00423

19

OB GROUNDS

GROUND WATER

RESULTS

SCHEDULED PARAMETERS AND WELLS

Sampling Schedule: February 1984, August 1984

Demolition Grounds

Seven Wells: W1, W2, W3, W4, W5, W6, W7

Parameters:

Annual

Na, Mn, Fe, Phenol, Chloride, Sulfate

Semi-Annual

TOC (4) (4 Samples Required)
Spec Cond (4)
TOX (4)
PH (4) (In Field)
Level (In Field)

Old Landfill

Six Wells: PT10, PT11, PT12, PT13, PT14, PT15

Parameters:

Semi-Annual

Level (In Field)
PH (In Field)
PH (Lab)
Chloride
Iron
Sulfate
Spec Cond (4)
TOC (4)

Page 4

LOCATION: OB GROUNDS

SAMPLE DATE: 15 OCT 82

LABORATORY: AEHA ?

PARAMETERS: MULTIPLE

concentrations are probably typical of natural ground-water quality. The sample from well W1 exceeded the State standard for phenol; however, phenol was not detected in any other sample. It should be noted that the detection limit for phenol is .01 mg/L and the State standard is .001 mg/L.

5. Landfill. The State standard and the NSDWR criterion for sulfate and chloride were exceeded in the sample from well PT-12. Many of the wells have high specific conductivities indicating the NSDWR criterion for total dissolved solids would be exceeded. TOC values at the landfill are an order of magnitude higher than first and second quarter levels.

6. Questions regarding these data may be referred to Mrs. Beth Martin or Mr. Gary Nemeth, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

2 Incl
as

NELSON H. LUND, P.E.
Colonel, MSC
Director, Environmental Quality

CF:
Cdr, HSC (HSPA-P)
Cdr, DARCOM (DRCSG/DRCIS-A)

RUN DATE: 15 OCT 82

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5		W4		W6		W1		W3		W2		W7	
TOX	29-JUN 82	.010	MGL	.064	C	ND		ND		.068	C	.051	C	.026	C	.031	C
TDS	29-JUN 82	10.	MGL	465.		431.		406.		672.	#	704.	#	698.	#	382.	

RUN DATE: 15 OCT 82

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM
B UPGRADIENT SITE
C RESULTS ARE FOR UNFILTERED SAMPLE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA
& VALUE EXCEEDS A STATE WATER QUALITY STANDARD OR CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

RUN DATE: 15 OCT 82

INSTALLATION: SENECA AD, NY

FACILITY: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
WATER LEVELS (A)	21 JUN 82		FT	673.3	653.0	645.8	633.5	633.0	631.0
CHLORIDE	22 JUN 82	1.0	MGL	76.0	61.0	360.0#	5.0	86.0	5.0
IRON	22 JUN 82	.03	MGL	ND	.11	.06	.03	.08	.08
SULFATE	22 JUN 82	5.0	MGL	16.0	120.0	490.0#	35.0	100.0	31.0
PH(FIELD)	22 JUN 82		PH	7.7	7.6	7.1	7.3	7.4	7.7
PH(LAB)	22 JUN 82		PH	7.3	7.4	7.1	7.0	7.0	7.0
SPEC COND	22 JUN 82	1.	UMC	800.	845.	2250.	540.	850.	455.
SPEC COND	22 JUN 82	1.	UMC	800.	845.	2250.	540.	850.	460.
SPEC COND	22 JUN 82	1.	UMC	800.	850.	2250.	540.	850.	460.
SPEC COND	22 JUN 82	1.	UMC	800.	850.	2250.	540.	850.	460.
TOC	22 JUN 82	1.0	MGL	60.0	55.0	67.0	61.0	58.0	42.0
TOC	22 JUN 82	1.0	MGL	62.0	55.0	67.0	60.0	58.0	42.0
TOC	22 JUN 82	1.0	MGL	62.0	54.0	67.0	62.0	58.0	42.0
TOC	22 JUN 82	1.0	MGL	61.0	55.0	67.0	60.0	58.0	42.0

RUN DATE: 15 OCT 82

INSTALLATION: SENECA AD, NY FACILITY: LANDFILL

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM
B UPGRADIENT SITE
C RESULTS ARE FOR UNFILTERED SAMPLE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

wells have high specific conductivity levels which indicate that total dissolved solids may exceed NSDWR criteria. TOC levels have increased in sample from the demolition grounds since the first quarter. However, this occurred in upgradient, as well as downgradient wells and thus is probably a natural occurrence.

5. Questions regarding these data may be referred to Mr. Gary Nemeth, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

2 Incl
as

NELSON H. LUND, P.E.
Colonel, MSC
Director, Environmental Quality

CF:
Cdr, HSC (HSPA-P)
Cdr, DARCOM (DRCSG/DRCIS-A)

RUN DATE: 18 JUN 82

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER LEVELS (A)	13 APR 82		FT	118.2	109.4	110.9	111.6	105.4	94.7	103.3
ARSENIC	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	13 APR 82	.1	MGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	13 APR 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
FLUORIDE	13 APR 82	.10	MGL	.33	.22	.22	.16	.16	.14	.23
LEAD	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	13 APR 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
NO2+NO3 AS N	13 APR 82	.05	MGL	5.00	.49	1.00	1.00	.13	ND	.38
SELENIUM	13 APR 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	13 APR 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	13 APR 82	.04	MGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	13 APR 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	13 APR 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	13 APR 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
GROSS ALPHA	13 APR 82	3.37	PCL	3.33	ND	2.63	2.30	3.64	3.39	ND
GROSS BETA	13 APR 82	1.64	PCL	ND	1.60	ND	2.05	2.08	ND	ND
CHLORIDE	13 APR 82	1.0	MGL	4.0	9.0	3.0	7.0	46.0	4.9	2.0
IRON	13 APR 82	.03	MGL	ND	.08	.09	.10	.10	.02	.10
MANGANESE	13 APR 82	.01	MGL	.10#	.06#	.04	.02	ND	.05	.03
PHENOL	13 APR 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
SODIUM	13 APR 82	1.	MGL	10.	37.	8.	11.	15.	21.	10.
SULFATE	13 APR 82	5.0	MGL	110.0	330.0#	100.0	220.0	210.0	263.0#	84.0
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
SPEC COND	13 APR 82	1.	UMC	720.	1300.	699.	810.	1000.	973.	638.
SPEC COND	13 APR 82	1.	UMC	719.	1301.	699.	810.	1000.	974.	639.
SPEC COND	13 APR 82	1.	UMC	719.	1300.	699.	810.	1000.	975.	639.
SPEC COND	13 APR 82	1.	UMC	718.	1302.	699.	810.	1000.	972.	640.
TOC	13 APR 82	1.0	MGL	40.0	55.0	40.0	37.0	47.0	44.0	40.0
TOC	13 APR 82	1.0	MGL	39.0	54.0	43.0	37.0	47.0	44.0	40.0
TOC	13 APR 82	1.0	MGL	39.0	54.0	40.0	37.0	48.0	44.0	40.0
TOC	13 APR 82	1.0	MGL	39.0	54.0	42.0	37.0	48.0	44.0	40.0
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	.011 C	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	.012 C	ND	ND	ND	.010 C
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	.014 C

RUN DATE: 18 JUN 82

INSTALLATION: SENECA AD, NY FACILITY: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
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TON - THRESHOLD ODOR NUMBER
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CU - COLOR UNITS
PHM - PER 100 MILLILITERS

RUN DATE: 18 JUN 82

INSTALLATION: SENECA AD, NY

FACILITY: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
WATER LEVELS (A)	29 MAR 82		FT	676.4	653.8	646.3	634.2	635.0	632.9
CHLORIDE	30 MAR 82	1.0	MGL	77.0	68.3	61.0	11.0	93.0	11.0
IRON	30 MAR 82	.03	MGL	.05	.05	.06	.06	.03	.20
SULFATE	30 MAR 82	5.0	MGL	29.0	131.1	360.0#	46.0	100.0	40.0
PH(FIELD)	30 MAR 82		PH	7.4	7.8	7.3	7.3	7.4	7.9
PH(LAB)	30 MAR 82		PH	7.5	7.5	7.2	7.2	7.3	7.7
SPEC COND	30 MAR 82	1.	UMC	876.	950.	1340.	620.	968.	470.
SPEC COND	30 MAR 82	1.	UMC	874.	950.	1339.	625.	965.	470.
SPEC COND	30 MAR 82	1.	UMC	878.	950.	1340.	624.	968.	470.
SPEC COND	30 MAR 82	1.	UMC	879.	949.	1340.	622.	970.	470.
TOC	30 MAR 82	1.0	MGL	2.0	4.0	4.0	2.0	3.0	2.0
TOC	30 MAR 82	1.0	MGL	2.0	4.0	4.0	2.0	3.0	2.0
TOC	30 MAR 82	1.0	MGL	2.0	3.0	4.0	3.0	3.0	2.0
TOC	30 MAR 82	1.0	MGL	2.0	4.0	4.0	2.0	3.0	2.0

Dick 2

RUN DATE: 18 JUN 82

INSTALLATION: SENECA AD, NY FACILITY: LANDFILL

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
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TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

Mr. Nemeth/vk/AUTOVON
584-2024

REPLY TO
ATTENTION OF

HSE-ES-S

SUBJECT: Ground-Water Monitoring Results for Seneca Army Depot, NY

Commander
US Army Materiel Development and
Readiness Command
ATTN: DRCSG
5001 Eisenhower Avenue
Alexandria, VA 22333

1. Reference US Army Management Plan for the RCRA Ground-water Monitoring and Assessment Program, June 1981.

2. Ground-water data for samples taken 15 December 1981 at the Landfill and 5 January 1982 at the Demolition Grounds are presented in the attached tables (Inclosures 1 and 2). The pH data and water level measurements were obtained by Seneca Army Depot. All other results were determined by Century Environmental Testing Labs, Inc., under contract to the US Army.

3. Although these samples are from monitoring wells, for the demolition grounds the concentrations of those parameters determined to characterize the suitability of the ground water as a drinking water supply are compared to National Interim Primary Drinking Water Regulations (NIPDWR) standards as required by 40 CFR Part 265, Subpart F. Other concentrations are compared to National Secondary Drinking Water Regulation (NSDWR) criteria which generally address the aesthetic quality of the water. For the sanitary landfill and the demolition ground, parameter concentrations are compared to New York State ground-water quality standards (10 NYCRR Part 703). Any parameters exceeding the above standards and criteria are marked with an asterisk in the inclosures.

4. NIPDWR standards were not exceeded in any samples from the demolition ground monitoring wells. Manganese exceeded NSDWR criteria in samples from various demolition ground wells and is probably naturally occurring. Sulfate levels exceed the NSDWR criteria and the New York State standard of 250 mg/L in samples from wells W4 and PT-12. Specific conductivity levels of water from wells W4 and PT-12 are also higher than the levels for other wells.

HSE-ES-S
SUBJECT: Ground-Water Monitoring Results for Seneca Army Depot, NY

5. Questions concerning this data should be referred to Mr. Gary Nemeth, Geotechnical Engineering Services Branch, Waste Disposal Engineering Division, AUTOVON 584-2024.

FOR THE COMMANDER:

2 Incl
as

NELSON H. LUND, P.E.
LTC, MSC
Director, Environmental Quality

CF:
Cdr, HSC (HSPA-P)

RUN DATE: 05 MAR 82

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER										
LEVELS A	04 JAN 82		FT	118.50	109.70	110.80	111.30	105.30	95.40	98.40
ARSENIC	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	05 JAN 82	.1	MGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	05 JAN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
FLUORIDE	05 JAN 82	.10	MGL	.31	.21	.30	.13	.16	.13	.26
LEAD	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	05 JAN 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
NO2+NO3 AS N	05 JAN 82	.05	MGL	6.70	.71	1.20	1.60	.08	ND	.22
SELENIUM	05 JAN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	05 JAN 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	05 JAN 82	.04	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	05 JAN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	05 JAN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	05 JAN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
GROSS ALPHA	05 JAN 82	3.18	PCL	ND	ND	ND	ND	ND	4.14	ND
GROSS BETA	05 JAN 82	1.52	PCL	2.02	3.01	2.06	2.31	2.91	2.12	ND
CHLORIDE	05 JAN 82	1.0	MGL	4.6	10.0	17.6	7.9	28.5	5.8	3.5
IRON	05 JAN 82	.03	MGL	.13	.15	.27	.15	.19	.10	.14
MANGANESE	05 JAN 82	.01	MGL	.27*	.04	.30*	ND	ND	.07*	.09*
PHENOL	05 JAN 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
SODIUM	05 JAN 82	1.	MGL	15.	28.	20.	15.	14.	22.	12.
SULFATE	05 JAN 82	5.0	MGL	57.5	327.0*	38.8	233.0	147.0	225.0	77.0
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	722.	850.	860.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1120.	720.	850.	860.	920.	640.
TOC	05 JAN 82	1.0	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	1.0	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	1.0	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	1.0	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0

Incl 1

RUN DATE: 05 MAR 82

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS 8 W5	W4	W6	W1	W3	W2	W7
TOX	05 JAN 82	10.	UGL	16.C	50.C	25.C	16.C	46.C	48.C	34.C
TOX	05 JAN 82	10.	UGL	ND	50.C	33.C	16.C	63.C	16.C	39.C
TOX	05 JAN 82	10.	UGL	ND	52.C	14.C	19.C	48.C	59.C	20.C
TOX	05 JAN 82	10.	UGL	ND	60.C	13.C	ND	38.C	56.C	21.C

LEGEND

NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES; TRAILING ZEROES DO NOT ALWAYS INDICATE SIGNIFICANCE, BUT ARE THE RESULTS OF COMPUTER FORMATTING.

A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM

B UPGRADIENT SITE

C RESULTS ARE FOR UNFILTERED SAMPLE

RUN DATE: 05 MAR 82

INSTALLATION: SENECA AD, NY

FACILITY: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
WATER LEVELS A	04 JAN 82		FT	675.30	654.10	646.30	634.30	633.70	628.30
CHLORIDE	15 DEC 81	1.0	MGL	80.8	91.3	93.0	7.0	73.0	8.8
IRON	15 DEC 81	.03	MGL	ND	ND	ND	ND	ND	.15
SULFATE	15 DEC 81	5.0	MGL	17.8	152.0	622.0*	41.6	100.0	42.7
PH(FIELD)	15 DEC 81		PH	7.3	7.3	7.1	7.2	7.3	7.6
PH(FIELD)	15 DEC 81		PH	7.3	7.3	7.1	7.2		
PH(FIELD)	15 DEC 81		PH	7.3	7.3	7.1	7.2		
PH(FIELD)	15 DEC 81		PH	7.3	7.3	7.1	7.2		
PH(LAB)	15 DEC 81		PH	7.5	7.5	7.2	7.3	7.3	7.6
SPEC COND	15 DEC 81	1.	UMC	890.	1050.	1710.	600.	900.	510.
SPEC COND	15 DEC 81	1.	UMC	890.	1050.	1710.	610.	900.	510.
SPEC COND	15 DEC 81	1.	UMC	890.	1050.	1710.	610.	900.	510.
SPEC COND	15 DEC 81	1.	UMC	880.	1050.	1710.	610.	900.	510.
TOC	15 DEC 81	1.0	MGL	2.0	3.0	3.0	1.0	3.0	2.0
TOC	15 DEC 81	1.0	MGL	1.0	3.0	3.0	2.0	3.0	2.0
TOC	15 DEC 81	1.0	MGL	2.0	3.0	3.0	1.0	3.0	2.0
TOC	15 DEC 81	1.0	MGL	1.0	3.0	3.0	1.0	3.0	2.0

LEGEND

NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES; TRAILING ZEROES DO NOT ALWAYS INDICATE SIGNIFICANCE, BUT ARE THE RESULTS OF COMPUTER FORMATTING.

A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM

B UPGRADIENT SITE

LOCATION: OB GROUNDS

SAMPLE DATE: 18 JUNE 82

LABORATORY: AEHA?

PARAMETERS: Multiple

TBattaglia/srw/450

SDSSE-AD

28 JUL 1982

US Environmental Protection Agency
Region II
ATTN: Regional Administrator
26 Federal Plaza
New York, NY 10278

Dear Sir:

In accordance with 40 CFR 265.94, quarterly groundwater monitoring results for Seneca Army Depot's ammunition demolition grounds are inclosed.

National Primary Drinking Water Standards were not exceeded in any sample. National Secondary Drinking Water criteria is exceeded for sulfates and manganese as they are in most wells in Seneca County, New York. Although total organic carbon levels have increased since the first quarter, this occurred in upgradient as well as downgradient wells, and, thus, is probably a natural occurrence.

Any questions may be directed to Thomas C. Battaglia, (607) 869-1450; FTS No. 953-3201, ext. 450; or AV 489-5450.

Sincerely yours,

AJS
D/A&S

1 Incl
As stated

GARY W. KITTELL
Facilities Engineer

Copies furnished:
Commander, US Army Depot System Command, ATTN: DRSDS-RM-EF, Chambersburg, PA 17201 wo incl
Commander, US Army Materiel Development & Readiness Command, ATTN: DRCIS-A, 5001 Eisenhower Avenue, Alexandria, VA 22333 wo incl

MFR: Addressee may or may not have received the last two pages of Incl. 16 Aug 82 TCB. Will wait & EPA indicates before sending out again per Mr. Kittell.

RUN DATE: 18 JUN 82

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER LEVELS (A)	13 APR 82		FT	118.2	109.4	110.9	111.6	105.4	94.7	103.3
ARSENIC	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	13 APR 82	.1	MGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	13 APR 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
FLUORIDE	13 APR 82	.10	MGL	.33	.22	.22	.16	.16	.14	.23
LEAD	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	13 APR 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
NO2+NO3 AS N	13 APR 82	.05	MGL	5.00	.49	1.00	1.00	.13	ND	.38
SELENIUM	13 APR 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	13 APR 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	13 APR 82	.04	MGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	13 APR 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	13 APR 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	13 APR 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
GROSS ALPHA	13 APR 82	3.37	PCL	3.33	ND	2.63	2.30	3.64	3.39	ND
GROSS BETA	13 APR 82	1.64	PCL	ND	1.60	ND	2.05	2.08	ND	ND
CHLORIDE	13 APR 82	1.0	MGL	4.0	9.0	3.0	7.0	46.0	4.9	2.0
IRON	13 APR 82	.03	MGL	ND	.08	.09	.10	.10	.02	.10
MANGANESE	13 APR 82	.01	MGL	.10#	.06#	.04	.02	ND	.05	.03
PHENOL	13 APR 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
SODIUM	13 APR 82	1.	MGL	10.	37.	8.	11.	15.	21.	10.
SULFATE	13 APR 82	5.0	MGL	110.0	330.0#	100.0	220.0	210.0	263.0#	84.0
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
SPEC COND	13 APR 82	1.	UMC	720.	1300.	699.	810.	1000.	973.	638.
SPEC COND	13 APR 82	1.	UMC	719.	1301.	699.	810.	1000.	974.	639.
SPEC COND	13 APR 82	1.	UMC	719.	1300.	699.	810.	1000.	975.	639.
SPEC COND	13 APR 82	1.	UMC	718.	1302.	699.	810.	1000.	972.	640.
TOC	13 APR 82	1.0	MGL	40.0	55.0	40.0	37.0	47.0	44.0	40.0
TOC	13 APR 82	1.0	MGL	39.0	54.0	43.0	37.0	47.0	44.0	40.0
TOC	13 APR 82	1.0	MGL	39.0	54.0	40.0	37.0	48.0	44.0	40.0
TOC	13 APR 82	1.0	MGL	39.0	54.0	42.0	37.0	48.0	44.0	40.0
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	.011 C	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	.012 C	ND	ND	ND	.010 C
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	.014 C

RUN DATE: 05 MAR 82

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER										
LEVEL A	04 JAN 82		FT	118.50	109.70	110.80	111.30	105.30	95.40	98.40
ARSENIC	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	05 JAN 82	.1	MGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	05 JAN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
FLUORIDE	05 JAN 82	.10	MGL	.31	.21	.30	.13	.16	.13	.26
LEAD	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	05 JAN 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
NITRATE AS N	05 JAN 82	.05	MGL	6.70	.71	1.20	1.60	.08	ND	.22
SELENIUM	05 JAN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	05 JAN 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	05 JAN 82	.04	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	05 JAN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	05 JAN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	05 JAN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
GROSS ALPHA	05 JAN 82	3.18	PCL	ND	ND	ND	ND	ND	4.14	ND
GROSS BETA	05 JAN 82	1.52	PCL	2.02	3.01	2.06	2.31	2.91	2.12	ND
CHLORIDE	05 JAN 82	1.0	MGL	4.6	10.0	17.6	7.9	28.5	5.8	3.5
IRON	05 JAN 82	.03	MGL	.13	.15	.27	.15	.19	.10	.14
MANGANESE	05 JAN 82	.01	MGL	.27*	.04	.30*	ND	ND	.07*	.09*
ZINC	05 JAN 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
SODIUM	05 JAN 82	1.	MGL	15.	28.	20.	15.	14.	22.	12.
SULFATE	05 JAN 82	5.0	MGL	57.5	327.0*	38.8	233.0	147.0	225.0	77.0
PH (FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH (FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH (FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH (FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	722.	850.	860.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1120.	720.	850.	860.	920.	640.
TOC	05 JAN 82	1.0	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	1.0	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	1.0	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	1.0	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0

RUN DATE: 05 MAR 82

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
TOX	05 JAN 82	10.	UGL	16.C	50.C	25.C	16.C	46.C	48.C	34.C
TOX	05 JAN 82	10.	UGL	ND	50.C	33.C	16.C	63.C	16.C	39.C
TOX	05 JAN 82	10.	UGL	ND	52.C	14.C	19.C	48.C	59.C	20.C
TOX	05 JAN 82	10.	UGL	ND	60.C	13.C	ND	38.C	56.C	21.C

LEGEND

NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES; TRAILING ZEROES DO NOT ALWAYS INDICATE SIGNIFICANCE, BUT ARE THE RESULTS OF COMPUTER FORMATTING.

A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM

B UPGRADIENT SITE

C RESULTS ARE FOR UNFILTERED SAMPLE

RUN DATE: 18 JUN 82

INSTALLATION: SENECA AD, NY FACILITY: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM
B UPGRADIENT SITE
C RESULTS ARE FOR UNFILTERED SAMPLE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PRM - PER 100 MILLILITERS

15 SEP 1982

TO: (Name or Org)

REPORT OF ANALYSES

The proponent of this form is HSE-LE.

INSTALLATION/RETURN ADDRESS	PROJECT NUMBER	DATE SAMPLES REC'D
C, WDED SENECA AD	39-25-0147	17 AUG 82
	PROJECT OFFICER CPT SAWRIN	

TYPE OF SAMPLE

LAB NUMBER	SAMPLE NUMBER	SAMPLE RESULTS (PARAMETER AND UNITS)						
			See enclosure					

PROCEDURES PERFORMED

ANALYST(s) *(initial)*	REVIEWED BY *(initial)*	DATE RESULTS REPORTED
LD C, OS, GEP	AB	15 SEPT 82

AEHA Form 14, 1 Jun 81

RESULTS FROM ANALYSIS OF EXPLOSIVES

IN SOIL

(Seneca AD)

Lab Number	Requestor Sample Number	Sample Results					
		HMX	RDX	Tetryl	2,4,6-TNT	2,6-DNT	2,4-DNT
		ug Explosive/gm Soil (PPM)					
M0128	4727-001	BDL	1.4	BDL	BDL	BDL	1.6
M0129	4727-002	BDL	BDL	BDL	BDL	BDL	1.9
M0130	4727-003	BDL	1.4	1.6	BDL	BDL	1.9
M0131	4727-004	BDL	BDL	32.	BDL	BDL	BDL
M0132	4727-005	BDL	1.3	16.3	2.2	BDL	BDL
M0133	4727-006	BDL	1.2	BDL	BDL	BDL	1.7
M0134	4727-007	BDL	1.7	BDL	1.4	BDL	1.1
M0135	4727-008	BDL	BDL	BDL	61.	BDL	BDL
M0136	4727-009	BDL	1.1	BDL	BDL	1.6	21.
M0137	4727-010	BDL	1.9	BDL	BDL	1.5	6.0
M0138	4727-011	BDL	4.7	BDL	BDL	1.6	6.6
M0139	4727-012	BDL	2.2	BDL	24.	BDL	1.8
M0140	4727-013	BDL	2.7	BDL	46.	BDL	BDL
M0141	4727-014	BDL	7.0	BDL	9270.	23.	45.
M0142	4727-015	BDL	2.5	BDL	7.4	BDL	BDL
M0143	4727-016	BDL	1.1	BDL	BDL	BDL	BDL
M0144	4727-017	BDL	BDL	2.7	BDL	BDL	BDL
M0145	4727-018	BDL	BDL	BDL	BDL	BDL	BDL
M0146	4727-019	BDL	1.6	BDL	BDL	BDL	BDL
M0147	7427-020	BDL	1.5	DBL	BDL	BDL	BDL
M0148	4727-021	BDL	1.0	BDL	BDL	BDL	BDL
M0149	4727-022	BDL	1.2	BDL	BDL	BDL	BDL
M0150	4727-023	BDL	1.4	BDL	1.1	BDL	BDL
M0151	4727-024	BDL	BDL	BDL	BDL	BDL	BDL
M0152	4727-025	BDL	1.4	BDL	6.7	BDL	BDL
M0153	4727-026	BDL	1.7	BDL	BDL	BDL	BDL
M0154	4727-027	BDL	BDL	BDL	BDL	BDL	BDL
M0155	4727-028	BDL	1.1	BDL	BDL	BDL	BDL
M0156	4727-029	BDL	BDL	BDL	BDL	BDL	BDL
M0157	4727-030	BDL	1.7	BDL	BDL	BDL	BDL
M0158	4727-031	BDL	2.6	BDL	BDL	BDL	BDL
M0159	4727-032	BDL	BDL	BDL	BDL	BDL	BDL

NOTE: BDL is Below the Detection Limit. For the six explosives listed, the detection limit is 1 ug explosive/gm soil.

LOCATION: OB GROUNDS

SAMPLE DATE: 14 JAN 83

LABORATORY: AEHA ?

PARAMETERS: MULTIPLE

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

Ms. Fleischmann/emw/AUTOVON
584-2024

REPLY TO
ATTENTION OF

HSHB-ES-G

31 JAN 1983

SUBJECT: Ground-water Monitoring Results for Seneca Army Depot, NY

Commander
US Army Depot Systems Command
ATTN: DRSDS-RM-EF-D
Chambersburg, PA 17201

1. Reference.

a. US Army Management Plan for the RCRA Ground-water Monitoring and Assessment Program, June 1981.

b. Letter, HSE-ES-S, this Agency, 18 March 1982, SAB.

c. Letter, HSHB-ES-G, this Agency, 2 July 1982, SAB.

d. Letter, HSHB-ES-G, this Agency, 4 November 1982, SAB.

2. Attached are tables (Incl 1-2) reporting results of chemical analyses of ground-water samples taken during September 1982 at the demolition grounds (RCRA hazardous waste site) and the sanitary landfill at Seneca Army Depot. Field pH and water levels were taken by installation personnel. All other results were determined by Century Environmental Testing Labs, Inc., under contract to the US Army. These data constitute the fourth quarter of ground-water monitoring analytical results. First, second and third quarter results were reported in references 1b, 1c and 1d, respectively.

3. Although these samples are from monitoring wells, for the demolition grounds the concentrations of those parameters determined to characterize the suitability of the ground water as a drinking water supply are compared to the National Interim Primary Drinking Water Regulation (NIPDWR) standards as required by 40 CFR, Part 265, Subpart F. Other concentrations are compared to National Secondary Drinking Water Regulation (NSDWR) criteria which generally address the aesthetic quality of the water. For the sanitary landfill and the demolition grounds, parameter concentrations are also compared to New York State ground-water quality standards (10 NYCRR Part 703). Any parameters exceeding NIPDWR standards, NSDWR criteria, or State standards are noted in the inclosures.

4. At the Demolition Grounds, no NIPDWR standards are exceeded. However, the sample from upgradient well W5 has a nitrite-nitrate level at the NIPDWR standard of 10.0 mg/L. This well also had nitrite-nitrate levels higher than any of the other wells during previous quarters. The New York State standard for phenol is exceeded at four of the six wells. However, it should be noted that the lab uses a detection level of 0.01 mg/L while the State standard is 0.001 mg/L. Well W2 continues to exceed the NSDWR criteria for manganese and sulfate. There was an insufficient amount of sample volume from well W2 to analyze for radionuclides and TOX, and from well W4 to analyze for metals, radionuclides, specific conductivity, and TOX. Well W7 was dry at the time of sampling.

5. At the Sanitary Landfill, results are consistent with those of third quarter, with the exception of lower TOC levels. Chloride and sulfate continue to exceed NSDWR criteria in samples from well PT-12, and specific conductivity is particularly high.

6. Attached is a table (Incl 3) of all radiochemistry results available to date. All radium analyses required last quarter have been completed with nothing detected in the three samples. During fourth quarter, the gross alpha detection limit of the sample from well W1 exceeds the 5.0 piC/L level, requiring analysis for radium. That analysis is incomplete; results will be sent with the next set of analytical data.

7. Questions regarding these results may be referred to Ms. Kim M. Fleischmann or Mr. Gary Nemeth, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

NELSON H. LUND, P.E.
Colonel, MSC
Director, Environmental Quality

3 Incl
as

CF:
Cdr, HSC (HSPA-P)
Cdr, DARCOM (DRCSG/DRCIS-A)
Cdr, USATHAMA (DRXTH-AS)

RUN DATE: 14 JAN 83

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER LEVELS (A)	27 SEP 82			112.9	107.2	105.2	108.6	99.7	92.6	
ARSENIC	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
BARIUM	28 SEP 82	.1	MGL	ND		ND	ND	ND	ND	
CADMIUM	28 SEP 82	.005	MGL	ND		ND	ND	ND	ND	
CHROMIUM	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
FLUORIDE	28 SEP 82	.10	MGL	.31	.23	.19	.15	.19	.16	
LEAD	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
MERCURY	28 SEP 82	.2	UGL	ND	ND	ND	ND	ND	ND	
NO2+NO3 AS N	28 SEP 82	.05	MGL	40.00	.12	3.00	2.00	.08	ND	
SELENIUM	28 SEP 82	.005	MGL	ND		ND	ND	ND	ND	
SILVER	28 SEP 82	.01	MGL	ND		ND	ND	ND	ND	
ENDRIN	28 SEP 82	.04	UGL	ND		ND	ND	ND	ND	
LINDANE	28 SEP 82	.08	UGL	ND		ND	ND	ND	ND	
TOXAPHENE	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
METHOXYCHLOR	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
2,4-D	28 SEP 82	3.8	UGL	ND		ND	ND	ND	ND	
SILVEX	28 SEP 82	.5	UGL	ND		ND	ND	ND	ND	
GROSS ALPHA	28 SEP 82	5.20	PCL	< 4.07		<2.83	< 5.20	<4.12		
GROSS BETA	28 SEP 82	1.76	PCL	ND		1.22	1.85	3.14		
CHLORIDE	28 SEP 82	1.0	MGL	1.0	ND	ND	3.0	11.2	6.0	
IRON	28 SEP 82	.03	MGL	.12		.24	.19	.23	.09	
MANGANESE	28 SEP 82	.01	MGL	ND		ND	ND	.04	.16#	
PHENOL	28 SEP 82	.01	MGL	.01&	.01&	ND	.02&	ND	.01&	
SODIUM	28 SEP 82	1.	MGL	12.		9.	8.	10.	16.	
SULFATE	28 SEP 82	5.0	MGL	130.0	81.0	88.0	180.0	194.0	280.0#	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	920.	980.	
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	920.	980.	
SPEC COND	28 SEP 82	1.	UMC	790.		665.	700.	920.	980.	
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	925.	980.	
TOC	28 SEP 82	1.0	MGL	37.0	28.0	39.0	21.0	43.0	4.0	
TOC	28 SEP 82	1.0	MGL	37.0	28.0	39.0	22.0	43.0	4.0	
TOC	28 SEP 82	1.0	MGL	38.0	29.0	39.0	23.0	44.0	4.0	
TOC	28 SEP 82	1.0	MGL	38.0	27.0	39.0	22.0	43.0	4.0	
TOX	28 SEP 82	.010	MGL	ND		.080 C	.040 C	.096 C		
TOX	28 SEP 82	.010	MGL	ND		.130 C	.077 C	.069 C		
TOX	28 SEP 82	.010	MGL	ND		.095 C	ND	ND		
TOX	28 SEP 82	.010	MGL	.041 C		.095 C	.067 C	.062 C		

NPDWR Standard

Incl 1

RUN DATE: 14 JAN 83

INSTALLATION: SENECA AD, NY FACILITY: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.

A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM
B UPGRADIENT SITE
C RESULTS ARE FOR UNFILTERED SAMPLE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA
& VALUE EXCEEDS A STATE WATER QUALITY STANDARD OR CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

RUN DATE: 14 JAN 83

INSTALLATION: SENECA AD, NY

FACILITY: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
WATER LEVELS (A)	20 SEP 82		FT	670.4	650.6	643.3	630.8	631.2	627.8
CHLORIDE	20 SEP 82	1.0	MGL	78.0	68.0	[1]110.0[1]	7.0	95.0	15.0
IRON	20 SEP 82	.03	MGL	ND	ND	ND	ND	ND	ND
SULFATE	20 SEP 82	5.0	MGL	29.0	110.0	[1]480.0[1]	40.0	110.0	55.0
PH(FIELD)	20 SEP 82		PH	7.5	7.6	7.2	7.9	7.4	7.8
PH(LAB)	20 SEP 82		PH	7.2	6.9	6.7	6.9	6.8	7.1
SPEC COND	20 SEP 82	1.	UMC	880.	940.	3850.	560.	1000.	570.
SPEC COND	20 SEP 82	1.	UMC	880.	940.	3900.	560.	1000.	570.
SPEC COND	20 SEP 82	1.	UMC	880.	940.	3900.	560.	1000.	570.
SPEC COND	20 SEP 82	1.	UMC	880.	940.	3850.	560.	1000.	570.
TOC	20 SEP 82	1.0	MGL	53.0	45.0	50.0	19.0	41.0	26.0
TOC	20 SEP 82	1.0	MGL	54.0	47.0	49.0	19.0	40.0	27.0
TOC	20 SEP 82	1.0	MGL	52.0	45.0	48.0	19.0	42.0	27.0
TOC	20 SEP 82	1.0	MGL	52.0	47.0	47.0	20.0	42.0	27.0

Incl 2

RUN DATE: 14 JAN 83

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
GROSS ALPHA	05 JAN 82	4.61	PCL	ND	ND	ND	ND	ND	4.14	ND
GROSS ALPHA	13 APR 82	3.37	PCL	3.33	ND	2.63	2.30	3.64	3.39	ND
GROSS ALPHA	29 JUN 82	6.49	PCL	4.81	4.26	5.99	< 6.49	12.60	9.04	3.87
GROSS ALPHA	28 SEP 82	5.20	PCL	< 4.07		< 2.83	< 5.20	< 4.12		
RADIUM-226	28 JUN 82	.24	PCL			ND		ND	ND	
GROSS BETA	05 JAN 82	1.52	PCL	2.02	3.01	2.06	2.31	2.91	2.12	ND
GROSS BETA	13 APR 82	1.64	PCL	ND	1.60	ND	2.05	2.08	ND	ND
GROSS BETA	29 JUN 82	1.86	PCL	1.59	3.34	ND	1.62	1.96	1.99	ND
GROSS BETA	28 SEP 82	1.76	PCL	ND		1.22	1.85	3.14		

Incl 3

RUN DATE: 14 JAN 83

INSTALLATION: SENECA AD, NY FACILITY: LANDFILL

LEGEND
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B UPGRADIENT SITE
C RESULTS ARE FOR UNFILTERED SAMPLE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA

MGL - MILLIGRAMS/LITER
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TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

RUN DATE: 14 JAN 83

INSTALLATION: SENECA AD, NY

FACILITY: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMETAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
B UPGRADIENT SITE
C RESULTS ARE FOR UNFILTERED SAMPLE

MGL - MILLIGRAMS/LITER
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DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

Mr. Fox/csp/AUTOVON
584-2024

SEAD 1-6

REPLY TO ATTENTION OF
HSHB-ES-G/WP

27 JAN 1983

SUBJECT: Background Data for Indicator Parameters and Ground-water Monitoring Well Network Evaluation, Seneca Army Depot

Commander
US Army Depot Systems Command
ATTN: DRSDS-RM-EF-D
Chambersburg, PA 17201

1. References.

a. US Army Management Plan for the RCRA Ground-water Monitoring and Assessment Program, June 1981.

b. Title 40, Code of Federal Regulations (CFR), 1982 rev, Part 265, Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities, Subpart F, Ground-water Monitoring.

2. The mean and standard deviations for the indicator parameters pH, specific conductance, total organic carbon, and total organic halogen, are provided in the inclosure for all appropriate background monitoring wells. These data will be used as background values for comparison with water quality data obtained from future sampling of each monitoring well to determine statistically significant increases (or pH decrease) for the indicator parameters. This Agency will compare future quarterly sampling data to background ground-water quality using the Student's t-test at the 0.01 level of significance and will report the statistical results with the next set of ground-water quality data.

3. If the Student's t-test indicates a statistically significant increase (or pH decrease) as compared to background values, this Agency will telephonically notify the installation of the need to immediately resample for confirmation. This Agency will also telephonically notify your office and HQ DARCOM that resampling is being accomplished.

4. If the statistical difference is confirmed by the resampling, this Agency will provide written confirmation to your office with copies furnished to DARCOM and HSC; the installation will subsequently be notified through command channels.

5. A ground-water monitoring well network evaluation has been conducted on installation hazardous waste sites as required on an annual basis by 40 CFR 265.93(f) (reference 1b). The ground-water monitoring wells have been evaluated in terms of the number of functioning wells, location of wells (upgradient and downgradient), and well screened interval.

6. The Demolition Grounds have a ground-water monitoring well system which satisfies the requirements of 40 CFR 265, Subpart F.

7. Questions regarding this matter may be referred to Mr. Wayne Fox, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

NELSON H. LUND, P.E.
Colonel, MSC
Director, Environmental Quality

1 Incl
as

CF:
Cdr, HSC (HSPA-P)
Cdr, DARCOM (DRCSG/DRCIS-A)

CALCULATED MEANS AND STANDARD DEVIATIONS OF INDICATOR PARAMETERS FOR BACKGROUND MONITORING WELLS

136794 SENECA AD, NY

DEMOLITION GROUNDS
UPGRADIENT WELLS: W5

	MEAN	STD DEV	N	UNITS
PH	7.575	.184	16	PH
COND	715.687	64.231	16	UMC
TOC	30.000	17.386	16	MGL
TOX	.020	.028	16	MGL

LOCATION: OB GROUNDS

SAMPLE DATE: 21 APRIL 83

LABORATORY: AEHA

PARAMETERS: MULTIPLE

RUN DATE: 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B PT-10	PT-11	PT-12	PT-13	PT-14	PT-15
WATER LEVELS (A)	15 FEB 83		FT	673.3	653.3	646.8	633.8	634.8	634.1
CHLORIDE	15 FEB 83	1.0	MGL	70.0	69.0	30.0	8.0	79.0	15.0
IRON	15 FEB 83	.03	MGL	ND	.07	ND	.05	.09	.16
SULFATE	15 FEB 83	5.0	MGL	22.0	140.0	200.0	41.0	110.0	46.0
PH(FIELD)	15 FEB 83		PH	7.6	7.6	7.5	7.5	7.5	7.8
PH(LAB)	15 FEB 83		PH	7.3	7.0	6.7	6.8	6.8	7.1
SPEC COND	15 FEB 83	1.	UMC	845.	925.	1275.	620.	960.	505.
SPEC COND	15 FEB 83	1.	UMC	840.	920.	1280.	620.	960.	505.
SPEC COND	15 FEB 83	1.	UMC	845.	920.	1270.	620.	960.	510.
SPEC COND	15 FEB 83	1.	UMC	845.	920.	1270.	620.	960.	510.
TOC	15 FEB 83	1.0	MGL	14.0	11.0	13.0	11.0	11.0	6.0
TOC	15 FEB 83	1.0	MGL	14.0	12.0	14.0	11.0	11.0	7.0
TOC	15 FEB 83	1.0	MGL	13.0	12.0	13.0	10.0	11.0	7.0
TOC	15 FEB 83	1.0	MGL	13.0	12.0	13.0	10.0	11.0	7.0

Incl 1

RUN DATE: 21 APR 83

INSTALLATION: SENECA AD, NY SITE: LANDFILL

LEGEND
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B UPGRADIENT SITE

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CU - COLOR UNITS
PHM - PER 100 MILLILITERS

RUN DATE: 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER LEVELS (A)	07 FEB 83		FT	118.2	109.8	110.5	110.9	105.2	94.6	103.0
CHLORIDE	08 FEB 83	1.0	MGL	2.0	6.0	7.0	6.0	9.0	3.0	2.0
IRON	08 FEB 83	.03	MGL	.13	.10	.15	.09	.07	.06	.08
MANGANESE	08 FEB 83	.01	MGL	.02	.12#	.02	ND	ND	.01	.01
PHENOL	08 FEB 83	.01	MGL	ND	ND	ND	ND	ND	ND	ND
SODIUM	08 FEB 83	1.	MGL	21.	37.	11.	12.	8.	15.	7.
SULFATE	08 FEB 83	5.0	MGL	93.0	600.0#	110.0	210.0	180.0	200.0	74.0
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	685.	760.	685.	755.	605.
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	685.	755.	680.	755.	605.
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	680.	755.	680.	760.	600.
SPEC COND	08 FEB 83	1.	UMC	585.	1160.	690.	760.	680.	760.	600.
TOC	08 FEB 83	1.0	MGL	23.0	33.0	27.0	22.0	27.0	25.0	26.0
TOC	08 FEB 83	1.0	MGL	23.0	33.0	26.0	22.0	27.0	25.0	26.0
TOC	08 FEB 83	1.0	MGL	23.0	32.0	27.0	22.0	26.0	25.0	26.0
TOC	08 FEB 83	1.0	MGL	24.0	32.0	27.0	22.0	27.0	25.0	26.0
TOX	08 FEB 83	.010	MGL	.036 C	.041 C	.047 C	.041 C	.031 C	.017 C	.047 C
TOX	08 FEB 83	.010	MGL	.042 C	.030 C	.040 C	.039 C	.046 C	.039 C	.038 C
TOX	08 FEB 83	.010	MGL	.042 C	.041 C	.040 C	.044 C	.046 C	.033 C	.030 C
TOX	08 FEB 83	.010	MGL	.043 C	.047 C	.043 C	.028 C	.056 C	.038 C	.036 C

RUN DATE: 21 APR 83

INSTALLATION: SENECA AD, NY SITE: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
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MGL - MILLIGRAMS/LITER
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PHM - PER 100 MILLILITERS

RUN DATE 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

GROUND-WATER MONITORING STATISTICAL ANALYSIS

WELL W1

	PH	SPEC COND	TOC	TOX
UNITS		UMC	MGL	MGL
BACKGROUND MEAN	7.575	715.687	30.000	.020
BACKGROUND STANDARD DEV	.184	64.231	17.386	.028
BACKGROUND SAMPLE SIZE	16	16	16	16
CALCULATED MEAN	7.500	757.500	22.000	.038
CALCULATED STANDARD DEV	.000	2.887	.000	.007
SAMPLE SIZE	4	4	4	4
DEGREES OF FREEDOM	18	18	18	18
REFERENCE/BOOK T-VALUE	2.878	2.552	2.552	2.552
CALCULATED T-VALUE	.799	1.275	-.902	1.252
ACCEPT TEST?	OK	OK	OK	OK

THIS STUDENT'S T-TEST AT THE 0.01 LEVEL OF SIGNIFICANCE IS A TWO-TAILED TEST FOR PH AND A SINGLE-TAILED TEST FOR THE OTHER INDICATOR PARAMETERS. A CALCULATED T-VALUE GREATER THAN THE REFERENCE T-VALUE INDICATES A STATISTICALLY SIGNIFICANT CHANGE OF THE CONCENTRATION OR VALUE OF THE INDICATOR PARAMETER FROM BACKGROUND. THIS TEST IS FOR DATA WITH SAMPLING DATES FROM 10 JAN 83 TO 31 DEC 83 .

RUN DATE 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

GROUND-WATER MONITORING STATISTICAL ANALYSIS

WELL W2

	PH	SPEC COND	TOC	TOX
UNITS		UMC	MGL	MGL
BACKGROUND MEAN	7.575	715.687	30.000	.020
BACKGROUND STANDARD DEV	.184	64.231	17.386	.028
BACKGROUND SAMPLE SIZE	16	16	16	16
CALCULATED MEAN	7.700	757.500	25.000	.032
CALCULATED STANDARD DEV	.000	2.887	.000	.010
SAMPLE SIZE	4	4	4	4
DEGREES OF FREEDOM	18	18	18	18
REFERENCE/BOOK T-VALUE	2.878	2.552	2.552	2.552
CALCULATED T-VALUE	1.331	1.275	-.564	.812
ACCEPT TEST?	OK	OK	OK	OK

THIS STUDENT'S T-TEST AT THE 0.01 LEVEL OF SIGNIFICANCE IS A TWO-TAILED TEST FOR PH AND A SINGLE-TAILED TEST FOR THE OTHER INDICATOR PARAMETERS. A CALCULATED T-VALUE GREATER THAN THE REFERENCE T-VALUE INDICATES A STATISTICALLY SIGNIFICANT CHANGE OF THE CONCENTRATION OR VALUE OF THE INDICATOR PARAMETER FROM BACKGROUND. THIS TEST IS FOR DATA WITH SAMPLING DATES FROM 10 JAN 83 TO 31 DEC 83 .

