06-01
10-5-93

Fac/Perm/Co ID #	Date	Doc ID#
BC	61408	DIN

Mark Poindexter

Need to sample SW @ Brushy Creek.

ENGINEERING TECTONICS, P.A.
ENGINEERS • GEOLOGISTS • HYDROLOGISTS
P.O. Box I, Winston-Salem, NC 27108 (919) 724-6994

Fac/Perm/Co ID #	Date	Doc ID#
6c	6/4/98	DIN

SOLID WASTE SECTION
NOV 29 1993

Groundwater Sampling Report
Avery County Landfill
Newland, North Carolina
Project No. 90-247-E

Prepared for:

Randall Fletcher
PO Box 356
Newland, North Carolina 28657

by

Engineering Tectonics, P.A.
Winston-Salem, North Carolina

October 29, 1993

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Groundwater Section
Central Office

Groundwater Monitoring Well Sampling

On October 5, 1993, 1993 ET personnel mobilized to the Avery County Landfill to sample three monitoring wells (MW-1 - MW-3). Depth to water was measured in each monitoring well, and each well was developed prior to sampling with a new disposable bailer. A minimum of three volumes of water was purged from each well, and water samples collected according to EPA sampling protocols. The samples were packed on ice, and sent to an EPA approved laboratory, using EPA approved chain of custody procedures. The samples were submitted for analysis using EPA method 8270, EPA method 8240, BOD, COD, specific conductance, chloride, fluoride, nitrate, pH, TDS, TOC, TOX, sulfate, arsenic, barium, cadmium, chromium, copper, iron , lead, mercury, selenium, manganese, silver, and zinc.

Teflon ?

Water Levels

Static water levels were measured as 8.90, 5.25, and 5.50 feet for monitoring wells MW-1, MW-2, and MW-3 respectively.

Laboratory Results

Included in table 1 are the laboratory results for the tests mentioned above on the three groundwater monitoring wells at the Avery County Landfill in Newland, North Carolina.

Table 1

	MW-1	MW-2	MW-3
BOD (Method 507)	<.9	4.0	8.1
COD	209	18.7	128
Specific Conductance	238.5 umhos	227.0 umhos	125.0 umhos
Chloride	40.9	24.2	10.2
Fluoride	<0.50	<0.50	<0.50
Nitrate	1.01	0.16	0.23
pH	7.7	7.2	6.9
TDS	134.0	141.0	154.0
TOC	4.4	4.8	7.2
TOX	0.040	0.043	0.025
Sulfate	4.6	7.5	1.7
Arsenic	<0.007	0.019	0.007
Barium	0.082	0.130	0.155
Cadmium	0.002	0.009	0.015
Chromium	0.014	0.017	0.094
Copper	0.088	0.013	1.344
Iron	51.241	9.287	36.702
Lead	<0.010	0.136	0.141
Mercury	<0.0002	<0.0002	0.0004
Selenium	<0.007	<0.007	<0.007
Manganese	3.934	9.922	7.506
Silver	<0.010	<0.010	<0.010
Zinc	0.132	0.190	0.259

The results for the EPA Method 8270 and EPA Method 8240 are presented below:

	MW-1	MW-2	MW-3
Chloroethane	BDL	.0296	BDL
1,1-Dichloroethane	BDL	.007	BDL

All other constituents included in EPA Method 8270 and EPA Method 8240 were Below Detectable Limit (BDL) for MW-1, MW-2, and MW-3.

Results are presented in parts per million (ppm) unless specified

Copies of the laboratory results are included in Attachment A

Attachment A
Laboratory Results

REPORT OF ANALYSES

ENGINEERING TECTONICS
PO BOX I
WINSTON SALEM, NC 27108-
Attn: DAN BOWSER

PROJECT NAME: ENGINEER TECHT
DATE: 10/26/93

SAMPLE NUMBER- 27458 SAMPLE ID- MW 1 90247
DATE SAMPLED- 10/05/93 TIME SAMPLED- 1100 SAMPLER- DAN
DATE RECEIVED- 10/05/93 TIME RECEIVED- 1730
DELIVERED BY- dan RECEIVED BY- MLS

