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**GROUNDWATER MONITORING  
ANALYTICAL RESULTS FOR THE FIRST QUARTER 1993  
ASH LANDFILL, SENECA ARMY DEPOT**

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

**PREPARED BY:**

Engineering-Science, Inc.  
Boston, Massachusetts

March 1993  
D#10

**ENGINEERING-SCIENCE, INC.**

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March 17, 1993  
770454-01005

Mr. Kevin Healy  
U.S. Army Corps of Engineers,  
Huntsville Division  
ATTN: CEHND-ED-CS  
P.O. Box 1600  
Huntsville, AL 35807-4301

**SUBJECT:** First Quarter Groundwater Monitoring for 1993,  
Ash Landfill, Seneca Army Depot, Romulus, New York

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Dear Mr. Healy:

Enclosed are the analytical results for the first quarter groundwater monitoring for 1993. The analytical results are divided into three major groups, volatile organic compounds, metals and miscellaneous parameters (Sections 1, 2 and 3, respectively, in the enclosed document). Generally, the results of the first quarter 1993 analyses are consistent with historical results.

Please do not hesitate to call me if you have any questions.

Sincerely,

**ENGINEERING-SCIENCE, INC.**

*Michael Duchesneau*

Michael Duchesneau  
Project Manager

MD/cmf/D#10

Enclosure



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
SENECA ARMY DEPOT  
ROMULUS, NEW YORK 14541-5001

March 26, 1993

Office of Engineering/Environmental  
Management Division

Ms. Joseph Nogle  
RD East lake Road  
Geneva, New York 14456

Dear Mr. Nogle:

Enclosed please find first quarter 1993 well analysis results at your property on Smith Vineyard Road.

If you have any questions or comments regarding this correspondence, please contact Mr. James Miller at (607) 869-1450.

Sincerely,

*Stephen M. Absolom*  
Stephen M. Absolom  
Chief, Engineering/Environmental  
Management Division

Enclosures

Copies Furnished:

Mr. Albert Updike, Box 139 Halls Corner Road, Interlaken, NY 14847

Mr. Allen Nivison, Town Supervisor, Town of Romulus, P.O. Box 177, 1507 Main Street, Willard, NY 14588

Mr. John Nicit, Attorney At Law, 20 West Main St., Waterloo, NY 13165

Mr. & Mrs. Thomas Shaw, Smith Vineyard Road, MacDougal, NY 14456

## **TABLE OF CONTENTS**

### **1.0      Volatile Organic Compounds**

#### **1.1      Summary of Volatile Analysis Results (TCL and 524.2)**

#### **1.2      Volatile Analysis Results (TCL and 524.2)**

#### **1.3      Summary of Volatile Historical Data for Selected Wells**

### **2.0      Metals**

### **3.0      Miscellaneous Parameters**



**SECTION 1.0**  
**Volatile Organic Compounds:**

- 1.1      Summary of Volatile Analysis Results  
(TCL and 524.2)**
- 1.2      Volatile Analysis Results  
(TCL and 524.2)**
- 1.3      Summary of Volatile Historical Data for  
Selected Wells**

**1.1      Summary of Volatile Analysis  
Results (TCL and 524.2)**

**ASH LANDFILL FIRST QUARTER 1993 MONITORING  
SUMMARY OF VOLATILE ANALYSIS RESULTS (TCL and 524.2)**

DOPING LL	COMPOUND				TOTAL VOCs (ug/l)
	1,2-DCE (total) (ug/l)	TCE (ug/l)	Vinyl Chloride (ug/l)	Chloroform (ug/l)	
10 U	10 U	10 U	10 U	10 U	ND
10 U	10 U	10 U	10 U	10 U	ND
320	260	10 U	10 U	20 U	589
10 U	10 U	10 U	10 U	10 U	ND
10 U	10 U	10 U	10 U	10 U	ND
27	140	140	10 U	10 U	167
440 J	100000	1000 U	200 J	1000 U	10640
NA	NA	NA	NA	NA	NA
(1)	26	23	10 U	10 U	49
NA	NA	NA	NA	NA	ND
(1)	89	89	10 U	10 U	234
140	1 J	1 J	10 U	10 U	2
	7 J	7 J	10 U	10 U	107
	10 U	10 U	10 U	10 U	ND
	10 U	10 U	10 U	10 U	ND
	10 U	10 U	10 U	10 U	ND
	10 U	10 U	10 U	10 U	ND
	47	47	10 U	10 U	ND
	30	30	10 U	10 U	ND
	70	70	2	10 U	ND
	0	0	10 U	10 U	72
	1	1	10 U	10 U	ND
	2	2	10 U	10 U	ND
	3	3	10 U	10 U	ND
	4	4	10 U	10 U	ND
	5D	5D	10 U	10 U	ND
	6	6	10 U	10 U	ND
	7	7	10 U	10 U	ND
	BBD	BBD	10 U	10 U	ND
	9	9	10 U	10 U	ND
	1D	1D	10 U	10 U	ND
	2D	2D	10 U	10 U	ND
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
	NA	NA	NA	NA	NA
	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

