OBG-01-003

00409

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GROUNDWATER MONITORING
VALIDATED ANALYTICAL RESULTS FOR THE FOURTH QUARTER 1993
OB GROUNDS, SENECA ARMY DEPOT

PREPARED FOR:
U.S. Army Corps of Engineers
Hunstville, Alabama

PREPARED BY:

Engineering-Science, Inc.
Boston, Massachusetts

April 1994
D#11

ENGINEERING-SCIENCE, INC.

Prudential Center • Boston Massachusetts 02199 • (617) 859-2000 • Fax: (617) 859-2043

April 8, 1994
770454-01009

Mr. Rick Suever
U.S. Army Corps of Engineers,
Huntsville Division
ATTN: CEHND-PM-EP
106 Wynn Drive
Huntsville, AL 35807-1957

SUBJECT: Fourth Quarter Groundwater Monitoring for 1993, OB Grounds, Seneca Army Depot, Romulus, New York

Dear Mr. Suever:

Enclosed are the analytical results for the fourth quarter groundwater monitoring for 1993. The analytical results are divided into two major groups: general parameters and QA/QC data (Sections 1 and 2, respectively, in the enclosed document). Generally, the results of the fourth quarter 1993 analyses are consistent with historical results.

Please do not hesitate to call me at (617) 859-2492 if you have any questions.

Sincerely,

ENGINEERING-SCIENCE, INC.

Michael Duchesneau
Project Manager

MD/cmf/D#11

Enclosure
cc: Ms. Percifield, MRD-Lab
Mr. Randy Battaglia, SEDA
Mr. Biernacki, DESCOM

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Section 1.0
Indicator Parameters

OB GROUNDS FOURTH QUARTER 1993 MONITORING
INDICATOR ANALYSIS RESULTS

B4QMMSC.WK3	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER
	SITE	OB	OB	OB	OB	OB	OB
	DATE SAMPL'D	12/06/93	12/08/93	12/08/93	12/14/93	12/13/93	12/07/93
	ES ID	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
	LAB ID	*	*	*	*	*	*
PARAMETER	UNITS						
Total Organic Carbon	mg/L	4	3	7	4	1	4
pH	units	7.16	7.43	7.26	7.18	7.33	7.53
Chloride	mg/L	4	3	3	3	3	3
Sulfate	mg/L	170	74	160	200	27	110
Specific Conductance	umhos/cm	700	520	710	830	770	600
Nitrate+Nitrite	mg/L as N	1.2	0.5 U	0.5 U	0.17	6.3	0.5 U
Total Organic Halides	mg/L	0.02 U	0.02 U	0.02	0.02	0.02 U	0.03

Notes:
(1) * The Lab ID is different for each parameter

OB GROUNDS FOURTH QUARTER 1993 MONITORING
INDICATOR ANALYSIS RESULTS

B4QMMSC.WK3	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER
	SITE	OB	OB	OB	OB	OB	OB
	DATE SAMPL'D	12/13/93	12/08/93	12/13/93	12/14/93	12/07/93	12/06/93
	ES ID	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13
	LAB ID	*	*	*	*	*	*
PARAMETER	UNITS						
Total Organic Carbon	mg/L	1	5	2	3	4	3
pH	units	7.13	7.23	7.34	7.03	7.41	7.04
Chloride	mg/L	16	5	5	30	10	11
Sulfate	mg/L	93	270	140	250	100	230
Specific Conductance	umhos/cm	1800	900	650	1100	920	990
Nitrate+Nitrite	mg/L as N	1.1	2.3	0.1	0.42	1.4	5
Total Organic Halides	mg/L	0.02 U	0.02	0.02	0.02 U	0.02 U	0.04

Notes:
(1) * The Lab ID is different for each parameter

OB GROUNDS FOURTH QUARTER 1993 MONITORING
INDICATOR ANALYSIS RESULTS

)B4QMMSC.WK3	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER
	SITE	OB	OB	OB	OB	OB	OB
	DATE SAMPL'D	12/06/93	12/05/93	12/07/93	12/07/93	12/14/93	12/13/93
	ES ID	MW-15	MW-16	MW-17	MW-18	MW-19	MW-21
	LAB ID	*	*	*	*	*	*
PARAMETER	UNITS						
Total Organic Carbon	mg/L	5	4	3	2	3	1
pH	units	7.18	7.26	7.35	7.20	7.21	7.50
Chloride	mg/L	7	3	4	19	24	2
Sulfate	mg/L	400	150	86	160	600	93
Specific Conductance	umhos/cm	1400	720	600	870	1500	1800
Nitrate+Nitrite	mg/L as N	2.2	0.32	0.5 U	0.5	1.4	0.53
Total Organic Halides	mg/L	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U

Notes:
(1) * The Lab ID is different for each parameter

OB GROUNDS FOURTH QUARTER 1993 MONITORING
INDICATOR ANALYSIS RESULTS

34QMMSC.WK3	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER
	SITE	OB	OB	OB	OB	OB	OB
	DATE SAMPL'D	12/05/93	12/07/93	12/15/93	12/15/93	12/07/93	12/02/93
	ES ID	MW-23	MW-24	MW-25	MW-26	MW-27	MW-28
	LAB ID	*	*	*	*	*	*
PARAMETER	UNITS						
Total Organic Carbon	mg/L	3	3	1	8	5	5
pH	units	7.21	7.22	7.26	11.96	7.39	11.40
Chloride	mg/L	17	33	2	2	13	10
Sulfate	mg/L	260	190	87	42	110	130
Specific Conductance	umhos/cm	990	1200	630	1900	940	560
Nitrate+Nitrite	mg/L as N	0.22	13	0.05 U	0.31	2.1	0.83
Total Organic Halides	mg/L	0.02	0.03	0.02 U	0.02 U	0.02 U	0.02 U

Notes:
(1) * The Lab ID is different for each parameter

OB GROUNDS FOURTH QUARTER 1993 MONITORING
INDICATOR ANALYSIS RESULTS

)B4QMMSC.WK3	MATRIX	WATER	WATER	WATER	WATER	WATER	WATER
	SITE	OB	OB	OB	OB	OB	OB
	DATE SAMPL'D	12/06/93	12/08/93	12/14/93	12/15/93	12/15/93	12/14/93
	ES ID	MW-30	MW-31	MW-32	MW-34	MW-35	MW-11R
	LAB ID	*	*	*	*	*	*
PARAMETER	UNITS						(Rinsate of MW-11) (Dup
Total Organic Carbon	mg/L	3	3	5	2	2	1 U
pH	units	7.02	7.29	7.28	7.44	7.34	7.39
Chloride	mg/L	27	5	3	2	2	1 U
Sulfate	mg/L	25	260	93	35	69	3
Specific Conductance	umhos/cm	1000	910	670	450	600	18
Nitrate+Nitrite	mg/L as N	0.45	3.4	0.07	0.1	0.45	0.05 U
Total Organic Halides	mg/L	0.02	0.02 U	0.03	0.02 U	0.02 U	0.02 U

Notes:
(1) * The Lab ID is different for each parameter

OB GROUNDS FOURTH QUARTER 1993 MONITORING
INDICATOR ANALYSIS RESULTS

B4QMMSC.WK3	MATRIX	WATER	WATER
	SITE	OB	
	DATE SAMPL'D	12/07/93	12/07/93
	ES ID	MW-18R	MW-91
	LAB ID	*	*
PARAMETER	UNITS	(Rinsate of MW-18)	(Duplicate of MW-18)
Total Organic Carbon	mg/L	2	2
pH	units	7.15	7.24
Chloride	mg/L	1 U	19
Sulfate	mg/L	3	160
Specific Conductance	umhos/cm	19	870
Nitrate+Nitrite	mg/L as N	0.05 U	0.5
Total Organic Halides	mg/L	0.02	0.02 U