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
PH,LAB	EPA 150.1	/ /		10/07/93		MGN	7.7	std units
BOD	507	/ /		10/06/93	1000	MPE	<0.9	mg/l
TOTAL DISSOLVED SOLIDS	EPA160.1	/ /		10/07/93		MPE	134.0	mg/l
SPECIFIC CONDUCTIVITY	EPA 120.1	/ /		10/08/93		MGN	238.5	umhos
CHLORIDE	EPA 325.3	/ /		10/08/93	1300	PCP	40.9	mg/l
CHEMICAL OXYGEN DEMAND	EPA 410.4	/ /		10/13/93		PSH	209	mg/l
TOTAL ORGANIC CARBON		/ /		10/21/93		CEN	4.4	mg/l
FLUORIDE	EPA 340.2	/ /		10/10/93	1500	APT	<0.50	mg/l
NITRATE	EPA 352.1	/ /		10/06/93	1400	APT	1.01	mg/l
SULFATE	EPA 375.4	/ /		10/20/93	1900	ljp	4.6	mg/l
MERCURY, TOTAL	245.1	/ /		10/08/93	1500	BDL	<0.0002	mg/l
SILVER,TOTAL	200.7	10/06/93	KHJ	10/18/93	0953	BDL	<0.010	mg/l
ARSENIC, TOTAL	200.7	10/06/93	KHJ	10/19/93	0917	LJP	<0.007	mg/l
BARIUM, TOTAL	200.7	10/06/93	KHJ	10/18/93	1414	BDL	0.082	mg/l
CADMIUM, TOTAL	200.7	10/06/93	KHJ	10/19/93	0818	LJP	0.002	mg/l
CHROMIUM, TOTAL	200.7	10/06/93	KHJ	10/19/93	1243	LJP	0.014	mg/l
COPPER, TOTAL	200.7	10/06/93	KHJ	10/18/93	1414	BDL	0.088	mg/l
IRON, TOTAL	200.7	10/06/93	KHJ	10/18/93	1414	BDL	51.241	mg/l
LEAD, TOTAL	200.7	10/06/93	KHJ	10/19/93	0819	LJP	<0.010	mg/l
MANGANESE, TOTAL	200.7	10/06/93	KHJ	10/19/93	0818	LJP	3.934	mg/l
SELENIUM, TOTAL	200.7	10/06/93	KHJ	10/20/93	0917	LJP	<0.007	mg/l

CONTINUATION OF DATA FOR SAMPLE NUMBER 27458

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
ZINC, TOTAL	200.7	10/06/93	KHJ	10/19/93	0818	LJP	0.132	mg/l

TOX (Method 9020) MW-1 = 0.040 mg/l
TOC and TOX analysis performed by Cenref Labs, Brighton, CO.

LABORATORY DIRECTOR _____

P.O. BOX 3029 ASHEVILLE, NC 28814 22 LYMAN STREET ASHEVILLE, NC 28801 (704) 254-6169 FAX: (704) 252-[illegible] TOLL FREE: [illegible]

REPORT OF ANALYSES

ENGINEERING TECTONICS
PO BOX I
WINSTON SALEM, NC 27108-
Attn: DAN BOWSER

PROJECT NAME: ENGINEER TECHT
DATE: 10/26/93

SAMPLE NUMBER- 27459 SAMPLE ID- MW 2 90247
DATE SAMPLED- 10/05/93 TIME SAMPLED- 1300 SAMPLER- DAN
DATE RECEIVED- 10/05/93 TIME RECEIVED- 1730
DELIVERED BY- dan RECEIVED BY- MLS

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
PH, LAB	EPA 150.1	/ /		10/07/93		MGN	7.2	std units
BOD	507	/ /		10/06/93	1000	MPE	4.0	mg/l
TOTAL DISSOLVED SOLIDS	EPA160.1	/ /		10/07/93		MPE	141.0	mg/l
SPECIFIC CONDUCTIVITY	EPA 120.1	/ /		10/08/93		MGN	227.0	umhos
CHLORIDE	EPA 325.3	/ /		10/08/93	1300	PCP	24.2	mg/l
CHEMICAL OXYGEN DEMAND	EPA 410.4	/ /		10/13/93		PSH	18.7	mg/l
TOTAL ORGANIC CARBON		/ /		10/21/93		CEN	4.8	mg/l
FLUORIDE	EPA 340.2	/ /		10/10/93	1500	APT	<0.50	mg/l
NITRATE	EPA 352.1	/ /		10/06/93	1400	APT	0.16	mg/l
SULFATE	EPA 375.4	/ /		10/20/93	1900	ljp	7.5	mg/l
MERCURY, TOTAL	245.1	/ /		10/08/93	1500	BDL	0.0002	mg/l
SILVER, TOTAL	200.7	10/06/93	KHJ	10/18/93	0953	BDL	<0.010	mg/l
ARSENIC, TOTAL	200.7	10/06/93	KHJ	10/19/93	0917	LJP	0.019	mg/l
BARIUM, TOTAL	200.7	10/06/93	KHJ	10/18/93	1414	BDL	0.130	mg/l
CADMIUM, TOTAL	200.7	10/06/93	KHJ	10/19/93	0818	LJP	0.009	mg/l
CHROMIUM, TOTAL	200.7	10/06/93	KHJ	10/19/93	1243	LJP	0.017	mg/l
COPPER, TOTAL	200.7	10/06/93	KHJ	10/18/93	1414	BDL	0.013	mg/l
IRON, TOTAL	200.7	10/06/93	KHJ	10/18/93	1414	BDL	9.287	mg/l
LEAD, TOTAL	200.7	10/06/93	KHJ	10/19/93	0819	LJP	0.136	mg/l
MANGANESE, TOTAL	200.7	10/06/93	KHJ	10/19/93	0818	LJP	9.922	mg/l
SELENIUM, TOTAL	200.7	10/06/93	KHJ	10/20/93	0917	LJP	<0.007	mg/l

CONTINUATION OF DATA FOR SAMPLE NUMBER 27459

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
ZINC, TOTAL	200.7	10/06/93	KHJ	10/19/93	0818	LJP	0.190	mg/l

TOX (Method 9020) MW-2 = 0.043 mg/l
TOC and TOX analysis performed by Cenref Labs, Brighton, CO.