RUN DATE 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

GROUND-WATER MONITORING STATISTICAL ANALYSIS

WELL W3

	PH	SPEC COND	TOC	TOX
UNITS		UMC	MGL	MGL
BACKGROUND MEAN	7.575	715.687	30.000	.020
BACKGROUND STANDARD DEV	.184	64.231	17.386	.028
BACKGROUND SAMPLE SIZE	16	16	16	16
CALCULATED MEAN	7.500	681.250	26.750	.045
CALCULATED STANDARD DEV	.000	2.500	.500	.010
SAMPLE SIZE	4	4	4	4
DEGREES OF FREEDOM	18	18	18	18
REFERENCE/BOOK T-VALUE	2.878	2.552	2.552	2.552
CALCULATED T-VALUE	.799	-1.050	-.366	1.709
ACCEPT TEST?	OK	OK	OK	OK

THIS STUDENT'S T-TEST AT THE 0.01 LEVEL OF SIGNIFICANCE IS A TWO-TAILED TEST FOR PH AND A SINGLE-TAILED TEST FOR THE OTHER INDICATOR PARAMETERS. A CALCULATED T-VALUE GREATER THAN THE REFERENCE T-VALUE INDICATES A STATISTICALLY SIGNIFICANT CHANGE OF THE CONCENTRATION OR VALUE OF THE INDICATOR PARAMETER FROM BACKGROUND. THIS TEST IS FOR DATA WITH SAMPLING DATES FROM 10 JAN 83 TO 31 DEC 83 .

RUN DATE 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

GROUND-WATER MONITORING STATISTICAL ANALYSIS

WELL W4

	PH	SPEC COND	TOC	TOX
UNITS		UMC	MGL	MGL
BACKGROUND MEAN	7.575	715.687	30.000	.020
BACKGROUND STANDARD DEV	.184	64.231	17.386	.028
BACKGROUND SAMPLE SIZE	16	16	16	16
CALCULATED MEAN	7.300	1160.000	32.500	.040
CALCULATED STANDARD DEV	.000	.000	.577	.007
SAMPLE SIZE	4	4	4	4
DEGREES OF FREEDOM	18	18	18	18
REFERENCE/BOOK T-VALUE	2.878	2.552	2.552	2.552
CALCULATED T-VALUE	2.929	13.555	.282	1.373
ACCEPT TEST?	REJECT	REJECT	OK	OK

THIS STUDENT'S T-TEST AT THE 0.01 LEVEL OF SIGNIFICANCE IS A TWO-TAILED TEST FOR PH AND A SINGLE-TAILED TEST FOR THE OTHER INDICATOR PARAMETERS. A CALCULATED T-VALUE GREATER THAN THE REFERENCE T-VALUE INDICATES A STATISTICALLY SIGNIFICANT CHANGE OF THE CONCENTRATION OR VALUE OF THE INDICATOR PARAMETER FROM BACKGROUND. THIS TEST IS FOR DATA WITH SAMPLING DATES FROM 10 JAN 83 TO 31 DEC 83 .

RUN DATE 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

GROUND-WATER MONITORING STATISTICAL ANALYSIS

WELL W5 (BACKGROUND WELL)

	PH	SPEC COND	TOC	TOX
UNITS		UMC	MGL	MGL
BACKGROUND MEAN	7.575	715.687	30.000	.020
BACKGROUND STANDARD DEV	.184	64.231	17.386	.028
BACKGROUND SAMPLE SIZE	16	16	16	16
CALCULATED MEAN	7.800	581.250	23.250	.041
CALCULATED STANDARD DEV	.000	2.500	.500	.003
SAMPLE SIZE	4	4	4	4
DEGREES OF FREEDOM	18	18	18	18
REFERENCE/BOOK T-VALUE	2.878	2.552	2.552	2.552
CALCULATED T-VALUE	2.396	-4.101	-.761	1.450
ACCEPT TEST?	OK	OK	OK	OK

THIS STUDENT'S T-TEST AT THE 0.01 LEVEL OF SIGNIFICANCE IS A TWO-TAILED TEST FOR PH AND A SINGLE-TAILED TEST FOR THE OTHER INDICATOR PARAMETERS. A CALCULATED T-VALUE GREATER THAN THE REFERENCE T-VALUE INDICATES A STATISTICALLY SIGNIFICANT CHANGE OF THE CONCENTRATION OR VALUE OF THE INDICATOR PARAMETER FROM BACKGROUND. THIS TEST IS FOR DATA WITH SAMPLING DATES FROM 10 JAN 83 TO 31 DEC 83 .

RUN DATE 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

GROUND-WATER MONITORING STATISTICAL ANALYSIS

WELL W6

	PH	SPEC COND	TOC	TOX
UNITS		UMC	MGL	MGL
BACKGROUND MEAN	7.575	715.687	30.000	.020
BACKGROUND STANDARD DEV	.184	64.231	17.386	.028
BACKGROUND SAMPLE SIZE	16	16	16	16
CALCULATED MEAN	7.800	685.000	26.750	.042
CALCULATED STANDARD DEV	.000	4.082	.500	.003
SAMPLE SIZE	4	4	4	4
DEGREES OF FREEDOM	18	18	18	18
REFERENCE/BOOK T-VALUE	2.878	2.552	2.552	2.552
CALCULATED T-VALUE	2.396	-.936	-.366	1.572
ACCEPT TEST?	OK	OK	OK	OK

THIS STUDENT'S T-TEST AT THE 0.01 LEVEL OF SIGNIFICANCE IS A TWO-TAILED TEST FOR PH AND A SINGLE-TAILED TEST FOR THE OTHER INDICATOR PARAMETERS. A CALCULATED T-VALUE GREATER THAN THE REFERENCE T-VALUE INDICATES A STATISTICALLY SIGNIFICANT CHANGE OF THE CONCENTRATION OR VALUE OF THE INDICATOR PARAMETER FROM BACKGROUND. THIS TEST IS FOR DATA WITH SAMPLING DATES FROM 10 JAN 83 TO 31 DEC 83 .

RUN DATE 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

GROUND-WATER MONITORING STATISTICAL ANALYSIS

WELL W7

	PH	SPEC COND	TOC	TOX
UNITS		UMC	MGL	MGL
BACKGROUND MEAN	7.575	715.687	30.000	.020
BACKGROUND STANDARD DEV	.184	64.231	17.386	.028
BACKGROUND SAMPLE SIZE	16	16	16	16
CALCULATED MEAN	7.600	602.500	26.000	.038
CALCULATED STANDARD DEV	.000	2.887	.000	.007
SAMPLE SIZE	4	4	4	4
DEGREES OF FREEDOM	18	18	18	18
REFERENCE/BOOK T-VALUE	2.878	2.552	2.552	2.552
CALCULATED T-VALUE	.266	-3.452	-.451	1.234
ACCEPT TEST?	OK	OK	OK	OK

THIS STUDENT'S T-TEST AT THE 0.01 LEVEL OF SIGNIFICANCE IS A TWO-TAILED TEST FOR PH AND A SINGLE-TAILED TEST FOR THE OTHER INDICATOR PARAMETERS. A CALCULATED T-VALUE GREATER THAN THE REFERENCE T-VALUE INDICATES A STATISTICALLY SIGNIFICANT CHANGE OF THE CONCENTRATION OR VALUE OF THE INDICATOR PARAMETER FROM BACKGROUND. THIS TEST IS FOR DATA WITH SAMPLING DATES FROM 10 JAN 83 TO 31 DEC 83 .

RUN DATE: 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
GROSS ALPHA	05 JAN 82	4.61	PCL	ND	ND	ND	ND	ND	4.14	ND
GROSS ALPHA	13 APR 82	3.37	PCL	3.33	ND	2.63	2.30	3.64	3.39	ND
GROSS ALPHA	29 JUN 82	6.49	PCL	4.81	4.26	5.99	< 6.49	12.60	9.04	3.87
GROSS ALPHA	28 SEP 82	5.20	PCL	< 4.07		< 2.85	< 5.20	< 4.12		
RADIUM-226	29 JUN 82	.24	PCL			ND	.27	ND	ND	
GROSS BETA	05 JAN 82	1.52	PCL	2.02	3.01	2.06	2.31	2.91	2.12	ND
GROSS BETA	13 APR 82	1.64	PCL	ND	1.60	ND	2.05	2.08	ND	ND
GROSS BETA	29 JUN 82	1.86	PCL	1.59	3.34	ND	1.62	1.96	1.99	ND
GROSS BETA	28 SEP 82	1.76	PCL	ND		1.22	1.85	3.14		

RUN DATE: 21 APR 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
B UPGRADIENT SITE

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

LOCATION: OB GROUNDS

SAMPLE DATE: — 1983

LABORATORY: —

PARAMETERS: Correspondance

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

Ms. Fleischmann/emw/AUTOVON
584-2024

REPLY TO
ATTENTION OF

HSHB-ES-G

16 MAY 1983

SUBJECT: Ground-water Monitoring Results for Seneca Army Depot, NY

Commander
US Army Depot Systems Command
ATTN: DRSDS-RM-EF-D
Chambersburg, PA 17201

1. Reference.

a. US Army Management Plan for the RCRA Ground-water Monitoring and Assessment Program, June 1981.

b. Letter, HSE-ES-S, this Agency, 18 March 1982, SAB.

c. Letter, HSHB-ES-G, this Agency, 2 July 1982, SAB.

d. Letter, HSHB-ES-G, this Agency, 4 November 1982, SAB.

e. Letter, HSHB-ES-G, this Agency, 31 January 1983, SAB.

f. Letter, HSHB-ES-G, this Agency, 27 January 1983, subject: Background Data for Indicator Parameters and Ground-water Monitoring Well Network Evaluation, Seneca Army Depot.

g. Telephone conversations between Mrs. Beth Martin and Mr. John Bauer, this Agency, and Mrs. Kathy O'Halloran, DARCOM (DRCSG/DRCIS-A), 22 April 1983 and 25 April 1983, subject: Resampling for Indicator Parameters.

2. Attached are tables (Incl 1 and 2) reporting results of chemical analyses of ground-water samples taken during February 1983 at the Sanitary Landfill and the Demolition Grounds (RCRA hazardous waste site) at Seneca Army Depot. Field pH and water level measurements were taken by installation personnel. All other results were determined by Century Environmental Testing Labs, Inc., under contract to the US Army. These data constitute the first semiannual period of ground-water monitoring analytical results. The first four quarters of results were reported in references 1b through 1e.

3. Although these samples are from monitoring wells, parameter concentrations are compared to National Secondary Drinking Water Regulation (NSDWR) criteria which generally address the aesthetic quality of the water and to New York State ground-water quality standards (10 NYCRR Part 703). Any parameters exceeding the NSDWR criteria or State standards are noted in the inclosures.

4. At the Sanitary Landfill, results remain consistent with the four quarters of 1982 data. Well PT-12 continues to have higher specific conductivity and sulfate levels than the other well samples. Samples from wells PT-10 (upgradient), PT-11, PT-12, and PT-14 exhibit high specific conductivities which indicate that the NSDWR criterion for total dissolved solids (TDS) may be exceeded.

5. At the Demolition Grounds, the sample from well W4 exceeds the NSDWR criteria for manganese and sulfate. Also, the high specific conductivity values in the W4 sample indicate that the NSDWR criterion for TDS may be exceeded. It should be noted that the lab analysis for phenol is performed using a detection limit of 0.01 mg/L while the State standard is 0.001 mg/L.

6. Analytical results for indicator parameters are compared to first-year upgradient well data (ref 1f) using the Student's t-test. The comparison indicates that well W4 should be resampled for pH and specific conductivity. However, resampling will not be required at this time (ref 1g). All other tests are acceptable.

7. A radium-226 analysis was to be performed on the September 1982 sample from well W5. Since the reporting of the fourth quarter data, it was learned that there was an insufficient amount of sample left to perform the analysis. Inclosure 3 is a summary of all radiochemical data for the first year of sampling.

8. Questions regarding these results may be referred to Ms. Kim M. Fleischmann or Mr. Gary Nemeth, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

NELSON H. LUND, P.E.
Colonel, MSC
Director, Environmental Quality

3 Incl
as

CF:
Cdr, HSC (HSPA-P)
Cdr, DARCOM (DRCSG/DRCIS-A)
Cdr, USATHAMA (DRXTH-AS)

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

Ms. Fleischmann/smd/AUTOVON
584-2024

REPLY TO ATTENTION OF

HSHB-ES-G

1 JUN 84

SUBJECT: Ground-water Monitoring Results for Seneca Army Depot, NY

Commander
Seneca Army Depot
ATTN: SDSSE-~~AD~~ Kettel
Romulus, NY 14541

1. Reference:

a. US Army Management Plan for the RCRA Ground-water Monitoring and Assessment Program, June 1981.

b. Letter, HSHB-ES-G, this Agency, 16 May 1983 and 7 October 1983, SAB.

C. New York Water Classification and Quality Standards, Part 703, Ground-water Classifications, Quality Standards, and Effluent Standards and/or Limitations (Amended 2 August 1978; effective September 1978).

2. Attached are tables (Inclosures 1 and 2) reporting results of chemical analyses of ground-water samples collected on 14 February 1984 from monitoring wells around the Demolition Area and the Landfill at Seneca Army Depot, NY. Field pH and water level measurements were taken by installation personnel. All other results were determined by this Agency's laboratory. These data constitute the annual and first semiannual set of results for 1984. Reference 1b reported all 1983 sampling results.

3. Concentrations of those parameters addressed in reference 1c are compared to the New York standards. Certain other parameter concentrations are compared to the National Secondary Drinking Water Regulation criteria which address the aesthetic quality of the water. Any concentrations exceeding the standards of criteria are noted in the inclosures.

4. In general, these results show a trend of lower levels of all parameters than reported in previous sampling periods (ref 1b). Although sulfate concentrations are still somewhat elevated and the level in the sample from PT-12 exceeds the New York standard, levels have decreased in the past six months. Levels of specific conductivity, total organic carbon, and total organic halide are also trending much lower than in the past.

HSHB-ES-G
SUBJECT: Ground-water Monitoring Results for Seneca Army Depot, NY

4. Questions regarding these data may be referred to Ms. Kim M. Fleischmann or Mr. Gary Nemeth, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

NELSON H. LUND, P.E.
Colonel, MSC
Director, Environmental Quality

2 Incl
as

CF:
Cdr, HSC (HSCL-P)
Cdr, DARCOM (DRCSG/DRCIS-A)
Cdr, DESCOM (DRSDS-RM-EF-D)
Cdr, USATHAMA (DRXTH-AS)

RUN DATE: 09 MAY 84

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5		W4		W6		W1		W3		W2		W7	
WATER LEVELS (A)	14 FEB 84		FT	118.3		108.9		109.7		109.3		105.5		94.9		103.1	
CHLORIDE	14 FEB 84	2.0	MGL	ND		8.7		20.0		2.3		4.0		ND		ND	
IRON	14 FEB 84	.10	MGL	.15		.11		ND		ND		ND		ND		1.02#	
MANGANESE	14 FEB 84	.03	MGL	ND		ND		.04		ND		ND		ND		ND	
PHENOL	14 FEB 84	.01	MGL	ND		ND		ND		ND		ND		ND		ND	
SODIUM	14 FEB 84	1.	MGL	7.		7.		16.		5.		4.		14.		3.	
SULFATE	14 FEB 84	5.0	MGL	51.0		117.0		130.0		119.0		148.0		108.0		7.3	
PH(FIELD)	14 FEB 84		PH	7.3		6.8		7.2		7.3		7.4		7.4		7.5	
PH(FIELD)	14 FEB 84		PH	7.3		6.8		7.3		7.3		7.5		7.5		7.5	
PH(FIELD)	14 FEB 84		PH	7.3		6.9		7.2		7.3		7.4		7.4		7.6	
PH(FIELD)	14 FEB 84		PH	7.4		6.9		7.3		7.3		7.4		7.4		7.6	
PH(LAB)	14 FEB 84		PH	7.9		7.7		7.8		7.7		7.8		7.9		7.5	
SPEC COND	14 FEB 84	1.	UMC	360.		430.		620.		400.		510.		570.		87.	
SPEC COND	14 FEB 84	1.	UMC	360.		430.		620.		410.		510.		570.		88.	
SPEC COND	14 FEB 84	1.	UMC	360.		420.		630.		400.		500.		580.		88.	
SPEC COND	14 FEB 84	1.	UMC	360.		430.		620.		400.		510.		580.		88.	
TOC	14 FEB 84	1.0	MGL	24.0		35.0		33.0		24.0		29.0		30.0		12.0	
TOC	14 FEB 84	1.0	MGL	23.0		35.0		32.0		24.0		29.0		29.0		11.0	
TOC	14 FEB 84	1.0	MGL	23.0		36.0		32.0		24.0		29.0		29.0		11.0	
TOC	14 FEB 84	1.0	MGL	24.0		36.0		33.0		24.0		29.0		29.0		11.0	
TOX	14 FEB 84	.010	MGL	.060	C	.062	C	ND		.037	C	.049	C	.044	C	.014	C
TOX	14 FEB 84	.010	MGL	.070	C	.074	C	ND		.035	C	.055	C	.064	C	.014	C
TOX	14 FEB 84	.010	MGL	.077	C	.064	C	ND		.036	C	.055	C	.030	C	ND	
TOX	14 FEB 84	.010	MGL	.032	C	.041	C	ND		.039	C	.064	C	.041	C	.012	C

Inch 1

RUN DATE: 09 MAY 84

INSTALLATION: SENECA AD, NY SITE: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM
B UPGRADIENT SITE
E RESULTS ARE FOR UNFILTERED SAMPLE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

LOCATION: OB GROUNDS

SAMPLE DATE: NOVEMBER 1979

LABORATORY: O'BRIEN & GERE

PARAMETERS: P.H, TOC, SPC COND
FE, PB, HG, AL
CL, NO_2, NO_3, CN
TDS, TIP,

Report

Munitions Destruct Study

Seneca Army Depot
APAP Study No. D 1031-W

Department of the Army
New York District
Corps of Engineers

November 1979

O'BRIEN & GERE

O'BRIEN & GERE

December 6, 1979

Department of the Army
New York District, Corps of Engineers
26 Federal Plaza
New York, New York 10007

Attn: Mr. Chester Yee

Re: APAP, Contract 2

File: 0333.028

Gentlemen:

Attached is our Report entitled "Munitions Destruct Study - Seneca Army Depot, APAP Study No. D 1031-W." This submittal completes Modification No. P00003 to Contract No. DACA51-78-C-0153.

The Report presents evaluations of air and water quality impacts resulting from the underground demilitarization of approximately 1000 tons per year of chemical explosives at Seneca Army Depot, Romulus, New York. Water quality impacts were evaluated by placing and sampling from four monitoring wells around the site periphery and by sampling from nearby Reeder Creek. No significant evidence of groundwater contamination was found. Air quality impacts were estimated from a review of analogous sites as reported in the literature. This information was used to develop a dispersion model with site-specific factors selected for the Seneca Depot operation. The dispersion model, although subject to limitations within the existing data base, suggests the possibility of contravention of some health related criteria. A comprehensive air monitoring program would be required to definitively establish whether the fugitive emissions are in compliance with air quality regulations.

If we can provide any additional information, please contact us.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.

Steven R. Garver, P.E.
Managing Engineer

SRG/djg
Attachment

O'Brien & Gere Engineers, Inc.
Box 4873 1304 Buckley Road Syracuse, New York 13221 Cable: OBRIENGERE 315 451-4700
Charlotte, NC Chillicothe, OH Dover, DE Philadelphia, PA Poughkeepsie, NY Teheran, Iran

TABLE 1
MONITORING WELL DATA (1)

Well No.	Depth Drilled	Depth to Rock	Soil Type	Ground Elevation	Casing Height	Screen Setting (2)	Elevation of Water 9/7	9/13	10/5
1	13	12	Till	100.0	4.3	7-12	95.9	94.8	95.0
2	7	6.5	Till	85.1	3.7	1-6	82.2	81.4	81.4
3	11	9.5	Till	95.1	5.5	4.5-9.5	93.0	91.3	90.8
4	10	9.5	Till	98.7	3.0	4.5-9.5	92.1	92.4	92.6
5	15	13.5	Till	97.0	-	-	-	-	-

(1) All values reported in feet.

(2) Feet below the ground surface.

TABLE 2
WATER QUALITY MONITORING DATA - CONVENTIONAL POLLUTANTS

Site	Date	pH	TOC	SPCOND	TDS	TIP	TKN	NO_2	NO_3	CN	FE	PB	HG	Al	Cl
WELL # 1	9/07	8.3	48	770	630	0.06	1.6	<0.001	0.70	<0.1	2.4	<0.01	0.79	3.0	9.7
	10/05	8.1	3	700	880	-	-	-	-	-	18.	-	-	-	
	10/05*		10		-	-	-	-	-	-	<0.01	-	-	-	
WELL # 2	9/07	8.0	68	790	570	0.06	1.6	0.039	<0.01	<0.1	2.6	<0.01	0.79	22.	7.5
	10/05	8.2	160	820	970	-	-	-	-	-	310.	-	-	-	
	10/05*		8		-	-	-	-	-	-	<0.01	-	-	-	
WELL # 3	9/07	7.9	83	790	630	0.21	0.30	0.002	<0.01	<0.1	2.1	<0.01	1.20	16.	1.8
	10/05	8.6	<1	650	750	-	-	-	-	-	15.	-	-	-	
	10/05*		13	-	-	-	-	-	-	-	0.01	-	-	-	
WELL # 4	9/07		260	4	470	<0.01	0.30	0.035	<0.01	<0.1	0.09	<0.01	0.79	0.5	7.0
	10/05	8.7	21	1000	1100	-	-	-	-	-	38.	-	-	-	
	10/05*		23		-	-	-	-	-	-	0.05	-	-	-	
REEDER CREEK (UP)	8/31		56		660	0.52	0.30	<0.001	<0.01	-	0.49	<0.01	1.6	3.7	
	10/05				-	-	-	-	-	-	0.12	-	-	-	
REEDER CREEK (DN)	8/31		49		630	0.10	0.30	<0.001	<0.01	-	0.009	<0.01	0.79	0.50	
	10/05				-	-	-	-	-	-	0.22	-	-	-	

* Filtered Samples

Note: All results except pH and SPCOND are reported as mg/l. HG reported as ug/l.

TABLE 3
WATER QUALITY MONITORING DATA - EXPLOSIVES

PARAMETER (1)	SITE					
	WELL				REEDER CREEK	
	#1	#2	#3	#4	UPSTREAM	DOWNSTREAM
2,4,6 Trinitrotoluene	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
4-amino-2,6-dinitrotoluene (2)	1.36	1.66	1.78	1.96	1.87	1.66
2-amino-4,6-dinitrotoluene	< 0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1
3,5-dinitroaniline	< 0.1	<0.1	< 0.1	< 0.1	< 0.1	< 0.1

(1) values reported in ug/l (ppb)

(2) Cochromatographed, cochromatography is not proof of structure.

LOCATION: OB GROUNDS

SAMPLE DATE: 26 NOV 84

LABORATORY: AEHA

PARAMETERS: MULTIPLE

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

Ms. Fleischmann/kb/AUTOVON
584-2024

file

REPLY TO
ATTENTION OF

HSHB-ES-G

11 DEC 1984

SUBJECT: Ground-water Monitoring Results for Seneca Army Depot, NY

Commander
Seneca Army Depot
ATTN: SDSSE-AB
Romulus, NY 14541

1. Reference:

a. US Army Management Plan for the RCRA Ground-water Monitoring and Assessment Program, June 1981.

b. Letter, HSHB-ES-G, this Agency, 1 June 1984, SAB.

c. New York Water Classification and Quality Standards, Part 703, Ground-water Classifications, Quality Standards, and Effluent Standards and/or Limitations (Amended 2 August 1978; effective September 1978).

2. Attached are tables (Inclosures 1 and 2) reporting results of chemical analyses of ground-water samples collected on 18 September 1984 from monitoring wells around the Demolition Area and Landfill at Seneca Army Depot, NY. Field pH and water level measurements were made by installation personnel. These data constitute the second set of semiannual results for 1984. The annual and first semiannual results for 1984 were reported in reference 1b.

3. Concentrations of certain parameters are compared to the New York standards in reference 1c. Certain other parameter concentrations are compared to the National Secondary Drinking Water Regulation criteria which address the aesthetic quality of the water.

4. The state standard for iron is exceeded in the well sample from well PT-14. One of the TOX values for the well sample from well W3 is not reported because it was outside the specified precision range for quality control. At the Demolition Grounds, the TOC values are much lower, the specific conductivity values are higher, and the TOX values are generally lower than the values reported in reference 1b. At the Landfill, comparison with reference 1b indicates lower sulfate and TOC values and

higher iron and specific conductivity values. No samples were collected from well PT-13 at the Landfill because the well was destroyed.

5. Questions regarding these data may be referred to Ms. Kim M. Fleischmann or Mr. Gary Nemeth, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

Karl J. Daubel

2 Incl
as

KARL J. DAUBEL
Colonel, MS
Director, Environmental Quality

CF:
Cdr, HSC (HSCL-P)
Cdr, AMC (AMCSG/AMCEN-A)
Cdr, DESCOM (AMSDS-RM-EF-D)
Cdr, USATHAMA (DRXTH-AS)

TAB 1

RUN DATE: 26 NOV 84

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5		W4		W6		W1		W3		W2		W7	
WATER																	
LEVELS (A)	26 JUN 84		FT	109.4				109.6		109.3		104.6		94.8		99.3	
LEVELS (A)	27 JUN 84		FT			109.0											
LEVELS (A)	17 SEP 84		FT	115.8		107.9		108.6		109.3		103.6		93.7		100.7	
PH(FIELD)	18 SEP 84		PH	8.4		7.6		7.6		7.7		7.4		7.2		7.5	
PH(FIELD)	18 SEP 84		PH	8.3		7.5		7.5		7.7		7.4		7.1		7.5	
PH(FIELD)	18 SEP 84		PH	8.3		7.6		7.5		7.6		7.5		7.1		7.6	
PH(FIELD)	18 SEP 84		PH	8.4		7.5		7.6		7.6		7.4		7.1		7.5	
SPEC COND	18 SEP 84	1.	UMC	720.		990.		620.		670.		760.		860.		490.	
SPEC COND	18 SEP 84	1.	UMC	720.		1000.		620.		680.		760.		860.		500.	
SPEC COND	18 SEP 84	1.	UMC	710.		1000.		620.		680.		760.		860.		500.	
SPEC COND	18 SEP 84	1.	UMC	720.		1000.		620.		680.		760.		860.		510.	
TOC	18 SEP 84	.1	MGL	3.0		4.0		3.0		3.0		4.0		3.0		2.0	
TOC	18 SEP 84	.1	MGL	3.0		3.0		3.0		3.0		5.0		3.0		3.0	
TOC	18 SEP 84	.1	MGL	3.0		4.0		3.0		3.0		4.0		3.0		3.0	
TOC	18 SEP 84	.1	MGL	3.0		4.0		3.0		3.0		4.0		4.0		4.0	
TOX	18 SEP 84	.010	MGL	.022	C	.018	C	.011	C	.025	C	.013	C	ND		.034	C
TOX	18 SEP 84	.010	MGL	.020	C	.016	C	ND		.013	C	.012	C	ND		.045	C
TOX	18 SEP 84	.010	MGL	.021	C	.026	C	ND		.015	C	ND		ND		.027	C
TOX	18 SEP 84	.010	MGL	.022	C	.016	C	.012	C	.013	C			ND		.045	C
2,4,6-TNT	18 SEP 84	.001	MGL	ND		ND		ND		ND		ND		ND		ND	
2,4-DNT	18 SEP 84	.001	MGL	ND		ND		ND		ND		ND		ND		ND	
2,6-DNT	18 SEP 84	.001	MGL	ND		ND		ND		ND		ND		ND		ND	
RDX	18 SEP 84	.030	MGL	ND		ND		ND		ND		ND		ND		ND	
HMX	18 SEP 84	.100	MGL	ND		ND		ND		ND		ND		ND		ND	
TETRYL	18 SEP 84	.010	MGL	ND		ND		ND		ND		ND		ND		ND	

TOC - TOTAL ORGANIC CARBONS

TOX - TOTAL ORGANIC HALOGENS

RUN DATE: 26 NOV 84

INSTALLATION: SENECA AD, NY SITE: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
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B UPGRADIENT SITE
C RESULTS ARE FOR UNFILTERED SAMPLE

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
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TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

LOCATION: OB GROUNDS

SAMPLE DATE: 22 JAN 85

LABORATORY: AEHA?

PARAMETERS: Multiple

INSTALLATION: SENECA AD, NY

FACILITY NAME: LANDFILL

WELLS: PT-10 PT-11 PT-12 PT-13 PT-14 PT-15

FEB 85 SEMIANNUAL: IRON

CHLORIDE SULFATE

TOC

PH(LAB) SPEC COND

TOX (per State)

STATE*: IRON, CHLORIDE, SULFATE - ANNUAL
TOX - SEMI ANNUAL

* ALSO: MANGANESE, PHENOL, SODIUM - ANNUAL per 6 NYCRR PART 360

Encl 3

INSTALLATION: SENECA AD, NY

FACILITY NAME: DEMOLITION GROUNDS
WELLS: W5 W4 W6 W1 W3 W2 W7

FEB 85	SEMIANNUAL:	TOX					
		2,4,6-TNT	2,4-DNT	2,6-DNT	RDX	TETRYL	HMX
		TOC					
		SPEC COND					
FEB 85	ANNUAL:	IRON	MANGANESE	SODIUM			
		CHLORIDE	SULFATE				
		PHENOL					

Encl 2

22 JAN 85

GROUND-WATER MONITORING PROGRAM SAMPLING SCHEDULE

SENECA AD, NY

DEMOLITION GROUNDS	SEMIANNUAL PARAMETERS:	25FEB85	26AUG85
	ANNUAL PARAMETERS:	25FEB85	
LANDFILL	SEMIANNUAL PARAMETERS:	25FEB85	26AUG85

Encl 1

LOCATION: OB GROUNDS

SAMPLE DATE: 12 DEC 85

LABORATORY: AEHA ?

PARAMETERS: MULTIPLE

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

file GW 1986

REPLY TO ATTENTION OF

HSHB-ES-G

06 JAN 1986

SUBJECT: Ground-water Monitoring Results for Seneca Army Depot, NY

Commander
Seneca Army Depot
ATTN: SDSSE-~~AD~~
Romulus, NY 14541-5000

1. Reference:

a. U.S. Army Management Plan for the RCRA Ground-water Monitoring and Assessment Program, June 1981.

b. Letter, this Agency, HSHB-ES-G, 1 June 1984, SAB.

c. Letter, this Agency, HSHB-ES-G, 11 December 1984, SAB.

d. Letter, this Agency, HSHB-ES-G, 23 May 1985, SAB.

e. New York Water Classification and Quality Standards, Part 703, Ground-water Classifications, Quality Standards, and Effluent Standards and/or Limitations (Amended 2 August 1978; effective September 1978).

2. Enclosures 1 and 2 are tables reporting results of chemical analyses of ground-water samples collected on 13 September 1985 from monitoring wells around the Demolition Area and Landfill at Seneca Army Depot, NY. Field pH, specific conductivity, and water level measurements were made by installation personnel. These data constitute the second semiannual set of results for 1985. All 1984 data were reported in references 1b and 1c. The first set of 1985 data was reported in reference 1d.

3. Concentrations of certain parameters are compared to the New York standards in reference 1e. Certain other parameter concentrations are compared to the National Secondary Drinking Water Regulation criteria which address the aesthetic quality of the water. Any concentrations exceeding the standards or criteria are noted in the enclosures.

4. The concentration of sulfate in the sample from well PT-12 continues to exceed the state standard. The concentration of chloride in the same well sample exceeds the state standard and is significantly higher than the past reported concentrations for that well. In addition, the high values for specific

conductivity for the same well indicate that the National Secondary Drinking Water Regulation criterion for total dissolved solids would be exceeded. In general, the results are similar to those reported previously.

5. No results are reported for wells W4 and W7 because they were dry. Well PT-13 was destroyed prior to the September 1984 sampling and has not been replaced.

6. Questions regarding these data may be referred to Ms. Kim M. Fleischmann or Mrs. Beth A. Martin, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

2 Encls

FREDERICK W. BOECHER
LTC, MS
Chief, Waste Disposal Engineering Division

CF (w/encls):
Cdr, HSC (HSCL-P)
Cdr, AMC (AMCSG-S)
Cdr, AMC (AMCEN-A)
Cdr, DESCOM (AMSDS-RM-EF-D)
Cdr, USATHAMA (AMXTH-AS)

RUN DATE: 12 DEC 85

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER										
LEVELS (A)	12 SEP 85		FT	113.1		104.3	106.3	99.4	92.3	
PH(FIELD)	13 SEP 85		PH	7.1		7.1	7.1	7.1	7.0	
SPEC COND	13 SEP 85	1.	UMC	720.		600.	880.	840.	830.	
SPEC COND	13 SEP 85	1.	UMC	720.		600.	870.	830.	840.	
SPEC COND	13 SEP 85	1.	UMC	730.		610.	880.	840.	840.	
SPEC COND	13 SEP 85	1.	UMC	730.		600.	880.	830.	840.	
TOC	13 SEP 85	.1	MGL	3.4		2.9	2.5	3.2	3.1	
TOC	13 SEP 85	.1	MGL	3.4		2.8	2.7	3.3	3.1	
TOC	13 SEP 85	.1	MGL	3.4		3.0	2.5	3.3	3.5	
TOC	13 SEP 85	.1	MGL	3.4		2.7	2.6	3.3	3.3	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
2,4,6-TNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,4-DNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,6-DNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
RDX	13 SEP 85	.030	MGL	ND		ND	ND	ND	ND	
HMX	13 SEP 85	.100	MGL	ND		ND	ND	ND	ND	
TETRYL	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	

Encl 1

RUN DATE: 12 DEC 85

INSTALLATION: SENECA AD, NY SITE: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM
B UPGRADIENT SITE

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

LOCATION: OS GROUNDS

SAMPLE DATE: 12 AUG 87

LABORATORY: CALSON

PARAMETERS: MULTIPLE

Galson
Technical Services, Inc.
6601 Kirkville Road
Post Office Box 546
E. Syracuse, N.Y. 13057
Tel: (315) 432-0506

LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT Job Number: L7018
Task Numbers: 87081405 AND 87081912
Location: AMMUNITION GROUNDS Date Sampled: 12-AUG-1987

PO Number: DAAC71-87M-2301

Lab ID:	E20968	E20969	E20970	E20971	E20972	E21339
Client ID:	SEAD PT 12	SEAD PT 14	SEAD NORTH WELL C. PUMP	SEAD SOUTH WELL C. FAUCET	SEAD BARN WELL	SEAD PT 15
TOTAL ORGANIC HALOGENS	2.08	0.286	0.010	<0.01	0.027	<0.01

Method(s):
Footnotes:

(<) - Less Than
(>) - Greater Than
NA - Not Applicable
ND - Not detectable
NS - Not specified
MG - Milligrams
L - Liters
M^3 - Cubic Meter
MG/M^3 - Milligrams Per Cubic Meter
PPM - Parts Per Million
μg - Micrograms
NG - Nanograms

Submitted by: ELI
Approved by:
Date: 28-AUG-1987

Galson
Technical Services, Inc.
6601 Kirkville Road
Post Office Box 546
E. Syracuse, N.Y. 13057
Tel: (315) 432-0506

Environmental Sciences
Division

September 1, 1987

Mr. Randy Battaglia
Seneca Army Depot
Bldg. 323 - Mat. Mgt. Br.
Romulus, NY 14541-5001

RE: GTS #L7018

Dear Mr. Battaglia:

Enclosed are the results of the analyses of the water samples we received on August 13, 1987, and August 19, 1987, for EPA Method 624 and TOX. One of the TOX bottles arrived broken on August 13, 1987, and the replacement sample was received on August 19, 1987.

Two of the samples contained trichloroethene. All the other 624 compounds were non-detectable. The field blank was contaminated with hexane, cyclohexane and trace amounts of chloroform and methylene chloride.

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

Sincerely,

GALSON TECHNICAL SERVICES, INC.

Eva Galson, CIH
Laboratory Director

EG/mb

Enclosure

Galson
Technical Services, Inc.
6601 Kirkville Road
Post Office Box 546
E. Syracuse, N.Y. 13057
Tel: (315) 432-0506

LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT Job Number: L7018
Task Numbers: 87081405 AND 87081912
Location: AMMUNITION GROUNDS Date Sampled: 12-AUG-1987

PO Number: DAAC71-87M-2301

PURGEABLES METHOD 624

		Lab ID:	E20967	E20961	E20962	E20963	
		Client ID:	*FIELD BLANK	A+B SEAD PT-12	A+B SEAD PT-14	A+B SEAD PT-15	LOQ
Benzene	UG/L		ND	ND	ND	ND	5
Bromomethane	UG/L		ND	ND	ND	ND	5
Bromodichloromethane	UG/L		ND	ND	ND	ND	5
Bromoform	UG/L		ND	ND	ND	ND	5
Carbon Tetrachloride	UG/L		ND	ND	ND	ND	5
Chlorobenzene	UG/L		ND	ND	ND	ND	5
Chloroethane	UG/L		ND	ND	ND	ND	5
2-Chloroethylvinyl Ether	UG/L		ND	ND	ND	ND	5
Chloroform	UG/L		<5	ND	ND	ND	5
Chloromethane	UG/L		ND	ND	ND	ND	5
Dibromochloromethane	UG/L		ND	ND	ND	ND	5
1,3-Dichlorobenzene	UG/L		ND	ND	ND	ND	5
1,2-Dichlorobenzene	UG/L		ND	ND	ND	ND	5
1,4-Dichlorobenzene	UG/L		ND	ND	ND	ND	5
1,1-Dichloroethane	UG/L		ND	ND	ND	ND	5
1,2-Dichloeoethane	UG/L		ND	ND	ND	ND	5
1,1-Dichloroethene	UG/L		ND	ND	ND	ND	5
trans-1,2-Dichloroethene	UG/L		ND	ND	ND	ND	5
1,2-Dichloropropane	UG/L		ND	ND	ND	ND	5
cis-1,3-Dichloropropene	UG/L		ND	ND	ND	ND	5
trans-1,3-Dichloropropene	UG/L		ND	ND	ND	ND	5
Ethylbenzene	UG/L		ND	ND	ND	ND	5
Methylene Chloride	UG/L		<5	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	UG/L		ND	ND	ND	ND	5
Tetrachloroethene	UG/L		ND	ND	ND	ND	5
1,1,1-Trichloroethane	UG/L		ND	ND	ND	ND	5
1,1,2-Trichloroethane	UG/L		ND	ND	ND	ND	5
Trichloroethene	UG/L		ND	1700	317	ND	5
Trichlorofluoromethane	UG/L		ND	ND	ND	ND	5
Toluene	UG/L		ND	ND	ND	ND	5
Vinyl Chloride	UG/L		ND	ND	ND	ND	5

Method(s): EPA 624
Footnotes: * HEXANE, CYCLOHEXANE PRESENT

Submitted by: ELI
Approved by:
Date: 28-AUG-1987

(<) - Less Than
(>) - Greater Than
NA - Not Applicable
ND - Not detectable
NS - Not specified
MG - Milligrams
L - Liters
PPM - Parts Per Million
µg - Micrograms
LOQ - Limit of Quantitation

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT Job Number: L7018
Task Numbers: 87081405 AND 87081912
Location: AMMUNITION GROUNDS Date Sampled: 12-AUG-1987

PO Number: DAAC71-87M-2301

PURGEABLES METHOD 624

	Lab ID:	E20964	E20965	E20966	
	Client ID:	A+B NORTH WELL + C. PUMP	A+B BARN WELL SEAD	A+B SOUTH WELL C. FAUCET	LOQ
Benzene	UG/L	ND	ND	ND	5
Bromomethane	UG/L	ND	ND	ND	5
Bromodichloromethane	UG/L	ND	ND	ND	5
Bromoform	UG/L	ND	ND	ND	5
Carbon Tetrachloride	UG/L	ND	ND	ND	5
Chlorobenzene	UG/L	ND	ND	ND	5
Chloroethane	UG/L	ND	ND	ND	5
2-Chloroethylvinyl Ether	UG/L	ND	ND	ND	5
Chloroform	UG/L	ND	ND	ND	5
Chloromethane	UG/L	ND	ND	ND	5
Dibromochloromethane	UG/L	ND	ND	ND	5
1,3-Dichlorobenzene	UG/L	ND	ND	ND	5
1,2-Dichlorobenzene	UG/L	ND	ND	ND	5
1,4-Dichlorobenzene	UG/L	ND	ND	ND	5
1,1-Dichloroethane	UG/L	ND	ND	ND	5
1,2-Dichloecethane	UG/L	ND	ND	ND	5
1,1-Dichloroethene	UG/L	ND	ND	ND	5
trans-1,2-Dichloroethene	UG/L	ND	ND	ND	5
1,2-Dichloropropane	UG/L	ND	ND	ND	5
cis-1,3-Dichloropropene	UG/L	ND	ND	ND	5
trans-1,3-Dichloropropene	UG/L	ND	ND	ND	5
Ethylbenzene	UG/L	ND	ND	ND	5
Methylene Chloride	UG/L	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	UG/L	ND	ND	ND	5
Tetrachloroethene	UG/L	ND	ND	ND	5
1,1,1-Trichloroethane	UG/L	ND	ND	ND	5
1,1,2-Trichloroethane	UG/L	ND	ND	ND	5
Trichloroethene	UG/L	ND	ND	ND	5
Trichlorofluoromethane	UG/L	ND	ND	ND	5
Toluene	UG/L	ND	ND	ND	5
Vinyl Chloride	UG/L	ND	ND	ND	5

Method(s): EPA 624
Footnotes:

Submitted by: ELI
Approved by:
Date: 28-AUG-1987

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Environmental Sciences
Division

September 1, 1987

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RE: GTS #L7018

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Sincerely,

GALSON TECHNICAL SERVICES, INC.

Eva Galson, CIH
Laboratory Director

EG/mb

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PURGEABLES METHOD 624

		Lab ID:	E20967	E20961	E20962	E20963	
		Client ID:	*FIELD BLANK	A+B SEAD PT-12	A+B SEAD PT-14	A+B SEAD PT-15	LOQ
Benzene	UG/L		ND	ND	ND	ND	5
Bromomethane	UG/L		ND	ND	ND	ND	5
Bromodichloromethane	UG/L		ND	ND	ND	ND	5
Bromoform	UG/L		ND	ND	ND	ND	5
Carbon Tetrachloride	UG/L		ND	ND	ND	ND	5
Chlorobenzene	UG/L		ND	ND	ND	ND	5
Chloroethane	UG/L		ND	ND	ND	ND	5
2-Chloroethylvinyl Ether	UG/L		ND	ND	ND	ND	5
Chloroform	UG/L		<5	ND	ND	ND	5
Chloromethane	UG/L		ND	ND	ND	ND	5
Dibromochloromethane	UG/L		ND	ND	ND	ND	5
1,3-Dichlorobenzene	UG/L		ND	ND	ND	ND	5
1,2-Dichlorobenzene	UG/L		ND	ND	ND	ND	5
1,4-Dichlorobenzene	UG/L		ND	ND	ND	ND	5
1,1-Dichloroethane	UG/L		ND	ND	ND	ND	5
1,2-Dichloeoethane	UG/L		ND	ND	ND	ND	5
1,1-Dichloroethene	UG/L		ND	ND	ND	ND	5
trans-1,2-Dichloroethene	UG/L		ND	ND	ND	ND	5
1,2-Dichloropropane	UG/L		ND	ND	ND	ND	5
cis-1,3-Dichloropropene	UG/L		ND	ND	ND	ND	5
trans-1,3-Dichloropropene	UG/L		ND	ND	ND	ND	5
Ethylbenzene	UG/L		ND	ND	ND	ND	5
Methylene Chloride	UG/L		<5	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	UG/L		ND	ND	ND	ND	5
Tetrachloroethene	UG/L		ND	ND	ND	ND	5
1,1,1-Trichloroethane	UG/L		ND	ND	ND	ND	5
1,1,2-Trichloroethane	UG/L		ND	ND	ND	ND	5
Trichloroethene	UG/L		ND	1700	317	ND	5
Trichlorofluoromethane	UG/L		ND	ND	ND	ND	5
Toluene	UG/L		ND	ND	ND	ND	5
Vinyl Chloride	UG/L		ND	ND	ND	ND	5

Method(s): EPA 624
Footnotes: * HEXANE, CYCLOHEXANE PRESENT

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LOQ - Limit of Quantitation

Submitted by: ELI
Approved by:
Date: 28-AUG-1987

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LABORATORY ANALYSIS REPORT

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PURGEABLES METHOD 624

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	Client ID:	A+B NORTH WELL + C. PUMP	A+B BARN WELL SEAD	A+B SOUTH WELL C. FAUCET	LOQ
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Bromomethane	UG/L	ND	ND	ND	5
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Bromoform	UG/L	ND	ND	ND	5
Carbon Tetrachloride	UG/L	ND	ND	ND	5
Chlorobenzene	UG/L	ND	ND	ND	5
Chloroethane	UG/L	ND	ND	ND	5
2-Chloroethylvinyl Ether	UG/L	ND	ND	ND	5
Chloroform	UG/L	ND	ND	ND	5
Chloromethane	UG/L	ND	ND	ND	5
Dibromochloromethane	UG/L	ND	ND	ND	5
1,3-Dichlorobenzene	UG/L	ND	ND	ND	5
1,2-Dichlorobenzene	UG/L	ND	ND	ND	5
1,4-Dichlorobenzene	UG/L	ND	ND	ND	5
1,1-Dichloroethane	UG/L	ND	ND	ND	5
1,2-Dichloecethane	UG/L	ND	ND	ND	5
1,1-Dichloroethene	UG/L	ND	ND	ND	5
trans-1,2-Dichloroethene	UG/L	ND	ND	ND	5
1,2-Dichloropropane	UG/L	ND	ND	ND	5
cis-1,3-Dichloropropene	UG/L	ND	ND	ND	5
trans-1,3-Dichloropropene	UG/L	ND	ND	ND	5
Ethylbenzene	UG/L	ND	ND	ND	5
Methylene Chloride	UG/L	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	UG/L	ND	ND	ND	5
Tetrachloroethene	UG/L	ND	ND	ND	5
1,1,1-Trichloroethane	UG/L	ND	ND	ND	5
1,1,2-Trichloroethane	UG/L	ND	ND	ND	5
Trichloroethene	UG/L	ND	ND	ND	5
Trichlorofluoromethane	UG/L	ND	ND	ND	5
Toluene	UG/L	ND	ND	ND	5
Vinyl Chloride	UG/L	ND	ND	ND	5

Method(s): EPA 624
Footnotes:

Submitted by: ELI
Approved by:
Date: 28-AUG-1987

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT Job Number: L7018
Task Numbers: 87081405 AND 87081912
Location: AMMUNITION GROUNDS Date Sampled: 12-AUG-1987

PO Number: DAAC71-87M-2301

Lab ID:	E20968	E20969	E20970	E20971	E20972	E21339
Client ID:	SEAD PT 12	SEAD PT 14	SEAD NORTH WELL C. PUMP	SEAD SOUTH WELL C. FAUCET	SEAD BARN WELL	SEAD PT 15
TOTAL ORGANIC HALOGENS	2.08	0.286	0.010	<0.01	0.027	<0.01

Method(s):
Footnotes:

Submitted by: ELI
Approved by:
Date: 28-AUG-1987

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MG - Milligrams
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M^3 - Cubic Meter
MG/M^3 - Milligrams Per Cubic Meter
PPM - Parts Per Million
μg - Micrograms
NG - Nanograms

LOCATION: OB GROUNDS

SAMPLE DATE: 19 AUG 87

LABORATORY: AEHA?