Notes:
(1) * The Lab ID is different for each parameter

Section 2.0
QA/QC Data

2.1 Laboratory Control Samples and Duplicates for Indicator Parameters

Field Identification: AMW14 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	4	1	38668-009	12/10/93	821	415.1/1
Chloride (mg/L)	23	1	38668-014	12/10/93	562	325.1/1
Sulfate (mg/L)	240	10	38668-014	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	1100		38668-014	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	15	0.5	38668-019	12/08/93	535	353.2/1
pH (units)	7.17		38668-024	12/08/93	259	150.1/1

Field Identification: AMW15 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	5	1	38668-010	12/10/93	821	415.1/1
Chloride (mg/L)	7	1	38668-015	12/10/93	562	325.1/1
Sulfate (mg/L)	400	10	38668-015	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	1400		38668-015	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	2.2	0.05	38668-020	12/08/93	535	353.2/1
pH (units)	7.18		38668-025	12/08/93	259	150.1/1

References: 1) 40 CFR Part 136, Friday, October 26, 1984

Field Identification: AMW30 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	3	1	38668-006	12/13/93	821	415.1/1
Chloride (mg/L)	27	1	38668-011	12/10/93	561	325.1/1
Sulfate (mg/L)	25	1	38668-011	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	1000		38668-011	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	0.45	0.05	38668-016	12/08/93	535	353.2/1
pH (units)	7.02		38668-021	12/08/93	259	150.1/1

Field Identification: AMW1 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	4	1	38668-007	12/10/93	821	415.1/1
Chloride (mg/L)	4	1	38668-012	12/10/93	562	325.1/1
Sulfate (mg/L)	170	10	38668-012	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	700		38668-012	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	1.2	0.05	38668-017	12/08/93	535	353.2/1
pH (units)	7.16		38668-022	12/08/93	259	150.1/1

Field Identification: AMW13 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	3	1	38668-008	12/10/93	821	415.1/1
Chloride (mg/L)	11	1	38668-013	12/10/93	562	325.1/1
Sulfate (mg/L)	230	10	38668-013	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	990		38668-013	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	5.0	0.05	38668-018	12/08/93	535	353.2/1
pH (units)	7.04		38668-023	12/08/93	259	150.1/1

Field Identification: AMW27 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	4	1	38656-008	12/10/93	821	415.1/1
Chloride (mg/L)	35	1	38656-013	12/10/93	561	325.1/1
Sulfate (mg/L)	62	1	38656-013	12/08/93	552	300.0/1
Specific Conductance (umhos/cm)	710		38656-013	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	BDL	0.05	38656-018	12/08/93	535	353.2/1
pH (units)	7.42		38656-024	12/07/93	258	150.1/1

Field Identification: OMW16 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	4	1	38656-009	12/10/93	821	415.1/1
Chloride (mg/L)	3	1	38656-014	12/10/93	561	325.1/1
Sulfate (mg/L)	150	10	38656-014	12/13/93	553	300.0/1
Specific Conductance (umhos/cm)	720		38656-014	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	0.32	0.05	38656-019	12/08/93	535	353.2/1
pH (units)	7.26		38656-025	12/07/93	258	150.1/1

Field Identification: OMW23 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	3	1	38656-010	12/10/93	821	415.1/1
Chloride (mg/L)	17	1	38656-015	12/10/93	561	325.1/1
Sulfate (mg/L)	260	10	38656-015	12/13/93	553	300.0/1
Specific Conductance (umhos/cm)	990		38656-015	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	0.22	0.05	38656-020	12/08/93	535	353.2/1
pH (units)	7.21		38656-026	12/07/93	258	150.1/1

Field Identification: OMW7 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	2	1	38656-011	12/10/93	821	415.1/1
Chloride (mg/L)	2	1	38656-016	12/10/93	562	325.1/1
Sulfate (mg/L)	51	1	38656-016	12/13/93	553	300.0/1
Specific Conductance (umhos/cm)	530		38656-016	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	0.25	0.05	38656-021	12/08/93	535	353.2/1
pH (units)	7.35		38656-027	12/07/93	258	150.1/1

Field Identification: OMW22 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	2	1	38656-012	12/10/93	821	415.1/1
Chloride (mg/L)	2	1	38656-017	12/10/93	562	325.1/1
Sulfate (mg/L)	140	10	38656-017	12/13/93	553	300.0/1
Specific Conductance (umhos/cm)	640		38656-017	12/09/93	183	120.1/1
Nitrate + Nitrite (mg/L as N)	0.18	0.05	38656-023	12/08/93	535	353.2/1
pH (units)	7.40		38656-029	12/07/93	258	150.1/1

Field Identification: APT21 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Nitrate + Nitrite (mg/L as N)	0.41	0.05	38656-022	12/08/93	535	353.2/1
pH (units)	7.49		38656-028	12/07/93	258	150.1/1

References: 1) 40 CFR Part 136, Friday, October 26, 1984

Field Identification: OMW28 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	5	1	38635-008	12/06/93	815	415.1/1
pH (units)	11.40		38635-019	12/04/93	256	150.1/1
Chloride (mg/L)	10	1	38635-025	12/06/93	560	325.1/1
Sulfate (mg/L)	130	10	38635-025	12/13/93	553	300.0/1
Specific Conductance (umhos/cm)	560		38635-025	12/07/93	182	120.1/1
Nitrate + Nitrite (mg/L as N)	0.83	0.05	38635-030	12/08/93	535	353.2/1

Field Identification: OMW29 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	4	1	38635-009	12/06/93	815	415.1/1
pH (units)	7.32		38635-020	12/04/93	256	150.1/1
Chloride (mg/L)	10	1	38635-026	12/06/93	560	325.1/1
Sulfate (mg/L)	160	10	38635-026	12/13/93	553	300.0/1
Specific Conductance (umhos/cm)	870		38635-026	12/07/93	182	120.1/1
Nitrate + Nitrite (mg/L as N)	1.4	0.05	38635-031	12/08/93	535	353.2/1

References: 1) 40 CFR Part 136, Friday, October 26, 1984

Client Reference: N31204502/N31206503

PACE Sample Number:			97 0116192		
Date Collected:			12/05/93		
Date Received:			12/10/93		
Client Sample ID:			38656-5		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.02	SW846 9020	12/14/93

PACE Sample Number:			97 0116206		
Date Collected:			12/05/93		
Date Received:			12/10/93		
Client Sample ID:			38656-6		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.06	SW846 9020	12/14/93

PACE Sample Number:			97 0116214		
Date Collected:			12/05/93		
Date Received:			12/10/93		
Client Sample ID:			38656-7		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/14/93

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

December 17, 1993
PACE Project Number: 131207502

Client Reference: N31204502/N31206503

Parameter	Units	MDL		METHOD	DATE ANALYZED
PACE Sample Number:			97 0114378		
Date Collected:			12/04/93		
Date Received:			12/07/93		
Client Sample ID:			38642-3		
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/13/93

Parameter	Units	MDL		METHOD	DATE ANALYZED
PACE Sample Number:			97 0116176		
Date Collected:			12/05/93		
Date Received:			12/10/93		
Client Sample ID:			38656-3		
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.05	SW846 9020	12/13/93

Parameter	Units	MDL		METHOD	DATE ANALYZED
PACE Sample Number:			97 0116184		
Date Collected:			12/05/93		
Date Received:			12/10/93		
Client Sample ID:			38656-4		
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/14/93

100 Marshall Drive
Warrendale, PA 15086-7554
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FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

December 17, 1993
PACE Project Number: 131207502

Client Reference: N31204502/N31206503

PACE Sample Number:			97 0114319		
Date Collected:			12/02/93		
Date Received:			12/07/93		
Client Sample ID:			38635-15		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.02	SW846 9020	12/13/93

PACE Sample Number:			97 0114327		
Date Collected:			12/03/93		
Date Received:			12/07/93		
Client Sample ID:			38635-16		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/13/93