LABORATORY DIRECTOR _____

REPORT OF ANALYSES

ENGINEERING TECTONICS
PO BOX I
WINSTON SALEM, NC 27108-
Attn: DAN BOWSER

PROJECT NAME: ENGINEER TECHT
DATE: 10/26/93

SAMPLE NUMBER- 27460 SAMPLE ID- MW 3 90247
DATE SAMPLED- 10/05/93 TIME SAMPLED- 1430 SAMPLER- DAN
DATE RECEIVED- 10/05/93 TIME RECEIVED- 1730
DELIVERED BY- dan RECEIVED BY- MLS

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
PH, LAB	EPA 150.1	/ /		10/07/93		MGN	6.9	std units
BOD	507	/ /		10/06/93	1000	MPE	8.1	mg/l
TOTAL DISSOLVED SOLIDS	EPA160.1	/ /		10/07/93		MPE	154.0	mg/l
SPECIFIC CONDUCTIVITY	EPA 120.1	/ /		10/08/93		MGN	125.0	umhos
CHLORIDE	EPA 325.3	/ /		10/08/93	1300	PCP	10.2	mg/l
CHEMICAL OXYGEN DEMAND	EPA 410.4	/ /		10/13/93		PSH	128	mg/l
TOTAL ORGANIC CARBON		/ /		10/21/93		CEN	7.2	mg/l
FLUORIDE	EPA 340.2	/ /		10/10/93	1500	APT	<0.50	mg/l
NITRATE	EPA 352.1	/ /		10/06/93	1400	APT	0.23	mg/l
SULFATE	EPA 375.4	/ /		10/20/93	1900	ljp	1.7	mg/l
MERCURY, TOTAL	245.1	/ /		10/08/93	1500	BDL	0.0004	mg/l
SILVER, TOTAL	200.7	10/06/93	KHJ	10/18/93	0953	BDL	<0.010	mg/l
ARSENIC, TOTAL	200.7	10/06/93	KHJ	10/19/93	0917	LJP	0.007	mg/l
BARIUM, TOTAL	200.7	10/06/93	KHJ	10/18/93	1414	BDL	0.155	mg/l
CADMIUM, TOTAL	200.7	10/06/93	KHJ	10/19/93	0818	LJP	0.015	mg/l
CHROMIUM, TOTAL	200.7	10/06/93	KHJ	10/19/93	1243	LJP	0.094	mg/l
COPPER, TOTAL	200.7	10/06/93	KHJ	10/18/93	1414	BDL	1.344	mg/l
IRON, TOTAL	200.7	10/06/93	KHJ	10/18/93	1414	BDL	36.702	mg/l
LEAD, TOTAL	200.7	10/06/93	KHJ	10/19/93	0819	LJP	0.141	mg/l
MANGANESE, TOTAL	200.7	10/06/93	KHJ	10/19/93	0818	LJP	7.506	mg/l
SELENIUM, TOTAL	200.7	10/06/93	KHJ	10/20/93	0917	LJP	<0.007	mg/l

CONTINUATION OF DATA FOR SAMPLE NUMBER 27460

ANALYSIS	METHOD	SAMPLE PREP DATE	BY	ANALYSIS DATE	TIME	BY	RESULT	UNITS
ZINC, TOTAL	200.7	10/06/93	KHJ	10/19/93	0818	LJP	0.259	mg/l

TOX (Method 9020) MW-3 = 0.025 mg/l
TOC and TOX analysis performed by Cenref Labs, Brighton, CO.

LABORATORY DIRECTOR _____

P.O. BOX 13029 ASHEVILLE, NC 28814 122 LYMAN STREET ASHEVILLE, NC 28801 (704) 254-1159 FAX (704) 252-[illegible]

