA Review of Tuxedo (Compuchem Data Package)

DATE: December 6, 1988

ENVIRONMENTAL SAMPLES

The data package submitted by Compuchem concerning the analysis of samples collected at the Tuxedo C&D Site has been reviewed by Marth aMcEwen and myself. The data is acceptable and conforms to CLP requirements. The data package reflects sample number SH336035-01 through SH336035-16 and SH336035-FB.

cc: B. Pine

(attachment)

New York State Department of Environmental Conservation

MEMORANDUM

TO: John Karlin, Environmental Chemist III
 FROM: Martha McEwen, Chemist MM c
 SUBJECT: Contract Compliance Screen (CCS) Review
 Tuxedo C&D Site, ID #336035
 DATE:

November 30, 1988

This review covers two data packages submitted by Computer Laboratories which contain the results of a resampling of the site. Samples were received on November 8, 9 and 10, 1988. The compounds listed (i.e., base/neutral acids, pesticides, P.P. & metals) are listed as determined following EPA/CALCO procedures.

Sample ID (Computer Data)	Sample ID and Description (Previous sampling - RECORD DATA)
SH336035-01	SW-1 Downstream Ramapo River water
SH336035-02	RS-1 Downstream Ramapo River Sediment
SH336035-03	SW-2 Midstream Ramapo River water
SH336035-04	RS-2 Midstream Ramapo River Sediment
SH336035-05	SW-3 Standing water upgradient to site adjacent to Corral tracks
SH336035-06	SW-3 Sediment to SW-3
SH336035-07	SW-4 Upstream Ramapo River water
SH336035-08	RS-4 Upstream Ramapo River Sediment
SH336035-09	GW-1 Upgradient, north end
SH336035-10	GW-2 Upgradient, south end
SH336035-11	GW-3 Downgradient
SH336035-12	GW-4 Downgradient
SH336035-13	GW-5 Downgradient
SH336035-14	GW-6 Downgradient
SH336035-15	GW-7 Downgradient
SH336035-16	GW-6 Duplicate, called GW-8
SH336035-FB	Field Blank

Package #1

The first package contains the results on sediment samples SH336035-02, 04, 06 and 08. The organics analyses were performed under the '87 protocol. My review found that the data have been generated in a manner consistent with the QA/QC requirements of the protocol and is acceptable. Sample extractions and analyses were completed by November 15th meeting holding times. All samples were analyzed under appropriate tunes and calibration data. Surrogate recoveries, blank contaminants and internal standards area data were all within control limits. Sample 336035-06 was used for MS/MSD analyses; spike recoveries and relative percent difference between recoveries were all within QC limits in each of the fractions.

Computer

VAEDU

336035-04 "OC Organics" (low level) mg/kg

	336035-04	336035-05	336035-06	336035-08
Methylene chloride	168	495	418	119
Acetone	235	1508	388	119
Benzene				
Naphthalene	86			
2-Methylnaphthalene	76			
Dibenzofuran	63			
Phenanthrene	280	160		
Anthracene			490	
Fluoranthene	56	400	320	
Pyrene	44	400	350	
Benzo[a]anthracene	33	330	280	
Chrysene	49	480	600	
Bis(2-Ethylhexyl) sebacate	130	680	650	
Benzo[b]fluoranthene	70	390	320	
Benzo[k]fluoranthene	70	390	320	
Benzo[a]pyrene	30	230	220	

X- footnote signifies indistinguishable isomers.

There were no PCBs for Rest PCB's greater than the CRQL

The inorganics analyses on the sediment samples were apparently run according to the '86 protocol'. The case narrative specifically defines the '87 protocol' for the organics work but no protocol is mentioned for the inorganic data. To comply with the '87 protocol' they should have submitted a CRQL standard for AA and ICP [Form II (Part 2)]-IV and a post digestion spike analysis for flame and ICP [Form V (Part 2)] for spikes that are out of control limits (p.B-57, 63, p.E-71, 76).

Duplicate results were out of control ($\pm 20\%$ difference) for Al (31), Cr (22) and Pb (33). Selenium (30% rec) and Ag (70% rec) spike recoveries were low (less than 75% rec). The data are appropriately annotated.

The raw data for the cyanide and mercury analyses had been "mirrored" before photocopying so that the "mirrored" numbers appear black on the photocopies. But if you hold the sheet up to a light (while standing on one foot) you can sort of make out what is printed.

When I spot checked the calculations of the sample results, I found slight differences in the reported data. For example:

sample #	My Calculations	Reported mg/kg
336035-04	ICP Al 24920	23900
	Ca 5782	5630
	Cr 26	34
	Pb 31677	31100
	Furnace As [7.3]	[7.1]
	Pb 88	91

In the case narrative the lab attributes these differences to a computer software snag which they are currently working on.