PACE Sample Number:			97 0114335		
Date Collected:			12/03/93		
Date Received:			12/07/93		
Client Sample ID:			38635-17		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/13/93

100 Marshall Drive
Warrendale, PA 15086-7554
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FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

December 17, 1993
PACE Project Number: 131207502

Client Reference: N31204502/N31206503

PACE Sample Number:			97 0116222		
Date Collected:			12/06/93		
Date Received:			12/10/93		
Client Sample ID:			38668-1		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.02	SW846 9020	12/14/93

PACE Sample Number:			97 0116230		
Date Collected:			12/06/93		
Date Received:			12/10/93		
Client Sample ID:			38668-2		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/14/93

PACE Sample Number:			97 0116249		
Date Collected:			12/06/93		
Date Received:			12/10/93		
Client Sample ID:			38668-3		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.04	SW846 9020	12/14/93

100 Marshall Drive
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TEL: 412-772-0610
FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

December 17, 1993
PACE Project Number: 131207502

Client Reference: N31204502/N31206503

PACE Sample Number:			97 0116257		
Date Collected:			12/06/93		
Date Received:			12/10/93		
Client Sample ID:			38668-4		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.04	SW846 9020	12/14/93

PACE Sample Number:			97 0116265		
Date Collected:			12/06/93		
Date Received:			12/10/93		
Client Sample ID:			38668-5		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/14/93

These data have been reviewed and are approved for release.

Frances P. McConahy
Project Manager

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

QUALITY CONTROL
Total Organic Carbon
Method: 415.1 EPA-600/4-84-017

QC Batch: 815 For: 38635
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	5.0	4.650	93.0	7.5
LCS2	5.0	5.010	100.2	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38638-17	< 1.00	< 1.00	NC	NC

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38638-17 MS	< 1.00	5	6.64	114.4
38638-17 MSD	< 1.00	5	6.84	118.4
			RPD=	3.436

NC = Not calculable due to result below detection limit.

QUALITY CONTROL
Total Organic Carbon
Method: 415.1 EPA-600/4-84-017

QC Batch: 821
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	5.0	4.800	96.0	0.8
LCS2	5.0	4.840	96.8	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38668-6	2.99	2.51	2.75	17.5

FIELD SAMPLE:
Accuracy

Lab No.		Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38668-6	MS	2.99	5	7.10	82.2
38668-6	MSD	2.99	5	7.45	89.2
				RPD=	8.168

500017

QUALITY CONTROL
Chloride
Method: 325.1 EPA-600/4-84-017

QC Batch: 560 For: 38635
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	200.0	197.994	99.0	0.5
LCS2	200.0	198.948	99.5	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38619-26	42.10	42.48	42.29	0.9

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38619-26 MS	42.10	50	95.89	107.6
38619-26 MSD	42.10	50	93.86	103.5
			RPD=	3.843

QUALITY CONTROL
Chloride
Method: 325.1 EPA-600/4-84-017

QC Batch: 561
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	200.0	197.953	99.0	0.5
LCS2	200.0	197.024	98.5	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38668-11	26.55	26.45	26.50	0.4

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38668-11 MS	26.55	50	77.42	101.7
38668-11 MSD	26.55	50	76.84	100.6
			RPD=	1.157

500040

QUALITY CONTROL
Chloride
Method: 325.1 EPA-600/4-84-017

QC Batch: 562
Matrix: WATER

METHOD BLANK:

Result mg/L
< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	200.0	201.844	100.9	2.2
LCS2	200.0	197.370	98.7	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38668-12	3.80	3.51	3.66	8.2

FIELD SAMPLE:

Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38668-12 MS	3.80	50	53.50	99.4
38668-12 MSD	3.80	50	54.08	100.5
			RPD=	1.152

500041

QUALITY CONTROL
Sulfate
Method: EPA-600 300.0 / SW846 9056

QC Batch: 552 For: 38635
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	50.0	47.100	94.2	0.6
LCS2	50.0	46.800	93.6	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38619-26	40.90	42.10	41.50	2.9

FIELD SAMPLE:
Accuracy

Lab No.			Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38619-26	MS	SNR	40.90	10	50.60	97.0
38619-26	MSD	SNR	40.90	10	50.00	91.0
					RPD=	6.383

SNR=Spike not required. Sample greater than four times spike level.

500055

QUALITY CONTROL
Sulfate
Method: EPA-600 300.0 / SW846 9056

QC Batch: 553 For: 38642
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	50.0	51.800	103.6	3.1
LCS2	50.0	50.200	100.4	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38619-26	40.90	42.10	41.50	2.9

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38619-26 MS SNR	40.90	10	50.60	97.0
38619-26 MSD SNR	40.90	10	50.00	91.0
			RPD=	6.383

SNR=Spike not required. Sample greater than four times spike level.

500056

QUALITY CONTROL
Sulfate
Method: EPA-600 300.0 / SW846 9056

QC Batch: 554
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	50.0	51.100	102.2	1.0
LCS2	50.0	50.600	101.2	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38668-11	247.00	247.00	247.00	0.0

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38668-11 MS	247.00	100	336.00	89.0
38668-11 MSD	247.00	100	338.00	91.0
			RPD=	2.222

NC = Not calculable due to result below detection limit.

500057

QUALITY CONTROL
Specific Conductance
Method: 120.1 EPA-600/4-84-017

QC Batch: 182 For: 38635
Matrix: WATER

METHOD BLANK:

Result mg/L
1.18

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	141.3	144.7	102.4	1.7
LCS2	141.3	147.2	104.2	

FIELD SAMPLE:

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Precision Relative Percent Difference %
38619-26	583.00	575.00	579.00	1.4

QUALITY CONTROL
Specific Conductance
Method: 120.1 EPA-600/4-84-017

QC Batch: 183
Matrix: WATER

METHOD BLANK:

Result mg/L
1.59

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	141.3	145.400	102.9	0.1
LCS2	141.3	145.600	103.0	

FIELD SAMPLE:

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Precision Relative Percent Difference %
38668-11	1025.00	1027.00	1026.00	0.2

500099

QUALITY CONTROL
Nitrate plus Nitrite Nitrogen (combined)
Method: 353.2 EPA-600/4-84-017

QC Batch: 535
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 0.05

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	2.0	2.253	112.7	0.5
LCS2	2.0	2.241	112.1	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38668-16	0.45	0.46	0.46	1.8

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38668-16 MS	0.45	1	1.62	117.0
38668-16 MSD	0.45	1	1.61	115.4
			RPD=	1.377

500104

QUALITY CONTROL
pH
Method: 150.1 EPA-600/4-84-017

QC Batch: 256 For: 38635
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.03
LCS2	7.0	7.03

QUALITY CONTROL
pH
Method: 150.1 EPA-600/4-84-017

QC Batch: 257 For: 38642
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.02
LCS2	7.0	7.02

QUALITY CONTROL
pH
Method: 150.1 EPA-600/4-84-017

QC Batch: 258 For: 38656
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.03
LCS2	7.0	7.02

500119

QUALITY CONTROL
pH
Method: 150.1 EPA-600/4-84-017

QC Batch: 259
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.02
LCS2	7.0	7.02

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 Units	Replicate 2 Units
38668-21	7.02	7.05

500120

QUALITY CONTROL DATA

December 17, 1993

PACE Project Number: 131207502

Client Reference: N31204502/N31206503

Total Organic Halogen
Batch: 97 33956
Samples: 97 0114300, 97 0114327, 97 0114343, 97 0114360, 97 0116176

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970114327 38635-16	of 97 0114327	RPD
Total Organic Halogen	mg/L	0.01	ND	ND	ND	NC

SPIKE:

Parameter	Units	MDL	970114327 38635-16	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	ND	0.10	100%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	100%	100%	0%