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21889
SAMPLE IDENTIFICATION: MW-1 Engineering Tec
DATE SAMPLED: 10/5/93
DATE EXTRACTED: 10/08/93
DATE/TIME ANALYZED: 10/12/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Acenaphthene	83-32-9	10.0	BDL
Acenaphthylene	208-96-8	10.0	BDL
Aniline	62-53-3	10.0	BDL
Anthracene	120-12-7	10.0	BDL
Benzidine	92-87-5	10.0	BDL
Benzoic Acid	65-85-0	50.0	BDL
Benzo(a)Anthracene	56-55-3	10.0	BDL
Benzo(b)Fluoranthene	205-99-2	10.0	BDL
Benzo(k)Fluoranthene	207-08-9	10.0	BDL
Benzo(g,h,i)Perylene	191-24-2	10.0	BDL
Benzo(a)Pyrene	50-32-8	10.0	BDL
Benzyl Alcohol	100-51-6	20.0	BDL
Bis(2-Chloroethoxy)Methane	111-91-1	10.0	BDL
Bis(2-Chloroethyl)Ether	111-44-4	10.0	BDL
Bis(2-Chloroisopropyl)Ether	39638-32-9	10.0	BDL
Bis(2-Ethylhexyl)Phthalate	117-81-7	10.0	BDL
4-Bromophenyl Phenyl Ether	101-55-3	10.0	BDL
Butyl Benzyl Phthalate	85-68-7	10.0	BDL
4-Chloroaniline	106-47-8	20.0	BDL
1-Chloronaphthalene		10.0	BDL
2-Chloronaphthalene	91-58-7	10.0	BDL
4-Chloro-3-Methyl Phenol	59-50-7	10.0	BDL
2-Chlorophenol	95-57-8	10.0	BDL
4-Chlorophenyl Phenyl Ether	7005-72-3	10.0	BDL
Chrysene	218-01-9	10.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21889
SAMPLE IDENTIFICATION: MW-1 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Dibenz(a,h)Anthracene	53-70-3	10.0	BDL
Dibenzofuran	132-64-9	10.0	BDL
Di-N-Butylphthalate	84-74-2	10.0	BDL
1,3-Dichlorobenzene	541-73-1	10.0	BDL
1,4-Dichlorobenzene	106-46-7	10.0	BDL
1,2-Dichlorobenzene	95-50-1	10.0	BDL
3,3'-Dichlorobenzidine	91-94-1	20.0	BDL
2,4-Dichlorophenol	120-83-2	10.0	BDL
2,6-Dichlorophenol	87-65-0	10.0	BDL
Diethylphthalate	84-66-2	10.0	BDL
A,A-Dimethylphenethylamine	122-09-8	10.0	BDL
2,4-Dimethylphenol	105-67-9	10.0	BDL
Dimethylphthalate	131-11-3	10.0	BDL
4,6-Dinitro-2-Methylphenol	534-52-1	50.0	BDL
2,4-Dinitrophenol	51-28-5	10.0	BDL
2,4-Dinitrotoluene	121-14-2	10.0	BDL
2,6-Dinitrotoluene	606-20-2	10.0	BDL
Diphenylamine	122-39-4	20.0	BDL
Di-N-Octylphthalate	117-84-0	10.0	BDL
Fluoranthene	206-44-0	10.0	BDL
Fluorene	86-73-7	10.0	BDL
Hexachlorobenzene	118-74-1	10.0	BDL
Hexachlorobutadiene	87-68-3	10.0	BDL
Hexachlorocyclopentadiene	77-47-4	10.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21889
SAMPLE IDENTIFICATION: MW-1 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Hexachloroethane	67-72-1	10.0	BDL
Indeno(1,2,3-cd)Pyrene	193-39-5	10.0	BDL
Isophorone	78-59-1	10.0	BDL
2-Methylnaphthalene	91-57-6	10.0	BDL
2-Methylphenol	95-48-7	10.0	BDL
4-Methylphenol	106-44-5	10.0	BDL
Naphthalene	91-20-3	10.0	BDL
2-Nitroaniline	88-74-4	50.0	BDL
3-Nitroaniline	99-09-2	50.0	BDL
4-Nitroaniline	100-01-6	50.0	BDL
Nitrobenzene	98-95-3	10.0	BDL
2-Nitrophenol	88-75-5	10.0	BDL
4-Nitrophenol	100-02-7	10.0	BDL
N-Nitroso-Di-N-Butylamine	924-16-3	50.0	BDL
N-Nitrosodimethylamine	62-75-9	10.0	BDL
N-Nitrosodiphenylamine	86-30-6	10.0	BDL
N-Nitrosodipropylamine	621-64-7	10.0	BDL
Pentachlorophenol	87-86-5	50.0	BDL
Phenanthrene	85-01-8	10.0	BDL
Phenol	108-95-2	10.0	BDL
Pyrene	129-00-0	10.0	BDL
1,2,4,5-Tetrachlorobenzene	95-94-3	10.0	BDL
2,3,4,6-Tetrachlorophenol	58-90-2	10.0	BDL
1,2,4-Trichlorobenzene	120-82-1	10.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21889
SAMPLE IDENTIFICATION: MW-1 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
2,4,5-Trichlorophenol	95-95-4	10.0	BDL
2,4,6-Trichlorophenol	88-06-2	10.0	BDL
Surrogate Recovery:			
2-Fluorobiphenyl			48%
Nitrobenzene-d5			66%