Compuchem
 Tuxedo
 TCL Inorganics (soil/sediments; mg/kg)

	336035-02	336035-04	336035-06	336035-08
Al	4320*	23900*	17200*	16100*
Sb	14u	47u	33u	12u
As	6.6	[7.1]	[6.5]	[2.6]
Ba	72	[181]	[96]	[46]
Be	[0.7]	[2.3]	[1.6]	[0.6]
Cd	1.4u	4.7u	3.3u	1.2u
Ca	2180	5680	8030	[1280]
Cr	8.1	34	25	25
Co	[5.6]	[15]	[12]	[5.4]
Cu	57*	75*	95*	15*
Fe	24200	31100	22500	29400
Pb	42*	91*	82*	12*
Mg	[1630]E	5950E	4360E	3380E
Mn	21E	526	154	192
Hg	0.19	1.8	1.9	0.10u
Ni	[11]	[41]	[26]	14
K	785u	2570u	1800u	643u
Se	0.56UN	2.4UN	1.7UN	0.59UN
Ag	1.4 UN	4.7UN	3.3UN	1.2UN
Na	629u	[2510]	1440u	[552]
Tl	0.63u	2.3u	1.6u	0.57u
V	[15]	[45]	41	36
Zn	81	414	328	74
CN	0.83u	2.9u	2.0u	0.71u
% solids	60	17	25	70

Package #2

This package contains the data for the surface and groundwater samples. As with the first package, the organics data are copacetic, with all QA/QC procedures documented. However, the lab failed to provide us with the samples pH values which should have been listed with the header information on the individual samples Form I SV-11(p. B-34). Sample were extracted and analyzed by Nov. 16th with all tunes, calibration data and internal standards area summaries passing criteria. Form V-SV for the DFTPP tune on instrument #21 on 05/10/88 at 1516 hours incorrectly lists the % relative abundance for m/e 127, 197, 198, 199 and 275. The raw data of the mass listing shows the correct abundances. The tune is okay.

The volatile surrogate recoveries are all in control. For the BNA analyses, the groundwaters 336035-12, 13 and 16 needed to be reextracted due to low acid surrogate recoveries. The reextracted runs also had low acid surrogate recoveries suggesting a matrix effect. These were the same wells that RECRA showed low acid surrogate recoveries. Also, these wells are also all downgradient from the site.

Sample ID	Phenol-d5 (10-94)	2-Fluorophenol (21-100)	Tribromophenol (10-123)
336035-12	0*	2*	24
336035-12RE	1*	1*	24
336035-13	0*	0*	4*
336035-13RE	0*	0*	2*
336035-16	0*	0*	4*
336035-16RE	6*	7*	22

The BNA blank SBLK87 showed Bis(2-Ethylhexyl)phthalate at 78 ug/kg which is greater than 5 times the CRQL and therefore puts the blank out of control. However, the applicable samples 336035-14 and -15 have no hits.

The lab ran the MS/MSD analyses on the surface water 336035-03 with all spike recoveries in control. It would have been interesting to see MS/MSD results on one of the downgrade groundwater samples. RECRA's results on MW-3 showed no recovery for the base neutral or acid fraction spikes.

Compuchem
 Tuxedo TCL Organics (low waters; ug/l)

336035	-03	-05	-09	-11	-12	-13	-14	-15	-16
Vinyl chloride					3J				
Methylene chloride	2J	3J	1J	1BJ	1BJ	2BJ	4J	3BJ	2J
Acetone	2J						10J		9J
1,2-Dichloroethane (total)					2J				
Trichloroethene					3J				
Tetrachloroethene					1J				
Chloroform			2J					4J	

- 1) No volatile nits on 336035-01, 07, 10, FB
- 2) Blank contamination of methylene chloride for samples -12, 13 and 15 was 3J ug/l.

336035 -10 -16 -16RE

Bis(2-Ethylhexyl)phthalate	6J	3J	--
Benzoic Acid			6J

- 1) No BNA hits on 336035 -01, 03, 05, 07, 09, 11, 12, 12RE, 13, 13RE, 14, 15 and FB
- 2) No Pesticide/PCB hits greater than the CRQL.

The metals data was submitted with the QA/QC requirements according to the '86 protocol. Everything appears to be okay except that there were no spike results for CA, Mg, K and Na. The lab reports that these spikes are not required but they should have been run (p/ E-55). The spike recovery on zinc was a little low at 73%. The cyanide data was "hi-lited" and difficult to read.