1,2-DCE = 1,2-Dichloroethene (total)

TCE = Trichloroethene

1,2-DCA = 1,2-Dichloroethane

(1) = Well could not be sampled because of thick ice

(2) = Not sampled because farm house well pump was not operable

J = Estimated Value

**U** = Not detected above the limit shown

NA = Not Analyzed

NA = Not Analyzed

**1.2      Volatile Analysis Results  
(TCL and 524.2)**

**ASH LANDFILL FIRST QUARTER 1993 MONITORING  
VOLATILE ANALYSIS RESULTS (TCL)**

COMPOUND	MATRIX	SITE	DATE SAMP'D	ES ID	LAB ID	UNITS	WATER		WATER		WATER	
							ASH	ASH	ASH	ASH	ASH	ASH
chloromethane	V35166 O1A V35129 O1A		01/13/93	PT-10 (1)	177281	ug/L	10 U	10 U	10 U	10 U	10 U	10 U
trichloromethane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
vinyl Chloride						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
chloroethane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
acetone						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
,1-Dichloroethene						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
,1,1-Dichloroethane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
,1,2-Dichloroethene (total)						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
chloroform						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
,2-Dichloroethane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
- Butane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
,1,1,1-Trichloroethane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
romodichloromethane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
2-Dichloropropane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
is - 1,3-Dichloropropene						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
richloroethene						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
chlorobromochloromethane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
benzene						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
cis - 1,3-Dichloropropene						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
trifluoromethyl						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
Methyl - 2-Pentanone						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
- Hexanone						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
terachloroethene						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
,1,2,2-Tetrachloroethane						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
oluenes						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
chlorobenzene						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
styrene						ug/L	10 U	10 U	10 U	10 U	10 U	10 U
ylene (total)						ug/L	10 U	10 U	10 U	10 U	10 U	10 U

Notes:

(1) = Tentatively Identified Compound (TIC) – Methane, chlorodifluoro-

(2) = Duplicate of MW-10

**ASH LANDFILL FIRST QUARTER 1993 MONITORING  
VOLATILE ANALYSIS RESULTS (TCL)**

COMPOUND	MATRIX	SITE	DATE SAMP'D	ES ID	LAB ID	UNITS	WATER		WATER		WATER	
							ASH	01/20/93	ASH	01/19/93	ASH	01/19/93
chloromethane						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
isomethyl Chloride						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
chloroethane						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
ethylene Chloride						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
acetone						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
carbon Disulfide						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
1 - Dichloroethene						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
1,1 - Dichloroethane						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
2 - Dichloroethene (total)						ug/L	440 J	26	140	1 J	100	10 U
chloroform						ug/L	200 J	10 U	10 U	10 U	10 U	10 U
2 - Dichloroethane						ug/L	1000 U	10 U	5 J	10 U	10 U	10 U
Butanone						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
1,1,1 - Trichloroethane						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
isomodichloromethane						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
2 - Dichloropropane						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
1,1,1 - 1,3 - Dichloropropene						ug/L	10000 U	23	89	1 J	7 J	7 J
chloroethene						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
bromochloromethane						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
1,2 - Trichloroethane						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
benzene						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
trans - 1,3 - Dichloropropene						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
isomform						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
Methyl - 2 - Pentanone						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
Hexanone						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
trachloroethene						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
1,2,2,2 - Tetrachloroethane						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
ethylene						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
chlorobenzene						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
xylylene						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U
xylylene (total)						ug/L	1000 U	10 U	10 U	10 U	10 U	10 U