4-Terphenyl-D14			82%
2-Fluorophenol			62%
Phenol-D5			45%
2,4,6-Tribromophenol			61%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21890
SAMPLE IDENTIFICATION: MW-2 Engineering Tec
DATE SAMPLED: 10/5/93
DATE EXTRACTED: 10/08/93
DATE/TIME ANALYZED: 10/12/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Acenaphthene	83-32-9	10.0	BDL
Acenaphthylene	208-96-8	10.0	BDL
Aniline	62-53-3	10.0	BDL
Anthracene	120-12-7	10.0	BDL
Benzidine	92-87-5	10.0	BDL
Benzoic Acid	65-85-0	50.0	BDL
Benzo(a)Anthracene	56-55-3	10.0	BDL
Benzo(b)Fluoranthene	205-99-2	10.0	BDL
Benzo(k)Fluoranthene	207-08-9	10.0	BDL
Benzo(g,h,i)Perylene	191-24-2	10.0	BDL
Benzo(a)Pyrene	50-32-8	10.0	BDL
Benzyl Alcohol	100-51-6	20.0	BDL
Bis(2-Chloroethoxy)Methane	111-91-1	10.0	BDL
Bis(2-Chloroethyl)Ether	111-44-4	10.0	BDL
Bis(2-Chloroisopropyl)Ether	39638-32-9	10.0	BDL
Bis(2-Ethylhexyl)Phthalate	117-81-7	10.0	BDL
4-Bromophenyl Phenyl Ether	101-55-3	10.0	BDL
Butyl Benzyl Phthalate	85-68-7	10.0	BDL
4-Chloroaniline	106-47-8	20.0	BDL
1-Chloronaphthalene		10.0	BDL
2-Chloronaphthalene	91-58-7	10.0	BDL
4-Chloro-3-Methyl Phenol	59-50-7	10.0	BDL
2-Chlorophenol	95-57-8	10.0	BDL
4-Chlorophenyl Phenyl Ether	7005-72-3	10.0	BDL
Chrysene	218-01-9	10.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21890
SAMPLE IDENTIFICATION: MW-2 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Dibenz(a,h)Anthracene	53-70-3	10.0	BDL
Dibenzofuran	132-64-9	10.0	BDL
Di-N-Butylphthalate	84-74-2	10.0	BDL
1,3-Dichlorobenzene	541-73-1	10.0	BDL
1,4-Dichlorobenzene	106-46-7	10.0	BDL
1,2-Dichlorobenzene	95-50-1	10.0	BDL
3,3'-Dichlorobenzidine	91-94-1	20.0	BDL
2,4-Dichlorophenol	120-83-2	10.0	BDL
2,6-Dichlorophenol	87-65-0	10.0	BDL
Diethylphthalate	84-66-2	10.0	BDL
A,A-Dimethylphenethylamine	122-09-8	10.0	BDL
2,4-Dimethylphenol	105-67-9	10.0	BDL
Dimethylphthalate	131-11-3	10.0	BDL
4,6-Dinitro-2-Methylphenol	534-52-1	50.0	BDL
2,4-Dinitrophenol	51-28-5	10.0	BDL
2,4-Dinitrotoluene	121-14-2	10.0	BDL
2,6-Dinitrotoluene	606-20-2	10.0	BDL
Diphenylamine	122-39-4	20.0	BDL
Di-N-Octylphthalate	117-84-0	10.0	BDL
Fluoranthene	206-44-0	10.0	BDL
Fluorene	86-73-7	10.0	BDL
Hexachlorobenzene	118-74-1	10.0	BDL
Hexachlorobutadiene	87-68-3	10.0	BDL
Hexachlorocyclopentadiene	77-47-4	10.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21890
SAMPLE IDENTIFICATION: MW-2 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Hexachloroethane	67-72-1	10.0	BDL
Indeno(1,2,3-cd)Pyrene	193-39-5	10.0	BDL
Isophorone	78-59-1	10.0	BDL
2-Methylnaphthalene	91-57-6	10.0	BDL
2-Methylphenol	95-48-7	10.0	BDL
4-Methylphenol	106-44-5	10.0	BDL
Naphthalene	91-20-3	10.0	BDL
2-Nitroaniline	88-74-4	50.0	BDL
3-Nitroaniline	99-09-2	50.0	BDL
4-Nitroaniline	100-01-6	50.0	BDL
Nitrobenzene	98-95-3	10.0	BDL
2-Nitrophenol	88-75-5	10.0	BDL
4-Nitrophenol	100-02-7	10.0	BDL
N-Nitroso-Di-N-Butylamine	924-16-3	50.0	BDL
N-Nitrosodimethylamine	62-75-9	10.0	BDL
N-Nitrosodiphenylamine	86-30-6	10.0	BDL
N-Nitrosodipropylamine	621-64-7	10.0	BDL
Pentachlorophenol	87-86-5	50.0	BDL
Phenanthrene	85-01-8	10.0	BDL
Phenol	108-95-2	10.0	BDL
Pyrene	129-00-0	10.0	BDL
1,2,4,5-Tetrachlorobenzene	95-94-3	10.0	BDL
2,3,4,6-Tetrachlorophenol	58-90-2	10.0	BDL
1,2,4-Trichlorobenzene	120-82-1	10.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21890
SAMPLE IDENTIFICATION: MW-2 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
2,4,5-Trichlorophenol	95-95-4	10.0	BDL
2,4,6-Trichlorophenol	88-06-2	10.0	BDL