cc: M. Serafini

Compendium

Toledo Waters (-9/2) continued

	336035-12	336035-13	336035-14	336035-15	336035-16	336035-FB
Al	948	200	[187]	2970	[122]	25u
Sb	43u	43u	43u	43u	43u	43u
As	[2.1]	[3.8]	26	[1.8]	23	1.6u
Bc	[78]	[87]	[167]	[75]	[160]	0.85u
Bc	1.1u	1.1u	1.1u	[2.7]	1.1u	1.1u
Cd	4.3u	4.3u	4.3u	4.3u	4.3u	191
Ca	126000	315000	221000	172000	211000	[80]
Cr	5.0u	5.0u	[6.2] 5.0u	5.0u	5.0u	5.0u
Co	[4.0]	[8.8]	33 [6.2]	[5.4]	[6.0]	[5.6]
Cu	32	64	34400 33	27	46	32
Fe	2130	3120	0.9 34400	5390	33000	[5.8]
Pb	0.91u	0.91u	0.91u	[1.5]	0.91u	0.91u
Mg	33300	101000	76500	55500	72900	[251]
Mn	4970	10200	12300	1460	11800	1.7u
Hg	0.2u	0.2u	0.2u	0.2u	0.2u	0.2u
Ni	24u	24u	24u	24u	24u	24u
K	2360u	20100	25400	2360u	23900	2360u
Sc	[24]	21uE	21uE	10E	21uE	2.1u
Hg	4.3u	4.3u	4.3u	4.3u	4.3u	4.3u
Na	31800	70500	104000	80400	99900	[2460]
Tl	2.0u	2.0u	2.0u	2.0u	2.0u	2.0u
V	[6.5]	[5.9]	[12]	[11]	[11]	[4.2]
Zn	191EN	148EN	115EN	144EN	80EN	[9.6]EN
CN	10u	12	10u	10u	10u	10u



TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc.

December 07, 1988

Mr. Ed Maikish
Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965-8509

Re: Data Validation Report - Tuxedo Site

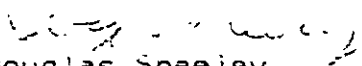
Dear Mr. Maikish:

Enclosed please find our Data Validation Report for the repackaged inorganic results on the Tuxedo Site. The samples in this package are SW-1, SW-2; SW-3; SW-4.

Please note that the conclusion of this data validation report is that the data on these samples continues to be non-compliant and partially incomplete.

If you have any questions concerning this report, please call me at 516-625-5500.

Very truly yours,


Douglas Shreeley
Laboratory Director

cc: Maureen Serafini
NYSDEC
50 Wolf Rd.
Albany, NY 12233

Robert Wyeth,
Recrea Env
10 Hazelwood Dr.
Suite No. 106
Amherst, NY 14150

box 1518 = 60 seaview blvd., port washington, ny 11050 - (516) 625-5500

nytest environmental.

The data in this report package does not conform to 1987 NYSDEC CLP (see attached pages). At a minimum, in order to better facilitate a contract compliance review, the following must be provided:

- a. Standardization data for mercury analysis
- b. Standardization data for phenol analysis
- c. Digestion logs
- d. Interferent correction factors

INORGANICS DATA

DATA COMPLETENESS:

Inorganic Analysis Data Sheet [Form I - IN]

Sample No. SW - 5

* Barium result should be 510 not 520 (see report page 60)

* Antimony is reported at 11U, instead of 5U (the IDL).

Sample No. MW - 5

* Calcium result should be 402,000, not 408,000, (see report page 91)

Sample No. MW - 6

* Selenium should be flagged with an "E". [NYSCLP B-54 - 55] (see report page 101)

Sample No. MW - 7

* Beryllium result should be 5.0, not 5.0U. (see report page 78)

Sample No.'s MW - 3, 4, 5, 6, 7, 8

* Samples reported at 10U, not 5U (the IDL).

Initial and Continuing Calibration Verification [Form II(Part 1)]

1. Samples marked ICV on ICP raw data (page 45) were not reported.

2. Arsenic CCV (80.0) was not found on rawdata. (page 116)

3. Final CCV for arsenic was not reported. (see report page 74)

4. Lead CCV (46) does not appear on rawdata. (see pages 98 and 99)

5. The second CCV for Se is 43.6 (Rec = 87.2). (see report page 101)

6. No final CCV run for Iron. (see report page 162)

7. No final CCV run for Magnesium. (see report page 171)

8. No final CCV reported for Potassium. (see report pages 185 and 189)

9. The final CCV for Sodium falls outside the control limits [value = 29.810 , Rec. = 117]. (see report pages 197 and 200)

CRQL Standard for AA and ICP [Form II(Part 2) - IN].

* CRQL NOT RUN.

ICP Interference Check Sample [Form IV - IN]

* ICS not run according to NYS Contract Laboratory Protocol. Solution A was not run. [see NYSCLP E-75]

Post Digest Spike Sample Recovery [Form V(Part 2) - IN]

* Form provided lacks true values, values found, and control limits.

Duplicates [Form VI - IN]

* Duplicate value reported for Chromium, on sample number SW-5, does not appear on rawdata (see report page 145). Sample 4432 is reported twice.

Laboratory Control Sample [Form VII - IN]

1. Instrument Detection Limits Form combined with LCS form.

2. Laboratory control sample not clearly labelled on raw data.

Standard Addition Results [Form VIII - IN]

* MSA's performed for Lead analysis on sample SW-5 were not reported.