PARAMETERS: MULTIPLE

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER LEVELS (A)	04 JAN 82		FT	118.5	109.7	110.8	111.3	105.3	95.4	98.4
LEVELS (A)	13 APR 82		FT	118.2	109.4	110.9	111.6	105.4	94.7	103.3
LEVELS (A)	28 JUN 82		FT	116.3	108.2	108.7	108.2	102.6	93.4	99.9
LEVELS (A)	27 SEP 82		FT	112.9	107.2	105.2	108.6	99.7	92.6	
LEVELS (A)	07 FEB 83		FT	118.2	109.8	110.5	110.9	105.2	94.6	103.0
LEVELS (A)	08 AUG 83		FT	112.9	106.1	105.0		99.9	92.3	
LEVELS (A)	14 FEB 84		FT	118.3	108.9	109.7	109.3	105.5	94.9	103.1
LEVELS (A)	26 JUN 84		FT	109.4		109.6	109.3	104.6	94.8	99.3
LEVELS (A)	27 JUN 84		FT		109.0					
LEVELS (A)	17 SEP 84		FT	115.8	107.9	108.6	109.3	103.6	93.7	100.7
LEVELS (A)	19 MAR 85		FT	D	110.2	110.3	110.5	105.3	93.7	103.6
LEVELS (A)	12 SEP 85		FT	113.1		104.3	106.3	99.4	92.3	
LEVELS (A)	17 MAR 86		FT	118.5	110.8	110.0	112.9	105.5	95.7	104.0
LEVELS (A)	16 SEP 86		FT	115.7	108.3	107.7	107.5	102.5	93.1	99.8
LEVELS (A)	16 MAR 87		FT	118.5	109.8	111.0	110.5	104.9	94.1	102.8

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
ARSENIC	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
ARSENIC	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
ARSENIC	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
ARSENIC	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
BARIUM	05 JAN 82	.10	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	13 APR 82	.10	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	29 JUN 82	.10	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	28 SEP 82	.10	MGL	ND		ND	ND	ND	ND	
CADMIUM	05 JAN 82	5.000	UGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	13 APR 82	5.000	UGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	29 JUN 82	5.000	UGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	28 SEP 82	5.000	UGL	ND		ND	ND	ND	ND	
CHROMIUM	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
FLUORIDE	05 JAN 82	.1	MGL	.3	.2	.3	.1	.2	.1	.3
FLUORIDE	13 APR 82	.1	MGL	.3	.2	.2	.2	.2	.1	.2
FLUORIDE	29 JUN 82	.1	MGL	.4	.2	.2	.2	.2	.2	.3
FLUORIDE	28 SEP 82	.1	MGL	.3	.2	.2	.2	.2	.2	
LEAD	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
LEAD	13 APR 82	.010	MGL	ND	ND	ND	NO	ND	ND	ND
LEAD	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
LEAD	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
MERCURY	05 JAN 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	13 APR 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	29 JUN 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	28 SEP 82	.2	UGL	ND	ND	ND	ND	NO	ND	
NO2+NO3 AS N	05 JAN 82	.05	MGL	6.70	.71	1.20	1.60	.08	ND	.22
NO2+NO3 AS N	13 APR 82	.05	MGL	5.00	.49	1.00	1.00	.13	ND	.38
NO2+NO3 AS N	29 JUN 82	.05	MGL	6.00	.52	2.00	2.00	.06	ND	.30
NO2+NO3 AS N	28 SEP 82	.05	MGL	10.00	.12	3.00	2.00	.08	ND	
SELENIUM	05 JAN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SELENIUM	13 APR 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SELENIUM	29 JUN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SELENIUM	28 SEP 82	.005	MGL	ND		ND	ND	ND	ND	
SILVER	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
ENDRIN	05 JAN 82	.04	UGL	ND	ND	ND	ND	ND	ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
ENDRIN	13 APR 82	40.00	UGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	29 JUN 82	.04	UGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	28 SEP 82	.04	UGL	ND		ND	ND	ND	ND	
LINDANE	05 JAN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	13 APR 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	29 JUN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	28 SEP 82	.08	UGL	ND		ND	ND	ND	ND	
TOXAPHENE	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	29 JUN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
METHOXYCHLOR	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	29 JUN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
2,4-D	05 JAN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	13 APR 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	29 JUN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	28 SEP 82	3.8	UGL	ND		ND	ND	ND	ND	
SILVEX	05 JAN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	13 APR 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	29 JUN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	28 SEP 82	.5	UGL	ND		ND	ND	ND	ND	
GROSS ALPHA	05 JAN 82	4.61	PCL	ND	ND	ND	ND	ND	4.14	ND
GROSS ALPHA	13 APR 82	3.37	PCL	3.33	ND	2.63	2.30	3.64	3.39	ND
GROSS ALPHA	29 JUN 82	6.49	PCL	4.81	4.26	5.99	ND	12.60	9.04	3.87
GROSS ALPHA	28 SEP 82	5.20	PCL	ND		ND	ND	ND		
RADIUM-226	28 JUN 82	.24	PCL			ND	.27	ND	ND	
RADIUM-226	28 SEP 82	.18	PCL	ND						
GROSS BETA	05 JAN 82	1.52	PCL	2.02	3.01	2.06	2.31	2.91	2.12	ND
GROSS BETA	13 APR 82	1.64	PCL	ND	1.60	ND	2.05	2.08	ND	ND
GROSS BETA	29 JUN 82	1.86	PCL	1.59	3.34	ND	1.62	1.96	1.99	ND
GROSS BETA	28 SEP 82	1.76	PCL	ND		1.22	1.85	3.14		
CHLORIDE	05 JAN 82	1.0	MGL	4.6	10.0	17.6	7.9	28.5	5.8	3.5
CHLORIDE	13 APR 82	1.0	MGL	4.0	9.0	3.0	7.0	46.0	4.9	2.0
CHLORIDE	29 JUN 82	1.0	MGL	9.0	9.0	11.0	12.0	51.0	10.0	7.0
CHLORIDE	28 SEP 82	1.0	MGL	1.0	ND	ND	3.0	11.2	6.0	
CHLORIDE	08 FEB 83	1.0	MGL	2.0	6.0	7.0	6.0	9.0	3.0	2.0
CHLORIDE	09 AUG 83	1.0	MGL	3.0	5.0	3.0		15.0	4.0	
CHLORIDE	14 FEB 84	2.0	MGL	ND	8.7	20.0	2.3	4.0	ND	ND
CHLORIDE	20 MAR 85	1.0	MGL		6.0	12.0	7.0	15.0	4.0	3.0

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
CHLORIDE	18 MAR 86	1.0	MGL	3.0	5.0	4.0	5.0	6.0	3.0	2.0
CHLORIDE	17 MAR 87	1.0	MGL	2.0	4.0	4.0	6.0	5.0	3.0	1.0
IRON	05 JAN 82	.02	MGL	.13	.15	.27	.15	.19	.10	.14
IRON	13 APR 82	.03	MGL	ND	.08	.09	.10	.10	.02	.10
IRON	29 JUN 82	.03	MGL	ND	.24	.26	.44#	.06	.09	.70#
IRON	28 SEP 82	.02	MGL	.12		.24	.19	.23	.09	
IRON	08 FEB 83	.02	MGL	.13	.10	.15	.09	.07	.06	.08
IRON	09 AUG 83	.02	MGL	.09	.16	.25		.07	.12	
IRON	14 FEB 84	.10	MGL	.15	.11	ND	ND	ND	ND	1.02#
IRON	20 MAR 85	.10	MGL		ND	ND	ND	ND	ND	ND
IRON	18 MAR 86	.03	MGL	ND	ND	.03	ND	ND	ND	ND
IRON	17 MAR 87	.10	MGL	ND	ND	ND	ND	ND	ND	ND
MANGANESE	05 JAN 82	.010	MGL	.270#	.040	.300#	ND	ND	.070#	.090#
MANGANESE	13 APR 82	.010	MGL	.100#	.060#	.040	.020	ND	.050	.030
MANGANESE	29 JUN 82	.001	MGL	.210#	.050	.020	.020	.030	.130#	.010
MANGANESE	28 SEP 82	.010	MGL	ND		ND	ND	.040	.160#	
MANGANESE	08 FEB 83	.010	MGL	.020	.120#	.020	ND	ND	.010	.010
MANGANESE	09 AUG 83	.001	MGL	.120#	.320#	.010		.020	.210#	
MANGANESE	14 FEB 84	.030	MGL	ND	ND	.035	ND	ND	ND	ND
MANGANESE	20 MAR 85	.030	MGL		.085#	.045	ND	ND	.038	ND
MANGANESE	18 MAR 86	.010	MGL	ND	.120#	ND	ND	ND	ND	ND
MANGANESE	17 MAR 87	.030	MGL	.078#	.275#	ND	ND	ND	ND	ND
PHENOL	05 JAN 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	13 APR 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	29 JUN 82	.01	MGL	ND	ND	ND	.01&	ND	ND	ND
PHENOL	28 SEP 82	.01	MGL	.01&	.01&	ND	.02&	ND	.01&	
PHENOL	08 FEB 83	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	09 AUG 83	.01	MGL	ND	ND	ND		ND	ND	
PHENOL	14 FEB 84	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	20 MAR 85	.01	MGL		ND	ND	ND	ND	ND	ND
PHENOL	18 MAR 86	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	17 MAR 87	.01	MGL	ND	ND	ND	ND	ND	ND	ND
SODIUM	05 JAN 82	1.	MGL	15.	28.	20.	15.	14.	22.	12.
SODIUM	13 APR 82	1.	MGL	10.	37.	8.	11.	15.	21.	10.
SODIUM	29 JUN 82	1.	MGL	12.	11.	9.	15.	20.	24.	8.
SODIUM	28 SEP 82	1.	MGL	12.		9.	8.	10.	16.	
SODIUM	08 FEB 83	1.	MGL	21.	37.	11.	12.	8.	15.	7.
SODIUM	09 AUG 83	1.	MGL	16.	36.	11.		9.	15.	
SODIUM	14 FEB 84	1.	MGL	7.	7.	16.	5.	4.	14.	3.
SODIUM	20 MAR 85	1.	MGL		23.	24.	9.	7.	9.	2.
SODIUM	18 MAR 86	1.	MGL	8.	20.	30.	7.	5.	6.	4.

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B						
				W5	W4	W6	W1	W3	W2	W7
SODIUM	17 MAR 87	1.	MGL	8.	30.	14.	11.	6.	9.	4.
SULFATE	05 JAN 82	2.0	MGL	57.5	327.0&	38.8	233.0	147.0	225.0	77.0
SULFATE	13 APR 82	2.0	MGL	110.0	330.0&	100.0	220.0	210.0	263.0&	84.0
SULFATE	29 JUN 82	2.0	MGL	110.0	150.0	100.0	260.0&	220.0	293.0&	70.0
SULFATE	28 SEP 82	2.0	MGL	130.0	81.0	88.0	180.0	194.0	280.0&	
SULFATE	08 FEB 83	2.0	MGL	93.0	600.0&	110.0	210.0	180.0	200.0	74.0
SULFATE	09 AUG 83	2.0	MGL	129.0	333.0&	106.0		215.0	203.0	
SULFATE	14 FEB 84	2.0	MGL	51.0	117.0	130.0	119.0	148.0	108.0	7.3
SULFATE	20 MAR 85	2.0	MGL		306.0&	231.0	231.0	194.0	180.0	47.0
SULFATE	18 MAR 86	2.0	MGL	77.0	283.0&	63.0	248.0	148.0	117.0	57.0
SULFATE	17 MAR 87	2.0	MGL	24.0	255.0&	67.0	160.0	56.0	6.0	27.0
COND(FIELD)	20 MAR 85	1.	UMC		680.	440.	540.	550.	490.	270.
COND(FIELD)	18 MAR 86	1.	UMC	415.	650.	315.	460.	440.	340.	240.
COND(FIELD)	18 MAR 86	1.	UMC	415.	645.	320.	460.	440.	335.	240.
COND(FIELD)	18 MAR 86	1.	UMC	415.	650.	315.	460.	450.	335.	240.
COND(FIELD)	18 MAR 86	1.	UMC	415.	645.	310.	460.	445.	335.	235.
COND(FIELD)	17 MAR 87	1.	UMC	380.	700.	400.	500.	445.	450.	310.
COND(FIELD)	17 MAR 87	1.	UMC	375.	705.	400.	495.	440.	445.	315.
COND(FIELD)	17 MAR 87	1.	UMC	370.	700.	405.	500.	445.	450.	315.
COND(FIELD)	17 MAR 87	1.	UMC	375.	695.	405.	500.	440.	440.	315.
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	
PH(FIELD)	14 FEB 84		PH	7.3	6.8	7.2	7.3	7.4	7.4	7.5
PH(FIELD)	14 FEB 84		PH	7.3	6.9	7.2	7.3	7.4	7.5	7.5
PH(FIELD)	14 FEB 84		PH	7.4	6.8	7.3	7.3	7.4	7.4	7.6
PH(FIELD)	14 FEB 84		PH	7.3	6.9	7.3	7.3	7.5	7.4	7.6
PH(FIELD)	27 JUN 84		PH	7.0	6.8	7.1	7.1	7.0	7.1	7.1
PH(FIELD)	18 SEP 84		PH	8.4	7.5	7.6	7.6	7.5	7.1	7.6
PH(FIELD)	18 SEP 84		PH	8.3	7.6	7.5	7.7	7.4	7.1	7.5
PH(FIELD)	18 SEP 84		PH	8.4	7.6	7.5	7.7	7.4	7.1	7.5
PH(FIELD)	18 SEP 84		PH	8.3	7.5	7.6	7.6	7.4	7.2	7.5
PH(FIELD)	20 MAR 85		PH		6.8	6.9	6.7	6.8	7.0	7.0
PH(FIELD)	13 SEP 85		PH	7.1		7.1	7.1	7.1	7.0	
PH(FIELD)	18 MAR 86		PH	7.1	6.8	7.4	7.2	7.0	7.2	7.3
PH(FIELD)	18 MAR 86		PH	7.1	6.9	7.4	7.3	7.1	7.3	7.3
PH(FIELD)	18 MAR 86		PH	7.1	6.8	7.4	7.2	7.0	7.3	7.3
PH(FIELD)	18 MAR 86		PH	7.1	6.8	7.4	7.1	7.0	7.2	7.3
PH(FIELD)	16 SEP 86		PH	7.1	7.0	7.4	6.9	7.0	7.0	7.2
PH(FIELD)	17 MAR 87		PH	6.9	7.3	7.4	6.9	7.2	7.1	6.9
PH(FIELD)	17 MAR 87		PH	7.0	7.2	7.4	6.8	7.1	7.0	7.0
PH(FIELD)	17 MAR 87		PH	6.8	7.1	7.5	6.9	7.1	6.9	6.8
PH(FIELD)	17 MAR 87		PH	6.9	7.2	7.4	6.9	7.1	6.9	6.9
PH(LAB)	14 FEB 84		PH	7.9	7.7	7.8	7.7	7.8	7.9	7.5
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	860.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1120.	722.	850.	860.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	920.	640.
SPEC COND	13 APR 82	1.	UMC	719.	1300.	699.	810.	1000.	975.	639.
SPEC COND	13 APR 82	1.	UMC	718.	1302.	699.	810.	1000.	972.	639.
SPEC COND	13 APR 82	1.	UMC	719.	1301.	699.	810.	1000.	974.	640.
SPEC COND	13 APR 82	1.	UMC	720.	1300.	699.	810.	1000.	973.	638.
SPEC COND	29 JUN 82	1.	UMC	620.	590.	580.	750.	1040.	890.	490.
SPEC COND	29 JUN 82	1.	UMC	620.	590.	580.	760.	1030.	890.	490.
SPEC COND	29 JUN 82	1.	UMC	620.	600.	585.	760.	1030.	890.	490.
SPEC COND	29 JUN 82	1.	UMC	620.	600.	580.	750.	1030.	890.	490.
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	925.	980.	
SPEC COND	28 SEP 82	1.	UMC	790.		665.	700.	920.	980.	
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	920.	980.	
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	920.	980.	
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	685.	760.	680.	755.	605.

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	690.	755.	680.	755.	605.
SPEC COND	08 FEB 83	1.	UMC	585.	1160.	680.	755.	680.	760.	600.
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	685.	760.	685.	760.	600.
SPEC COND	09 AUG 83	1.	UMC	900.	1190.	1020.		1050.	930.	
SPEC COND	09 AUG 83	1.	UMC	890.	1200.	1020.		1050.	940.	
SPEC COND	09 AUG 83	1.	UMC	890.	1190.	1020.		1040.	940.	
SPEC COND	09 AUG 83	1.	UMC	900.	1200.	1020.		1040.	940.	
SPEC COND	14 FEB 84	1.	UMC	360.	430.	620.	400.	500.	570.	88.
SPEC COND	14 FEB 84	1.	UMC	360.	420.	620.	410.	510.	580.	87.
SPEC COND	14 FEB 84	1.	UMC	360.	430.	620.	400.	510.	580.	88.
SPEC COND	14 FEB 84	1.	UMC	360.	430.	630.	400.	510.	570.	88.
SPEC COND	18 SEP 84	1.	UMC	710.	1000.	620.	670.	760.	860.	500.
SPEC COND	18 SEP 84	1.	UMC	720.	990.	620.	680.	760.	860.	500.
SPEC COND	18 SEP 84	1.	UMC	720.	1000.	620.	680.	760.	860.	490.
SPEC COND	18 SEP 84	1.	UMC	720.	1000.	620.	680.	760.	860.	510.
SPEC COND	20 MAR 85	1.	UMC		990.	700.	750.	760.	750.	390.
SPEC COND	20 MAR 85	1.	UMC		1000.	700.	750.	760.	740.	400.
SPEC COND	20 MAR 85	1.	UMC		1000.	700.	750.	760.	740.	390.
SPEC COND	20 MAR 85	1.	UMC		990.	700.	760.	760.	740.	390.
SPEC COND	13 SEP 85	1.	UMC	720.		610.	880.	830.	840.	
SPEC COND	13 SEP 85	1.	UMC	720.		600.	880.	840.	840.	
SPEC COND	13 SEP 85	1.	UMC	730.		600.	870.	840.	840.	
SPEC COND	13 SEP 85	1.	UMC	730.		600.	880.	830.	830.	
SPEC COND	18 MAR 86	1.	UMC	590.	960.	490.	670.	620.	520.	3600.
SPEC COND	18 MAR 86	1.	UMC	590.	960.	500.	660.	620.	520.	3600.
SPEC COND	18 MAR 86	1.	UMC	590.	950.	500.	670.	620.	520.	3600.
SPEC COND	18 MAR 86	1.	UMC	590.	950.	490.	660.	610.	520.	3600.
SPEC COND	16 SEP 86	1.	UMC	710.	1160.	690.	870.	950.	820.	600.
SPEC COND	16 SEP 86	1.	UMC	720.	1150.	690.	880.	950.	810.	600.
SPEC COND	16 SEP 86	1.	UMC	710.	1150.	690.	880.	950.	820.	600.
SPEC COND	16 SEP 86	1.	UMC	720.	1160.	690.	880.	960.	820.	610.
SPEC COND	17 MAR 87	1.	UMC	640.	990.	670.	820.	710.	730.	530.
SPEC COND	17 MAR 87	1.	UMC	630.	1000.	680.	810.	710.	730.	530.
SPEC COND	17 MAR 87	1.	UMC	630.	1000.	680.	820.	720.	730.	530.
SPEC COND	17 MAR 87	1.	UMC	640.	1000.	690.	820.	710.	740.	530.
TOC	05 JAN 82	.1	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	.1	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	.1	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	.1	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	13 APR 82	.1	MGL	39.0	54.0	40.0	37.0	48.0	44.0	40.0
TOC	13 APR 82	.1	MGL	39.0	54.0	40.0	37.0	47.0	44.0	40.0

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
TOC	13 APR 82	.1	MGL	40.0	54.0	42.0	37.0	47.0	44.0	40.0
TOC	13 APR 82	.1	MGL	39.0	55.0	43.0	37.0	48.0	44.0	40.0
TOC	29 JUN 82	.1	MGL	43.0	30.0	43.0	42.0	53.0	42.0	38.0
TOC	29 JUN 82	.1	MGL	42.0	30.0	41.0	40.0	53.0	42.0	39.0
TOC	29 JUN 82	.1	MGL	42.0	30.0	43.0	40.0	54.0	41.0	40.0
TOC	29 JUN 82	.1	MGL	42.0	30.0	43.0	42.0	54.0	43.0	38.0
TOC	28 SEP 82	.1	MGL	37.0	28.0	39.0	21.0	44.0	4.0	
TOC	28 SEP 82	.1	MGL	38.0	29.0	39.0	23.0	43.0	4.0	
TOC	28 SEP 82	.1	MGL	37.0	27.0	39.0	22.0	43.0	4.0	
TOC	28 SEP 82	.1	MGL	38.0	28.0	39.0	22.0	43.0	4.0	
TOC	08 FEB 83	.1	MGL	23.0	32.0	26.0	22.0	27.0	25.0	26.0
TOC	08 FEB 83	.1	MGL	23.0	33.0	27.0	22.0	26.0	25.0	26.0
TOC	08 FEB 83	.1	MGL	24.0	32.0	27.0	22.0	27.0	25.0	26.0
TOC	08 FEB 83	.1	MGL	23.0	33.0	27.0	22.0	27.0	25.0	26.0
TOC	09 AUG 83	.1	MGL	53.0	47.0	46.0		74.0	23.0	
TOC	09 AUG 83	.1	MGL	53.0	47.0	47.0		74.0	22.0	
TOC	09 AUG 83	.1	MGL	54.0	46.0	45.0		74.0	21.0	
TOC	09 AUG 83	.1	MGL	53.0	46.0	46.0		74.0	22.0	
TOC	14 FEB 84	.1	MGL	24.0	35.0	32.0	24.0	29.0	29.0	12.0
TOC	14 FEB 84	.1	MGL	23.0	36.0	33.0	24.0	29.0	29.0	11.0
TOC	14 FEB 84	.1	MGL	23.0	36.0	33.0	24.0	29.0	30.0	11.0
TOC	14 FEB 84	.1	MGL	24.0	35.0	32.0	24.0	29.0	29.0	11.0
TOC	18 SEP 84	.1	MGL	3.0	3.0	3.0	3.0	4.0	3.0	3.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	3.0	3.0	4.0	3.0	4.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	3.0	3.0	4.0	3.0	2.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	3.0	3.0	5.0	4.0	3.0
TOC	20 MAR 85	.1	MGL		5.9	8.8	5.9	6.0	4.1	9.5
TOC	20 MAR 85	.1	MGL		5.7	8.8	6.1	6.0	4.0	9.6
TOC	20 MAR 85	.1	MGL		5.8	8.7	5.8	6.0	4.1	9.4
TOC	20 MAR 85	.1	MGL		5.7	8.8	5.9	6.0	4.1	9.5
TOC	13 SEP 85	.1	MGL	3.4		3.0	2.7	3.3	3.1	
TOC	13 SEP 85	.1	MGL	3.4		2.7	2.5	3.2	3.3	
TOC	13 SEP 85	.1	MGL	3.4		2.8	2.6	3.3	3.1	
TOC	13 SEP 85	.1	MGL	3.4		2.9	2.5	3.3	3.5	
TOC	18 MAR 86	.1	MGL	3.4	3.6	6.3	5.0	5.4	3.5	4.2
TOC	18 MAR 86	.1	MGL	3.4	3.5	6.3	5.0	5.1	3.5	4.2
TOC	18 MAR 86	.1	MGL	3.4	3.5	6.4	5.0	5.1	3.4	4.2
TOC	18 MAR 86	.1	MGL	3.4	3.5	6.2	5.2	5.2	3.6	4.2
TOC	16 SEP 86	.1	MGL	5.1	4.7	5.3	5.2	6.2	4.7	5.2
TOC	16 SEP 86	.1	MGL	5.0	4.7	5.4	5.4	6.2	4.9	5.1
TOC	16 SEP 86	.1	MGL	5.0	4.8	5.4	5.4	6.3	4.7	5.1

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B						
				W5	W4	W6	W1	W3	W2	W7
TOC	16 SEP 86	.1	MGL	4.9	4.8	5.5	5.4	6.2	4.8	5.2
TOC	17 MAR 87	.1	MGL	5.0	3.8	3.7	2.3	5.6	4.0	3.6
TOC	17 MAR 87	.1	MGL	5.0	3.7	3.8	2.2	5.5	4.0	3.6
TOC	17 MAR 87	.1	MGL	4.9	3.6	3.7	2.2	5.5	3.9	3.5
TOC	17 MAR 87	.1	MGL	5.0	3.7	3.8	2.1	5.6	4.0	3.5
TOX	05 JAN 82	.010	MGL	ND	.060	.033	.016	.063	.048	.021
TOX	05 JAN 82	.010	MGL	ND	.050	.025	ND	.038	.059	.039
TOX	05 JAN 82	.010	MGL	ND	.050	.014	.019	.048	.016	.034
TOX	05 JAN 82	.010	MGL	.016	.052	.013	.016	.046	.056	.020
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	.014
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	.012	ND	.011	ND	.010
TOX	29 JUN 82	.010	MGL	ND	ND	ND	.017	.063	.068	.026
TOX	29 JUN 82	.010	MGL	.064	ND	ND	.076	ND	.039	.028
TOX	29 JUN 82	.010	MGL	.098	ND	.015	.070	.051	.026	.031
TOX	29 JUN 82	.010	MGL	.045	ND	ND	.066	ND	.082	.020
TOX	28 SEP 82	.010	MGL	.041		.130	.067	.096		
TOX	28 SEP 82	.010	MGL	ND		.080	ND	.069		
TOX	28 SEP 82	.010	MGL	ND		.095	.077	ND		
TOX	28 SEP 82	.010	MGL	ND		.095	.040	.062		
TOX	08 FEB 83	.010	MGL	.043	.030	.040	.039	.046	.017	.030
TOX	08 FEB 83	.010	MGL	.042	.047	.047	.028	.046	.033	.038
TOX	08 FEB 83	.010	MGL	.042	.041	.040	.044	.031	.039	.047
TOX	08 FEB 83	.010	MGL	.036	.041	.043	.041	.056	.038	.036
TOX	09 AUG 83	.010	MGL	.041	.040	.041		ND	ND	
TOX	09 AUG 83	.010	MGL	.036	.041	.036		ND	ND	
TOX	09 AUG 83	.010	MGL	.042	.038	.039		ND	ND	
TOX	09 AUG 83	.010	MGL	.040	.040	.036		ND	ND	
TOX	14 FEB 84	.010	MGL	.070	.064	ND	.037	.055	.064	ND
TOX	14 FEB 84	.010	MGL	.060	.074	ND	.035	.055	.030	.014
TOX	14 FEB 84	.010	MGL	.077	.041	ND	.036	.049	.044	.014
TOX	14 FEB 84	.010	MGL	.032	.062	ND	.039	.064	.041	.012
TOX	18 SEP 84	.010	MGL	.022	.016	ND	.015	.013	ND	.027
TOX	18 SEP 84	.010	MGL	.022	.018	.011	.025	.012	ND	.034
TOX	18 SEP 84	.010	MGL	.020	.016	ND	.013	ND	ND	.045
TOX	18 SEP 84	.010	MGL	.021	.026	.012	.013		ND	.045
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.012
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.013
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.014
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.014

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B						
				W5	W4	W6	W1	W3	W2	W7
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	18 MAR 86	.010	MGL	ND	ND	.010	ND	ND	ND	ND
TOX	18 MAR 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	18 MAR 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	18 MAR 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TDS	29 JUN 82	1.	MGL	465.	431.	406.	672.#	704.#	698.#	382.
2,4,6-TNT	27 JUN 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	18 SEP 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	20 MAR 85	.001	MGL		ND	ND	ND	ND	ND	ND
2,4,6-TNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,4,6-TNT	18 MAR 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	16 SEP 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	17 MAR 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	27 JUN 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	18 SEP 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	20 MAR 85	.001	MGL		ND	ND	ND	ND	ND	ND
2,4-DNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,4-DNT	18 MAR 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	16 SEP 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	17 MAR 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	27 JUN 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	18 SEP 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	20 MAR 85	.001	MGL		ND	ND	ND	ND	ND	ND
2,6-DNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,6-DNT	18 MAR 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	16 SEP 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	17 MAR 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	27 JUN 84	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	18 SEP 84	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	20 MAR 85	.030	MGL		ND	ND	ND	ND	ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

file 6th Mtg 1987

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER LEVELS (A)	04 JAN 82		FT	118.5	109.7	110.8	111.3	105.3	95.4	98.4
LEVELS (A)	13 APR 82		FT	118.2	109.4	110.9	111.6	105.4	94.7	103.3
LEVELS (A)	28 JUN 82		FT	116.3	108.2	108.7	108.2	102.6	93.4	99.9
LEVELS (A)	27 SEP 82		FT	112.9	107.2	105.2	108.6	99.7	92.6	
LEVELS (A)	07 FEB 83		FT	118.2	109.8	110.5	110.9	105.2	94.6	103.0
LEVELS (A)	08 AUG 83		FT	112.9	106.1	105.0		99.9	92.3	
LEVELS (A)	14 FEB 84		FT	118.3	108.9	109.7	109.3	105.5	94.9	103.1
LEVELS (A)	26 JUN 84		FT	109.4		109.6	109.3	104.6	94.8	99.3
LEVELS (A)	27 JUN 84		FT		109.0					
LEVELS (A)	17 SEP 84		FT	115.8	107.9	108.6	109.3	103.6	93.7	100.7
LEVELS (A)	19 MAR 85		FT	D	110.2	110.3	110.5	105.3	93.7	103.6
LEVELS (A)	12 SEP 85		FT	113.1		104.3	106.3	99.4	92.3	
LEVELS (A)	17 MAR 86		FT	118.5	110.8	110.0	112.9	105.5	95.7	104.0
LEVELS (A)	16 SEP 86		FT	115.7	108.3	107.7	107.5	102.5	93.1	99.8
LEVELS (A)	16 MAR 87		FT	118.5	109.8	111.0	110.5	104.9	94.1	102.8

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B						
				W5	W4	W6	W1	W3	W2	W7
ARSENIC	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
ARSENIC	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
ARSENIC	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
ARSENIC	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
BARIUM	05 JAN 82	.10	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	13 APR 82	.10	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	29 JUN 82	.10	MGL	ND	ND	ND	ND	ND	ND	ND
BARIUM	28 SEP 82	.10	MGL	ND		ND	ND	ND	ND	
CADMIUM	05 JAN 82	5.000	UGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	13 APR 82	5.000	UGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	29 JUN 82	5.000	UGL	ND	ND	ND	ND	ND	ND	ND
CADMIUM	28 SEP 82	5.000	UGL	ND		ND	ND	ND	ND	
CHROMIUM	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
CHROMIUM	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
FLUORIDE	05 JAN 82	.1	MGL	.3	.2	.3	.1	.2	.1	.3
FLUORIDE	13 APR 82	.1	MGL	.3	.2	.2	.2	.2	.1	.2
FLUORIDE	29 JUN 82	.1	MGL	.4	.2	.2	.2	.2	.2	.3
FLUORIDE	28 SEP 82	.1	MGL	.3	.2	.2	.2	.2	.2	
LEAD	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
LEAD	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
LEAD	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
LEAD	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
MERCURY	05 JAN 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	13 APR 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	29 JUN 82	.2	UGL	ND	ND	ND	ND	ND	ND	ND
MERCURY	28 SEP 82	.2	UGL	ND	ND	ND	ND	ND	ND	
NO2+NO3 AS N	05 JAN 82	.05	MGL	6.70	.71	1.20	1.60	.08	ND	.22
NO2+NO3 AS N	13 APR 82	.05	MGL	5.00	.49	1.00	1.00	.13	ND	.38
NO2+NO3 AS N	29 JUN 82	.05	MGL	6.00	.52	2.00	2.00	.06	ND	.30
NO2+NO3 AS N	28 SEP 82	.05	MGL	10.00	.12	3.00	2.00	.08	ND	
SELENIUM	05 JAN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SELENIUM	13 APR 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SELENIUM	29 JUN 82	.005	MGL	ND	ND	ND	ND	ND	ND	ND
SELENIUM	28 SEP 82	.005	MGL	ND		ND	ND	ND	ND	
SILVER	05 JAN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	29 JUN 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
SILVER	28 SEP 82	.010	MGL	ND		ND	ND	ND	ND	
ENDRIN	05 JAN 82	.04	UGL	ND	ND	ND	ND	ND	ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
ENDRIN	13 APR 82	40.00	UGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	29 JUN 82	.04	UGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	28 SEP 82	.04	UGL	ND		ND	ND	ND	ND	
LINDANE	05 JAN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	13 APR 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	29 JUN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	28 SEP 82	.08	UGL	ND		ND	ND	ND	ND	
TOXAPHENE	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	29 JUN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
METHOXYCHLOR	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	29 JUN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
2,4-D	05 JAN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	13 APR 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	29 JUN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	28 SEP 82	3.8	UGL	ND		ND	ND	ND	ND	
SILVEX	05 JAN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	13 APR 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	29 JUN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	28 SEP 82	.5	UGL	ND		ND	ND	ND	ND	
GROSS ALPHA	05 JAN 82	4.61	PCL	ND	ND	ND	ND	ND	4.14	ND
GROSS ALPHA	13 APR 82	3.37	PCL	3.33	ND	2.63	2.30	3.64	3.39	ND
GROSS ALPHA	29 JUN 82	6.49	PCL	4.81	4.26	5.99	ND	12.60	9.04	3.87
GROSS ALPHA	28 SEP 82	5.20	PCL	ND		ND	ND	ND		
RADIUM-226	28 JUN 82	.24	PCL			ND	.27	ND	ND	
RADIUM-226	28 SEP 82	.18	PCL	ND						
GROSS BETA	05 JAN 82	1.52	PCL	2.02	3.01	2.06	2.31	2.91	2.12	ND
GROSS BETA	13 APR 82	1.64	PCL	ND	1.60	ND	2.05	2.08	ND	ND
GROSS BETA	29 JUN 82	1.86	PCL	1.59	3.34	ND	1.62	1.96	1.99	ND
GROSS BETA	28 SEP 82	1.76	PCL	ND		1.22	1.85	3.14		
CHLORIDE	05 JAN 82	1.0	MGL	4.6	10.0	17.6	7.9	28.5	5.8	3.5
CHLORIDE	13 APR 82	1.0	MGL	4.0	9.0	3.0	7.0	46.0	4.9	2.0
CHLORIDE	29 JUN 82	1.0	MGL	9.0	9.0	11.0	12.0	51.0	10.0	7.0
CHLORIDE	28 SEP 82	1.0	MGL	1.0	ND	ND	3.0	11.2	6.0	
CHLORIDE	08 FEB 83	1.0	MGL	2.0	6.0	7.0	6.0	9.0	3.0	2.0
CHLORIDE	09 AUG 83	1.0	MGL	3.0	5.0	3.0		15.0	4.0	
CHLORIDE	14 FEB 84	2.0	MGL	ND	8.7	20.0	2.3	4.0	ND	ND
CHLORIDE	20 MAR 85	1.0	MGL		6.0	12.0	7.0	15.0	4.0	3.0

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
ENDRIN	13 APR 82	40.00	UGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	29 JUN 82	.04	UGL	ND	ND	ND	ND	ND	ND	ND
ENDRIN	28 SEP 82	.04	UGL	ND		ND	ND	ND	ND	
LINDANE	05 JAN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	13 APR 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	29 JUN 82	.08	UGL	ND	ND	ND	ND	ND	ND	ND
LINDANE	28 SEP 82	.08	UGL	ND		ND	ND	ND	ND	
TOXAPHENE	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	29 JUN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
TOXAPHENE	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
METHOXYCHLOR	05 JAN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	13 APR 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHDXYCHLOR	29 JUN 82	1.6	UGL	ND	ND	ND	ND	ND	ND	ND
METHOXYCHLOR	28 SEP 82	1.6	UGL	ND		ND	ND	ND	ND	
2,4-D	05 JAN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	13 APR 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	29 JUN 82	3.8	UGL	ND	ND	ND	ND	ND	ND	ND
2,4-D	28 SEP 82	3.8	UGL	ND		ND	ND	ND	ND	
SILVEX	05 JAN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	13 APR 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	29 JUN 82	.5	UGL	ND	ND	ND	ND	ND	ND	ND
SILVEX	28 SEP 82	.5	UGL	ND		ND	ND	ND	ND	
GROSS ALPHA	05 JAN 82	4.61	PCL	ND	ND	ND	ND	4.14	ND	
GROSS ALPHA	13 APR 82	3.37	PCL	3.33	ND	2.63	2.30	3.64	3.39	ND
GROSS ALPHA	29 JUN 82	6.49	PCL	4.81	4.26	5.99	ND	12.60	9.04	3.87
GROSS ALPHA	28 SEP 82	5.20	PCL	ND		ND	ND	ND		
RADIUM-226	28 JUN 82	.24	PCL			ND	.27	ND	ND	
RADIUM-226	28 SEP 82	.18	PCL	ND						
GROSS BETA	05 JAN 82	1.52	PCL	2.02	3.01	2.06	2.31	2.91	2.12	ND
GROSS BETA	13 APR 82	1.64	PCL	ND	1.60	ND	2.05	2.08	ND	ND
GROSS BETA	29 JUN 82	1.86	PCL	1.59	3.34	ND	1.62	1.96	1.99	ND
GROSS BETA	28 SEP 82	1.76	PCL	ND		1.22	1.85	3.14		
CHLORIDE	05 JAN 82	1.0	MGL	4.6	10.0	17.6	7.9	28.5	5.8	3.5
CHLORIDE	13 APR 82	1.0	MGL	4.0	9.0	3.0	7.0	46.0	4.9	2.0
CHLORIDE	29 JUN 82	1.0	MGL	9.0	9.0	11.0	12.0	51.0	10.0	7.0
CHLORIDE	28 SEP 82	1.0	MGL	1.0	ND	ND	3.0	11.2	6.0	
CHLORIDE	08 FEB 83	1.0	MGL	2.0	6.0	7.0	6.0	9.0	3.0	2.0
CHLORIDE	09 AUG 83	1.0	MGL	3.0	5.0	3.0		15.0	4.0	
CHLORIDE	14 FEB 84	2.0	MGL	ND	8.7	20.0	2.3	4.0	ND	ND
CHLORIDE	20 MAR 85	1.0	MGL		6.0	12.0	7.0	15.0	4.0	3.0

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B						
				W5	W4	W6	W1	W3	W2	W7
CHLORIDE	18 MAR 86	1.0	MGL	3.0	5.0	4.0	5.0	6.0	3.0	2.0
CHLORIDE	17 MAR 87	1.0	MGL	2.0	4.0	4.0	6.0	5.0	3.0	1.0
IRON	05 JAN 82	.02	MGL	.13	.15	.27	.15	.19	.10	.14
IRON	13 APR 82	.03	MGL	ND	.08	.09	.10	.10	.02	.10
IRON	29 JUN 82	.03	MGL	ND	.24	.26	.44#	.06	.09	.70#
IRON	28 SEP 82	.02	MGL	.12		.24	.19	.23	.09	
IRON	08 FEB 83	.02	MGL	.13	.10	.15	.09	.07	.06	.08
IRON	09 AUG 83	.02	MGL	.09	.16	.25		.07	.12	
IRON	14 FEB 84	.10	MGL	.15	.11	ND	ND	ND	ND	1.02#
IRON	20 MAR 85	.10	MGL		ND	ND	ND	ND	ND	ND
IRON	18 MAR 86	.03	MGL	ND	ND	.03	ND	ND	ND	ND
IRON	17 MAR 87	.10	MGL	ND	ND	ND	ND	ND	ND	ND
MANGANESE	05 JAN 82	.010	MGL	.270#	.040	.300#	ND	ND	.070#	.090#
MANGANESE	13 APR 82	.010	MGL	.100#	.060#	.040	.020	ND	.050	.030
MANGANESE	29 JUN 82	.001	MGL	.210#	.050	.020	.020	.030	.130#	.010
MANGANESE	28 SEP 82	.010	MGL	ND		ND	ND	.040	.160#	
MANGANESE	08 FEB 83	.010	MGL	.020	.120#	.020	ND	ND	.010	.010
MANGANESE	09 AUG 83	.001	MGL	.120#	.320#	.010		.020	.210#	
MANGANESE	14 FEB 84	.030	MGL	ND	ND	.035	ND	ND	ND	ND
MANGANESE	20 MAR 85	.030	MGL		.085#	.045	ND	ND	.038	ND
MANGANESE	18 MAR 86	.010	MGL	ND	.120#	ND	ND	ND	ND	ND
MANGANESE	17 MAR 87	.030	MGL	.078#	.275#	ND	ND	ND	ND	ND
PHENOL	05 JAN 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	13 APR 82	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	29 JUN 82	.01	MGL	ND	ND	ND	.01&	ND	ND	ND
PHENOL	28 SEP 82	.01	MGL	.01&	.01&	ND	.02&	ND	.01&	
PHENOL	08 FEB 83	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	09 AUG 83	.01	MGL	ND	ND	ND		ND	ND	
PHENOL	14 FEB 84	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	20 MAR 85	.01	MGL		ND	ND	ND	ND	ND	ND
PHENOL	18 MAR 86	.01	MGL	ND	ND	ND	ND	ND	ND	ND
PHENOL	17 MAR 87	.01	MGL	ND	ND	ND	ND	ND	ND	ND
SODIUM	05 JAN 82	1.	MGL	15.	28.	20.	15.	14.	22.	12.
SODIUM	13 APR 82	1.	MGL	10.	37.	8.	11.	15.	21.	10.
SODIUM	29 JUN 82	1.	MGL	12.	11.	9.	15.	20.	24.	8.
SODIUM	28 SEP 82	1.	MGL	12.		9.	8.	10.	16.	
SODIUM	08 FEB 83	1.	MGL	21.	37.	11.	12.	8.	15.	7.
SODIUM	09 AUG 83	1.	MGL	16.	36.	11.		9.	15.	
SODIUM	14 FEB 84	1.	MGL	7.	7.	16.	5.	4.	14.	3.
SODIUM	20 MAR 85	1.	MGL		23.	24.	9.	7.	9.	2.
SODIUM	18 MAR 86	1.	MGL	8.	20.	30.	7.	5.	6.	4.