Surrogate Recovery:			
2-Fluorobiphenyl			76%
Nitrobenzene-d5			81%
4-Terphenyl-D14			103%
2-Fluorophenol			27%
Phenol-D5			17%
2,4,6-Tribromophenol			41%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21891
SAMPLE IDENTIFICATION: MW-3 Engineering Tec
DATE SAMPLED: 10/5/93
DATE EXTRACTED: 10/08/93
DATE/TIME ANALYZED: 10/12/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Acenaphthene	83-32-9	10.0	BDL
Acenaphthylene	208-96-8	10.0	BDL
Aniline	62-53-3	10.0	BDL
Anthracene	120-12-7	10.0	BDL
Benzidine	92-87-5	10.0	BDL
Benzoic Acid	65-85-0	50.0	BDL
Benzo(a)Anthracene	56-55-3	10.0	BDL
Benzo(b)Fluoranthene	205-99-2	10.0	BDL
Benzo(k)Fluoranthene	207-08-9	10.0	BDL
Benzo(g,h,i)Perylene	191-24-2	10.0	BDL
Benzo(a)Pyrene	50-32-8	10.0	BDL
Benzyl Alcohol	100-51-6	20.0	BDL
Bis(2-Chloroethoxy)Methane	111-91-1	10.0	BDL
Bis(2-Chloroethyl)Ether	111-44-4	10.0	BDL
Bis(2-Chloroisopropyl)Ether	39638-32-9	10.0	BDL
Bis(2-Ethylhexyl)Phthalate	117-81-7	10.0	BDL
4-Bromophenyl Phenyl Ether	101-55-3	10.0	BDL
Butyl Benzyl Phthalate	85-68-7	10.0	BDL
4-Chloroaniline	106-47-8	20.0	BDL
1-Chloronaphthalene		10.0	BDL
2-Chloronaphthalene	91-58-7	10.0	BDL
4-Chloro-3-Methyl Phenol	59-50-7	10.0	BDL
2-Chlorophenol	95-57-8	10.0	BDL
4-Chlorophenyl Phenyl Ether	7005-72-3	10.0	BDL
Chrysene	218-01-9	10.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21891
SAMPLE IDENTIFICATION: MW-3 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Dibenz(a,h)Anthracene	53-70-3	10.0	BDL
Dibenzofuran	132-64-9	10.0	BDL
Di-N-Butylphthalate	84-74-2	10.0	BDL
1,3-Dichlorobenzene	541-73-1	10.0	BDL
1,4-Dichlorobenzene	106-46-7	10.0	BDL
1,2-Dichlorobenzene	95-50-1	10.0	BDL
3,3'-Dichlorobenzidine	91-94-1	20.0	BDL
2,4-Dichlorophenol	120-83-2	10.0	BDL
2,6-Dichlorophenol	87-65-0	10.0	BDL
Diethylphthalate	84-66-2	10.0	BDL
A,A-Dimethylphenethylamine	122-09-8	10.0	BDL
2,4-Dimethylphenol	105-67-9	10.0	BDL
Dimethylphthalate	131-11-3	10.0	BDL
4,6-Dinitro-2-Methylphenol	534-52-1	50.0	BDL
2,4-Dinitrophenol	51-28-5	10.0	BDL
2,4-Dinitrotoluene	121-14-2	10.0	BDL
2,6-Dinitrotoluene	606-20-2	10.0	BDL
Diphenylamine	122-39-4	20.0	BDL
Di-N-Octylphthalate	117-84-0	10.0	BDL
Fluoranthene	206-44-0	10.0	BDL
Fluorene	86-73-7	10.0	BDL
Hexachlorobenzene	118-74-1	10.0	BDL
Hexachlorobutadiene	87-68-3	10.0	BDL
Hexachlorocyclopentadiene	77-47-4	10.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21891
SAMPLE IDENTIFICATION: MW-3 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Hexachloroethane	67-72-1	10.0	BDL
Indeno(1,2,3-cd)Pyrene	193-39-5	10.0	BDL
Isophorone	78-59-1	10.0	BDL
2-Methylnaphthalene	91-57-6	10.0	BDL
2-Methylphenol	95-48-7	10.0	BDL
4-Methylphenol	106-44-5	10.0	BDL
Naphthalene	91-20-3	10.0	BDL
2-Nitroaniline	88-74-4	50.0	BDL
3-Nitroaniline	99-09-2	50.0	BDL
4-Nitroaniline	100-01-6	50.0	BDL
Nitrobenzene	98-95-3	10.0	BDL
2-Nitrophenol	88-75-5	10.0	BDL
4-Nitrophenol	100-02-7	10.0	BDL
N-Nitroso-Di-N-Butylamine	924-16-3	50.0	BDL
N-Nitrosodimethylamine	62-75-9	10.0	BDL
N-Nitrosodiphenylamine	86-30-6	10.0	BDL
N-Nitrosodipropylamine	621-64-7	10.0	BDL
Pentachlorophenol	87-86-5	50.0	BDL
Phenanthrene	85-01-8	10.0	BDL
Phenol	108-95-2	10.0	BDL
Pyrene	129-00-0	10.0	BDL
1,2,4,5-Tetrachlorobenzene	95-94-3	10.0	BDL
2,3,4,6-Tetrachlorophenol	58-90-2	10.0	BDL
1,2,4-Trichlorobenzene	120-82-1	10.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21891
SAMPLE IDENTIFICATION: MW-3 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8270