ICP Serial Dilutions [Form IX - IN]

- * Serial dilutions not performed.

ICP Interelement Correction Factors (Quarterly) [Form XII(part 1)]

- * Interelement correction factors not reported.

QUALITY CONTROL PROCEDURES:

- * Recalibration often performed during a run, frequently just prior to a continuing calibration verification. This renders the previously obtained sample values invalid (E-73 - E-74).

- * Baseline corrections (autozeros) incorrectly applied (E-71).

- * Baseline corrections used as continuing calibration blanks.

- * Standardization data for Hg analysis not included.

- * Standardization data for Phenol analysis not included.

- * ICV and CCV follow one another directly in the cyanide run. (They were not analyzed " at the beginning of the run and after the last analytical sample" [E-72]).

- * Rawdata for Magnesium included twice, (see pages 170-174 and 218-221)

QUALITY CONTROL PROCEDURES (cont'd) :

* Lead rawdata does not include original sample runs, only MSA's. [see NYSCLP B-23 #7]

* Second CCV for lead is outside control limits of 90 - 110 %, The value found is 61. The true value is 50 (a 120% recovery).

* All spikes are Post Digestion Spikes, this is contrary to NYSCLP E-76 Paragraph 4.



TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental

December 08, 1986

Mr. Ed Matkish
Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965-0509

Re: Data Validation Report - Tuxedo Site

Dear Mr. Matkish:

Enclosed please find our Data Validation Report for the repackaged inorganic results on the Tuxedo Site. The samples in this package are MW-1; MW-2; MW-3; MW-4; MW-5; MW-6; MW-7; MW-8; Field Blank; SW-5.

Please note that the conclusion of this data validation report is that the data on these samples continues to be non-compliant and partially incomplete.

If you have any questions concerning this report, please call me at 516-625-5500.

Very truly yours,

Douglas Sheehey
Douglas Sheehey
Laboratory Director

cc: Maureen Serafini
NYSDEC
50 Wolf Rd.
Albany, NY 12233

Robert Wyeth
Recon Env
10 Hazelwood Dr.
Suite No. 106
Amherst, NY 14150

The data in this report package does not conform to 1987 NYSDEC CLP (see attached pages). At a minimum, in order to better facilitate a contract compliance review, the following must be provided:

- * Rawdata for Magnesium
- * Digestion Logs
- * Forms reporting Interelement Correction Factors
- * Forms reporting Serial Dilutions (if performed)
- * ICP Interference check samples (if performed)
- * Spike sample Recoveries
- * Rawdata labeled with all pertinent information (B-22 - B-23)

INORGANICS DATA

DATA COMPLETENESS:

Inorganics Analysis Data Sheet [FORM I - IN]

1. Zinc, chromium, and copper results not flagged with "N". Spike recoveries for these parameters are outside control limits (75% - 125%). [see report pages 26 and 27]
2. No "B" concentration qualifiers used. [see NYSCLP B-54]

Initial and Continuing Calibration Verification [FORM II (Part 1) - IN]

1. Samples labelled ICV and CCV on rawdata were not reported. Samples reported are labeled "premix". [see report pages 31 and 33]
2. Arsenic ICV and CCV field left blank. [see page 7]
3. Cyanide ICV field left blank. [see page 7]

CRQL Standard for AA and ICP [FORM II (Part 2) - IN]

No CRQL standards run for ICP analyses. [NYSCLP E-73]

Blanks [FORM III - IN]

1. Preparation blanks not labeled as such on rawdata.
2. Cyanide CCB not reported (field left blank). [see report page 8]

ICP Interference Check Sample [FORM IV - IN]

ICS not reported.

Spike Sample Recovery [FORM V (Part 1) - IN]

Not reported.

Post Digest Spike Sample Recovery [FORM V (Part 2) - IN]

Form provided does not conform to format described in

NYSCLP [B-62 AND 63]. Form used does not report true values, method qualifiers or control limits.

Duplicates [FORM VI -IN]

1. The RPD for Manganese should be 1.9 not 0.96.
2. Control limits not reported. [see NYSCLP B-63]

Laboratory Control Sample [FORM VII - IN]

1. LCS form combined with CRDL form. [see report page 10]
2. LCS not labelled on rawdata.

ICP Serial Dilutions [FORM IX - IN]

Not reported.

ICP Interelement Correction Factors (Quarterly) [FORM XII (Part 1) - IN]

Not reported.

QUALITY CONTROL PROCEDURES :

* Recalibration performed during an analysis run, frequently just prior to a continuing calibration verification (see rawdata for: Zn, Cr, Cu, Ag, Ni, Al, Co, Mn, Fe, V, Mg, K, Ca, Sb, As , Se, and Pb).