**ASHLANDFILL FIRST QUARTER 1993 MONITORING  
VOLATILE ANALYSIS RESULTS (TCL)**

**Notes:**

## ASH LANDFILL FIRST QUARTER 1993 MONITORING VOLATILE ANALYSIS RESULTS (TCL)

**ASH LANDFILL FIRST QUARTER 1993 MONITORING**  
**VOLATILE ANALYSIS RESULTS (TCL)**

COMPOUND	MATRIX	SITE	DATE SAMP/D	ES ID	LAB ID	UNITS	WATER		WATER		WATER	
							ASH	ASH	ASH	ASH	MW-40 (1)	MW-41D
Chloromethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
(Vinyl Chloride	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
,2-Dichloroethene (total)	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
,2-Dichloroform	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
,2-Dichloroethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
,2-Butanone	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
,1,1-Trichloroethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromochloromethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
,2-Dichloropropane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Is-1,3-Dichloropropene	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
,1,1,2-Trichloroethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Jenzenne	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
, Methyl-2-Pentanone	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
, Hexanone	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
etrachloroethene	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
,1,2,2-Tetrachloroethane	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
diuene	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethybenzene	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ylene (total)	ug/L					10 U	10 U	10 U	10 U	10 U	10 U	10 U

Notes:

TB = Trip Blank

See sample MW-29 for the results of TB-2 (the sample for MW-29 was mislabeled as TB-2).

**ASH LANDFILL FIRST QUARTER 1993 MONITORING  
VOLATILE ANALYSIS RESULTS (TCL)**

COMPOUND	MATRIX	SITE	DATE	SAMPLE ID	ES ID	LAB ID	UNITS	WATER	WATER	WATER	WATER
								ASH	ASH	ASH	ASH
V35166-O1A V35129-O1A			01/19/93					01/13/93	01/20/93	TB4	PT - 10R (4)
										177596	177280
chloromethane							ug/L	10 u	10 u	10 u	10 u
formomethane							ug/L	10 u	10 u	10 u	10 u
vinyl Chloride							ug/L	10 u	10 u	10 u	10 u
chloroethane							ug/L	10 u	10 u	10 u	10 u
ethylene Chloride							ug/L	10 u	10 u	10 u	10 u
acetone							ug/L	10 u	10 u	10 u	10 u
carbon Disulfide							ug/L	10 u	10 u	10 u	10 u
1,1 - Dichloroethene							ug/L	10 u	10 u	10 u	10 u
1,1 - Dichloroethane							ug/L	10 u	10 u	10 u	10 u
2 - Dichloroethene (total)							ug/L	10 u	10 u	10 u	10 u
chloroform							ug/L	10 u	10 u	10 u	10 u
2 - Dichloroethane							ug/L	10 u	10 u	10 u	10 u
- Butanone							ug/L	10 u	10 u	10 u	10 u
1,1,1 - Trichloroethane							ug/L	10 u	10 u	10 u	10 u
carbon Tetrachloride							ug/L	10 u	10 u	10 u	10 u
modichloromethane							ug/L	10 u	10 u	10 u	10 u
2 - Dichloropropane							ug/L	10 u	10 u	10 u	10 u
s - 1,3 - Dichloropropene							ug/L	10 u	10 u	10 u	10 u
chloroethene							ug/L	10 u	10 u	10 u	10 u
bromochloromethane							ug/L	10 u	10 u	10 u	10 u
1,1,2 - Trichloroethane							ug/L	10 u	10 u	10 u	10 u
enzenne							ug/L	10 u	10 u	10 u	10 u
1,3 - Dichloropropene							ug/L	10 u	10 u	10 u	10 u
romoliform							ug/L	10 u	10 u	10 u	10 u
- Methyl - 2 - Pentane							ug/L	10 u	10 u	10 u	10 u
- Hexanone							ug/L	10 u	10 u	10 u	10 u
tetrachloroethene							ug/L	10 u	10 u	10 u	10 u
1,1,2,2 - Tetrachloroethane							ug/L	10 u	10 u	10 u	10 u
cullenne							ug/L	10 u	10 u	10 u	10 u
chlorobenzene							ug/L	10 u	10 u	10 u	10 u
thiobenzene							ug/L	10 u	10 u	10 u	10 u
ylene (total)							ug/L	10 u	10 u	10 u	10 u