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
2,4,5-Trichlorophenol	95-95-4	10.0	BDL
2,4,6-Trichlorophenol	88-06-2	10.0	BDL
Surrogate Recovery:			
2-Fluorobiphenyl			72%
Nitrobenzene-d5			75%
4-Terphenyl-D14			93%
2-Fluorophenol			28%
Phenol-D5			15%
2,4,6-Tribromophenol			41%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21892
SAMPLE IDENTIFICATION: MW-1 Engineering Tec
DATE SAMPLED: 10/5/93
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 10/11/93

METHOD EPA 8240

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Acetone	67-64-1	100.0	BDL
Acrolein	107-02-8	50.0	BDL
Acrylonitrile	107-13-1	50.0	BDL
Benzene	71-43-2	5.0	BDL
Bromodichloromethane	75-27-4	5.0	BDL
Bromoform	75-25-2	5.0	BDL
Bromomethane	74-83-9	10.0	BDL
2-Butanone	78-93-3	10.0	BDL
Carbon Disulfide	75-15-0	5.0	BDL
Carbon Tetrachloride	56-23-5	5.0	BDL
Chlorobenzene	108-90-7	5.0	BDL
Chloroethane	75-00-3	10.0	BDL
2-Chloro Ethyl Vinyl Ether	110-75-8	10.0	BDL
Chloroform	67-66-3	5.0	BDL
Chloromethane	74-87-3	10.0	BDL
Dibromochloromethane	124-48-1	5.0	BDL
Dibromomethane	74-95-3	5.0	BDL
1,4-Dichloro-2-Butane		5.0	BDL
Dichlorodifluoromethane	75-71-8	10.0	BDL
1,2-Dichlorobenzene	95-50-1	5.0	BDL
1,3-Dichlorobenzene	541-73-1	5.0	BDL
1,4-Dichlorobenzene	106-46-7	5.0	BDL
1,1-Dichloroethane	75-34-3	5.0	BDL
1,2-Dichloroethane	107-06-2	5.0	BDL
1,1-Dichloroethene	75-35-4	5.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21892
SAMPLE IDENTIFICATION: MW-1 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8240

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
trans-1,2-Dichloroethene	156-60-5	5.0	BDL
1,2-Dichloropropane	78-87-5	5.0	BDL
cis-1,3-Dichloropropene	10061-01-5	5.0	BDL
trans-1,3-Dichloropropene	10061-02-6	5.0	BDL
Ethanol	64-17-5	100.0	BDL
Ethylbenzene	100-41-4	5.0	BDL
Ethyl Methacrylate	97-63-2	10.0	BDL
2-Hexanone	591-78-6	50.0	BDL
Iodomethane	74-88-4	10.0	BDL
Methylene Chloride	75-09-2	5.0	BDL
4-Methyl-2-Pentanone	108-10-1	50.0	BDL
Styrene	100-42-5	10.0	BDL
1,1,2,2-Tetrachloroethane	79-34-5	10.0	BDL
Tetrachloroethylene	127-18-4	10.0	BDL
Toluene	108-88-3	5.0	BDL
1,1,1-Trichloroethane	71-55-6	5.0	BDL
1,1,2-Trichloroethane	79-00-5	5.0	BDL
Trichloroethylene	79-01-6	5.0	BDL
Trichlorofluoromethane	75-69-4	5.0	BDL
Vinyl Chloride	75-01-4	10.0	BDL
Xylene (Total)	1330-20-7	5.0	BDL
Surrogate Recoveries:			
1,2-Dichloroethane-D4			94%
Toluene-D8			92%
Bromofluorobenzene			50%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21893
SAMPLE IDENTIFICATION: MW-2 Engineering Tec
DATE SAMPLED: 10/5/93
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 10/11/93

METHOD EPA 8240

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Acetone	67-64-1	100.0	BDL
Acrolein	107-02-8	50.0	BDL
Acrylonitrile	107-13-1	50.0	BDL
Benzene	71-43-2	5.0	BDL
Bromodichloromethane	75-27-4	5.0	BDL
Bromoform	75-25-2	5.0	BDL
Bromomethane	74-83-9	10.0	BDL
2-Butanone	78-93-3	10.0	BDL
Carbon Disulfide	75-15-0	5.0	BDL
Carbon Tetrachloride	56-23-5	5.0	BDL
Chlorobenzene	108-90-7	5.0	BDL
Chloroethane	**75-00-3**	**10.0**	**29.6**
2-Chloro Ethyl Vinyl Ether	110-75-8	10.0	BDL
Chloroform	67-66-3	5.0	BDL
Chloromethane	74-87-3	10.0	BDL
Dibromochloromethane	124-48-1	5.0	BDL
Dibromomethane	74-95-3	5.0	BDL
1,4-Dichloro-2-Butane		5.0	BDL
Dichlorodifluoromethane	75-71-8	10.0	BDL
1,2-Dichlorobenzene	95-50-1	5.0	BDL
1,3-Dichlorobenzene	541-73-1	5.0	BDL
1,4-Dichlorobenzene	106-46-7	5.0	BDL
1,1-Dichloroethane	**75-34-3**	**5.0**	**7**
1,2-Dichloroethane	107-06-2	5.0	BDL
1,1-Dichloroethene	75-35-4	5.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21893
SAMPLE IDENTIFICATION: MW-2 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8240

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
trans-1,2-Dichloroethene	156-60-5	5.0	BDL
1,2-Dichloropropane	78-87-5	5.0	BDL
cis-1,3-Dichloropropene	10061-01-5	5.0	BDL
trans-1,3-Dichloropropene	10061-02-6	5.0	BDL
Ethanol	64-17-5	100.0	BDL
Ethylbenzene	100-41-4	5.0	BDL
Ethyl Methacrylate	97-63-2	10.0	BDL
2-Hexanone	591-78-6	50.0	BDL
Iodomethane	74-88-4	10.0	BDL
Methylene Chloride	75-09-2	5.0	BDL
4-Methyl-2-Pentanone	108-10-1	50.0	BDL
Styrene	100-42-5	10.0	BDL
1,1,2,2-Tetrachloroethane	79-34-5	10.0	BDL
Tetrachloroethylene	127-18-4	10.0	BDL
Toluene	108-88-3	5.0	BDL
1,1,1-Trichloroethane	71-55-6	5.0	BDL
1,1,2-Trichloroethane	79-00-5	5.0	BDL
Trichloroethylene	79-01-6	5.0	BDL
Trichlorofluoromethane	75-69-4	5.0	BDL
Vinyl Chloride	75-01-4	10.0	BDL
Xylene (Total)	1330-20-7	5.0	BDL
Surrogate Recoveries:			
1,2-Dichloroethane-D4			93%
Toluene-D8			94%
Bromofluorobenzene			98%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21894
SAMPLE IDENTIFICATION: MW-3 Engineering Tec
DATE SAMPLED: 10/5/93
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 10/11/93