This renders the previously obtained sample values invalid. [see NYSCLP E-72 AND E-73]

* Sodium rawdata included twice. [see report pages 61-63 and 66-68]

* Rawdata for Magnesium not included.

* Cyanide and Phenol rawdata missing [see NYSCLP B-24 and 25]:

1. Calibration Data
2. CRQL Standard
3. Spike Samples
4. Duplicate Samples
5. Laboratory Control Samples



TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nytest environmental inc

January 4, 1989

Mr. Ed Maikish
Lawler, Matusky & Skelly Engineers
One Blue Hill Plaza
P.O. Box 1509
Pearl River, NY 10965-8509

Re: Data Validation Report - Tuxedo Site 88-15158 (C)

Dear Mr. Maikish:

Enclosed please find our Data Validation Report for the inorganic results the Tuxedo Site. The samples in this data package are RS-1; RS-2; RS-4; SWS-3.

Please note that the conclusion of this data validation report is that the data on these samples are non-compliant with CLP protocol and partially incomplete. The items listed, in particular the items in the Quality Control section of this review, would make this data non-compliant with a resubmittal.

If you have any questions concerning this report, please call me at 516-625-5500.

Very truly yours,

Douglas Sheeley
Laboratory Director

cc: Mike Komoroske
NYSDEC
50 Wolf Rd.
Albany, NY 12233

Robert Wyeth
Recrea Env
10 Hazelwood Dr
Suite No. 106
Amherst, NY 14150



TOTAL ANALYTICAL SERVICES FOR A SAFE ENVIRONMENT

nystest environmental inc

PROJECT NO. 88-15158 (C)

The data in this report package does not conform to 1987 NYSDEC CLP (see attached pages). At a minimum, in order to better facilitate a contract compliance review, the following must be provided:

- * Digestion Logs
- * Corrected reporting forms
- * Rawdata labeled with all pertinent information (B-22 - B-23)

INORGANICS DATA

DATA COMPLETENESS:

Inorganic Analysis Data Sheet [Form I - IN]

1. The value reported for copper on sample RS-1 was not found in the rawdata. [see report page 26]
2. The value for iron on sample RS-2 was incorrectly reported as 234,000. instead of 23,400. [see report page 26]
3. The value reported for barium on sample SWS-3 was not found in the rawdata provided. [see report page 48]

CRQL Standard for AA and ICP [Form II(Part 2) - IN].

* CRQL NOT RUN.

ICP Interference Check Sample [Form IV - IN]

* ICS not run according to NYS Contract Laboratory Protocol. Solution A was not run. [see NYSCLP E-75]

Spike Sample Recovery [Form V (Part 1) - IN]

* Spike not performed on this sample group.

Post Digest Spike Sample Recovery [Form V(Part 2) - IN]

* Post digestion not performed on this sample group.

Duplicates [Form VI - IN]

* Duplicate not performed on this sample group.

Laboratory Control Sample [Form VII - IN]

1. Instrument Detection Limits Form combined with LCS form.
2. Form provided does not include true values or percent recoveries.
3. Laboratory control sample not labelled on raw data.

ICP Serial Dilutions [Form IX - IN]

* Serial dilutions not performed.

nytest environmental_{nc}

PROJECT NO. 88-15158 (C)

ICP Interelement Correction Factors (Quarterly) [Form XII(part 1)]

* Interelement correction factors not reported.

QUALITY CONTROL PROCEDURES:

* Recalibration often performed during a run, frequently just prior to a continuing calibration verification. This renders the previously obtained sample values invalid (E-73 - E-74).

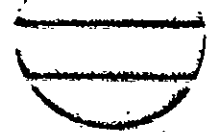
* Baseline corrections (autozeros) incorrectly applied (E-71).

* Baseline corrections used as continuing calibration blanks.

* Standardization data for Hg analysis not included.

* Standardization data for cyanide analysis not included.

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233



Thomas C. Jorling
Commissioner

January 5, 1989

Mr. Edward A. Maikish, P.E.
Lawler, Matusky and Skelly Engineers
One Blue Hill Plaza
Pearl River, NY 10965

Dear Mr. Maikish:

Re: Tuxedo C & D Site (D16035)
Phase II Investigation

I am writing to clarify the question of "usability" of the Peconic Environmental, Inc., generated data packages for the referenced site. Although the Phase II contract requires that all data be generated in compliance with New York State Department of Environmental Conservation (NYSDEC) Contract Laboratory Protocol (1987 version), there may be instances where it is in NYSDEC's interests to use the data in a final data package. The trench samples fall into this category.

I will address the usability of these samples by individual analytical fractions, similar to your December 7, 1988 letter to me. This letter was written after consulting with Mr. John Rankin, Division of Hazardous Waste Remediation's Chief Chemist and review of recent NY Test Environmental, Inc. Data Validation reports (dated December 2, 1988 - Inorganics and December 5, 1988 - repackaged organic results).