Notes

TB = Trip Blank  
 (4) = Rinsate for MW-10  
 (5) = Rinsate for MW-24



**1.3      Summary of Volatile Historical Data  
for Selected Wells**

SUMMARY OF HISTORICAL DATA FOR MONITORING WELL PT-12

SENECA ARMY DEPOT  
ROMULUS, NEW YORK

**Gaslon = Gaslon Laboratories**

NET = National Environmental Testing

GTC = General Testing Corporation  
ES = Environmental Sciences Inc. (Acquisition)

ES = Engineering-Science, Inc. (Aqua  
= = Na Data

= No Data

**SUMMARY OF HISTORICAL DATA FOR MONITORING WELL PT-17**

ASH LANDFILL  
SENECA ARMY DEPOT  
ROMULUS, NEW YORK

**Notes:**

Gaslon = Gaslon Laboratories  
NET = National Environmental Test

NET = Net Present Value | \$15.00

ES = Engineering - Science Inc. Architects /planners

- = No Data

**SUMMARY OF HISTORICAL DATA FOR MONITORING WELL PT-18  
ASH LANDFILL  
SENECA ARMY DEPOT  
BROOME COUNTY, NEW YORK**

SENECA ARMY DEPOT  
ROMULUS, NEW YORK

Notes:

NET = Neutral Electrolyte Test

GTC = General Testing Corporation

ES = Engineering-Science, Inc. (Aquatec)

- = No Data

**SUMMARY OF HISTORICAL DATA FOR MONITORING WELL PT-20  
ASH LANDFILL  
SENECA ARMY DEPOT**

SENECA ARMY DEPOT  
ROMULUS, NEW YORK

Notes. Gaslon = Gaslon Labor at rates

NET = National Environmental Testing

GTC = General Testing Corporation

ES = Engineering-Science, Inc. (Acq.)

- = No Data

**SUMMARY OF HISTORICAL DATA FOR MONITORING WELL PT-21  
ASHLAND**

ASHLAND HILL  
SENECA ARMY DEPOT  
ROMULUS, NEW YORK

Garrison = Garrison Laboratories.

NET = National Environmental Testing

GTC = General Testing Corporation

ES = Engineering-Science, Inc. (Aquatec Laboratories)

**SUMMARY OF HISTORICAL DATA FOR MONITORING WELL PT-22**

ASHLAND-ILL  
SENECA ARMY DEPOT  
ROMULUS, NEW YORK

6

NET = National Environmental Test

GTC = General Testing Corporation

**ES = Engineering—Science, Inc. (Acquisition)**

- = No Data

**SUMMARY OF HISTORICAL DATA FOR MONITORING WELL PT-23  
ASH LANDFILL  
SENECA ARMY DEPOT  
DOMINIC, NEW YORK**

ARMED  
FORCES  
SENECA ARMY DEPOT  
ROMULUS, NEW YORK

Notes:

Gasson et al. / National Environmental Testimony

GTC = General Testing Corporation

ES = Engineering—Science, Inc. (Aquatec L

- = No Data

## SUMMARY OF HISTORICAL DATA FOR MONITORING WELL PT-24 ASHLAND

ASH LANDFILL  
SENECA ARMY DEPOT  
ROMULUS, NEW YORK

Notes: G

Gasighi = Gasighi | Labor attire  
NET = National Environmental Testing

GTC = General Testing Corporation

ES = Engineering-Science, Inc. (Aquatec)