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

QUALITY CONTROL DATA

December 17, 1993

PACE Project Number: 131207502

Client Reference: N31204502/N31206503

Total Organic Halogen
Batch: 97 33957
Samples: 97 0114297, 97 0114319, 97 0114335, 97 0114351, 97 0114378

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970114319 38635-15	Duplicate of 97 0114319	RPD
Total Organic Halogen	mg/L	0.01	ND	0.02	ND	NC

SPIKE:

Parameter	Units	MDL	970114319 38635-15	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	0.02	0.10	90%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	100%	100%	0%

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

QUALITY CONTROL DATA

December 17, 1993

PACE Project Number: 131207502

Client Reference: N31204502/N31206503

Total Organic Halogen
Batch: 97 33993
Samples: 97 0116184, 97 0116206, 97 0116222, 97 0116249, 97 0116265

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970116222 38668-1	Duplicate of 97 0116222	RPD
Total Organic Halogen	mg/L	0.01	ND	0.02	ND	NC

SPIKE:

Parameter	Units	MDL	970116222 38668-1	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	0.02	0.10	100%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	80%	80%	0%

100 Marshall Drive
Warrendale, PA 15086-7554
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FAX: 412-772-4020

QUALITY CONTROL DATA

December 17, 1993

PACE Project Number: 131207502

Client Reference: N31204502/N31206503

Total Organic Halogen
Batch: 97 33994
Samples: 97 0116192, 97 0116214, 97 0116230, 97 0116257

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970116214 38656-7	Duplicate of 97 0116214	RPD
Total Organic Halogen	mg/L	0.01	ND	ND	ND	NC

SPIKE:

Parameter	Units	MDL	970116214 38656-7	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	ND	0.10	90%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	80%	80%	0%

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

FOOTNOTES

December 17, 1993
PACE Project Number: 131207502

Client Reference: N31204502/N31206503

MDL	Method Detection Limit
NC	No calculation due to value below detection limit.
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

Field Identification: MW18R

Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	2	1	38792-002	12/20/93	828	415.1/1
Chloride (mg/L)	BDL	1	38792-003	12/21/93	568	325.1/1
Sulfate (mg/L)	3	1	38792-003	12/17/93	558	300.0/1
Specific Conductance (umhos/cm)	19		38792-003	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	BDL	0.05	38792-004	12/23/93	539	353.2/1
pH (units)	7.15		38792-005	12/16/93	264	150.1/1

References: 1) 40 CFR Part 136, Friday, October 26, 1984

Field Identification: MW3 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	7	1	38698-013	12/10/93	822	415.1/1
Chloride (mg/L)	3	1	38698-025	12/10/93	562	325.1/1
Sulfate (mg/L)	160	5	38698-025	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	710		38698-025	12/10/93	184	120.1/1
Nitrate + Nitrite (mg/L as N)	BDL	0.5	38698-037	12/10/93	536	353.2/1
pH (units)	7.26		38698-049	12/09/93	260	150.1/1

Field Identification: MW9 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	5	1	38698-014	12/10/93	822	415.1/1
Chloride (mg/L)	5	1	38698-026	12/10/93	562	325.1/1
Sulfate (mg/L)	270	10	38698-026	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	900		38698-026	12/10/93	184	120.1/1
Nitrate + Nitrite (mg/L as N)	2.3	0.5	38698-038	12/10/93	536	353.2/1
pH (units)	7.23		38698-050	12/09/93	260	150.1/1

Field Identification: MW31 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	3	1	38698-015	12/10/93	822	415.1/1
Chloride (mg/L)	5	1	38698-027	12/10/93	562	325.1/1
Sulfate (mg/L)	260	10	38698-027	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	910		38698-027	12/10/93	184	120.1/1
Nitrate + Nitrite (mg/L as N)	3.4	0.5	38698-039	12/10/93	536	353.2/1
pH (units)	7.29		38698-051	12/09/93	260	150.1/1

Field Identification: MW2 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	3	1	38698-016	12/10/93	822	415.1/1
Chloride (mg/L)	3	1	38698-028	12/10/93	562	325.1/1
Sulfate (mg/L)	74	1	38698-028	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	520		38698-028	12/10/93	184	120.1/1
Nitrate + Nitrite (mg/L as N)	BDL	0.5	38698-040	12/10/93	536	353.2/1
pH (units)	7.43		38698-052	12/09/93	260	150.1/1

Field Identification: OMW12 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.	
Total Organic Carbon (mg/L)	4	1	38698-017	12/10/93	822	415.1/1	
Chloride (mg/L)	10	1	38698-029	12/10/93	562	325.1/1	
Sulfate (mg/L)	100	10	38698-029	12/16/93	555	300.0/1	
Specific Conductance (umhos/cm)	920		38698-029	12/10/93		184	120.1/1
Nitrate + Nitrite (mg/L as N)	1.4	0.5	38698-041	12/10/93	536	353.2/1	
pH (units)	7.41		38698-053	12/09/93	260	150.1/1	

Field Identification: OMW27 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.	
Total Organic Carbon (mg/L)	5	1	38698-018	12/10/93	822	415.1/1	
Chloride (mg/L)	13	1	38698-030	12/10/93	562	325.1/1	
Sulfate (mg/L)	110	10	38698-030	12/16/93	555	300.0/1	
Specific Conductance (umhos/cm)	940		38698-030	12/10/93		184	120.1/1
Nitrate + Nitrite (mg/L as N)	2.1	0.5	38698-042	12/10/93	536	353.2/1	
pH (units)	7.39		38698-054	12/09/93	260	150.1/1	

Field Identification: OMW17 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.	
Total Organic Carbon (mg/L)	3	1	38698-019	12/10/93	822	415.1/1	
Chloride (mg/L)	4	1	38698-031	12/10/93	562	325.1/1	
Sulfate (mg/L)	86	1	38698-031	12/14/93	441	300.0/1	
Specific Conductance (umhos/cm)	600		38698-031	12/10/93		184	120.1/1
Nitrate + Nitrite (mg/L as N)	BDL	0.5	38698-043	12/10/93	536	353.2/1	
pH (units)	7.35		38698-055	12/09/93	260	150.1/1	

Field Identification: OMW18 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.	
Total Organic Carbon (mg/L)	2	1	38698-020	12/10/93	822	415.1/1	
Chloride (mg/L)	19	1	38698-032	12/10/93	562	325.1/1	
Sulfate (mg/L)	160	10	38698-032	12/14/93	441	300.0/1	
Specific Conductance (umhos/cm)	870		38698-032	12/10/93		184	120.1/1
Nitrate + Nitrite (mg/L as N)	0.5	0.5	38698-044	12/10/93	536	353.2/1	
pH (units)	7.20		38698-056	12/09/93	260	150.1/1	

Field Identification: OMW91 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	2	1	38698-022	12/10/93	822	415.1/1
Chloride (mg/L)	19	1	38698-034	12/10/93	562	325.1/1
Sulfate (mg/L)	160	5	38698-034	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	870		38698-034	12/10/93		184 120.1/1
Nitrate + Nitrite (mg/L as N)	0.5	0.5	38698-046	12/10/93	536	353.2/1
pH (units)	7.24		38698-058	12/09/93	260	150.1/1

Field Identification: OMW6 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	4	1	38698-023	12/10/93	822	415.1/1
Chloride (mg/L)	3	1	38698-035	12/10/93	562	325.1/1
Sulfate (mg/L)	110	1	38698-035	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	600		38698-035	12/10/93		184 120.1/1
Nitrate + Nitrite (mg/L as N)	BDL	0.5	38698-047	12/10/93	536	353.2/1
pH (units)	7.53		38698-059	12/09/93	260	150.1/1

Field Identification: OMW24 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	3	1	38698-024	12/10/93	822	415.1/1
Chloride (mg/L)	33	1	38698-036	12/10/93	562	325.1/1
Sulfate (mg/L)	190	10	38698-036	12/14/93	441	300.0/1
Specific Conductance (umhos/cm)	1200		38698-036	12/10/93		184 120.1/1
Nitrate + Nitrite (mg/L as N)	13	5	38698-048	12/16/93	536	353.2/1
pH (units)	7.22		38698-060	12/09/93	260	150.1/1

References: 1) 40 CFR Part 136, Friday, October 26, 1984

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REPORT OF LABORATORY ANALYSIS

PACE Interregional-New England
P.O. Box 2130
One Lafayette Road
Hampton, NH 03842

January 05, 1994
PACE Project Number: 131222506

Attn: Ms. Gretchen Franzheim

Client Reference: Seneca Army Depot Quarterly SEN13

PACE Sample Number:			97 0120041		
Date Collected:			12/16/93		
Date Received:			12/21/93		
Client Sample ID:			38792-1		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.02	SW846 9020	12/30/93

These data have been reviewed and are approved for release.