Volatile organics - Sample T-2SB was not reanalyzed although the surrogate recoveries were outside the QC limits. Although the remaining trench samples were reanalyzed, they were done without correcting the internal standard controls. The reanalysis again showed low responses for T-2SA, T-3SA & B. This would mean that the reported values could be higher than the actual concentrations. There were other NYSDEC-SLP compliance problems associated with all samples - volatile fraction.

Based on the above, volatile organic results for these samples must not be used in any fashion in the report.

Base Neutral and Acid Extractable Organics: Only 4 of 6 samples were deemed "usable" by NYSDEC's original internal data validation review. None were deemed in compliance based on NY Test Environmental's review of the repackaged organic results. The unresolved issues would not discredit the reported values as being real, nor could they be artificially high. The reanalysis data can be used, but they must be flagged as estimated and the results are quantitatively qualified as you proposed.



MINOLTA

*The Following
Documents are
Photocopies
Condition Can't
Be Improved -*

*not 2 documents on top of each
other, and / or information cut
off on bottom or sides or top,
and / or print blurred, and / or
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We AIM to please

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140A Metro Park • Rochester, NY 14623 • (716) 427-2460 • FAX (716) 427-8231
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New York State Department of Environmental Conservation

MEMORANDUM

TO: Mike Komoroske
FROM: Maureen Serafini *MS*
SUBJECT: QA Review of RCRA Analysis for Tuxedo
DATE: February 7, 1989

Test p + samples

The data package submitted by ~~York~~ Laboratories concerning samples:

- SH336035 - 01
- 03
- 05
- 07
- 09
- SH336035 - 02
- 04
- 06
- 08
- 10

has been reviewed by Martha McEwen and myself. The data is acceptable.

Attachment

New York State Department of Environmental Conservation

MEMORANDUM

TO: John Rankin, Environmental Chemist III
 FROM: Martha McEwen, Chemist *MMc*
 SUBJECT: QA/QC Review - RCRA Analyses from York Labs for Tuxedo C&D Test Pits
 DATE: January 23, 1989

The following samples were submitted to York laboratories. The requested analyses are as listed:

Sample #	Matrix	Requested Analyses
SH336035 - 01 - 03 - 05 - 07 - 09	solid waste	Full EP toxicity characterization, corrosivity, ignitability, reactivity (24 hour holding time)
SH336035 - 02 - 04 - 06 - 08 - 10	solid waste	Full ICLP characterization (HSL), corrosivity, ignitability, reactivity (24 hour holding time)

Samples SH336035-01, -02, -03, -04 were received at the lab on December 12, 1988. Samples -05, -06, -07, -08 and -10 were received on December 13, 1988.

Organics Review

All samples were TCLP prepped within 8 days of receipt for both volatiles and BNA's except for 336035-08 duplicate which was prepped for volatiles within 13 days. volatiles were analyzed within 12 days of TCLP prep. Base-neutral/Acids were extracted within 6 days of TCLP prep and analyzed within 2 days of extraction, except the reanalysis of 336035-02 which was run 7 days past extraction.

For the pesticides/herbicides analyses, all samples were TCLP or EP Tox prepped within 6 days of receipt except for the TCLP prep on 336035-06, -08 and -10 which were prepped 13 days past receipt. All samples were extracted within 5 days of TCLP/EP Tox prep and analyzed within 2 days.

For the volatiles analyses all QA/QC requirements were acceptable. No MS/MSD data were submitted nor were TIC's identified in either volatile or BNA fractions. The QA/QC data for the BNA's were also acceptable, however for the continuing calibration check the SPCC, 2,4-dinitrophenol had an RF of 0.02704 (less than the required of 0.05) and the ccc, Pentachlorophenol had a % difference of 30.89 (greater than 25%). This continuing calibration check applies to all

sample analyses. For sample SH336035-02 and its reanalysis, the recovery on the surrogate nitrobenzene-d5 was 0%.

The pesticides/herbicides analyses look okay. No MS/MSD data were submitted. The lab did not perform a linearity check of DBC. Its concentration is the same in each of the evaluation mixes A, B and C giving 0.2 total nanograms on the column for each. No pesticides/herbicides were identified in any of the samples.