- = No Data

10

NET = National Environmental Testimony  
GTC = General Technical Condition

GIC - General - Engineering Company

- = No Data

**SUMMARY OF HISTORICAL DATA FOR MONITORING WELL PT-28  
ASH LANDFILL  
SF NINJA ARMY DEPOT**

SENeca ARMY DEPOT  
ROMULUS, NEW YORK

**Notes:**

Gaskill = Gaskill Laboratory  
NET = National Environmental Test

GTC = General Testing Corporation

ES = Engineering-Science, Inc. (Aquatec Laboratory)  
— = No Data

MED 0 =



**Section 2.0**  
**Metals**

**ASH LANDFILL FIRST QUARTER 1993 MONITORING  
INORGANICS ANALYSIS RESULTS**

VK3	MATRIX	WATER			WATER			WATER		
		SITE	ASH	ASH	ASH	ASH	ASH	ASH	ASH	ASH
	DATE SAMPLD	01/13/93	PT-10	PT-52 (1)	01/18/93	PT-11	PT-12	01/20/93	PT-15	01/20/93
	ES ID	177279			177281			177382		177348
	LAB ID									
	UNITS									
	ug/l	71.7 B	62 U	13700	6150	407	292	53.9 U	53.8 U	171
	ug/l	53.7 U	53.6 U	53.8 U	54 U	53.9 U	53.8 U	54 U	54 U	54
	ug/l	1.7 U	1.7 U	2.4 B	1.2 U	1.7 U	1.7 U	1.7 U	1.7 U	1
	ug/l	201	197 B	333	100 B	97.6 B	97.6 B	97.6 B	97.6 B	1
	ug/l	0.3 U	0.3 U	1.3 B	0.64 B	0.3 U	0.3 U	0.3 U	0.3 U	0
	ug/l	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3
	ug/l	86200	84600	334000	264000	70500	107000	107000	107000	12900
	ug/l	2 U	2 U	16.1	6.7 B	2 U	2 U	2 U	2 U	2
	ug/l	5 U	5 U	37.2 B	8.8 B	5 U	5 U	5 U	5 U	13
	ug/l	1.9 U	1.9 U	40.3	12.7 B	2.8 B	1.9 U	1.9 U	1.9 U	241
	ug/l	245	228	17800	8570	988	225	225	225	6
	ug/l	0.9 U	0.9 U	17.7	9.4	1.9 B	0.89 U	0.89 U	0.89 U	169
	ug/l	34700	34000	69200	27000	17700	13800	13800	13800	169
	ug/l	112	110	3180	1080	191	46.4	46.4	46.4	6
	ug/l	0.06 U	0.06 U	0.15 B	0.06 U	0.06 U	0.06 U	0.06 U	0.06 U	0
	ug/l	3.5 U	3.5 U	35.5 B	14.8 B	3.5 U	3.5 U	3.5 U	3.5 U	37
	ug/l	2150 B	2090 B	5270	2180 B	1930 B	444 U	444 U	444 U	2
	ug/l	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	3
	ug/l	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3
	ug/l	34100	33200	46600	24200	28800	4900 B	4900 B	4900 B	2600
	ug/l	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2
	ug/l	2.1 U	2.1 U	15.6 B	6.5 B	2.1 U	2.1 U	2.1 U	2.1 U	22
	ug/l	2.4 B	2.2 B	136	133	14.8 B	14.8 B	14.8 B	14.8 B	74
	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Note:

(1) Duplicate of MW-10

**ASH LANDFILL FIRST QUARTER 1993 MONITORING  
INORGANICS ANALYSIS RESULTS**

VK3	MATRIX	WATER			WATER			WATER		
		SITE	ASH							
		DATE SAMPLD	01/20/93	01/19/93	01/20/93	01/20/93	01/19/93	01/19/93	01/19/93	01/19/93
		ES ID	PT-18	PT-20	PT-22	PT-23	PT-24	PT-24	PT-24	PT-24
		LAB ID	177592	177593	177594	177510	177511	177512	177513	177514
		UNITS								
	ug/l	111300	7010	21000	33800	13500	13200	13200	13200	13200
	ug/l	53.9 U	53.7 U	54.1 U	53.6 U	54 U	53.8 U	53.8 U	53.8 U	53.8 U
	ug/l	1.2 U	1.2 U	3.7 B	2.7 B	1.6 B	1.2 B	1.2 B	1.2 B	1.2 B
	ug/l	123 B	111 B	176 B	251	116 B				
	ug/l	0.79 B	0.3 U	1.1 B	1.9 B	0.3 U	0.48 U	0.48 U	0.48 U	0.48 U
	ug/l	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U
	ug/l	144000	159000	191000	125000	124000	124000	124000	124000	124000
	ug/l	12.7	8.6 B	28.3	46.2	17.6	16.4	16.4	16.4	16.4
	ug/l	5 U	6.9 B	13.8 B	28.1 B	8.8 B	9 B	9 B	9 B	9 B
	ug/l	24.6 B	5.5 B	26.4	26.9	11.1 B	10.1 B	10.1 B	10.1 B	10.1 B
	ug/l	14000	8910	31000	49000	17800	17500	17500	17500	17500
	ug/l	16.6	3	8.2	10.5	9.1	9.1	9.1	9.1	9.1
	ug/l	30300	16100	23600	25900	17200	17100	17100	17100	17100
	ug/l	1020	216	562	1290	375	342	342	342	342
	ug/l	0.36	0.06 U	0.06 U	0.06 U	0.06 U	0.33 U	0.33 U	0.33 U	0.33 U
	ug/l	18.5 B	12 B	36.8 B	63.4	20.6 B	20.2 B	20.2 B	20.2 B	20.2 B
	ug/l	3540 B	1900 B	4890 B	7040	3600 B	3340 B	3340 B	3340 B	3340 B
	ug/l	1.1 U	1.1 U	1.1 U	5.5 U	1.2 B	1.1 B	1.1 B	1.1 B	1.1 B
	ug/l	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U	3.2 U
	ug/l	100000	29700	52000	5610	16700	16700	16700	16700	16700
	ug/l	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U	2.6 U
	ug/l	13 B	9.7 B	29.8 B	46.1 B	19.5 B	16.9 B	16.9 B	16.9 B	16.9 B
	ug/l	511	315	107	118	78.1	72	72	72	72
	ug/l	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