Frances P. McConahy

Frances P. McConahy
Project Manager

500016

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

FOOTNOTES

January 05, 1994

Page 2 for page 1

PACE Project Number: 131222506

Client Reference: Seneca Army Depot Quarterly SEN13

MDL Method Detection Limit

500017

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Warrendale, PA 15086-7554
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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

PACE Interregional-New England
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Hampton, NH 03842

December 22, 1993
PACE Project Number: 131210509
WPPLAB5357

Attn: Gretchen Franzheim:

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116273		
Date Collected:			12/08/93		
Date Received:			12/10/93		
			38698-1		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.02	SW846 9020	12/15/93

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116281		
Date Collected:			12/08/93		
Date Received:			12/10/93		
Client Sample ID:			38698-2		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.02	SW846 9020	12/15/93

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REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

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PACE Sample Number:			97 0116290		
Date Collected:			12/08/93		
Date Received:			12/10/93		
Client Sample ID:			38698-3		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/15/93

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REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116303		
Date Collected:			12/08/93		
Date Received:			12/10/93		
Client Sample ID:			38698-4		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/15/93

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Warrendale, PA 15086-7554
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FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116311		
Date Collected:			12/07/93		
Date Received:			12/10/93		
Client Sample ID:			38698-5		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/15/93

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FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116320		
Date Collected:			12/07/93		
Date Received:			12/10/93		
Client Sample ID:			38698-6		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/15/93

100 Marshall Drive
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FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116338		
Date Collected:			12/07/93		
Date Received:			12/10/93		
Client Sample ID:			38698-7		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/15/93

100 Marshall Drive
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FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116346		
Date Collected:			12/07/93		
Date Received:			12/10/93		
Client Sample ID:			38698-8		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/15/93

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REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116362		
Date Collected:			12/07/93		
Date Received:			12/10/93		
Client Sample ID:			38698-10		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/15/93

[illegible] Warrendale Drive
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FAX: 412-772-4020

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REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116370		
Date Collected:			12/07/93		
Date Received:			12/10/93		
Client Sample ID:			38698-11		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.03	SW846 9020	12/16/93

500010

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FAX: 412-772-4020

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REPORT OF LABORATORY ANALYSIS

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

PACE Sample Number:			97 0116389		
Date Collected:			12/07/93		
Date Received:			12/10/93		
Client Sample ID:			38698-12		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.03	SW846 9020	12/16/93

These data have been reviewed and are approved for release.

Frances P. McConahy

Frances P. McConahy
Project Manager

500011

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

FOOTNOTES
Page 12 for pages 1 through 11

December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

MDL Method Detection Limit
ND Not detected at or above the MDL.

500012

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TEL: 412-772-0610
FAX: 412-772-4020

QUALITY CONTROL
Total Organic Carbon
Method: 415.1 EPA-600/4-84-017

QC Batch: 822 For: 38698
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	5.0	4.810	96.2	1.2
LCS2	5.0	4.870	97.4	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38662-32	5.68	5.19	5.44	9.0

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38662-32 MS	5.68	5	10.85	103.4
38662-32 MSD	5.68	5	10.96	105.6
			RPD=	2.105

QUALITY CONTROL
Total Organic Carbon
Method: 415.1 EPA-600/4-84-017

QC Batch: 828 For: 38792
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	5.0	4.830	96.6	1.8
LCS2	5.0	4.920	98.4	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38807-78	1.50	1.24	1.37	19.0

Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38807-78	1.50	5	7.10	112.0

QUALITY CONTROL
Chloride
Method: 325.1 EPA-600/4-84-017

QC Batch: 562 For: 38698
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	200.0	201.844	100.9	2.2
LCS2	200.0	197.370	98.7	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38668-12	3.80	3.51	3.66	8.2

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38668-12 MS	3.80	50	53.50	99.4
38668-12 MSD	3.80	50	54.08	100.5
			RPD=	1.152

500046

QUALITY CONTROL
Chloride
Method: 325.1 EPA-600/4-84-017

QC Batch: 568 For: 38792
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	200.0	196.195	98.1	0.0
LCS2	200.0	196.145	98.1	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38769-10	15.85	16.06	15.96	1.3

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38769-10 MS	15.85	50	63.99	96.3
38769-10 MSD	15.85	50	67.44	103.2
			RPD=	6.909

500047

QUALITY CONTROL
Sulfate
Method: EPA-600 300.0 / SW846 9056

QC Batch: 554 For: 38698
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	50.0	51.100	102.2	1.0
LCS2	50.0	50.600	101.2	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38668-11	247.00	247.00	247.00	0.0

FIELD SAMPLE:

Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38668-11 MS	247.00	100	336.00	89.0
38668-11 MSD	247.00	100	338.00	91.0
			RPD=	2.222

NC = Not calculable due to result below detection limit.

QUALITY CONTROL
Sulfate
Method: EPA-600 300.0 / SW846 9056

QC Batch: 555 For: 38698
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	50.0	47.300	94.6	0.4
LCS2	50.0	47.500	95.0	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38711-1	3739.06	3510.34	3624.70	6.3

Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38711-1	3739.06	1000	4823.99	108.5

QUALITY CONTROL
Sulfate
Method: EPA-600 300.0 / SW846 9056

QC Batch: 558 For: 38792
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	50.0	48.200	96.4	0.4
LCS2	50.0	48.400	96.8	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38769-10	925.00	928.00	926.50	0.3

FIELD SAMPLE:
Accuracy

Lab No.			Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38769-10	MS	SNR	925.00	100	1040.00	115.0
38769-10	MSD	SNR	925.00	100	1040.00	115.0
					RPD=	0.000

SNR=Spike not required. Sample greater than four times spike level.

500063

QUALITY CONTROL
Specific Conductance
Method: 120.1 EPA-600/4-84-017

QC Batch: 184
Matrix: WATER

METHOD BLANK:

Result mg/L
0.64

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	141.3	144.9	102.5	0.5
LCS2	141.3	145.6	103.0	

FIELD SAMPLE:

Precision Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38698-36	1153.00	1155.00	1154.00	0.2

QUALITY CONTROL
Specific Conductance
Method: 120.1 EPA-600/4-84-017

QC Batch: 187
Matrix: WATER

METHOD BLANK:

Result mg/L
0.90

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	141.3	146.700	103.8	1.4
LCS2	141.3	148.700	105.2	

FIELD SAMPLE:

Lab No.	Precision Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38792-3	19.30	19.20	19.25	0.5

QUALITY CONTROL
Nitrate plus Nitrite Nitrogen (combined)
Method: 353.2 EPA-600/4-84-017

QC Batch: 536
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 0.05

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	2.0	1.919	96.0	0.5
LCS2	2.0	1.928	96.4	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38698-37	0.10	0.10	0.10	3.1

FIELD SAMPLE:

Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38698-37 MS	0.10	1	1.10	99.9
38698-37 MSD	0.10	1	1.07	97.5
			RPD=	2.432

500093

QUALITY CONTROL
Nitrate plus Nitrite Nitrogen (combined)
Method: 353.2 EPA-600/4-84-017

QC Batch: 539
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 0.05

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	2.0	1.954	97.7	0.3
LCS2	2.0	1.960	98.0	

FIELD SAMPLE:

Precision Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38792-4	< 0.05	< 0.05	NC	NC

FIELD SAMPLE:

Accuracy Lab No.		Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38792-4	MS	< 0.05	1	0.93	92.9
38792-4	MSD	< 0.05	1	0.90	89.6
				RPD=	3.616

NC = Not calculable due to result below detection limit.