Inorganic Review

The data presented for the TCLP and EP Tox metals is acceptable.

cc. M. Serafini

SN 83603

TUXEDO C&D SITE
 TCLP ORGANICS *
 (mg/L)

Compound	-502	-504	-504D	-506	-508	508DP	510	TCLP BLA
Methylene chloride	14B*	21B	NA	5B	40J		8B	
Carbon Disulfide	5	5	↓	8	4J	3J	4J	2J
Chloroform	5	5	↓	5	5	5	4J	6J
Toluene	5	7	↓	4J	10	3J	11	
Phenol	12			7J		NA		
2-methyl phenol				5J				
4-methyl phenol	14B*	5JB	30B	46B	27B	↓	129B	
Bis(2-ethylhexyl) phthalate	4J	2J	4J	3J	3J	↓	2J	3J

* methylene chloride at 3J in method blank
 - 4-methyl phenol at 5J in method blank



New York State Department of Environmental Conservation

MEMORANDUM

TO: Mike Komoroske
FROM: Maureen Serafini *MS*
SUBJECT: QA Review of Tuxedo TCLP Data

DATE: February 8, 1989

Test D.T. Samples

The data package submitted by Compuchem was reviewed by Martha McEwen and myself. The data reflects the analyses of samples: SH336035-31 through SH336035-35. The data is acceptable.

Attachment

back

11 (12-75)

New York State Department of Environmental Conservation

MEMORANDUM

TO: John Rankin, Environmental Chemist III
FROM: Martha McEwen, Chemist
SUBJECT: QA/QC Review - TCLP Analyses from Compuchem Laboratories for Tuxedo C&D Test Pits
DATE:

February 8, 1989

The following samples were submitted to Compuchem for full HSL TCLP Characterization.

Table with 4 columns: Sample #, Matrix, Date Rec'd, TCLP Extraction. Rows include samples SH336035 - 31, -32, -33, -34, -35 with their respective matrices and dates.

Sample Holding Times

Volatiles - Samples SH336035 - 31 and -32 were analyzed within 7 days of extraction; samples SH336035 - 33, -34 and -35 were analyzed within 18 days.

BNA's - Sample SH336035 - 31 was extracted within 4 days of the TCLP extraction. SH336035-32 was extracted within 20 days and -33, -34 and -35 were extracted within 15 days of the TCLP extraction. For samples SH336035 - 31, -32, -33, -34 and -35 the holding times for analysis were 1, 5, 3, 3 and 3 days, respectively.

Pesticides/PCB's - All samples were extracted for pest/PCB analysis within 7 days of the TCLP extraction and analyzed within 21 days of pest/PCB extraction. SH336035 - 33 and -34 were re-extracted with florisisil column cleanup at 27 days past TCLP extraction.

Herbicides - SH336035 - 31 was extracted for herbicides 4 days past TCLP extraction; - 32 was extracted at 21 days and -33, -34 and -35 were extracted at 8 days. All extracts were analyzed within 21 days

Metals - ICP, furnace and mercury preps. were completed within 7 days of the TCLP extraction.

Organics, Inorganic Review

This data package was not presented in the reporting format outlined in the NYSCLP. As far as I can tell, no reporting requirements have been established for the TCLP procedure. The data presented suggests that Compuchem followed an appropriate QA/QC protocol.

cc: M. Serafini

Tuxedo C&D Site
 TCLP Organics (ug/l)
 Compuchem

54336035	-31	-32	-33	-34	-35
Compound					
Methylene chloride	6JB(B=13)	6JB(B=13)	20B(B=14)	10B(B=14)	9JB(B=14)
Carbon Disulfide	2J		5	2J	3J
2-Butanone	1J				
Trichloroethene				4J	6
Benzene				1J	1J
Toluene	4J	3C	28	11	9J
Phenol	12J		32	12	1J
2-methyl phenol		4J	15	10	
3-methyl phenol	22(1)		110(1)	48(1)	26(1)
4-methyl phenol	22(1)		110(1)	48(1)	26(1)
GAMMA BHC (Lindane)	0.15		0.61		

TCLP Inorganics (ug/l)

Arsenic	8.0u	[3.3]	21	25	16u
Barium	572E	811E	538E	376E	271E
Cadmium	10	12	[4.9]	5.1	7.1
Chromium	[5.4]	5.0u	21	15	[8.8]
Lead	3580	3480	2020	1510	8130
Mercury	0.2u	0.2u	0.2u	0.2u	0.2u
Selenium	10uN	10uN	10uN	21uN	21uN
Silver	[5.7]	4.3u	4.3u	4.3u	4.3u

New York State Department of Environmental Conservation

MEMORANDUM

TO: Mike Komoroske
FROM: Maureen Serafini *WPS*
SUBJECT: Tuxedo C&D Test Pits/Data from ENSECO
DATE: March 9, 1989

Test pit samples

The above mentioned data has been reviewed by Martha McEwen and myself.
The data is acceptable.

If there are any questions, please contact me.