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B						
				W5	W4	W6	W1	W3	W2	W7
RDX	13 SEP 85	.030	MGL	ND		ND	ND	ND	ND	
RDX	18 MAR 86	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	16 SEP 86	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	17 MAR 87	.030	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	27 JUN 84	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	18 SEP 84	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	20 MAR 85	.100	MGL		ND	ND	ND	ND	ND	ND
HMX	13 SEP 85	.100	MGL	ND		ND	ND	ND	ND	
HMX	18 MAR 86	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	16 SEP 86	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	17 MAR 87	.100	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	27 JUN 84	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	18 SEP 84	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	20 MAR 85	.010	MGL		ND	ND	ND	NO	ND	ND
TETRYL	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TETRYL	18 MAR 86	.005	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
B UPGRADIENT SITE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA
& VALUE EXCEEDS A STATE WATER QUALITY STANDARD OR CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
SODIUM	17 MAR 87	1.	MGL	8.	30.	14.	11.	6.	9.	4.
SULFATE	05 JAN 82	2.0	MGL	57.5	327.0&	38.8	233.0	147.0	225.0	77.0
SULFATE	13 APR 82	2.0	MGL	110.0	330.0&	100.0	220.0	210.0	263.0&	84.0
SULFATE	29 JUN 82	2.0	MGL	110.0	150.0	100.0	260.0&	220.0	293.0&	70.0
SULFATE	28 SEP 82	2.0	MGL	130.0	81.0	88.0	180.0	194.0	280.0&	
SULFATE	08 FEB 83	2.0	MGL	93.0	600.0&	110.0	210.0	180.0	200.0	74.0
SULFATE	09 AUG 83	2.0	MGL	129.0	333.0&	106.0		215.0	203.0	
SULFATE	14 FEB 84	2.0	MGL	51.0	117.0	130.0	119.0	148.0	108.0	7.3
SULFATE	20 MAR 85	2.0	MGL		306.0&	231.0	231.0	194.0	180.0	47.0
SULFATE	18 MAR 86	2.0	MGL	77.0	283.0&	63.0	248.0	148.0	117.0	57.0
SULFATE	17 MAR 87	2.0	MGL	24.0	255.0&	67.0	160.0	56.0	6.0	27.0
COND(FIELD)	20 MAR 85	1.	UMC		680.	440.	540.	550.	490.	270.
COND(FIELD)	18 MAR 86	1.	UMC	415.	650.	315.	460.	440.	340.	240.
COND(FIELD)	18 MAR 86	1.	UMC	415.	645.	320.	460.	440.	335.	240.
COND(FIELD)	18 MAR 86	1.	UMC	415.	650.	315.	460.	450.	335.	240.
COND(FIELD)	18 MAR 86	1.	UMC	415.	645.	310.	460.	445.	335.	235.
COND(FIELD)	17 MAR 87	1.	UMC	380.	700.	400.	500.	445.	450.	310.
COND(FIELD)	17 MAR 87	1.	UMC	375.	705.	400.	495.	440.	445.	315.
COND(FIELD)	17 MAR 87	1.	UMC	370.	700.	405.	500.	445.	450.	315.
COND(FIELD)	17 MAR 87	1.	UMC	375.	695.	405.	500.	440.	440.	315.
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	05 JAN 82		PH	7.3	7.2	7.5	7.2	7.4	7.3	7.1
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	13 APR 82		PH	7.6	7.2	7.6	7.6	7.4	7.4	7.4
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	29 JUN 82		PH	7.8	7.8	7.8	8.1	7.7	7.8	7.8
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	27 SEP 82		PH	7.6	7.9	7.7	7.5	7.5	7.6	
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	08 FEB 83		PH	7.8	7.3	7.8	7.5	7.5	7.7	7.6
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	
PH(FIELD)	09 AUG 83		PH	7.1	6.9	6.9		7.0	7.1	
PH(FIELD)	14 FEB 84		PH	7.3	6.8	7.2	7.3	7.4	7.4	7.5
PH(FIELD)	14 FEB 84		PH	7.3	6.9	7.2	7.3	7.4	7.5	7.5
PH(FIELD)	14 FEB 84		PH	7.4	6.8	7.3	7.3	7.4	7.4	7.6
PH(FIELD)	14 FEB 84		PH	7.3	6.9	7.3	7.3	7.5	7.4	7.6
PH(FIELD)	27 JUN 84		PH	7.0	6.8	7.1	7.1	7.0	7.1	7.1
PH(FIELD)	18 SEP 84		PH	8.4	7.5	7.6	7.6	7.5	7.1	7.6
PH(FIELD)	18 SEP 84		PH	8.3	7.6	7.5	7.7	7.4	7.1	7.5
PH(FIELD)	18 SEP 84		PH	8.4	7.6	7.5	7.7	7.4	7.1	7.5
PH(FIELD)	18 SEP 84		PH	8.3	7.5	7.6	7.6	7.4	7.2	7.5
PH(FIELD)	20 MAR 85		PH		6.8	6.9	6.7	6.8	7.0	7.0
PH(FIELD)	13 SEP 85		PH	7.1		7.1	7.1	7.1	7.0	
PH(FIELD)	18 MAR 86		PH	7.1	6.8	7.4	7.2	7.0	7.2	7.3
PH(FIELD)	18 MAR 86		PH	7.1	6.9	7.4	7.3	7.1	7.3	7.3
PH(FIELD)	18 MAR 86		PH	7.1	6.8	7.4	7.2	7.0	7.3	7.3
PH(FIELD)	18 MAR 86		PH	7.1	6.8	7.4	7.1	7.0	7.2	7.3
PH(FIELD)	16 SEP 86		PH	7.1	7.0	7.4	6.9	7.0	7.0	7.2
PH(FIELD)	17 MAR 87		PH	6.9	7.3	7.4	6.9	7.2	7.1	6.9
PH(FIELD)	17 MAR 87		PH	7.0	7.2	7.4	6.8	7.1	7.0	7.0
PH(FIELD)	17 MAR 87		PH	6.8	7.1	7.5	6.9	7.1	6.9	6.8
PH(FIELD)	17 MAR 87		PH	6.9	7.2	7.4	6.9	7.1	6.9	6.9
PH(LAB)	14 FEB 84		PH	7.9	7.7	7.8	7.7	7.8	7.9	7.5
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	860.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1120.	722.	850.	860.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	930.	640.
SPEC COND	05 JAN 82	1.	UMC	730.	1130.	720.	850.	850.	920.	640.
SPEC COND	13 APR 82	1.	UMC	719.	1300.	699.	810.	1000.	975.	639.
SPEC COND	13 APR 82	1.	UMC	718.	1302.	699.	810.	1000.	972.	639.
SPEC COND	13 APR 82	1.	UMC	719.	1301.	699.	810.	1000.	974.	640.
SPEC COND	13 APR 82	1.	UMC	720.	1300.	699.	810.	1000.	973.	638.
SPEC COND	29 JUN 82	1.	UMC	620.	590.	580.	750.	1040.	890.	490.
SPEC COND	29 JUN 82	1.	UMC	620.	590.	580.	760.	1030.	890.	490.
SPEC COND	29 JUN 82	1.	UMC	620.	600.	585.	760.	1030.	890.	490.
SPEC COND	29 JUN 82	1.	UMC	620.	600.	580.	750.	1030.	890.	490.
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	925.	980.	
SPEC COND	28 SEP 82	1.	UMC	790.		665.	700.	920.	980.	
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	920.	980.	
SPEC COND	28 SEP 82	1.	UMC	795.		665.	700.	920.	980.	
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	685.	760.	680.	755.	605.

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	690.	755.	680.	755.	605.
SPEC COND	08 FEB 83	1.	UMC	585.	1160.	680.	755.	680.	760.	600.
SPEC COND	08 FEB 83	1.	UMC	580.	1160.	685.	760.	685.	760.	600.
SPEC COND	09 AUG 83	1.	UMC	900.	1190.	1020.		1050.	930.	
SPEC COND	09 AUG 83	1.	UMC	890.	1200.	1020.		1050.	940.	
SPEC COND	09 AUG 83	1.	UMC	890.	1190.	1020.		1040.	940.	
SPEC COND	09 AUG 83	1.	UMC	900.	1200.	1020.		1040.	940.	
SPEC COND	14 FEB 84	1.	UMC	360.	430.	620.	400.	500.	570.	88.
SPEC COND	14 FEB 84	1.	UMC	360.	420.	620.	410.	510.	580.	87.
SPEC COND	14 FEB 84	1.	UMC	360.	430.	620.	400.	510.	580.	88.
SPEC COND	14 FEB 84	1.	UMC	360.	430.	630.	400.	510.	570.	88.
SPEC COND	18 SEP 84	1.	UMC	710.	1000.	620.	670.	760.	860.	500.
SPEC COND	18 SEP 84	1.	UMC	720.	990.	620.	680.	760.	860.	500.
SPEC COND	18 SEP 84	1.	UMC	720.	1000.	620.	680.	760.	860.	490.
SPEC COND	18 SEP 84	1.	UMC	720.	1000.	620.	680.	760.	860.	510.
SPEC COND	20 MAR 85	1.	UMC		990.	700.	750.	760.	750.	390.
SPEC COND	20 MAR 85	1.	UMC		1000.	700.	750.	760.	740.	400.
SPEC COND	20 MAR 85	1.	UMC		1000.	700.	750.	760.	740.	390.
SPEC COND	20 MAR 85	1.	UMC		990.	700.	760.	760.	740.	390.
SPEC COND	13 SEP 85	1.	UMC	720.		610.	880.	830.	840.	
SPEC COND	13 SEP 85	1.	UMC	720.		600.	880.	840.	840.	
SPEC COND	13 SEP 85	1.	UMC	730.		600.	870.	840.	840.	
SPEC COND	13 SEP 85	1.	UMC	730.		600.	880.	830.	830.	
SPEC COND	18 MAR 86	1.	UMC	590.	960.	490.	670.	620.	520.	3600.
SPEC COND	18 MAR 86	1.	UMC	590.	960.	500.	660.	620.	520.	3600.
SPEC COND	18 MAR 86	1.	UMC	590.	950.	500.	670.	620.	520.	3600.
SPEC COND	18 MAR 86	1.	UMC	590.	950.	490.	660.	610.	520.	3600.
SPEC COND	16 SEP 86	1.	UMC	710.	1160.	690.	870.	950.	820.	600.
SPEC COND	16 SEP 86	1.	UMC	720.	1150.	690.	880.	950.	810.	600.
SPEC COND	16 SEP 86	1.	UMC	710.	1150.	690.	880.	950.	820.	600.
SPEC COND	16 SEP 86	1.	UMC	720.	1160.	690.	880.	960.	820.	610.
SPEC COND	17 MAR 87	1.	UMC	640.	990.	670.	820.	710.	730.	530.
SPEC COND	17 MAR 87	1.	UMC	630.	1000.	680.	810.	710.	730.	530.
SPEC COND	17 MAR 87	1.	UMC	630.	1000.	680.	820.	720.	730.	530.
SPEC COND	17 MAR 87	1.	UMC	640.	1000.	690.	820.	710.	740.	530.
TOC	05 JAN 82	.1	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	.1	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	.1	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	05 JAN 82	.1	MGL	1.0	1.0	1.0	1.0	4.0	1.0	1.0
TOC	13 APR 82	.1	MGL	39.0	54.0	40.0	37.0	48.0	44.0	40.0
TOC	13 APR 82	.1	MGL	39.0	54.0	40.0	37.0	47.0	44.0	40.0

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
TOC	13 APR 82	.1	MGL	40.0	54.0	42.0	37.0	47.0	44.0	40.0
TOC	13 APR 82	.1	MGL	39.0	55.0	43.0	37.0	48.0	44.0	40.0
TOC	29 JUN 82	.1	MGL	43.0	30.0	43.0	42.0	53.0	42.0	38.0
TOC	29 JUN 82	.1	MGL	42.0	30.0	41.0	40.0	53.0	42.0	39.0
TOC	29 JUN 82	.1	MGL	42.0	30.0	43.0	40.0	54.0	41.0	40.0
TOC	29 JUN 82	.1	MGL	42.0	30.0	43.0	42.0	54.0	43.0	38.0
TOC	28 SEP 82	.1	MGL	37.0	28.0	39.0	21.0	44.0	4.0	
TOC	28 SEP 82	.1	MGL	38.0	29.0	39.0	23.0	43.0	4.0	
TOC	28 SEP 82	.1	MGL	37.0	27.0	39.0	22.0	43.0	4.0	
TOC	28 SEP 82	.1	MGL	38.0	28.0	39.0	22.0	43.0	4.0	
TOC	08 FEB 83	.1	MGL	23.0	32.0	26.0	22.0	27.0	25.0	26.0
TOC	08 FEB 83	.1	MGL	23.0	33.0	27.0	22.0	26.0	25.0	26.0
TOC	08 FEB 83	.1	MGL	24.0	32.0	27.0	22.0	27.0	25.0	26.0
TOC	08 FEB 83	.1	MGL	23.0	33.0	27.0	22.0	27.0	25.0	26.0
TOC	09 AUG 83	.1	MGL	53.0	47.0	46.0		74.0	23.0	
TOC	09 AUG 83	.1	MGL	53.0	47.0	47.0		74.0	22.0	
TOC	09 AUG 83	.1	MGL	54.0	46.0	45.0		74.0	21.0	
TOC	09 AUG 83	.1	MGL	53.0	46.0	46.0		74.0	22.0	
TOC	14 FEB 84	.1	MGL	24.0	35.0	32.0	24.0	29.0	29.0	12.0
TOC	14 FEB 84	.1	MGL	23.0	36.0	33.0	24.0	29.0	29.0	11.0
TOC	14 FEB 84	.1	MGL	23.0	36.0	33.0	24.0	29.0	30.0	11.0
TOC	14 FEB 84	.1	MGL	24.0	35.0	32.0	24.0	29.0	29.0	11.0
TOC	18 SEP 84	.1	MGL	3.0	3.0	3.0	3.0	4.0	3.0	3.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	3.0	3.0	4.0	3.0	4.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	3.0	3.0	4.0	3.0	2.0
TOC	18 SEP 84	.1	MGL	3.0	4.0	3.0	3.0	5.0	4.0	3.0
TOC	20 MAR 85	.1	MGL		5.9	8.8	5.9	6.0	4.1	9.5
TOC	20 MAR 85	.1	MGL		5.7	8.8	6.1	6.0	4.0	9.6
TOC	20 MAR 85	.1	MGL		5.8	8.7	5.8	6.0	4.1	9.4
TOC	20 MAR 85	.1	MGL		5.7	8.8	5.9	6.0	4.1	9.5
TOC	13 SEP 85	.1	MGL	3.4		3.0	2.7	3.3	3.1	
TOC	13 SEP 85	.1	MGL	3.4		2.7	2.5	3.2	3.3	
TOC	13 SEP 85	.1	MGL	3.4		2.8	2.6	3.3	3.1	
TOC	13 SEP 85	.1	MGL	3.4		2.9	2.5	3.3	3.5	
TOC	18 MAR 86	.1	MGL	3.4	3.6	6.3	5.0	5.4	3.5	4.2
TOC	18 MAR 86	.1	MGL	3.4	3.5	6.3	5.0	5.1	3.5	4.2
TOC	18 MAR 86	.1	MGL	3.4	3.5	6.4	5.0	5.1	3.4	4.2
TOC	18 MAR 86	.1	MGL	3.4	3.5	6.2	5.2	5.2	3.6	4.2
TOC	16 SEP 86	.1	MGL	5.1	4.7	5.3	5.2	6.2	4.7	5.2
TOC	16 SEP 86	.1	MGL	5.0	4.7	5.4	5.4	6.2	4.9	5.1
TOC	16 SEP 86	.1	MGL	5.0	4.8	5.4	5.4	6.3	4.7	5.1

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B						
				W5	W4	W6	W1	W3	W2	W7
TOC	16 SEP 86	.1	MGL	4.9	4.8	5.5	5.4	6.2	4.8	5.2
TOC	17 MAR 87	.1	MGL	5.0	3.8	3.7	2.3	5.6	4.0	3.6
TOC	17 MAR 87	.1	MGL	5.0	3.7	3.8	2.2	5.5	4.0	3.6
TOC	17 MAR 87	.1	MGL	4.9	3.6	3.7	2.2	5.5	3.9	3.5
TOC	17 MAR 87	.1	MGL	5.0	3.7	3.8	2.1	5.6	4.0	3.5
TOX	05 JAN 82	.010	MGL	ND	.060	.033	.016	.063	.048	.021
TOX	05 JAN 82	.010	MGL	ND	.050	.025	ND	.038	.059	.039
TOX	05 JAN 82	.010	MGL	ND	.050	.014	.019	.048	.016	.034
TOX	05 JAN 82	.010	MGL	.016	.052	.013	.016	.046	.056	.020
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	.014
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	13 APR 82	.010	MGL	ND	ND	.012	ND	.011	ND	.010
TOX	29 JUN 82	.010	MGL	ND	ND	ND	.017	.063	.068	.026
TOX	29 JUN 82	.010	MGL	.064	ND	ND	.076	ND	.039	.028
TOX	29 JUN 82	.010	MGL	.098	ND	.015	.070	.051	.026	.031
TOX	29 JUN 82	.010	MGL	.045	ND	ND	.066	ND	.082	.020
TOX	28 SEP 82	.010	MGL	.041		.130	.067	.096		
TOX	28 SEP 82	.010	MGL	ND		.080	ND	.069		
TOX	28 SEP 82	.010	MGL	ND		.095	.077	ND		
TOX	28 SEP 82	.010	MGL	ND		.095	.040	.062		
TOX	08 FEB 83	.010	MGL	.043	.030	.040	.039	.046	.017	.030
TOX	08 FEB 83	.010	MGL	.042	.047	.047	.028	.046	.033	.038
TOX	08 FEB 83	.010	MGL	.042	.041	.040	.044	.031	.039	.047
TOX	08 FEB 83	.010	MGL	.036	.041	.043	.041	.056	.038	.036
TOX	09 AUG 83	.010	MGL	.041	.040	.041		ND	ND	
TOX	09 AUG 83	.010	MGL	.036	.041	.036		ND	ND	
TOX	09 AUG 83	.010	MGL	.042	.038	.039		ND	ND	
TOX	09 AUG 83	.010	MGL	.040	.040	.036		ND	ND	
TOX	14 FEB 84	.010	MGL	.070	.064	ND	.037	.055	.064	ND
TOX	14 FEB 84	.010	MGL	.060	.074	ND	.035	.055	.030	.014
TOX	14 FEB 84	.010	MGL	.077	.041	ND	.036	.049	.044	.014
TOX	14 FEB 84	.010	MGL	.032	.062	ND	.039	.064	.041	.012
TOX	18 SEP 84	.010	MGL	.022	.016	ND	.015	.013	ND	.027
TOX	18 SEP 84	.010	MGL	.022	.018	.011	.025	.012	ND	.034
TOX	18 SEP 84	.010	MGL	.020	.016	ND	.013	ND	ND	.045
TOX	18 SEP 84	.010	MGL	.021	.026	.012	.013		ND	.045
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.012
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.013
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.014
TOX	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	.014

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B						
				W5	W4	W6	W1	W3	W2	W7
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TOX	18 MAR 86	.010	MGL	ND	ND	.010	ND	ND	ND	ND
TOX	18 MAR 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	18 MAR 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	18 MAR 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TOX	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TDS	29 JUN 82	1.	MGL	465.	431.	406.	672.#	704.#	698.#	382.
2,4,6-TNT	27 JUN 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	18 SEP 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	20 MAR 85	.001	MGL		ND	ND	ND	ND	ND	ND
2,4,6-TNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,4,6-TNT	18 MAR 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	16 SEP 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4,6-TNT	17 MAR 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	27 JUN 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	18 SEP 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	20 MAR 85	.001	MGL		ND	ND	ND	ND	ND	ND
2,4-DNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,4-DNT	18 MAR 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	16 SEP 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	17 MAR 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	27 JUN 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	18 SEP 84	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	20 MAR 85	.001	MGL		ND	ND	ND	ND	ND	ND
2,6-DNT	13 SEP 85	.001	MGL	ND		ND	ND	ND	ND	
2,6-DNT	18 MAR 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	16 SEP 86	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	17 MAR 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	27 JUN 84	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	18 SEP 84	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	20 MAR 85	.030	MGL		ND	ND	ND	ND	ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
RDX	13 SEP 85	.030	MGL	ND		ND	ND	ND	ND	
RDX	18 MAR 86	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	16 SEP 86	.030	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	17 MAR 87	.030	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	27 JUN 84	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	18 SEP 84	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	20 MAR 85	.100	MGL		ND	ND	ND	ND	ND	ND
HMX	13 SEP 85	.100	MGL	ND		ND	ND	ND	ND	
HMX	18 MAR 86	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	16 SEP 86	.100	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	17 MAR 87	.100	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	27 JUN 84	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	18 SEP 84	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	20 MAR 85	.010	MGL		ND	ND	ND	ND	ND	ND
TETRYL	13 SEP 85	.010	MGL	ND		ND	ND	ND	ND	
TETRYL	18 MAR 86	.005	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	16 SEP 86	.010	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	17 MAR 87	.010	MGL	ND	ND	ND	ND	ND	ND	ND

RUN DATE: 19 AUG 87

INSTALLATION: SENECA AD, NY SITE: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
B UPGRADIENT SITE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA
& VALUE EXCEEDS A STATE WATER QUALITY STANDARD OR CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

LOCATION: CB GROUNDS

SAMPLE DATE: MARCH-89

LABORATORY: AEHA

PARAMETERS: Explosives

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

1987

REPLY TO
ATTENTION OF

HSHB-ME-SG

SUBJECT: Schedule for Ground-water Monitoring

Commander
Seneca Army Depot
ATTN: SDSSE-AD
Romulus, NY 14541-5000

1. Reference:

a. U.S. Army Management Plan for the RCRA Ground-water Monitoring and Assessment Program, June 1981.

b. Letter, HQDA, DAEN-ZCE, 23 June 1986, subject: Modification of the U.S. Army Ground-water Monitoring Program.

2. As discussed in reference 1b, this Agency will discontinue analytical support of the Ground-water Monitoring Program no later than 1 October 1987. Information on options for analytical support after that time will be provided by the MACOM.

3. Ground-water sampling for 1987 is scheduled for the weeks listed in enclosure 1. These dates are for laboratory planning purposes only and changes may be made by notifying this Agency.

4. Enclosures 2 and 3 are tables listing wells to be sampled and parameters for which analyses will be performed. If the monitoring requirements listed on the tables are incorrect, contact this Agency.

5. Chemical preservatives, field data logsheets, computer-generated chain of custody sheets, and containers with computer-generated labels will be supplied prior to the sampling periods. Until 1 October 1987, all samples should be shipped to arrive within 48 hours of sampling to:

Commander
U.S. Army Environmental Hygiene Agency
ATTN: HSHB-ML-A (Mr. Fisher)
Edgewood Area Building E-2100
Aberdeen Proving Ground, MD 21010-5422

HSHB-ME-SG
SUBJECT: Schedule for Ground-water Monitoring

6. Questions regarding this information may be referred to Ms. Kim M. Fleischmann, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

3 Encls

FREDERICK W. BOECHER
LTC, MS
Chief, Waste Disposa Engineering Division

CF (w/encls):
Cdr, AMC (AMCSG-S)
Cdr, AMC (AMCEN-A)
Cdr, DESCOM (AMSDS-RM-EF-D)

06 JAN 87

GROUND-WATER MONITORING PROGRAM SAMPLING SCHEDULE

SENECA AD, NY

DEMOLITION GROUNDS	SEMIANNUAL PARAMETERS:	2MAR87	7SEP87
	ANNUAL PARAMETERS:	2MAR87	
LANDFILL	SEMIANNUAL PARAMETERS:	2MAR87	7SEP87

Encl 1

INSTALLATION: SENECA AD, NY

FACILITY NAME: DEMOLITION GROUNDS
WELLS: W5 W4 W6 W1 W3 W2 W7

MAR 87	SEMIANNUAL:	TOX					
		2,4,6-TNT	2,4-DNT	2,6-DNT	RDX	TETRYL	HMX
		TOC					
		SPEC COND					
MAR 87	ANNUAL:	IRON	MANGANESE	SODIUM			
		CHLORIDE	SULFATE				
		PHENOL					

Encl 2

INSTALLATION: SENECA AD, NY

FACILITY NAME: LANDFILL
WELLS: PT-10 PT-11 PT-12 PT-14 PT-15

MAR 87	SEMIANNUAL:	ARSENIC	BARIUM	CADMIUM	CHROMIUM	LEAD	SELENIUM	SILVER
		IRON	SODIUM	POTASSIUM				
		TOX						
		MERCURY						
		CHLORIDE	SULFATE					
		NITRATE-N						
		TOC						
		SPEC COND						
		PH(LAB)						
		GCMS-PURG						

NOTE: VOLATILE ORGANICS FOR PT-12 AND PT-14 ONLY.

Encl 3

LOCATION: OB GROUNDS

SAMPLE DATE: 7 OCT 88

LABORATORY: AEHA

PARAMETERS: MULTIPLE

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

Mrs. Martin/emw/AUTOVON
584-2024

REPLY TO ATTENTION OF

File

HSHB-ES-G

7 OCT 1983

SUBJECT: Ground-water Monitoring Results for Seneca Army Depot (AD), NY

Commander
Seneca Army Depot
ATTN: SDSSE ~~AD~~ Retired
Romulus, NY 14541

1. Reference.

a. Us Army Management Plan for the RCRA Ground-water Monitoring and Assessment Program, June 1981.

b. Letter, HSHB-ES-G, this Agency, 16 May 1983, SAB.

c. Telephone conversations between Mrs. Beth Martin and Mr. John Bauer, this Agency, and Mrs. Kathy O'Halloran, DARCOM (DRCSG/DRCIS-A), 22 April 1983 and 25 April 1983, subject: Resampling for Indicator Parameters.

2. Attached are tables (Inclosures 1 and 2) reporting ground-water quality data for samples collected on 9 August 1983 from monitoring wells near the Sanitary Landfill and Demolition Grounds at Seneca AD. Field pH and water level measurements were taken by installation personnel. All other results were determined by Century Environmental Testing Labs, Inc., under contract to the US Army. These data constitute the second set of semiannual results and annual results for the Demolition Grounds. The first set of semiannual results for the second year of monitoring were reported in reference 1b.

3. Although these samples are from monitoring wells, parameter concentrations are compared to New York State ground-water quality standards (10 NYCRR Part 703) and to National Secondary Drinking Water Regulation (NSDWR) criteria which generally address the aesthetic quality of the water. Parameter concentrations exceeding NSDWR criteria or State standards are noted in the inclosures.

4. Wells W1, W7, PT-11, and PT-15 were dry at the time of sampling. The NSDWR criterion for manganese is exceeded in samples from downgradient wells W4 and W2 and upgradient well W5. The NSDWR criterion for sulfate is slightly exceeded in samples from wells W4 and PT-12. The pH of water from well PT-12 is below the NSDWR range. The specific conductivities of all samples are high, particularly the well PT-12 sample, indicating high levels of total dissolved solids.

HSHB-ES-G
SUBJECT: Ground-water Monitoring Results for Seneca Army Depot (AD), NY

5. The Student's t-test was not performed on data for the Demolition Grounds because resampling is not required IAW reference 1c.

6. These data are consistent with previous results. Questions regarding these data may be referred to Mrs. Beth Martin or Mr. Gary Nemeth, this Agency, AUTOVON 584-2024.

FOR THE COMMANDER:

NELSON H. LUND, P.E.
Colonel, MSC
Director, Environmental Quality

2 Incl
as

CF:
Cdr, HSC (HSPA-P)
Cdr, DARCOM (DRCSG/DRCIS-A)
Cdr, DESCOM (DRSDS-RM-EF-D)
Cdr, USATHAMA (DRXTH-AS)

RUN DATE: 28 SEP 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5		W4		W6		W1	W3	W2	W7
WATER LEVELS (A)	08 AUG 83		FT	112.9		106.1		105.0			99.9	92.3	
CHLORIDE	09 AUG 83	1.0	MGL	3.0		5.0		3.0			15.0	4.0	
IRON	09 AUG 83	.03	MGL	.09		.16		.25			.07	.12	
MANGANESE	09 AUG 83	.01	MGL	.12#		.32#		.01			.02	.21#	
PHENOL	09 AUG 83	.01	MGL	ND		ND		ND			ND	ND	
SODIUM	09 AUG 83	1.	MGL	16.		36.		11.			9.	15.	
SULFATE	09 AUG 83	5.0	MGL	129.0		333.0&		106.0			215.0	203.0	
PH(FIELD)	09 AUG 83		PH	7.1		6.9		6.9			7.0	7.1	
PH(FIELD)	09 AUG 83		PH	7.1		6.9		6.9			7.0	7.1	
PH(FIELD)	09 AUG 83		PH	7.1		6.9		6.9			7.0	7.1	
PH(FIELD)	09 AUG 83		PH	7.1		6.9		6.9			7.0	7.1	
SPEC COND	09 AUG 83	1.	UMC	890.		1200.		1020.			1050.	940.	
SPEC COND	09 AUG 83	1.	UMC	900.		1190.		1020.			1040.	930.	
SPEC COND	09 AUG 83	1.	UMC	900.		1200.		1020.			1040.	940.	
SPEC COND	09 AUG 83	1.	UMC	890.		1190.		1020.			1050.	940.	
TOC	09 AUG 83	1.0	MGL	53.0		47.0		46.0			74.0	23.0	
TOC	09 AUG 83	1.0	MGL	53.0		47.0		47.0			74.0	22.0	
TOC	09 AUG 83	1.0	MGL	54.0		46.0		46.0			74.0	22.0	
TOC	09 AUG 83	1.0	MGL	53.0		46.0		45.0			74.0	21.0	
TOX	09 AUG 83	.010	MGL	.036	C	.038	C	.036	C		ND	ND	
TOX	09 AUG 83	.010	MGL	.042	C	.041	C	.036	C		ND	ND	
TOX	09 AUG 83	.010	MGL	.040	C	.040	C	.039	C		ND	ND	
TOX	09 AUG 83	.010	MGL	.041	C	.040	C	.041	C		ND	ND	

RUN DATE: 28 SEP 83

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.

A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM
B UPGRADIENT SITE
C RESULTS ARE FOR UNFILTERED SAMPLE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA
& VALUE EXCEEDS A STATE WATER QUALITY STANDARD OR CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

LOCATION: CB GROUNDS

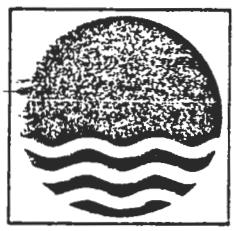
SAMPLE DATE: 13 JAN 88

LABORATORY: AEHA

PARAMETERS: MULTIPLE

Galson
Technical Services, Inc.

6601 Kirkville Road
Post Office Box 546
E. Syracuse, N.Y. 13057
Tel: (315) 432-0506



Environmental Sciences
Division

April 6, 1988

Commander
U.S. Army Environmental Hygiene Agency
Analytical Q.A. Office
HSHB-ML-A
Building E2100
Aberdeen Proving Ground, MD 21010-5422

Attention: Mr. Fischer

Dear Mr. Fischer:

Enclosed you should find fourteen (14) ground water samples for explosives. Seven of those samples are to be analyzed for tetryl and the other seven are to be analyzed for 2,4,6-TNT, 2,4-DNT, 2,6-DNT, RDX and HMX. Conversations regarding these samples and the analysis were between Eva Galson of our firm and Randy Battaglia of Seneca Army Depot in Romulus, NY.

Please send the results of the analysis and any quality control data pertaining to these samples to our firm. We would like the results within two weeks of your receipt of the samples.

Thank you.

Sincerely,

Edward A. Stuber,
Associate Laboratory Director

EAS/mrb

Enclosures

DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010-5422

REPLY TO ATTENTION OF

HSHB-ME-SG

12 FEB 1988

MEMORANDUM FOR: COMMANDER, SENECA ARMY DEPOT, ATTN: SDSSE-AD, SENECA, NY 14541-5001

SUBJECT: Ground-water Monitoring Results For Seneca Army Depot, NY

1. In accordance with State requirements, ground-water samples were collected on 15 September from monitoring wells near the Landfill and the Demolition Ground at Seneca Army Depot, NY. Contamination by chlorinated organic hydrocarbons is present in two monitoring wells near the Landfill. The contamination, which was first detected during the last sampling round, is currently under further investigation (see paragraph 6 for more details).

2. Enclosures 1 and 2 are tables of ground-water quality data for the second semiannual sampling round for 1987. Data for the first set of samples collected in 1987 were reported in reference 9b. Field pH, field specific conductance, and water level measurements were accomplished by personnel under contract to the installation. All other results were determined by this Agency's laboratory or by laboratories under contract to this Agency. Note that the container for Total Organic Halide (TOX) analysis from well PT-10 was broken in the laboratory.

3. Although these samples are from ground-water monitoring wells, parameter concentrations are compared to National Primary Drinking Water Regulation standards, New York State standards, and National Secondary Drinking Water Regulation criteria where applicable. Concentrations exceeding a standard or criteria are noted on the enclosures.

4. Results for samples from wells near the Demolition Ground are generally consistent with previous data. Overall, the data indicate that this site is currently not releasing contaminants to the ground-water.

5. During the last sampling round, samples from wells near the Landfill contained elevated lead concentrations. During this sampling round, lead was not detected in any of the samples. The National Secondary Drinking Water Regulation criterion for sulfate is slightly exceeded in the well PT-12 sample. None of the National Primary Drinking Water regulation or New York State standards are exceeded for the inorganic parameters analyzed.

HSHB-ME-SG
SUBJECT: Ground-water Monitoring Results For Seneca Army Depot, NY

6. During the last sampling round, samples from two of the wells near the Landfill were contaminated with chlorinated hydrocarbons. In response to this finding, this Agency conducted a rapid response Geohydrologic Study to determine the extent of the contamination plume. The study was accomplished in October 1987. Nine monitoring wells were installed and sampled for chemical analysis. It was found that the contamination extends to the installation boundary, and that further study work and remediation are needed. The results of this study will be published in the near future.

7. Samples collected from monitoring wells near the Landfill were analyzed for purgeable organic priority pollutants using EPA method 624. A list of the compounds analyzed and the detection limits is provided as Enclosure 3. Detectable results are as follows:

PARAMETER	CONCENTRATION	
	PT-12	PT-14
trans-1,2-dichloroethylene	95. ug/L	172. ug/L
trichloroethylene	94. ug/L	192. ug/L
vinyl chloride	<5. ug/L	79. ug/L

No other purgeable organic priority pollutants were detected.

8. Questions regarding these data may be referred to Mrs. Beth Martin or Mrs. Pat Rippey, this Agency, AUTOVON 584-2024.

HSHB-ME-SG
SUBJECT: Ground-water Monitoring Results For Seneca Army Depot, NY

9. Reference:

a. Letter, HQDA, DAEN-ZCE, 23 June 1986, subject: Modification of the U.S. Army Ground-water Monitoring Program.

b. Memorandum, this Agency, HSHB-ME-SG, 19 June 1987, SAB.

FOR THE COMMANDER:

3 Encls

PAUL R. THIES
LTC, MS
Chief, Waste Disposal Engineering Division

CF (w/encls):
Cdr, AMC, ATTN: AMCSG-S
Cdr, AMC, ATTN: AMCEN-A
Cdr, DESCOM, ATTN: AMSDS-RM-EF-D
Cdr, USATHAMA, ATTN: AMXTH-AS

COMPOUNDS ANALYZED AND DETECTION LIMITS(UGL)

PURGEABLE ORGANIC COMPOUNDS	
BENZENE	5.0
CARBON TETRACHLORIDE	5.0
CHLOROBENZENE	5.0
1,2-DICHLOROETHANE	5.0
1,1,1-TRICHLOROETHANE	5.0
1,1-DICHLOROETHANE	5.0
1,1,2-TRICHLOROETHANE	5.0
1,1,2,2-TETRACHLOROETHANE	5.0
CHLOROETHANE	5.0
2-CHLOROETHYLVINYL ETHER	5.0
CHLOROFORM	5.0
1,1-DICHLOROETHYLENE	5.0
TRANS-1,2-DICHLOROETHYLENE	5.0
1,2-DICHLOROPROPANE	5.0
CIS-1,3-DICHLOROPROPENE	5.0
TRANS-1,3-DICHLOROPROPENE	5.0
ETHYLBENZENE	5.0
METHYLENE CHLORIDE	5.0
CHLOROMETHANE	5.0
BROMOMETHANE	5.0
BROMOFORM	5.0
BROMODICHLOROMETHANE	5.0
TRICHLOROFLUOROMETHANE	5.0
DIBROMOCHLOROMETHANE	5.0
TETRACHLOROETHYLENE	5.0
TOLUENE	5.0
TRICHLOROETHYLENE	5.0
VINYL CHLORIDE	5.0

Exh 3

RUN DATE: 13 JAN 88

INSTALLATION: SENECA AD, NY SITE: LANDFILL

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
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B UPGRADIENT SITE
VALUE EXCEEDS A NATIONAL SECONDARY DRINKING WATER REGULATION CRITERIA
& VALUE EXCEEDS A STATE WATER QUALITY STANDARD OR CRITERIA

MGL - MILLIGRAMS/LITER
UGL - MICROGRAMS/LITER
PCL - PICOCURIES/LITER
UMC - MICROMHOS/CENTIMETER
NTU - NEPHELOMETRIC TURBIDITY UNITS
TON - THRESHOLD ODOR NUMBER
TDN - TASTE DILUTION INDEX NUMBER
CU - COLOR UNITS
PHM - PER 100 MILLILITERS

RUN DATE: 13 JAN 88

INSTALLATION: SENECA AD, NY

SITE: LANDFILL

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B PT-10	PT-11	PT-12	PT-14	PT-15
WATER LEVELS (A)	15 SEP 87		FT	675.0	652.7	646.9	636.5	629.0
ARSENIC	15 SEP 87	.001	MGL	ND	ND	ND	.001	ND
BARIUM	15 SEP 87	.05	MGL	.22	.08	.05	.10	.09
CADMIUM	15 SEP 87	1.000	UGL	1.000	ND	ND	ND	ND
CHROMIUM	15 SEP 87	.020	MGL	ND	ND	ND	ND	ND
LEAD	15 SEP 87	.001	MGL	ND	ND	ND	ND	ND
MERCURY	15 SEP 87	1.000	UGL	ND	ND	ND	ND	ND
SELENIUM	15 SEP 87	.001	MGL	ND	ND	ND	ND	ND
SILVER	15 SEP 87	.020	MGL	ND	ND	ND	ND	ND
CHLORIDE	15 SEP 87	1.0	MGL	68.0	49.0	158.0	29.0	8.0
IRON	15 SEP 87	.10	MGL	ND	ND	ND	ND	ND
SODIUM	15 SEP 87	1.	MGL	47.	59.	100.	39.	36.
SULFATE	15 SEP 87	2.0	MGL	18.0	160.0	289.0#	78.0	45.0
COND(FIELD)	15 SEP 87	1.	UMC	580.	1200.	1400.	650.	420.
COND(FIELD)	15 SEP 87	1.	UMC	600.	1200.	1300.	650.	410.
COND(FIELD)	15 SEP 87	1.	UMC	620.	1100.	1200.	700.	400.
COND(FIELD)	15 SEP 87	1.	UMC	620.	1200.	1400.	650.	420.
PH(FIELD)	15 SEP 87		PH	7.7	8.1	7.0	7.0	7.7
PH(LAB)	15 SEP 87		PH	7.3	7.2	7.0	7.0	7.5
SPEC COND	15 SEP 87	1.	UMC	860.	1000.	1000.	920.	540.
SPEC COND	15 SEP 87	1.	UMC	860.	1000.	1000.	910.	540.
SPEC COND	15 SEP 87	1.	UMC	860.	1000.	1000.	920.	530.
SPEC COND	15 SEP 87	1.	UMC	860.	990.	1000.	910.	530.
TOC	15 SEP 87	.1	MGL	1.1	2.8	2.9	3.4	1.2
TOC	15 SEP 87	.1	MGL	1.1	2.6	2.8	3.6	1.1
TOC	15 SEP 87	.1	MGL	1.2	2.7	2.9	3.5	1.1
TOC	15 SEP 87	.1	MGL	1.1	2.6	2.9	3.6	1.1
TOX	15 SEP 87	.010	MGL		.031	.164	.260	ND
TOX	15 SEP 87	.010	MGL		.034	.186	.264	ND
TOX	15 SEP 87	.010	MGL		.033	.181	.307	ND
TOX	15 SEP 87	.010	MGL		.032	.175	.321	ND
NITRATE-N	15 SEP 87	.05	MGL	ND	.10	.33	.29	.13
POTASSIUM	15 SEP 87	.10	MGL	2.52	2.63	2.58	3.53	2.09

ENCL 2

RUN DATE: 13 JAN 88

INSTALLATION: SENECA AD, NY SITE: DEMOLITION GROUNDS

LEGEND
NOTES: ALL METALS AND OTHER PARAMETERS WHERE APPROPRIATE ARE ON A DISSOLVED (FILTERED) BASIS UNLESS OTHERWISE NOTED. DETECTION LIMITS SHOWN ARE NORMAL LEVELS; ACTUAL LIMITS MAY VARY IN ENVIRONMENTAL SAMPLES. ANALYTICAL RESULTS ARE ACCURATE TO EITHER 2 OR 3 SIGNIFICANT FIGURES.
A VALUES SHOWN ARE FOR WATER LEVEL ELEVATION ABOVE A REFERENCE DATUM
B UPGRADIENT SITE

MGL - MILLIGRAMS/LITER
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CU - COLOR UNITS
PHM - PER 100 MILLILITERS

RUN DATE: 13 JAN 88

INSTALLATION: SENECA AD, NY

SITE: DEMOLITION GROUNDS

PARAMETER	SAMPLING DATE	DETECTION LIMIT	UNITS	SAMPLING SITES RESULTS B W5	W4	W6	W1	W3	W2	W7
WATER										
LEVELS (A)	15 SEP 87		FT	118.5	108.8	109.1	109.5	105.2	95.1	103.3
COND(FIELD)	15 SEP 87	1.	UMC	260.	840.	480.	500.	500.	600.	220.
COND(FIELD)	15 SEP 87	1.	UMC	260.	780.	475.	520.	480.	640.	225.
COND(FIELD)	15 SEP 87	1.	UMC	240.	800.	460.	520.	480.	600.	230.
COND(FIELD)	15 SEP 87	1.	UMC	260.	800.	480.	540.	470.	620.	220.
PH(FIELD)	15 SEP 87		PH	7.5	7.1	7.3	6.9	7.1	7.1	7.3
SPEC COND	15 SEP 87	1.	UMC	360.	920.	700.	790.	650.	770.	220.
SPEC COND	15 SEP 87	1.	UMC	360.	920.	700.	800.	660.	760.	230.
SPEC COND	15 SEP 87	1.	UMC	360.	910.	690.	800.	650.	770.	220.
SPEC COND	15 SEP 87	1.	UMC	360.	920.	700.	800.	650.	760.	230.
TOC	15 SEP 87	.1	MGL	9.8	2.6	3.1	2.7	6.8	2.8	38.4
TOC	15 SEP 87	.1	MGL	9.9	2.5	2.9	2.9	6.9	2.6	38.3
TOC	15 SEP 87	.1	MGL	10.0	2.6	3.0	3.0	7.1	2.5	38.2
TOC	15 SEP 87	.1	MGL	10.0	2.7	3.2	2.8	6.8	2.8	38.2
TOX	15 SEP 87	.010	MGL	.017	ND	ND	ND	ND	ND	.025
TOX	15 SEP 87	.010	MGL	.017	ND	ND	ND	ND	ND	.024
TOX	15 SEP 87	.010	MGL	.020	ND	ND	ND	ND	ND	.029
TOX	15 SEP 87	.010	MGL	.024	ND	ND	ND	ND	ND	.029
2,4,6-TNT	15 SEP 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,4-DNT	15 SEP 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
2,6-DNT	15 SEP 87	.001	MGL	ND	ND	ND	ND	ND	ND	ND
RDX	15 SEP 87	.030	MGL	ND	ND	ND	ND	ND	ND	ND
HMX	15 SEP 87	.100	MGL	ND	ND	ND	ND	ND	ND	ND
TETRYL	15 SEP 87	.005	MGL	ND	ND	ND	ND	ND	ND	ND

ENCL 1

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057
Tel: (315) 432-0506
1-800-950-0506

April 28, 1989

Mr. Randy Battaglia
Seneca Army Depot
Building 323 - Mat. Mgt. Br.
Romulus, NY 14541-5001

RE: GTS #L9052

Dear Randy:

Enclosed are the results of the analyses performed on the samples we received on March 31, 1989.

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

Sincerely,

F. Joseph Unangst
for

Edward A. Stuber, CIH
Associate Laboratory Director
GALSON LABORATORIES

EAS/mrb

Enclosure

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057
Tel: (315) 432-0506
1-800-950-0506

LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

Sample ID	TOTAL Lab ID	BARIUM MG/L	LEAD MG/L	SILVER MG/L	IRON MG/L
W-1	H7050	0.090	<0.1	<0.03	0.022
W-2	H7051	0.078	<0.1	<0.03	0.032
W-3	H7052	0.058	<0.1	<0.03	0.043
W-4	H7053	0.072	<0.1	<0.03	0.042
W-5	H7054	0.060	<0.1	<0.03	0.024
W-6	H7055	0.018	<0.1	<0.03	0.12
W-7	H7056	0.036	<0.1	<0.03	2.0
PT-10	H7057	0.20	<0.1	<0.03	<0.02
PT-11	H7058	0.095	<0.1	<0.03	<0.02
PT-12	H7059	0.031	0.12	<0.03	<0.02
PT-15	H7060	0.014	<0.1	<0.03	<0.02
PT-16	H7061	0.087	<0.1	<0.03	<0.02
PT-17	H7062	0.072	<0.1	<0.03	<0.02

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: DRS,NJH
Approved by: Nancy J Howe
Date: 25-APR-1989

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Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057
Tel: (315) 432-0506
1-800-950-0506

LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

Sample ID	Lab ID	TOTAL SODIUM MG/L	POTASSIUM MG/L
W-1	H7050	6.7	2.7
W-2	H7051	6.8	0.8
W-3	H7052	3.7	0.9
W-4	H7053	9.0	4.1
W-5	H7054	6.9	0.8
W-6	H7055	9.4	0.8
W-7	H7056	1.4	4.2
PT-10	H7057	35	2.2
PT-11	H7058	46	2.1
PT-12	H7059	45	1.8
PT-15	H7060	28	1.7
PT-16	H7061	4.4	0.6
PT-17	H7062	29	1.0

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: DRS,NJH
Approved by: Nancy J Howe
Date: 25-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

Sample ID	Lab ID	TOTAL ARSENIC MG/L	CADMIUM MG/L	CHROMIUM MG/L	SELENIUM MG/L
W-1	H7050	<0.005	0.002	<0.01	<0.005
W-2	H7051	<0.005	<0.001	<0.01	<0.005
W-3	H7052	<0.005	<0.001	<0.01	<0.005
W-4	H7053	<0.005	0.001	<0.01	<0.005
W-5	H7054	<0.005	<0.001	<0.01	<0.005
W-6	H7055	<0.005	<0.001	<0.01	<0.005
W-7	H7056	<0.005	<0.001	<0.01	<0.005
PT-10	H7057	<0.005	<0.001	<0.01	<0.005
PT-11	H7058	<0.005	<0.001	<0.01	<0.005
PT-12	H7059	<0.005	<0.001	<0.01	<0.005
PT-15	H7060	<0.005	<0.001	<0.01	<0.005
PT-16	H7061	<0.005	<0.001	<0.01	<0.005
PT-17	H7062	<0.005	<0.001	<0.01	<0.005

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: DRS,NJH
Approved by: Nancy J Howe
Date: 25-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

TOTAL MERCURY

Sample ID	Lab ID	MG/L
W-1	H7050	0.002
W-2	H7051	0.002
W-3	H7052	<0.002
W-4	H7053	<0.002
W-5	H7054	<0.002
W-6	H7055	<0.002
W-7	H7056	<0.002
PT-10	H7057	<0.002
PT-11	H7058	<0.002
PT-12	H7059	<0.002
PT-15	H7060	<0.002
PT-16	H7061	<0.002
PT-17	H7062	<0.002
PT-10	H7063	<0.002
PT-11	H7064	<0.002
PT-12	H7065	<0.002
PT-15	H7066	<0.002
PT-16	H7067	<0.002
PT-17	H7068	<0.002

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: NJH
Approved by: Nancy J House
Date: 25-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

TOTAL ORGANIC CARBON

Sample ID	Lab ID	MG/L
W-1	H7082	6.1
W-2	H7083	4.5
W-3	H7084	5.6
W-4	H7085	11.3
W-5	H7086	3.5
W-6	H7087	7.2
W-7	H7088	18.3
PT-10	H7089	2.0
PT-11	H7090	4.4
PT-12	H7091	2.4
PT-15	H7092	4.6
PT-16	H7093	9.4
PT-17	H7094	6.3

Method(s): EPA 415.1
Footnotes:

Submitted by: AES
Approved by: N. Ackerman
Date: 25-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

PHENOLS WATER

Sample ID	Lab ID	MG/L
W-1	H7095	<0.02
W-2	H7096	<0.02
W-3	H7097	<0.02
W-4	H7098	<0.02
W-5	H7099	<0.02
W-6	H7101	<0.02
W-7	H7102	<0.02

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: KAC,ALB
Approved by: N.Ackerman
Date: 28-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

TOTAL ORGANIC HALOGENS - WATER

Sample ID	Lab ID	MG/L
W-1	H7103	<0.010
W-2	H7104	<0.010
W-3	H7105	<0.010
W-4	H7106	0.017
W-5	H7107	<0.010
W-6	H7108	0.037
W-7	H7109	0.016
PT-10	H7110	<0.010
PT-11	H7111	0.010
PT-12	H7112	0.085
PT-15	H7113	0.010
PT-16	H7114	<0.010
PT-17	H7115	0.042

Method(s): STANDARD METHODS 16TH EDITION 506
Footnotes:

Submitted by: BTS
Approved by: N.Ackerman
Date: 28-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

Sample ID	Lab ID	PH ELECTRODE
PT-10	H7076	8.0
PT-11	H7077	7.8
PT-12	H7078	7.8
PT-15	H7079	8.3
PT-16	H7080	7.9
PT-17	H7081	8.0

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: KAC
Approved by: N. Ackerman
Date: 28-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

SPECIFIC CONDUCTANCE

Sample ID	Lab ID	UMHO
PT-10	H7076	760
PT-11	H7077	770
PT-12	H7078	1400
PT-15	H7079	520
PT-16	H7080	600
PT-17	H7081	730

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: PKC
Approved by: N. Ackerman
Date: 28-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
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Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

SULFATE

Sample ID	Lab ID	MG/L
W-1	H7069	220
W-2	H7070	140
W-3	H7071	210
W-4	H7072	130
W-5	H7073	100
W-6	H7074	69
W-7	H7075	29
PT-10	H7076	38
PT-11	H7077	190
PT-12	H7078	300
PT-15	H7079	57
PT-16	H7080	60
PT-17	H7081	86

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: ALB
Approved by: N. Ackerman
Date: 28-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

CHLORIDE

Sample ID	Lab ID	MG/L
W-1	H7069	8.6
W-2	H7070	6.2
W-3	H7071	13
W-4	H7072	6.4
W-5	H7073	6.2
W-6	H7074	6.0
W-7	H7075	1.8
PT-10	H7076	61
PT-11	H7077	46
PT-12	H7078	40
PT-15	H7079	13
PT-16	H7080	18
PT-17	H7081	71

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: ALB
Approved by: N. Ackerman
Date: 28-APR-1989

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 89033116
Location: SEAD

Job Number: L9052

Date Sampled: 29-MAR-1989

PO Number: DAAC71-88-Q-B276

NITRATE

Sample ID	Lab ID	NO3-N MG/L
PT-10	H7076	0.035
PT-11	H7077	0.12
PT-12	H7078	1.4
PT-15	H7079	0.16
PT-16	H7080	0.77
PT-17	H7081	1.2

Method(s): EPA 600/4-79-020
Footnotes:

Submitted by: ALB
Approved by: N. Ackerman
Date: 28-APR-1989

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REPORT OF ANALYSES

22 APR 1988 MW

RETURN ADDRESS

WDED

PROJECT NUMBER: 38-

DATE SAMPLES REC'D: 12 Apr 88

PROJECT OFFICER: Beth Martin (?)