500094

QUALITY CONTROL
pH
Method: 150.1 EPA-600/4-84-017

QC Batch: 260 For: 38698
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.04
LCS2	7.0	7.04

QUALITY CONTROL
pH
Method: 150.1 EPA-600/4-84-017

QC Batch: 264 For: 38792
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.01
LCS2	7.0	7.03

QUALITY CONTROL DATA

December 22, 1993

PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

Total Organic Halogen
Batch: 97 34012
Samples: 97 0116273, 97 0116290, 97 0116311, 97 0116338

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970116273 38698-1	Duplicate of 97 0116273	RPD
Total Organic Halogen	mg/L	0.01	ND	0.02	0.02	0%

SPIKE:

Parameter	Units	MDL	970116273 38698-1	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	0.02	0.10	90%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	100%	120%	18%

500019

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QUALITY CONTROL DATA

December 22, 1993

PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

Total Organic Halogen
Batch: 97 34013
Samples: 97 0116281, 97 0116303, 97 0116320, 97 0116346, 97 0116362

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970116281 38698-2	Duplicate of 97 0116281	RPD
Total Organic Halogen	mg/L	0.01	ND	0.02	0.02	0%

SPIKE:

Parameter	Units	MDL	970116281 38698-2	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	0.02	0.10	110%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	100%	120%	18%

500020

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QUALITY CONTROL DATA

December 22, 1993

PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

Total Organic Halogen
Batch: 97 34050
Samples: 97 0116370, 97 0116389

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970116370 38698-11	Duplicate of 97 0116370	RPD
Total Organic Halogen	mg/L	0.01	ND	0.03	0.03	0%

SPIKE:

Parameter	Units	MDL	970116370 38698-11	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	0.03	0.10	100%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	80%	80%	0%

500021

100 Marshall Drive
Warrendale, PA 15086-7554
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FAX: 412-772-4020

FOOTNOTES
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December 22, 1993
PACE Project Number: 131210509

Client Reference: N31209.510 SEN13

MDL	Method Detection Limit
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

500022

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Warrendale, PA 15086-7554
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FAX: 412-772-4020

QUALITY CONTROL DATA

January 05, 1994

PACE Project Number: 131222506

Client Reference: Seneca Army Depot Quarterly SEN13

Total Organic Halogen
Batch: 97 34358
Samples: 97 0120041

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970120009	Duplicate of 97 0120009	RPD
Total Organic Halogen	mg/L	0.01	ND	0.05	0.05	0%

SPIKE:

Parameter	Units	MDL	970120009	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	0.05	0.10	100%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	100%	100%	0%

500023

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

FOOTNOTES

January 05, 1994

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PACE Project Number: 131222506

Client Reference: Seneca Army Depot Quarterly SEN13

MDL	Method Detection Limit
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

500024

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

Field Identification: MW5 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	1	1	38769-005	12/17/93	827	415.1/1
Chloride (mg/L)	3	1	38769-009	12/21/93	568	325.1/1
Sulfate (mg/L)	27	1	38769-009	12/17/93	558	300.0/1
Specific Conductance (umhos/cm)	770		38769-009	12/16/93	186	120.1/1
Nitrate + Nitrite (mg/L as N)	6.3	0.3	38769-013	12/16/93	537	353.2/1
pH (units)	7.33		38769-017	12/15/93	263	150.1/1

Field Identification: MW8 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	1	1	38769-006	12/17/93	827	415.1/1
Chloride (mg/L)	16	1	38769-010	12/21/93	568	325.1/1
Sulfate (mg/L)	93	1	38769-010	12/17/93	558	300.0/1
Specific Conductance (umhos/cm)	1800		38769-010	12/16/93	186	120.1/1
Nitrate + Nitrite (mg/L as N)	1.1	0.05	38769-014	12/16/93	537	353.2/1
pH (units)	7.13		38769-018	12/15/93	263	150.1/1

Field Identification: MW10 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	2	1	38769-007	12/17/93	827	415.1/1
Chloride (mg/L)	5	1	38769-011	12/21/93	568	325.1/1
Sulfate (mg/L)	140	10	38769-011	12/21/93	560	300.0/1
Specific Conductance (umhos/cm)	650		38769-011	12/16/93	186	120.1/1
Nitrate + Nitrite (mg/L as N)	0.10	0.05	38769-015	12/16/93	537	353.2/1
pH (units)	7.34		38769-019	12/15/93	263	150.1/1

Field Identification: MW21 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	1	1	38769-008	12/17/93	827	415.1/1
Chloride (mg/L)	2	1	38769-012	12/21/93	568	325.1/1
Sulfate (mg/L)	93	1	38769-012	12/16/93	556	300.0/1
Specific Conductance (umhos/cm)	1800		38769-012	12/16/93	186	120.1/1
Nitrate + Nitrite (mg/L as N)	0.53	0.05	38769-016	12/16/93	537	353.2/1
pH (units)	7.50		38769-020	12/15/93	263	150.1/1

References: 1) 40 CFR Part 136, Friday, October 26, 1984

Field Identification: MW4 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
pH (units)	7.18		38793-001	12/16/93	264	150.1/1
Total Organic Carbon (mg/L)	4	1	38793-007	12/20/93	829	415.1/1
Chloride (mg/L)	3	1	38793-019	12/21/93	568	325.1/1
Sulfate (mg/L)	200	10	38793-019	12/21/93	560	300.0/1
Specific Conductance (umhos/cm)	830		38793-019	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	0.17	0.05	38793-025	12/23/93	539	353.2/1

Field Identification: MW11 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
pH (units)	7.03		38793-002	12/16/93	264	150.1/1
Total Organic Carbon (mg/L)	3	1	38793-008	12/20/93	829	415.1/1
Chloride (mg/L)	30	1	38793-020	12/21/93	568	325.1/1
Sulfate (mg/L)	250	10	38793-020	12/21/93	560	300.0/1
Specific Conductance (umhos/cm)	1100		38793-020	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	0.42	0.05	38793-026	12/23/93	539	353.2/1

Field Identification: MW93 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
pH (units)	7.05		38793-003	12/16/93	264	150.1/1
Total Organic Carbon (mg/L)	4	1	38793-009	12/20/93	829	415.1/1
Chloride (mg/L)	29	1	38793-021	12/21/93	568	325.1/1
Sulfate (mg/L)	250	10	38793-021	12/21/93	560	300.0/1
Specific Conductance (umhos/cm)	1000		38793-021	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	0.43	0.05	38793-027	12/23/93	539	353.2/1

Field Identification: MW11R Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
pH (units)	7.39		38793-004	12/16/93	264	150.1/1
Total Organic Carbon (mg/L)	BDL	1	38793-010	12/20/93	829	415.1/1
Chloride (mg/L)	BDL	1	38793-022	12/21/93	568	325.1/1
Sulfate (mg/L)	3	1	38793-022	12/17/93	558	300.0/1
Specific Conductance (umhos/cm)	18		38793-022	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	BDL	0.05	38793-028	12/23/93	539	353.2/1

Field Identification: MW19 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
pH (units)	7.21		38793-005	12/16/93	264	150.1/1
Total Organic Carbon (mg/L)	3	1	38793-011	12/20/93	829	415.1/1
Chloride (mg/L)	24	1	38793-023	12/21/93	568	325.1/1
Sulfate (mg/L)	600	100	38793-023	12/21/93	560	300.0/1
Specific Conductance (umhos/cm)	1500		38793-023	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	1.4	0.05	38793-029	12/23/93	539	353.2/1