(Attachment)

New York State Department of Environmental Conservation

MEMORANDUM

TO: John Rankin, Environmental Chemist III
 FROM: Martha McEwen, Chemist MMW
 SUBJECT: QA/QC Review, Tuxedo C&D Site #336035
 Test Pit Data from ENSECO
 DATE:

March 2, 1989

This review covers the analyses of 20 samples received by ENSECO at their different facilities on December 13 and 14, 1988

<u>Sample Point</u>	<u>DEC Sample ID</u>	<u>Requested Analyses</u>
Test Pit 1-A	SH336035-11	TCL Inorganics
	-21	RCRA Characteristics EP Toxicity (Fu) Polychlorinated Dioxins/ Furans
	-26	TCL ICA's, SNA's, P/P's
1-B	SH336035-12	TCL Inorganics RCRA Characteristics
Test Pit 2-A	SH336035-13	TCL Inorganics
	-22	RCRA Characteristics EP Toxicity (Fu) Polychlorinated Dioxins/ Furans
	-27	TCL ICA's, SNA's, P/P's
2-B	SH336035-14	TCL Inorganics RCRA Characteristics
Test Pit 3-A	SH336035-15	TCL Inorganics
	-23	RCRA Characteristics EP Toxicity (Fu)
	-28	TCL ICA's, SNA's, P/P's
3-B	SH336035-16	TCL Inorganics RCRA Characteristics
Test Pit 4-A	SH336035-17	TCL Inorganics
	-24	RCRA Characteristics EP Toxicity (Fu)
	-29	TCL ICA's, SNA's, P/P's
4-B	SH336035-18	TCL Inorganics RCRA Characteristics

Task ID: 5-A

SH336035-19

-25
-30

TCL Inorganics
RCRA Characteristics
EP Toxicity (Full)
TCL Inorganics
RCRA Characteristics

5-B

SH336035-20

TCL Inorganics
RCRA Characteristics

My evaluation found the following

1. Volatiles Analyses - These are acceptable. Sample SH336035-26 was analyzed 1 day past holding time (7days). For this sample acetone is reported at 1100 ug/kg flagged with an "E" to indicate that the concentration was beyond the standard calibration range, however, the sample concentration was within 10% of the calibration range.
2. BIA Analyses - These are acceptable. All spike recoveries on the MS and MSD were high.

Compound	SH336035-26		Analysis			QC Limits		Recovery
	Sample	MS/MSD	Matrix Spike	MS Duplicate	RPD	RPD		
	Conc. (ug/kg)	Conc.	%REC	Conc.	%REC			
1,2,4-Trichloro- benzene	0	6400	130*	5300	136*	2	25	38-107
Acenaphthene	9200	35000	+	19000	+	-	19	31-137
2,4-Dinitro- toluene	0	5800	140*	5700	142*	2	47	28-89
Pyrene	44000	170000	+	57000	+	-	36	35-142
N-Nitrosodimeth- propylamine	0	6300	150*	6700	162*	8	38	41-126
1,4-Dichloro- benzene	0	5000	120*	4600	112*	7	27	28-104
Pentachlorobenzene	0	9400	113*	12000	141*	22	47	17-109
Phenol	0	9300	117*	13000	153*	30	35	26-90
2-chlorophenol	0	10000	123*	10000	123*	0	50	25-102
4-chloro-3- methylphenol	0	9300	111*	9600	117*	5	33	26-103
4-nitrophenol	0	11000	132*	14000	174*	27	50	11-114

* - Asterisk values are outside advisory QC limits

- - Lab was unable to calculate % recovery due to high concentration of analyte in sample.

3. Pesticides/PCB analyses. These results are of little value to us. After doing the florisis cleanup the lab diluted the samples before analysis to reduce matrix interferences. The lab found no pesticide/PCB's with reported detection limits at 10 to 90 times the CRQL's for soils. The samples analyses showed no dibutyl chlorendate recoveries and no recoveries for the spiking components in the matrix spike and spike duplicate analyses.

2. Tl Inorganics - These analyses are acceptable. However, these samples were collected on December 12 and 13, 1988 but analysis was not requested until January 19, 1989. Sample holding time for cyanide was exceeded by about 3 weeks. The data user should be advised that non-detects are probable unusable and hits are probable low. For what their worth, my calculations show that the cyanide results for SH336035-14 and -18 should be reported as 0.53 ug/kg and 0.40 ug/kg not 0.66u and 0.62u.

Predigestion spike recoveries were outside control limits (75-125%) for Sb (37.1%) and Mn (209.2%). Post-digestion spike recoveries for these analytes were in control. Lab duplicate analyses show the following outside control limits (greater than 20% difference): Ba-39%; Cd-200%, Cu-180%, Pb-33%, Mn-36% and Zn-32%.

3. RCRA characteristics including EP toxicity - These analyses are acceptable. The lab control samples show very low recoveries for reactive sulfide and reactive cyanide (less than 40%).
4. Polychlorinated Dioxins/Furans Analysis - These analyses are acceptable.

New York State Department of Environmental Conservation

MEMORANDUM

TO: Mike Komoroske
FROM: Maureen Serafini *MPS*
SUBJECT: Tuxedo C&D Test Pits/Versar Data
DATE: March 13, 1989

Test pit samples

The above mentioned data has been reviewed by Martha McEwen and myself and is acceptable.

If there are any questions, please contact me.

(No attachment)