SAMPLED INSTALLATION: Seneca AD.

LAB NUMBER	SAMPLE NUMBER	SAMPLE RESULTS (PARAMETER AND UNITS)						
		ppb 2,6-DNT	ppb 2,4-DNT	ppb 2,4,6-TNT	ppb RDX	ppb Hmx	ppb Tetryl	
F111 27A	N7059	<1	<1	<1	<30	<100	<10	
F111 28A	N7060	<1	<1	<1	<30	<100	<10	
F111 29A	N7061	<1	<1	<1	<30	<100	<10	
F111 30A	N7062	<1	<1	<1	<30	<100	<10	
F111 31A	N7063	<1	<1	<1	<30	<100	<10	
F111 32A	N7064	<1	<1	<1	<30	<100	<10	
F111 33A	N7065	<1	<1	<1	<30	<100	<10	
F111 27B	N7066	<1	<1	<1	<30	<100	<10	
F111 28B	N7067	<1	<1	<1	<30	<100	<10	
F111 29B	N7068	<1	<1	<1	<30	<100	<10	
F111 30B	N7069	<1	<1	<1	<30	<100	<10	
F111 31B	N7070	<1	<1	<1	<30	<100	<10	
F111 32B	N7071	<1	<1	<1	<30	<100	<10	
F111 33B	N7072	<1	<1	<1	<30	<100	<10	

PROCEDURES PERFORMED

G/C Quant

ANALYST(s) (initial)	REVIEWED BY (initial)	DATE RESULTS REPORTED
MH.		20 Apr 88

AEHA Form 14, 1 Sep 82 (HSHB-ML-O)

LOCATION: OB GROUNDS

SAMPLE DATE: 28 MARCH 90

LABORATORY: GALSON LABORATORIES

PARAMETERS: Multiple

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057
Tel: (315) 432-0506
1-800-950-0506

April 23, 1990

Mr. Mark R. Paprocki
Seneca Army Depot
Building 123
Romulus, NY 14541

RE: GTS# L9052

Dear Mr. Paprocki:

Enclosed are the results of the analyses performed on the samples collected March 28 and 29, 1990 by Galson employee Paul Gottler.

Explosive samples were sent to Joe Vondrick of Environmental Science and Engineering in Gainsville, Florida. Results and the invoice will be sent directly to you.

If you have any questions concerning our results, please contact our Laboratory Client Services Department, Extension 126.

Sincerely,

Sharon K. Brakeman

Sharon K. Brakeman
Inorganic Department Manager
GALSON LABORATORIES

SKB/dd

Enclosure

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057
Tel: (315) 432-0506
1-800-950-0506

LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 90032913
Location: ROMULUS, NY

Job Number: L9052
Date Sampled: 3/28-29/90

TOTAL ORGANIC CARBON

Sample ID	Lab ID	MG/L
WELL 5	J7466	6.2
WELL 4	J7467	5.0
WELL 6	J7468	8.7
WELL 1	J7469	5.0
WELL 3	J7470	6.2
WELL 2	J7471	6.4
WELL 7	J7472	6.0
WELL 10	J7473	5.2
WELL 8	J7474	10
WELL 9	J7475	4.6
WELL 11	J7476	5.5
WELL 13	J7477	7.1
WELL 14	J7478	3.0
WELL 12	J7479	5.0
WELL 17	J7480	2.1
WELL 15	J7481	9.8
WELL 16	J7482	4.0

Method(s): EPA 415.1
Footnotes:

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UG - Micrograms
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BL - Blank

Submitted by: AE
Approved by: Ed Stuber
Date: 18-APR-1990

Galson Laboratories

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1-800-950-0506

LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 90032913
Location: ROMULUS, NY

Job Number: L9052
Date Sampled: 3/28-29/90

Sample ID	Lab ID	PHENOLS TOTAL MG/L	SPECIFIC CONDUCTANCE UMHO/CM	CHLORIDE MG/L	SULFATES MG/L
WELL 5	J7466	<0.02	3500	2.8	70
WELL 4	J7467	<0.02	890	3.5	220
WELL 6	J7468	<0.02	680	4.0	93
WELL 1	J7469	<0.02	860	3.4	280
WELL 3	J7470	<0.02	650	4.0	100
WELL 2	J7471	<0.02	520	2.6	73
WELL 7	J7472	<0.02	400	1.2	24
WELL 10	J7473	<0.02	940	13	270
WELL 8	J7474	<0.02	1500	26	640
WELL 9	J7475	<0.02	860	6.8	210
WELL 11	J7476	<0.02	1000	41	250
WELL 13	J7477	<0.02	820	11	250
WELL 14	J7478	<0.02	1100	16	140
WELL 12	J7479	<0.02	9900	11	110
WELL 17	J7480	<0.02	560	2.5	59
WELL 15	J7481	<0.02	1400	11	420
WELL 16	J7482	<0.02	730	1.9	190

Method(s): EPA 600/4-79-020
Footnotes:

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CM - Centimeters
UMHO - Micromohs

Submitted by: PP, AB, SM
Approved by: G. Bedenka
Date: 18-APR-1990

Galson Laboratories

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LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 90032913
Location: ROMULUS, NY

Job Number: L9052
Date Sampled: 3/28-29/90

Sample ID	Lab ID	IRON MG/L	SODIUM MG/L	MANGANESE MG/L
WELL 5	J7466	0.79	5.3	0.028
WELL 4	J7467	4.1	16	0.064
WELL 6	J7468	0.97	8.0	0.019
WELL 1	J7469	1.5	8.6	0.015
WELL 3	J7470	0.67	3.4	<0.008
WELL 2	J7471	1.4	3.5	0.011
WELL 7	J7472	1.6	1.6	0.019
WELL 10	J7473	0.14	10	0.020
WELL 8	J7474	0.68	32	0.029
WELL 9	J7475	0.80	10	0.035
WELL 11	J7476	0.50	17	0.022
WELL 13	J7477	0.14	14	<0.008
WELL 14	J7478	0.29	34	<0.008
WELL 12	J7479	0.89	20	0.019
WELL 17	J7480	4.0	4.8	0.20
WELL 15	J7481	1.1	22	0.044
WELL 16	J7482	1.5	4.9	0.020

Method(s): EPA 600/4-79-020
Footnotes:

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Submitted by: ML
Approved by: Mary Hirthron
Date: 18-APR-1990

Chain of Custody Record

Company Name	Project Manager/Contact
GTS	Ed stuber
Project No.	**Project Name**
GZ-020	Seneca Army Depot

Galson Laboratories
6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Special QA/QC Protocol (Circle)
EPA CLP EPA SW 846
NYS DEC NYS DOH
NJ TIER I CALIFORNIA
NJ TIER II OTHER (Specify)

PARAMETERS FOR ANALYSIS: Explosivity; Phenols; TOC; Sio2, Cl, SO4; Metals Fe, Cu, Mn

SAMPLE LOCATION / SAMPLE ID		Date	Time	Comp.	Grab	Aqueous	Soil	Other	A	B	C	D	E	F	G	H	I	J	K	Laboratory ID Number	Explosivity	Phenols	TOC	Sio2, Cl, SO4	Metals Fe, Cu, Mn					
Well 5	W5	3/28	10:00	X		X															2	1	1	1	1					
well 4	W4		10:15	X		X															2	1	1	1	1					
well 6	W6		10:45	X		X															2	1	1	1	1					
well 1	W1		11:00	X		X															2	1	1	1	1					
well 3	W3		11:30	X		X															2	1	1	1	1					
well 2	W2		11:45	X		X															2	1	1	1	1					
well 7	W7		12:00	X		X															2	1	1	1	1					
well 10	W10		12:15	X		X															2	1	1	1	1					
well 8	W8		1300	X		X															2	1	1	1	1					
well 9	W9		1315	X		X															2	1	1	1	1					
well 11	W11		1330	X		X															2	1	1	1	1					
well 13	W13		1400	X		X															2	1	1	1	1					

REMARKS: Samples collected in order of increasing contaminant concentration

Task No.

SAMPLERS NAME: Paul F. Gottler **SIGNATURE:** Paul F. Gottler

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: Paul F. Gottler SIGNATURE: Paul F. Gottler	DATE: 3/29/90 TIME: 1300	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:

Received For Laboratory By (Signature) Michelle Stonecipher DATE: 3/29/90 TIME: 1:40 PM

Custody Seal Intact?Sample ☐ Yes ☐ No ☐ N.A.

Shipment Complete? ☐ Yes ☐ No

LabStor. Location (Ref. #)	A	B	C	D	E	F	G	H	I	J	K	L

2/89

Chain of Custody Record

Page ____ of ____

Company Name	Project Manager/Contact	Galson Laboratories, 6601 Kirkville Road East, E. Syracuse, New York 13057, 315-432-0506 or 800-950-0506	Special QA/QC Protocol (Circle)
GTS	Ed stuber		EPA CLP, EPA SW 846, NYS DEC, NYS DOH, NJ TIER I, CALIFORNIA, NJ TIER II, OTHER (Specify)
Project No. GZ-020	**Project Name** Seneca Army Depot		

PARAMETERS FOR ANALYSIS: Explosivity; Phenols; TOC; Cl, SO4; Metals Fe Mn Na

SAMPLE LOCATION / SAMPLE ID	Date	Time	TYPE Comp.	TYPE Grab	Aqueous	Soil	Other	A	B	C	D	E	F	G	H	I	J	K	Laboratory ID Number	Explosivity	Phenols	TOC	Cl, SO4	Metals Fe Mn Na
well 14 w14	3 28	1415	X		X															2	1	1	1	1
well 12 w12	"	1430	X		X															2	1	1	1	1
well 17 w17	3 29	10:00	X		X															2	1	1	1	1
well 15 w15	3 28	1445	X		X															2	1	1	1	1
well 16 w16	"	1500	X		X															2	1	1	1	1

REMARKS: Samples collected in order of increasing contaminant concentration, if any.

Task No.

SAMPLERS NAME: Paul F Gottler **SIGNATURE:** Paul F. Gottler

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: Paul F. Gottler SIGNATURE: Paul F. Gottler	DATE: 3-29-90 TIME: 1300	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:

Received For Laboratory By: (Signature) Michelle Stonecipher DATE: 3/29/90 TIME: 1:40 PM

Custody Seal Intact? Sample ☐ Yes ☐ No ☐ N.A.

Shipment Complete? ☐ Yes ☐ No

LabStor. Location (Ref. #)	A	B	C	D	E	F	G	H	I	J	K	L

2/89

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus, N.Y.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 1000

WEATHER: Cloudy Cool

WELL I. D.: well 5 W5

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 11.26 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 2.68 FEET

D. WELL ELEVATION: ____

E. WATER ELEVATION: ____

PURGING

BAILER TYPE: Voss disposable

PUMP TYPE: —

INSIDE WELL DIAMETER: 4.0 INCHES

WELL VOLUME: (11.26) FEET (TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (2.68) FEET (DEPTH OF WATER FROM REFRENCE POINT) × (.66) FEET (CONVERSION* FACTOR) = 5.66 GAL

*CONVERSION FACTORS: 2 INCH WELL = .16 OR (4 INCH WELL = .65)

AMOUNT PURGED: to be 17.0 gal was 10 gallons - well dry

SAMPLING

BAILER TYPE: Voss disposable

PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: 3 - 1 l bottles

3 250 ml "

#11 (6) labeled W5

SAMPLE DESCRIPTION: generally clear

COMMENTS: bailed volume not increasingly cloudy with depth. Very high as we purged dry

SAMPLED BY: Paul F. Gaither

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus, N.Y.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 10:15

WEATHER: Snowing

WELL I. D.: well 4 W4

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 12.32 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 5.85 FEET

D. WELL ELEVATION ____

E. WATER ELEVATION ____

PURGING

BAILER TYPE: Voss

PUMP TYPE: —

INSIDE WELL DIAMETER: 4 INCHES

WELL VOLUME: (12.32) FEET (TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (5.85) FEET (DEPTH OF WATER FROM REFRENCE POINT) × (.66) FEET (CONVERSION* FACTOR) = 4.3 GALLONS

*CONVERSION FACTORS: 2 INCH WELL = .16 OR 4 INCH WELL = .65

AMOUNT PURGED: Should be-12.8 was -12.8

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: (3) 1 l bottles

(2) 250 ml "

All (6) labeled W-4

SAMPLE DESCRIPTION: Slightly cloudy

COMMENTS: could see water entering well after pumping 7 gallons of water, water only slightly cloudy after 12 gallons

SAMPLED BY: Paul F. Gother

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus NY

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 10:45

WEATHER: Sunny - Cold

WELL I. D.: Well 6 W6

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 11.05 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 3.10 FEET

D. WELL ELEVATION ____

E. WATER ELEVATION ____

PURGING

BAILER TYPE: Voss

PUMP TYPE: -

INSIDE WELL DIAMETER: 4.0 INCHES

WELL VOLUME: (11.05) FEET (TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (3.10) FEET (DEPTH OF WATER FROM REFRENCE POINT) × (.66) FEET (CONVERSION* FACTOR) = 5.3 GALLONS

*CONVERSION FACTORS: 2 INCH WELL = .16 OR (4 INCH WELL = .65)

AMOUNT PURGED: Should be ~15.9 gal ; was ~ 7.5 well dry at 7.0

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: -

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: 3 - 1 l bottles

3 - 250 ml "

All (6) labeled W-6

SAMPLE DESCRIPTION: generally clear

COMMENTS: bailed volume continued high - recorded sediment concentration after 5.0 gallons purged

SAMPLED BY: Paul F. Gunther

Galson
Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus, N.Y.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 11:00

WEATHER: Sunny Cold

WELL I.D.: Well 1 W1

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING • ____ TOP OF PROTECTIVE CASING • ____ TOP OF CURB BOX •

A. DEPTH OF WATER FROM REFERENCE POINT: 13.65 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 7.05 FEET

D. WELL ELEVATION ____

E. WATER ELEVATION ____

PURGING

BAILER TYPE: Voss

PUMP TYPE: —

INSIDE WELL DIAMETER: 4 INCHES

WELL VOLUME: (13.65) FEET (TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (7.05) FEET (DEPTH OF WATER FROM REFRENCE POINT) × (.66) FEET (CONVERSION* FACTOR) = 4.3 GALLONS

*CONVERSION FACTORS: 2 INCH WELL = .16 OR 4 INCH WELL = .65

AMOUNT PURGED: should be 12.9 gallons, was 9, dry at 8.5 gal

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: 3 - 1 l bottles
3 - 250 ml "
All (6) labeled W-1

SAMPLE DESCRIPTION: clear

COMMENTS: casing height is ~4'6" off ground
[illegible] suspended sediment concentration
at depths, well purged dry

SAMPLED BY: Paul F Gotter

PAGE 4 OF 17

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT Seneca Army Depot

LOCATION Romulus, NY

CLIENT Galson Laboratories (Seneca Army Depot)

DATE(S) 3-28-90

JOB NUMBER GZ-020

TIME(S) 11:30

WEATHER Snowy & Cold

WELL I.D. Well 3 W3

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ___ TOP OF PROTECTIVE CASING · ___ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 15.96 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ___ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 7.26 FEET

D. WELL ELEVATION ___

E. WATER ELEVATION ___

PURGING

BAILER TYPE: Voss PUMP TYPE: —

INSIDE WELL DIAMETER: 4.0 INCHES

WELL VOLUME: (15.96 FEET (TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (7.26 FEET (DEPTH OF WATER FROM REFRENCE POINT) × (.66 FEET (CONVERSION* FACTOR) = 5.7 GALLONS

*CONVERSION FACTORS: 2 INCH WELL = .16 OR 4 INCH WELL = .65

AMOUNT PURGED: started @ 17.2, was 15.0 dry @ 14.5

SAMPLING

BAILER TYPE: dedicated PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: (3) - 1 l bottles

(3) - 250 ml "

All (6) labeled W-3

SAMPLE DESCRIPTION: ___

COMMENTS: Bailed volume had high suspended sediment volume after 7.0 gallons purged. Purged well dry

SAMPLED BY: Paul F. Gottler

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT Seneca Army Depot

LOCATION Romulus, NY

CLIENT Galson Laboratories (Seneca Army Depot)

DATE(S) 3-28-90

JOB NUMBER GZ-020

TIME(S) 1145

WEATHER Sunny - cold

WELL I. D. well 2 W2

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 9.36 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 6.10 FEET

D. WELL ELEVATION ____

E. WATER ELEVATION ____

PURGING

BAILER TYPE: Voss

PUMP TYPE: ____

INSIDE WELL DIAMETER: 4.0 INCHES

WELL VOLUME: (9.36) FEET − (6.10) FEET × (.66) FEET = 2.1 GALLONS

(TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (DEPTH OF WATER FROM REFRENCE POINT) × (CONVERSION* FACTOR) = GALLONS

* CONVERSION FACTORS: 2 INCH WELL = .16 OR 4 INCH WELL = .65

AMOUNT PURGED: should be 6.3 gal, was 4.0 dry @ 3.0

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: ____

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: 3 - 1 l bottles

3 - 250 ml "

All (6) labeled W-2

SAMPLE DESCRIPTION: cloudy

COMMENTS: ____

SAMPLED BY: Paul F Gruber

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus, NY.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 1200

WEATHER: Clear

WELL I. D.:

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 7.62 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 2.64 FEET

D. WELL ELEVATION: ____

E. WATER ELEVATION: ____

PURGING

BAILER TYPE: Vass

PUMP TYPE: ____

INSIDE WELL DIAMETER: 4.0 INCHES

WELL VOLUME: (7.62) FEET − (2.64) FEET × (.65) FEET = 3.3 GALLONS

(TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (DEPTH OF WATER FROM REFRENCE POINT) × (CONVERSION* FACTOR)

*CONVERSION FACTORS: 2 INCH WELL = .16 OR 4 INCH WELL = .65

AMOUNT PURGED: should be 9.8 gal, was 6.5 dry at 5.5

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: ____

LIST OF CONTAINERS FILLED IN THE FIELD: (3) - 1 l bottles

(3) - 250 ml "

All (6) labeled W-7

SAMPLE DESCRIPTION: Slightly cloudy

COMMENTS: Bailed volume got increasingly cloudy, high suspended sediment after 5 gallons purged

SAMPLED BY: Paul F. Gaffler

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus, N.Y.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 1215

WEATHER: Cloudy Cold

WELL I. D.: Well 10 W-10

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 10.97 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 2.91 FEET

D. WELL ELEVATION: ____

E. WATER ELEVATION: ____

PURGING

BAILER TYPE: Joss dedicated

PUMP TYPE: —

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (10.97) FEET (TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (2.91) FEET (DEPTH OF WATER FROM REFRENCE POINT) × (0.16) FEET (CONVERSION* FACTOR) = 1.3 GALLONS

*CONVERSION FACTORS: 2 INCH WELL = .16 OR 4 INCH WELL = .65

AMOUNT PURGED: Supposed to be 3.8 gallons was 3.8 gal

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: (3) 1 l bottles

(3) 250 ml "

All (6) labeled W-10

SAMPLE DESCRIPTION: clear

COMMENTS: entire bailed volume was clear

SAMPLED BY: Paul F Gaffler

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus, NY.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: G7-020

TIME(S): 1300

WEATHER: clear + Cool

WELL I.D.: We[illegible]

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING * ___ TOP OF PROTECTIVE CASING * ___ TOP OF CURB BOX *

A. DEPTH OF WATER FROM REFERENCE POINT: 11.07 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ___ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 2.97 FEET

D. WELL ELEVATION: ___

E. WATER ELEVATION: ___

PURGING

BAILER TYPE: Vo[illegible] - cleaned w/ DI water

PUMP TYPE: ___

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (11.07) FEET (TOTAL DEPTH OF WELL FROM REFERENCE POINT) − (2.97) FEET (DEPTH OF WATER FROM REFERENCE POINT) × (0.16) FEET (CONVERSION* FACTOR) = 1.0 GALLONS

* CONVERSION FACTORS: (2 INCH WELL = .16) OR 4 INCH WELL = .65

AMOUNT PURGED: should be 2.9 gal was 2.8 gallons

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: ___

LIST OF CONTAINERS FILLED IN THE FIELD: (3) 1 l bottles
(3) 250ml "
All (6) labeled W-8

SAMPLE DESCRIPTION: clear

COMMENTS: All clear, no suspended sediment

SAMPLED BY: Paul F. Gottler

PAGE 9 OF 17

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus, NY.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 1315

WEATHER: Cold + cloudy

WELL I.D.: Well 9 W9

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 8.20 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 1.79 FEET

D. WELL ELEVATION ____

E. WATER ELEVATION ____

PURGING

BAILER TYPE: Teflon

PUMP TYPE: ____

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (6.96) FEET (TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (1.79) FEET (DEPTH OF WATER FROM REFRENCE POINT) × (.16) FEET (CONVERSION* FACTOR) = 1.1 GALLONS

*CONVERSION FACTORS: 2 INCH WELL = .16 OR 4 INCH WELL = .65

AMOUNT PURGED: should be 3.3 gallons was 3.3 gallons

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: (3) 1 L bottles

(3) 250 ml "

All (6) labeled W-9

SAMPLE DESCRIPTION: clear

COMMENTS: Purged volume contained no suspended sediment

SAMPLED BY: Paul F Gothler

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus, N.Y.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90, 3-29-90

JOB NUMBER: G7-020

TIME(S): 13.45

WEATHER: Cold, cloudy

WELL I. D.: WELL 11 W-11

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 10.94 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 2.77 FEET

D. WELL ELEVATION ____

E. WATER ELEVATION ____

PURGING

BAILER TYPE: Voss dedicated

PUMP TYPE: ____

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (10.94) FEET (TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (2.77) FEET (DEPTH OF WATER FROM REFRENCE POINT) × (0.16) FEET (CONVERSION* FACTOR) = 1.3 GALLONS

* CONVERSION FACTORS: (2 INCH WELL = .16) OR 4 INCH WELL = .65

AMOUNT PURGED: should purge 3.9 gallons; 3.9 gallons done

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: ____

LIST OF CONTAINERS FILLED IN THE FIELD: (3) 1 liter bottles

(3) 250 ml "

All (6) labeled W-11

SAMPLE DESCRIPTION: clear

COMMENTS: Entire volume bailed was clear

Ice at top of well

SAMPLED BY: Paul F. Gottler

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT Seneca Army Depot

LOCATION Romulus, NY.

CLIENT Galson Laboratories (Seneca Army Depot)

DATE(S) 3-28-90

JOB NUMBER GZ-020

TIME(S) 1900

WEATHER Clear + Cool

WELL I. D. Well 13 W 13

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 9.92 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 2.43 FEET

D. WELL ELEVATION ____

E. WATER ELEVATION ____

PURGING

BAILER TYPE: Used - now dedicated PUMP TYPE: ____

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (9.92) FEET − (2.43) FEET × (0.16) FEET = 1.2 GALLONS
(TOTAL DEPTH OF WELL FROM REFRENCE POINT) (DEPTH OF WATER FROM REFRENCE POINT) (CONVERSION* FACTOR)

* CONVERSION FACTORS: (2 INCH WELL = .16) OR 4 INCH WELL = .65

AMOUNT PURGED: was 3.6 gallons, all clear

SAMPLING

BAILER TYPE: dedicated PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: (3) 1 liter bottles

(3) 250 ml "

All (6) labeled W-13

SAMPLE DESCRIPTION: clear

COMMENTS: Entire bailed volume was clear

Ice at top of well

SAMPLED BY: ____

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus, N.Y.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 1415

WEATHER: Clear + Cool

WELL I. D.: well 14 w14

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 10.40 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 2.37 FEET

D. WELL ELEVATION: ____

E. WATER ELEVATION: ____

PURGING

BAILER TYPE: dedicated Voss

PUMP TYPE: ____

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (10.40) FEET − (2.37) FEET × (0.16) FEET = 1.3 GALLONS
(TOTAL DEPTH OF WELL FROM REFERENCE POINT) (DEPTH OF WATER FROM REFERENCE POINT) (CONVERSION* FACTOR)

*CONVERSION FACTORS: 2 INCH WELL = .16 OR 4 INCH WELL = .65

AMOUNT PURGED: Bailed 3.8 gallons all clear

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: (3) 1 liter bottles
3 250 ml "
All (6) labeled w-14

SAMPLE DESCRIPTION: Clear

COMMENTS: Clear for entire bailed volume
Ice at top of well

SAMPLED BY: Paul F. Gaffler

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT Seneca Army Depot

LOCATION Romulus NY.

CLIENT Galson Laboratories (Seneca Army Depot)

DATE(S) 3-28-90

JOB NUMBER GZ-020

TIME(S) 1430

WEATHER clear + Cool

WELL I. D. well 12 W12

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ___ TOP OF PROTECTIVE CASING · ___ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 8.94 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ___ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 1.97 FEET

D. WELL ELEVATION ___

E. WATER ELEVATION ___

PURGING

BAILER TYPE: voss - dedicated

PUMP TYPE: ___

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (8.94) FEET − (1.97) FEET × (0.16) FEET = 1.1 GALLONS

(8.94 = TOTAL DEPTH OF WELL FROM REFRENCE POINT; 1.97 = DEPTH OF WATER FROM REFRENCE POINT; 0.16 = CONVERSION* FACTOR)

*CONVERSION FACTORS: (2 INCH WELL = .16) OR 4 INCH WELL = .65

AMOUNT PURGED: 3.3 gallons, all clear

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: 3 1 Liter bottles

3 250 ml "

All (6) labeled W-12

SAMPLE DESCRIPTION: clear

COMMENTS: Thick ice, had to wait till noon to bail.

Bailed volume all clear

SAMPLED BY: Paul F Gottler

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus NY.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-29-90

JOB NUMBER: GZ-020

TIME(S): 10:00 AM

WEATHER: clear + Cool

WELL I. D.: Well 17 W17

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 10.33 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 1.41 FEET

D. WELL ELEVATION: ____

E. WATER ELEVATION: ____

PURGING

BAILER TYPE: Voss - dedicated

PUMP TYPE: —

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (10.33) FEET − (1.41) FEET × (0.16) FEET = 1.0 GALLONS

(TOTAL DEPTH OF WELL FROM REFRENCE POINT) − (DEPTH OF WATER FROM REFRENCE POINT) × (CONVERSION* FACTOR) = GALLONS

* CONVERSION FACTORS: (2 INCH WELL = .16) OR 4 INCH WELL = .65

AMOUNT PURGED: 3.1 gallons

SAMPLING

BAILER TYPE: Voss dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: (3) 1 liters - explosivity

(1)-1 Liter Phenols, (1) 250ml TOC

(1)-250 ml metals (1) 250 ml sp Cond.

SAMPLE DESCRIPTION: slightly cloudy

(high recharge of well)

COMMENTS: Ice too thick to break, lost bailer in well retrieved @ 3-29-90.

Sampled + bailed 3-29-90 at 10:4M

Bailed sample a little cloudy

SAMPLED BY: Paul F. Gottler

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus NY.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 1445

WEATHER: clear + Cool

WELL I. D.: Well 15 W 15

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 8.57 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 1.95 FEET

D. WELL ELEVATION ____

E. WATER ELEVATION ____

PURGING

BAILER TYPE: Voss dedicated

PUMP TYPE: ____

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (8.57) FEET − (1.95) FEET × (0.16) FEET = 1.4 GALLONS

(TOTAL DEPTH OF WELL FROM REFERENCE POINT) − (DEPTH OF WATER FROM REFRENCE POINT) × (CONVERSION* FACTOR) = GALLONS

*CONVERSION FACTORS: (2 INCH WELL = .16) OR 4 INCH WELL = .65

AMOUNT PURGED: 4.3 gallons all clear

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: ____

COMPONENTS MATERIALS: ____

LIST OF CONTAINERS FILLED IN THE FIELD: (3) - 1 Liters

(3) - 250 ml

All (6) Labeled — W-15

SAMPLE DESCRIPTION: clear

COMMENTS: Thick ice at well prevented early bailing

bailed at 12:30 sampled at 1500

Bailed volume all clear

SAMPLED BY: Paul F. Gottler

Galson Technical Services

GROUNDWATER SAMPLING LOG

PROJECT: Seneca Army Depot

LOCATION: Romulus N.Y.

CLIENT: Galson Laboratories (Seneca Army Depot)

DATE(S): 3-28-90

JOB NUMBER: GZ-020

TIME(S): 1500

WEATHER: clear + Cool

WELL I. D.: well 16 W 16

WATER LEVEL MEASUREMENT (BEFORE PURGING)

X TOP OF CASING · ____ TOP OF PROTECTIVE CASING · ____ TOP OF CURB BOX ·

A. DEPTH OF WATER FROM REFERENCE POINT: 8.51 FEET

B. HEIGHT OF REFRENCE POINT ABOVE GROUND SURFACE: ____ FEET

C. DEPTH OF WATER FROM GROUND SURFACE: 2.00 FEET

D. WELL ELEVATION ____

E. WATER ELEVATION ____

PURGING

BAILER TYPE: Voss - dedicated

PUMP TYPE: ____

INSIDE WELL DIAMETER: 2.0 INCHES

WELL VOLUME: (8.51) FEET − (2.00) FEET × (0.16) FEET = 1.0 GALLONS

(8.51) TOTAL DEPTH OF WELL FROM REFERENCE POINT; (2.00) DEPTH OF WATER FROM REFRENCE POINT; (0.16) CONVERSION* FACTOR

*CONVERSION FACTORS: 2 INCH WELL = .16 OR 4 INCH WELL = .65

AMOUNT PURGED: 3.1 gallons, all clear

SAMPLING

BAILER TYPE: dedicated

PUMP TYPE: —

COMPONENTS MATERIALS: —

LIST OF CONTAINERS FILLED IN THE FIELD: (3) - 1 liters

(3) - 250 ml

All (6) labeled W-16

SAMPLE DESCRIPTION: clear

COMMENTS: Bailed volume clear

ice thin at top of well

SAMPLED BY: Paul F. Gottler

PAGE 17 OF 17

38209

Invoice No.

4/23/90

Galson Laboratories

6601 Kirkville Road
E. Syracuse, N.Y. 13057
Tel. (315) 432-0506

Client:

SENECA ARMY DEPOT
BUILDING 123
ROMULUS, NY 14541 Attn:MARK PAPROCKI

Date: L9052

Job No: DAAC7189M2651

Client's No: W16G1A91517012

Terms: Net 30 Days. 1½% service charge per month on unpaid balance.

Sample List And Pricing

Task:90032913 Date Received:29-MAR-1990 Location:ROMULUS, NY

Sample(s) Type:WATER

J7466	.J7467	.J7468	.J7469	.J7470
J7471	.J7472	.J7473	.J7474	.J7475
J7476	.J7477	.J7478	.J7479	.J7480
J7481	.J7482			

W-PN :PHENOLS-TOTAL	$	35.00
W-TOC :TOTAL ORGANIC CARBON	$	20.00
W-SPCD:SPECIFIC CONDUCTANCE	$	10.00
W-CL :CHLORIDE	$	20.00
W-SO4 :SULFATES	$	20.00
MWW-FE:IRON	$	10.00
MWW-NA:SODIUM	$	12.00
MWW-MN:MANGANESE	$	10.00
M-DIGN:SAMPLE DIGESTION FEE	$	35.00
Sample cost :	$	172.00
For 17 sample(s)	$	2924.00
T-MISC: SAMPLING CHARGE	$	1000.00
Cost of Task:	$	3924.00

RECEIVED 4-27-90 Mark R. Paprocki

LOCATION: OB GROUNDS

SAMPLE DATE: 03/28-29/90

LABORATORY: GALSON

PARAMETERS: TOX

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057
Tel: (315) 432-0506
1-800-950-0506

RECEIVED
6-13-90
Mark R. Paprocki

June 11, 1990

Mr. Mark Paprocki
Seneca Army Depot
Bldg. 123
Romulus, NY 14541

RE: GTS# L9052

Dear Mr. Paprocki:

Enclosed are the results of the analyses performed on the samples we received on March 23, 1990. These results were originally ommitted from our report sent to you on April 23, 1990.

If you have any questions concerning our results, please contact our Client Services Department at Extension 126.

Sincerely,

Ed Stuber

Edward A. Stuber, CIH
Associate Laboratory Director
GALSON LABORATORIES

EAS/vw

Enclosure

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057
Tel: (315) 432-0506
1-800-950-0506

LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 90032913
Location: ROMULUS,NY

Job Number: L9052
Date Sampled: 03/28-29/90

	Lab ID:	J7466	J7467	J7468	J7469
	Client ID:	WELL 5	WELL 4	WELL 6	WELL 1
TOTAL ORGANIC HALOGENS	MG/L	0.03	0.02	0.05	0.04

Method(s): STANDARD METHODS 16TH EDITION
Footnotes:

(<) - Less Than
(>) - Greater Than
NA - Not Applicable
ND - Not detectable
NS - Not specified
MG - Milligrams
L - Liters
M^3 - Cubic Meter
MG/M^3 - Milligrams Per Cubic Meter
PPM - Parts Per Million
UG - Micrograms
NG - Nanograms
BL - Blank

Submitted by: NEI
Approved by: [signature]
Date: 5-JUN-1990

39300

Chain of Custody Record

Page 1 of 1

Company Name	Project Manager/Contact
[illegible]	—

Project No.	Project Name
[illegible]	[illegible]

Galson Laboratories
6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Special QA/QC Protocol (Circle)

EPA CLP	EPA SW 846
NYS DEC	NYS DOH
NJ TIER I	CALIFORNIA
NJ TIER II	OTHER (Specify)

SAMPLE LOCATION / SAMPLE ID	Date	Time	TYPE Comp.	TYPE Grab	Aqueous	Soil	Other	A	B	C	D	E	F	G	H	I	J	K	Laboratory ID Number	PARAMETERS FOR ANALYSIS: VOA
[illegible]	[illegible]																		[illegible]	1
[illegible]	1																		[illegible]	1
[illegible]	1																		[illegible]	1
[illegible]	1																		[illegible]	1
[illegible]																			[illegible]	1
[illegible]																			[illegible]	1
[illegible]																			[illegible]	1
[illegible]	1/																		[illegible]	
[illegible]																				
[illegible]																				

REMARKS:

Task No.

SAMPLERS NAME: [illegible]

SIGNATURE:

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: [illegible]	DATE: [illegible]	NAME:	DATE:
SIGNATURE: [illegible]	TIME: [illegible]	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATURE:	TIME:	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATURE:	TIME:	SIGNATURE:	TIME:

Received For Laboratory By: (Signature) Lynn Anderson DATE: TIME: 5/23 9:10

Custody Seal Intact? Sample ☐ Yes ☐ No ☐ N.A.

Shipment Complete? ☐ Yes ☐ No

LabStor. Location (Ref. #)	A	B	C	D	E	F	G	H	I	J	K	L

2/89

39300

Chain of Custody Record

Page 1 of 1

Company Name	Project Manager/Contact

Project No.	Project Name

Galson Laboratories
6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Special QA/QC Protocol (Circle)
EPA CLP EPA SW 846
NYS DEC NYS DOH
NJ TIER I CALIFORNIA
NJ TIER II OTHER (Specify)

SAMPLE LOCATION / SAMPLE ID	Date	Time	TYPE Comp.	Grab	Aqueous	Soil	Other	A	B	C	D	E	F	G	H	I	J	K	Laboratory ID Number	PARAMETERS FOR ANALYSIS

REMARKS:

Task No.

SAMPLERS NAME:

SIGNATURE:

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: [illegible]	DATE: 5/24/90	NAME:	DATE:
SIGNATURE: [illegible]	TIME: [illegible]	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATURE:	TIME:	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATURE:	TIME:	SIGNATURE:	TIME:

Received For Laboratory By: (Signature) Lynn Henderson DATE: 5/24/90 TIME:

Custody Seal Intact? Sample ☐ Yes ☐ No ☐ N.A.

Shipment Complete? ☐ Yes ☐ No

LabStor. Location (Ref. #)	A	B	C	D	E	F	G	H	I	J	K	L

2/89

LOCATION: OB GROUNDS

SAMPLE DATE: 10 APRIL 90

LABORATORY: AEHA

PARAMETERS: EXPLOSIVES

RECEIVE

Environmental Science & Engineering, Inc.

A CILCORP Company

April 11, 1990
ESE No. 3904078-0100-3200

Mr. Mark R. Paprocki
Seneca Army Depot
Bldg. 123
Romulus, New York 14541

Dear Mr. Paprocki:

Enclosed are the results of analysis of 17 groundwater samples delivered to ESE for nitroaromatic explosives analysis. The samples were received at ESE on March 31, 1990.

The samples were analyzed in accordance with procedures specified in methods that are certified for use by USATHAMA in environmental water samples. The method used was Explosives in Water by HPLC, Method UW14. A summary of the Quality Control (QC) samples analyzed is also enclosed.

Your cost for this analysis is $6,375.00 as previously agreed (as per P.O. # DAAC7190V0933). An itemized invoice in this amount will follow shortly. Payment is requested within 30 days of the invoice date to avoid 18% APR carrying charges.

Thank you for giving ESE this opportunity to be of service. Please call me if you have any questions or when you again require our service.

Sincerely,

Joseph J. Vondrick

Joseph J. Vondrick
Project Coordinator

JJV:sak
Enclosure

P.O. Box 1703 Gainesville, FL 32602-1703 Phone (904) 332-3318 Outside FL 800/874-8752 FAX (904) 332-0507

Formerly known as Hunter ESE, Inc.

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK
SEAD LAB COORDINATOR JOE VONDRICK

SAMPLE ID'S PARAMETERS UNITS	STORET METHOD	W1 SENECA 1	W2 SENECA 2	W3 SENECA 3	W4 SENECA 4	W5 SENECA 5	W6 SENECA 6	W7 SENECA 7
DATE		03/28/90	03/28/90	03/28/90	03/28/90	03/28/90	03/28/90	03/28/90
TIME		11:00	11:45	11:30	10:15	10:00	10:45	12:00
2,4-DINITROTOLUENE UG/L	34611 UW14	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612
2,6-DINITROTOLUENE UG/L	34626 UW14	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
HMX UG/L	99431 UW14	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65
RDX UG/L	81364 UW14	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11
TETRYL,TOTAL UG/L	99733 UW14	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
2,4,6-TRINITROTOLUENE,TOTAL UG/L	81360 UW14	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK
SEAD LAB COORDINATOR JOE VONDRICK

SAMPLE ID'S		W8	W9	W10	W11	W12	W13	W14
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	8	9	10	11	12	13	14
DATE		03/28/90	03/28/90	03/28/90	03/28/90	03/28/90	03/28/90	03/28/90
TIME		13:20	13:30	13:00	13:45	14:30	14:00	14:15
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612
UG/L	UW14							
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
UG/L	UW14							
HMX	99431	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65
UG/L	UW14							
RDX	81364	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11
UG/L	UW14							
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
UG/L	UW14							
2,4,6-TRINITROTOLUEN	81360	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588
E,TOTAL UG/L	UW14							

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK
SEAD LAB COORDINATOR JOE VONDRICK

SAMPLE ID'S		W15	W16	W17
PARAMETERS	STORET	SENECA	SENECA	SENECA
UNITS	METHOD	15	16	17
DATE		03/28/90	03/28/90	03/29/90
TIME		14:45	15:00	10:00
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612
UG/L	UW14			
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15
UG/L	UW14			
HMX	99431	<1.65	<1.65	<1.65
UG/L	UW14			
RDX	81364	<2.11	<2.11	<2.11
UG/L	UW14			
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6
UG/L	UW14			
2,4,6-TRINITROTOLUENE,TOTAL	81360	<0.588	<0.588	<0.588
UG/L	UW14			

ESE BATCH : G12553

QC TYPE : USATHAMA
ANALYST : SCOTT MCMILLEN
EXTRACTOR : DOUG DABNEY
DATA ENTRY : SCOTT MCMILLEN

REPORT DATE/TIME : 04/10/90 10:15:13
ANALYSIS DATE : 04/04/90
EXTRACT DATE : 04/04/90

S S : FINAL

STORET: 99431 METHOD: UW14 HMX, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 26 MAR 1990 LARGEST RESPONSE=1273979(USER DEFINED) %RSD=6.2849

CONC :	0	27.75	55.5	111	555	2220
RESP :	0	14639	27319	56895	310631	1273979
CONC':	7.0333	32.486	54.533	105.96	547.13	2222.1

CONC = 7.0333+ 1.7387E-3*RESP+ *RESP**2+ *RESP**3
95% C.I.= 6.0254 1.1242E-5
CORRELATION COEFFICIENT = 1

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
SENECA*81	0.0

CONTINUING CALIBRATION STANDARD(S) *** Quality Control Check ***

STANDARD ID	INIT. RESP	CALIB RESP	DIFFERENCE%
4490*1	1290000	1273979	1.2707
4490*3	1310000	1273979	2.8563

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
4490*1	2390	2400	.4167

STORET: 81364 METHOD: UW14 RDX, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 26 MAR 1990 LARGEST RESPONSE=1422654 %RSD=11.2761

CONC :	0	25	50	100	500	2000
RESP :	0	22416	36775	69923	349028	1422654
CONC':	0.00480	31.551	51.758	98.408	491.19	2002.1

CONC = 4.8275E-3+ 1.4073E-3*RESP+ *RESP**2+ *RESP**3
95% C.I.= 5.3866 8.9932E-6
CORRELATION COEFFICIENT = 1

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
SENECA*81	0.07843

CONTINUING CALIBRATION STANDARD(S) *** Quality Control Check ***

STANDARD ID	INIT. RESP	CALIB RESP	DIFFERENCE%
4490*1	1460000	1422654	2.522
4490*3	1470000	1422654	3.6258

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
4490*1	2290	2380	3.7815

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*SENECA*81	0.07843	2.4237	2.3453	3.0400	77.14	
SP2*SENECA*81	0.07843	24.196	24.118	30.400	79.33	
SP3*SENECA*81	0.07843	24.180	24.101	30.400	79.27	

STORET: 99733 METHOD: UW14 TETRYL,TOTAL, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 26 MAR 1990 LARGEST RESPONSE=2284194 %RSD=3.5284

CONC :	0	25.12	50.25	100.5	502.5	2010
RESP :	0	27508	54178	103816	557133	2284194
CONC':	4.7266	28.901	52.339	95.961	494.34	2012.1

CONC = 4.7266+ 8.7881E-4*RESP+ *RESP**2+ *RESP**3
95% C.I.= 5.4122 5.6312E-6
CORRELATION COEFFICIENT = 1

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
SENECA*81	0.0

CONTINUING CALIBRATION STANDARD(S) *** Quality Control Check ***

STANDARD ID	INIT. RESP	CALIB RESP	DIFFERENCE%
4490*1	2320000	2284194	1.4941
4490*3	2320000	2284194	1.442

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
4490*1	2250	2270	.8811

STORET: 81360 METHOD: UW14 2,4,6-TRINITROTOLUENE,TOTAL, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 26 MAR 1990 LARGEST RESPONSE=3195824 %RSD=4.0931

CONC :	0	29	58	116	580	2320
RESP :	0	40833	76252	146917	780771	3195824
CONC':	4.5861	34.200	59.888	111.14	570.84	2322.4

CONC = 4.5861+ 7.2525E-4*RESP+ *RESP**2+ *RESP**3
95% C.I.= 6.0358 4.488E-6
CORRELATION COEFFICIENT = 1

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
SENECA*81	0.0

CONTINUING CALIBRATION STANDARD(S) *** Quality Control Check ***

STANDARD ID	INIT. RESP	CALIB RESP	DIFFERENCE%
4490*1	3230000	3195824	1.0078
4490*3	3260000	3195824	2.0204

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
4490*1	2150	2200	2.2727

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*SENECA*81	0.0	2.3380	2.3380	2.6500	88.22	
SP2*SENECA*81	0.0	24.266	24.266	26.500	91.57	
SP3*SENECA*81	0.0	24.104	24.104	26.500	90.95	

STORET: 34626 METHOD: UW14 2,6-DINITROTOLUENE, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 26 MAR 1990 LARGEST RESPONSE=2912765 %RSD=3.603

CONC :	0	39	78	156	780	3120
RESP :	0	36716	68909	135181	719639	2912765
CONC':	4.7544	44.041	78.487	149.40	774.77	3121.4

CONC = 4.7544+ 1.07E-3*RESP+ *RESP**2+ *RESP**3
95% C.I.= 5.1798 4.2231E-6
CORRELATION COEFFICIENT = 1

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
SENECA*81	0.0

CONTINUING CALIBRATION STANDARD(S) *** Quality Control Check ***

STANDARD ID	INIT. RESP	CALIB RESP	DIFFERENCE%
4490*1	2950000	2912765	1.175
4490*3	3010000	2912765	3.3469

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
4490*1	3080	3100	.6452

STORET: 34611 METHOD: UW14 2,4-DINITROTOLUENE, UG/L LINE

CALIBRATION CURVE # 1

CURVE DETECTION LIMIT= DATE: 26 MAR 1990 LARGEST RESPONSE=5755021 %RSD=4.4179

CONC :	0	40.5	81	162	810	3240
RESP :	0	71733	132874	261413	1403917	5755021
CONC':	7.7660	48.096	82.470	154.74	797.08	3243.4

CONC = 7.766+ 5.6222E-4*RESP+ *RESP**2+ *RESP**3

95% C.I.= 8.8079 3.6374E-6

CORRELATION COEFFICIENT = 1

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
SENECA*81	0.0

CONTINUING CALIBRATION STANDARD(S) *** Quality Control Check ***

STANDARD ID	INIT. RESP	CALIB RESP	DIFFERENCE%
4490*1	5820000	5755021	1.1946
4490*3	5920000	5755021	2.9157

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
4490*1	3080	3180	3.1447

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*SENECA*81	0.0	2.8877	2.8877	3.2200	89.68	
SP2*SENECA*81	0.0	29.058	29.058	32.200	90.24	
SP3*SENECA*81	0.0	28.852	28.852	32.200	89.60	

LOCATION: OB GROUNDS

SAMPLE DATE: 23 OCT 90

LABORATORY: ESE

PARAMETERS: Explosives & Multiple

Environmental
Science &
Engineering, Inc.
A CRCDRP Company

October 24, 1990
ESE No. 3904078-0100-3200

Mr. Mark R. Paprocki
Seneca Army Depot
Bldg. 123
Romulus, New York 14541

Dear Mr. Paprocki:

Enclosed are the results of analysis of 3 groundwater samples delivered to ESE for nitroaromatic explosives analysis. The samples were received at ESE on October 10, 1990. The Chain-of-Custody records received with this set and the previous set are enclosed for your review.