Field Identification: MW32 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
pH (units)	7.28		38793-006	12/16/93	264	150.1/1
Total Organic Carbon (mg/L)	5	1	38793-012	12/20/93	829	415.1/1
Chloride (mg/L)	3	1	38793-024	12/21/93	568	325.1/1
Sulfate (mg/L)	93	1	38793-024	12/17/93	558	300.0/1
Specific Conductance (umhos/cm)	670		38793-024	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	0.07	0.05	38793-030	12/23/93	539	353.2/1

References: 1) 40 CFR Part 136, Friday, October 26, 1984

Field Identification: OMW25 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	1	1	38809-001	12/20/93	829	415.1/1
Chloride (mg/L)	2	1	38809-009	12/21/93	568	325.1/1
Sulfate (mg/L)	87	1	38809-009	12/21/93	560	300.0/1
Specific Conductance (umhos/cm)	630		38809-009	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	BDL	0.05	38809-013	12/23/93	539	353.2/1
pH (units)	7.26		38809-017	12/17/93	265	150.1/1

Field Identification: OMW26 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	8	1	38809-002	12/20/93	829	415.1/1
Chloride (mg/L)	2	1	38809-010	12/21/93	568	325.1/1
Sulfate (mg/L)	42	1	38809-010	12/21/93	560	300.0/1
Specific Conductance (umhos/cm)	1900		38809-010	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	0.31	0.05	38809-014	12/23/93	539	353.2/1
pH (units)	11.96		38809-018	12/17/93	265	150.1/1

Field Identification: OMW34 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	2	1	38809-003	12/20/93	829	415.1/1
Chloride (mg/L)	2	1	38809-011	12/21/93	568	325.1/1
Sulfate (mg/L)	35	1	38809-011	12/21/93	560	300.0/1
Specific Conductance (umhos/cm)	450		38809-011	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	0.1	0.05	38809-015	12/23/93	539	353.2/1
pH (units)	7.44		38809-019	12/17/93	265	150.1/1

Field Identification: OMW35 Matrix: WATER

Parameter	Result	Reporting Limit	Lab No.	Date Analyzed	QC Batch	Method/Ref.
Total Organic Carbon (mg/L)	2	1	38809-004	12/20/93	829	415.1/1
Chloride (mg/L)	2	1	38809-012	12/21/93	568	325.1/1
Sulfate (mg/L)	69	1	38809-012	12/21/93	560	300.0/1
Specific Conductance (umhos/cm)	600		38809-012	12/21/93	187	120.1/1
Nitrate + Nitrite (mg/L as N)	0.45	0.05	38809-016	12/23/93	539	353.2/1
pH (units)	7.34		38809-020	12/17/93	265	150.1/1

References: 1) 40 CFR Part 136, Friday, October 26, 1984

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REPORT OF LABORATORY ANALYSIS

PACE Interregional-New England
P.O. Box 2130
One Lafayette Road
Hampton, NH 03842

January 05, 1994
PACE Project Number: 131221509

Attn: Ms. Gretchen Franzheim

Client Reference: Seneca Army Depot Quarterly

PACE Sample Number:			97 0119884		
Date Collected:			12/15/93		
Date Received:			12/21/93		
Client Sample ID:			38809-5		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/29/93

PACE Sample Number:			97 0119892		
Date Collected:			12/16/93		
Date Received:			12/21/93		
Client Sample ID:			38809-6		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/29/93

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

Client Reference: Seneca Army Depot Quarterly

PACE Sample Number:			97 0119906		
Date Collected:	34		12/15/93		
Date Received:			12/21/93		
Client Sample ID:			38809-7		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/29/93

PACE Sample Number:			97 0119914		
Date Collected:	35		12/15/93		
Date Received:			12/21/93		
Client Sample ID:			38809-8		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/29/93

PACE Sample Number:			97 0119922		
Date Collected:	5		12/13/93		
Date Received:			12/21/93		
Client Sample ID:			38769-1		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/29/93

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

Client Reference: Seneca Army Depot Quarterly

PACE Sample Number:			97 0119930		
Date Collected:			12/13/93		
Date Received:			12/21/93		
Client Sample ID:			38769-2		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/29/93

PACE Sample Number:			97 0119949		
Date Collected:			12/13/93		
Date Received:			12/21/93		
Client Sample ID:			38769-2 MS		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.09	SW846 9020	12/29/93

PACE Sample Number:			97 0119957		
Date Collected:			12/13/93		
Date Received:			12/21/93		
Client Sample ID:			38769-2		
Parameter	Units	MDL	MSD	METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.08	SW846 9020	12/29/93

REPORT OF LABORATORY ANALYSIS

January 05, 1994
PACE Project Number: 131221509

Client Reference: Seneca Army Depot Quarterly

PACE Sample Number:			97 0119965		
Date Collected:	1		12/13/93		
Date Received:			12/21/93		
Client Sample ID:			38769-3		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.02	SW846 9020	12/29/93

PACE Sample Number:			97 0119973		
Date Collected:	21		12/13/93		
Date Received:			12/21/93		
Client Sample ID:			38769-4		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/29/93

PACE Sample Number:			97 0119981		
Date Collected:	4		12/14/93		
Date Received:			12/21/93		
Client Sample ID:			38793-13		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.02	SW846 9020	12/29/93

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FAX: 412-772-4020

REPORT OF LABORATORY ANALYSIS

January 05, 1994
PACE Project Number: 131221509

Client Reference: Seneca Army Depot Quarterly

PACE Sample Number:			97 0119990		
Date Collected:			12/14/93		
Date Received:			12/21/93		
Client Sample ID:			38793-14		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/30/93

PACE Sample Number:			97 0120009		
Date Collected:			12/14/93		
Date Received:			12/21/93		
Client Sample ID:			38793-15		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.05	SW846 9020	12/30/93

PACE Sample Number:			97 0120017		
Date Collected:			12/14/93		
Date Received:			12/21/93		
Client Sample ID:			38793-16		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/30/93

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Warrendale, PA 15086-7554
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REPORT OF LABORATORY ANALYSIS

January 05, 1994
PACE Project Number: 131221509

Client Reference: Seneca Army Depot Quarterly

PACE Sample Number:			97 0120025		
Date Collected:			12/14/93		
Date Received:			12/21/93		
Client Sample ID:			38793-17		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	ND	SW846 9020	12/30/93

PACE Sample Number:			97 0120033		
Date Collected:			12/14/93		
Date Received:			12/21/93		
Client Sample ID:			38793-18		
Parameter	Units	MDL		METHOD	DATE ANALYZED
INORGANIC ANALYSIS					
INDIVIDUAL PARAMETERS					
Total Organic Halogen	mg/L	0.02	0.03	SW846 9020	12/30/93

These data have been reviewed and are approved for release.

Frances P. McConahy
Project Manager

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

FOOTNOTES
January 05, 1994

Page 7 for pages 1 through 6 PACE Project Number: 131221509

Client Reference: Seneca Army Depot Quarterly

MDL Method Detection Limit
ND Not detected at or above the MDL.

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

QUALITY CONTROL
Total Organic Carbon
Method: 415.1 EPA-600/4-84-017

QC Batch: 827
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	5.0	4.630	92.6	6.1
LCS2	5.0	4.920	98.4	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38769-6	1.29	1.43	1.36	10.3

FIELD SAMPLE:
Accuracy

Lab No.		Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38769-6	MS	1.29	5	5.90	92.2
38769-6	MSD	1.29	5	5.98	93.8
				RPD=	1.720

500017

QUALITY CONTROL
Total Organic Carbon
Method: 415.1 EPA-600/4-84-017

QC Batch: 829 For: 38793
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	5.0	4.940	98.8	0.2
LCS2	5.0	4.950	99.0	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38807-79	< 1.00	< 1.00	NC	NC

FIELD SAMPLE:

Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38807-79 MS	< 1.00	5	5.92	105.0
38807-79 MSD	< 1.00	5	5.75	101.0
			RPD=	3.883

NC = Not calculable due to result below detection limit.