METHOD EPA 8240

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Acetone	67-64-1	100.0	BDL
Acrolein	107-02-8	50.0	BDL
Acrylonitrile	107-13-1	50.0	BDL
Benzene	71-43-2	5.0	BDL
Bromodichloromethane	75-27-4	5.0	BDL
Bromoform	75-25-2	5.0	BDL
Bromomethane	74-83-9	10.0	BDL
2-Butanone	78-93-3	10.0	BDL
Carbon Disulfide	75-15-0	5.0	BDL
Carbon Tetrachloride	56-23-5	5.0	BDL
Chlorobenzene	108-90-7	5.0	BDL
Chloroethane	75-00-3	10.0	BDL
2-Chloro Ethyl Vinyl Ether	110-75-8	10.0	BDL
Chloroform	67-66-3	5.0	BDL
Chloromethane	74-87-3	10.0	BDL
Dibromochloromethane	124-48-1	5.0	BDL
Dibromomethane	74-95-3	5.0	BDL
1,4-Dichloro-2-Butane		5.0	BDL
Dichlorodifluoromethane	75-71-8	10.0	BDL
1,2-Dichlorobenzene	95-50-1	5.0	BDL
1,3-Dichlorobenzene	541-73-1	5.0	BDL
1,4-Dichlorobenzene	106-46-7	5.0	BDL
1,1-Dichloroethane	75-34-3	5.0	BDL
1,2-Dichloroethane	107-06-2	5.0	BDL
1,1-Dichloroethene	75-35-4	5.0	BDL

COMPANY NAME: Hydrologic-Asheville, Inc

HYDROLOGIC PROJECT NUMBER: FL932425
HYDROLOGIC SAMPLE NUMBER: 21894
SAMPLE IDENTIFICATION: MW-3 Engineering Tec
DATE SAMPLED: 10/5/93

METHOD EPA 8240

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
trans-1,2-Dichloroethene	156-60-5	5.0	BDL
1,2-Dichloropropane	78-87-5	5.0	BDL
cis-1,3-Dichloropropene	10061-01-5	5.0	BDL
trans-1,3-Dichloropropene	10061-02-6	5.0	BDL
Ethanol	64-17-5	100.0	BDL
Ethylbenzene	100-41-4	5.0	BDL
Ethyl Methacrylate	97-63-2	10.0	BDL
2-Hexanone	591-78-6	50.0	BDL
Iodomethane	74-88-4	10.0	BDL
Methylene Chloride	75-09-2	5.0	BDL
4-Methyl-2-Pentanone	108-10-1	50.0	BDL
Styrene	100-42-5	10.0	BDL
1,1,2,2-Tetrachloroethane	79-34-5	10.0	BDL
Tetrachloroethylene	127-18-4	10.0	BDL
Toluene	108-88-3	5.0	BDL
1,1,1-Trichloroethane	71-55-6	5.0	BDL
1,1,2-Trichloroethane	79-00-5	5.0	BDL
Trichloroethylene	79-01-6	5.0	BDL
Trichlorofluoromethane	75-69-4	5.0	BDL
Vinyl Chloride	75-01-4	10.0	BDL
Xylene (Total)	1330-20-7	5.0	BDL
Surrogate Recoveries:			
1,2-Dichloroethane-D4			92%
Toluene-D8			98%
Bromofluorobenzene			96%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

PoBox I
[illegible] 27108

27458 - 27460
27458
[illegible]

HydroLogic

COMPANY NAME [illegible] CONTACT NAME Dan Bowser TELEPHONE NO. (919) 724-6990

Samplers: Print Name Dan Bowser Signature Dan [illegible]

Project No: 90-347 Avery Co.

SAMPLE ID	SAMPLE LOCATION	Composite	Grab	Date	Time	Sample Type: Water	Liquid	Oil	Solid	No. of Containers	ANALYSIS: 8270	8240	BOD	COD	Chloride	Nitrate	Nitrite	TOC	Sulfate	Metals	REMARKS
MW 1			X	10/5	11.00	X				9											
MW 2			X	10/5	1.00	X				9											
MW-3			X	10/5	2:30	X				9											

COMMENTS: [illegible] pH and Specific conductance also
[illegible] Arsenic, Barium, [illegible], Chromium, Copper, [illegible]
[illegible]

Relinquished by: (Signature) [illegible]			Received by: (Signature) Lori Patton	Date 10/5/93	Time 1730
Relinquished by: (Signature)			Received by: (Signature)	Date	Time
Dispatched by: (Signature)	Date	Time	Received for Laboratory by:	Date	Time
Method of Shipment:				Date	Time

P. O. Box 4204 • 1003 Twilight Trail • Frankfort, Ky 40604 • (502) 223-0251 Work • (502) 875-8016 Fax