The samples were analyzed in accordance with procedures specified in methods that are certified for use by USATHAMA in environmental water samples. The method used was Explosives in Water by HPLC, Method UW14. A summary of the Quality Control (QC) samples analyzed is also enclosed.

Your cost for this analysis is $1,125.00 as previously agreed (as per P.O. # DAAC7190V0933). An itemized invoice in this amount will follow shortly. Payment is requested within 30 days of the invoice date to avoid 18% APR carrying charges.

Thank you for giving ESE this opportunity to be of service. Please call me if you have any questions or when you again require our service.

Sincerely,

Joseph J. Vondrick
Project Coordinator

JJV:sak
Enclosure

P.O. Box 1703 Gainesville, FL 32602-1703 Phone (904) 332-3318 Outside FL (800) 874-7872 Fax (904) 332-0507
Formerly known as Hunter/ESE, Inc.

Environmental Science and Engineering DATE 10/23/90 STATUS : Final

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK
ALL LAB COORDINATOR JOE VONDRICK

SAMPLE ID'S		W-4	W-6	W-1
PARAMETERS	STORET	SENECA	SENECA	SENECA
UNITS	METHOD	36	37	38
DATE		10/09/90	10/09/90	10/09/90
TIME		09:40	09:50	10:00
1,3-DINITROBENZENE	99724	<0.519	<0.519	<0.519
UG/L	UW14			
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612
UG/L	UW14			
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15
UG/L	UW14			
HMX	99431	<1.65	<1.65	<1.65
UG/L	UW14			
NITROBENZENE	34447	<1.07	<1.07	<1.07
UG/L	UW14			
RDX	81364	<2.11	<2.11	<2.11
UG/L	UW14			
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6
UG/L	UW14			
1,3,5-TRINITROBENZENE	99735	<0.626	<0.626	<0.626
UG/L	UW14			
2,4,6-TRINITROTOLUENE	81360	<0.588	<0.588	<0.588
UG/L	UW14			

ESE BATCH : G16327

QC TYPE : FDER/SW
ANALYST : SCOTT MCMILLEN
EXTRACTOR : DOUG DABNEY
DATA ENTRY : SCOTT MCMILLEN

REPORT DATE/TIME : 10/23/90 14:42:48
ANALYSIS DATE : 10/20/90
EXTRACT DATE : 10/12/90

STA. : FINAL

BATCH NOTES
EXPLOSIVES IN WATER BY UW14

FIELD GRP	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
SENECA	3904078 0500	SENECA ARMY DEPOT	JOE VONDRICK

STORET: 99431 METHOD: UW14 HMX, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB3*690	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726091-82*1	1970000	1824480	7.9729
726091-82*2	1900000	1824480	4.1452

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2300	2220	3.43

STORET: 81364 METHOD: UW14 RDX, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB3*690	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726091-82*1	2040000	1890536	7.6876
72 -82*2	1960000	1890536	3.8720

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2070	2000	3.71

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB3*690	0.0	3.1558	3.1558	3.5200	89.65	
SP2*CLMB3*690	0.0	25.936	25.936	35.200	73.68	
SP3*CLMB3*690	0.0	28.074	28.074	35.200	79.75	

STORET: 99735 METHOD: UW14 1,3,5-TRINITROBENZENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB3*690	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726091-82*1	3820000	3561133	7.2822
726091-82*2	3690000	3561133	3.4855

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2660	2540	4.66

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB3*690	0.0	2.1100	2.1100	2.4200	87.19	
SP2*CLMB3*690	0.0	18.330	18.330	24.200	75.74	
SP3*CLMB3*690	0.0	19.679	19.679	24.200	81.32	

STORET: 99724 METHOD: UW14 1,3-DINITROBENZENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB3*690	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726091-82*1	4800000	4497515	6.7963
726091-82*2	4610000	4497515	2.5681

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2840	2800	1.56

STORET: 34447 METHOD: UW14 NITROBENZENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB3*690	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726091-82*1	4730000	5210160	9.2943
726091-82*2	5240000	5210160	.6068

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2990	2960	0.97

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB3*690	0.0	3.8869	3.8869	4.7000	82.70	
SP2*CLMB3*690	0.0	32.834	32.834	47.000	69.86	
SP3*CLMB3*690	0.0	34.880	34.880	47.000	74.21	

STORET: 99733 METHOD: UW14 TETRYL,TOTAL, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB3*690	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726091-82*1	3250000	3143817	3.4393
726091-82*2	3130000	3143817	.3099

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2060	2010	2.40

STORET: 81360 METHOD: UW14 2,4,6-TRINITROTOLUENE,TOTAL, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB3*690	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726091-82*1	3420000	3217344	6.2227
726091-82*2	3280000	3217344	1.8918

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2350	2320	1.39

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB3*690	0.0	1.7149	1.7149	2.1400	80.14	
SP2*CLMB3*690	0.0	14.970	14.970	21.400	69.95	
SP3*CLMB3*690	0.0	15.400	15.400	21.400	71.96	

STORET: 34626 METHOD: UW14 2,6-DINITROTOLUENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB3*690	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726091-82*1	3310000	3101652	6.6040
726091-82*2	3030000	3101652	2.4337

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	3230	3120	3.51

STORET: 34611 METHOD: UW14 2,4-DINITROTOLUENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB3*690	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726091-82*1	5450000	5043916	8.1039
726091-82*2	5370000	5043916	6.4901

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	3360	3240	3.61

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB3*690	0.0	2.6904	2.6904	3.3000	81.53	
SP2*CLMB3*690	0.0	23.025	23.025	33.000	69.77	
SP3*CLMB3*690	0.0	23.742	23.742	33.000	71.94	

Chain of Custody Record

Company Name	Project Manager/Contact	Galson Laboratories	Special QA/QC Protocol (Circle)
Galson Tech. Services	Maureen Curtis	6601 Kirkville Road East, E. Syracuse, New York 13057, 315-432-0506 or 800-950-0506	EPA CLP / EPA SW 846 / NYS DEC / NYS DOH / NJ TIER I / CALIFORNIA / NJ TIER II / OTHER (Specify)
Project No.: 69052	Project Name: Seneca		

PARAMETERS FOR ANALYSIS

SAMPLE LOCATION / SAMPLE ID	Date	Time	TYPE Comp.	TYPE Grab	Aqueous	Soil	Other	A	B	C	D	E	F	G	H	I	J	K	Laboratory ID Number	Explosives
W-1	10/9/8	10:00			✓														J20716	2
W-4	10/9/90	0940			✓														J20714	2
W-6	10/9/90	0950			✓														J20715	2

REMARKS:

Task No. 9010012.1

SAMPLERS NAME: SIGNATURE:

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: M. Stonecipher SIGNATURE:	DATE: 10/9/90 TIME: 4:30 PM	NAME: V. Prem Das SIGNATURE: V Prem Das	DATE: 10-10 TIME: 1500
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:

Received For Laboratory By: (Signature) V Prem Das DATE: 10-10-90 TIME: 1500

Custody Seal Intact? Sample ☐ Yes ☐ No ☐ N.A.

Shipment Complete? ☐ Yes ☐ No

LabStor. Location (Ref. #)	A	B	C	D	E	F	G	H	I	J	K	L

2/89

Chain of Custody Record

Company Name	Project Manager/Contact
Galson	

Galson Laboratories
6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Project No.	Project Name
L9052	90100121

Special QA/QC Protocol (Circle)
EPA CLP EPA SW 846
NYS DEC NYS DOH
NJ TIER I CALIFORNIA
NJ TIER II OTHER (Specify)

SAMPLE LOCATION / SAMPLE ID	Date	Time	TYPE Comp.	TYPE Grab	Aqueous	Soil	Other	A	B	C	D	E	F	G	H	I	J	K	Laboratory ID Number	PARAMETERS FOR ANALYSIS
W-5	9/28				X														J20713	2
W-4					X														J20714	2
W-6					X														J20715	2
W-1					X														J20716	2
W-3					X														J20717	2
W-2					X														J20718	2
W-10					X														J20719	2
W-8					X														J20720	2
W-9					X														J20721	2
W-11					X														J20722	2
W-13					X														J20723	2
W-14	V				X														J20724	2

REMARKS:

Task No

SAMPLE W-4 WAS BROKEN IN TRANSIT

ONE FRACTION FOR EACH OF THE FOLLOWING WERE BROKEN IN TRANSIT: W-1, 6, 13, 15, 16

SAMPLERS NAME:

SIGNATURE:

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: Kim Pratt	DATE: 10/1/90	NAME:	DATE:
SIGNATURE: Kim Pratt	TIME: 4pm	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATURE:	TIME:	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATURE:	TIME:	SIGNATURE:	TIME:

Received For Laboratory By: DATE: 10/2/90
(Signature) TIME: 13:00

Custody Seal Intact? Sample ☑ Yes ☐ No ☐ N.A.

Shipment Complete? ☑ Yes ☐ No

LabStor. Location (Ref. #)	A	B	C	D	E	F	G	H	I	J	K	L

2/89

Chain of Custody Record

Page 2 of 2

Company Name	Project Manager/Contact
[illegible]	

Project No.	Project Name
L9052	90100121

Galson Laboratories
6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Special QA/QC Protocol (Circle)
EPA CLP EPA SW 846
NYS DEC NYS DOH
NJ TIER I CALIFORNIA
NJ TIER II OTHER (Specify)

SAMPLE LOCATION / SAMPLE ID	Date	Time	TYPE Comp.	TYPE Grab	Aqueous	Soil	Other	A	B	C	D	E	F	G	H	I	J	K	Laboratory ID Number	PARAMETERS FOR ANALYSIS: Explosives
W-12	1/28				X														J20725	2
W-17					X														J20726	2
W-15					X														J20727	2
W-16	↓				X														J20728	2

REMARKS: SAMPLES WERE NOT ICED

Task No.

SAMPLERS NAME: **SIGNATURE:**

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: [illegible]	DATE: 1/29/90	NAME:	DATE:
SIGNATURE: [illegible]	TIME: 4pm	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATURE:	TIME:	SIGNATURE:	TIME:
NAME:	DATE:	NAME:	DATE:
SIGNATUI	TIME:	SIGNATURE:	TIME:

Received For Laboratory By: (Signature) [illegible] DATE: 1/2/90 TIME: 1300

Custody Seal Intact? Sample ☑ Yes ☐ No ☐ N.A.

Shipment Complete? ☑ Yes ☐ No

LabStor. Location (Ref. #)	A	B	C	D	E	F	G	H	I	J	K	L

2/89

LOCATION: OB GROUNDS

SAMPLE DATE: 28 SEPT 90

LABORATORY: GALSON

PARAMETERS: TOX, TOC, Spc. Cond

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057
Tel: (315) 432-0506
1-800-950-0506

November 6, 1990

Mr. Mark Paprocki
Seneca Army Depot
Building 125
Romulus, NY 14541

RE: GTS# L9052

Dear Mr. Paprocki:

Enclosed are the field notes and results of the analyses performed on the samples collected September 28, 1990 by GALSON employee Robert Heman. Wells #4 (W-4), #6 (W-6) and #1 (W-1) were resampled October 9, 1990 due to the breakage in transit to the laboratory of the original samples for explosives. All other analyses for these three wells were performed September 28, 1990, the day the samples were originally taken.

Explosive samples were sent to Joe Vondrick of Environmental Science and Engineering in Gainesville, Florida. Results and the invoice for those sample analysis will be sent directly to you.

If you have any questions concerning our results, please contact our Laboratory Client Services Department, Extension 126.

Sincerely,

Edward A. Stuber, CIH
Associate Laboratory Director
GALSON LABORATORIES

EAS/dd

Enclosure

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057
Tel: (315) 432-0506
1-800-950-0506

LABORATORY ANALYSIS REPORT

Client: SENECA ARMY DEPOT
Task Number: 90100121 Job Number: L9052
Location: ROMULUS, NY Date Sampled: 28-SEP-1990

Sample ID	Lab ID	TOTAL ORGANIC CARBON MG/L	TOTAL ORGANIC HALOGENS MG/L	SPECIFIC CONDUCTANCE UMHO/CM
W-5	J20713	4.3	0.02	1700
W-4	J20714	9.0	<0.01	1400
W-6	J20715	1.5	<0.01	1700
W-1	J20716	4.7	<0.01	1400
W-3	J20717	5.9	<0.01	1400
W-2	J20718	7.1	<0.01	1700
W-10	J20719	<1	<0.01	1400
W-8	J20720	1.6	<0.01	1100
W-9	J20721	1.5	<0.01	1500
W-11	J20722	<1	<0.01	1200
W-13	J20723	2.3	<0.01	1400
W-14	J20724	3.6	<0.01	1200
W-12	J20725	1.9	<0.01	1400
W-17	J20726	2.0	<0.01	580
W-15	J20727	5.9	<0.01	940
W-16	J20728	1.0	<0.01	840

Method(s): EPA 600/M4-82-020
Footnotes:

(<) - Less Than
(>) - Greater Than
NA - Not Applicable
ND - Not Detectable
NS - Not Specified
MG/L - Milligrams Per Liter
UMHO/CM - Micromhos Per Centimeter

Submitted by: AES, NET, GG
Approved by: S.B. Galson
Date: 5-NOV-1990

Chain of Custody Record

Company Name	Project Manager/Contact
GTS	Ed Stuber
Project No.	**Project Name**
L-9052	Seneca Army Depot.

Galson Laboratories
6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Special QA/QC Protocol (Circle)
EPA CLP EPA SW 846
NYS DEC NYS DOH
NJ TIER I CALIFORNIA
NJ TIER II OTHER (Specify)

SAMPLE LOCATION / SAMPLE ID	Date	Time	TYPE Comp.	TYPE Grab	Aqueous	Soil	Other	A	B	C	D	E	F	G	H	I	J	K	Laboratory ID Number	PARAMETERS FOR ANALYSIS: Explosives	TOX	TOC	Specific Conductance
W-5	9/28/90	1130		✓	✓															✓	✓	✓	✓
W-4	9/28/90	1150		✓	✓															✓	✓	✓	✓
W-6	9/28/90	1214		✓	✓															✓	✓	✓	✓
W-1	9/28/90	1230		✓	✓															✓	✓	✓	✓
W-3	9/28/90	1245		✓	✓															✓	✓	✓	✓
W-2	9/28/90	1300		✓	✓															✓	✓	✓	✓
W-10	9/28/90	1350		✓	✓															✓	✓	✓	✓
W-8	9/28/90	1415		✓	✓															✓	✓	✓	✓
W-9	9/28/90	1418		✓	✓															✓	✓	✓	✓
W-11	9/28/90	1430		✓	✓															✓	✓	✓	✓
W-13	9/28/90	1445		✓	✓															✓	✓	✓	✓
W-14	9/28/90	1451		✓	✓															✓	✓	✓	✓

REMARKS:

Task No.

SAMPLERS NAME: Robert Heman **SIGNATURE:**

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:

Received For Laboratory By: (Signature) M. Tonecapla DATE: 10/1/90 TIME: 11:15 am

Custody Seal Intact? Sample ☐ Yes ☐ No ☐ N.A.

Shipment Complete? ☐ Yes ☐ No

LabStor. Location (Ref. #)	A	B	C	D	E	F	G	H	I	J	K	L

2/89

Chain of Custody Record

Company Name	Project Manager/Contact
GTS	Ed Stuber
Project No.	**Project Name**
L-9052	Seneca Army Depot

Galson Laboratories
6601 Kirkville Road East
E. Syracuse, New York 13057
315-432-0506 or 800-950-0506

Special QA/QC Protocol (Circle)
EPA CLP EPA SW 846
NYS DEC NYS DOH
NJ TIER I CALIFORNIA
NJ TIER II OTHER (Specify)

SAMPLE LOCATION / SAMPLE ID	Date	Time	TYPE Comp.	Grab	Aqueous	Soil	Other	A	B	C	D	E	F	G	H	I	J	K	Laboratory ID Number	PARAMETERS FOR ANALYSIS: Explosives	TOX	TOC	Specific Conductance
W-12	9/25/90	1505		✓	✓															✓	✓	✓	✓
W-17	9/25/90	1520		✓	✓															✓	✓	✓	✓
W-15	9/25/90	1530		✓	✓															✓	✓	✓	✓
W-16	9/25/90	1545		✓	✓															✓	✓	✓	✓

REMARKS: Unable to sample well #7 → Well Dry

Task No.

SAMPLERS NAME: Robert Heman **SIGNATURE:** Robert Heman

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	NAME: SIGNATURE:	DATE: TIME:

Received For Laboratory By: (Signature) M. Stonecipher DATE: 10/1/90 TIME: 11:15

Custody Seal Intact? Sample ☐ Yes ☐ No ☐ N.A.

Shipment Complete? ☐ Yes ☐ No

LabStor. Location (Ref. #)	A	B	C	D	E	F	G	H	I	J	K	L

2/89

LOCATION: OB GROUNDS

SAMPLE DATE: 18 OCT 90

LABORATORY: ESE

PARAMETERS: Explosives & multiple

Environmental
Science &
Engineering, Inc.

A CELCORP Company

October 18, 1990
ESE No. 3904078-0100-3200

Mr. Mark Paprocki
Seneca Army Depot
Bldg. 123
Romulus, New York 14541

Dear Mr. Paprocki:

Enclosed are the results of analysis of 15 groundwater samples delivered to ESE for nitroaromatic explosives analysis. The samples were received at ESE on October 2, 1990. As previously discussed, samples W4 and W7 were broken in transit. We have received the resamples and are proceeding with the analysis.

The samples were analyzed in accordance with procedures specified in methods that are certified for use by USATHAMA in environmental water samples. The method used was Explosives in Water by HPLC, Method UW14. A summary of the Quality Control (QC) samples analyzed is also enclosed.

Your cost for this analysis is $5,625.00 as previously agreed (as per P.O. # DAAC7190V0933). An itemized invoice in this amount will follow shortly. Payment is requested within 30 days of the invoice date to avoid 18% APR carrying charges.

Thank you for giving ESE this opportunity to be of service. Please call me if you have any questions or when you require our services.

Sincerely,

Joseph J. Vondrick
Project Coordinator

Enclosure

P.O. Box 1703 Gainesville, FL 32602-1703 Phone (904) 332-3318 Outside FL (800) 874-7872 Fax (904) 332-0507

Formerly known as Hunter/ESE, Inc.

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK
ALL LAB COORDINATOR JOE VONDRICK

SAMPLE ID'S		W1	W2	W3	W5	W6	W8	W9
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	19	20	21	23	24	26	27
DATE		09/28/90	09/28/90	09/28/90	09/28/90	09/28/90	09/28/90	09/28/90
TIME		12:30	13:00	12:45	11:30	12:14	14:15	14:18
1,3-DINITROBENZENE	99724	<0.519	<0.519	<0.519	<0.519	<0.519	<0.519	<0.519
UG/L	UW14							
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612
UG/L	UW14							
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
UG/L	UW14							
HMX	99431	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65
UG/L	UW14							
NITROBENZENE	34447	<1.07	<1.07	<1.07	<1.07	<1.07	<1.07	<1.07
UG/L	UW14							
RDX	81364	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11
UG/L	UW14							
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
UG/L	UW14							
1,3,5-TRINITROBENZENE	99735	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626
UG/L	UW14							
2,4,6-TRINITROTOLUENE	81360	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588
UG/L	UW14							

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK
ALL LAB COORDINATOR JOE VONDRICK

SAMPLE ID'S		W10	W11	W12	W13	W14	W15	W16
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	28	29	30	31	32	33	34
DATE		09/28/90	09/28/90	09/28/90	09/28/90	09/28/90	09/28/90	09/28/90
TIME		13:50	14:30	15:05	14:45	14:51	15:30	15:45
1,3-DINITROBENZENE	99724	<0.519	<0.519	<0.519	<0.519	<0.519	<0.519	<0.519
UG/L	UW14							
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612
UG/L	UW14							
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
UG/L	UW14							
HMX	99431	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65
UG/L	UW14							
NITROBENZENE	34447	<1.07	<1.07	<1.07	<1.07	<1.07	<1.07	<1.07
UG/L	UW14							
RDX	81364	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11
UG/L	UW14							
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
UG/L	UW14							
1,3,5-TRINITROBENZENE	99735	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626	<0.626
UG/L	UW14							
2,4,6-TRINITROTOLUENE	81360	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588
UG/L	UW14							

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK
ALL LAB COORDINATOR JOE VONDRICK

SAMPLE ID'S		W17
PARAMETERS	STORET	SENECA
UNITS	METHOD	35
DATE		09/28/90
TIME		15:20
1,3-DINITROBENZENE	99724	<0.519
UG/L	UW14	
2,4-DINITROTOLUENE	34611	<0.612
UG/L	UW14	
2,6-DINITROTOLUENE	34626	<1.15
UG/L	UW14	
HMX	99431	<1.65
UG/L	UW14	
NITROBENZENE	34447	<1.07
UG/L	UW14	
RDX	81364	<2.11
UG/L	UW14	
TETRYL,TOTAL	99733	<0.6
UG/L	UW14	
1,3,5-TRINITROBENZENE	99735	<0.626
UG/L	UW14	
2,4,6-TRINITROTOLUENE	81360	<0.588
UG/L	UW14	

ESE BATCH : G16169

QC TYPE : USATHAMA
ANALYST : SCOTT MCMILLEN
EXTRACTOR : DOUG DABNEY
DATA ENTRY : SCOTT MCMILLEN

REPORT DATE/TIME : 10/18/90 14:20:26
ANALYSIS DATE : 10/10/90
EXTRACT DATE : 10/04/90

STATUS : FINAL

BATCH NOTES
EXPLOSIVES IN WATER BY UW14

FIELD GRP	PROJECT NUMBER	PROJECT NAME	LAB COORDINATOR
SENECA	3904078 0500	SENECA ARMY DEPOT	JOE VONDRICK

STORET: 99431 METHOD: UW14 HMX, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
NONE*1	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
101090*1	1840000	1824480	1.1216
101090*2	1780000	1824480	2.6216

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2300	2220	3.43

STORET: 81364 METHOD: UW14 RDX, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
NONE*1	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
101090*1	1910000	1890536	1.1838
101090*2	1850000	1890536	2.0971

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2070	2000	3.71

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*NONE*1	0.0	3.4242	3.4242	3.5200	97.28	
SP2*NONE*1	0.0	31.036	31.036	35.200	88.17	
SP3*NONE*1	0.0	30.850	30.850	35.200	87.64	

STORET: 99735 METHOD: UW14 1,3,5-TRINITROBENZENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
NONE*1	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
101090*1	3590000	3561133	.8703
101090*2	3440000	3561133	3.3382

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2660	2540	4.66

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*NONE*1	0.0	2.2986	2.2986	2.4200	94.98	
SP2*NONE*1	0.0	21.781	21.781	24.200	90.00	
SP3*NONE*1	0.0	21.969	21.969	24.200	90.78	

STORET: 99724 METHOD: UW14 1,3-DINITROBENZENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
NONE*1	0.0

C NUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
101090*1	4500000	4497515	.0769
101090*2	4340000	4497515	3.5402

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2840	2800	1.56

STORET: 34447 METHOD: UW14 NITROBENZENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
NONE*1	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
101090*1	5160000	5210160	.8784
101090*2	5010000	5210160	3.7717

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2990	2960	0.97

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*NONE*1	0.0	4.2463	4.2463	4.7000	90.35	
SP2*NONE*1	0.0	41.455	41.455	47.000	88.20	
SP3*NONE*1	0.0	40.993	40.993	47.000	87.22	

STORET: 99733 METHOD: UW14 TETRYL,TOTAL, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
NC 1	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
101090*1	3120000	3143817	.8760
101090*2	2990000	3143817	4.9150

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2060	2010	2.40

STORET: 81360 METHOD: UW14 2,4,6-TRINITROTOLUENE, TOTAL, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
NONE*1	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
101090*1	3200000	3217344	.4199
101090*2	3130000	3217344	2.6148

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	2350	2320	1.39

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*NONE*1	0.0	1.8771	1.8771	2.1400	87.71	
SP2*NONE*1	0.0	18.387	18.387	21.400	85.92	
SP3*NONE*1	0.0	18.473	18.473	21.400	86.32	

STORET: 34626 METHOD: UW14 2,6-DINITROTOLUENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
NONE*1	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
101090*1	3090000	3101652	.5054
101090*2	3020000	3101652	2.4861

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	3230	3120	3.51

STORET: 34611 METHOD: UW14 2,4-DINITROTOLUENE, UG/L LINE

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
NONE*1	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
101090*1	5060000	5043916	.2524
101090*2	4920000	5043916	2.4114

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
10890*1	3360	3240	3.61

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*NONE*1	0.0	2.9361	2.9361	3.3000	88.97	
SP2*NONE*1	0.0	28.881	28.881	33.000	87.52	
SP3*NONE*1	0.0	28.939	28.939	33.000	87.69	

LOCATION: OB GROUNDS

SAMPLE DATE: 03 April 91

LABORATORY: ESE

PARAMETERS: Explosives

Environmental
Science &
Engineering, Inc.

April 4, 1991
ESE No. 3904078-0100-3200

Mr. Mark R. Paprocki
Seneca Army Depot
Bldg. 123
Romulus, New York 14541

Dear Mr. Paprocki:

Enclosed are the results of analysis of 17 groundwater samples delivered to ESE for nitroaromatic explosives analysis. The samples were received at ESE on March 22, 1991. The Chain-of-Custody records received with this set are enclosed for your review.

The samples were analyzed in accordance with procedures specified in methods that are certified for use by USATHAMA in environmental water samples. The method used was Explosives in Water by HPLC, Method UW14. A summary of the Quality Control (QC) samples analyzed is also enclosed.

Your cost for this analysis is $6,375.00 as previously agreed (as per P.O. # DAAC7190V0933). An itemized invoice in this amount will follow shortly. Payment is requested within 30 days of the invoice date to avoid 18% APR carrying charges.

Thank you for giving ESE this opportunity to be of service. Please call me if you have any questions or when you again require our service.

Sincerely,

Joseph J. Vondrick
Project Coordinator

JJV:ka

Enclosure

P.O. Box 1703 Gainesville, FL 32602-1703 Phone (904) 332-3318 Outside FL (800) 874-7872 Fax (904) 332-0507

Formerly known as Hunter/ESE, Inc.

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK

SAMPLE ID'S		MW#1	MW#2	MW#3	MW#4	MW#5	MW#6
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	39	40	41	42	43	44
DATE		03/21/91	03/21/91	03/21/91	03/21/91	03/21/91	03/21/91
TIME		09:15	12:00	11:39	12:15	10:00	11:00
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612
UG/L	UW14						
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
UG/L	UW14						
HMX	99431	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65
UG/L	UW14						
RDX	81364	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11
UG/L	UW14						
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
UG/L	UW14						
2,4,6-TRINITROTOLUENE	81360	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588
TOTAL UG/L	UW14						

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK

SAMPLE ID'S		MW#7	MW#8	MW#9	MW#10	MW#11	MW#12
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	45	46	47	48	49	50
DATE		03/21/91	03/21/91	03/21/91	03/21/91	03/21/91	03/21/91
TIME		08:00	10:35	09:30	10:20	10:50	11:25
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612
UG/L	UW14						
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
UG/L	UW14						
HMX	99431	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65
UG/L	UW14						
RDX	81364	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11
UG/L	UW14						
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
UG/L	UW14						
2,4,6-TRINITROTOLUENE	81360	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588
TOTAL UG/L	UW14						

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK

SAMPLE ID'S		MW#13	MW#14	MW#15	MW#16	MW#17
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	51	52	53	54	55
DATE		03/21/91	03/21/91	03/21/91	03/21/91	03/21/91
TIME		09:00	08:42	08:33	08:20	11:14
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612	<0.612	<0.612
UG/L	UW14					
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15	<1.15	<1.15
UG/L	UW14					
HMX	99431	<1.65	<1.65	<1.65	<1.65	<1.65
UG/L	UW14					
RDX	81364	<2.11	<2.11	<2.11	<2.11	<2.11
UG/L	UW14					
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6	<0.6	<0.6
UG/L	UW14					
2,4,6-TRINITROTOLUENE	81360	<0.588	<0.588	<0.588	<0.588	<0.588
TOTAL UG/L	UW14					

LO_ER
LABORATORIES

CHAIN OF CUSTODY RECORD

PROJECT NAME: SEAD Demo Grounds
Semi Annual Analysis

PROJECT NUMBER:

FIELD BOOK NUMBER:

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	ANALYSIS: Explosives								NUMBER OF CONTAINERS		REMARK
	3/21/91	9:15Am	MW #1	Grand H2O									2		
		12:00Pm	#2												
		11:39Am	#3												
		12:15pm	#4												
		10:00Am	#5												
		11:00Am	#6												
		8:00Am	#7												
		10:35Am	#8												
		9:30Am	#9												
		10:20Am	#10												
		10:50Am	#11												

SAMPLED BY: B. Cahill / Tanya Dene
SIGN

	1	2	3	4
RELINQUISHED BY:	SIGN: B. Cahill DATE: 3/21/91 TIME: 4:50PM	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME
RECEIVED BY:	SIGN: V. Pr[illegible] Oo DATE: 3-22-91 TIME: 1400	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME

METHOD OF SHIPMENT: Fed. Express
SIGN

RECEIVED FOR LABORATORY BY:
SIGN DATE TIME

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

PROJECT NAME: SEAM Demo Grounds
SEMI ANNUAL Analysis

PROJECT NUMBER:

FIELD BOOK NUMBER:

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	Explosives	ANALYSIS	NUMBER OF CONTAINERS	REMARK
	3/21/91	11:25 Am	MW #12	Ground Wa	X		2	
		9:00 Am	#13					
		8:42 am	#14					
		8:33 Am	#15					
		8:20 am	#16					
		11:14.	#17		X		2	

SAMPLED BY: B. Cahill / Taya Dent
SIGN

RELINQUISHED BY:	1 B. Cahill SIGN 3/21/91 4:30 pm DATE TIME	2 SIGN DATE TIME	3 SIGN DATE TIME	4 SIGN DATE TIME
RECEIVED BY:	1 V. Prem Ocs SIGN 3-22-91 1400 DATE TIME	2 SIGN DATE TIME	3 SIGN DATE TIME	4 SIGN DATE TIME

METHOD OF SHIPMENT: Fed. Express
SIGN

RECEIVED FOR LABORATORY BY:
SIGN DATE TIME

ESE BATCH : G19144

QC TYPE : USATHAMA
ANALYST : SCOTT MCMILLEN
EXTRACTOR :
DATA ENTRY : SCOTT MCMILLEN

REPORT DATE/TIME : 04/03/91 08:59:46
ANALYSIS DATE : 03/26/91
EXTRACT DATE : 03/25/91

STATUS : FINAL

USATHAMA LOT: UPV

BATCH NOTES
UW14

STORET: 99431 METHOD: UW14 HMX, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=1942850 %RSD=3.8590

CONC :	0	31.8	79.5	159	795	3180
RESP :	0	18370	43610	91160	463155	1942850
CONC':	10.271	40.300	81.560	159.29	767.39	3186.2
R.T.:	0	4.83	4.77	4.75	4.73	4.73

CONC = 10.2707+ 1.6347E-3*RESPONSE
95% C.I.= 14.7133 1.8020E-5
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-B2*1	1920000	1942849.88	1.2638
726241-B2*2	1920000	1942849.88	1.3191
726241-B2*3	1970000	1942849.88	1.5042
726241-B2*4	2030000	1942849.88	4.3333

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-B*1	1470	1510	2.47

STORET: 81364 METHOD: UW14 RDX, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=1966310 %RSD=7.1504

CONC :	0	26.8	67.0	134	670.0	2680
RESP :	0	22650	51765	98240	472820	1966310
CONC':	2.4250	33.324	73.043	136.44	647.45	2684.9
R.T.:	0	6.17	6.09	6.05	6.02	6.02

CONC = 2.4250+ 1.3642E-3*RESPONSE
95% C.I.= 11.7474 1.4206E-5
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-B2*1	1950000	1966310.00	.9933
726241-B2*2	1940000	1966310.00	1.1201
726241-B2*3	1990000	1966310.00	1.4300
726241-B2*4	2050000	1966310.00	4.1600

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-B*1	1670	1680	0.44

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB4*51	0.0	2.5226	2.5226	2.9200	86.39	
SP2*CLMB4*51	0.0	25.414	25.414	29.200	87.03	0.74
SP3*CLMB4*51	0.0	26.405	26.405	29.200	90.43	4.57

STORET: 99733 METHOD: UW14 TETRYL,TOTAL, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=3206825 %RSD=19.8638

CONC :	0	26.9	67.2	134.4	672	2688
RESP :	0	18790	61620	143020	765769	3206825
CONC':	13.962	29.656	65.430	133.42	653.57	2692.5
R.T.:	0	11.83	11.62	11.53	11.62	11.53

CONC = 13.9618+ 8.3525E-4*RESPONSE
95% C.I.= 11.1371 8.2649E-6
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-82*1	2860000	3206825.00	10.8333
726241-82*2	2940000	3206825.00	8.3623
726241-82*3	3020000	3206825.00	5.9169
726241-82*4	3080000	3206825.00	3.8915

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-8*1	1080	1175	8.48

STORET: 81360 METHOD: UW14 2,4,6-TRINITROTOLUENE,TOTAL, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=3409920 %RSD=3.0608

CONC :	0	22.8	57	114	570	2280
RESP :	0	31964	79246	159742	799890	3409920
CONC':	8.4707	29.821	61.404	115.17	542.77	2286.2
R.T.:	0	13.25	13.02	12.93	13.10	12.97

CONC = 8.4707+ 6.6796E-4*RESPONSE
95% C.I.= 14.2346 9.9418E-6
CORRELATION COEFFICIENT = .9998

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-82*1	3270000	3409920.25	3.9731
726241-82*2	3240000	3409920.25	4.9349
726241-82*3	3340000	3409920.25	2.0863
726241-82*4	3390000	3409920.25	.4521

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-8*1	1300	1400	6.85

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB4*51	0.0	2.7431	2.7431	3.2600	84.14	
SP2*CLMB4*51	0.0	28.251	28.251	32.600	86.66	2.95
SP3*CLMB4*51	0.0	29.035	29.035	32.600	89.07	5.68

STORET: 34626 METHOD: UW14 2,6-DINITROTOLUENE, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=3346955 %RSD=3.0268

CONC :	0	33.2	83	166	830	3320
RESP :	0	31581	78144	156703	779940	3346955
CONC':	13.080	44.376	90.519	168.37	785.99	3329.8
R.T.:	0	14.03	13.78	13.70	13.90	13.75

CONC = 13.0801+ 9.9098E-4*RESPONSE
95% C.I.= 22.9296 1.6321E-5
CORRELATION COEFFICIENT = .9998

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-82*1	3130000	3346954.75	6.4783
726241-82*2	3000000	3346954.75	10.5041
726241-82*3	3120000	3346954.75	6.6804
726241-82*4	3190000	3346954.75	4.7371

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-8*1	1650	1675	1.36

STORET: 34611 METHOD: UW14 2,4-DINITROTOLUENE, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=5306655 %RSD=3.8431

CONC :	0	28.3	70.7	141.4	707	2828
RESP :	0	48985	120700	245480	1228370	5306655
CONC':	12.726	38.796	76.964	143.37	666.49	2837.0
R.T.:	0	14.53	14.25	14.17	14.40	14.25

CONC = 12.7255+ 5.3222E-4*RESPONSE
95% C.I.= 21.1488 9.4982E-6
CORRELATION COEFFICIENT = .9998

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-82*1	5050000	5306655.00	4.7879
726241-82*2	5310000	5306655.00	.0210
726241-82*3	5370000	5306655.00	1.2140
726241-82*4	5410000	5306655.00	1.8959

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-8*1	1700	1760	3.60

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB4*51	0.0	2.8608	2.8608	3.2960	86.80	
SP2*CLMB4*51	0.0	28.573	28.573	32.960	86.69	0.12
SP3*CLMB4*51	0.0	29.701	29.701	32.960	90.11	3.75

LOCATION: CB GROUNDS

SAMPLE DATE: 31 OCT 91

LABORATORY: LOGICR

PARAMETERS: MULTIPLE

LOZIER
LABORATORIES, INC.
909 CULVER ROAD • ROCHESTER, NEW YORK 14609 • 716-654-6350

10/31/91

Mark Paprocki
Seneca Army Depot
Building 123
Romolus, New York 14511

Re: Demo Grounds Monitoring Wells
Semiannual Analysis

Dear Mr. Paprocki:

Attached is the laboratory report for analysis performed on eleven (11) monitoring well samples taken by Lozier personnel from the Demo Grounds at your facility and received at Lozier Laboratories September 24, 1991. Five (5) monitoring wells, including W5, W4, W1, W2, and W7 were unable to be sampled becuase they were determined to be dry.

All analyses were performed by methods outlined in "Methods for Chemical Analysis of Water and Wastes", USEPA 600/4-79-020. The explosives analyses were mailed to and performed by VonDrick Environmental Science & Engineering Inc. in Gainesville, Florida. Results for explosives will come directly from VonDrick.

It has been our pleasure to perform environmental analysis for the Seneca Army Depot.

Please call if you have any questions or require additional information.

Sincerely,

Dennis M. Ciehomski

Dennis M. Ciehomski
Laboratory Coordinator

DMC;sla
Enclosure

Affiliated with:
LOZIER ARCHITECTS/ENGINEERS • 600 PERINTON HILLS • FAIRPORT, NEW YORK 14450 • 716-223-7610

LOZIER LABORATORIES, INC.

909 CULVER ROAD
ROCHESTER, NEW YORK 14609
716-654-6350

NEW YORK STATE
APPROVED
ENVIRONMENTAL LABORATORY

CLIENT: SENECA ARMY DEPOT
BUILDING 123
ROMULUS, NEW YORK 14541

ATTN : MARK PAPROCKI

DATE REC'D : 09/24/91
LABORATORY NO. : 91094222
REPORT DATE : 10/31/91

SAMPLE INFORMATION

SAMPLE DATE	: 09/24/91	LOCATION	: DEMO GROUNDS
SAMPLE TIME	: 7:45-1:45 PM	TYPE OF SAMPLE	: GROUNDWATER
NUMBER OF SAMPLES	: 11	SAMPLER	: B. CAHILL

LABORATORY REPORT

PARAMETER	WELL # 6	3	10	8	9	UNITS	METHOD NUMBER
TOC *	389	15.6	6.5	<3.0	7.9	mg/l	EPA 415.1
TOX	52	N.D.	25	N.D.	12	ug/l	EPA 450.1
pH **	7.2	7.1	7.4	7.1	7.1	S.U.	EPA 150.1
SPECIFIC CONDUCTIVITY **	718	838	605	1402	1102	umhos/cm	EPA 120.1
TEMPERATURE **	16	16	17	17	17	Degrees C	EPA 170.1

N.D. = Not detected at a detection limit of 5 ppb (ug/l)

* Analysis performed by NYS Certified # 10067.

** Field measurements performed 09/24/91

NYSDOH LAB ID # 10390

LABORATORY DIRECTOR

LOZIER LABORATORIES, INC.
909 CULVER ROAD
ROCHESTER, NEW YORK 14609
716-654-6350

NEW YORK STATE
APPROVED
ENVIRONMENTAL LABORATORY

SENECA ARMY DEPOT / LAB # 91094222

LABORATORY REPORT

PARAMETER	WELL # 11	WELL # 13	WELL # 14	UNITS	METHOD NUMBER
TOC *	<6.0	7.8	6.9	mg/l	EPA 415.1
TOX	N.D.	N.D.	N.D.	ug/l	EPA 450.1
pH **	6.8	7.0	6.9	S.U.	EPA 150.1
SPECIFIC CONDUCTIVITY **	1257	892	1176	umhos/cm	EPA 120.1
TEMPERATURE **	16.5	17	17	Degrees C	EPA 170.1

N.D. = Not detected at a detection limit of 5 ppb (ug/l)

* Analysis performed by NYS Certified # 10067.

** Field measurements performed 09/24/91

NYSDOH LAB ID # 10390

LABORATORY DIRECTOR

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909 CULVER ROAD
ROCHESTER, NEW YORK 14609
716-654-6350

NEW YORK STATE
APPROVED
ENVIRONMENTAL LABORATORY

SENECA ARMY DEPOT / LAB # 91094222

LABORATORY REPORT

PARAMETER	WELL # 12	WELL # 17	WELL # 15	UNITS	METHOD NUMBER
TOC *	6.6	5.3	<6.0	mg/l	EPA 415.1
TOX	10	10	19	ug/l	EPA 450.1
pH **	7.3	7.2	6.7	S.U.	EPA 150.1
SPECIFIC CONDUCTIVITY **	910	616	1175	umhos/cm	EPA 120.1
TEMPERATURE **	17	16	16	Degrees C	EPA 170.1

N.D. = Not detected at a detection limit of 5 ppb (ug/l)

* Analysis performed by NYS Certified # 10067.