Notes:  
(2) = Duplicate of PT-24



## ASH LANDFILL FIRST QUARTER 1993 MONITORING INORGANICS ANALYSIS RESULTS

## ASH LANDFILL FIRST QUARTER 1993 MONITORING INORGANICS ANALYSIS RESULTS



**Section 3.0**  
**Miscellaneous Parameters**

ASH LANDFILL FIRST QUARTER 1993 MONITORING  
MISCELLANEOUS ANALYSIS RESULTS

K3	MATRIX	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH
DATE SAMP'D	01/13/93	01/13/93	01/18/93	01/14/93
ES ID	PT-10	PT-52 (1)	PT-11	PT-16
LAB ID	177279	177281	177442	177382
UNITS				

K3	MATRIX	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH
DATE SAMP'D	01/13/93	01/13/93	01/20/93	01/14/93
ES ID	PT-10	PT-52 (1)	PT-11	PT-15
LAB ID	177279	177281	177442	177382
UNITS				

K3	MATRIX	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH
DATE SAMP'D	01/13/93	01/13/93	01/18/93	01/14/93
ES ID	PT-10	PT-52 (1)	PT-11	PT-16
LAB ID	177279	177281	177442	177382
UNITS				

K3	MATRIX	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH
DATE SAMP'D	01/13/93	01/13/93	01/20/93	01/14/93
ES ID	PT-10	PT-52 (1)	PT-11	PT-15
LAB ID	177279	177281	177442	177382
UNITS				

K3	MATRIX	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH
DATE SAMP'D	01/13/93	01/13/93	01/18/93	01/14/93
ES ID	PT-10	PT-52 (1)	PT-11	PT-16
LAB ID	177279	177281	177442	177382
UNITS				

K3	MATRIX	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH
DATE SAMP'D	01/13/93	01/13/93	01/20/93	01/14/93
ES ID	PT-10	PT-52 (1)	PT-11	PT-15
LAB ID	177279	177281	177442	177382
UNITS				

K3	MATRIX	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH
DATE SAMP'D	01/13/93	01/13/93	01/20/93	01/14/93
ES ID	PT-10	PT-52 (1)	PT-11	PT-16
LAB ID	177279	177281	177442	177382
UNITS				

K3	MATRIX	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH
DATE SAMP'D	01/13/93	01/13/93	01/20/93	01/14/93
ES ID	PT-10	PT-52 (1)	PT-11	PT-15
LAB ID	177279	177281	177442	177382
UNITS				

K3	MATRIX	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH
DATE SAMP'D	01/13/93	01/13/93	01/20/93	01/14/93
ES ID	PT-10	PT-52 (1)	PT-11	PT-16
LAB ID	177279	177281	177442	177382
UNITS				