500018

QUALITY CONTROL
Chloride
Method: 325.1 EPA-600/4-84-017

QC Batch: 568
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	200.0	196.195	98.1	0.0
LCS2	200.0	196.145	98.1	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38769-10	15.85	16.06	15.96	1.3

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38769-10 MS	15.85	50	63.99	96.3
38769-10 MSD	15.85	50	67.44	103.2
			RPD=	6.909

500033

QUALITY CONTROL
Sulfate
Method: EPA-600 300.0 / SW846 9056

QC Batch: 556 For: 38769
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	50.0	47.000	94.0	0.6
LCS2	50.0	47.300	94.6	

500040

QUALITY CONTROL
Sulfate
Method: EPA-600 300.0 / SW846 9056

QC Batch: 558
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	50.0	48.200	96.4	0.4
LCS2	50.0	48.400	96.8	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38769-10	925.00	928.00	926.50	0.3

FIELD SAMPLE:
Accuracy

Lab No.			Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38769-10	MS	SNR	925.00	100	1040.00	115.0
38769-10	MSD	SNR	925.00	100	1040.00	115.0
					RPD=	0.000

SNR=Spike not required. Sample greater than four times spike level.

500041

QUALITY CONTROL
Sulfate
Method: EPA-600 300.0 / SW846 9056

QC Batch: 560 For: 38793
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 1.00

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	50.0	49.200	98.4	4.6
LCS2	50.0	51.500	103.0	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38825-16	4.44	4.14	4.29	7.0

FIELD SAMPLE:
Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38825-16 MS	4.44	10	13.20	87.6
38825-16 MSD	4.44	10	13.80	93.6
			RPD=	6.623

500042

QUALITY CONTROL
Specific Conductance
Method: 120.1 EPA-600/4-84-017

QC Batch: 186
Matrix: WATER

METHOD BLANK:

Result mg/L
1.08

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	141.3	145.900	103.3	0.2
LCS2	141.3	145.600	103.0	

FIELD SAMPLE:

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Precision Relative Percent Difference %
38769-10	1826.00	1820.00	1823.00	0.3

500072

QUALITY CONTROL
Specific Conductance
Method: 120.1 EPA-600/4-84-017

QC Batch: 187 For: 38793
Matrix: WATER

METHOD BLANK:

	Result mg/L
	0.90

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	141.3	146.700	103.8	1.4
LCS2	141.3	148.700	105.2	

FIELD SAMPLE:

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Precision Relative Percent Difference %
38792-3	19.30	19.20	19.25	0.5

500073

QUALITY CONTROL
Nitrate plus Nitrite Nitrogen (combined)
Method: 353.2 EPA-600/4-84-017

QC Batch: 537
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 0.05

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	2.0	1.944	97.2	0.7
LCS2	2.0	1.930	96.5	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38769-14	1.08	1.07	1.08	1.0

FIELD SAMPLE:

Accuracy

Lab No.	Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38769-14 MS	1.08	1	2.11	102.4
38769-14 MSD	1.08	1	2.08	99.9
			RPD=	2.472

500078

QUALITY CONTROL
Nitrate plus Nitrite Nitrogen (combined)
Method: 353.2 EPA-600/4-84-017

QC Batch: 539 For: 38793
Matrix: WATER

METHOD BLANK:

	Result mg/L
	< 0.05

LABORATORY CONTROL SAMPLES:

	True Value mg/L	Observed Value mg/L	Accuracy Recovery %	Precision Relative Percent Difference %
LCS1	2.0	1.954	97.7	0.3
LCS2	2.0	1.960	98.0	

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 mg/L	Replicate 2 mg/L	Average mg/L	Relative Percent Difference %
38792-4	< 0.05	< 0.05	NC	NC

FIELD SAMPLE:

Accuracy

Lab No.		Replicate 1 mg/L	Spike Added mg/L	Spike Found mg/L	Recovery %
38792-4	MS	< 0.05	1	0.93	92.9
38792-4	MSD	< 0.05	1	0.90	89.6
				RPD=	3.616

NC = Not calculable due to result below detection limit.

QUALITY CONTROL
pH
Method: 150.1 EPA-600/4-84-017

QC Batch: 263
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.02
LCS2	7.0	7.04

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 Units	Replicate 2 Units
38769-18	7.13	7.18

QUALITY CONTROL
pH
Method: 150.1 EPA-600/4-84-017

QC Batch: 264 For: 38793
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.01
LCS2	7.0	7.03

QUALITY CONTROL
pH
Method: 150.1 EPA-600/4-84-017

QC Batch: 265
Matrix: WATER

LABORATORY CONTROL SAMPLES:

	True Value Units	Observed Value Units
LCS1	7.0	7.02
LCS2	7.0	7.02

FIELD SAMPLE:

Precision

Lab No.	Replicate 1 Units	Replicate 2 Units
38809-17	7.26	7.31

QUALITY CONTROL DATA

January 05, 1994

PACE Project Number: 131221509

Client Reference: Seneca Army Depot Quarterly

Total Organic Halogen
Batch: 97 34321
Samples: 97 0119884, 97 0119906, 97 0119922, 97 0119965, 97 0119973

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970119906 38809-7	Duplicate of 97 0119906	RPD
Total Organic Halogen	mg/L	0.01	ND	ND	ND	NC

SPIKE:

Parameter	Units	MDL	970119906 38809-7	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	ND	0.10	90%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	100%	100%	0%

100 Marshall Drive
Warrendale, PA 15086-7554
TEL: 412-772-0610
FAX: 412-772-4020

QUALITY CONTROL DATA

January 05, 1994

PACE Project Number: 131221509

Client Reference: Seneca Army Depot Quarterly

Total Organic Halogen
Batch: 97 34322
Samples: 97 0119892, 97 0119914, 97 0119930, 97 0119949, 97 0119957
97 0119981

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Total Organic Halogen	mg/L	0.01	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	970119930 38769-2	Spike	Spike Recv	Spike Dupl Recv	RPD
Total Organic Halogen	mg/L	0.02	ND	0.10	90%	80%	12%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	80%	80%	0%

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QUALITY CONTROL DATA

January 05, 1994

PACE Project Number: 131221509

Client Reference: Seneca Army Depot Quarterly

Total Organic Halogen
Batch: 97 34357
Samples: 97 0119990, 97 0120017, 97 0120033

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970119990 38793-14	Duplicate of 97 0119990	RPD
Total Organic Halogen	mg/L	0.01	ND	ND	ND	NC

SPIKE:

Parameter	Units	MDL	970119990 38793-14	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	ND	0.10	90%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	80%	100%	22%

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FAX: 412-772-4020

QUALITY CONTROL DATA

January 05, 1994

PACE Project Number: 131221509

Client Reference: Seneca Army Depot Quarterly

Total Organic Halogen
Batch: 97 34358
Samples: 97 0120009, 97 0120025

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	970120009 38793-15	Duplicate of 97 0120009	RPD
Total Organic Halogen	mg/L	0.01	ND	0.05	0.05	0%

SPIKE:

Parameter	Units	MDL	970120009 38793-15	Spike	Spike Recv
Total Organic Halogen	mg/L	0.02	0.05	0.10	100%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Organic Halogen	mg/L	0.01	0.05	100%	100%	0%

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FOOTNOTES
for pages 8 through 11

January 05, 1994
PACE Project Number: 131221509

Client Reference: Seneca Army Depot Quarterly

MDL	Method Detection Limit
NC	No calculation due to value below detection limit.
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

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