** Field measurements performed 09/24/91

NYSDOH LAB ID # 10390

LABORATORY DIRECTOR

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

Client Name: SEAD-D

Mailing Address:

Project Name: Semi-Annual Groundwater Mo

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	TOX	EXPLOSIVES	TOC	TEMP °C	PH				NUMBER OF CONTAINERS	SPEC. COND.	REMARK
	9/24/91	12:50 PM	W13	Ground H2O	X	X	X	17°	7.0				4	892	
		1:05 PM	W14		X	X	X	17°	6.9					1176	
		1:20 PM	W12		X	X	X	17°	7.3					910	
		8:30 AM	W17		X	X	X	16°	7.2					616	
		8:15 AM	W15		X	X	X	16°	6.7					1175	
DRY		8:00 AM	W16		~~X~~	~~X~~	~~X~~							—	DRY

SAMPLED BY: [signature] SIGN

RELINQUISHED BY:
1 SIGN B Cahill DATE 9/24/91 TIME 4:00 pm
2 SIGN DATE TIME
3 SIGN DATE TIME
4 SIGN DATE TIME

RECEIVED BY:
1 SIGN DATE TIME
2 SIGN DATE TIME
3 SIGN DATE TIME
4 SIGN DATE TIME

METHOD OF SHIPMENT: [signature]

SIGN B Cahill

RECEIVED FOR LABORATORY BY:
SIGN V Buell DATE 9/24 TIME 4:00

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

Client Name: SEAD-D[illegible]

Mailing Address: _____

Project Name: Semi-Annual Grau[illegible]

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	ANALYSIS: TOX	EXPLOSIVES	TOC	TEMP °C	PH			NUMBER OF CONTAINERS	SPEC. COND. umhos/cm MON.	REMARK
DRY	9/24/91	945 AM	W5	Groundwater								4		DRY
DRY		100 PM	W4									4		DRY
		845 AM	W6		X	X	X	16°	7.2				718	
DRY		1100 AM	W1											DRY
		145 PM	W3		X	X	X	16°	7.1				838	
DRY		745 AM	W2											DRY
DRY		200 PM	W7											DRY
		[illegible]	W10					17°	7.4				605	
		1000 AM	W8					17°	7.1				1402	
		1015 AM	W9					17°	7.1				1102	
		905 AM	W11					16.5°	6.8				1257	

SAMPLED BY: SIGN Bernard McCabe

RELINQUISHED BY:

1	2	3	4
SIGN B Cabe	SIGN	SIGN	SIGN
DATE 9/24/91 TIME 400 PM	DATE TIME	DATE TIME	DATE TIME

RECEIVED BY:

1	2	3	4
SIGN	SIGN	SIGN	SIGN
DATE TIME	DATE TIME	DATE TIME	DATE TIME

METHOD OF SHIPMENT: Hand

SIGN B Cabe

RECEIVED FOR LABORATORY BY:

SIGN VBrazell DATE 9/24 TIME 400

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD DEMO GROUNDS Well I.D.: MW#5

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: [illegible] Time: 10:03 Method (check one): ___ steel tape ✓ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: [illegible]

(b) Height of reference point above ground surface: 2.42

(c) Depth to water from ground surface (a-b): _____

Units (check one) ✓ Feet ___ Meters

PURGING

Date: [illegible] Time: [illegible] Method: bailer type _____ pump type _____

Inside diameter of well 4 inches

Calculated amount to be purged:

5 volumes= (7.88 feet- 7.3 feet) X 3.27 = 5.5 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 1 gallons Well pumped dry? ✓ yes ___ no

SAMPLING

Date: 9/[illegible]/95 Time: 945 Method: bailer type _____ pump type _____

component materials (e.g., tubing, pump parts, bailer material)

_____

1 containers filled in the field:

(a) Unfiltered Samples (specify parameters)

1 GLASS CITER

2 GLASS CITER

125 mL

DRY!

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: _____

FIELD MEASUREMENTS

Temperature: ____ °C pH ___ . ___ 4 Replicates Conductivity: _____

___ . ___ if a hazardous _____

___ . ___ waste site _____

___ . ___ _____

Time: _____ _____ _____

Meter Type: _____ _____

SAMPLE PREPARATION

Date: _____ Time Completed: _____ Filtering Method: _____

Required Preservation Completed: _____ Sample Preparer's Name: _____

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

DRY!

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Ground Well I.D.: MW#4

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/23/91 Time: 12:50 Method (check one): ___ steel tape ✓ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

Units (check one) ✓ Feet ___ Meters

(a) Depth of water from reference point: 12.12

(b) Height of reference point above ground surface: 3.40

(c) Depth to water from ground surface (a-b): 9.72

PURGING

Date: 9/23/91 Time: 12:55 Method: bailer type _____ pump type PP13

Inside diameter of well 4 inches

Calculated amount to be purged:

5 volumes= (9.0 feet- 9.72 feet) X 3.27 = ___ gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 1 liter gallons Well pumped dry? X yes ___ no

SAMPLING

Date: 9/24/91 Time: 1 00 pm Method: bailer type _____ pump type _____

component materials (e.g., tubing, pump parts, bailer material)

_____

' containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

DRY!

Sampler's Name: _____

FIELD MEASUREMENTS

Temperature: ___ °C pH ___ . ___ 4 Replicates Conductivity: _____

___ . ___ if a hazardous _____

___ . ___ waste site _____

___ . ___ _____

Time: _____ _____ _____

Meter Type: _____ _____

SAMPLE PREPARATION

Date: _____ Time Completed: _____ Filtering Method: _____

Required Preservation Completed: _____ Sample Preparer's Name: _____

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

(1) liter H_2O (9/23) Purged

DRY

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Grounds Well I.D.: MW#6

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: [illegible] Time: 1130 Method (check one): ___ steel tape ___ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: ~~2.25~~ 2.25 Units (check one) ✓ Feet ___ Meters

(b) Height of reference point above ground surface: ___

(c) Depth to water from ground surface (a-b): ___

PURGING

Date: ___ Time: ___ Method: bailer type ___ pump type ___

Inside diameter of well 4 inches

Calculated amount to be purged:

5 volumes= (8.75 feet- ___ feet) X 3.27 = 3.3 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 1 gallons Well pumped dry? X yes ___ no

SAMPLING

Date: 9/20/01 Time: 805 AM Method: bailer type Poly pump type ___

component materials (e.g., tubing, pump parts, bailer material) ___

containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: D. Calico

FIELD MEASUREMENTS

Temperature: 16 °C pH 7.2 ___ 4 Replicates Conductivity: 718 umhos/cm

___ . ___ if a hazardous

___ . ___ waste site

___ . ___

Time: 805 AM

Meter Type:

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

Sample turbid

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Grounds Well I.D.: MW#1

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: [illegible] Time: 12:20 Method (check one): ___ steel tape ✓ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: 12.10

(b) Height of reference point above ground surface: 4.60

(c) Depth to water from ground surface (a-b): 7.5

Units (check one) ✓ Feet ___ Meters

PURGING

Date: [illegible] Time: 12:23 Method: bailer type ___ pump type Proc

Inside diameter of well 4 inches

Calculated amount to be purged:

5 volumes= (9.4 feet- 1.9 feet) X 3.27 = 6.2 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 1/2 gallons Well pumped dry? X yes ___ no

SAMPLING

Date: 7/24/91 Time: 1142 Method: bailer type ___ pump type ___

component materials (e.g., tubing, pump parts, bailer material)

___

Containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

DRY!

Sampler's Name: ___

FIELD MEASUREMENTS

Temperature: ___ °C

pH ___ . ___ 4 Replicates

___ . ___ if a hazardous

___ . ___ waste site

___ . ___

Conductivity: ___

Time: ___

Meter Type: ___

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

[illegible] 1/2 [illegible]

DRY!

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Grounds Well I.D.: MW#3

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: [illegible] Time: 1110 Method (check one): ___ steel tape ✓ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: 12.05

(b) Height of reference point above ground surface: 4.55

(c) Depth to water from ground surface (a-b): 7.50

Units (check one) ✓ Feet ___ Meters

PURGING

Date: [illegible] Time: 1120 Method: bailer type _____ pump type Dana

Inside diameter of well 4 inches

Calculated amount to be purged:

5 volumes= (10.72 feet- 7.50 feet) X 3.27 = 11.3 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 2[illegible] gallons Well pumped dry? ✓ yes ___ no

SAMPLING

Date: 9/24/91 Time: 1415 Method: bailer type Poly pump type _____

component materials (e.g., tubing, pump parts, bailer material)

_____

containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: B. Calvit

FIELD MEASUREMENTS

Temperature: 16 °C pH 7.1 ___ 4 Replicates Conductivity: 838 umhos/cm

___ . ___ if a hazardous

___ . ___ waste site

___ . ___

Time: 1450

Meter Type:

SAMPLE PREPARATION

Date: _____ Time Completed: _____ Filtering Method: _____

Required Preservation Completed: _____ Sample Preparer's Name: _____

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

Sample turbid

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Grounds Well I.D.: MW#2

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/24/91 Time: 1100 Method (check one): ___ steel tape ___ electric meter ✓ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

Units (check one) ✓ Feet ___ Meters

(a) Depth of water from reference point: 5.99

(b) Height of reference point above ground surface: 3.66

(c) Depth to water from ground surface (a-b): 2.33

PURGING

Date: 9/24/91 Time: 105 PM Method: bailer type ___ pump type DATA.

Inside diameter of well 4 inches 3.73

Calculated amount to be purged:

5 volumes= (9726.06 feet- 2.33 feet) X 3.27 = 12.1 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 1 gallons Well pumped dry? ✓ yes ___ no

SAMPLING

Date: 9/24/91 Time: 200 PM Method: bailer type ___ pump type ___

component materials (e.g., tubing, pump parts, bailer material)

___ containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

DRY!

Sampler's Name: ___

FIELD MEASUREMENTS

Temperature: ___ °C pH ___ . ___ 4 Replicates Conductivity: ___

___ . ___ if a hazardous ___

___ . ___ waste site ___

___ . ___ ___

Time: ___ ___ ___

Meter Type: ___ ___

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD DEMO Grounds Well I.D.: W7

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/23/91 Time: 8:30 Method (check one): ___ steel tape X electric meter ___ well sounder ___ other (specify)

Reference Point (check one): X top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: 7.62 Units (check one) X Feet ___ Meters

(b) Height of reference point above ground surface: 2.40

(c) Depth to water from ground surface (a-b): 5.22

PURGING

Date: 9/24/91 Time: [illegible] Method: bailer type ___ pump type P.P.

Inside diameter of well 4 inches

Calculated amount to be purged:

5 volumes= (5.2 feet- 5.22 feet) X 3.27 = 6.5 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: ~1/2 gallons Well pumped dry? X yes ___ no

SAMPLING

Date: 9/24/91 Time: 7 45 Method: bailer type ___ pump type ___

component materials (e.g., tubing, pump parts, bailer material)

containers filled in the field:

(a) Unfiltered Samples (specify parameters)

1 Glass liter - TOX (HCl)

2 Glass liters - Explosives

1 250 ml plastic - TOC (H_2SO_4)

DRY!

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: B. Calvill

FIELD MEASUREMENTS

Temperature: ___ °C pH ___ . ___ 4 Replicates Conductivity: ___

___ . ___ if a hazardous

___ . ___ waste site

___ . ___

Time: ___

Meter Type: ___

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

DRY

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: ~~Seam~~ Seam Demo Ground 5 Well I.D.: W10

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/20/91 Time: 9:50 Method (check one): ___ steel tape ✓ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

Units (check one) ✓ Feet ___ Meters

(a) Depth of water from reference point: 7.72

(b) Height of reference point above ground surface: 1.82

(c) Depth to water from ground surface (a-b): 5.90

PURGING

Date: 9/23/91 Time: _____ Method: bailer type _____ pump type _____

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (9.28 feet- 5.9 feet) X _____ = 28 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: _____ gallons Well pumped dry? ✓ yes ___ no

SAMPLING

Date: 9/24/91 Time: 9:55 Method: bailer type Poly pump type _____

component materials (e.g., tubing, pump parts, bailer material)

_____

Containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: B Gallo

FIELD MEASUREMENTS

Temperature: 17 °C pH 7.4 . ___ 4 Replicates Conductivity: 60 Standard/Ca.

___ . ___ if a hazardous

___ . ___ waste site

___ . ___

Time: 9:30

Meter Type:

SAMPLE PREPARATION

Date: _____ Time Completed: _____ Filtering Method: _____

Required Preservation Completed: _____ Sample Preparer's Name: _____

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Grounds Well I.D.: MW #8

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: [illegible] Time: [illegible] Method (check one): ___ steel tape ___ electric meter ✓ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: [illegible]

Units (check one) ✓ Feet ___ Meters

(b) Height of reference point above ground surface: 1.61

(c) Depth to water from ground surface (a-b): [illegible]

PURGING

Date: [illegible] Time: [illegible] Method: bailer type ___ pump type [illegible]

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (9.39 feet- [illegible] feet) X .82 = 2.6 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 4 gallons Well pumped dry? ✓ yes ___ no

SAMPLING

Date: 9/24/91 Time: 10 AM Method: bailer type Poly pump type ___

component materials (e.g., tubing, pump parts, bailer material) ___

containers filled in the field:

(a) Unfiltered Samples (specify parameters)

1 GLASS LITER
2 GLASS LITER
120 mL

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: L Cahoon

FIELD MEASUREMENTS

Temperature: 17 °C pH 7.1 ___ 4 Replicates Conductivity: 1402 umhos/cm

___ . ___ if a hazardous

___ . ___ waste site

___ . ___

Time: 10:10 AM

Meter Type:

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

Sample clear

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Grounds Well I.D.: MW #9

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/20/91 Time: 10:20 Method (check one): ___ steel tape ___ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

Units (check one) ___ Feet ___ Meters

(a) Depth of water from reference point: 7.30

(b) Height of reference point above ground surface: 1.95

(c) Depth to water from ground surface (a-b): 5.35

PURGING

Date: 9/20/91 Time: 10:25 Method: bailer type _____ pump type _____

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (6.75 feet- 5.35 feet) X .82 = 1.1 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: (2) gallons Well pumped dry? ✓ yes ___ no

SAMPLING

Date: 9/20/91 Time: 10:15 Am Method: bailer type Poly pump type _____

component materials (e.g., tubing, pump parts, bailer material)

1 containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: B Calvi

FIELD MEASUREMENTS

Temperature: 17 °C pH 7.1 ___ 4 Replicates Conductivity: 1102 umhos/cm

___ if a hazardous

___ waste site

Time: 10:23 Am

Meter Type:

SAMPLE PREPARATION

Date: _____ Time Completed: _____ Filtering Method: _____

Required Preservation Completed: _____ Sample Preparer's Name: _____

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

Sample clear - Slightly turbid

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Well I.D.: ___ MW#11 ___ ___

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/[illegible]/0 Time: 2:50 Method (check one): ___ steel tape ___ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: [illegible]

(b) Height of reference point above ground surface: 1.60

(c) Depth to water from ground surface (a-b): [illegible]

Units (check one) ✓ Feet ___ Meters

PURGING

Date: 9/[illegible]/0 Time: 9:43 Method: bailer type ___ pump type [illegible]

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (9.3 feet- [illegible] feet) X .82 = 1,7 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 1/2 gallons Well pumped dry? X yes ___ no

SAMPLING

Date: 9/[illegible]/0 Time: 9:05 AM Method: bailer type ___ pump type ___

component materials (e.g., tubing, pump parts, bailer material)

___

[illegible] containers filled in the field:

(a) Unfiltered Samples (specify parameters)

1 GLASS LITER — TOX

2 GLASS LITER — XPLOSIVES

1250ml — TOC

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: ___

FIELD MEASUREMENTS

Temperature: 16.5 °C pH 6.8 . ___ 4 Replicates Conductivity: 1257 [illegible]/Cm

___ . ___ if a hazardous

___ . ___ waste site

___ . ___

Time: 9:5 AM

Meter Type:

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

[illegible]

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: Sears Demo Grounds Well I.D.: MW #13

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9-10 Time: 10:40 Method (check one): ___ steel tape ✓ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

Units (check one) ✓ Feet ___ Meters

(a) Depth of water from reference point: 7.2

(b) Height of reference point above ground surface: 1.85

(c) Depth to water from ground surface (a-b): 5.35

PURGING

Date: 9/24 Time: 10.42 Method: bailer type ___ pump type ___

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (8.15 feet- 5.35 feet) X .82 = 2.1 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 3 gallons Well pumped dry? ✓ yes ___ no

SAMPLING

Date: 9/24 Time: 1250 Method: bailer type poly pump type ___

component materials (e.g., tubing, pump parts, bailer material)

Containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: D. Cahill

FIELD MEASUREMENTS

Temperature: 17 °C pH 7.0 ___ 4 Replicates Conductivity: 892 umhos/cm

___ . ___ if a hazardous

___ . ___ waste site

___ . ___

Time: 1257 pH

Meter Type:

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

Sample turbid

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Grounds Well I.D.: MW#14

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/23/91 Time: 11:55 Method (check one): ___ steel tape ___ electric meter ✓ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: 8.23

(b) Height of reference point above ground surface: 1.61

(c) Depth to water from ground surface (a-b): 6.62

Units (check one) ✓ Feet ___ Meters

PURGING

Date: 9/23/91 Time: 11:56 Method: bailer type ___ pump type Parast

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (8.79 feet- 6.62 feet) X .82 = 1.8 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 3 gallons Well pumped dry? X yes ___ no

SAMPLING

Date: 9/24/91 Time: 1:05 PM Method: bailer type Poly pump type ___

component materials (e.g., tubing, pump parts, bailer material)

___ containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: ___

FIELD MEASUREMENTS

Temperature: 17 °C	pH 6.2	___ 4 Replicates	Conductivity: 1176 umhos/cm
	___	___ if a hazardous	___
	___	___ waste site	___
	___	___	___
Time: 1:13 PM	___		___
Meter Type:	___		___

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

Sample turbid

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Grounds Well I.D.: LAW #12

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/23/01 Time: 12:07 Method (check one): ___ steel tape ___ electric meter ✓ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: 6.71 Units (check one) ✓ Feet ___ Meters

(b) Height of reference point above ground surface: 1.60

(c) Depth to water from ground surface (a-b): 5.11

PURGING

Date: 9/23/01 Time: 12:10 Method: bailer type ___ pump type Dedicated

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (7.4 feet- 5.11 feet) X .82 = 1.9 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: 3± gallons Well pumped dry? ___ yes ___ no

SAMPLING

Date: 9/24/01 Time: 1320 pm Method: bailer type ___ pump type ___

component materials (e.g., tubing, pump parts, bailer material) ___

1 containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: ___

FIELD MEASUREMENTS

Temperature: 17 °C pH 7.3 ___ 4 Replicates Conductivity: 910 µmhos/cm

___ . ___ if a hazardous

___ . ___ waste site

___ . ___

Time: 1325 pm

Meter Type:

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

Sample turbid

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Demo Grounds Well I.D.: MW #17

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/20/95 Time: 9:10 Method (check one): ___ steel tape ___ electric meter ✓ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: 10.29

(b) Height of reference point above ground surface: 1.80

(c) Depth to water from ground surface (a-b): [illegible]

Units (check one) ✓ Feet ___ Meters

PURGING

Date: [illegible] Time: 9:11 Method: bailer type [illegible] pump type ___

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (9.7 feet- 5.05 feet) X .82 = 3.8 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: ~3.7 gallons Well pumped dry? ___ yes ✓ no

SAMPLING

Date: 9/20/95 Time: 8:32 Method: bailer type Teflon pump type ___

component materials (e.g., tubing, pump parts, bailer material)

1 containers filled in the field:

(a) Unfiltered Samples (specify parameters)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: B. Cahill

FIELD MEASUREMENTS

Temperature: 16 °C	pH 7.2	___ 4 Replicates	Conductivity: 616 umhos/cm
	___	___ if a hazardous	___
	___	___ waste site	___
	___	___	___
Time: 8:35	___		___
Meter Type:	___		___

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Well I.D.: W15

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/22/91 Time: 9.00 Method (check one): ___ steel tape ___ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ✓ top of protective casing

(a) Depth of water from reference point: 6.94 Units (check one) ✓ Feet ___ Meters

(b) Height of reference point above ground surface: 1.9

(c) Depth to water from ground surface (a-b): 4.04

PURGING

Date: 9/22/91 Time: [illegible] Method: bailer type [illegible] pump type ___

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (6.7 feet- 4.94 feet) X .82 = 1.4 gallons

total depth of well; depth of water from ground (c above); conversion factor*

*conversion factors: for a 2-inch well = .82 -or for a 4-inch well = 3.27

Amount actually purged: 1 gallons Well pumped dry? X yes ___ no

SAMPLING

Date: 9/24/91 Time: 8 15 Method: bailer type Poly pump type ___

component materials (e.g., tubing, pump parts, bailer material)

Containers filled in the field:

(a) Unfiltered Samples (specify parameters)

1 Glass LITER - TOX

2 Glass LITER - XPlosives

1 250ml - TOC

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

Sampler's Name: B. [illegible]

FIELD MEASUREMENTS

Temperature: 16 °C

pH 6.7 . ___ 4 Replicates if a hazardous waste site

Conductivity: 1175 umhos/cm

Time: 9 [illegible]

Meter Type:

SAMPLE PREPARATION

Date: ___ Time Completed: ___ Filtering Method: ___

Required Preservation Completed: ___ Sample Preparer's Name: ___

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

should be [illegible]

AEHA Form 107, 15 JUL 85 (HSHB-ES)

Incl 2

GROUND-WATER SAMPLING FIELD DATA LOGSHEET

Installation: SEAD Well I.D.: W16

WATER LEVEL MEASUREMENTS (BEFORE PURGING)

Date: 9/23/01 Time: 8:50 Method (check one): ___ steel tape ✓ electric meter ___ well sounder ___ other (specify)

Reference Point (check one): ✓ top of well casing -or- ___ top of protective casing

(a) Depth of water from reference point: 8.01 Units (check one) ✓ Feet ___ Meters

(b) Height of reference point above ground surface: 1.8

(c) Depth to water from ~~ground surface (a-b)~~ TOC: 6.21

PURGING

Date: 9/23/01 Time: _____ Method: bailer type n.a. pump type _____

Inside diameter of well 2 inches

Calculated amount to be purged:

5 volumes= (6.82 feet- 6.21 feet) X .82 = .5 gallons

(total depth of well; depth of water from ground (c above); conversion factor*)

*conversion factors: for a 2-inch well = .82 -or- for a 4-inch well = 3.27

Amount actually purged: <1.0 gallons Well pumped dry? ✓ yes ___ no

SAMPLING

Date: 9/24/01 Time: 8:00 am Method: bailer type _____ pump type _____

component materials (e.g., tubing, pump parts, bailer material)

_____

Containers filled in the field:

(a) Unfiltered Samples (specify parameters)

1 GLASS LITER - TOX (HCl)
2 GLASS LITERS - XPLOSIVES
1250 ml ~~TOC~~ (H2SO4)

(b) Samples to be filtered (specify container type, e.g. glass, polyethylene, etc.)

DRY !

Sampler's Name: B. Cabell

FIELD MEASUREMENTS

Temperature: _____ °C pH ___ . ___ 4 Replicates Conductivity: _____

___ . ___ if a hazardous _____

___ . ___ waste site _____

___ . ___ _____

Time: _____ _____ _____

Meter Type: _____ _____

SAMPLE PREPARATION

Date: _____ Time Completed: _____ Filtering Method: _____

Required Preservation Completed: _____ Sample Preparer's Name: _____

COMMENTS AND OBSERVATIONS (Notes concerning well, samples, procedures, etc.)

DRY- 9/23

LOCATION: OB GROUNDS

SAMPLE DATE: 02 April 92

LABORATORY: WESTON

PARAMETERS: Explosives

WESTON®
MANAGERS DESIGNERS/CONSULTANTS
208 WELSH POOL ROAD
PICKERING CREEK INDUSTRIAL PARK
LIONVILLE, PA 19341-1313
PHONE: (215) 524-7360
TELEX: 83-5348

16 April 1992

Mr. Mark R. Paprocki
Seneca Army Depot
Bldg. 123
Romulus, NY 14541-5001

RE: Analytical Results
RFW Batch#: 9204L870

Dear Mr. Paprocki:

Please find attached analytical results for explosives for samples received 04/02/92.

Please do not hesitate to contact me at (215) 524-7360, if you have any questions or require additional information.

Very truly yours,

ROY F. WESTON, INC.

Gail E. DeRuzzo
Project Manager
Analytics Division

ROY F. WESTON, INC.
Lionville Laboratory

CLIENT: SENECA ARMY DEPOT **SAMPLES RECEIVED:** 04-02-92
RFW #: 9204L870
W.O. #: 6112-02-01

NARRATIVE

Samples have been prepared and analyzed according to Usathama Method UW01 for Explosives in water.

The QA/QC control samples have been analyzed concurrently with each extraction batch. Abbreviations noted below have been used in the data summary.

Abbreviation		Description
BLK	=	Reagent blank analyzed to provide an indication of lab contamination and its effect on reported analytical data.
BS	=	Designates reagent blank spiked with target compounds.
BSD	=	Designates reagent blank spiked with target compounds in duplicate.
NOTE:		Spikes have been reported as percent (%) recovery.

Analysis Summary

Samples Collected: 04-01-92
Samples Prepared: 04-03,06-92
Samples Analyzed: 04-03,06-92

04.16.92

Jack R. Tuschall, Ph.D. Date
Laboratory Manager
Lionville Analytical Laboratory

Roy F. Weston, Inc. - Lionville Laboratory

Explosives in water by HPLC

Report Date: 04/15/92 08:49

RFW Batch Number: 9204L870 Client: SENECA ARMY DEPOT Work Order: 6112-02-01-0000 Page: 1

	Cust ID:	MW#7	MW#16	MW#15	MW#14	MW#13	MW#1
Sample Information	RFW#:	001	002	003	004	005	006
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
HMX		1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U
RDX		0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
TETRYL		0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	2.31
2,4,6-TNT		0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
2,6-DNT		0.55 U	0.55 U	0.55 U	0.55 U	0.60	0.55 U
2,4-DNT		0.60 U	0.60 U	0.60 U	0.60 U	3.55	0.87

	Cust ID:	MW#9	MW#8	MW#5	MW#10	MW#11	MW#17
Sample Information	RFW#:	007	008	009	010	011	012
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
HMX		1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.90
RDX		0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
TETRYL		0.66 U	0.66 U	0.66 U	0.66 U	3.42	0.66 U
2,4,6-TNT		9.67	0.78 U	0.78 U	2.13	0.78 U	0.78 U
2,6-DNT		0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
2,4-DNT		1.08	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

	Cust ID:	MW#6	MW#12	MW#4	MW#3	MW#2	BLK
Sample Information	RFW#:	013	014	015	016	017	92LLC042-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
HMX		1.30 U	1.30 U	1.30 U	1.30 U	1.30 U	1.30 U
RDX		0.63 U	0.63 U	1.30	0.63 U	0.63 U	0.63 U
TETRYL		0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U
2,4,6-TNT		0.78 U	0.78 U	0.78 U	0.78 U	0.78 U	0.78 U
2,6-DNT		0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
2,4-DNT		0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U

	Cust ID:	BLK BS	BLK BSD	BLK BS	BLK	BLK BS	BLK BSD
Sample Information	RFW#:	92LLC042-MB1	92LLC042-MB1	92LLC042-MB2	92LLC043-MB1	92LLC043-MB1	92LLC043-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
HMX		97 %	104 %	75 %	1.30 U	93 %	103 %
RDX		97 %	101 %	100 %	0.63 U	82 %	89 %
TETRYL		104 %	111 %	78 %	0.66 U	98 %	102 %
2,4,6-TNT		108 %	116 %	100 %	0.78 U	98 %	102 %
2,6-DNT		98 %	107 %	117 %	0.55 U	109 %	109 %
2,4-DNT		90 %	98 %	114 %	0.60 U	97 %	99 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Cust ID: BLK BS

Sample Information

RFW#: 92LLC043-MB2
Matrix: WATER
D.F.: 1.00
Units: ug/L

HMX	116		%
RDX	88		%
TETRYL	133	*	%
2,4,6-TNT	77		%
2,6-DNT	83		%
2,4-DNT	103		%

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
EXPW ANALYTICAL DATA PACKAGE FOR
SENECA ARMY DEPOT

DATE RECEIVED: 04/02/92 RFW LOT # :9204L870

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
MW#7	001	W	92LLC042	04/01/92	04/03/92	04/03/92
MW#16	002	W	92LLC042	04/01/92	04/03/92	04/03/92
MW#15	003	W	92LLC042	04/01/92	04/03/92	04/03/92
MW#14	004	W	92LLC042	04/01/92	04/03/92	04/03/92
MW#13	005	W	92LLC042	04/01/92	04/03/92	04/03/92
MW#1	006	W	92LLC042	04/01/92	04/03/92	04/03/92
MW#9	007	W	92LLC042	04/01/92	04/03/92	04/03/92
MW#8	008	W	92LLC043	04/01/92	04/06/92	04/06/92
MW#5	009	W	92LLC043	04/01/92	04/06/92	04/06/92
MW#10	010	W	92LLC043	04/01/92	04/06/92	04/06/92
MW#11	011	W	92LLC043	04/01/92	04/06/92	04/06/92
MW#17	012	W	92LLC043	04/01/92	04/06/92	04/06/92
MW#6	013	W	92LLC043	04/01/92	04/06/92	04/06/92
MW#12	014	W	92LLC043	04/01/92	04/06/92	04/06/92
MW#4	015	W	92LLC043	04/01/92	04/06/92	04/06/92
MW#3	016	W	92LLC043	04/01/92	04/06/92	04/06/92
MW#2	017	W	92LLC043	04/01/92	04/06/92	04/06/92
LAB QC:						
BLK	MB1	W	92LLC042	N/A	04/03/92	04/03/92
BLK	MB1 BS	W	92LLC042	N/A	04/03/92	04/03/92
BLK	MB1 BSD	W	92LLC042	N/A	04/03/92	04/03/92
BLK	MB2 BS	W	92LLC042	N/A	04/03/92	04/03/92
BLK	MB1	W	92LLC043	N/A	04/06/92	04/06/92
BLK	MB1 BS	W	92LLC043	N/A	04/06/92	04/06/92
BLK	MB1 BSD	W	92LLC043	N/A	04/06/92	04/06/92
BLK	MB2 BS	W	92LLC043	N/A	04/06/92	04/06/92

WESTON Analytics Use Only: 9204L870

Custody Transfer Record/Lab Work Request

WESTON

Client: Seneca Army Depot
Est. Final Proj. Sampling Date:
Work Order #: 6112-02-01-0000
Project Contact/Phone #:
AD Project Manager: Gail DeRuzzo
QC*: Special Del: [illegible] TAT: 14 days
Date Rec'd: 4-2-92 Date Due: 4-16-92
Account #: SENECA14DA

Refrigerator #	2
#/Type Container – Liquid	2AG
#/Type Container – Solid	
Volume – Liquid	950
Volume – Solid	
Preservatives	none
ANALYSES REQUESTED	ORGANIC: VOA, BNA, Pest/PCB, Herb, Explosives; INORG: Metal, CN

MATRIX CODES: S - Soil, SE - Sediment, SO - Solid, SL - Sludge, W - Water, O - Oil, A - Air, DS - Drum Solids, DL - Drum Liquids, L - EP/TCLP Leachate, WI - Wipe, X - Other, F - Fish

Lab ID	Client ID/Description	MS	MSD	Matrix	Date Collected	Time Collected	OExpl (WESTON Analytics Use Only)
001	MW#7			W	4-1-92	08:10	✓
2	16			W	4-1-92	08:25	✓
3	15			W	4-1-92	08:40	✓
4	14			W	4-1-92	08:50	✓
5	13			W	4-1-92	09:00	✓
6	1			W	4-1-92	09:15	✓
7	9			W	4-1-92	09:30	✓
8	8			W	4-1-92	09:37	✓
9	5			W	4-1-92	09:50	✓
10	10			W	4-1-92	10:00	✓

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:
* Special QC = USATHAMA
** 1 AG 950 Rec'd Broken (MW#1) Sample.
None of the sample labels have Date/time collect.
Rec'd 3 Bottles for sample MW13 and only 1 Bottle for MW12 per label, but one of the three Bottles Rec'd for MW13 has cap #12 others 2 have #13.
Original Rewritten [initials]

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

WESTON Analytics Use Only

Samples were:
1) Shipped ✓ or Hand Delivered
Airbill # 322738[illegible]84
2) Ambient or (Chilled) — No blue or wet ice present.
3) Received in Good Condition Y or (N) **
4) Labels Indicate Properly Preserved Y or (N) — No markings
5) Received Within Holding Times (Y) or N

COC Tape was:
1) Present on Outer Package Y or (N) — Blue tape
2) Unbroken on Outer Package (Y) or N
3) Present on Sample Y or (N) — Black electrical tape
4) Unbroken on Sample (Y) or N
COC Record Present Upon Sample Rec't (Y) or N

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Fred X	Jack Filippi	4-2-92	09:30		[signature] 4-2-92		
	[initials] 4-2-92						

Discrepancies Between Samples Labels and COC Record? (Y) or N
NOTES:

WESTON Analytics Use Only
92O4L870

Custody Transfer Record/Lab Work Request

WESTON

Client: Seneca Army Depot
Est. Final Proj. Sampling Date:
Work Order #: 6112-02-01-0000
Project Contact/Phone #:
AD Project Manager: Gail DeRuzzo
QC: Special Del: Std TAT: 14 day
Date Rec'd: 4-2-92 Date Due: 4-16-92
Account #: See Page 1

Refrigerator #		2
#/Type Container	Liquid	206
	Solid	
Volume	Liquid	950
	Solid	
Preservatives		none

ANALYSES REQUESTED →

ORGANIC: VOA, BNA, Pest/PCB, Herb; Explosives
INORG: Metal, CN

WESTON Analytics Use Only

MATRIX CODES:
S - Soil
SE - Sediment
SO - Solid
SL - Sludge
W - Water
O - Oil
A - Air
DS - Drum Solids
DL - Drum Liquids
L - EP/TCLP Leachate
WI - Wipe
X - Other
F - Fish

Lab ID	Client ID/Description	Matrix QC Chosen (✓) MS	MSD	Matrix	Date Collected	Time Collected	VOA	BNA	Pest/PCB	Herb	Explosives (OEXPW)	Metal	CN
011	MW#11			W	4-1-92	10:20					✓		
012	17			↓	↓	10:45					↓		
013	6					10:35							
014	12					10:57							
015	4					11:15							
016	3					11:30							
017	2					11:35							

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

DATE/REVISIONS:
1.
2.
3.
4.
5.
6.

Relinquished by	Received by	Date	Time	Relinquished by	Received by	Date	Time
Fed-X	[signature]	4-2-92	09:30		[signature] 4-2-92		
[signature] 4-2-92							

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES: See Page 1

WESTON Analytics Use Only

Samples were:
1) Shipped ___ or Hand Delivered ___
Airbill # ________
2) Ambient or Chilled
3) Received in Good Condition Y or N
4) Labels Indicate Properly Preserved Y or N
5) Received Within Holding Times Y or N

COC Tape was:
1) Present on Outer Package Y or N
2) Unbroken on Outer Package Y or N
3) Present on Sample Y or N
4) Unbroken on Sample Y or N
COC Record Present Upon Sample Rec't Y or N

LOZIER LABORATORIES

716-654-6350

CHAIN OF CUSTODY RECORD

1 OF 2

ATTN: M. Paprocki

Client Name: SEAD

Mailing Address:

Project Name: DEMO Grounds Groundwater Monitoring

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	PH	TEMP °C	EXPLOSIVES	TOX	TPH	TOC	CHLORIDES	AMMONIA	NUMBER OF CONTAINERS	SPEC. COND.	STATIC WATER LEVEL REMARK T.O.C
	4/1/92	8:10 AM	MW#7	Ground Wtr	7.3	3°	X	X	X	X	X	X	7	449	2.80'
		8:25 AM	MW#16		7.3	3°								712	1.90'
		8:40 AM	MW#15		7.1	3°								1915	2.00'
		8:50 AM	MW#14		7.2	3°								1019	2.76'
		9:02 AM	MW#13		7.1	3°								890	2.33'
		9:15 AM	MW#1		7.2	4°								773	6.14'
		9:30 AM	MW#9		7.1	3°								905	1.43'
		9:37 AM	MW#8		7.0	4°								1710	2.63'
		9:50 AM	MW#5		7.7	3°								552	3.90
		10:00 AM	MW#10		7.9	4°								824	2.01'
		10:20 AM	MW#11		7.1	4								880	2.32

SAMPLED BY: Bernard M Cahill
SIGN

	1	2	3	4
RELINQUISHED BY:	Bernard M Cahill SIGN 4-1-92 DATE TIME	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME
RECEIVED BY:	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME

METHOD OF SHIPMENT: Federal Express

B. Cahill
SIGN

RECEIVED FOR LABORATORY BY:
SIGN

4-2-92
DATE

09:30
TIME

#1 cooler

ATTN: M. Peprocki

LOZIER LABORATORIES

716-654-6350

CHAIN OF CUSTODY RECORD

Client Name: SEAD

Mailing Address:

2 of 2

Project Name: Demo Grounds Ground H2O Monitoring

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	PH	TEMP	Explosives	TOX	(T) Phenols	TOC	Sulfate/Chlorides	Ammonia/Nitrates	NUMBER OF CONTAINERS	SPEC. COND	STATIC H2O LEVEL REMARK
	4/1/92	10:45 AM	MW#17	Ground H2O	7.3	4°	X	X	X	X	X	X	7	521	1.36'
	↓	10:35 AM	MW#6	↓	7.4	4°	↓	↓	↓	↓	↓	↓	↓	547	3.00'
	↓	10:57 AM	MW#12	↓	7.4	4°	↓	↓	↓	↓	↓	↓	↓	755	2.00'
	↓	11:15 AM	MW#4	↓	7.3	4°	↓	↓	↓	↓	↓	↓	↓	600	6.24
	↓	11:31 AM	MW#3	↓	7.1	4°	↓	↓	↓	↓	↓	↓	↓	~~600~~ 674	6.37
	↓	11:45 AM	MW#2	↓	7.6	3°	↓	↓	↓	↓	↓	↓	↓	461	5.42
[redacted]															BMC

SAMPLED BY: Bernard M Cahill
SIGN

RELINQUISHED BY:	1	2	3	4
SIGN	Bernard M Cahill			
DATE	4-1-92			
TIME				

RECEIVED BY:	1	2	3	4
SIGN				
DATE				
TIME				

METHOD OF SHIPMENT: Federal Express

SIGN: B. Cahill

RECEIVED FOR LABORATORY BY:

SIGN: [signature] DATE: 4-2-92 TIME: 09:30

#2 Co.

LOCATION: OB GROUNDS

SAMPLE DATE: 03 APRIL 91

LABORATORY: ESE

PARAMETERS: Explosives

Environmental
Science &
Engineering, Inc.
A CILCORP Company

April 4, 1991
ESE No. 3904078-0100-3200

Mr. Mark R. Paprocki
Seneca Army Depot
Bldg. 123
Romulus, New York 14541

Dear Mr. Paprocki:

Enclosed are the results of analysis of 17 groundwater samples delivered to ESE for nitroaromatic explosives analysis. The samples were received at ESE on March 22, 1991. The Chain-of-Custody records received with this set are enclosed for your review.

The samples were analyzed in accordance with procedures specified in methods that are certified for use by USATHAMA in environmental water samples. The method used was Explosives in Water by HPLC, Method UW14. A summary of the Quality Control (QC) samples analyzed is also enclosed.

Your cost for this analysis is $6,375.00 as previously agreed (as per P.O. # DAAC7190V0933). An itemized invoice in this amount will follow shortly. Payment is requested within 30 days of the invoice date to avoid 18% APR carrying charges.

Thank you for giving ESE this opportunity to be of service. Please call me if you have any questions or when you again require our service.

Sincerely,

Joseph J. Vondrick
Project Coordinator

JJV:ka

Enclosure

P.O. Box 1703 Gainesville, FL 32602-1703 Phone (904) 332-3318 Outside FL (800) 874-7872 Fax (904) 332-0507

Formerly known as Hunter/ESE, Inc.

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK

SAMPLE ID'S		MW#1	MW#2	MW#3	MW#4	MW#5	MW#6
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	39	40	41	42	43	44
DATE		03/21/91	03/21/91	03/21/91	03/21/91	03/21/91	03/21/91
TIME		09:15	12:00	11:39	12:15	10:00	11:00
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612
UG/L	UW14						
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
UG/L	UW14						
HMX	99431	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65
UG/L	UW14						
RDX	81364	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11
UG/L	UW14						
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
UG/L	UW14						
2,4,6-TRINITROTOLUENE	81360	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588
TOTAL UG/L	UW14						

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK

SAMPLE ID'S		MW#7	MW#8	MW#9	MW#10	MW#11	MW#12
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	45	46	47	48	49	50
DATE		03/21/91	03/21/91	03/21/91	03/21/91	03/21/91	03/21/91
TIME		08:00	10:35	09:30	10:20	10:50	11:25
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612	<0.612	<0.612	<0.612
UG/L	UW14						
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15	<1.15	<1.15	<1.15
UG/L	UW14						
HMX	99431	<1.65	<1.65	<1.65	<1.65	<1.65	<1.65
UG/L	UW14						
RDX	81364	<2.11	<2.11	<2.11	<2.11	<2.11	<2.11
UG/L	UW14						
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
UG/L	UW14						
2,4,6-TRINITROTOLUENE	81360	<0.588	<0.588	<0.588	<0.588	<0.588	<0.588
TOTAL UG/L	UW14						

PROJECT NUMBER 3904078 0500 PROJECT NAME SENECA army DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK

SAMPLE ID'S		MW#13	MW#14	MW#15	MW#16	MW#17
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	51	52	53	54	55
DATE		03/21/91	03/21/91	03/21/91	03/21/91	03/21/91
TIME		09:00	08:42	08:33	08:20	11:14
2,4-DINITROTOLUENE	34611	<0.612	<0.612	<0.612	<0.612	<0.612
UG/L	UW14					
2,6-DINITROTOLUENE	34626	<1.15	<1.15	<1.15	<1.15	<1.15
UG/L	UW14					
HMX	99431	<1.65	<1.65	<1.65	<1.65	<1.65
UG/L	UW14					
RDX	81364	<2.11	<2.11	<2.11	<2.11	<2.11
UG/L	UW14					
TETRYL,TOTAL	99733	<0.6	<0.6	<0.6	<0.6	<0.6
UG/L	UW14					
2,4,6-TRINITROTOLUENE	81360	<0.588	<0.588	<0.588	<0.588	<0.588
TOTAL UG/L	UW14					

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

PROJECT NAME: SEAD Demo Grounds
SEMI ANNUAL ANALYSIS

PROJECT NUMBER: _____

FIELD BOOK NUMBER: _____

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	Explosives	ANALYSIS	NUMBER OF CONTAINERS	REMARK
	3/21/91	9:15Am	MW #1	Groundh2o			2	
		12:00Pm	#2					
		11:39Am	#3					
		12:15pm	#4					
		10:00Am	#5					
		11:00Am	#6					
		8:00Am	#7					
		10:35Am	#8					
		9:30Am	#9					
		10:20Am	#10					
		10:50Am	#11					

SAMPLED BY: B. Cahill / Tanya Dennee
SIGN

RELINQUISHED BY:	1 B. Cahill SIGN 3/21/91 DATE 4:50Pm TIME	2 SIGN DATE TIME	3 SIGN DATE TIME	4 SIGN DATE TIME
RECEIVED BY:	1 V. Pun Oo SIGN 3-22-91 DATE 1400 TIME	2 SIGN DATE TIME	3 SIGN DATE TIME	4 SIGN DATE TIME

METHOD OF SHIPMENT: Fed. Express
SIGN

RECEIVED FOR LABORATORY BY:
SIGN DATE TIME

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

PROJECT NAME: SEAD Demo Grounds
SEMI ANNUAL Analysis

PROJECT NUMBER: _____

FIELD BOOK NUMBER: _____

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	ANALYSIS: Explosives								NUMBER OF CONTAINERS		REMARK
	3/21/91	11:25 Am	MW #12	Groundwa	X								2		
		9:50Am	#13												
		8:42am	#14												
		8:33Am	#15												
		8:20am	#16												
		11:14.	#17												

SAMPLED BY: B. Cahill / Tanya Denn
SIGN

	1	2	3	4
RELINQUISHED BY:	SIGN: B - Cahill DATE: 3/21/91 TIME: 4:30pm	SIGN: DATE: TIME:	SIGN: DATE: TIME:	SIGN: DATE: TIME:
RECEIVED BY:	SIGN: V. Prem Das DATE: 3-22-91 TIME: 1400	SIGN: DATE: TIME:	SIGN: DATE: TIME:	SIGN: DATE: TIME:

METHOD OF SHIPMENT: Fed. Express
SIGN

RECEIVED FOR LABORATORY BY:
SIGN DATE TIME

ESE BATCH : G19144

QC TYPE : USATHAMA
ANALYST : SCOTT MCMILLEN
EXTRACTOR :
DATA ENTRY : SCOTT MCMILLEN

REPORT DATE/TIME : 04/03/91 08:59:46
ANALYSIS DATE : 03/26/91
EXTRACT DATE : 03/25/91

ST : FINAL

USATHAMA LOT: UPV

BATCH NOTES
UW14

STORET: 99431 METHOD: UW14 HMX, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=1942850 %RSD=3.8590

CONC :	0	31.8	79.5	159	795	3180
RESP :	0	18370	43610	91160	463155	1942850
CONC':	10.271	40.300	81.560	159.29	767.39	3186.2
R.T.:	0	4.83	4.77	4.75	4.73	4.73

CONC = 10.2707+ 1.6347E-3*RESPONSE
95% C.I.= 14.7133 1.8020E-5
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-B2*1	1920000	1942849.88	1.2638
726241-B2*2	1920000	1942849.88	1.3191
726241-B2*3	1970000	1942849.88	1.5042
726241-B2*4	2030000	1942849.88	4.3333

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-B*1	1470	1510	2.47

STORET: 81364 METHOD: UW14 RDX, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=1966310 %RSD=7.1504

CONC :	0	26.8	67.0	134	670.0	2680
RESP :	0	22650	51765	98240	472820	1966310
CONC':	2.4250	33.324	73.043	136.44	647.45	2684.9
R.T.:	0	6.17	6.09	6.05	6.02	6.02

CONC = 2.4250+ 1.3642E-3*RESPONSE
95% C.I.= 11.7474 1.4206E-5
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-B2*1	1950000	1966310.00	.9933
726241-B2*2	1940000	1966310.00	1.1201
726241-B2*3	1990000	1966310.00	1.4300
726241-B2*4	2050000	1966310.00	4.1600

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-B*1	1670	1680	0.44

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB4*51	0.0	2.5226	2.5226	2.9200	86.39	
SP2*CLMB4*51	0.0	25.414	25.414	29.200	87.03	0.74
SP3*CLMB4*51	0.0	26.405	26.405	29.200	90.43	4.57

STORET: 99733 METHOD: UW14 TETRYL,TOTAL, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=3206825 %RSD=19.8638

CONC :	0	26.9	67.2	134.4	672	2688
RESP :	0	18790	61620	143020	765769	3206825
NC':	13.962	29.656	65.430	133.42	653.57	2692.5
.T.:	0	11.83	11.62	11.53	11.62	11.53

CONC = 13.9618+ 8.3525E-4*RESPONSE
95% C.I.= 11.1371 8.2649E-6
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-B2*1	2860000	3206825.00	10.8333
726241-B2*2	2940000	3206825.00	8.3623
726241-B2*3	3020000	3206825.00	5.9169
726241-B2*4	3080000	3206825.00	3.8915

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-B*1	1080	1175	8.48

STORET: 81360 METHOD: UW14 2,4,6-TRINITROTOLUENE,TOTAL, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=3409920 %RSD=3.0608

CONC :	0	22.8	57	114	570	2280
RESP :	0	31964	79246	159742	799890	3409920
CONC':	8.4707	29.821	61.404	115.17	542.77	2286.2
R.T.:	0	13.25	13.02	12.93	13.10	12.97

CONC = 8.4707+ 6.6796E-4*RESPONSE
95% C.I.= 14.2346 9.9418E-6
CORRELATION COEFFICIENT = .9998

HOD BLANK(S)

PLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-B2*1	3270000	3409920.25	3.9731
726241-B2*2	3240000	3409920.25	4.9349
726241-B2*3	3340000	3409920.25	2.0863
726241-B2*4	3390000	3409920.25	.4521

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-B*1	1300	1400	6.85

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB4*51	0.0	2.7431	2.7431	3.2600	84.14	
SP2*CLMB4*51	0.0	28.251	28.251	32.600	86.66	2.95
SP3*CLMB4*51	0.0	29.035	29.035	32.600	89.07	5.68

STORET: 34626 METHOD: UW14 2,6-DINITROTOLUENE, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=3346955 %RSD=3.0268

CONC :	0	33.2	83	166	830	3320
RESP :	0	31581	78144	156703	779940	3346955
CONC':	13.080	44.376	90.519	168.37	785.99	3329.8
R.T.:	0	14.03	13.78	13.70	13.90	13.75

CONC = 13.0801+ 9.9098E-4*RESPONSE
95% C.I.= 22.9296 1.6321E-5
CORRELATION COEFFICIENT = .9998

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-B2*1	3130000	3346954.75	6.4783
726241-B2*2	3000000	3346954.75	10.5041
726241-B2*3	3120000	3346954.75	6.6804
726241-B2*4	3190000	3346954.75	4.7371

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-B*1	1650	1675	1.36

STORET: 34611 METHOD: UW14 2,4-DINITROTOLUENE, UG/L LINE

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 06 MAR 1991 LARGEST RESPONSE=5306655 %RSD=3.8431

CONC :	0	28.3	70.7	141.4	707	2828
RESP :	0	48985	120700	245480	1228370	5306655
CONC':	12.726	38.796	76.964	143.37	666.49	2837.0
R.T.:	0	14.53	14.25	14.17	14.40	14.25

CONC = 12.7255+ 5.3222E-4*RESPONSE
95% C.I.= 21.1488 9.4982E-6
CORRELATION COEFFICIENT = .9998

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
CLMB4*51	0.0

CONTINUING CALIBRATION STANDARD(S) *** Optional Quality Control Check ***

STANDARD ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726241-B2*1	5050000	5306655.00	4.7879
726241-B2*2	5310000	5306655.00	.0210
726241-B2*3	5370000	5306655.00	1.2140
726241-B2*4	5410000	5306655.00	1.8959

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726242-B*1	1700	1760	3.60

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*CLMB4*51	0.0	2.8608	2.8608	3.2960	86.80	
SP2*CLMB4*51	0.0	28.573	28.573	32.960	86.69	0.12
SP3*CLMB4*51	0.0	29.701	29.701	32.960	90.11	3.75

LOCATION: OB GROUNDS

SAMPLE DATE: 04 NOV 91

LABORATORY: ESE

PARAMETERS: Explosives

Environmental
Science &
Engineering, Inc.