Note: (1) = Duplicate of PT-10

**ASH LANDFILL FIRST QUARTER 1993 MONITORING  
MISCELLANEOUS ANALYSIS RESULTS**

K3	MATRIX	WATER	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH	ASH
DATE SAMP'D	01/20/93	01/19/93	01/20/93	01/19/93	01/19/93
ES ID	PT-18	PT-20	PT-22	PT-23	PT-24
LAB ID	177592	177509	177593	177594	177510
UNITS					
mg/l	57	13.7	41	12.8	17.6
mg/l	280	120	147	34	55
mg/l	0.01	0.06	<0.01	0.05	0.18
mg/l	<0.002	<0.002	<0.002	<0.002	<0.002
mg/l	0.01	0.06	<0.01	0.05	0.18
mg/l	4.5	0.02	0.14	<0.02	0.05
umhos/cm	1440	796	933	628	669
std. units	7.08	7.17	7.34	7.17	7.18
mg/l	4.0	2.0	2.7	1.5	2.0
Nitrogen					
Calculated					
as, Total					
n, Total					

Note:

(2) = Duplicate of PT-24

WATER	ASH
01/19/93	01/19/93
PT-51 (2)	PT-51 (2)
177511	177511

**ASH LANDFILL FIRST QUARTER 1993 MONITORING**  
**MISCELLANEOUS ANALYSIS RESULTS**

K3	MATRIX	WATER	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH	ASH
DATE SAMP'D	01/15/93	01/15/93	01/18/93	01/18/93	01/14/93
ES ID	PT-26	MW-27	MW-28	MW-29	MW-30
LAB ID	177349	177343	177507	177444	177344
UNITS					
mg/l	10.2	24	16.5	28	11.3
mg/l	107	41	27	57	30
mg/l	0.35	0.06	0.05	0.13	0.20
Nitrogen	<0.002	<0.002	<0.002	<0.002	<0.002
mg/l	0.35	0.06	0.05	0.13	0.20
Calculation	<0.02	<0.02	0.04	<0.02	<0.02
mg/l	629	661	635	689	605
umhos/cm	7.23	7.23	7.11	7.29	7.33
std. units	1.9	1.4	1.8	1.9	1.1
n, Total					

## ASH LANDFILL FIRST QUARTER 1993 MONITORING MISCELLANEOUS ANALYSIS RESULTS

K3	MATRIX	WATER	WATER	WATER	WATER
	SITE	ASH	ASH	ASH	ASH
	DATE SAM'D	01/14/93	01/13/93	01/15/93	01/13/93
	ES ID	MW-33	MW-34	MW-35	MW-37
	LAB ID	177380	177275	177440	177276
	UNITS				
Nitrogen	mg/l	24	23	35	22
	mg/l	54	41	63	37
	mg/l	0.41	0.14	3.4	0.08
		<0.002	<0.002	<0.002	<0.002
Calculation	mg/l	0.41	0.14	3.4	0.08
s, Total	mg/l	<0.02	<0.02	<0.02	<0.02
	umhos/cm	728	721	639	8070
	std. units	7.42	7.55	8.34	7.30
n, Total	mg/l	1.9	1.1	1.0	1.1

**ASH LANDFILL FIRST QUARTER 1993 MONITORING  
MISCELLANEOUS ANALYSIS RESULTS**

K3	MATRIX	WATER	WATER	WATER	WATER
SITE	ASH	ASH	ASH	ASH	ASH
DATE SAMPL'D	01/18/93	01/12/93	01/13/93	01/21/93	01/13/93
ES ID	MW-40	MW-41D	MW-42D	BRN-S	PT-10R (2)
LAB ID	177441	177217	177278	177589	177280
UNITS					

	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	umhos/cm	std. units	mg/l
Nitrogen	5.9	9.2	2.3	16.5	2.3	16.5	5.2	<.05	<.05	<.05	<.05	<.05	<.05			
	93	40	32	64	32	64	52									
	0.11	0.15	1.24	8.0	0.15	1.24	3.3	<.01	<.01	<.01	<.01	<.01	<.01			
	0.004	0.019	0.195	<0.002	0.004	0.195	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002			
	0.106	0.131	1.05	8.0	0.106	0.131	8.0	<.01	<.01	<.01	<.01	<.01	<.01			
	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02			
	643	611	589	817	643	611	746	3.1	3.1	3.1	3.1	3.1	3.1			
	7.49	7.40	7.76	7.30	7.49	7.40	7.38	6.53	6.53	6.53	6.53	6.53	6.53			
n, Total	1.3	1.2	1.5	2.9	n, Total	1.3	2.9	NA	NA	NA	NA	NA	NA			

Note:

NA = Not Available