A CILCORP Company

November 4, 1991
ESE No. 3904078-0100-3200

Mr. Mark R. Paprocki
Seneca Army Depot
Bldg. 123
Romulus, New York 14541

Dear Mr. Paprocki:

Enclosed are the results of analysis of 11 groundwater samples delivered to ESE for nitroaromatic explosives analysis. The samples were received at ESE on September 26, 1991. The Chain-of-Custody records received with this set are enclosed for your review.

The samples were analyzed in accordance with procedures specified in methods that are certified for use by USATHAMA in environmental water samples. The method used was Explosives in Water by HPLC, Method UW32. A summary of the Quality Control (QC) samples analyzed is also enclosed.

Your cost for this analysis is $2,750.00 as previously agreed (as per P.O. # DAAC7190V2676). An itemized invoice in this amount will follow shortly. Payment is requested within 30 days of the invoice date to avoid 18% APR carrying charges.

Thank you for giving ESE this opportunity to be of service. Please call me if you have any questions or when you again require our service.

250 4wk TURN AROUND
375 2wk TURN AROUND
MRP 11-18-91

Sincerely,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

Joseph J. Vondrick
Project Coordinator

JJV/ka

Enclosure

P.O. Box 1703 Gainesville, FL 32602-1703 Phone (904) 332-3318 Outside FL (800) 874-7872 Fax (904) 332-0507

Environmental Science & Engineering DATE 11/04/91 STATUS :FINAL PAGE 1
PROJECT NUMBER 3904078 0200 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK
ALL LAB COORDINATOR JOE VONDRICK

SAMPLE ID'S		W6	W3	W10	W8	W9	W11
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	56	57	58	59	60	61
DATE		09/24/91	09/24/91	09/24/91	09/24/91	09/24/91	09/24/91
TIME		08:45	13:45	09:25	10:00	10:15	09:05
2,4-DINITROTOLUENE	34611	<0.064	<0.064	<0.064	<0.064	<0.064	<0.064
UG/L	UW32						
2,6-DINITROTOLUENE	34626	<0.074	<0.074	<0.074	<0.074	<0.074	<0.074
UG/L	UW32						
HMX	99431	<1.21	<1.21	<1.21	<1.21	<1.21	<1.21
UG/L	UW32						
RDX	81364	<1.17	<1.17	<1.17	<1.17	<1.17	<1.17
UG/L	UW32						
TETRYL,TOTAL	99733	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
UG/L	UW32						
2,4,6-TRINITROTOLUENE	81360	<0.635	<0.635	<0.635	<0.635	<0.635	<0.635
UG/L	UW32						

PROJECT NUMBER 3904078 0200 PROJECT NAME SENECA ARMY DEPOT
FIELD GROUP SENECA PROJECT MANAGER J.J. VONDRICK
ALL LAB COORDINATOR JOE VONDRICK

SAMPLE ID'S		W13	W14	W12	W17	W15
PARAMETERS	STORET	SENECA	SENECA	SENECA	SENECA	SENECA
UNITS	METHOD	62	63	64	65	66
DATE		09/24/91	09/24/91	09/24/91	09/24/91	09/24/91
TIME		12:50	13:05	13:20	08:35	08:15
2,4-DINITROTOLUENE	34611	<0.064	<0.064	<0.064	<0.064	<0.064
UG/L	UW32					
2,6-DINITROTOLUENE	34626	<0.074	<0.074	<0.074	<0.074	<0.074
UG/L	UW32					
HMX	99431	<1.21	<1.21	<1.21	<1.21	<1.21
UG/L	UW32					
RDX	81364	<1.17	<1.17	<1.17	<1.17	<1.17
UG/L	UW32					
TETRYL,TOTAL	99733	<1.6	<1.6	<1.6	<1.6	<1.6
UG/L	UW32					
2,4,6-TRINITROTOLUENE	81360	<0.635	<0.635	<0.635	<0.635	<0.635
UG/L	UW32					

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

Client Name: SEAD

Mailing Address:

Project Name: DEMO GROUNDS Semi Annual

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	EXPLOSIVES							NUMBER OF CONTAINERS		REMARK
	9/24/91	12:50 PM	W13	GroundH2O	X							2		
	↓	1:05 PM	W14	↓	X							↓		
	↓	1:20 PM	W12	↓	X							↓		
	↓	8:35 AM	W17	↓	X							↓		
	↓	8:15 AM	W15	↓	X							↓		
DRy	↓	8:02 A	W16	↓										DRy

SAMPLED BY: B. Calic
SIGN

	1	2	3	4
RELINQUISHED BY:	SIGN: B. Calic DATE: 9/ TIME:	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME
RECEIVED BY:	SIGN: V Palmer OO DATE: 9-26-91 TIME: 1300	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME

METHOD OF SHIPMENT: Fed. Express

SIGN

RECEIVED FOR LABORATORY BY:

SIGN DATE TIME

1 OF 3

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

Client Name: SEAD

Mailing Address:

Project Name: DEMO GROUNDS SEMI ANNUAL GROUND H2O MON.

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	ANALYSIS	NUMBER OF CONTAINERS	REMARK
DRY	9/24/91	9[illegible]	MW5	Ground H2O			
[illegible]		1[illegible]	DW4				
		[illegible]	MW6		X	2	
DRY		11[illegible]	[illegible]		X	2	
DRY		[illegible]	MW3				
DRY		[illegible]	MW1				
		[illegible]	[illegible]		X	2	one broke during ship
		10[illegible]	MW8		X	2	
		1015	MW9		X	2	
		905	MW11		X	2	

SAMPLED BY: [illegible] Julie

SIGN

RELINQUISHED BY:	1 [illegible] Julie	2	3	4
SIGN				
DATE / TIME				
RECEIVED BY:	1 V. Prem Das	2	3	4
SIGN				
DATE / TIME	9-26-91 1300			

METHOD OF SHIPMENT: [illegible] Express

SIGN

RECEIVED FOR LABORATORY BY:

SIGN DATE TIME

ESE BATCH : G23550

QC TYPE : ESE
ANALYST : SCOTT MCMILLEN
EXTRACTOR : DOUG DABNEY
DATA ENTRY : SCOTT MCMILLEN

REPORT DATE/TIME : 11/04/91 13:30:22
ANALYSIS DATE : 10/08/91
EXTRACT DATE : 09/30/91

ST : FINAL

METHOD BLANK CORRECTION METHOD : NONE
USATHAMA LOT: WLP

STORET: 99431 METHOD: UW32 HMX, UG/L QUAD

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 08 OCT 1991 LARGEST RESPONSE=10100595(USER DEFINED) %RSD=2.7792

CONC :	0	69.2	138.4	276.8	692	1384	2768	13840
RESP :	0	49095	99850	199040	514955	1040220	2075960	9711828
CONC':	8.8036	72.961	139.35	269.27	684.66	1380.7	2772.7	13840
R.T.:	0	5.41	5.40	5.40	5.43	5.40	5.38	5.38

CONC = 8.8036E+00+ 1.3062E-03*RESP+ 1.2142E-11*RESP**2+ *RESP**3
95% C.I.= 6.7295E+00 9.0448E-06 9.0416E-13
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
TPWMB1*54	0.0

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726621-B*1	12500	12080.0000	3.39

STORET: 81364 METHOD: UW32 RDX, UG/L QUAD

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 08 OCT 1991 LARGEST RESPONSE=12167530(USER DEFINED) %RSD=2.2780

CONC :	0	60.95	121.9	243.8	609.5	1219	2438	12190
RESP :	0	54870	107470	205660	526890	1059975	2117555	10306440
CONC':	2.1211	64.860	125.02	237.39	605.52	1218.2	2440.0	12190
R.T.:	0	7.85	7.82	7.80	7.87	7.75	7.70	7.58

CONC = 2.1211E+00+ 1.1432E-03*RESP+ 3.8147E-12*RESP**2+ *RESP**3
95% C.I.= 4.1829E+00 5.4661E-06 5.1479E-13
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
TPWMB1*54	0.0

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726621-B*1	12500	11680.0000	7.04

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*TPWMB1*54	0.0	2.2034	2.2034	2.2080	99.79	
SP2*TPWMB1*54	0.0	18.292	18.292	22.080	82.84	18.56
SP3*TPWMB1*54	0.0	17.738	17.738	22.080	80.34	21.60
SP4*TPWMB1*54	0.0	87.204	87.204	93.840	92.93	7.12

STORET: 99733 METHOD: UW32 TETRYL,TOTAL, UG/L QUAD

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 08 OCT 1991 LARGEST RESPONSE=29177252(USER DEFINED) %RSD=3.3070

CONC :	0	55.8	111.6	223.2	558	1116	2232	11160
RESP :	0	81315	165734	338344	862757	1690712	3423536	18039154
CONC':	0.08744	53.744	109.42	223.15	567.84	1109.5	2232.9	11160
R.T.:	0	13.00	12.94	12.90	13.01	12.84	12.72	12.48

CONC = 8.7437E-02+ 6.6005E-04*RESP+ -2.2949E-12*RESP**2+ *RESP**3
95% C.I.= 5.3328E+00 4.2546E-06 2.2905E-13
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
TPWMB1*54	0.0

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726621-B*1	10500	11900.0000	11.81

STORET: 81360 METHOD: UW32 2,4,6-TRINITROTOLUENE,TOTAL, UG/L QUAD

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 08 OCT 1991 LARGEST RESPONSE=20331330(USER DEFINED) %RSD=2.3314

CONC :	0	39.12	78.24	156.48	391.2	782.4	1564.8	7824	11410
RESP :	0	71725	147947	290458	757799	1528932	3023057	14834058	19339670
CONC':	78.160	106.03	135.75	191.64	377.76	694.37	1341.5	8020.7	11300
R.T.:	0	15.44	15.38	15.42	15.44	15.27	15.17	15.03	15.63

CONC = 7.8160E+01+ 3.8782E-04*RESP+ 9.9506E-12*RESP**2+ *RESP**3
95% C.I.= 1.2651E+02 7.9665E-05 4.2929E-12
CORRELATION COEFFICIENT = .9995

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
TPWMB1*54	0.0

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726621-B*1	7760	7840.0000	0.97

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.	
SP1*TPWMB1*54	0.0	1.3756	1.3756	1.1700	117.58		SPIKE RECOVERY > 105
SP2*TPWMB1*54	0.0	9.8663	9.8663	11.700	84.33	32.94	REPLICATE % DIFFERENCE > 25
SP3*TPWMB1*54	0.0	9.4748	9.4748	11.700	80.98	36.86	REPLICATE % DIFFERENCE > 25
SP4*TPWMB1*54	0.0	74.003	74.003	88.920	83.22	34.22	REPLICATE % DIFFERENCE > 25

STORET: 34626 METHOD: UW32 2,6-DINITROTOLUENE, UG/L QUAD

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 08 OCT 1991 LARGEST RESPONSE=2633104(USER DEFINED) %RSD=19.5231

CONC :	0	4.88	9.76	19.52	48.8	97.6	195.2	976	2440
RESP :	0	2505	10819	19447	51470	103255	205813	1008321	2477110
CONC':	0.02790	2.4198	10.360	18.601	49.206	98.750	197.06	975.21	2440.1
R.T.:	0	17.93	17.84	17.97	17.92	17.72	17.55	17.42	18.25

CONC = 2.7895E-02+ 9.5484E-04*RESP+ 1.2196E-11*RESP**2+ *RESP**3
95% C.I.= 1.1890E+00 5.2280E-06 2.1444E-12
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
TPWMB1*54	0.0

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%	
726621-B*1	1670	1172.0000	42.09	CCV FAILURE

STORET: 34611 METHOD: UW32 2,4-DINITROTOLUENE, UG/L QUAD

CALIBRATION CURVE # 1
CURVE DETECTION LIMIT= DATE: 08 OCT 1991 LARGEST RESPONSE=5698832(USER DEFINED) %RSD=21.5502

CONC :	0	4.61	9.22	18.44	46.1	92.2	184.4	922	2304
RESP :	0	5390	26566	41183	113250	229536	460732	2297304	5603471
CONC':	1.1903	3.3144	11.661	17.424	45.857	91.802	183.39	922.39	2303.9
R.T.:	0	18.62	18.58	18.72	18.63	18.45	18.25	18.12	19.00

CONC = 1.1903E+00+ 3.9407E-04*RESP+ 3.0127E-12*RESP**2+ *RESP**3
95% C.I.= 1.1218E+00 2.1796E-06 3.9559E-13
CORRELATION COEFFICIENT = .9999

METHOD BLANK(S)

SAMPLE ID	CONCENTRATION
TPWMB1*54	0.0

CONTINUING CALIBRATION VERIFICATION SAMPLE(S) *** Optional Quality Control Check ***

SAMPLE ID	CALC. CONC	KNOWN CONC	DIFFERENCE%
726621-B*1	947	944.0000	0.35

STANDARD MATRIX SPIKE(S)

SAMPLE ID	UNSP CONC	SPK CONC	FOUND	TARGET	% RECV	REL%DIFF.
SP1*TPWMB1*54	0.0	0.12595	0.12595	0.14080	89.45	
SP2*TPWMB1*54	0.0	1.1895	1.1895	1.4080	84.48	5.72
SP3*TPWMB1*54	0.0	1.1363	1.1363	1.4080	80.70	10.28
SP4*TPWMB1*54	0.0	15.525	15.525	17.600	88.21	1.40

LOCATION: CB GROUNDS

SAMPLE DATE: 3 MARCH 92

LABORATORY: LOZIER

PARAMETERS: multiple

LOZIER
LABORATORIES, INC.
909 CULVER ROAD • ROCHESTER, NEW YORK 14609 • 716-654-6350

April 23, 1991

Mark Paprocki
Seneca Army Depot
Bldg. 123
Romulus, NY 14541

Re: Annual and Semi-Annual Groundwater Monitoring

Dear Mr. Paprocki:

Please find enclosed analytical results pertaining to samples collected March 21, 1991 from eighteen (18) groundwater monitoring wells at your facility for the annual and semi-annual testing requirements. At your request aliquots from each monitoring well were Federal Expressed to Environmental Science and Engineering in Gainesville Florida for explosives analysis.

It has been our pleasure to provide the Seneca Army Depot with environmental testing services.

Please call if you have any questions or require additional information.

Sincerely,

Dennis Ciehomski

Dennis Ciehomski
Laboratory Coordinator

DC, rj
Enclosure

LOZIER
LABORATORIES, INC.
909 CULVER ROAD • ROCHESTER, NEW YORK 14609 • 716-654-6350

SENECA ARMY DEPOT - DEMO GROUNDS

Annual & Semi-Annual Groundwater Monitoring

April, 1991

Parameter	Analysis Method No.	Date of Analysis	Analysts Initials
Chloride	EPA 325.3	03-26-91	KRS
Sulfate	SM 16th ed. 426 C	03-22-91	KRS
Total Phenols	EPA 420.1	04-05-91	DC
Specific Conductance	SM 17th ed. 2510 B	Field Measurement 03-21-91	BMC
TOX	9020 SW846, 3rd ed.	03/27 + 03/28	ELAP 10486
TOC	EPA 415.1	03-29-91	ELAP 10067
pH	EPA 150.1	Field Measurement 03-26-91	BMC
Temperature	EPA 170.1	Field Measurement 03-26-91	BMC
Iron	EPA 236.1	03-25-91	JV
Manganese	EPA 243.1	03-26-91	JV
Sodium	EPA 273.1	03-26-91	JV
Explosives *	---	---	---

* Subcontracted, analysis to be received from:

Environmental Science and Engineering
Gainesville, Florida

Affiliated with:
LOZIER ARCHITECTS/ENGINEERS • 1050 PITTSFORD VICTOR ROAD • PITTSFORD, NEW YORK 14534 • 716-381-2210

LOZIER LABORATORIES, INC.

909 CULVER ROAD
ROCHESTER, NEW YORK 14609
716-654-6350

NEW YORK STATE
APPROVED
ENVIRONMENTAL LABORATORY

CLIENT: SENECA ARMY DEPOT
BUILDING 123
ROMULUS, NY 14541

DATE REC'D : 03/21/91
LABORATORY NO. : 91031102
REPORT DATE : 04/22/91

ATTN: MARK PAPROCKI

RE: SEMI-ANNUAL/ANNUAL SAMPLING

SAMPLE INFORMATION

SAMPLE DATE	: 03/20 - 03/21	LOCATION	: DEMO GROUNDS
SAMPLE TIME	: 8:00 - 12:15 P.M.	TYPE OF SAMPLE	: GROUND WATER
NUMBER OF SAMPLES	: 18	SAMPLER	: B. CAHILL

LABORATORY REPORT

PARAMETER	MONITORING WELL NUMBER			UNITS
	W1	W2	W3	
CHLORIDE	4.32	2.59	4.32	mg/l
SULFATE	292	103	59.8	mg/l
IRON	<0.06	<0.06	<0.06	mg/l
MANGANESE	<0.01	<0.01	<0.01	mg/l
SODIUM	12.5	14.4	3.50	mg/l
PHENOL	<0.002	0.003	<0.002	mg/l
SPECIFIC CONDUCTANCE	845	585	575	umhos/cm
TOX (1)	7.4	12	9.2	ug/l
TOC (2)	8.9	250	7.3	mg/l
pH (3)	6.6	6.8	6.8	S.U.
TEMPERATURE (4)	4 c	4 c	4 c	Degrees c

(1) Analysis performed by ELAP # 10486.
(2) Analysis performed by ELAP # 10067.
(3) Analysis performed in the field 03/21/91 by B. Cahill, T. Denee.
(4) Analysis performed in the field 03/21/91 by B. Cahill, T. Denee.

NYSDOH LAB ID # 10390

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SENECA ARMY DEPOT / LAB # 91031102

LABORATORY REPORT

PARAMETER	MONITORING WELL NO.			UNITS
	W4	W5	W6	
CHLORIDE	4.32	3.46	3.46	mg/l
SULFATE	232	93.7	88.4	mg/l
IRON	<0.06	<0.06	<0.06	mg/l
MANGANESE	0.03	0.02	<0.01	mg/l
SODIUM	22.3	15.9	13.1	mg/l
PHENOL	<0.002	<0.002	<0.002	mg/l
SPECIFIC CONDUCTANCE	900	7.3	688	umhos/cm
TOX (1)	5.2	<5.0	<5.0	ug/l
TOC (2)	3.6	6.0	5.4	mg/l
pH (3)	6.6	6.9	6.7	S.U.
TEMPERATURE (4)	4 c	4 c	4 c	Degrees c

(1) Analysis performed by ELAP ID No. 10486
(2) Analysis performed by ELAP ID No. 10067
(3) Analysis performed in the field 03/21/91 by B. Cahill, T. Denee
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PARAMETER	MONITORING WELL NO.			UNITS
	W7	W7 (DUPLICATE)	W8	
CHLORIDE	1.73	2.16	19.9	mg/l
SULFATE	39.5	39.8	807	mg/l
IRON	<0.06	<0.06	<0.06	mg/l
MANGANESE	0.01	<0.01	0.02	mg/l
SODIUM	8.85	9.20	17.7	mg/l
PHENOL	<0.002	<0.002	<0.002	mg/l
SPECIFIC CONDUCTANCE	524	524	1,753	umhos/cm
TOX (1)	<5.0	8.3	<5.0	ug/l
TOC (2)	9.0	<3.0	<3.0	mg/l
pH (3)	7.0	7.0	6.5	S.U.
TEMPERATURE (4)	3 c	3 c	4 c	Degrees c

(1) Analysis performed by ELAP ID No. 10486
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LABORATORY REPORT

PARAMETER	MONITORING WELL NO.			UNITS
	W9	W10	W11	
CHLORIDE	3.46	10.4	15.6	mg/l
SULFATE	228	252	189	mg/l
IRON	<0.06	<0.06	<0.06	mg/l
MANGANESE	0.03	0.02	<0.01	mg/l
SODIUM	10.1	11.1	15.6	mg/l
PHENOL	<0.002	<0.002	<0.002	mg/l
SPECIFIC CONDUCTANCE	901	972	789	umhos/cm
TOX (1)	8.1	<5.0	<5.0	ug/l
TOC (2)	<3.0	<3.0	12.4	mg/l
pH (3)	6.6	6.6	6.6	S.U.
TEMPERATURE (4)	2 c	4 c	3 c	Degrees c

(1) Analysis performed by ELAP ID No. 10486
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LABORATORY REPORT

PARAMETER	MONITORING WELL NO. W12	W13	W14	UNITS
CHLORIDE	6.91	7.78	23.3	mg/l
SULFATE	106	181	282	mg/l
IRON	<0.06	<0.06	<0.06	mg/l
MANGANESE	0.01	<0.01	<0.01	mg/l
SODIUM	19.2	13.1	34.9	mg/l
PHENOL	<0.002	<0.002	<0.002	mg/l
SPECIFIC CONDUCTANCE	926	865	1,174	umhos/cm
TOX (1)	<5.0	<5.0	5.1	ug/l
TOC (2)	25.8	12.6	14.6	mg/l
pH (3)	6.7	6.5	6.6	S.U.
TEMPERATURE (4)	3 c	3 c	2 c	Degrees c

(1) Analysis performed by ELAP ID No. 10486
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LABORATORY REPORT

PARAMETER	MONITORING WELL NO. W15	W16	W17	W18 (WELL DUPLICATE)	UNITS
CHLORIDE	7.78	1.73	3.46	3.46	mg/l
SULFATE	389	187	44.3	94.4	mg/l
IRON	<0.06	<0.06	<0.06	<0.06	mg/l
MANGANESE	0.02	<0.01	<0.01	0.01	mg/l
SODIUM	35.6	8.20	5.4	14.9	mg/l
PHENOL	<0.002	<0.002	<0.002	<0.002	mg/l
SPECIFIC CONDUCTANCE	1,506	764	497	585	umhos/cm
TOX (1)	15	<5.0	<5.0	<5.0	ug/l
TOC (2)	20.5	19.9	8.5	251	mg/l
pH (3)	6.6	6.7	6.7	6.8	S.U.
TEMPERATURE (4)	3 c	3 c	4 c	4 c	Degrees c

(1) Analysis performed by ELAP ID No. 10486
(2) Analysis performed by ELAP ID No. 10067
(3) Analysis performed in the field 03/21/91 by B. Cahill, T. Denee
(4) Analysis performed in the field 03/21/91 by B. Cahill, T. Denee

NYSDOH LAB ID # 10390

LABORATORY DIRECTOR

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CHAIN OF CUSTODY RECORD

Lozier Laboratories, Inc.
909 Culver Road
Rochester, NY 14609

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	ANALYSIS: TOX	EXPLOSIVES	PHENOLS	DISS. REMARKS	TOC	SULFATE	CHLORIDE	PH	NUMBER OF CONTAINERS	SPEC. COND. umhos/cm	REMARK: TEMP °C
	3/21/91	8:00 Am	W7	Ground Hz	X	X	X	X	X	X	X	7.0	7	524	3°
		8:00 am	W7 DUPLICATE		X		X	X	X	X	X	7.0	5	524	3°
		8:20 am	W16		X	X	X	X	X	X	X	6.7	7	764	3°
		8:33 Am	W15		X	X	X	X	X	X	X	6.6		1506	3°
		8:42 Pm	W14		X	X	X	X	X	X	X	6.6		1,174	23°
		9:00 AM	W13		X	X	X	X	X	X	X	6.5		865	3°
		9:15 Am	W1		X	X	X	X	X	X	X	6.6		845	4°
		9:30 Am	W9		X	X	X	X	X	X	X	6.6		901	2°
		10:00 Am	W5		X	X	X	X	X	X	X	6.9		713	4°
		10:20 Am	W10		X	X	X	X	X	X	X	6.6		972	4°
	↓	10:35 Am	W8	↓	X	X	X	X	X	X	X	6.5	↓	1753	4°

D BY: Tanya H DeNee / B. Cahill
SIGN

IISHED	1 B. Cahill SIGN 3/21/91 3:45 DATE TIME	2 W.A. Richards SIGN 3/22/91 8:30 DATE TIME	3 Pam Tlamco SIGN 3/22/91 11:30 DATE TIME	4 SIGN DATE TIME
D	1 SIGN DATE TIME	2 Pam Tlamco SIGN 3/22/91 8:30 DATE TIME	3 J. Hendrell SIGN 3-22-91 11:30 AM DATE TIME	4 SIGN DATE TIME

OF SHIPMENT:

RECEIVED FOR LABORATORY BY:

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

Lozier Laboratories, Inc.
909 Culver Road
Rochester, NY 14609

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	TOX	Explosives	(T) Phenols	Diss. Fe, Mn, Na	TOC	Sulfate	Chloride	PH	NUMBER OF CONTAINERS	SPEC. COND. (umhos/cm)
	3/21/91	10:50 AM	W11	Ground H2O	X	X	X	X	X	X	X	6.6	7	789
		11:00 AM	W6		X	X	X	X	X	X	X	6.7		688
		11:14 A	W17		X	X	X	X	X	X	X	6.7		497
		11:25 AM	W12		X	X	X	X	X	X	X	6.7		926
		11:39	W3		X	X	X	X	X	X	X	6.8		575
		12:00	W2		X	X	X	X	X	X	X	6.8		585
		12:00	W18		X		X	X	X	X	X	6.8	5	585
		12:15	W4		X	X	X	X	X	X	X	6.6	7	900

SAMPLED BY: Tanya H. DeRee / B. Calin
SIGN

	1	2	3	4
RELINQUISHED BY:	SIGN: B. Calin DATE: 3/21/91 TIME: 3:45	SIGN: W. A. Richards DATE: 3/22/91 TIME: 8:30 Am.	SIGN: Pam Thomas DATE: 3/22/91 TIME: 11:30 am	SIGN: DATE: TIME:
RECEIVED BY:	SIGN: DATE: TIME:	SIGN: Pam Thomas DATE: 3/22/91 TIME: 8:30 am	SIGN: J. Hendricks DATE: 3-22-91 TIME: 11:30 AM	SIGN: DATE: TIME:

METHOD OF SHIPMENT: Hand
SIGN: B. Calin

RECEIVED FOR LABORATORY BY:
SIGN: V. Brall
DATE: 3-2 TIME: 3

LOCATION: 03 BRANDS

SAMPLE DATE: 1 APRIL 92

LABORATORY: LOZIER

PARAMETERS: & MULTIPLE

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April 16, 1992

Mark Paprocki
Seneca Army Depot
Building 123
Romulus, New York 14541

Re: Demo Grounds - Ground Water Monitoring

Dear Mr. Paprocki:

Attached is the laboratory report for groundwater analysis performed on seventeen (17) monitoring well samples taken by Bernie Cahill at the Demo Grounds on your facility April 1, 1992.

All analyses were performed by methods outlined in "Methods for Chemical Analysis of Water and Wastes", USEPA 600/4-79-020, and "Standard Methods for the Examination of Water and Wastewater", 16th edition.

It has been our pleasure to perform environmental analysis for the Seneca Army Depot.

Please call if you require additional information or have any questions.

Sincerely,

Dennis M. Ciehomski

Dennis M. Ciehomski
Laboratory Coordinator

DMC:sla
Enclosure

...ated with:
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SENECA ARMY DEPOT
DEMO GROUNDS
GROUND WATER MONITORING
APRIL 1992

ANALYTE	ANALYSIS METHOD	ANALYSIS DATE	ANALYSIS PERFORMED BY
pH	EPA 150.1	4/01/92 *	BMC
Temperature	EPA 170.1	4/01/92 *	BMC
Specific Conductance	SM 16th ed. 205	4/01/92 *	BMC
Static Water Level	Field Method	4/01/92 *	BMC
Total Phenols	EPA 420.1	4/14/92	DMC
Sulfate	SM 16th ed. 426C	4/02/92	BHB
Chlorides	EPA 420.1	4/02/92	KRS
Sol. Iron (2)	EPA 236.1	4/08/92	JV
Sol. Manganese (2)	EPA 243.1	4/06/92	JV
Sol. Sodium (2)	EPA 273.1	4/08/92	JV
TOC	EPA 415.1	4/10/92	NYS LAB 10067
TOX	EPA 450.1	4/06-08/92	NYS LAB 10486
Explosives (1)	———	———	Weston

(1) Analysis results to be provided directly by Weston Analytical Laboratories.

(2) Metals are filtered through 0.45 um membrane filter prior to analysis.

* Field Measurement

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CLIENT: SENECA ARMY DEPOT
BUILDING 123
ROMULUS, NEW YORK 14541

ATTN : MARK PAPROCKI

DATE REC'D : 04/01/92
LABORATORY NO. : 92041511
REPORT DATE : 04/16/92

RE : GROUNDWATER MONITORING

SAMPLE INFORMATION

SAMPLE DATE	: 04/01/92	LOCATION	: DEMO GROUNDS
SAMPLE TIME	: 8:10-11:35 AM	TYPE OF SAMPLE	: GROUNDWATER
NUMBER OF SAMPLES	: 18	SAMPLER	: B. CAHILL

LABORATORY REPORT

PARAMETER	MW #7	MW #16	MW #15	UNITS	METHOD NUMBER	DATE ANALYZED
pH	7.3	7.3	7.1	S.U.	EPA 150.1	04/01
TEMPERATURE	3 C	3 C	3 C	Degrees C	EPA 170.1	04/01
SPECIFIC CONDUCTIVITY	449	712	1,415	umhos/cm	SM 16th Ed 205	04/01
STATIC WATER LEVEL	2.80'	1.90'	2.00'	Feet		
TOTAL PHENOLS	0.004	0.002	0.005	mg/l	EPA 420.1	04/14
SULFATE	32.8	179	415	mg/l	SM 16th Ed 426 C	04/02
CHLORIDE	8.86	5.32	17.7	mg/l	EPA 325.3	04/02
IRON	0.29	<0.05	<0.05	mg/l	EPA 236.1	04/08
MANGANESE	0.04	<0.01	<0.01	mg/l	EPA 243.1	04/06

NYSDOH LAB ID # 10390

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SENECA ARMY DEPOT / LAB # 92041511

LABORATORY REPORT

PARAMETER	MW #7	MW #16	MW #15	UNITS	METHOD NUMBER	DATE ANALYZED
SODIUM	7.7	3.8	23.9	mg/l	EPA 273.1	04/08
TOC *	8.0	6.6	7.3	mg/l	EPA 415.1	
TOX **	12	17	23	ug/l	EPA 450.1	

* Analysis performed by NYS Certified Lab No. 10067
** Analysis performed by NYS Certified Lab No. 10486

Explosives analyses being performed and reported directly by Weston Analytical Laboratories.

NYSDOH LAB ID # 10390

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LABORATORY REPORT

PARAMETER	MW #14	MW #13	MW #1	UNITS	METHOD NUMBER	DATE ANALYZED
pH	7.2	7.1	7.2	S.U.	EPA 150.1	04/01
TEMPERATURE	3 C	3 C	4 C	Degrees C	EPA 170.1	04/01
SPECIFIC CONDUCTIVITY	1,079	890	773	umhos/cm	SM 16th Ed 205	04/01
STATIC WATER LEVEL	2.76'	2.33'	6.14	Feet		
TOTAL PHENOLS	<0.001	<0.001	<0.001	mg/l	EPA 420.1	04/14
SULFATE	228	212	217	mg/l	SM 16th Ed 426C	04/02
CHLORIDE	26.6	16.0	8.86	mg/l	EPA 325.3	04/02
IRON	<0.05	<0.05	0.26	mg/l	EPA 236.1	04/08
MANGANESE	<0.01	<0.01	<0.01	mg/l	EPA 243.1	04/06
SODIUM	32.8	20.0	17.6	mg/l	EPA 273.1	04/08
TOC *	5.6	4.1	3.8	mg/l	EPA 415.1	
TOX **	8.6	9.3	<5.0	ug/l	EPA 450.1	

* Analysis performed by NYS Certified Lab No. 10067
** Analysis performed by NYS Certified Lab No. 10486

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LABORATORY REPORT

PARAMETER	MW #9	MW #8	MW #5	UNITS	METHOD NUMBER	DATE ANALYZED
pH	7.1	7.0	7.7	S.U.	EPA 150.1	04/01
TEMPERATURE	3 C	4 C	3 C	Degrees C	EPA 170.1	04/01
SPECIFIC CONDUCTIVITY	905	1,710	552	umhos/cm	SM 16th Ed 205	04/01
STATIC WATER LEVEL	1.43	2.63	3.90	Feet		
TOTAL PHENOLS	<0.001	0.001	0.005	mg/l	EPA 420.1	04/14
SULFATE	273	710	86.0	mg/l	SM 16th Ed 426C	04/02
CHLORIDE	10.6	23.0	10.6	mg/l	EPA 325.3	04/02
IRON	0.09	0.09	0.09	mg/l	EPA 236.1	04/08
MANGANESE	0.05	<0.01	<0.01	mg/l	EPA 243.1	04/06
SODIUM	12.2	16.5	17.6	mg/l	EPA 273.1	04/08
TOC *	6.0	6.6	3.3	mg/l	EPA 415.1	
TOX **	<5.0	<5.0	8.2	ug/l	EPA 450.1	

* Analysis performed by NYS Certified Lab No. 10067
** Analysis performed by NYS Certified Lab No. 10486

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SENECA ARMY DEPOT / LAB # 92041511

LABORATORY REPORT

PARAMETER	MW #10	MW #11	MW #17	UNITS	METHOD NUMBER	DATE ANALYZED
pH	7.4	7.1	7.3	S.U.	EPA 150.1	04/01
TEMPERATURE	4 C	4 C	4 C	Degrees C	EPA 170.1	04/01
SPECIFIC CONDUCTIVITY	824	880	521	umhos/cm	SM 16th Ed 205	04/01
STATIC WATER LEVEL	2.01	2.32	1.36	Feet		
TOTAL PHENOLS	0.002	0.007	0.004	mg/l	EPA 420.1	04/14
SULFATE	213	163	59.0	mg/l	SM 16th Ed 426C	04/02
CHLORIDE	16.0	12.4	8.86	mg/l	EPA 325.3	04/02
IRON	0.08	<0.05	<0.05	mg/l	EPA 236.1	04/08
MANGANESE	0.01	<0.01	<0.01	mg/l	EPA 243.1	04/06
SODIUM	12.0	14.2	4.8	mg/l	EPA 273.1	04/08
TOC *	4.0	3.8	7.6	mg/l	EPA 415.1	
TOX **	<5.0	5.9	6.4	ug/l	EPA 450.1	

* Analysis performed by NYS Certified Lab No. 10067
** Analysis performed by NYS Certified Lab No. 10486

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SENECA ARMY DEPOT / LAB # 92041511

LABORATORY REPORT

PARAMETER	MW #6	MW #12	MW #4	UNITS	METHOD NUMBER	DATE ANALYZED
pH	7.4	7.4	7.3	S.U.	EPA 150.1	04/01
TEMPERATURE	4 C	4 C	4 C	Degrees C	EPA 170.1	04/01
SPECIFIC CONDUCTIVITY	547	755	600	umhos/cm	SM 16th Ed 205	04/01
STATIC WATER LEVEL	3.00	2.00	6.24	Feet		
TOTAL PHENOLS	0.002	0.004	0.006	mg/l	EPA 420.1	04/14
SULFATE	71.0	79.7	92.8	mg/l	SM 16th Ed 426C	04/02
CHLORIDE	8.86	12.4	10.6	mg/l	EPA 325.3	04/02
IRON	0.08	<0.05	0.11	mg/l	EPA 236.1	04/08
MANGANESE	<0.01	<0.01	0.02	mg/l	EPA 243.1	04/06
SODIUM	21.0	16.3	17.6	mg/l	EPA 273.1	04/08
TOC *	7.3	4.3	7.7	mg/l	EPA 415.1	
TOX **	15.	14.	21.	ug/l	EPA 450.1	

* Analysis performed by NYS Certified Lab No. 10067
** Analysis performed by NYS Certified Lab No. 10486

Explosives analyses being performed and reported directly by Weston Analytical Laboratories.

NYSDOH LAB ID # 10390

LABORATORY DIRECTOR

LOZIER LABORATORIES, INC.
909 CULVER ROAD
ROCHESTER, NEW YORK 14609
716-654-6350

NEW YORK STATE
APPROVED
ENVIRONMENTAL LABORATORY

SENECA ARMY DEPOT / LAB # 92041511

LABORATORY REPORT

PARAMETER	MW #3	MW #2	MW #18 BLIND DUPLICATE	UNITS	METHOD NUMBER	DATE ANALYZED
pH	7.1	7.6	7.3	S.U.	EPA 150.1	04/01
TEMPERATURE	4 C	3 C	3 C	Degrees C	EPA 170.1	04/01
SPECIFIC CONDUCTIVITY	674	461	700	umhos/cm	SM 16th Ed 205	04/01
STATIC WATER LEVEL	6.37	5.42	-	Feet		
TOTAL PHENOLS	0.005	0.004	0.003	mg/l	EPA 420.1	04/14
SULFATE	168	54.0	176	mg/l	SM 16th Ed 426C	04/02
CHLORIDE	8.86	7.09	7.09	mg/l	EPA 325.3	04/02
IRON	0.07	0.19	<0.0	mg/l	EPA 236.1	04/08
MANGANESE	<0.01	0.01	0.02	mg/l	EPA 243.1	04/06
SODIUM	5.9	21.3	7.0	mg/l	EPA 273.1	04/08
TOC *	4.0	<3.0	-	mg/l	EPA 415.1	
TOX **	21.	13.	-	ug/l	EPA 450.1	

* Analysis performed by NYS Certified Lab No. 10067
** Analysis performed by NYS Certified Lab No. 10486

Explosives analyses being performed and reported directly by Weston Analytical Laboratories.

NYSDOH LAB ID # 10390

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ENVIRONMENTAL LABORATORY

SENECA ARMY DEPOT / LAB # 92041511

LABORATORY REPORT

PARAMETER	MW #7 DUPLICATE	UNITS	METHOD NUMBER	DATE ANALYZED
pH	7.2	S.U.	EPA 150.1	04/01
TEMPERATURE	3 C	Degrees C	EPA 170.1	04/01
SPECIFIC CONDUCTIVITY	440	umhos/cm	SM 16th Ed 205	04/01
STATIC WATER LEVEL	-	Feet		
TOTAL PHENOLS	0.004	mg/l	EPA 420.1	04/14
SULFATE	31.7	mg/l	SM 16th Ed 426C	04/02
CHLORIDE	7.09	mg/l	EPA 325.3	04/02
IRON	<0.05	mg/l	EPA 236.1	04/08
MANGANESE	0.02	mg/l	EPA 243.1	04/06
SODIUM	6.2	mg/l	EPA 273.1	04/08

NYSDOH LAB ID # 10390

LABORATORY DIRECTOR

ATTN: M. Paprocki

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

Client Name: SEAD

Mailing Address:

1 of 2

Project Name: DEMO Grounds Ground H2O Monitoring

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	PH	TEMP °C	EXPLOSIVES	TOX	(T) PHENOLS	TOC	SULFATE/CHLORIDES	NITRATE	NUMBER OF CONTAINERS	SPEC. COND.	STATIC WATER LEVEL (T.O.C) REMARK
a	4/1/92	8:10 Am	MW#7	Ground H2O	7.3	3°	X	X	X	X	X	X	7	449	2.80'
b		8:25 Am	MW#16		7.3	3°								712	1.90'
c		8:40 Am	MW#15		7.1	3°								1415	2.00'
d		8:50 Am	MW#14		7.2	3°								1019	2.76'
e		9:00 Am	MW#13		7.1	3°								890	2.33'
f		9:15 Am	MW#1		7.2	4°								773	6.14'
g		9:30 Am	MW#9		7.1	3°								905	1.43'
h		9:37 Am	MW#8		7.0	4°								1710	2.63'
i		9:50 Am	MW#5		7.7	3°								552	3.90
J		10:00 Am	MW#10		7.4	4°								824	2.01'
K	↓	10:20 Am	MW#11	↓	7.1	4	↓	↓	↓	↓	↓	↓	↓	880	2.32

SAMPLED BY: Bernard M Cahill
SIGN

	1	2	3	4
RELINQUISHED BY:	SIGN: Bernard M Cahill DATE: 4-1-92 TIME: 3:30pm	SIGN: DATE: TIME:	SIGN: DATE: TIME:	SIGN: DATE: TIME:
RECEIVED BY:	SIGN: DATE: TIME:	SIGN: DATE: TIME:	SIGN: DATE: TIME:	SIGN: DATE: TIME:

METHOD OF SHIPMENT:

SIGN

RECEIVED FOR LABORATORY BY:

SIGN: R. Julian DATE: 4/1/92 TIME: 3:30pm

ATTN: H. Peprocki

LOZIER LABORATORIES

CHAIN OF CUSTODY RECORD

Client Name: SEAD

Mailing Address:

2 of 2

Project Name: DEmo Grounds Ground H2O Monitoring

SAMPLE NUMBER	DATE	TIME	LOCATION	SAMPLE TYPE	PH	TEMP	EXPLOSIVES	TOX	(T)PHENOLS	TOC	SULFATE/CHLORIDES	FILTERED METALS	NUMBER OF CONTAINERS	SPEC. COND	STATIC H2O LEVEL REMARK
L	4/1/92	10 45 AM	MW#17	Ground H2O	7.3	4°	X	X	X	X	X	X	7	521	1.36'
M	↓	10 35 AM	MW#6	↓	7.4	4°	↓	↓	↓	↓	↓	↓	↓	547	3.00'
N	↓	10 57 AM	MW#12	↓	7.4	4°	↓	↓	↓	↓	↓	↓	↓	755	2.00'
O	↓	11 15 AM	MW#4	↓	7.3	4°	↓	↓	↓	↓	↓	↓	↓	600	6.24
P	↓	11 30 AM	MW#3	↓	7.1	4°	↓	↓	↓	↓	↓	↓	↓	~~600~~ 674	6.37
Q	↓	11 45 AM	MW#2	↓	7.6	3°	↓	↓	↓	↓	↓	↓	↓	461	5.42
R	↓	8 25 AM	BP-18	↓	7.3	3°	↓		X	X	X	X	3	700	
S	↓	8 48 AM	MW#7 Duplicate	↓	7.2	3°			↓		↓	↓	3	440	

SAMPLED BY: Bernard M Cahill
SIGN

	1	2	3	4
RELINQUISHED BY:	SIGN: Bernard M Cahill DATE: 4-1-92 TIME: 3:30pm	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME
RECEIVED BY:	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME	SIGN DATE TIME

METHOD OF SHIPMENT:

SIGN

RECEIVED FOR LABORATORY BY: Ruth Jubin
SIGN DATE 4/1/92 TIME 3:30pm